2B: From data to decisions: AI and Digital Twins in the Physical Internet era
23 October 2025 | 16:15 to 17:30 hours

Session hosted and organized by **Giuseppe Luppino** (Giuseppe.Luppino@etp-alice.eu), Programme Manager Corridors, Hubs and Synchromodality (Thematic Group 2) and Systems & Technologies for Interconnected Logistics (Thematic Group 3)

Linked exhibitors: DISCO, URBANE, AutoSUP, AutoMoTIF, IKIGAI, PILOTS, FOR-FREIGHT and PIONEERS

Session teaser

As logistics evolves towards more connected, predictive, and autonomous operations, Artificial Intelligence (AI) and Digital Twins (DTs) are becoming key enablers of the Physical Internet. Building on ALICE's White Paper on AI and the insights gathered through its dedicated webinar series, this session explores how these technologies are shaping real-world logistics — from pilot projects to scalable systems. Through hands-on experiences and strategic perspectives, we will assess what it takes to turn data into decisions and make smart, interoperable logistics a reality.

Session description

Artificial Intelligence (AI) and Digital Twins (DT) are no longer future concepts: they are becoming operational tools in logistics and supply chains. From predictive maintenance to routing optimisation, and from emissions modelling to last-mile delivery simulations, their use is growing. Yet, their successful implementation requires solid data foundations, interoperable systems, and new forms of collaboration across actors and projects.

This session builds on ALICE's White Paper on AI in Logistics and the outcomes of the TG3 webinar series, which highlighted a growing need to move **from pilots to scalable solutions**. It also reflects the ongoing work of ALICE's Task Force on Logistics Automation and the collaborative efforts with EU-funded projects such as **DISCO**, **URBANE**, **AutoSUP**, **AutoMoTIF**, **IKIGAI**, MULTIRELOAD, **FOR-FREIGHT** and **PIONEERS**, among others.

Through the presentation of recent research insights and a panel discussion with industry leaders, the session will explore:

- How AI and DT can be used to support real-time decisions and automation;
- How to enable cross-project synergies and interoperability of solutions;
- The role of explainable and agentic AI in logistics;
- And how these technologies contribute to the implementation of the **Physical Internet** vision.

Speakers will share practical use cases across urban logistics, port operations, and supply chain orchestration, offering both technical and strategic perspectives. They will also address barriers to adoption, including data governance and trust, and highlight the role of federated data spaces and trusted environments.

Participants will leave with:

- A clear overview of AI and DT applications in logistics;
- Concrete examples of implementation across use cases and projects;
- Insights on how to overcome barriers and scale solutions;
- A framework to assess the maturity of their own organisation's digital capabilities.

Who will participate

Moderator*: **Giuseppe Luppino***, ALICE*

Opening speech:

- **Alberto Curnis***, Osservatorio Digital & Smart Infrastructures – POLIMI*

Speakers:

- **Javier Garrido***, Innovation Manager, Port of Barcelona*
- **David Cipres***, Research Line Coordinator, Instituto Tecnológico de Aragón*
- **Ioanna Fergadiotou***, Head of Athens Lab, INLECOM*
- **François-Régis Le Tourneau***, Vice President Corporate Responsibility – L'Oréal For the Future. L'ORÉAL & ALICE Chair.*

Q&A Moderator*: **Tomasz Dowgielewicz***, ALICE*

Background – link to ALICE activities

This session is part of the work developed under ALICE **Thematic Group 3 – Systems & Technologies for Interconnected Logistics** (TG3). TG3 focuses on how technological innovation can enable seamless, resilient, and sustainable logistics systems, aligned with the **Physical Internet** vision. The session builds upon ALICE Artificial Intelligence and Digital Twins Activities.

Over the past year, TG3 has:

- Published the **White Paper on Artificial Intelligence in Logistics**, mapping key use cases and barriers to adoption;
- Organised a dedicated **webinar series on AI and Digital Twins**, engaging more than 300 participants from industry, ports, research and technology providers;
- Launched a **Task Force on Logistics Automation**, exploring synergies between AI, DT, smart assets, and operational automation;
- Collaborated with several EU-funded projects, including as **DISCO**, **URBANE**, **AutoSUP**, **AutoMoTIF**, **IKIGAI**, **FOR-FREIGHT** and **PIONEERS**, to collect insights on implementation, interoperability and scaling.

This session aims to consolidate these activities into a structured discussion, connecting:

- **Data layers** (data collection, standardization and sharing),

- **Modelling layers** (digital twins, simulations, predictive analytics),
- And **decision-making layers** (AI-driven automation and operational use).

By bringing together port actors, industrial users, researchers and solution developers, ALICE facilitates a **cross-project and cross-domain perspective**, supporting a more coordinated deployment of AI and Digital Twins in logistics.

For more information, contact: **Giuseppe Luppino** (Giuseppe.Luppino@etp-alice.eu)