STAKEHOLDERMAPPING

OVERVIEW OF THE PILL STAKEHOLDERS
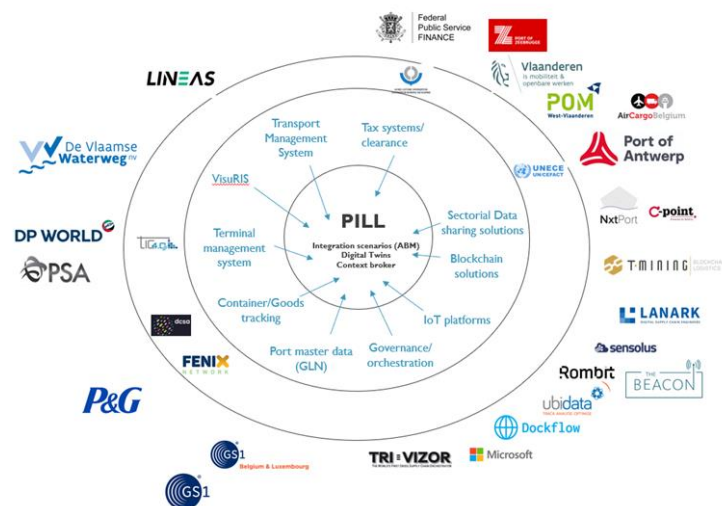
Author(s)	Cathérine Cassan, Cathy Macharis
Contact	Catherine.cassan@vub.be, cathy.macharis@vub.be
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Content

1   Introduction

In this document we introduce all actors that are be part of the PILL Advisory Board. Each of the partners in the Advisory Board is an important player in the local and/or international logistics sector and is particularly relevant to the PILL scope. The relatively large number of Advisory Board members, their size and their importance in the Flemish logistic landscape attest to the relevance of PILL and to its valorisation potential.

The partners are listed alphabetically. All information provided is gathered through either their public website or the letter of intent they provided when joining PILL. Any additions made by the project team are marked as such.

2   Air Cargo Belgium

Air Cargo Belgium | Home

Air Cargo Belgium (ACB) is an innovative cluster of air cargo companies. ACB's main objective is to achieve a competitive advantage for 'our' air cargo community in Europe. Therefore, on behalf of forwarders, handlers, airlines, the airport authority and other stakeholders, ACB gets in contact with all stakeholders and governmental agencies to discuss topics of common interest and we take the lead in different (innovative) improvement projects. At all times, our goals and objectives are in the interest of the air cargo community as a group an to the overall benefit of our industry.

Company is specifically interested in the PILL project because:

- ACB wants to bring innovation to the aircargo industry
- ACB is an active member of ALICE and joins in the aim to develop PI
- ACB is working on its own Physical Internet Roadmap for Air Cargo

Relevant possible outcomes for Company are:

- Data sharing / integration set-up between stakeholders:
  - IoT data capturing and transmission
  - Data consulting rights
- Improvement in equipment management
- Requirements of a network to support autonomous processes and the possibilities of a 5G network

Possible contributions by Company are [suggestion of answer by research team]:

- Act as a community builder
- Disseminate results to other logistic stakeholders

3   Belgian Administration of Customs and Excises

Customs and Excise | FPS Finances (belgium.be)
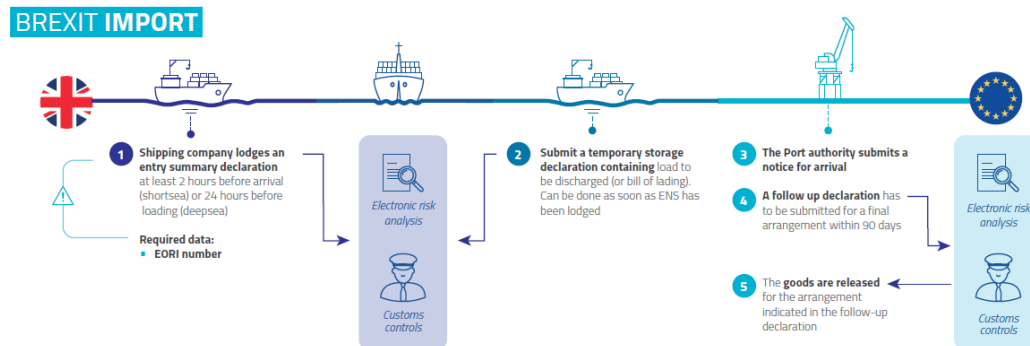
The Customs authorities are in charge of protecting the society, promoting the international trade with the control of external borders and ensuring the security of the logistics chain.

We commit ourselves to:

- Ensuring the citizens' security
- Protecting the European Community's and its Member States' financial interests, with the collection and the checking of the import duties, the excise duties and the VAT at importation.
- Protecting the European Community against the unfair and illicit trade and promoting the lawful economic activity.
- Increasing the European enterprises' competitiveness with up-to-date work methods, which are supported by an easily accessible electronic customs environment.

In order to carry out these tasks we work both at the national and international level with other FPS and law enforcement services, mainly in the fields of the fight against fraud, organized crime and terrorism.

The excise authorities are in charge of the collection and the control of the following products:

- Products subject to excise duty in Belgium, such as coffee and non-alcoholic drinks
- Products subject to excise duty at the European Community's level, i.e. energy products, alcohol, alcoholic drinks as well as manufactured tobacco.

The administration of customs and excises is specifically interested in the PILL project because:

- It is in line with the vision of the administration regarding the supervision of the logistics chain

Relevant possible outcomes for the administration of customs and excises are:

- Having real time access to all relevant information about the goods and containers based on the digital reading of the container number.

Possible contributions by the administration of customs and excises are [suggestion of answer by research team]:

- Information on customs processes (data and relevant processes)

4 Delcatrans

Delca Transport is a family-owned company that was founded in 1980 in Dadizele. In 2000 they moved to industrial zone LAR in Rekkem, where they now own their own railterminal. From this terminal they organise both national and international shipments. Delta Transport stands for innovation, professionality and outstanding service.

Delcatrans strives to be a single point of contact for all our clients and suppliers.

ECS is specifically interested in the PILL project because:

- They want to improve their connection to other players / customers

Relevant possible outcomes for Delcatrans are:

- Stimulate further digitalization towards a paperless organization
- Optimization of flows
- E2E visibility of the PI containers

Possible contributions are:

- Facilitate (host?) PILL's PI oriented living lab intervention

5   Dockflow

[Dockflow 🌐 Logistics Enablement Platform](#)

Dockflow is a company that enables forwarders, shippers and importers to transition from an old-school paper-based way of doing business to digital operations. To achieve this Dockflow has developed various software products that offer visibility of the internal and external processes. As a result, enormous amounts of time and effort can be saved and costs can be cut, which allows these parties to focus on their core business.

Dockflow is specifically interested in the PILL project because:

- Dockflow was founded after being inspired by the concept of PI
- The vision of PI is what Dockflow aims to achieve

Relevant possible outcomes for Dockflow are:

- To experience the hurdles of integrating containers into a PI environment
- To see the quick wins that can be achieved of integrating container into a PI environment
- To get a better understanding of the next steps in the realisation of a full PI-system

Possible contributions by Dockflow are [suggestion of answer by research team]:

- Sharing experience on gathering container data through IoT sensors
- Sharing experience on combining container-sensor data with container events
- Sharing experience on visualisation of container information
- Integration of Dockflow data in PILL

6   DP World

DP World Antwerp

DP World is a leading stevedore in the Port of Antwerp. DP World Antwerp operates the Antwerp Gateway terminal at the Deurganckdock. Complementing the container terminal is Empty Dpot Services, a 100% dedicated container maintenance service primarily for DP World Antwerp Gateway customers. On the right bank, DP World Antwerp is operator of the HUPAC rail terminal.

DP World is specifically interested in the PILL project because:

- It lays the foundations of a future approach towards logistics in general

Relevant possible outcomes for DP World are:

- Concrete execution of the PI-concept in real life projects
- Work towards a novel way of approaching logistics
- Tangible, real-world results
- Application of highly theoretical logistics models on a practical level

Possible contributions by DP World are [suggestion of answer by research team]:

- Information on terminal processes (data and relevant processes)

7   ECS

[Together we excel | ECS](): [www.ecs.be/en]()

ECS is a leading provider of integrated supply chain logistics and intermodal transport solutions. Founded in 1995, our family owned company with headquarters in Zeebrugge, spreads its activities over more than 35 European countries, specialising in transport and logistics between the UK and Ireland, and the European mainland.

Conscious of the environmental impact of our business, ECS is committed to provide sustainable intermodal logistics. Our strategic ambitions focus not only on the financial results, but also on social interests and the environment. By creating a modal shift from road to rail in our intermodal network, reducing empty mileage and creating sustainable logistic solutions for the integrated supply chain, we can substantially reduce greenhouse gas emissions and help creating a better environment.

ECS is specifically interested in the PILL project because [suggestion of answer by research team]:

- PILL aligns with our goals of efficiency and sustainability in a multimodal logistics flow
- PILL offers opportunities to reduce empty km

Relevant possible outcomes for ECS are [suggestion of answer by research team]:

- better view on return flows
- further optimise usage of shortsea and train
- discover posibilities for reuse of ECS-containers

Possible contributions of ECS are [suggestion of answer by research team]:

- Facilitate (host?) PILL's PI oriented living lab intervention
- Integration of ECS data in PILL, which may include

8   ETP Alice

https://www.etp-logistics.eu

alice | Alliance for Logistics Innovation through Collaboration in Europe

ALICE is the European Technology Platform for Logistics, recognized as such by the European Commission. ALICE is setting up a research and innovation strategy for logistics in Europe. We believe future logistics will be based on an open global system of systems connecting logistic networks seamlessly and founded on physical, digital and operational interconnectivity enabling substantial increase in efficiency and sustainability. This vision is called the Physical Internet (PI). We expect first industry use cases to be fully functioning by 2030. In the long run, by 2050, we envision a world in which freight transport and logistics is close to zero emissions.

ALICE is specifically interested in the PILL project because:

- It focusses to deliver on our vision of developing living labs in which test concepts and solutions are tested

Relevant possible outcomes for ALICE are:

- PILL will give insights and address gaps we are also addressing

Possible contributions by ALICE are [suggestion of answer by research team]:

- Act as a community builder
- Disseminate results to other logistic stakeholders

9   Flemish Waterways

[Smart Shipping | De Vlaamse Waterweg nv](#)

The Flemish Waterways (Vlaamse Waterweg nv) manages and operates the Flemisch waterways as a powerful network that contributes to the economy, prosperity and liveability of Flanders. Vlaamse Waterweg nv strengthens transport via inland shipping, ensures water management and increases the attractiveness of the waterways for recreation, tourism and nature.

The Flemish Waterways is specifically interested in the PILL project because:

- They want to gain insights in the way in which a PI IT system can work

Relevant possible outcomes for the Flemish Waterways are:

- Open Data on (potential) transport flows by inland shipping
- Open knowledge on (potential) transport flows by inland shipping

Possible contributions by the Flemish Waterways are [suggestion of answer by research team]:

- Information on inland shipping (data and relevant processes)

10   GS1

[GS1 Belgium & Luxembourg (gs1belu.org)](gs1belu.org)

GS1 Data Source

GS1 is a global standardisation organisation with local presence in over 15o countries including Belgium. We empower organisations to develop efficiently, sustainably and safely — helping transform the way we work and live. Our standards enable organisations to identify, capture and share information smoothly, creating a common language that underpins systems and processes all over the world.

GS1 is specifically interested in the PILL project because:

- In the GS1 vision all transport units will be identified with a common ID so all stakeholders with an interest in the transport unit can manage related data in a seamless, secure, resilient and planet-friendly way.
- We are keen to see the PILL project deliver evidence (even proof) that PI approaches and commonly used ID Keys and labels (or other AIDC means) deliver significant benefits to the GS1 user community.

Relevant possible outcomes for GS1 are:

- Results from actual deployments in real-world environments.
- Actual use case results of the simulations proving the value of PI concepts.

Possible contributions by GS1 are [suggestion of answer by research team]:

- Integration of GS1 data in PILL
- Possible access to GS1 user companies, including shippers, receivers and logistic service providers;

11   Lanark

[Lanark – Digital Supply Chain Engineers](#)

Lanark is an Antwerp-based startup active in Digital Supply Chain Engineering. We see supply chains as value drivers opposed to cost drivers. This is driven by better visibility, data sharing and new ways of collaboration between supply chain partners. Our team of Digital Supply Chain Engineers helps our customers with design, selection or development, implementation and operational use of digital solutions.

Lanark is specifically interested in the PILL project because:

- PILL will give practical and tangible learnings for logistics of the future
- Discover patterns, solutions and processes that can be used in the near future for several logistical challenges.
- As a digital integrator and implementation partner Lanark wants to be at the forefront of the physical IoT

Relevant possible outcomes for Lanark are:

- Minimum technical infrastructure required
- Working data sharing technology
- Practical process considerations (relations and visibility between parties)

Possible contributions by Lanark are:

- provide manpower to manage the PoC
- test the value of proposed business cases
- Integration of Lanark data in PILL
- Sharing experience and practical examples

12   Lineas

www.lineas.net

Lineas is a European rail freight & logistics company which is the successor of the freight division of the former Belgian national railway company NMBS/SNCB. As a major stakeholder provider of rail freight services in Belgium, it is a crucial actor to facilitate PILL's PI-oriented Living Lab interventions.

Lineas is specifically interested in the PILL project because:

- They recognise the long-term need for standardization
- The feel the focus on synchro-modality is a strategic fit and in line with their strategy
- The recognise the need for an IT evolution to connect all parties from an E2E business model
- They are able to share relevant business insights and gain new insights during the project

Relevant possible outcomes for Lineas are:

- E2E visibility to our customers
- Explore the impact of new market trends and evolution of new IT capabilities

Possible contributions are:

- Facilitate (host?) PILL's PI oriented living lab intervention

13   Microsoft

[Maak vandaag nog uw gratis Azure-account | Microsoft Azure](#)

Microsoft Corporation is a multinational technology company. It develops, manufactures, licenses, supports, and sells computer software, consumer electronics, personal computers, and related services. For the PILL project Azure IoT Edge, a fully managed service built on Azure IoT Hub33 is relevant. This system allows the deployment of cloud workloads—artificial intelligence, Azure and third-party services, or business logic—to run on Internet of Things (IoT) edge devices via standard containers. By moving certain workloads to the edge of the network, devices spend less time communicating with the cloud, react more quickly to local changes, and operate reliably even in extended offline periods.

Microsoft is specifically interested in the PILL project because:

- the strategic focus Microsoft has to the future of logistics

Relevant possible outcomes for Microsoft are:

- explore opportunities to scale the conceptual architecture and developed components when market ready via the Microsoft global partner ecosystems

Possible contributions by Microsoft are:

- support in reviewing the project outcomes, supporting quality and innovation management
- support the management team and provide expert assistance
- bring the project team in contact with Microsoft engineering (IoT, Digital Twin, edge, open logistics platform and others) to learn more about how to connect the physical internet concept to Microsoft engineering in order to align ontologiesand conceptual architectures

14   MOW

The Flemish Department of Mobility and Public Works (MOW) supports the policy of the Flemish minister responsible for mobility and public works and supports management and operation of the Flemish transport and port infrastructure.

The Department of Mobility and Public Works is specifically interested in the PILL project because [suggestion of answer by research team]:

- The goals of PILL are consistent with the mission of the department to create a more sustainable transport sector

Relevant possible outcomes for the Department of Mobility and Public Works are [suggestion of answer by research team]:

- Open Data on (potential) transport flows
- Open knowledge on (potential) transport flows

Possible contributions by the Department of Mobility and Public Works are [suggestion of answer by research team]:

- Information on road transport (data and relevant processes)

15   P&G

[Procter & Gamble Company (pg.com)](pg.com)

Procter & Gamble is a multinational corporation developing, manufacturing & marketing consumer packaged goods in numerous sectors and invests heavily in Research & Development. P&G has a production site in Mechelen where containers come in from and go out to the port of Antwerp.

In 2010, P&G declared a set of goals and commitments to reduce our environmental footprint across climate, water and waste. P&G's ambitions for 2030 include reducing carbon emissions. To realise this goal, the plan to advance at least 10 significant supply chain partnerships to drive circularity.

Company is specifically interested in the PILL project because:

- They want to leverage the enhanced visibility that the FENIX data platform connection will provide.

Relevant possible outcomes for Company are:

- Optimisation of the container repositioning, eliminating unnecessary trips to get or return an empty container

Possible contributions are:

- Facilitate (host?) PILL's PI oriented living lab intervention on container repositioning

16   POM West Vlaanderen

The West Flanders Development Agency (POM West-Vlaanderen) implements the social-economic policy of the Province of West Flanders by means of initiating and coordinating activities and projects focusing on sustainable entrepreneurship, business infrastructure, innovation and international business support. The aim is to reinforce West Flanders as an internationally oriented, dynamic, competitive and innovative region with a positive working climate and attractive business environment.

POM West-Vlaanderen is specifically interested in the PILL project because:

- It corresponds directly with the mission of our Transport and Logistics team to become the knowledge hub for PI.

Relevant possible outcomes for POM West-Vlaanderen are:

- Optimisation of the use of multimodal transhipment infrastructure to increase sustainable transportation.

Possible contributions by POM West Vlaanderen are:

- POM West Flanders can bring logistic players together and discuss their role in the future of logistics and encourage them to action.

17 Port of Antwerp (PoA)

[Port of Antwerp](#)

The port of Antwerp is the second largest European port, 237 mio tons of cargo flow through the port each year and generates 20 billion € added value on an annual basis. Port of Antwerp of Antwerp handles about 10 mio TEU of containers each year and is a gateway to the European industrial hinterland.

The port of Antwerp is specifically interested in the PILL project because:

- The digital world has to connect with the physical world to optimize the latter in terms of capacity usage. At present all 'pockets of capacity' such as locks, quay walls, pilots, tug boats, railroads etc. which make up a port are optimized in isolation.

Relevant possible outcomes for the port of Antwerp are:

- Capture digital flows linked to physical assets as raw material for algorithms that provide insight in potential bottlenecks
- Development of predictive capabilities to detect potential bottlenecks in physical infrastructure in a proactive way
- Provide insight in the optimisation potential of operational efficiency of physical assets
- Understand potential of orchestrating across physical assets towards a system approach for the entire port.

Possible contributions by the port of Antwerp are [suggestion of answer by research team]:

- Information on port processes (data and relevant processes)

18   Port of Zeebrugge

[Zeebrugge | Port of Zeebrugge](#)

Zeebrugge, the seaport of Bruges, is one of the world's foremost roll-on/roll-off ports, where 47 million tons of goods are transshipped in 2020, of which 38% containers. The coastal port is also a container port. A new container service was recently launched from New Zealand and Peru. The offering of both intra-European and intercontinental services is what makes Zeebrugge such an important access port to the European markets. As a non-industrial or "clean" port, Zeebrugge is the ideal location for combining perishable food cargoes.

The port also offers almost 20 intra-European ferry services to destinations in the UK, Ireland, Scandinavia, the Baltic region, Russia and Southern Europe. The extensive range of ferry services and intercontinental container services, together with an inland waterway, railway and road network, make Zeebrugge an ideal location to establish distribution centres. Zeebrugge is therefore more than just a maritime crossroads; the North Sea port has grown into an ultramodern logistics platform completely at the service of the European and intercontinental markets.

The port of Zeebrugge is specifically interested in the PILL project because:

- They want to join and steer the first Physical Internet Living Lab

Relevant possible outcomes for the port of Zeebrugge are:

- Capturing digital flows linked to physical assets
- Identifying and predicting bottlenecks
- Improving operational efficiency and utilization of assets and equipment

Possible contributions by the port of Zeebrugge are[suggestion of answer by research team]:

- Information on port processes (data and relevant processes)

19   PSA

PSA Antwerp | Containerbehandelaar (psa-antwerp.be)

PSA Antwerp is a leading container terminal operator in the Port of Antwerp and belongs to PSA international. PSA operates 3 container terminals and 1 breakbulk terminal in the Port of Antwerp. All our terminals have tri-modal access and are equipped with state-of-the-art infrastructure, facilities and equipment. Additionally, containers can be stuffed and stripped by specialized personnel at all our terminals.

PSA is specifically interested in the PILL project because:

- It gives guidance on the direction we might take with the development of applications & platforms oriented towards offering cargo solutions to beneficial cargo owners

Relevant possible outcomes for PSA are:

- PI design patterns
- Agent-based modelling algorithms
- Digital twin components
- Data infra architecture
- PI data standards

Possible contributions by PSA are[suggestion of answer by research team]:

- Information on terminal processes (data and relevant processes)

20   Rombit

Rombit – Return on Safety

Rombit helps industrial organizations to excel in efficiency, safety and security through innovative technologies. Supported by a specific know-how of the port industry and the technological capacity to develop integrated hardware and software solutions, Rombit enables its customers to become and stay resilient in a changing world.

Rombit is specifically interested in the PILL project because:

- Rombit believes in the concepts of PI
- Rombit wants to be a leading provider of PI solutions moving forward

Relevant possible outcomes for Rombit are:

- Better understanding of the PI use-cases and opportune roadmap items
- Investigate how PI can be enabled through the use of Rombit's (future) solution components.

Possible contributions by Rombit are [suggestion of answer by research team]:

- Integration of Rombit data in PILL

21   Sensolus

Sensolus: Asset tracking solution to streamline logistics processes

Sensolus is an Industrial Internet-of-Things company, based in Ghent, Belgium. Sensolus brings value to the supply chain & asset monitoring processes of their clients by offering end-to-end IoT solutions. By combining smart sensors, low power communication networks (LPWAN) and cloud analytics. Sensolus reduces operational costs and increases asset up- and usage time.

The solution is sold as a service and contains 4 key components:

- Web-based customer applications for asset management, supply chain and logistics
- Multi-tenant web-based IoT platform for operational management
- In-house developed extreme low-power sensors communication over Sigfox, including different localisation techniques and payload monitoring.
- Patented software stack including edge-based rule-engines and cloud-based machine learning for optimized battery life and data integrity.

Sensolus is specifically interested in the PILL project because:

- Sea port management is one of our business domains
- We are always looking to innovative trends and future application of supply optimization strategies
- Different assets in the supply chain are non-powered assets which is our core specialisation
- Networking with innovative players in the supply chain is of importance for our own growing business.

Relevant possible outcomes for Sensolus are:

- Find out how a PI container needs to be equipped in order to support maritime ports in their role as PI nodes
- Implementation and validation of living labs, containing key metrics of evaluation

Possible contributions by Sensolus are:

- Integration of Sensolus data in PILL, which may include:
    o Delay prediction
    o WIP: work in progress: partially finished goods / assets waiting for next action

- condition monitor trackers based on radar
  - Measure
  - Temperature
  - Humidity
  - Door opening/closing
  - Fill rate

22   The Beacon

[Smart innovation for the industry, port & logistics, mobility and smart city! | The Beacon](#)

The Beacon is an innovation community, bringing together tech companies, research, skills, innovation actors and citizens to collaborate on smart solutions for keeping this world livable and sustainable. It focuses on Smart Cities, Smart Mobility, Smart Port & Logistics, Smart Industry and Smart Buildings. The Beacon is an AI and IoT community and the launchpad for your products and solutions, through interaction with a larger ecosystem which is expanding every day.

Company is specifically interested in the PILL project because:

-   It is highly relevant for some of our strategic partners such as PoA
-   Many of our member companies are working on technology solutions in this domain

Relevant possible outcomes for Company are:

-   Novel application of IoT technology in the container traffic
-   Cyber security aspects of IoT deployment
-   Data standardization efforts

Possible contributions by Company are [suggestion of answer by research team]:

-   Act as a community builder
-   Disseminate results to other logistic stakeholders

23 T-Mining

T-Mining - Blockchain Logistics

Based in Antwerp, T-Mining makes maritime logistics processes like Secure Container Release more secure and efficient. Every day, more than 1.000 companies in over 20 different countries use our solution and infrastructure. By using decentralized technologies such as blockchain and implementing concepts like Self Sovereign Identity (SSI) and Commercial Privacy, we provide the industry with easy-to-use instruments to remain in control of their data. T-Mining has a radical new vision on how to design and develop applications, using decentralized technologies like blockchain, allowing businesses to take back control over their identity, privacy, and data.

T-Mining is specifically interested in the PILL project because [suggestion of answer by research team]:

- It aligns with the goals of T-mining to further digitalize and streamline logistic flows

Relevant possible outcomes for T-Mining are [suggestion of answer by research team]:

- Integrate PI functionalities as service to their customers.

Possible contributions by T-Mining are:

- Offer possibility to predict movements
- Offer possibility to organize payment between players (by transaction or at end of period)
- Involve current customers in larger test project

24   Tri-Vizor

TRI-VIZOR (trivizor.com)

TRI ≡ VIZOR
THE WORLD'S FIRST CROSS SUPPLY CHAIN®ORCHESTRATOR™

TRI-VIZOR nv is a spin-off company of the UA founded in 2008. The mission of TRI-VIZOR is to support companies in their evolution to the highest maturity level in supply chain management today. During the last years, TRI-VIZOR has acquired a unique and strong reputation in cross company horizontal collaboration and consolidation. This leads simultaneously to substantial savings in total supply chain costs (efficiency), more sustainability and increased customer service levels (effectiveness). As 'neutral trustee' and 'orchestrator' for logistics horizontal collaboration, TRI-VIZOR offers total impartiality and a complete set of advisory services and solutions to help companies reach the highest possible supply chain maturity level.

TRI-VIZOR is specifically interested in the PILL project because:

- TRI-VIZOR believes in the idea of PI to align various projects in logistics towards a more efficient and sustainable usage of capacities

Relevant possible outcomes for TRI-VIZOR are:

- Explore a Digital twin as an enabler for the physical internet
- Develop agent-based algorithms and models for the physical internet
- Appropriate governance for the physical internet
- Scale-up opportunities

Possible contributions by TRI-VIZOR are [suggestion of answer by research team]:

- Sharing experience on bringing logistic companies together
- Integration of TRI-VIZOR data in PILL

25   Ubidata

[Home (ubidata.com)](ubidata.com)

Ubidata develops and commercializes mobile logistics solutions. We assist customers in tracking, analyzing and optimizing their fleet, goods, shipments and cargo management. We have particular experience in the food, pharmaceutical and goods distribution sectors as well as with trailers and multi-modal fleets.

Ubidata is specifically interested in the PILL project because:

- PILL focusses on the core business of Ubidata
- PILL can help Ubidata improve their services to their clients

Relevant possible outcomes for Ubidata are:

- Minimizing physical movements and storage, thus reducing costs for our clients
- Increasing reliability, robustness and resilience to unforeseen events
- Business model innovation in this very traditional market segment, including more effective sharing of information across the supply chain
- Decrease delay between event and receiving of data on an event
- Investigate possibilities to equip more containers with IoT sensors

Possible contributions by Ubidata are [suggestion of answer by research team]:

- Sharing experience on possibilities of IoT sensors in the container business
- Integration of Dockflow data in PILL