

PTV coordinates EU research project Clusters 2.0

Toolbox for logistics clusters reduces both air pollutant emissions and transport costs

Karlsruhe, Germany. 11/08/2020. Logistics companies that coordinate their activities via logistics clusters benefit from numerous advantages such as lower transport costs or reduced pollutant emissions. Even more potential for improving efficiency and sustainability is offered by symbiotic networks and appropriate support. As part of the EU research project Clusters 2.0, which was coordinated by PTV Group, the project partners have developed a whole toolbox for everyone involved in the supply chain. In addition, these solutions were optimized and validated in living labs.

Collaboration-based, networked logistics clusters help actors in freight transport and logistics optimize their processes considerably. For example, the project team found out that an intermodal transport planning tool offers shippers and carriers, who closely cooperate with each other, shift potentials of up to 60% of the freight.

The study focused on a multimodal logistics network consisting of several logistics clusters (Bologna, Dourges, Trelleborg, Piraeus, Duisburg, Zaragoza), addressing three key topics: 1. Bundling of consignments using intermodal transport modes, 2. Optimum use of freight space (resulting in reduced freight costs), and 3. Acceleration and synchronization of transport processes in order to minimize waiting times and operational handling costs. "Our aim was to enable all stakeholders to collaborate with each other, to gain visibility, ensure efficient and sustainable freight processes, and thus to improve the entire supply chain," says project coordinator Marcel Huschebeck, PTV Group.

For this purpose, seven solutions were developed and tested in living labs:

1. A community approach for shippers to bundle shipping quantities and use intermodal transport systems.
2. A Quick Check tool enabling planners to analyze where cargo can be consolidated, and own shipments added along European transport corridors.
3. An intermodal route planner (PTV X-Intermodal) to plan transport orders using different means of transport.
4. The Cluster Community System (CLuCS) which can be used by all actors to connect and offer their services.
5. A standardized loading unit that enables fast handling and maximum use of loading

space (new modular loading unit).

6. Automated intermodal cargo handling between different modes of transport (Innovatrain).

7. An app for synchronizing transport and loading/unloading processes at airports, including reliable arrival times in real time (slot booking app).

"We also used a number of PTV software tools for Clusters 2.0, for example for route and intermodal planning. These tools are based on an algorithm specifically developed for transshipment," says Huschebeck. Cluster management is becoming increasingly popular as it helps many regions support the development of their domestic industry and achieve economies of scale and scope. Huschebeck concludes: "Thanks to the toolbox solution developed during the Clusters 2.0 research project, we can now offer market-oriented applications that enable modularization as well as cooperation and networking between all logistics players. The Physical Internet has thus become ready for current and future requirements."

Project details

Clusters 2.0 aims to leverage the full potential of European logistics clusters in order to establish an efficient and fully integrated transport system throughout Europe – an open network of hyper-connected logistics clusters towards the Physical Internet, where goods can be forwarded as easily as information – through open channels on the Web. The Physical Internet combines trends such as digitization, automation and shared economy to create a comprehensive logistics concept designed to make transport logistics more efficient, flexible and environmentally friendly.

Consortium partners: PTV (project coordinator), Procter&Gamble, Jan De Rijk, DHL, WFS, Air Cargo Belgium, Heathrow Airport, Nallian, IBI Bologna, Duisport, Zaragossa Logistics Center, BlueGreen, ENIDE, MOSAIC, Innovatrain, Fraunhofer IML, Eurologistics, UIC, CITYDEPOT, Port of Trieste, Port of Piraeus, Port of Trelleborg.

Project duration: May 2017 - July 2020

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Imagery

The aim of the Cluster 2.0 project coordinated by PTV is to leverage the full potential of European logistics clusters.
Photo: Antoine Petiteville/ Unsplash

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