



**PORT
OULU**

Mira Juola 3.10.2019

**PORT OULU Smarter -
Digitaalinen tilannekuva Oulun Satamassa**


www.portoulu.com

PORT OULU ECOSYSTEM

- stevedoring operators, subcontractors, agency
 - trucks, vessels, trains, other vehicles visiting the port
 - piloting, towing and ice breaking
 - construction projects
 - safety & security
 - area maintenance, waste management
 - fleet maintenance and support
 - customs, seamen's mission
 - emergency authorities
 - environmental and other authorities
 - industrial areas nearby
- + digital development partners

CUSTOMERS





**PORT OF OULU IS THE MOST HIGHLY VALUED PARTNER IN LOGISTICS,
BUILDING THE DIGITAL PORT OF FUTURE - TOGETHER WITH THE NETWORK
USING MODERN, AGILE AND DATA-DRIVEN TOOLS & TECHNIQUES**

**The Most Valued Partner
of the Northern Europe
in Logistics**

Drivers

**EFFICIENCY &
RELIABILITY**

**SAFETY &
SECURITY**

**PRESERVING
ENVIRONMENT**

**VISIONARY
DEVELOPMENT**

Target

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Enablers

CO-OPERATION MODEL WITH THE DIGITAL DEVELOPMENT NETWORK

MODERN DATA NETWORK SOLUTIONS

Projects

TRAFFIC FLOWS

**ROAD - SEA - RAIL TRAFFIC
SMART GATE OPERATIONS
ISPS**

AREA SAFETY

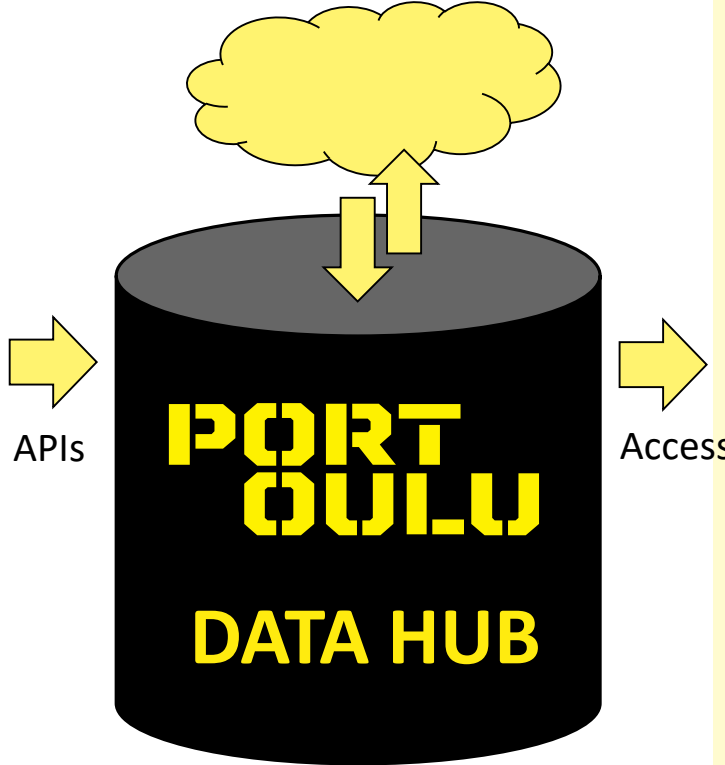
**POSITIONING, GUIDANCE, NAVIGATION
OPERATIONAL AND PERFORMANCE STATUS
MAP & DIGITAL TWIN**

SERVICES

**DATA ANALYSIS
FORECASTING
NEW DIGITAL SERVICES**

THE ARCHITECTURE OF THE INTEGRATION PLATFORM

- OPERATIVE SYSTEMS
- OPEN DATA
- SENSORS, E.G. CARGO, WEATHER, CURRENTS
- POSITION TRACKING, IDENTIFICATION, GUIDANCE AND SURVEILLANCE OF VEHICLES, VESSELS AND CARGO
- CAMERA TECHNOLOGY AND VIDEO ANALYSIS, FIXED AND DRONES
- PROPERTY AND AREA INFRASTRUCTURE INFORMATION, WORKING INSTRUCTIONS, MAINTENANCE TICKETING



HISTORICAL ANALYSIS	REAL TIME SURVEILLANCE	FORECASTS & PREDICTIONS

DATA ->

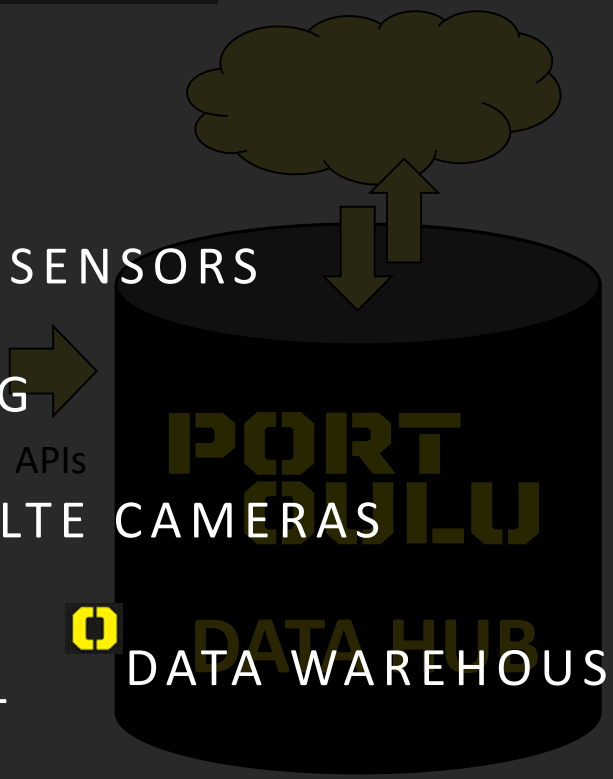
INFORMATION ->

KNOWLEDGE ->

ACTIONS

THE IMPLEMENTATION OF THE PORT OULU PLATFORM

- OPERATIVE SYSTEMS
- OPEN DATA
- PILO1: CRANE EFFICIENCY SENSORS**
- PILO2: POSITION TRACKING**
VEHICLES, VESSELS AND CARGO
- PILO3: VIDEO ANALYTICS, LTE CAMERAS**
FIXED AND DRONES
- DOCUMENT MANAGEMENT**
PROPERTY AND AREA INFRASTRUCTURE INFORMATION, WORKING INSTRUCTIONS, MAINTENANCE TICKETS

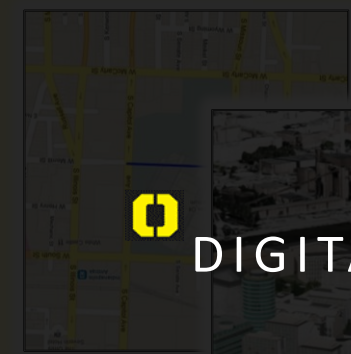


HISTORICAL ANALYSIS **REAL TIME SURVEILLANCE** **FORECASTS & PREDICTIONS**



ANALYZES REPORTING KPI'S

PORT OULU MOBILE APPLICATION



DIGITAL TWIN

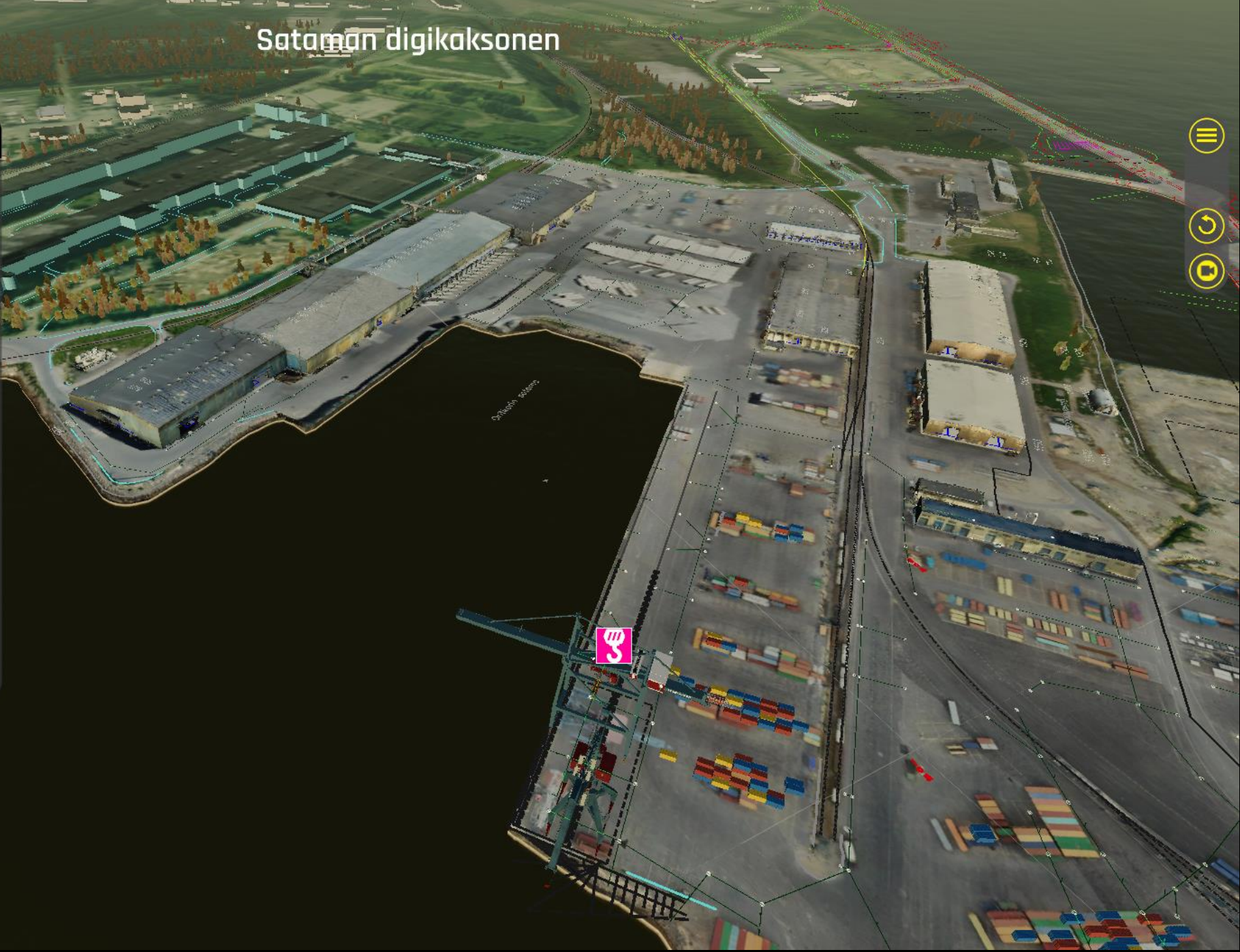
NETWORK INFRA

Private LTE, NDAC – Ukkoverkot
5G Network – Telia, Mediatek, Nokia

Sataman digiaksonen

LAYERS

- > 2D - Layers (5)
- 3D (5)
- Water (1)
- > Seafloor (2)
- Konecranes G377 (1)
- Konttikartta (1)
- Rakennukset - Buildings (1)





LAYERS [Close]

- > 2D - Layers (5) [Eye]
- 3D (5)
 - Water (1) [Eye]
 - > Seafloor (2)
 - Konecranes G377 (1) [Eye]
 - Konttikartta (1) [Eye]
 - Rakennukset - Buildings (1) [Eye]



Yhteistyössä



BUSINESS
FINLAND

TRAFICOM
Liikenne- ja viestintävirasto

5G Momentum



Oulu Capital
of Northern
Scandinavia 



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**PORT
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Smarter.

Thank You 

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