



A YEAR IN THE LIFE

by PJ Rudden

President of Engineers Ireland

2011 – 2012

**A collection of Speeches & Blogs
during my year as President**



strategic

future

education

engineering

national

learning

water

public

infrastructure

innovation

economic

science

enterprise

sustainable

build

green

communications

people

work

development

skills

environment

energy

waste

school

research

employment

planning recovery

teaching

sectors

smart

cities

ireland

maths

projects

challenges

come with me

economy

educational

colleges

renewables

life

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Foreword

by Dr. Chris Horn

**(Chair of various technology companies and
Past President of Engineers Ireland)**

With the rapid rise of social media, there are now new ways for leaders to further communicate and share ideas. As President of Engineers Ireland during 2011-12, PJ Rudden not only put in incredible energy to the many events and meetings he attended nationwide, but following my example the prior year he also found time to maintain a blog – an online diary of his work during his Presidential year. Unlike myself, PJ was incredibly diligent and wrote no less than 17 thoughtful speeches and 94 extensive blog posts, between May 2011 and May 2012!

His was a journey meeting the many diverse and interesting faces and places of Engineers Ireland, and examining all the dedicated work of fellow Engineers in the national interest – building and maintaining our roads, water supply, power stations, electricity and gas systems, airports, railways, ports, telecommunications, computer systems and manufacturing systems. He also witnessed advanced research and product development across many different sectors - innovation which is helping Ireland's economic recovery. The broad scope is best illustrated on the TV adverts for Chartered Engineer run by Engineers Ireland on our screens since last Autumn with the byline - "Will You Come With Me?Chartered Engineers.... Bringing Dreams to Life for You and Me"(www.engineersireland.ie).

I hope that you enjoy some of the stories in his blogs and speeches as much as I did myself.

Acknowledgements

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Responsibility for any errors is mine alone. The views expressed are my own and not necessarily the views of Engineers Ireland.

**PJ Rudden
Chartered Engineer**

**Dublin
August 2012**



Speeches

May 2011 – May 2012

26th May 2011

Inaugural Speech
by
PJ Rudden
President of Engineers Ireland

Distinguished Guests, Fellow Members of the Institution, Ladies & Gentlemen, Friends

It is a great honour for me to be elected tonight as your new President. I want to pay tribute to my predecessor Martin Lowery for his guidance, his wisdom and the sheer dedication that he gave to Engineers Ireland over the past year. I look forward to working very closely with John Power and the truly excellent staff in Clyde Road throughout the year.

I am very conscious that I take office at a critical time in our economic history. We have a new Government mandated by the people to effect Change in how we do Business and to bring Recovery to an ailing Economy. We all know that it is a long way back to the prosperity we once had as a nation and as engineers, we have an important part to play in getting us back on that road.

Martin's presidential theme last year was Job Creation and that must continue to be our primary focus into 2011 and 2012. Engineers Ireland can and must be a roadmap to identify, to encourage and to facilitate those areas of the economy where growth is possible, to identify barriers to Government and assist in the removal of those barriers to growth and prosperity. In particular there are huge institutional barriers to the enabling of more efficient and cost effective infrastructure. For example, there are too many statutory consents for major infrastructural projects – we need to roll these into a single consent to be granted by An Bord Pleanála. I compliment the many members who helped us launch the excellent Report on the State of Ireland's Infrastructure this evening and hope that we can find the resources, public and private, to fund and expedite that infrastructure that we deem is urgent.

I am very conscious that while many of our engineering sectors are still doing relatively well (pharma, ICT, energy and biomedical in particular) the construction industry remains in crisis and will continue to do so until we stabilise our public finances to enable productive investment in infrastructure to restart again. Meanwhile we welcome the recent Jobs Initiative as a modest start in the right direction. At the same time, it is a significant fact, there are in excess of 1,000 vacant posts in the ICT sector alone that cannot be filled, so we need a great deal more flexibility in training and transferring of skills in our industry.

Engineers as a profession are at the centre of the Change required to stimulate the economy. We can and will act as that roadmap on a new direction to make our infrastructure, our services and our utilities more efficient and more responsive to the needs of a modern economy. We will continue to support reform in our education system at all levels to make our graduates more capable of analysing and solving problems including support for the new Project Maths approach and new approaches to Second Level Science subjects and the new Junior Cycle approach in terms of deeper learning experience not through rote learning but learning through understanding. This is our Challenge - to produce a new Roadmap towards growth and job creation in all sectors of engineering.

I accept that Challenge on your behalf tonight on behalf of our 24,000 members mostly in Ireland but many in faraway lands around the world where many of our graduates were forced to find a new future. I know that I speak for some of them tonight when I say that they bring with them their pride as Irish men and women and their skill as Engineers - but also their dream to return again to a more prosperous Ireland in a couple of years time. That is the Challenge we now face. That is the future we must rebuild and we must all play our part - to bring them home to a country where our talents, skills and innovation will create sufficient new jobs for our current and future graduates.

As Engineers we have to review our Thinking, our Process and our Projects to start building a new Ireland. Its no longer enough to be technically skilled as an Engineer as that in itself does not build a new Infrastructure or drive a Smart Economy. Those technical skills are now taken for granted as a given. We need a more holistic approach towards Value Engineering, Research and Development whether in our projects, our colleges, our innovation centres, our venture enterprises and our business campuses. We need to help build the Transformation Ireland and the Enterprise Ireland that our state development agencies speak of both in terms of foreign direct investment into Ireland and export of our knowledge services out of Ireland.

If Engineers are to lead our national recovery in infrastructure, in innovation and in industry - we have to answer a greater call than that technical skill that we bear. We need sustainability skills, environmental and other sciences, mathematics, economics, languages, architecture, social and political science, biomedicine, ICT and communications if we are to be truly leaders in National Recovery. That's why we are right in Engineers Ireland to widen our membership into the 'cognate professions' which are already part of every engineering project and endeavour. I welcome many of those cognate professions here tonight.

We need to create new role models to inspire our young engineers to have that truly integrated talent to meet the challenge of what the great Engineer Brunel called 'changing the great forces in nature for the betterment of mankind'. In Ireland we too have had our Brunels in the visionaries who harnessed the Shannon at Ardnacrusha, and brought Vartry water by gravity into Dublin. More recently we see the challenges of Digital Communication and Biomedical Science making us more aware of the world around us and improving our healthcare. At this time of national challenge, we need to rekindle that spirit of enterprise and innovation in a new generation of Engineers to whom the torch is now passing. Now is our time to move engineering endeavour to new spheres of influence and Government decision making to drive national development.

Leadership is about making the difficult things happen. If we are to lead in the economic life of our country we need to do more than Engineer - we need to Influence - We need to Invent - We need to Innovate - We need to Communicate - We need to Inspire - how to make new smarter Transport systems to move people and products, how to truly develop and protect our finite Water resources, how to better manage our recoverable resources in Waste, how we harness our Energy sources, renewable or otherwise, how to better manage our Environment including assisting a low carbon Economy to combat Climate Change and how we Communicate our Message that Engineers make things happen. Its time for Engineers to come out of the evening shadows and face the bright lights of mass media and social media - to comment on National Policies, to promote Project Need in infrastructure and to Show the Way with technological advances. We need to do so in a way that John and Mary Citizen and our younger generation will appreciate and understand. We need to go on Facebook, to Tweet and to Blog. From tonight a new President's Blog will chart my stories and experiences on your behalf throughout the coming year and hopefully help to communicate the work of Engineers Ireland to the wider public audience.

We need to create a new public accountability for our actions as Engineers and as Project Managers for the society that we serve. Above all we need to serve the Public Interest, be honest in our dealings and ethical in our business approach. The people that we serve expect no less of us. Otherwise we don't deserve their respect - we must earn it from what we do - as much as from what we say!

As Engineers we will be known for what we support - not what we are against! We will be known for the vision of our policies and strategies. We will be known for the health and public safety of our projects that we design. While we adhere to international and best practice guidelines, our profession - unlike the legal and medical professions - remains unregulated and this is a concern that we hope to address at Government level in the year ahead. We have seen in recent years the effects of 'soft touch' or indeed little regulation in banking and business life. We want our engineering profession not only meeting the highest international standards but it must be seen to

meet them also. We therefore need new legislation to regulate the engineering profession as quickly as possible.

We must be confident in our mission, rational in our thinking and evidence based in what we say. We speak not only for Engineers, but for the nation, for the nation's cause is our cause. Therefore, we must uphold and act in the public interest, whatever the controversy.

I want my message tonight to be one of Hope for those of you listening to me not just here in Clyde Road in Dublin but by podcast greeting members in the Regions, Sectors and Divisions around Ireland and also in Northern Ireland, Great Britain and the Middle East Regions of Engineers Ireland.

Ba mhaith liom freisin teachtaireacht a chur le hinnealtóirí a bhuil an Gaeilge acu agus geallaim díobh nach ndeanfidh mé dearmad oraibh ar feadh na bliaina atá romhainn. Go háirithe ba mhaith liom bheith pairteach i gcrúinniú amháin d' An Roth ar a laghad no nios mó mar ta grá agam don' gcéad teanga. Beith mé ag súl freisin bheith pairteach ar cruinniú amháin in san bhliain i ngach rannóg éagsúil don Chumann.

In conclusion Members and Friends I want you to come with me on a voyage of Discovery in the year ahead where we will endeavour to fulfil the aims and purpose that we now set. We will assist but challenge where necessary our National Recovery Plan. We must all work together to realise our ambitions to achieve the four aims of Engineers Ireland (excellence in design, better regulation, better education and maintain our standing on national issues) and in that way assist in leading this country out of recession and regain at least most of the prosperity we once had.

Go raibh maith agaibh.

1st July 2011

**Speech by PJ Rudden President of Engineers Ireland at Launch
of MSc Degree in Management for Sustainable Development in
DCU**

Distinguished Guests ladies and gentlemen

I'm delighted to be in DCU today and to join with you Mr Vice President in launching your new Distance Education Masters in Management for Sustainable Development. This is an innovative exercise in 'open learning'. Indeed the branding on DCU Distance Education - Oscail - represents the best traditions of DCU as an open flexible learning centre while also providing the wider context for our social environmental and economic needs. I know too that Oscail also prides itself in equality of access - another trade mark of DCU.

The graduates of DCU are known for their employability but I know now that there are no certainties in this new uncertain economic world. There is no guaranteed success regardless of what skills or qualifications we now bear. We have much work to do to regrow our national economy and to create jobs. That will only happen with Enterprise, with Innovation and indeed with the Transformation in how we might do things differently. The modern university has to take a more holistic approach to learning whether Distance Learning or Incollege Learning.

No one profession like engineering or environmental science on its own, no one degree course will give us the means to create jobs or to make a better world. We know too that jobs can only be created when we fulfil a need not just a need for learning but a need also for society at large. Over the past 20 years in this country we have seen much building and development but never before have we seen such need for sustainable development.

As Engineers we strive to give leadership to a Smart Economy. We must be confident in our mission, rational in our thinking and evidence based in what we say. Leadership is about making the difficult things happen. That means maintaining a sensible balance between Enterprise on the one hand and Sustainable Development on the other. That's not always easy.

As our economy is threatened there is a temptation to go for quick fix solutions that lack the advantage of long term social, environmental or economic sustainability. We have to avoid that temptation and be known for what we build not what we destroy. And yet we now look across our

nation and see ghost housing estates, empty offices and empty hotel rooms. We know that we are not looking at development that was sustainable either in economic or social terms.

In this time of economic need we need to rebuild a new sustainable infrastructure to fulfil social, environmental and economic need. While our Infrastructure has developed well over the past decade there is still much to be done - in our transport systems to move people and products in a sustainable way, in conservation and development of our water supply systems for healthy living, in waste prevention and maximum resource recovery in our waste management systems.

We need to harness our energy systems further and move to more renewables and less dependence on fossil fuels. Rainwater harvesting and sustainable urban drainage systems (SUDS) must be the norm for new urban developments to save water and ensure rivers are not polluted. That all needs doing but in a way that will respect the environment and the needs of future generations.

Sustainable Development needs to be holistic. It needs to be economically viable to succeed. It needs to be as socially acceptable as possible. It needs to leave a light footprint on the environment. This launch today of your Masters in Management for Sustainable Development was never more timely or more welcome.

We have a challenged Irish economy trying to recover from the banking and property crisis. We need to put sustainable development at the heart of the rescue of our distressed assets. We have property heavily mortgaged to the banks but in negative equity and much of this has gone to NAMA for asset rehabilitation over many years. If these sites are developed or are finished off we must ask for what social or economic purpose? Are they still capable of fulfilling that economic or social need or should they be used for other purposes which are now more sustainable?

Any of the 'distressed assets' now in NAMA are mostly the result of 'developer led' strategies and not 'national regional or local planning led policies'. NAMA have a remit to maximise the value from these sites for the taxpayer but their redevelopment has to be correct in long-term sustainable planning and environmental terms also. Otherwise their long term value to the state will be impaired. If we are to recover the economy it must be on the basis of 'plan led' not 'developer led' policies.

It is amazing that to my knowledge no expertise has yet been retained by NAMA with respect to sustainable planning and development. To my knowledge, no planners, engineers or scientists with knowledge of infrastructure or sustainability have been employed to assess the true value of these sites for future sustainable development.

So there is much to do. Yet we must recreate a vibrant economy based on best sustainability practice. We must be hopeful though of the future, as we have the skills and the resources in our education and training systems.

In Engineers Ireland today we will continue to support the educational system through Primary level as we do with the innovative STEPS programme, through Second level with our very strong focus and assistance to Project Maths and Transition Year in particular and through Third level as we continually do in assessing and accrediting Third level courses and our Innovative Student Engineer Awards.

This course in Sustainable Development is also an appropriate additional response to the recent launch of An tSlí Ghlas - The Green Way of which DCU is a leading partner. This new economic corridor stretching from Grangegorman to Dublin Airport represents a new opportunity for enterprises and learning institutes to help the North City grow and create more sustainable enterprise and jobs in the future. I sincerely hope that An tSlí Ghlas can give new Hope for the future to the communities in this area of Dublin.

In conclusion I very much welcome this new Masters Course in Management for Sustainable Development in DCU. It will be part of your increasingly reputable educational mission and I wish you well.

Thank You.

14th July 2011

**Speech of PJ Rudden President of Engineers Ireland to American
Association of Mechanical Engineers (ASME) in Powerscourt
Wicklow**

Madam President Rockwell, Distinguished Members of the American Society of Mechanical Engineers Board of Governors and Leadership Team.

Thank you for inviting our Director General John Power and myself to your Board of Governors Meeting here in Powerscourt in County Wicklow. We call Wicklow the 'Garden of Ireland' and I think looking around you can clearly see why this is so.

Welcome to Ireland especially or as we said it in Ireland 'Cead Mile Failte' - a hundred thousand welcomes. These are three quite old Gaelic words and as we know words used in a certain way can have a lot of meaning. Indeed we recently had the pleasure of your President Barack Obama here and he translated three special words of his own into Gaelic also for us - 'Is Feidir Linn!' he said which is the Gaelic for 'Yes We Can!'. Your President brought with him from the United States of America a message of Hope that Ireland will survive this severe economic recession. 'We can and we will make it through!' He said 'No matter how dark the day might seem we still believe in the strength and spirit of the Irish to recover survive and prosper.' We all hope that your President is correct in this respect.

I can tell you that our economy will recover and we are recovering thanks in no small part to the close industrial links between our two countries. Much of the industrial strength that made us what we are in Ireland came from Direct Foreign Investment in the Pharma and ICT Engineering areas from the US in the form of companies like Pfizer/Wyeth/Lilly/Schering and Intel/Hewlett Packard/Microsoft and more recently Google, Facebook and LinkedIn.

In my address to you this afternoon I'm going to do three things - firstly I'm going to comment on the historic and industrial links between our two nations.

Secondly I'm going to comment on the challenges we face in terms of your themes of Global Energy and Workforce Development and how we are meeting these challenges here in Ireland. This may be of some value to you.

Thirdly I'm going to describe some of the challenges we in Engineers Ireland currently face in this new millennium in terms of benchmarking our qualifications, in seeking better quality in our engineering education, in the need for increased regulation of our profession and how we are embedding innovation and life long learning as a means of Professional Career Development Programmes to enable us to further economic development and to compete nationally and internationally.

In terms of our industrial links with the US these have grown from small beginnings when we welcomed the first sizable US firms to Ireland - that was Abbott a pharma and health care in 1946 and IBM Computers ten years later in 1956. Ireland then was a very different place with a low tech industrial base and mass emigration of our young talent mostly to the US and to Britain.

It was not until the early 1960s that our first Plan of Economic Development was done that firmly established Ireland's open door policy to foreign direct investment. This blossomed and grew until the halcyon days of the Celtic Tiger were born in the 1990s based on high tech industries in the ICT, electronics pharma and biomedical sectors and continues up to the present day.

Even in the middle of our severe banking crisis in 2010, inward investment continues to grow with some 126 new projects last year - 75% of which came from the United States. This industrial growth was no accident as it is the result of innovative economic policies that had attracted the biggest and best US firms to Ireland.

Total US investment to Ireland in 2010 exceeds your combined investment in China, India, Russia and Brazil all put together accounting for some 5% of all US investment overseas. This is a staggering commitment to one small island in the Western Atlantic ocean but it has been very much a case of US companies using Ireland as a 'landbridge' into the European Union market as a whole.

So what attracts US firms to Ireland? Much has been written in recent times of our very favourable corporation tax rates of 12.5% but there is more than 'return on investment'. A well educated skilled and adaptable workforce is another factor together with a highly developed and sophisticated financial services marketplace and a very stable pro-business environment.

Despite our recession many of the statistics on US investment in Ireland are still very impressive. There are currently 600 US firms operating in the Republic of Ireland - including 9 of the top ICT firms ranked by Forbes, 16 of the top 20 pharma companies, the US is number one destination for Irish exports worth €20billion, €3billion of taxtake to the Irish Exchequer and a further €16billion in spent in the Irish economy in terms of payroll, supplies and support services.

Some 100,000 people are employed in Ireland by US FDI companies.

The traffic though is not all one way - there are more than 227 Irish companies in the US with more than €23billion invested creating 82,000 jobs. So there is a huge trade between the US and Ireland and despite our very strong membership of the EU there are many Irish who still regards themselves as closer to Boston than to Berlin.

In terms of Global Energy we face much the same challenges as you in terms of competitiveness and climate change. However you do have better security of Energy Supply than we have and a more diverse energy mix. In terms of energy sources, we have depleted our natural gas supplies and are currently importing from Scotland as have taken over 10 years to overcome public opposition to bringing another gas field ashore. We have no indigenous oil and current electricity generation is 15% from renewables with a very ambitious target of 40% renewable generation by 2020.

We have a constitutional bar on nuclear energy - a bar that we in Engineers Ireland have seriously questioned but it's not really a big issue for us as we are increasingly interlinked with the UK in terms of both electricity and gas supplies.

As a country we support the global realisation that climate change is real and the need for us to switch to a low carbon economy. Nevertheless there is some debate between Economists and Engineers here on the pros and cons of renewable energy at least in the short term. Most of our power stations are fuelled by natural gas and are reasonably modern and capable of meeting future demands so Engineers question why develop more expensive onshore and offshore wind which will create intermittency problems and lead to greater peaking plant redundancy.

On the other hand we have as a country together with Western Scotland the best wind resources in Western Europe. These be harnessed to create greater security of supply and indeed create an export opportunity as part of a European wide energy 'supergrid'. There is a Government led study currently examining the export opportunity of interconnecting the offshore wind wave and tidal resources off Ireland Northern Ireland and Scotland due to report this autumn.

We in Engineers Ireland favour an integrated approach to Infrastructure including energy infrastructure. We therefore do favour the development of our renewable resources for a whole host of reasons – climate change, security of supply, independence of access and to create green energy and jobs. In addition much of our electricity network requires significant capacity upgrade in any event to encourage balanced regional development in the nation as a whole.

We have recently published the first in a series of annual reports on The State of Ireland Infrastructure addressing current short and long term goals in Transport, Water, Energy, Waste and Communications. We have a pocket size Executive Summary of the Report for everybody in the audience.

In terms of Engineering Education we are very active in that space. Specifically we are challenged as a nation to encourage more of our 13 to 15 years old to take up Mathematics and Science subjects as a career choice leading to careers in Engineering. Internationally we are rated as 'average' in the OECD PISA ratings and frankly being 'mediocre' is simply not good enough for Engineers Ireland.

The core of the issue in our view lies in the quality of mathematics teaching and the lack of time and indeed passion given to the subject in our junior schools. Less than 20% of our Leaving Certificate students take the Honours Mathematics paper necessary to gain entry to our Engineering schools.

At Government level I'm too happy to say that a new Project Maths programme is being rolled out in our Second Level schools but it's very much a long term programme. In the meantime we in Engineers Ireland decided that we could not stand idly by and see our mathematical standards fall any further so we have ourselves taken a number of national initiatives to support our students and teachers in what we call the Science Technology Engineering and Mathematics (STEM) subjects.

In terms of Professional Development of our graduates we have a very active and structured programme of life long learning that runs throughout the year and we have now initiated two new programmes forming part of what we call our Future Professionals Programme. John has a number of brochures on this programme to illustrate what we mean.

The programme consists of a 6 month Graduate Transition Programme to help bring the graduate into the workplace and an 18 months Professional Progression Programme which allows our experienced graduates to make a significant contribution to their workplace as respected professionals who will help shape our future society.

Engineers Ireland are the only body in Ireland that can award the title of Chartered Engineer after 4 years for a Bachelors Degree in Engineering College, then at least 2 to 3 years training and finally professional experience of some 3 to 4 years minimum. This is our 'Gold Standard' award for Engineers. Post 2013 we will be requiring that our Engineering Graduates also possess a Masters Degree or equivalent in accordance with the Bologna Declaration of 1999. This declaration was a pledge by then 29 now 47 European countries to reform our higher education system in a consistent way.

So there's a lot happening in Engineers Ireland. Indeed the current banking and debt crisis only challenges us in Engineers Ireland to be more determined to innovate to help to add value in all sectors of the Irish economy. Our principal at the present time is to create jobs and get us quickly back on the road to economy. As I mentioned earlier it is the Manufacturing and Technology sector that is Engineering this country back to Growth.

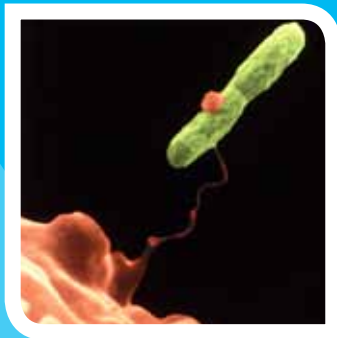
Madam President we welcome you here with all our hearts and trust that you will someday return to a more prosperous Ireland when some of the ambitions that set ourselves today will be realised.

Thank you very much.

Engineers Ireland Presidential Address 2011

Building a Sustainable Recovery

14th September 2011



PJ Rudden

Chartered Engineer, FIEI

1. INTRODUCTION



I am honoured and indeed humbled tonight as your President to stand here where many great Presidents stood before me - some when the country was in the rising tide of prosperity but many too in times of recession. While we love our country dearly

and want to see it prosper, our greatest richness as engineers even in difficult times is what we can do to make it a better place to live, to support families, to learn to work, to rest and play and to grow old in comfort.

Tonight I want to explore with you how we engineers can make Ireland a better place not just in terms of infrastructure but in terms of resource efficiency, competitiveness and job creation. We want to work towards economic recovery but it has to be sustainable in environmental and social terms too.

We are getting better as a nation in fast tracking badly needed infrastructure projects. In this regard I would instance the completion by the NRA of the interurban and M50 motorway system on time and within budget – a tangible and positive legacy of the boom. We can however do even better with more 'joined up' reform in our planning system. We need to strike a balance between the 'public interest' and the valid objections that many projects have to entertain. That will only come with political leadership mandated on the strength

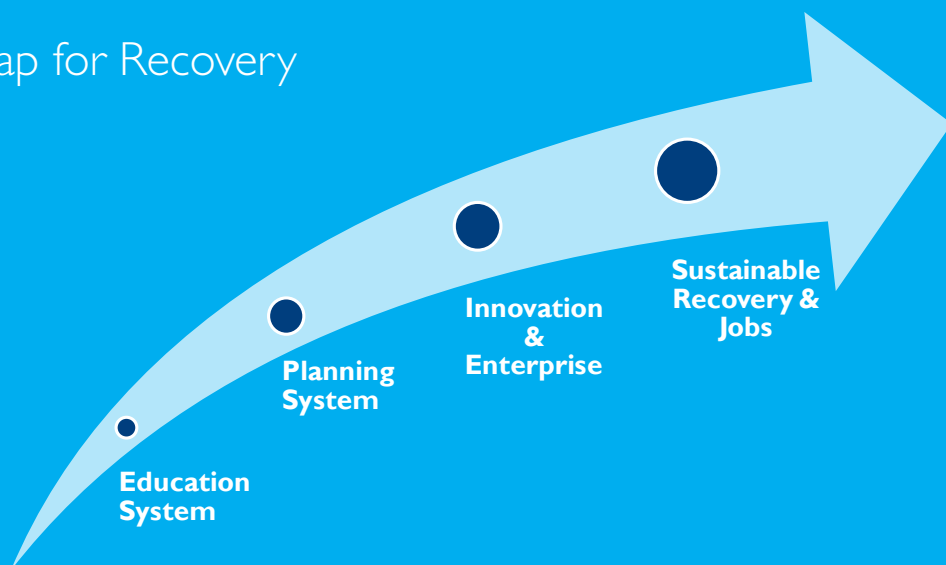
of sustainable policies adequately informed in planning engineering environmental and in public communications terms.

We also need to ensure that we can inspire, nurture and grow the next generation of engineers who will meet even bigger challenges with the next generation of infrastructure and who too will have to manage the 'great forces of nature for the benefit of us all'.



I want to focus too on our educational system at primary, secondary, third and indeed fourth level to ensure that we are preparing our young engineers for work and early graduate experience as our education system in Ireland has always been the key driver of our competitive advantage. We also need to provide an adequate system encouraging 'life long learning' to the professional community to meet the growing demands of a dynamic economy where the 'shelf life' of many of our skills are constantly challenged. That flexibility should in future help us to retrain and move sectors in the event of even temporary downturn of other areas. We can draw our

Roadmap for Recovery



Roadmap for Recovery starting with reforms in our education system, seeking reforms in our planning system that in turn lead to innovation and enterprise and in time to sustainable recovery and jobs.

The overall objective tonight is to outline the challenges I feel need to be tackled if we are to build a sustainable recovery and a solid future for our people. That means looking beyond the immediate crisis that we face as a country and start building a long term vibrant economy that will last into the future.

2. ECONOMIC PLANNING

The financial crisis over recent years has prevented long term economic planning happening to any serious degree. We are currently working through the 4-year National Recovery Plan 2010-2014 published by the last Government in autumn 2010 and accepted by the current Government, the EU and the IMF. While this was a necessary response to the unfortunate fiscal and banking crisis it does not help us with the required strategic longer term planning of the nation's infrastructure. Now is the time for long term economic planning like we had in the early 1960s. We seem to forget that the economists and engineers responsible for that era of planning are now the 'sung heroes' of today (Dr. TK Whitaker and his contemporaries).

But our world is very different now. In Ireland we have one of the most open economies and thus are buffeted constantly by international events.

At the same time I sometimes wonder if the quality of economic planning 50 years ago were to have been continued into the 70s, 80s and 90s would we now have the many problems we currently have - all of which have not been created by the banking crisis. I refer to unsustainable development and some systemic failures in our educational system for instance and to which I will return later in the address.

The reason why I took the dual challenges of education and planning as my principal themes tonight is we now have a new opportunity to educate our young and plan better for their future. As much of our economy is now broken and does need fixing, we now have a rare opportunity. That opportunity is to make radical changes in how we regulate our economy and our environment so that we can maximise resource efficiency towards maximum growth and job opportunity. There's an old saying that you can't beat a good crisis to effect real change when necessary. Much is currently being done by Government in terms of fiscal stability and regulation but what about the built environment that we engineers help to create and care for?

No more than in the banking and financial arenas it's never again going to be the same again. It's not going to be 'business as usual' either in the planning, engineering and environmental sectors, nor can it possibly be! I will return to the current challenges to planning and development later in my talk.



NUI Galway Engineering Building
(Image courtesy of NUIG)

3. THE SEEDS OF ENTERPRISE

So what can we do as a profession to assist economic development, recovery and job creation? When I last spoke to you some three months ago in my Inaugural Address I asked you to judge us not by what we say but by what we do. Our central theme this year in Engineers Ireland is job creation to help rebuild the nation by the creation of new enterprise in the productive, manufacturing and creative areas of the Irish economy. Nor can we forget the challenges of rebuilding our national infrastructure to also help drive that recovery.

So tonight I ask:

- What have we done in Engineers Ireland in the past three months?
- What more can we do in the next nine months and beyond in pursuit of these goals?

In the past three months we have advanced important decisions within Engineers Ireland – some of these were difficult decisions but all were designed to give strength to the engineering profession to make us more relevant to Irish society and to be a stronger driver of new enterprise.

- 1) We confirmed the raising of our standards for Chartered Engineer to a 5-Year Masters or equivalent after 2013 graduation.
- 2) We made further progress on the admittance of Bachelor Degree level 7 and also level 7 and level 8 'cognate' professions to full membership by working towards fully documented Routes to Titles for these members.
- 3) We have put plans in train to raise the profile of Chartered Engineer nationally through a new public communications campaign.

Our relevance though to society is best illustrated in not what we say but in what we do.

- Firstly, in the past few months we have profiled the continued importance of infrastructure in terms of transport, water, energy, waste and communications through our Infrastructure Report and through President's site visits and official openings to show examples of productive economic infrastructure around the regions and to highlight the benefits of balanced regional development.

- Secondly, we have sought to highlight the enterprise and job creation possibilities in our third level colleges and research institutes in renewable energy, nanotechnology, biomedical engineering and information technology. These research areas strongly support and nurture the current growth areas of the economy namely ICT, Biomedical, Energy and Pharmaceutical Engineering

In terms of profiling these examples I have in recent weeks visited the Digital Hub in Dublin, the STEM Conference in Cork, the Mizen Head Bridge in West Cork, the new NUIG School of Engineering in Galway, the Ryan and Digital Institutes in Galway, the Biomedical School in NUIG, the National Centre for Pharma Science and Technology in DCU, Phase I of the new Science Centre in UCD and the Marine Institute in Galway.

I've been to the Cork region twice, to the West region twice, to the North East region once and once to the Middle East region - meeting the regional chairpersons of Engineers Ireland in all cases. I plan to continue with these visits to other parts of the country with the support of the regions to the Tyndall Institute in Cork; the Corrib project in Mayo, the new Aran Islands Harbour at Kilronan, the SEAI Wave Research Centre off Belmullet, and other projects and institutes of national importance.

I want the engineers and scientists who work there to know how much we value the part that they are playing in enterprise and innovation towards national recovery. The Director General and I spent the full day in Galway on September 7th last and I can tell you that on the way home I think we both clearly recognised the interest and support for these visits to the third and fourth level colleges and institutes.

While we need to encourage current engineering endeavour we also need to ask ourselves what seed corns can we lay in our education system starting at primary level, what green shoots can we fertilise to produce the future crops of enterprise?



UCD Science Centre
(Image courtesy of UCD)

4. ENGINEERING SKILLS

The degree in which we can contribute to a new frontier of enterprise and innovation is informed by a supporting role in a radical reform of the Irish education system starting in primary school. Some of this is currently underway at second level but more needs to be done. We need to educate to think not to learn by heart. We need to educate to understand not apply mere theorems or formulae. We need to educate to invent and to innovate not to copy, replicate or play it safe. We need to learn the skill not only to influence but to inspire and lead. We need to learn to communicate with the public. These creative skills don't come easy to the generations of engineers and scientists brought up on a diet of 'rote learning', formulae and theorems.

Of course engineers can be leaders of projects and enterprise but as I said last May we can only do so if we broaden our horizon and our interest beyond the pure engineering into the cognate professional areas. Look at the truly great engineers in history – few were sole proponents of engineering in fact.

If you Google 'great engineers' you will find Archimedes, Leonardo da Vinci, Stephenston, Brunel, Alexander Bell - when I say great engineers I mean people who actually built or created things - sometimes tools of battle but more often tools of peace like bridges, aquaducts, engines, machines, and communications systems leading to modern now virtual means of 'connecting people and places'.

Archimedes was a great mathematician, he was also a great engineer and scientist. Da Vinci was mostly known for his paintings and sculptures but also as engineer he built the machines that led to the current robots used in Biomedical Engineering. Brunel was principally a bridge engineer but he led and designed many other projects including railways, tunnels and aqueducts. He was also a tremendous communications scientist. He went into select committees of the British Parliament and proposed great schemes and defended them before the parliamentarians. Not an easy thing to do but unless we show ourselves of equal skill and vigour, we will not be able to build the necessary future infrastructure that Ireland needs to support future development. We will not be able to build the future sensitive projects like motorways, light rail, sewerage treatment plants, gas pipelines, overhead power lines, incineration plants or interregional water supplies from new sources.

All of the great engineers had a very broad grounding in skills that went well beyond planning, engineering, environment or communications. Looking back at their achievements, none would not dare ask did they have level 7, 8 or 9 qualification

or what college they went to? Indeed, were they what we now term 'engineers' at all or were they scientists or even artisans of some kind? But they were confident in their mission, they were rational in their thinking and evidence based in what they said and did. These were visionaries who looked to marshall all the great forces in nature for the use and benefit of man. They harnessed the great resources of nature in the air, on land and in the oceans. They used the power of the basic elements of nature – air, wind, fire and water to create new energy, new resources and new enterprise.

So if we are to create enterprise we cannot ignore the social, environmental, political or communications challenges in finding new energy resources, new water resources and new resources from waste. As engineers, we need to integrate with the planners, the environmental scientists, the social and political scientists, the economists and the communications specialists to create the holistic 'conversation' that can convince people to maximise the benefit of infrastructure and enterprise in the economy. In terms of job creation we also need to educate for current and future markets. These are markedly different than the markets of the past. We also need a broader attitude if not a broader education to the challenges of future engineering.

5. MATHEMATICS TEACHING AND LEARNING

Let me turn now to the area of education in general as there is much in common with engineering education particularly in the area of mathematics and science learning and teaching. At this stage I want to sincerely welcome the statement last night from Minister Sean Sherlock of the renewed government commitment to address the maths issue. Last year as your Vice President I chaired the Engineers Ireland Task Force Report on Maths and Science at Second Level, which was generally well received by the Minister, ASTI, parents and teachers as supportive of the changes required at Second Level.

Many of the findings surprised me not least the limited qualification of maths teachers and there are many reasons for this. We examined the new Project Maths curriculum and saw there the welcome seeds of change. The ambition is to move away from 'rote learning' towards 'learning through understanding'. We very much support the new maths approach but realise that it will take perhaps a decade or more to embed the new learning processes.

We recognise that the principal difficulty appears to be at junior cycle level, mostly due to unqualified teachers assigned to that cycle rather than senior cycle where generally the

more qualified teachers are employed. Indeed in this subject I really want to complement the NCCA – the National Council for Curriculum and Assessment for their open and creative approach to educational reform. I'm convinced that if they had been mandated earlier to examine curriculum reform we may not have the problems we currently have with maths teaching and learning. Recently Ministers of Education too have been very supportive of change not least the current Minister who has inherited the issue.



The most worrying feature now in my view is not only the challenge facing students who can be quite adaptable, but the difficulties confronting teachers in the system. Many of these lack the basic IT skills to even learn the new systems. Up to recently our educational system allowed some of them to teach maths with little technical qualification other than standard teaching skills. This can only lead to low interest and little passion for a difficult subject. Indeed the more I've learned of the unfolding situation in second level schools over the intervening two years since our Report the more concerned I am.

I want to say this very clearly to you tonight. It is not the teachers' fault that so many of them are unqualified, it is the fault of the system. I will not repeat the metrics here as nobody knows for sure how many unqualified maths teachers there are - not even the Department of Education and Skills. It must be said though that this situation will not reoccur since the setting up of the Teaching Council requiring teacher registration since 2006. There are many historical reasons for what happened arising from the management and patronage of schools, the protocols for principals and the lack of an adequate teacher registration system at national level. The current maths situation in Ireland is a systemic failure in the educational system at national level.

That failure now recognised will probably take at least a generation to rectify and that's assuming that the new Project Maths will in fact deliver which I'm presuming it will. Contrast this with a high performing country in maths like in Finland where the Programme for International Student Assessment (PISA) ratings are high but where you cannot teach the subject without a 5-year Masters in Mathematics and Education. In fairness some of our third level colleges recognised this some years ago and now have level 8 and level 9 courses in both of these subjects. For the most part though, because they are full time courses they are of limited value to existing teachers but of great value to incoming teachers.

The student must always be at the centre of the educational system but the quality of an educational system can never exceed the quality of its teachers. In passing I would comment that Engineers Ireland have engaged over the past year with the Teaching Council to get engineers registered for teaching of maths at second level, even as a temporary expedient to relieve the current situation. We have however had to agree that even engineers will require some upskilling in maths and education before taking on a teaching role.

We also noted in studying the primary and second level educational systems that there was no 'jointed up thinking' between the two - in fact there is still no current assessment or report card at the end of primary and no mechanisms for respective teachers or schools to meet at the interface. There is therefore a loss of intelligence information on pupils entering second level which takes many months to recover in their new schools. This is certainly not resource efficient and a poor quality management system not serving the student interest.

It is acknowledged that over the past year the entire junior level cycle is now under radical reform under a new theme 'Innovation and Identity' and the transition between primary and secondary is now being addressed also, partly I believe resulting from our 2010 Report.

Why does all this interest Engineers Ireland? Because the proper learning of maths is fundamental to the problem solving skills of engineers in every sector and most especially in the 'new technology' sectors of ICT, energy, pharma and biomedical engineering - the very sectors that are driving our export led growth and likely to dominate our economic recovery in terms of innovation and enterprise into the immediate and near term future.

6. ENGINEERING EDUCATION

With regard to engineering education at third level there is increasing recognition of new market sectors in many of these growth areas in terms of Masters level 9 degrees. In my view though, the whole undergraduate area requires closer examination as I do not detect a full recognition of the changing market outlook. I speak as an employer of graduates who has had to go away from the traditional engineering courses to find graduates skilled in waste management, energy and environmental engineering at undergraduate. Indeed increasingly environmental scientists are occupying these roles and are complementing the civil, mechanical and electrical engineering skills which we already have.

One has to ask why the new growth areas are not better catered for at undergraduate level? I have researched national policy in this area and it appears that Ireland's third level engineering schools are autonomous in the area of deciding what courses to run to meet market requirements. There is an overarching Strategic Plan (2008 - 2010) from the Higher Education Authority and a National Strategy for Higher Education to 2030 published in January 2011. This latter document confirms that colleges are autonomous but it also calls for more 'collaborative outward looking' arrangements with other colleges in terms of learning outcomes.

In our tour of universities and research institutes I am heartened to see that most colleges have now appointed Vice Presidents for research and/or innovation or in fact both.

To date we have been in the new NUIG Engineering School and Research Institutes, in the new UCD Science Centre (Phase I) last week and in the DCU Research Institutes. The extent of innovation and discovery in these new centres is truly remarkable involving in all cases a coming together of science, engineering and technology and very often medicine also. Most impressive of all are the advances in biomedical engineering, assisted living, digital technology and computational sciences. Research collaboration appears to be increasingly embedding in the third and fourth level college communities and that is very welcome.

It is critical in my view that all third level engineering colleges are capable of a high level vision for innovation and enterprise to meet the demands of the future economy. In this regard there is increasing evidence of integration of skills across the various engineering disciplines where civil, mechanical, electrical, electronic, chemical and environmental skills combine to solve increasingly complex problems and even some involving schools of business, social science and public policy.

Might I also say that the physical integration of engineering sectors in the one building is also important too as all disciplines now need to work more closely together to solve the increasingly complex problems that demand a solution. In the past, too often the masterplanning of third level colleges have regulated the engineering disciplines to 'the far end of campus' in favour of other disciplines. That is no longer acceptable in Transformation Ireland. Indeed it is now more clearly recognised that engineering is the key driver to economic growth and at university level is the primary 'seed capital' to drive new innovation and job creation.

There are also increasing efforts in terms of third level colleges to become part of strategic alliances as has occurred in recent years by UCD/Trinity and NUIG/UL often together with industry partners and sometimes also with clinical partners in the case of bioscience and biomedicine.





In the meantime, we in Engineers Ireland have to continue in making any improvements we can through the STEPS programme to make the STEM subjects – science, technology, engineering & mathematics – more relevant to school leavers and to assist the better training of teachers. Our free maths grinds on Saturdays during school year will continue and have extended this year to junior certificate level. In terms of upskilling and CPD for engineers there is an increasing role for distance learning. I had the pleasure recently of launching the new Masters in Sustainable Development in DCU through Oscail – their open learning school. This Masters course uniquely has modules of water, waste, energy and procurement - all very relevant subjects to engineering currently.

7. PLANNING AND DEVELOPMENT

I now want to turn my attention to the translation of engineering knowledge to the development of projects in Ireland. I have been involved in the planning, engineering, environmental design and appraisal of these projects for over 30 years firstly in waste/wastewater, then in energy, then in roads and finally in waste management over the past decade or more.

The planning system in Ireland has evolved since the early 1960s and is now reasonably robust. In particular the new Planning and Development Act 2000 consolidated our planning laws and was strengthened by the Strategic Infrastructure legislation in 2006. An Bord Pleanála has functioned well and efficiently in recent years on landbased developments and particularly well on strategic infrastructure projects. There is now an urgent need to provide a similar statutory framework for all marine based projects to assist the development of offshore renewables and other marine development.

There are two amendments that I would suggest to landbased developments to further consolidate our statutory consent process - to also transfer ancillary powers to An Bord Pleanála with respect to Foreshore Licences and Commission for Energy Regulation licences to generate energy in the case of water, waste and energy projects to give a 'single consent process'. A similar recommendation has been made by the Irish Academy of Engineering. Secondly, there needs to be more formal and active arrangements for 'community engagement'. The reason for this is simple and it boils down to three simple words – People Stop Projects. The current 'public consultation' process is not 'community engagement' as the public are only consulted when planning permission including the Environmental Impact Statement is lodged and all the strategic decisions are made. The mandatory requirements for Strategic Environmental Assessment at feasibility report stage are helpful but the public rarely engage with this process as frankly they don't understand it.

Infrastructural projects need to be part of a 'strategic planning framework' which involves sufficient measure of community engagement to get public 'buy-in' to necessary projects at pre-implementation stage.

In addition modern building and infrastructural developments in Ireland now need to be 'plan led' not 'developer led' unless underpinned by the City/County Development Plans or Local Area Plans.

We all know from the current property crisis where "soft touch regulation" has brought us in terms of "developer led" proposals, which have little or no strategic underpinning in spatial planning terms. In addition, in terms of planning and environmental policy, planning decisions made either by An Bord Pleanála under the Strategic Infrastructure Act or on Appeal need to be respected as meeting a national or strategic need regardless of any NIMBY or local considerations.

In terms of site selection for projects, there is always "the Why", "the How" and "the Where". In terms of public engagement, it is always better in my view to get some measure of consensus on project need (the "why") and preferably the development implementation method (the "how") before consulting the public on the location (the "where"), as often objections to site or route selection are needlessly based on a questioning of project need and methodology, as much as on site location.



8. PUBLIC PERCEPTION OF ENGINEERS

The general public who are the ultimate client for our goods and services are sensible enough to discern the “common good”. If there is misinformation or disinformation from opposition groups this needs correction in the media. It also needs sufficient political maturity based on a strong mandate which it has to be said the current Government now have and are clearly exercising in the public interest, particularly in the whole planning, environment and local government area and in other areas also. I have much experience of these projects myself over the past 20 years and have seen the benefit of a proactive community engagement from the start and the legacy problems that can ensue where this is lacking.

That brings me back to where I started – what is an ‘engineer’ and how is he or she perceived in society. In any communications effort we must be aware that the public are less interested in ‘process’ and more in ‘outcome’. The public are not really interested generally in the diameter or pressure of a pipeline delivering water or gas but do want ‘clean drinkable water’ and ‘safe gas to cook the vegetables or to heat the house’. To portray our profession accurately therefore, we

need to profile our role models as the people who serve the legitimate public interest by keeping traffic moving, who design our power stations and wind farms, supervise biomedical operations in hospitals and maintain our broadband to feed our social media and mass communications. I think that the profession does not give itself enough credit for work that is generally done in the public interest and in a trustworthy ethical fashion for which other professions are often respected.



9. LEADING NATIONAL RECOVERY

In my inaugural address I spoke of engineers leading national recovery through a clear policy basis in areas such as transport, energy, water, waste and communications. I also spoke of the need for engineers to integrate their technical response to engineering projects by having regard not only to the 'technical facts and figures' but to factor in environmental, social and political considerations. In this way we are likely to have a constructive public conversation on the project.

If our response to a traffic problem is necessarily to build a new road rather than traffic calm or to a water shortage is solely to seek a new source rather than fix the leaks or conserve water or rely solely on fossil fuels to solve our energy problems then we are unlikely to develop a sustainable future or communicate well with the general public. Very often technically we may actually be correct in offering purely technical solutions but there's more to life than technical solutions! As for instance, if we ignore the need for a 'low carbon infrastructure' because of climate change considerations and say that our electricity interconnectors don't make economic sense to assist renewable energy, then we might satisfy some objectors to proposed overhead power lines but we won't have credibility to lead our national infrastructure efforts, we will not be able to have a real influence in policy and we certainly won't inspire!

We have to integrate our great talents with the other professions to have a holistic approach to policy drivers in terms of creating new products and services while meeting the global challenges of climate change, market volatility and competitiveness. We also need to internationalise ourselves with cultural diversity and language skills.

We now live in a world where technology has made it possible for companies to take their business anywhere. We have to change the way we do business to be export led to compete in dynamic highly globalised markets abroad while maintaining and growing our innovation ecosystem at home. To help competitiveness we need to market our unique skills of education, innovation and enterprise to give added value to our customer. In times of recession there is little point in cursing the darkness but let's find a new candle that will lead us forward. As engineers, let's shine a stronger light on our efforts to support sustainable living.

We need to help our development agencies build the 'Transformation Ireland' that will continue to attract inward investment but will also allow us to export our value added knowledge services increasingly to foreign markets. In terms

of recovering our economy it has to be that 'twin track' approach. As the authentic and elected voice of engineering in Ireland let us lead our enterprise forward. This land is our land, this land is your land and we are proud of what we can do. We need to show the Irish people more clearly what engineers can do and will do to help build a sustainable future across all of our sectors. We hope to engage with the Irish public later this autumn in what 'Chartered Engineers' can do and indeed are currently doing in the Irish economy.

Is mór an onóir domsa bheith anseo anocht agus an díospóireacht éigsúil seo a chur as bhur chionn. Tá duslán mór ann. Táimid reidh an duslán a glacadh agus tarraing siar an obair riachtaineach seo ar son an náisúin. Tá Cumann Innealtóirí na hÉireann brodúil as bheith pairteach san saol eacnamaíochta na tíre agus ár gcorp a chur chuig an iarann.

Tonight I want to salute the engineers of Ireland. In poor economic conditions when you wish you could have more resources than you have - you continue to maintain our water supplies, our power supplies, our hospitals our pharma plants, our food processing, our national communications and to keep traffic moving on our streets. If we all work together as a profession and more closely with other professions some of whom are here tonight or who may be listening to me on podcast wherever you are, at home or around the world, then I'm confident that we will together build a new and sustainable Ireland.

PJ Rudden
Chartered Engineer, FIEI
President, Engineers Ireland
14th September 2011



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25th October 2011

DCU Conference on ‘The University and Economic Recovery – The Role of Technology Enterprise Approaches’

Good morning ladies and gentlemen

I've taken as my theme today 'Building a Sustainable Recovery'.

As you know Engineers Ireland is the largest professional organisation in Ireland and one of the oldest. We now have over 24,000 members all over the economy ranging from County Managers and Secretary Generals of Government Departments to engineers who keep our power systems running also our communications, transport, energy, hospitals, IT, manufacturing and biomedical engineering.

Our services range from the traditional like roads, dams, power systems and bridges to the new disciplines like computing, ICT, electronic, energy and biomedical engineering.

We must however challenge ourselves as what education and skills we want in modern engineers to gain maximum enterprise value. What are these skills and are they currently being taught in our colleges?

In a Critical Skills Survey carried out for Engineers Ireland, we enquired of employers of our graduates what skill sets are most important to them in the market place. The reply was what we now call the 4 Cs - Communications, Critical Thinking, Collaboration and Creativity/Innovation. These skills are not on the syllabi of most if not any of our Third Level Engineering courses. If this is the case and it is, then we really need to rebuild the foundations of a new economic recovery.

If we examine a Roadmap for Recovery I believe that Education is its foundation particularly the Science Technology Engineering Mathematics (STEM) subjects. These subjects are critically important for modern enterprise particularly Maths which is the basis for analysis and problem solving in engineering. By creating new value added products and knowledge services through innovative research we can thus create eventual 'spin off' companies in the productive economy and create jobs.

Thus the theme of the conference today is very apt as it connects the four words 'University' - 'Technology' - 'Learning' and 'Enterprise'. University of course is the culmination of learning from

Early Childhood and into Primary onto Secondary. There are many difficulties along this path of education especially at the interfaces where in my view no continuum or 'joined up' thinking currently exists.

You can see too how seriously we in Engineers Ireland view the educational cycle towards STEM careers and offer tangible support at every stage towards graduation and onto lifelong learning and beyond. If you are that student wishing to become an engineer then we are with you all of the way!

The degree in which we can contribute to a new frontier of enterprise and innovation is informed by a supporting role in a radical reform of the Irish education system starting in primary school. Some of this is currently underway at Second Level but more needs to be done. We need to educate to Think not to Learn by Heart. We need to educate to Understand not apply mere theorems or formulae. We need to educate to Invent and to Innovate not to copy replicate or play it safe. We need to learn the skill not only to Influence but to Inspire and Lead. We need to learn to Communicate with the public. These creative skills don't come easy to the generations of engineers and scientists brought up on a diet of 'rote learning', formulae and theorems.

We know the many critical challenges in terms of failure in Maths, schools dropping science subjects, lack of gender balance and the drop out rate after first year. Indeed in the case of Maths and Science we completed our own Task Force Report in February 2010 which opened our eyes and the eyes of many concerned with the educational system. We realised for the first time the extent of 'out of range' or unqualified teachers, no proper transitioning between Primary and Secondary.

In short as I said recently in another forum, there has been a systemic failure in the education of Maths. It's not enough to blame the teachers but in my view the current system has failed us and has led to our relatively poor numeracy position internationally in the PISA ratings. The student must always be at the centre of the educational system but the quality of an educational system can never exceed the quality of its teachers.

So what action did we take? Our action in the spring of 2010 was swift and it was earnest. We immediately reconfigured our STEPS programme in Primary schools to encourage the relevance of Maths to everyday life and carried this into Second Level. We initiated free Maths Grinds in our HQ in a Saturday initially at Leaving Cert level and this year also at Junior Cert.

We set about creating videos of chosen industrial partners on the importance and relevance of Maths. These partners were Boston Scientific, Wavebob, the Defence Forces and Havok. We set up

an alliance with the University of Limerick who had then set up a National Centre of Excellence in Maths and Science Learning and Teaching with the support of Discover Science and Engineering. In this way we built credibility with students, teachers and parents.

We were able to demonstrate that for instance we could not fly aeroplanes without Maths, nor have an iPhone and there would be no Facebook or UTube or Twitter without Maths.

To resolve the systemic failures in my view an full industrial partnership approach is needed with the Dept of Education, National Council for Curriculum and Assessment (NCCA) the Teaching Council, the Second and Third Level sectors and the Teachers. I very much welcome the new Project Maths approach of 'learning by understanding' and not by 'rote learning'. The roll out though is taking 4 years and embedment of the new curriculum and assessment will take at least 10 years.

Incidentally we find that the new emphasis on learning by understanding esp the required analytical and problem solving approach is almost identical in learning outcome terms to the competences for a Chartered Engineer in Engineers Ireland.

That brings me to our huge and growing links with industry. Engineers Ireland currently accreditate 136 large engineering firms in both the public and private sectors. Most of the largest companies are accredited and we are now seeking a 'clustering' to give more added value and remain competitive.

We accredit each Employer using a large set of CPD Criteria which is standard for smaller companies and more exacting in innovation and creativity terms. Many medium size engineering companies have reinvented themselves using CPD to set up an export led business to generate jobs at home base and abroad.

Let me give you two examples of Innovation in which I'm involved myself with RPS The European Green Capital Awards for the EU Commission and the Irish Scottish Energy Links Study (ISLES) on Offshore Renewables.

Very often the general public don't understand what it is the engineer does - do we work with trains, fix televisions or cars? No we offer only professional services dictated by EU Directives nurtured by our Universities used extensively by industry and benchmarked against best international professional bodies like ourselves.

I want make reference to one of Europe's finest engineers - Leonardo da Vinci who was a great painter and sculptor also. The robot called after him was amply named. I like relating the story of

the Cork woman earlier this year who had a baby in Cork University Hospital after an earlier miscarriage.

Finally we need to encourage students into the STEM subjects and careers. In order to help this Engineers Ireland will embark on a widespread campaign to promote the value of a professional recognised Chartered Engineer. To the music of Wayne Guthrie's - 'This Land is Your Land This Land is Your Land' and through the images of 10 Chartered Engineers we will this Friday evening launch a 3 year advertising campaign using TV radio and social media to show our relevance to society. I hope you enjoy it.

Gura maith agaibh!

4th November 2011

Engineers Ireland Excellence Awards 2011
President's Speech

Ladies and gentlemen

Welcome to this year's Excellence Awards!

This is the second year of the awards, designed to celebrate engineers and the engineering profession.

You should be very proud!

All of the projects and individuals short listed for awards this evening provide eloquent testimony to the capabilities and competencies of Irish engineers. And on behalf of Engineers Ireland, may I offer my congratulations to each and every one of you who have been shortlisted. That is an achievement in itself!

And the range of organisations represented here tonight tells the story of the Irish engineering profession today: from biomedical companies and local authorities; renewable energy and water engineers; consultants and construction professionals; and lecturers and professors from our third level education institutions.

On this, the night that the engineering profession gets together to celebrate all that we've achieved in the last 12 months, let us take time to reflect on the year that's passed.

In 2010 Engineers Ireland reached a landmark 175 years and indeed it was a watershed year for Ireland, one none of us will forget.

In my year so far as President of our great institution, I have been privy to witness many positive events, far outweighing perhaps the doom and gloom that has often dominated our headlines.

In June I was on hand to present prizes to the Innovative Student Engineer of the Year awards, a clear example of the creativity that exists in our young people.

In July I attended the opening of the new engineering building in NUI Galway, demonstrating the confidence that our friends in the West have in continuing to provide a pipeline of engineers to fulfil the potential that exists in the biomedical and other industries there.

And in October at the CPD symposium, I heard about the great stories of Irish engineering companies that are employing the Engineers Ireland CPD Accredited Employer standard in their own organisations, creating jobs and hope for us all.

And that is where we - the engineers - can make Ireland a better place not just in terms of infrastructure but in terms of leadership, resource efficiency, competitiveness and job creation.

The Engineers Ireland schools outreach programme team – STEPS – continues to do all they can to promote a career in engineering to our young people and their guardians.

And it is apt, that on the night we are here to celebrate the Chartered Engineer of the Year, that I can show you Engineers Ireland's first ever TV advertisement which can only help us in all our efforts do just that – elevate the professional title Chartered Engineer among the general public.

I will leave you to enjoy it - and the rest of the evening.

9th November 2011

**Response of PJ Rudden President of Engineers Ireland to the
Institutes of Technology Report on Engineering Graduates:
Preparation and Progression**

Chairman A Chairde Ladies and Gentlemen

Firstly I want to thank DIT and the other Institutes of Technology for inviting me to this workshop. I'm glad you did invite me because it saves me having to write to you to compliment you in a number of areas.

Firstly that I sincerely congratulate you on a seminal report on the Irish Engineering Education section - the first of it's kind. I think that this report should be forwarded to Universities Ireland as it will help to greatly inform where Irish Engineering Education will go from here and I'm not aware of similar research from any other third level institution.

I don't say this lightly but this Report is saying all the things that people are saying about Engineering Education in general in Ireland and internationally but have not written down or published. We all know the pressures that the third level institutions are now under in times of financial stringency even more to drive innovation and enterprise - we all know that engineering is a fulfilling career for those who enter it and that employers of graduates from the IT sector have found our graduates prepared in terms of their practical engineering and problem solving skills. That's easy to say but I have not seen it written down before this Report was published.

We have known too that engineers are generally poor communicators and that in their early graduate days they also lack commercial awareness. This in my experience also as an employer of the university engineering graduates over the past 20 years. However nowhere to date have I seen this honesty and candour written down in evidence based research before.

Chairman - the two most important cohorts in our system - graduates and the organisations who employ them - have now spoken and we must listen. Their voices in this report are clear enough - they are saying give the additional contextual and communications skills that we lack and we will do an even better job to help Ireland's economic recovery.

*Help us with more experienced based placement opportunities

*Teach us Mathematics in context please and teach us to understand what it is we are doing and what relevance it has please to society

*Forge greater links with industry so that industry values our worth

*Give us better career guidance to prepare us for interview and for employment

*and finally would you ever better explain to us what it is that professional engineers do and what is it like to become an engineer

Those of you who heard or read either my Inaugural Address or my Presidential Address (both available on my blog) will know that these are constant themes with me since becoming President earlier this year - challenging Engineers to communicate and to show what we can do to further the betterment of society and to provide fulfilling careers in a rapidly changing and today's turbulent financial world.

'We need to educate to think not to learn by heart. We need to educate to understand not apply mere theorems and formulae. We need to educate to invent and to innovate not to copy, replicate or play it safe. We need to learn the skill not only to influence but to inspire and to lead. We need to learn to communicate with the public'

In this way I define what skills of analytical thinking and problem solving that engineers must possess today. I have used the word 'educate' and 'learn' 5 or 6 times - and there you see the huge ambition we must now have for the Irish Engineering Education system. It is a huge challenge but you are not alone in taking it on.

Engineers Ireland are with you and will support you. There is now an increasing body of international research led by the American Management Association (AMA) that regardless of the profession what employers of graduates now require are the 4 Cs - critical thinking, creativity/innovation, collaboration/team building and communication skills. This is backed up by recent research here in Ireland in DCU which I discovered only last week when I shared a conference platform with the DCU President last week on the theme 'The University and Economic Recovery'.

These 4 Cs are the encapsulation in fact of the critical competences that Engineers Ireland have sought to qualify for the title of Chartered Engineer. This is further proof that the Engineering

profession through its skill sets and collaborative approach to innovation is both able and willing to lead the way into the new 'era of learning' which will be the basis of the fundamental educational policy shift currently under way at Second Level by the Minister for Education and Skills Ruairi Quinn and needing to find its way into Third Level. I would say that in this report the seeds are already there.

It is also fortuitous I believe for the third level sector that it was the engineering sector that led the IoT approach to this issue for the engineering sector is best placed to be the pilot discipline reinventing education in Ireland. It is no coincidence that it is the engineering sector in biomedical engineering, in ICT, in pharma and in energy that is leading the way in export growth that is driving our economic recovery. It is also no coincidence that we you want water in your taps, traffic control, telecommunications, power in your homes schools and enterprises that you depend on the engineering sector. Engineering is the profession that fuels the Irish economy together with the banking sector of course whenever it works.

In Engineers Ireland we carried out our Task Force Report on Maths and Science at Second Level in early 2010 and discovered what huge challenges lie in the teaching of Maths in particular - we have hugely upped our game - with the increased more focussed STEPS programme at Primary and Second level, our Innovative Student of the Year at Third Level (which students of DIT and CIT have won in recent years). With our free Maths grinds on a Saturday in Dublin soon to be extended to Cork Limerick and Galway hopefully next year.

I suppose most of all we saw the need so clearly articulated in your Report on Engineering Graduates and that is to explain to the general public what it is we Engineers do in society from building bridges to saving lives in hospitals to designing the next generation of your iPhone or inventing the next Google or Facebook.

That's why we have launched our first TV advertisement titled 'Will You Come With Me?' - in fact the advert starts with DIT Graduate and Innovative Student of the Year 2010 Jamie O'Meara standing in a field in County Meath close to where he was brought and where he is now employed as an Agricultural Engineer with Dromone Engineering. The advert ends with a Galway graduate Claire Lillis gazing her new born baby in the incubator and saying 'this is made for you and me'. The overall theme very relevant to Level 8 graduates is 'Chartered Engineers - Bringing Dreams to Life for You and Me' (play link). <http://www.engineersireland.ie/charteredengineer/>

In conclusion I want to pay tribute to the Institute of Technology sector for setting out where we are with engineering education in Ireland and to where we must now go! I know that the third level

section with all the stakeholders the students, parents, teachers, Higher Education Authority, Higher Education and Training Awards Council and Engineers Ireland - all together working in partnership and collaboration we will 'bring our dreams to life for you and me'.

Gura míle maith agat.

12th November 2011

Engineering Technology Teachers Association AGM/Awards

President Ladies and Gentlemen

Thank you for inviting me here today to speak and to present your awards. I know I was not your first choice of speaker but at least you are getting a President not 'for all the people' but 'for all engineers and technologists in Ireland!'

Engineers Ireland has over 24,000 members country wide and in Northern Ireland Great Britain and the Middle East. We represent the full range of engineering and technology - civil mechanical manufacturing electrical electronic energy chemical process food computing and biomedical engineering.

Not all of these are growth areas at present but the areas that ARE growing as very much based on Engineering and Technology.

I'm terribly impressed with what I've seen and heard here today in the projects and exhibitions. Here we have the seeds of enterprise and hopefully future employment for engineers and technologists in the education system that will lead to innovation and enterprise and onto sustainable jobs.

That's why I've been going around the country looking at the advances in science and engineering in our colleges and institutes and looking at the coalface of modern infrastructure.

Somebody might say to me - hold on a minute - the students who do metalwork at Junior Cert level and go on to do Engineering and Technology at Leaving Cert are not the inventors of the future! I know you the teachers of these subjects and I do not accept that. And besides we are increasingly looking in all second level subjects for critical thinking, collaborative team building and communications skills all increasingly measures by continuous assessment and not by rote learning, theorems and formula.

Look at the truly great inventors down the centuries! Take Leonardo da Vinci - he was a gifted painter but he was also a gifted draughtsman, engineer, technologist and inventor. Nobody asked him if he had a level 6, 7, 8 or 9 qualification or what college he went to. The same is true of manys a

winning Entrepreneur of the Year here in Ireland – many were self educated. If you have the skill, the motivation and the determination to succeed you too can do it!

Look at the main growth areas of the economy - Energy, Biomedical, Computing and Pharma Manufacturing. All of these are driven by the application of Engineering and Technology.

However this is a sector that generally does not blow its trumpet! That's why Engineers Ireland decided to invest in a TV Advertisement to show what it is that Engineers do for society, everyday things that drive our modern economy. It starts with Jamie O'Meara a DIT Graduate in Mechanical Engineering due in an agricultural machinery business in Oldcastle saying - 'Will You Come With Me' on a voyage of discovery across bridges and railways, to feel the Atlantic's wave power, to brave new worlds And ends with a biomedical engineer in Galway who makes nebulisers for incubators saying 'these things are there for me and you' - 'Bringing Dreams to Life for Me and You'.

I wish you all personally, your students and your Association well in the future and if I or Engineers Ireland can help you in any way to further your aims and ambitions then give us a call.

Go raibh maith agaibh!

21st December 2011

Christmas Greetings to Engineers Ireland Council

To all Council Members

I wish you all and your families a very Happy Christmas and Peaceful New Year.

Thank you especially for your attendance at Council Meetings this year which can't be easy on a Saturday morning. In addition to the time spent, many of you travel long distances to be present and this is much appreciated.

We have achieved a lot together at Council in the past 6 months. The three most notable achievements are the finalisation of our Routes to Titles, our Membership Rules and launching of the new very successful TV Advertising Campaign. I'm sure that these initiatives through your leadership and backed up by the DG Team in Clyde Road will greatly strengthen Engineers Ireland to meet the likely considerable challenges of the next few years and beyond.

Le gach dea ghuí don Nollag agus don Ath Bhliain.

13th January 2012

President's Speech at Annual Ball

Guests, Ladies and Gentlemen

It is my honour as President of Engineers Ireland to welcome you all and in particular Engineers Irelands guests to this year's Ball.

We have just finished one challenging year as a profession. In 2012 we face new challenges as the Irish economy struggles to recover from a Euro Crisis and other recession difficulties. We know that as a country we have to change the way we do things.

The Irish Engineering profession is both able and willing to change and develop, indeed to help engineer that change and to assist our national recovery in whatever way we can. We again commit ourselves to help create an efficient dynamic and better regulated economy. We will continue to promote the brand of Chartered Engineer greatly helped I can say by the much praised TV and Radio advertising campaign now underway.

We will not overcome our challenges tonight but we will celebrate another year of Excellence in Engineering. I will say no more as this is a not a night for speeches but for celebration - at our Annual Ball in the company of our family friends and colleagues many of whom we only meet here annually and long may those friendships remain.

My thanks to the staff of Engineers Ireland for the tremendous organisation that went into this event especially Shirley McDonald. Debbie O'Sullivan and Roseanne O'Leary and of course for Domhnall Blair's advice and support and to the Burlington as our venue once again.

Finally I strongly urge your active support for two particular events during 2012 – Engineers Week at the end of February when we showcase the importance of Engineering, Science, Technology and Maths. You might bear in mind that according to the IDA last week that almost half (47%) of all foreign direct investment jobs last year were in Engineering Technology which is Computing and Science. Secondly I want to highlight our Annual Conference in Belfast at the end of April during the Titanic Centenary celebrations. We hope as many of you as possible will travel to be with our Northern Region colleagues to share in the new beginnings that is the modern Northern Ireland.

I wish you all a very Happy New Year and an even happier night ahead.

Thank You and have a great night. Gura Maith aghaibh.

10th February 2012

President's Speech

Cork Region Annual Dinner

Deputy Lord Mayor, Mayor of County Cork, Minister, Chairman of the Cork Region, Distinguished Guests, Ladies and Gentlemen, - as President of Engineers Ireland it is my pleasure to respond to the toast to Engineers Ireland.

Despite the current recession we have remained strong in our organisation. We are still holding at approx 24,000 members nationally and internationally making us the largest representative professional body in the country. This is mainly because many of growth sectors are helping to drive our economic recovery where our members in Computing, Pharmaceutical, Biomedical and Energy industries continue to drive our foreign exports in products and services. We do have a recession in the civil and construction sectors but even here our spirits remain strong and our ambition remains to again grow our strategic infrastructure. We welcome the recent Transport budget approvals from Minister Varadkar and hope that remaining road projects in the pipeline can be progressed as soon as economic conditions improve.

In your own area Minister we want to see our Ocean Resources developed to maximum national advantage in terms of natural resources, fishing and very importantly for ourselves our wind wave and tidal energy offshore mobilised for maximum export opportunity. In this regard we greatly welcome the recent publication of the Irish Scottish Link Energy Study Report by Minister Rabbitte together with his counterparts in NI and Scotland. This report points out the massive export opportunity for our natural resources independent of the current limitations on our National Grid. We also welcome the announcement last week by Eirgrid of the Gridlink project which will create a new backbone electricity motorway between Cork and Dublin to support economic growth and balanced regional development. This is by far the largest project in the Grid 2025 portfolio representing an investment of some €500M.

In Engineers Ireland our primary objective this year is Job Creation. We have tried to focus on this through our concentration on Education issues particularly on the Maths issue and in visiting important Research Institutes in this and other Regions. I'm visiting UCC Tyndall and MERC here in Cork next Thursday, University of Limerick on Friday and Cork Institute of Technology in early March where I'm also happy to be an Extern Examiner this year in Energy Studies.

I was with our London Region on Wednesday night where I met a lot of young Cork engineers together with our Great Britain Regional Committee. I felt very proud of their enthusiasm and thirst for experience and achievement and in listening to some of them I can tell you that our loss is Britain's gain in terms of the talents that we are exporting. It all certainly reminded me that it was the generations of Irish engineers who had to go to London in 1980 who came home and helped build the national and regional infrastructure that we have today. I hope that many of these young graduates will return home to a more prosperous Ireland and those who stay will do so fuelled by success and happiness too.

I want to thank the Cork Region for the arrangements made tonight through your diligent Chairman Dr Jim Robinson. Cork is our strongest Region nationally. Your Region swept the board in every sense last Autumn in our National Excellence Awards from the Mizen Head Bridge to Chartered Engineer of the Year, Educationist of the Year in CIT and of course the widely respected national newspaper The Examiner for fair and balanced reporting of engineering issues.

Áth mór oraibh as seo amach!

Gura Maith Agaibh.

2nd March 2012

President's Speech at the North West Annual Dinner

Mayor of Sligo Distinguished Guests Ladies and Gentlemen

Thank you for your kind invite to the Director General and myself to Mary and to Celia to be with you tonight. It has always been a great night here in Sligo which I remember with affection from some 10 years back. It's a double pleasure now that I have discovered as your President that you are one of our most active Regions in the country in every respect.

It's not an easy time being an engineer unless you happen to be in growing sectors of the economy like Pharma or computing or indeed energy business. Times are especially tough for the civil and construction sector. But we will get no credit for cursing the darkness. There is no doubt that this is a darkness before the dawn and that dawn will come.

In the meantime we in Engineers Ireland are not standing still. Through our new TV advertising campaign on RTE and SKY we are showing what engineers DO for society - to supply our energy our water supply our pharmaceutical products our roads railways harbours and airports our biomedical devices our telecommunications iPhones Google Facebook and other social media.

We are ensuring that when the upturn comes that our Chartered Engineers are more valued and are better understood and more in demand to prove the excellence of our work role in society.

This is the end of Engineers Week when we support our teachers in our schools especially with Maths and Science under the STEPS programme from Engineers Ireland. We support the STEM subjects that lead to technical innovation and enterprise which in turn create our jobs. IDA Ireland reports that 47% of the jobs created in Ireland in 2011 came from the engineering and technology sector. That's not said strongly enough or often enough by our career guidance teachers in our second level schools. We are assisting at national level the newly inspired subject of Projects Maths which is learning by understanding not learning by rote.

We support Infrastructure to connect our towns and to supply clean water air and soil. We support low carbon energy infrastructure including onshore and offshore wind wave and tidal. We need all the energy security we can get as we live at the end of a long energy pipeline to Russia and the Middle East. West of here we also support the Corrib pipeline project which will supply 60% of our energy needs for 20 years.

Earlier this week the Minister for Communications Energy and Natural Resources Pat Rabbitte launched our 2012 Infrastructure Report. This Report details our policies and investment priorities for the next 12 months and the next 5 years in Energy Transport Water Waste and Communications. We are following this up with submissions to Government on Irish Water, on the need for regulation of engineers and other issues close to our minds and our hearts.

Thank you again for your kind invitation and I wish you the engineers of Sligo and Leitrim and your families every success in the years ahead.

Gura míle Maith agar.

22 Márta 2012

An Roth

Fáilte a chur leis mo chairde ón Roth

Anuraidh i mí Bealtaine bhí me tofa mar Uachtarán ar Cumann Innealtóirí na hÉireann. Is mór an ónóir domsa bheith pairteach sna gluais mór náisiúnta seo le cathair a ghabháil do tír le fás agus forbairt a athbheochaint and fostaíocht a leathnú sna tionscail teicneolaíochta.

Cad is fath don Chumann san lá atá inniu ann? bhí is guth náisiúnta fíor nó udarach é ar son an gairm innealtóireacht uilig san Éirinn. Tá fomhór an fás eacnamaíochta atá ar bun na laethanta seo ag tarlú ins ba fíortair fearma, an ríomhaireacht, bith-theicneolaíocht and ins an tionscail fuinneamh.

De réir na meáin cumasáide tá an fás agus an forbairt seo ag teacht ón Eolaíocht amháin. Tá sé sin beagnach cearr! is as na Tionscail Innealtóirteachta atá na jobanna a chruthnú!! Tá an Eolaíocht ceart go leor agus is an Eolaíocht agus an Maitimatic bonn ar an Innealtóireacht tá na hInnealtóirí as chruthú na jobanna sin mar is an Innealtóireacht a déanann an Eolaíocht ina fiontar trachtála ar an gceád dul síos. Níl sé sin áisúil a rá!

Ta Comairle an Chumann ag obair ana dicheallach an bliain seo! Tá muid ag iarraidh próifil an Innealtóir Cairte no Gairmúil a chur chun tosaigh leis an fogra ar an teilifís ar RTE, SKY agus na meáin mar sin de.

Taimid tar éis na Rialacha Ballraíochta a addú conus go mbeath Céim Mhaistir ag gach éinne a bhí CEng á lorg. Freisin tá na heolaí imshaolach no na gairm nach bhí céim innealtóireach acu ach go cinnte tá said ag obair ar sceimanna innealtóireachta tabhartach go bhí siad in ann an MIEI a ghnothaigh ór a baint amach.

Ta mé tar éis cuart a gabhail ar gach coláiste tríú leibhéal and gach fiontar taighde in Éirinn mar shampla Institiúid Tyndall I Corchaigh agus Institiúid Nasiúnta na Mara i nGaillimh agus na cúigead roinn innealtóireacht I gColaiste Ollscoil Bláth Cliath. Sé an spreagadh a bhí agam ná tabhair chun suntais conas atá Oideachais ina síol don Fiontar agus ina ndhiadh tamaill ina síol an Fhostaíocht a leathnú. Se an abhair a bhí ar mo Oráid Uachtarán ná 'Building a Sustainable Recovery' (Téarnamh Eachamíocht a Athbheochaint).

Freisin tá mé ag chur cuart ar sceimanna bonneagar mar shampla bhí me ag an Droichead Nua Mizen in iarthar Chorcaigh i mhí Lúnasa, ag Tullán Luimhnigh i mí Feabhra, ag Sceim Draenála i gCeatharlach in Mí Eanair, go hArainn i Chuan na Gaillime le cunamh Dé i Mí Bealtaine atá romhainn. Tá mé ag dul go Chill Ronain leis an cé nua a fheiceáil in eineacht le Chomhairchumann Arann mar bhí me ina comhairleoir don Chomharchumann de bhliain ó sin ar scéim nua athairsála a chur ar bun. Sin an gealltanais a rinne mé anuraidh and sin a rinne mé - le cathair a tharraing do na hInnealtóiri and na daoine sna ceantair eágsúla timpeall na tíre.

Ba mhaith liom buíochas a ghabáil tusa a Chathaoirleach leis an fáilte a chuir tú romhan anocht and guíann mé gach beannachta agus áth ar leith ar An Roth sna blianta atá róimhe sin.

Gura míle mhaith aghaibh.

26th April 2012

President's Speech at Annual Conference 2012

Developing and Harnessing Creativity

Ladies and Gentlemen

In welcoming you to this our Annual Conference in Belfast I am conscious that in meeting in this historic city we too in Engineers Ireland are making history. This conference is hosted by the oldest and largest all Ireland professional organisation ever to meet in this city. Last year we celebrated the 175th anniversary of our founding in 1835. That meeting chaired by our 1st President Sir John Fox Burgogne Chairman of the Commissioners of Public Works was held in the Custom House beside Dublin's quays.

Yes like this great city we are building on our traditions too. Engineers we are also part of the innovation world - building on the ingenuity and adaptability of our members many of whom are challenged by the economic difficulties of our time. This adaptability is very much the theme embedded in the title and logo of our conference - Engineering Enterprise in Times of Change! It is the creativity and innovation of engineers that is driving our economies forward - very much in the manufacturing area in both North and South.

Northern Ireland always had a strong manufacturing base here. So strong in fact that when the Titanic was launched in 1912, Belfast was the largest city in Ireland with a greater population than Dublin. Industrialisation did not really come to the South until the 1960s and as a schoolboy growing up at the time in southern Ulster I was hardly aware of it.

As we entered the new millennium the rapid expansion of the Irish industrial base was truly phenomenal. This was achieved through a combination of Direct Foreign Investment into Ireland and the growth of indigenous Irish business. This growth has continued even to the current day despite the banking crisis and the perilous state of our public finances. Ireland currently has 8 of the 10 biggest global ICT corporations, we have 10 of the 'Born on the Internet' companies, 9 out of the 10 global pharmaceutical companies, 50% of the world's leading financial services firms, 3 out the top 5 gaming companies and 17 of the top 25 global medical device companies. Born out of the creativity and innovation of engineers we have Microsoft, Intel, Hewlett Packard, Paypal, IBM, LinkedIn, Google, Facebook, Amazon, Zynga and pharma or medical device firms like PfiZers,

Merck, Glaxo Smith Kline, Schering-Plough, Allergan, Bristol Meyers Squibb and other significant pharma firms like Eli Lilly and Mylon are expanding as we speak.

According to the IDA End of Year Statement in January 2012 there was a record number of new investments in Ireland in 2011. The really significant fact though is that of all the new jobs created in 2011, 47% or nearly half were from the ICT Science and Engineering sectors while the remainder were in sales, finance and similar business.

This was engineering and scientific creativity in action all feeding into innovation which in fact is the implementation of creativity by the engineering profession. We have many examples of this engineering creativity at this conference and I have seen many other examples in my journey around Ireland over the past year.

In terms of native engineers from Belfast making their mark in foreign lands we are pleased to have Dr Stephen Myers of CERN Laboratory in Switzerland this morning. We also have many examples of creativity in the home market in Manufacturing and Offshore Energy as these are the two main themes in our conference. We have a leading engineering innovation model in engineer Eddie O'Connor of Mainstream Renewables who has reinvented his business at least three times already creating new enterprise and jobs on each occasion. Also speaking at this conference from the indigenous manufacturing is William Egerton of Dromone Engineering and Colin Elliott of Bombardier Aerospace here in Belfast.

Ireland is a relatively small country in global terms but has always punched above its weight in the world of business. Very many of these businesses are either manufacturing engineering products or services for the home market or mostly for export markets. They are also the outcome of the Innovation Ecosystem which I described in my Presidential address starting with our Education system through the primary, secondary, third, and fourth levels into spin out companies which create Innovation and then new Enterprise.

As the education system is the seed corn for new job creation, Engineers Ireland for many years have been very active in helping to improve the quality of Mathematics and Science teaching and learning through our STEPS Programme with primary and second level schools. This programme very much extends to our Northern Region where I know our Chairman Peter Quinn was most active this year together with Director General John Power. At Third Level we also have the Innovative Student of the Year award where a Biomedical student from NUIG Fiona Griffin was overall winner last year. Her project looked at the further development of stent technology through keyhole surgery thus avoiding open heart surgery in terms of coronary medicine.

This year also I set myself the goal of visiting as many third level colleges and research institutes to encourage the innovation ecosystem. Accounts of these visits are given on my blog. The Director General John Power accompanied me on most of my third level and research institute visits - we visited places like Tyndall Institute in Cork, CRANN in Trinity College, Clarity in UCD/DCU, the Marine Institute and NUIG in Galway UL in Limerick and Queens in Belfast. We saw how research into nanoelectronics, remote sensing, oceanography biomedical and aeronautics is currently conducted in Ireland leading to greater learning but also the commercialisation of this learning into useful products and services. Indeed I think it's time that IDA Ireland and research funding agencies realised that 'Life Sciences' involve a combination of science and engineering and not science alone. In fact it is engineering expertise alone that provides the commercialisation for science.

Engineers as a profession have a flexibility and adaptability that few other professions have in terms of the strength of our core analytical and problem solving skills which are applicable to most business environments. Even in Ireland one of the advantages of our small global scale is the collegiality among the computing, pharmaceutical and biomedical companies that increasingly can exist through the mantle of Engineers Ireland. This could not possibly exist in Silicon valley.

We provide this connectivity on an international level as well as national through our associations with the UK Engineering Council, Institution of Civil Engineers, Institution of Mechanical Engineers, US Societies of Engineering, Engineers Canada, Engineers Australia and Engineers New Zealand. These connections provide mutual recognition of qualifications which enable the seamless transfer of learning between countries if Irish engineers choose to work abroad.

Creativity and innovation in the engineering sector are major drivers of economic growth and development. To be creative one must do something that has simply not been done before. Engineering must therefore be considered as one of the creative arts in the same way as architecture, music and the visual arts. In my visits to various regions throughout the year a number of regional committees suggested that I also visit the new visual arts centre in the town. I was very happy to do so but it also says something about the engineers in those towns who are also inspired by the visual arts and the need to provide high class public facilities to satisfy a public demand. And do it was in Carlow, in Sligo, in Cavan and here in Belfast with The Titanic Story with the crowds being draw since the new Signature Building opened. I find that the Engineer can appreciate the Arts and Humanities much better than the artist can appreciate Science and Engineering. Engineering is a creative art to be viewed and enjoyed like a bridge but one built on solid foundations of science and mathematics. Yet artists and poets never cease to fascinate us.

The Belfast poet Louis MacNeice would never have believed the interest that the Titanic would cause when he wrote in his poem 'Validation' -

'See Belfast, devout and profane and hard. Built on reclaimed mud, hammers playing in the shipyard'

When we look at the creativity that has transformed the new Northern Ireland - built initially on the fragile peace of the Good Friday Agreement! As Yeats said 'the peace came dropping slowly' yet it came - based on the trust of the leaders of both divides.

Albert Einstein correctly remarked that 'you can never solve a problem on the level on which it was created' - it needs a transformational driver that transcends the immediate landscape to see the problem on a different plane. I have found over the years that this applies equally to Engineering problem solving. Creativity requires thinking 'outside of the box' and the letting go of old certainties.

I once had a client in the public sector who said he just did not only want to be impressed with the service. He needed to be 'charmed and inspired by the creativity' shown! And all on a fixed price lump sum!'

Ladies and Gentlemen I too look forward to being inspired by this conference. I expect that we will come to realise that it is hard work more than inspiration that has brought Belfast and Northern Ireland to this historic juncture that we know too that these Northern characteristics will lead you to a successful future. We salute your many achievements and long may your creative and your sense of surprise survive! We are delighted to be with you this week to be part of your celebrations. We wish you and all in our Northern Region the bright future you truly deserve.

14th May 2012

**President of Engineers Ireland Speech to the World Congress on
Water, Climate and Energy in the Convention Centre
“Caring for Our Water Resources”**

Chairperson, President of the International Water Association, Distinguished Delegates.

On behalf of Engineers Ireland let me welcome all of you to Dublin this week. Engineers Ireland is the professional body for engineers and for engineering in Ireland representing some 24,000 members. We are also privileged to be the National Governing Body for the International Water Association in Ireland. We are therefore very happy to support the proposal that IWA would choose Dublin as the venue for your 2012 World Congress.

We have no doubt that this has occurred in no small way through the trojan efforts of our Congress Chair Ray Earle, his hard working committee and their business partners in bringing this Congress here and in creating a week long programme of presentations and events both Technical and social. Your choice of Congress theme - Water Climate and Energy - is very apt as the issues of Water, Climate and Energy are so intertwined in meeting the infrastructural challenges that all countries now face in the developed world and to an even greater extent in underdeveloped regions. As the artist and engineer Leonardo da Vinci one said 'Water is the driving force of all nature'.

Water is the key to life we know. It is also an increasing challenge to preserve it as a crucial resource for humanity - not least because the world population continues to grow and yet we cannot make more water! To further increase the challenge, water tends to be in abundance where most people generally do not live. This is true of the world and it's equally true in Ireland. Wars have been fought over access to water which is no surprise as humans can live for a month without food but will die in less than a week without water. Indeed the Vice President of the World Bank was heard to say in 1995 that 'many of the wars in this century were about oil but those of the next century will be over water!' Whether water will start wars or not we are not sure but we ARE sure that with the world population still growing that water will become an ever scarcer resource to be managed and indeed cared for.

To put my thoughts into some context for you I qualified as a civil engineer specialising in water issues and spent the first 15 years of my career as a water engineer then switched into energy and utility engineering mostly in the natural gas area here in Ireland with Bord Gáis our national gas utility who now coincidentally are about to take ownership on our newly proposed National Water

Utility. I am also very involved as consultant with the EU Commission on the European Green Capital City initiative promoting sustainable urban living including water, wastewater, climate change, energy and eco innovation criteria.

This Congress is timely also as Ireland stands at a crossroads in Water management terms. We are, together with the rest of the world very concerned with Energy and Climate issues as time grows near for the Rio+20 UN Conference on Sustainable Development. As a country we have prepared for this with a Government review 'A Framework for Sustainable Development for Ireland' published last December. This notes that the OECD Environmental Performance Review 2010 shows that significant progress has been achieved by Ireland since the last review in 2000. Environmental policies have been improved, environmental institutions strengthened particularly our EPA and significant investments made in infrastructure.

As a result Ireland generally has good air and water quality. In addition, energy intensity or energy use per unit of GDP is also the lowest among OECD countries. However despite this positive progress the current economic climate in Ireland represents a challenge for maintaining environmental commitments. It also presents opportunities to reassess and reform those policies that are both economically costly and environmentally damaging - like not charging households for water usage, tolerating internationally high leakage rates from our water networks and sending more waste to landfill than is necessary when cleaner alternatives like recycling and energy recovery exist.

I might even say that there's nothing more powerful to effect real change in society than a good crisis. So let's not waste a good crisis and fix what is broken in our economy. That includes the management of our Water Resources.

Therefore this year as part of our economic recovery plans we are about to oversee a transformation of the Irish water industry. The Government here have concluded that a new national public utility as part of an existing utility Bord Gais offers the best opportunity to improve the efficiency and effectiveness of water service delivery, provide access to new funding sources and to improve strategic planning and accountability.

The new utility model to be called Irish Water or perhaps in Gaelic 'Uisce Eireann' will replace the historical role of 34 existing local authorities in this regard. This is seen as essential structural reform to deliver maximum efficiency in our water infrastructure and also because we had no funding model as Ireland does not meter or charge for water to domestic consumers. Currently only commercial and industrial customers are metered by the local authorities. Indeed thankfully it was

made a condition of our IMF financial bailout that in future we charge all of our consumers for the public water that they use. A national metering programme will therefore soon commence which in time will fund a new investment programme to modernise and upgrade our water services based on use related charges.

While there is some political opposition to this proposal I want to say here that Engineers Ireland fully support the Government's action, including the introduction of water charges on domestic dwellings. This not only makes economic sense - it also makes good environmental sense in terms of the "polluter pays" principle as an incentive to conserve the finite resource that is water. Householders currently pay for every other utility like electricity gas and communications so why not also for water on a 'pay by use' system. It should not however have taken an economic crisis in Ireland for us to come to our senses in this regard.

Ireland has also made very good progress on the implementation of the EU Water Framework Directive requiring Member States to protect and restore the quality of waters on a river catchment basis. In Ireland River Basin Management Plans for each of the 7 river basin districts have been adopted. The plans set out the current status of our waters, the objectives to be achieved by 2015 and a programme of measures in order to achieve those objectives. Water pollution from septic tanks and other on-site wastewater treatment systems is also being addressed through the introduction of legislation for their inspection and performance monitoring. This we support also in terms of Minister Hogan's proposal.

Therefore in Ireland despite our recent economic difficulties we remain optimistic that by adopting the right economic, social and environmental responses that we as a country, are on our way back to prosperity but hopefully a more equitable and more sustainable form than we experienced before. We remain fixed on maintaining our membership in a strong Europe which has been the bedrock of our recent environmental sustainability.

We remain committed to the principles of the Europe 2020 Strategy in terms of its five ever ambitious objectives on employment, innovation, education, social inclusion and climate/energy. Most relevant of the 7 Flagship Initiatives is Resource Efficiency in our economies which have a special relevance to Water, Climate and Energy. We expect this resource efficiency to be a creator of major economic opportunities in each of our sectors and of improving productivity. A resource efficient Europe will deliver smart, sustainable and inclusive growth but these objectives must now be tempered by the new rules of economic governance applied by the EU Stability Pact Treaty.

In terms of our future approach to Water we very much look forward to the EU Blueprint to Safeguard Europe's Water Resources to be published later this year. This will build on the progress made with the EU Water Framework Directive and further consolidate our water framework legislation. It will ensure a sustainable balance between water demand and supply and the natural ecosystems they depend on.

It is expected that the 2012 Blueprint will have regard to:

- Analysis of the River Basin Management Plans in terms of progress on implementation.
- Review of the 2007 policy on water scarcity and drought, including water efficiency measures.
- Evolution of water resources in terms of vulnerability to climate change, urbanisation and land use.
- Outcome of the fitness check on EU Freshwater Policy to identify gaps and adequacy of current water supply networks.

The fitness checks will include an assessment of current regulation on the EU Directives with respect to Water Framework, Groundwater, Environmental Quality Standards (EQS), Urban Waste Water, Nitrates, Drinking Water, Bathing Water and finally the Floods Directive.

No doubt the new Irish Water under Bord Gáis will be having regard to the forthcoming Blueprint in terms of aligning our operations to ensure that these policies are being met and that the Commission for Utility Regulation will ensure that this is so.

So ladies and gentlemen this Congress could not be held at a better time, nor in a better place than in Dublin in 2012! We look forward to an informed and socially interactive conference which will advance the objectives of the International Water Association.

We again welcome you to Dublin and know that you will have a conference here that will hear innovative pragmatic and sustainable solutions to our global water challenges. It will also greatly assist Ireland as we too face the fresh challenges of reconfiguring our Water sector in closer tune with the Climate and Energy challenges that we also face. Enjoy your stay in Dublin.

Go raibh maith agaibh.

18th May 2012

President's Address at Annual Engineers Ireland Conferring Ceremony in Helix DCU

I want to congratulate all those within the engineering profession who have been conferred tonight with parchments in respect of their Professional Titles and Fellow. I also want to sincerely welcome your family guests and friends who are here tonight to celebrate with you.

Engineers and engineering technicians undertake their formation through formal education in a university or institute of technology, together with the learning and practical application of engineering principles in the work-place. At the same time, the award of these titles doesn't automatically come at a certain age nor does it come with a certain number of years experience.

The conferring of Titles on tonight's conferees are only awarded on the successful demonstration of their engineering formation and their competence to practice professionally as assessed by their peers in the professional review process of Engineers Ireland. Approval by your peers to join those holding the highest accolades within the profession proves that it is by no small feat when you mark this milestone in your careers.

468 members of Engineers Ireland received a registered title during 2011, including a number by the Experimental Learning Route. The number of individuals who achieved registered titles is indicative of the increasing requirement for accountability in the engineering profession. Engineers Ireland continuously works to raise the profile of engineers and engineering in Ireland and our significant contribution to society. In this regard we launched our first campaign on national TV and radio on 28 October 2011. It starts with the invitation 'Will You Come With Me?' and it ends with the line 'Chartered Engineers – bringing dreams to life for you and me'. I think that this advert which is also on the Engineers Ireland website continues to inform and entertain the general public and hopefully inspire the next generation of engineers in Ireland.

Having a recognised and respected professional title will continue to uphold and demonstrate the responsibility and accountability, not only of tonight's conferees, but of future applicants for Registered Titles of Engineers Ireland.

The achievement of a recognised title enables recognition for members not just at a national level, but also internationally, providing with it personal, peer and employer recognition of professional

achievement and it cannot be denied that International Recognition is of growing importance in our new global export economy.

Engineers Ireland participates at a global level with the Professional Engineering Representative Bodies from the major developed countries.

Through bi-lateral agreements for the Chartered Engineer title, our members can achieve equivalent titles in many of the major engineering institutions worldwide without having to go through their own professional review. Agreements currently stand in countries such as the UK, Australia, New Zealand, South Africa, Hong Kong and Canada.

Engineers Ireland is also a signatory to bi-lateral agreements for Engineering Technicians and Associate Engineers with the Institution of Engineering and Technology (IET), and with the Institution of Structural Engineers.

Engineers Ireland participates in the International Register of Professional / Chartered Engineers, along with the UK, the US, Canada, Australia, New Zealand, South Africa, Hong Kong and China with the requirement to be listed on this register to be a Chartered Engineer with 7 years experience, including 2 years responsible engineering work experience and CPD involvement.

The process of registration as a Chartered or Professional Engineer in participating countries is eased for those listed on the International Register, facilitating one's professional mobility abroad.

We have also over the past few years opened up membership to cognate professions such as holders of degrees in science, environmental science, mathematics, project management provided they are operating in an engineering role. Members holding Professional Titles of Engineers Ireland are also eligible to use the Professional Stamp for Registered Title Holders which can be used to demonstrate professional standing on documents, drawings and letters.

I would like to extend a special word of thanks to the Chairman and members of our Board of Examiners, our Membership and Qualifications Board, our assessors and interviewers as well as the staff of Engineers Ireland who contributed to the management and implementation of our professional review processes.

To conclude, I would like to congratulate again our new Engineering Technicians, Associate Engineers Chartered Engineers and to our new Fellows who received their parchments here tonight. I wish to thank Director General John Power and the Engineers Ireland staff for organising and conducting this ceremony tonight in such a professional manner. I wish you all and your family and friends a very pleasant night ahead.

24th May 2012

**President's Report on behalf of Council 2011 – 2012 at Annual
General Meeting**

1. Introduction
2. Strategy 2012 – 2015
3. The Economy and Job Creation
4. Strengthening Membership Rules and Byelaws
5. Innovation and Excellence
6. Continuing Professional Education
7. Advertising Campaign and Other Highlights
8. Finance
9. Annual Conference
10. Conclusion

1. Introduction

It is a huge honour to be President of Engineers Ireland and even so while the country continues to struggle through a fiscal crisis. We must remain focused and optimistic that we can help the country forward towards a sustainable economic recovery. It was a great privilege as President to meet so many enthusiastic members of Engineers Ireland of all ages throughout the Regions, the Sectors and Societies. I could not fail to see the huge commitment that many of our members give on a pro bono basis and indeed many have given for decades at the expense of family and personal time.

The growing profile nationally for Engineers Ireland is some reward for our selfless members who work so hard on our behalf. This public profile and the respect in which Engineers Ireland is now held is a tribute to the leadership skills and dedication of our Director General John Power and his diligent management team in Clyde Road. That we are able to nearly hold our current membership numbers and revenue in the midst of an unprecedented recession is the result of tireless efforts by our staff in Clyde Road and at all levels of our organisation. During the past year I visited all Regions in Ireland, Northern Ireland, Great Britain and the Middle East. I found the same committed 'global village' of Irish engineers proud of what we can do and anxious to play their part in our economic recovery. I especially again salute our member engineers abroad who hopefully can soon again bring their skills as engineers back to a prosperous Ireland thus further assisting our national recovery.

In my inaugural speech in May 2011 I raised the hope that we could work creatively with the newly elected Government to benefit the economy, education, critical infrastructure and job creation through innovation and enterprise. That we have been able to do and at the same time work to update our own strategy, our structures, membership rules and the public profile of engineers in society. We have worked on and delivered all of this agenda that we set last May thanks to the hard work of our Council, our Executive and the Director General team at Clyde Road.

I developed a President's Blog <http://apresidentsblogbypjrudden.blogspot.com> modelled on the innovation of one of my predecessors Dr Chris Horn. This blog chartered my progress during the year at events on behalf of our membership. I invited the membership to join me on this 'voyage of discovery' and it's a challenge that many indeed took up as I discovered when meeting you around the events during the year.

2. Strategy 2012 – 2015

At the April Council meeting we adapted a new Strategy for Engineers Ireland for the period 2012-2015. This Strategy had been drafted by the Director General and his management team and discussed fully at Council where some amendments were made. The essence of the Strategy is as follows:

- Who We Are; The Professional Body for Engineers and Engineering in Ireland.
- Our Vision; A society enhanced by the acknowledged contribution of engineering professionals.
- Our Mission; Our members as leaders and problem solvers commit to excellence in enhancing the quality of life for all.
- Our Theme 2012 -2015; The recognised professional standing and role of the Chartered Engineer.

The four goals of the new strategy are:

- 1. REPUTATION: Enhance the reputation of the engineering profession in Ireland, by continuing to advance Engineers Ireland as its leading expert voice
- 2. SUPPORT: To support and grow our membership and work with them to enable their career progression
- 3. PROFESSIONAL: Keeping members' professional engineering competence current and world-class
- 4. INTERNATIONAL: Supporting international mobility and increasing international recognition through compliance with accreditation and competence standards to safeguard the profession

In addition to these four goals which are outward looking towards society and which will be shown on the Engineers Ireland website we also have 2 additional internal goals as follows:

- To ensure excellence in our people, systems and processes
- To ensure the financial integrity of Engineers Ireland

In April, we also signed a new protocol with the Irish Academy of Engineering redefining our respective roles going forward.

3 The Economy and Job Creation

In my Inaugural and Presidential addresses I focused on the importance of job creation as the end game in the pathway for sustainable recovery. This pathway acknowledges that the recovery in the civil and structural engineering will take some time while there are other sectors of engineering which are already growing and are the current mainstay for economic development – the computing, pharmaceuticals, biomedical and energy sectors. I also pointed out the urgent need for reform in our education system at Primary and Secondary Levels in particular. I complimented the current reforms in both mathematics and science subjects which are the platform for engineering education and practice. It's too early yet to judge the success or otherwise of Project Maths which is intended to teach the subject in a more practical and contextual way. This process is “learning by understanding” rather than “learning by rote” – a difference which engineers well understand from a practical everyday application of these subjects. I also wish the current curriculum reform agenda well in the Junior Certificate termed ‘Innovation and Identity’.

Engineers Ireland continue to support education in these subjects through the STEPS Programme and through Engineers Week both of which are going from strength to strength even with reduced government funding. We are also hoping to extend our honours maths grinds for Leaving Cert students to Cork, Limerick and Galway in the next year. We continue our ongoing engagement also with the Minister for Education and Skills, the Minister for Innovation, the National Council for Curriculum and Assessment (NCCA) and the Teaching Council with particular regard to the implementation of Project Maths.

During Engineers Week in February 2012 we had a very successful launch of the State of Ireland Infrastructure Report with Mr Pat Rabbitte TD, Minister for Communications, Energy and Natural Resources. This was the second annual report on infrastructure dealing the five key areas of Transport, Energy, Water, Waste and Communications.

I made it a particular focus of my year to make Presidential Visits to as many Third Level Colleges and Research Institutes as possible to highlight the importance of Innovation and Enterprise as key drivers of job creation in the technological sectors. I was very pleased to see the tremendous progress currently being made in the innovation ecosystem in places like the Tyndall Institute in UCC and the Rubicon Centre in CIT. We also visited the Marine Institute in Galway and the Open Hydro wave energy technical centre in Greenore, Co. Louth. In these Institutes the educational

system is clearly feeding into innovation and enterprise with spin out companies and job creation resulting and needs to be encouraged further by Science Foundation Ireland, Enterprise Ireland and other funding agencies.

I also visited a number of infrastructural projects throughout the country in Transport, Water, Energy and Waste focusing on the productive impact of these on economic development, job creation and balanced regional development e.g. Corrib Gas Project, Limerick Tunnel, Carlow Main Drainage. I also took in a number of tourism and artistic developments which are helping to create jobs and some connected with the engineering profession e.g. The Mizen Head Bridge in West Cork, the VISUAL Arts Centre in Carlow, the Titanic Building in Belfast, Model Niland Gallery in Sligo and the Great Western Greenway in Mayo.

4. Strengthening Membership Rules and Byelaws

During the past year we finalised decisions on our Membership Rules and Routes to Titles. This process had commenced in 2005 and was given added impetus in 2007 but had not finalised sufficiently to enable membership rules to be applied from 2013 onwards in accordance with the Bologna Declaration. We therefore confirmed that from 2013 onwards a 5 year masters or equivalent was required for future Chartered Engineer. We also agreed the Routes to Titles for Graduate Levels 6, 7 and 8 thus confirming a future separation of Membership Grade and Title. These Membership Rules were confirmed following a detailed assessment by a Task Force led by my predecessor Martin Lowery. We also confirmed the admittance of members of cognate profession to membership and titles in Engineers Ireland.

At the April Council meeting we confirmed new Byelaws for the institution. These replaced the then current Byelaws adopted in 2003. The Council Taskforce on Byelaws was chaired by Past President Anne Butler. The principal Byelaw change was to remove the necessity for a Council election when there are less candidates than vacancies. We also reduced the number of members elected to Council and Executive and increased the number of co-options on the nomination of the President. In this way, we aim to be more representative of the emerging sectors of the profession. As a result, the current historical dominance of civil engineers on the Council and Executive will be reduced. We also consolidated our Code of Ethics, Membership Regulations and Guidelines for Boards and Committees into the new Byelaws. I am satisfied that these changes to Membership Rules, Routes to Titles and Byelaws will give stronger governance to the Institution to be a more representative body for the current and emerging profession in Ireland.

5. Innovation and Excellence

During the course of the year we had a number of events which rewarded Innovation and Excellence in the profession commencing with the Student Innovation Award at 2nd and 3rd Level in June 2011. The Overall winners of the Innovation awards were Fiona Griffin of the Biomedical School of Engineering in NUIG for Level 8 and a group of students from Cork CIT for Level 7. One of the highlights of the year was the Engineering Excellence Awards. This was the Second Year of these new style gala awards. The public vote for the Engineering Project of the Year was won by the Mizen Head Bridge. The construction of this Cork County Council infrastructural and amenity project had an immediate positive and tangible effect on tourism and economic impact in that part of Ireland. Other awards included Chartered Engineer of the Year Louise Connolly of ESBI, Best Engineering Paper of the Year Kieran Ruane of RPS, Volunteer of the Year Michael Loughnan of ESB, Educationalist of the Year Sean O'Laoire of CIT, Environmental Project of the Year Portlaoise Sewerage Scheme by RPS/Laois County Council and News Story of the Year by the Irish Examiner.

I was also pleased to attend Student Innovation Awards in UCD and CIT in November 2011 and March 2012 respectively and also to present the awards for Leaving and Junior Certificate results at the Engineering and Technology Teaching Association conference in November in Carrick-on-Shannon. All of these events demonstrated to me how critical it is for the art of creativity and innovation to be introduced to students from an early age.

6. Continuing Professional Education

CPD is the lifeblood of Engineers Ireland. It is the singularly most important reason for joining Engineers Ireland to further your personal development and your career. As Vice President I had the pleasure of chairing the CPD Committee for two years before handing over to Vice President John O'Dea. In recent years we have reconfigured our approach to CPD content to meet the challenges of emerging markets in Energy, Environment, Biomedical and Pharmaceutical Engineering.

We had a very successful CPD Company of the Year award in October 2011 where the very worthy winners were OpenHydro, Jennings O'Donovan & Partners, MCS Kenny, Farrans (Construction) Ltd and Cavan County Council.

We also launched the new Future Professionals Programme which offers structured advancement to graduates through two strands of intense and challenging professional development – a 6 month graduate transition programme and 18 months of professional progression programme.

Over 140 engineering students have now been accredited to our national CPD standard since its launch in 1999. Our robust CPD framework enables employers to improve performance, develop staff and deliver measurable business benefits.

7. Advertising Campaign and Other Highlights

The highlight of my year was the launch of the Chartered Engineer advertising campaign on national TV. This more than any other gesture showed an all embracing holistic profession working in diverse fields. The 50% gender balance shown hopefully represents the future Engineers Ireland operating and adding value across all sectors of the Irish economy. Innovation is the key to future development of the profession.

Another special event for me was the decision of Cavan County Council to honour me as President with a Civic Reception in November 2011. Cavan is my native county and it was in fact as much an honour for Engineers Ireland to be recognised in this way. I also received a Civic Welcome from the Carlow local authorities on my visit to view infrastructural projects in January.

I had many memorable visits to all of the regions and got a wonderful welcome from enthusiastic members. I tend to remember people and places most rather than events – Mizen Head in West Cork, Barnesmore Gap in County Donegal, Carlingford harbour County Louth and the views from the Mayo Great Western Greenway cycleway were unforgettable as was having my family at the Annual Ball and the Excellence Awards. It was an unforgettable year when I look over my blog in terms of all the events I attended and the many special people that I met.

8. Finance

We maintained the financial integrity of the organisation in a difficult year and still paid most of the costs of the advertising campaign going forward. That was a remarkable achievement by Director General John Power and Financial Controller John Byrne. My thanks to the Finance Committee especially to its Chairman Murt Coleman for their financial oversight.

9. Annual Conference

2012 was the centenary of the Titanic Story in Belfast and venue for our conference. It was a truly remarkable event with a host of outstanding national and international speakers on the theme “Engineering Enterprise in Times of Change”. We were honoured with a speech by NI Environment

Minister Alex Attwood MLA. The conference presentations centred on themes of Creativity, Enterprise and Knowledge Sharing to drive sustainable economic development North and South in both public and private sectors. The two sectors mostly focused on were Energy and Manufacturing. The conference was greatly enhanced by visit to the Titanic Belfast building and to Belfast City Hall.

10. Conclusion

It was a busy year to be President. I especially enjoyed bringing finality to a lot of challenges and issues that we faced at the beginning of the year. In doing so I had tremendous support from the Council, Executive and John Power who was a very capable and professional support to me at all times also promoting the best for the membership of Engineers Ireland.

I wish our incoming President Michael Phillips the very best in all his endeavours in the year ahead. I want to thank both Michael, the other Vice President Dr John O'Dea and the immediate Past President Martin Lowery for their support and wise counsel during the year. I also welcome the incoming Vice President Regina Moran. With the new Officers and Director General John Power and his excellent staff in Clyde Road, Engineers Ireland will continue to grow and prosper in the years ahead.



Blogs

May 2011 – May 2012

A President's Blog by PJ Rudden

The diary of the President of Engineers Ireland for 2011 – 2012, PJ Rudden

<http://apresidentsblogbypjrudden.blogspot.ie>

Wednesday 25 May 2011

Welcome

Welcome to my blog as the 2011-2012 President of Engineers Ireland.

The main purpose of this blog is to capture my activities for Engineers Ireland, what I am doing on a day-to-day basis. I intend that the primary audience for this blog are the members of Engineers Ireland

(<http://www.engineersireland.ie/>), and the wider public interested in the Engineering profession in Ireland.

All the views expressed in this blog are my own and not necessarily the views of Engineers Ireland.

PJ Rudden, pj.rudden@rpsgroup.com

ABOUT ME



PJ Rudden

I am a chartered engineer with over 35 years experience in the Irish engineering sector, and I am Group Business Director for RPS in Ireland. More recently I am Project Director of the European Green Capital Award for the European Commission and the ISLES (Irish Scottish Energy Links Study) study on off-shore wind, wave and tidal energy for the Governments of Ireland, Northern Ireland and Scotland. As Vice President of Engineers Ireland last year, I chaired the Task Force Report on Mathematics and Science Education at Second Level.

26 May 2011

My Inaugural Speech as President of Engineers Ireland

INAUGURAL SPEECH

BY

PJ RUDDEN

PRESIDENT OF ENGINEERS IRELAND

Distinguished Guests, Fellow Members of the Institution, Ladies & Gentlemen, Friends

It is a great honour for me to be elected tonight as your new President. I want to pay tribute to my predecessor Martin Lowery for his guidance, his wisdom and the sheer dedication that he gave to Engineers Ireland over the past year. I look forward to working very closely with our excellent Director General John Power and his dedicated staff in Clyde Road throughout the year.

I am very conscious that I take office at a critical time in our economic history. We have a new Government mandated by the people to effect Change in how we do Business and to bring Recovery to an ailing Economy. We all know that it is a long way back to the prosperity we once had as a nation and as engineers, we have an important part to play in getting us back on that road.

Martin's presidential theme last year was Job Creation and that must continue to be our primary focus into 2011 and 2012. Engineers Ireland can and must be a roadmap to identify, to encourage and to facilitate those areas of the economy where growth is possible, to identify barriers to Government and assist in the removal of those barriers to growth and prosperity. In particular there are huge institutional barriers to the enabling of more efficient and cost effective infrastructure. For example, there are too many statutory consents for major infrastructural projects – we need to roll these into a single consent to be granted by An Bord Pleanála. I compliment the many members who helped us launch the excellent Report on the State of Ireland's Infrastructure this evening and hope that we can find the resources, public and private, to fund and expedite that infrastructure which we deem is urgent.

I am very conscious that while many of our engineering sectors are still doing relatively well (pharma, ICT, energy and biomedical in particular) the construction industry remains in crisis and will continue to do so until we stabilise our public finances to enable productive investment in infrastructure to restart again. Meanwhile we welcome the recent Jobs Initiative as a modest start in the right direction. At the same time, it is a significant fact, there are in excess of 1,000 vacant posts

in the ICT sector alone that cannot be filled, so we need a great deal more flexibility in training and transferring of skills in our industry.

Engineers as a profession are at the centre of the Change required to stimulate the economy. We can and will act as that roadmap on a new direction to make our infrastructure, our services and our utilities more efficient and more responsive to the needs of a modern economy. We will continue to support reform in our education system at all levels to make our graduates more capable of analysing and solving problems including support for the new Project Maths approach and new approaches to Second Level Science subjects and the new Junior Cycle curriculum reform. This calls for a deeper learning experience not through rote learning but learning through understanding? This is our Challenge - to produce a new Roadmap towards growth and job creation in all sectors of engineering.

I accept that Challenge on your behalf tonight on behalf of our 24,000 members mostly in Ireland but many in faraway lands around the world where many of our graduates were forced to find a new future. I know that I speak for some of them tonight when I say that they have brought with them their pride as Irish men and women and their skill as Engineers - but also their dream to return again to a more prosperous Ireland in a couple of years time. That is the Challenge we now face. That is the future we must rebuild and we must all play our part - to bring them home to a country where our talents, skills and innovation will create sufficient new jobs for our current and future graduates.

As Engineers we have to review our thinking, our processes and our projects to start building a new Ireland. It's no longer enough to be technically skilled as an Engineer as that in itself does not build a new Infrastructure or drive a Smart Economy. Those technical skills are now taken for granted as a given. We need a more holistic approach towards Value Engineering, Research and Development whether in our projects, our colleges, our innovation centres, our venture enterprises or our business campuses. We need to help build the Transformation Ireland and the Enterprise Ireland that our state development agencies speak of both in terms of foreign direct investment into Ireland and export of our knowledge services out of Ireland.

If Engineers are to lead our national recovery in infrastructure, in innovation and in industry - we have to answer a greater call than that technical skill that we bear. We need sustainability skills, environmental and other sciences, mathematics, economics, languages, architecture, social and political science, biomedicine, ICT and communications if we are truly to be leaders in National Recovery. That's why we were right in Engineers Ireland to widen our membership into the 'cognate professions' which are already part of every engineering project and endeavour. I welcome many of those cognate professions here tonight.

We need to create new role models to inspire our young engineers to have that truly integrated talent to meet the challenge of what the great Engineer Brunel called 'changing the great forces in nature for the betterment of mankind'. In Ireland we too have had our Brunels in the visionaries who harnessed the Shannon at Ardnacrusha and brought Vartry water by gravity into Dublin. More recently we see the challenges of Digital Communication and Biomedical Science making us more aware of the world around us and improving our healthcare. At this time of national challenge, we need to rekindle that spirit of enterprise and innovation in a new generation of Engineers to whom the torch is now passing. Now is our time to move engineering endeavour to new spheres of influence and Government decision making to drive national development.

Leadership is about making the difficult things happen. If we are to lead in the economic life of our country we need to do more than Engineer - we need to Influence - We need to Invent - We need to Innovate - We need to Communicate - We need to Inspire - how to make new smarter Transport systems to move people and products, how to truly develop and protect our finite Water resources, how to better manage our recoverable resources in Waste, how we harness our Energy sources, renewable or otherwise, how to better manage our Environment including assisting a low carbon Economy to combat Climate Change and how we Communicate our Message that Engineers make things happen. Its time for Engineers to come out of the evening shadows and face the bright lights of mass media and social media - to comment on National Policies, to promote Project Need in infrastructure and to Show the Way with technological advances. We need to do so in a way that John and Mary Citizen and our younger generation will appreciate and understand. We need to go on Facebook, to Tweet and to Blog. From tonight a new President's Blog will chart my stories and experiences on your behalf throughout the coming year and hopefully help to communicate better the work of Engineers Ireland to the wider public audience.

We need to create a new public accountability for our actions as Engineers and as Project Managers for the society that we serve. Above all we need to serve the Public Interest, be honest in our dealings and ethical in our business approach. The people that we serve expect no less of us. Otherwise we don't deserve their respect - we must earn it from what we do - as much as from what we say!

As Engineers we will be known for what we support - not what we are against! We will be known for the vision of our policies and strategies. We will be known for the health and public safety of our projects that we design. While we adhere to international and best practice guidelines, our profession - unlike the legal and medical professions - remains unregulated and this is a concern that we hope to address at Government level in the year ahead. We have seen in recent years the effects of 'soft touch' or indeed little regulation in banking and business life. We want our

engineering profession not only meeting the highest international standards but it must be seen to meet them also. We therefore need new legislation to regulate the engineering profession as quickly as possible.

We must be confident in our mission, rational in our thinking and evidence based in what we say. We speak not only for Engineers, but for the nation, for the nation's cause is our cause. Therefore, we must uphold and act in the public interest, whatever the controversy.

I want my message tonight to be one of Hope for those of you listening to me not just here in Clyde Road in Dublin but by podcast greeting members in the Regions, Sectors and Divisions around Ireland and also in Northern Ireland, Great Britain and the Middle East Regions of Engineers Ireland.

Ba mhaith liom freisin teachtaireacht a chur le hinnealtóirí a bhuil an Gaeilge acu agus geallaim díobh nach ndeanfidh mé dearmad oraibh ar feadh na bliaina atá romhainn. Go háirithe ba mhaith liom bheith pairteach i gcrúinniú amháin d' An Roth ar a laghad no nios mó mar ta grá agam don' gcéad teanga. Beith mé ag súl freisin bheith pairteach ar cruinniú amháin in san bhliain i ngach rannóg éagsúil don Chumann.

In conclusion Members and Friends I want you to come with me on a voyage of Discovery in the year ahead where we will endeavour to fulfil the aims and purpose that we now set. We will assist but challenge where necessary our National Recovery Plan. So let us begin. We must all work together to realise our ambitions to achieve the four aims of Engineers Ireland (excellence in design, better regulation, better education for engineers, and maintain our standing on national issues). In that way we will assist in leading this country out of recession and regain at least some of the prosperity we once had.

Go raibh maith agaibh

P J Rudden

26th May 2011

Friday 27 May 2011

Standing on the Shoulders of Giants

Last night I felt very honoured to be elected President of Engineers Ireland which is the authentic voice of Engineering in Ireland. Last year we celebrated our 175th anniversary so I have 'big shoes to fill'. In terms of my predecessors I'm reminded of what Martin Luther King Jnr said 'If I can see farther than others, it's because I'm standing on the shoulders of giants'.

In my inaugural speech I tried to capture the sense of Hope we must have as we help to Engineer our way out of the current severe recession particularly in the construction industry. As Engineers, there is much we can contribute to the world of Design, Creativity and Innovation in diverse areas like energy, ICT, biopharma and biomedical engineering. These sectors of engineering in Ireland are not impacted by the recession and are currently mainly responsible for the success of our export led growth.

Speaking of Design I was privileged to be present yesterday morning for the launch of the Dublin bid to become World Design Capital 2014. The bid was branded as 'Pivot Dublin'. The breakfast event was hosted by Lord Mayor Gerry Breen and the guest speaker was Minister for Enterprise and Jobs Richard Bruton. Both lend support to the ambitious bid which is supported by design professionals including Engineers Ireland.

Yesterday morning I was happy to attend the Engineers Ireland conference on Offshore Wind Energy where leading companies in the market shared their experience and ambition to build a viable subsea export network of renewables including Wind Wave and Tidal resources. I very much support this ambition for a low carbon energy infrastructure.

Just before our Annual General Meeting last evening the outgoing President Martin Lowery launched the State of Ireland Infrastructure Report. This excellent report was completed by our members on the recommendation of our Cork Region and assisted by our Civil Division. It is hoped to issue this Infrastructure Progress Report on an annual basis with respect to Energy, Transport, Water, Waste and Communications.

We also welcomed our new Junior Vice President Dr John O'Dea Managing Director of Crospon a leading biomedical manufacturing company based in Galway. John is one of 4 people shortlisted this week as Entrepreneur of the Year. Our Senior Vice President this year is Michael Phillips, the Dublin City Engineer and Director of Traffic, who takes over as President from me in a year's time. I

am also grateful that Martin Lowery as Immediate Past President will remain on the Officer/Presidential Team for another year.

Finally I want to sincerely thank the outgoing past President Dr. Chris Horn for his selfless service over four years on the Presidential Team. It was Chris (ex-CEO of Iona Technologies) who inaugurated the first President's Blog, whose format I am now following.



My inaugural speech in progress

Thursday 9 June 2011

Xperience at the Helix

'Today I was honoured to perform the official opening of the Xperience Engineering National Finals 2011 at The Helix in DCU.

This is an annual event in The Helix hosted by Engineers Ireland to promote school projects based on the application of Science and Mathematics at Primary School level around Ireland. There were 40 shortlisted finalists from as far away as Cork, Kerry and Donegal together with their proud parents and teachers.

In my opening speech I remarked on the start of the Junior and Leaving Certificate exams this week and how committed Engineers Ireland are to supporting Education in all three sectors in Ireland but especially at Primary and Second Level. We are very actively supporting the new Project Maths curriculum at Second Level in particular and taking an interest in the new Junior Cycle curriculum and new proposed new approach to Science learning at second level from the National Council for Curriculum and Assessment (NCCA) (<http://www.ncca.ie/>).

This year's theme in the Xperience competition was 'Engineering a cleaner world'. There some highly impressive projects like the Flooding Study of Bandon Co. Cork to various topics like water and wastewater treatment, suspension bridges, wind farms, pumped storage electricity schemes and waste management proposals to reduce landfill.

I didn't envy the Judges their difficult task. The judges were engineers and scientists drawn from state organisations, from industry and consultancy.

The Junior Winner was Scoil Naomh Fionan, Nohoval, Co Cork. They examined 'greening' their local community in Nohoval by means of integration of local planning, transport and renewable energy projects.

The Senior Winner was Harold Boys School in Dalkey Co Dublin with a project on redevelopment of Dun Laoghaire Sea Baths. They had focused on the innovative possibilities of harvesting tidal energy, also creating seaweed baths as well as active consultation with the local community.

These two very worthy projects have the potential of improving local community infrastructure, job creation and environmental protection all at the same time.

From competitions like these, pupils get to realise that 'engineers make things happen' in everyday life. For example Engineers design the Water and Gas systems to the our towns and cities, our Roads Trains and Buses, making iPhones work, bringing Broadband to offices schools and homes.

We also make surgical operations in hospitals possible through our biomedical engineers who design equipment to monitor medical condition like heartbeat and blood flow and design medical devices like stents to bridge arteries to combat blood clotting.

It was great to see the sheer excitement in so many little eyes and faces as they explained their projects. They also answered the most searching questions to test their knowledge under time pressure.

I was proud today to be a member of Engineers Ireland (<http://www.engineersireland.ie/>). All associated with this event deserve our praise and admiration especially our principal organisers Caitriona Geraghty and Kate Cannon.'

Monday 13 June 2011

Awards for Construction Management Excellence

On Friday night I was a guest at the Annual Construction Manager of the Year Awards hosted by The Chartered Institute of Building in Dublin. CIOB was founded in 1834 and have over 47,000 members in 100 countries throughout the world.

The shortlisted finalists were all young professionals who had excelled in the building of some of Dublin's iconic new landmarks - The National Convention Centre, The Criminal Courts of Justice and Aviva Stadium built by contractors/ project managers CPM, Hegarty and Sisk respectively. These outstanding structures will forever be remembered as the last great building investments in the city before the construction and property crisis hit us in the late Aughties.

The Gold Medal for Construction Manager of the Year went to Donal McCarthy of CPM who project managed The National Convention Centre in Dublin. The Green Building Award went to Paul Stewart of JSL Group Ltd of Galway for the Roscommon Decentralised Government Offices.

The National Convention Centre beside the equally iconic Samuel Beckett Bridge over the River Liffey by Dublin City Council represent a new urban vista of which this generation of design professionals can be truly proud.

They are also very solid reminders that Dublin has a new freshness in Urban Design that should help its pitch led by City Architect Ali Grehan to become World Design Capital 2014. The Samuel Beckett Bridge led by City Engineer Michael Phillips won the Project Excellence Award from Engineers Ireland in 2010. Michael is also our Senior Vice President this year.

Not surprisingly the Samuel Beckett Bridge is increasingly used pictorially and graphically to symbolise and promote the modern Dublin in tourism and business advertising.

There were many other Construction Managers honoured for buildings all over Ireland - The O2 Dublin, McClay Library Queens Belfast, Iontas NUI Maynooth, Internal Street GMIT, Royal Hibernian Academy Dublin, St Patricks Hospital Cork, North South Ministerial Offices Armagh and Trauma and Orthopedic Theatres at Craigavon Hospital - an excellent North-South and regional spread of winners.

Sadly many of the country's once largest builders like McNamara and Pierse and who featured highly in the awards of previous years are no longer with us - further signs of the challenge we all now face to rebuild the construction industry in the years ahead. I'm confident though that we can engineer our way out of this recession through a combination of increasing competitiveness, innovation into new skill sets and services, common sense and hard work.

Also present as guests at the event were the President of the Construction Industry Federation Matt Gallagher, President of the Society of Chartered Surveyors John Curtin and the Dean of Engineering at DIT Dr Mike Murphy.

This event also reminded me that the new Built Environment in our cities - both townscape and landscape - will stand us well for generations and hopefully even centuries to come. It will endure as part of the future Ireland. No matter how dark the days may now seem for the construction industry, a new dawn will surely come later this decade and we all hope a great deal sooner. Then we will start to rebuild on the truly great traditions which we are now honouring at events like these.

Thursday 16 June 2011

Securing Our Energy

On Monday I was invited by Sustainable Energy Authority of Ireland (SEAI) (<http://www.seai.ie/>) to a Seminar on Energy Security & Competitiveness in a Rapidly Changing World in the National Gallery of Ireland. It was chaired by Professor Owen Lewis CEO of SEAI and opened by Minister Pat Rabbitte Minister for Communications Energy and Natural Resources.

Much of what was said was thought provoking. It came across most powerfully that we are seriously at risk in terms of our security of energy supply. Our basket of sources in Ireland need to be as diversified and integrated as possible. We are still highly at risk from increasing world oil prices in a volatile political world.

Our energy security metrics illustrated by Katrina Polaski of SEAI are stark in terms of our dependence on imports. We need more sources and more means of storing our energy. The competitiveness of our energy supply is also a critical issue as is our clear need to respond to the challenges of climate change.

In terms of gas supply which fuels most of our power plants currently, Corrib was the only new well discovered in 35 years and it is taking 17 years to develop! In that 35 years we had 150 exploration wells and only one discovery at Corrib in 1996. We now have 15 licence applications for the next round of exploration.

Meanwhile we have to accelerate the development of our renewable resources onshore and offshore having regard to the economics involved and the need to move to a lower carbon future.

We need to manage our risks going forward with regard to maximising our Energy Resources to help drive national recovery. In his concluding remarks SEAI Chairman Brendan Halligan remarked on growing world energy demand particularly in the emerging countries. China's economy doubles in size every 7 years. In terms of the overall theme of the seminar he called for a new Government White Paper on Energy and Enterprise. That's a call I would support.

Thursday 16 June 2011

NAMA and the Planning System

Last night there was a most interesting discussion at the DIT Spatial Planning Graduate Network Annual Forum 2011 (<http://www.dit.ie/sustainability/planning/>) to which I was invited. The topic was Perspectives on NAMA and the Planning System. This forum consists mostly of DIT planning graduates concerned with planning and sustainable development.

There were interesting perspectives on the possible conflict between the need for long term sustainable development versus the operations of NAMA as an asset disposal agency seeking highest economic value. I can see both points of view. NAMA has a legal obligation to protect the taxpayer but there was a genuine concern among the professional planners present that 'good long term sustainable planning' needed to be the driving force behind recovery of the distressed assets or sites in question. There was much mention of 'ghost housing estates' which were also the result of 'developer led' policies as opposed to 'plan led' policies.

There appeared to a general consensus at the Forum that it was not too late to seek a reconfiguration of NAMA operations to have greater regard to the planning system. NAMA is two years in existence but has yet to appointed a professional planner but we understand that there are now plans to do so.

As an attempt to clarify the NAMA approach to the spatial planning process I suggested that the professional bodies incl Engineers Ireland together with the architects, planners, landscape architects and surveyors might formulate a Professional Body Submission to the NAMA Planning Advisory Committee. This was generally agreed to be a positive outcome to the discussion. There was also a suggestion that the Urban Forum representing all of the relevant professional bodies might be a suitable vehicle for the submission to NAMA.

Wednesday 22 June 2011

Dublin shortlisted for World Design Capital 2014

Yesterday we got the exciting news that Dublin has made the shortlist of 3 cities, one of whom will be named World Design Capital 2014 later this year. The other two cities shortlisted are Cape Town and Bilbao.



At the launch in City Hall by Dublin City Council of World Design Capital bid 'Pivot Dublin' with John Tierney Dublin City Manager and Paul Keogh President of the Royal Institute of Architects of Ireland

The bid document titled 'Pivot Dublin - Turn design inside out' was a truly inspirational submission to the International Council of Societies of Industrial Design (ICSID) based in Montreal. Engineers Ireland (<http://www.engineersireland.ie/>) together with the Royal Institute of Architects of Ireland (<http://www.riai.ie/>) are listed as supporting Design Organisations.

The bid document makes bold statements of current and future ambitions for our capital city.

'Dublin is mountains and sea, swerve of shore and bend of bay. Dublin has history, it has deep roots, constantly refreshed...Its about the value of difference. Its about everything that's possible when people, relationships, creativity and culture collide'.

In Dublin we can see the new urban design freshness in the Samuel Beckett Bridge (<http://www.dublincity.ie/RoadsandTraffic/MajorTransportProjects/Samuel%20Beckett%20Bridge/Pages/default.aspx>) in engineering terms and the National Convention Centre adjacent to the

Bridge in architectural terms. The Bridge won last year's Engineers Ireland Excellence Awards and the National Convention Centre has won many.

The design award is intended to cause the winning city to redesign itself and thus improve social, cultural and economic life. After the City of Turin won the award in 2008 it was estimated that the value of the award to the city exceeded the economic effect of the 2006 Winter Olympics.

We look forward to the next round of the competition and assisting the endeavour wherever we can.

Wednesday 22 June 2011

Innovative Student Engineer Awards

Biomedical engineering is one of the growth areas of our profession in Ireland and indeed a major sector now driving national recovery and job creation. The National Centre for Biomedical Engineering Science (NCBES) at NUIG (<http://www.nuigalway.ie/>) has an international reputation developing innovative diagnostic and therapeutic solutions to the healthcare challenges of our day.

I was pleased to present the Innovative Student Engineers Awards last Monday together with our sponsors SIEMENS (<http://www.siemens.ie/index.asp>). Fiona Griffin a native of Listowel Co Kerry studying at NUIG Biomedical Engineering School won the Innovative Student Engineer Award for level 8 students and the level 7 award went to Danny Allen, Patrick Byrnes and Richard Childs of Cork IT (<http://www.cit.ie/>) also for a biomedical project.



Innovative Student Engineer of the Year 2011 Fiona Griffin from NUI Galway
pictured with Michael O'Connor from Siemens and P J Rudden, President of Engineers Ireland

This was the 15th year of the awards which have been generously sponsored by SIEMENS for the last 13 years and represented by Michael O'Connor Head of Corporate Communications and Marketing.

The shortlisted entries in both level categories were all fascinating and thus I didn't envy the task of the three Judges all of whom were Chartered Engineers led by Wilf Higgins formerly of the Health Services Executive assisted by Dermot O'Dwyer Lecturer in TCD Engineering School and Niall English MD of Futura Design.

Fiona's project which was really amazing was the development of a transcatheter valve as a stent into the mitral valve which regulates blood flow from the auricle to the ventricle of the heart. The catheter is inserted into the artery through an incision in the upper leg and threaded through the artery to the heart.

This procedure which takes about 1 week recovery period in hospital replaces an open heart surgery procedure with greatly increased risk of infection, the temporary cutting of the rib cage and some 4 to 6 months recovery period.

The Cork Institute of Technology project was similarly in the biomedical area on the subject of the 'Automation of Prosthetic Shoulder Stem Blasting' which they pioneered with biomedical firm Croom Precision Medical.

Other shortlisted projects included evaluation of a 6 stroke engine, office building energy consumption, design of post tensioned beams, pyrites in concrete and microgeneration - all of which are very topical submitted by Cork IT, DIT, Athlone IT, NUIG and Sligo IT.

Speaking at the presentation of the awards, I emphasised the importance of the modern engineer having a combination of creativity, critical thinking, collaboration and communications skills. I encouraged the students to further look at the commercial viability of their projects.

All in all a very exciting day for the students, their parents and teachers all of whom deserve great credit. Also deserving of great praise is Margie McCarthy Director of Membership together with Shirley McDonald and Julie Goggins who conducted the day with great assurance and maximum comfort to the students.

Monday 27 June 2011

STEM Conference in Cork

I was delighted to attend my first meeting outside of Dublin since becoming President and to be in Cork on Thursday last for the STEM Conference. STEM stands for Science Technology Engineering and Mathematics - all essential subjects required at some point to be a successful engineer. The conference was a great success jointly organised between Engineers Ireland and Discover Science and Engineering programme within Forfas (<http://www.forfas.ie/>). There was even an unannounced impromptu visit by our new Minister for Innovation, Sean Sherlock, also a Cork TD. He was very upbeat, informed and supportive of the conference in his remarks.



Margie McCarthy Membership Director Engineers Ireland, Dr Jim Robinson
Cork Region Chair Engineers Ireland, P J Rudden President Engineers Ireland,
Peter Brabazon Director Discover Science and Engineering and Katharine Jansen
CSR Manager Abbott Ireland

The presentations and debate rightly focused on the challenge to engage with and to inspire young Second Level students towards the STEM careers in Science and Engineering.

I was met at the event in River Lee Hotel by the Cork Region Chairman Dr Jim Robinson, our Director of Membership Margie McCarthy, Peter Brabazon Director of Discover Science and Engineering, Paul Sheridan our Education Officer and Caitriona Geraghty STEPS Manager (<http://www.steps.ie/>) and who was Conference Organiser.

What impressed me most about the conference was the tremendous collaborative approach between Industry and Education in the Cork Region particularly at Third Level with the Tyndall Institute,

UCC, CIT supported by Cork City Council's Lifetime Lab and Blackrock Castle Observatory and many others.

Chris Enright R&D Manager with Hewlett Packard (<http://www8.hp.com/ie/en/home.html>) pointed out that the speed of technological development is such that we are now teaching and training skills for technologies which havnt yet been invented for future careers which currently don't exist!

Andre Van Aperen of Shell (<http://www.shell.com/>) outlined many interesting features of the Dutch Jet-Net system for attraction of students towards the STEM like a National Teachers Day and National Girls Day to raise awareness with selected cohorts of people.

Katharine Jensen of Abbott (<http://www.abbott.ie/>) showed how a proactive Corporate Social Responsibility (CSR) approach at industry level can greatly inspire students towards careers in Science and Engineering.

Michelle Starr of the UL National Centre for Excellence in Mathematics and Science Teaching and Learning (<http://ul.ie/>) told the conference the startling facts that Science was not a compulsory subject at Junior Certificate. She also described the innovative Mallow Schools Project in maths and science funded by local businesses.

Bernard Kirk of Galway Education Centre told us the incredible fact that the syllabus for the subject Engineering at Leaving Cert level had not been revised in 30 years! Really my mind boggles at this! How the world and our engineering world has changed in the past 30 years!

Aoife O'Donoghue outlined the fascinating work at the Tyndall Institute (<http://www.tyndall.ie/>) where the National Microelectronics Research Institute is hosted and recently visited by Queen Elizabeth. She also described the impressive extent of her Outreach Programme within Science and Engineering education.

It was a tremendously interesting visit to Cork thanks to the organising skills of Caitriona and Kate in Engineers Ireland greatly supported by Peter and his team in Discover Science and Engineering.

Wednesday 29 June 2011
June Council Meeting

We had our first Council Meeting of the new year on Saturday morning last.

The two main events were Cooptions to Council and Election of 2011 - 2012 Executive Board. We coopted four new Members to Council - Justine Butler Chemical Engineer, Victoria Chadwick Safety Engineer, Donal Rigney Civil Engineer and Marguerite Sayers Electrical Engineer. Justine Butler is the Chairperson of our Young Engineers Society this year and the first YES representative to be elected to Council. I welcome her as the voice of the Young Engineers on Council in the year ahead. Also on the Council are the representatives of each of our Regions, and our Divisions (Civil, Mechanical, Biomedical, ICT etc) together with elected Chartered, Ordinary and Associate Members - a total Council of 44 people who together decide on the Strategic Policy of Engineers Ireland. The Council normally meets in June, September, November, January and April each year.

We also elected 10 members to the Executive Board, 5 from Council and another 5 who have previously served including the Chairman of our Finance Committee Murt Coleman and the Chairman of the Membership and Qualifications Board Tom Cleary. The Executive Board meets monthly and manages Engineers Ireland through the Director General and his staff at Clyde Road HQ.

Together with the two Vice Presidents Michael Phillips and John O'Dea and Past President Martin Lowery, I very much look forward as President to working with the Council, the Executive and the Director General John Power in the year ahead.

Thursday 30 June 2011

Cloud Computing at the National Digital Research Centre (NDRC)

Yesterday I visited the Green Digital Ideas Generation Workshop at the National Digital Research Centre beside the Guinness Storehouse.



Pictured at NDRC Workshop Fiona Hyland Marketing Manager, John Geoghegan Senior Commercial Associate, P J Rudden President Engineers Ireland, Dr Teresa Dillon Event Manager and Dr Amy Neale Programme Manager

NDRC (<http://www.ndrc.ie/>) is an independent not for profit enterprise dedicated to accelerating ICT research 'from idea to income'. It operates with the support of the Dept of Communications Energy and Natural Resources.

The collaborative approach with technology and business innovators drives greater collective success while cultivating attitudes towards invention and investment. Its founding members are DCU (<http://www.dcu.ie/>), NCAD (<http://www.ncad.ie/>), IADT (<http://www.iadt.ie/en/>), TCD (<http://www.tcd.ie/>) and UCD (<http://www.ucd.ie/>).

NDRC analyses and assesses new and emerging technologies and market opportunities within the economy's most important sectors. The Workshop consisted of a series of innovative presentations showing how the digital world can add value to smarter Energy Generation and Distribution, Public Transport, Water Supply, Waste Management and Green Buildings.

There was much comment on how Cloud Computing can help to service and grow Ireland's economy. Cloud computing is at an early stage of development. It is essentially a model that delivers

on-demand access to a pool of computing resources. These can include all aspects of an IT infrastructure such as networks, servers, storage, applications and services. There are several advantages to the use of Cloud Computing not least an overall cost saving from efficiency and increased security.

There is no doubt that NDRC provides an essential research and early start up service to many SMEs and new entrants to the digital world. This was amply demonstrated yesterday and our thanks to John Geoghegan, Teresa Dillon, Amy Neale and Fiona Hyland all of NDRC for hosting a most interesting and rewarding day.

Monday 4 July 2011

New DCU Masters in Sustainable Development

Last Friday I was invited to assist the DCU Launch of the new Master's Degree in Management for Sustainable Development (<http://www.dcu.ie/news/2011/jul/so711a.shtml>) together with Vice President for Learning Innovation Professor Richard O'Kennedy. Richard launched the course and I gave the Keynote Address on behalf of Engineers Ireland.

The timing was very apt on the day after the preliminary results for the 2011 Census were announced showing Ireland's population at its highest for 150 years at 4.5million approx and some 100,000 more the CSO had expected. The implications of this increase will have significant consequences for our social and educational infrastructure in particular.

The new Distance Learning MSc by Oscail - DCU's distance learning unit - is based on the philosophy that for a business to be successful and sustainable longterm that the business manager must effectively manage the economic social and environmental challenges in a holistic way.

The core infrastructural areas to be covered by the course are Waste, Water and Energy - all critical areas which are key to our economic recovery. Uniquely for a third level institution, in my experience, the course will also cover the whole area of Procurement which is complex and will require interfacing with technical commercial and legal issues.

Anne Morrissey, the course director, and Seamus Fox, Head of Oscail, demonstrated the Wimba based tutorials available at home for those pursuing this course. More graphically a Connamara based student of the course living on the Sky Road in Clifden talked of the ease with which she hopes to take the course this autumn based on her previous distance learning.



At the launch in the Helix DCU - P J Rudden President of Engineers Ireland, Professor Richard O'Kennedy Vice President of Innovation and Learning DCU and Dr Anne Morrissey Programme Director DCU

DCU recognise the importance which Engineers Ireland attach to the whole area of strategic national infrastructure based on our recently published The State of Ireland's Infrastructure Report.

In my remarks I referred to the banking and property crisis and remarked that we needed "to get back to 'plan led' sustainable development not 'developer led' which had created much of our current difficulties". I also expressed my amazement that not a single town planner, architect, engineer or environmental scientist had yet been employed by NAMA so it was impossible for them to accurately assess the true value of the distressed assets under their control. "Never was the content or timing of this course on Management for Sustainable Development more needed in Ireland than at present", I concluded.

After the launch I got a guided tour of the Engineering faculty from Dr Noel Murphy, Head of the School of Electronic Engineering, and Professor Barry McMullin, Director of the RINCE Institute (Research in Networks and Communications Engineering). DCU research supports Irish Industry in biomedics, fibre optics, biophotonics, plasma and nanoelectronics.

Wednesday 6 July 2011

Meeting the Middle East Region in Abu Dhabi/Dubai

Last night I passed through Abu Dhabi and Dubai in the United Arab Emirates (UAE) on other business and dropped in on a meeting of the Middle East Region of Engineers Ireland together with the Irish Business Network (IBN) (<http://www.irishbusinessnetwork.org/>).

I was very happy to meet the Engineers Ireland Region Chairman Tom Riordan and Region PRO David McKenna at the event. Tom is Arabtec Professor of Civil Engineering at Dubai Higher Colleges of Technology. David is employed as a Senior Engineer in Abu Dhabi Municipality.

We discussed the unique challenges which the farthest off Region of Engineers Ireland encounters in providing CPD and other services to their Members and their absolute need to network with other Irish and professional organisations in UAE. The Irish Business Network (IBN) is such a local network in Dubai/Abu Dhabi and draws on all professional and business members across the UAE.

I was also privileged to meet the Irish Ambassador to the United Arab Emirates, Kuwait and Qatar - His Excellency Ciaran Madden and the Middle East Regional Director of Enterprise Ireland Jim Mongey at the event. Both of them are very committed to assisting Irish citizens and businesses to prosper in their newly adopted country.



Pictured at the Irish Business Network event P J Rudden President of Engineers Ireland, Irish Ambassador to UAE Ciaran Madden and Professor Tom Riordan, Chairman of the Middle East Region of Engineers Ireland.

We all know that Irish Engineers and indeed Irish consultancy companies and contractors see the Middle East (mostly UAE Saudi Arabia Oman and Qatar) as their export market of choice.

Therefore it was a proportionate response that in Autumn 2009, as the Irish construction industry severely contracted, that the Council of Engineers Ireland approved the setting up of the Middle East Region -the first outside of Ireland since the Great Britian Region was set up during the last bad recession in the late 1980s when most Irish engineering graduates went to the UK.

The bulk of engineering endeavour in UAE has in recent years moved from Dubai to Abu Dhabi and most Irish engineers in the UAE are now employed in Abu Dhabi where development is proceeding, though at a slower pace than heretofore. The City has many challenges not least its car overdependence (due to low fuel prices) and lack of adequate parking facilities. There is however a new Metro under construction which should help to relieve traffic congestion.

Yet we should not forget the huge architectural and engineering heritage that Dubai has created over the past 10 to 15 years for future generations. I was delighted at the IBN in Dubai to meet Gerry O'Leary, the acclaimed Irish industrial/aerial photographer, and am happy to show here some of Gerry's photographs depicting the sheer scale and beauty of the buildings that Dubai has produced over the past 10 years including the Burq Dubai which is currently the tallest building in the world at 828 metres. A truly amazing engineering feat! I can recall being here 18 months ago as the final floors of the building were being constructed and to see the gigantic cranes high up looking like mere tiny specks in a sometimes misty blue sky.



As I stared at the 'gleaming spires' of Dubai I was reminded also of the unsustainable property and construction bubble at home that eventually caused a lot of engineers, architects and other professionals to find a new temporary home at least in the Emirates. I referred to these Members and their families in my inaugural speech in May (my first blog here in 'archive'). I found last night that many of them remembered that they had not been forgotten by Engineers Ireland. We will continue to support the Middle East Region in the years ahead as it grows and prospers.

Friday 8 July 2011

'The Building of the State' in Merrion St

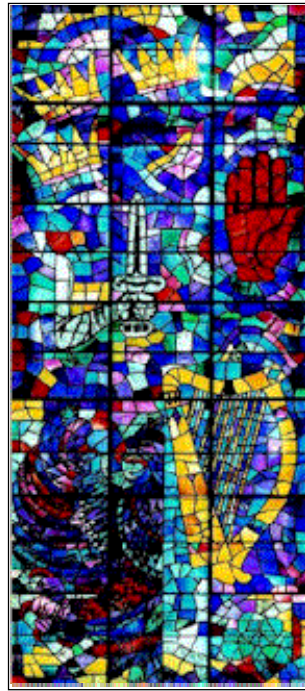
Last evening I was invited by the Taoiseach Enda Kenny and the President of UCD Dr Hugh Brady to celebrate 100 years of the Engineering Building in Merrion St which is now the Taoiseach's Office. It was a wonderful celebration of a historic building that started life as the Royal College of Science in 1911 then the UCD Engineering School and finally became the Taoiseach's office in 1989 (<http://www.taoiseach.ie/eng/>).



Pictured at Government Buildings Taoiseach Enda Kenny P J Rudden President of Engineers Ireland and Dr Hugh Brady President of UCD

As the emerging State asserted its independence, the engineers of UCD in Merrion St were at the forefront in the practical expression of that independence. As the country's industrial ambitions grew, so too did the scale and scope of the research in Merrion St. The engineers educated there played a vital role in creating a technologically advanced Irish economy.

The Taoiseach Enda Kenny in his opening remarks joked that the reason why Queen Elizabeth felt so much at home in his office recently was that the building shared the same architect - Sir Aston Webb - with Buckingham Palace. Still though I thought the most iconic image of the evening shown here in the wonderful atrium of light was the stained glass window by Evie Hone depicting 'My Four Green Fields'!



"The Four Green Fields" by Evie Hone

Master of Ceremonies for the evening was Dermot McCarthy current Secretary General of the Dept of the Taoiseach and Secretary to the Government. Also present were former Taoisigh and Secretary Generals of Government Depts including T K Whitaker, Dermot Gallagher, Paddy Teahon and Padraig O'hUiginn. Ministers Ruairi Quinn and Brendan Howlin accompanied the Taoiseach. President Hugh Brady of UCD had his Vice President for Development Aine Gibbons.

The current Dean of Engineering Dr David Timoney represented the UCD College of Engineering Mathematical and Physical Scientists. Former Presidents of Engineers Ireland present were Brian Sweeney, Liam Connellan, Brian Kearney and Jack Golden - all former or current Captains of Irish Industry with Siemens, Dalkia, Project Management and CRH respectively. It was a pity that Professor James Dooge another former President of Engineers Ireland and - in my days in UCD - Professor of Civil Engineering did not live to see yesterday's centenary event as he was the principal bridge between Engineering and Government over the past century. I was pleased though to see there his successor Professor Tom Casey who remains very active in consulting circles. Also present were Gabriel D'Arcy CEO of Bord na Mona and Dermot Byrne CEO of Eirgrid.

The event booklet 'The Building of the State' by Professor Orla Feely was aptly named. The event was truly a dual celebration of the State and Engineering working together to build the new formative nation. In the 1920s and 1930s hydroelectric plants were built to fuel the emerging state. Semi states like Bord na Mona ESB and Aer Lingus were set up. Roads, bridges, rural electrification,

factories, airports, radio, TV, and telecommunications were all designed and built by Engineers and were the foundations for our modern Infrastructure of today.

Within the Merrion Street complex, generations of scholars studied, created, invented and adapted while generations of political leaders and officials determined the policies that have shaped modern Ireland.

Friday 15 July 2011

ASME Board of Governors meet at Powerscourt, Co. Wicklow

Yesterday John Power, Director General, and myself had the pleasure of welcoming the President, Executive Director and Board of Governors of the American Society of Mechanical Engineers (<http://www.asme.org/>) to Ireland on the occasion of their Summer Strategy Retreat. This was only the second time in their history that they held this event outside the US.

The ASME President Victoria Rockwell and Executive Director Tom Loughlin very graciously invited us to lunch and to address them on the challenges facing Irish Engineering. They also made us aware of the issues informing their own strategic discussions - Global Energy and Workforce Development.



PJ Rudden President of Engineers Ireland Victoria Rockwell President ASME
Tom Loughlin Executive Director ASME and John Power Director General Engineers Ireland

ASME is a global organisation with 120,000 members, and offices outside the US including in Brussels, India and China. The 40 strong Board of Governors had been addressed earlier in the day by speakers from all over the world with different perspectives on global engineering issues. I therefore felt very privileged to have been invited to give the keynote speech of their meeting.

I gave some insights into the trading relationship between the US and Ireland - all of which showed just how critical US investment in Ireland has become. I outlined where Engineers Ireland stood on the issues of Energy Generation and Workforce Development. Finally I outlined some of the challenges facing us in terms of engineering education, professional development, regulation and our policy advice role with Government.

It is hard to believe that in 2010, US investment in Ireland actually exceeded combined US investment in China, India, Russia and Brazil. We have 600 US firms in Ireland creating some 100,000 jobs and pumping €20 billion into the Irish economy. 9 of the US top 10 ICT firms ranked by Forbes are in Ireland and we have recently attracted leading US social media firms Google, Facebook and LinkedIn to our shores.

The US is the number one destination for Irish exports, worth €20 billion in 2010. US investment has come a long way since Abbott Pharma first set up in Ireland in 1946 and IBM Computers ten years later in 1956, in a very different Ireland than we have today. Happily both of these companies are still with us and both continue to go from strength to strength. Both have strong local links with Engineers Ireland and with Dublin City Council, in terms of Science and Technology Education and helping to front Innovation Dublin 2011 respectively.

The traffic though is not all one way. 227 Irish firms invest more than €23 billion in the US, which currently creates 82,000 jobs. It's little wonder then why, despite our relative fondness of the EU, that so many Irish people feel closer to Boston than Berlin!

In the informal discussions that followed we realised how happy these friendly Mechanical Engineers were in visiting Ireland. The added fact that they were treading in the footsteps of President Barack Obama and Queen Elizabeth appeared to add extra comfort to their choice of country to visit this year. We can now clearly see that the high cost of security of these visits will be handsomely repaid in increased tourism and trade in the years to come.

We only spent a few hours in the company of Victoria and her colleagues, most of whom were 'first timers' in Ireland. We met there as strangers but parted as firm friends 'who never met before', exchanging email and LinkedIn details. ASME has now joined the 'global network' of Engineers Ireland or perhaps the other way round. In any event we look forward to continued networking and the crossing of ideas to mutual benefit in the years ahead.

MONDAY 18 JULY 2011

New NUIG Engineering Building Opened by Taoiseach

I was invited by Dr Jim Browne President of NUIG (and Past President of Engineers Ireland) to attend the Official Opening of the new NUIG Engineering Building (<http://www.nuigalway.ie/new-engineering-building/>) by Taoiseach Enda Kenny last Friday. NUIG's Engineering School is the largest in Ireland with 1,100 students and 110 staff, offering nine fully accredited undergraduates programmes in areas as diverse as civil and environmental engineering, computer and electronic engineering and biochemical engineering.



Pictured at the Official Opening of the new Engineering School in NUIG were Professor Padraic O'Donoghue Chairman of West Region Engineers Ireland, P J Rudden President of Engineers Ireland and Dr Jim Browne President of NUIG

Also present from Engineers Ireland (<http://www.engineersireland.ie/>) at the Opening were Vice President John O'Dea who is based in Galway, Chairman of our Finance Committee Murt Coleman and Executive Board Members Professor Padraic O'Donoghue (Chairman of the West Region) Domhnall Blair and Kieran Feighan together with Engineers Ireland Registrar Damien Owens and Director of Communications Fionnuala Kilbane. Past President John Killeen was also present.



Carmel Brennan President of Galway Chamber of Commerce, P J Rudden President of Engineers Ireland, Mayor of Galway Cllr Hildegarde Naughton and Dr Jim Browne President of NUIG

The Opening of the Building was a tremendous credit to President Jim Browne in particular, together with Padraic O'Donoghue Professor of Civil Engineering and Former Dean and the current Dean of Engineering and Informatics Professor Gerry Lyons.

In addition to the Taoiseach, I was also happy to meet the Mayor of Galway Cllr Hildegarde Naughton (<http://www.galwaycity.ie/>), City Manager Joe O'Neill and President of Galway Chamber of Commerce (<http://galwaychamber.com/index.asp>) Carmel Brennan at the Opening which was truly a major cause for celebration throughout Galway City. There were in excess of 350 people attending.



The new NUIG Engineering Building is truly an iconic curved structure designed to blend with the gentle curves of the River Corrib on whose banks it sits. The building has been designed to be a

'teaching tool' in itself with exposed construction techniques and an array of green building methods.



NUI Galway offers a degree in energy systems engineering and has a significant focus on research into environmental technologies. The engineering building itself contains a range of green technologies which will add to the 'hands on' experience of students. There is large scale rainwater harvesting, a biomass boiler, low- embodied energy materials, such as zinc, grass roofs for water attenuation, heat exchangers and many other cutting-edge technologies.



The structure is among the first in Ireland to employ the use of voided slab systems. The innovation introduces 'plastic bubbles' into the concrete reducing its weight and quantity of concrete used. Areas of the building such as the plant room will be accessible to showcase to students the industrial biomass boiler and combined heat and power unit at work.

All Irish engineers can be justly proud of this new national learning centre in NUIG, as Learning and Research Institutes are the future of Irish Engineering and the roots of future Job Creation.



That's why I've decided during my year as President of Engineers Ireland to visit a number of Research Institutes around Ireland like Tyndall Institute in Cork (<http://www.tyndall.ie/>), Marine Institute in Galway (<http://www.marine.ie/home/>) and many others in addition to also visiting various Infrastructural Projects in the Regions to highlight their role in Job Creation and in balanced regional development.

Friday 29 July 2011

President's Forum at Association of Consulting Engineers of Ireland

Last week I was an invited guest of Finn Ahern, President of the Association of Consulting Engineers of Ireland, at the Annual President's Forum and lunch.

The Association represents the Consulting Engineering profession in Ireland who plan, design and supervise the construction of major engineering projects. They mostly consist of the major civil, structural, mechanical and electrical consultancy firms engaged in Engineering Design.



The structural design for the leading landmark buildings in our cities have been designed by members of ACEI - recent examples are the National Convention Centre, New Courts Building Parkgate St, Limerick Tunnel, Grand Canal Theatre, Stadia at Aviva and Thomond Park , Samuel Beckett Bridge, Mizen Head Bridge and M6 Motorway to Galway and many more..

If you take the overall life cost of any of these projects or buildings - the breakdown of life time cost runs about 2% for design, 23% for construction and 75% for operation/maintenance and replacement. We therefore have to ensure as responsible Engineers that we invest heavily in the quality of Design in terms of innovation, energy efficiency, reduced maintenance and whole life sustainability.

More importantly our public and private clients have to realise that awarding Design Contracts solely on the basis of cost to the 'lowest bidder' will return to haunt them in terms of greater multiples of operational and maintenance costs.

The ACEI President's Forum was a useful discussion opportunity between ACEI and Engineers Ireland on the current state of the engineering industry and the challenges that face us. Many of the ACEI design consulting firms have been reduced in volume work by 50% or more in adjusting to the greatly reduced planning and development market that currently exists in Ireland.



Pictured at the ACEI President's Forum lunch were Derrick Edge of Arup, P J Rudden President of Engineers Ireland, Kate Gannon YPE Chair and Ryan Hanley, Phelim Devine of Arup and Finn Ahern President ACEI

An interesting initiative of ACEI has been the Young Professional Engineers Forum. This forum is for the younger members of the profession in order to attract the bright and talented into consulting. It was set up in 2007 and continues to go from strength to strength. This year's Chair of the YPE Forum is Kate Gannon a young engineer from Galway.

I raised the issue of Regulation of the Engineering profession which Engineers Ireland have been pursuing with Government. ACEI were totally supportive of this initiative.

I also informed ACEI of Engineers Ireland's plans to have a national campaign this Autumn to raise the profile of Chartered Engineer in terms of the role of engineers in society - supplying power, clean water, transport systems, IT systems, biomedical services and communications in terms of everyday living.

Monday 8 August 2011

July Executive Meeting

Strangely, the July Executive Meeting was held on August 4th this year due to the original July date clashing with other events. This was the first meeting of the newly elected Executive for 2011/2012, and it was great to sincerely welcome the 5 new members in particular - Tom Cleary, Justine Butler, Declan Howard, Dave Kelleher and Peter Quinn. All bring a new perspective either in terms of diverse skills and regions. Four are private sector and one public sector. One is based in Northern Ireland and one in UK.

The Executive meets monthly (except in August usually!) to make governance decisions for Engineers Ireland while the Council which meets less frequently is the corporate policy making body. The Council with 44 members elects the Executive of 16 members including President, 2 Vice Presidents and Immediate Past President and Chairperson of the Finance Committee. The President chairs both the Council and Executive.

This was a most important meeting as we debated and decided on the future requirements for the award of title of Chartered Engineer for graduates who qualify post 2013. In so doing we raised the future requirement for Chartered Engineer to possess a 5 Year Master's Degree in Engineering or equivalent rather than a pure Bachelor's degree. This effectively raises the standard and quality of the Irish CEng title which is already classed internationally as in the first league. In all cases we will continue to require a period of Technical Training usually 2 years followed by at least 2 years of Professional Experience in all comprising some 4 to 5 years experience post college before becoming a Chartered Engineer in ones late 20s or thereafter. This new requirement flagged up some years ago is a response to the Bologna Declaration of 1999 to ensure the convergence of higher educational requirements for professions across Europe.

Since 1969, Engineers Ireland is the only body in Ireland who can legally award the qualification of Chartered Engineer. It is critically important though that our Chartered Engineer qualification is consistent with the best internationally especially in the English speaking world (UK US Canada Australia) as increasingly Irish graduates are travelling abroad to seek work and experience in those countries.

We also discussed at some length a promotional campaign commencing this autumn to highlight the importance of Chartered Engineers to society in general and to economic recovery in particular. Chartered Engineers will help create and drive the new Smart Economy, keep our clean drinking

water flowing, develop our energy and communications systems, make our transport systems safer and make new biomedical discoveries to help save and prolong human life.

It was President Barack Obama, himself a lawyer, who once said in terms of economic growth 'Give me less lawyers and more engineers!'. No offence to my wonderful friends in the legal profession but he was really pointing to the reputation of engineers as 'doers' and indeed our own Taoiseach made a similar remark about engineers recently in Galway at the opening of the new NUIG Engineering School which I attended.

We also discussed our 2012 Annual Conference in Belfast to mark the centenary of the Titanic Story, which will recall the Regeneration of Titanic Quarter and other exciting new economic developments in Northern Ireland. We would like the maximum numbers of members from the South to travel North for that occasion to join our Northern colleagues on April 26th and 27th 2012.

As an Ulsterman myself I will be leading the charge as Belfast will be celebrating the city's proud history and heritage to a worldwide audience. Few realise that in the 1911 Census, when the Titanic was built, that Belfast (pop 386947) was the largest city in Ireland followed by Dublin (pop 304802).

Tuesday 9 August 2011

Mizen Head Bridge Reopened

On Friday last I travelled to the most southern point in Ireland, to the Official Opening of the Mizen Head Bridge in West Cork by Minister for Transport Sport and Tourism Leo Varadkar TD. The project was jointly funded by Failte Ireland, Cork County Council and the Commissioners of Irish Lights.

I had been in West Cork before but never south of Schull to Mizen Head, the home of the famous lighthouse and all kinds of electronic navigational aids. It's a fascinating drive beyond Schull to Goleen, Crosshaven then on past what was a crowded golden beach at Barley Cove and onto Mizen Head Visitor Centre.



Mizen Head Bridge

I was happy to accept the very kind invitation of Cork County Council to attend the official opening of the Mizen Head Bridge. I was greeted by the County Mayor Councillor Tim Lombard, County Manager Martin Riordan and County Engineer Noel O'Keeffe. Noel had given an excellent interview on the engineering of the bridge on Morning Ireland earlier in the day in language that the public could readily understand. Also present to welcome the Minister was Murt Coleman MD of Carillion Irishenco the contractor who built the new bridge. Murt is Finance Committee Chairman at Engineers Ireland. Present also was Brendan Brice Acting Chairman of the Cork Region of Engineers Ireland standing in for Jim Robinson who was on leave.



P J Rudden President of Engineers Ireland greeting Leo Varadkar TD Minister for Transport and Tourism together with Noel O'Keeffe Cork County Engineer

Also highly involved in the project itself were Fiona Buckley Operations Manager of the Cork/Kerry Region of Failte Ireland, Eoghan Lehane Civil Engineering and Property Manager of the Commissioners of Irish Lights and Sue Hill Development Officer of Mizen Tourism Cooperative.

One of the reasons why I was delighted to visit the project is my stated intention of visiting Regional Infrastructural Projects and Research Institutes during my year as President. These visits are intended to assist in highlighting our principal theme of Job Creation and the importance of Regional Infrastructure towards Job Creation and Balanced Regional and Economic Recovery.

I now find as I did in Mizen that these visits by Engineers Ireland are highly welcomed by the development agencies as appreciative of their efforts and I have received many messages of support from members of our own Council, Executive and members generally. In terms of Infrastructure the trip to Mizen was the first national visit to Infrastructural Projects. On September 7th I hope to visit the NUIG Institutes and the Marine Institute in Galway together with Director General John Power.



Pictured at the bridge opening were Brendan Brice Acting Chairman Cork Region Engineers Ireland, Noel O'Keeffe Cork County Engineer, P J Rudden President of Engineers Ireland and Eoghan Lehane Engineering Manager Commissioners of Irish Lights

The public footfall and economic importance of the Mizen Head Bridge is unbelievable in terms of tourism value. I would not have thought it possible that a facility in so remote a location would be such a public and tourism magnet. However, when you visit Mizen you are left in no doubt as to the reason for this - the views from the new bridge and the newly constructed surrounding platforms are truly stunning. When I arrived there the large visitor car park was already full. The tourism 'economic case' for the new bridge was so strong that Failte Ireland contributed some 80% of the overall cost of the new bridge construction and viewing platforms which speaks for itself.

The new bridge designed by RPS and built by Carillion Irishenco at a cost approx €1.8million is a near replica of the original Victorian steel structure constructed in 1909. It spans 50m from the mainland to the neighbouring island and soars 45m above the swelling gorge of the Atlantic Ocean.

The project was completed to a high standard with no accidents on time and within budget over a 2 year period. As the County Engineer describes it so graphically it 'involved building a bridge within a bridge' - using the old bridge as part scaffolding for the new bridge and then when the new bridge was built the remaining parts of the old bridge were demolished in a logistical sequence. Tremendous skill was apparently shown by the contractor Carillion Irishenco who had to access the entire construction along a steep 1 metre path using a dumper the size of a ride-on lawn mower to transport materials in and out of the site to the nearest public road 300 metres away.

The project is already shorted listed for a British Institution of Structural Engineers heritage award. Interestingly too, both Cork Institute of Technology and UCD on behalf of the Irish Concrete Society are overseeing concrete technology research using permanently installed instrumentation within the bridge structure which will be of value to generations of structural engineers to come.

Tuesday 16 August 2011

Biomedical engineering gives life

As a civil engineer I continue to marvel at the advances in biomedical engineering and much of it happening here in Ireland. This blog is not about an event I attended but a good news story recently from Cork University Maternity Hospital (CUMH).

A robotic system has helped deliver a baby girl at CUMH. The da Vinci surgical system aided mum Anne O'Mahony deliver her new baby girl, Lucy, born on Friday July 22nd last. Anne was one of the first women in Europe to have been assisted in a successful pregnancy as a result of a procedure carried out last year by robotic surgery using the da Vinci surgical system at CUMH.

We all know that Leonardo da Vinci (born Italy 1452), as shown in the image below, was recognised as one of Europe's great engineers in addition to being a renowned painter sculptor and mathematician. He was also a famed inventor of various types of early machine and was a noted student of anatomy and the science of the human body which makes naming the 'da Vinci robot' very apt.



Credit: Free photos from acobox.com

Thursday 18 August 2011

Maths Teaching Again in Focus after Leaving Cert Results

This year's Leaving Certificate Results were released yesterday, and again we heard in the media about a 'further drop in maths and science grades' and urgent calls for reform from IBEC and the American Chamber of Commerce. On closer examination though it was a mixed bag - a higher % than ever achieved grades A, B and C yet the proportion of Leaving Cert students taking Honours Maths remains at a stubborn 16 - 17% - no improvement on previous years.

Students are still deserting the Honours Maths paper at Leaving Cert in favour of chasing Honours in other 'easier more engaging' subjects. This is of major concern to Engineers Ireland because a minimum Grade C in Honours Maths is a requirement for all university entry to Level 8 Bachelor of Engineering courses. Such was our concern two years ago that we commissioned a Task Force Report on the Education of Maths and Science at Second Level which I chaired as Vice President (see 2010 photo).



The launch of the Engineers Ireland Task Force Report on the Education of Maths and Science at Second Level during Engineers Week Feb 2010 Aoibheann Ni Shuilleabhain Maths and Science Teacher, Dr Chris Horn then President of Engineers Ireland, Sarah Green Maths and Science Teacher, Eamon Prendergast Research Engineer Engineers Ireland and P J Rudden then Vice President of Engineers Ireland and Task Force Chairman

We should not be surprised at the low % taking Honours Maths at Leaving Cert when only 40% of students take Honours Maths at Junior Certificate level. Overall there appears to be a lack of passion and enjoyment to the learning of Mathematics in its current form and indeed also to Physics and Chemistry but not so Biology which some 40% of Leaving Certificate students take. The numbers

taking Applied Mathematics are also disappointing for such an interesting foundation subject towards engineering courses.

Of course the newly introduced Project Maths approach and 'bonus points' at Leaving Cert will help. However, the Task Force Report identified that the basic problem is the quality of teaching and degree of 'rote learning' especially at Junior Cycle. The 24 pilot schools for the new Project Maths syllabus this year don't appear to have performed any better than those of previous years. Yet it will take some 5 to 10 years for the new Project Maths approach of 'learning through understanding' rather than 'learning through rote' to embed fully at Second Level. So it's too early to judge Project Maths which we have to support as 'the only show in town'.

One of the Task Force recommendations was to assist students and employers in the 'learning outcomes' through improved CPD training of teachers and greater assistance and encouragement to students. That's why Engineers Ireland have been running free Maths Grinds in LC Honours Maths in Clyde Road every Saturday during school year for the past 18 months and extending this to Junior Certificate in the coming school year. These grinds by fantastic Volunteer Engineer Tim Joyce are greatly appreciated. Yesterday at midday an hour after the results were announced one of the students who signed up for our grinds last year put this message on our Facebook page 'I'd just like to say many thanks for the free Leaving Cert Maths grinds, they were a huge help and contributed a lot to my grade!'. Great praise indeed to Engineers Ireland and to our Director General who indeed was on radio and TV yesterday articulating our concerns at the current national deficiency in Mathematics as a subject.

So for us at Engineers Ireland we are assisting where we possibly can from our own scarce resources but the entire Second Level school system needs radical reform to make learning outcomes more relevant to the needs of industry and the modern world. I'm glad that such an overhaul is currently now planned at Junior Cycle by Ministers Quinn and Sherlock and hopefully then Senior Level together with a more 'jointed up' transition from Primary to Second Level. We intend staying with these reforms and being part of the transformation of the Irish education system as its too important to the growth of our profession and to the recovery of the Irish economy.

MONDAY 12 SEPTEMBER 2011

National Research Forum

Hi all! Welcome back to my Blog after the summer break!

Last Tuesday I attended the National Research Prioritisation Stakeholder Forum organised by Forfas - Ireland's policy advisory board for enterprise, trade, science, technology and innovation. The Research Strategy Group, set up by Minister Batt O'Keeffe in Sept 2010, is chaired by Jim O'Hara of Intel.



Neil Kerrigan Manager Industry Commercialisation Programmes in Enterprise Ireland
and P J Rudden President of Engineers Ireland attending the Forfas National Research Forum.

This half-day event chaired by Forfas CEO Martin Shanahan was attended by over 200 experts drawn from Government Depts, Forfas, Enterprise Ireland, Third Level Colleges, Research Institutes and Research Companies.

Some 20 priority areas were examined in a broad spectrum across the Irish Economy including Food, Marine, Biomedicine, ICT, Creative Arts, Tourism, Renewable Energy, Smart Cities and Environment.

Recommendations will now be made by Forfas to the Government on Research Priorities to be underpinned by future investment. This was a very impressive exercise informed by specialist 'break out' group sessions in the main priority areas.

The Steering Group will report to Richard Bruton Minister for Employment Jobs and Innovation before the end of 2011.

13 September 2011

Visit to Research Institutes in Galway

Last Wednesday John Power Director General and I travelled to Galway to visit the Research Institutes in NUIG and the Marine Institute in Oranmore.

This was the first of a number of planned visits to Research Institutes around Ireland to experience at first hand Research, Innovation and the Job Creation possibilities emanating from these relatively new Centres of Learning in Third Level Education. We also wanted to concentrate our visits outside of Dublin to show support for balanced regional development.

Both visits turned out to be fascinating and very worthwhile, not only in seeing what Research is happening in Third Level Institutes but also to see the appreciation of the engineers and scientists working there at our efforts to reach out to them.

From the Forfas Research Forum in Dublin the previous day I can see that there is now a 'steady hand on the tiller' nationally coordinating the research efforts to target areas of potential strategic and economic advantage for Ireland. This was one of the recommendations of the Innovation Task Force Report of March 2010 one of whose members was Chris Horn President of Engineers Ireland in 2009-2010.

Both visits were kindly organised by Prof Padraic O'Donoghue of Civil and Environmental Engineering NUIG who is also Chairman of our West Region and member of our Executive Board.

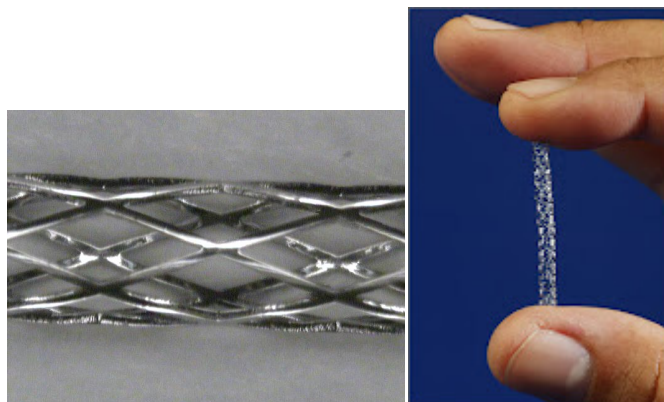


In NUIG the visits were led by Professor Terry Smith Vice President of Research and Professor of Biomedical Engineering Peter McHugh. We also visited Dr Colin Brown Director and Martina Prendergast of the Ryan Institute (Environment, Marine and Energy Research) and Michael Turley CEO and his colleagues Patrick Mulrooney Commercialisation Manager and Dr Brian Wall Operations Manager at Digital Enterprise Research Institute (DERI). We also met the Vice Dean of Engineering Dr Eddie Jones.

Much of what we saw in NUIG was truly impressive. In terms of Biomedical Science and Engineering there appears to have been a historical collaboration with local industry clusters commencing with Boston Scientific going back many years and more recently with Creganna and Crospon (of which our Vice President John O'Dea is CEO).

There was also a succession of visionary NUIG Presidents, starting with Prof Pat Fortrell, who had the good sense to acquire an enviable land bank along the banks of the Corrib from the Newcastle Road to well beyond the Quincentenary Bridge that enabled the new Engineering Building, the Ryan Institute and DERI. To have all of this research endeavour on a single campus including also the Institute for Business Social Science and Public Policy was also a success factor.

The DERI fascination was with newly developed 'search engine' software that is more powerful than Google!



Stent Engineering

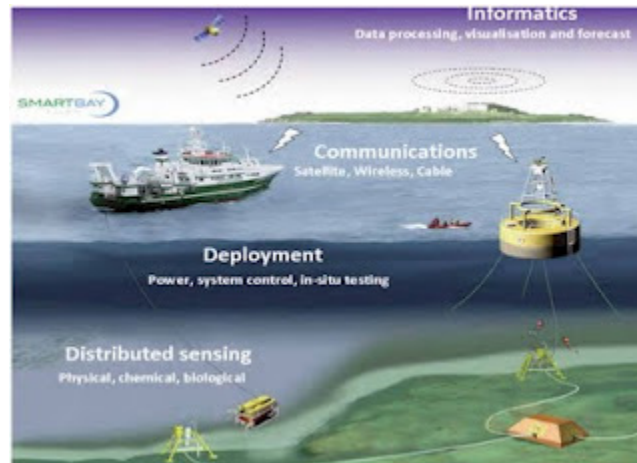
Whatever the combination of factors a truly remarkable Biomedical and Digital capability has been built in NUIG. I found the technical and biochemical aspects of stent engineering especially fascinating where stent material is also therapeutic in addition to its structural capacity.



We then travelled to the Marine Institute in Oranmore where we were met by Dr Barbara Fogarty National Coordinator of the Marine Technology Programme and her colleagues Glenn Nolan, Eoin O'Grady and Paul Gaughan, who are Section Managers in Oceanographic Services, IS&D and the SmartBay Project Coordinator respectively. The Marine Institute set up in Galway in 2006 is the national agency for Marine Research, Technology, Development and Innovation. The research carried out here is central to the future development of our Ocean Resources in terms of Shipping, Oil/Gas, Renewables, Sea Fisheries and Marine Leisure/Tourism.

The Institute is made up of 7 Service Areas, inc Strategic Planning, Marine Environment and Marine Food Safety. We toured the Institute's marine laboratories, which are quite extensive.

Afterwards we attended an excellent lecture jointly organised by the West and Thomond Regions in the Marine Institute given by Barbara Fogarty and Eugene McKeown of Biospheric Ltd in Galway on the SmartBay Project in Galway Bay. This is a Research Test and Demonstration Facility for Marine Information and Communications, Technologies, ICT, inc wireless and subsea sensor networks. This monitoring infrastructure was jointly established by the Marine Institute and the EPA in 2008.



SmartBay Project

John and I returned to Dublin that night with a real sense that we had been at the coalface of national engineering innovation across a wide spectrum of specialisations in Galway, both land-based and marine and all endeavours concentrated on just two highly planned and well chosen sites both east and west of Galway city. Our thanks again to Prof Padraic O'Donoghue for organising these most interesting and worthwhile visits.

TUESDAY 13 SEPTEMBER 2011

September Executive Meeting

The Executive met last Thursday to do the monthly review of Engineers Ireland finances which are relatively healthy.

We also discussed the proposed Communications Campaign for Chartered Engineer due to commence on radio and TV later this Autumn and to run for at least 2 years.

I don't wish to spoil the viewer's or the listener's fun in terms of the lyrics and theme music which will be used. Suffice it to say that it will be impactful and will showcase all the main Engineering Sectors in Ireland using some of our engineering members as role models.

This will be part of the public profile raising by Engineers Ireland to show the relevance of the Chartered Engineer in modern Irish society.

We also got an update on the Review of our Bylaws to be completed by the end of the year.

Finally we reviewed the very many thanks and compliments sent by Leaving Cert students to Engineers Ireland following receipt of their Results last month. 'Thank you for the free Maths grinds which helped me get my grades' was the general sentiment expressed. This again is Engineers Ireland doing something tangible and sustainable going forward. Better to be doing something than simply talking about it!

WEDNESDAY 14 SEPTEMBER 2011

Official Opening of UCD Science Centre by Taoiseach

On Friday last I was invited by UCD President Hugh Brady to attend the Official Opening of Phase 1 of the new Science Centre to be performed by Taoiseach Enda Kenny. I was kindly met beforehand by Professor Gerry Byrne Incoming Dean of Engineering with whom I attended the Opening. Gerry is also a past President of Engineers Ireland (2000 - 2001).

In addition to meeting the Taoiseach Enda Kenny, I also met President Hugh Brady and Vice President of Research Des Fitzgerald.



Pictured with the Taoiseach touring the New UCD Science Centre and meeting staff together with from left Professor Hugh Brady UCD President, Professor Pat Guiry UCD Chemistry, Professor Gerry Byrne UCD Dean of Engineering (partly hidden), P J Rudden President of Engineers Ireland and Professor Des Fitzgerald UCD Vice President of Research.

The new Science Centre is on the site of the old Science Block beside the lake and the Arts Block/Library where I did Physics, Chemistry, Maths and Maths Physics in First Engineering in the 1970s but has been completely transformed architecturally and internally. The new space is merely Phase 1 of what will be the single largest capital investment (€300m) in third level education in the history of the state.

We toured the new Centre for Molecular Innovation and Drug Discovery with the Taoiseach, who stopped from time to time to hear the scientific story attached to this or that piece of laboratory equipment or simply to enquire the origins of the many Irish and multicultural staff employed there.

The new Centre involved the gutting of the old Chemistry building and the construction of significant additional space with a new highly appealing architectural entrance, not at all reminiscent of the old Belfield which I once knew.

The Taoiseach appeared to be highly impressed by what he saw and heard and that was very obvious in his inspirational speech at the Official Opening afterwards.

The new Building will house three new research units - the Institute of Food and Health, the Centre for Pharmaceutical Sciences and the Centre for Nanomedicine. UCD currently have some 200 collaborative partnerships underway in the general science area and the nexus of this creative endeavour is the Science Centre.



UCD Science Centre

UCD President Hugh Brady stated:

"Investment in research is a necessity not a luxury. It is the foundation for the discoveries and technology developments that will build the economy of the future. The new Science Centre highlights innovation as part of the engineering and science life cycle. The project is creating what we call a transformative resource for Ireland to spark an innovation revolution in Ireland."

The striking thing about this visit was to see at first hand research engineers and scientists working side by side in a common purpose.

The reason was this is clear. There is no boundary between Bioscience and Bioengineering but all working together in the interest of Assisted Living.

I look forward to seeing further phases of this extremely impressive enterprise completed at UCD. Principal of the UCD College of Engineering and Architecture Gerry Byrne is equally excited about this new development. 'Obviously there are new ideas being generated across the board but often the science end of the relationship would be working on the basics and engineering on the application and transfer' he says.

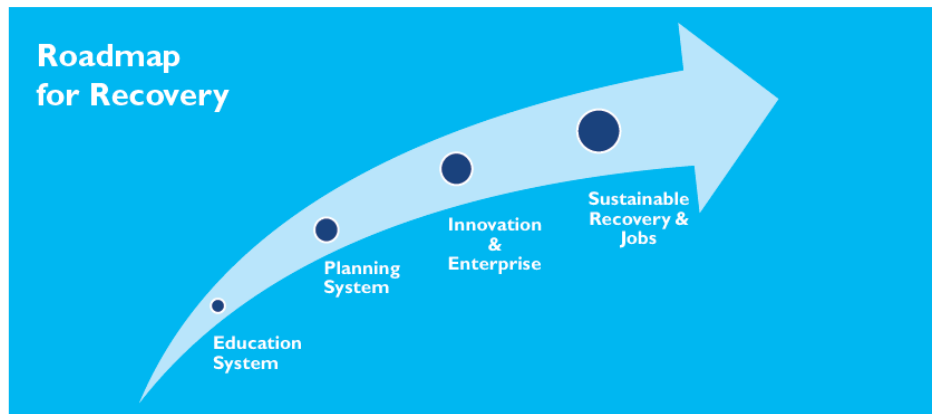
FRIDAY 16 SEPTEMBER 2011

Building a Sustainable Recovery

Each year in September the President gives a Presidential Address on an issue or issues of national engineering importance.

I gave my Address on Wednesday night on the theme Building a Sustainable Recovery. I was pleasantly surprised at the large representative crowd who came to hear what I had to say.

I focused on our Education system, which in turn fosters our Economic and Spatial Planning approach. This in turn creates the conditions for Innovation and Enterprise, which will lead to Sustainable Recovery and Job Creation - our central theme. I will let the presentation speak for itself. ([Click here to download webcast](#))



Roadmap for Recovery

My views on the Maths issue were taken up by the media who, like ourselves, are greatly exercised with this issue in our Second Level Schools, particularly the issue of unqualified Maths teachers. As a result I was interviewed on Morning Ireland the following morning on this issue. ([Click here to listen to Morning Ireland webcast](#))

Since the Address and the interview I'm very grateful for the kind comments of many members who attended on Wednesday night or have since heard the Morning Ireland interview.

Both are available on webcast on the Engineers Ireland website and on RTE website respectively. I'm also very grateful for the very professional support of John Power our Director General and Fionnuala Kilbane our Communications Director.

WEDNESDAY 21 SEPTEMBER 2011

Civil Engineering Contractors Annual Dinner

Last Friday night I was invited as a guest to the Annual Dinner of the Civil Engineering Contractors Association by their President Charles Wills and CIF Director Don O'Sullivan.

There was a very respectable turnout considering the extent to which this particular industry has been impacted by the recession. In his Address Charles Wills talked of their past achievements in the building of national infrastructure in Roads Water and Energy and of their hopes for early economic recovery to enable their members to continue building up our Infrastructure.

'We won't be safe unless we can count on our infrastructure' US President Barack Obama has said.

I think our own Government realise this too as there is talk of reinvesting some of the proceeds of the partial sale of semi-state companies into productive investment in infrastructure which will be very welcome if realised.

Engineers Ireland emphasised the importance of infrastructure in Transport Water Energy Waste and Communications in our State of Ireland Infrastructure Report of last May.

I am also in the course of visiting selected infrastructure projects around the regions to further underpin our ambitions to again ramp up infrastructure spending and to support balanced regional development and job creation.



Pictured (from Left to Right) at the Civil Engineering Contractors Association (CECA) Dinner, with Tom Parlon Director General CIF, Charles Wills President CECA, Matt Gallagher President CIF, PJ Rudden President Engineers Ireland and Don O'Sullivan Secretary CECA and Director of CIF.

THURSDAY 22 SEPTEMBER 2011

Chartered Biomedical Engineer is new Trinity Provost

I had the pleasant task on Monday of accepting the kind invitation to attend the Inaugural Address of the new Provost of Trinity College Professor Patrick Prendergast, a biomedical/mechanical engineer and native of Co Wexford. He will serve a 10 year term as Provost.

He is the 44th Provost of Trinity and was Professor of Bioengineering from 2007 to 2011. He is a Chartered Engineer and Fellow of Engineers Ireland - the second Chartered Engineer to head an Irish University following in the footsteps of Dr Jim Browne current President in NUIG. Both of them incidentally qualified as Mechanical Engineers.

Paddy graduated in Mechanical Engineering in 1983 and later with a PhD in Bioengineering. He then did research in Italy and the Netherlands before returning to lecture in Trinity in 1995. Together with colleagues in Engineering, Dentistry, Medicine and Physiology he established the Trinity Centre for Bioengineering in 2002.

Prof Prendergast's research is in the area of medical device technologies where he has developed well known theories on mechanoregulation of tissue behaviour. He has significant industrial collaboration in implant design and development including his role on the board of Clearstream Technologies plc who manufacture stents and catheters for the medical device market.

His Address was inspiring. It concentrated on the global position of Trinity and the need for increased 'research based education.' Education should be based on outputs not inputs in terms of teaching hours, he said. Universities delivering quality education to large numbers of students could be significant creators of jobs.

'A recent survey of employer expectations showed that employers of our graduates value critical and independent thinking, excellent communications skills and students who have developed a capacity for responsibility and initiative through extra curriculum activities' he stated. This sounds like the modern definition of what the products of a modern university should be.

'Students who are even wiser than they were yesterday; students engaged in lifelong learning, who are sound in their foundations but not stuck in their opinions; that's what we want. That's who will reap most private benefit and who will sow most public good' he said.

All in all as I listened to the new Provost setting out his vision it sounded like the 21st century vision for Third Level Education - a lot like the modern day John Henry Newman who in the 1800s wrote world famous English prose on describing the ideal university and indeed the ideal gentlemen - bizarrely ladies did not go to university in the 19th century!

All of us in Engineers Ireland wish this highly talented Engineer now Provost of Trinity College every success in his challenging new role over the next 10 years.



Professor of Bio-Engineering and Newly elected Provost at Trinity College Dublin,
Professor Patrick Prendergast (Trinity College Dublin)

MONDAY 26 SEPTEMBER 2011

Making Dublin a Smarter City

John Power and I visited Dublin City Council on Friday last for their celebration of 10 years as a CPD Accredited Engineering Employer with Engineers Ireland.

We were greeted by the Lord Mayor Cllr Andrew Montague and Michael Phillips City Engineer and Director of Traffic. The Keynote Speaker at the event was Minister of Education and Skills Ruairi Quinn introduced by Tom Leahy Executive Manager Engineering and CPD Director at Dublin City Council.

There was a very impressive Public Exhibition in the Atrium of City Hall of the role that Engineering and in particular that Engineers play in maintaining the lives of the citizens of Dublin. So much of it taken as a given by the general public, except when things go wrong. What would happen if our Engineers failed to produce clean water in our taps, sufficient water quantity and pressure to fight fires, prevent flooding in our streets after heavy rain or high tides, ensure traffic flow, maintain adequate street lighting at night, safe roads and bridges, waste recycling and the overall emergency services. Also on display, was a most detailed and impressive model of the Tunnel Boring Machine (TBM) that was used in the construction of the Dublin Port Tunnel (2001 - 2006) at an overall cost of €750million.

The exhibition wasn't only about the 'present' in Dublin but about the 'future' also. Innovation Dublin is a showcase of future municipal services automation in partnership with IBM to make Dublin more 'resource efficient' and a Smarter City.

Dublin sees itself as a Sustainable City and Dublin City Council sees itself as that Agent for Change in terms of Sustainability. This is expressed in terms of 6 specific objectives - Urban Form, Movement, Economic/Jobs, Social, Cultural and Environmental. All contribute to a modern designed New Urban Space that is Dublin.

There are ambitious infrastructural plans for the future of Dublin including finding a new major water supply river source, city centre district heating from a new waste to energy plant and a tidal barrage at the mouth of the Liffey if or when there is increased flooding due to climate change effects.

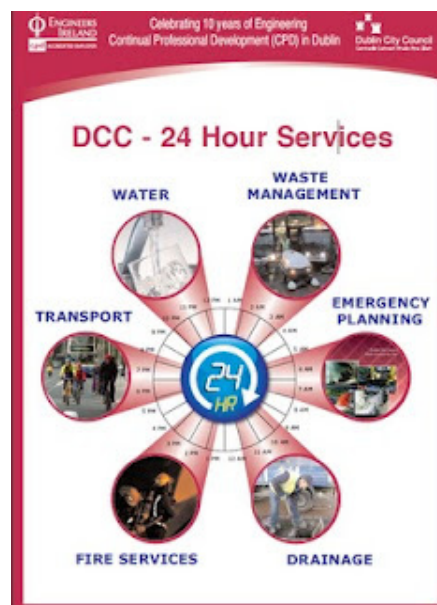


From Left to Right: Michael Philips Director of Traffic & City Engineer Dublin City Council, John Power Director General Engineers Ireland, Lord Mayor of Dublin Andrew Montague, PJ Rudden President of Engineers Ireland, Minister for Education and Science Ruairi Quinn, T.D and Tom Leahy Executive Manager, Engineering Department Dublin City Council.

Gerry O'Connell of the CPD Team kindly gave me a visit to the Traffic Control Centre from where all signalling at Junctions in the city is controlled using CCTV and traffic models to comply with the City Traffic Management Plan, and are all connected to our local radio stations around the city - Another 24/7 operation overseen by engineers.

I had a special interest in all of this because my first job after my graduation was with the Water Department of Dublin City Council as Graduate Engineer. I worked for 3 years in the principal water treatment plant at Ballymore Eustace firstly as a Graduate then as Executive Engineer where I gained my first valuable engineering and industrial relations experience as that too was a 24/7 operation to produce a sufficient supply of clean and safe drinking water at all times.

I left Dublin City Council feeling that it was in good engineering hands with Michael Phillips, Tom Leahy and their staff. They do a terrific job in keeping all of the services in the City running.



TUESDAY 27 SEPTEMBER 2011
September Council Meeting

On Saturday morning last we had our September Council meeting with a very full attendance from around the country and a full Agenda.

For me, the two highlights of the meeting were the presentation by Tom Leahy of Dublin City Council on the joint Engineers Ireland/Irish Academy of Engineering submission to Government on the setting up of Irish Water and secondly the unanimous approval of Council to our Advertising Campaign for Chartered Engineer going live on TV, radio and social media in November of this year.

Tom Leahy is a wonderful presenter. He really brought the whole national infrastructural deficit in water alive for us in a most illustrative way. Our water supply scheme in Dublin for instance dates from Victorian times so that it is close on 150 years old. When it was 100 years old in the 70s and 80s like the aging human, it needed urgent remedial work which it really didn't get as our EU Funding then went into 'playing catch up' with Dublin's expansion and massive regional development around our major cities and towns.

In the 80s and 90s water expenditure in Dublin was going into the then new Western Towns of Blancherstown/Castleknock, Clondalkin/Lucan and Tallaght/Firhouse. At the same time both domestic rates and water charges were abolished for political reasons - both mindless crazy decisions at the time from which Local Government funding in Ireland never really recovered.

As Tom told us, you can imagine the state in which our Water Infrastructure is in now! It needs an urgent rescue and therefore the transfer of the infrastructural planning and implementation function to a new dedicated national water utility. This new body will have a commercial remit and the introduction of use related charges through metering is most welcome as a 'new start' in terms of funding.

The current system is broken and therefore does need fixing and soon. The Dublin water supply in particular is on a 'knife edge' supply wise as the recent harsh winters have shown and needs urgent addressing in terms of strong demand management, increased water conservation and development of a new major supply source from the Shannon basin.

The second presentation was jointly given by Margie McCarthy Membership Director and Fionnuala Kilbane Communications Director on the recent Membership Survey on our perceived deficits and how we will address them. Members surveyed say we need to increase our public profile and explain what is the role of the Chartered Engineer to the general public.

Well we are about to do just that as on Saturday we approved a 2 to 3 year campaign on TV, radio and social media to highlight the critical role that Chartered Engineers play in the Irish Economy.

To the music of '**This Land is Your Land This Land is My Land**' the short TV advert will profile a selected cross section of our Member Engineers doing what we as a profession do - building new roads and bridges, prolonging human life in hospitals through biomedical engineering, building and maintaining our energy supplies, our water supply and manufacturing new electronic, computing and pharmaceutical products that make up the bulk of our exports. Expect to see the new campaign on your screens by middle of November!

The Council also took a decision to change the name of the 'ICT Division' in Engineers Ireland to the 'Computing Division' which makes a lot of sense as we want to show increased relevance and purpose to that growing sector of our economy.

TUESDAY 27 SEPTEMBER 2011

2011 Naughton Scholars Awarded

On Saturday afternoon I felt very privileged as President of Engineers Ireland to have been invited to the 2011 Award of the Naughton Scholarships in the Science Gallery in Trinity College together with Minister for Education and Skills Ruairi Quinn, new Trinity Provost Patrick Prendergast and UCD President Hugh Brady.



Minister for Education and Skills Ruairi Quinn
pictured with the 2011 Naughton Scholars

I don't say 'privileged' lightly as when I discovered the scale of the generosity of Martin and Carmel Naughton and their family, I thought it was a tremendous contribution to Irish education especially when coupled with the funding of the Naughton Institute which houses the Science Gallery and support for Education and the Arts North and South including the Naughton Chair of Business Strategy at QUB and the Millennium Wing of the National Gallery in Dublin.



Minister Quinn at the event with Martin and Carmel Naughton

When I returned home I looked up the definition of 'philanthropy' - 'love of humanity' it said. That aptly describes my evening experience with the Naughtons and no other words would describe better what they are doing and the genuine motivation behind these Scholarships.

The Naughton Scholarships were established in January 2008 and are designed 'to promote the study of engineering, science and technology in any publicly funded university or third level institution in Ireland including Northern Ireland. The scholarships initially served counties Louth, Meath, Monaghan, Cavan, Donegal and Mayo with Leitrim and Sligo this year and extending to Longford and Roscommon next year.

In 2011, 16 secondary school students from 8 counties are funded for 3 years. The Gold Scholarship in each county is for €16,000 and the Silver is for €8,000 together with Science Laboratory equipment funding for each winning school. Most of the winners appeared to have achieved an extraordinary number of A1s in the Leaving Certificate. (See attached press release for the names of winners).

Apart from the scale of the funding, I could clearly see that the entire family of Martin and Carmel were present to assist on the night including sons, daughters, sons in law and daughters in law - all of them genuinely committed to work for the students and their families.

Martin himself in a modest speech spoke of the business he started in Newry with 7 employees in 1973. He acquired Dimplex in 1977 moving to a new base in Dunleer Co Louth where the headquarters remains.

The Glen Dimplex Group is now global with subsidiaries in Europe, US, Canada, China, Japan and New Zealand and current staff of 8,500 and annual turnover in excess of €1.5billion. They are now the largest electrical heating manufacturers in the world incorporating well known brands like Morphy Richards, Belling, Roberts Radio and Creda.

Master of Ceremonies on the night was Fergal Naughton Deputy CEO of Glen Dimplex. Fergal is a Chartered Engineer with Engineers Ireland having qualified with a BA BAI from Trinity in 1998 which he followed with an MSc in Engineering from Stanford and an MBA from Harvard.

The award to this year's Naughton Scholars was an extraordinary event the value of which in Engineering Science and Technology Education terms made a big impression on me. It was all started by Martin and Carmel Naughton who know the true value of what they are doing for Education on the island of Ireland.

Having met them, I salute their 'love of humanity' and their human interest in all who are lucky to cross their path in life.

WEDNESDAY 28 SEPTEMBER 2011

New National Compost Standard IS441 launched

I was invited by the Department of the Environment Community and Local Government 'Market Development Group rx3' to the launch of the first national compost standard by the Minister Phil Hogan TD and the Chief Executive of the National Standards Authority of Ireland (NSAI) Maurice Buckley Chartered Engineer.

'rx3 - Rethink Recycle Remake' was set up by the Dept of the Environment, Heritage and Local Government in 2008 to increase recycling in Ireland and to create new products and sustainable employment at home instead of exporting to Europe and Asia. The programme is for 5 years and is currently in mid cycle. The three waste materials under research focus are Paper, Plastics and Organics. Paper and Plastics are generally exported for recycling but a substantial quantity is still landfilled until better recycling infrastructure is developed in Ireland. Organic or food waste is either composted or disposed to landfill in Ireland.

Under the EU Landfill Directive sending organic or food waste to landfill is increasingly unacceptable so 'rx3' is developing alternative products and markets in Ireland for different specification composts including golf courses, public parks, playing pitches and roadside grass verges. Crop trials are currently ongoing in the soils of different counties to confirm what compost qualities work best in different soil types.

We were launching the first Irish Standard for Compost Quality - IS 441 setting out the preference for source separation of organic waste to prevent cross contamination so that a quality compost is guaranteed and can compete with Bord na Mona and other home produced composts.

The recycling of food and garden waste into a high quality compost is important as biodegradable material (paper and food/garden waste) makes up some 60% of the normal household bin. Paper and other dry recyclables are collected in the green bin while food and other 'wet' waste is collected in the brown bin. The contents of both bins should go to recycling and the remaining black bin residual waste should be used for energy recovery in preference to landfill as the last resort.

The Minister has published a very sustainable new Draft Waste Policy which we hope to see adopted by year end so that maximum waste recycling and energy recovery can proceed in order to minimise the landfill of waste. This new policy will build on the success of the current national waste policy 'Changing Our Ways' published in 1998 which led to municipal waste recycling rising from 8% to

some 38% over the past ten years through the steady implementation of the regional waste management plans.

Unfortunately there was stagnation in waste policy implementation over the period 2007 to 2011 which led to lack of investment in waste infrastructure and from which it will take Ireland many years to recover in environmental improvement terms. At least with the waste policy of the new Government which has a very strong political mandate, we can start making progress again.



Conor McGovern Manager rx3, Olivier Gaillot Project Manager rx3,
Maurice Buckley Chief Executive of NSAI,
Minister Phil Hogan TD and PJ Rudden President of Engineers Ireland

THURSDAY 6 OCTOBER 2011

US President of Building Services Engineers visits Ireland

On Monday evening in Clyde Road, Engineers Ireland hosted visiting ASHRAE President Ron Jarnagin and his wife Linda from Richland, Washington State, USA. He had earlier delivered a lecture on his profession at DIT. He will travel onto Edinburgh, London, Paris and Brussels to meet fellow professional bodies before returning home next week.

ASHRAE is the American Society of Heating, Refrigerating and Air Conditioning Engineers. Ron is a Mechanical Engineering Graduate working in the North West National Laboratory. He was accompanied by Derek Mowlds Chairman of the Irish Branch Chartered Institution of Building Services Engineers (CIBSE).

As fellow professionals speaking to Ron we found that we had much in common with our US colleagues with respect to Sustainability and Energy Efficiency in Buildings. Indeed arising from the visit there are opportunities of increased cooperation locally between Engineers Ireland and CIBSE.



John Power Director General Engineers Ireland, P J Rudden President Engineers Ireland, Ron Jarnagin President ASHRAE and Derek Mowlds Chairman of Rep of Ireland Branch of CIBSE

SUNDAY 9 OCTOBER 2011

CPD Company of the Year Awards

On Wednesday morning I hosted the presentation of the CPD Company of the Year Awards which is one of the highlights of the Engineers Ireland year. CPD is Continuing Professional Development which is the means by which people maintain and grow their knowledge and skills related to their professional lives.

Our Guest Keynote Speaker was Colin Cadas Specialist in Knowledge Management (KM) from Rolls Royce. His company branding speaks for itself. He was inspirational and gave logical expression to many of our intuitive human KM techniques.



Pictured at the Presentation of the Engineers Ireland Public Sector
'Company of the Year 2011' to Cavan County Council
L-R: Ger Finn Director of Services to Cavan County Council,
John Power Director General Engineers Ireland, Jack Keyes Cavan County Manager,
PJ Rudden President Engineers Ireland, John Brannigan, Brendan Jennings
and Kevin Smith of Cavan County Council Staff

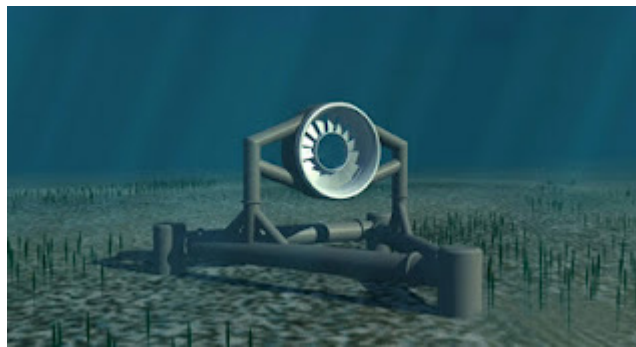
This year there were five awards to five very excellent companies all of whom have used CPD to drive increased national and company enterprise to create jobs and for many to expand into international markets:

- Small-sized Company Award - Jennings & O'Donovan, Consulting Engineers, Sligo
- Medium-sized Company Award - MCS Kenny, Marine Consultants, Galway
- Large-sized Company Award - Farrans (Construction) Ltd Belfast
- Public Sector Award - Cavan County Council
- OVERALL WINNER - Openhydro Tidal Technology, Greenore Co Louth

Openhydro the overall winner is a truly remarkable company. Founded in 2005 they are a technology business that designs and manufactures marine turbines to generate renewable energy from tidal streams at the bed of the ocean. The electricity produced is completely renewable since it relies on tides that are created by the gravitational effect of the sun and the moon.



Openhydro Technology on surface



Openhydro Technology on seabed

Openhydro currently employ some 50 people in their R&D facility in Greenore County Louth and have announced plans for taking on 20 additional staff including project engineers and managers, manufacturing engineers as well as finite element and structural engineers. I will certainly be visiting their facility in Greenore as part of my national tour this year of research and infrastructure sites to see this example of 'growing Enterprise through Innovation'.

Openhydro won the award for using CPD to go from a start up R&D firm to becoming a global player in marine turbines that generate renewable energy from tidal streams.

Equally remarkable I thought was the achievement of Cavan County Council for winning the Public Sector Award for a very innovative application of CPD. Through a comprehensive CPD approach the Council ran a most successful Fleadh Cheoil na hEireann in 2010 and 2011.

A town of 10,000 population was transformed into a tourism footfall of 250,000 visitors for the Fleadh week and brought an additional €35million to the local economy each year. Such was its success that Cavan has now won the privilege of staging it also in 2012 - that's a truly remarkable injection of €105 million into the Cavan economy over 3 years.



Session on the 'Rig' at Cavan Fleadh 2011
Courtesy of <http://www.fleadh2011cavan.ie/>

Spearheading this achievement is Jack Keyes Chartered Engineer and Cavan County Manager supported by his engineering and administrative staff. Jack was in fact also Chairman of Cavan's Fleadh Executive Committee.

The CPD achievement was to marshal the technical and managerial resources of the Council through leadership and training to deal with the many logistic challenges that these national events bring to a small town. They include traffic management, parking, crowd control, water and waste management, street cleaning and overall environmental management.

Finally let me say that none of this marvellous CPD effort through Engineers Ireland nor the CPD Company of the Year would be possible without the inspirational leadership of Engineers Ireland CPD Director Aiden Harney supported by CPD staff members Dee Keogh, Ronan Kearns and Kelly Scott. Thanks also to Director General John Power who opened the event. Our Vice President John O'Dea who chaired the Panel Discussion with Patrick Duffy of Boston Scientific, Gerry Duane of Fingal County Council, Conor McCarthy of Jennings & O'Donovan and Kieran Kavanagh of MCS Kenny. Michael Hayden chaired the Judging Panel for the Awards. The entire event was kindly sponsored by Aveva.

WEDNESDAY 12 OCTOBER 2011

The Answer my Friend is Blowing in the Wind

On Thursday, 6th October, I was pleased to be in Killarney to speak as President at the Irish Wind Energy Association autumn conference which was opened by Minister for the Environment Community and Local Government Phil Hogan TD.

The title of my paper was 'Renewable Energy Opportunities for the Engineering Profession'. I detailed the challenge we all face to meet national and EU energy targets but these present tremendous opportunities also in both onshore and offshore wind, wave and tidal power.



PJ Rudden speaking as President of Engineers Ireland
at the IWEA autumn conference

Minister Hogan was keen to assure his audience that current regulatory obstacles impacting on offshore energy infrastructure will be removed with a new Marine Planning Bill. He was also reassuring on Government commitment to REFIT (Renewable Energy Feed in Tariff) 2 as otherwise there can be no Round 3 renewable developments whether licensed or not.

In my own address I referenced our State of Ireland Infrastructure Report of May 2011 which very much supports Government and EU targets on renewables.

I stated in unequivocal language that not only does Engineers Ireland support our current national renewable targets but that we differ with the tiny minority of engineers who for their own reasons don't support these targets.

Frankly those who wish to rely on fossil fuels for longer than is needed lack a long term vision of what's happening in the world today particularly with regard to the accepted reality of climate

change. This is the type of blinkered thinking by some engineers to whom I referred in my Presidential Address as unlikely to influence or inspire any recovery in the Irish Economy.

The Engineers Ireland policy priorities three themes - security of supply, decarbonisation and competitiveness. Of course ongoing policy review must have regard to current demand projections but we must now plan a 'fit for purpose' energy infrastructure for the longer term having regard to the medium to long term gestation period for most of the larger energy projects.

We need a fully diversified energy mix as future security. While fossil fuels will always be part of that mix it will be a slowly decreasing part. Our future policies need to respond to that reality. Our Government and most other Governments in the developed world do so as do most global professional organisations who wish to lead their members forward.

I also referred to the tremendous opportunities that the full development of our offshore renewable resources can provide in term of multibillion export if we align the regulatory regimes in Ireland, Northern Ireland and Scotland at least and also England and Wales as the UK will have an energy deficit in some 10 years from now. We as engineers need to seize that export opportunity as part of our economic recovery drive.

I look forward to the Irish Scottish Energy Links Study (ISLES Study) Conclusions and Recommendations being announced by the three Ministers for Energy in Glasgow on November 23rd next. This is deemed to be the seminal study which will dictate the development of Offshore Renewables (Wind, Wave and Tidal) off our coastline for the next 30 or 40 years.

These are difficult challenges requiring a balanced technical environmental and social assessment. They require a vision and firm leadership which Engineers Ireland will continue to give. We will continue to support successive ambitious Government thinking with which we are firmly aligned.

MONDAY 17 OCTOBER 2011

Royal Town Planning Institute Conference - Building Strategic Infrastructure

On Wednesday last October 12th I was invited to speak at the Royal Town Planning Institute conference in Dublin - 'Building Bridges - Planning for Strategic Infrastructure Development'.

The topic I was given was 'Towards a new National Policy for Waste Infrastructure'. Other sectors covered were Power Transmission Lines, Wind Energy, Environmental Risk and Public Communications.

Chairing the conference was Des Cox of Eirgrid and Chairman of the Irish Branch of RTPI and Special Guest Speaker was RTPI President Richard Summers who is Head of Planning at the The Landscape Partnership in UK.



Des Cox of Eirgrid and Chairman of the Irish Branch of RTPI

The constant theme of the speakers was in favour of 'plan led' strategic development with which Engineers Ireland fully agree. I based my presentation on the State of Ireland Infrastructure Report published by Engineers Ireland in May of this year. This Report sets out the Engineers Ireland policy on waste management.

The priority themes in the report were support for the continuation of Regional Waste Management Plans but better coordinated on a national basis. Also the need to ensure that integrated waste plans

are implemented - therefore the ownership of waste should be vested in local authorities and these authorities to direct waste to strategic national and regional facilities on the higher tiers of the EU Waste Hierarchy as currently happens in most other EU countries at present.

All the speakers spoke of the need to fast-track 'national strategic infrastructure'. In this regard, in my speech I identified the recommended Waste to Energy plants in the North East and Dublin Regions as capable of substantial landfill diversion to satisfy the ambitious targets in the EU Landfill Directive. The Landfill Directive has been implemented in other leading EU countries though a similar integrated approach.

The urgent national environmental imperative is to further reduce our landfilling from the current near 60% by the faster introduction of the waste to energy plants authorised by the current regional plans.

Naturally the landfill/MBT contractors in the Irish Waste Management Association (IWMA) don't accept that but the current Minister appears determined to confirm and correctly implement EU and national policy in this regard. Engineers Ireland very much support the Minister's resource based waste policy and look forward to early implementation.

MONDAY 17 OCTOBER 2011

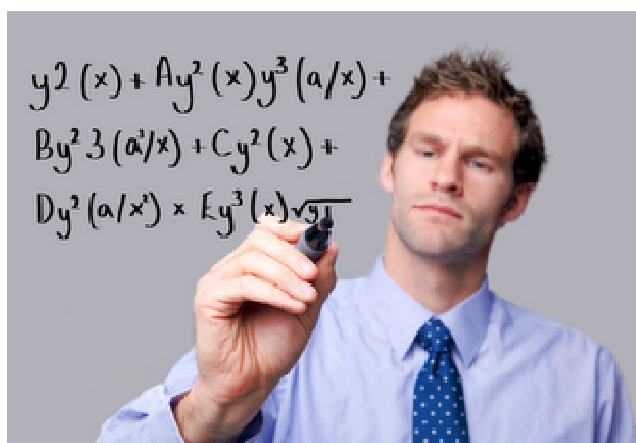
October Executive Meeting

We had our October Executive Meeting last Thursday which I chaired before going onto the Annual Dublin Chamber of Commerce Dinner.

Highlight of the meeting was a Presentation by our Education Advisor Paul Sheridan and STEPS Manager Caitriona Geraghty giving an update on the Educational Initiatives this year by Engineers Ireland.

Paul is particularly involved in the whole educational policy space in terms of curriculum reform at Second Level. This includes the whole new Project Maths issue, a new look Junior Cycle involving less subjects but more 'learning' and a new Science Curriculum at both Junior and Senior Cycle.

Paul has also been engaging with the National Council for Curriculum and Assessment (NCCA) and the Teaching Council (TC) who are responsible for teacher registration at Second Level. This engagement has included finding a 'roadmap for engineers' to enter the Second Level teaching profession especially for Maths and Science subjects.



Caitriona outlined the current STEPS programme in a strategic alliance with Discover Science and Engineering which is currently part of Forfas. There is the National Xperience event for Primary Schools every year in the Helix. For Second Level schools tremendous work is being done in conjunction with University of Limerick National Centre of Excellence for Maths and Science and with various industry players to produce case studies to illustrate the role and importance of Maths and Science in the day to day operation of these industries (eg Wavebob, Defence Forces, Shell, Arup etc).

Barry Stokes our Communications Executive gave a presentation on our Free Junior and Senior Certificate Maths Grinds on a Saturday in Clyde Road. These grinds need a lot of logistical and institutional support to the Engineer Volunteer Tim Joyce BE. These Saturday events are currently oversubscribed in Dublin with a substantial waiting list.

We are currently looking to extending the Free Maths Grinds to the cities of Cork Limerick and Galway with the support of the local Regional Committees of Engineers Ireland over the course of the current year.

All in all the current support that Engineers Ireland gives to Education in Ireland at primary, second and third level is truly phenomenal. It has increased exponentially over the past year with the same staffing levels as in 2010. This is all achieved by truly remarkable Engineers Ireland staff Paul Sheridan, Caitriona Geraghty and Barry Stokes at the various levels coupled with the Third Level Liaison by Julie Goggins and Richard Wilson.

TUESDAY 18 OCTOBER 2011

YES Ball - Third Level Education Liaison

On Friday night I was pleased to accept the invitation of Justine Butler Chairperson of the Young Engineers Society (YES) to their Annual Ball at the Morrison Hotel.

It was a 'masked ball' affair with both John Butler the other guest and myself together with our partners exempt from the masking formalities. (John is the HR Director in Engineers Ireland). All of the young engineers donned their masks though led by Justine whose mask was painted on!



Julie Goggins Third Level Liaison Engineers Ireland,
P J Rudden President Engineers Ireland,
Justine Butler Chairperson YES and Richard Burke UCD Student Engineer

The YES Ball was a spectacular success with double the attendance of last year. There were two reasons for this - firstly more companies were represented than last year and secondly there were a substantial number of engineering students present from UCD, DIT, DCU and as far away as DKIT.

The students added greatly to the fun and glamour of the night. Their presence in force was a tribute to our two new Third Level Liaison officers in Engineers Ireland - Julie Goggins and Richard Wilson - whose outreach into the colleges has obviously been extremely successful over the past year. I have no doubt that this engagement with the Third Level Education Sector will continue to grow in the years ahead. I say this as both Julie and Richard continue to 'weave their spell' on the students who appear to have enormous respect for both of them and after Friday night I can see why.



William Meara President of the DIT Engineering Society, Julie Farrelly DIT Eng Soc, Richard Wilson Third Level Liaison Engineers Ireland and James O'Meara Project Engineer Dromone Engineering and Innovative Student of the Year 2010 (DIT)

Many thanks to the companies who took tables and sent their young engineers to enjoy the night - ESBI, Clifton Scannell, DPS, Arup, Cedco and RPS. Thanks also to the many students who see a bright professional future with Engineers Ireland.

In my speech I assured the gathering that Engineers Ireland will continue to work all of our creative skills to generate employment for our graduates whether in manufacturing, infrastructure or exporting our services.

We take the importance of the Young Engineers Society very seriously in Engineers Ireland as we see in YES the young engineers who are the leaders of our future.

This year for the first time we have co-opted the Chairperson of YES Justine Butler to both our Council and to our Executive Board to give a voice to the young engineers at the highest levels of the profession. Justine through her contributions has already shown that she is up to the challenge of helping to chart the roadway for the future with Engineers Ireland.

I was delighted to learn also that at least three of the young engineers who attended on Friday night are in our new Advertising Campaign for Engineers Ireland ('This is My Land This is Your Land') so look out for them when they appear in a starring role on TV next month - Elva Bannon, Jamie O'Meara and Katie O'Neill!

I wish the Young Engineers Society every success and growth in quality and numbers in the years ahead. They are truly the future of Engineers Ireland.

FRIDAY 21 OCTOBER 2011

Annual Energy Institute Dinner

On Tuesday night I attended the Annual Energy Institute Dinner at which Minister Pat Rabbitte spoke on Government energy policy. The dinner was hosted by the Republic of Ireland branch of the Energy Institute currently chaired by David Taylor who was Sustainable Energy Ireland's first CEO.

Minister Rabbitte identified the key priority as 'the delivery of our vital energy infrastructure projects to underpin security of supply.....development of GRID 25 is critical to our long term economic recovery.....it has been argued in some quarters that the severe step down in economic activity ought to result in pulling back investment in this area.....but infrastructure investments are long term investments by nature.....they increase competition and assist in achieving our ambitious renewable targets'. [Link to Speech](#).

Therefore it was 'game set and match' to the continued investment in grid developments including North South and East West interconnectors and in renewable energy projects all of which Engineers Ireland strongly support in our State of Ireland Infrastructure Report of May 2011.

The lack of interconnectors between Ireland and the UK 'is imposing significant costs on electricity generators and consumers on both sides of the border' the Minister added.



He also spoke of the national importance of the Corrib project which 'is capable of supplying over 60% of Ireland's natural gas needs - this underlines the strategic importance of the project'.

With regard to further oil and gas exploration, he ruled out any prospect of a state exploration company as a 'persistent myth' together with any further need for changes in the exploration 'fiscal regime'. The reasons for this are very clear from his announcements of the previous day on the '2011 Atlantic Margin Licensing Round' - of the 13 exploration licences issued, many are new entrants and there were no signs of any interest from the large global energy companies.

The message from the major oil and gas industry players was very clear - Ireland is not fully open for business based on legacy issues which we all understand.

The Minister also drew attention to the 'development over the new few years of a significantly more interconnected pan European energy market'. Ireland he said 'will ultimately be a small part of very large European regional electricity and gas markets'.

He concluded by stating that the current review of national policy by the International Energy Agency (IEA) will inform a new Energy Policy Framework to be published in 2012 which will replace the 2007 Energy White Paper.

MONDAY 24 OCTOBER 2011

Farewell to a Great President

As this week draws to a close we will know who will be the 9th President of Ireland. I wish him or her well when elected by the people.

It signals the end of 14 years of Mary McAleese as our President. She has been an outstanding ambassador for Ireland crowned by two extraordinary visits in May by Queen Elizabeth and President Barack Obama.

She has represented us abroad with great distinction. Her predecessor Mary Robinson proved to be the symbol of a new tolerant Ireland. Mary McAleese was the symbol of a modern Ireland at peace with itself North and South. 'Building Bridges' was her motto and she fulfilled that ambition admirably. Her husband - now Senator Martin McAleese - also played a vital role in building these bridges North and South between nationalist and unionist traditions.

I had the pleasure of meeting the President when she invited Engineers Ireland to the Áras in June 2010. Our President Martin Lowery was abroad so I led the Engineers Ireland group together with Director General John Power. The occasion was the 175th anniversary of the founding of Engineers Ireland in 1835 - when Sir John Fox Burgogne was our first President of what was then The Institution of Civil Engineers of Ireland. Fox Burgogne was Chairman of the Board of Works based at the Custom House.



President Mary McAleese with Engineers Ireland Vice President PJ Rudden and Director General John Power during our visit to Áras an Uachtaráin in June 2010 to mark our 175th anniversary celebrations

President McAleese made the visit of our 50 members so memorable. She gave us a tour of the State Apartments and then treated us to tea with the help of the Áras staff. She was very informal to make us feel at home insisting on pouring out our teas herself and chatting with us throughout about the many challenges we faced professionally and personally. She has an engineer daughter which greatly helped her understanding of the profession.

Also striking was the courtesy of her military aides who were most helpful in explaining the history of the Áras and indeed the history of the Presidency. The confident ease of these aides bore large testament to the respect they had for the President and her family and it was obvious that it went well beyond their professional duty. You could see too the confidence that she had in them also to be faithful custodians of a proud heritage.

She expressed her wish that there would be a visit to Ireland by Queen Elizabeth before she left the Áras in 2011 and her wish was granted. No doubt the short visit by President Obama also in May of this year was an added bonus during her term.

As she retires to private life, we salute her two terms as President for all the people. We wish herself, her husband and family a happy and fulfilling life in the years ahead.

WEDNESDAY 26 OCTOBER 2011

Calling all Environmental Scientists

Engineers Ireland knows that we cannot rebuild a national recovery or even engineer a new Ireland on our own. While international companies exporting computing, medical and pharma products account for much of our current growth these enterprises employ a lot of different professions.

While there are many engineers involved in the design and manufacture of products and services there are also many other professionals contributing also to this great endeavour. The same is true of infrastructural projects in the Transport, Energy, Water, Food, Process and Environmental sectors where Engineers work closely with Scientists, Geologists, Statisticians etc.

That is why Engineers Ireland decided to open up our membership in recent years to 'cognate professions'. These are professions akin to engineering whose graduates are working 'in an engineering role' i.e. working on engineering projects or services. For instance, there are many environmental scientists working in engineering firms on Environmental Impact Assessments and Strategic Environmental Assessments.

These cognate professionals many with level 8 (BSc Hons) and 9 (MSc) qualifications can now become Members of Engineers Ireland (MIEI). If after suitable professional experience in an engineering role, they can then graduate to the title of Chartered Engineer (CEng MIEI) and when they become eminent in their field can apply for Fellowship of Engineers Ireland (CEng FIEI).

Last year my predecessor as President Martin Lowery conferred a Fellowship by Presidential Invitation on Elizabeth Arnett a Senior Environmental Scientist. Elizabeth qualified with a BAgrSc and MAgrSc by research from UCD, then worked as Green Schools Officer with An Taisce before joining MCOS as an Environmental Scientist in the late 1990s.



Martin Lowery President of Engineers Ireland, New Chartered Engineer and Fellow of Engineers Ireland Elizabeth Arnett MSc and John Power Director General Engineers Ireland at the Conferring of Titles in May 2011.

She subsequently developed her own brand of Stakeholder Engagement on sensitive infrastructural projects. That business then grew into an integrated Project Communications team employing environmental and social scientists, engineers, communications scientists and media consultants.

Elizabeth is now Director of Project Communications with RPS in Dublin leading communications on many national engineering projects. She has frequently been interviewed on national media shows such as Morning Ireland, The Right Hook, The Last Word and Prime Time.

Elizabeth as a scientist is not unique in gaining membership of Engineers Ireland. But she is a role model to demonstrate that Engineers Ireland membership at all levels is now open to other allied professions. I personally know a number of geologists who have also become members and apart from scientists I also know a forestry graduate engaged in GIS for engineering projects who has achieved MIEI in recent months.

So I'm calling on all those professions who work closely with us on engineering projects to consider membership of Engineers Ireland. Application forms are available on our website at <http://www.blogger.com/www.engineersireland.ie>.

FRIDAY 28 OCTOBER 2011

Will You Come With Me

Today and tonight the new Engineers Ireland radio and TV advertising campaign for Chartered Engineer goes live. This will coincide with the result of the Presidential election when target audiences are high especially this evening around 9 o'clock.

To the lyrics of 'Will You Come With Me' we invite Second Level students to consider engineering as a career and we invite existing graduate Engineers to become Chartered Engineers. The title of Chartered Engineer or CEng is only possible to achieve in Ireland through Engineers Ireland.

Chartered Engineer is only awarded following a Third Level engineering degree followed by a period (minimum 2 years) of Technical Training and a further period (minimum 2 years) of professional experience. Typically therefore new Chartered Engineers are in the age group 26 – 35.



Claire Lillis
Mechanical Design Engineer
Aerogen



Nick Gray
Senior Software engineer
Havok

The radio advert is 30 seconds long and the TV advert is 60 seconds. The messaging has to be more direct on radio to get the impact across while the visual imaging on TV carries its own powerful

message. The TV advert involves the work of 10 existing Engineers (5 male and 5 female) operating in 10 diverse branches of engineering if Ireland.

The new advert shows that engineering is an exciting career – building bridges, turning the ocean waves into energy, developing new water supplies and giving life to people in our hospitals through biomedical engineering. Engineering also makes the work of defence forces more effective technically and creates jobs to new software development e.g. in gaming and entertainment.

Hope you enjoy the advert and all comments welcome.

MONDAY 7 NOVEMBER 2011

Can Engineers Save the Economy?

Last week I was kindly invited by the UCD Dean of Engineering Professor Gerry Byrne to a 'Celebration of UCD Engineering Past and Present' in the Clinton Auditorium in Belfield. I was joined by UCD President Hugh Brady and by both Vice Presidents - Des Fitzgerald VP Research and Peter Clinch VP Innovation all of whom I have met at previous engagements in UCD.

It was also the occasion of the presentation of the UCD Engineering Graduates Association (EGA) Distinguished Graduate Award 2011 to Professor David O'Reilly former Chairman and CEO of Chevron plc based in the US. Before the Award presentation Professor O'Reilly presented a lecture on 'Can Engineers Save the Economy?' David O'Reilly graduated in Chemical Engineering in UCD in 1968 and went on to head up Chevron's worldwide organisation with 58,000 employees and annual turnover of \$200 billion.

In an inspiring address Prof O'Reilly pointed out the contribution that engineers had in building the Irish economy in terms of development of hydropower, energy water and transport infrastructure and the smart economy. He urged engineers to get out of their comfort zone and enter management and politics if we are to effect change in society.

He acknowledged though that this was not happening sufficiently in the US either so engineer reluctance to engage actively in community and political life was not just an Irish problem. He also urged engineers to keep their Continuing Professional Development (CPD) and life long learning up to date.

David was a worthy winner of the 2011 EGA Distinguished Graduate Award. The UCD President gave the closing address and presented Prof O'Reilly a metal bound presentation copy of the book 'Building of the State'. This is the fabulous book on the 100 year history of Government Buildings Merrion Street launched by the Taoiseach in early July (see my blog of 8th July 2011).



Michael Loughnane EGA President, Professor Hugh Brady UCD President, Professor David O'Reilly 2011 EGA Distinguished Graduate and Professor Gerry Byrne UCD Dean of Engineering.

Professor Gerry Byrne Dean of Engineering and Principal of the School of Engineering and Architecture in his opening remarks outlined some very welcome changes in the further restructuring of the UCD School of Engineering and Architecture - the reinclusion of the Dept of Food Agricultural and Biosystems Engineering into the School of Engineering taking it back from the School of Agriculture, the inclusion of Materials and Bioengineering in the Dept of Mechanical Engineering, the inclusion for the first time of Communications in the Dept of Electrical, Electronic and Communications Engineering and the inclusion for the first time of Environmental Engineering in the new Dept of Civil Structural and Environmental Engineering. I have no doubt that each of these reconfigurations will allow the new UCD School of Engineering to continue to prosper and reach its full potential in the years ahead. As my own third level Alma Mater, I wish UCD every success.

TUESDAY 8 NOVEMBER 2011

DCU Conference on Linking Education and Enterprise

Last week I was kindly invited by DCU Vice President for Innovation Richard O'Kennedy to speak at their intervarsity Conference organised jointly with University of Massachusetts Lowell and Queens University College. The title of the conference was 'The University and Economic Recovery - The role of Technology Enterprise and Learning Approaches.

Professor O'Kennedy had attended my Presidential Address in September on behalf of DCU and requested that I repeat my theme 'Building a Sustainable Recovery' but amend to suit the conference agenda which I did.

On arrival I was greeted by Professor Brian McCraith DCU President who opened the conference and gave the keynote address. He was followed by Dr Ruth Freeman Director of Enterprise and International Affairs at Science Foundation Ireland <http://www.sfi.ie/> and Dr Muiris O'Connor Head of Policy and Planning at the Higher Education Authority <http://www.hea.ie/>. SFI is the principal funding agency for third level research in Ireland mostly in Biotechnology, ICT and sustainable energy. HEA is the statutory planning body for higher education in Ireland. Both Muiris and Ruth outlined their recent and future policy and funding priorities for higher education in Ireland.



Brian MacCraith President DCU
Courtesy www.dcu.ie



Dr Ruth Freeman
Science Foundation Ireland
Courtesy <http://www.sfi.ie/>



Muiris O'Connor
Higher Education Authority
Courtesy <http://www.hea.ie/>

In my speech I outlined the results of the 2010 US Critical Skills Survey of employers seeking to grow their business. In their prospective employees they will be seeking the 4 Cs - Critical thinking, Communications ability, Collaboration/team building and Creativity/innovation. Indeed in his earlier remarks, the DCU President expressed similar views based on a DCU commissioned survey of employers. I pointed out that the current education system in Ireland has not traditionally recognised these skills but instead has been based on 'rote learning' and 'single point assessment' through end of term examinations to a significant degree. There is thus an urgent need to reconfigure our education system to address these skill deficits if we are to recover the economy. The teaching of Maths is a good example of this issue with the recent introduction of the Project Maths approach of "learning through understanding".

Engineers are uniquely placed to assist in this reconfiguration as the 4 Cs are in fact the key competences also sought by Engineers Ireland to attain Chartered Engineer status for over 10 years now. That includes radically reconfiguring our approach to the STEM (Science Technology Engineering Mathematics) subjects at second level especially mathematics which more than other subjects needs a new approach to curriculum, teaching method and assessment. In terms of the humanities and the need to increasingly export our knowledge services, we also need to invest in foreign languages both European and Asian in particular.

I instanced all of the educational initiatives which Engineers Ireland are now taking to assist the situation nationally in the STEM subjects including the STEPS programme at primary and secondary level, the Innovative Student of the Year at third level, the Maths Grinds on Saturday in Dublin which we hope to extend to other cities and the recently launched TV advert promoting Chartered Engineers - 'Will You Come With Me' ([click here to view advert](#))

I was delighted to hear that my views on education policy were closely aligned with those of Brian McCraith DCU President and Muiris O'Connor of HEA in particular on the maths and many other issues including the need for better management of the transitions between primary, secondary and third level.

WEDNESDAY 9 NOVEMBER 2011

2011 Excellence Awards

Last Friday night was the second year of our new Excellence Awards night when we celebrate all that is exciting innovative and interesting in Irish engineering. This year's event was held in the Four Seasons Hotel Dublin.

Master of Ceremonies was again Mary Kennedy of RTE who is a consummate professional with a public audience and a delightful conversationalist privately.

There were 7 awards in total - Volunteer of the Year, News Story of the Year, Education Award of the Year, Technical Paper of the Year, Chartered Engineer of the Year, Environmental Project of the Year and Engineering Project of the Year.



Mary Kennedy RTE, Terry Nolan Managing Director Shell,
Matt Cotterell Head of School of Engineering at C.I.T.,
PJ Rudden President Engineers Ireland

The story of the night was how shortlisted entries from the Cork Region ran away with 5 of the Awards led by the Mizen Head Footbridge which won two awards - Best Project of the Year and Best Technical Paper. The Project of the Year was a public vote and the news on the night was that it was a favourite project with the public by a large margin. The iconic new NUIG Engineering Building was in second place and the Peace Bridge in Derry in third place.



Mizen Head Footbridge

The News Story of the Year was won by the Irish Examiner for balanced reporting of Engineering Projects. This was well deserved when you consider how some of our more controversial engineering projects are reported by some sections of the media. I know of no instance where I could complain on the reporting balance by the Irish Examiner and that speaks myriads about their professionalism.

The Education Award went to Cork Institute of Technology (CIT) and Chartered Engineer of the Year from a shortlist of 6 went to Louise Connolly of ESBI and native of Cork.



PJ Rudden President Engineers Ireland, Louise Connolly Chartered Engineer of the Year,
John Power Director General Engineers Ireland

Environmental Project of the Year went to Portlaoise Sewerage Scheme another very innovative project. Volunteer of the Year went to Michael Loughnane of ESB for his unstinting service to Engineers Ireland over many years particularly on the Continuing Professional Development (CPD) Committee which I had the honour to chair for two years as Vice President.

In my own opening address I recounted 'the many sights I had seen' by going around the country and at events in Clyde Road including the Innovative Student of the Year in June, my visit to the

opening of the NUIG Engineering Building in Galway and the CPD Company of the Year awards in October. Indeed I had also attended the official opening in early August by Minister for Transport Leo Varadkar of the Mizen Head Footbridge in August on the invitation of County Mayor Tim Lombard County Manager Martin Riordan and County Engineer Noel O'Keeffe. If you see the splendour of this bridge against the deep Atlantic from the local vantage points you will realise why it won the Project of the Year as it's a truly incredible sight.

Obviously we can conclude that 'people love bridges' simply because they can see them above ground and consider them 'things of beauty'.

Equally beautiful in my view was the entry from Aerogen in Galway where a 'drug impregnated mist' was developed to give the necessary therapeutic administration of drugs to a premature baby in an incubator! This is real life saving biomedical engineering. In the words of Claire Lillis of Aerogen in our TV advert as she looked at the premature baby in the incubator 'This (engineering) was made for you and me'!

I ended by showing the new Engineers Ireland TV advert on Chartered Engineer 'Will You Come With Me Making Dreams for You and Me' - starting with Jamie O'Meara BE an Agricultural Engineer and ending with Claire Lillis BE a Biomedical Engineer in Galway.

MONDAY 21 NOVEMBER 2011

Institutes of Technology Lead the Way

Last week I was privileged to be asked to a Workshop with the Institutes of Technology (IoT's) in DIT to give the Response from Engineers Ireland to the June 2011 Report on Engineering Graduates: Preparation and Progression.

The Workshop was opened by Tom Boland CEO of the Higher Education Authority. The Report was then presented by DIT Dean of Engineering Mike Murphy and Athlone Institute of Technology Head of Engineering Austin Hanley. I then concluded with a speech that represented the Engineers Ireland Response to the Report.

In summary the Report stated that graduates found Engineering to be a fulfilling career and that 80% of employers found that IoT level 8 graduates (with honours degree) were progressing at a similar rate to other graduates. However only 64% of respondents found IoT graduates to be adequately prepared in non technical skills such as communications and commercial approach.



Pictured at the launch of the Engineering Graduates: Preparation and Progression report were back row l-r: Denis McFadden, LyIT; Eugene Roe, DkIT; Dr Joe Harrington, CIT; John Murphy, IT Tralee; James Shivan, report author. Front row l-r: Albert Byrne, WIT; Austin Hanley, AIT; Dr Mike Murphy, DIT; and Pat O'Donnell, IT Tallaght. Pic: Maxwells

I do not find these results surprising but am not aware of any other Irish engineering college(s) who have carried out such evidence based research on this issue and have published it - so well done Mike and Austin and the other IT's nationally.

Tom Boland in his opening remarks set the Report in the context of the recently published (January 2011) "National Strategy for Higher Education to 2030" talked of the 50% increase in the numbers in Third Level Education from 1995 to 2011 and a further projected increase of 70% up to 2030. 'If

we cannot spend our way out of this recession then we will be able to educate our way out of it' he said drawing attention to the increased educational focus on 'learning outcomes'.

In my Response and Closing Remarks I complemented the Institutes for their work and wondered where do we go from here. 'The two most important stakeholders in our Third Level sector - graduates and employers - have spoken and we must listen. Their voices in this report are clear enough' I stated.

I called for greater emphasis on the 4Cs which the better employers are seeking from graduates across the globe - critical thinking, creativity/innovation, collaborative/team building and communications. 'It is also fortuitous for third level that it was the engineering sector who led this research for it is engineering that is leading the recovery of the Irish economy in terms of design manufacture and export of pharma, biomedical and ICT products and services' I remarked.

I reminded the audience of the important role that Engineers Ireland are playing through the STEPS programme at Primary and Second Level and Innovative Student Engineer of the Year at Third Level in addition to the Maths Grinds for both Leaving and Junior Cert levels.

Finally I played the new Engineers Ireland TV advert to show what role Engineers play in Irish society - 'bring dreams to life for me and you'

MONDAY 21 NOVEMBER 2011

Science & Industry - Working Together for Economic Recovery

On October 10th last, I attended a Business Breakfast by Science Foundation Ireland in Aviva Stadium where both Minister for Jobs Enterprise and Innovation, Richard Bruton and Minister for Research and Innovation, Sean Sherlock, spoke.

It was attended by all of the leading research institutes in Ireland together with the Presidents of UCD and UCC Hugh Brady and Michael Murphy respectively.



Mary Colclough of CRANN TCD and PJ Rudden, President Engineers Ireland

Most prominent among the exhibitors were The Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) of Trinity College and CLARITY - Science Engineering and Technology (CSET) in UCD assisted by DCU and Tyndall Institute.

Nanoscience is the study of small scale matter. Nanotechnology looks to create future products which are lighter stronger cleaner and less expensive. You can thus see the value of these products. A 'nanometer' is one billionth of a metre smaller than the wavelength of visible light and a hundred-thousandth the width of a human hair!

Nanoscience views all matter from the same perspective regardless of whether it comprises the electrical circuits in a computer memory or the membrane that surrounds a human cell. The opportunities with nanoscience are immense touching all areas of human endeavour from advanced technologies and silicon chips to medical devices and new ways to diagnose and treat human disease.

For instance CRANN is developing ways to manufacture computer chips using non-silicon materials. Also they are developing sensors for growth of micro-organisms such as MRSA in the nano-biology area. Nanoscience applies equally to all fields of science - physics chemistry and biology.

Minister Sherlock in his speech said that he was greatly encouraged by the deepening of the connectivity between Irish academia and industry as evidenced by the 44% increase in collaborations last year between SFI-funded researchers and industry. Praising the work of the Strategic Research Clusters he concluded 'we must continue the path that sees our ongoing research investment aligned to our economic needs, to satisfy the imperative to have research with consequences and growing levels of commercialisation and high value sustainable jobs'.

These encounters of mine with the Minister and the research community on behalf of Engineers Ireland greatly encourage me to continue my national tour of Research Institutes.

The President of UCC Michael Murphy invited me to Cork to view the important work currently being done by the Engineering Schools there including the Hydraulic and Marine Research Institute - an invitation I will take up in the months ahead and to visit the Tyndall Institute there also.

TUESDAY 22 NOVEMBER 2011

November Executive Meeting

On November 10th I chaired the monthly Executive Meeting of Engineers Ireland. We approved a draft Budget for 2012 to include the continuation of our TV Advertising Campaign on Chartered Engineers. This 2012 Budget still requires Council approval next Saturday.

We held an important discussion on how to react to the developing Building Control issue at Priory Hall which has been evacuated at Dublin City Council insistence due to an alleged 'fire risk'. We are taking expert advice in this regard and want to see whatever regulatory measures are necessary to ensure public safety is taken as a priority. It would appear that Architects and Surveyors are more in the firing line on this issue than are Engineers. Nevertheless we want to see the compulsory registration and regulation of Engineers also to ensure a high level of public confidence in our profession.

We finalised our future Membership Rules for Ordinary and Chartered Membership. This matter will also go to Council on Saturday. If agreed there, this will bring to a conclusion a discussion at Council concerning our Rules for Membership and our Routes to Titles which has lasted since 2005. It also enables us to finalise our new Byelaws currently in draft.

We also took a decision to hold the 2012 Annual Conference in Dublin, to coincide with the European Young Engineers (EYE) Society, who are coming to Dublin that year. This is fitting during the Presidency of Michael Phillips my successor and current Senior Vice President who is Dublin City Engineer and Director of Traffic.

TUESDAY 22 NOVEMBER 2011

Irish Planning Institute Annual Dinner

On Friday November 11th I attended the Annual Dinner of the Irish Planning Institute as a guest of their President Brendan Allen.

It was an enjoyable night marked by the award of IPI Fellowship to the Dept of the Environment Community and Local Government Chief Planner John Martin. John has had a seminal role in the development of Irish planning law firstly with Dublin local authorities and in later years with the Department.

An Bord Pleanála was represented at the event by its Deputy Chairperson Karl Kent and Board Member Mary McMahon.

THURSDAY 1 DECEMBER 2011

Engineering and Technology Teachers in Carrick on Shannon

On November 12th last I was invited to the Engineering and Technology Teachers Association (ETTA) in Carrick on Shannon to speak at their Annual Conference and present their Awards to over 100 students based mostly on their 2011 Leaving and Junior Cert results.

It was a very impressive event in terms of the number of school principals, teachers, parents and students attending from Second Level schools from all over the country especially for the Awards.

Before going there, I browsed the 2011 Leaving and Junior Cert Engineering and Technology papers to see how relevant these two subjects now are to modern day engineering. I found that they lean mostly towards physics, chemistry and computer technology all of which form a solid basis for up to date careers in mechanical, electrical and computer engineering.



Pictured left to right P J Rudden President of Engineers Ireland, Annalee O'Donovan from County Clare Best Overall Technical Graphics Junior Cert Higher Level and William Brett President of the Engineering and Technology Teachers Association (ETTA)

This year's conference was organised and hosted by members of Area 4 drawn from counties Sligo Leitrim Longford and Roscommon led by teachers John Joe McGuinness and Damien O'Rourke.

There are very close links between the ETTA in this Region and Sligo IT who gave a talk on Lasers. In fact the word 'laser' I discovered is an acronym for Light Amplification by Stimulated Emission of Radiation (LASER).

In my short speech I emphasised the importance of these two Second Level subjects to the engineering profession as a whole and complimented the ETTA on their extensive award schemes

which create obvious motivation for so many engineering students nationwide to compete for the awards.



L-R: Mr. Niall Cassidy Engineering Teacher Fingal Community School,
Student John Donohoe “Young Engineer 2011” ,
PJ Rudden President of Engineers Ireland and Ms. Sharon McGrath Principal of Fingal Community School

I was particularly taken by the mechanical and electrical/electronic engineering standards of the national competition to make the Best Modern Snow Plough. Also very impressive was the design manufacture and testing of a Formula 1 Car by a team of students from Dundalk who went on to represent Ireland internationally. Either of these assignments would have tested the creative skills of any BE graduate in Mechanical Engineering from any of our universities or institutes of technology.

Awards went to students from all over Ireland from Cork to Donegal and from Clare to Fingal who were photographed with their proud parents and teachers.



Curlew Mountains Sculpture Courtesy of <http://www.roscommoncoco.ie/>

The next morning I explored the wonderful tourism product of Carrick on Shannon where Leitrim County Council have constructed a beautiful but very functional boardwalk over the River Shannon. I went on to view its many marinas with cruisers tied up in the riverside adjacent to the modest but modern Leitrim County Buildings. In recreational terms, there are even 'musical wires' supported from the river bed adjacent to the boardwalk which give off a different musical harmony depending on the unique strength and direction of the prevailing wind over the Shannon. Not far away on the N4 Curlews Road stands the metal sculpture of a Celtic chieftain on horseback which indeed graced the front cover of the ETTA 2011 conference brochure.

FRIDAY 2 DECEMBER 2011

Creative Design in UCD Engineering

On November 16th, I was invited by Dr Amanda Gibney of UCD Engineering to view exhibits in Creative Design by First Years in Engineering. I was also invited as President of Engineers Ireland to present the awards to the winning First Years students. These awards were sponsored by three firms - Arup, Deloitte and Innovation Delivery.



Left to Right: Conan Sherlock, Lisa Sherin, Sean Sheridan, Daragh Shirazi, PJ Rudden and Amanda Gibney

The assignments involved some 20 teams of 5 First Year members each looking at how information technology (IT) could help people in and around the city of Dublin to access information and services.

Each team performed research and field investigation to identify the parameters of different areas of study eg Eating Out in Dublin, Recycling Points in Dublin or Bus Shelter Interactive Technology. Each project was supervised by Innovation Consultant Keith Finglas and mentored by Masters students in Structural Engineering and Architecture (SEA).



Keith Finglas (Innovation Consultant), Kelly-Ann Farrell (SEA Student),
PJ Rudden (President of Engineers Ireland), Amanda Gibney (UCD Lecturer), Louise Campion (SEA Student)

Keith Finglas (Innovation Consultant), Kelly-Ann Farrell (SEA Student),
PJ Rudden (President of Engineers Ireland), Amanda Gibney (UCD Lecturer), Louise Campion
(SEA Student)

All of the projects tested the 'problem solving' skills of the student engineers as they commence their formative engineering education at the age of 17 to 18.

Innovative leadership is a module for 5th year students of Structural Engineering with Architecture. The aim of the module is to develop and improve leadership skills, problem solving abilities and lateral thinking skills by performing a number of practical assignments as well as tutoring 1st year students in design and innovation skills for team based projects.



'Bus Shelter Interactive Technology'. Left to right: Amanda Gibney, Shauna-Anne Carney and Louise Carroll

UCD Engineering School is to be congratulated on this initiative to develop creative and problem solving minds in our First Year Engineering Students. Credit to Amanda, Keith and the students of the 5 Year Masters in Structural Engineering with Architecture.

MONDAY 5 DECEMBER 2011

Midlands Region Annual Dinner Dance in Birr

On November 18th I was a guest together with John Power our Director General with our partners at the Annual Midlands Region Dinner Dance which was extremely well attended at the County Arms Hotel in Birr. This Offaly town has a lot of Scientific and indeed Engineering history to recall.

The lands of Ely O'Connell centred in Offaly were planted by the Normans in 1619 and as part of this Birr Castle and 1,277 acres were granted to Sir Laurence Parsons, 1st Earl of Rosse. In Birr Castle the 2nd Earl of Rosse built the then world's largest telescope in the 1840s which has been wonderfully restored as a tourist attraction. Of equal interest to engineers, the Earl's son Charles Parsons invented the steam engine which helped drive the Industrial Revolution in the 19th century.



Birr Castle Courtesy
of www.birrcastle.com

Birr is a fine town - a mix of early Irish heritage coupled with later Norman settlements. The Town Trail recounts from the time of St Brendan's early monastery where Brehon Laws were passed in 697AD to protect women and children. Much of the present town centre was planned and laid out in the 18th and 19th century by the Earls of Rosse with fine Georgian houses and attractive streetscape incorporating many churches of every denomination in Ireland.

The Midlands Dinner was hosted by the Region Chairman John Jordan Director of Wirtgen Ireland in the agricultural engineering business. Bord na Mona, Offaly County Council Athlone IT and Irish Tar and Bitumen were also well represented at the event. Indeed I was reminded of the important role that Peatland Development continues to play in the economic life of the Midlands by a beautiful presentation of Bog Oak from Ballinahown on the Offaly/Westmeath border which I least expected.



Pictured at the Midlands Dinner Dance were John Power Director General, Kieran Horgan Chairman Thomond Region, P J Rudden President, John Jordan Chairman Midlands Region and Prof Padraic O'Donoghue Chairman West Region

The event was a tribute to John and his very active Committee in the Region. I wish them continued success in the years ahead.

WEDNESDAY 7 DECEMBER 2011

Offshore Wind Conference in Dundalk

On November 24th I was invited as President of Engineers Ireland to chair an Offshore Wind Conference in Dundalk which had a wide national and international attendance.

I was also asked to brief the conference on the Irish Scottish Energy Links Study - ISLES Study - which had been published on the previous day in Glasgow by the Energy Ministers of Ireland, Northern Ireland and Scotland.



Pictured Left to Right: Scottish Acting First Minister John Swinney, ISLES Project Director PJ Rudden, NI Energy Minister Arlene Foster, Scottish Energy Minister Fergus Ewing and Irish Energy Minister Pat Rabbitte.

The conference was kindly opened by the Mayor of Dundalk Cllr Marianne Butler. Cllr Butler spoke of the value of our offshore resources and the economic environmental and employment opportunities that proper exploitation of these can create. She rightly saw the job creation possibilities in the development of offshore wind in addition to the creation of a lower carbon economy.

The conclusion which I summed up at the end was that there were no technological barriers to the realisation of a significant offshore renewables industry. Also there was a greater cost benefit to connected offshore resources to a single subsea network than trying to connect individual wind farm projects to land. There were also increased interconnection possibilities with the UK. True! - the deep waters off our West Coast represents a considerable challenge in terms of ocean movement and depth and would require floating foundations which are still under development. Therefore by far the most viable offshore resources to initially connect are in the Northern and Southern Irish Sea where the waters are relatively shallow.



Speakers at the Conference were Dr Brian Motherway Chief Operating Officer SEAI, Cllr Marianne Butler Mayor of Dundalk, P J Rudden Conference Chairman and Andy Kinsella CEO Offshore at Mainstream Renewables

There is also a considerable export opportunity in addition to significant supply chain opportunities especially in our ports, harbours and marine support all of which can help our national recovery in investment and employment possibilities. The capital cost of exporting 16GW of offshore energy to the UK will be some €6billion for the subsea grid purely in the Irish Sea and North Atlantic between Ireland and Scotland.

The UK will need that additional energy by 2020 so there is a unique window of opportunity for Ireland if we can reconfigure our planning consent and regulatory regimes in line with Scotland and Northern Ireland as recommended by the ISLES Report. This report has now adopted as policy by the three Governments and sent to the EU Energy Commissioner for assessment. Hopefully it will be EU grant aided under the new 'Connecting Europe' initiative to drive towards a common energy market in Europe as a whole.

We have a challenge and an opportunity to drive this initiative forward. This is similar to what faced Thomas McLoughlin a young engineer who proposed to the then Government in 1926 that we should harness the River Shannon at Ardnacrusha for a new hydroelectric scheme which was the start of rural electrification. The project cost £5.2M in 1926 when the total state budget was £25M.

THURSDAY 8 DECEMBER 2011

Chairman's Reception in Cavan County Council

On November 25th I travelled to my native county where Cavan County Council decided to give me a Chairman's Reception. They have the view - not apparently contested by the Archivist in Engineers Ireland - that I'm the first Cavan born President of Engineers Ireland.

Whether true or not I have worked in the past and currently in a consultancy capacity for Cavan County Council most notably on the N3 Belturbet Aghalane Road Project which reopened the N3 Dublin Enniskillen Road after the Good Friday Agreement. I had the pleasure of meeting Senator George Mitchell who opened the new Aghalane Bridge at the Border - then named the George Mitchell Bridge in his honour.



Senator George Mitchell and PJ Rudden (1999)

Beside the Bridge stands the artistic feature of the warrior returning home and embracing his loved one with a broken sword and shield on the ground between them. The caption on the feature says 'Welcome Home - the War is Over'. On that day when the bridge was opened by Senator Mitchell in 1999 nobody knew for sure if the war was in fact over or not. It took ten more years to fully secure that Peace which was a monumental achievement of the NI political parties chaired by Senator Mitchell.

That was my first job with Cavan County Council. This new road project was progressed in record time due to its national and international significance and I was glad to be part of it. Its speed of execution was also a tribute to then County Manager the late Brian Johnson then County Engineer John Tiernan and Senior Roads Engineer Ger Finn. I have since worked with the Council mainly on the development and implementation of the North East Waste Management Plan together with Meath Louth and Monaghan.

I am very grateful to the Chairman of Cavan County Council Cllr Sean McKiernan and to County Manager Jack Keyes for the honour accorded me. I was presented with a painting by P J Lynch from the Johnson Library of 'A Voyage to Lilliput' which now hangs in Engineers Ireland at 22 Clyde Road for the rest of my term as President. I'm not sure what the significance is of the giant Gulliver arriving in Lilliput with shadows of civic and church buildings of Cavan in the background but it's a beautiful painting which I will treasure forever. I was also thankful for the presence of Local Councillors Dessie Boylan, Charlie Boylan and Paddy Conaty.



Pictured in the Cavan County Council Chamber front Cathaoirleach Cllr Sean McKiernan, P J Rudden President of Engineers Ireland, Celia Rudden ; back Jack Keyes Cavan County Manager, Maura Daly Chairman North East Region Engineers Ireland and John Power Director General Engineers Ireland

Cavan County Council this year won the Local Authority of the Year award and the Engineers Ireland Continuing Professional Development (CPD) Public Service award for best public body on staff development and training. This is a great tribute to County Manager Jack Keyes who also led the Organising Committee for Fleadh Cheoil na hÉireann for a second successive year and again planned in 2012. This 3 year event will have brought a total new investment of €120million and a footfall of 250,000 each year to a small town of 10,000 people. You can then imagine how delighted I was that such a leading and enterprising Local Authority might have chosen me for their inaugural Chairman's Reception.

I was delighted that Engineers Ireland Director General John Power was there in Cavan together with Maura Daly Chairman of North East Region of Engineers Ireland together with John Brannigan Cavan County Council and last year's Chairman, also John Quinn, Dave McGowan and Paddy O'Rourke from County Meath. Also present were many current engineers of Cavan County Council including the Cavan Town Manager Ger Finn another very active engineer of the NE Region and who acted as Master of Ceremonies on the night.

I was honoured also by the presence of Dr Liam McNiffe Principal of St Patricks College and Donal Donahue Principal of Laragh National School. Also the Chairperson of the Board of Management in Laragh NS Bernie Power was there together with many family, friends and former classmates from both Laragh and St Pats.

FRIDAY 16 DECEMBER 2011

Sustainability Conference in Lisbon

On November 29th I was asked to represent the European Commission as Speaker at an Agenda 21 Sustainability Conference in Lisbon - 'Think Global Act Local'. This was in my role of Director of the EU Commission Secretariat for the European Green Capital City (EGCA) award (http://ec.europa.eu/environment/europeangreencapital/index_en.htm).

Similar to the 'European City of Culture', the EU Commission initiative is to find a different European city each year based on current high environmental performance, ambitious goals for the future and how the city can act as a role model for Sustainable Urban Living. Only capital cities of European states or cities with a population of 200,000 or over may enter.

The inaugural EU Green Capital of Europe was Stockholm in 2010 and Hamburg this year in 2011. Both were chosen in the first round of the competition in 2008.



Pictured outside the conference were (left-right) Joao Seiras Professor of Social Science Lisbon, PJ Rudden Director of European Green Capital Secretariat, Livia Tirone CEO Tirone Nunes Architects Lisbon, Paula Cabral Cascais City Architect (Conference Chair), Chantal Vanoeteren Urban Planner University of Brussels, Nora Brugemann Project Manager at Wuppertal Institute Germany and Mario Alves Transport Engineer at University of Lisbon

Yesterday at a ceremony in Brussels EU Commissioner Janez Potocnik handed over the title of the European Green Capital to the Spanish Basque city of Vitoria Gasteiz (pop 235,445) which is the 2012 Winner.

The competition is very dynamic as this year for the first time we add two economic criteria - eco-innovation/job creation and secondly energy efficiency in accordance with the Resource Efficiency

pillar of the EU 2020 Strategy Roadmap to better integrate new enterprise with sustainable development in accordance with the Lisbon Treaty objectives. The other criteria or indicators for the EGCA are climate change, sustainable transport, water consumption, waste management, air quality, noise, wastewater treatment and overall environmental management systems.

The Lisbon Conference was in fact held in the beautiful town of Cascais about half an hour's drive along the coast north of Lisbon. The conference was opened by the Portuguese Secretary of State for Environment Dr Pedro Afonso de Paulo. My speech detailed the objectives of the European Green Capital award scheme and how each detailed application from each city is assessed and analysed by a Panel of Evaluation Experts appointed by the Commission and drawn from the 27 Member States. The Speakers were a combination of engineers, architects, town planners and social scientists drawn from municipalities, business and academia.

Dublin entered the first round of the European Green Capital award in 2008 and scored 16th position out of a total of 35 cities who entered - well behind the shortlist of 8 cities from which Stockholm and Hamburg emerged. The other shortlisted cities were Amsterdam, Bristol, Copenhagen, Freiburg, Munster and Oslo. Dublin has however improved greatly in transport mobility and water conservation terms from its position in 2008 and may now re-enter the competition.

MONDAY 19 DECEMBER 2011

November Council Meeting

The November Council Meeting was held on Saturday November 26th when we had a good attendance. A number of important decisions were taken at this meeting.

We discussed and adopted the 2012 Budget recommended by our Finance Committee and Executive earlier in the month. Thanks to excellent management by the DG and Management team in Clyde road, we were able to adopt a balanced budget of income against expenditure despite considerable expense next year on the ongoing TV Advertising Campaign which is proving so successful in public reaction terms.

We discussed and approved the Membership Task Force Report chaired by my predecessor Martin Lowery. Our Membership Director Margie McCarthy presented the report which had been unanimously accepted by the Task Force - to continue with the present Rules of Membership as approved by Council in April 2011 and not to introduce a new 'Graduate' grade as a stepping stone to 'Ordinary' Membership MIEI.

We had a presentation from Paul Sheridan Education Manager and Caitriona Geraghty STEPS Manager on all of the educational initiatives currently being undertaken by Engineers Ireland. Tremendous progress has been made in implementing the Maths and Science Task Force Report in terms of integrating the recommendations particularly on Project Maths into the STEPS programme for Primary and Secondary Schools and a whole host of other initiatives including Engineers Week (February 27th – March 2nd next year) and Maths grinds for Leaving and Junior Certificate students.

We had a Staff Survey Presentation by our HR Director John Butler which will greatly inform our staff development and training programmes and to further improve interaction with the Regions and Sectors.

We filled a casual vacancy on the Council by secret ballot electing Stephen McIntyre of Google who will help us build our profile into the social media side of our Computing Division. We agreed the venues for our Annual Conferences in 2013, 2014 and 2015 as Dublin, Sligo and Tralee. The Dublin Conference will dovetail with the European Young Engineers Conference to be held here in 2013.

In conclusion I thanked the members of Council for their ongoing voluntary effort in attending meetings in Dublin on a Saturday and noted that the work of Engineer Volunteers continues to inspire our staff who coordinate all of the annual activities.

TUESDAY 20 DECEMBER 2011

Presidential Address to DIT

On December 7th I was pleased to accept an invitation from the DIT Dean of Engineering Dr Mike Murphy to give my Presidential Address on 'Building a Sustainable Recovery' to the engineering school student body in Bolton St. I was accompanied by Julie Goggins Third Level Liaison Officer with Engineers Ireland who has been working actively with the DIT student body.

The President normally represents his Presidential Address to a number of the Regions throughout the year including the GB Region in London. This however was the first time where the Address was requested by a Third Level Engineering College - signs of the growing relationship between Engineers Ireland and Third Level.

It was also the first presentation of the Address since it was initially given in mid September. In reviewing it I was struck by the degree of update it required. The Address was quite current in terms of our ambitions in Engineers Ireland last September and much has been achieved in the intervening period thanks to the hard work by our Council, our Executive and the DG's team.

Two of our major ambitions in September were to finalise our Membership Rules and also to launch our new TV Advertising Campaign. Both were successfully achieved in the 3 month period to December.

There was a lively and very relevant 'question and answer' session after the Address mostly centring on the issue of Maths Education and also reform of the Planning system to fastrack critical infrastructure projects. We also spoke of DIT ambitions to integrate all of the current colleges on a new single campus at Grangegorman which is a very exciting project and as you can see below will transform a greater part of the north inner city between the Phoenix Park and the River Liffey.



Model of New DIT Grangegorman Campus
Courtesy of www.merrionstreet.ie

I repeat below the relevant sentences from the Address that gave rise to the questions from the students

'The overall objective is to build a sustainable recovery and a solid future for our people. That's means looking beyond the immediate crisis that we face as a country and start building a long term vibrant economy that will last into the future'.

'The current maths situation in Ireland is a systemic failure in the educational system at national level. The student must always be at the centre of the educational system but the quality of an educational system can never exceed the quality of its teachers'.

'Modern building and infrastructural developments now need to be 'plan led' not 'developer led'. Planning decisions made by An Bord Pleanala need to be respected as meeting a national or strategic need regardless of any NIMBY or local considerations'.

After my Address Julie spoke to the student body of the benefits of membership of Engineers Ireland and of the support service which she has in place to answer any of the queries that the students may have.

We were very grateful for the very large number of students and indeed lecturers who turned up for the event. The largest lecture theatre in Bolton Street - named the Michael O'Donnell Room after one of my predecessors as President of Engineers Ireland - was practically full of people for the Address which was organised at relatively short notice.

WEDNESDAY 21 DECEMBER 2011

ICE Annual Dinner in Belfast

I travelled north to Belfast on December 8th to the Europa Hotel Belfast to attend the Annual Dinner of the Northern Region of the Institution of Civil Engineers (London). I was kindly invited by Ian Long the Northern Region Chairman of ICE.

I also met the ICE President Richard Coackley who is Director of Energy with URS Scott Wilson. His central message to his members was to say that Northern Ireland has a unique opportunity to develop wind and tidal energy sources due to its coastal location. We must drive down our carbon emissions while at the same time keeping the lights on and ensuring quality of life, he said.

'As civil engineers' he said 'we have the ability to help policymakers understand how to meet society's infrastructure needs, taking into consideration the wider natural, social and environmental impacts.' I quite agree with him and look forward to his visit to Dublin in late January when he will present his Presidential Address to the Republic of Ireland branch of ICE. I will then make a reciprocal visit to Richard in London in early February when I will present my Presidential Address to the GB Region of Engineers Ireland at ICE Headquarters.

There were some 450 local ICE members at the Annual Dinner in Belfast. I was very happy to again meet our own Northern Region Chairman Peter Quinn and former Chairman Jonathan Hegan a former colleague director in RPS and now Chairman of the Titanic Trust responsible for regeneration of the old Harland & Wolff shipyards into the new Titanic Quarter. Peter is also chairman of the Organising Committee for our Annual Conference in Europa Belfast on April 26th / 27th next.

I was also delighted to meet Dr Gordon Millington for the first time who was the only NI based President of Engineers Ireland (1997 - 1998) then Senior Partner of Kirk McClure Morton and now the Belfast office of RPS.

WEDNESDAY 21 DECEMBER 2011

Christmas Greetings



I wish all the readers of this Blog a Very Happy Christmas and a Peaceful New Year. Special greetings to our diaspora abroad in near and far away lands who cannot return home for Christmas especially our members and friends in the Great Britain and Middle East Regions of Engineers Ireland. We are especially thinking of you this Christmas as I was on the night of my Inaugural Address last May and my Presidential Address in September. The work of the Engineers Ireland's Benevolent Fund has never been more important to assist our members struggling in the recession. I thank Ray Sexton for his wise chairmanship of the Fund in recent years and welcome John Higgins as the new Chair and wish him well in this important role.

Time has flown since I started this Blog 7 months ago – it's now 5 months to go as President of Engineers Ireland when I will hand over to Michael Phillips as the new President.

It's been a very busy time partly due to the duties expected of a President but also due to the special interest I said I would show in Enterprise and Job Creation by visiting Research Institutes and Infrastructure Projects around the country.

Over the next 4 or 5 months I will be busy also. I'm looking forward to visiting the South, South East, North West, South West and North East more than was possible this year. I'm scheduled to go to Mayo, Athlone and Carlow in January, to Kerry, Cork and London in February, to Sligo and Louth in March, to Cork and Belfast in April and the Midlands in May.

I'm enjoying immensely meeting all the engineers across the country in the various regions and sectors. I find optimism and encouragement wherever I go that Ireland will pull through the current economic crisis and emerge stronger and wiser for the future.

As I said in my Inaugural Address last May, we will get no credit for cursing the darkness but every encouragement to shine a New Light on the opportunities that lie ahead. We have to seize those opportunities in energy, water, computing, pharma and medical device sectors. We have to channel all of our energies to developing the economy and creating jobs whether at home or through the exports of our goods and services.

I want to again thank the Council, Executive and Director General Team of Engineers Ireland for all their hard work during the year. I want to pay a particular tribute to Director General John Power and his six directors Fionnuala Kilbane, Aidan Harney, Damien Owens, Margie McCarthy, John Butler and John Byrne. In difficult economic times, they have guided Engineers Ireland to be a stronger organisation with a higher public profile that continues to be financially strong and supports further growth through excellence. I also want to thank the Regional and Sector committees who keep the lamps burning for Engineers Ireland throughout the year in their respective areas.

Let the bright lights of Christmas shine for you and your families as we approach 2012. I hope that our slow national progress to recovery will at least continue and hopefully begin to accelerate next year.

THURSDAY 5 JANUARY 2012

New Year at the Giants Causeway

I wish all readers a successful 2012. Despite the ongoing euro crisis hopefully this year will see better news on the economy.

Unfortunately much of the positive progress we made as a country in the early part of 2011 was eroded in the last quarter by the confidence crisis in the euro zone. Nevertheless Irish exports remain strong (mostly from our own engineering sector i.e. computing, pharma, biomedical) and our balance of payments continue to improve. Our unemployment rate unfortunately remains at 14 - 15% as we strive to even stabilise it in the years going forward.

In the break between Christmas and New Year I found myself in Northern Ireland for a few days on the North Antrim coast. The weather was stormy wet and cold - even snowy at times but didn't deter us from either a tour of the Causeway Coast or the Glens of Antrim. I had never before visited the Giant's Causeway beside Bushmills town and Distillery. It was quite a sight in the winter storms.

The Atlantic Coast waves at the Causeway were so high and so vociferous that they sent the sea foam flying inland on the raging wind. It lay on the ground like blobs of snow for many minutes after it fell.

The almost vertical pencils of basalt rock were formed according to local legend by giant Finn McCool needing to battle with another giant in Scotland and built the causeway to give him pedestrian access across the sea. A very futuristic new underground Visitor Centre designed by Heneghan Peng Architects is currently under construction and due to open in summer 2012. The Giant's Causeway is the only UNESCO World Heritage Site in Northern Ireland.



At the Giants Causeway

The whole experience apart from the weather reminded me of the Mizen Head Bridge in West Cork which I visited last August at the other extreme end of the country. The narrow path access arrangements are similar on both sites though the landscape is very different. The Mizen Head Bridge is man made of course across a spectacular Atlantic gorge while the Giants Causeway is a geological formation from the Ice Age. There is also a famous pedestrian 'rope bridge' at Carrig-a-rede over the Atlantic further eastwards along the Antrim Coast towards Ballycastle town. This footbridge was actually closed due to the high winds on the day.

We passed through the town of Ballycastle famous for its 'Auld Lammas Fair' each summer and then south through Cushendun and Cushendall before turning inland again through the green Glens of Antrim towards Ballymena and Toome across the northern shores of Lough Neagh. It is truly lovely countryside even in the depths of winter. I can only imagine how much nicer it is in the summertime.

A very interesting fact I noticed is that while the Atlantic Ocean was battering off the North Antrim coast, at the same time the Irish Sea was very calm off the East Antrim coast reminding us the Irish Sea is a mere 'calm shallow pond' relative to the Atlantic in technical terms. This fact also helps to inform our approach in terms of harvesting our ocean resources for future export.

All this reminds me too of our 2012 Annual Conference in Europa Belfast next April 26th and 27th in the centenary year of the Titanic Story. All the TV channels this Christmas were starting to

remind us that all roads this April will lead to Belfast. Cork Port is also commemorating the first and indeed last visit of the Titanic to Cobh before its fateful voyage across the Atlantic in April 1912.

Our conference theme will be 'Engineering Enterprise in times of change'. It will deal with the linked themes of Manufacturing, Marine and Energy building on Belfast's great engineering traditions and playing to the city's regenerative strengths around the Titanic Quarter – once the Harland and Wolff Shipyard where the Titanic was built. There's an iconic new Titanic Signature Building which is really a Visitor / Interpretative Centre due to open in April 2012. There's a very impressive preview of it on 'Titanic Stories' website.



New Visitor Centre open April 2012 under construction
in Titanic Quarter in Belfast Harbour

So it's a message of hope as we head into the 2012 New Year. Let us play to our strengths in the engineering profession seeking out and developing new enterprise and research that leads to jobs. We engineers need to help shape the future - as if we stand idly by or fail to adapt to changing times - then events will inevitably shape us.

Happy New Year!

FRIDAY 20 JANUARY 2012

Engineers Ireland Annual Ball 2012

Some 600 people attended the Annual Engineers Ball in the Burlington Hotel last Friday night. It was a real celebration of the importance of the industry to the Irish Economy in terms of domestic employment and export of engineering services overseas.



Annual Engineers Ireland Ball Burlington Hotel 13th January 2012

In my short address of welcome (see speech below) I spoke of the challenges to the Irish Economy. I committed Engineers Ireland to help recreate 'an efficient dynamic better regulated economy. We know that as a country we have to change the way we do things. The Irish Engineering profession is both able and willing to change and develop, indeed to help engineer that change and to assist our national recovery in whatever way we can'.

I noted the recent statement from IDA Ireland that 47% of new foreign direct investment (FDI) jobs in 2011 require engineering and science skills including computing.



Professor Padraic O'Donoghue Chairman West Region, PJ Rudden President, John Power Director General

I urged support from our members and companies for two important events in 2012 - Engineers Week 2012 (Feb 27th to Mar 4th) and our Annual Conference in Belfast (April 26th/27th).

The theme of this year's Engineers Week is 'Connecting our Lives' where engineers will visit second level schools to show the importance of Maths and Science to Engineering.

The theme of the Annual Conference is 'Engineering Enterprise in Times of Change' which will coincide with the Titanic Centenary celebrations in April 2012 in Belfast.



Dermot Dungan Chairman Electrical & Electronic Division, Deirdre Jordan, Marie Dungan, John Jordan Chairman Midland Region

Companies who were present at the Annual Engineers Ball included CRH, ESB, Bord Gais, Shell, Sisk, Mercury, Irishenco, Roadbridge, Murphy, Irish Cement, Shannon LNG, Amey, Cold Chon, Colfix, Ecocem, Hegarty, Roadstone Wood, Farrans, Celtic Anglian, Wills, Arup, Roughan &

O'Donovan, O'Connor Sutton Cronin, Fitzsimons Doyle, Daire Byrne, Malone O'Regan, Clifton Scannell Emerson, Quigg Golden and RPS.

The organisation, decor, food and music at the Annual Ball this year was the best ever. Great credit is due to Shirley McDonald, Debbie O'Sullivan and Rosanne O'Leary of the Engineers Ireland staff for their organisational skills and of course to Domhnall Blair a member of our Council and Executive for his ever skilful Master of Ceremonies role.

Guests, Ladies and Gentlemen

It is my honour as President of Engineers Ireland to welcome you all and in particular Engineers Irelands guests to this year's Ball.

We have just finished one challenging year as a profession. In 2012 we face new challenges as the Irish economy struggles to recover from a Euro Crisis and other recession difficulties. We know that as a country we have to change the way we do things.

The Irish Engineering profession is both able and willing to change and develop, indeed to help engineer that change and to assist our national recovery in whatever way we can. We again commit ourselves to help create an efficient dynamic and better regulated economy. We will continue to promote the brand of Chartered Engineer greatly helped I can say by the much praised TV and Radio advertising campaign now underway.

We will not overcome our challenges tonight but we will celebrate another year of Excellence in Engineering. I will say no more as this is a not a night for speeches but for celebration - at our Annual Ball in the company of our family friends and colleagues many of whom we only meet here annually and long may those friendships remain.

My thanks to the staff of Engineers Ireland for the tremendous organisation that went into this event especially Shirley McDonald. Debbie O'Sullivan and Roseanne O'Leary and of course for Domhnall Blair's advice and support and to the Burlington as our venue once again.

Finally I strongly urge your active support for two particular events during 2012 – Engineers Week at the end of February when we showcase the importance of Engineering, Science, Technology and Maths. You might bear in mind that according to the IDA last week that almost half (47%) of all foreign direct investment jobs last year were in Engineering Technology which is Computing and Science. Secondly I want to highlight our Annual Conference in Belfast at the end of April during the Titanic Centenary celebrations. We hope as many of you as possible will travel to be with our Northern Region colleagues to share in the new beginnings that is the modern Northern Ireland.

I wish you all a very Happy New Year and an even happier night ahead.

Thank You and have a great night. Gura Maith aghaibh.

PJ Rudden

13th January 2012

MONDAY 30 JANUARY 2012

Gaming Computing Excitement in Athlone IT

Last week I was pleased to visit the new Engineering School at Athlone IT. I was met on arrival by the Head of the Engineering School Austin Hanley. The tour of the School was conducted by Fergal Sweeney Head of Dept of Civil, Construction and Mineral Engineering, Joe Lawless Head of Dept of Mechanical Engineering and Marcus Rahilly Head of Dept of Electronics Computer and Software Engineering.

Athlone IT is the Third Level College of the Midlands Spatial Hub (Athlone Mullingar and Tullamore) and has close links with local industry. A new state of the art Engineering and Informatics Building opened in 2010. The new 11,000 square metre facility is a landmark on campus having won the RIAI award for Best Educational Building in 2010. The Engineering College has classrooms wired for both way remote transmission for teaching purposes.



Athlone IT Engineering and Informatics Building

The Midlands Innovation and Research Centre was established by Athlone IT as a converging hub for innovation, research and enterprise in the Midlands. They are now recruiting for the next Midlands & West Enterprise Programme (MWEP). An example of this local entrepreneurship supported by MWEP is Ann Marie Durkin's company Shasta developing unique and innovative baby products. Ann Marie says 'The MWEP greatly assisted Shasta by structured training and support in the key commercial elements of setting up and running a successful business while AIT has provided the research capability to develop our products from concept to successful commercialisation.' (<http://www.ait.ie/>)

Among the niche courses offered by the Engineering School in Athlone IT are a series of BSc Hons degrees in Software Engineering, in Software Design (Game Development), in Computer Network

Management & Cloud Infrastructure and in Software Design (Web Development). In my view these courses are critical to our economic survival in Ireland when we hear from ICT Ireland that there are currently some 3000 vacancies for software engineers in Ireland which we are unable to fill. The Athlone IT initiative is therefore leading to real job creation.

Engineers Ireland has a real interest in Computing Engineering and have recently strengthened our Computing Division under the chairmanship of our Past President and leading innovation entrepreneur Dr Chris Horn.

One of the major growth areas in computing is in Gaming where product design requires an depth knowledge of statistical and probabilistic mathematics. This is also an area of real interest to Engineers Ireland. For that reason we included it in our recent TV advertising Campaign for Chartered Engineer 'Will You Come With Me Bringing Dreams to Life for You and Me' where we show software engineers in the gaming industry.

I was intrigued during my visit to Athlone IT to have been shown some gaming devices by Dr Mark Daly - 'hexbug nanos' - these are robotic creatures that react to sound and touch - constantly changing direction in random pattern. Also I was introduced to the 'Finch robot' designed for computer science education with light, temperature and obstacle sensors.



Dr Mark Daly Athlone IT demonstrates the operation of a Hexbug Nano and a Finch robot (white colour on the table) to PJ Rudden

I left Athlone IT with the sense that they are at the cutting edge of Enterprise and Job Creation which augers well for the Midlands Region going forward. I understood that the School are also exploring the possibilities of forming “research clusters” with Northern and Western ITs in the Border Midlands and West (BMW) Region.

THURSDAY 2 FEBRUARY 2012

Civic Welcome to Carlow

On a visit to Carlow last week I was honoured with a Civic Welcome in Carlow Town Hall by the Council Chairman Tom O'Neill MCC on behalf of the Carlow Local Authorities. I was visiting Carlow on a very busy round of engagements organised by Carlow County Council Director John Carley on behalf of the South East Region of Engineers Ireland. I also unveiled a monument in the town to former Trinity Professor of Biomedicine Samuel Houghton a native of Carlow town. I also did interviews with Carlow local radio in both English and Irish. My primary objective in coming to Carlow was to support Carlow County Council, Carlow IT and local industry all of whom are working in partnership to create local jobs.



Carlow Town Council Chairman Cllr Tom O'Neill MCC making presentation to PJ Rudden on behalf on the Carlow Local Authorities in Carlow Town Hall. Also in attendance from left to right Tom Barry Carlow County Manager, Damien Owens Registrar Engineers Ireland, Cllr Jennifer Murnane O'Connor MCC, Brian O'Leary Associate RPS, John Carley Director of Environment Carlow County Council, Dan McNerney Director of Transportation, Cllr Eileen Brophy, Aisling Buckley Resident Engineer RPS, Dr Norman McMillan Secretary National Science and Engineering Commemorative Plaques Committee, Mrs McMillan, Deputy Pat Deering TD, Joe Towey Wills Bros Contractors, Charles Wills of Wills Bros Contractors, Sean Laffey Senior Engineer Carlow County Council, Gavin O'Donovan Associate RPS and Kevin Power Director RPS.

The morning started with a visit to the new Merck Sharp & Dohme plant. I was accompanied by Damien Owens Registrar of Engineers Ireland and John Carley Director of Environment and Water Services in Carlow County Council. We were greeted by the General Manager Bryan Murray and brought on a tour of the plant by Kevin Dempsey Environment Health and Safety Manager. It is a very impressive state of the art manufacturing facility for vaccines against a range of human medical conditions.



Visiting Merck Sharp & Dohme Left to Right Sean Laffey Senior Engineer Carlow County Council, PJ Rudden President of Engineers Ireland, John Carley Director of Services, Carlow County Council, Damien Owens Registrar Engineers Ireland and Kevin Dempsey Manager Merck Sharp & Dohme

We then proceeded to Carlow IT to be greeted by the Head of Engineering David Denieffe who conducted a tour of the school assisted by Edwin Landzaad Head of Built Environment Department and Eugene Carbery Head of Electronic, Mechanical and Aerospace Department which included a visit to the Aeronautical Research Centre. The Student Centre also houses an extremely impressive range of sporting and leisure facilities for students. Carlow IT is hoping to join with Waterford IT to form a South East Technological University. It was the first IT in Ireland to get accreditation of its Engineering course from Engineers Ireland.



In the Aerospace Department of Carlow IT David Denieffe Head of Engineering Carlow IT, Roddy McNamee Lecturer in Aviation, John Carley Director of Carlow County Council, PJ Rudden President of Engineers Ireland and Damien Owens Registrar Engineers Ireland.

Then we proceeded to the Town Centre to unveil the relocated Houghton monument in the presence of the Town Council Chairman Councillor Tom O'Neill MCC. Reverend Samuel Houghton (1821-1897) was born in Burrin Street Carlow and distinguished himself firstly as a student of mathematics and science. He was a Fellow of Trinity College at the age of 23 and Professor of Geology at the age of 30. He then worked in the biomedical field and became “the father of modern biomechanics” according to the current Provost of Trinity Professor Patrick Prendergast.



After unveiling the Houghton Monument left to right
PJ Rudden, John Carley, Council Chairman Tom O'Neill and Dr Norman McMillan

Then onto the Town Hall for a Civic Welcome from the Carlow Local Authorities by Town Council Chairman Tom O'Neill MCC and County Manager Tom Barry. Local Carlow TD Pat Deering was also present together with Councillors Eileen Brophy and Jennifer Murnane O'Connor. Also attending were staff from Carlow Town Council, Carlow County Council, Wills Bros Contractors and RPS Consulting Engineers. I was presented with a beautiful ceramic depiction of the roman arch and gate entrance to Oak Park Agricultural Research Centre in Carlow.

In my response to the Council Chairman, I congratulated the Carlow Local Authorities for their forward planning vision which continues to facilitate new large scale high tech industrial development like Merck Sharp and Dohme together with new infrastructure like Carlow Main Drainage both of which are a huge investment to assist future economic growth and jobs for Carlow Town and County.

After lunch, we visited Carlow Main Drainage and Flood Relief Project which is nearing completion. It was designed by RPS to prevent a severe flood in 2008 from recurring in the town. The August 2008 flood caused the River Barrow to burst its banks and to flood parts of Carlow Town Centre to a depth of 2 metres. Some 100 people had to be evacuated from their homes. This €20million Flood Relief project was built by Wills Bros Contractors, Foxford, Co. Mayo involving reconstruction of the river channel with new training walls and the creation of new parks and amenities over many of the storm interceptor sewers.



Viewing the new flood protection measures along the River Barrow as part of Carlow Main Drainage – PJ Rudden, Charles Wills, Kevin Power and John Carley

Finally John Carley and I were invited by Sean Laffey Senior Engineer to visit the very impressive VISUAL Arts Centre built by Carlow Town Council under Sean's supervision. It is a hugely impressive building surfaced entirely in glass in the grounds of St. Patrick's College with modern theatre and display facilities. There I had the pleasure of meeting sculptor artist Eileen McDonagh whose stone works were on display. Eileen's exhibition 'Lithosphere – New and Retrospective Works' is to be opened next Sunday 5th February at 3.30pm by Sinead Dowling Carlow Arts Officer. (Art lovers of Carlow and surrounding counties please take note!)

I had spent a very busy day from daybreak to dusk in Carlow Town – by far my busiest day of my year as President to date. It was a very enjoyable and memorable visit among the industrious resilient people of Carlow who continue to develop and grow their town in the face of recessionary pressures. I wish Carlow Local Authorities well in the years ahead. My sincere thanks to John Carley and the Carlow Local Authorities.



Sculptor Eileen McDonagh amongst her granite stone pieces at VISUAL Arts Centre in Carlow

FRIDAY 10 FEBRUARY 2012

Max Abrahamson lecture on Construction Law

We were greatly honoured that Max Abrahamson eminent Construction Lawyer across the English speaking world kindly agreed to give us a lecture on 'Getting the Best from the Public Works Contract and Conditions of Engagement'. The lecture was chaired by Ciarán Fahy Chairman of the Engineers Ireland Disputes Resolution Board and podcast also.

Max commenced the practice of advising on construction contracts in the 1950s and is the author of the standard English textbook on Construction Law which we all studied at college in the 70s 80s and 90s. He is an active consultant in McCann Fitzgerald one of the largest and most successful firms of solicitors in Dublin. He is also an Honorary Fellow of Engineers Ireland.



Pictured before the lecture in the President's Room were Ciarán Fahy Chairman of Engineers Ireland Disputes Resolution Board, Max Abrahamson Lawyer and Honorary Fellow Engineers Ireland and PJ Rudden President of Engineers Ireland

There was a record attendance well beyond the capacity of the Lecture Theatre and many dozens also joined from another room and by podcast. Many professions attended in person or remotely including engineers, architects, surveyors and lawyers.

Max reflected on his career and on the many challenges faced in balancing the construction contract risks fairly between Employers, Engineers and Contractors. He commented on the pros and cons of the 'lump sum fixed price' contracts embedded in the new Government Form of Contracts in recent years.

After thanking Max for his unique contribution to Engineers Ireland over many decades I asked him 'When is a lump sum contract not a lump sum? Does the lump sum still hold if the project scope

alters?' His reply was classic 'A lump sum is of course a lump sum unless you happen to have a very good lawyer!'

Thank you Max for an interesting and inspiring lecture appreciated by a record attendance in Engineers Ireland.

TUESDAY 14 FEBRUARY 2012

Visit to Great Britain Region

Last week both John Power and I went to London to visit the Great Britain Region of Engineers Ireland. As in previous years the Institution of Civil Engineers (ICE) very kindly gave the use of one of their rooms in Westminster for my Presidential Address to the GB Region.

There to greet us was the Engineers Ireland local Chairman Don Keigher and Vice Chair and Secretary Dr. Katherine Cashell and many of our members in the GB Region. This Region is in fact currently growing with many more Irish members which is not surprising in the current economic climate in Ireland.

I am a Fellow of ICE so was delighted to see their elegant period offices again. I was also honoured that the ICE President Richard Coackley and two of his Vice Presidents Alan Stilwell and Tim Broyd and Director of Membership David Lloyd-Roach all attended the Address and hosted us to dinner afterwards. Also present was Jon Pritchard CEO of the Engineering Council which regulates all chartered engineering Institutions in the UK. Richard also had with him two of his President's Apprentices – Angela Crowther and Yan Zhou. He has 6 Apprentices who are chosen young graduates who compete for the role and who shadow the President at his events for the year and obviously learn a great deal.



Pictured at Institution of Civil Engineers (ICE) London at the Presidential Address to the Great Britain (GB) Region of Engineers Ireland were Don Keigher Chairman of the GB Region, P J Rudden President of Engineers Ireland and Richard Coackley President of the Institution of Civil Engineers

My address 'Building a Sustainable Recovery' concentrated on the ambition of Engineers Ireland to help regrow the Irish economy. We are doing this in a number of ways including helping with the

teaching of Leaving and Junior Certificate Mathematics, supporting the engineering research efforts of our Third Level colleges and highlighting the critical role that Chartered Engineers are playing and can in the future play in the growth of the Irish economy.

I noted that our education in Ireland system has always been the key driver of our competitive advantage. That system is currently challenged to produce the learning outcomes and careers which the modern world now needs in terms of collaborative team building, communications and problem solving skills - these skills abound in the engineering profession and therefore we engineers have a unique opportunity to help rebuild our ailing economy through innovation and enterprise in our chosen field.

Apart from education I also dealt with the delays to infrastructure projects in the planning system in Ireland and the ever increasing need to communicate 'project need' with stakeholders and the general public.

Finally I showed the Engineers Ireland TV advert on 'Chartered Engineers - Bringing Dreams to Life for Me and You' launched last autumn and due to run on Irish TV and Sky networks for the next 3 years. The ICE President was most taken with the advert as he had heard about it from one of his members when in Hong Kong recently. After the Address, I met many of the Irish engineers who have come to London in recent years, mostly from Cork, Kerry, Galway and Sligo. I was reminded of what I said about our engineering graduates abroad in my Inaugural Address last May – ‘that they will in time return to a more prosperous Ireland in a couple of years time – that is the challenge we now face’.

As John and I left London, we felt terribly proud of our young graduates in London and indeed our entire GB Region led so ably by Don and Katherine. They deserve and will get from Engineers Ireland our maximum support in the years ahead.

FRIDAY 17 FEBRUARY 2012

Cork Region Annual Dinner

Last Friday night it was my pleasure to attend the Cork Region Annual Dinner together with John Power our Director General. Hosted by Cork Region Chairman Dr Jim Robinson we had Minister for Agriculture and Marine Simon Coveney as Special Guest and former University of Limerick President Ed Walsh as Guest Speaker.

We were also honoured by the presence of the Mayor of County Cork Cllr Tim Lombard and Cork City Deputy Lord Mayor Cllr John Kelleher. Among the guests also was the Cork County Engineer Noel O'Keeffe.



Pictured at Cork Region Dinner were
P J Rudden President of Engineers Ireland, Simon Coveney Minister for Agriculture and the Marine and Dr Jim Robinson
Chairman of the Cork Region of Engineers Ireland

There was an excellent attendance from the Region greatly helped I would say by the excellent venue - Maryborough House Hotel in Douglas, where the staff were attentive to a very noticeable degree - this venue will survive the recession no matter what!

The speeches were short and generally to the point. The Minister rightly decried the public and political 'who - ha' over household charges for domestic septic tanks, as if we have any choice but to protect the quality of our current and future water environment! He gave encouraging figures on our improving financial reputation on the European bond markets resulting from the necessary austerity measures taken in Ireland.

Ed Walsh was controversial in his remarks as usual, most of which I agreed with but I take issue with him on the value of the Public Service, the value of which cannot be underestimated. There is a constancy to the public service which is owned by the People and which I greatly admire. It is driven by long term public advantage and not driven by short term agendas which really don't serve the public interest.

In my response on behalf of Engineers Ireland I recognised the value of local industry in the Cork Region in the Pharma and Food sectors and the push on continued infrastructure development in the City Environs and County including the newly approved Lower Harbour Sewerage Scheme and new sewerage and flood relief schemes in Bandon and Skibbereen in particular.

I spoke about the need to fully develop the value of our ocean resources around the Irish coast and mentioned the recently published ISLES Report by the Irish NI and Scottish Governments as the seminal report on development of Ireland's ocean resources. I looked forward to my visit to UCC the following week in this regard.

I concluded by referring to my visit two nights previously to London where I met the Great Britain Region of Engineers Ireland led in part by Cork graduates and how proud I was of them developing new engineering enterprise in UK plc environments (e.g. Carillion plc) and academia (e.g. Imperial College London). Finally I referred to the fact that 5 out of 7 Excellence Awards went this year to the Cork Region.

The Cork Region is our strongest in Engineers Ireland (Dublin has no 'region' as such) and we continue to support the great work they are doing in the Region on their own initiative in Education, Continuing Professional Education and building our profile locally and nationally.

MONDAY 20 FEBRUARY 2012

Growing the Success of Kerry Engineering Business

I spent a truly remarkable night last Wednesday with An Ríocht chairing a meeting in Tralee IT on the Contribution that Small to Medium Enterprises (SMEs) can make to Economic Growth and Job Creation. It was the Keynote Lecture of the An Ríocht lecture series called “The Growth and Success of Engineering Business in Kerry.”

We had a panel of four SMEs from diverse areas of the local Kerry Economy. They all had one notable feature in common though - they all operate in current growth areas of the National Economy in terms of either indigenous enterprise or export led growth.

We were all welcomed by the Chairman of the An Ríocht Region Nigel Kenny who introduced the Panel and then handed over to me as Chair. There was a truly excellent attendance on the night described by one of the locals as a typical crowd for a Regional Lecture.

First up was Joe Cahill of Altobridge who outlined the company's development from small beginnings in 2002 to develop the world's first commercial GSM service on passenger aircraft and deep sea merchant maritime vessels globally. They now operate mobile phone networks in the remotest parts of Africa Asia and South America in countries like Malaysia Indonesia and Mongolia. Altobridge have won international awards from the Wall Street Journal and the World Economic Forum. Their Chairman is former Tánaiste and local TD Dick Spring.



Speakers at the An Ríocht Region Keynote Lecture were left to right Thomas Fitzmaurice of TLI Group, Joe Cahill of Altobridge, Edmond Harty of Dairymaster and Peadar O’Loughlin of OES Environmental with Region Chairman Nigel Kenny and President PJ Rudden

Peadar O'Loughlin of OES Environmental has created a consultancy service for the local market specialising in the Energy Environment and Safety sectors. Set up in 1999 the company have build up strong Client partnership across a broad spectrum of organisations and businesses. Peadar also correctly emphasised the importance of communications in dealing with infrastructural projects. He and his partner Director Brona Tennyson work mostly in the energy sector in terms of wind and biomass and also do environmental impact assessments and monitoring. Their Chairman is local businessman Hugh Friel of the Kerry Group.

Thomas Fitzmaurice of TLI Group operate in another growth area - providing consultancy for the ESB since 2000 in overhauling and upgrading overhead power lines across the country. His contracts involve securing planning permission, design, construction, refurbishment and maintenance of renewable generators and windfarm network connections to the national grid. Thomas described his principal project offering which has given them a competitive advantage in winning work - 'attract business by perfecting a safe working environment'. In this way he has diversified into 6 sectoral areas to service a current demand in the Irish economy - TLI Power, TLI Wind, TLI Civils, TLI Water Metering, TLI Home Energy and TLI Technologies. TLI Group are now truly a multi utility infrastructural consultancy and construction company nationally.



Engineers Ireland President PJ Rudden with An Ríocht Region Chairman Nigel Kenny and the Region Committee at the Keynote Lecture "The Growth and Success of Engineering Business in Kerry"

Engineers Ireland President PJ Rudden with An Ríocht Region Chairman Nigel Kenny and the Region Committee at the Keynote Lecture "The Growth and Success of Engineering Business in Kerry"

Edmond Harty of Dairymaster is the longest established and is one of the world's leading dairy farm equipment manufacturers. In existence for some four decades, its core product is the 'computerised dairy parlour' which facilitates accurate data recording, collection and analysis. Dairymaster produces almost 95 per cent of its products internally - from rubber mouldings to computerised keypads! With Food Harvest 2020 Strategy requiring a 50 per cent increase in milk production to feed growing Asian markets I can see that Dairymaster is well prepared for indigenous as well as

export growth. We saw photographs of circular milking parlours installed all over the world where the manure collection and storage/treatment is well isolated from the hygienic milk production area and is automatically controlled and recorded. The Diarymaster ClusterCleanse rinses each cluster after each cow is milked. This results in a more hygienic cluster for the next cow cutting down on the risk of infections and giving you a healthier herd and better milk. Ed called it 'turning your dry cows into cash cows'. I heard terms like 'Swiftflo Swing', 'Supershed' and even the use of a 'MooMonitor' which was depicted as 'a revolution in animal heat detection' I will leave the rest to your imagination!

As I listened to the 4 Kerry based SMEs I felt that they needed a national stage on which to showcase their various expertises. So watch this space for a reappearance of the Kerry SMEs at a Dublin venue in the near future!

Every congratulations to Chairman Nigel Kenny, Committee Members Trevor Barrett and Michael Sheehy for all their hard work to stage the event and continued success to An Ríocht Region in the years ahead.

WEDNESDAY 22 FEBRUARY 2012

Visiting Tyndall Institute and Making Waves in UCC and the Naval Service

On Thursday last John Power and myself travelled to UCC for a day's engagement at the invitation of Professor Michael Murphy President of UCC and Professor Pat Fitzpatrick Head of College of Science Engineering and Food Science and fully organised by Dr Michael Creed Head of the School of Engineering.

It was a very interesting and diverse day which started in the Engineering School and ended in Ringaskiddy where the new Irish Marine Energy Research Centre is planned for construction directly beside the National Maritime College of Ireland.

We first met Michael Creed who explained the overall structure of the School to us and introduced us to the Professors and Lecturers in the various departments many of whom are relatively new. The three new Professors are Prof Tony Lewis Professor of Energy Engineering, Prof Nabeel Riza Professor of Electrical and Electronic Engineering and Prof Alistair Borthwick Professor of Civil and Environmental Engineering all of whom were most helpful and enthusiastic to see their respective departments grow and prosper in terms of learning and research.

Michael Creed gave us an overall presentation that clearly showed the numbers taking Civil in first year has dramatically fallen while Electrical and Electronic remain strong and not surprisingly the numbers taking the BE Degree in Energy are rising. Process and Chemical numbers are rising slightly too roughly equating to the Civil numbers currently.



University College Cork
Courtesy of www.ucc.ie

18% of all students are female which is interesting and an obvious concern to UCC. I was glad to hear of that concern which was actually again voiced to me in UL on the following day. Both colleges think that Engineers Ireland need to do more to deal with this gender issue. We are in fact doing a lot in this regard and will continue to strive harder - for instance our new TV advertising campaign shows 50% gender balance and half of our permanent Directors reporting to John Power Director General are female.

Of course the really big issue is Third Level funding as a 20% cut to State funding is now projected to 2015. The proposed solutions are to increase students or reduce staff numbers. The markets for increased student intake are China, India and the US. This is a huge challenge as a 300% growth in student numbers are needed to offset a 20% reduction in state funding!

We then visited the now famous Tyndall Institute which is part of UCC where we were greeted by its CEO Professor Roger Whatmore and Head of Graduate Studies Professor Jim Greer. Tyndall is Ireland's largest Research Institute. I undertook to visit it in my Presidential Address 'Building a Sustainable Recovery' last September. We were shown around the extensive laboratories in nanoelectronics (a nanometer is one billionth of a metre) photonics (the generation and sensing of light) and silicon wafer fabrication for computing applications.



Pictured at the Tyndall Institute were Professor Jim Greer Head of Graduate Studies, PJ Rudden President Engineers Ireland, Professor Roger Whatmore CEO Tyndall Institute, John Power Director General Engineers Ireland and Dr Michael Creed Head of UCC School of Engineering

The Institute was named after the Carlow born scientist who worked mainly for the Ordnance Survey in Cork before emigrating to the UK. In London he actually succeeded the scientist Michael Faraday (founder of electromagnetic induction) as Superintendent of the Royal Institution.

The laboratories and equipment are state of the art thanks to very serious and necessary Government led research funding for innovation and enterprise in recent years. I remarked to Roger on Queen Elizabeth's visit last May and he replied 'Funny as an English scientist I probably would never have met the Queen but because I was lucky enough to come to Cork I got to spend an hour with her during her visit here'.

We then visited the Irish Marine Energy Research Centre (IMERC) under UCC Professor Tony Lewis where we saw the National Wave Energy Test Tank Facility in its temporary location prior to permanent relocation to Ringaskiddy.

The permanent IMERC facility will be the planned Beaufort Laboratory under Director Valerie Cummins adjacent to and in partnership with the National Maritime College of Ireland run by the Irish Naval Service. In fact IMERC is a research campus jointly run by UCC, CIT and the Naval College. There we had the pleasure of meeting the Head of the Irish Naval Service Commodore Mark Mellett and the President of CIT Dr Brendan Murphy who was conferring a number of naval cadets that afternoon.



National Maritime College of Ireland

We also had the very memorable experience of a tour of the Irish Maritime College by naval officer Lieutenant Niamh Ni Fhatharta who is IMERC Strategy Coordinator for the Irish Naval Service. The highlight of Niamh's guided tour of the facility was the bridge of the world's largest simulation ship from where we sailed into Sydney Harbour in very challenging weather conditions! I had been in Sydney Harbour myself in 2005 and really thought I was back there or thought perhaps that I had died and gone to heaven! Thank you Niamh!

We left Cork after a wonderful set of very different educational experiences which are quite unique to Cork and to UCC Tyndall and IMERC/Irish Naval Service.

Many thanks to Dr Michael Creed and all at UCC!

MONDAY 27 FEBRUARY 2012

Visit to Limerick Tunnel and University of Limerick

On Friday 17th February I visited the Thomond Region of Engineers Ireland hosted by its Chairman Kieran Horgan accompanied by Dr Peter Tiernan Engineering Lecturer in UL and Seamus Barrett Assistant Chief Fire Officer in Limerick County Council. A packed agenda for the day had been organised between Kieran Horgan and Dr Con Sheahan Senior Lecturer in the UL Enterprise Research Centre.

We started early in the morning at the Limerick Tunnel Traffic Control Centre where we were briefed by Eoghan O'Sullivan of Direct Route (consortium of Lagan Roadbridge Strabag) who designed, built and operate the Tunnel.



At Limerick Tunnel Control Centre Seamus Barrett Limerick County Council, Kieran Horgan Chairman Thomond Region, PJ Rudden President Engineers Ireland, Dr Peter Tiernan UL Mechanical Engineering Lecturer and Eoghan O'Sullivan Operations Manager Lagan Projects (Operations of Limerick Tunnel)

On the many CCTV screens we could see the early morning traffic in both directions through the tunnel and the on and off ramps of the local interchanges. One can only imagine what the traffic in Limerick would have been like that morning without the tunnel which is a great example of infrastructure that has transformed the lives of people not only in Limerick but in the whole Mid West Region. In addition to providing an essential new crossing point of the Shannon, the tunnel also allows north south traffic from Cork and Kerry to bypass the city to the west and onto Galway and the North West. Infrastructure like this also does enormous good for industrial and regional development including tourism which is one of the growth areas helping to fuel our national recovery.

At the Tunnel Traffic Centre Eoghan gave us interesting insights into driver behaviours which we could see on screen and which in every way challenge road safety. I thought that the recent media

coverage of Garda statistics showing motorists unwittingly driving in the wrong direction on our dual carriageways was exaggerated until I saw some of the historical footage at the tunnel but it's every bit as bad as the Gardaí describe!

From the Tunnel we proceeded on to University of Limerick School of Science and Engineering where we were greeted by Professor Kieran Hodnett Dean of Science and Engineering and his Professors and Lecturers. They included Professor Tom Cosgrove of Civil Engineering, Professor Tom Coffey of Electronic and Computer Engineering and Professor Michael McCarthy of Mechanical and Aeronautical Engineering. At UL I was joined by the Registrar of Engineers Ireland Damien Owens.

In his introductory remarks, Kieran welcomed Engineers Ireland to UL and talked of his pride in UL and his pride in the region. In civil engineering terms he mentioned the fact that when the River Shannon which now literally flows through the college flooded extensively in recent years that all of the UL buildings on the banks of the Shannon were unscathed as they had been wisely designed and built above the flood level.

We then went on to discuss a number of separate topics all relevant to UL and to Engineers Ireland

- The need for greater clarity on the learning outcome requirements for CEng - a number of departments (Electronics/Robotics and Aeronautical Engineering) want a Masters Level 9 requirement and nothing less because they say that the international industries they supply with graduates have that requirement also.
- How to raise the visibility and profile of Engineers and our role in Society - Engineers Ireland were complimented on the new TV Advertising Campaign for Chartered Engineer
- The importance of CPD in the continued learning process of Engineers and the role that Third Level can take to assist Engineers Ireland in this regard
- The need for greatly improved gender balance in Engineering (also raised with us in UCC School of Engineering on the previous day so it is clearly exercising the minds of Third Level)
- The importance of the Springboard Programme initiated by the Higher Education Authority to facilitate greater skills conversion at Third Level
- The need for Engineers Ireland to keep the pressure on the political system to ensure the success of Project Maths and to maintain current assistance levels to existing Second Level students and teachers (UL similar to NUIG have their own Entrance Exam in Honours Mathematics for the School of Engineering which they accept instead of the Leaving Certificate results)

Dr Ann Ledwith of the UL Enterprise Research Centre gave us a presentation on the strong interface with industry in the growth areas of the economy e.g. cloud computing and manufacturing through e-learning and distance learning. She instanced a request from industry to produce a new BSc in Engineering Science to service a cohort of employees the following autumn which UL were able to accommodate and thus get much closer to the particular academic needs of that growth industry. There's little doubt that the commercialisation of industrial research was pioneered in UL since its foundation under Dr Ed Walsh as its first President. Now it is very correctly a national priority for the entire Third Level sector and National Research Institutes.

We also heard about the 'student centred approach' to interactive learning in the Civil Engineering Dept from Declan Hughes Course Director - which I will return to see in detail! Also I was delighted to visit the Aeronautical Engineering laboratories with Prof Michael McCarthy and to hear that all of this years final years have jobs with Boeing, British Aerospace and other major international firms.



PJ Rudden President of Engineers Ireland with student building scaled model in UL Aeronautical Engineering Laboratory

I also visited the Materials and Surface Science Institute (MSSI) with Dr Peter Tiernan. This is obviously a well resourced research area in UL and they have had a large number of industrial 'spin outs' leading to significant job creation for Irish graduates. A new extension to the MSSI facility has just been approved for an additional 2,400 sq metres of laboratory and research space.



Student of UL Mechanical Engineering showing surface engineering samples to Dr Peter Tiernan UL, PJ Rudden President of Engineers Ireland and Kieran Horgan Chairman of Thomond Region

I then visited Professor John O'Donoghue of the UL National Centre of Excellence for Mathematics and Science Teaching and Learning (NCE-MSTL). This is the national organisation assisting the Regional Education Centres to up skill Second Level teachers in the new Project Maths curriculum. Tom Cosgrove, Con Sheahan and I discussed the challenge of Project Maths with John O'Donoghue. John spoke of the need to characterise and conceptualise mathematics to improve learning. In Finland, he stated that the best international performance is due to strong cultural support from parents in addition to a high level of teacher education to Masters level. Giving context to Maths he said was like 'making connections' to the real world application – exactly where Engineers are good at!



Pictured at UL Seamus Barrett Limerick County Council and Treasurer Thomond Region, Dr Con Sheahan UL Enterprise Research Centre, PJ Rudden President Engineers Ireland, Declan Phillips UL Civil Course Director, Professor Tom Cosgrove UL Department of Civil Engineering and Kieran Horgan Chairman of Thomond Region

Finally we had a session on Problem Based Learning with Professor Tom Cosgrove and Declan Phillips who demonstrated that ‘traditional lecture based instruction is ineffective’ and illustrated the ‘reflective methods’ used in the Civil Engineering Department. ‘Design is a basic hunger to improve the world’ Tom maintained. The Civil Engineering course is now geared towards Energy, Environment & Infrastructure – all growth areas of the economy.

I left UL with the clear impression that their courses and teaching methods are innovative towards the changing markets that will challenge the engineers of today and tomorrow.

WEDNESDAY 29 FEBRUARY 2012

Launching Engineers Week with Infrastructure Update Report

Engineers Week was launched by Mr Pat Rabbitte TD, Minister for Communications, Energy and Natural Resources on Monday morning last with the publication of 'The State of Ireland 2012 - A Review of Infrastructure in Ireland' report by Engineers Ireland.



Pat Rabbitte TD, Minister for Communications Energy and Natural Resources launching the Engineers Ireland Infrastructure Report as part of Engineers Week together with PJ Rudden President Engineers Ireland and John Power Director General Engineers Ireland

The report states that Ireland struggles to meet peak demand in the infrastructural areas of transport, water and waste which all require significant investment and better maintenance. Ireland's regional communications infrastructure is improving but overall country-wide deficiencies in this area still hamper producer and consumer needs.

In launching the Report Minister Rabbitte stated that 'As my portfolio across energy, exploration and communications, I have some appreciation for the important role that infrastructure plays in our everyday lives and I also appreciate that engineers make infrastructure. Ireland needs to engineer its way to the knowledge-based society that we all agree is our future. We need more engineers. We need them now and we need them in the future. We need schools to make Maths and Physics interesting and we need more people to choose engineering as a career. That's why I welcome the initiative that is Engineers Week. It's a week of activities all over the country intended to capture the imagination of our young people'.

John Power Director General summarised the report by outlining the grading system given to infrastructure in Ireland with respect to Energy, Transport, Water and Flooding, Waste and Communications in 2012 as respectively B, C, C, C and B-. 'Capital investment is vital to meet the

Government's desire to stimulate the economy and meet its stated job creation objectives outlined in the Action Plan for Jobs. Crucially vital skills are being lost to the Irish economy and the Irish construction industry through the absence of major infrastructural projects' he stated.

In thanking the Minister for launching the Report I agreed with him that despite the downturn in the economy that now was not the time 'to take the foot off the pedal' as far as the provision of infrastructure was concerned. We needed to create a greater awareness in society of the role that engineers played and instanced the IDA Ireland report from last month that 47% of the new jobs created in 2011 were from the engineering sector in computing, pharma and biomedical engineering. Even as I spoke 200 pharma science jobs and engineering jobs were being announced by Eli Lilly at a total investment of €330million in Kinsale County Cork by Richard Bruton Minister for Jobs, Enterprise and Innovation that morning.

Engineers Week is packed this year with some 255 events nationally. After the launch John Power and I travelled north to Belfast for the Sir Bernard Crossland Lecture in Queens University. The title this year was 'Building Business in Belfast, Bangalore and Beijing'. The speakers this year were Philip Gilliland Partner at Caldwell & Robinson Solicitors Belfast and Pugalenthi Pandian Centre Manager for Schlumberger Europe in Belfast.

Each showed how companies from Northern Ireland can compete on a global stage and how they can develop a share in emerging markets with a particular focus on Asian economies. Philip in particular felt that the recent visit of Xi Jinping Vice President of China to Ireland would have very positive impacts on future prospects for Ireland as a gateway to Europe for our goods and services.

Tonight we have the McLaughlin Lecture on Moore's Law by Liam Madden Corporate Vice President of Xilinx inc. a graduate of UCD engineering and Cornell who is based in San Francisco. Moore's law named after the founder of Intel describes a long-term trend in the history of computing hardware whereby the number of transistors that can be placed inexpensively on an integrated circuit doubles approximately every two years.

Tomorrow, volunteers from Engineers Ireland visit Second Level schools all over Ireland to highlight the importance of Maths as a basis for engineering. This will support the new Project Maths curriculum currently being rolled out in all secondary schools.

MONDAY 5 MARCH 2012

Exciting New Future beckons for UCD Engineering Schools

I recently visited each of the 5 new Engineering Schools in UCD now reconstituted into a new College of Engineering and Architecture under Professor Gerry Byrne as College Principal and Dean of Engineering. UCD has always been Ireland's largest engineering college in terms of student numbers and is likely to remain so.

The UCD College of Engineering did not realise its full potential in the reorganisation of UCD some years ago but now has the opportunity to really shine in terms of national development and recovery. I'm confident that the newly reorganised College will be a greater national and international force in Engineering than the sum of its parts. All 5 branches of Engineering have now been brought together as 5 new Schools. They have been appropriately renamed to reflect their skills and current market demands. Having visited each of them recently and having met the 5 distinguished and enthusiastic Heads of School and many of their staff I don't hesitate in saying that no Third Level Engineering School in Ireland has as much depth and diversity of expertise across all of the engineering disciplines as UCD. The 5 new Schools are School of Biosystems Engineering, School of Chemical and Biochemical Engineering, School of Civil, Structural and Environmental Engineering, School of Electrical, Electronic and Communications Engineering and School of Mechanical and Materials Engineering.



UCD College of Engineering Belfield
(Image courtesy of www.ucd.ie)

The School of Biosystems Engineering is headed by Professor Francis Butler. This is a most diverse School covering Food, Agriculture, Environment and Sustainable Energy. It has three major research areas - Food & Process Engineering, Biomass to Energy and Bioenvironmental Engineering. Apart from the BE leading to ME, it has MSc degrees in Sustainable Energy and Green Technologies, Bioresource Technology, Public Health Engineering Technology and Food Safety and Risk Analysis. This School previously headed by Professor Shane Ward takes a very holistic approach to industrial needs and has a multidisciplinary approach feeding into the UCD Institute of

Food Science which is a campus wide initiative. The School also hosts the Bioresources Research Centre (BRC) run by Dr Kevin O'Donnell at UCD which seeks to deliver innovative solutions in the 'biomass to energy' domain and is the recipient of the Charles Parsons Energy Research Award for biomass research. In the environmental area Professor Nick Holden is very active in Life Cycle Analysis as is Dr Enda Cummins in Food Safety and Risk Analysis.

The School of Chemical and Bioprocess Engineering is headed by Professor Don McElroy. Graduates of the School today are engaged in technologies such as synthetic pharmaceuticals, fuels (incl renewable energy resources), polymeric and inorganic materials, fine chemicals, processed foods and beverages. Currently the UCD chemical engineers go 25% to pharma, 15% to general process, 25% to chemical processing, 20% into consulting, 15% into business. Major areas of research currently in UCD are Solar Energy Nanotechnology and Biopharma Engineering. In 2011, a pharmaceutical research and technology company APC Ltd a spin off company owned by Professor Brian Glennon and Dr Mark Bennett of the UCD Chemical and Bioprocess Engineering School won the Nova UCD Start Up Award. This company already has many of the top 10 of the world's Pharma companies on its client list. They plan to create 20 new jobs by 2013. Another lecturer in the School Dr Eoin Casey has been awarded a European Research Council (ERC) grant to undertake ground breaking research in emerging technologies for nano filtration of drinking water.

The School of Civil Structural and Environmental Engineering is headed by Dr Mark Richardson. This School has an interesting organisational structure with a Head of School, Head of Discipline (Professor Eugene O'Brien), Head of Teaching and Learning (Dr Bill Magette) and Head of Research (Dr Yaqian Zhao). It also has a number of Programme Heads and Year Heads. While this School on the Richview Campus is physically separated from the other UCD Schools of Engineering it has always struck me that there is a very close rapport and social relationship between the students and staff - much to the student benefit! In addition the School has a close affinity as it should with the School of Architecture. Professor Michael Bruen heads the Centre for Water Resources Research which has an international reputation. Michael is also Assistant Dean of the Engineering College and is heading up the Technical Committee on the International Water Association World Congress on Water, Climate and Energy in Dublin in May. In the School also is an interesting new 5 year Masters in Structural Engineering with Architecture. There has always been a heritage of innovation in the school led in recent years by Professor Eugene O'Brien and Dr Amanda Gibney who is now overall College Vice Principal Teaching and Learning supported by Teaching Fellows Dr Patricia Kieran from Chemical and Bioprocess together with Dr Aoife Ahern and Dr P J Purcell from Civil Engineering. I was also given a tour of the extensive Structures Laboratory by Dr Debra Laefer.

The School of Electrical Electronic and Communications Engineering is headed by Professor Tom Brazil. The School has two components Electronics/Communications under Prof Orla Feely and Electrical Power Systems under Prof Mark O'Malley. Prof Tony Fegan is Vice Principal Research and Innovation. There is a strong upward trend in graduate numbers in recent years with some 62 in Second Year in 2011/2012. There is an outstanding record of international research in electrical and electronic engineering. The UCD Electricity Research Centre (ERC) run by Prof Mark O'Malley is an SFI approved Research Cluster. There is a shortage of power systems engineers currently in the Western World even in Ireland to meet the challenges of the EirGrid 'Grid 25' project to upgrade the national network. Therefore the ERC is a critical national resource currently. There are a range of spin out companies set up in the last 10 years by this School - Massana, Cylon Controls, InTune Networks to name a few. A new ME in Biomedical Engineering is being run by Professor David Fitzpatrick of Mechanical Engineering and Dr Madelaine Lowery of Electronic Engineering connecting the disciplines of medical device design, physiology, fluids, electromagnetic and wireless systems. Many of these subjects together with biomechanics form the basis for Rehabilitation Engineering. There is an emphasis on independent learning and research with the opportunity to participate in a work placement with the medical technologies industry.

The School of Mechanical and Materials Engineering is headed by Professor Michael Gilchrist. This is another diverse School with many research specialisations. The principal four research areas are Energy, Bioengineering, Materials and Design/Manufacturing. The ME in Energy Engineering run by Dr David Timoney is truly multidisciplinary with inputs from electrical, mechanical, civil, chemical, geology (oil/gas), business and economics. There's a separate ME in Materials run by Dr Ken Stanton and uniquely an ME in Engineering with Business run by Dr. Eamonn Ambrose. Many of Eamonn's students are BE (Civil) in fact. With all of this emphasis on business it is no surprise that this is the School who leads the traditional MIE Degree course now renamed Master of Engineering Management (MEM). This is now run by Dr Vincent Hargaden who has taken over from Dr Donal Hughes. This course has always been a national enabler to bridge engineering and business and thus to fastrack career development in industry. In addition the School of Mechanical and Materials Engineering deals with research in Building Energy and Transport Energy including refrigeration, emissions and fuel efficiency. In the design and manufacturing area there was a recent spin out industry BiancaMed led by Dr Conor Hanley and Dr. Conor Heneghan. BiancaMed is a world leader in devices for contact free sleep and breathing monitoring. Uniquely the School of Mechanical & Materials Engineering has employed 2 business development managers to seek out and create greater partnership with business leading to job creation.



'The Building of the State' model in UCD
UCD Dean of Engineering and College Principal Professor Gerry Byrne with PJ Rudden President of Engineers Ireland
with replica model of Old UCD School of Engineering Merriem Street now Department of the Taoiseach.

In my view with all the foregoing expertises and marketing strengths the stage is now set for UCD Engineering to become a leading European Centre of Engineering Research and Learning. If this is achieved the College will continue to contribute significantly to 'Building the State' as it always has done in a unique way. I recall being invited by An Taoiseach Enda Kenny and UCD President Hugh Brady to celebrate 100 years of the Old UCD Engineering Building which is now the Taoiseach's Office in Government Buildings. That night last July there was a lot to celebrate not least 'The Building of the State' a parallel process in terms of the new emerging state in the 1920s and 1930s building it's strength economically from the Shannon hydroelectric scheme, rural electrification and the setting up of Aer Lingus, the Irish Sugar Company and Bord na Mona together with the Irish engineering graduates who populated these new state companies (from all colleges in Ireland and some from abroad.)

We are now in a new era and new challenges face us as a nation to rebuild our economy and our place in the world. The Engineering profession in Ireland is already leading that recovery in commercialisation of Mathematics and Science into products for export in terms of computing, pharma, biomedical and manufacturing products and services.

THURSDAY 8 MARCH 2012

Visiting Yeats Country 'The Land of Heart's Desire' at the North West Region Ball

Our North West Region comprising Counties Sligo and Leitrim is probably our smallest region in Engineers Ireland but certainly one of our most active. They recently hosted their Annual Ball in Sligo. At the suggestion of the very active North West Chairman Seamus Lee we visited The Model Niland Art Gallery in Sligo town where we found a display of works that included Jack B. Yeats, Paul Henry, George Russell (AE) and other national and international artists. Of course the association of Sligo with the poet William Butler Yeats and his painter brother Jack B Yeats is very strong. More of that later.

We were delighted that the North West Region Ball was attended by the Mayor of Sligo Cllr Rosaleen O'Grady and the Vice Chairman of Sligo County Council Cllr Matt Lyons. John Power Director General of Engineers Ireland also attended with his wife Mary.



Seamus Lee North West Region Chairman, Cllr Rosaleen O'Grady Mayor of Sligo,
PJ Rudden President Engineers Ireland
and Cllr Matt Lyons Vice Chairman of Sligo County Council

There was a huge attendance at the event for a Region of its size. Most noticeable were the number of young engineers and even a few students from Sligo IT. I can recall last attending this event some 10 years ago after we opened the RPS office in Galway with the same enthusiastic cross section attending the North West Ball. A very young Emer Concannon was Chairman of the West Region back then and it was great to meet her again last weekend. I'm glad to see that she is still active as PRO on the Region Committee which is still a very active mix of young and some very experienced people. There is also a good mix of private and public sectors, local authority and industry people.

This winning formula can also be seen in the other more active regions around the country and is clearly missing in the less active regions.



North West Region Committee – At back left to right Joe Healy, George Chadda, Gerard Scott, Rowan O'Callaghan, Anthony Skeffington, Deirdre McNulty, Emer Concannon, Geraldine O'Gorman, Pal Hardiman, Micheal O'Halloran, Francis Fidgeon, front row Seamus O'Toole, Seamus Lee, Darragh O'Boyle, Michael Walsh.

The Mayor in her remarks spoke kindly of the contribution that Engineers have made and continue to make to the development of the Region and spoke of the welcome that all visitors get and will get in the 'The Land of Heart's Desire' as Yeats called Sligo in one of his famous plays.

Responding to the Mayor my speech was short - trusting that brighter days lie ahead for the engineering industry especially in construction and drawing on the tremendous contribution that our export industries in Pharma, Computing and Biomedical engineering are making towards national recovery.

The North West Region certainly doesn't hang around 'cursing the darkness' as they staged a Las Vegas Casino event between dinner and dancing. Though unusual at an Engineers Ireland dinner the casino had the intended effect of getting everybody into groups together actively and quickly getting to know everybody and clearly having fun too!



Having fun at the Las Vegas Casino at North West Region Ball in Sligo

There was also Engineers Ireland business to be done. I conferred Titles on one new Fellow William Brennan and a number of newly qualified Chartered Engineers from the Region. I also had the pleasure of presenting the local pharmaceutical industry Abbott with their Employers Accreditation from Engineers Ireland. This is a mark of their Continuing Professional Education (CPD) that they continue to give to their engineering employees to compliment their own professional development as individual engineers.



North West Region Chairman Seamus Lee and Engineers Ireland President PJ Rudden pictured with the staff of CPD Accredited Employer Abbott Pharmaceuticals

The North West Region Ball was a credit to the organising Region Chairman Seamus Lee Secretary Rowan O'Callaghan (who acted MC on the night) and Region PRO Emer Concannon. This Region appears to have insulated itself from the effects of the recession by the sheer determination to unite and make the very best of the great human resources that they possess as they clearly showed on the night. I wish the Region continued success in the years ahead.

Before I leave Sligo I have to tell you about the The Model Niland Art Gallery. This is another example of some of the fantastic artistic facilities built around Ireland over the past decade similar to The Visual that I toured in Carlow at the end of January. Nora Niland was Sligo County Librarian in the 50s 60s and 70s and Founder of the Sligo Municipal Art Collection. She started the collection by borrowing five works by Jack B Yeats to exhibit for the first Yeats Summer School in 1959. It has grown to some 300 works. On the tenth anniversary of her death in 1998 the collection was named after her and moved to The Model School on the Mall in Sligo. Thus the Model Niland Gallery was born.



Viewing Jack B Yeats works in The Model Niland Gallery in Sligo with Curator Lara Byrne

We toured the gallery in the company of the Curator Lara Byrne who gave us a potted history of the Yeats family in Sligo not only WB and Jack but their talented father John B also. There are a number of Jack B Yeats works on display. The one that caught my eye was the one of Red Hanrahan standing on Ben Bulbin looking across at its sister mountain Knocknarea. Jack painted this at the request of his older brother William Butler to accompany his poem 'Red Hanrahan'. The painting certainly depicts the scene described in the poem 'The wind has bundled up the clouds high over Knocknarea and thrown the thunder on the stones for all that Maeve may say'. The Maeve in question was Queen Maeve of Connacht who is reputed to be buried at the top of Knockarea mountain at Strandhill west of Sligo town.

There is an Exhibition of John Butler Yeats and Jack B Yeats called 'Father and Son' on in The Model Niland in Sligo from May 12th until September 2nd this coming summer. There is also an Artist in Residence quarters, a series of individual and fully occupied Artists Studio Centre, a substantial cinema and even a restaurant in the new Niland. Well done Sligo Borough Council, Sligo County Council and the Arts Council!

THURSDAY 15 MARCH 2012

Innovation Ecosystem in CIT

Last Friday I visited Cork Institute of Technology (CIT) who were the winners of two of the Engineers Ireland Excellence Awards in 2011. On arrival I was met by Michael Loftus Head of the Science and Engineering Faculty who was my host for the day. I also paid a courtesy call to Dr Brendan Murphy President of CIT who I had met last month at the Irish Maritime Training College at Haulbowline.



PJ Rudden President Engineers Ireland with
Dr Brendan Murphy President of Cork Institute of Technology

My visit coincided with CIT Innovation Week which culminates in the coveted overall Entrepreneur(s) of the Year together with a 1st Prize of €4000 sponsored by Cork County and City Enterprise Boards. In all some €10,000 in prizes are awarded to Most Innovative Entry, Best Graduate, Best Business Plan and Best Exhibition Stand. Uniquely for a third level exhibition a parallel exhibition for second level students was interspersed with the third level exhibition in the Nexus Hall. This was to show the CIT ethos that the Innovation Ecosystem starts at second level then graduates to third level and onto fourth level where the leading Entrepreneurs in the Rubicon Centre nurture the CIT Enterprise hub to support and develop innovative knowledge based business.



The Rubicon Building at CIT

The keynote speaker at the Awards Ceremony was Bill Liao. Bill is a Serial Entrepreneur and Co Founder of the Coder Dojo Movement to assist young people to learn how to programme. His vision is captured in his book 'Stone Soup: a Secret Recipe for Making Something from Nothing'. He has previously spoken at the London School of Economics, the Global Forum in Stockholm and at Technology Entertainment Design (TED) Conference at Long Beach California. Having heard him speak, I can confirm that he is an inspiring motivator for young people though somewhat unconventional in his approach.

With Michael Loftus I toured many of the stands where there was an interesting mix of mostly CIT Third year Mechanical and Biomedical Students competing for the main Innovation Awards and secondary pupils competing for the Cork Schools Enterprise Programme Regional Finals. Two entries from these schools in particular caught my eye - Retrospekt from St Vincent's School Cork, X-Sellerate Tag Hoodies from Scoil Mhuire gan Smal in Blarney and BinCeption from St. Colman's College, Midleton. This competition offers second level students in Cork the opportunity to set up and run their own business experiencing all the ups and downs of entrepreneurship.



Overall winners of the CIT Prize for Innovation – Cool Counter – left to right Daniel Goulding, Shane Fogarty, Cian O'Leary, PJ Rudden President of Engineers Ireland, Darren Dawson, Cian Harley, Ann-Marie Cullinane, Mohammed Slimane and Michael Loftus Head of Faculty CIT

The overall winners of the CIT Entrepreneurs of the Year worth €4000 were Cool Counter from a combination of the Business Mechanical and Biomedical Schools in CIT. Cool Counter is a cooling device for beverages that can be integrated into a bar top and keeps drink cool. The Most Innovative Award of €2000 went to the Muscle Stress Indicator which provides real time analysis that correlates the relationship between a muscle that is under stress and the resulting heat that is generated because of this. Prize for the Best Stand went to Road Network Solutions a project examining road junction safety.



Winners of the Best Exhibition Stand with Michael Loftus Head of Faculty CIT, Evan Collins 3rd Year Mechanical Engineering, Agnieszka Leja, 3rd Year Biomedical Engineering and PJ Rudden President of Engineers Ireland

As mentioned already the CIT Rubicon Centre is an enterprise hub which is home to some 44 knowledge based start-up companies. The centre is jointly financed by CIT and Enterprise Ireland. Clients based at the Rubicon are at different stages of development from concept stage to completing their first customer orders and many are already trading on the international market. Company names currently there are Treemetrics, Radisens Diagnostics and Kernel Capital Partners in addition to Entrepreneur in Residence Kieran Moynihan. The CIT Innovation Ecosystem comprises Research Clusters which feed into Technology Centres which feed into the Rubicon Incubator Centre of Commercialisation.

While at CIT, I visited the 2020 Zero Energy Centre with Daithí Fallon Head of Department of Manufacturing, Biomedical and Facilities Engineering where a model passive building is under construction to include a new insulated curtain wall on the external façade of the building.



PJ Rudden with Daithí Fallon visiting the 2020 Zero Energy Project

Together with Des Walsh, Head of Civil Structural and Environmental Engineering, I also met two student classes in both Structural and Energy Engineering where we briefly discussed their project work and likely future work opportunities.



Structural Engineering Class with Lecturer Kieran Ruane, President of Engineers Ireland PJ Rudden, Lecturer Leonard O'Driscoll and Des Walsh Head of Civil Structural & Environmental Engineering

As I left Cork, it was very obvious that CIT is a major force in engineering education in Ireland. 20% of Institute of Technology students around Ireland are engineering students while only 7% of Irish university students do engineering. Little wonder then that the unique Innovation Ecosystem in CIT is making such waves nationally in the technology job creation area in terms of new companies, services and products.

FRIDAY 23 MARCH 2012

Keynote Speaker at Green City Conference in Taipei

I was asked to represent the European Commission as Director of the European Green Capital Secretariat (www.europeangreencapital.eu) as one of the two Keynote Speakers at an EcoCities Conference on March 19th / 20th in Taipei which is the capital of Taiwan. The conference was chaired by the Taiwan Government and organised by Professor Tse-Fong Tseng of Kaohsiung University.

As the Asian Tiger grows, all governments are looking more and more to environmental protection as the optimum means of ensuring sustainable urban living. Thus the focus on what they call EcoCities or Green Cities with low carbon objectives to meet the threat of climate change. The Taiwan government are seeking to learn what they can from the experience of the EU Commission initiative on the European Green Capital City project which I have been directing so I was happy to go. Another Keynote Speaker had been invited from Japan - Professor Hikaru Kobayashi who is responsible for Environmental and Information Studies at Keio University in Japan and formerly Chief Environmental Advisor to the Japanese Government.

It was a long but interesting trip via Amsterdam and Bangkok. I took Aer Lingus to Amsterdam and China Airlines brought me the rest of the journey and back. The 'skymap' was a reasonably straight line from Amsterdam to Bangkok roughly along southern Germany, the Carpathian Mountains then onto the Black Sea and across the Caspian Sea north of Iran. Then across Afghanistan, south of its capital city Kabul, into Pakistan and onto Lahore in India where we veered south along the fertile Ganges Valley, south of Kathmandu and the Himalayas, to the city of Calcutta at the mouth of the Ganges. During the trip we travelled at speeds around 1000 km/hr at average heights of 10,000m or 10km above the earth's surface in a Boeing 747.

After Calcutta we then headed south east towards Rangoon crossing over the delta shaped Mouths of the Irrawaddy then crossing the Gulf of Martaban before heading further south to Bangkok in Thailand. There was the most extraordinary orange sunrise lighting the horizon to welcome us into Bangkok at 36 degree celsius in the early hours of the morning. It was purely an airport stopover but you could sense that the air in Bangkok was very humid.

The trip from Bangkok to Taipei took us over Cambodia and Da Nang in Vietnam and then north over Hong Kong towards Taiwan and into Taipei International Airport on the north of the island. This was my first visit to Taiwan.



Visiting the EcoCity of Tainan in Taiwan -
 Professor Tse-Fong Tseng, National University of Kaohsiung Taiwan,
 Professor Hikaru Kobayashi, Keio University Japan,
 PJ Rudden Director of European Green Capital Secretariat,
 Dr Ching-Te Lai Mayor of Tainan and Dr Hwang-Jen Chang Director General
 of the Environmental Protection Bureau of Tainan City Government

The EcoCities Conference was organised by Professor Tse-Fong Tseng from the Institute of Urban Development and Planning at the National University of Kaohsiung. It was opened and chaired by the Vice Chairman of the Taiwan Council for Economic Planning and Development (CEPD) Dr Wan-Hsiang Hwang. The CEPD is the central planning authority in Taiwan and reports to the Prime Minister.

I was grateful that he also hosted myself and the other Keynote Speaker Professor Hikaru Kobayashi former Director General of Environment Management in the Japanese Government to lunch. Also present at the lunch were the CEPD Director General Ms Kuo Fei-Yu, Commissioner of the Taipei City Government Dr Yuh-Chyum Ding, Monica Kuo Chair of Digital Research Centre and College of Environmental Planning and Design. I also met the Associate Professor of Land Economics at National Chengchi University Dr Chen-Yi Sun and Analyst of International Economy at Chung-Hua Institution for Economic Research Ms Pei-Ju Yu at the Conference.

In his opening remarks Dr Hwang explained how Taiwan was looking to best practice in both Japanese and European experience of EcoCities on how to achieve a low carbon response to urban living. He stated that his Council were determined to create economic drivers to make more sustainable cities happen in Taiwan.



Addressing the EcoCities Conference in Taipei were Professor Hikaru Kobayashi Keio University Japan, Dr Wang-Hsiang Hwang Vice Chairman of the Taiwan Council for Economic Planning and Development and PJ Rudden Director of RPS and Director of the EU Commission European Green Capital Award Secretariat

Professor Kobayashi in his remarks stated that Japanese policy on climate change was influenced by the need to support the increased seniority of Japan's citizens and also informed by the urgent need to regenerate the city region damaged by the 2011 Earthquake / Tsunami and nuclear disaster at Fukushima.

In my remarks on EcoCities I outlined the experience to date with the EU Commission European Green Capital Award (EGCA). The winners for 2010 to 2013 respectively were Stockholm, Hamburg, Vitoria-Gasteiz and Nantes. The winner for 2014 will be announced in June 2012 from a shortlist currently being formulated. The objective is to reward environmental performance, ambition and to create cities as role models of sustainable urban living. The mission of the award is 'Green Cities – Fit for Life'. The award is based on 12 environmental criteria including climate change, public transport, biodiversity, eco-innovation and sustainable employment - all judged independently by a Technical Evaluation Panel of international experts. Then a final decision is taken based on the expert recommendations by a Jury representative of the EU Commission, the European Environment Agency, ICLEI – Local Government for Sustainability, the European Environmental Bureau (NGO), the Covenant of Mayors and the Committee of the Regions.

There were interesting questions on how to configure and encourage the organisational ecosystem to make such an award operate for cities of Taiwan and possibly elsewhere in Asia where there was no semi-federal grouping like the EU.



Presenting the Keynote Speakers with a framed Lion's Head as a symbol of Tainan EcoCity were Left to Right: Dr Hwang-Jen Chang Director General of the Environmental Protection Bureau of Tainan City Government, Professor Hikaru Kobayashi Keio University Japan
PJ Rudden Director of European Green Capital Secretariat,
Dr Ching-Te Lai Mayor of Tainan
Professor Tse-Fong Tseng, National University of Kaohsiung Taiwan

After the Conference we travelled to Tainan, the designated Low Carbon City in Taiwan. There we were given a civic welcome by the Mayor of Tainan Dr Ching-Te Lai and his Director General Dr Hwang-Jen Chang. Dr Lai welcomed us and presented both Prof Kobayashi and myself with a framed ceramic Lion's Head as a symbol of the City. He was very gracious in his welcome which was covered by national and regional TV networks. We were also greeted by the Director of the Tainan City Government Tourism Bureau Chun-An Chen. We visited parts of the old and the new Tainan. It is a very fine city with a population of 1.7 million and is facing the challenge of low carbon with ambition, supported by the University of Kaohsiung which runs the Tainan Low-Carbon City Project Office.



Professor Hikaru Kobayashi, Keio University Japan,
PJ Rudden Director of European Green Capital Secretariat,
Dr Hwang-Jen Chang Director General of the
Environmental Protection Bureau of Tainan City Government,
Professor Tse-Fong Tseng, National University of Kaohsiung Taiwan

On the following day I joined a National Workshop on EcoCities chaired by the Director General of the Council for Economic Planning and Development Ms Fei-Yu Kuo. This workshop attended by the most senior planning infrastructural and economic heads in Taiwan mapped out a new collaborative approach to the development of EcoCities in Taiwan based on a combination of European and Japanese experience.



Director General of the Taiwan Council for Economic Planning and Development Fei-Yu Kuo
and PJ Rudden Director of the EU Commission European Green Capital Secretariat
outside Council Headquarters

Taiwan has annual growth of some 4% in 2012 which is significantly lower than its nearest neighbour China whose annual growth has dropped to a very respectable 7.5% per annum. Taiwan is determined to further develop its links with Europe and with Japan in the years ahead and are going about it in a very strategic way.

Tuesday 3 April 2012

All aboard at Titanic Belfast for Annual Conference

Few of us can forget the epic 1997 film 'Titanic' by director James Cameron with its haunting music and poignant story of young lovers Rose and Jack played by Hollywood stars Kate Winslet and Leonardo diCapico respectively. (<http://www.blogger.com/www.titanicbelfast.com>)

The film brought the 1912 human tragedy very much alive - of the then 'state of the art unsinkable ship' built in Belfast which hit a giant iceberg during its maiden voyage across the Atlantic and sunk with a tragic loss of life of some 1500 human souls. There were some 725 survivors saved in lifeboats and indeed all of the lifeboats were not full of people when the ship went down.



High-definition photo of Titanic wreckage, taken by Dr Robert Ballard (1985) and can now be viewed as part of the "Titanic Beneath" exhibition at the Titanic Experience
Courtesy of <http://www.titanicbelfast.com/>

One might ask why such a human tragedy should now be 'celebrated' 100 years later and celebrated by Engineers Ireland in particular? Well the story of the Titanic is the story of a resurgent Belfast and indeed of a new now peaceful and greatly invigorated Northern Ireland! So that's what we are meeting to celebrate at our Annual Conference in Belfast starting on the evening on April 25th with the main presentations on April 26th and 27th!



Finished model of the Titanic Quarter

The two main themes of the conference will be manufacturing and marine energy - both very relevant to the traditions of Belfast in linen manufacturing, ship building and seafaring.

The Titanic story is one of epic drama of romance and tragedy. There is enormous global interest in the story which made the film the highest sold film of all time for 12 years until the same director James Cameron produced Avatar which surpassed its revenue! It won a number of Hollywood Oscars, including Best Picture, Best Director, Best Cinematography, and Best Film Editing. It was the first film in the world to exceed the billion dollar mark and the most expensive film made at the time by 20th Century Fox.

The rebirth of Titanic is replicated by the rebirth of the Harland & Wolff Shipyard - as the now new Titanic Quarter of commercial and residential development rises like a Phoenix from the ashes of a once troubled Belfast. Central to the new Titanic Quarter vision is the Titanic Signature Building - an iconic 6 storey Visitor Centre that celebrates 100 years of the site since the launching of the Titanic and which opened to the public last weekend.



The Iconic Titanic Building courtesy of www.titanicbelfast.com

Apart from a guaranteed visit to the new Titanic Signature Building we have an exciting line up of speakers at our Annual Conference (<http://www.blogger.com/www.engineersirelandconference.ie>). The conference theme is 'Engineering Enterprise in Times of Change' and will address the role that engineers will play in the drive to create new jobs and indigenous enterprise as well as our importance in continuing to attract foreign direct investment onto the island of Ireland.



The Engineers Ireland Annual Conference 2012 Logo

The conference will feature speakers like Dr Stephen Myers Director of Technology at CERN Physics Laboratory in Switzerland, Bob Hanna Chief Energy Adviser to the Irish Government, Liam Nellis CEO of InterTradeIreland, Eddie O'Connor Chief Executive of Mainstream Renewables, John Barry MD of Bord Gáis Networks, James Cox Principal Consultant with Poyry Management Consulting and Tanya Wishart Northern Ireland Energy Regulator.



Most of all - come to Belfast not only to relive the Titanic Story but to see the new energetic and beautiful Northern Ireland which is now at peace.

Tuesday 10 April 2012

Along the Liffey on a Dublinbike

The Dublinbike scheme has worked well since it was set up by Dublin City Council in September 2009 pioneered by the current Lord Mayor Andrew Montague.

Due to public demand it has recently been extended so my son Mark and myself decided to visit a few of the city sights and galleries using public transport and Dublinbikes. We took the DART to Pearse St where we visited the TCD Science Gallery where a food exhibition - Edible - was running. Full of natural organic foods from herbs to seaweed pesto! Recommended!

Then we took out Dublinbikes and travelled up to O'Connell St and onto Abbey St where we followed the LUAS Red Line up to Smithfield. The Dublinbike is quite heavy and sturdy as it needs to be and this probably explains the lack of vandalism together with the genuine pride that I think Dubliners feel in having so great a convenience on their doorstep. The 'trick' on the bicycle when following the LUAS line is not to allow the bike wheel slip into the tramline 'groove' but to pedal over the LUAS line at all times roughly perpendicular to the lines. Also to negotiate corners you need to take up position in the centre of the traffic lane near the junction to keep you safe getting round the corner!



On a Dublinbike along the City Quays across the river from Dublin Civic Offices

The first 30 minutes is free and you pay fairly modest sums after that on your Dublinbike Card. The locking system is simple but sturdy reminding one of the ease with which you can acquire a

supermarket trolley and redock it afterwards. When we reached Smithfield there wasn't a single other bike left at the docking station as all were in use on a busy Saturday morning.

This trip also allowed us see the ongoing regeneration works that Dublin City Council continue to do on the city streets. The replacement of cobble setts in one of the Smithfield streets shows the fairly large depth of these stone setts. I was later informed by the Dublin City Engineer (soon to be my successor as President) that these depths are required to withstand the turning stresses of heavy traffic at busy junctions in the city and that the specification was informed by engineering experience.



Dublin City Council's new 'sett paving' in Smithfield area close to the LUAS Red Line

Might I say in passing that the resurfacing of the entire City Centre at night this past winter was a very impressive achievement by Dublin City Council. They very wisely used money reserved for the now shelved Metro North to give the City Streets a new lease of life after all the damage caused to the streets during the two very harsh winters just gone by.

We reached the new National Museum at the former Collins Barracks close to Heuston Station. Few Dubliners myself included realise the historical gems of our history which are stored there and it's free to all and sundry! We saw the original Ardagh Chalice, the Tara Brooch and the Cross of Cong. The Derrynaflan Chalice remains in Kildare Street.

The highlight of my trip to the Barracks though was the collection of life size Celtic Crosses made to the precise dimensions of the real crosses distributed throughout the country. I especially recognised St Muiredach's Cross of Monasterboice County Louth from my time in road construction on Dunleer Bypass in the early 1990s now a part of the Dublin Belfast Motorway. The cross and monastery at Monasterboice had to be avoided by the new motorway for obvious archaeological reasons.



At Muiredach's Cross in The National Museum of Ireland at Collins Barracks

Also notable in the newly refurbished Collins Barracks is the 1916 Rising Exhibition together with the history of General Michael Collins who took the Barracks over from the British Forces in 1922 and who was tragically killed in the subsequent Civil War in his native County Cork.

Dublinbikes is helping to create a cleaner greener Dublin and should be used by engineers in particular as a more sustainable form of transport to support modern city living. The reduction in car usage within the city cordon is very noticeable since the introduction of Dublinbikes but we must do better to minimise car dependency.

The Dublin Port Tunnel has also greatly contributed to removing heavy traffic from the city quays as has the new 30 mph speed level within the city cordon. Helping too are the increased bus and cycling corridors and the 'bus gate' at College Green - preventing cars in favour of public transport through this 'pinchpoint' at peak hour. This has contributed though the initiative was wrongly criticised by city traders when first mooted by City Traffic Engineers some years ago.

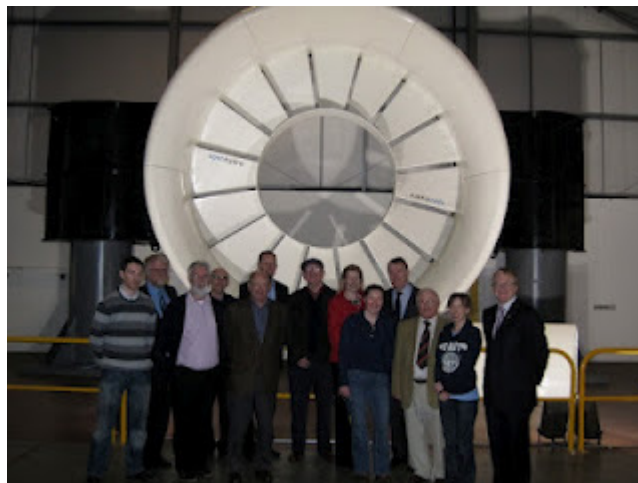
It's another example of how engineers need to hold our nerve when infrastructurally necessary but politically unpopular projects or plans are proposed in the public interest. If our analysis is correct and we manage to communicate what is intended and why - then the general public will in time grow to accept our view as the preferred technical environmental and economic solution to the problems of our time. It of course also needs national and local political leadership behind such projects to ensure that they are implemented in the national interest.

Thursday 12 April 2012

OpenHydro Site Visit in Greenore and NE Region Social Event in Carlingford

Last week John Power Director General and I travelled north of Dundalk to the villages of Greenore and Carlingford Co Louth to join a North East Region site visit and Social Evening. There we visited the manufacturing unit of OpenHydro which is Ireland's most promising Tidal Energy developer. We were met by the CEO of OpenHydro James Ivers and fellow Board Member and key adviser Professor Gerry Byrne of UCD and former President of Engineers Ireland.

OpenHydro are so enterprising in fact that they were chosen by Engineers Ireland as Overall CPD Company of the Year in 2011 because of the innovative quality of their training and development programmes for professional engineers.



North East Region site visit to OpenHydro manufacturing unit at Greenore Harbour

Tidal energy is part of our ocean resources which we should harvest together with our offshore wind and wave resources. This requires a highly multi-disciplinary integrated approach in terms of resource assessment, grid infrastructure, planning/environmental consents, regulatory regime, construction and marine deployment.

This challenge has been addressed on a national basis by the recently published Irish Scottish Links Energy Study (ISLES) Report by the Irish, Northern Irish and Scottish Governments. It is shown that these offshore ocean resources represent a unique export opportunity from Ireland to England and Wales in particular to help meet energy demand when many of their existing power stations

including nuclear plants require replacement. This replacement is now likely to be delayed following how the events in Fukushima Japan in early 2010 are impacting on Europe especially Germany.

OpenHydro have developed an open rotating turbine up to 16 metres in diameter and are currently testing it in French waters off Brittany in collaboration with French company EDF. This will become the world's largest tidal energy farm when fully developed. In the sea environment there are huge challenges in terms of depth and environmental conditions. These conditions test the most robust of engineering materials in terms of stresses, corrosion and overall longevity.

Greenore Harbour is ideally placed as a technical centre for OpenHydro in a sheltered coastal area reasonably adjacent to the M1 motorway equidistant between Dublin and Belfast. OpenHydro are employing local Irish engineers in Greenore and their headquarters in Dublin who are leading projects currently in Ireland, UK, France, the US and Canada.



King John's Castle in Carlingford at Night

The North East Region Social Evening was organised by the Region Chairperson Maura Daly of Meath County Council in the Carlingford Arms in the village of Carlingford not far from Greenore. I hadn't been in Carlingford before. As you approach the coastal village from the south a stunning vista of mountains, seascape, harbour walls, boats, windsurfers and medieval castles appear above the small village itself. The village nestles between Slieve Foy, Carlingford Lough and the Mourne Mountains and is a medieval heritage village due to the Norman Castles and buildings that straddle its narrow streets. Carlingford also lies on the historic Cooley Peninsula of Táin Bó Cúailnge fame. The village is dotted with boutiques, pubs and restaurants which were all full on the night of our visit on a cold March night! What must this place be like on a sunny Sunday afternoon!



Maura Daly Chairperson North East Region, PJ Rudden President of Engineers Ireland,
John Quinn and John Power Director General of Engineers Ireland

The Social Evening was a great success thanks to the efforts of Maura Daly, Vicki Chadwick and Fiona Beers. Highlight of the event was the presentation of a Lifetime Achievement Award from the North East Region to its longstanding Chairman and Vice Chairman John Quinn. John was presented with an Award Certificate and a Cavan Crystal lamp by myself, Maura Daly and John Power.

Monday 23 April 2012

Presidential Address and Conferring of Titles in Cork

Recently Engineers Ireland Membership Manager Shirley McDonald and I travelled to Cork for the annual Conferring of Titles on members there in the Rochestown Park Hotel. Engineers Ireland are the only body in Ireland statutorily permitted to confer the title of Chartered Engineer.



Cork Region Engineers who were recently conferred with the title of Chartered Engineer with President PJ Rudden and Chairman of the Cork Region Dr. Jim Robinson

The event was organised in the Cork Region where the Chairman is Dr Jim Robinson. Barry Leach a former Region Chairman together with John J Murphy have been organising this annual event for more than 20 years so it's little wonder that it all happened like clockwork.



Two newly conferred Associate Engineers with Chairman of the Cork Region Dr. Jim Robinson and President PJ Rudden

After the Conferring of Titles and presentation of prizes to students of UCC and CIT, I gave my Presidential Address to an appreciative audience followed by a well organised buffet.



Group of graduates and students of UCC and CIT who were awarded prizes at the recent Cork Region Conferring of Titles with President PJ Rudden and Chairman of the Cork Region Dr. Jim Robinson

It was great to see such a number getting their Chartered Engineer title in particular in these challenging times. Congratulations to all who received titles or prizes!



President PJ Rudden together with Chairman of the Cork Region Dr. Jim Robinson and the other members of the Cork Region committee including Barry Leach and John J Murphy who organised the event

This was the first of a series of these events around the country commencing in Cork in April and next month going onto Limerick, Galway, Tullamore and finally Dublin at the Helix DCU on May 18th next which is the National Conferring of Titles. This will also be my last official function before the AGM on May 24th and handover to Michael Phillips as the new incoming President.

TUESDAY 24 April 2012

New Strategy for Engineers Ireland

At our April Council meeting we adopted a new Strategy for Engineers Ireland for the period 2012 - 2015. It would be difficult and indeed unwise to try to foresee beyond the medium term currently with the uncertainty in the Irish economy.



Engineers Ireland Headquarters at Clyde Road

In the short to medium term we need to define Who exactly we are as an organisation and What we represent and How we intend to fulfil our Role over the next few years. I would maintain that this decision is critical to our future and unquestionably the most important decision that our Council took this year. The essence of our Strategy is as follows

Who We Are; The Professional Body for Engineers and Engineering in Ireland.

Our Vision; A society enhanced by the acknowledged contribution of engineering professionals.

Our Mission; Our members as leaders and problem solvers commit to excellence in enhancing the quality of life for all.

Our Theme 2012 -2015; The recognised professional standing and role of the Chartered Engineer.

The four goals of the new strategy are:

1. **REPUTATION:** Enhance the reputation of the engineering profession in Ireland, by continuing to advance Engineers Ireland as its leading expert voice
2. **SUPPORT:** To support and grow our membership and work with them to enable their career progression
3. **PROFESSIONAL:** Keeping members' professional engineering competence current and world-class

4. INTERNATIONAL: Supporting international mobility and increasing international recognition through compliance with accreditation and competence standards to safeguard the profession

This Strategy will greatly assist and inform how we spend our resources in the years ahead to accomplish the goals that we have now set out. It will also help to remove any public confusion as to who represents engineers and engineering in Ireland.

At the same meeting we also clarified the future role of the Irish Academy of Engineering (IAE) with whom we have recently signed a new Protocol. Engineers Ireland will deal with current issues affecting the profession in Ireland and the IAE will deal with long term issues affecting the country. When both roles overlap e.g. the current issue of Irish Water, we will agree and issue joint reports as appropriate. We will have regular meetings to ensure that both organisations are aware of current tasks and issues.

Tuesday 24 April 2012

New Vice President Elected

At the April Council meeting I nominated Regina Moran CEO of Fujitsu Ireland as the next Vice President of Engineers Ireland. She was unanimously endorsed.

Regina will thus become the third female President of Engineers Ireland in May 2014 in succession to Dr. John O'Dea who will take over from Michael Phillips as President in 2013.



Regina Moran CEO of Fujitsu
Courtesy of Fujitsu Ireland

In May 2009, Regina was appointed CEO of Fujitsu Ireland where she leads a 350 strong team focussed on delivering ICT services to the Irish marketplace.

Following her third level education in Engineering undertaken in Waterford and Cork, Regina's career began as an Electronics Engineer with Amdahl, a computer mainframe manufacturer, progressing to become a co-founder of the services and consulting group there.

In 1997, Regina was co-founder of DMR Consulting Ireland where she held the role of Director of Operations responsible for Project Delivery. DMR Consulting became Fujitsu Consulting and subsequently merged with Fujitsu Services in April 2004 and Regina was appointed CEO of Fujitsu Services in August 2006.

Regina is the current Chair of ICT Ireland within IBEC, a Member of the Council of Dublin Chamber of Commerce and a member of Dublin City University governing authority. She is a Fellow of Engineers of Ireland (FIEI) and a non-Executive Director of EirGrid. Regina holds an MBA from

Dublin City University, which she achieved with First Class Honours, coming first in her group. She was also awarded the 'Sir Charles Harvey Award' for outstanding contribution in her post-graduate studies. She is married with three children and is an enthusiastic Munster Rugby supporter.

We welcome Regina as our new Vice President and look forward to her experience and expertise. She represents one of the significant areas of the growth economy where major players like Fujitsu are an excellent example of foreign direct investment in the technology sector into Ireland. In Engineers Ireland, we hope to grow our role more into the Computing / Technology sector in the years ahead and are delighted that our former President Dr Chris Horn ex Iona Technologies continues to chair our Computing Division. In addition, we elected Stephen McIntyre to our Council during the year. Stephen was a Senior Director at Google in Dublin and was recently appointed CEO of Twitter Europe Operations still based in Dublin.

WEDNESDAY 25 April 2012

New Engineers Ireland Byelaws adopted

A huge number of issues and decisions were taken at our recent April Council meeting. Apart from a new corporate Strategy, election of a new Vice President, we also adopted new Byelaws to replace the last Byelaws enacted in 2003. These Byelaws updated the governance procedures for election to Council and Executive. These give the President increased powers for the co-option of new members to broaden the representation to newer sectors and to reduce the traditional dominance of civil engineers on the Council of Engineers Ireland. In this way other sectors like biomedical chemical computing aeronautical and electronic engineers will get a stronger voice and hopefully will be encouraged to join Engineers Ireland. I would expect that the ongoing TV advert for Chartered Engineer would also help.



Engineers Ireland Headquarters at Clyde Road

The additional cooption discretion will also help to address gender balance and encourage younger members onto Council. During my year as President we brought the Chairperson of the Young Engineers Society onto both Council and Executive for the first time.

We also removed the absolute necessity that future Director Generals of Engineers Ireland have to be Chartered Engineers although the preference for this has been retained. This was a contentious item only settled by secret ballot at Council earlier in the year.

I want to pay tribute to former President Anne Butler who chaired the Byelaws Task Force which also had Domhnall Blair, Mairín Ní Aonghusa, Sean Linehan and Tanya Layng. Domhnall has an encyclopedic knowledge of Engineers Ireland byelaws and procedures from his many years on Council and greatly assisted by Mairín who is former Secretary to many Councils, Executives and Director Generals.

Having passed the new Byelaws we then decided to proceed with this year's Council Election in accordance with them. In this way next year's Council were elected and procedures put in place to elect next year's Executive Board which is the new title we have given the Executive.

Embedded in the new Byelaws are the new Membership Rules, the relatively new Code of Ethics and new Guidelines for Committees and Boards for Regions, Divisions and Societies.

At this Council also we approved the audited Annual Accounts for the Annual Report and six candidates for Fellowship by Presidential Invitation.

As it was former President Martin Lowery's last Council meeting I sincerely thanked him for his hard work on Council for 4 years, his year as a very wise President and for his great assistance to me over the past year in particular. I also thanked the two Vice Presidents Michael Phillips and John O'Dea for their support at Council and at all other times.

All in all, this April Council meeting which was my last as President concluded a lot of important business which will set a roadmap for the years ahead. I am most grateful to the Council and Executive for the workmanlike and constructive fashion with which they addressed the various issues over the past year.

WEDNESDAY 25 April 2012

Energy and Environment Division Lunch with Minister Rabbitte

The Energy and Environment Division of Engineers Ireland hosted Pat Rabbitte TD Minister for Communications Energy and Natural Resources to a Lunch Meeting at Clyde Road.

The Chairman of the Division Jim Gannon together with the Director General John Power and myself welcomed the Minister who indeed had also launched our State of Ireland Infrastructure Report last February.



Pictured outside 22 Clyde Road were Director General John Power, Chairman of Energy and Environment Division, Jim Gannon, Minister Pat Rabbitte TD, President of Engineers Ireland, PJ Rudden and Liam O'Cleirigh Energy & Environment Division Member

There was a very large attendance of energy engineers at the meeting drawn from the public and private sectors. The Minister gave a very significant speech on Irish Energy Policy set in the context of our international obligations and the current fiscal limitations.

Before his speech I welcomed the Minister and underlined how critically important Engineers Ireland considered Energy Policy and Development as key infrastructure to further grow the economy. I also referred to our recent Infrastructure Report which he helped us launch during Engineers Week in February.

The Minister then spoke about the fundamentals of Government energy policy in Ireland - 'If the growth agenda is fundamental to Europe's sustainable recovery strategy, energy policy has a pivotal role to play in creating the conditions for a return to economic recovery and job creation. The well being of our country and society depends on safe, secure, sustainable and affordable energy.....

Ireland can benefit from a low carbon economy based around radically increased energy efficiency, accelerated deployment of renewable energy, smart networks and a well functioning, well interconnected internal energy market.....we have a rich and abundant wind and ocean energy potential which I firmly believe can be harvested and exported as a real economic opportunity for this island.....

Expert advice suggests that Ireland has the capability to achieve its national targets for renewable electricity from onshore renewable generation alone with capacity to spare. This means that our offshore wind resource can be developed as an export opportunity.....

There is a real opportunity to develop offshore wind in the Irish Sea area in the short term as these are reasonably close to both coastlines and in relatively shallow waters.... with cost advantages over the North Sea area.....'

The Minister was very strongly in favour of renewable energy onshore to meet our targets and offshore for export purposes. He also stated that the lack of a North South Interconnector was costing the Irish consumers and looked forward to its early construction together with completion of the East West Interconnector. He stated that 'development of the high voltage electricity grid as planned in the GRID25 strategy is critical to our long term economic recovery.'

He looked forward to the EU Presidency when the alignment of Energy, ICT and Innovation will be highlighted to unlock new potential for investment and employment. He was also anxious that Ireland seizes the competitive advantage within Europe as a prime location for energy research and innovation.

We in Engineers Ireland were left in no doubt that the Minister clearly favours our balanced view of Energy Policy as outlined in our State of Ireland Infrastructure Report and that he is not for turning on current national targets and projects as they are essential to assist our national recovery. It had been a most interesting and revealing meeting.

Wednesday 25 April 2012

Cycling the Mayo Greenway and viewing Jackie Clarke Library

I was recently in Castlebar at the retirement function for Joe Beirne who retired as Mayo County Engineer. Joe is the last of the County Engineers who were appointed before Better Local Government (BLG) was brought to bear on the local authority system. BLG appears to have brought local government closer to the people with local delivery offices offering a 'one stop shop' and Directors of Services providing both technical and administrative services in specialist areas across an entire county. Engineers as professionals have also got their fair share of Directors posts and many have graduated to County Manager level.

There is also though now a widespread feeling among local authorities that the demise of the County Engineer was a mistake! A number of County Managers have said this to me over the intervening period some of whom admit were strong supporters of the new BLG system at the time. The principal issue is that the County Manager does not now have the very senior expertise and experience of a Chief Technical Officer to make strategic decisions of a technical nature and the quality of local government is the poorer for it I feel. The only two local authorities to have retained the City or County Engineer post are Dublin City Council and Cork County Council and certainly nobody I know in either of these local authorities would now countenance the removal of these posts.

Joe Beirne was a very talented engineer, team leader and a thorough gentleman. I wish him the very best in his well deserved retirement and was delighted to be in Castlebar to wish him well on behalf of Engineers Ireland.

When I was in Mayo I accepted an invitation from the West Region Past Chairman Muredach Tuffey to cycle the newly opened Great Western Greenway from Newport to Mulranny - some 18km. At the Newport end we also met the Secretary of the North West Region Rowan O'Callaghan who was also cycling the Greenway with his family.



With Muredach Tuffy on one of the many new bridges on the Mayo Greenway with historic arch bridge in background

Mayo County Council wants to be the Walking and Cycling County of Ireland and I can see why. For many years successive County Development Plans have set out this vision and developed routes in Bangor Belmullet Westport and Delphi. The current County Manager Peter Hynes and his predecessor Des Mahon are very supportive of the potential to realise this valuable tourist resource for the benefit of the local economy. I thoroughly enjoyed my few hours spent on the Greenway and we were lucky with the weather too. I highly commend this sporting pastime to all with a keen interest in the wide open spaces.

The Greenway also leads onto a Smarter Transport initiative which is being planned around Westport which already is one of our leading tourist towns nationally.



PJ Rudden President of Engineers Ireland in Ballina with Jackie Clarke Museum Director Sinead McCoole and West Region Past Chairman Muredach Tuffy

When in Mayo, I also visited the Jackie Clarke Library and Museum with Museum Director Sinead McCool in Ballina where an impressive collection of historic papers are being catalogued. It tells of the story of County Mayo through the local newspapers spanning some 400 years but mostly the 20th century covering the 1916 Rising and the foundation of the modern state.



Overlooking the River Moy in Ballina with new Salmon Weir in the background

When in Ballina I also viewed the new pedestrian bridge over the Moy River and the newly refurbished Salmon Weir on the Moy.

County Mayo has an amazing number of natural and modern amenities to engage the visiting tourist. It also has the stunning landscapes of the Nephin Mountains, Ballycroy National Park, Lough Conn and Lough Mask and the whole Cong/Ashford area where the epic film 'The Quiet Man' was made starring John Wayne and Maureen O'Hara.

Thursday 26 April 2012

Annual Conference opens in Titanic Belfast

Last night the Engineers Ireland Annual Conference opened in Belfast at a reception hosted by the Northern Region of Engineers Ireland and was attended by the High Sheriff of Belfast.

The Northern Region Chairman Peter Quinn welcomed the delegates to the Europa Conference Centre and introduced the Chairman of the Titanic Trust, Jonathan Hegan, and CEO of Titanic Quarter, Mike Smith. Mike Smith gave a fascinating outline of the planning financing construction and fitting out of the new Titanic Belfast visitor centre that delegates will visit this evening before the conference dinner at Belfast City Hall.



Peter Quinn Chairman Northern Region Engineers Ireland, PJ Rudden President Engineers Ireland, May Campbell High Sheriff of Belfast, Don McQuillan Director RPS Structural Designer of Titanic Belfast and Jonathan Hegan Chairman of the Titanic Trust

It was a mammoth task to get Titanic Belfast built on time for the centenary of the Titanic story in April 2012. Getting work started on time in 2009 was challenging, as the world financial crisis impacted adversely on financing of the new centre. The developers at Titanic Quarter overcame their difficulties with the help of the architects firm Todd Associates, RPS Consulting Engineers and EC Harris Project Managers, resulting in the centre opening on time last month.

Jonathan described the combination of pride and humility with which they have celebrated the opening of Titanic Belfast which has attracted over 80,000 visitors already since its opening three weeks ago.

In thanking the Northern Region and the Titanic Trust for the reception and talks on Titanic Belfast, I welcomed all the delegates and hoped that the conference would be stimulating technically and exciting to see the iconic new Signature Building which is in the shape of a white star, each corner of which is a replica of the hull of the ship itself.

The conference will focus on the Manufacturing tradition of Belfast, now transformed from shipbuilding into the manufacture of turbines and other engineering components for the Offshore Energy industry, which are now taking place in part of the regenerated Harland & Wolff Shipyard in the middle of the new Titanic Quarter.

This morning I will open the conference on Harnessing and Developing Creativity followed by Dr Stephen Myers of CERN Accelerator Laboratory in Switzerland and Alex Attwood MLA Minister for the Environment in Northern Ireland.

Then we will hear leading speakers from the Irish Energy industry including John Barry MD of Bord Gáis Networks and Bob Hanna Chief Technical Adviser in the Dept of Communications Energy and Natural Resources in Dublin.

It's great to be in Belfast on such a wonderful occasion and see the attraction it has become on the strength of the new democratic institutions here.

I'm especially delighted with the number of our members who have come from Cork, Limerick, Clare, Galway, Sligo and all along the west coast of Ireland to share in this national occasion in Belfast.

TUESDAY 1 MAY 2012

Remarkable Annual Conference ends in Belfast

A remarkable Annual Conference ended in Belfast on Friday last. To me it showed Engineers Ireland to be truly an all island organisation. In the Centenary Year of the Titanic Story in Belfast, the Cork, Thomond, Midlands, West, North West and Donegal Regions joined forces with the East Coast members and Clyde Road staff to support the tremendous efforts of our Northern Ireland colleagues in the Northern Region.

The Northern Region is very ably led this year by Peter Quinn who together with Fionnuala Kilbane our Marketing and Communications Director in Clyde Road organised the conference. The conference theme 'Engineering Enterprise in Times of Change' was apt in terms of our rebuilding a sustainable economic recovery.

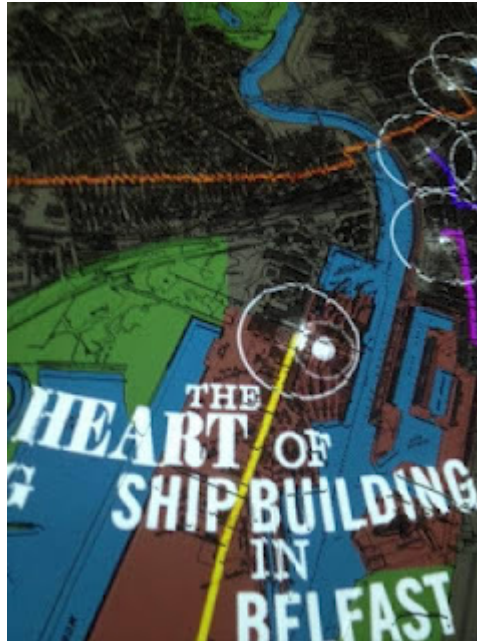
Key Speakers were Alex Attwood NI Minister of the Environment, Bob Hanna Chief Adviser in Department of Communications, Energy and Natural Resources, Eddie O'Connor CEO Mainstream Renewables, Dermot Byrne CEO EirGrid, John Barry MD Bord Gáis Network and Tanya Hedley NI Electricity Regulator.



PJ Rudden President of Engineers Ireland and
Alex Attwood MLA Minister of the Environment Northern Ireland

The Guest Speaker from abroad was Belfast native Dr Stephen Myers Director of CERN Laboratory in Geneva Switzerland. CERN is the European Research Body for Particle Physics. It was here that the World Wide Web (www) was invented by Tim Berners-Lee in 1989! CERN also had 5 Nobel Prizes in Physics between 1952 and 1992.

Day 1 of the Conference was a plenary session on Outlook on Policy - Developing and Harnessing Creativity and Enabling Ingenuity in the Public and Private Sectors. I gave the Keynote Address and chaired Day 1. Day 2 saw breakout sessions between Offshore Energy 2050 and Manufacturing chaired by Peter Quinn Northern Region Chairman and Declan Lyons Mechanical Division Chairman respectively.



Graphic from Titanic Signature Building showing the old Harland and Wolff Shipyard which is now the Titanic Quarter development

At the close of day we also got a tour of the Titanic Signature Building which is the iconic new Visitor Centre opened on March 30th and already drawing 80,000 visitors in the first month! It's really a day event for the family so I could not describe it adequately here as I did not see it adequately in the hour and a half I spent there! You gotta go and see it yourself as it's the most professional and interesting audio visual extravaganza I've ever seen. It depicts not only the Titanic Story but the social political and economic circumstances in Belfast in the early decades of the 20th century.



The signing of the Ulster Government against Home Rule by Edward Carson in 1912

The main preoccupation in Belfast in 1912 was not the launching of the Titanic on its maiden voyage but the threat of Home Rule and the sense of betrayal of Ulster by the London Government under Asquith. You are brought on a whirlwind of carted tours through the six floors of the building to see the manufacture of ships and the lives of the people who made them even down to the red hot rivets installed by mallet sometimes under candlelight. The external cladding on the building is more than an architectural masterpiece - the zigzag aluminium cladding is dramatic to view on the outside!



Engineers Ireland delegates entering the Titanic Signature Building

The speech of Environment Minister Attwood was most sincere and interesting where he played to the strengths of Northern Ireland and the need to maximise our onshore and offshore renewable resources. Conscious of the planning difficulties which he has seen on onshore wind projects he sees huge prospects in connecting up our offshore wind wave and tidal resources which are the best in Europe.

Belfast City Hall is a beautiful building outside and even more so inside where we were entertained by the Belfast Community Gospel Choir in a truly iconic setting.



Delegates at City Hall appreciating the Belfast Community Gospel Choir

The Offshore Energy and Manufacturing break out sessions on Day 2 were very interesting. I went to the Energy session where Dr Eddie O'Connor outlined the urgency of moving to a low carbon energy infrastructure for cost as well as environmental reasons. He foresaw all cars on the road in 2050 will be electric cars as he said 'we will have no choice by then'. Dermot Byrne of EirGrid Bob Hanna of Dept of Energy and Tanya Hedley the NI Electricity Regulator all described the energy challenges confronting us in a forthright way and the policies and measures now being put in place to meet these challenges for future generations.



Rita Pollard Engineers Ireland Communications Executive adjusting the President's chain
watched by Shirley McDonald Membership Growth Manager

I brought the conference proceedings to a close by reminding our audience that the challenges that confront us require us to make a distinct 'step change' in our thinking. 'The significant problems that we face cannot be solved at the same level of thinking we were at when we created them' said Einstein. Certainly that is very true of the energy challenge where we have to engineer a new technical regulatory and economic world to give us a more secure future.



Finished model of the Titanic Quarter

I will never forget my few days in Belfast in April 2012 when we sampled history but we also gazed into the future and what new world we engineers have to create to ensure the safe survival and well being of those who come after us.

THURSDAY 17 MAY 2012

Visit to Donegal Region and Letterkenny IT

A week before the Annual Conference I visited the Donegal Region. There I met Region Chairman Rodney McDermott, Eleanor Diver Secretary and Michael Carr Treasurer together with Past Chairman William Diver. Eleanor kindly organised a very full day for me at Letterkenny IT starting with meeting President Paul Hannigan and Head of Development John Andy Bonar to discuss development potential in the region. I also met Denis McFadden Head of the School of Engineering, Dr Jim Morrison Head of Electrical and Electronic Engineering and Anne Bonar Head of Department of Civil Engineering and Construction.



LYIT Campus, Letterkenny

With President Paul Hannigan we discussed how LYIT could grow as a catalyst for future development of the region. The two main strengths which Donegal has is its tourism and its ocean resources - yes fishing as always but also its wind, wave and tidal power resources around the coast. LYIT already has a School of Tourism in Killybegs where the potential for further enterprise is being explored.



PJ Rudden President of Engineers Ireland with Paul Hannigan
President of Letterkenny Institute of Technology

I also met the Donegal County Manager Seamus Neely who too is ambitious for further development of the county in terms of the diversity of its resources and the talent of its people. Donegal County Council has also been central in implementation of the new EU Water Framework Directive in terms of national leadership and cross border development in river basin district (RBD) management and therefore has an important role to play with the new Irish Water utility. It seems to me that the better management of our water resources both on and offshore will be a key lever in our national recovery in terms of resource efficiency, new enterprise and jobs. I also met Donal Casey who is responsible for RBD plan development and implementation for the Council.



Group of students in LY IT with Anne Bonar Head of School of Civil Engineering and Construction, Eleanor Diver Lecturer in LYIT and PJ Rudden President of Engineers Ireland

When in Letterkenny I visited the local RPS office under Director Donal Doyle. Donal together with senior staff Angela McGinley and Debbie Nesbitt joined a social evening in Letterkenny organised by the Donegal Region. There I was happy to meet former UCD classmate Peadar MacRory who is Senior Engineer with Donegal County Council on the construction of the new Letterkenny Wastewater Treatment Plant.



Dr Jim Morrison Head of the Department of Electrical and Electronic Engineering LYIT, Eleanor Diver Secretary of Donegal Region Engineers Ireland and PJ Rudden President of Engineers Ireland

As I left Donegal through the relatively new national primary roads to the south past Donegal town and Ballyshannon I was struck by how the new infrastructure has transformed access to and from Donegal. I was again struck too by the stunning beauty of Barnesmore Gap with its stormy streams of water shedding down the valley like torrents on both sides of the road.



Engineers Ireland President PJ Rudden with Rodney McDermott
Chairman of Donegal Region and the Region Committee

Passing through County Fermanagh I could not miss the huge tourism offering that is now Lough Erne and the neatly maintained road side and farm hedges all the way to Aghalane Bridge in County Cavan. I stopped at the new bridge named after Senator George Mitchell which I had helped to build working as consultant to Cavan County Council in 1998. It was built on the back of the Good Friday Agreement signed earlier that year which the Senator had brokered in Belfast. I also met the Senator at the Bridge ceremony later that year where he spoke frankly on 'how the peace was made' that Good Friday night.

I walked south of the Border to the artistic feature that always summed up the new peace that came 'dropping slowly' as the arms were laid down on both sides and people returned to their families. The sculpture at the bridge sums it all up 'Peace for All - welcome home the war is over'. The sculpture shows the warrior with the broken sword being welcomed home by his loved one.



Peace sculpture at George Mitchell Bridge at Aghalane on Border

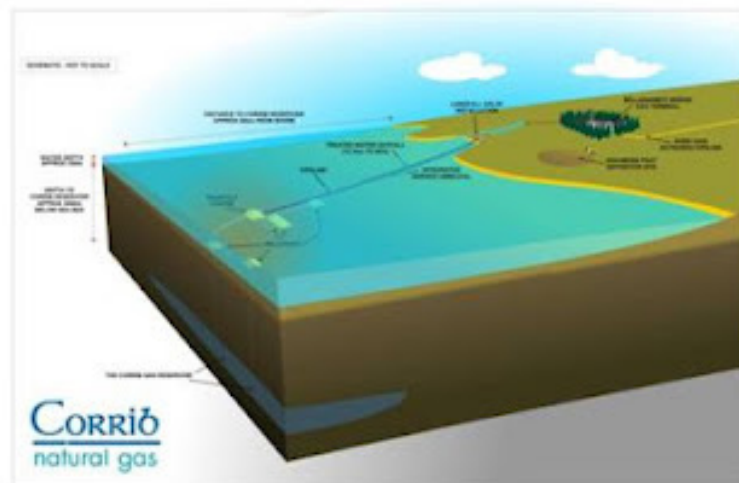
I was born and grew up a short distance from the border in County Cavan and will never forget the symbolism of that new bridge across the Border nor the sculpture that depicts the real story of Northern Ireland. It had a special resonance with me also as days later I headed to the Europa Hotel and City Hall in Belfast as President to open the Engineers Ireland Annual Conference on 'Engineering Enterprise in Times of Change'.

FRIDAY 18 MAY 2012

Visit to Corrib Project in Mayo

The largest project currently under construction in Ireland is the Corrib Project in Mayo led by Shell E & P Ireland Ltd (SEPIL) partnered also by Statoil and Vermillion - collectively called the Corrib Gas Partners.

This project at peak production will supply 60% of the nation's natural gas and overall will contribute €6billion to Ireland's GDP over its lifespan according to Goodbody Economic Consultants commissioned by Shell. Over the next three years the project will invest €400million in Mayo sustaining the equivalent of 382 full time jobs and 450 indirect jobs.



Overall Corrib Development Project

I was therefore very pleased to lead an Engineers Ireland visit to the site supported also by The Energy Institute, IBEC and Mayo County Council. The visit was kindly organised by our West Region chairman Professor Padraic O'Donoghue of NUIG and attended also by Engineers Ireland Director General John Power and Dept of Communications Energy and Natural Resources Chief Technical Adviser Bob Hanna.



Seated from left to right: Neil O'Carroll (MD of Conoco Philips), Chair of IBEC Energy Policy Committee; Prof Pádraic O'Donoghue (NUIG), Chairman of Western Regional Branch of EI; Brendan Butler, Corrib Deputy Project Director, Shell E&P Ireland Limited; PJ Rudden, President of Engineers Ireland; John Power, Director General, Engineers Ireland; Gerry Campbell, Corrib Project Director, Shell E&P Ireland Limited; Erik O'Donovan, IBEC; David Taylor, Chairman of the Energy Institute. Standing, from left: Brendan Mulligan (Údarás na Gaeltachta), Western Regional Branch of EI; Neil Walker, IBEC, Energy Policy Committee; Padraic Fogarty (Tobin Engineering), Western Branch of EI; Wolfgang Probst, Operations Manager, Shell E&P Ireland Limited; Pat McHale, Mayo County Council; Simon Stanton, Commercial Manager, Shell E&P Ireland Limited; Pat Downes, Director of Bord na Móna; Bob Hanna, Chief Technical Advisor, DCENR; Muredach Tuffy (Mayo County Council), Western Regional Branch of Engineers Ireland

The visit was hosted by Gerry Campbell SEPIL Project Director responsible for planning construction and commissioning of the project. Gerry was assisted by his colleagues Brendan Butler, Simon Stanton and Wolfgang Probst. We firstly visited Bellanaboy Gas Terminal and then the Aughoose Tunnelling Compound where construction is well advanced. The Terminal, Offshore Pipeline and subsea wells are complete; only the 8.3km long Onshore Pipeline now remains to be constructed. Approximately 4.9km of the Onshore Pipeline will be installed within a 4.2m diameter tunnel under Sruwaddacon Bay. Tunnelling will start at Aughoose in late 2012 and it is expected that the tunnel will be completed in approximately 15 months. Tunnel Boring Machines (TBMs) are often named – the Corrib TBM is named Fionnuala after one of the Children of Lír - Sruwaddacon Bay features in this famous Irish legend. It is anticipated that the Corrib Onshore Pipeline will be completed by late 2014 when 'First Gas' will arrive onshore.



Broadhaven Bay leading into Sruwaddacon Bay on the right

It's been a long and difficult and indeed contentious project over the past 12 years. It is however very obvious to all visitors that there is a genuine commitment to complete the project to the highest safety standards and in partnership with the local community.

It will also be built fully in accordance with the requirements of the Environmental Protection Agency (EPA), An Bord Pleanála and the Commission for Energy Regulation (CER).

On both sites we visited, the high standard of safety was clear at every turn as the complexity of construction and operational features were explained to us by Shell personnel. The site has a fantastic safety record when one considers the level of activity in a relatively confined area.

We wish the project well to completion.

MONDAY 21 MAY 2012

Visit to Kilronan Harbour and Innishmore on Aran Islands

In the past few weeks I completed my round of Presidents Visits nationally to Infrastructure Projects by flying to the Aran Islands to view the recently completed Kilronan Harbour on Innishmore.



Kilronan Harbour under construction with breakwaters in the foreground (2009)
Courtesy of <http://www.mpp.ie/>

Flying with me was the Chairman of the West Region, Padraic O'Donoghue Professor of Civil Engineering at NUIG, Consultant Joe Murphy of Punch Consulting who designed the harbour and Regional Director Pat Nestor of BAM Contractors who built it.

We were met by Kevin Finn Senior Marine Engineer Galway County Council and by Cathy Ní Ghoill Bainisteoir of Comharchumann Forbartha Árann (Manager of Innishmore Co-op) and Board Member on Údarás na Gaeltachta. Cathy also chaired the island's own Harbour Committee who were key stakeholders in the planning design and construction of the harbour by Galway County Council.



On the new harbour quay Padraic O'Donoghue, Pat Nestor, Joe Murphy, Cathy Ní Ghoill and PJ Rudden

Kilronan Harbour costing some €40million is the largest project completed on an offshore island in the history of the state. It is a magnificent new facility that has and will continue to transform transport services to and from for islanders and tourists alike in addition to providing for the fishing and cargo industry also.

The harbour required construction of a 550m long breakwater to protect it from the Atlantic swell in Galway Bay. Separate berthing facilities were required for ferries, fishing vessels, cargo boats and the RNLI Aran Lifeboat in addition to car parking facilities to accommodate all harbour users.



On new breakwaters with existing pier, ferries and Aran Lifeboat in background
Padraic O'Donoghue, PJ Rudden and Cathy Ní Ghoill

When we were on Innishmore we also viewed a number of very interesting waste, energy, childcare, assisted living and amenity projects all proposed and built by the Comharchumann with funding from the various public agencies. They are all very impressive and rival similar projects anywhere on the mainland in Ireland. Cathy as Co-op Manager together with her deputy Geraldine and staff member Breda is responsible for all of them in terms of furthering community development on the island.

The waste recycling project set up by Timpealleacht na nOileán (now known as Athcursala Árann Teoranta) is one of the few national composting projects fully licensed by the Dept of Agriculture and Food under the EU Animal Byproducts Directive. Managed by Gerry Mullin who works for the Co-op recycling company, the depot is thus capable of recycling all of the catering waste from the restaurants on Inis Mór (there are similar facilities on Inis Meáin and Inis Oirr) in addition to the household food waste from the houses there. This would put many of our cities and towns in Ireland to shame where the 'brown waste bin' for food waste does not yet have the penetration levels that it should at this stage of our national development.



In Athcursála Arann recycling depot, Engineers Ireland visiting group
with Gerry Mullin Depot Manager

Cathy also showed us the Automatic Diesel Refuelling Depot, the Retirement Home and the Island Crèche. The use and storage of petrol on the island is forbidden under safety regulations so all cars on the island use only diesel - except for the 6 electric cars recently supplied to the islanders by SEAI and Electric Ireland as a pilot scheme to test the cars in the harsh Atlantic environment!

The very colourful two storey 6-roomed architect designed crèche would certainly be the envy of most childcare communities in Ireland. Also the new playground in Kilronan is the largest and most colourful amenity I've seen anywhere in Ireland in terms of size, design and sheer range of outdoor equipment to cater for all ages from 3 to 17 year olds.



In new Kilronan Community Playground at back Padraic O'Donoghue and Pat Nestor
at front PJ Rudden and Cathy Ní Ghoill

From all of the above one might think that the population of the Aran Islands is growing quickly. It's not unfortunately but it's not falling either so there is every hope that all of these new amenities

might encourage young families to stay. Aran is a unique national heritage and needs all of these supports to make life closer to the relative comforts of the mainland.



In new harbour car park with Kevin Finn Senior Marine Engineer Galway County Council

Even convincing the tourists who come to the prehistoric fort Dun Aonghusa to stay overnight can be difficult and yet there can be no tourism industry on Aran unless we regrow a new young vibrant community there.



View of Dun Aonghusa
Courtesy of www.galway.net

Great credit is due to former Minister Eamon O'Cuiv over the past 10 years who pushed and funded most of the infrastructure we saw, to Galway County Council and to Comharchumann Arann for their collective foresight to keep the Aran Islands alive.

MONDAY 21 MAY 2012

Opening World Congress on Water Climate and Energy in Dublin

Last week I had the pleasure of opening the World Congress on Water Climate and Energy in the Dublin Convention Centre together with Irish MEP Mairéad McGuinness and Mr Paul Reiter Executive Director of the International Water Association (IWA). The reason I was asked to do this was that Engineers Ireland is the National Governing Body for the IWA who organised the conference. It was last held in Dublin in 1992. The conference running for 4 days was attended by 1,200 delegates from all over the world with many exotic examples of traditional forms of dress and headgear on display.



I used the opportunity to update the Congress in the new Irish Government initiative on Irish Water and to set this development in the context of European Water Policy generally.

Water is the key to life we know. It is also an increasing challenge to preserve it as a crucial resource for humanity - not least because the world population continues to grow and yet we cannot make more water! To further increase the challenge, water tends to be in abundance where most people generally do not live. This is true of the world and it's equally true in Ireland. Wars have been fought over access to water which is no surprise as humans can live for a month without food but will die in less than a week without water. Indeed the Vice President of the World Bank was heard to say in 1995 that 'many of the wars in this century were about oil but those of the next century will be over water!' Whether water will start wars or not we are not sure but we ARE sure that with the world population still growing that water will become an ever scarcer resource to be managed and indeed cared for.



PJ Rudden President of Engineers Ireland and Ray Earle Congress Chairman

Ireland generally has good air and water quality. In addition, energy intensity or energy use per unit of GDP is also the lowest among OECD countries. However despite this positive progress the current economic climate in Ireland represents a challenge for maintaining environmental commitments. It also presents opportunities to reassess and reform those policies that are both economically costly and environmentally damaging - like not charging households for water usage, tolerating internationally high leakage rates from our water networks and sending more waste to landfill than is necessary when cleaner alternatives like recycling and energy recovery exist.

I might even say that there's nothing more powerful to effect real change in society than a good crisis. So let's not waste a good crisis and fix what is broken in our economy. That includes the management of our Water Resources.

Therefore this year as part of our economic recovery plans we are about to oversee a transformation of the Irish water industry. The Government here have concluded that a new national public utility as part of an existing utility Bord Gais offers the best opportunity to improve the efficiency and effectiveness of water service delivery, provide access to new funding sources and to improve strategic planning and accountability.

The new utility model to be called Irish Water or perhaps in Gaelic 'Uisce Eireann' will replace the historical role of 34 existing local authorities in this regard. This is seen as essential structural reform to deliver maximum efficiency in our water infrastructure and also because we had no funding model as Ireland does not meter or charge for water to domestic consumers. Currently only commercial and industrial customers are metered by the local authorities. Indeed thankfully it was

made a condition of our IMF financial bailout that in future we charge all of our consumers for the public water that they use. A national metering programme will therefore soon commence which in time will fund a new investment programme to modernise and upgrade our water services based on use related charges.



Hosting a group of delegates from the World Congress on Water Climate and Energy to Engineers Ireland HQ in Dublin. Back Row: Martin Nixon Sydney, Professor Michael Bruen UCD, Jerry Grant RPS Front Row: Ray Earle Congress Chairman, PJ Rudden President of Engineers Ireland, Roisin Bradford UCD and Dr Glen Daigger President of International Water Association

While there is some political opposition to this proposal I want to say here that Engineers Ireland fully support the Government's action, including the introduction of water charges on domestic dwellings. This not only makes economic sense - it also makes good environmental sense in terms of the "polluter pays" principle as an incentive to conserve the finite resource that is water. Householders currently pay for every other utility like electricity gas and communications so why not also for water on a 'pay by use' system. It should not however have taken an economic crisis in Ireland for us to come to our senses in this regard.

Ireland has also made very good progress on the implementation of the EU Water Framework Directive requiring Member States to protect and restore the quality of waters on a river catchment basis. In Ireland River Basin Management Plans for each of the 7 river basin districts have been adopted. The plans set out the current status of our waters, the objectives to be achieved by 2015 and a programme of measures in order to achieve those objectives. Water pollution from septic tanks and other on-site wastewater treatment systems is also being addressed through the introduction of legislation for their inspection and performance monitoring. This we support also in terms of Minister Hogan's proposal.

Therefore in Ireland despite our recent economic difficulties we remain optimistic that by adopting the right economic, social and environmental responses that we as a country, are on our way back to prosperity but hopefully a more equitable and more sustainable form than we experienced before. We remain fixed on maintaining our membership in a strong Europe which has been the bedrock of our recent environmental sustainability.

We remain committed to the principles of the Europe 2020 Strategy in terms of its five ever ambitious objectives on employment, innovation, education, social inclusion and climate/energy. Most relevant of the 7 Flagship Initiatives is Resource Efficiency in our economies which have a special relevance to Water, Climate and Energy. We expect this resource efficiency to be a creator of major economic opportunities in each of our sectors and of improving productivity. A resource efficient Europe will deliver smart, sustainable and inclusive growth but these objectives must now be tempered by the new rules of economic governance applied by the EU Stability Pact Treaty.

In terms of our future approach to Water we very much look forward to the EU Blueprint to Safeguard Europe's Water Resources to be published later this year. This will build on the progress made with the EU Water Framework Directive and further consolidate our water framework legislation. It will ensure a sustainable balance between water demand and supply and the natural ecosystems they depend on.

Thursday 24 May 2012

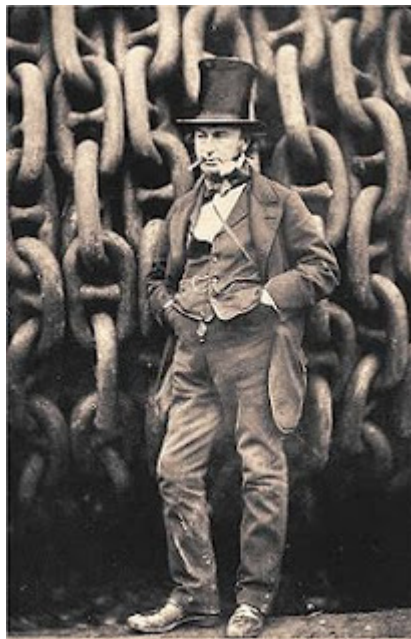
Cuairt ar An Roth

Cúpla miosa ó shin, cuir me cuairt ar An Roth I gCumann Innealtoirí na hÉireann. Bhí Cathaoirleach An Roth an Doctúir Fionn O Muirheartaigh ina gceannais ag an uair sin.

Ins an Céad Oráid mar Uachtaráin Mi Bealtaine seo caite, deir mé go bhfuil suim agam sa Gaeilge agus ag an abhar sin déanfadh mé mo dhicheall freastal ar cuairt amháin no beidir faoi dhó i rith mo bhlian as Uachtaráin.

Freastal mé ar leacht Matt Hussey iar-cheannaire eolaíochta i DIT ar “An Chichipéad Eolaíochta agus Teicneolaíochta”. Bhí slua reasúnta i labhair agus roinnt daoine eile ar an líne ríomhaire ina theach no oifig fhéin. Leacht ana suimiúil a bhí ann a chuir comhtheacs ar stair an eolaíochta and teicneolaíochta and an ceangail ata idir an dá ábhair.

Cloisimid faoi na Eolaí agus na Innealtoirí cailiúil i rith na céadta mar shampla. Copernicus, Lavoisier, Laplace, Faraday, Brunel, Stephanson, Volta, Boyle, Hamilton, Boole and na céadta eile. Cloisimid freisin ar an éifeacht mór a bhí ag baint leis na fionnachtáin agus na claichlú a rinne siad ar caighdeán beatha na ndaoine ar fad an domhain. Fuair me fochlóir nua ar na céadta tearma teicneolaíochta as Gaeilge. Bhí an leacht abhartha don saol ata inniu ann agus go háirithe ar an gearróráid a bhí agamsa don Roth. Freisin bhí pictiurí ana suiliúil ag Matt mar shampla - An Bealach na Bo Finna (The Milky Way phenomenon in outerspace) nach chonaic mé riamh roimhe sin.



Isambard Kingdom Brunel



Robert Boyle

Seo é an oráid beag a rinne mé fhéin ar an oíche sin tas éis leacht Matt Hussey.

Anuraidh i mí Bealtaine 2011 bhí me tofa mar Uachtaráin ar Cumann Innealtóirí na hEireann. Is mór an ónóir domsa bheith pairteach sna gluais mór naisiúnta seo le cathair a ghabháil do tír le fás agus forbairt a áthbheochaint and fostaíthocht a leathnú sna toinscail teicneolaíochta.

Cad is fath don Chumann san lá ata inniu ann? Bhuil is guth náisiúnta fíor nó udarach é ar son an gairm innealtóireacht uilig san Éirinn. Ta fómhór an fás eacnanaíochta atá ar bun na laethanta seo ag tarlú ins na fiortair fearma, an ríomhaireacht, bith-theicneolaíocht and ins an tionscail fuinneamh.

De réir na meáin cumasáide ta an fás agus an forbairt seo ag teacht ón Eolaíocht amháin. Ta sé sin beagnach ceart! Is as na Tionscail Innealtóireachta atá na jobanna a chruthnú!! Tá an Eolaíocht ceart go leor ach is an Eolaíocht agus an Maitimatic bunaithe ar an Innealtóireacht. Tá na hInnealtóirí ag chruthú na jobanna sin mar is an Innealtóireacht a deanann an Eolaíocht ina fiontar trachtála ar an gceád dul síos. Níl sé sin áisúil a rá áfach!

Tá Comairle an Chumann ag obair ana dícheallach an bliain seo! Tá muid ag iarradh proifíl an Innealtóir Cairte no Gairmúil (CEng) a chur chun tosaigh leis an fogra ar an teilifís ar RTE, SKY agus na meáin mar sin de.



Dún Duchathaoir Arann

Taimid tar éis na Riallacha Ballraíochta a airdú conus go mbeadh Céim Mhaistir nó comhbhrí ag gach éinne a bhuil CEng á lorg. Freisin tá na heolaí imshaolach nó na gairm nach bhuil céim innealltóireach acu ach go cinnte tá said ag obair ar scéimanna innealltóireachta tabhartach. Da bhár sin anois tá siad in ann an MIEI a ghnóthaigh or a baint amach anois freisin.



Criunniú na mBád

Ta mé tar eis cuart a gabháil ar beagnach gach coláiste triú leibhéil agus beagnach gach fiontar taighde in Eirinn mar shampla Institiuid Tyndall I Corchaigh agus Institiuid Nasiúnta na Mara I nGaillimh agus na cúigead roinn innealltóireachta I gColaiste Ollscoil Blath Cliath. Sé an spreagadh a bhí agam ná tabhair chun súntais conas atá Oideachais ina síol don Fiontar agus ina ndhiadh sin, ina síol an Fhostaíocht a leathrú. Se an ábhair a bhí ar mo Oráid Uachtaráin ná ‘Building a Sustainable Recovery’ (Téarnamh Eachamíocht a Athbeochaint).



Ar an Cuan Nua i Cill Rónáin bhí An Ollamh Pádraic MacDonnacha NUIG,
Padraig Ó Rodáin Uachtarán Chumann Innealtóirí na nEireann
agus Cathy Ní Ghoill Bainisteoir Comharchumann Forbatha Arann

Freisin tá mé ag chur cuart ar sceimanna bonneagar mar shampla bhí me ag an Droichead Nua Mizen in iarthar Chorcaigh i mhí Lunasa, ag Tullán Luimhnigh I mí Feabhra, ag Sceim Draenála i gCeatharlach in Mí Eanair, go hArainn i Chuan na Gaillime I Mí Bealtaine. Chuaigh mé go Chill Ronáin leis an cuan nua i Cill Ronáin a fheiceáil in éineacht le Chomhairchumann Arann agus an Bainisteoir iontach sin Cathy Ní Ghoill atá ar bhall Bord Udarás na Gaeltachta freisin. Bhí me ina comhairleoir don Chomharchumann de bhliain ó sin ar scéim nua athcusála a chur ar bun. Sin an gealltanais a rinne me anuraidh and sin a rinne mé - le cathair a tharraing do na hInnealtoiri and na daoine sna ceantair eagsúla timpeall na tíre.

THURSDAY 24 MAY 2012

Visit to Limerick IT

Limerick Institute of Technology is in fact in Cratloe in County Clare north of the new Limerick Tunnel. I discovered this on a recent visit to the college organised by Thomond Region Committee Member Maria Kyne who is Head of School Built Environment.

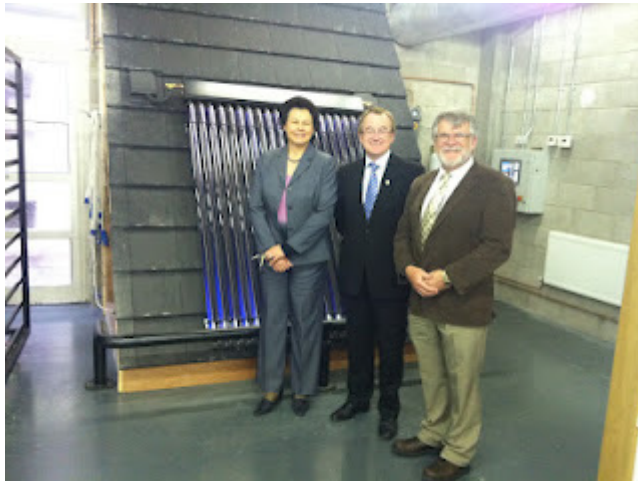


Left to right – Seamus O’Sullivan (Lecturer), James Collins (Head of Department Built Environment Management), Paschal Meehan (Head of School Science, Engineering and IT), PJ Rudden President of Engineers Ireland, Maria Kyne (Head of School Built Environment), Pat Gill (Head of Department Construction and Civil Engineering), James Greenslade (Acting Head of Department Electrical and Electronic Engineering).

I met Maria and her colleague Paschal Meehan Head of School Science, Engineering and IT who kindly gave me a tour of the college where I met both staff and students. Indeed I was also glad to meet Seamus O'Sullivan and Gerry Ryan both former classmates of mine in UCD and both now lecturing at the college. Seamus was Limerick City Engineer for a period of major infrastructural development in the City prior to taking up a lecturing role at Limerick Institute of Technology (LIT).



Paschal Meehan in the Electronics Laboratory with PJ Rudden



Maria Kyne, PJ Rudden and Paschal Meehan in Solar Energy Laboratory

LIT specialise in civil mechanical and electrical engineering in addition to construction management studies. Both areas that are currently growing in the college are electronics and the whole area of studio sound and acoustics for music and theatre events which I visited to view some dress rehearsals. Firstly I toured the surveying, motor engineering and electrical engineering depts meeting various staff members and students.



Gerard Meagher (Lecturer) and PJ Rudden President of Engineers Ireland in the Music Media and Performance Technology Department



Maria Kyne and Paschal Meehan in the Motor Engineering workshop with PJ Rudden

I then visited some of the music centres where students at various stages were testing their sound and acoustic talents in advance of gaining employment in radio TV stage and screen.



PJ Rudden President of Engineers Ireland and Peter Diffley (technician)
in the LIT Millennium Theatre

I was brought into the LIT Millennium Theatre where I was shown the equipment used to mix the sound and music effects of a full production.



Ger Hartigan and PJ Rudden President of Engineers Ireland
in the Surveying Department

I left LIT realising that every IT has its own set of specialist areas and service specific areas of the economy. LIT graduates have project management skills for construction and logistics management in industry generally and also specialise in producing graduates who are the engineers that make stage and screen events happen in Ireland and internationally wherever they go.

THURSDAY 24 MAY 2012

Annual Conferring of Titles

Over the past few weeks I had a busy round of Conferrings of Titles around the Regions and finally in the Helix DCU last Friday. These Conferrings were to the Titles of Fellow, Chartered Engineer, Associate Engineer and Technician Engineer. Travelling with me in each case was Shirley McDonald our Membership Growth Manager who organised the events together with the local Region Chairmen.



PJ Rudden President Engineers Ireland, Shirley McDonald Membership Growth Manager
and Professor Padraic O'Donoghue Chairman of the West Region

In March I had the first Conferring of Titles in the North West Region in Sligo. Then in April we had the same ceremony in the Cork Region. In May, we commenced in Limerick with the Thomond Region on May 1st followed by the West Region in Galway on May 9th and the Midland Region on May 14th. The National Conferring for the East coast and other regions were then held in the Helix DCU in Dublin on May 18th. I was delighted to see the family event that these conferrings have become where increasingly partners and children attend.

The National event included the annual award of Fellowships by Presidential Invitation. These were awarded for outstanding achievement in building national infrastructure, research leading to job creation, balanced regional development in addition to long service to Engineers Ireland. The seven recipients this year were Gerry Campbell of Shell, Andrew Cooke of EirGrid, Orla Feely of UCD, David Kirwan of Bord Gáis, Michael Loftus of CIT, Liam Madden of Xilinx and John Quinn of the North East Region.



President presents Fellowship of Engineers Ireland to Gerry Campbell
Project Director of Shell E&P Ireland Ltd



President presents Fellowship of Engineers Ireland to David Kirwan
Managing Director of Bord Gáis Energy

The event in each region also coincided with the AGM where the new Chairman and Committee for each Region were elected. I therefore witnessed the 'changing of the guard' in each region. In the Thomond Region the Chairmanship passed from Kieran Horgan (Consultant Engineer ex ESB) to Peter Tiernan (UL), in the West Region from Padraic O'Donoghue (NUIG) to Christy O'Sullivan (RPS) and in the Midlands Region from John Jordan (Wirtgen Ireland Ltd) to Damien Grennan (Offaly County Council).



President welcomes the new Thomond Region Chairman
Peter Tiernan of University of Limerick



President welcomes new West Region Chairman Christy O'Sullivan of RPS Group

At each regional event, I was also pleased to present my **Presidential Address** which I originally gave in Clyde Road last September. The substance of the address had not changed but I updated it to give it greater relevance to each of the regions themselves in terms of my particular visits to that region during the years.



Eoin Greaney of Pavement Management Services being presented with Chartered Engineer title in Galway by President PJ Rudden and Chairman of the West Region Padraic O'Donoghue
- Eoin is joined by his wife and 3 children



In Tullamore President and Midlands Chairman presents Chartered Engineer title to Linda Parkinson of Laois County Council

I was able to strengthen the address also in terms where Government had heeded what I had said in September and had made policy changes in the meantime. This was obvious to me in two important policy areas.

1. I had called for the re-initiation of long term economic planning as we had in the early 1960s in time of TK Whitaker and other national greats who led us forward.

Only in recent weeks the new Secretary General in Dept of Finance John Moran announced that a new economic unit was being set up to better plan not only our economic recovery but to look beyond that phase of national development in the future. John Moran had recently been recruited into the public service from the private sector where among other things he ran a series of juice bars in the South of France. He was thus bringing lateral thinking and a welcome business acumen to

the work of Government. He also represents a shift from the past less regulated thinking that practically brought the country to its knees. Well done to Minister Noonan who appointed him and to Minister Howlin who appointed a man of similar background and calibre in Robert Watt as Secretary General in the new Dept of Public Expenditure and Reform.

2. In Education I called for a new 'joined up thinking' between primary and secondary education in all subjects but particularly in Maths teaching and learning.

The new Junior Cycle reform agenda being planned by Minister Quinn includes for reconfiguring that transition between 5th and 6th class in Primary school and 1st year in Secondary school. Previously as we pointed out in our 2010 Maths and Science Report there is no 'end of school assessment or report card' at the end of Primary to give any guidance to the secondary teachers on their new pupils which I found to be odd in the extreme and not resource efficient in terms of teaching and learning. Happily the new Junior Cycle curriculum 'Innovation and Identity' recognises this failing and seeks to correct it. Increasingly it is becoming obvious that it is at Junior Cycle that most of the issue with Maths learning exists as the unqualified Maths teachers are usually sent into this cycle and those better qualified sent into the Leaving Cert classes. The sooner the better this whole Maths situation gets rectified as it will take at least a generation for the new learning processes to embed.

THURSDAY 24 MAY 2012

Exploring the Burren in North Clare

I spent a few days holidays hiking around the Burren just prior to the Engineers Ireland AGM on May 24th. I had never been there before and found it a terrific natural heritage resource with huge tourism potential.



PJ Rudden outside Aillwee Cave entrance

This resource is also managed sensitively by the public bodies and all of the stakeholders involved. This is because they understand its heritage value and the degree to which a sustainable tourism product can co-exist to suit local people and the unique heritage in their midst.



PJ Rudden at Poul nabrone Dolmen
on Burren Landscape

The Aillwee Caves are the result of water erosion of weak limestone rock and is now one of the main tourist resorts as is also the Poul nabrone Dolmen both of which were attracting busloads of foreign tourists even in the month of May. In fact Aillwee Caves was only discovered in the 1940s by a local farmer who lost his dog into a hole in the ground chasing a rabbit. The farmer went looking for his dog through the opening in the ground and some hours later managed to find not only the dog but the natural heritage feature which is now known as the Aillwee Caves. This story was told by Lorraine Shannon one of the local guides who is an archaeologist.



Lorraine Shannon local archaeologist and guide
and PJ Rudden in Aillwee Caves

Both the cave and the dolmen are beautifully illustrated on signs together with many hundreds of other interesting features. There is little doubt that the Burren in North Clare will probably become Ireland's 3rd World Heritage Site after Skellig Michael and Brú na Bóinne.



Flora at the Burren

The limestone landscape is interspersed with a wide range of flora which are in abundance at this time of year. All in all a lovely way to spend my last few days as President.

FRIDAY 25 MAY 2012

Annual General Meeting and Goodbye

This is my last blog following the 2012 Engineers Ireland AGM. Last night I was pleased and indeed proud to pass the President's chain of office to Michael Phillips Dublin City Engineer as our new President.

It's been a great year to be part of Engineers Ireland and to work with the great people there - John Director General and Directors Fionnuala, Margie, Aiden, John and John and their lovely staff who do us proud on a daily basis.

I wish Michael every success during the coming year supported by Vice Presidents Dr John O'Dea CEO Crospon and Regina Moran CEO Fujitsu. In his Inaugural Address last night he set the tone for a year of positive engagement with the members at home and especially abroad who may come home someday. He also exemplified the spirit of public service towards society that he and others in the local authority and public sector strive to deliver to us all on a 24/7 basis.

To all the readers and followers of this blog a heartfelt thank you for coming on this special 'journey of discovery' with me during the past 12 months.

Goodbye and may your God go with you!

