

# Stewart

Construction **Est.1902**



Case Study in BIM - Dublin Airport Central Phase 1

## Urszula Jedrol- BIM Manager

- ✓ Introduction
- ✓ Construction 4.0 Committee Member with CIF
- ✓ BSc (Hons) in Architectural Technology, GMIT (2014)



# Company Introduction

- ✓ Over 110 years in business
- ✓ Successful 4th Generation Family Owned & Run
- ✓ Client-focused company
- ✓ Multi Award Winning with Innovative Approach

## Services:

- ✓ Design, Build and Finance
- ✓ Project Management
- ✓ BIM Enabled Contractor
- ✓ Fit Out
- ✓ Value Engineering
- ✓ Sustainable Construction



**James Stewart (1876 – 1936)**  
Founder of Firm



**Paul Stewart - MD, Seán Stewart - Chairman  
& Rachael Stewart - Bus Dev Director**



Established  
in 1902



Multi-Award  
Winning



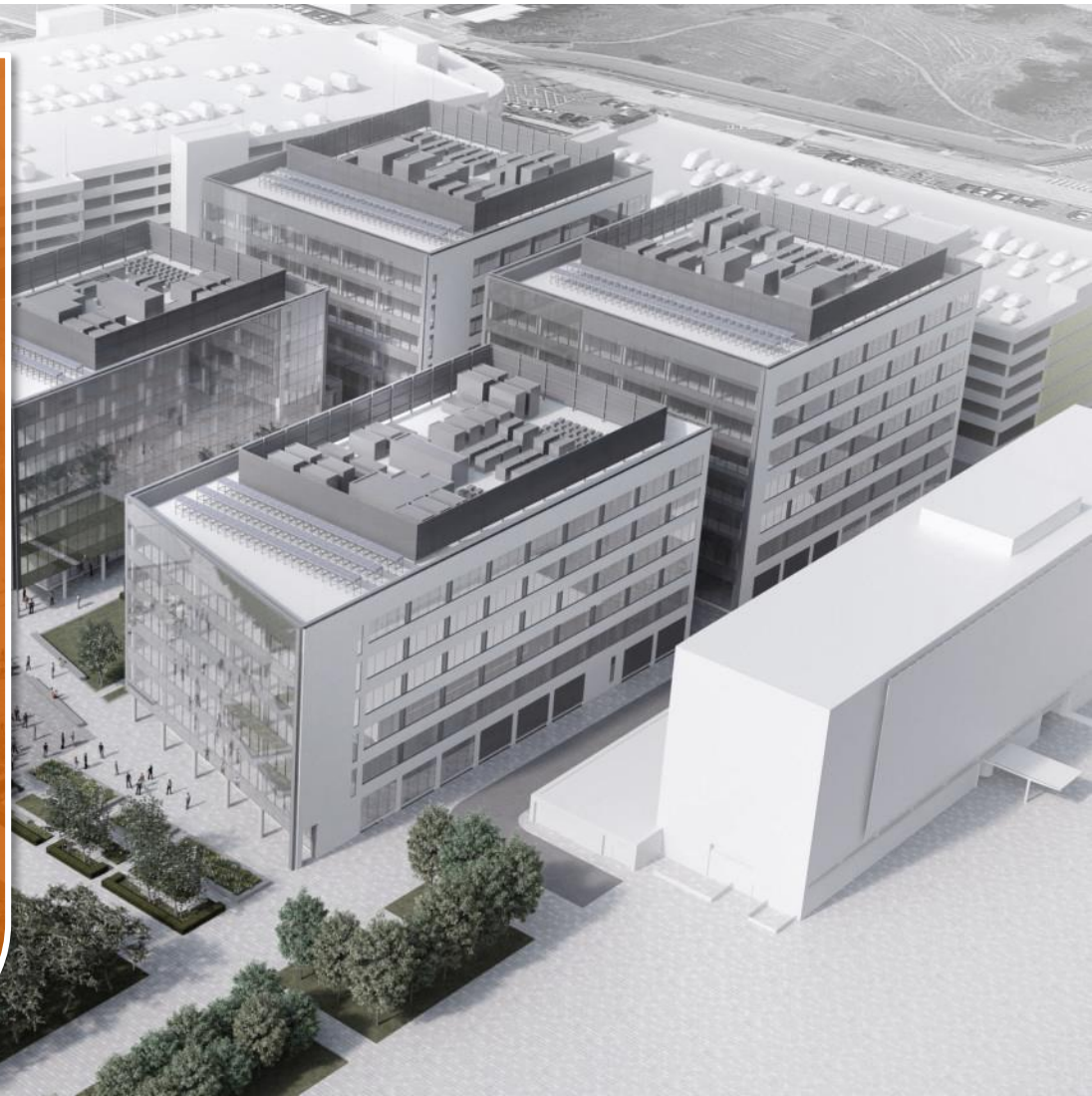
Sustainable  
Building Projects



High Expertise  
and Standard

# Dublin Airport Central Phase 1

- ✓ Project Value: €45 m
- ✓ Project Scale: 20 000m<sup>2</sup>
- ✓ Contract Type: Design & Build
- ✓ Demolition of Existing Annex Buildings
- ✓ 2 New Office Blocks & Associated Works at Dublin Airport
- ✓ BIM Level 2 Project
- ✓ Stewart Construction collaborated with external design team to produce tender submission



# Dublin Airport Central

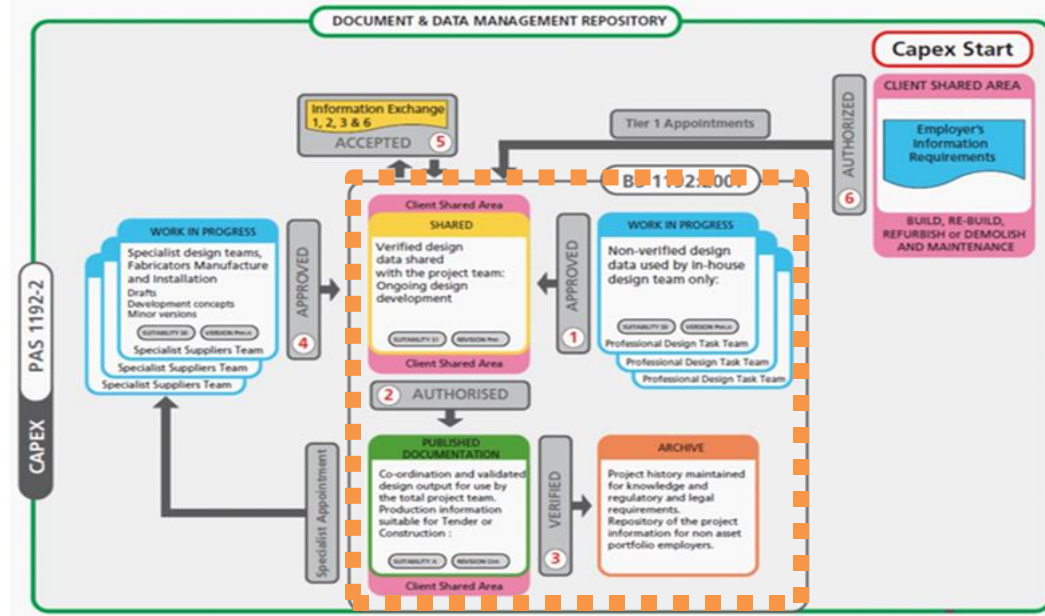


- ✓ BEP and all BIM Level 2 supporting documents produced in house
- ✓ CDE in place to host federated model
- ✓ File Naming Convention
- ✓ Detailed plan to maximise benefits of BIM for FM
- ✓ COBie Exports
- ✓ Synchro PRO utilised to display Construction Timeline Simulation
- ✓ High quality visualisations created to support tender submission

# BS 1192:2007+A2:2016- Common Data Environment

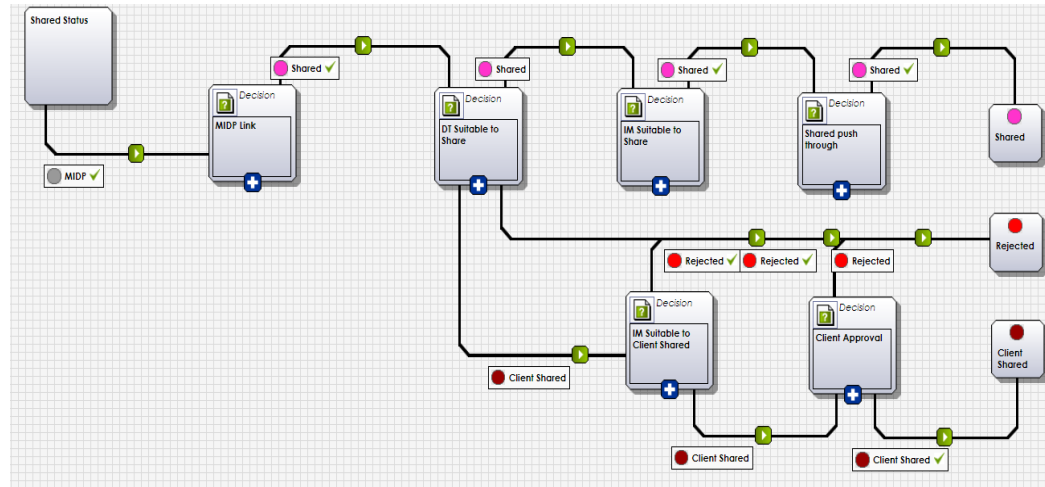
Steps in place to comply with BIM Level 2 Standards:

- ✓ Selecting CDE



Viewpoint for Projects/ Cloud based platform

- ✓ Assigning workflows
- ✓ Models automatically assigned to workflows based on their Status Code



# BS 1192:2007+A2:2016- Naming Convention

Following Naming Convention for all documents not only models!



## Codes based on BS1192 and BIM Protocol

name :  
project      originator    volume    level    type    role    number

**ABCDE - BBA - 00 - XX - DR - A - 0000**

status :            suitability description :  
**S2**                    **SUITABLE FOR INFORMATION**  
revision :            revision description :  
**P01**                   **PRELIMINARY**

**XYZ-STC-XX-XX-VS-W-00001**



### Examples:

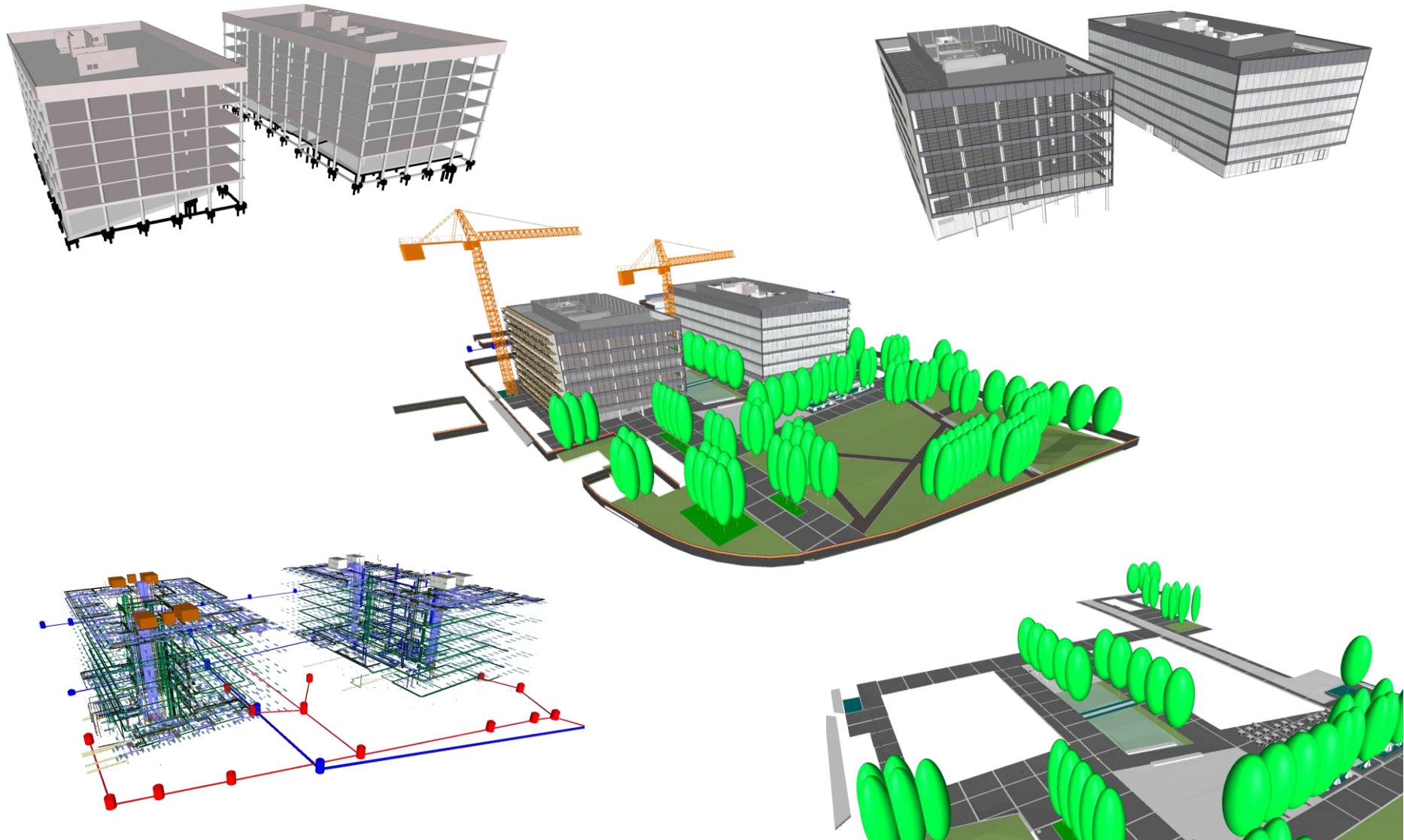
**BSQ-STC-ZZ-ZZ-CM-W-Combined\_Model**

**TGI-STC-XX-XX-VS-W-00001**

**PUR-STC-XX-XX-IE-W-Concrete\_Cost\_Increase**

Examples:  
BSQ-STC-ZZ-ZZ-CM-W-Combined\_Model  
TGI-STC-XX-XX-VS-W-00001  
PUR-STC-XX-XX-IE-W-Concrete\_Cost\_Increase

# 3d Models





# Synchro PRO- Timeline Simulations

- User friendly layout
- Linking model elements to Programme
- Asta Powerproject Programme
- Creating animations

The screenshot displays the Synchro PRO software interface, which is used for project scheduling and simulation. The interface is divided into several key sections:

- Top Menu Bar:** Includes File, Configure, Plan, Assign Resources, 3D, 4D Review, Analyse, Reports, Windows, and Navigator.
- Toolbar:** Contains various icons for tasks such as 'Above', 'Indent', 'Link As Chain', 'On Screen', 'Project Start', 'Calendars', 'Cut Task(s)', 'Copy Task(s)', 'Paste Task(s)', 'Delete Task(s)', 'ID', 'Reschedule', 'Reschedule Selected', 'Compute Critical Path', 'Settings', 'Reschedule Report', 'Schedule Health Check', 'Alerts', 'Update Progress...', 'Baseline Selected Tasks', 'Baselines and Scenarios', 'WBS', 'WBS Layout', 'Activity Codes', 'Use Status Colours', 'Show Spotlight', 'Find and Replace', 'Select All', 'Up to previous selected', and 'Filters'.
- 3D Filters Panel (Left):** Lists filters for 3D views, including '3D by Selection [System]', '3D Object Filter', and 'New 3D Filter'. It also has options to 'Activate in selected 3D View' and 'Activate in all 3D Views'. A 'General' section allows users to include or exclude matches and filter 3D elements by name, task, resources, company, or user fields.
- Task List (Middle-Left):** A table listing tasks with columns for Name, Duration, Start, Finish, and 3D Resource. Tasks include 'New Park Zone', 'Building A6', 'Completion of Enabling Works Site Establishment', 'Substructure', and various construction activities like 'Form Piling Matt' and 'Piling Works'.
- Gantt Chart (Middle-Right):** A timeline view showing task durations from July to August. Tasks are represented by horizontal bars with color-coded progress and dependencies.
- Resource Properties Panel (Right):** A detailed view of a resource's properties, including General (Name, Type, Description), Quantities (Unit Type, Assigned Units), and Utilization Graph Colour.
- 3D Model View (Bottom-Middle):** A 3D rendering of a construction site, labeled '3D Using Dates [Best] [1281x286]', showing buildings and site infrastructure.
- Animation Editor (Bottom):** A timeline for creating animations, with tracks for 'Camera', 'Focus Time', and 'Event'. It shows keyframes and transitions for the simulation.

# Visualisations



# DAC1- Dublin Airport Central



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