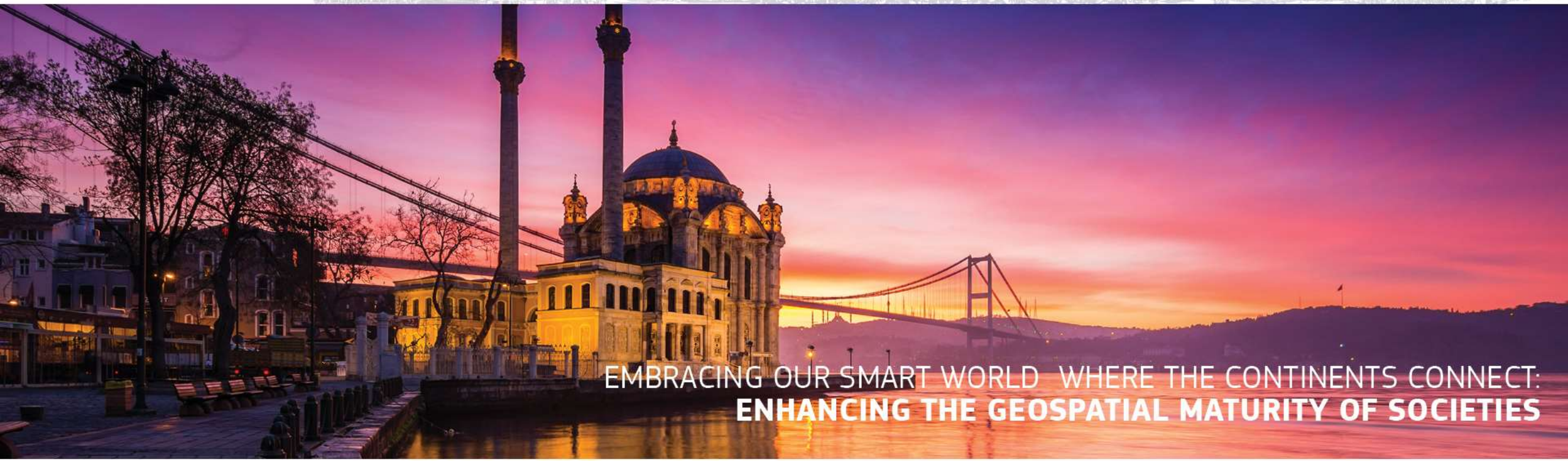
FIG 2018 ISTANBUL

XXVI FIG CONGRESS

6–11 May 2018, İstanbul



EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:
ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

Organized by

FIG INTERNATIONAL FEDERATION OF SURVEYORS

Main Supporters

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Surveying of big Facilities & Visual BIM collaboration

NAVVIS

- New Surveying technologies enable owner, construction firms & facility manager to capture big spaces up to 30TSD sqm per day making digital twins affordable
- While BIM usually ends in the planning phase “as-build” Information is needed to maintain the facility
- Advantages of new technologies presented on examples:
  - Direct use of 3D scan and image data - no modelling delays
  - Central access via web links - no CAD/BIM know-how required
  - Collaboration among **all** stakeholders on synchronized /up-to-date data
  - BIM & Reality comparison

Next-level Facility Digitization

NAVVIS

Mobile Mapping

Map complete buildings in hours at an unmatched cost/quality ratio

IndoorViewer

Access your digital building from anywhere via our browser-based IndoorViewer

Navigation SDK

Get your location - meter accurate and without the need for new infrastructure (computer vision based)

KAROSSERIEMONTAGE 1 & 2 – VERBAU HECKLEUCHTEN

Full automotive production line digitization:

Time vs. previous project: 6 months to 2 days
Cost vs. previous project: 10%

Challenges of surveying

NAVVIS

Data capture

- 30.000m² /day with M3 Trolley
- Short briefing is sufficient
- Data is stored in standard formats

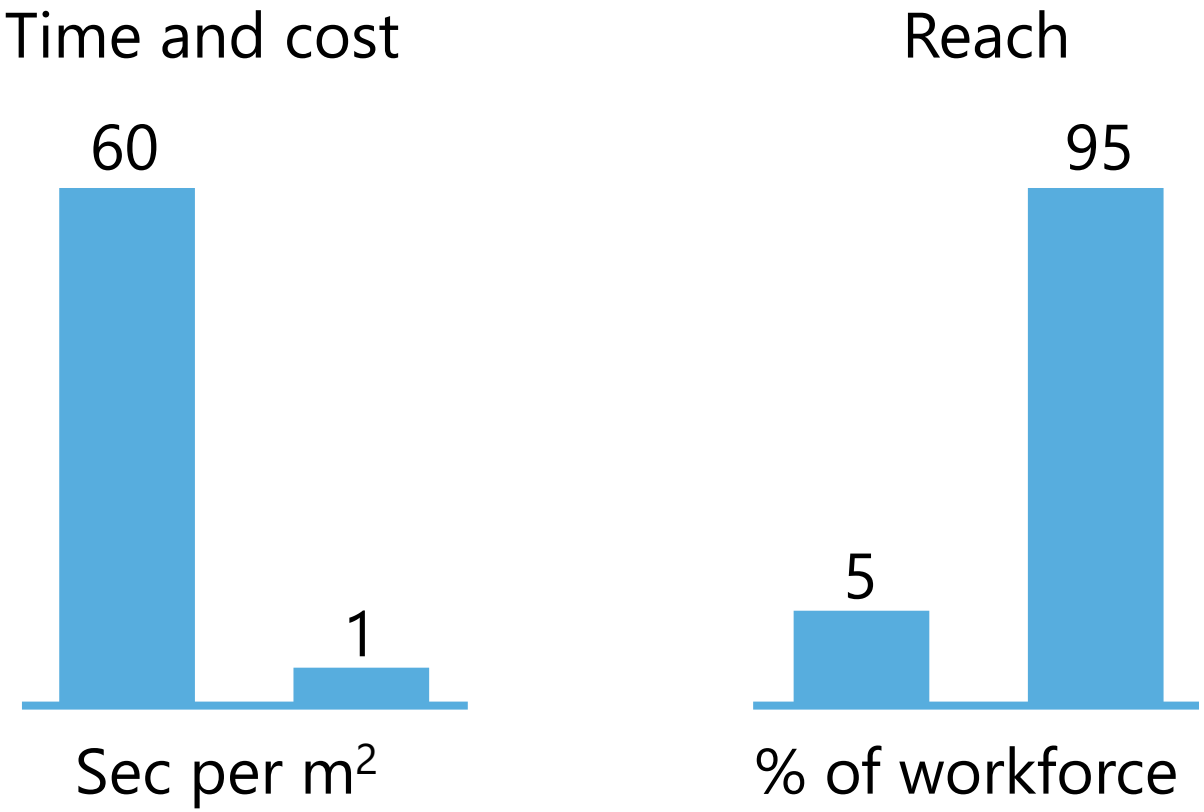
Data usage

- Accessible from within the browser (no modelling required)
- Data can be shared with everyone for easy collaboration
- Integration with FM und further external software

Limited availability of educated staff

- 30.000m² /day can be mapped with a single person after a short training
- Highly educated staff can focus on more complex tasks

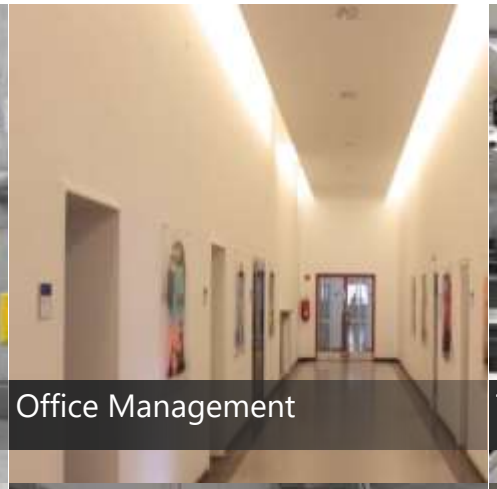
Impact at customer

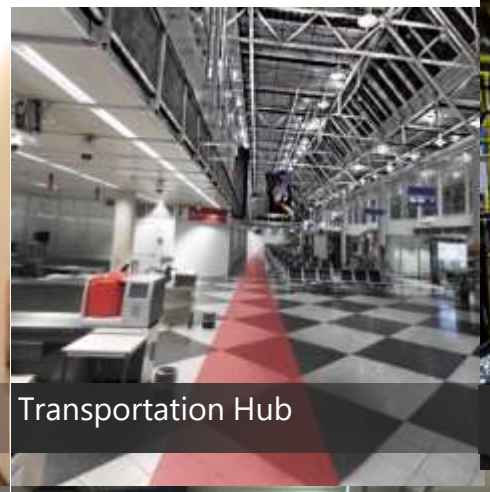


NavVis use cases using our technology

Retail

Facility Management

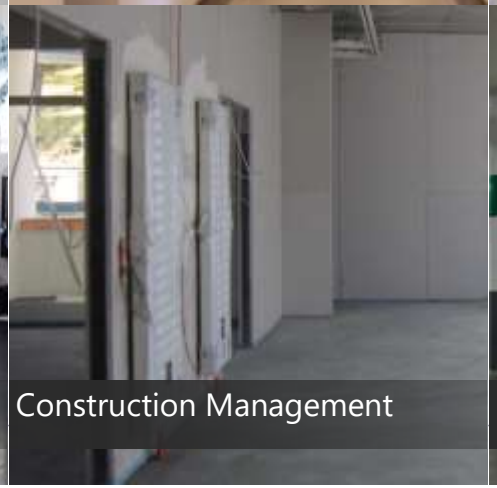

Office Management

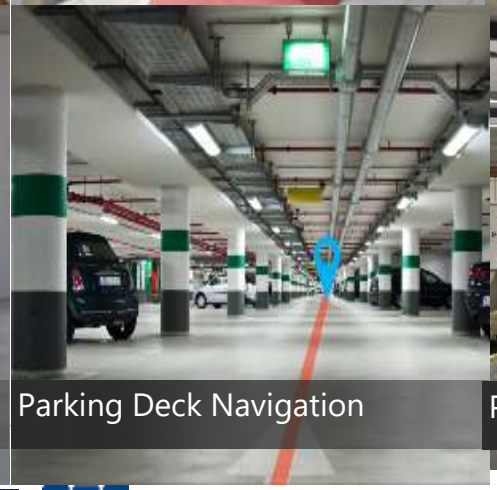

Transportation Hub

Logistics

Real Estate

Exhibitions

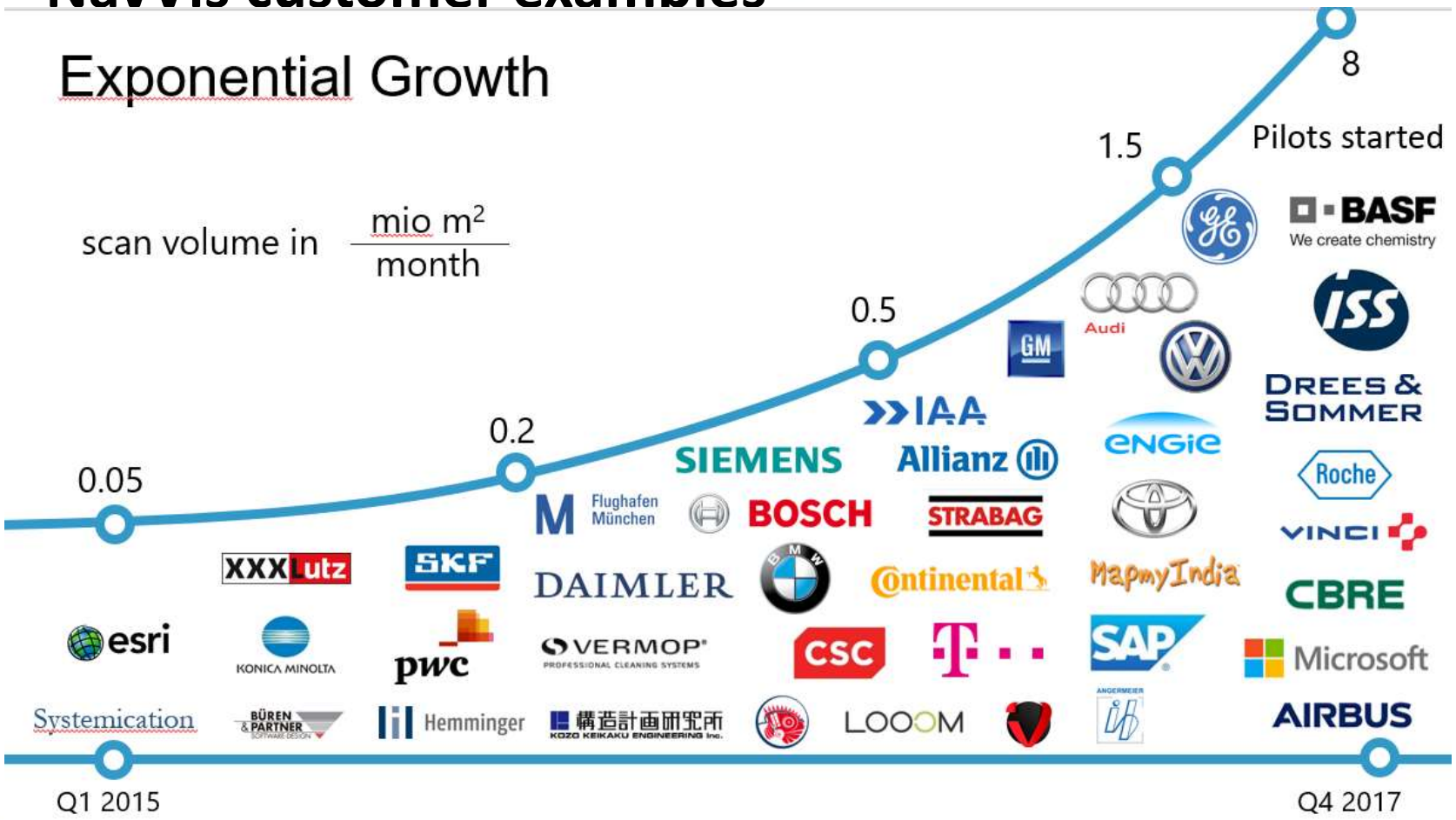

Construction Management


Parking Deck Navigation

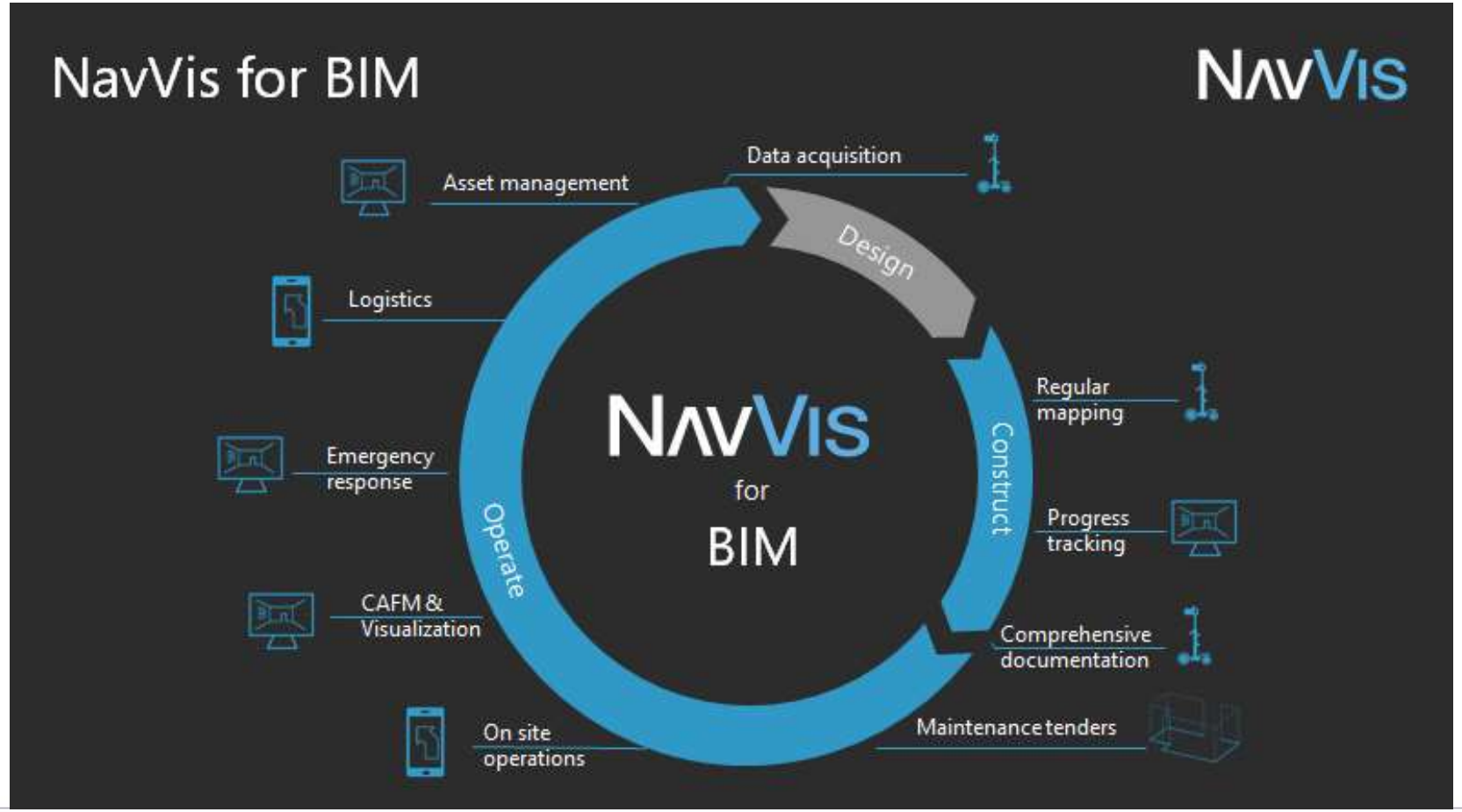
Production planning

NavVis customer examples

NAVVIS



Use Cases during the live cycle



NavVis mapping to CAD & BIM models

Mapping → Processing → Modelling

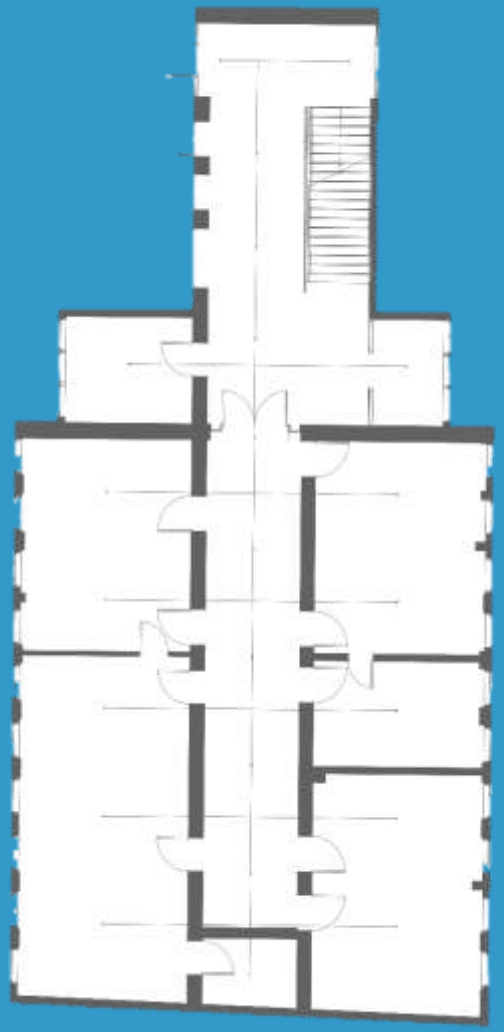
NavVis
M3 Trolley

Point clouds & panoramas

CAD & BIM model

Capture

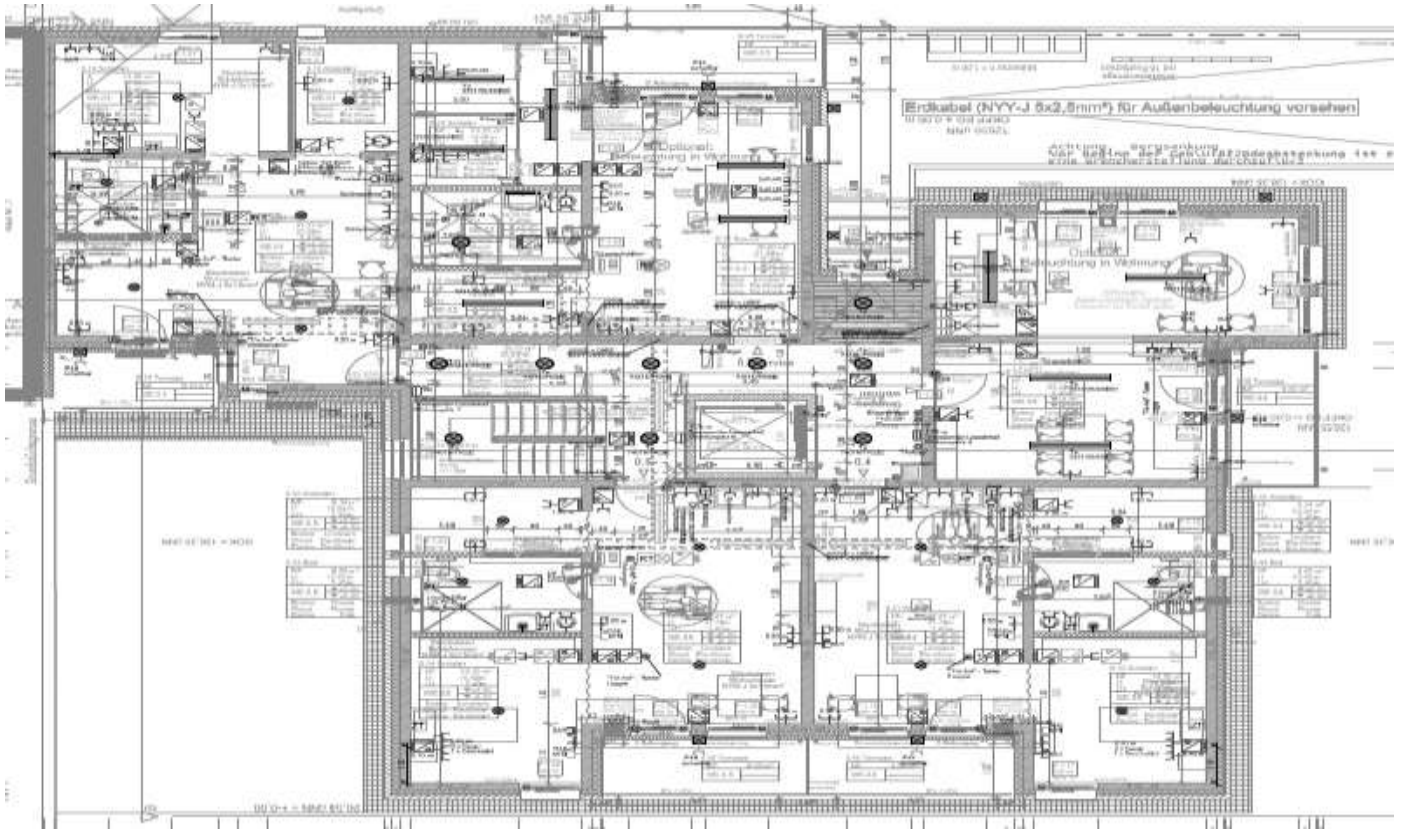
Model



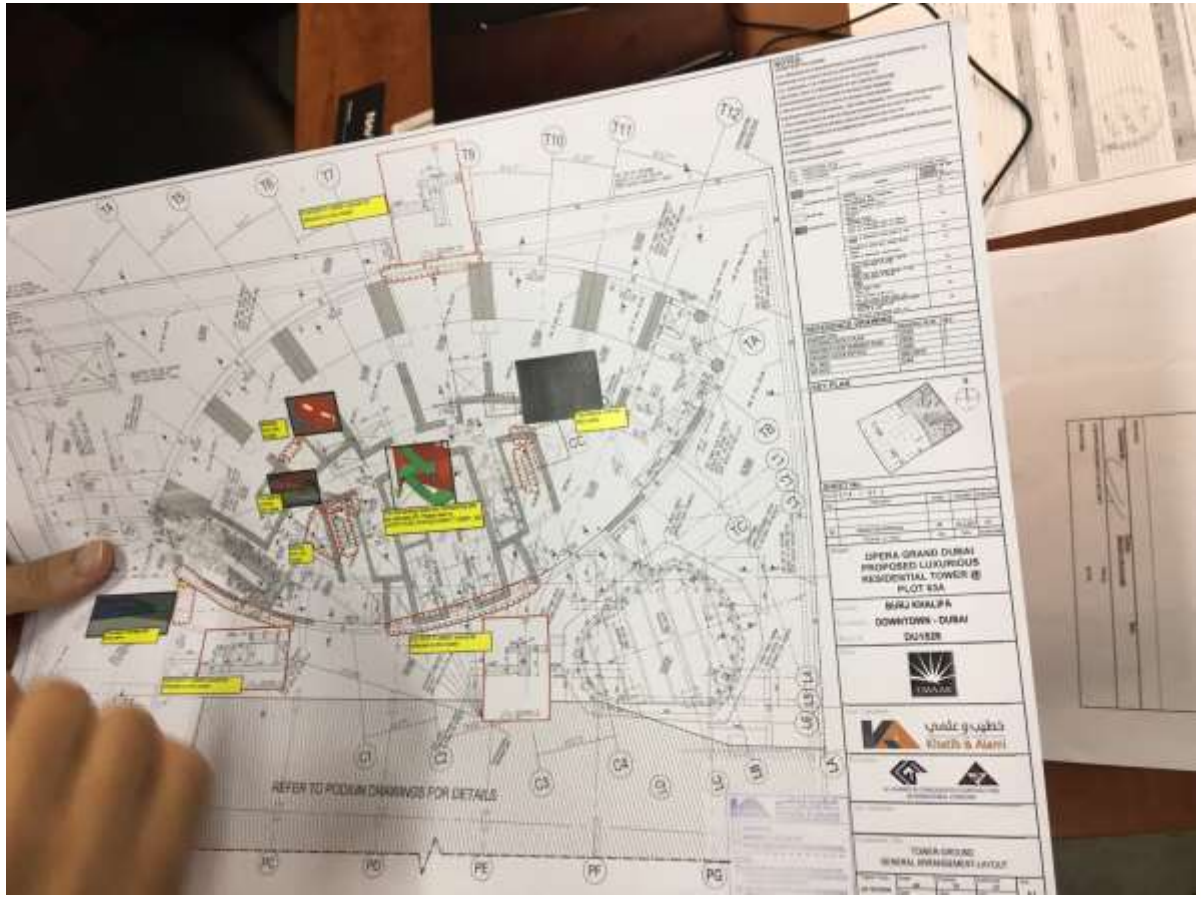
+ Collaborate

NAVVIS

BIM at the construction side
Detailed 2D plans with „too much“ information



BIM at construction side
Problems with „mark ups“ on the 2d drawing

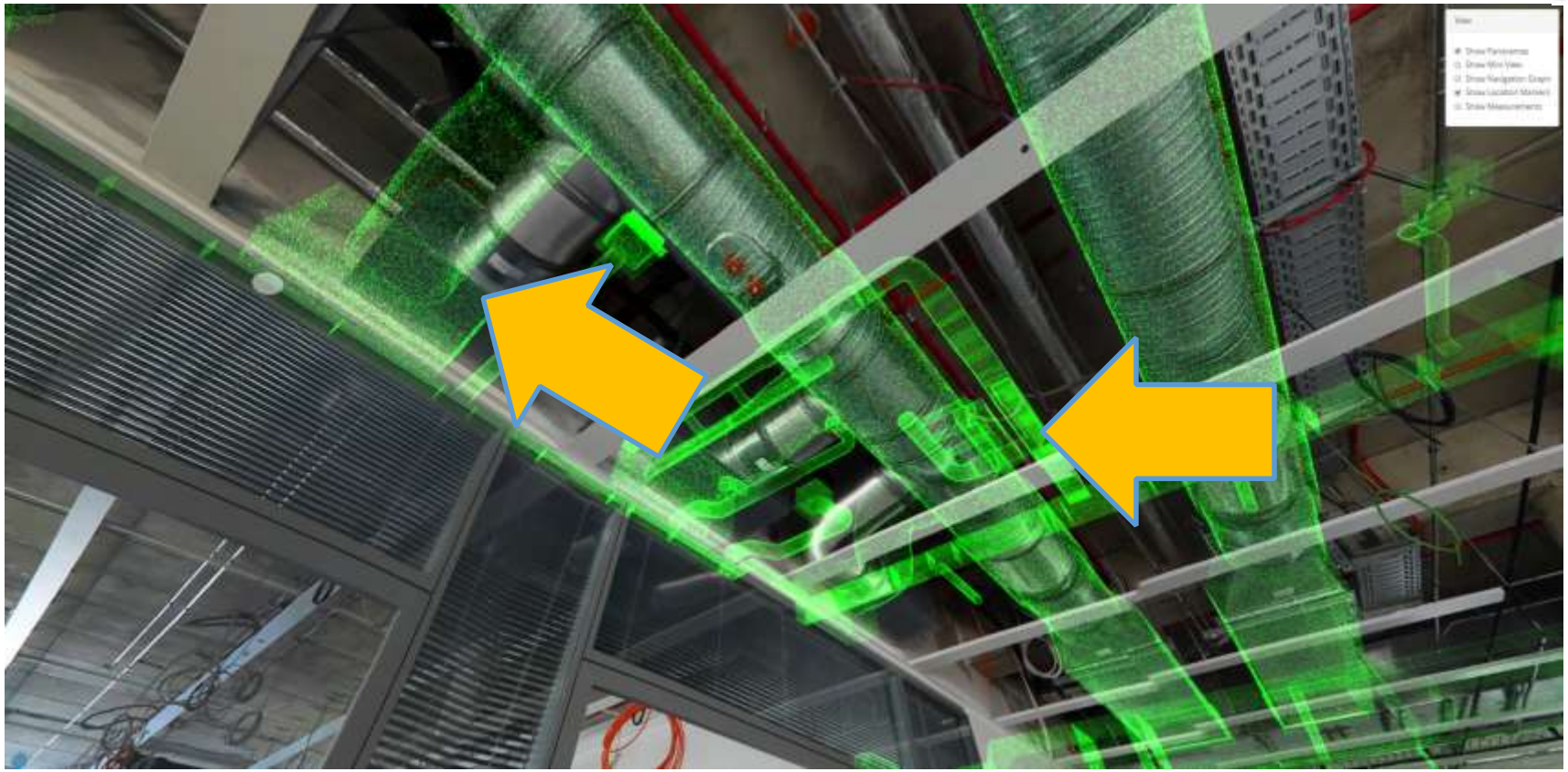


Construction documentation and comparing with BIM Model on the side

NavVis

Construction documentation and comparing with BIM Model on the side, display changes

NavVis



Example Airport Schipool

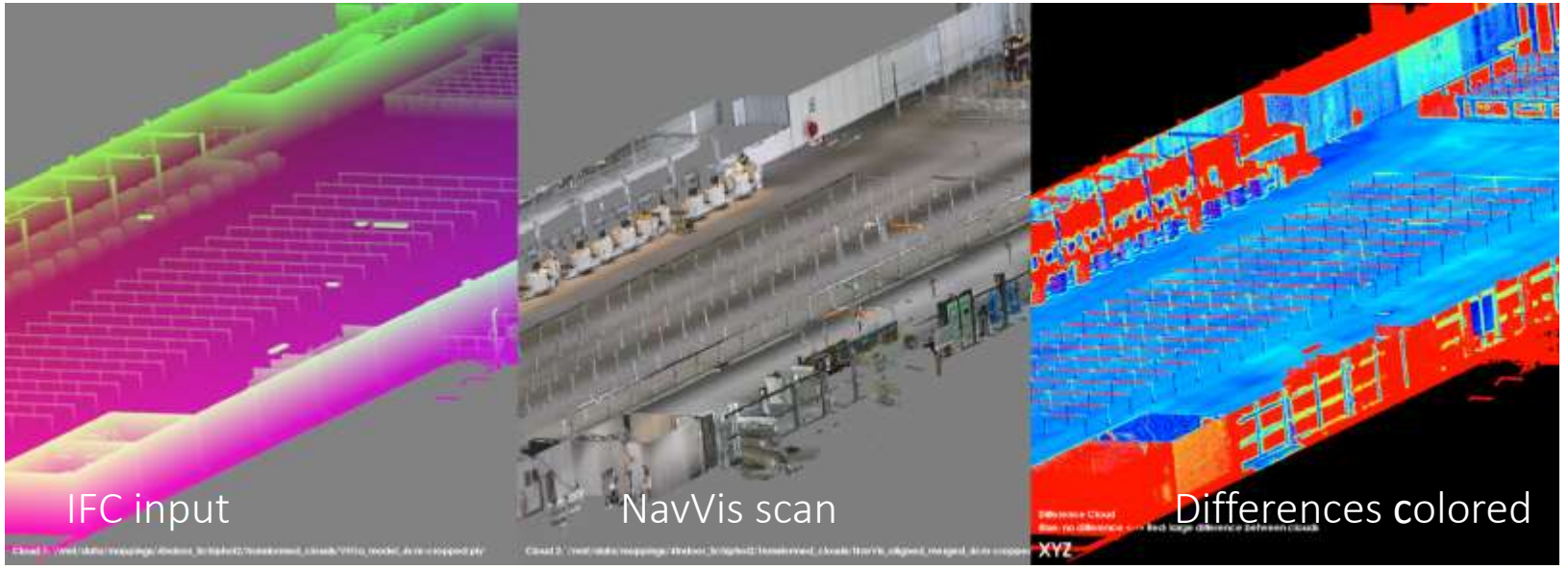
NavVis

Request from airport FM:

- One Platform easy and open to use for all internal people
- **Being able to compare as build data with plan data (IFC)**

Solution: Import IFC plan data in NavVis indoor Viewer and use cloud compare tool

Result: Red color is showing differences

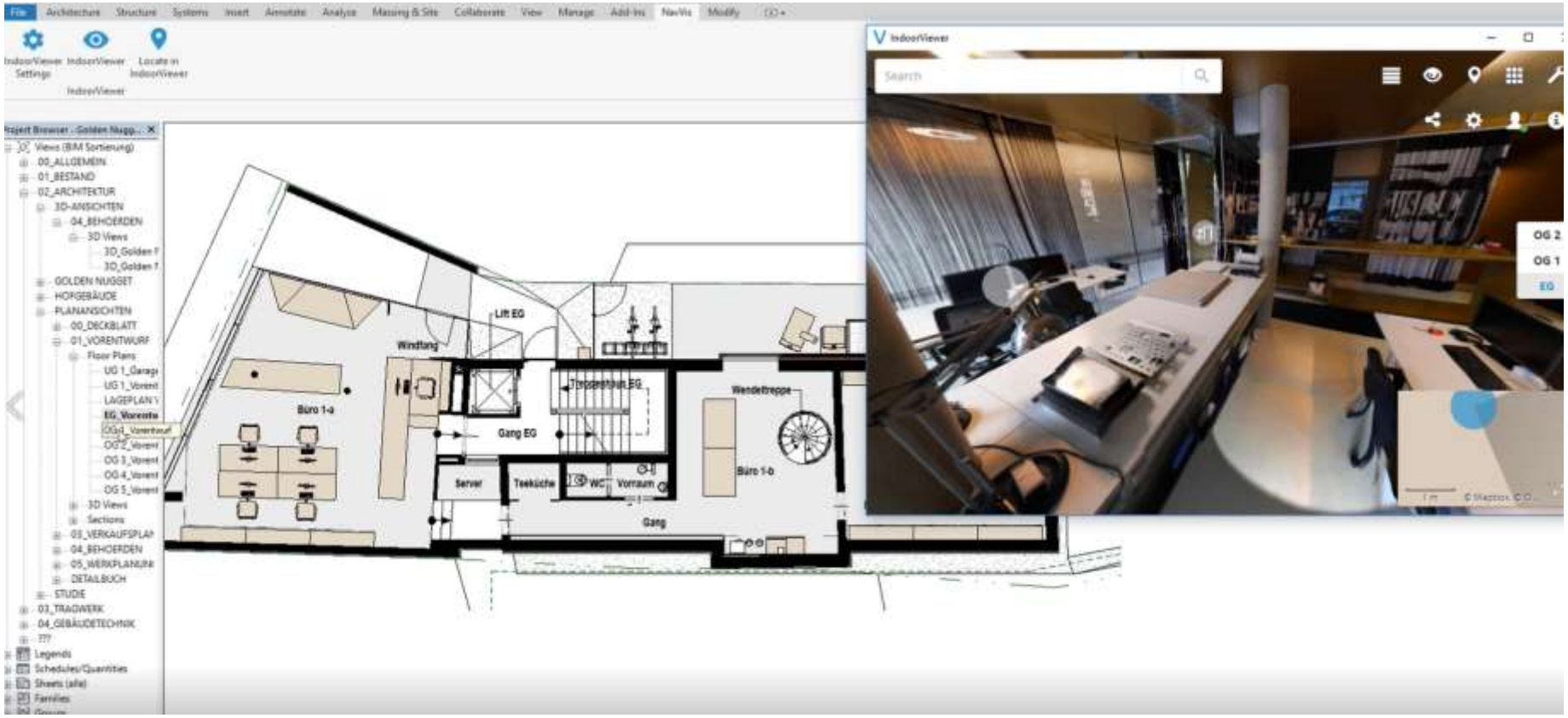


NavVis for Construction Monitoring

NAVVIS

Comparing BIM with Reality

NavVis



BIM for everyone
Easy use in the browser, deep links into any database

NavVis

CAD/BIM software

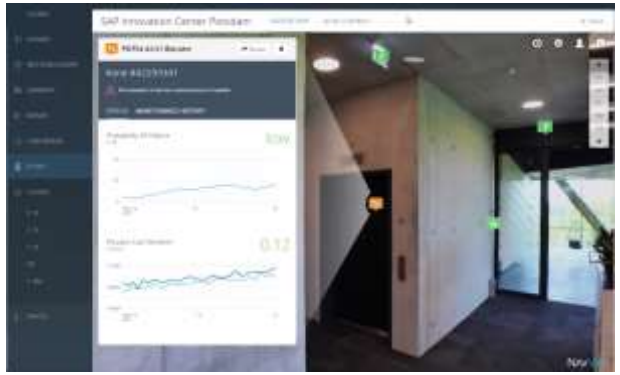
- Skills and knowledge needed to edit and work with a CAD model
- Professional surveyors
- Building is scanned once as costs are very high
- Special interface such as IFC are needed to share the model
- No browser based view available for an easy integration into existing FM software

NavVis technology

- Intuitive, browser based 3D visualization , no technical expertise needed
- Anyone can use the M3 Mapping Trolley
- Scans can occur on a regular basis, making it easy to keep building data up to date
- Information can be electronically sent as a link
- Open APIs

Some Visual BIM projects Worldwide

NavVis



SAP Innovation Center Potsdam

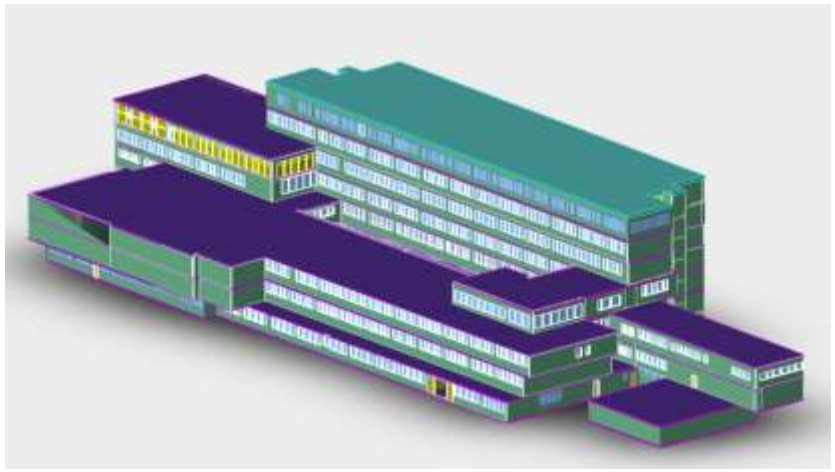
Hospital in Abu Dhabi

Factory in Budapest

Office in Denmark

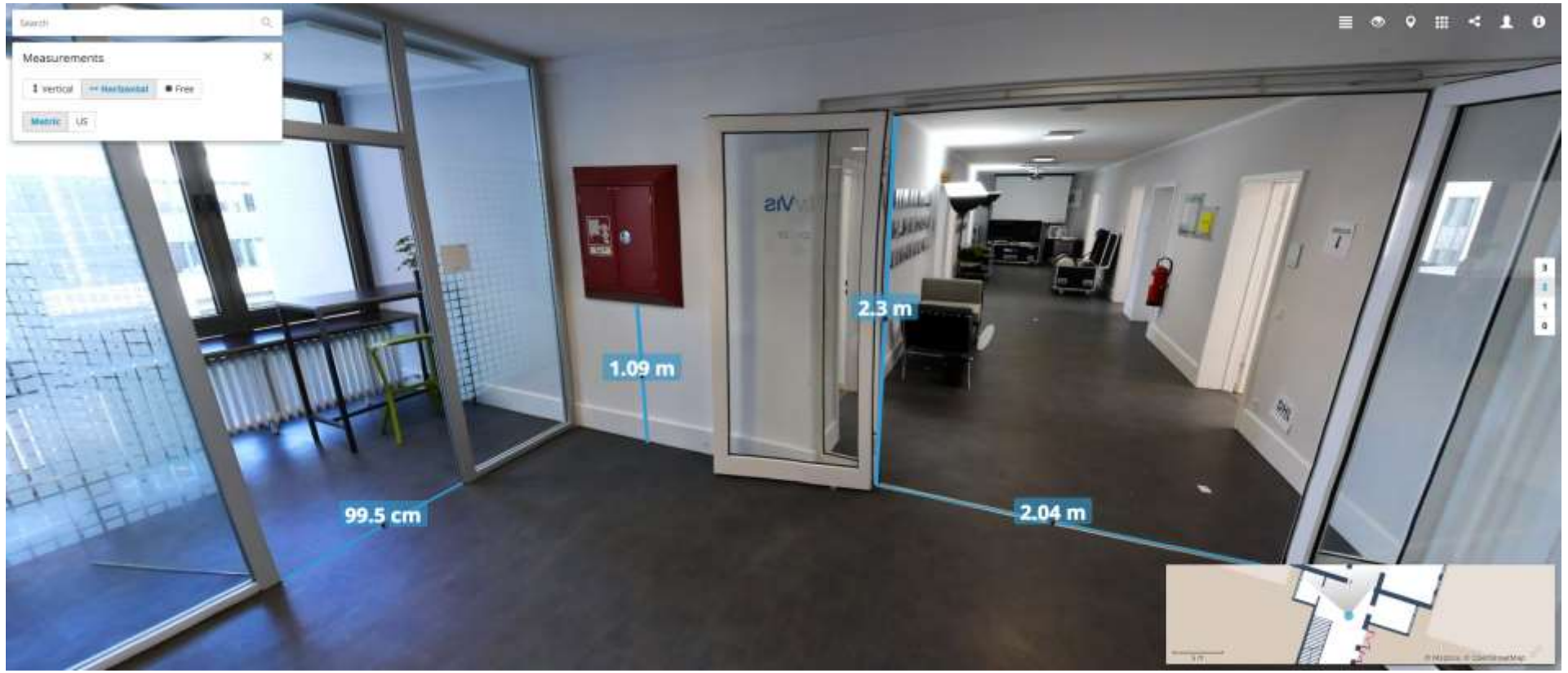
Local Projects in Turkey by our partner POI

Hospital in Adana



Office Building Istanbul - Scan to BIM

Visual BIM – the digital twin of a building
Immediate reality capturing vs. slow model drawing



- Direct use of 3D scan and image data

➢ No modelling delay

- Central access via web links - no CAD know-how required

➢ Collaboration among **all** stakeholders on synchronized /up-to-date data

- Real data that includes every detail + 2D/3D models for planning

➢ Complete and comprehensive data

Thank you for listening!

Your Questions?

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