LOGISTICS PROVIDERS INTEGRATING THE NETWORKED INDUSTRY 4.0

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TALLINN, MAY 12, 2015
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- Teaching
  - BSc Management
  - MSc Management, MSc Global Logistics
  - Executive Education, summer schools etc.
- Research
  - Dep. of Logistics
  - Dep. of Management and Economics
WITH DIGITAL TRANSFORMATION...

... SOON EVERYTHING WILL BE SMART.
SMART PRODUCTS AND SERVICES PAVE THE WAY FOR MANIFOLD OPPORTUNITIES AND CHALLENGES …

**Social/business drivers:**
- Volatile markets
- Production networks
- Product individualization
- Service-based products

**Technology enablers:**
- Sensors, Auto-Id, LBS
- Intelligent objects
- Ubiquitous connectivity
- IoT platform / big data
- Mobile devices

... AND WILL LEAD TO HIGHLY INTERCONNECTED SUPPLY NETWORKS.
LOGISTICS PROVIDERS – INTEGRATORS ACROSS THE NETWORKED INDUSTRY 4.0

4.0 Principles:
- Ubiquitous connectivity and sensing
- Decentralized intelligence, autonomous behaviour
- Fine-grained processes
- Real-time decision making

Digital workflows and platforms
E2E process management
Smart assets and human interaction
3D printing & virtualization
DIGITAL WORKFLOWS AND PLATFORMS

- Digital workflows enable:
  - E2e information flows
  - Transparency on all process steps
  - Real time decision making

- Example: Smart Port Logistics @ HPA

- Digital platforms enable value added services:
  - Freight exchange
  - Tendering
  - Virtual dispatching
  - SCM

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PROCESS RE-ENGINEERING

Legend:
- LSEM-platform services
- Logistics services (LaaS)
- Logistics software services (SaaS)

Customer-specific BP (E2E PaaS)

Logistics services (LaaS, SaaS)

Supply chain
SMART ASSETS & HUMAN INTERACTION

• Smart assets for efficient logistics fulfilment
• Example: iTiZZiMO
SMART ASSETS & HUMAN INTERACTION

- Smart assets for efficient logistics fulfilment
- Example: Future Truck 2025
3D PRINTING – FROM 3D-MODELS ... 

3D-Modelling → 3D-Printing → Solid objects

First 3D-printed car:

... TO NEW LOGISTICS SERVICES AND BUSINESS MODELS ...
... THAT BUILD UP ON SERVICE SYSTEMS, CO-CREATION AND USAGE-BASED VALUE.

**Resource Integrator**

("Businesses")

**Resource Integrator**

("Customer")

**Value Co-creation**

**WHO IS YOUR REAL COMPETITOR?**

- Google Express
  - Delivering more free time
- Uber
- mytaxi
- Amazon
SUMMARY

• Everything that can be digital will be digital
• 4.0 is more than technology but also new processes, structures and business models
• 4.0 builds up on integrated thinking: digital, collaborative, automated, human-centred, value co-created
• 4.0 facilitates a new role of logistics

Challenges:
• Inter-disciplinary perspective and thinking
• Missing standards for process and information management
• Complexity of data
• Role and integration of humans into processes
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