

Situational awareness
in construction sites with
connected reality data



Lauri Hartikainen
Co-founder & CEO
lauri@pointscene.com
+358 50 543 5444



LAURI HARTIKAINEN

CO-FOUNDER & CEO

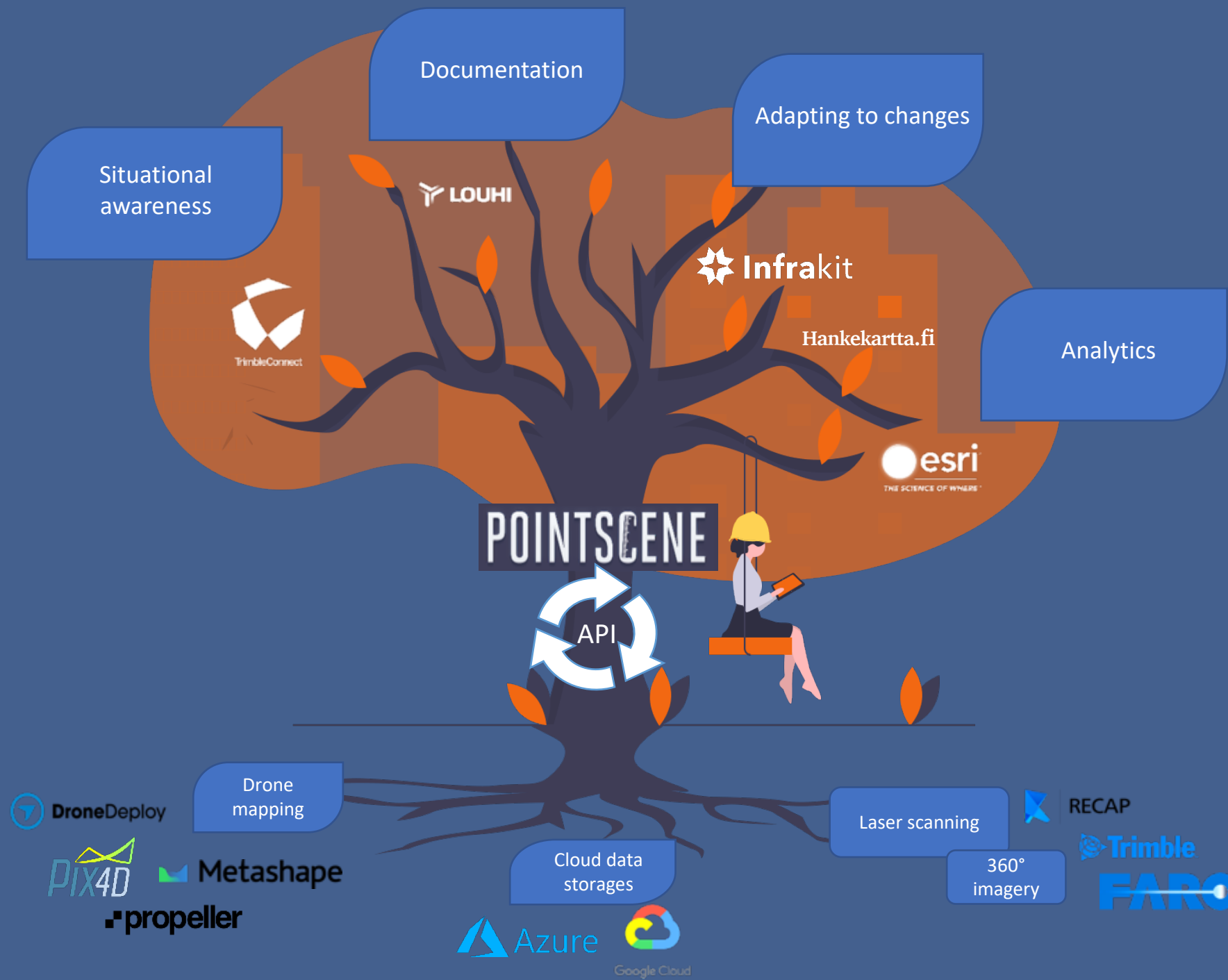
POINTSCENE

10+ years experience from technical and commercial roles working in digitalization of built environment.

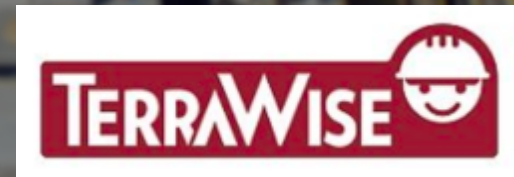
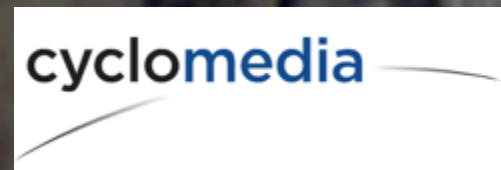
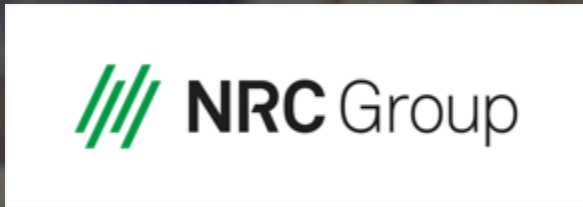
Lauri holds a Master's degree in Geomatics from Helsinki University of Technology specializing in photogrammetry & multimedia technologies.

A drone, laser scanning & customer experience enthusiast with a vast knowledge on geospatial data collection, analysis & interpretation, and geographic information systems.

Co-founder of Pointscene.com, a cloud solution improving situational awareness in construction sites with connected reality maps.



TRUSTED BY



USES OF CONNECTED REALITY DATA

COMMUNICATION

WORK ORDERING AND PLANNING

RISK ASSESSMENT AND PREPARATION

VOLUME CALCULATIONS AND
MATERIAL LOGISTICS

SUPERVISION

EMPLOYEE ONBOARDING

QUALITY CONTROL

QUALITY ASSURANCE

PROGRESS MONITORING AND
DOCUMENTATION

TRANSPARENCY

COMPARE CURRENT STATUS WITH DESIGNS

The screenshot displays the Infrakit software interface. At the top, the navigation bar includes 'Kartta', 'Tiedostot', 'Koneet', 'Kuvat', 'Määräseuranta', 'Aikataulu', 'Toteuma', and 'Kuorma-autot'. The user is logged in as 'Pointscene, lauri@pointscene.com' with 401 notifications. The current location is 'Lipstikkapuisto'. The main view shows an aerial photograph overlaid with a technical design plan. A yellow excavator icon is labeled 'Novatron Gradall5200III'. A tooltip on the right indicates 'Valittu sijainti Paalu: 63.3 m Sivumitta: 17.0 m'. The left sidebar, titled 'Mallit', shows a search bar and a list of design files, including '04_Toteutusmallit (...)', '2298_nosturipeti_YP.dxf', '2298_nosturipeti_YP.mm10.tdw', '2298_nosturipeti_YP.xy.tdw', 'Koodisto_v1.nfcl', 'Lip_Ayp_R1-4.dxf', and 'Raittienmittalinjatvaihe1.tg.xml'. The bottom status bar shows 'Aktiivinen mittalinja' and the Safari browser logo.

Infrakit Kartta Tiedostot Koneet Kuvat Määräseuranta Aikataulu Toteuma Kuorma-autot ...

Pointscene, lauri@pointscene.com 401
Lipstikkapuisto

Mallit
Hakusana
Kaikki (24), Tyhjennä valinta

- Mallit (6)
- 04_Toteutusmallit (...)
- 2298_nosturipeti_YP.dxf
- 2298_nosturipeti_YP.mm10.tdw
- 2298_nosturipeti_YP.xy.tdw
- Koodisto_v1.nfcl
- Lip_Ayp_R1-4.dxf
- Raittienmittalinjatvaihe1.tg.xml

Valittu sijainti
Paalu: 63.3 m
Sivumitta: 17.0 m

Novatron
Gradall5200III

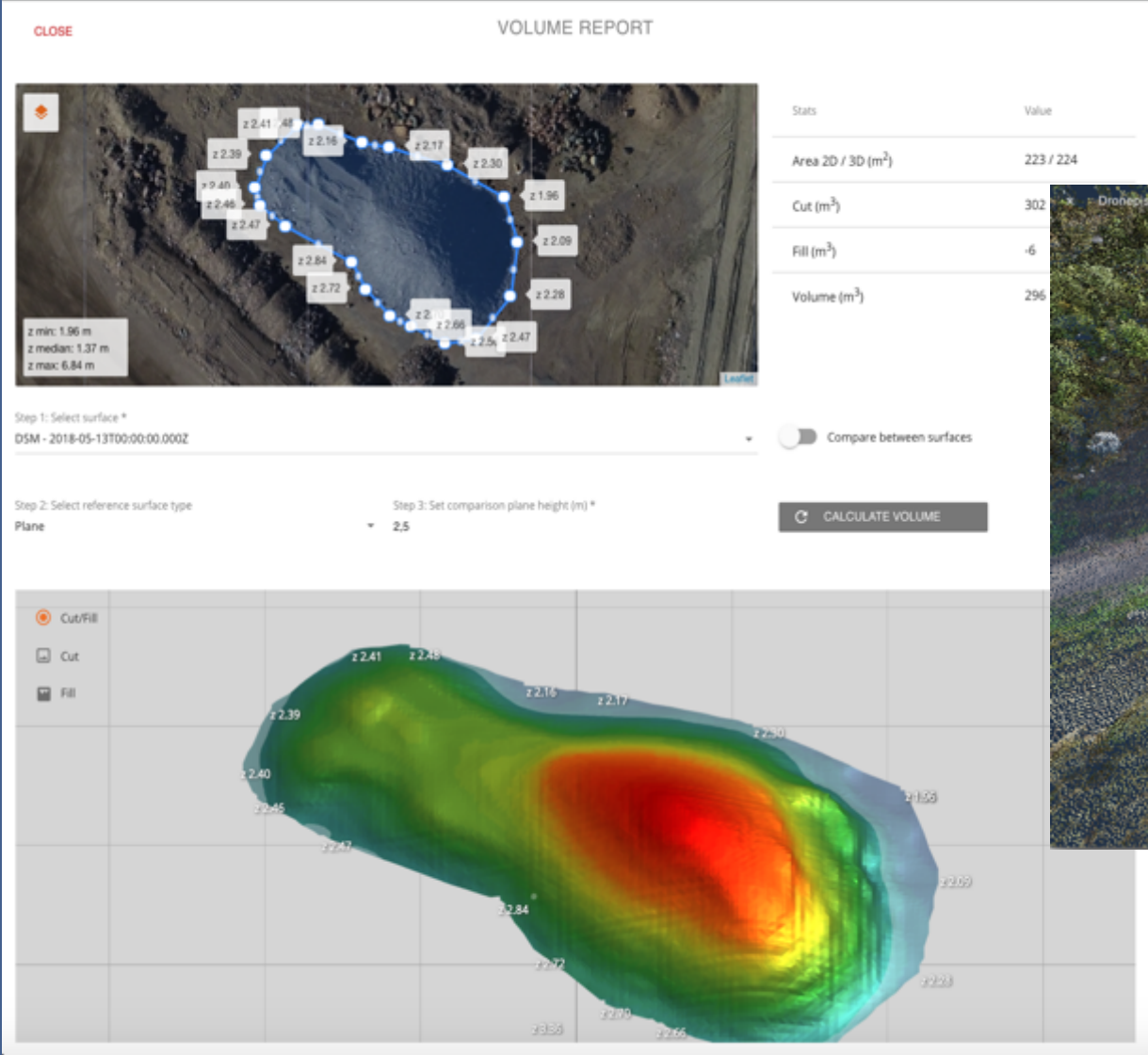
Aktiivinen mittalinja

Safari

POINTSCENE

CALCULATE VOLUMES AND MEASURE

CLOSE **VOLUME REPORT**



Stats	Value
Area 2D / 3D (m ²)	223 / 224
Cut (m ³)	302
Fill (m ³)	-6
Volume (m ³)	296

z min: 1.96 m
z median: 1.37 m
z max: 6.84 m

Step 1: Select surface *
DSM - 2018-05-13T00:00:00.000Z

Step 2: Select reference surface type
Plane

Step 3: Set comparison plane height (m) *
2.5

Compare between surfaces

CALCULATE VOLUME

Cut/Fill
Cut
Fill



POLYGON

Area 3D: 212.719 m²
Perimeter: 98.826

POINT CLOUD

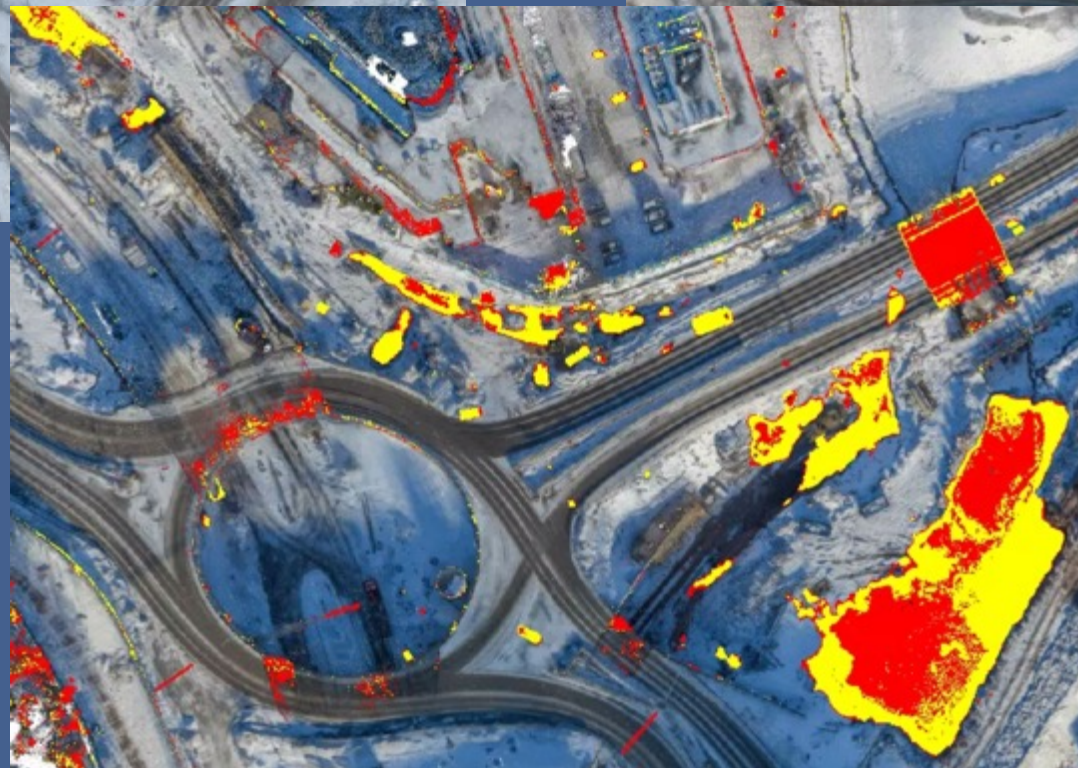
COLOR: RGB

EDGE EFFECT:

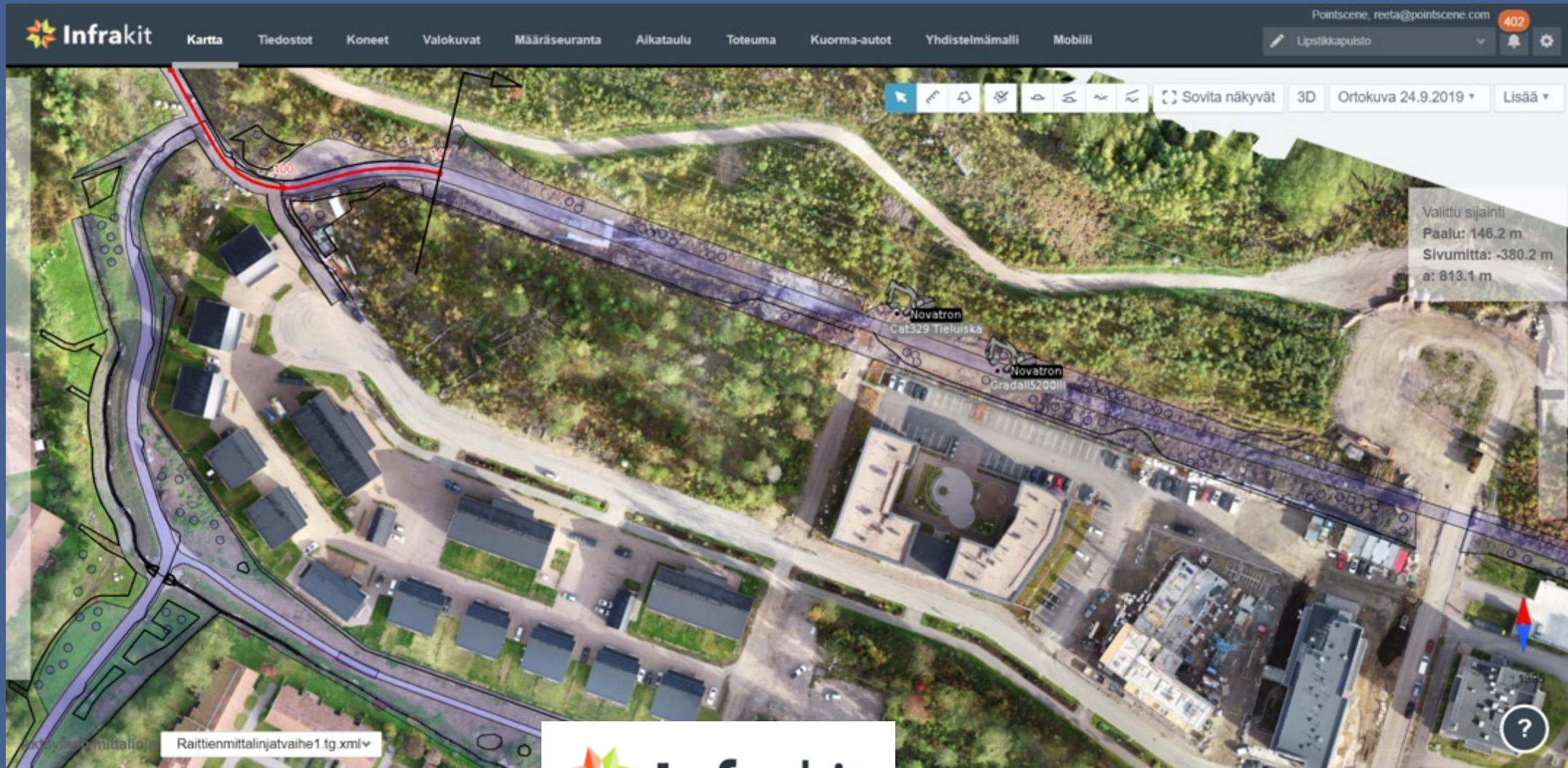
ADAPTIVE POINTS:

POINT SIZE:

HOW TO NAVIGATE A POINT CLOUD



INTEGRATE WITH OTHER WORKSITE SOLUTIONS



INTEGRATE WITH OTHER WORKSITE SOLUTIONS



INTEGRATE WITH OTHER WORKSITE SOLUTIONS



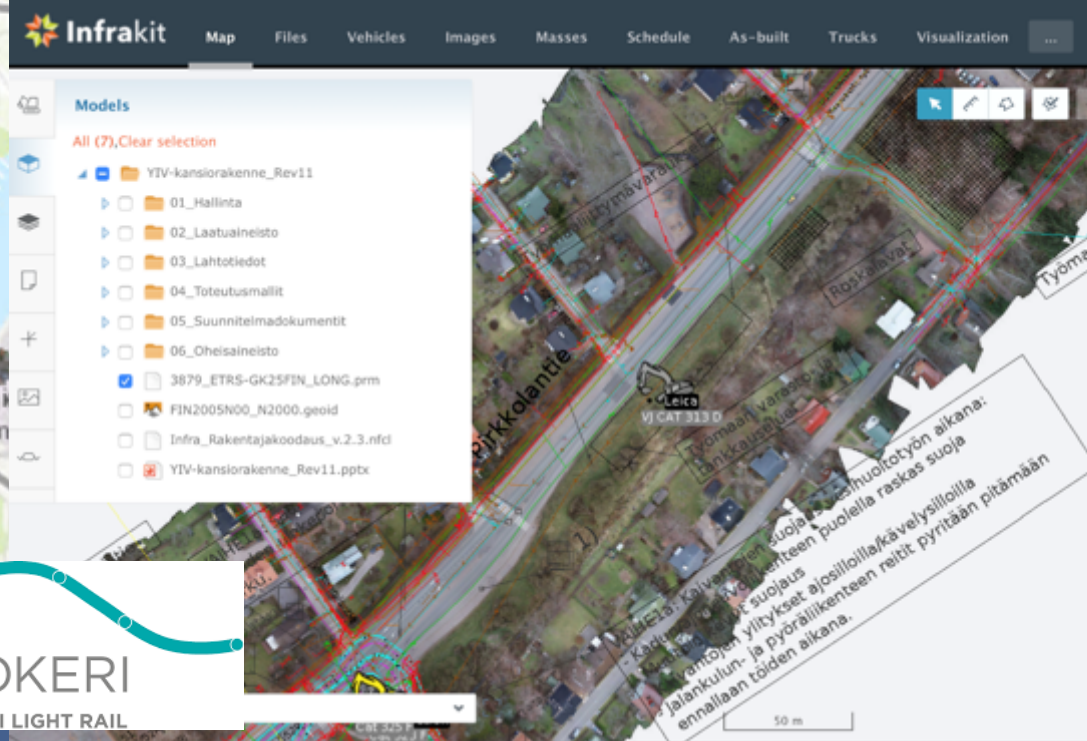
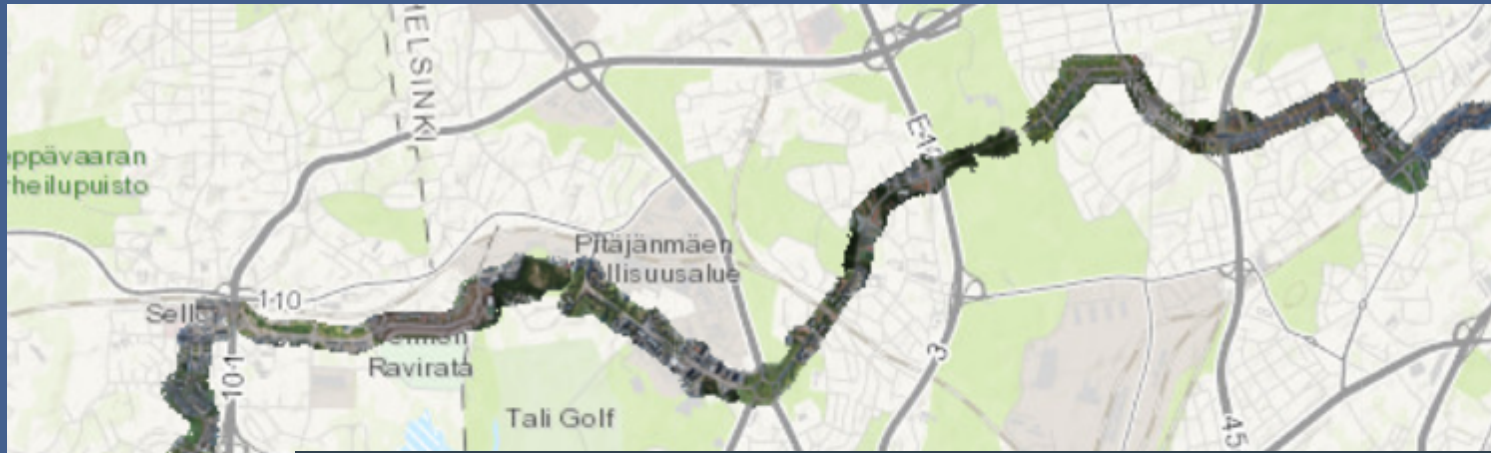
COMMUNICATE WITH ALL STAKEHOLDERS



CASES



RAIDEJOKERI LIGHT RAIL (FINLAND)



25KM LENGTH /
6 WORKING BLOCKS

49 FLIGHT BLOCKS

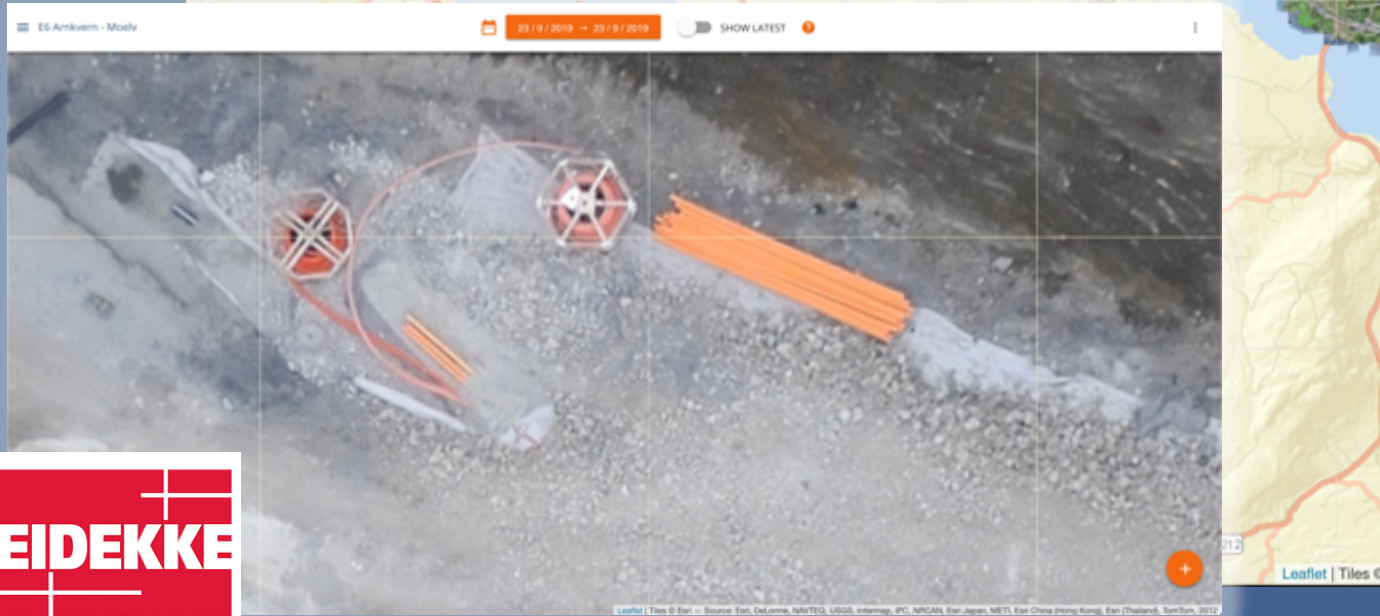
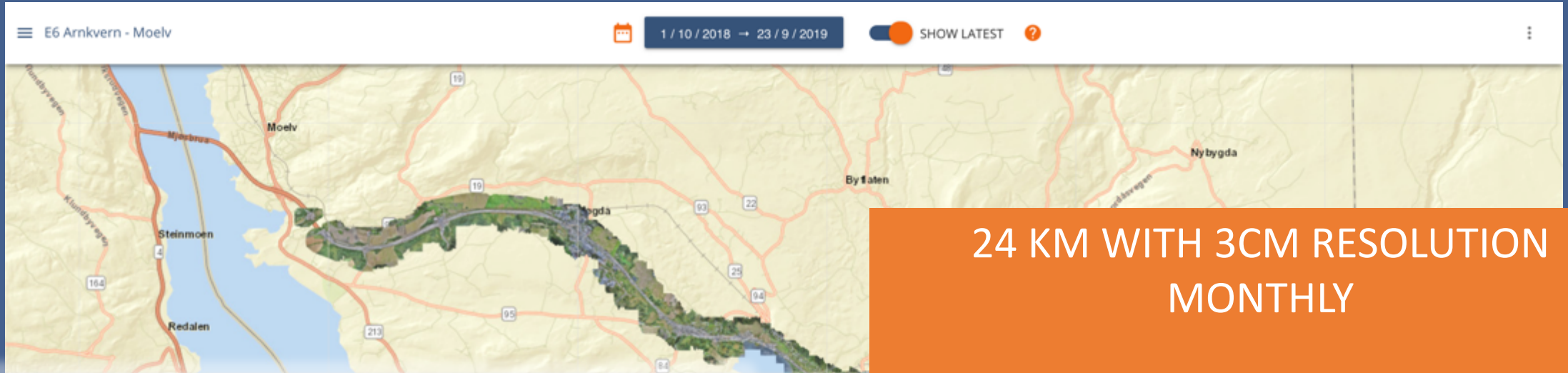
DAILY DRONE OPERATIONS

HUGE AMOUNT OF DRONE DATA AND FILES

POINTSCENE CONNECTION WITH SITOWISE
LOUHI & INFRAKIT



E6 ARNKVERN – MOELV HIGHWAY (NORWAY)



24 KM WITH 3CM RESOLUTION
MONTHLY

PREVIOUSLY 5-7 DAYS PROCESSING /
WAIT TIME

WITH POINTSCENE, THE DATA IS
AVAILABLE FOR ALL STAKEHOLDERS IN
< 1 DAY

WITH HIGHER RESOLUTION AND SPEED



KEHÄ I - RING ROAD / KEILANIEMI

INFRA: Design & Build - contract

TUNNEL: Project Management Agreement

VALUE: Total 100 MEur

PROJECT OWNER: City of Espoo

PRIME CONTRACTOR: SRV Infra

DESIGN: Sweco + City of Espoo designers

STAKEHOLDERS: Transport agency, regional ELY centers, city



SRV

COMPLEX TECHNICAL SYSTEMS

MOVING OF UTILITY NETWORK IN
MULTIPLE PHASES

COMPLEX TRAFFIC ARRANGEMENTS

COOPERATION WITH OTHER
PROJECTS IN THE AREA

WORK JOINTS TOWARDS
NEIGHBORING PROJECTS



CASE KEILANIEMI

CHALLENGE:

Managing the project in an active “highway” location (35 000 vehicles / day), all construction site logistics, temporary traffic arrangements, as built documentation and validation.

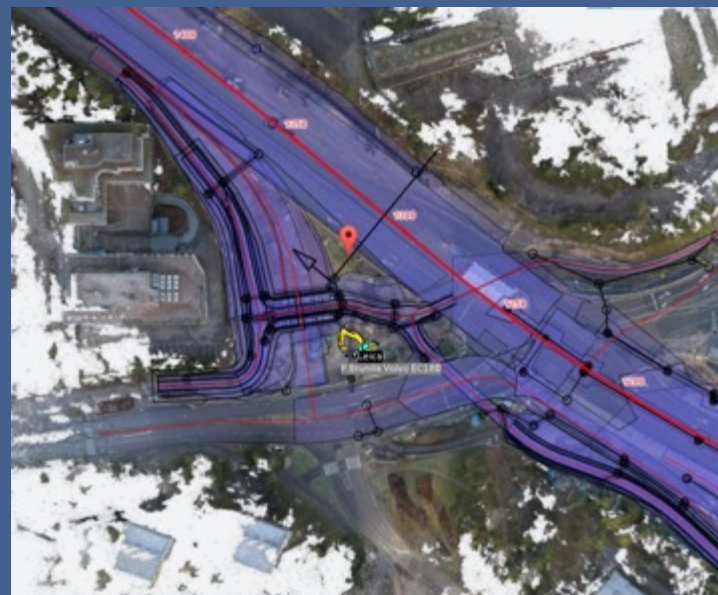
SOLUTION:

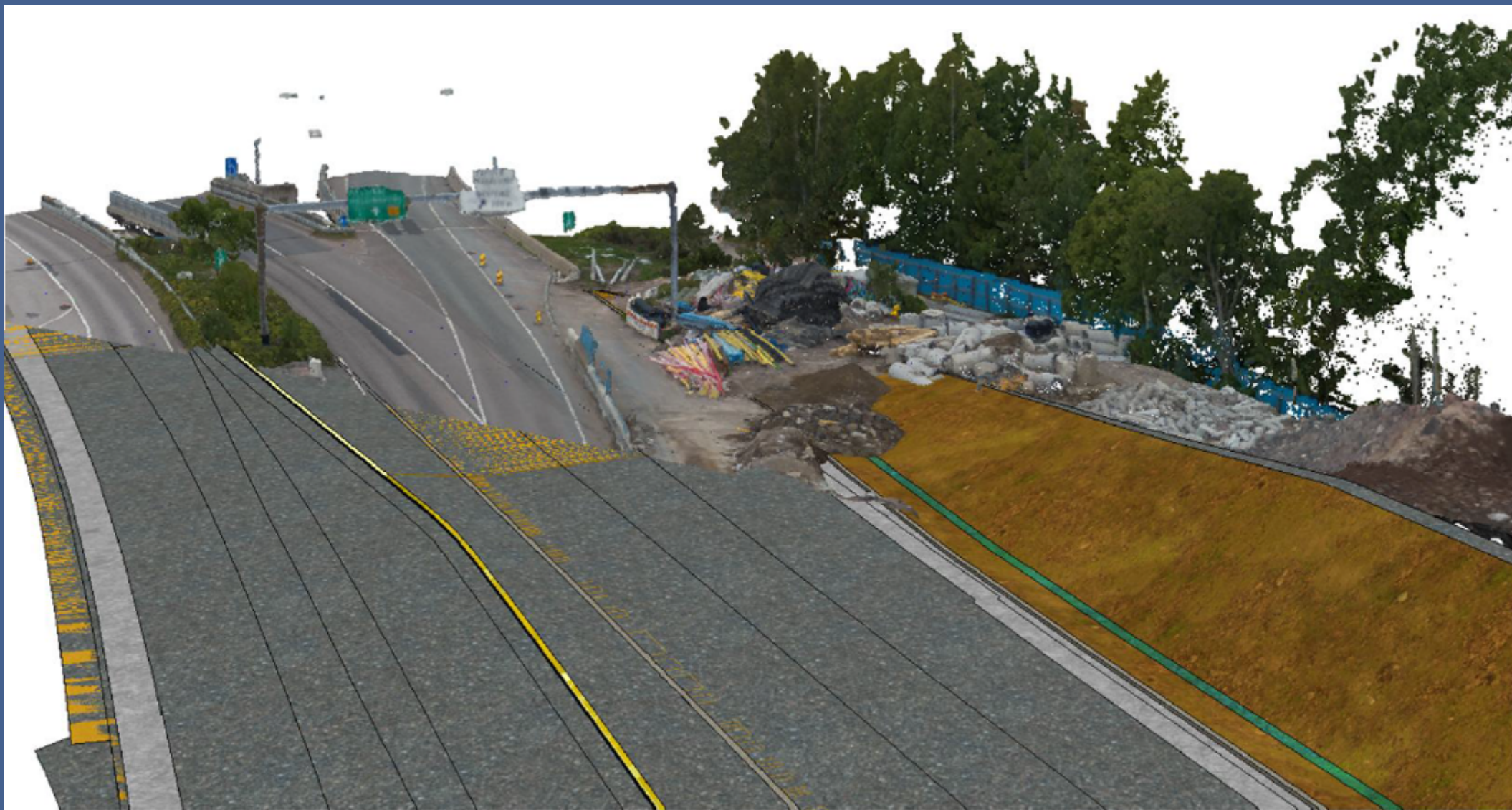
Monthly drone mapping and accurate photogrammetric 3D modeling for the whole site. Data management and access in online 2D/3D/360° environments.

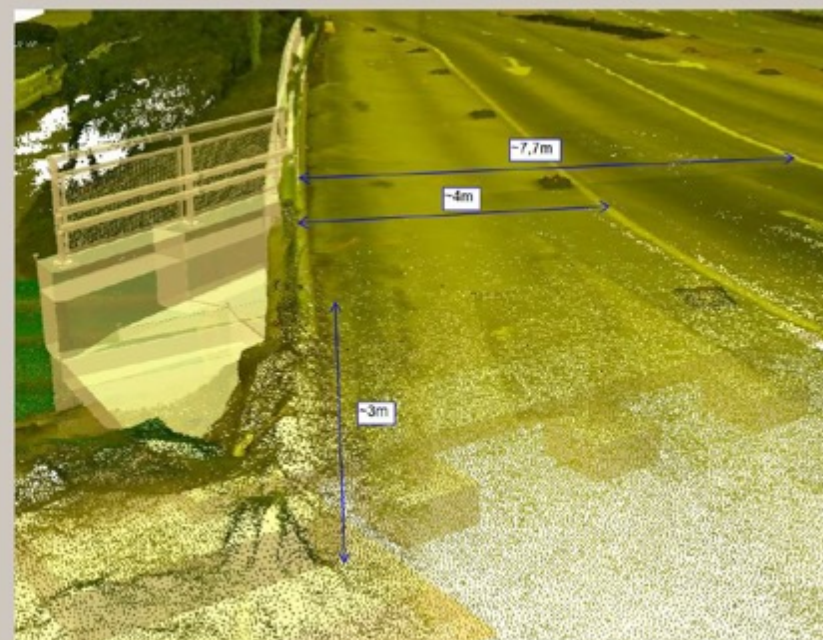
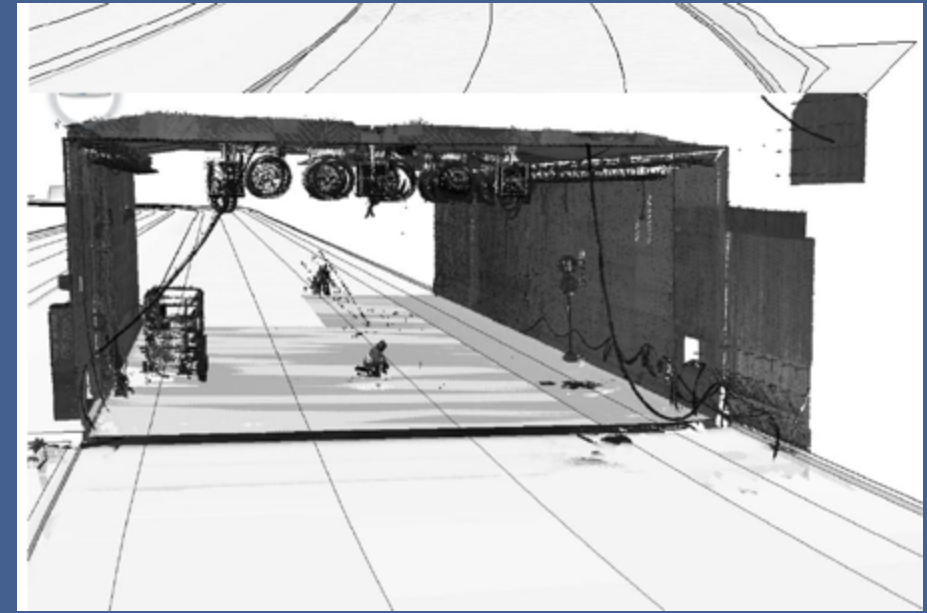
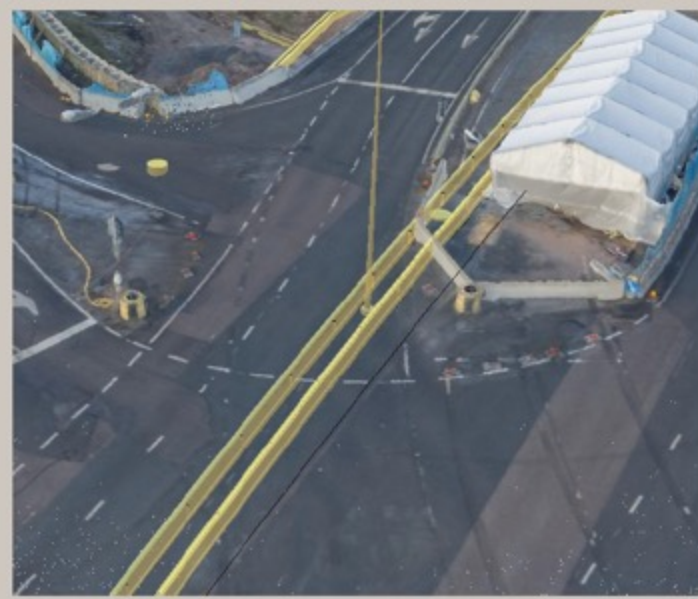
CASE KEILANIEMI

MAIN BENEFITS: Real-time understanding on site status and its progress. Validating information and getting up-to-date measures for design. Faster re-routing plans. Volumetric analysis. Updating initial designs with accurate status maps.

ADDITIONAL: Improved work area reservations for equipment and tasks. Data suitable for ramp and support wall design. Data used for employee onboarding. Improved data reach.







BENEFITS GAINED

REDUCED NEED FOR FIELD VISITS

IMPROVED COMMUNICATION
BETWEEN STAKEHOLDERS

IMPROVED PLANNING OF ACTIONS
AND SCHEDULES

LESS SURVEY WORK ORDERS



BENEFITS GAINED

FASTER DESIGN OF TRAFFIC ARRANGEMENTS

STREAMLINED WORK IN PROJECT JOINTS

EFFICIENT PUBLIC RELATIONS AND
EXTERNAL COMMUNICATION

DOCUMENTATION FOR INSURANCE AND
LITIGATION PURPOSES





THANK YOU!

#BIMplify

POINTSCENE

Lauri Hartikainen, CEO
lauri@pointscene.com
+358 50 543 5444