

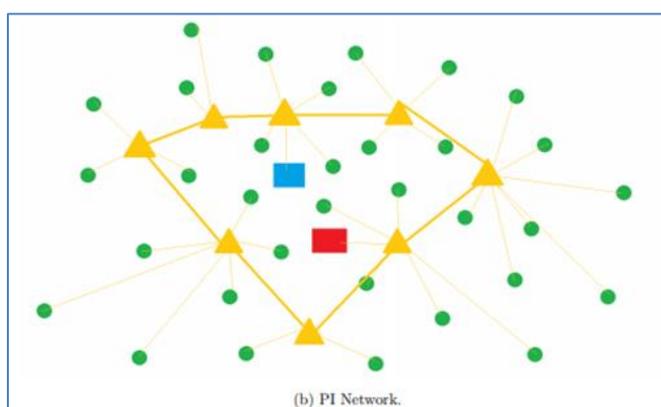
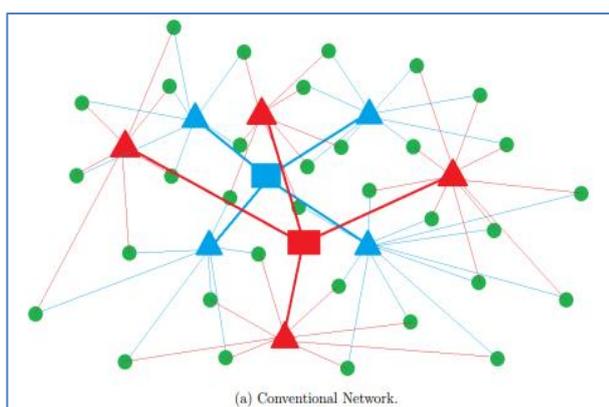


## ICONET Newsletter March 2020

ICONET is a 30-month, EU funded project launched in September 2018 with 16 partners coordinated by Inlecom focussing on the vision and implementation of the Physical Internet (PI).

Everyone is becoming increasingly aware and alarmed with the problems of global warming and consequently trying to find ways to reduce CO2 emissions. This is, of course an immense challenge in particular in the logistics sector. Projections based on the ITF's International Freight Model foresee an increase of trade-related freight transport emissions by a factor of 3.9 to 2050. A nearly fourfold increase would seriously undermine climate goals.

One of the proposed solutions to this problem is the concept of the Physical Internet (PI). The Physical Internet is a logistics concept that works based on horizontal collaboration and consolidation. It is called the Physical Internet because of its similarities with the Digital Internet. In the Digital Internet, providers are responsible for links between servers, instead of the whole routes. Physical Internet applies this idea to physical flows. A supplier is connected to the PI, sends its freight to the network and the PI will get it to its destination. This is quite different from the current situation, where usually each firm has its own supply chain network, whether it is in house or subcontracted to a Logistics Service Provider (LSP).



The PI network consists of open warehouses and/or open cross-docking hubs (so-called PI-hubs). In principle, these are available for every logistic provider and every type of goods. Open warehouses have capacity to store goods, while at cross-docking hubs this space is limited. The latter will mainly be used as a transit point, where goods will only be stored temporarily (in the order of a couple of hours). An important aspect of the PI is *standardization*. As it should be able to transport all kinds of goods, these should be packed in a standardized manner so that they can be transported together.

The ICONET project aims to answer some of the most important PI network design questions, both from a research angle as well as from running pilot studies. It is addressing questions such as how the business model of the PI itself and all necessary players in the network should look like, which information technology developments are needed, what the respective roles of commercial vs. public stakeholders should be, etc., along with one of the most prominent and simple questions in the PI development; how will it materialize as a physical logistics network? Other questions to be considered are:

- How many logistics facilities are needed in the PI?
- Where should they be located and how big should they be?
- What role should every facility play in the network?
- How are all nodes connected?
- How robust will the network be in subsequent maturity phases?

## Living Lab Example - e-Commerce Fulfillment & Distribution

ICONET is running 4 use cases (Living Labs). This Living Lab involves a large retailer and will demonstrate the application of PI principles in optimizing the fulfilment of e-Commerce Purchase Orders. The PI Nodes are the stores and their objective is to reduce lead time, travelling time and stock-outs.

A consumer driven approach is being adopted to increase the use of environmentally friendly “Service Points” optimized in terms of:

- **best time windows to offer in the different delivery regions** in order to facilitate more effective and efficient delivery operations, while making delivery more sustainable
- **integrating operationally different last-mile service models**
- **facilitating last-mile collaboration** between different logistics service providers and possibly other online retailers
- designing an **efficient network of pickup-points conveniently located for the customers**

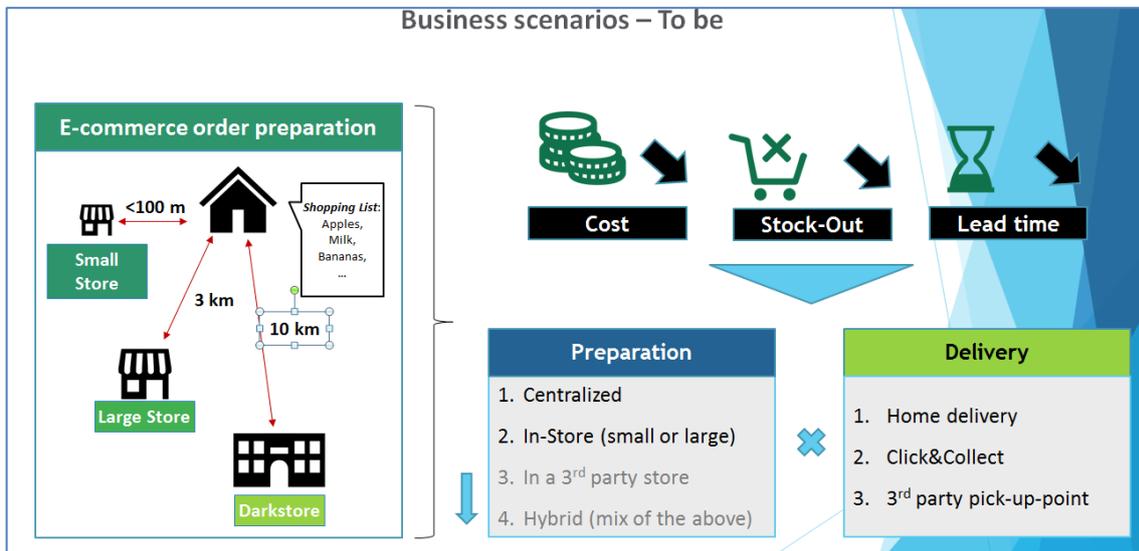
The expectation is that the simulation will be able to suggest the most efficient way to fulfill an order.

This retailer has urban hypermarkets, large supermarkets, local supermarkets, e-commerce and franchises. Current eCommerce deliveries can be made to the final customer home address or using Click and Collect (that works as a pick-up -point).

The current e-commerce business model is mostly centralized, as “in-store” order preparations are only made in large stores. In the scope of this Living Lab, the team is considering a decentralized business model, including the possibility to prepare orders in all types of stores; small, medium and large stores.

It is also planned to increase the number of stores with “click and collect” facility from 150 stores to 300 - 600.

The long term vision is to provide the customer with a seamless shopping experience allowing them to order anytime from anywhere in person or through digital devices and be delivered at their preferred time and location (shop, office home or location of their choice).



Two sets of simulated scenarios are being run to evaluate the impact of different order fulfillment strategies, as well as testing a multiple company scenario combining the deliveries from other businesses. In other words, the second set simulation also considers different distribution networks, but from the other companies from the retailer's network, with different business (e.g. pet products and services from ZU). More specifically, it has accessed the consolidation of food-type deliveries with orders of non-food goods.

party

The next step is to increase the complexity of the research by adding 3<sup>rd</sup> actors for deliveries, among other possibilities, increasing the focus on customer and operational reach and efficiency.

**Results from this Living Lab will be available later in the project.**

## EVENTS

### “The Roadmap Towards the Physical Internet”

On February 12th and 13th, project coordinator, Inlecom participated in an event titled "The Roadmap Towards the Physical Internet" organised by ALICE (Alliance for Logistics Innovation through Collaboration in Europe) and SENSE EU Project (Grant agreement ID: 769967), in Vienna.



The purpose of the event was to share and discuss the roadmap of the Physical Internet as designed by the SENSE project, discuss examples of R&D projects and industry initiatives that are developing concepts associated to the physical internet as well as different industry perspectives on collaboration within the context

of the Physical Internet and who could be the potential winners. On the 2nd day of the event, specific areas of the upcoming Horizon Europe Programme were also discussed to identify opportunities for logistics research and innovation. The audience included a variety of stakeholders involved in logistics and supply chain; manufacturers, retailers, logistics service providers, transportation companies in all modes and intermodal, freight terminals and hubs; Ports, logistics platforms, IT and software development.

## TrustBills' Working Capital Finance Forum

On February 6<sup>th</sup> 2020 ICONET was represented at TrustBills' Working Capital Finance Forum in Hamburg, Germany where more than 100 participants attended including many DAX and MDAX



companies, banks and asset managers as well as experts from law firms, auditing companies and other FinTechs.

Britta Balden of Electronic German Link and Alessandro Vaglini of New Generation Sensors represented the ICONET Consortium. The EU project ICONET is concerned with simulating the vision of the physical Internet enabled by IoT technologies and its impact on global trade and logistics.

Alessandro Vaglini presented the current and future possibilities, but also the limits of



sensor and transmission technologies including 5G in intermodal logistics. Britta Balden presented the current use cases of the new IoT technologies and outlined how, for example, the market for Letters of Credit (LCs) can be disrupted by these technologies in interaction with receivables and payment platforms to the advantage of exporters and importers.

## ICONET Partners


For more information please visit our website

[www.iconetproject.eu](http://www.iconetproject.eu)