

# PRE-ANNOUNCEMENT CALL FOR CONTRIBUTIONS



## IPIC 2019 | 6th International Physical Internet Conference | London

8th July to 11th July 2019

Church House Westminster, Deans Yard, Westminster, London SW1P 3NZ

Brought to you by: **alice** Alliance for Logistics Innovation through Collaboration in Europe  
Hosted by: **Department for Transport** **CATAPULT** Transport Systems  
[www.pi.events](http://www.pi.events)

The future of the global freight and logistics industry will be shaped during a 3-day conference at Church House in London starting 9<sup>th</sup> July. A PhD Colloquium as a pre-conference event is foreseen on the 8<sup>th</sup> of July.

Improve freight transport and logistics efficiency and sustainability through a connected, interoperable and shared use of logistics networks is a great opportunity. The Physical Internet concept aims to get freight flows and logistics services as accessible and connected as information and services are over internet in both global and last mile. Physical Internet aims at asset sharing and flow consolidation on a massive scale supporting the brutal challenge of freight transport and logistics decarbonization.

### Aim of the conference

The 6<sup>th</sup> Annual International Physical Internet Conference (IPIC) aims to provide an open forum for industry, innovators, researchers, government officials and citizens to introduce leading edge concepts, technology applications and methodologies for future interconnected logistics; 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. Specifically, the conference focuses on insights for implementation steps of the Physical Internet in the different generations and time frames from next year to 2030.

### Conference topics

Conference topics include interconnected freight transport, logistics and supply, modularization, handling, vehicles and transshipment technologies, ports and hubs in the PI, last mile & city logistics, omnichannel & e-commerce logistics, systems and technologies for interconnected Logistics: *3D printing, Internet of things, machine learning, augmented reality, big data, artificial intelligence, blockchain, cloud computing, new communication networks enabling interconnected logistics, autonomous logistics operations and systems: autonomous transport, drones, mobile logistics, robotics*; manufacturing networks and the PI, business models for open & interconnected logistics, PI Impacts, PI Fundamentals and Constituents, PI Implementation and Governance, PI Modelling and Simulation.

*We will soon open the call for contributions to the International Physical Internet Conference (IPIC) 2019 in the following forms:*

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- a research paper/poster on, for example, conceptual research, assessment research, case study research, modelling and validation research.
- a white paper or case study describing an application in practice.
- a report/poster describing the results of novel applications and technologies or innovative ideas and positions resulting from a project jointly performed by an academic and industry partner

## The timetable for contributions is as follows:

- **Contribution submission opening:** **January 10, 2019**
- **Contribution abstract submission deadline:** **February 15, 2019**
  - 200-word max for poster and presentation abstracts
  - 1000-word max for paper abstracts
- **Abstract acceptance notification:** 14 days after submission
- **Paper and poster submission deadline:** **April 15, 2019**
- **Poster acceptance notification:** 14 days after submission
- **Paper acceptance notification:** 21 days after submission
- **Revised research paper submission deadline:** **June 7, 2019**

## Short introduction on the Physical Internet

The introduction of the Physical Internet (PI,  $\pi$ ) has opened a paradigm-breaking field encompassing the interconnectivity 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 to improve by an order-of magnitude the overall induced performance in terms of economic, environmental and societal efficiency and sustainability.

## Review process

- Abstracts of all contributions will be reviewed;
- Papers and posters will be made widely available on <http://www.pi.events>;
- Papers and posters must respect the guidelines and templates provided on the conference website;
- Authors of papers and presentations will be invited to present them in related conference workshops depending on availability of free time-slots;
- Research papers will be peer-reviewed by the scientific committee;
- 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;
- Posters presentations will be included as part of the conference program;

Full 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.



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

- **Interconnected freight transport, logistics and supply networks**
  - open and interconnected transportation, storage & distribution
  - Cross-chain control and collaboration, interconnected cockpits and control towers.
  - Logistics networks performance, impact assessment and resiliency.
  - Logistics asset sharing, flow consolidation and load optimization.
  - Interconnected ports and hubs.
  - Synchromodality
  - Smart hyperconnected inventory deployment and management.
  - Open and interconnected logistics services, cloud logistics services.
- **Modularization, handling, vehicles and transshipment technologies**
  - Transport vehicles, drones and AGVs for interconnected logistics.
  - Handling and transshipment autonomous operations and systems.
  - Packaging container design and engineering;
  - Modularization and standardization;
  - Smart, active, intelligent containers, boxes and logistics units;
- **Last mile & city logistics**
  - Interconnected city logistics,
  - Physical Internet & e-commerce
  - Omnichannel & e-commerce logistics
  - City hubs
  - City regulations in support of physical internet
  - Fulfilment platforms, crowdsourced delivery and transportation.
  - Modularization, boxes and handling units for city delivery.
  - Autonomous logistics systems
- **Systems and technologies for interconnected Logistics:**
  - 3D printing, Internet of things, machine learning, augmented reality, big data, artificial intelligence, blockchain, cloud computing, new communication networks enabling interconnected logistics.
  - Autonomous logistics operations and systems: autonomous transport, drones, mobile logistics, robotics...
  - Supply chain visibility: tracking, tracing, sensing, event management and prediction, asset monitoring.
  - Novel ICT platforms enabling interconnected logistics and access to cloud logistics services.
  - Digital ecosystems and information sharing for freight transport and logistics (e-freight, e-booking, e-CMR...)
- **Manufacturing networks and the Physical Internet**
  - Modular and agile production, manufacturing and distribution networks.



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- Physical Internet responsive to Industry 4.0 paradigm.
- Customer centric manufacturing and distribution.
- **Business models for Open & Interconnected logistics**
  - Business models, revenue models and profit models in hyperconnected logistics
  - Liability and insurance responsibilities.
  - Hyperconnected business model innovation.
  - Business models and cases to build networks of networks.
  - Business models promoting openness of proprietary logistics networks and resources.
- **Physical Internet Impacts**
  - Contributions to COP 21 emissions objectives.
  - Energy reduction and decarbonization of freight transport and logistics.
  - End-to-end carbon footprint measurement, indicators and assessment of (policy/industry) practices, etc.
  - Implications for the circular economy: PI as part of the circular economy, waste avoidance and resource efficiency.
  - Implications for congestion and infrastructure.
  - Other societal impacts.
- **Physical Internet Fundamentals and Constituents:**
  - Physical Internet frameworks & protocols
  - Efficiency, sustainability, resilience, security, adaptability, agility of the Physical Internet
  - PI network design.
  - Liability and insurance models in the PI
  - I container and logistics units design & engineering.
  - Design, engineering, planning and operation of handling, storage, transportation technologies, systems, facilities and infrastructures in the Physical Internet.
  - Mobility web, distribution web, realization web, supply web and service web
  - PI hub design & engineering: Hub definition, services and publications
  - Physical Internet access.
  - What can PI learn from other networks of networks: Telecom, Postal, Energy, Digital Internet?
  - Decision and support models in the Physical Internet
- **Physical Internet Implementation and Governance:**
  - Physical Internet implementation drivers and issues
  - Stakeholders and their roles in the Physical internet
  - Stakeholder incentives for PI adoption and implementation
  - Negotiation, collaboration and conflict resolution within Physical Internet
  - Social innovation and new ways of working in the Physical Internet
  - Impact of regulatory innovation on PI
  - Impact of PI induced innovation on regulation, taxation and duties





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- Design of the Physical Internet governance structure and processes
- Physical Internet Roadmaps
- Mindset, collaboration and openness, behavioural aspects.
- **PI Modelling and Simulation**
  - Novel descriptive, predictive and prescriptive analytics;
  - PI modelling, simulation,
  - Optimization and gaming approaches for Physical Internet
  - Qualitative and quantitative methodologies for studying proposed or existing PI induced systems, processes, phenomena & business models

For more information, please contact us via [ipic2019@etp-alice.eu](mailto:ipic2019@etp-alice.eu)