



**Getting More out of IFC!**



# You, your project, your client has adopted IFC

How do you deliver robust results, innovation... ?

How do you measure your (collaboration, modelling) performance?

Action: - look for role models from the bsi International BIM Awards program

A Role Model - **Pixel to Pset, VCE, Austria**



# buildingSMART International Awards



## The buildingSMART openBIM Awards Yearbook 2021



Extraordinary projects from the 2021 buildingSMART International openBIM Awards Program



### Contents

<b>Asset Management</b>	MKP GmbH, Germany	Pages 6-7
<b>Community Contribution</b>	University of Naples Federico II, Italy	Pages 8-9
<b>Construction</b>	Siemens, Austria	Pages 10-11
<b>Design</b>	Mostostal Warszawa S.A., Poland	Pages 12-13
<b>Facilities Management</b>	China Academy of Railway Sciences Corporation Ltd, China	Pages 14-15
<b>Handover</b>	Helse Bergen HF, Norway	Pages 16-17
<b>Professional Research</b>	Sweco Norge, Norway	Pages 18-19
<b>Student Research</b>	Sichuan Highway Planning, Survey, Design and Research Institute Ltd., China	Pages 20-21
<b>Technology</b>	CBGU (CPB, BAM, Ghella and UGL) Joint Venture in collaboration with Willow, Australia	Pages 22-23
	FCC Construcción Madrid, Spain	Pages 24-25
	Siemens Schweiz AG, Switzerland	Pages 26-27
	Granlund Oy, Finland	Pages 28-29
	Auckland International Airport Ltd, New Zealand	Pages 30-31
	The University of Hong Kong, Hong Kong	Pages 32-33
	Yonsei University, South Korea	Pages 34-35
	Xi'an University of Architecture and Technology, China	Pages 36-37
	The Technical University of Munich (TUM), Germany	Pages 38-39
	The University of Rome, Italy	Pages 40-41
	VCE Vienna Consulting Engineers ZT GmbH, Austria	Pages 42-43
	Open Design Alliance, USA	Pages 44-45
	ACCA Software, Italy	Pages 46-47



## 2021 Highlights

**Categories**  
The program was divided into four broad categories: Project Delivery, Operations, Research and Technology. Each category has its own sub-categories, providing the basis for the Awards program.

**Jurors**  
This Awards program was supported by 154 jurors across 23 chapters. The primary role of the juror is grading project submissions against a strict criteria, designed to ensure the highest quality of submissions. This year there was once again a triage team to help reduce the amount of work on all jurors.

**Submissions**  
There were a record 133 submissions across all the categories, 74 of which passed triage. The breakdown for those that passed triage is outlined below:

- Asset Management: 4
- Construction: 17
- Design: 18
- Facilities Management: 2
- Handover: 2
- Professional Research: 10
- Student Research: 3
- Technology: 18

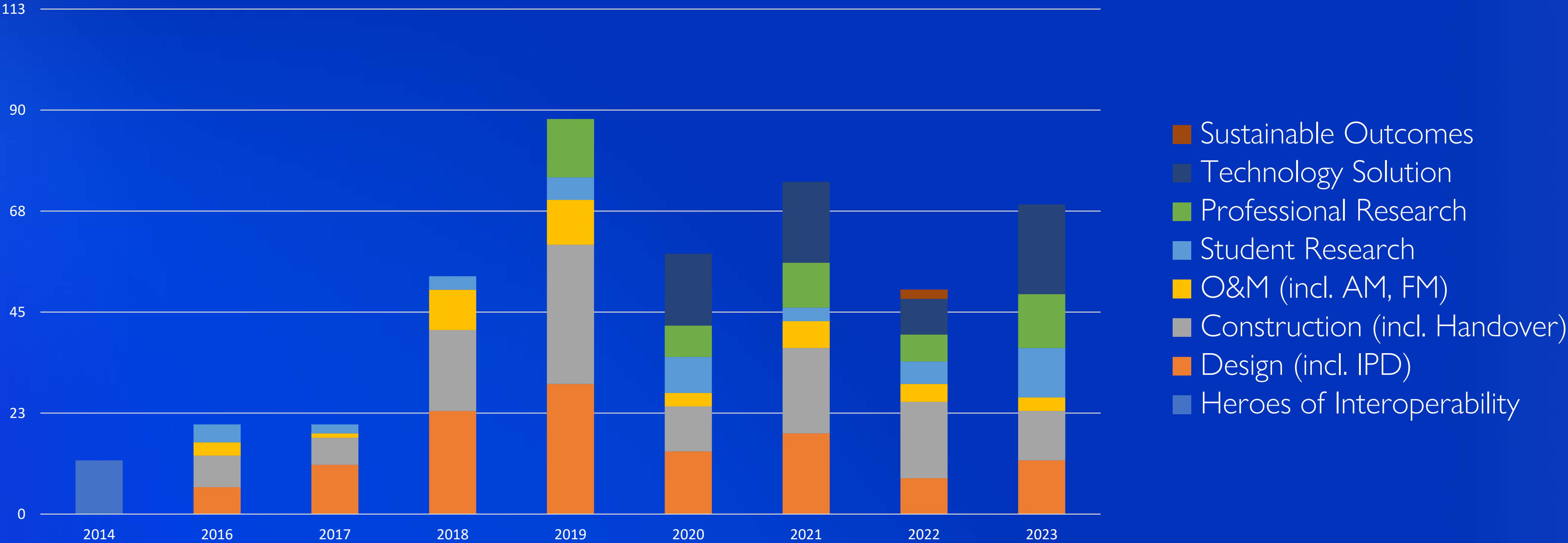
**Special Mentions**  
Due to the high volume of quality submissions, there were a number of projects deemed a high enough standard to warrant a special mention. These projects were scored especially highly by the jury, falling slightly short of the required score to become a finalist. These projects were duly awarded during the Awards Ceremony, alongside all finalists and Award winners.





# Growth in bsl Award Submissions

Submissions Passed Triage



# Technical Team

TEAM LEADER



Léon van Berlo



Evandro Alfieri



Yousheng Wang



Olga Rimaskaia-Korsakova



David Delgado Vendrell



Helga Tauscher



John Mitchell



Robert Amor



Emma Hooper



Hans Hendriks



Robin Drogemulle



Tomasz Gorecki



## AU Awards Jury 2024

Chair



Don  
Cameron



Nathan  
Hildebrandt



Gabor  
Gulyas



Sandra  
Lang



Scott  
Beazley



Russell  
Bunn



Rosemarie  
Rush



Armin  
Taklif



Winner 2021 AM Category



# Auckland International Airport Ltd.

## Asset Information Delivery Manual


DIGITAL DELIVERY REQUIREMENTS FOR INFRASTRUCTURE PROJECTS

FIRST EDITION | SEPTEMBER 2018



### Basic Asset Information Delivery Manual

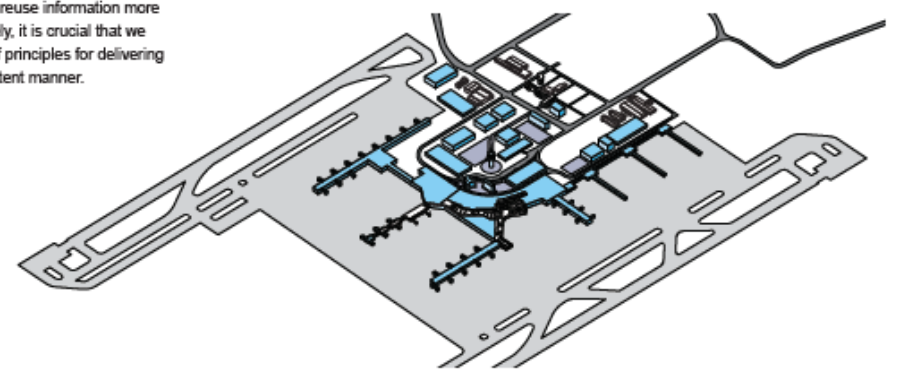
#### Basic AIMD



This manual highlights the basic requirements Building Information Models must follow for submittal to Auckland Airport. Please refer to the Auckland Airport AIMD for detailed requirements.


#### 1. Why do we need to deliver to a common standard?

In order to secure and reuse information more efficiently and effectively, it is crucial that we agree on a basic set of principles for delivering information in a consistent manner.



#### 2. How are we going to share information unambiguously?

Due to the range of infrastructure that we own and develop, along with the large variety of consultants, contractors and suppliers working with us, it is not practical or feasible to demand everyone to use the same authoring tool and native file format. Therefore, we require projects to be delivered in open formats (e.g. .ifc, .dwg & LandXML) in addition to the native format.



#### 3. What structure does the AIMD require?

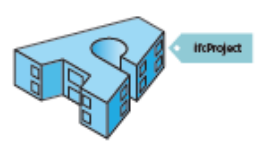
The principles listed below help ensure that every party involved in AIAL projects will always be able to find and supply the required information to the correct place. Regardless of what software was used to produce the model, the underlying data should be consistent.

##### Model setup and structure

#### 3.1 FILE NAME & PROJECT INFO

- Ensure that uniform and consistent naming is used for models and drawing reports within the project, according to the AIAL Document Management Procedure.

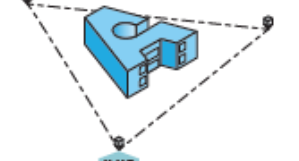
example: <code><?xml-namespace="http://www.aucklandairport.co.nz/aimd"><model name="Project Name" level="Number" /></code>



AIMD ref: Section 07

#### 3.2 MODEL POSITION

- The local position of the building is according to NCTM 2000 horizontal datum and Auckland 1948 local vertical datum and is coordinated with other disciplines.
- At least three survey markers from the AIAL Survey Control Network to be identified in the model.

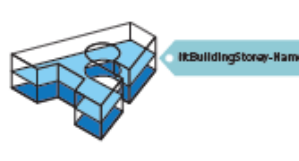


AIMD ref: Section 06

#### 3.3 BUILDING LEVELS

- Name building stories according to the AIAL Document Management Procedure.
- Assign all model elements to the correct building storey and don't export reference levels.
- Within a project, ensure that all parties involved consistently use exactly the same storey naming.

example: 00 Ground Floor, 01 First Floor



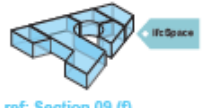
AIMD ref: Section 09 (f)

#### 3.4 SPACE ELEMENTS

- Model space elements to represent rooms and export as IfcSpace objects.
- Can also model abstract spaces such as airside/landside boundaries, security controlled areas, construction zones, separable portion area, etc.

Ensure each space has a name and unique ID.

example: Name = Meeting Room, ID = Unique Room No., Object Type = Office




AIMD ref: Section 09 (f)

#### 3.5 STRUCTURE AND NAMING

- Consistently structure and name objects.
- Correctly enter the object TYPE (IfcType, IfcObjectType or IfcObjectTypeVersion).
- Correctly enter the object name, if different from the Object Type.

example: Roof, Type = IfcRoof, Name = Roof



AIMD ref: Appendix C

#### 3.6 OMNIBUS CLASSIFICATION

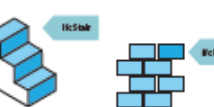
2 1 - 0 4 1 0 1 0 3 0

AIMD ref: Section 09 (q)

#### 3.7 CORRECT USE OF ENTITIES & MATERIAL ASSIGNMENT

- Use the most appropriate type of BIM entity, both in the native authoring tool and the IFC entity.
- Allocate objects with a material description (IfcMaterial).


example: stainless steel, plywood



AIMD ref: Appendix C

#### 3.8 NO DUPLICATES

- There are to be no duplicate elements or intersections permitted. Ensure these are checked in the IFC prior to sharing models.
- There shall be no duplicate Unique ID numbers.




AIMD ref: Section 09 (q) (11)

#### 3.9 CORRECT PHASING

- Correctly identify model elements (based on their intended final status) as Existing, Demolished, or New.
- If building consists of Separable Portions, identify these as part of the stages.

example: SP1, SP2, SP3



AIMD ref: Appendix C

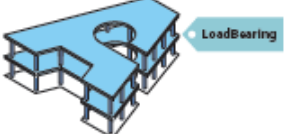
#### 4. How can we secure other/future object information?

Element information is of use for building analysis, maintenance purposes and for future developments. Object information is identified in the correct properties and property sets as defined in .ifc.

#### 4.1 LOADBEARING STATUS

- Assign objects, when applicable, with the correct structural status.

example: LoadBearing (True/False)



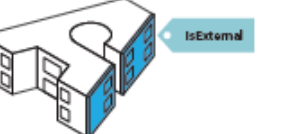
AIMD ref: Section 09 (f) (9)

#### 4.2 ELEMENT LOCATION

- Assign objects, when applicable, with the correct location value to identify whether they are located internally or externally.

Tip: both inner and outer faces of the facade would be identified as external.

example: IsExternal (True/False)

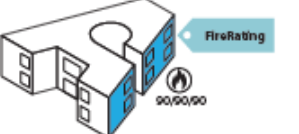


AIMD ref: Section 09 (f) (2)

#### 4.3 FIRERATING

- Assign objects, when applicable, with the correct Fire Rating value according to NZ standards.

example: FireRating = 60mins

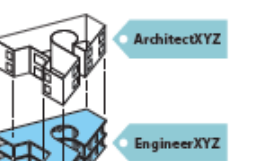


AIMD ref: Appendix C

#### 4.4 MODEL & ELEMENT AUTHOR

- Ensure models and model elements are assigned with a value to identify the company who authored the model.

example: Auckland X Ltd, Engineers YZ Ltd.




AIMD ref: Section 09. (g) (3)

#### 4.5 ELEMENT CONTENTS

- Identify the contents of any pipe, wire or cable bay element.

example: Underground pipe has a property that defines its contents as STORMWATER; a cable tray has its contents defined as DATA.




AIMD ref: Appendix C

#### 4.6 CAPEX NUMBER

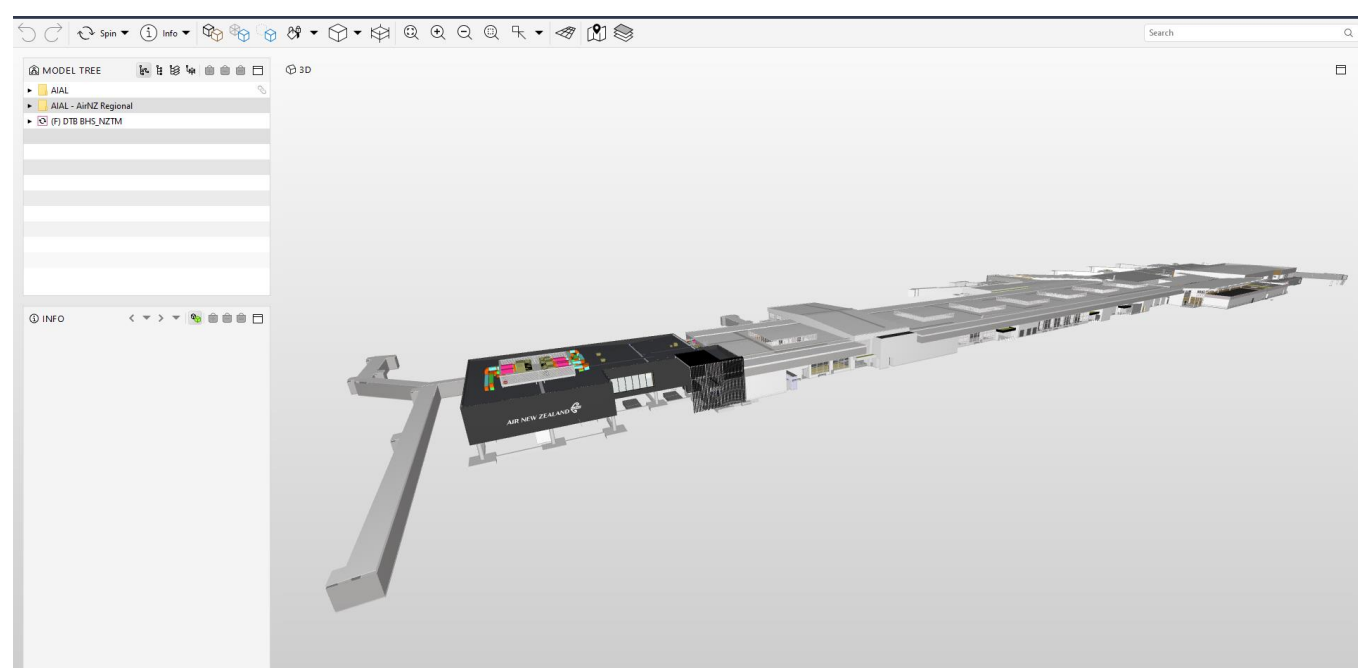
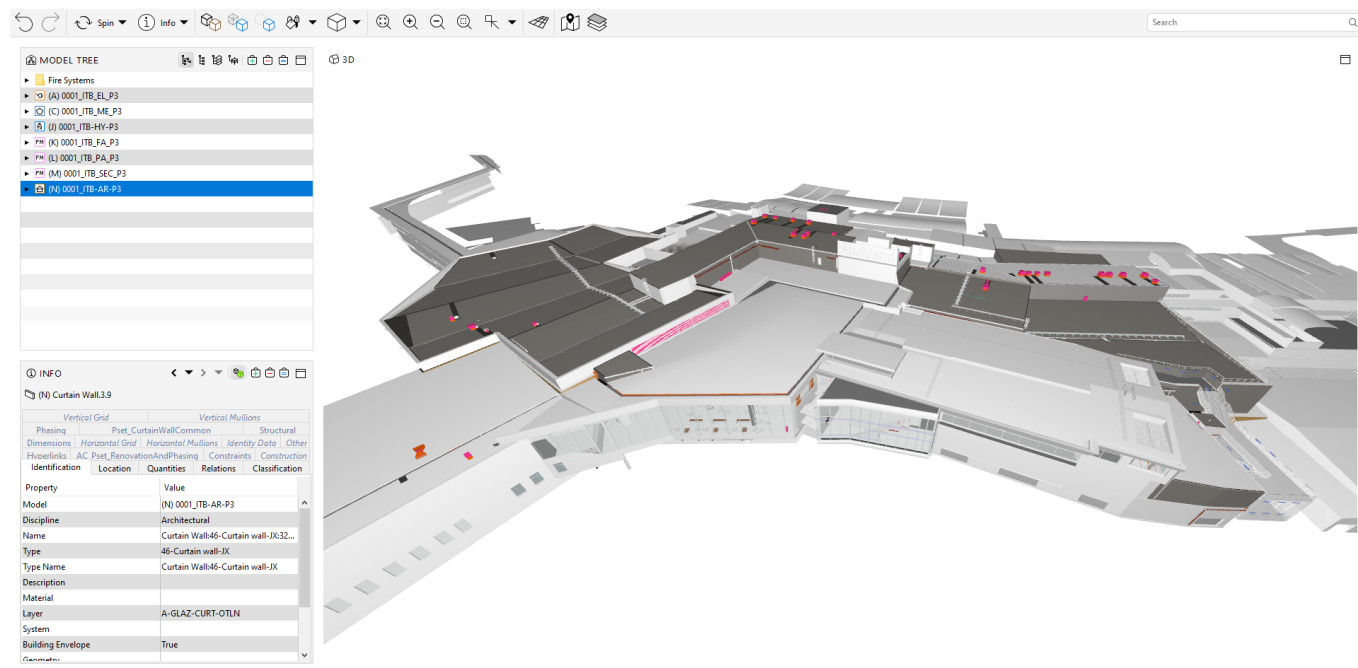
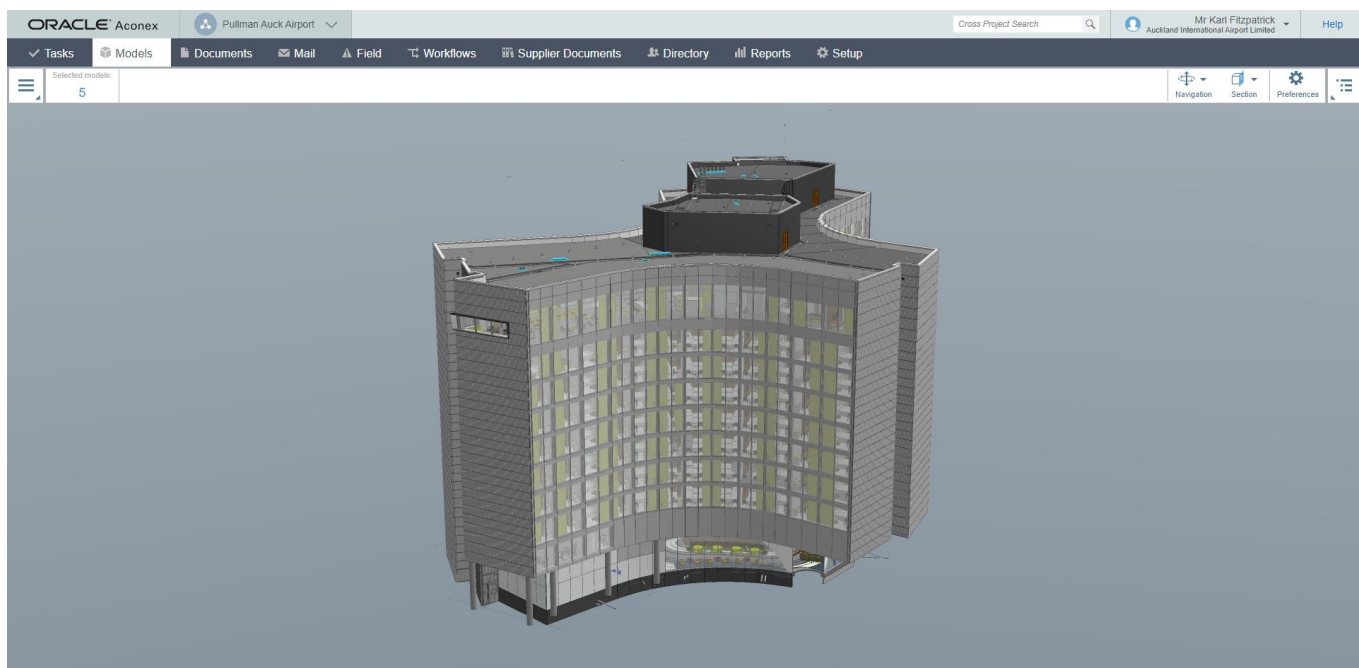
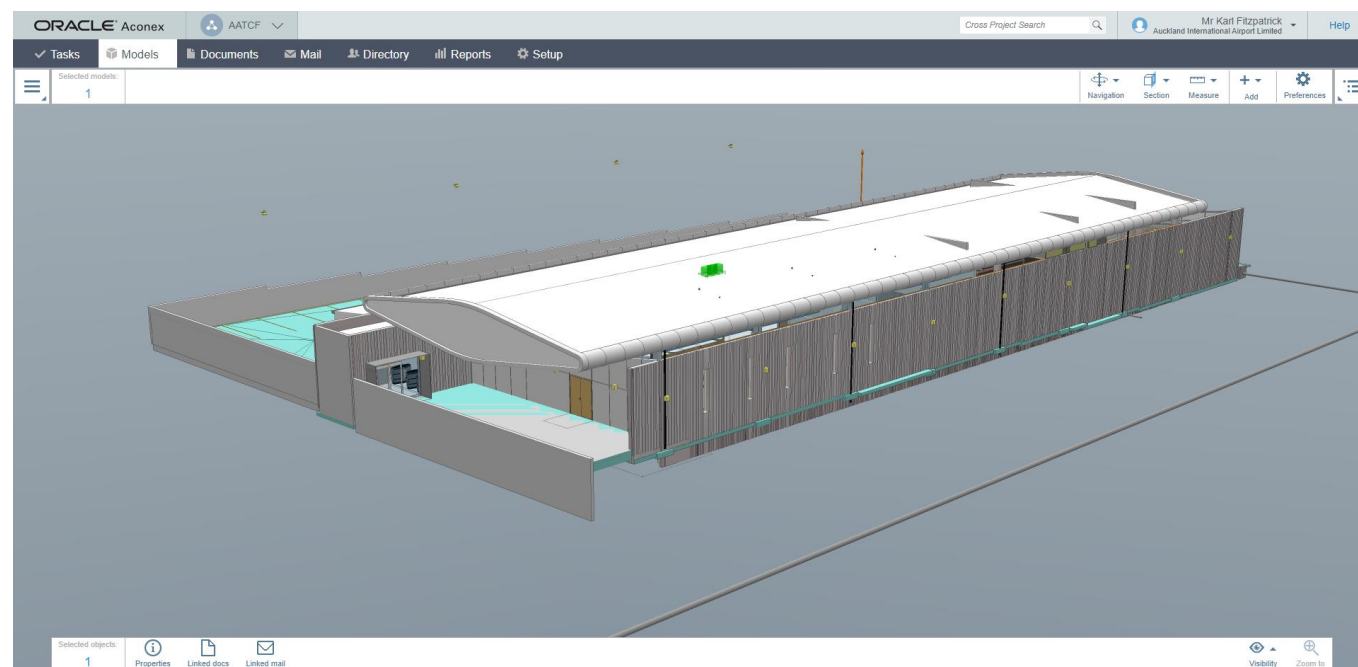
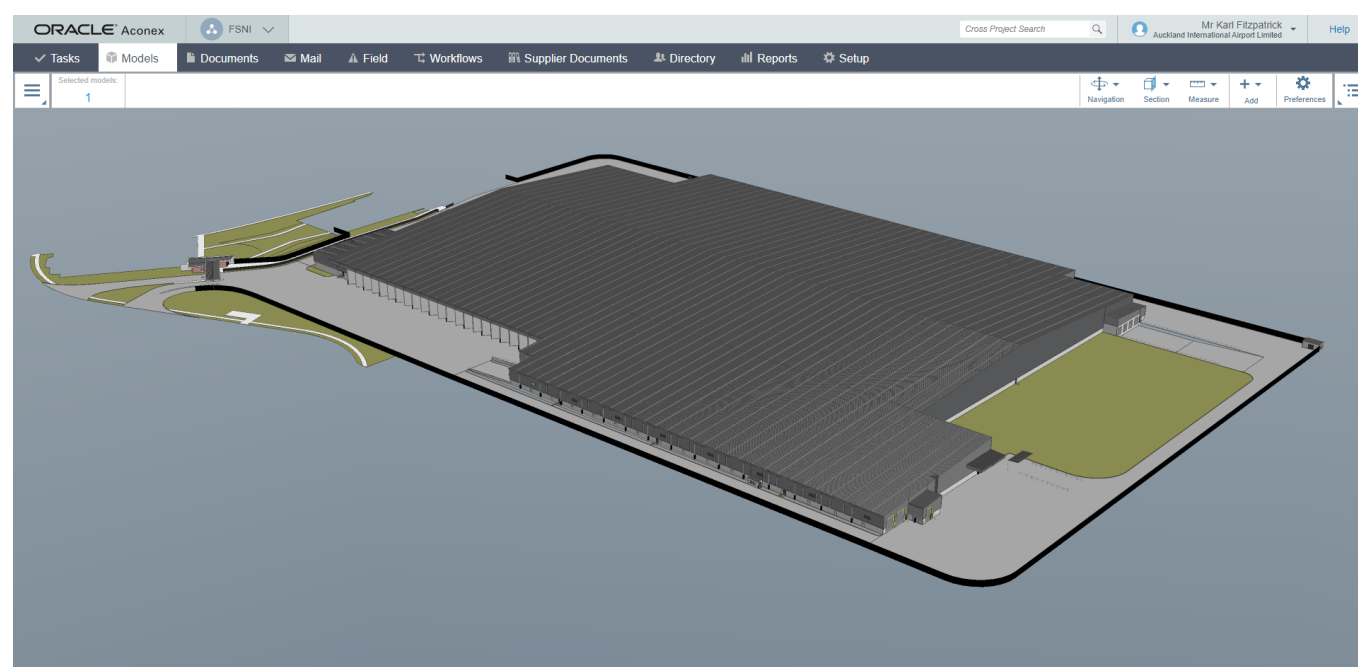
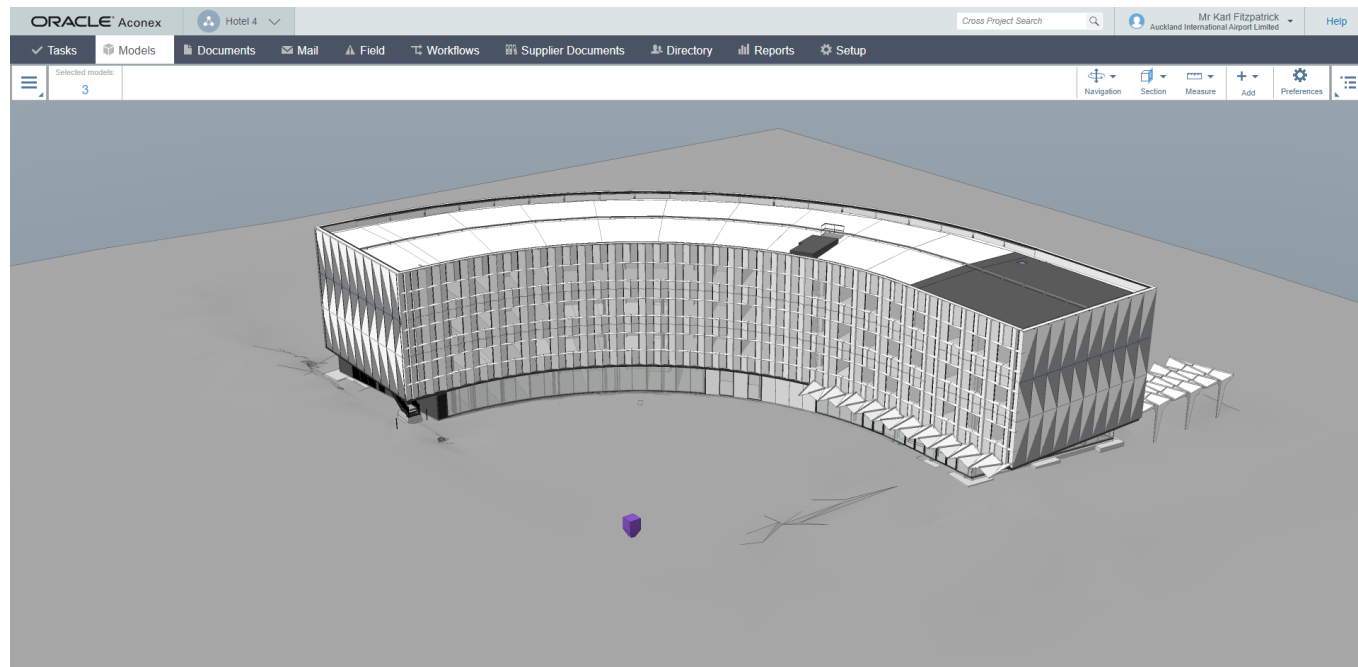
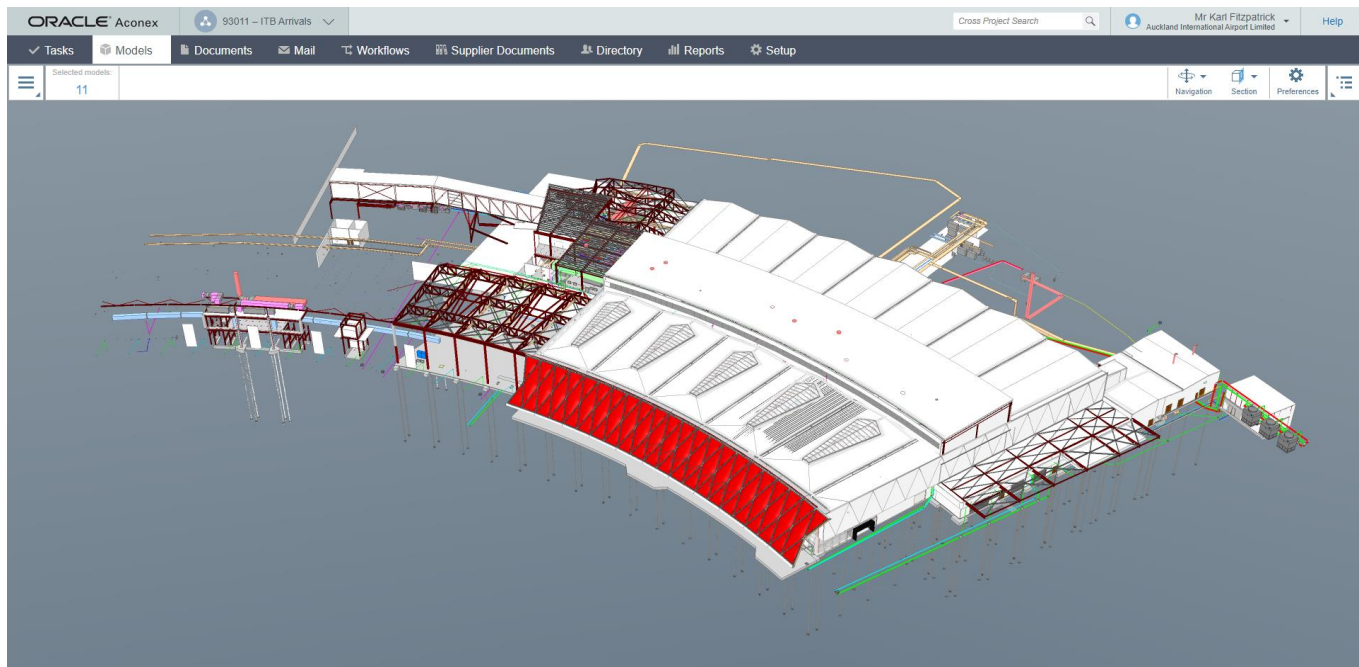
- Universally assign the AIAL CAPEX number to the model's project information and ensure this is assigned to all model elements in the project within the IFC export.

Tip: Create a CAPEX property for model elements and set the default value with the number appropriate to the specific project.



AIMD ref: Appendix C



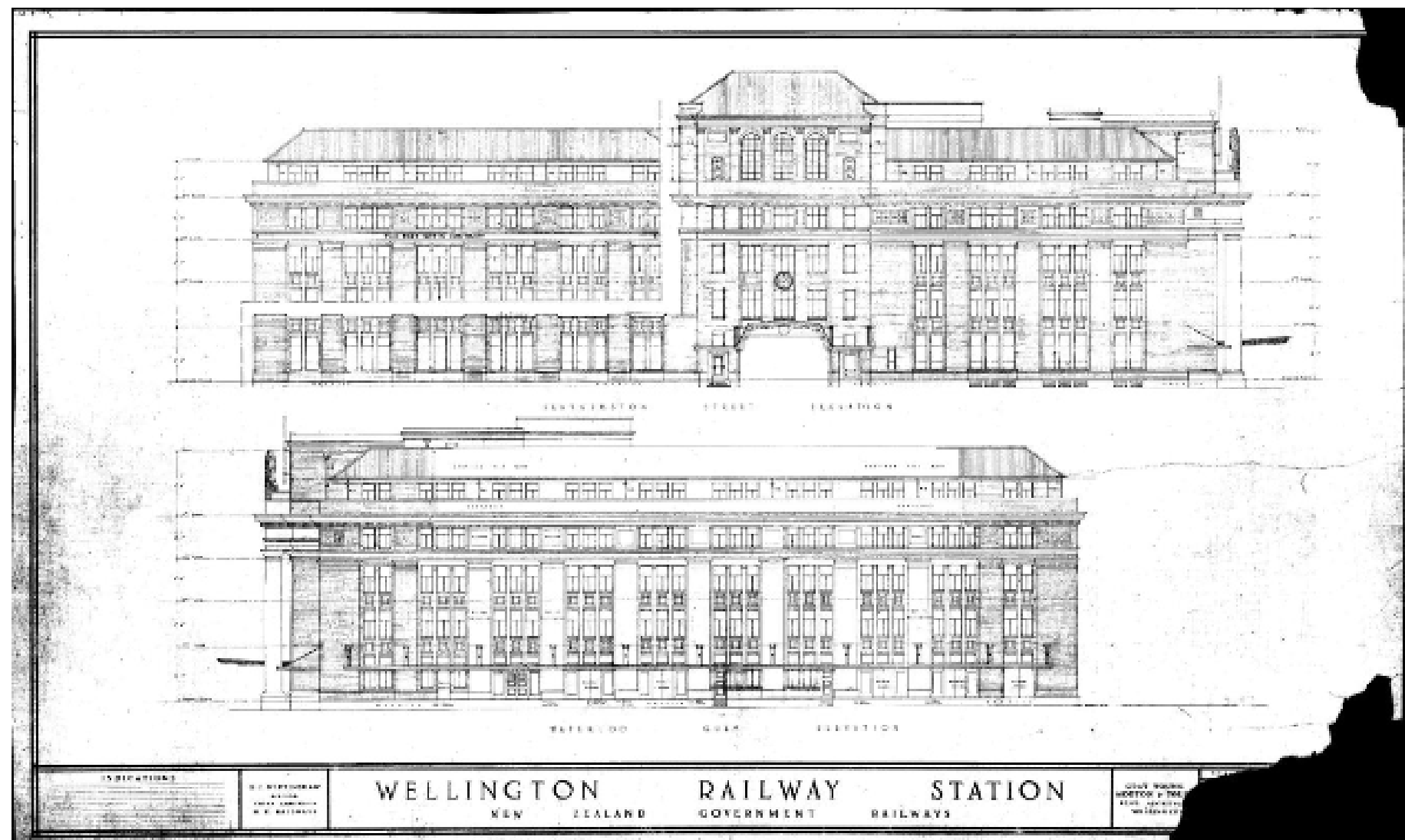




# Wellington Railway Station Façade Condition Assessment

## Project goals

What do we need to meet client requirements in the short timeframe?



Remote Solution/Assessment

Enable Quantity Takeoff via code

Create Heat Maps via code (with a view to trend identification)

Client digital aspiration alignment

Facility condition assessment supply chain evolution

Demonstrate value of risk-taking through experimentation

Handover and integration into client system

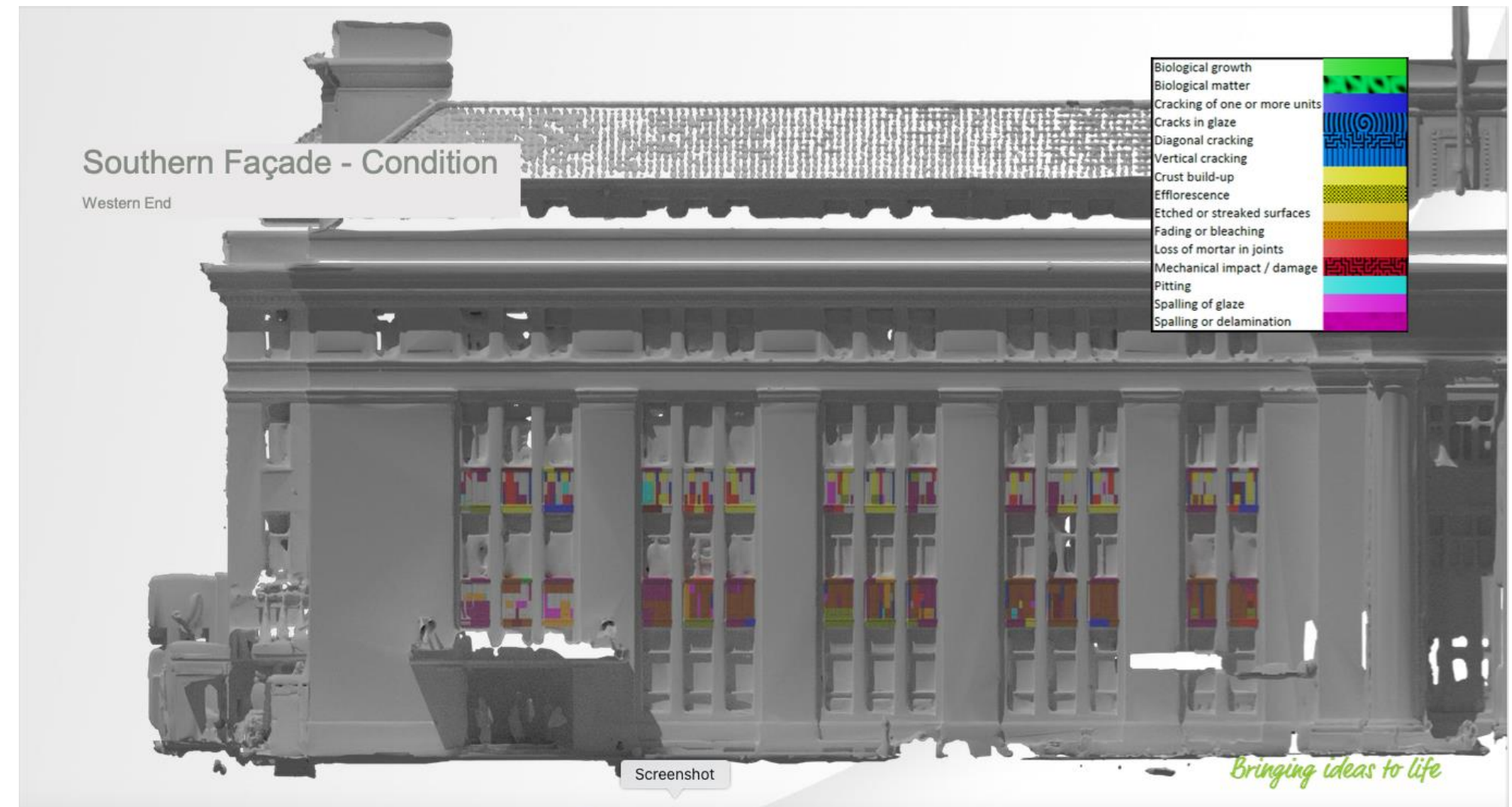
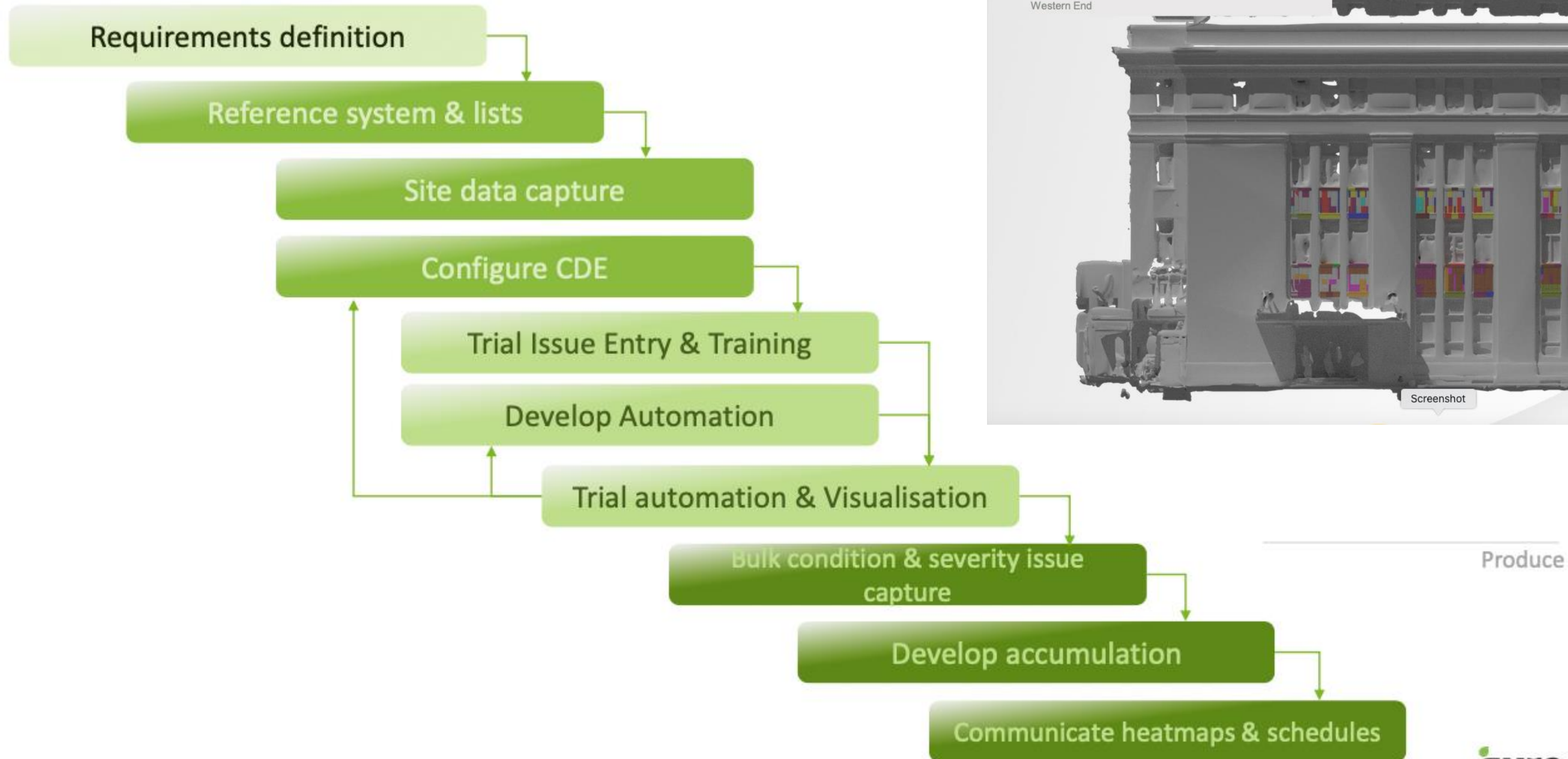
Demonstrate that IFC can be used to collaboratively author content

bringing ideas  
to life  
Winner 2022 FM Category



# Wellington Railway Station Façade Condition Assessment

## Process chart

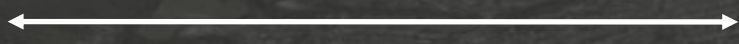




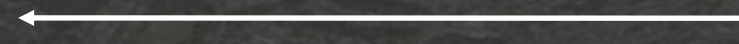
# Cross River Rail

Finalist 2021 Design Category

**10.2** kilometre north-south rail line




**5.9** kilometre twin tunnels

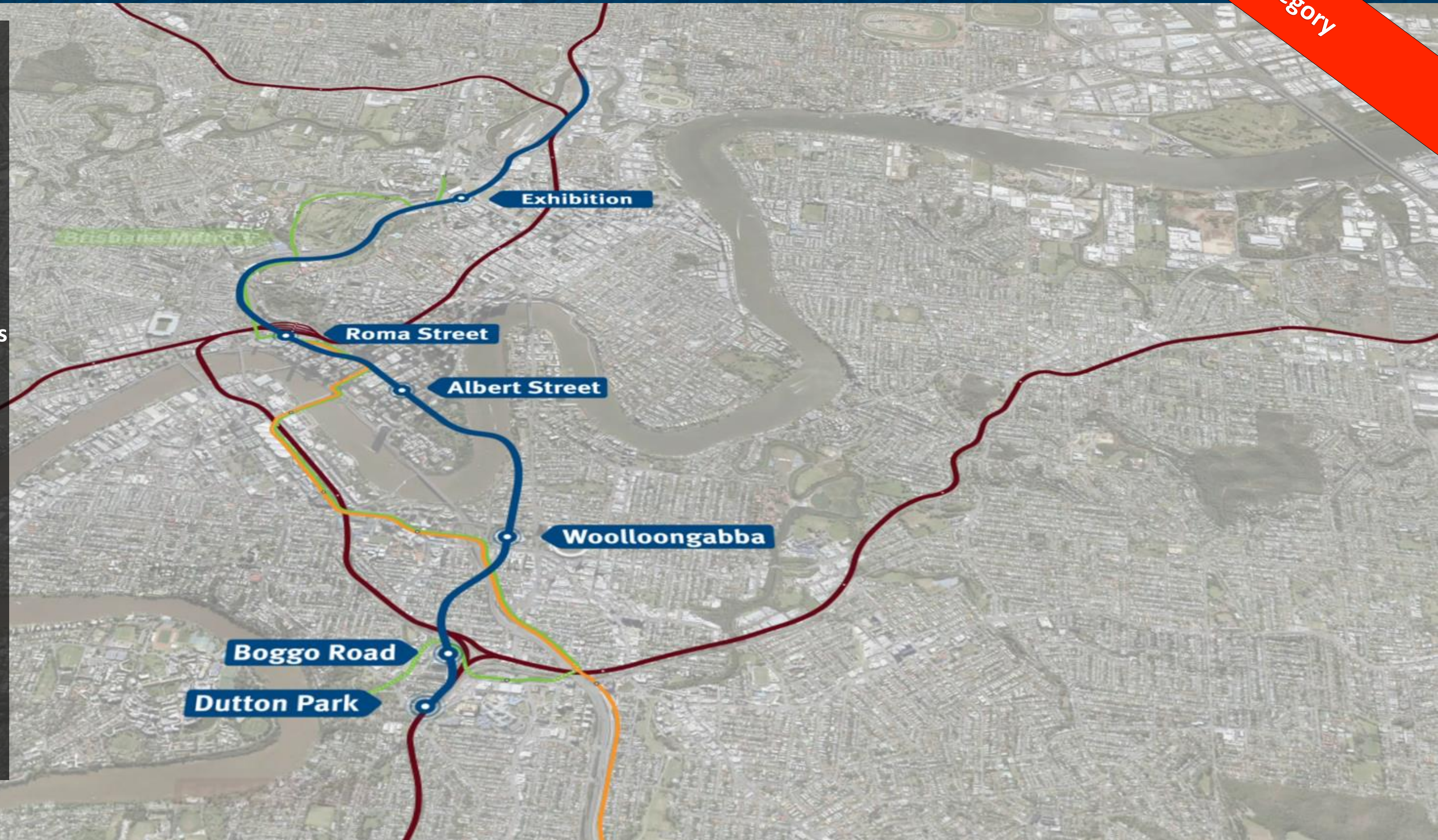


**8** upgraded surface stations  
Including Exhibition Station open all year round

**3** new Gold Coast stations  
Pimpama, Merrimac and Helensvale North

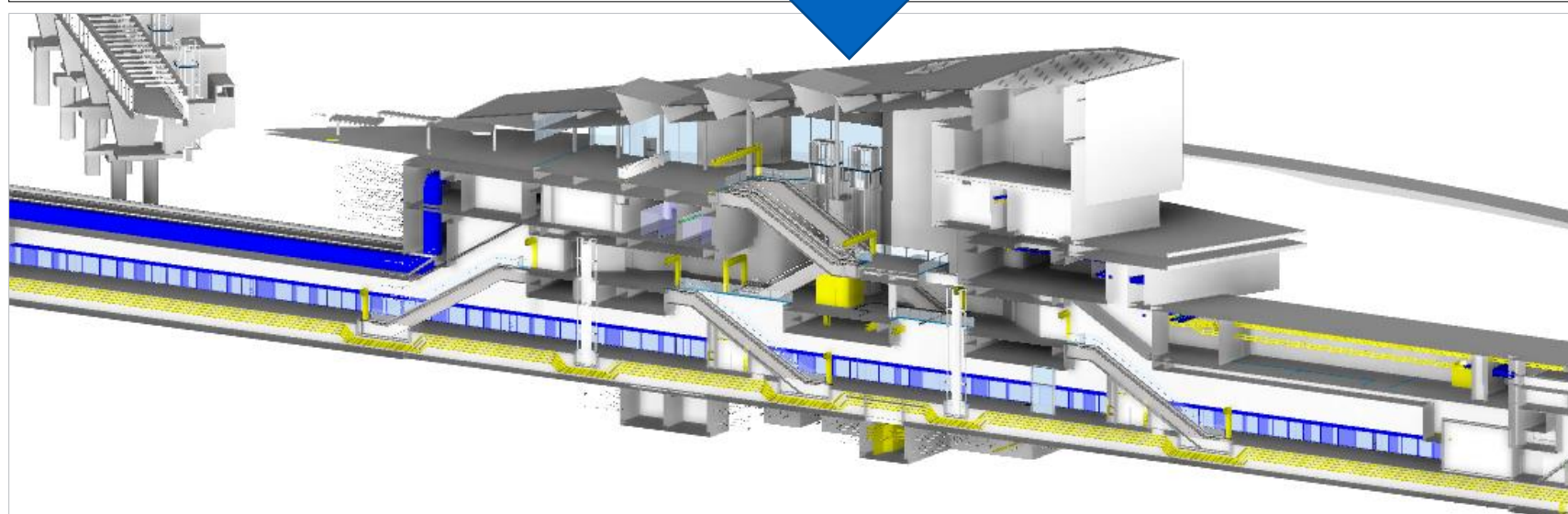
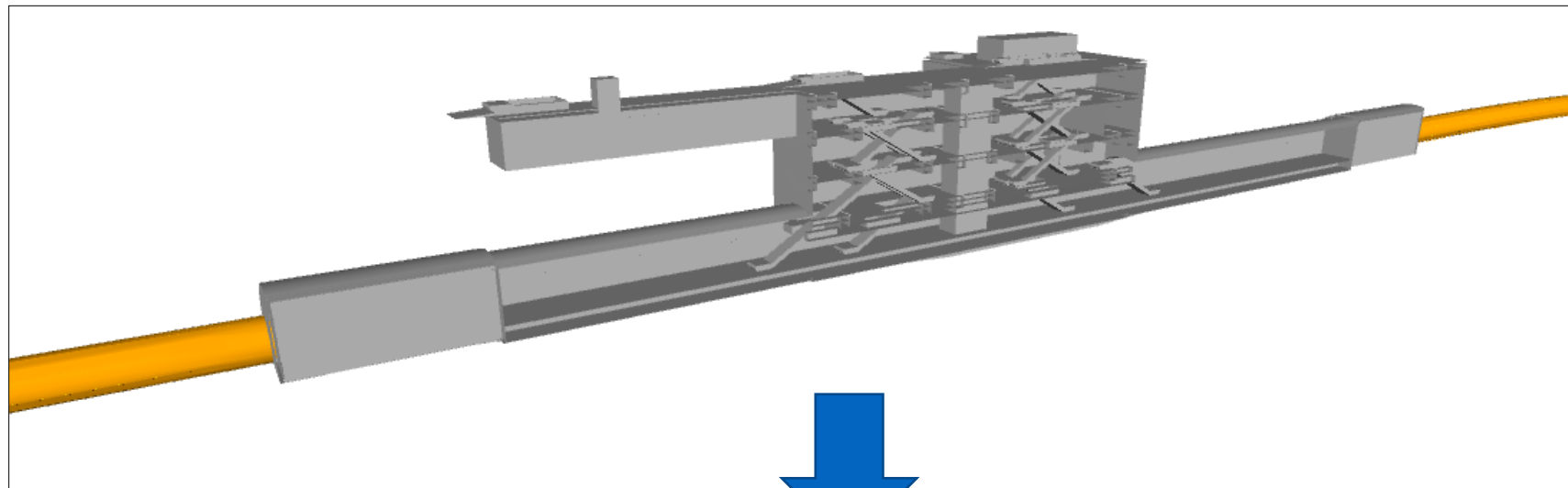
**4** new underground stations  
Boggo Road, Woolloongabba, Albert Street and Roma Street

 A new signalling system  
Allowing for greater efficiency & safety





# Cross River Rail in Brisbane – leading and innovating



## Increasing project models level of development and information

- In design
- Into construction
- Into operation

## Increasing awareness through the Experience Centre

- GIS and BIM models into the Reality Theatre
- VIS model controllable in the Reality Theatre
- Interactive GIS

## Integrating information

- BIM and GIS
- DNA and PCO
- Data-Centric CDE



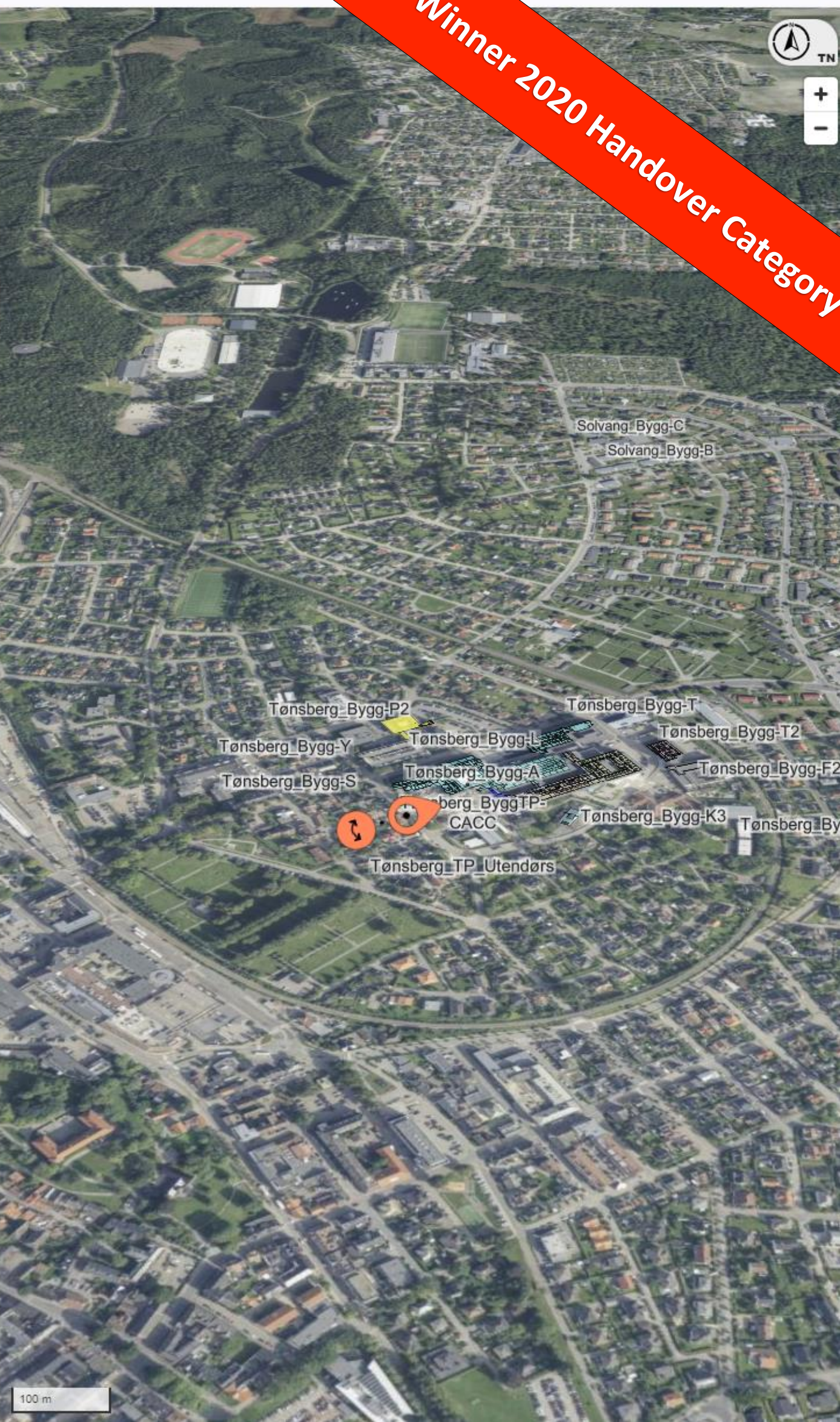
Filterer på tekst her

- 3801-Horten-07-Glenne 88
- 3801-Horten-11-Ambulansetasjon 40
- 3803-Tønsberg-01-Tønsberg 6382
  - Bygg S3 - Tønsberg\_Bygg-S3 2
  - Bygg-A0 - Tønsberg\_Bygg-A 7
  - Bygg-FX - Tønsberg\_Bygg-F0 2
  - Tønsberg\_Bygg-CACC 1192
  - Tønsberg\_Bygg-D0 105
  - Tønsberg\_Bygg-E0 1049
  - Tønsberg\_Bygg-EJ 15
  - Tønsberg\_Bygg-F1 253
  - Tønsberg\_Bygg-F2 436
  - Tønsberg\_Bygg-FX 2
  - Tønsberg\_Bygg-G 5
  - Tønsberg\_Bygg-H 937
  - Tønsberg\_Bygg-J0 616
  - E4 - 04. etasje 94
  - J-E4-839 - Bro
  - J-E4-840 - Bro

...Vis flere rader

...Vis flere rader

- Tønsberg\_Bygg-K3 189
- Tønsberg\_Bygg-L 540
- Tønsberg\_Bygg-M 304
- Tønsberg\_Bygg-N 49
- Tønsberg\_Bygg-P2 40
- Tønsberg\_Bygg-S 98
- Tønsberg\_Bygg-T 41
- Tønsberg\_Bygg-T2 2
- Tønsberg\_Bygg-V3 70
- Tønsberg\_Bygg-W 248
- Tønsberg\_Bygg-Y 156
- 3803-Tønsberg-05-Granli 541
- 3803-Tønsberg-15-Solvang 209
- 3803-Tønsberg-19-Fjordgaten 2 93
- 3803-Tønsberg-21-Barkåker 23



Winner 2020 Handover Category



# Vestfold Hospital - openBIM Achievements

- Development and deployment of BIM master data **using IFC4.0 for the entire project and hospital organization to ensure the exact handover, information ownership and longevity of data.**
- Establish Facility Management (FM) Process using IFC 4.0 as master data and Norwegian TFM – building number classification system.
- Using contractors supply chain information to **extract and store FM-information in IFC** - together with manually input of FM-information, in order to connect information with IFC-objects.
- The FM-information for the new buildings is available to the hospital operational technicians in the field - on a **BIM-server based mobile platform in OpenBIM.**





# Toolkit for Developing openBIM Data Pipelines

Winner 2021 Technology Category

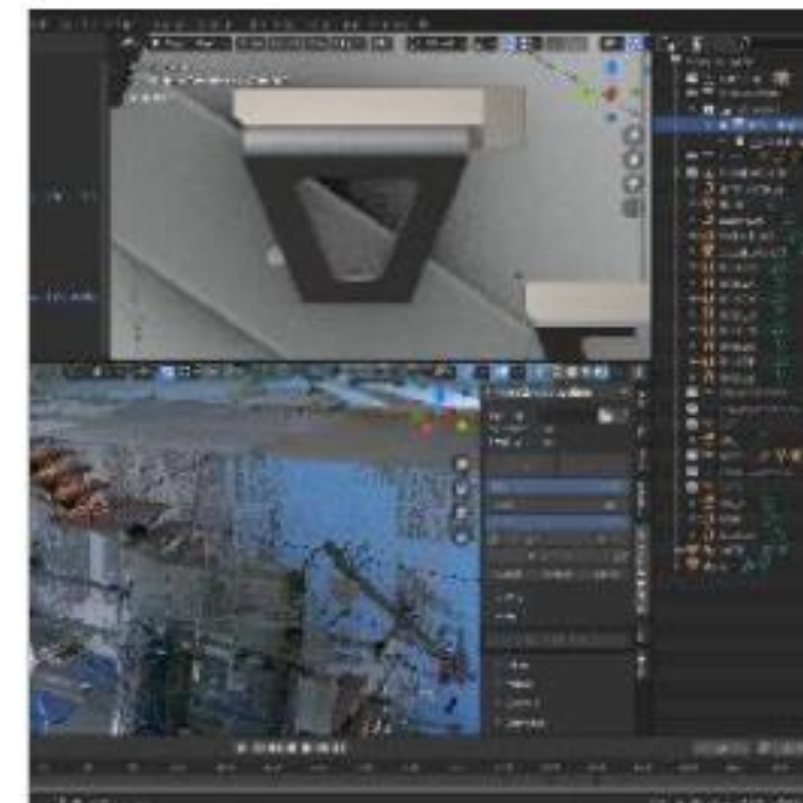
## Core Objectives

To combine the use of openBIM with free software to give greater access to built environment data and to help develop data pipelines without reliance on proprietary software.

## Project Description

Lendlease developed a suite of seven Unix-influenced modular, decoupled, and cross-platform openBIM tools under free and open-source software licenses, to include a wide spectrum of functionality. openBIM was treated as a core native format and database, as opposed to a transfer methodology between program imports and exports; without openBIM the development of a technology pipeline such as this would not have been possible.

The suite was developed in under a year





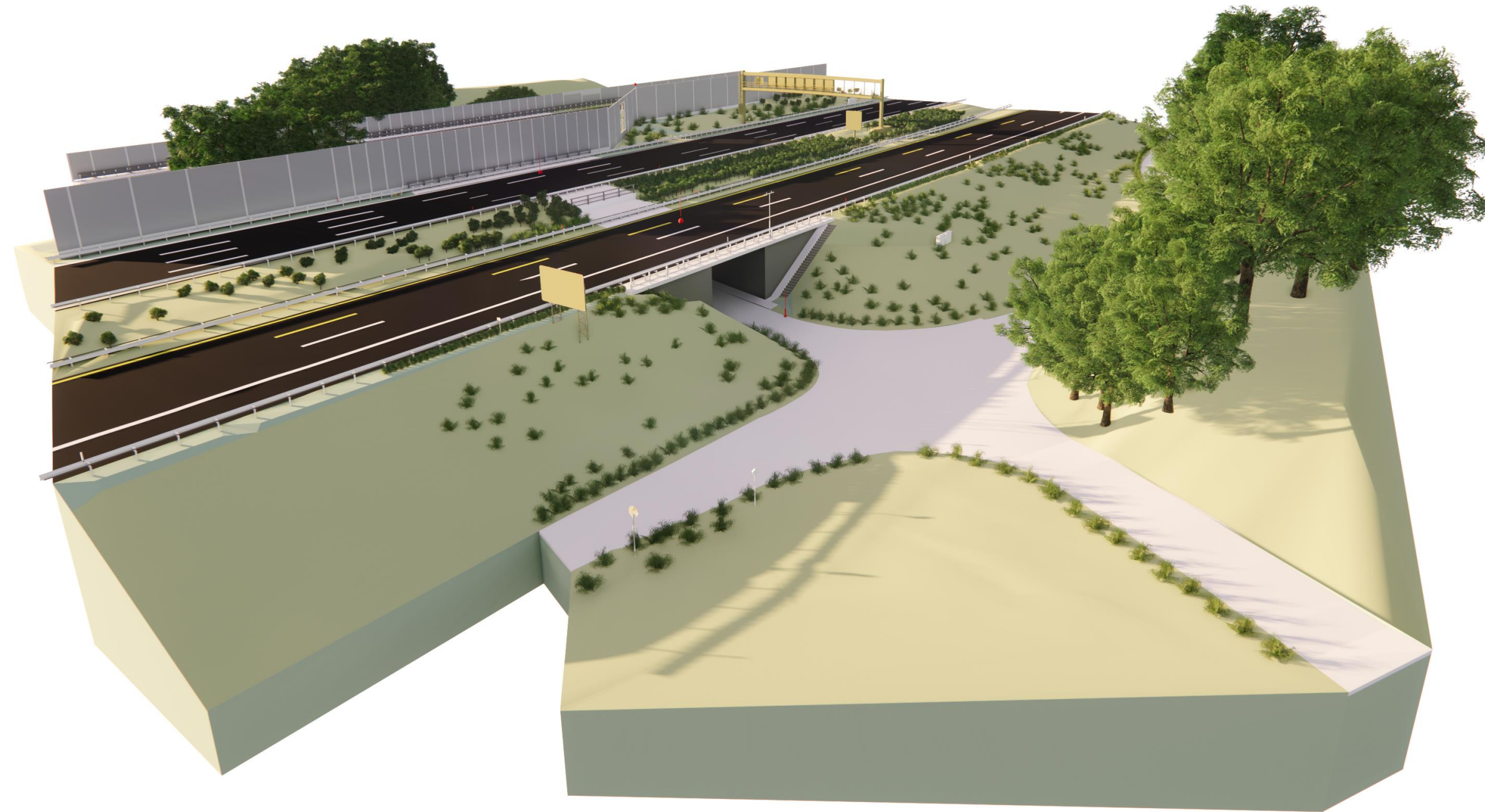
Winner 2022 Technology Category



# buildingSMART International Awards Program 2021

## BIM 1076 - The Digital Structural Inspection

A99 BW 32/1



Staatspreis  
Consulting 2015  
Ingenieurconsulting  
des Bundesministeriums  
für Wissenschaft,  
Forschung und Wirtschaft

7<sup>th</sup> June 2021

buildingSMART International Awards Program 2021

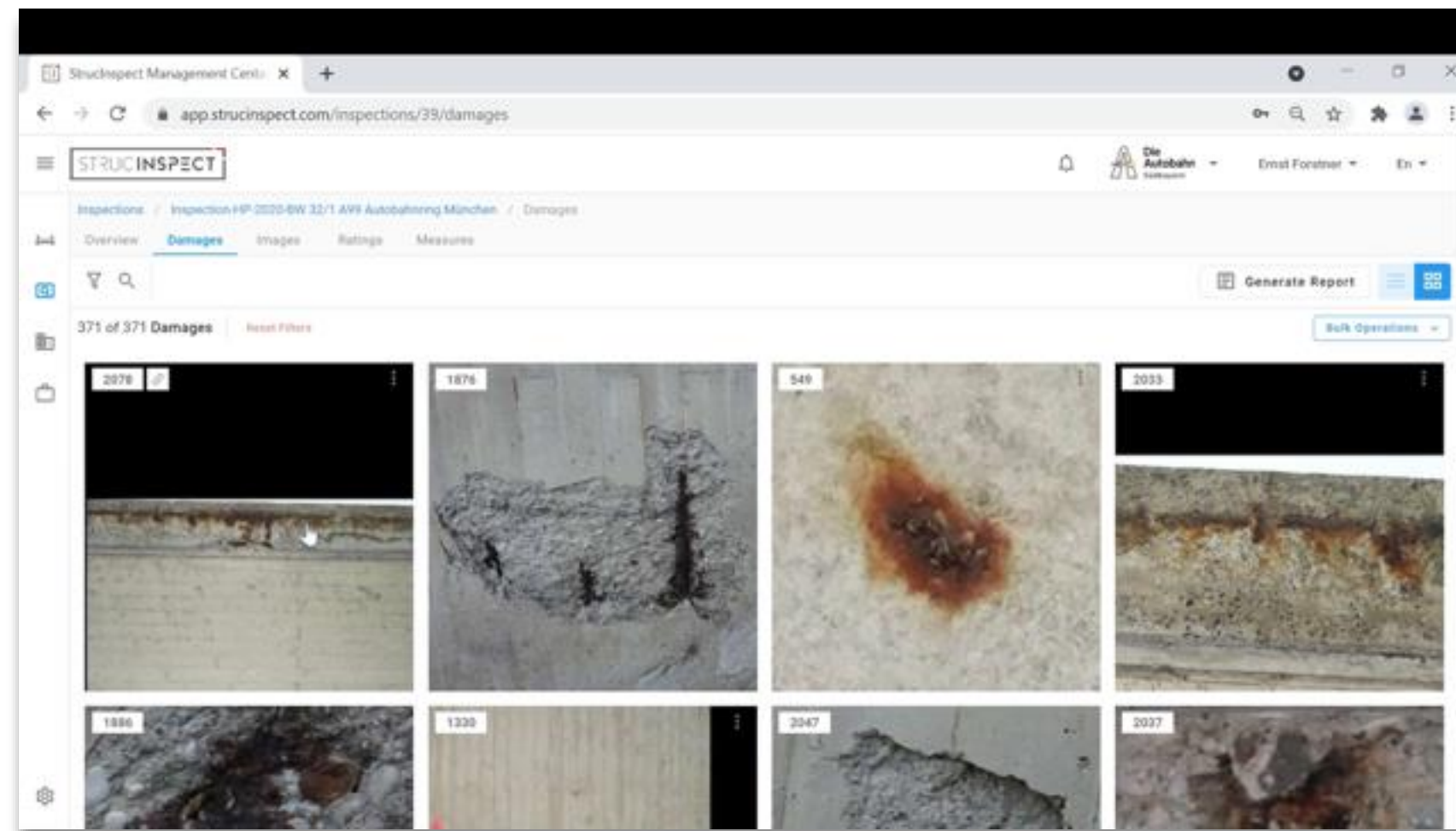
31



# Key openBIM Information – STRUCINSPECT Services

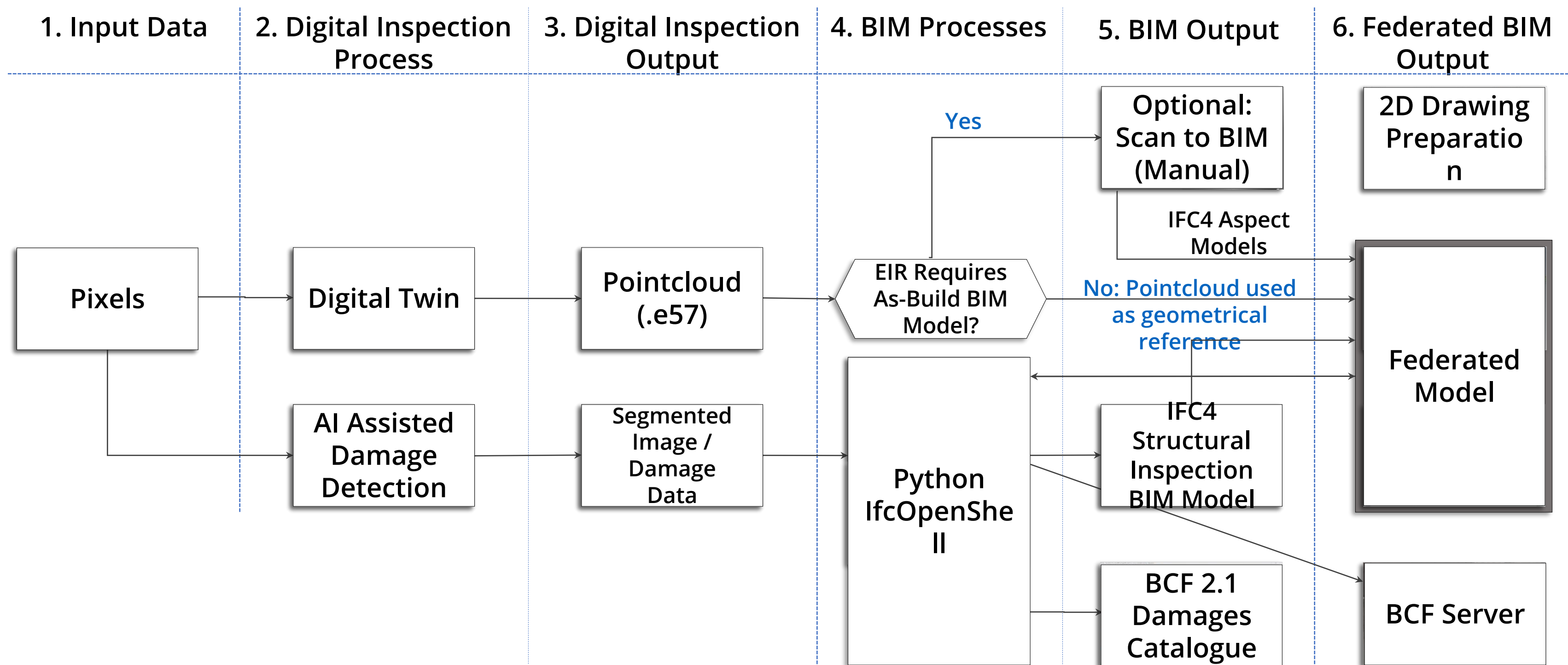
## STRUCINSPECT Services

- Our technology is built around the STRUCINSPECT platform
- The platform manages the entire life-cycle process
- Employs Artificial Intelligence assisted damage detection to detect and classify damages
- Optional Digital Twin
- openBIM interface (IFC and BCF)





# Key openBIM Information – Process Diagram





# Key openBIM Information – Input Data

## Input Data

- Requires only high resolution pixel images of the structure
- Often taken using drones for larger structures, where difficult terrain is encountered or to reduce disruption to infrastructure operation
- High resolution terrestrial camera (typically 42 megapixel) will suffice for smaller structures

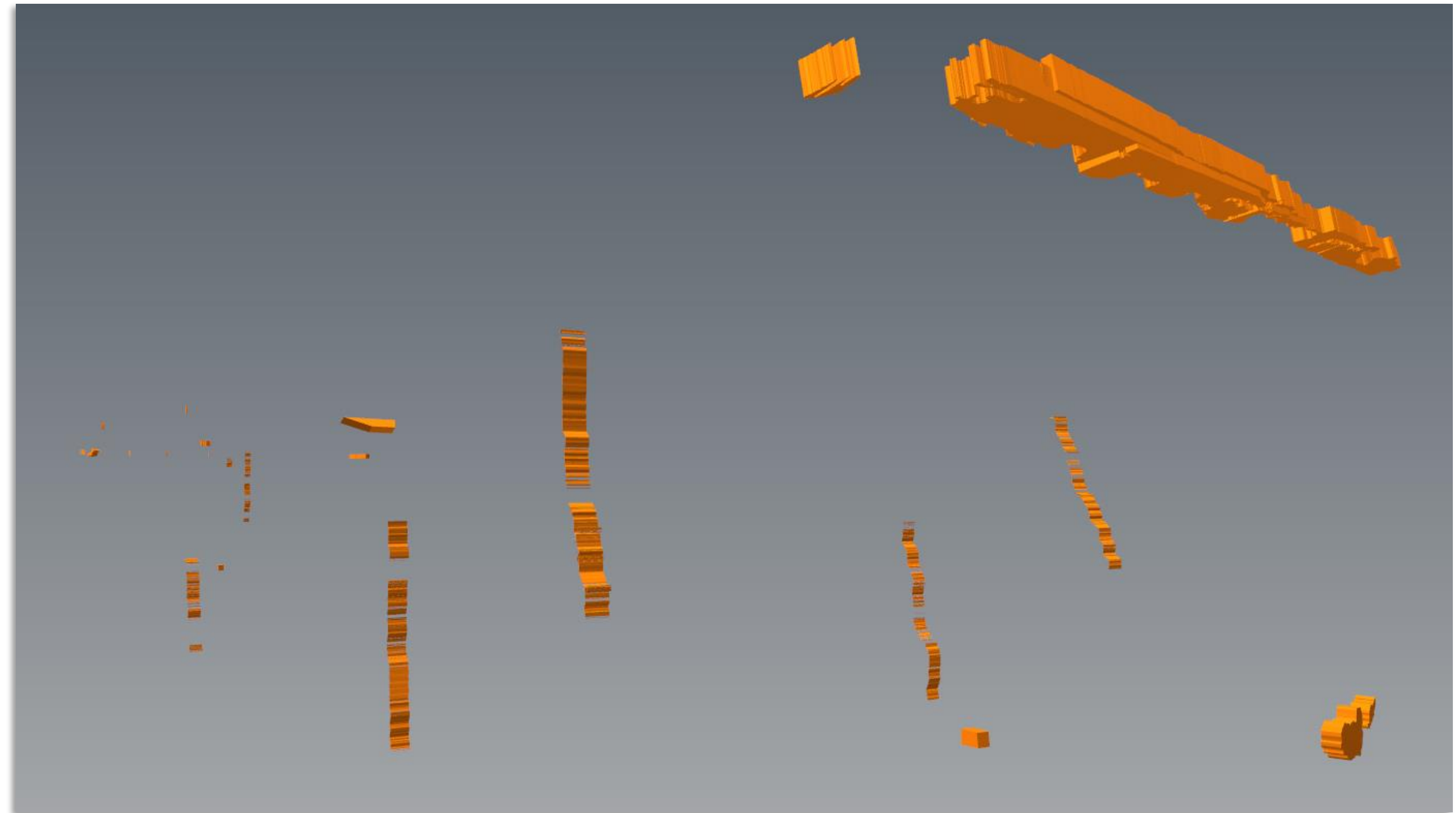




# Key openBIM Information – Structural Damages IFC Model

## Structural Damages IFC Model

- The resulting IFC4 Structural Inspection model contains only the damages as isolated *IfcExtrudedAreaSolid*
- In order to provide reference to the damages model a geometrical model of the structure is required

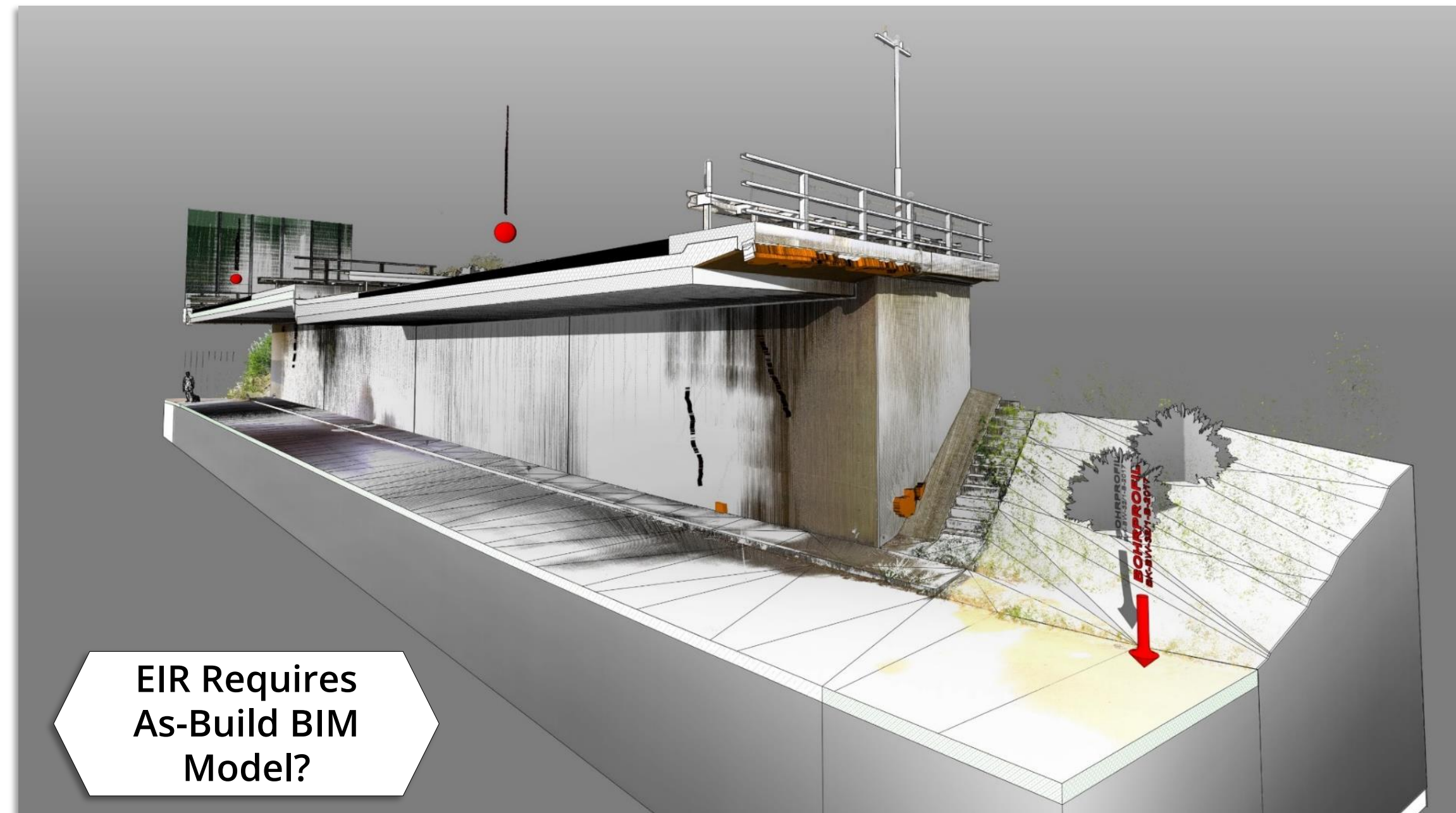




# Key openBIM Information – Scan to BIM?

## Scan to BIM?

- Some clients require an information rich as-built BIM model and others do not
- In the case that an as-built model is required, then a standard scan to BIM process is undertaken.
- Alternatively, the pointcloud or textured model can be used as a geometrical reference

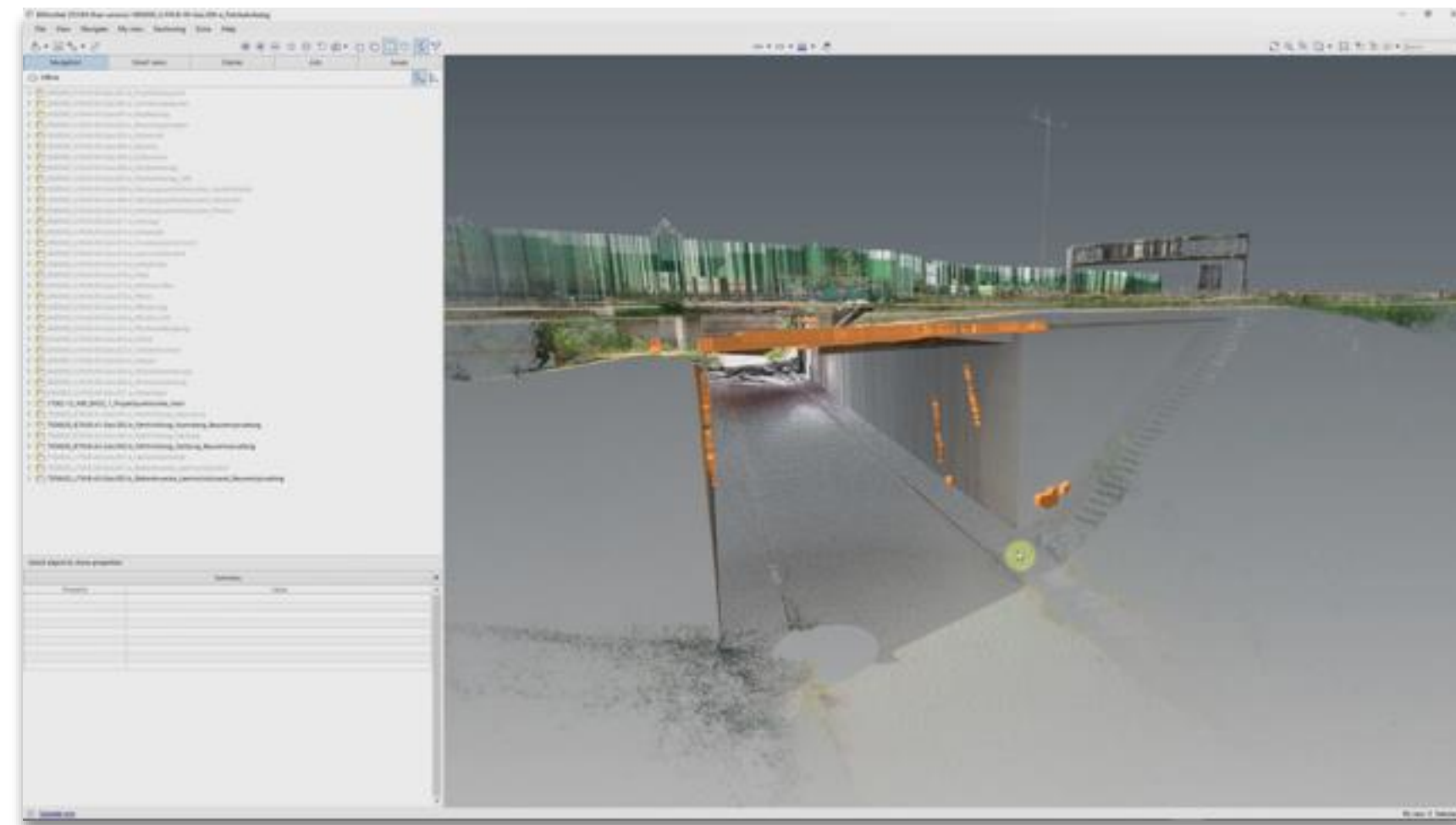




# Key openBIM Information – Federated IFC Model + Pointcloud

## Federated IFC Model + Pointcloud

- The primary purpose of the geometry model is to provide reference and orientation to the structural damages model
- If no As-Built model exists then a simple pointcloud or 3D textured Digital Twin can suffice
- This option saves the expense and effort of the manual model preparation process and enables a mass-scalable solution

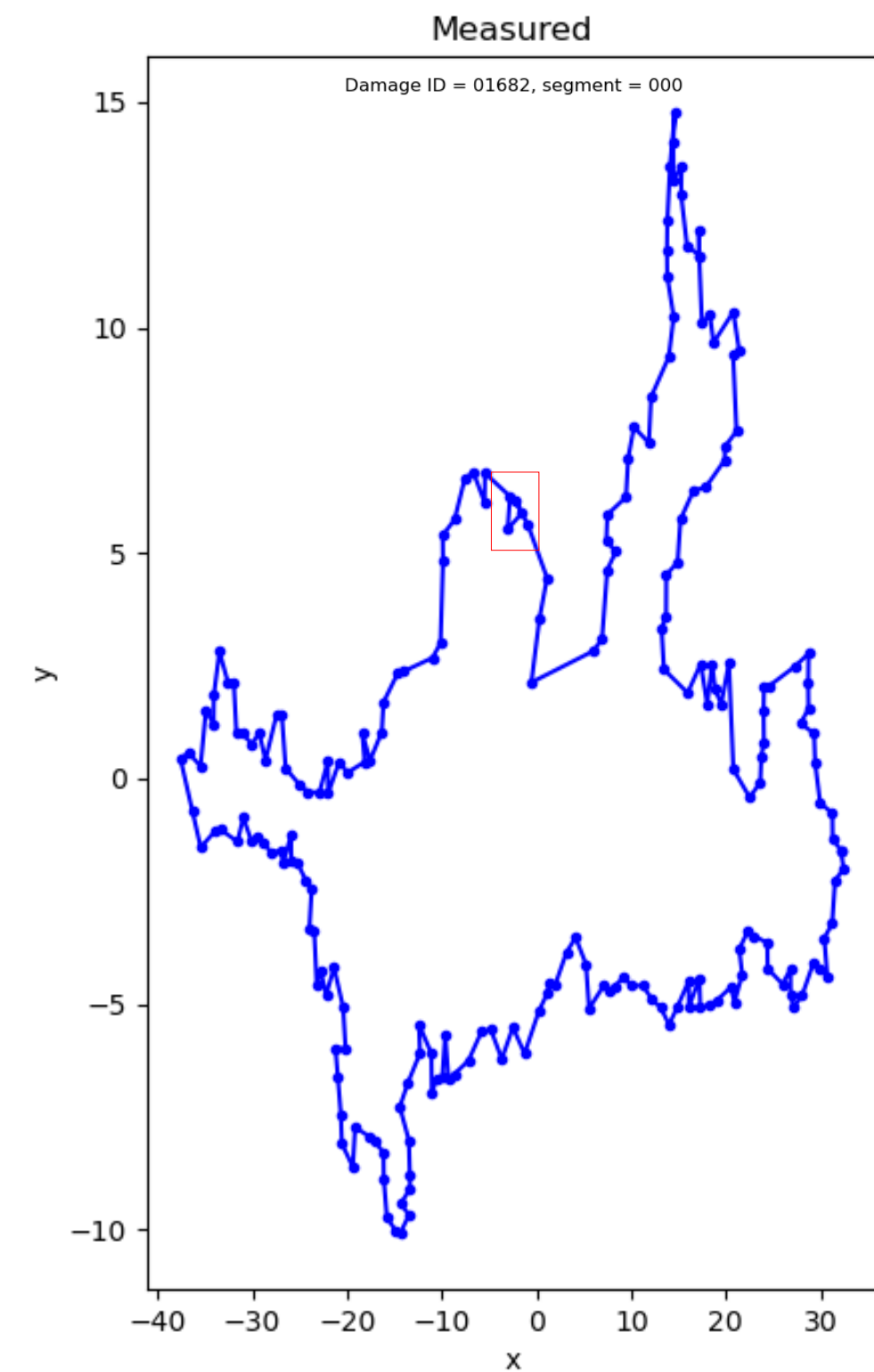
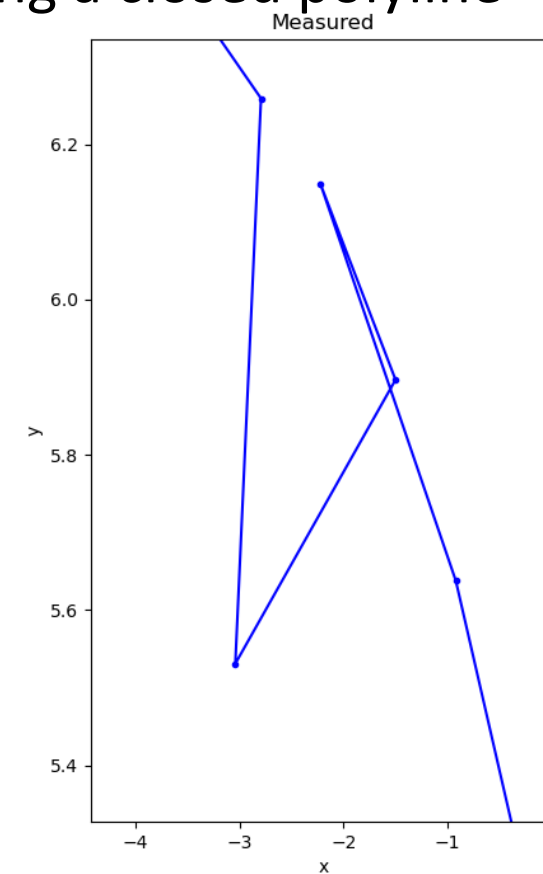




## The STRUCINSPECT Digital Inspection

1. Individual pixels of damage images are analysed using neural networks with deep learning optimisation
2. The damage detection process results in segmented pixels
3. The damage image is annotated
4. Digital inspection output as both geometry contours and damage attributes
5. The contour is defined as a series of 3D coordinates forming a closed polyline

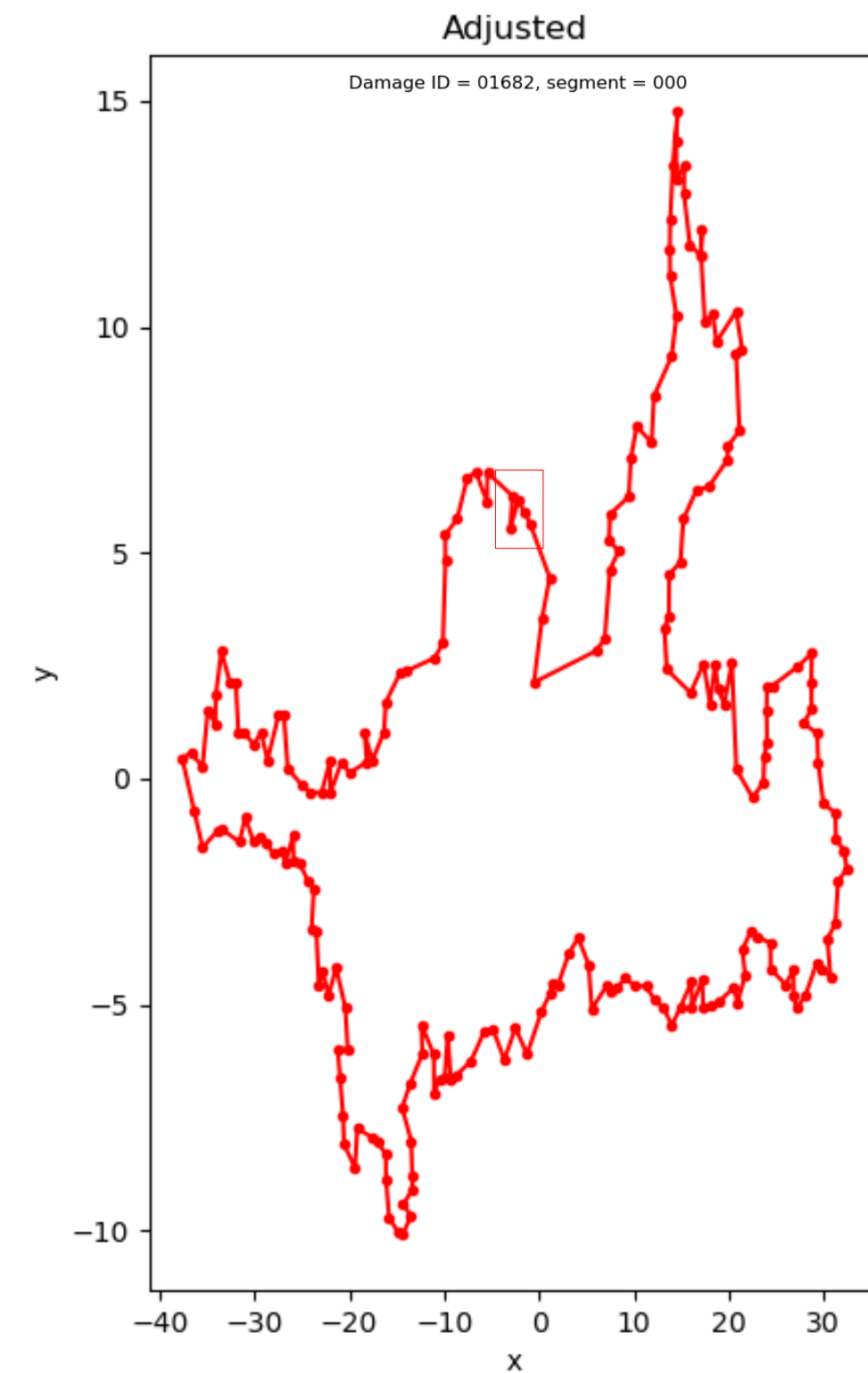
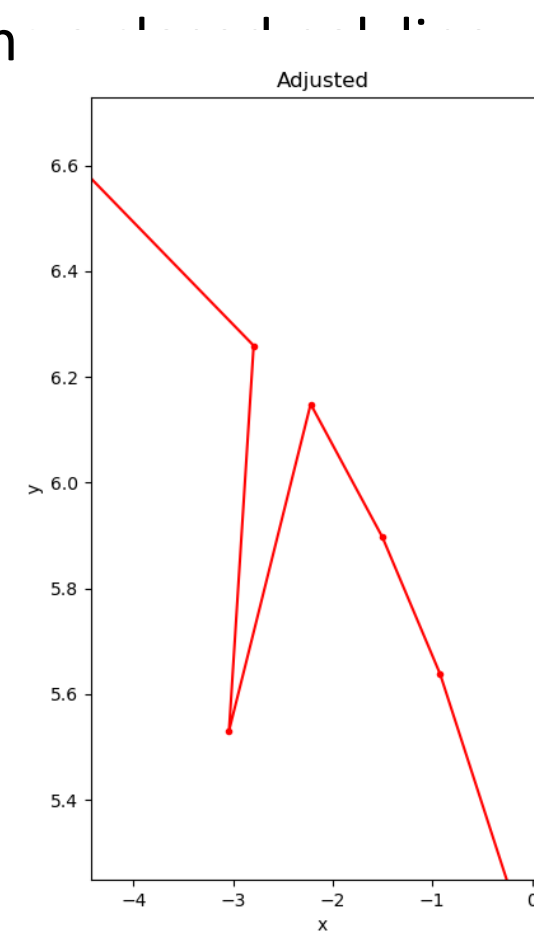
1. Analysed to resolve any self-intersection





## The STRUCINSPECT Digital Inspection

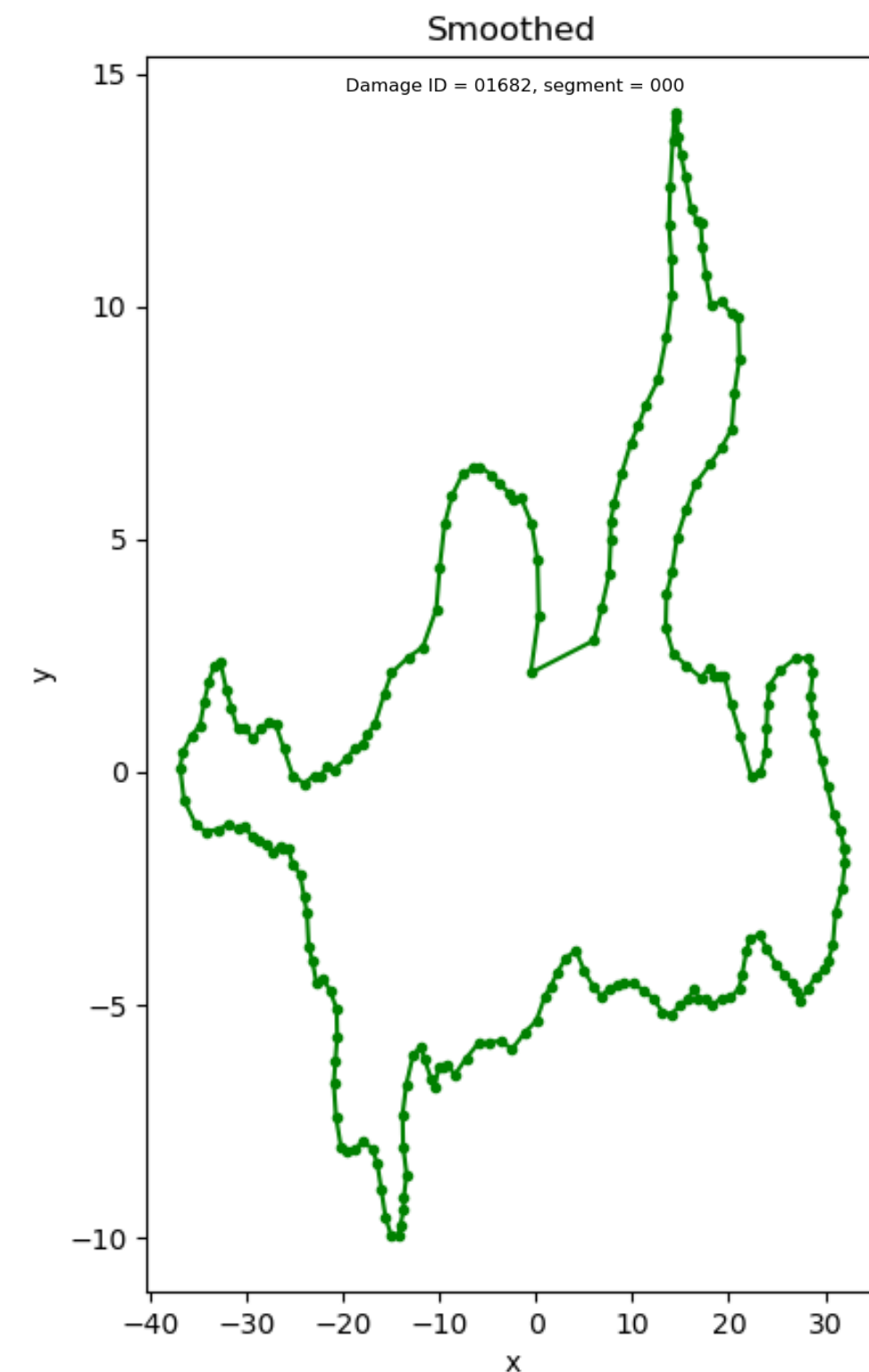
1. Individual pixels of damage images are analysed using neural networks with deep learning optimisation
2. The damage detection process results in segmented pixels
3. The damage image is annotated
4. Digital inspection output as both geometry contours and damage attributes
5. The contour is defined as a series of 3D coordinates forming
  1. Analysed to resolve any self-intersection





## The STRUCINSPECT Digital Inspection

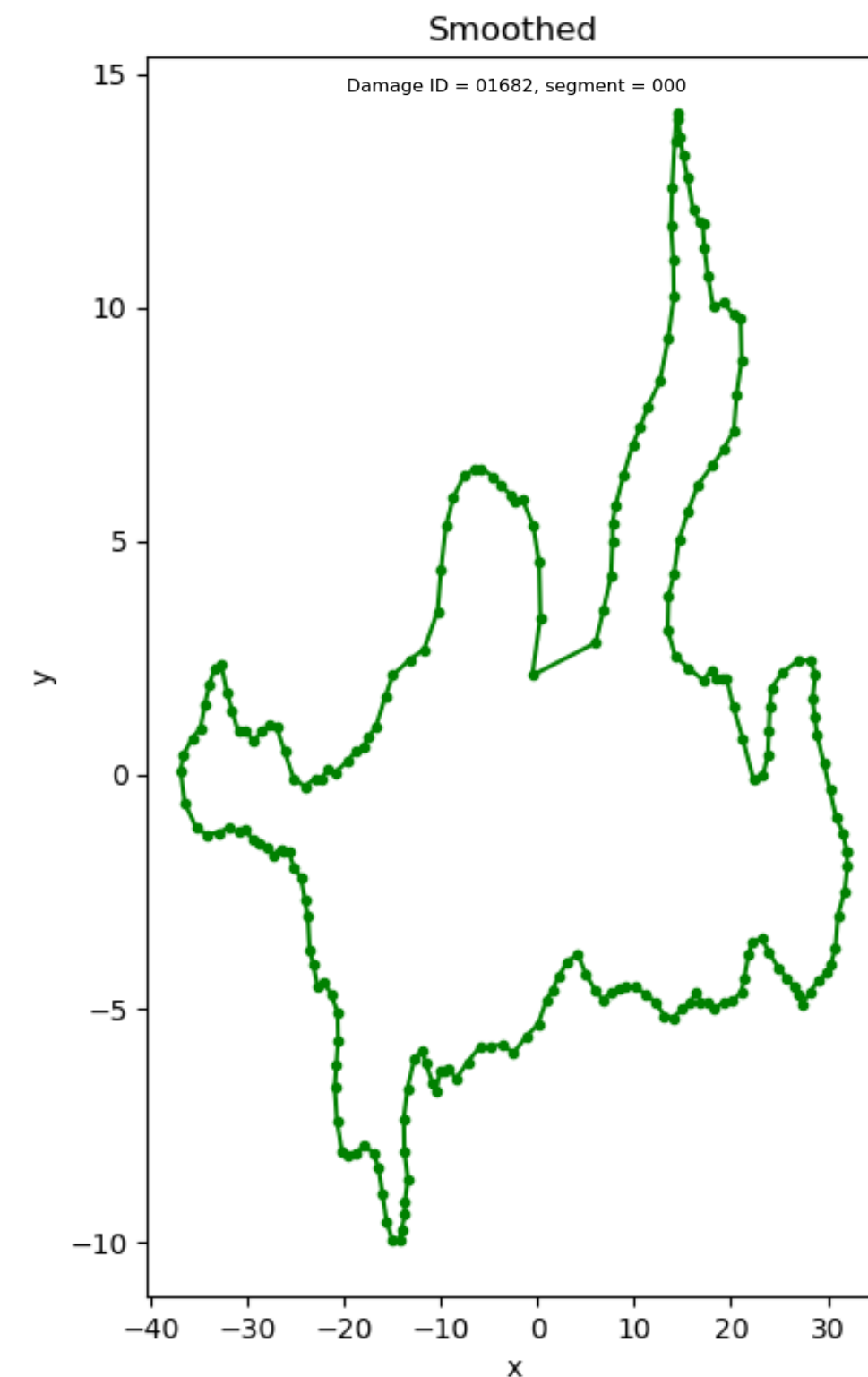
1. Individual pixels of damage images are analysed using neural networks with deep learning optimisation
2. The damage detection process results in segmented pixels
3. The damage image is annotated
4. Digital inspection output as both geometry contours and damage attributes
5. The contour is defined as a series of 3D coordinates forming a closed polyline
  1. Analysed to resolve any self-intersection
  2. Smoothed to remove unnecessary geometry





## The STRUCINSPECT Digital Inspection

1. Individual pixels of damage images are analysed using neural networks with deep learning optimisation
2. The damage detection process results in segmented pixels
3. The damage image is annotated
4. Digital inspection output as both geometry contours and damage attributes
5. The contour is defined as a series of 3D coordinates forming a closed polyline
  1. Analysed to resolve any self-intersection
  2. Smoothed to remove unnecessary geometry
6. Extruded to create an *IfcExtrudedAreaSolid* per damage





BIMcollab ZOOM (free version): 0000000\_U.F.M.B-00-Geo.006-d\_Fahrbahnbelag

File View Navigate My view Sectioning Extra Help

Navigation Smart views Clashes Lists Issues

Offline

- 0000000\_P.F.M.B-00-Geo.001-d\_Projektbasispunkt
- 0000000\_P.F.M.B-00-Geo.002-d\_Vermessungspunkt
- 0000000\_U.F.M.B-00-Geo.001-d\_Bepflanzung
- 0000000\_U.F.M.B-00-Geo.002-d\_Boeschungstreppe
- 0000000\_U.F.M.B-00-Geo.003-d\_Bohrprofil
- 0000000\_U.F.M.B-00-Geo.004-d\_Bruecke
- 0000000\_U.F.M.B-00-Geo.005-d\_Erdkoerper
- 0000000\_U.F.M.B-00-Geo.006-d\_Fahrbahnbelag
- 0000000\_U.F.M.B-00-Geo.007-d\_Fahrbahnbelag\_A99
- 0000000\_U.F.M.B-00-Geo.008-d\_Fahrzeugrueckhaltesystem\_Abstandhalter
- 0000000\_U.F.M.B-00-Geo.009-d\_Fahrzeugrueckhaltesystem\_Gelaender
- 0000000\_U.F.M.B-00-Geo.010-d\_Fahrzeugrueckhaltesystem\_Pfosten
- 0000000\_U.F.M.B-00-Geo.011-d\_Gehweg
- 0000000\_U.F.M.B-00-Geo.012-d\_Gelaender
- 0000000\_U.F.M.B-00-Geo.013-d\_Grundwasserhorizont
- 0000000\_U.F.M.B-00-Geo.014-d\_Laermschutzwand
- 0000000\_U.F.M.B-00-Geo.015-d\_Leitpfosten
- 0000000\_U.F.M.B-00-Geo.016-d\_Mast
- 0000000\_U.F.M.B-00-Geo.017-d\_Mittelstreifen
- 0000000\_U.F.M.B-00-Geo.018-d\_Pfeiler
- 0000000\_U.F.M.B-00-Geo.019-d\_Pflasterung
- 0000000\_U.F.M.B-00-Geo.020-d\_Pfosten\_LSW
- 0000000\_U.F.M.B-00-Geo.021-d\_Pfostenbefestigung
- 0000000\_U.F.M.B-00-Geo.022-d\_Schild
- 0000000\_U.F.M.B-00-Geo.023-d\_Schilderbruecke
- 0000000\_U.F.M.B-00-Geo.024-d\_Straesse
- 0000000\_U.F.M.B-00-Geo.025-d\_Straessenmarkierung
- 0000000\_U.F.M.B-00-Geo.026-d\_Stromausruestung
- 0000000\_U.F.M.B-00-Geo.027-d\_Widerlager
- 7836628\_B.T.M.B-A1-Geo.001-d\_Fahrtrichtung\_Nuernberg
- 7836628\_B.T.M.B-A1-Geo.002-d\_Fahrtrichtung\_Nuernberg\_Bauwerkspruef...
- 7836628\_B.T.M.B-A2-Geo.001-d\_Fahrtrichtung\_Salzburg
- 7836628\_B.T.M.B-A2-Geo.002-d\_Fahrtrichtung\_Salzburg\_Bauwerkspruefung
- 7836628\_L.T.M.B-A0-Geo.001-d\_Laermschutzwand
- 7836628\_L.T.M.B-A3-Geo.001-d\_Balkenbruecke\_Laermschutzwand
- 7836628\_L.T.M.B-A3-Geo.002-d\_Balkenbruecke\_Laermschutzwand\_Bauwe...

Other

Summary	Location	Clashes	Ingenieurbau
Property		Value	
Abmes...	Abplatzungsflaeche; 11.03dm2		
Bauer...	Fluegelwand_(Widerlager_1_(Nuernberg))		
Dauerh...	2		
ID_Nu...	1877		
IFC_Ba...	IIfBuildingElementProxy		
Klassifi...	Bauwerkspruefung		
Modell...	7836628_A1_Bauwerkspruefung_012		
Pruefb...	/Pruefbericht/PRUEFBERICHT_7836628_1_2020H.PDF		
Pruefd...	von_11.08.2020_bis_20.11.2020		
Schade...	[50]		
Schade...	BSP-ID_021-08		
Schade...	/Schadensbilder/1877.jpg		
Schade...	Abplatzung		
Standst...	0		
Status	Bestand		
Verkehr...	0		
X-Koor...	320702408.6989470737		
Y-Koor...	5340212.617945418		
Z-Koor...	5047111.4736494		

7th June 2021

Upgrade now

1877.jpg - IrfanView (Zoom: 567 x 379)

File Edit Image Options View Help

35.0

1619 x 1080 x 24 BPP 21/31 35 % 561.96 KB / 5.01 MB 11/12/2020 / 10:10:58

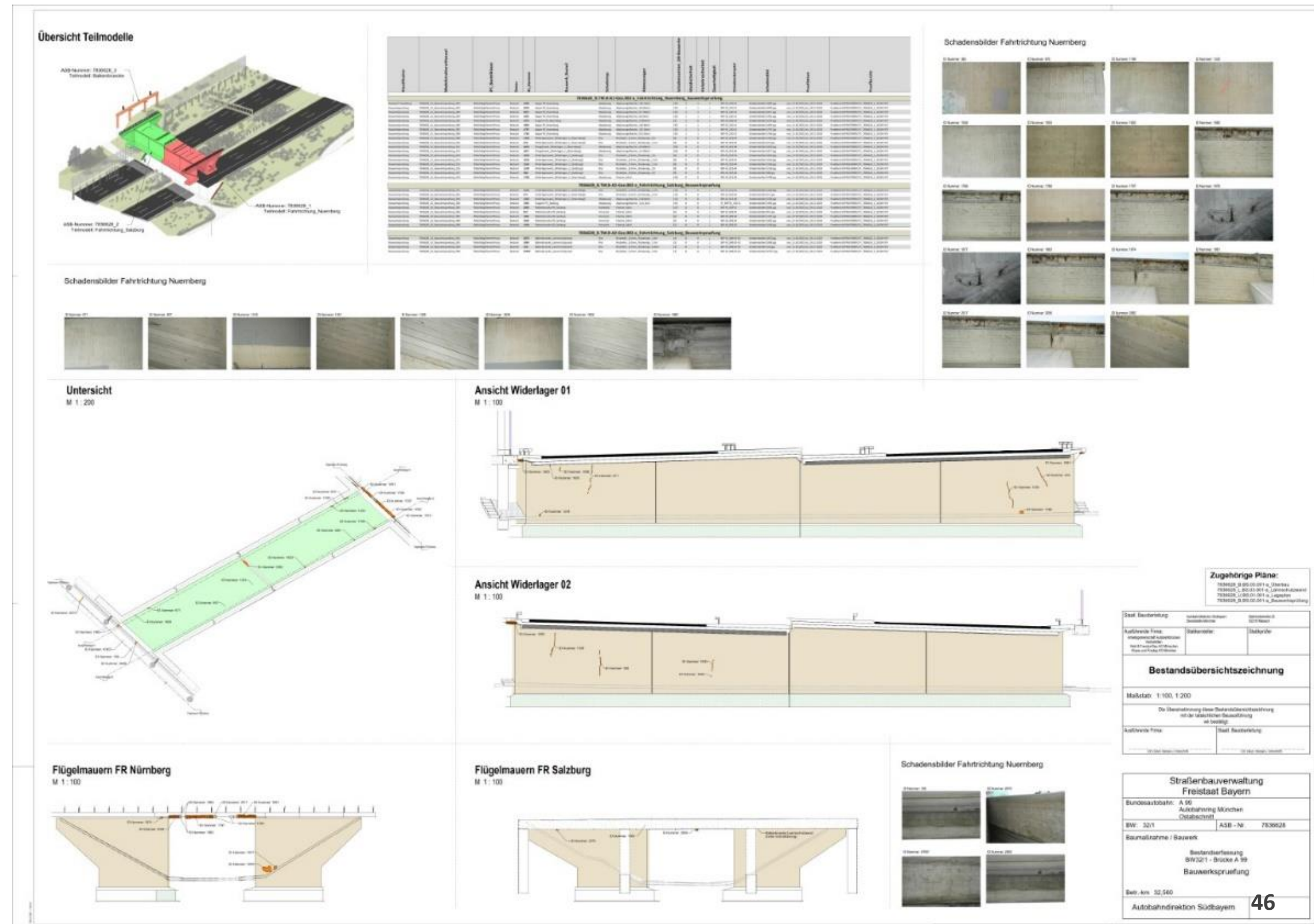
44

My view: 0 Selected: 1



## 2D structural inspection plan

- ❑ Extracted from the Revit BIM Model
- ❑ As geometrical background model:
  - ❑ As-built BIM model; or,
  - ❑ Basic 3D model; or,
  - ❑ Pointcloud

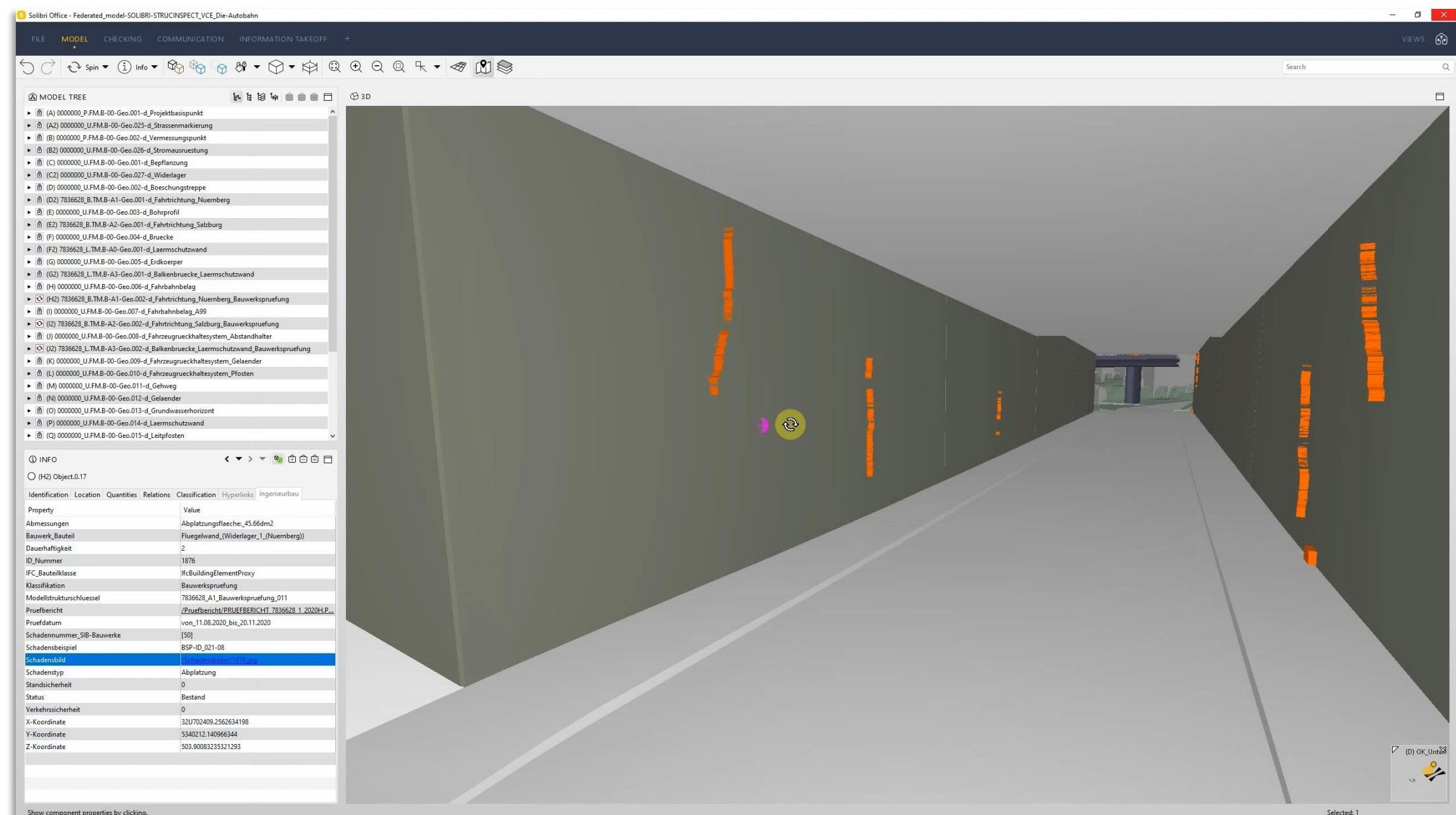




# Key Outcomes – Immediate Use Cases #1

## Clear Graphical Representation

1. The ability to display the damages with such clarity enables a civil engineer to more easily identify potential relationships between two damages that may have otherwise appeared isolated and unrelated
2. Improve the chances that the correct mitigation measures can be identified, prescribed and undertaken

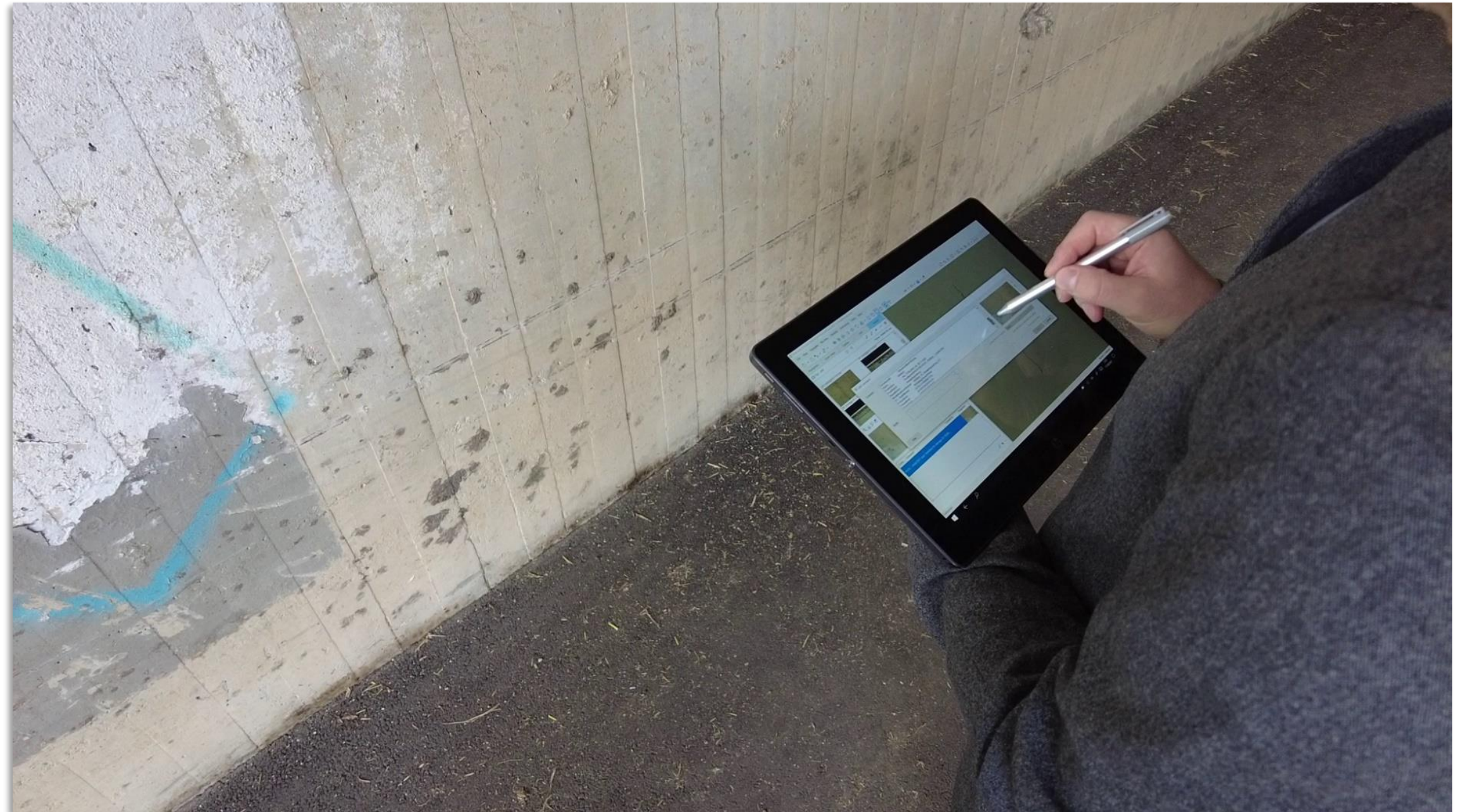




# Key Outcomes – Immediate Use Cases #3

## Field to BIM “Round-Trip”

1. To enable the civil engineer to complete the digital “round-trip” using BCF
2. Current industry practice sees this information stored in minor inspection reports
3. Our technology solution improves the transparency and accessibility of this information by enabling field to BIM communication via BCF server synchronisation.





# Key Outcomes and Achievements



## VCE Technology Solution:

- Combines highly innovative technology and culminates in powerful new use-cases for openBIM
- Has already attracted considerable interest from infrastructure operators in Germany and Austria
- Offers the Asset Management industry a 'ready to use' practical solution to an immediate challenge
- Helps guide the Asset Management industry's digital transformation towards openBIM standards
- Lowers the commercial and knowledge investment costs associated with a digital transformation
- Provides a civil engineer with a more complete overview of the structural condition of an object
- Provides a method for the simplifying the creation of 2D drawings
- Enables BIM-based cost calculation and management of maintenance surfaces
- Enables a site engineer to interact with a BIM model from the field using BCF

Would any of these outcomes support your business/projects/clients ?



# 2024 Award Submissions (prelim)

Category	Submissions	Post-triage
Asset Management	1	0
Construction for Buildings	8	5
Construction for Infrastructure	15	7
Design for Buildings	7	7
Design for Infrastructure	9	5
Facilities Management	1	1
Handover	1	1
Professional Research	11	7
Student Research	7	5
Technology	24	12
<b>Total</b>	<b>84</b>	<b>50</b>



## Award Feedback - Peter O'Brien

- The level of interest was pretty high following the awards and we found that more or less all who wanted a digital structural inspection also requested (the optional service) that the results be transformed into IFC and BCF. So in that sense it was a big success and it really helped improve awareness and interest of openBIM in the field of Asset Management.
- But what I found even more interesting is that many people contacted me because they saw the awards and it made them realise that **an IFC model can be created from all sorts of raw data and is not just an export from Revit or ArchiCAD**. So it somehow spawned many side project where information from all kinds of databases has been used to create BIM models.
- I'm also happy **to be contacted** should any questions arise.



obrien@vce.at



# Thank you

Thanks to the organisations below for supplying material for this presentation:

**Peter O'Brien**, BIM 1076 - The Digital Structural Inspection, VCE, AT,  
Matt **Randell**, Wellington Railway Station, Aurecon, NZ,  
Karl **Fitzpatrick**, Auckland International Airport, Auckland Airport, NZ  
Inge **Aarseth**, The Tonsberg Project, Vestfold Hospital, NO  
Andrew **Curthoys**, Cross River Rail, Cross River Rail Authority, AU  
Dion **Moult**, openBIM Data Pipelines, Lendlease, AU  
Wayne **Sahlman**, Pyrmont Bridge, Property NSW, AU

**John Mitchell**, [john.mitchell@cqr.net.au](mailto:john.mitchell@cqr.net.au)