

How the use of BIM has assisted in Abbvie Cork's drive for Sustainability

Client requirements BIM

Rochestown Park

24th February 2016



AbbVie Cork



Site | History



- **Purchase of Site by Fournier 2001**
 - Manufacturing and R&D facility built on site
 - IMB commercial licence in 2003
 - FDA approved in 2004
 - IMP licence in 2004

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Site | History



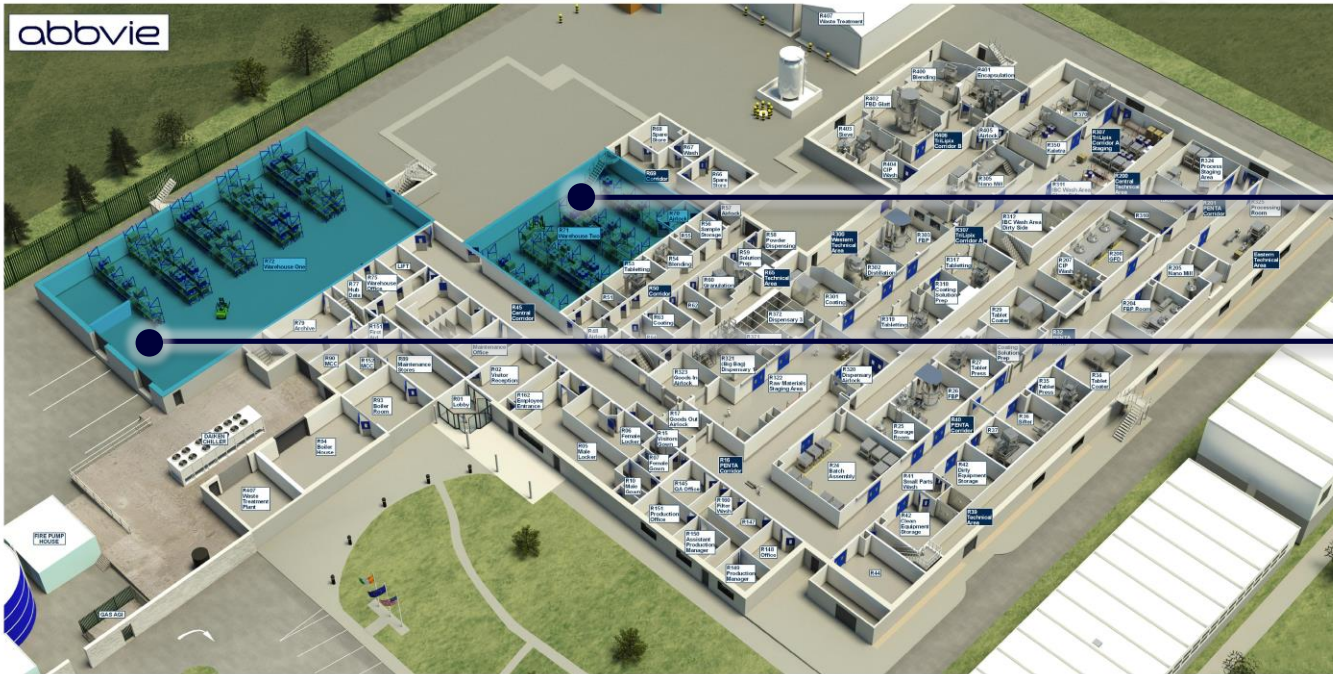
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 - Site Expansion in 2006
- **Acquisition of Solvay by Abbott 2010**
 - Transition of site to a multi product platform

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 - Site Expansion in 2006
- **Acquisition of Solvay Pharmaceuticals by Abbott 2010**
 - Kaletra transferred to the site
- **Creation of AbbVie 2013**

About | AbbVie in Cork



Warehouse

New Production
Facility

MAKE
POSSIBILITIES
REAL

About | AbbVie in Cork



1/10th scale

MAKE
POSSIBILITIES
REAL

About | AbbVie in Cork



Dispensary

MAKE
POSSIBILITIES
REAL

About | AbbVie in Cork



Manufacturing

MAKE
POSSIBILITIES
REAL

Site | Manufacturing Capability & Capacity



- **11,800 m² facility on 13 acre site**
- **Modern high-tech Solid Dose Manufacturing Plant**
 - 3000 m² Manufacturing area
 - 2500 m² On site and off site warehousing
- **Small-medium size plant**
 - Capacity 2 billion tablets/year
- **Specialised technologies to support all solid dosage presentations**
- **Fully SAP integrated**
- **Modern high technology laboratories**
- **Commercial Products and NPI platform**
 - Scale-up facility (1/10th scale) with corresponding laboratory

Site Team | In People we find our passion

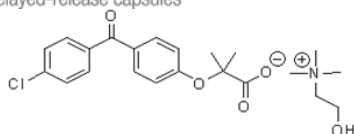
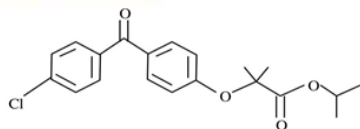
- **133 permanent colleagues, supported by temporary and contract staff**
 - Day, 2, 3 and 4 shift operation
- **72% of total workforce educated to third level**
- **Site talent development program at all levels**
- **All individuals are trained in Business Excellence & Lean Methodology**
 - Flexibility & Performance Driven
 - Delivering to our Customers on time
 - Compliance
- **90 % Agree it's a great place to work**



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Our Products

Our Products | Dyslipidemia



- **Dyslipidemia is defined as disorders of lipoprotein metabolism, including lipoprotein overproduction or deficiency**
- **Fenofibrate reduces both low-density lipoprotein (LDL), as well as increasing high-density lipoprotein (HDL) levels and reducing triglyceride levels**
- **TriCor:**
 - Technology - NanoCrystal Technology
- **Trilipix:**
 - Technology - Controlled release minitabket with sustained Drug delivery


Our Products | Virology



KALETRA[®]
(lopinavir/ritonavir)

- **KALETRA[®]** (lopinavir/ritonavir) is a prescription HIV-1 medicine that is used with other HIV medicines to treat HIV-1 (Human Immunodeficiency Virus) infection in adults and children above the age of 2 years
- **Technology:**
 - Meltrex formulations combined in one tablet
 - Establish a supply chain relationship with APL and LU sites
- **Dosage Form:**
 - Tablet Lopinavir/Ritonavir 200 mg/50 mg

Our Products | HCV / VIEKIRAX

3D Regimen	
	Morning
	<div>450/r/267 450/r/267</div> <div>333</div> <div>+/- Ribavirin</div> <div></div>
	Evening
	<div>333</div> <div>+/- Ribavirin</div> <div></div>

VIEKIRAX: New interferon and ribavirin-free treatment option for patients with most common type of hepatitis

- **Manufacturing site for tablet formulation**
- **Technology:**
 - Product based on three different meltrex formulations combined in one tablet
 - Concept product for continuous manufacturing
 - 1st product to utilise DWL (Die Wall Lubrication during compression)

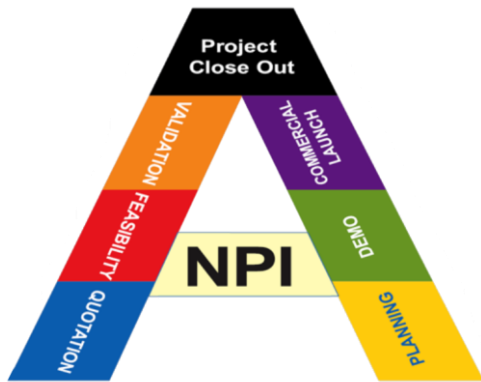
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Advancing the Pipeline



REC-0160075b - Date of Preparation
February 2016

Pipeline | Focus on Enablement



- **A Robust NPI Process**
 - Fast & efficient
 - Maintain highest compliance levels
 - Drive innovation in everything we do
- **Drive Change Effectively**
 - Manage complexity
 - React & adapt quickly
- **Challenge Systems**
 - Improve speed and reduce bureaucracy
- **Work as partners and listen and learn from each other**
 - Strategic partners R&D and MS&T
 - Foster a 'can do' attitude across the site
 - Site of choice

A photograph of two women in a kitchen setting, smiling and engaged in gardening. The woman on the left has long brown hair and is wearing a white cardigan over a tan top. The woman on the right has short brown hair and is wearing a bright green button-down shirt. They are both looking down at small potted plants on a table. The background shows a kitchen with wooden shelves and a window. The overall mood is warm and positive.

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The AbbVie Way

EHS&E | Standards



Cork was amongst the first plants in the World to hold all 3 EHS&E International Management System Standards

- ISO 14001: 2004
- OHSAS 18001: 2007
- ISO 50001: 2011



Cork Manufacturing Receives Management Award

STORY HIGHLIGHTS

- Cork, Ireland facility receives energy management award
- Manufacturing site praised for energy efficiency, reduction



Celebrating

7 Years Without a Lost Time Accident



Performance Record | By the numbers



WHAT WE DELIVER
OUR BUSINESS

A bench mark site for Lean Operations

Performance Record | By the numbers



WHAT WE DELIVER
OUR BUSINESS

A bench mark site for Lean Operations

Over 7 Billion Tablets Delivered

Performance Record | By the numbers



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Customer Service of 100%

Performance Record | By the numbers



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Productivity Increase of 30% over 2-Year Period

Performance Record | By the numbers



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Productivity Increase of 30% over 2-Year Period

45% Reduction in Lead Times

Performance Record | By the numbers



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2011 Premier Plant

Performance Record | By the numbers



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Class A certified

Performance Record | By the numbers



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Over 7 Billion Tablets Delivered

Customer Service of 100%

Productivity Increase of 30% over 2-Year Period

45% Reduction in Lead Times

2011 Premier Plant

Class A certified

Highest compliance rating by HPRA

Performance Record | By the numbers



WHAT WE DELIVER
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Over 7 Billion Tablets Delivered

Customer Service of 100%

Productivity Increase of 30% over 2-Year Period

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2011 Premier Plant

Class A certified

Highest compliance rating by IMB

7 NPI Process Validations completed

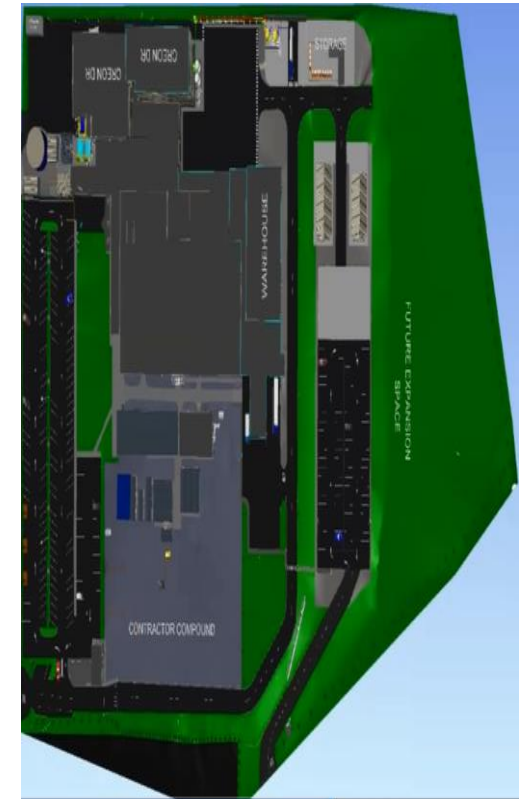
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Sustainability

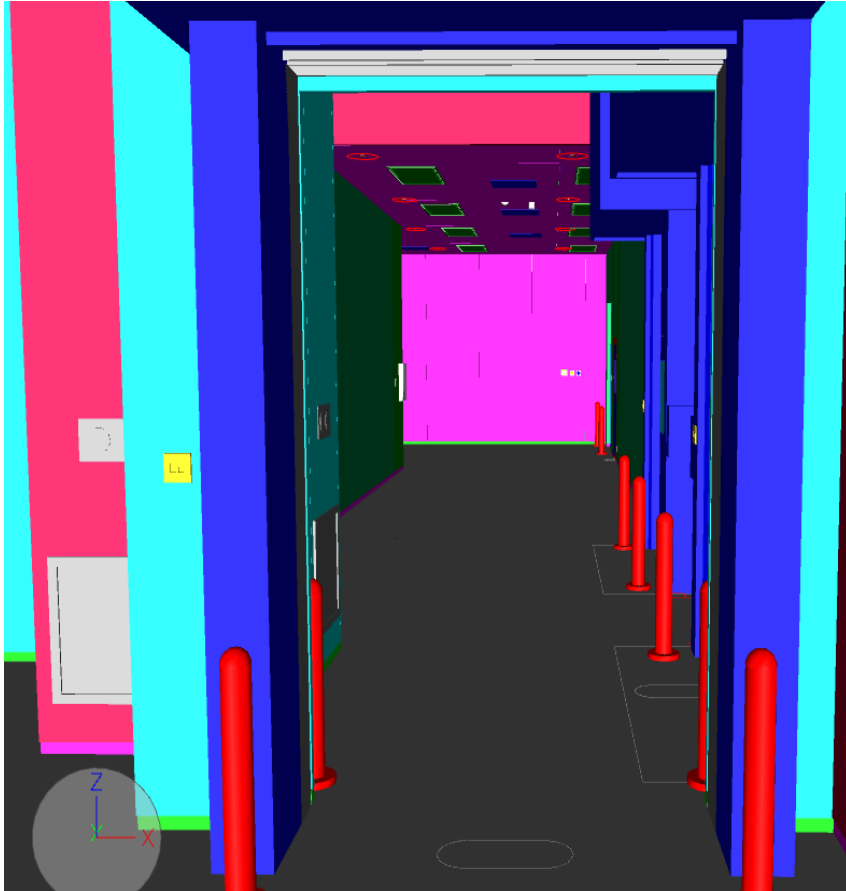
Abbvie and BIM

Abbvie Cork in 2015 were tasked with the execution of a complex Process Introduction which required both construction and Product Development.

- Utilised Design Build Project Implementation
- Harnessed BIM as an interactive tool in all phases of the Project
- Speed up the design process
- Aided in resolution of highlighted issues early in the project
- Assisted with the piping and electrical designs along with general facility and utility layouts.
- Very beneficial as a visual tool, which enabled a cross functional team to have full visibility of the design



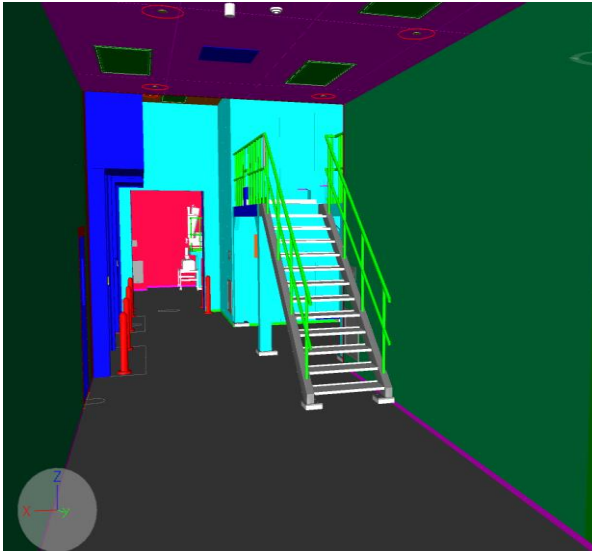
Manufacturing



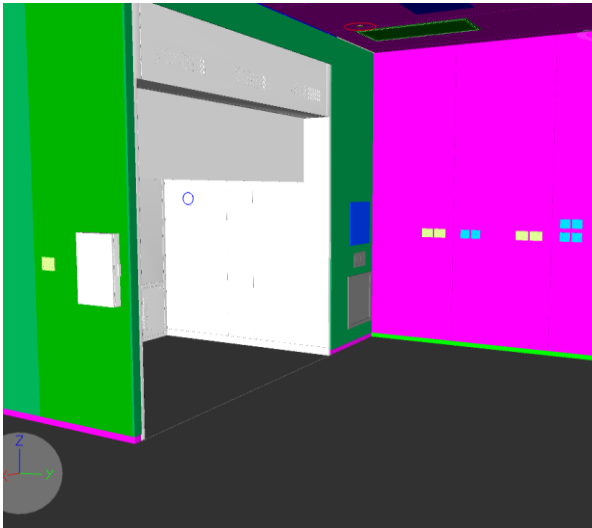
Pre-Extrusion

IRECOR160075b - Date of Preparation
February 2016

Manufacturing

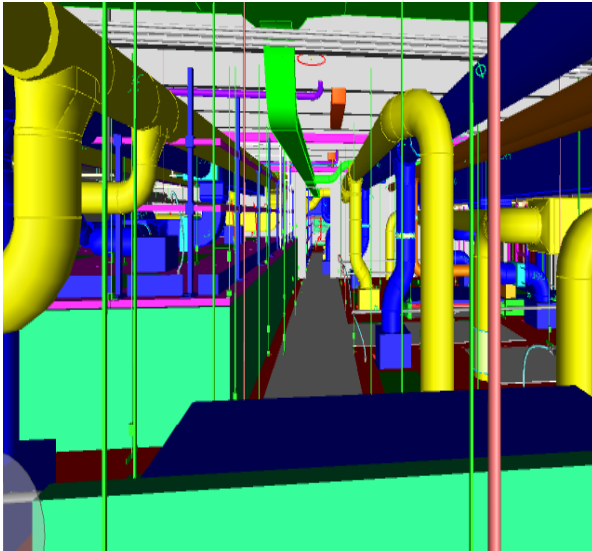


Blending

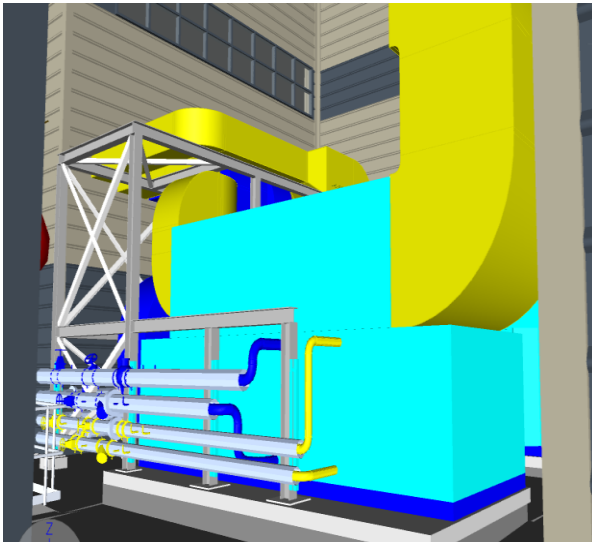


Dispensary

Utilities



Plant Room



AHU's

Site Overview



Summary

- Using BIM gave us a Technical reference tool for the Project
- Defined scopes for disciplines
- Eliminated confusion
- Allow all stakeholder to see the picture
- Allowed the Site to be Agile
- Required aid for all future projects
- Allows the site to future Plan with sustainability in mind.

