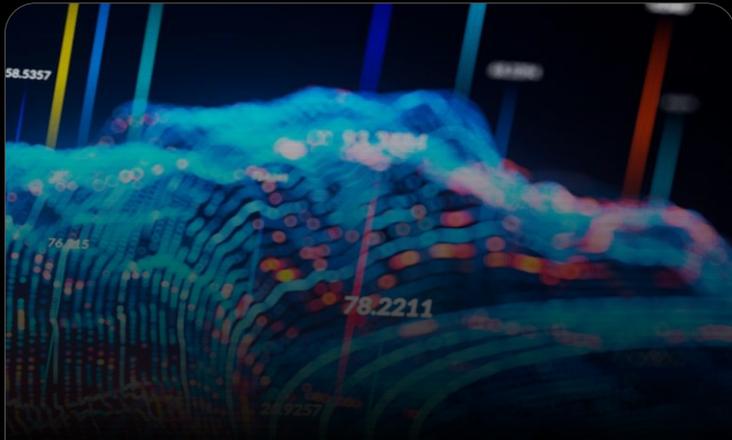


# Convergence



**AI powered Design  
and Make**



**Manufacturing and  
Construction**



**Digital and  
Physical**

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# INFORMED DESIGN AT MURPHY



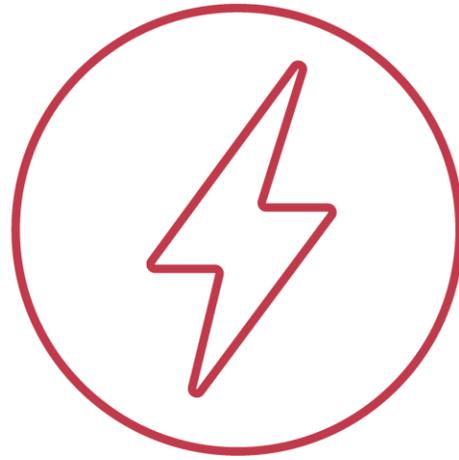
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# OUR SECTORS



**TRANSPORTATION**



**POWER**



**WATER**



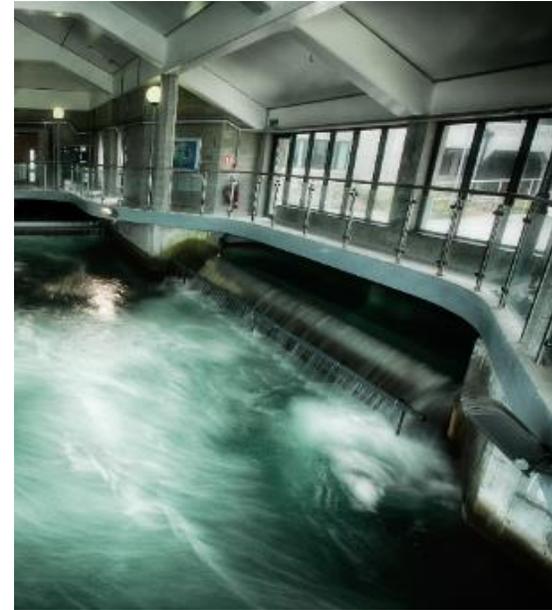
**NATURAL RESOURCES**



## WASTEWATER TREATMENT

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- Municipal Wastewater
- Industrial Effluent
- Pharmaceutical Effluent
- Dairy & Food Effluent
- Sludge Management



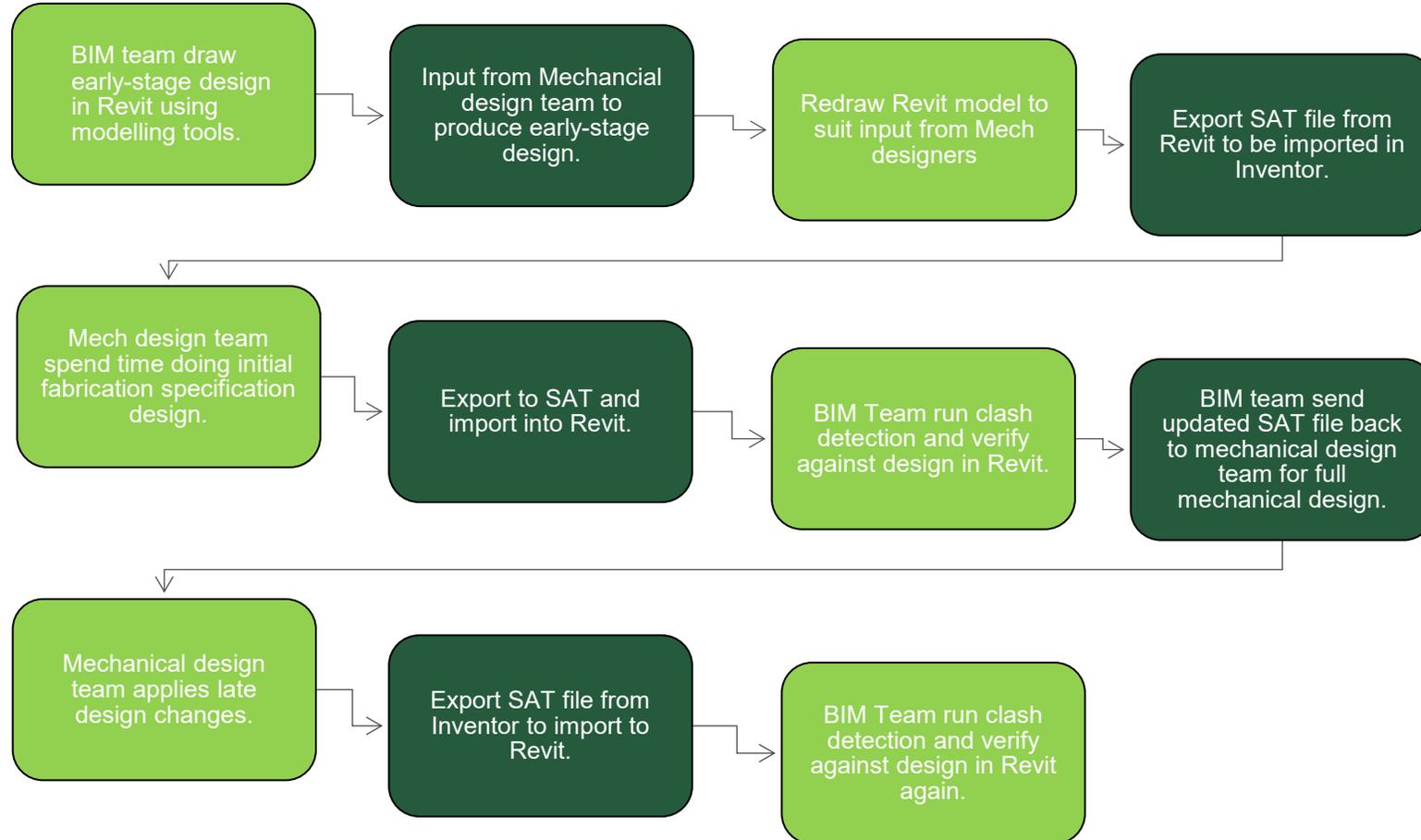
## WATER TREATMENT

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- Municipal Water Treatment
- Demineralisation
- Water Softening
- Laboratory Grade & Ultrapure
- Water Recycle & Reuse

# Our Old Workflow

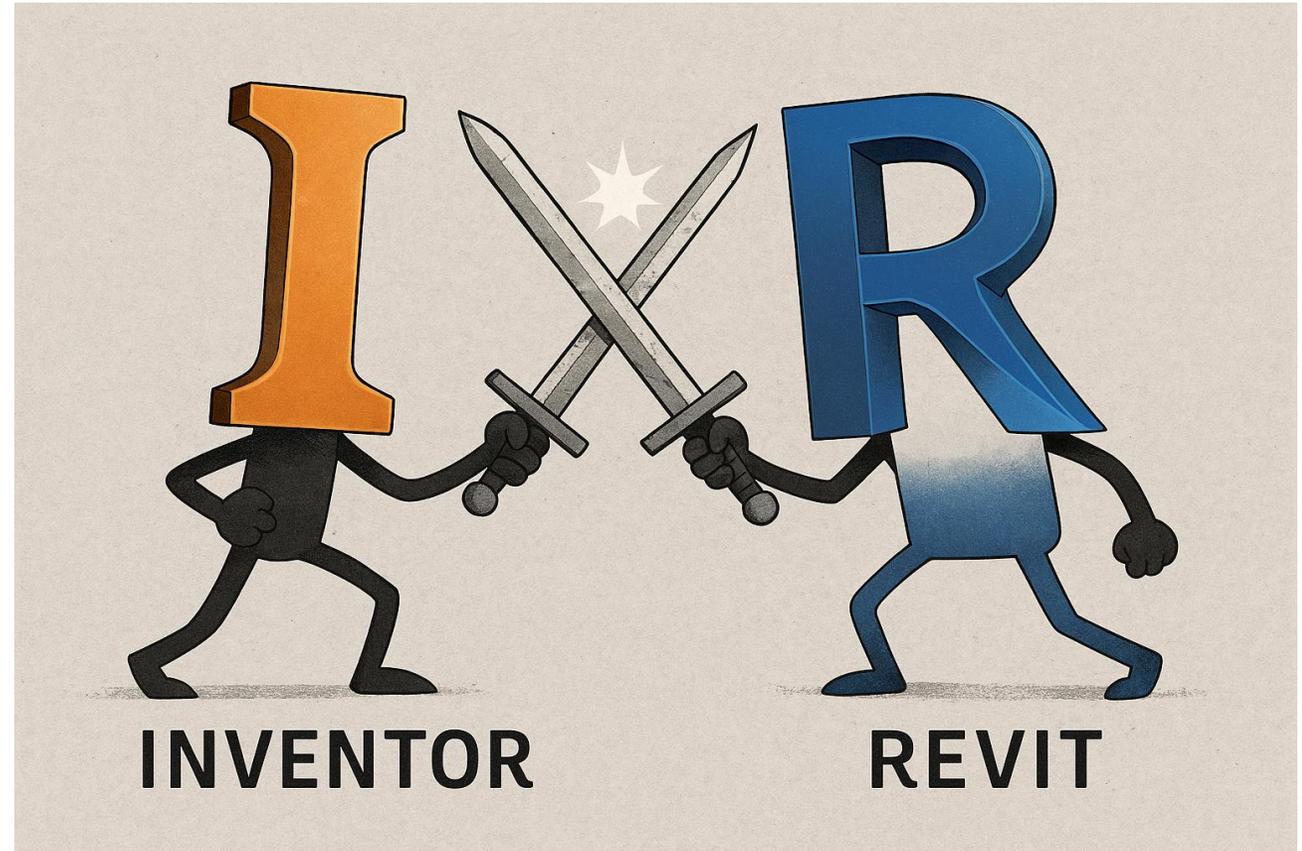
Before Informed Design



# Why did Murphy need Informed Design?

We wanted to...

1. Improve transfer of data between Inventor & Revit teams.
2. Eliminate designer error in early-stage design.
3. Provide engineering input remotely.
4. Standardise designs, increase repeatability.
5. Cut out rework, redesign and remodelling.



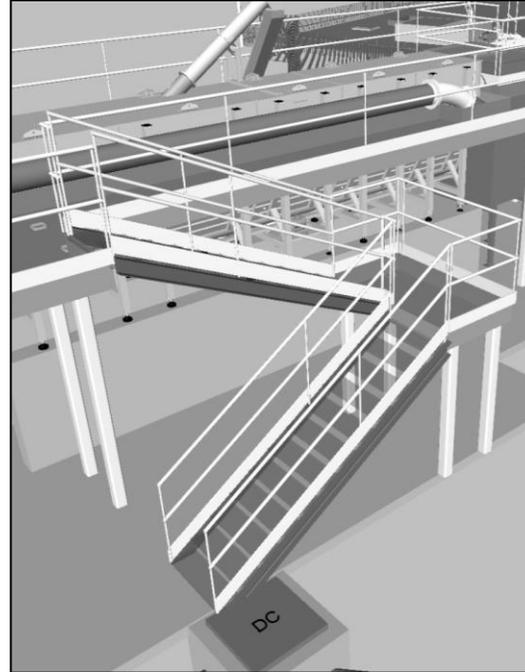
# What is Informed Design really?

- 1. Build a configurable model in Inventor for use in Revit.
- 2. Inventor users publish this model and engineering data to ACC to be accessed via Revit.
- 3. Revit users configure their custom model on demand and insert it into their Revit projects in seconds.

The image illustrates the Informed Design workflow. It shows the 'Customize and Insert' dialog in Inventor for 'MPE Access Stairs Type A', where parameters like 'Stair Height (mm) (2960mm Max)' and 'Handrail Selection' are configured. Below this, the 'Product Definition' interface shows a 'Rules' tab with logic for parameters such as 'TopPlateAttach', 'BottomPlateAttach', 'StanchionSelection', and 'HandrailType'. The Revit interface shows the published 'MPE Access Stairs Type A' add-in with its configuration panel, including fields for 'Riser Height (mm)', 'Riser Run (mm)', 'Number of Risers', and 'Adjust Stair Height'. 3D models of stairs are shown in both Inventor and Revit environments.

# What Informed Design gives us

1. Custom-made, accurate models on demand.
2. Eliminates designer error.
3. Designers can trust our models from day one, making sound co-dependent decisions.
4. Models are engineering and manufacturing approved from concept stage.



*Revit Drawn Model*



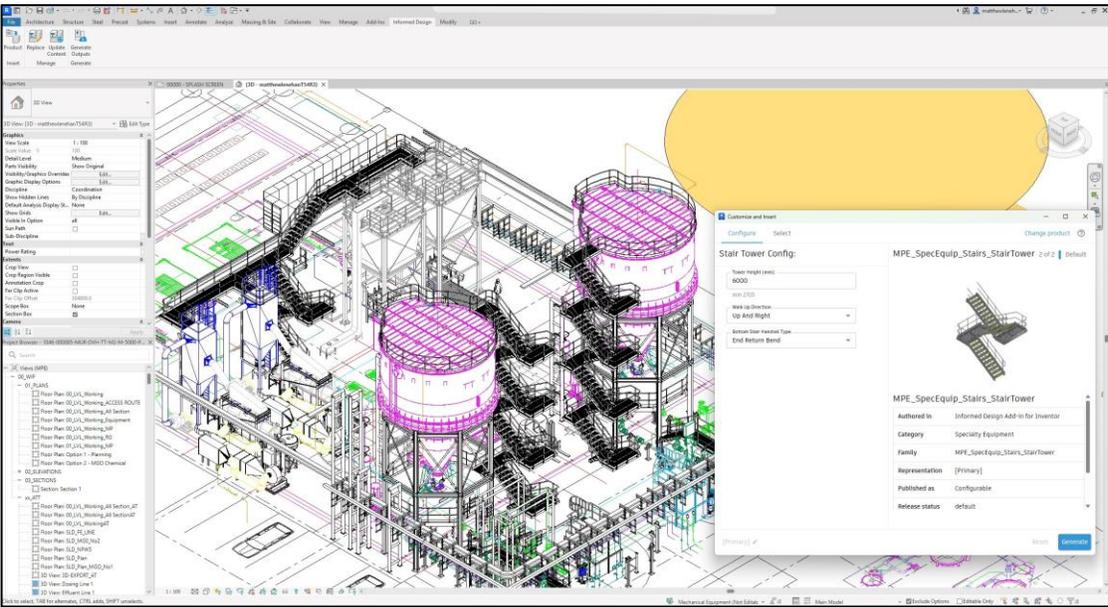
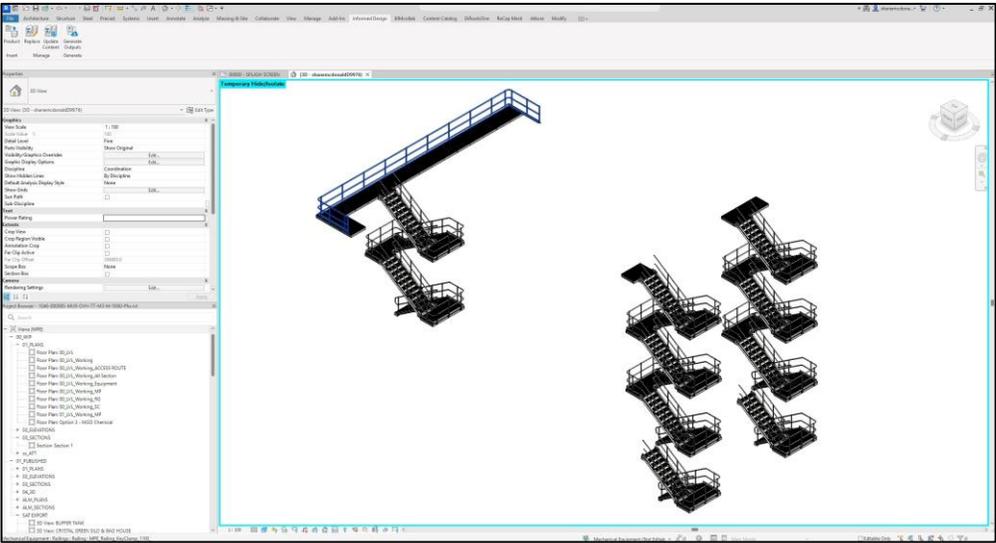
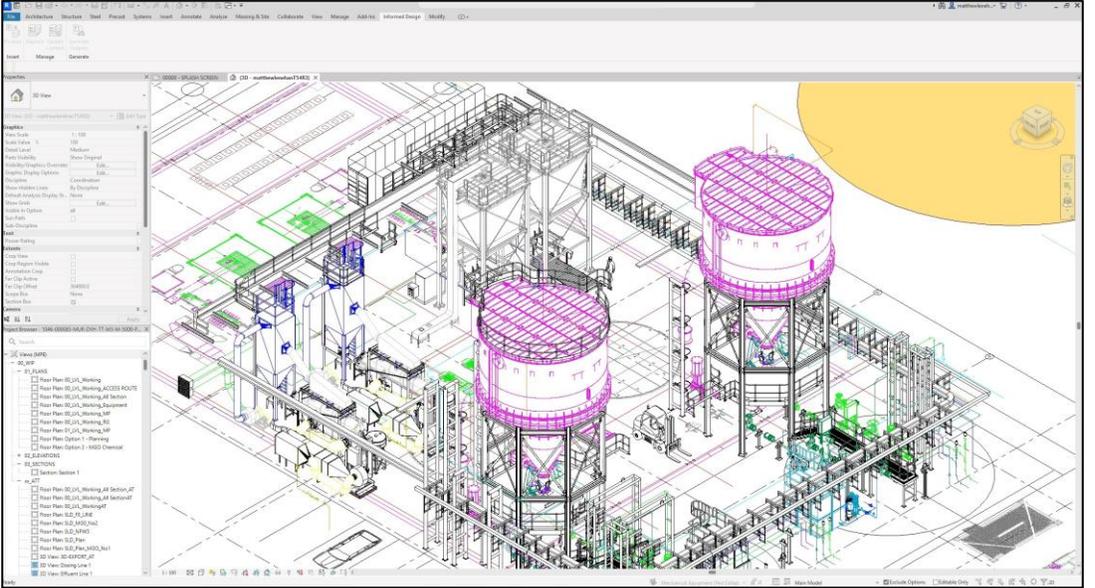
*Informed Design Model*



*As Built Structure*

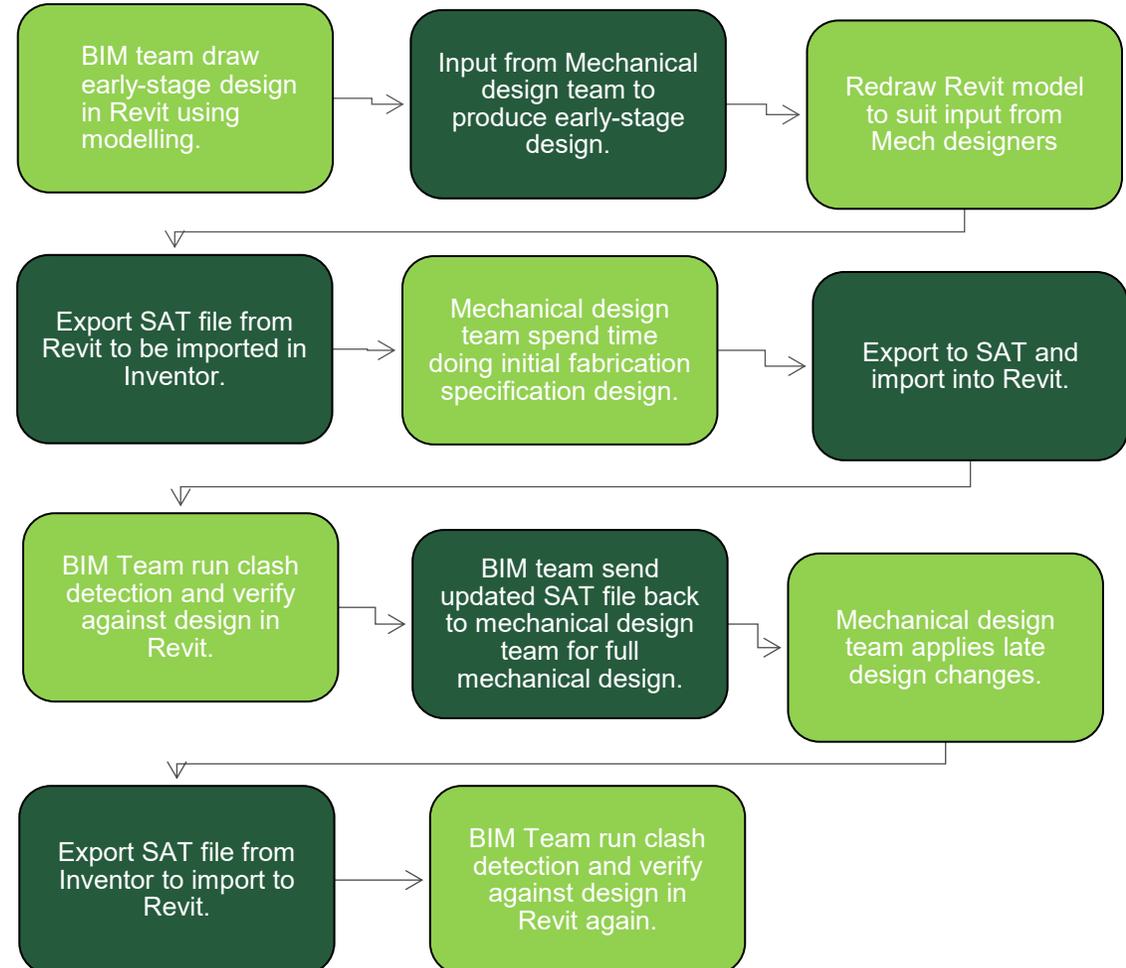
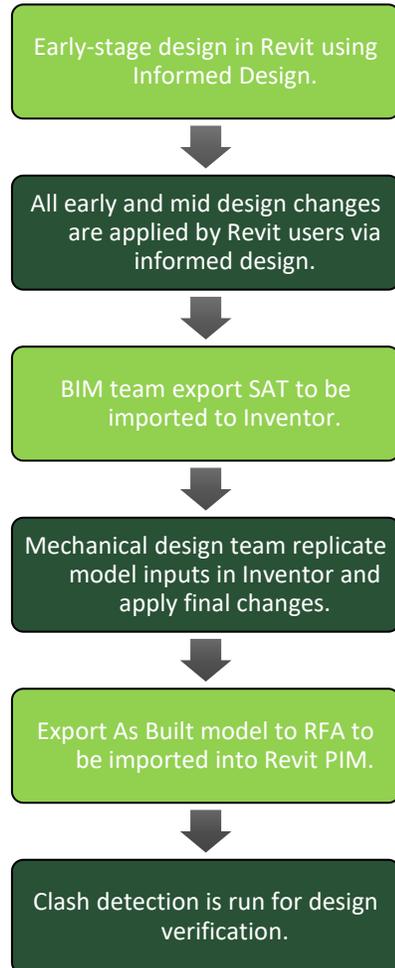
# Informed Design in Revit

The process Revit designers



# Our workflow today

Has anything changed?



# Results

## What have we noticed

1. 30% reduction in Revit modelling time of mechanical equipment.
2. 50% reduction in designer changes over a project lifetime.
3. 60% reduction in back-and-forth between BIM and mechanical design teams, during early-stage design.
4. Positive feedback from clients regarding model accuracy in early-stage design.
5. Positive feedback from fabrication teams regarding design standardisation lowering costs and saving time.

