



Smart Mobility Program

Smart Port as a Part of Logistic Chain

Pekka Yli-Paunu

The 4 Forces Transforming Logistics (Forbes)

1. Shifting economic and industry fundamentals

Trade relations etc. (difficult to forecast)

2. The rise of the “Amazon” effect

Customer demands for ever more rapid fulfillment are forcing businesses of all kinds to warehouse their goods ever closer to intermediate and end-customers.

3. Advances in frontline technologies

Over-the-road and off-road challenges such as surging demand amid driver shortages may soon be addressed by profound technological advancement.

4. Advances in behind-the-scenes technology

Artificial intelligence, machine learning, blockchain, IoT/telematics



- Autonomous systems and new applications are revolutionizing transport, logistics, and usage processes across several industries.
- One pressing question is how the Finnish companies can respond to this development and what role they will play in the future in increasingly autonomous logistics chains.
- What is lacking are platform-companies that could serve or unite parts of the ecosystem. It is also unclear how technology suppliers and ICT providers can commercialize and monetize new business opportunities.
- Essentially, what we have in front of us is a major systemic change and transition into a new business market for (maritime) logistics.

Research focus and work packages



1. Platform governance and the rules and methods of efficient information sharing
2. Systemic supply chain Innovations
3. New value configurations and service business models
4. Leading systemic change on all levels

Autoport Project (2019-2020)

Four research themes:

Theme 1: Model-based design flow

Theme 2: Operational excellence by novel models of information sharing

Theme 3: Cost-effective logistic robot technologies

Theme 4: Ecosystem models for shared benefits

Autoport consortium

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iTerminals4.0 EU Project (2019-2021) Objectives

- Develop and deploy in the market a set of interoperable information exchange standards able to allow real time communication among the port equipment operating in a container terminal and with the existing and new systems.
- Design, prototype and deploy a set of Industry 4.0 technologies able to transform the operative model of container terminals into 'Container Terminals 4.0', by performing big data modelling, artificial intelligence algorithms and predictive analysis.

Develop pilots in real operational sites at Core Network Ports:

- Port Operations and Performance
- Operational Safety
- Fuel Consumption and Carbon Footprint
- Equipment Maintenance

iTerminals 4.0 Consortium



Making your every move count.

What is systemic change in autonomous systems?

