Industry lead logistics innovation for a more competitive and sustainable industry

Logistics Nodes towards the Physical Internet

Fernando Liesa
Secretary General
ALICE

Activities performed in the frame of SENSE “Accelerating the Path Towards the Physical Internet”. The SENSE project has received funding from the European Union’s Horizon 2020 research and innovation Programme under grant agreement No. 769967
ALICE membership is bringing an holistic approach to All key logistics stakeholders represented!

<table>
<thead>
<tr>
<th>Type of Organization</th>
<th>Members</th>
<th>EU/International Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shippers &amp; Retail</td>
<td>P&amp;G, L’ORÉAL, proximus, Atlas Copco, Hofer, CEFIC, GS1</td>
<td></td>
</tr>
<tr>
<td>Logistics Service Providers, Courier &amp; Postal operators &amp; Freight Forwarders</td>
<td>Geodis, Dachser, Geodis, SM LOGISTIC, Postem, TRwijzer, Vizinova</td>
<td></td>
</tr>
<tr>
<td>Ports, Hubs, Intermodal terminals &amp; Transport Infrastructure</td>
<td>Trafikverket, ECT Rotterdam, Hutchison Ports, Port of Barcelona</td>
<td></td>
</tr>
<tr>
<td>Vehicle Manufacturers &amp; Logistics operations, handling (modular units)</td>
<td>Volvo, Scania, Tevva, Ponera, Logifruit, Eucar, Vinturas, Marlo</td>
<td></td>
</tr>
<tr>
<td>Information and Communication Technologies &amp; Consultancy</td>
<td>Logiنظ, Silent sensors, AlgoAW AT, TRAXENS, Product Bloks, القادير</td>
<td></td>
</tr>
<tr>
<td>Regional &amp; National Logistics Clusters &amp; Associations</td>
<td>IVECO, FOSS, NovAtLog, AirCargoEurope, Logstop, Logistice, Ertico, Smart Freight Centre</td>
<td></td>
</tr>
<tr>
<td>Research and Technology Centers</td>
<td>Fraunhofer, ZIL, LIMOA, CANA, CEAM, Delft, CEFIC, INSTEAD</td>
<td></td>
</tr>
<tr>
<td>European Technology Platforms / PPPs</td>
<td>WATERBOIRE, ERRAC, ERTRAC, EFFRA, MANUFUTURE-EU</td>
<td></td>
</tr>
<tr>
<td>Member States and innovation Funding*</td>
<td>RIVM, TKI DINAMO, CDI, CANTI, Vinnova, MIETT</td>
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* Involved in ALICE Mirror Group
The challenges in perspective: It is urgent to act!

- We need to move fast to meet Climate Targets!
- Moving to greener assets and energy is not enough → too slow and **unaffordable!**
- **Short term opportunity?**

Make extensive use of current **idle capacity and fully utilize assets and infrastructure** in all modes of transport

**Pain points:** empty trips in all modes, low load factors, not enough intermodality, **costly transhipment, overloaded vs unused infrastructure, congestion, too many yard/terminal movements,** few items delivered per stop, too many returns, too fast/dedicated inefficient deliveries...

**Physical Internet:** Addressing **pain points** to meet challenges effectively and make them affordable

Opening and connecting non-efficient networks
Access to interoperable resources and capabilities

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**Carbon Budgeting**

Need to stay within tight carbon budgets to limit temperature rise to 1.5-2.0°C

- Delaying the peak by a decade gives too little time to transform the economy.
- Peaking emissions now will give us 25 years to reduce emissions to zero.
- 600-Gt carbon budget
- 800-Gt carbon budget

Source: Figueres et al, Nature June 2017

*Data from The Global Carbon Project.


Need to embed concept of carbon budgeting into logistics decarbonisation strategies
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What's the potential contribution of Physical Internet to reduce emissions?

Scenarios for freight-transport emissions in Europe including Physical Internet (PI)

Physical Internet

billion tonnes CO₂

Base (no change)  Base with Pi (-49%)  2C target (-69%)  1.5 target (-89%)
The Roadmap

**THE PHYSICAL INTERNET**

Interconnected logistics networks, sharing assets and capabilities

**Authors and main contributors**

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Physical Internet Roadmap in a nutshell: What you will find

![Physical Internet Roadmap Diagram]

- **2030-2040** Autonomous PI operations

**What we want to achieve by 2030/2040?**

**How could the steps look like for the next five years?**

**Concrete Benefits**

**Generations**

- **Logistics Nodes**
- **Logistics Networks**
- **The System of Logistics Networks**
- **Access and Adoption**
- **Governance**

**2020**

**2015**

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From Logistics Nodes to Physical Internet nodes

- Processes, services and operations are standardised across nodes → open access to stakeholders
- Services are visible, digitally accessible to companies
- Automated and connected processes and procedures
- Business models supporting autonomous interactions and provision of nodal services

Natural evolution of Port Community Systems in combination with other platforms/companies systems
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Logistics Nodes

How could the steps look like for the next five years?

1. **Sharing of characteristics, capabilities, and services** of nodes to create visibility and accessibility for stakeholders, to realise ease of booking for cargo owners or service providers to services provided in the nodes, orchestrate operations involving multiple stakeholders. Definition and implementation of standard processes and interfaces.

2. Develop the framework and implement the federated network of platforms concept at nodes level (DTLF, IPCSA)

3. **Identification and definition of business models** for the collaboration and interconnection of nodes.

Trusted data sharing platforms around ports and nodes clusters

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SENSE Project Main Results

720+ users, 180+ connecting in the last 45 days
33 R&I projects, 30 Companies and 18 funding

Link to the document

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The Best Way To Predict The Future Is To Create It!

Source: President Abraham Lincoln

If you want to go fast, go alone If you want to go far, go together

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Thank you!