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Fast Track to the Physical Internet: A Cross-Industry Project from Upper Austria

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Abstract : Freight transport is growing fast, but many vehicles are empty or just partially loaded. The vision and concepts of the Physical Internet (PI) proposes to eliminate these inefficiencies. Aiming for a radical sustainability improvement, the PI – inspired by the Digital Internet – is a hyperconnected global logistic system, enabling seamless asset sharing and flow consolidation. The implementation of a PI in its full expression will be a huge challenge: the industry needs innovation and implementation support including change management approaches, awareness creation and good practices diffusion, legislative actions to remove antitrust and international commerce barriers, standardization and public incentives policies. In order to take a step closer to this future the project 'Atropine - Fast Track to the Physical Internet' funded under the Strategic Economic and Research Program 'Innovative Upper Austria 2020' was set up. The two-year research project unites several research partners in this field, but also industrial partners and logistics service providers. With Atropine, the consortium wants to actively shape the mobility landscape in Upper Austria and make an innovative contribution to an energy-efficient, environmentally sound and sustainable development in the transport area. This paper should, on the one hand, clarify the questions what the project Atropine is about and, on the other hand, how a proof of concept will be reached. Awareness building plays an important role in the project as the PI requires a reorganization of the supply chain and the design of completely new forms of inter-company co-operation. New business models have to be developed and should be verified by simulation. After the simulation process one of these business models will be chosen and tested in real life with the partner companies. The developed results - simulation model and demonstrator - are used to determine how the concept of the PI can be applied in Upper Austria. Atropine shall pave the way for a full-scale development of the PI vision in the next few decades and provide the basis for pushing the industry toward a new level of co-operation with more shared resources and increased standardization.

Keywords : Atropine, inter-company co-operation, Physical Internet, shared resources, sustainable logistics
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