

## Logistics Solutions, Platform development



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2. Hallikainen Jyrki - UROS
3. Kovanen Mikko - Kuntalogistiikka
4. Lastusilta Toni - VTT
5. Narinen Seppo - Rangero
6. Pyykkö Harri – VTT
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8. Väistö Katja – Kajon

# Deal Comp Oy

Deal Comp Oy has 25 years of experience in creating dependable IT-hardware solutions for challenging conditions.



Heat

Frost

Moisture

Dust

Vibration

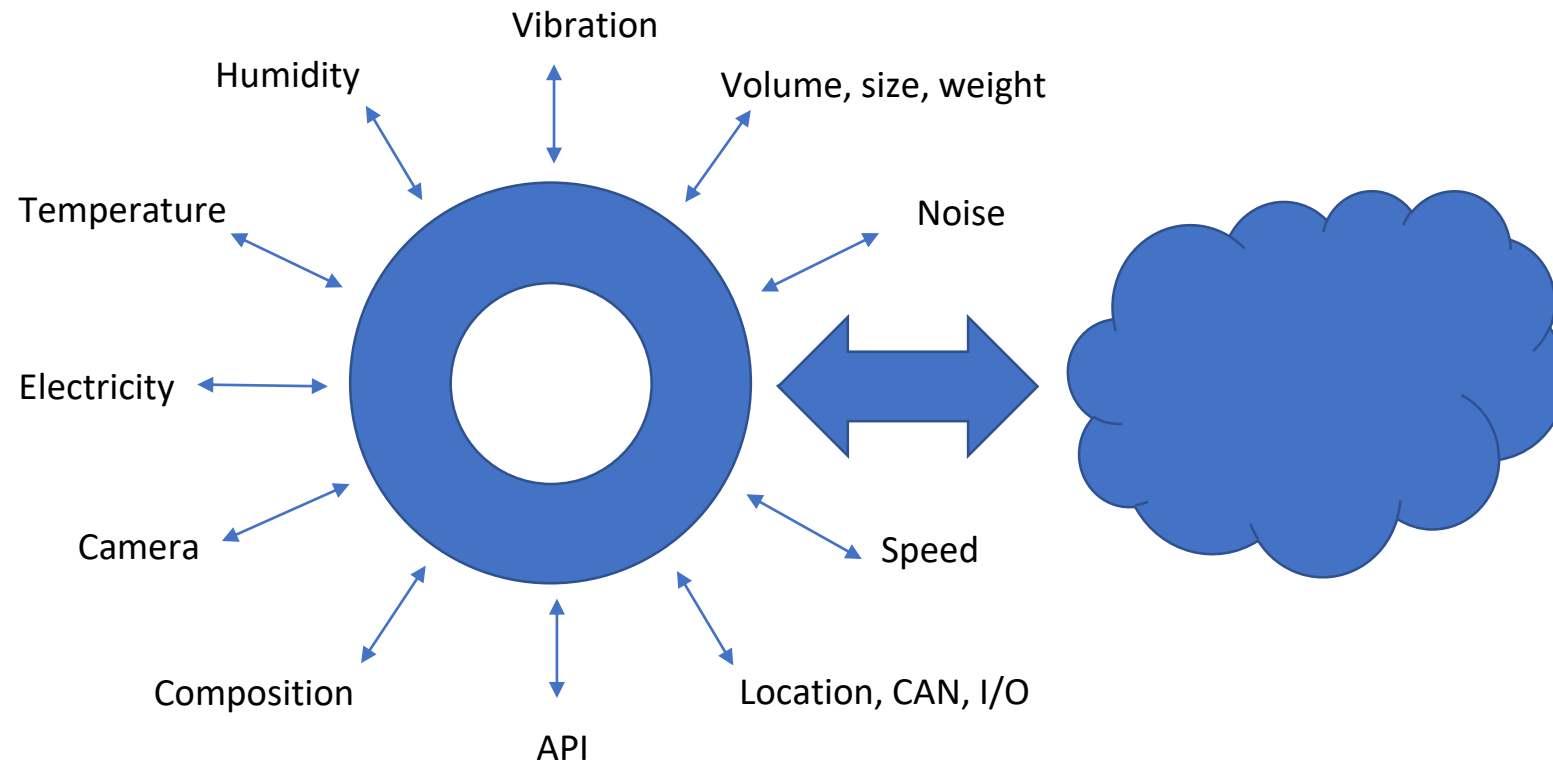
These products are designed for Nordic environmental conditions, demanding field use and vehicle use.

# Open data solution for logistics

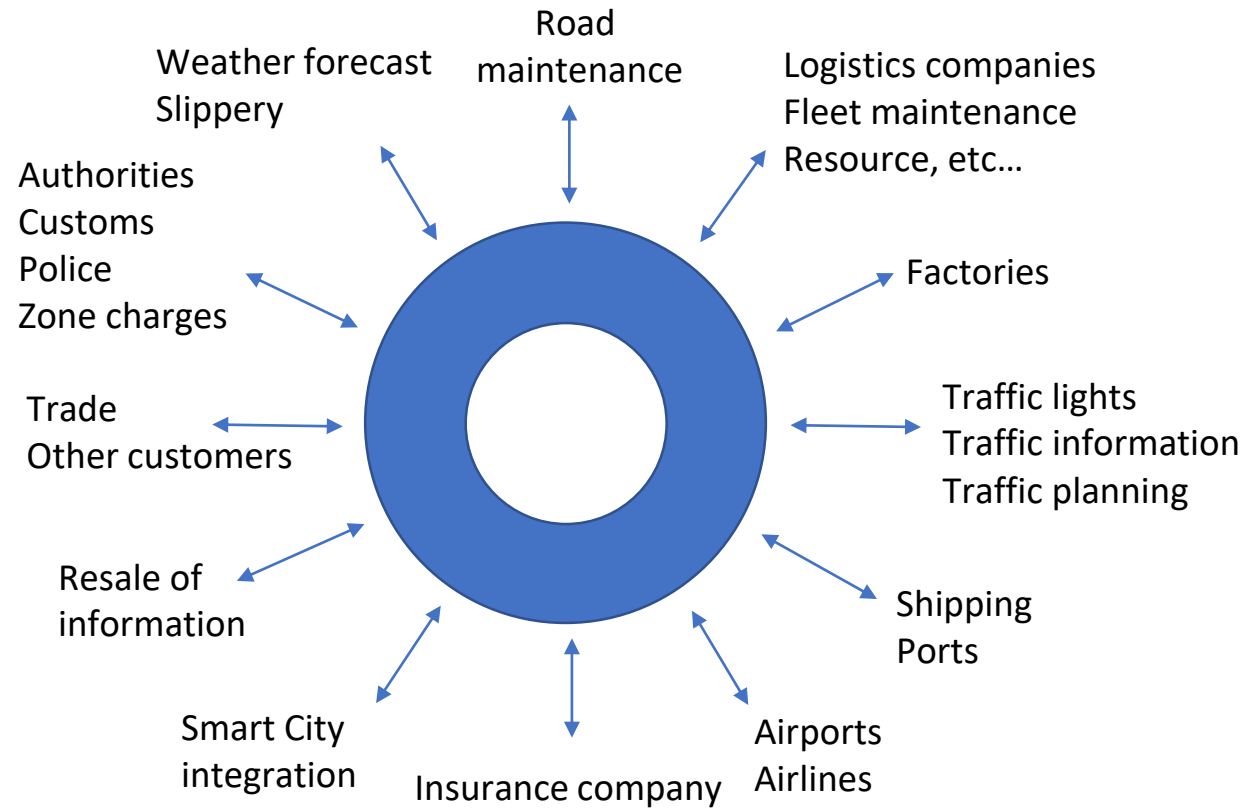
Traditionally, there are many computer + modem solutions installed in vehicles to provide information and services to the logistics business. Most solutions are proprietary, providing limited info and are difficult to connect to open data ecosystems.

Our solution consists of a powerful computer including multichannel router function, that can handle all IT-services in the vehicle. With an open architecture system vendors will find it easier to install their solutions and share open data.

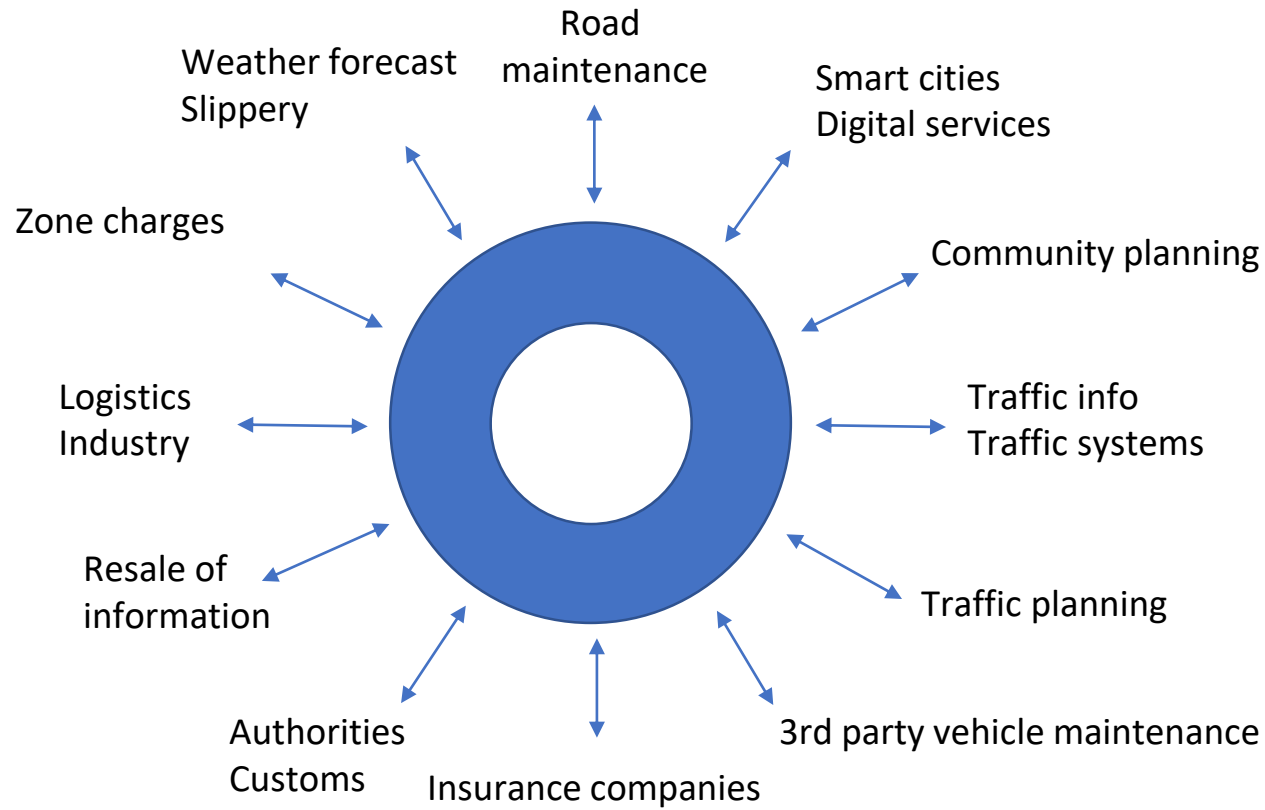
# Open data – vehicle data collection



# Open data – users



# Open data – buyers



## Open data - benefits

Utilizing the collected data will enhance your own business.

Linking open data to the business environment enhances the performance of all parties involved.

The resale of open data compensates for investments.

A centralized, durable vehicle computer is easier to manage, fewer interruptions and maintenance needs, less lifecycle cost and longer system life.

## ITxPT - Open IT architecture for Public Transport

ITxPT is cost-effective and open system for building a standardized IT environment for public transport vehicles. Additionally, connectivity to smart city and other open interfaces is standard..

**Deal Comp Oy will produce energy efficient ITxPT hardware for harsh Nordic environment.**

The system's **stand-by power saving is 20%** and **operational mode 50% lower than traditional systems.**

This is **extremely important for electric buses in winter.**



# Deal Comp Oy

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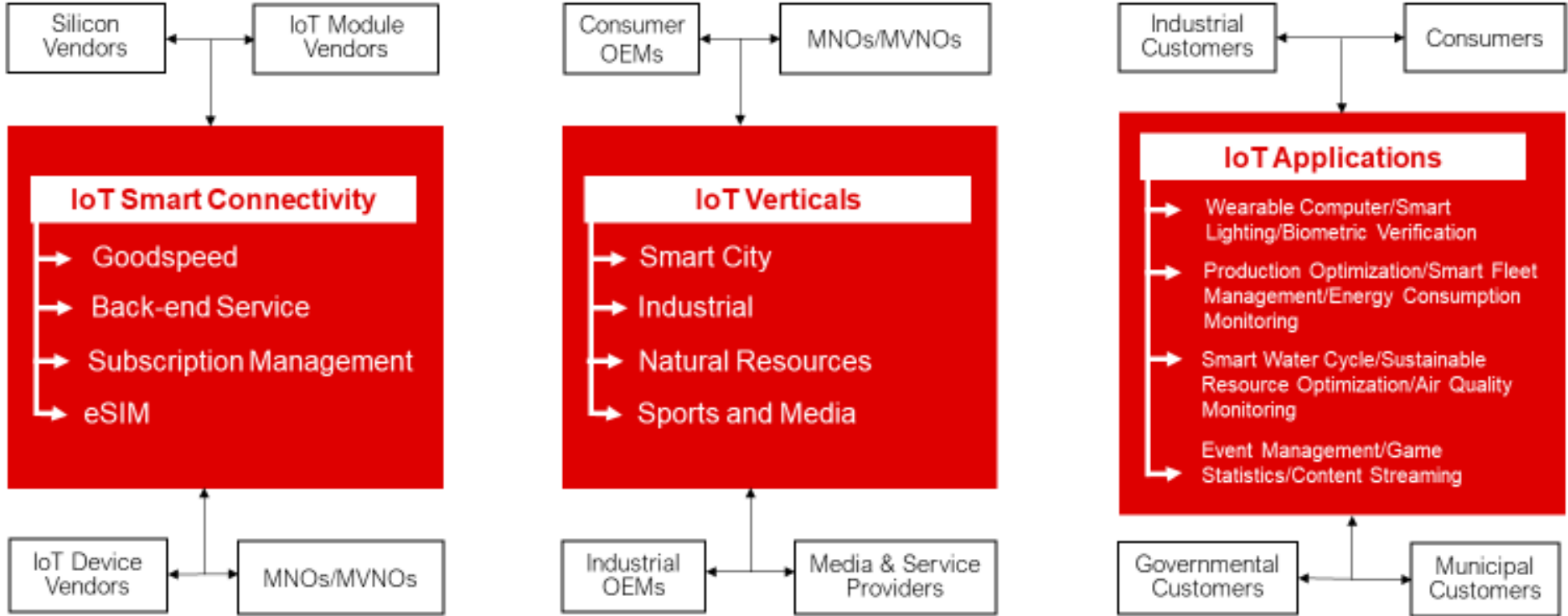


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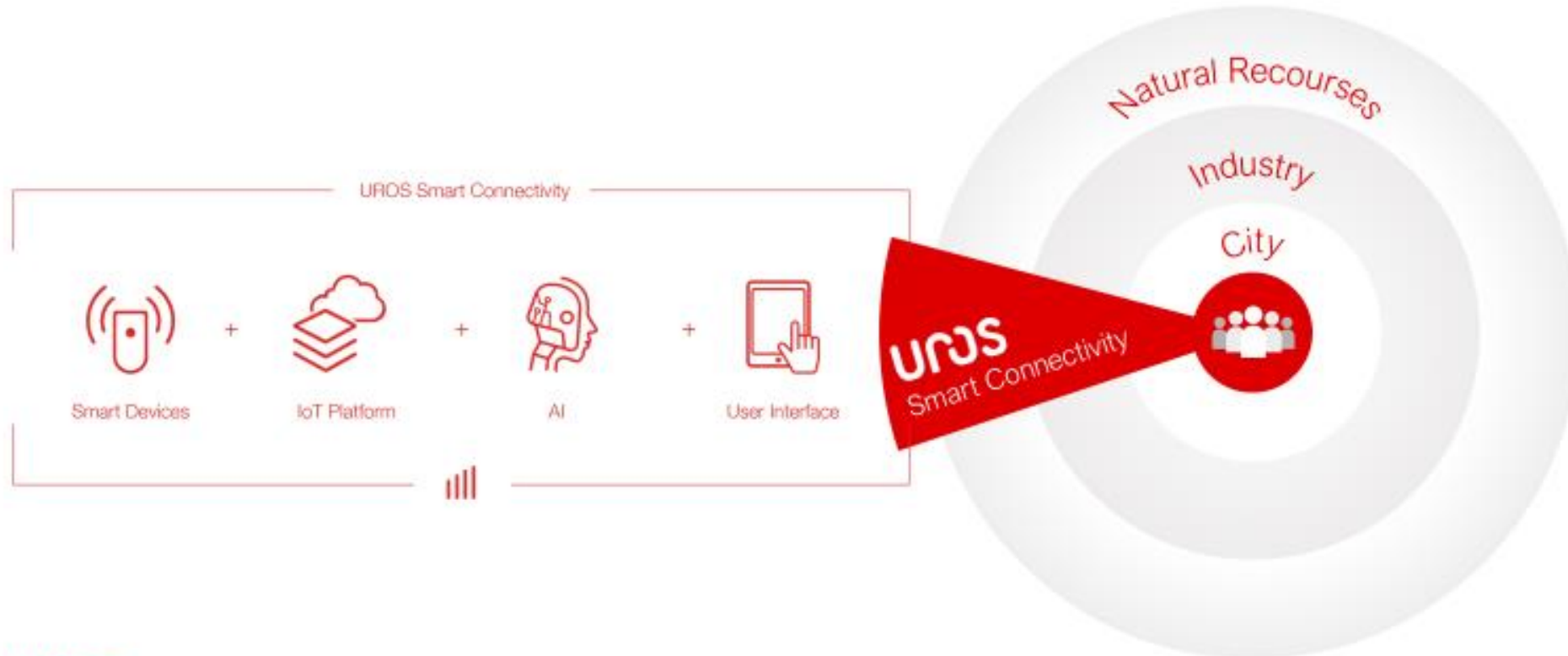
# UROS



# UROS Unique Global Network – Products & Customer Segments



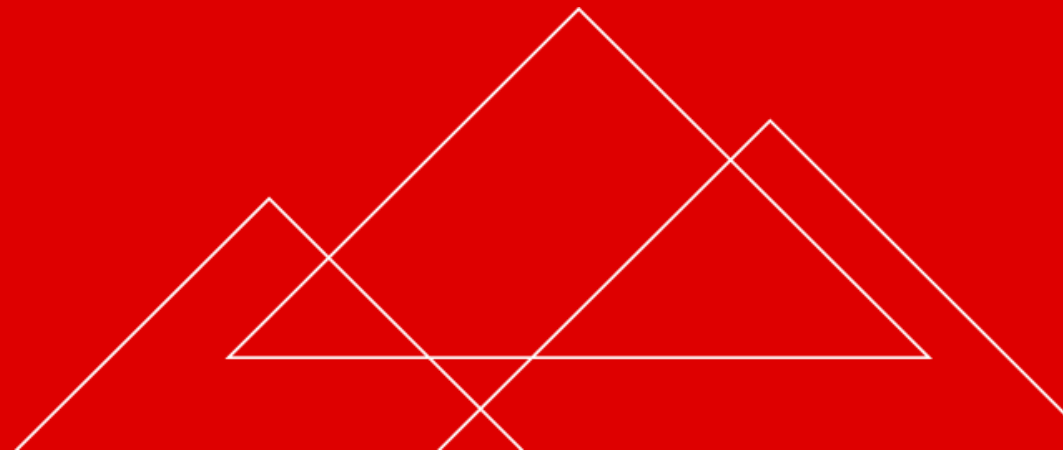
# Smart Connectivity from Universal Level to One Person



”

We are passionate  
about making the  
impossible possible.

Mr. Jyrki Hallikainen  
Founder, Chairman of the Board, UROS







Kuntalogistiikka

# MunLog

The Future of municipality  
transports

# Problem

- Municipalities' transports are often inefficient and less supervised than private transports.
- Mandatory transports in municipalities and other localities are carried out as their own and utilization rates are small.
- For example school transports are in many cases managed by private service providers and the municipality has no exact data about the actual rides.
- Passengers like pupils cannot be traced realtime whether they onboard or not.
- Information concerning cancellations or exceptions reach the drivers more or less efficiently.



# Solution

- Comprehensive SaaS-based ERP solution covering cars, drivers, customers (pupils, handicapped...), parents, addresses, organizations responsible for transportations and so on.
- Route optimization, cancellation handling, vehicle tracking, real-time electronic driving lists, automatic ride forwarding and reporting features provide transparency, security and cost-savings.
- With REST-interfaces system can be expanded for mixed transports (pupils, handicapped, senior citizens, goods etc.) in municipalities.





# Thank you, questions?

Mikko Kovanen

CEO

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Kuntalogistiikka



# Container Terminal Simulation Tool

Presenter: Toni Lastusilta (Toni.Lastusilta@vtt.fi)

# Container Terminal Simulation Tool

## CHALLENGE

Terminal automation investment decision are difficult because:

- high investment costs
- uncertainty of return on investment
- functionality of partial automation
- Finnish ports require special attention

## BENEFIT

- Serves neutrally both terminal operators and equipment vendors.
- Allows cost efficient customisation, e.g. to reflect Finnish transport network characteristics.

## SOLUTION

Simulation tool that analyses impact of investment and is customisable, e.g. :

- new intelligent control on different port operating rules.
- usage of renewable energy.
- co-operation with Terminal Operating System

**CONTAI**  
Smart container for  
physical internet

**Rangero** // Interchangeable platforms  
**A&R Luomala** // Logistics development  
**Vericrea** // Product & IPR development  
**Abstraho** // Product & IPR development

Seppo Narinen

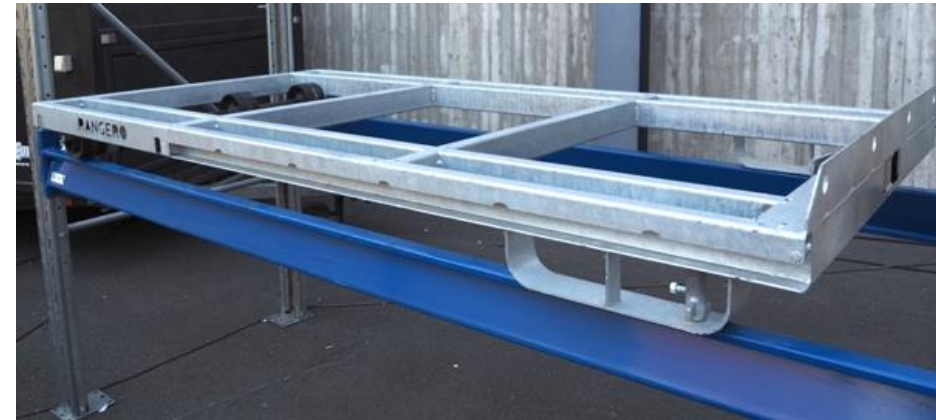
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## CONTAI background // Carryson Interchangeable Platform + Loader



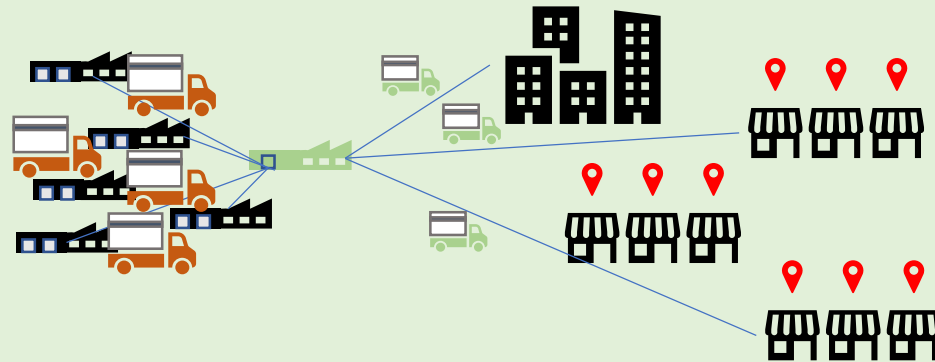
Business Finland Smart Mobility Challenge Competition  
Workshop 28.5.2019

CONTAI  
Rangero, A&R Luomala, Vericrea, Abstraho 2019 © All rights reserved

## Trends

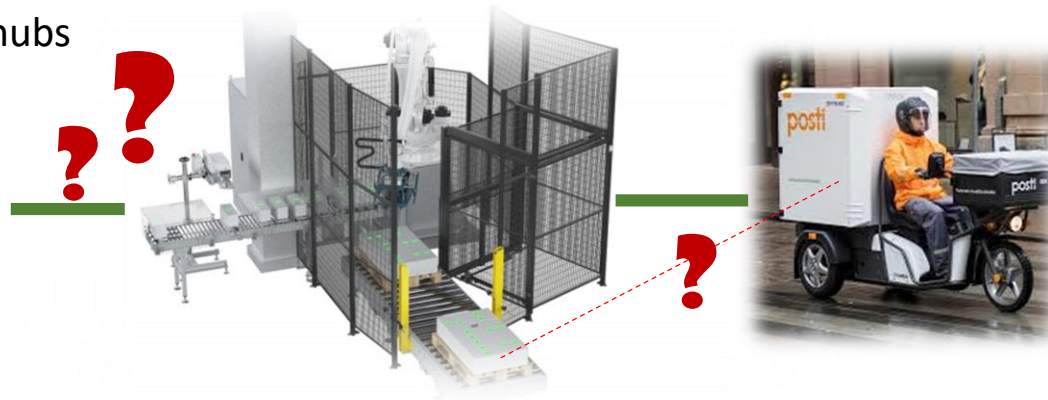
Parcel services // Urban logistics // Green wishes by Customers // Performance // Sustainability // Regulation // City Hubs // Automation // Traceability // Fair play //

## Physical Internet



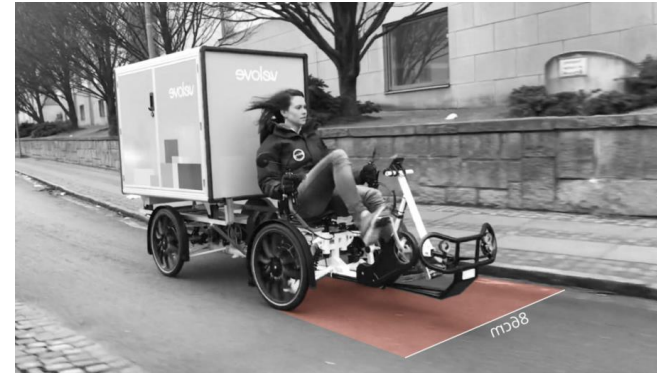
Physical Internet is an open global logistics system based on physical, digital and operational interconnection through unity, interfaces and protocols.

1. Terminals, Cityhubs
2. Vehicles
3. Containers
4. Parcels
5. Digital Twins



# ▼ Pain Points = CONTAI Potentials

1. Get away from vehicle-centered load carrier solutions
2. Excessive number of load container types and weak automatic handling
3. Lack of digital information



As a reference point, the efficiency of the sea container standard relative to the situation before the agreed interfaces.



Using waterways and cargobikes for city logistics/urban freight in Gothenburg



Business Finland Smart Mobility Challenge Competition

Workshop 28.5.2019



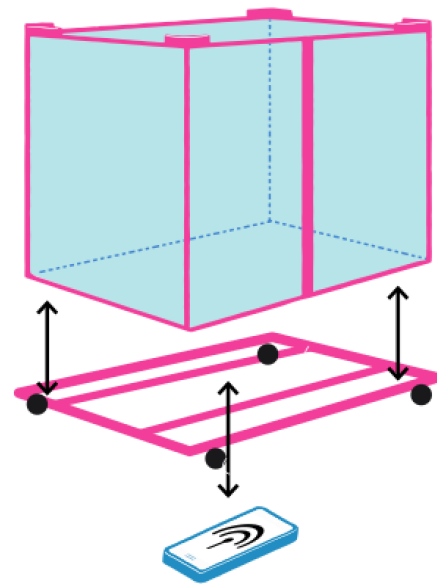
11.3.2019



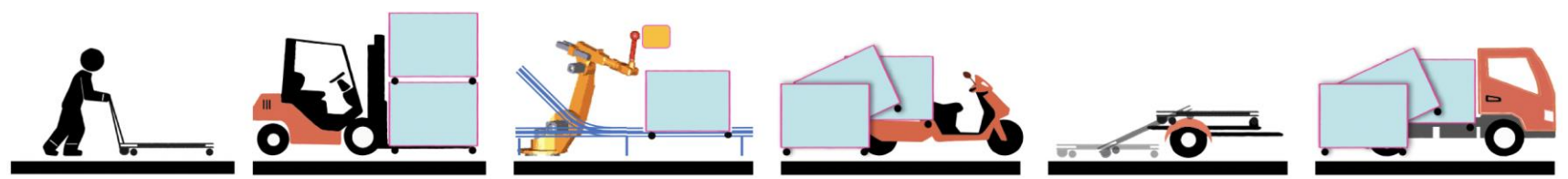


# Physical and digital intermodal interface - smart container\* Enables end-to-end automation and resource automation

- Environment
  - Digitalisation
  - Citylogistics
  - Online shop
  - Automation
  - Common interface
- 
- Autonomous loading
  - Terminal robotics
- 
- Last mile vehicles
  - Terminal logistics



- Digital Twin
  - IoT
  - Integration to shipping and tracking
- 
- \* Smart container
  - EUR-pallet, dolly, roll and parcel cages
  - Multi function platform
  - Pop-up terminal



# ▼ CONTAI requested network

## CONTAI Product Family

- Smart Container Platform
- Container Loader
- Container Applications
- IPR:s

Support

Customers

Global Marketing

Vehicle Partners

Application Partners

Product Ownership, IPR ja Product Development

Financing

7 Years record + IPR asset

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# Boosting the Cost-effectiveness of Port Logistics (BoCoPoLo)

03/06/2019

VTT – beyond the obvious



## Challenge

The capacity of Ports needs to be increased due to increasing cargo volumes.

The Port areas are usually very limited and the new Port areas are also very expensive to build.

Therefore investments are needed to increase the capacity and cost-effectiveness.

The improvement of capacity requires that new technical solutions are considered to be utilized.

In addition, it is necessary to evaluate the benefits and compare different alternatives before making large investment decisions.

## Benefits and Market Potential

A Solution that would help Ports to assess the impact of their investments in new digital technologies and automation is needed.

This solution would have b.m benefits for potential customers

- Decreasing uncertainties related to investments
- Increasing Port capacity by using the current Port infrastructure
- Environmentally sustainable option

### Partners:

Port simulations:MACOMI B.V Netherlands (Letter of Intent has been received)

**Research Co-operation:** RAAS, VTT, Verne Transport Research Centre of Tampere University

## Solution

The idea is to make a 3D model from the current port, and show the simulation results visually in a 3D game-like development environment.

The simulation model enables an easy way to examine the business cases of different technology-assisted scenarios (e.g., level of port automation, electrification of equipment, and level of port digitalization). In this way, the cost-effectiveness of different technology solutions to the port as a whole can be estimated and compared.

In addition to technology scenarios, also different parts of the port logistics operations should be evaluated both with simulated and real scenarios.

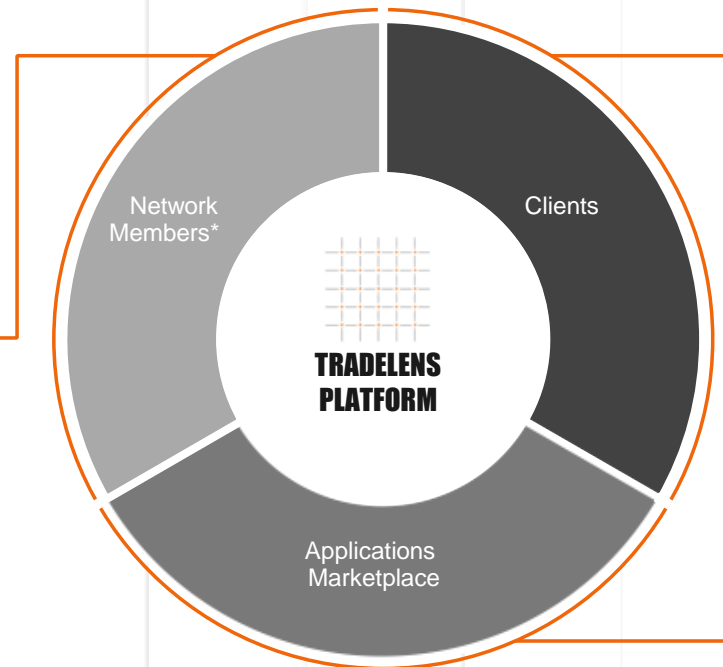
### Project size and schedule:

5 M€, Research organization 2 M€ & Company part 3 M€  
10/2019–09/2021

# THE TRADELENS ECOSYSTEM

Provide and gain access to end-to-end supply chain information

- Ocean carriers
- Ports and terminals
- Government authorities
- Inland transportation
- 3rd party data providers



Primary consumers and beneficiaries of the platform

- Shippers (BCOs, retailers, manufacturers, etc.)
- Freight forwarders, customs brokers, 3PLs
- Financial institutions

Offer value added services to the ecosystem through a platform marketplace

- TradeLens offerings
- Offerings from Network Members and Clients
- Offerings from third parties

*\* Others in transport and logistics ecosystem who are not Network Members also provide data to the platform, as requested by TradeLens Clients*

# TRADELENS NETWORK OVERVIEW



**350M Events** Per Year

### Enrichment Data

Supplements foundational data, in real-time and direct from the source.

**60+**

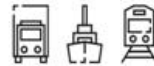
Connected Logistics Members



Terminals



Government Authorities



Inland Transportation

### Foundational Data

The core data needed to track and manage shipments end-to-end.

**20m**

Containers per Year



Ocean Carriers (members)



Ocean Carriers (participants)



Forwarders / NVOs

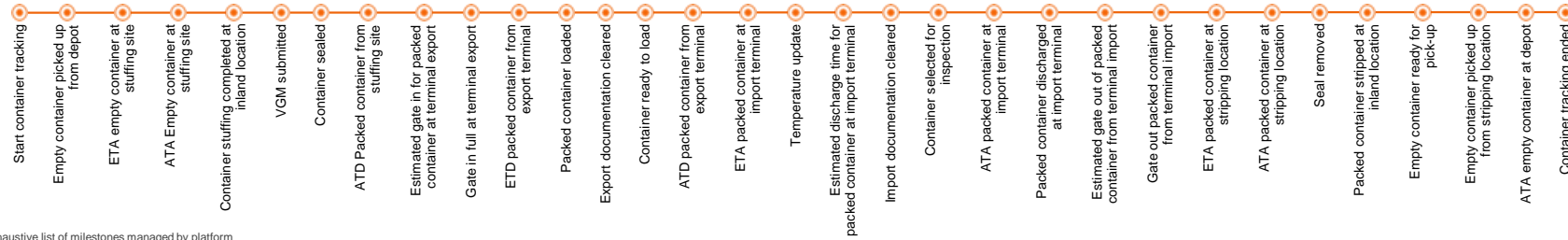


Clients / BCOs

\*Ocean carriers who are not network members can provide data as requested by their customers.

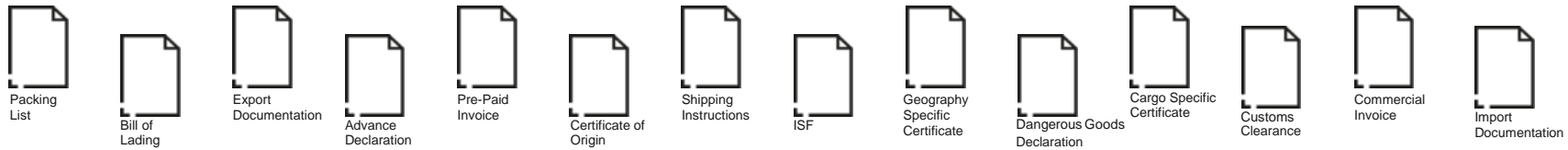
BCO / NVO      FFW / CHB / 3PL      Inland Transportation      Customs / Government Authorities      Ports / Terminals      Ocean Carriers      Ports / Terminals      Customs / Government Authorities      FFW / CHB / 3PL      Inland Transportation      BCO / NVO

### SHIPPING MILESTONES AND SHIPMENT DATA



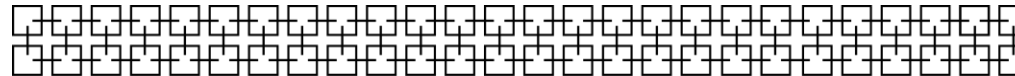
Not exhaustive list of milestones managed by platform

### STRUCTURED AND UNSTRUCTURED DOCUMENTS



Not exhaustive list of documents managed by platform

### TRADELENS BLOCKCHAIN BUSINESS NETWORK







## Smart Mobility- challenge competition

Katja Väistö, Business Development

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## Transportation Complementing Other Services

- Events, venues, travel hubs and many other services require transportation
- Tickets are bought and reservations made online
- The availability and pricing of transportation remains open
- Consumers demand for all-inclusive offerings incorporating transportation
- Wouldn't it be nice to be able to ensure transportation service when purchasing the tickets?
- One stop shopping and no more separate reservations

## Creating an Open Architecture Ecommerce Solution for Taxi and Transportation Services

- Kajon Ecommerce service enables others to combine transportation in their service offerings
- Streamlined shopping experience adds value to and creates competitiveness
- All-inclusive service is supported by all-inclusive pricing in advance
- Availability, confirmations, reminders, routing, pricing and many other elements will set the quality standards for consumer services
- Kajon Ecommerce Platform is scalable and offers geographical and diversified selection of cars and minibuses
- Consumers receive a comprehensive service package – reservation, purchasing, payment and experience
- Service providers gain competitiveness and additional revenue – and control of the value chain