

# SMART SPACES & SITUATIONAL AWARENESS

## IN INDUSTRIAL LOGISTICS & TRANSPORTATION

**Petri Kalske**  
Head of Industrial solutions  
+358 400 63 8880  
[petri.kalske@unikie.com](mailto:petri.kalske@unikie.com)

# WE ARE UNIKIE



We are a pioneering **engineering** company focused on activating **smart spaces** by bringing intelligence to machines, vehicles, and infrastructure.

## GROWTH DRIVERS

Global Business & Clients

Fast Growing Market

Embedded Meets Enterprise

Competitive Salary Model

Cutting-Edge Technologies



FOUNDED 2015

# 44 M€

REVENUE (2021)

# 550+

EMPLOYEES (2022)

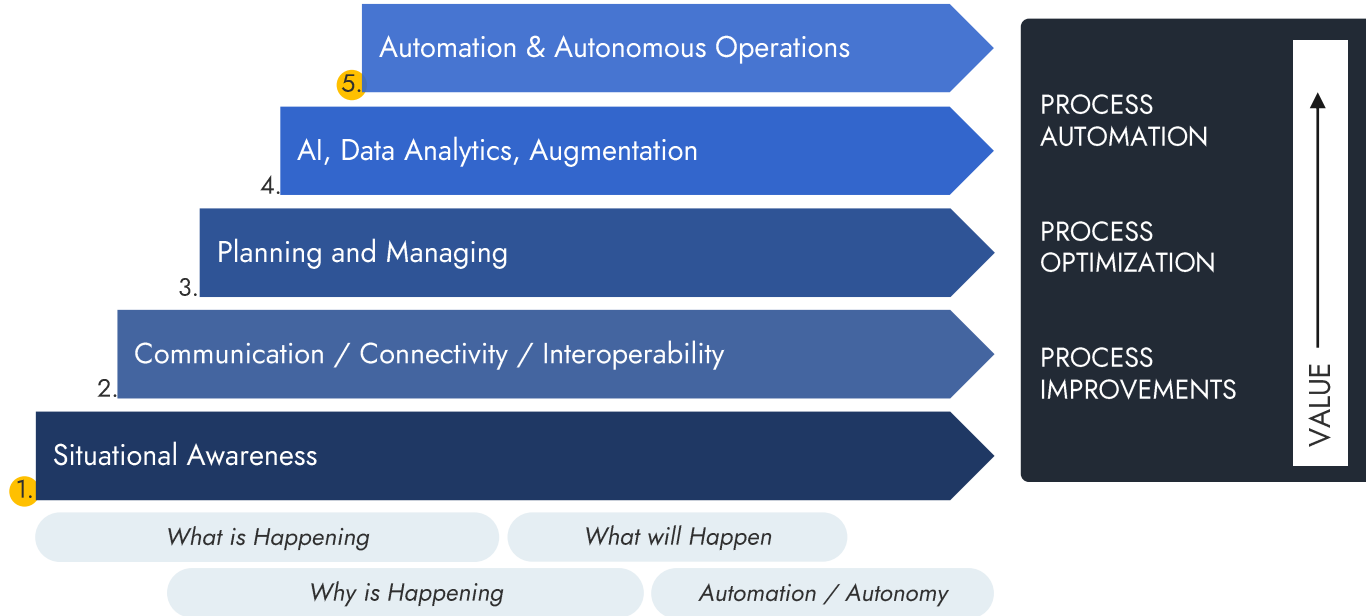
# 180+

GLOBAL CLIENTS

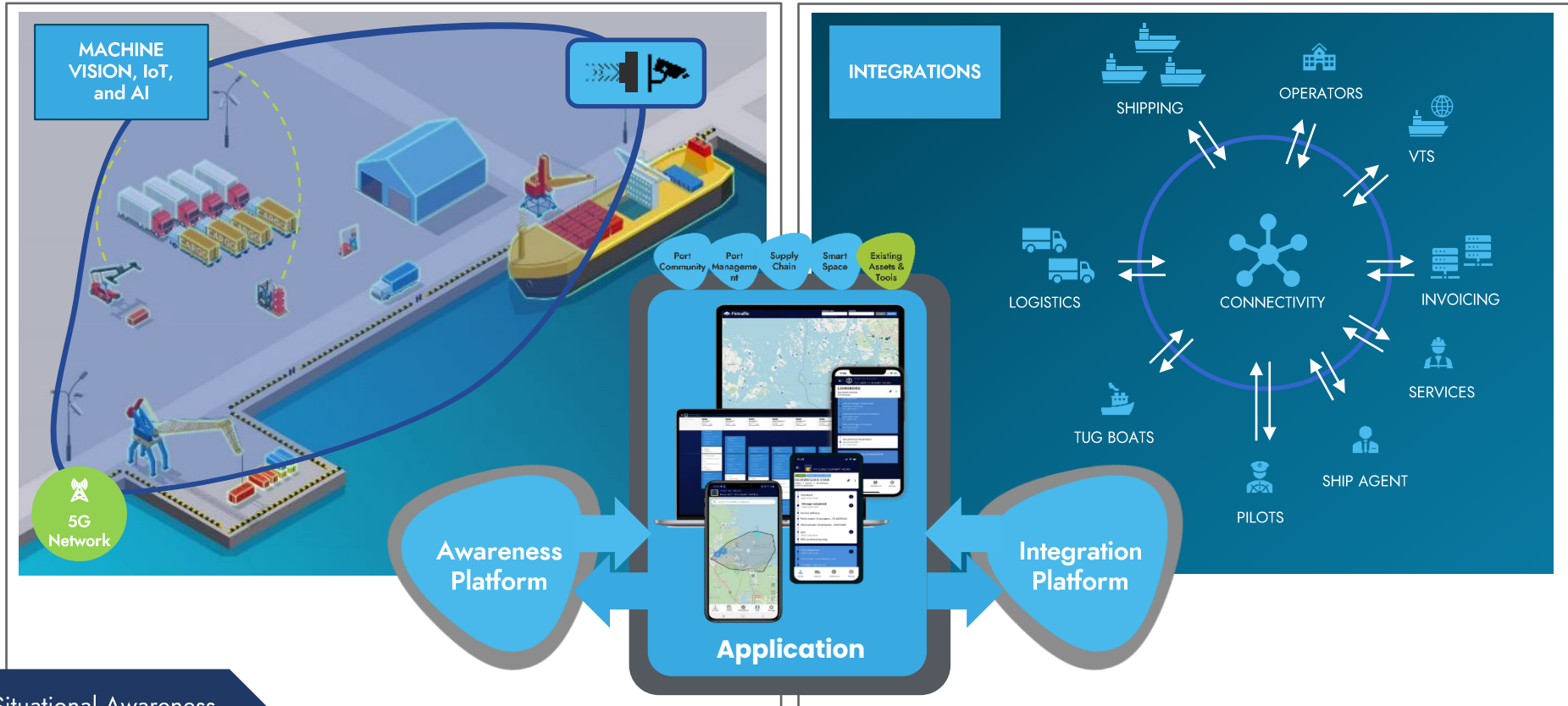


Finland (HQ), USA, Germany, Sweden, Poland, Estonia

# SITUATIONAL AWARENESS AS A FOUNDATION TO DIGITALIZATION



# SITUATIONAL AWARENESS AS A FOUNDATION TO DIGITALIZATION



# POLO (Ports & Logistics) CONCEPT

LAND LOGISTICS — PORTS — SEA LOGISTICS — PORTS — LAND LOGISTICS

Port  
Community

Port  
Management

Supply  
Chain

Sustainability  
and Emission  
Control

Smart Yard &  
Asset  
Management

POLO  
Open Ecosystem Platform



VESSELS



VTS



TUG  
BOAT



PILOTS



PORT



SHIP  
AGENT



OPERATOR



CARGO



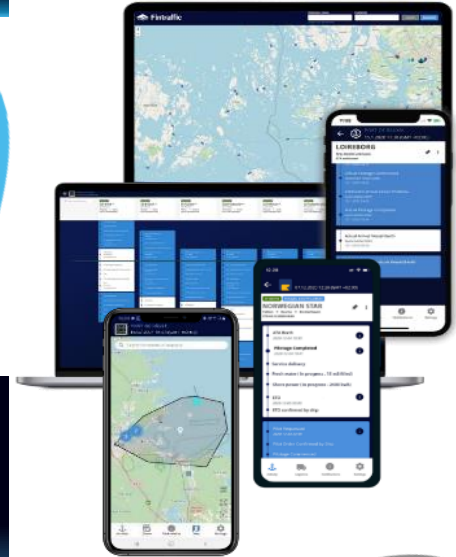
LOGISTIC  
HUBS



HINTERLAND  
INDUSTRIES



PUBLIC  
DATA



Integration  
Platform

- Connects ~200+ organizations and official Maritime Authorities
- Data and information sharing
- Planning
- Predicting

Situational Awareness

# AWARENESS PLATFORM

Automated Vehicle Marshalling  
(AFP, AVP)



**Autonomous  
Driving  
(Infrastructure)**

**Assisting and  
Augmentation  
(Infrastructure)**

**Autonomous  
Driving  
(Onboard)**

**Assisting and  
Augmentation  
(Onboard)**

Industrial Machines & Heavy Duty



Automation &  
Autonomous  
Operations

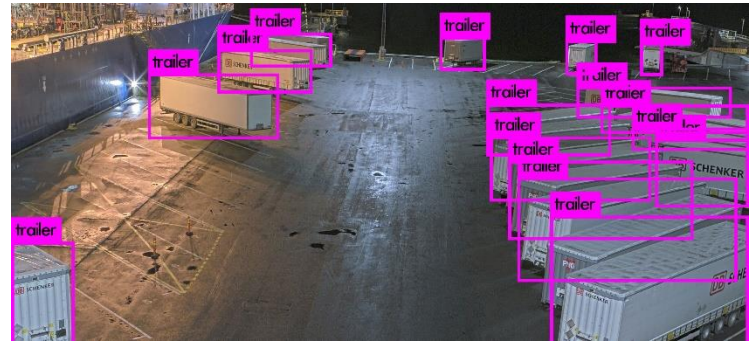
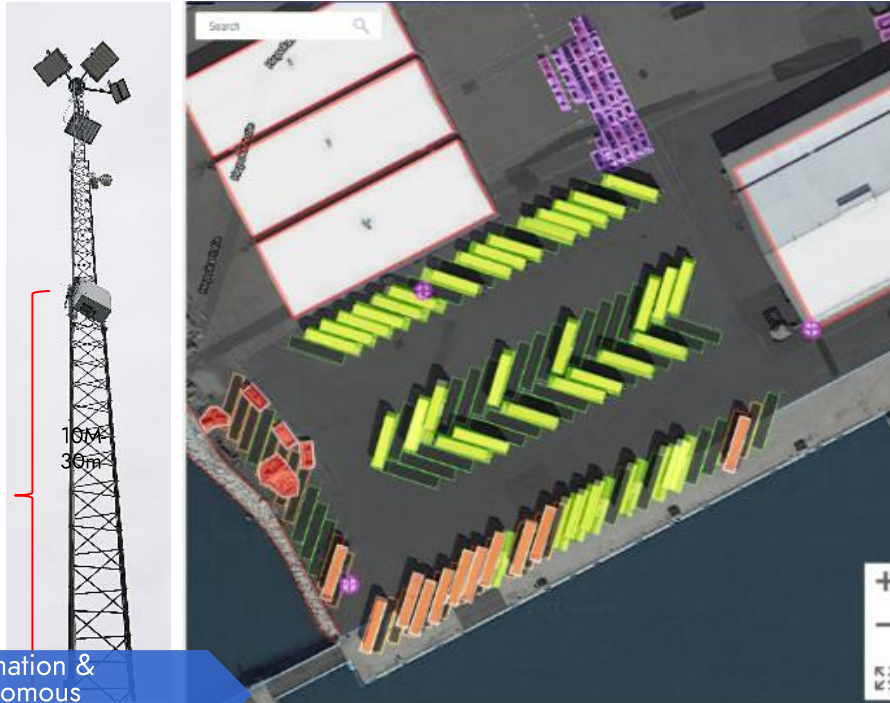
Situational Awareness

Awareness  
Platform

# CASE Example – Port of Uusikaupunki



Assisting and Augmentation (Infrastructure)



Automation & Autonomous Operations  
Situational Awareness

Awareness Platform

# CASE Example – Port of Uusikaupunki

Assisting and Augmentation (Infrastructure)



PORT OF UUSIKAUPUNKI  
Week 30 Tuesday 26.07.2022 18:44:32 UTC+3

SMART SPACE CONCEPT

UNIKIE

ASSET TYPE

TIME SPAN  
Start date: Week 30, Tuesday 26.7.2022, 00:00 (UTC+3)  
End date: Week 30, Wednesday 27.07.2022, 04:00 (UTC+3)

EVENT TYPE  
All detected, Incoming, Outgoing, Type D, Type E, Type F, Type G, Type H, Type I, Type J, Type K, Type L

RESULTS (12)

Asset ID	Company Name	Event	Duration	Start Time	End Time
DAS-120		OUT	5 h 14 m 30 min	20.07.2022 14:08 (UTC+3)	26.07.2022 19:47 (UTC+3)
REL-277		OUT	14 h 2 min	26.07.2022 00:57 (UTC+3)	26.07.2022 14:59 (UTC+3)
HHC-423		IN	11 h 1 min	26.07.2022 07:43 (UTC+3)	-
ACE-119		IN	10 h 24 min	26.07.2022 08:20 (UTC+3)	-
DXD-867		IN	10 h 24 min	26.07.2022 08:20 (UTC+3)	-
KUB-932		OUT	1 h 11 m 24 min	24.07.2022 19:11 (UTC+3)	25.07.2022 06:25 (UTC+3)
RTB-303		IN	2 h 10 min	26.07.2022 16:34 (UTC+3)	2 hours
OPW-441		IN	9 h 13 min	26.07.2022 09:31 (UTC+3)	9 hours
NN-333		IN	9 h 55 min	26.07.2022 08:49 (UTC+3)	9 hours
FK-724		IN	9 h 55 min	26.07.2022 08:49 (UTC+3)	9 hours

MAP

Timeline

Activity

PORT OF UUSIKAUPUNKI  
19.4.2023 18:10 (GMT+03)  
-1°C Wind -m/s Mean Water -44.9 cm  
Kustavi locken Rauma

Activity

FINNSUN IMO 9468918 Finnlines Oyj  
Arriving Laituri 4 B1-B4  
Travemünde → Uusikaupunki → Travemünde  
ETA 18.4.2023 07:00

CHRISTINA NO IMO 9118496 Yara Suomi Oy / Rikkipä...  
Arriving  
Kokkola → Uusikaupunki → Montoir-de-l-Yara  
ETA 19.4.2023 18:00

MUL IMO 9...  
Arriving  
Wism...  
ETA 21...

ETA Live Pilot Boarding 18.04. 10:13  
ETA Live 18.04. 10:13  
Dead Reckoning ETA 20.04. 22:32  
BPT ETA 18.04. 07:00  
Pilotage Estimated  
Pilot Ordered  
At Pilotage Zone 18.04. 05:18  
ETA 19.04. 18:00  
Pilotage Commenced  
ETA Live Pilot Boarding

Automation & Autonomous Operations  
Situational Awareness

Awareness Platform



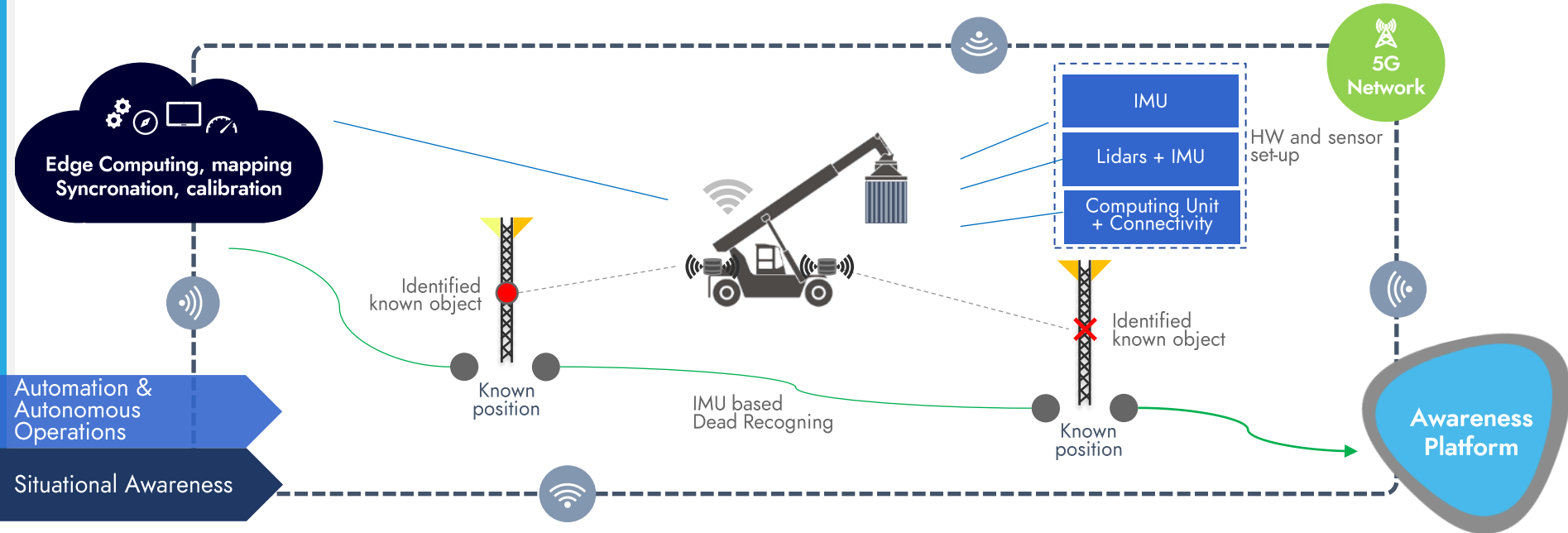
# CASE EXAMPLE: CONTAINER TRACKING

Assisting and  
Augmentation  
(Onboard)

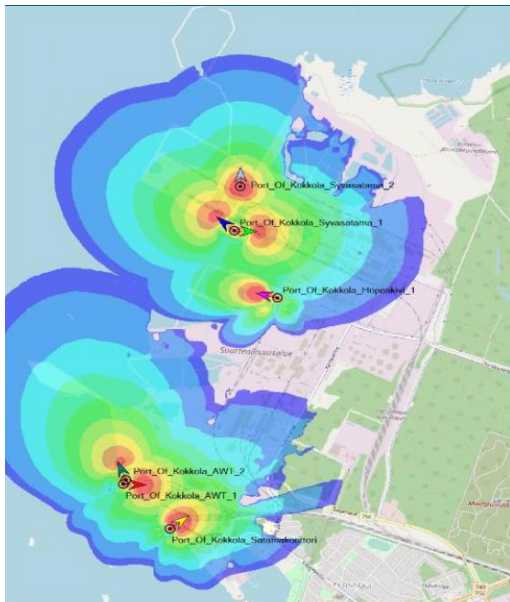
**What:** Capability to locate and track any moving object without GPS signal

**Why:** lack of location, position and status data of machines, vehicles and cargo. Time, fuel and money is spent for unnecessary manual processes, driving and waiting.

**How:** Combining various sensors, machine vision, AI technologies, connectivity and EDGE architecture



# CASE EXAMPLE: PORT OF KOKKOLA



EDZCOM (Cellnex) has provided a private LTE / 5G network



Real Time Surveillance  
IOT Environment  
Operational Planning  
Rail Traffic Management

ATLANT 2 Lastattu paino: 350 t

LASTAUS KÄYNNISSÄ

Keräsimi	Uloitus	Max. stoffina
7.3	18.06	34.45
Kuorma	Paino	Nopuus
16.9	23.6	3
	Stokki 111	

YLEISET	OHJAIMET	NOSTO	KÄÄNTÖ	HÄLYTYKSET
KUNNOSSARTO	SYÖTTÖYKSIKKÖ	SULKU	PUOMI	PORTAALI

Laivan nimi: Cora Jo

POLO Port Activity - Digitalization Platform in Multiplayer Environment  
Situational Awareness  
Planning, Predicting, Data Sharing, Co-Operating

Clear 11 °C Wind 9 m/s Mean Water 39 cm  
Kokkola Tanker (Immer) Kokkola satama

Activity

SARDIUS NL	CORA JO NL	DELFBORG NL
IMO 9518256 Oy M Reunheimo Ab	IMO 9268875 Oy M Reunheimo Ab	IMO 5393265 Oy M Reunheimo Ab
At Berth Syvälaivuri 7-8 B15-B6	At Berth B24-B30 Syvälaivuri 10-12	Arriving Awt B7
Tornio → Kokkola → Rostock	Uusikaupunki → Kokkola → Dordrecht	Moored At Port Of Tornio
ETD 6.10.2022 17:00	ETD 6.10.2022 17:00	ETA 7.10.2022 08:00
Pilot Ordered 01.10. 12:21	Pilot Ordered 05.10. 16:50	ETA (to berth, Port of Kokkola) 06.10. 17:00
Pilotage Commenced 01.10. 12:23	Pilotage Commenced 05.10. 16:00	Customer ETA
At Pilotage Zone 01.10. 12:48	At Pilotage Zone 05.10. 16:16	ETA Live Pilot Board Area
ATA 01.10. 15:10	ATA 05.10. 17:20	
Pilotage Completed 01.10. 15:11	Pilotage Completed 05.10. 17:16	
ETD 05.10. 17:00	ETD 05.10. 17:00	
Customer ETD	Customer ETD	
PTD 05.10. 17:00	PTD 05.10. 17:00	

# WE DRIVE THE CHANGE

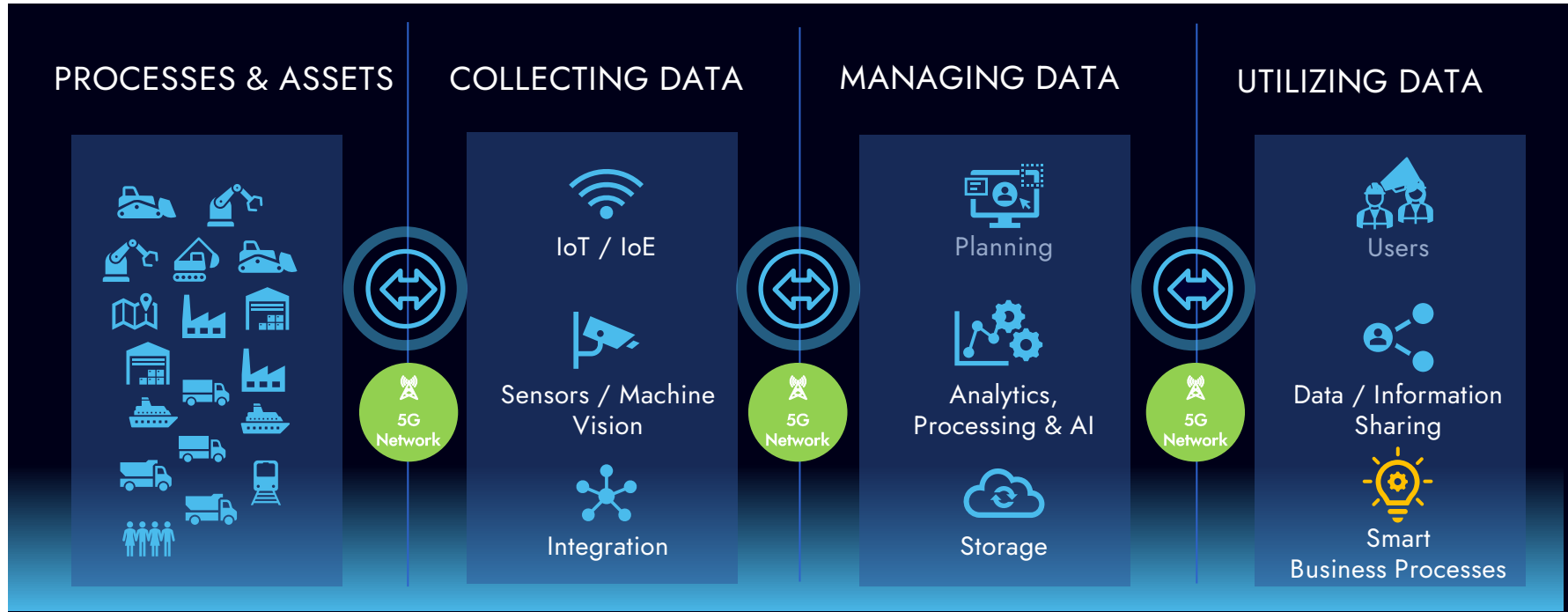
**Petri Kalske**

Head of Industrial solutions

+358 400 63 8880

[petri.kalske@unikie.com](mailto:petri.kalske@unikie.com)

# PROCESS, MATERIALS AND WORKFLOW OPTIMIZATION



Situational Awareness Data from IoT, Sensors, Machine Vision and System Integrations.  
CONNECTIVITY IS THE KEY