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Table of Content

4th International Physical Internet Conference - IPIC2017

Research Paper

Inducing a new paradigm shift: 3
A different take on synchronomodal transport modelling
Tomas Ambra, Dries Meers, An Caris and Cathy Macharis

GLN standard as a facilitator of physical location identification within 19
hyperconnected logistics
Martyna Zdziarska

RTI-Capabilities of Air Cargo Transport Chains by Evaluating Processing 33
Interfaces and Actor’s Responsibilities
Andreas Romstorfer, Heinz Dörr and Viktoria Marsch

Hyperconnected Pickup & Delivery Locker Networks 45
Louis Faugere and Benoit Montreuil

Applying blockchain technology for hyperconnected logistics 59
Wout Hofman, Jacco Spek and Christopher Brewster

Simulation-based Assessment of Hyperconnected Mixing Center Capacity 71
Requirements and Service Capabilit
Nayeon Kim and Benoit Montreuil

Simulation Based Study of the Effect of Competition on the Operations of 87
Hyperconnected Crossdocking Hubs
Shannon Buckley, Benoit Montreuil and Zachary Montreuil

Towards the Physical Internet with Coloured Petri Nets 99
Angela Di Febrarro, Davide Giglio and Nicola Sacco

Towards Hyperconnected Resource Requirements Planning 115
Raphaël Oger, Matthieu Lauras, Benoit Montreuil, Frédéric Bénaben and Nicolas Salatge

Physical Internet and its impact on the emission calculation standardization of 127
transport chains – are we there yet?
Verena Charlotte Ehrler
# Innovation Paper

**Collaborative City Logistics in hyperconnected delivery networks**  
Roland Frindik and Max Prudon  

**Modular Solutions for Mobile Hospitals**  
Stephen Spulick, Grainne Lynch, and Changliang Liu  

**Hyper-connected Modular Renewable Energy Production**  
Changliang Liu, Suzanne Marcotte, Grainne Lynch and Stephen Spulick  

**A Collective Intelligence Approach for the Composite PI-Containers Management**  
Nicolas Krommenacker, Patrick Charpentier and Jean-Yves Bron  

**Wearable solutions for efficient manual logistics processes – RFID Wristband and Smart-Glasses**  
Olaf Poenicke, Martin Kirch, Klaus Richter, Falko Schmid and Péter Telek  

**Microzoning: A grid based approach to facilitate last-mile delivery**  
Boukje Schellens and Frans Cruijssen  

**A Multi Simulation approach to develop Physical Internet**  
David Ciprés, Carlos Millán, Lorena Polo, Alberto Capella and David Escuin  

**Brazilian logistics unsustainability: A conceptual revision applying Physical Internet**  
Denise Alessandra Defina and Benoit Montreuil  

**Simulation-Based Optimization in the Field of Physical Internet**  
Christian Haider, Erik Pitzer and Michael Affenzeller  

**Potentials and key drivers of a cross-company reusable modular secondary packaging system in E2E FMCG chains**  
Yanyan Yang and Eric Ballot  

# Poster abstracts

**Possibilities for the joining mechanism of a modular Physical Internet handling container**  
Stefan Roth and Florian Ehrentraut  

**Protection of goods inside PI-handling container**  
Konstantin Reinmüller and Florian Ehrentraut  

**Atropine – Fast Track to the Physical Internet**  
Simmer, Plasch, Haller, Kalt and Neubauer  

**Research on the Physical Internet – Status Quo and Future Research Directions**  
Lena Krammer
Hyperloops: New transport mode enabled by the Physical Internet?  

Requirements for a web-based cargo management tool to enable coopetition  
Andreas Gasperlmair, Hans-Christian Graf, Sophie-Therese Hörtenhuber and Christian Landschützer

ProKapa: Dynamic capacity management to support the development of Physical Internet’s framework conditions  
Georg Brunnthaller, Sandra Stein and Wilfried Sihn

NOLI, A Proposal for an Open Logistics Interconnection Reference Model  
Jean-Yves Colin Hervé Mathieu Moustafa Nakechbandi and Nouara Djema

Lean tools to help to transform the traditional logistic in the Physical Internet  
Luis López-Molina, Angel Cervera Paz, Vanessa Rodríguez Cornejo, Rosario García García and Adela Catalina Popa

Legal framework conditions and guidelines for the implementation of the Physical Internet in the D-A-CH-region (Germany, Austria, Switzerland)  
Alexandra Haller and Oliver Schauer

Vehicle Routing Problem for the Physical Internet  
Yannis Ancele, Thanh Trung Nguyen and Ben Martellini

Bin-packing arising from the Physical Internet Hub  
Igor Deplano and Trung Thanh Nguyen

EAGLE – Innovatice technical solution for automated parcel unloading  
Christian Landschützer, Andreas Wolfschlussner and Matthias Fritz

Appendix

Call for Papers and Contributions
ProKapa: Dynamic capacity management to support the development of Physical Internet’s framework conditions

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Poster Abstract

Dynamic in freight transport is increasing. Disruptive developments such as „Physical Internet“, „Cyber-Physical Production Systems“, or „Sharing Economy“ bring along consequences for logistics and its stakeholders, which are not yet known. A continuous preplanning and surveillance of transport demand offers potential to react proactively to changing market conditions. Approaches that seize on such potential for logistics service providers or fragmented provider independent carriers are not existing.

ProKapa aims at enabling logistics service providers to react flexibly and adaptably to dynamic market changes and to challenges of „Physical Internet“. Transport demand within an abstract transport network is continuously modeled by extensive use of data. According to the transport demand, capacities of transport means and staff are planned close to real time and resource allocation is optimized within the network. Resulting from remaining capacity constraints, transport demand is smoothed by measures in pricing strategies, horizontal and vertical cooperation as well as sales.

Expected results are suitable methods and tools for the preliminary planning of transports, a stronger interconnection between data sources and recommendations of actions concerning the adjustment of capacity, the allocation of resources and pricing. Furthermore, higher acceptance of integrated planning systems is expected.