

Physical Internet

Efficient Sustainable Logistics



4th INTERNATIONAL
PHYSICAL INTERNET CONFERENCE

4th - 6th July, 2017 in Graz: Graz University of Technology, Austria

Call for Papers and Contributions

<http://www.pi.events/call-for-papers>

The [International Physical Internet Conference](#) (IPIC) was founded 2014 in order to push forward the concept of the Physical Internet and quicken the exchange between industry and research. After highly successful and inspiring events in Québec, Paris and Atlanta with up to 250 participants, the conference will move to Graz - Austria in 2017. The comprehensive view on the Physical Internet from the IPIC conference merges with the technical and intralogistic view from the well-established Austrian conference "[Logistikwerkstatt Graz](#)" for a promising format in 2017 to be hosted by the Institute of Logistics Engineering (ITL) at Graz University of Technology. High ranked representatives from industry, research and politics are expected to participate in plenary sessions with selected key note speakers, networking events and guided workshops. Within several scientific- and project collaborations the conference will address a new scale in PI research and application.


The introduction of the Physical Internet (PI, π) has opened a paradigm-breaking field encompassing the hyperconnectivity and interoperability of smart logistics networks, transportation systems, manufacturing systems and supply chains, enabling seamless open asset sharing and flow consolidation on a massive scale. It aims to transform the way physical objects are moved, deployed, realized, supplied, designed and used all around the world so as to improve by an order-of-magnitude the overall induced performance in terms of economical, environmental and societal efficiency and sustainability.

IPIC 2017 aims to provide an open forum for researchers, innovators and practitioners to introduce leading edge concepts and methodologies; to review the state-of-the-art technologies and latest projects, and to identify critical issues and challenges for future Physical Internet induced research, innovation and implementation.

IPIC 2017 invites you to submit an original research or innovation contribution to the conference.

- A research contribution can for example report on conceptual research, assessment research, instrumental research and validation research
- An innovation contribution reports on novel applications and technologies, on ongoing projects and case studies, or innovative ideas and positions

The contributions may be related, yet not limited, to the following topics within the following research fields:

<div style="text-align: right; padding-right: 5px;">topics</div> <div style="text-align: left; padding-left: 5px;">research fields</div>	Physical Internet Fundamentals and Constitutes	Technology v.s. Physical Internet	Physical Internet Implementation and Governance	Investigation and instrumentation methodologies	Hyperconnected logistics	Hyperconnected cockpits and control towers	Hyperconnected business models	Energy reduction and resource efficiency
Retail/e-commerce	 <p style="font-size: 2em; font-weight: bold; margin-top: 10px;">PHYSICAL INTERNET</p>							
Supply chain and Industry 4.0								
Synchromodality, corridors, horizontal collaboration								
Intralogistics								
City logistics								
Industry workshops (projects)								
IT and digitalization								
Sustainability								
Supply network								
New research domains								

Contributions can take four forms: research papers, innovation papers, posters and presentations.

- All contribution abstract will be reviewed
- Research papers will be peer-reviewed by the scientific committee
- Innovation papers will be reviewed by the editorial committee
- Research papers are expected to have a background in conceptual research, assessment research, instrumental research, validation research or novel applications and novel technologies.
- Authors of papers are requested to specify their form of contribution (research paper or innovation paper)

- Research papers, innovation papers and posters will be made widely available on <http://www.pi.events>
- Research papers, innovation papers and posters are published in the conference summary which will be available as hard copy and e-book (both equipped with ISBN-number) in the follow-on of the conference if desired by the author
- Research papers, innovation papers and posters must respect the guidelines and templates provided on the conference website
- Authors of research papers, innovation papers and presentations will be invited to present them in related conference workshops depending on availability of free time-slots
- The best research papers will be targeted for extension toward publication in special issues of scientific journals
- The best innovation papers will be targeted for adaptation toward publication in special issues of professional journals
- Students have the possibility to participate in the PI-student paper award by submitting research papers (first authors are expected to be students)
- Posters and their authors will be the highlight of a cocktail event on the first day of the conference
- Students have the possibility to participate in the PI-student poster award by submitting research posters (first authors are expected to be students)

Contributions are welcome via

<https://easychair.org/conferences/?conf=ipic2017>

The timetable for contributions is as follows:

- **Contribution abstract submission deadline:** **March 3, 2016**
 - *Indicating whether research or innovation contribution*
 - *Indicating form: research paper, innovation paper, poster or presentation*
 - *200-word max for poster and presentation abstracts*
 - *1000-word max for paper abstracts*
- **Abstract acceptance notification:** **14 days after submission**
- **Research paper, innovation paper and poster submission deadline:** **May 1, 2017**
- **Poster acceptance notification:** **14 days after submission**
- **Research paper acceptance notification:** **30 days after submission**
- **Revised research paper submission deadline:** **June 16, 2017**

Full papers (research papers, innovation papers) must respect the format guidelines which are available via the templates available within the conference website. Full papers should be between 6 and 16 pages long (including figures and references), and clearly indicate the list of authors and their affiliation. All contributions are to be in English. Submitted contributions will be evaluated with regards to their suitability for the conference, originality and technical soundness.

Examples for contributions to the topics of the conference are as followed:

- **Physical Internet Fundamentals and Constitutes**
 - Proposition of conceptual Physical Internet frameworks
 - Investigation of key enabling constituents of the Physical Internet
 - Efficiency, sustainability, resilience, security, adaptability, agility of the Physical Internet
 - PI container design & engineering: transport, handling and packaging container design and engineering; Modularization and Standardization; Smart and active containers; Panel oriented container design; Interaction with encapsulated smart objects; Container logistics and business
 - Design, engineering, planning and operation of hyperconnected handling, storage and transportation technologies, systems, facilities and infrastructures

- **Technology vs. Physical Internet**
 - Impact of new technologies and concepts such as drones, mobile robotics and 3D printing on the Physical Internet, machine learning; augmented reality, big data and data analysis
 - Exploitation of Internet-of-Things in the Physical Internet for tracking, tracing, sensing, event management and prediction
 - Technologies for container tracing and asset monitoring through the Physical Internet, such as wireless sensor networks (WSN)

- **Physical Internet Implementation and Governance**
 - Physical Internet implementation drivers and issues
 - Stakeholder incentives for PI adoption and implementation
 - Negotiation, collaboration and conflict resolution within Physical Internet
 - Impact of regulatory innovation on PI
 - Impact of PI induced innovation on regulation, taxation and duties
 - Design of the Physical Internet governance structure and processes

- **Investigation and instrumentation methodologies**
 - Novel descriptive, predictive and prescriptive analytics; modeling; simulation; optimization and gaming approaches for Physical Internet research and instrumentation
 - Qualitative and quantitative methodologies for studying proposed or existing PI induced systems, processes, phenomena & business models
 - Decision models and supports in the Physical Internet context

- **Hyperconnected logistics**
 - Hyperconnected transportation, distribution, manufacturing, supply chain and/or service
 - Novel ICT platforms enabling Physical Internet and hyperconnected logistics
 - Open hyperconnected logistics networks performance and impact assessment
 - Digital ecosystems and information sharing for freight transport and logistics (e-freight, e-booking, e-CMR...)
 - Logistics asset sharing, flow consolidation and load optimization
 - Hyperconnected synchronomodality
 - Smart hyperconnected inventory deployment and management
 - Hyperconnected City Logistics and Last-Mile Delivery
 - Hyperconnected crowdsourced delivery and transportation
 - Hyperconnected cold storage
 - Hyperconnected backbone logistics networks
 - Hyperconnected modular production
 - Mobility web, distribution web, realization web, supply web and service web
 - Open Logistics Interconnection model for hyperconnected logistics service architecture
 - Hyperconnected logistics protocols
 - Event service and management in hyperconnected logistics networks

- **Hyperconnected cockpits and control towers**
 - KPIs, cockpits, control towers for hyperconnected logistics
 - Concepts, technologies and processes for hyperconnected cockpits & control towers
 - Models and algorithms feeding the cockpits, enabling the analytics, advising the decision makers and easing the open collaboration
 - Collaborative behavior of users of hyperconnected cockpits & control towers

- **Hyperconnected business models**
 - Business models, revenue models and profit models in hyperconnected logistics
 - Liability and insurance issues in hyperconnected logistics
 - Hyperconnected business model innovation

- **Energy reduction and resource efficiency**
 - Energy reduction and decarbonization of freight transport and logistics, including end-to-end carbon footprint measurement, indicators and assessment of (policy/industry) practices, etc.
 - Transport and logistics implications of the circular economy: waste avoidance and resource efficiency
 - Supply Network horizontal and vertical collaboration driving asset (vehicles, warehouses, terminals) utilization efficiency, energy and emissions reduction