

NavVis

REVOLUTIONIZING REALITY CAPTURE IN THE PROCESS INDUSTRY

AVEVA World Conference
November 17th, 2022



NAVVIS AT A GLANCE

2013

FOUNDED

300+

EMPLOYEES

€85M

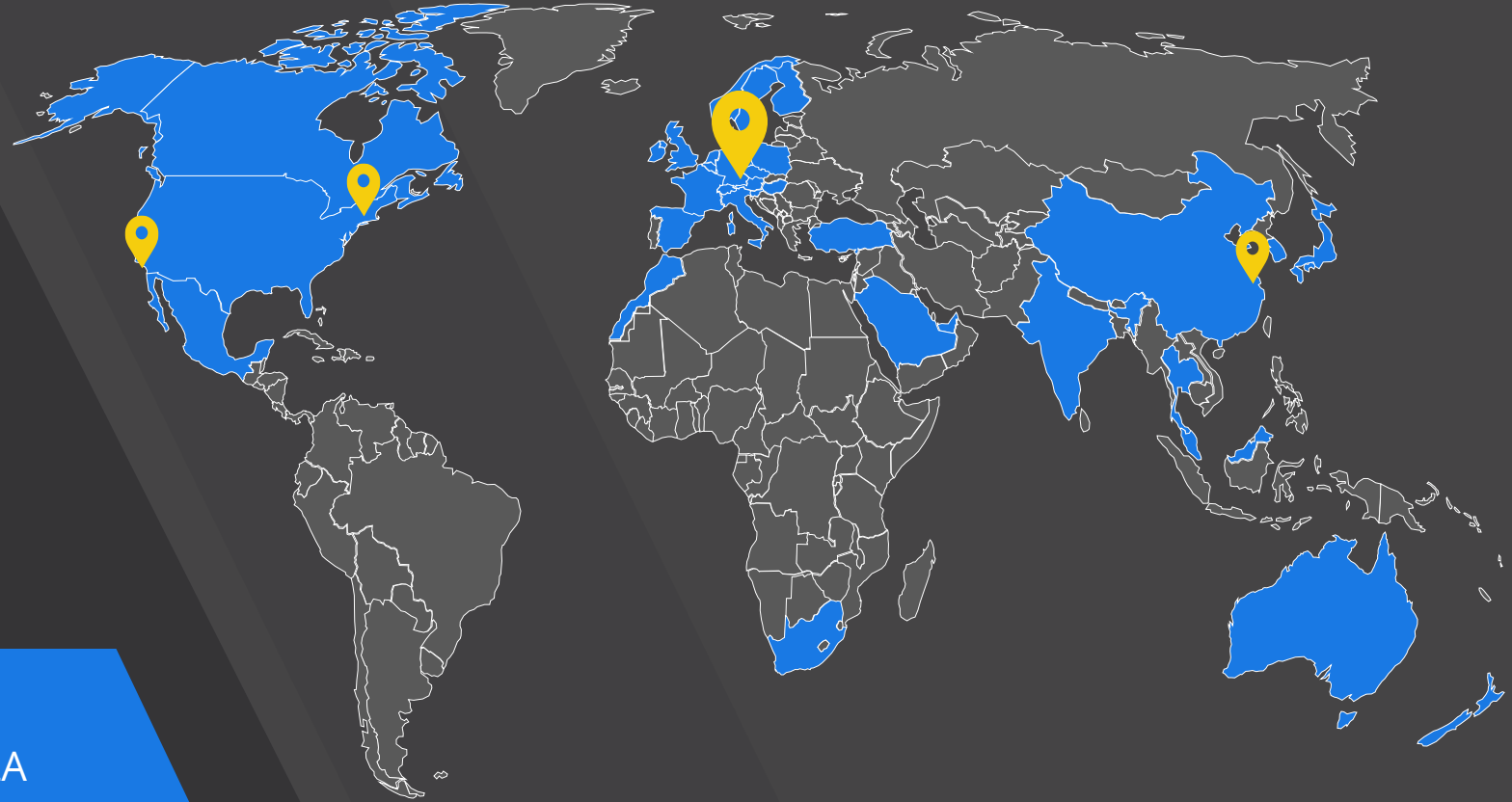
FUNDING

400

PAYING
CUSTOMERS

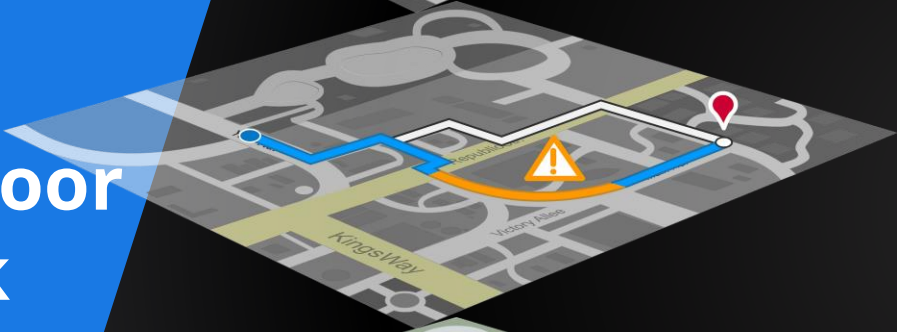
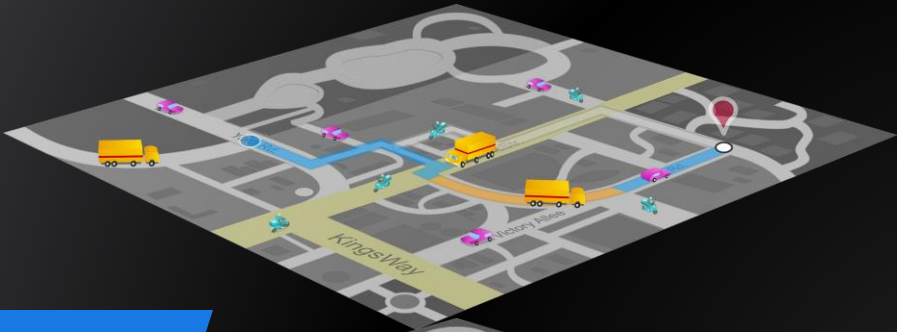
4

OFFICES:
MUNICH-HQ, NYC, SHANGHAI, LA



NAVVIS BUILDS A DIGITAL TWIN STACK FOR INDUSTRIAL ENVIRONMENTS

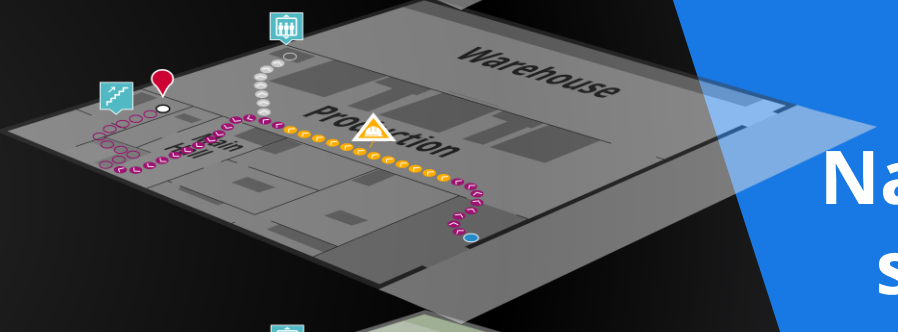
Outdoor
stack



SERVICES / 3RD
PARTY APPS



POSITIONING
AND TRACKING



CONTENT
INDEX



MIRRORED
REALITY

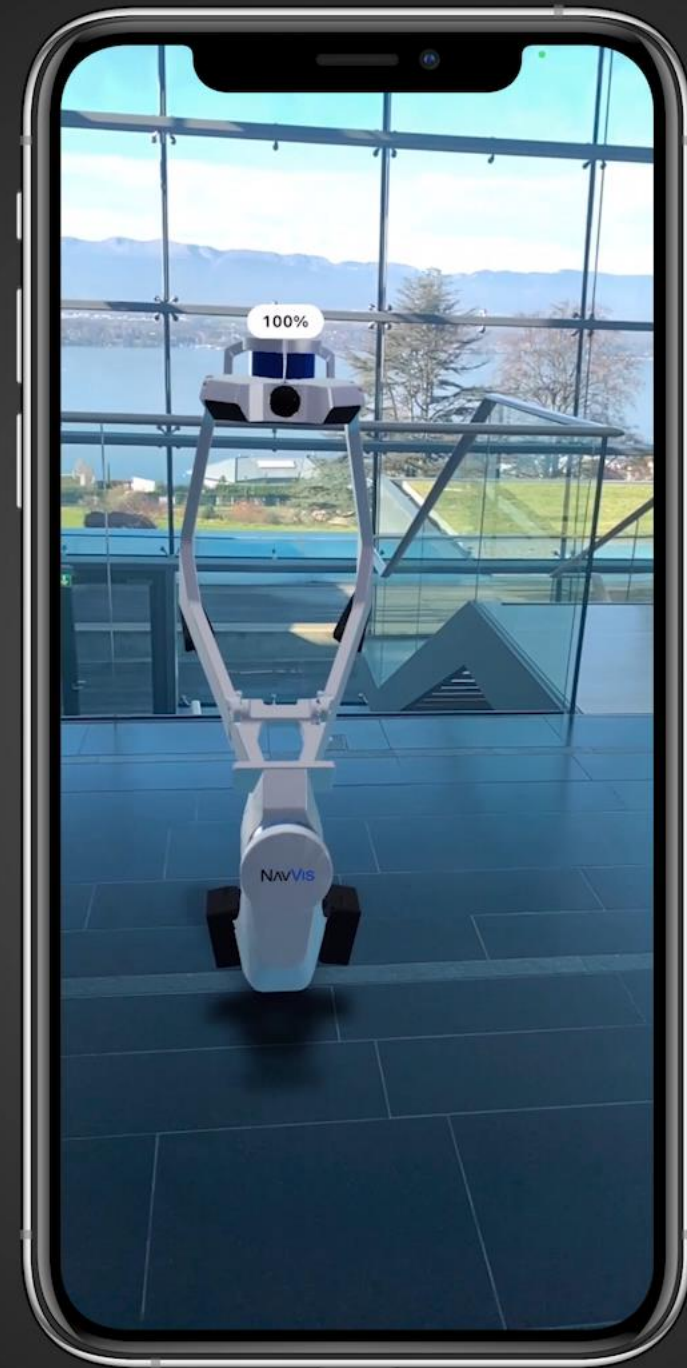


NavVis
stack

Please scan
the QR code*



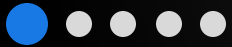
*iOS 13+, iPadOS 13+ or Android with ARCore 1.9+
is required to experience augmented reality



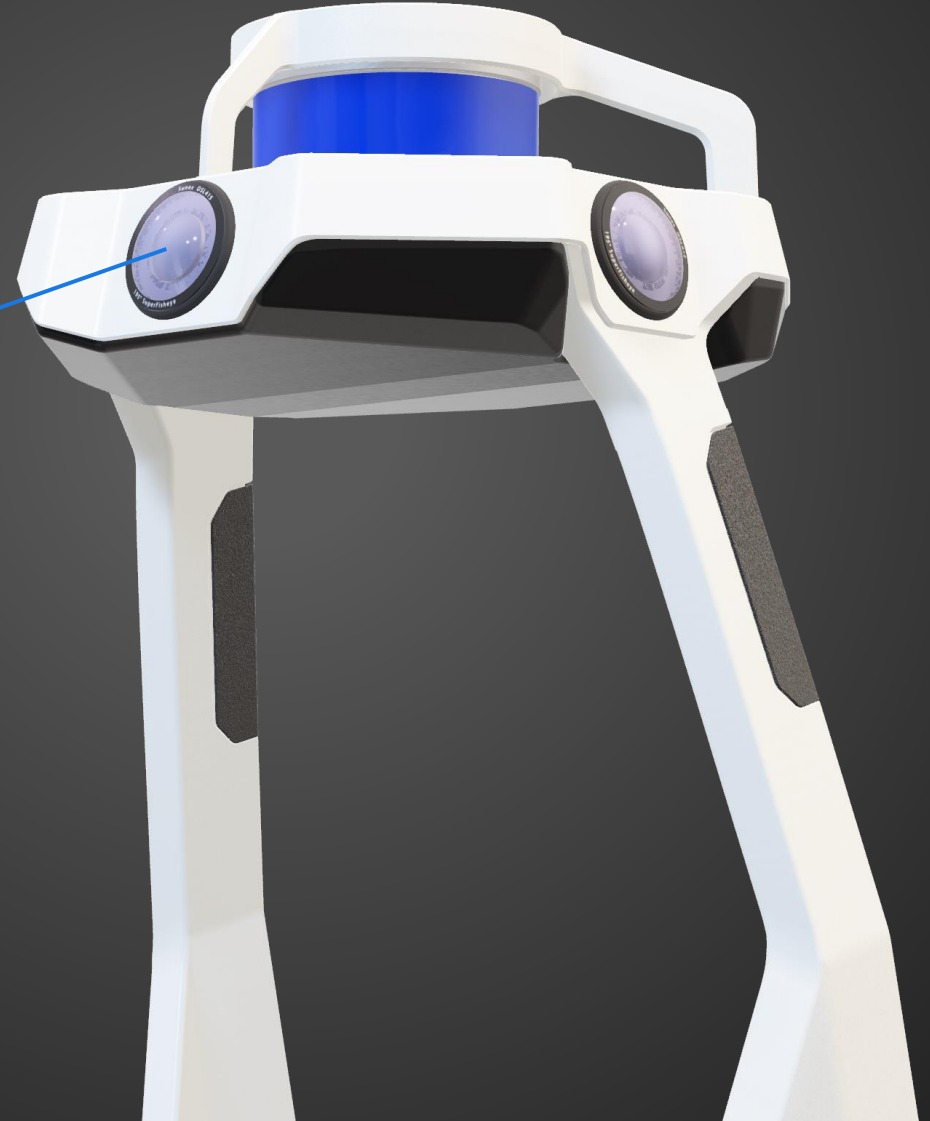
NAVVIS VLX 2ND GENERATION ALL-IN-ONE REALITY CAPTURE



Four 20-megapixel
cameras arranged for
complete 360° capture



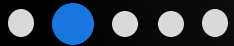
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NAVVIS VLX 2ND GENERATION ALL-IN-ONE REALITY CAPTURE



Two LiDAR scanners with
100-meter range power
the most advanced
SLAM in the industry



NavVis

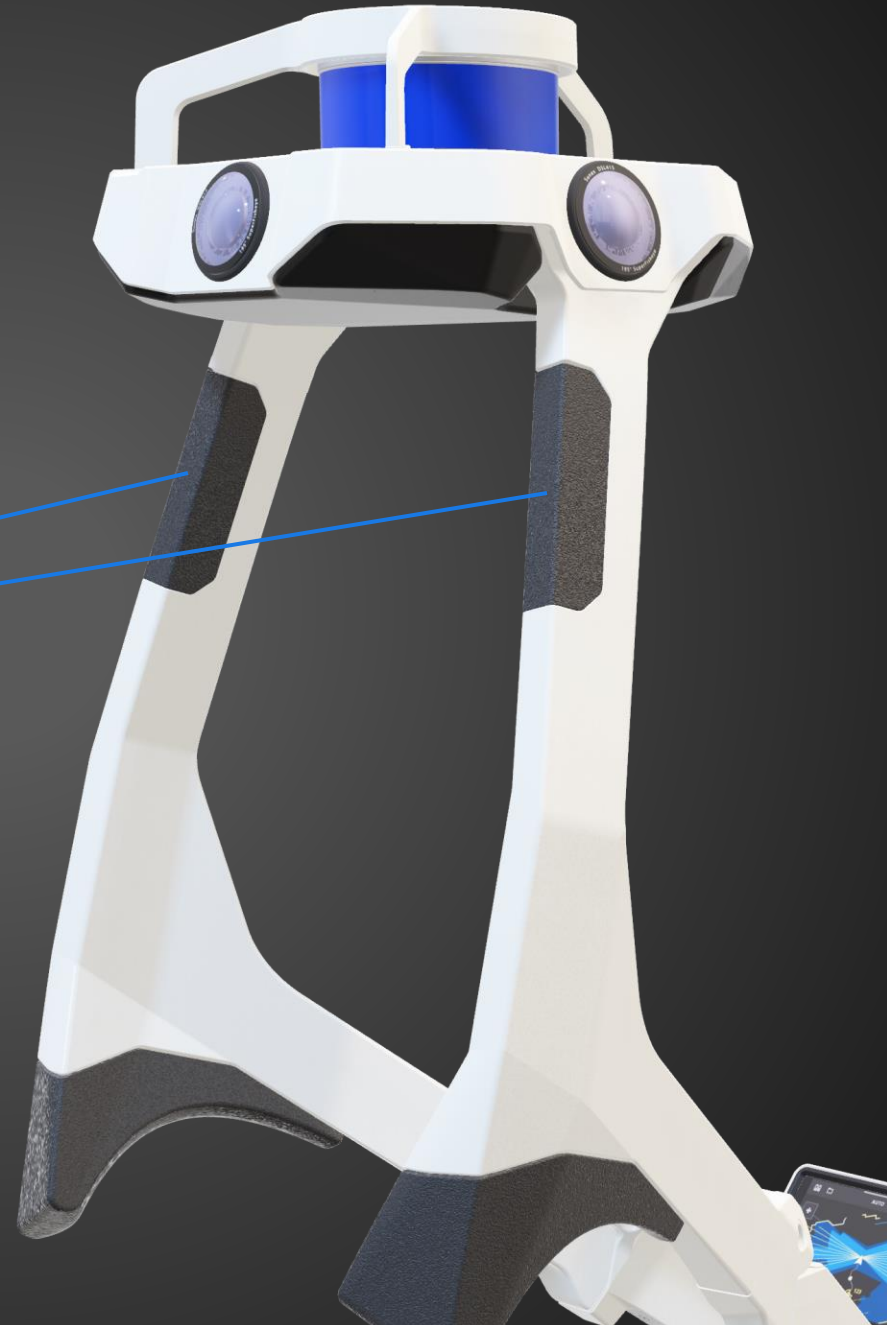


NAVVIS VLX 2ND GENERATION PRECISION MEETS ERGONOMICS

Ergonomic grip pads
for ultimate control in
confined spaces

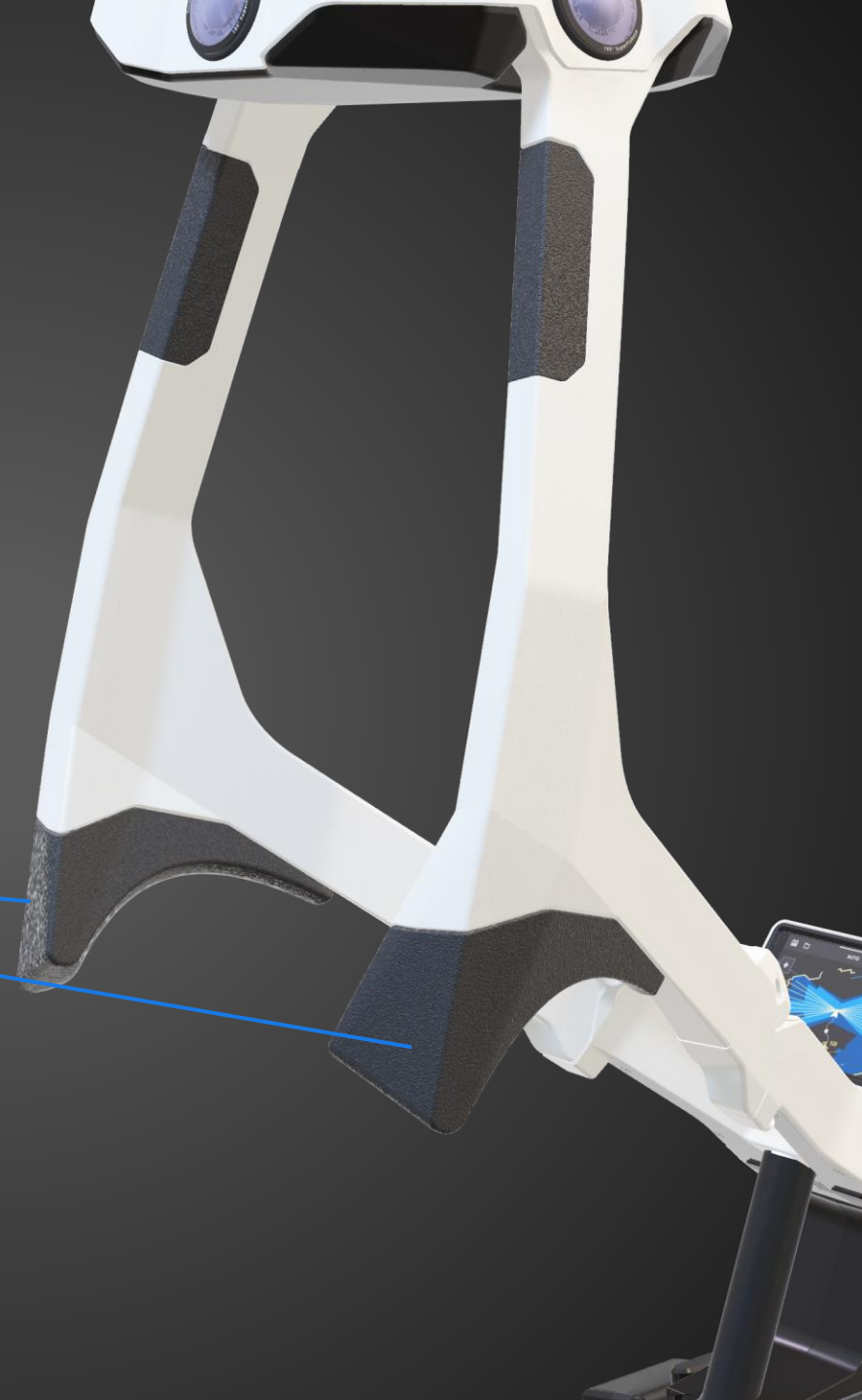


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NAVVIS VLX 2ND GENERATION PRECISION MEETS ERGONOMICS

Comfortable shoulder
rests for hands-free
operation



NAVVIS VLX 2ND GENERATION PRECISION MEETS ERGONOMICS

Stabilizing belt with
adjustable sizing

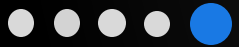


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NAVVIS VLX 2ND GENERATION ALL-IN-ONE REALITY CAPTURE

Forward facing design
for targeted scanning



DYNAMIC SCANNING

Benefit from versatility and take on a wider range of projects. NavVis VLX is optimized for use indoors and outdoors.



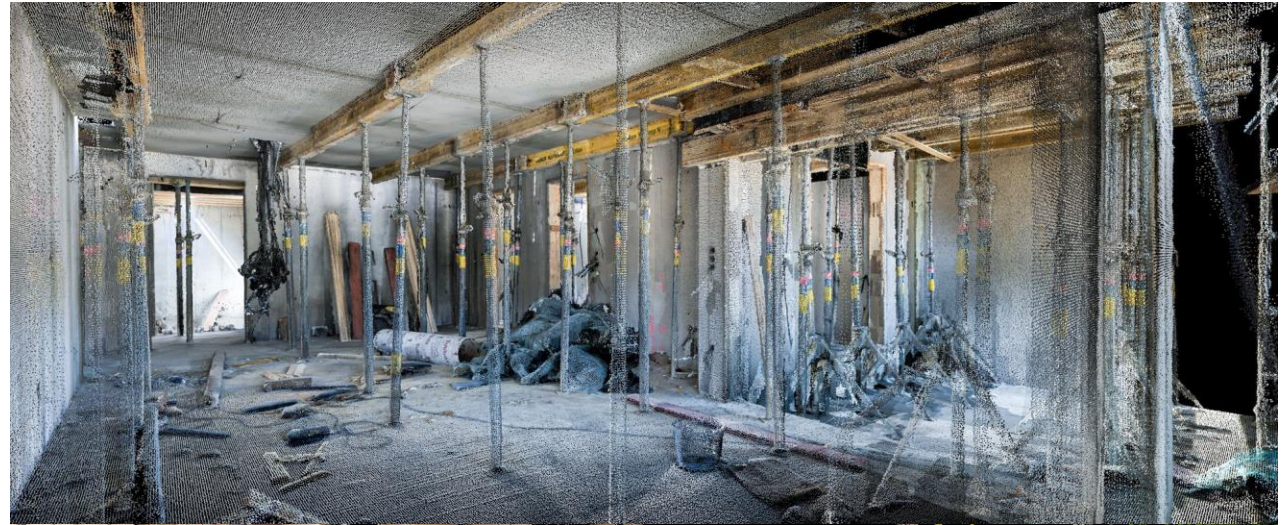
Stable and robust SLAM



IP42 rating for protection against moisture and dust



Capture high quality point clouds and panoramas in a variety of environments



GEO-REGISTRATION

Align point clouds with control points on the wall and the ground for quality assurance.



Compatible with ground and wall control points



Supports large national and global coordinates



Simply touch the target and trigger



Control data quality, align datasets, and eliminate drift on long scans



LIVE MAPPING FEEDBACK

Monitor real-time progress and quality while mapping with the built-in interface.



Always in view



High resolution OLED display



Dataset management



Real-time quality map



Covers multi-story scans



A SMART PACKAGE FOR SMART WORK

NavVis VLX folds to fit into one case for easy transport. When you're ready, simply unfold and start scanning.







NavVis VLX

capture time: 0h25m

raw data (GB): 9.8

processed data (GB): 38

panoramic images: 152

number of points: 74,147,621



TLS

capture time: 2h01m

raw data (GB): 2.2

processed data (GB): 35.2

panoramic images: 21

number of point 44,987,455*

*(filtered by 5mm point densit

SUPERB ACCURACY – INDOORS ...

For accuracy that exceeds industry standards, NavVis VLX is powered by precision SLAM technology that's entirely in a class of its own.

NavVis VLX accuracy case study

Accuracy:

results from one case study have been

- 5.1 mm at sigma one (68%)
- 12.9 mm at sigma two (95%)



Environment: a mid-size office of 500 sqm

... AND OUTDOORS

For accuracy that exceeds industry standards, NavVis VLX is powered by precision SLAM technology that's entirely in a class of its own.

NavVis VLX accuracy case study

Accuracy:

results from one case study have been

- 5.6 mm at sigma one (68%)
- 12.2 mm at sigma two (95%)

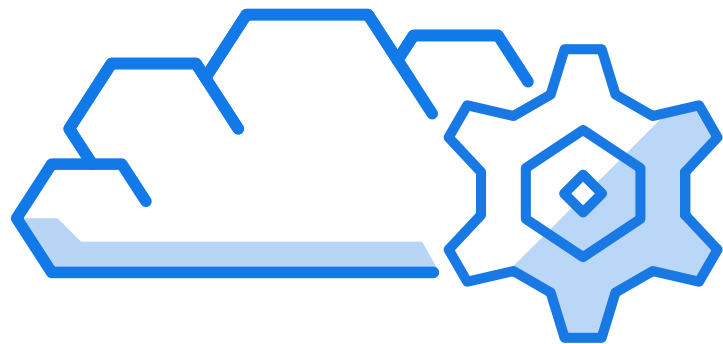


Environment: a 20m high facade

VLX IN THE PROCESS INDUSTRY

- **Rapid Data Capture:** Speed = fewer resources onsite for less time
- **Smaller Data Size:** e.g. San Jacinto is ~15 GB VLX vs 85 GB terrestrial
- **Completeness of Data:**
 - Continuous perspective changes, dynamic, vs static positioning
 - Also, reflective surfaces backfill due to dynamic continuous capture
- **Tight and Difficult to Access Data Capture:** Many areas in plants are congested and difficult to setup static scanning positions
- **Dynamic Scanning of Static Objects:**
 - e.g. scanning from manlifts is now a valid solution
 - Also, shaky fin fan decks no longer corrupt data

HAND-OVER TO AVEVA POINT CLOUD

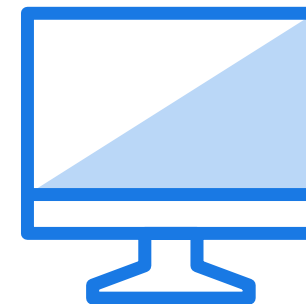


NavVis

**IVION CLOUD
PROCESSING**



**E57 FILE WITH
EMBEDDED
PANORAMAS**



AVEVA
**POINT CLOUD
MANAGER**

New processing task



Configure settings

Point cloud settings

Point cloud resolution

10mm

Colorized

☒

NavVis VLX settings

High confidence Standard **Outdoor**

[Details](#)

NavVis M6 settings

Sharp edges Standard **Smooth surfaces**

[Details](#)

Panorama settings

Include panoramas in .e57 point cloud

☒

Floor filling

☒

Upload surveyed control points

[Upload the control point file \(.csv, .txt\)](#) or drop it here

Note: Control point coordinates must be in a metric [meters], Cartesian, right-handed coordinate system. Coordinates in projections such as UTM, WGS 84 must be converted beforehand.

13 selected datasets

Configure Settings

Processing will take 6 to 7 hours

Back

Cancel

Start processing

Contacts



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