



Entreprisejuridisk seminar

01.09.2022

Tilman Köberlein, CFO

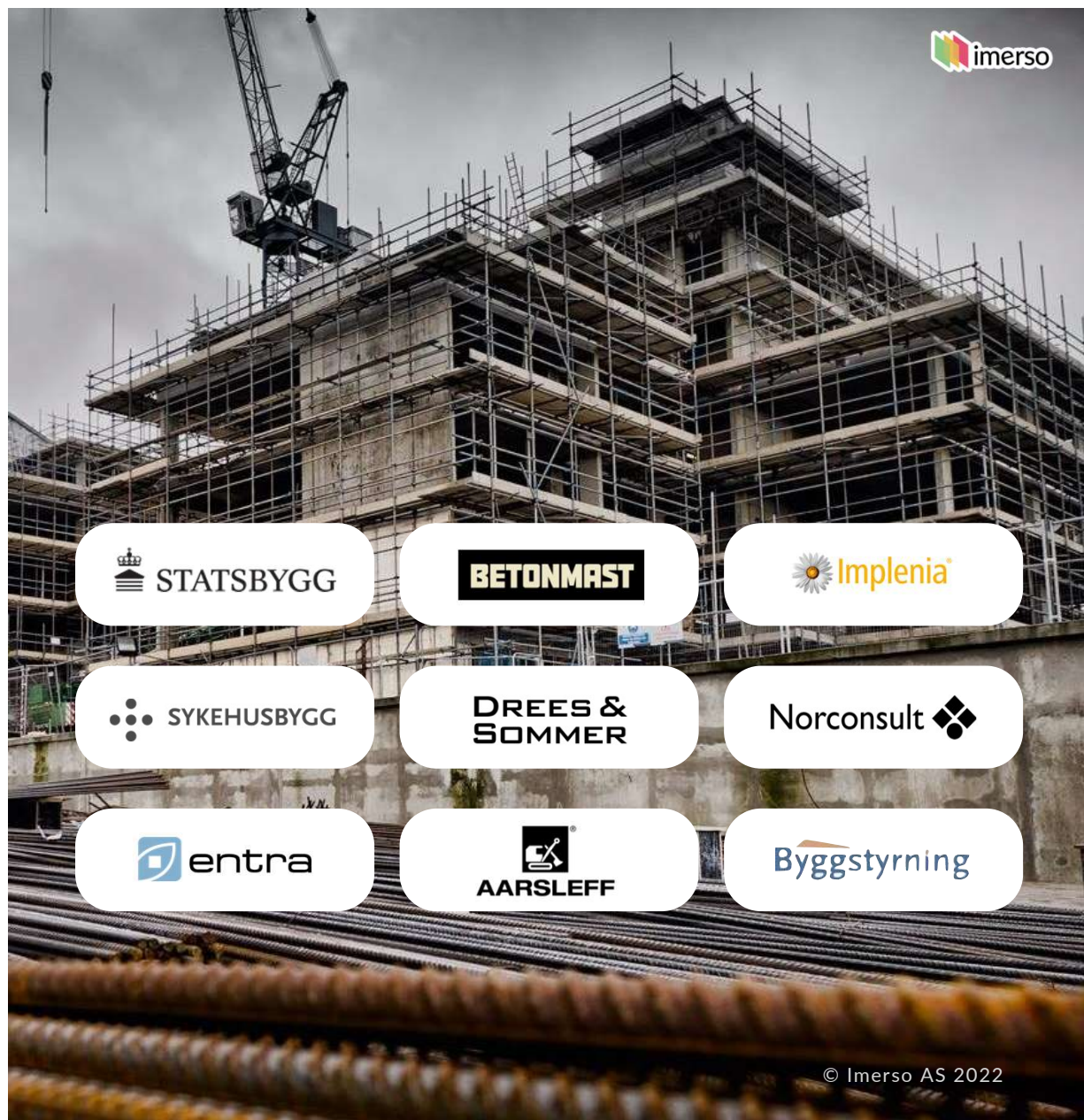
ABOUT IMERSO AND OUR MISSION

BRINGING CONSTRUCTION ONLINE

Imerso is a software company in Oslo, Norway combining over 30 years in Construction Management.

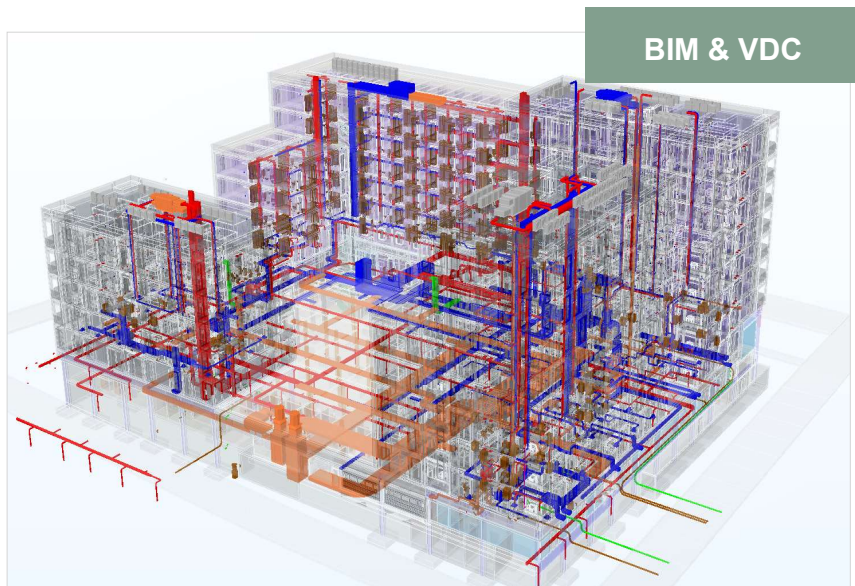
We are creating new technologies to help construction companies join the Digital Age and meet the challenges of building a sustainable future together.

Our team's mission is to modernise construction and bring the world's oldest industry online.



PROBLEM

NO SOLUTION TO TRACK FIELDWORK DIRECTLY TO THE PLANS



Investment in sophisticated 3D planning



Manual & Visual 2D compliance is insufficient

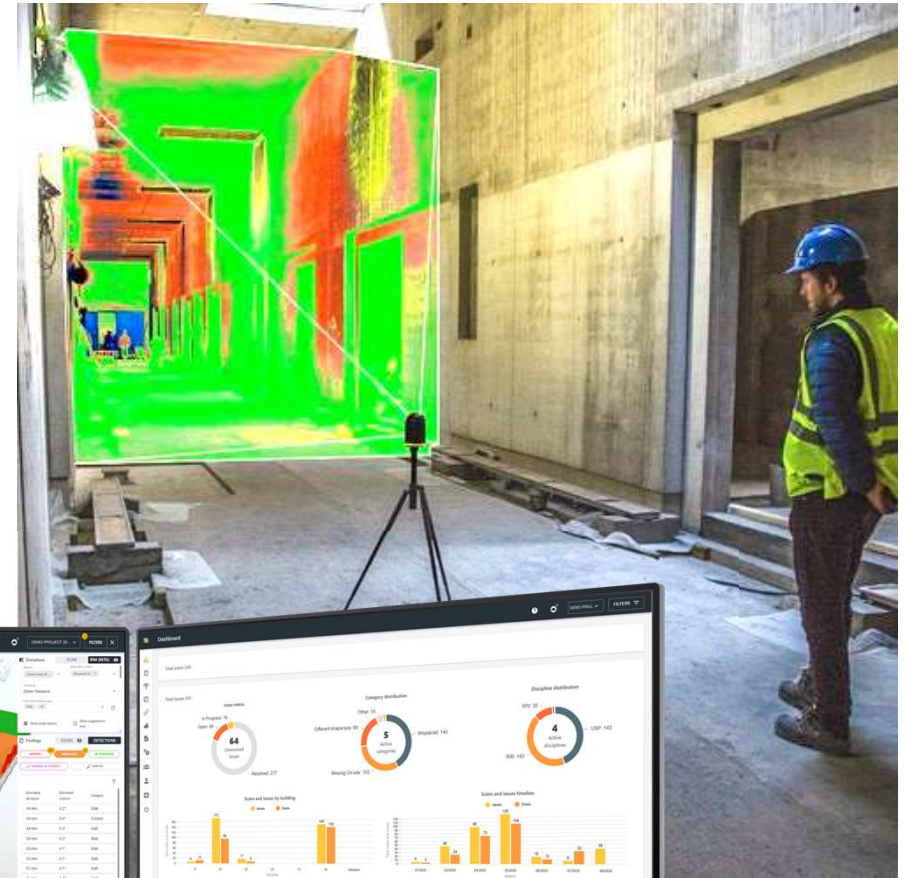
PRODUCT

AUTOMATIC VERIFICATION OF BUILT-vs-BIM

Proactive inspection routines with 3D Scanning made easy.

Eliminate fieldwork issues, delays, and handover defects.

For teams that want to build faster with higher quality.



WORKFLOW

CLOSING THE GAP BETWEEN OFFICE & FIELD

1. Sync BIM



BIM models as the
performance targets.

2. Easy Scanning



Millimetric 3D replica
of the As-built status.

3. Check Results



Deviations from BIM
highlighted and reported.



REPEAT



100% Based on international
open standards

imerso.com

Connect your CDE
More integrations TBA!

Bimsync

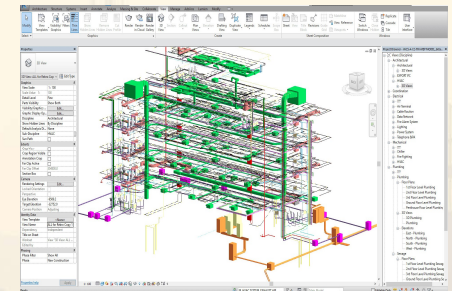
PROCORE

**AUTODESK
CONSTRUCTION
CLOUD**

imerso



Deviation Unacceptable
Push BCF for onsite Rework



Deviation Acceptable
Update BIM with As-Built status.

© Imerso AS 2022



imerso

DIGITAL CONSTRUCTION

A new standard

Over 10 Million square meters monitored



New Build
Constructions



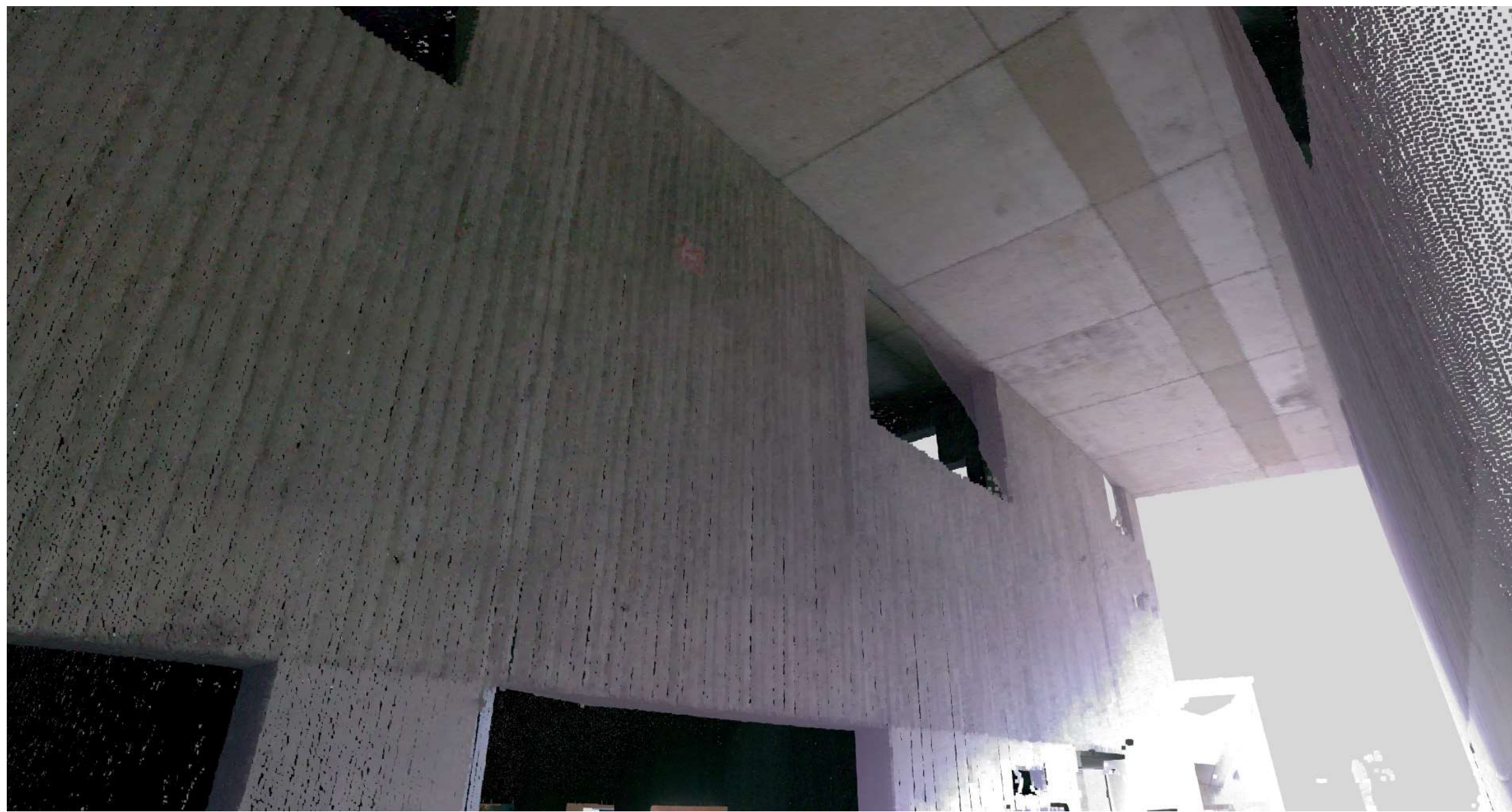
Renovation
& Retro-fitting

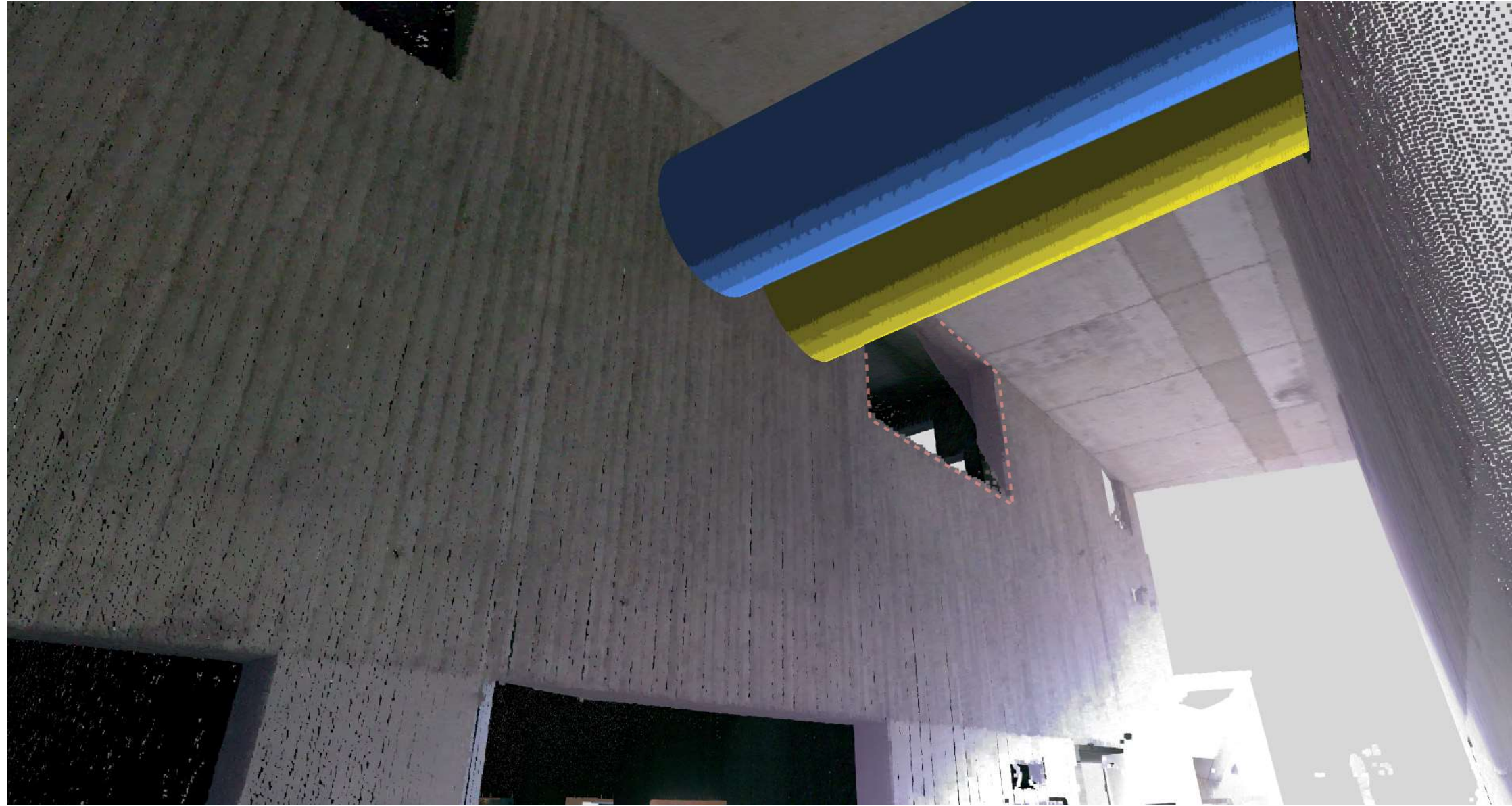


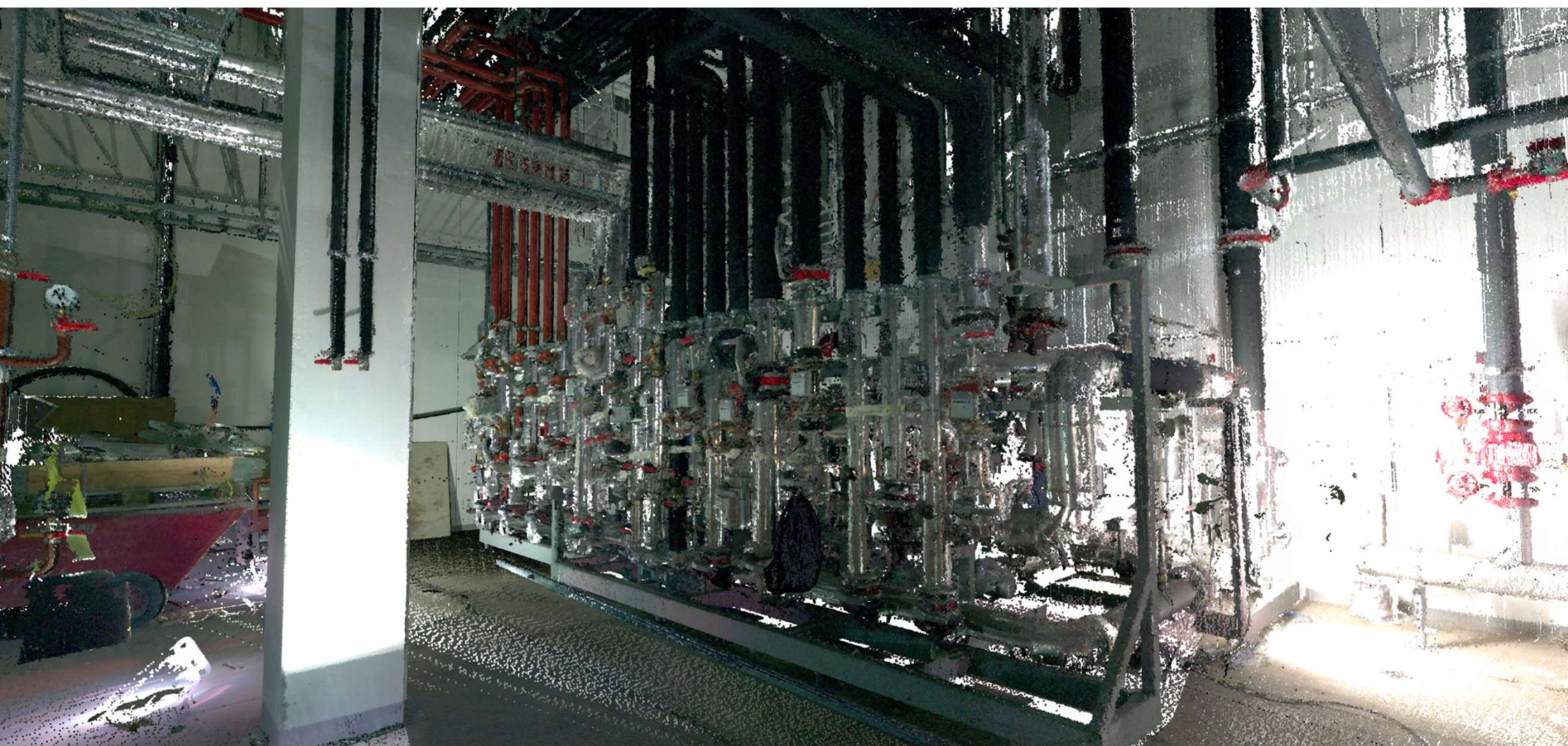
Handover
Due Diligence

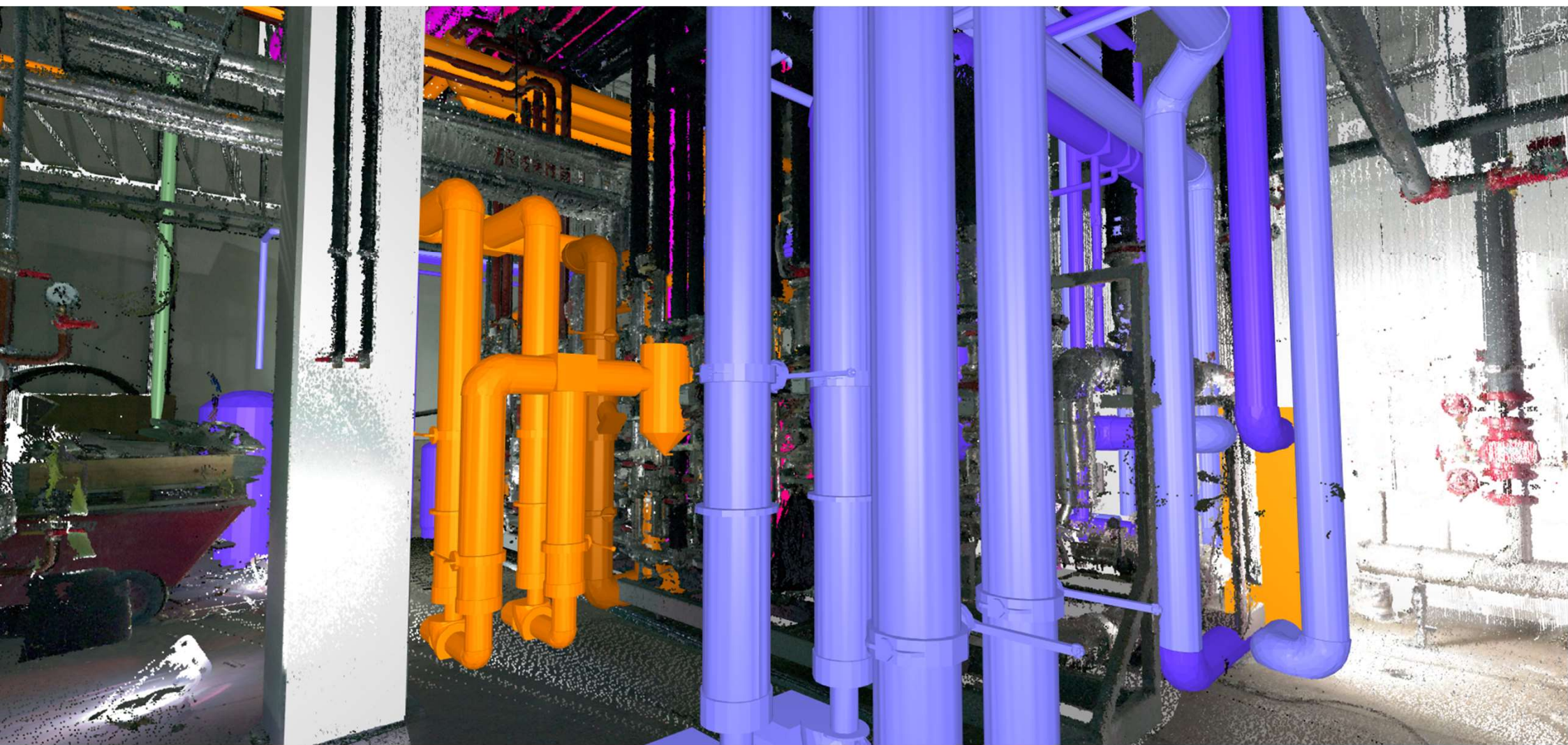


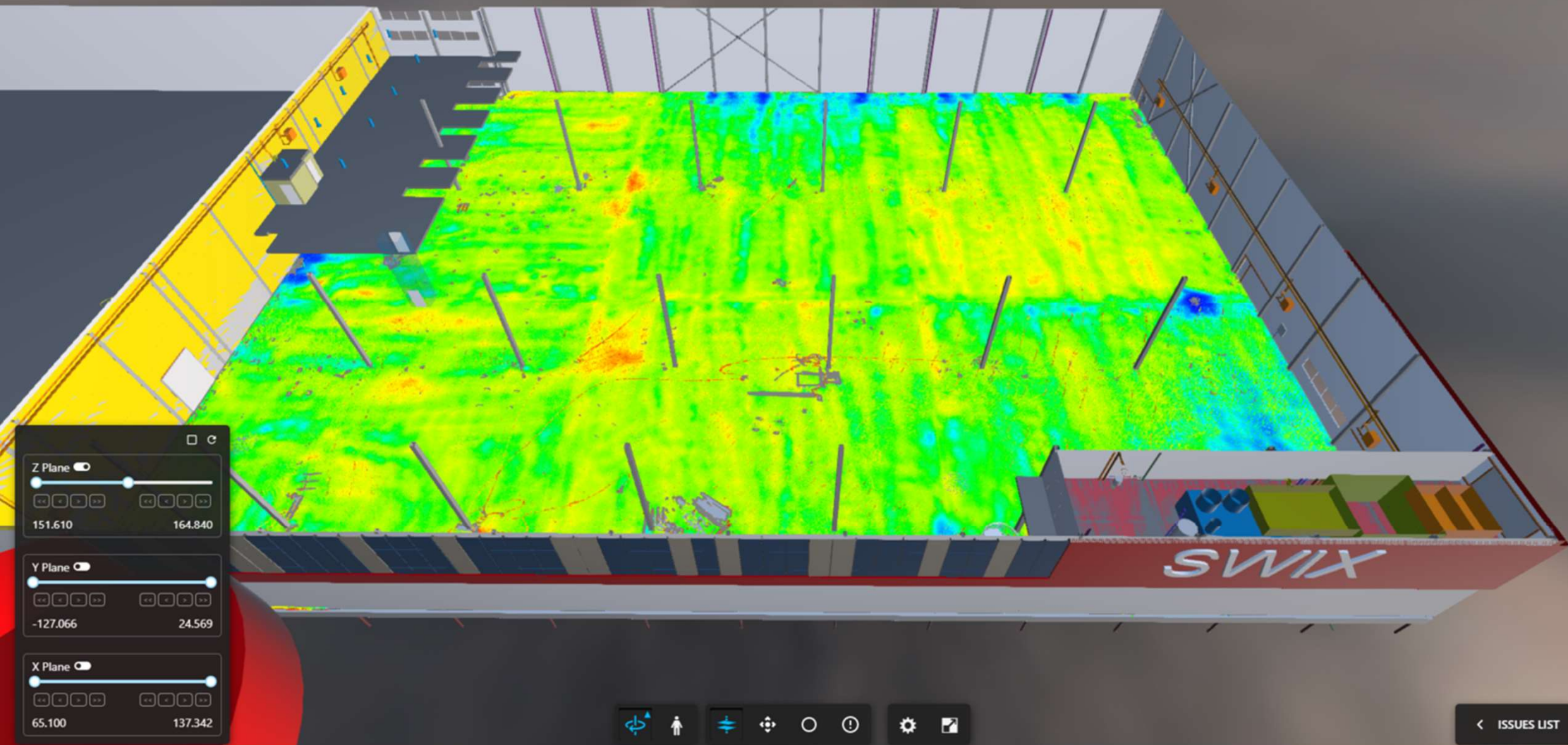
Industrial &
Facility Mgmt.











Z Plane 

151.610 164.840

Y Plane 

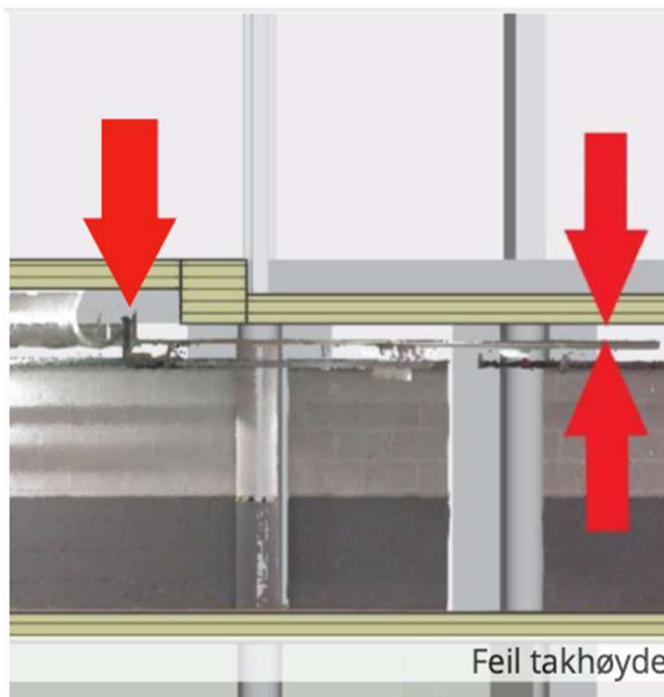
   

-127.066 24.569

X Plane 

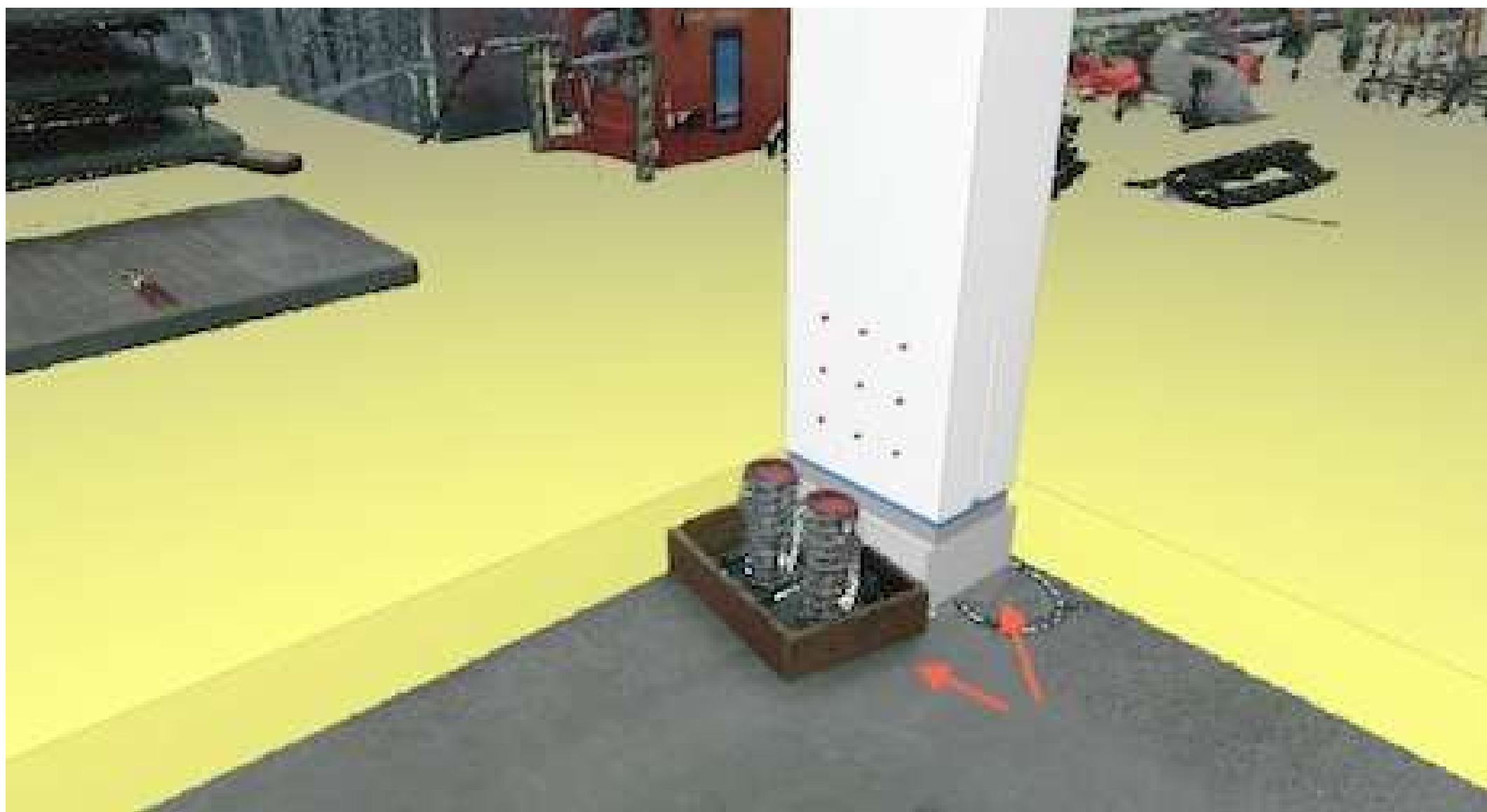
65.100 137.342

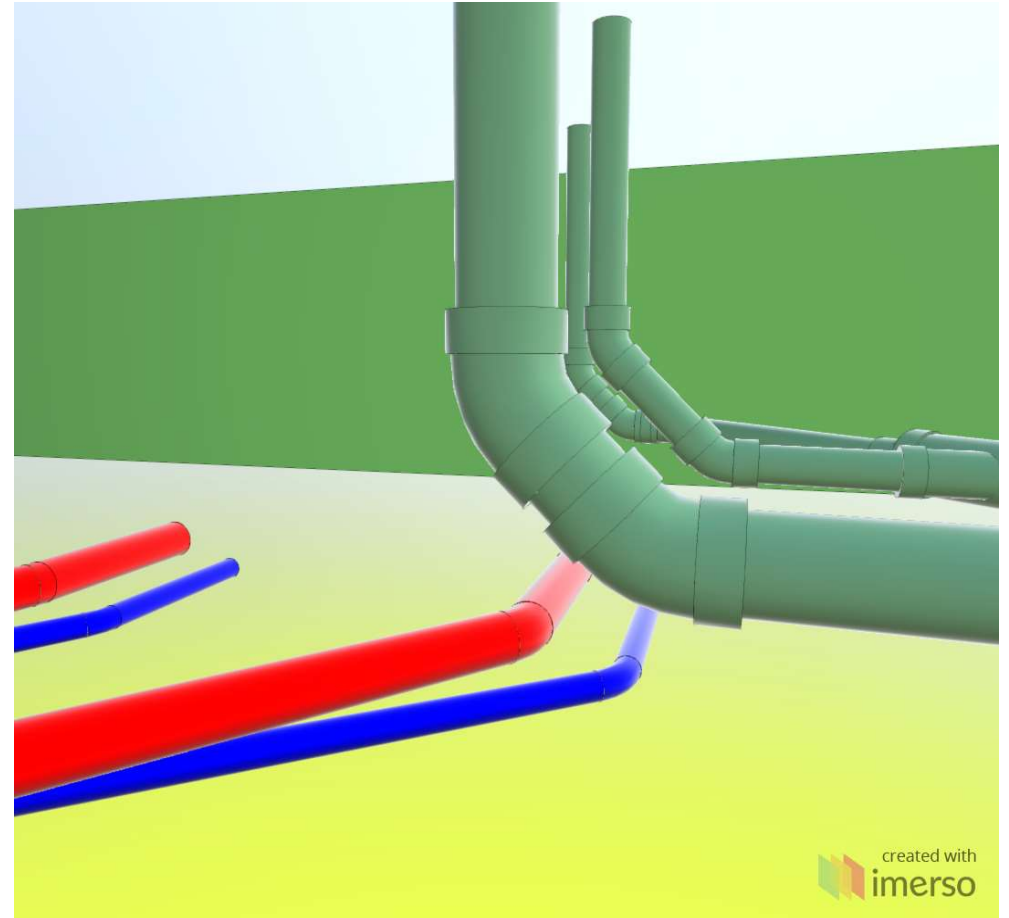


Feil takhøyde



Vegg feilplassert i BIM med 254cm



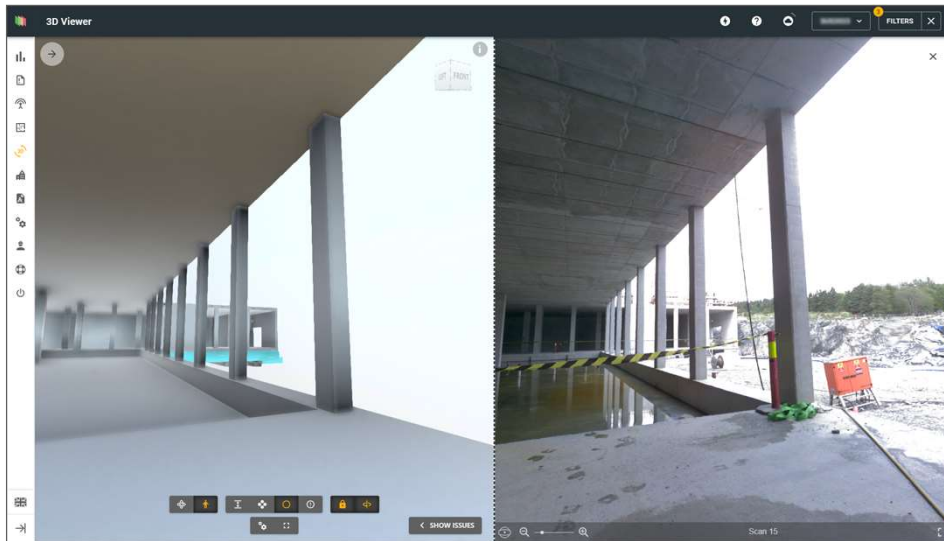


BETONMAST



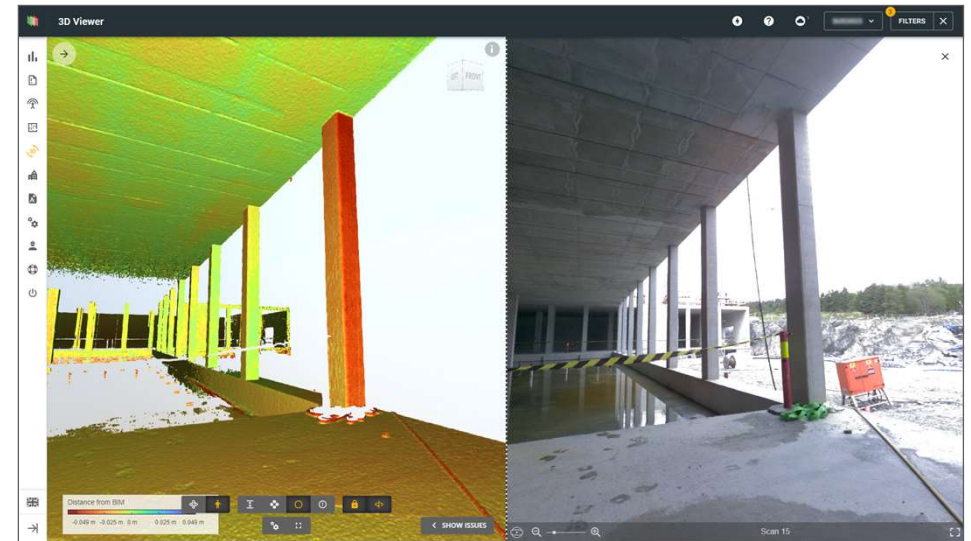
Visual documentation \neq Compliance checking

Most work deviations are not possible to detect visually.



BIM on the left, 360 Panorama on the right = Everything looks OK

Images don't carry embedded measurements. The inspection remains subjective and issues are overlooked.



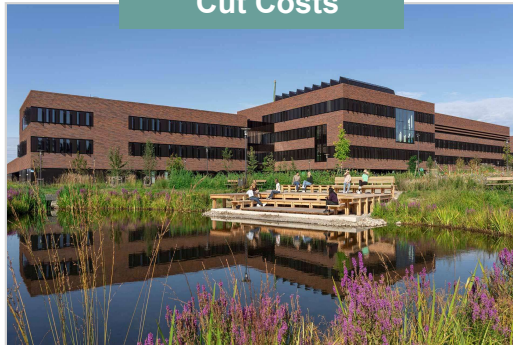
Scan inspection detects all issues automatically.

Severe tilt of load-bearing column, had to be prioritised to reinforce onsite as the teams build the upper decks.

CUSTOMER EXAMPLES

TRUSTED BY INDUSTRY LEADERS

Cut Costs



Statsbygg (NOR) calculated over €10 Mn savings at the Campus Ås University project.

65.000 m²

Faster Delivery



Norconsult (NOR) cut issue-resolution time from 45 to 2 days at the SUS2023 Hospital.

120.000 m²

Better Control



Per Aarsleff (DK) boosted site-inspection coverage from 15% to 100% without increasing team workload.

68.000 m²

REVIEWS

WHAT OUR USERS ARE SAYING

This is a great security for our projects.
It is a big advantage that it is so easy to learn and use.

Dan Børge Bø, Construction manager at SUS2023

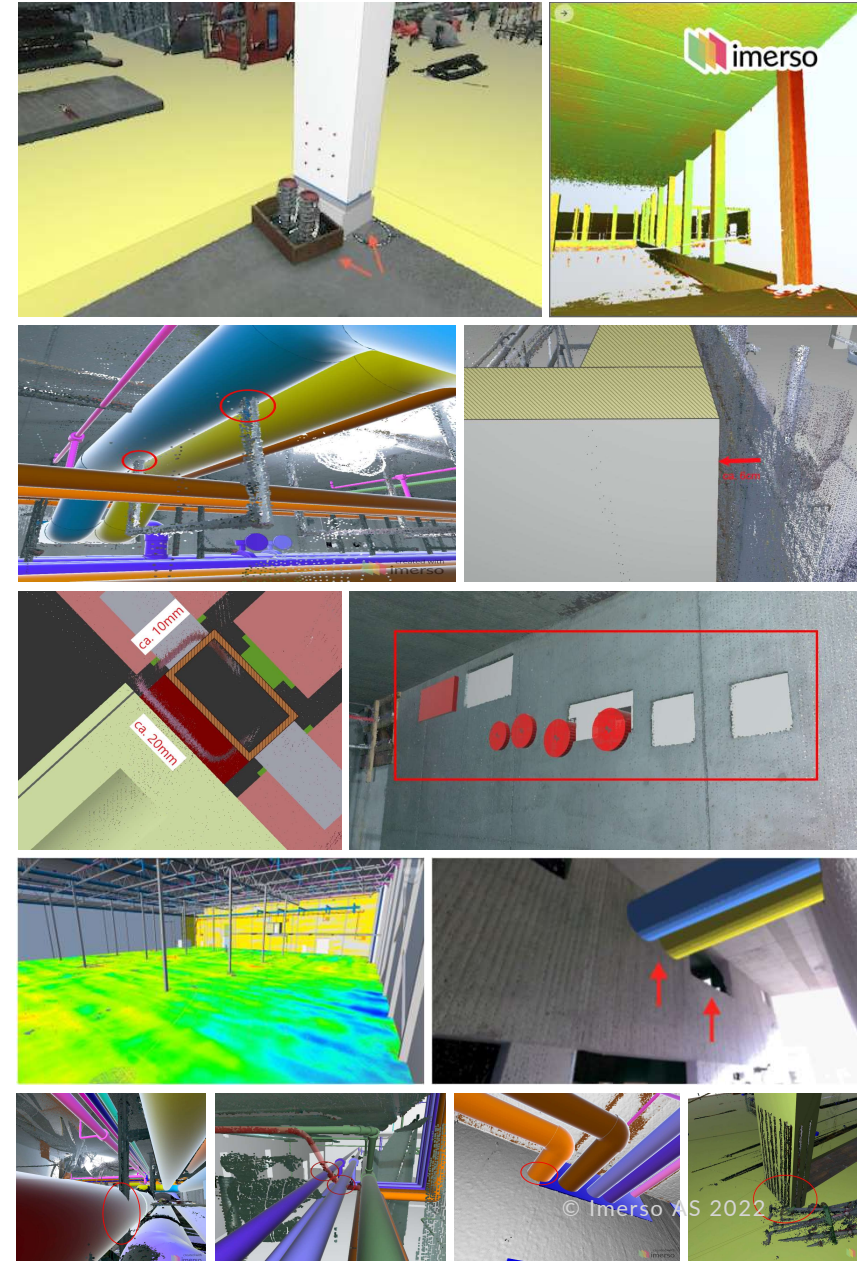
Imerso saves us a lot of trips that cost time and money.
— We have full control of the project all the way.

Erik Antonsen, Project Director at Statsbygg

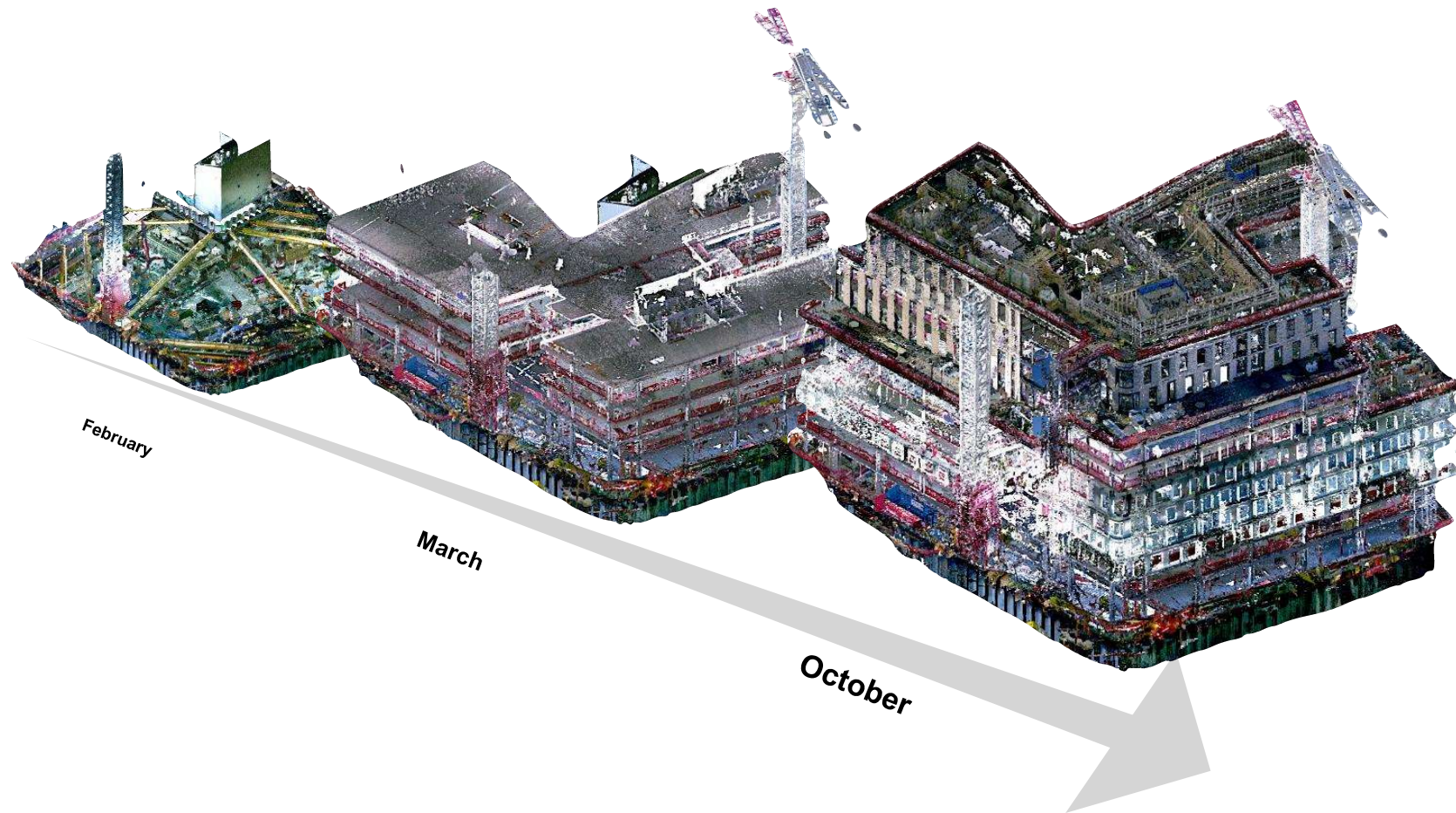
The project would not be the same without Imerso. It is a
huge benefit to get an overview of issues right away.

Henrik Thingbø, Digital Advisor at Norconsult

imerso.com



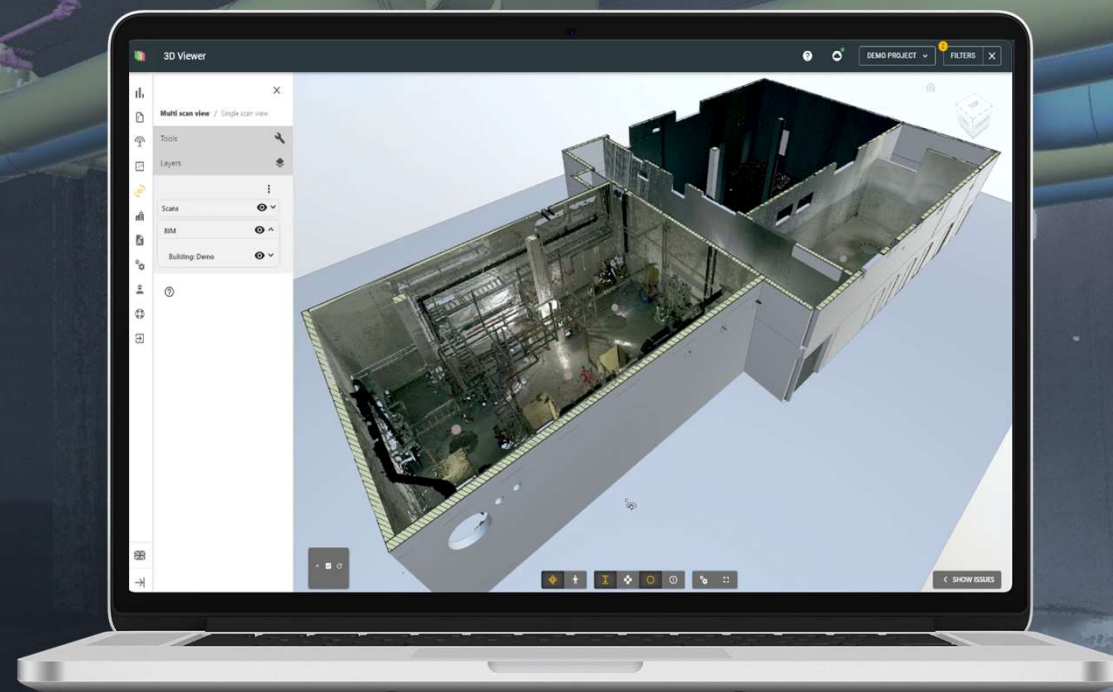
Continuous Documentation

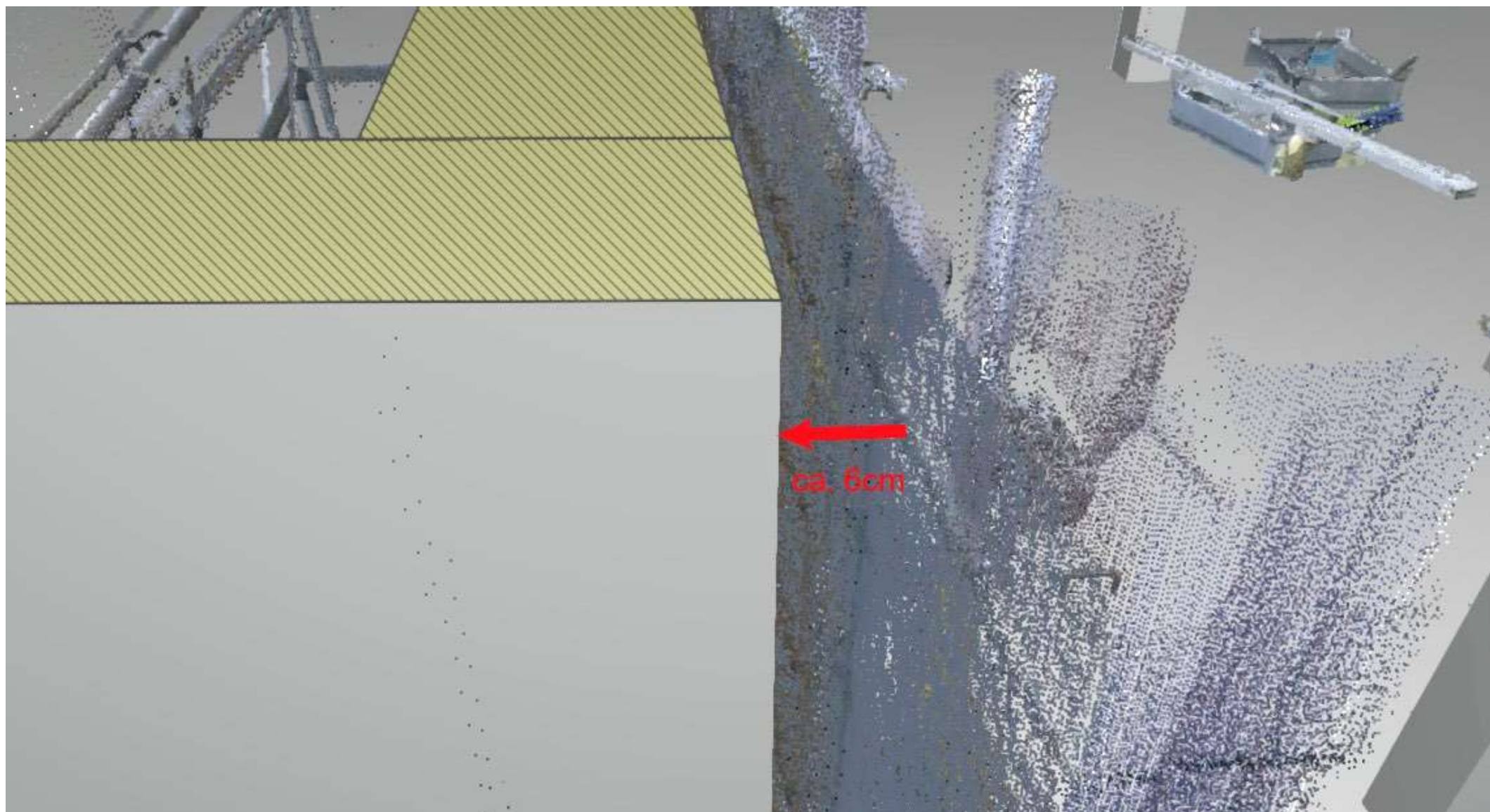




See it in action.

Thank you.





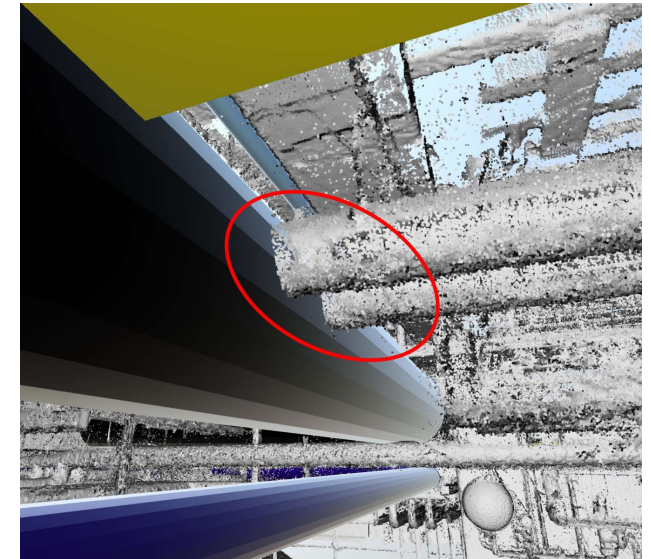
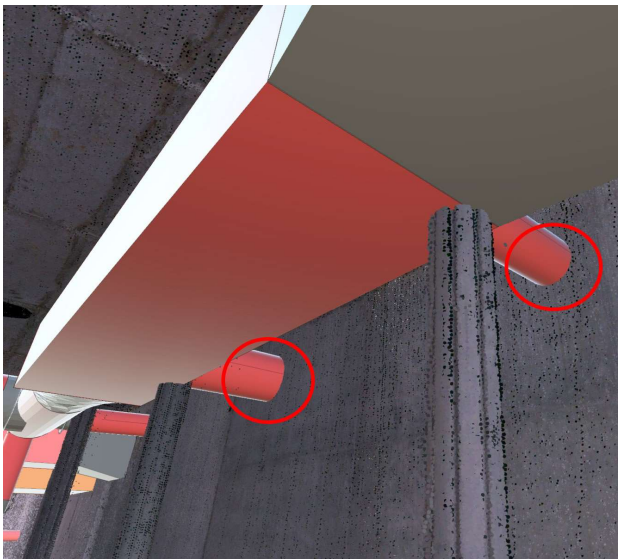
FUTURE CLASHES

NEW FEATURE: CLASH SEARCH

NEW

Beyond detecting misplaced objects onsite.

Imerso searches the consequences of misplacements, looking for future clashes with upcoming disciplines.



NOW IN BETA!

TAKE THE POWER OF SOLIBRI FROM DESIGN INTO PRODUCTION.

NEW

SOLIBRI IS NOW SUPERCHARGED BY IMERSO

- ▶ Apply Solibri rulesets to the current field status.
- ▶ Investigate field deviations to predict consequences.
- ▶ Quantity-Takeoffs to compare against VDC forecasts.
- ▶ Find optimal engineering solutions faster.

NEMETSCHEK
GROUP

SHAPE
THE
WORLD



- Scans
- BIM models
- Measurements
- Sectioning tool
- Visibility settings
- Navigation map



Deviations

SCAN

BIM (BETA)

Filter BIM element types

Column +3

Show small objects

Show suggestions only

DOWNLOAD RESULTS

Findings

ISSUES

DETECTIONS

MISSING

MISPLACED 2

WITHIN TOLERANCE 42

FLAGGED 1

BIM-FIX 2

MARKED AS CORRECT 3

Misplaced elements

Automatic detections of elements that are misplaced compared to the scan data. The tolerance value can be adjusted manually.

Estimated deviation	Estimated rotation	Category
178 mm	0.7°	Column

CREATE NEW ISSUE

MARK AS CORRECT

IGNORE

BIM-FIX

SHOW SUGGESTED POSITION

SAVE SUGGESTED POSITION

130 mm	1.0°	Wall
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Rows per page: 20

1-2 of 2



NEW

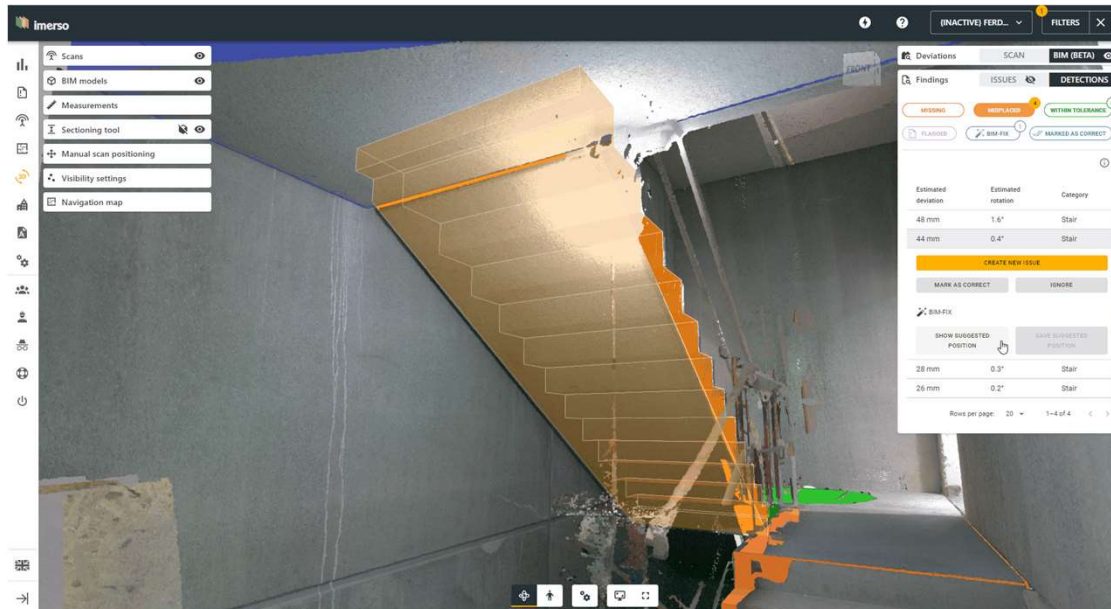
TAKE THE POWER OF SOLIBRI FROM DESIGN INTO PRODUCTION

NEMETSCHEK
GROUP

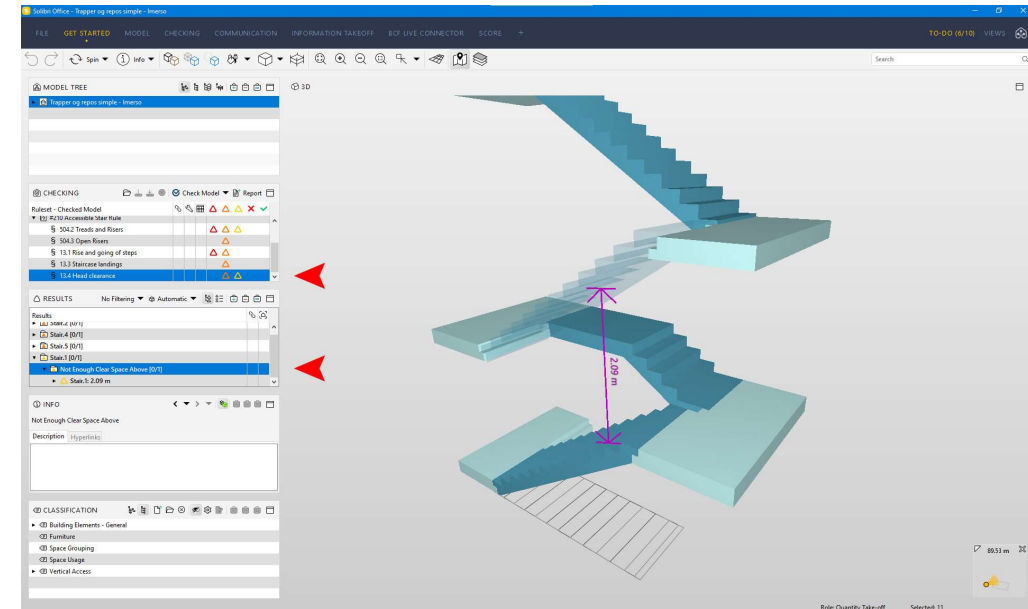
SHAPE
THE
WORLD



Automatically fix the BIM model



Run head clearance check



CASE EXAMPLES

ROI OVER 500% IN ONE YEAR

Betonmast is one of Norway's biggest General Contractors

After the initial pilot, the company grew Imerso deployment into >20 projects.
From their internal study on the impact of using the Imerso solution:

► Savings from early-error-detection:

Avg. € 88.000 /yr per Project ; 0.6% of TCV

One project reported >€200.000 savings in error-mitigation alone.

► Savings from resource efficiency:

Avg. € 133.000 /yr per Project ; 0.9% of TCV

Reduced 9 project-days /yr per project at 1‰ TCV per day.

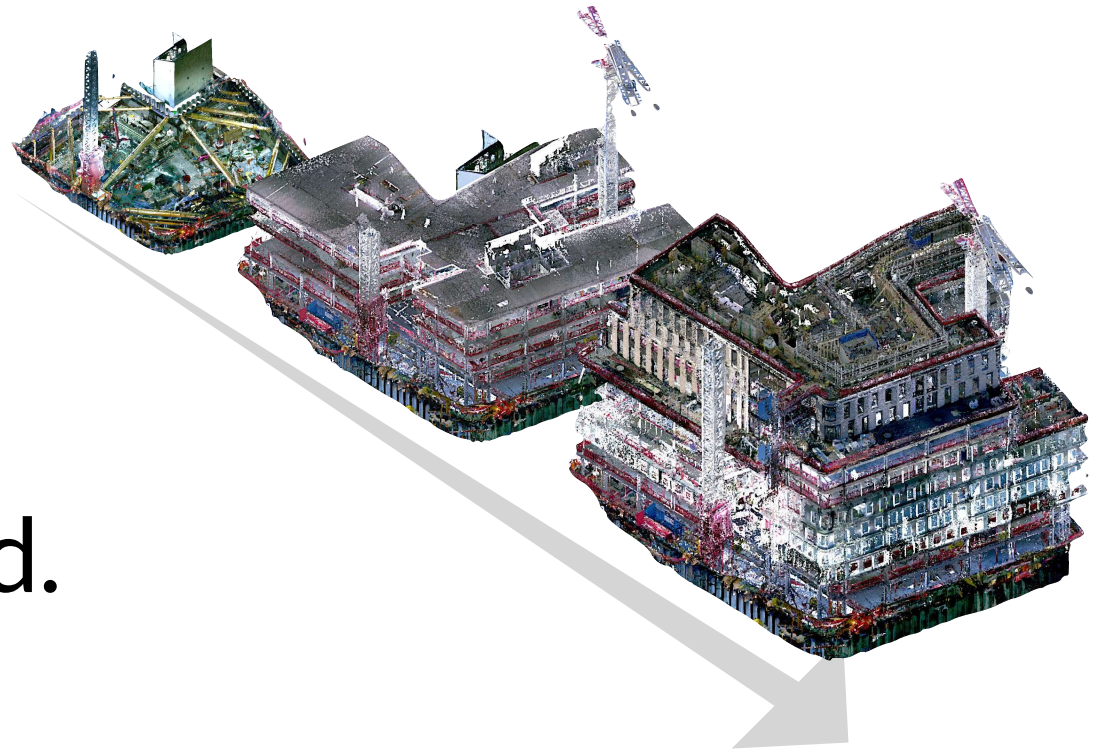
TOTAL: € 221.000 /yr per Project ; 1,5% of TCV



- Sample: 11 Projects (Norway)
- Total Contract Value: €4 Mn to €40 MN
- Total Project Area: 1,500 to 70,000 m²
- AVG TCV: €15,4 Mn
- AVG Size: 12,800 m²

"It was surprising how the traditional systems for quality control via manual methods seemed pointless and very indefensible compared to Imerso's automatic 3D scan inspections."

Empirical performance data directly from the field.



Save 20%
on construction costs

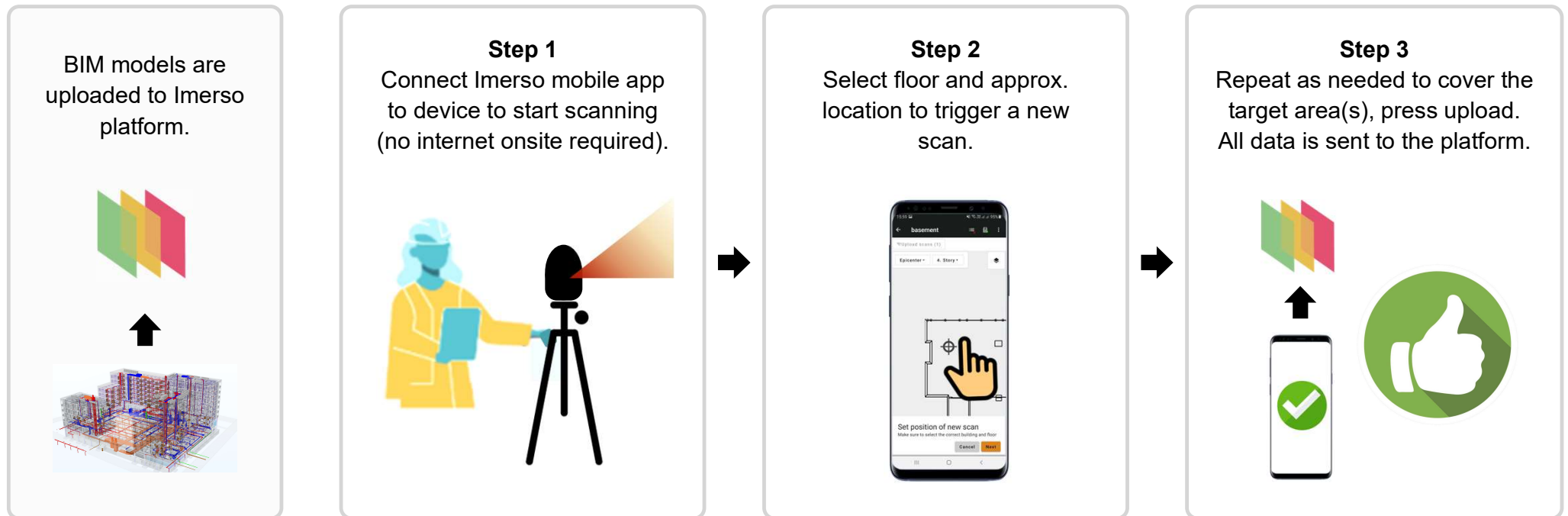
Accelerate 30%
delivery schedules

Reduce 50%
travel costs

Ensure 100%
partner accountability

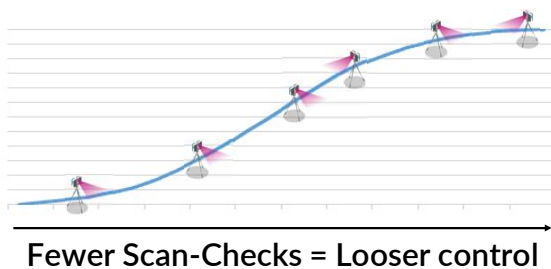
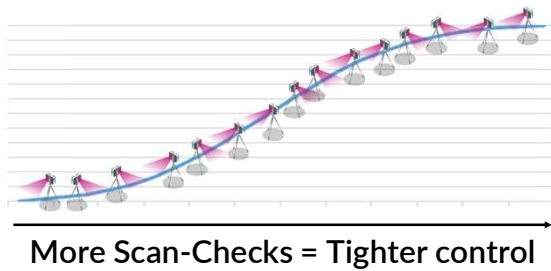
Onsite Scanning - How to Scan? (1 of 3)

Iverso App: No need for experts — No need for targets or geolocation — No fieldwork interruptions

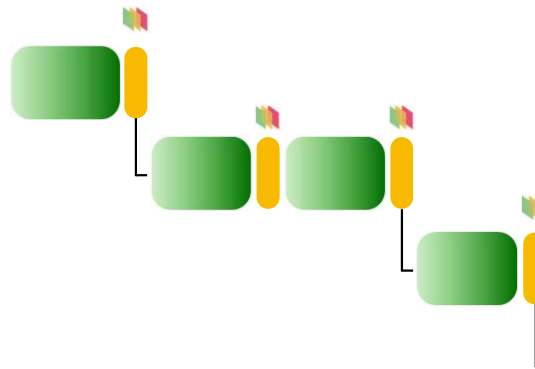


Onsite Scanning - When to Scan? (2 of 3)

Any Frequency Needed



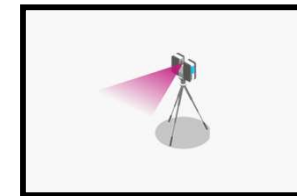
Tactical Scanning



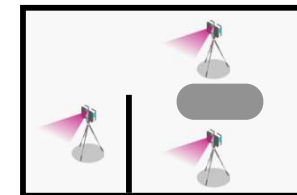
Green-light one work package before the next team starts to ensure no surprises.
Rectify deviations before teams leave.

Maintain BIM models updated with As-built.
Release payment schedules with confidence.

How many Scans needed?



Simple Area: 1 setup
(ca 2min)

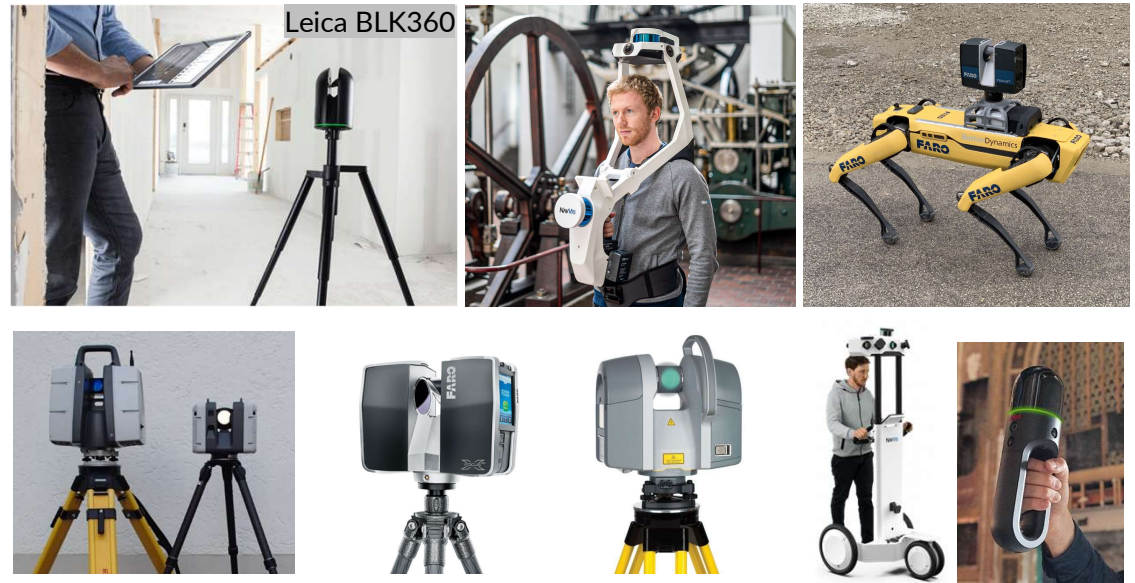


Complex Area with
obstacles: more setups

Onsite Scanning - Which Equipment? (3 of 3)

Imerso's platform is hardware-agnostic and compatible with any 3D scanner (TLS or SLAM).

Our direct integration with Leica's BLK360 allows for a direct data upload from the field.



Change orders are a huge problem

- Deviations / Issues are found too late
- Resolution time-window is too short
- Teams lack details and context info
- Multiple touch-points across teams
- Stress = Suboptimal solutions
- No accountability, owners pays the bill

