

KER 4: Track & Trace Monitoring Services

PLANET KERs are innovative, interdisciplinary knowledge exchange networks designed to foster collaboration and knowledge-sharing between different sectors. By facilitating the sharing of knowledge and experience obtained during the development of PLANET, KERs have offered an innovative vision for developing new solutions to complex challenges.

What are the Key Exploitable Results (KERs) in PLANET?

Overview

Track & Trace & Monitoring (T&T&M) service offers continuously **visibility of goods and container along the supply chain** from the sender towards the receiver and sharing the data in an interoperable manner. Each good has a Smart Digital ID-card providing a configurable device to the logistic units capable to implement **specialised collection, monitoring and analytics functionalities to be provided real time** (if a connectivity is available) as well as stored in its internal memory (in case of lacks connectivity). This solution is enabled by **active IoT** node installed on the logistics unit and it is capable to:

- 1) uniquely identify a reusable asset (pallet/basket) and to notify its presence,
- 2) identify the logistic unit, assigning to it a standard id as GS1 SCCC,
- 3) be configured to implement goods-specific monitoring functionalities,
- 4) advertise the presence of the logistic unit, making available the SCCC code,
- 5) To advertise the measurements and the events detected. These concepts can be also moved to implement an interactive and configurable device for the smart container.

Description

Nowadays, the **track and trace** solutions usually monitor pieces of iron (container, trucks), without having the knowledge of the goods consolidated on those.

It is proposed an innovative **IoT** solution capable to **identify, characterise, track, trace and monitor your goods from the sender facility toward the receiver**. Such a solution is capable to enable the visibility of the whole supply chain, considering both first/last mile logistics leg, as well as cargo. On the other hand, Track One with its specialised monitoring can be essential for **guaranteeing an improved security on transporting perishable goods** (e.g., fruit and food), enabling a trusted and standardised data sharing with all the stakeholders involved in the supply chain, thus improving customer satisfaction.

Needs Addressed

Complete visibility of the supply chain from the sender toward the receiver warehouse.

KER Type

Product. New service.

Direct or indirect exploitation/use of KER

Further research and innovation

Consultancy and commercialisation services



Business Model

The Business Model section will provide a comprehensive overview of the different aspects of the KER's business operations, including its key partners, resources, value proposition, customer segments, customer relationships and also highlighting the strengths and opportunities that this KER offers to its partners and stakeholders.

Key Partners	Sellers, 3 rd parties (manufacturers), cloud and TLC service providers, component sellers, marketing support, trade association.
Key Activities	R&D (hardware, software and Cloud), Project/Product management, assistance, customisation, system maintenance, administration, management, business and financial modelling.
Key Resources	Embedded and Cloud developers, UX experts, management, administrative and financial experts, sales marketing expert, aftersales technical department.
Value Proposition	Complete visibility of the supply chain, dedicated monitoring at improved granularity of the foods, real time monitoring and data logging, track&trace, logistics units' characterization, reusable assets management (pallets), multitenant and proactive platform with secure/ad-hoc access, online processing of events, intuitive DSS, interoperable solution, proprietary know-how.
Opportunities	Interest in the perishable goods domain, circular economy as reusage of assets, delivery (supermarkets), customers consciousness increase.
Customer Segment	PLANET partners, logistics and delivery companies, perishable goods companies.
Potential USP	Complete visibility of the supply chain from the sender toward the receiver warehouse. Logistics units' consolidation support. Goods identification and characterisation (supporting consolidation optimisation and MaaS), LUs Tracking and tracing, LUs dedicated monitoring. Standardised representation and data sharing (GS1 EPCIS 2.0).

Exploitation Pathway

Three different exploitation pathways have been selected, two for short/medium term “Further research and innovation activities” and “Consultancy” and one for long-term that is “licensing”. The further research and innovation activities will allow to finalise the services by **collaborating with other projects** (Decarbomile), **searching for partnerships and testing the service in real environments**. The benefits are the continuation of the development and **upgrading the solution**, although the dedicated time will be high. The outcome of the PLANET project, called TrackOne, is currently evaluated by Italian and EU companies to be commercially exploited for tracking special goods.

The **medium-term** exploitation is the consultancy, which will allow to analyse new scenarios, search for partners and strong the **R&D department** by start providing technical support to different companies. The main benefit will be to increase the potential clients, although it is needed to dedicated time to develop it.

The **long-term** exploitation is licensing, the first steps for implementing it will be search for validation partners, agreements with sellers and stablish a commercial and technical department. Among the consortium partners the main collaborators will be **logistics operators, system integrators, retailers and trade associations**. The action plan for activities explained before is foreseen from 2023 until 2025.

Contact Information

For more information about the **Track & Trace Monitoring Services KER**, please contact the members of the KER owner: **New Generation Sensors S.r.l., Via Cisanello 38, Pisa – Italy – info@ngs-sensors.it**

