BOOSTLOG

PHYSICAL INTERNET INCLUDING MODULARIZATION AND TRANSHIPMENT TECHNOLOGIES

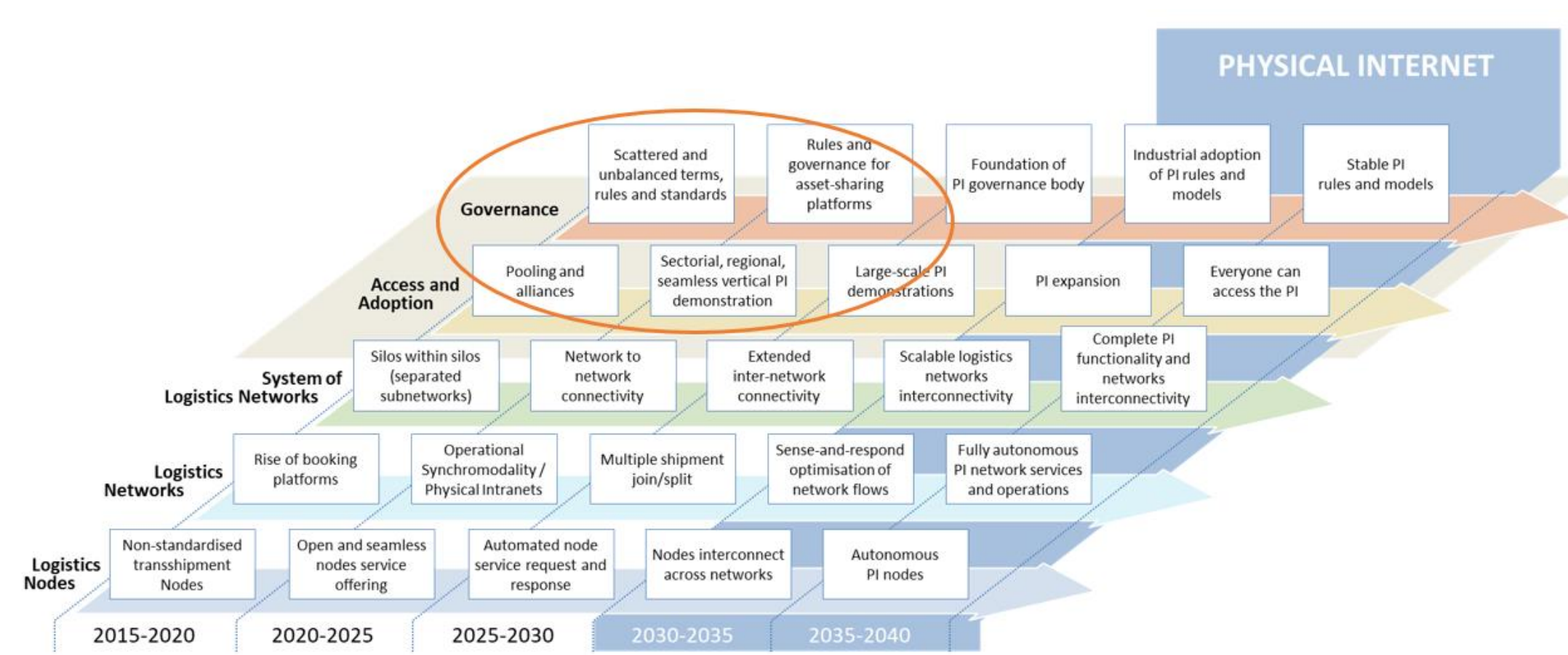alice

VIL EMPOWERING LOGISTICS

SCOPE

The Physical Internet (PI) is an ambitious concept that transfers principles of data exchange on the Internet to goods transport in the real world, i.e. in the internet world, data finds a way without human intervention and neither the sender nor the recipient know the path data packets take. PI aims optimum use of vehicles, assets and the existing infrastructure through open and shared logistics networks and flexible routing to maximise efficiency and sustainability in transport and logistics.

Within scope	Out of scope
• Any activities including new generation of research and innovation projects (R&I) that realise the concept of PI in a specific area • Any organisations that help the logistics sector to adopt the concept of PI	• Implementation cases that have been developed based on R&I projects related to PI but have been analysed by other cloud reports • Solutions and business that have been developed based on the concept of PI but no direct link with public funded R&I projects.

PROJECTS INCLUDED IN THE CLOUD REPORT

2011   2015   2021

MAIN OUTCOMES

The Physical Internet Roadmap

Outcomes of those projects have been mapped according to the PI roadmap (on the left) to identify their contributions in realising the roadmap. The mapping has been built on existing literatures as well other BOOSTLOG cloud reports published. Key findings:

- FP7 projects, MODULUSHCA, CO3 & iCargo have brought revolutionary changes to the European logistics innovation community by laying a foundation for the future PI roadmap.
- The concept of PI has been further developed by ICONNECT.
- Most R&I projects in Horizon 2020 contributed to Generations 1 and 2 of the five areas of the PI roadmap (Logistics Nodes, Logistics Networks, System of Logistics Networks towards the Physical Internet, Access and Adoption, Governance).
- Projects, AEROFLEX and NEXTRUST have contributed to Generation 3 of Logistics Nodes and Logistics Network.
- The implementation cases focus on Governance, Access and Adoption.

IMPLEMENTATION CASES

Demonstration projects: PI-enabled last mile delivery and urban planing

The Open Logistics Foundation

Area in PI Roadmap: Governance

Short description: The Foundation creates a framework to facilitate collaborative development of open-source IT solutions to existing problems in logistics and supply chain management. The Innovation Community develops common standards, tools, and services, which can be used commercially by any player in the industry.

Successful factor: The Physical Internet philosophy is completely embedded in the Foundation. To implement the PI, streamlining or interoperability of processes and software is essential. Such open source developed solutions enabled by the foundation will be the building blocks of the PI.

Link to past projects: SENSE

https://openlogisticsfoundation.org/

DISCO

Area in PI Roadmap: Access and Adoption

Short description: The DISCO project is a Horizon Europe project that supports more efficient and flexible use of urban space towards zero emission urban logistics. The project aims a more flexible use of urban space for urban logistics including loading zone management, micro hubs, and urban consolidation centres to increase efficiency and improve road safety while meeting demand of residents and businesses in cities.

Successful factor: It develops and implements PI-enabled digital solutions for urban logistics planning and operation in several European cities, translating the concept of PI into practices.

Link to past projects: ULaaDs, SENSE

https://cordis.europa.eu/project/id/101103954

URBANE

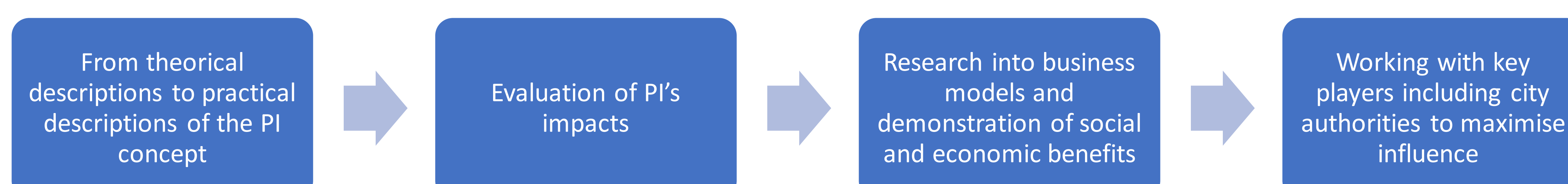**Area** in PI Roadmap: Access and Adoption

Short description: The URBANE project - Upscaling Innovative Green Urban Logistics Solutions Through Multi-Actor Collaboration and PI-inspired Last Mile Deliveries - is a Horizon Europe project that supports the transition path towards effective, resilient, safe and sustainable last-mile transport, through four Lighthouse Living Labs (LLs) and following cities.

Successful factor: The project analyses the physical, digital, social and business dimensions of complex last-mile logistics delivery systems based on the PI principles. It has enabled LLs to transfer their logistics nodes and networks to be digitalised, shared and collaborative.

Link to past projects: SELIS, LEAD

https://www.urbane-horizoneurope.eu/

IMPLEMENTATION PATHS

From theorical descriptions to practical descriptions of the PI concept → Evaluation of PI's impacts → Research into business models and demonstration of social and economic benefits → Working with key players including city authorities to maximise influence

Link to Cloud Report