KEYSTONE Project and the Role of NAPs
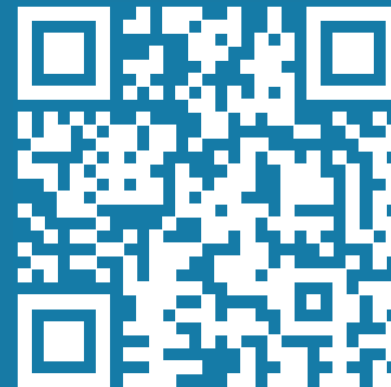
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09/11/2023
NAPCORE Mobility Data Days

KEYSTONE project

KEYSTONE EU

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KEYSTONE At A Glance

01

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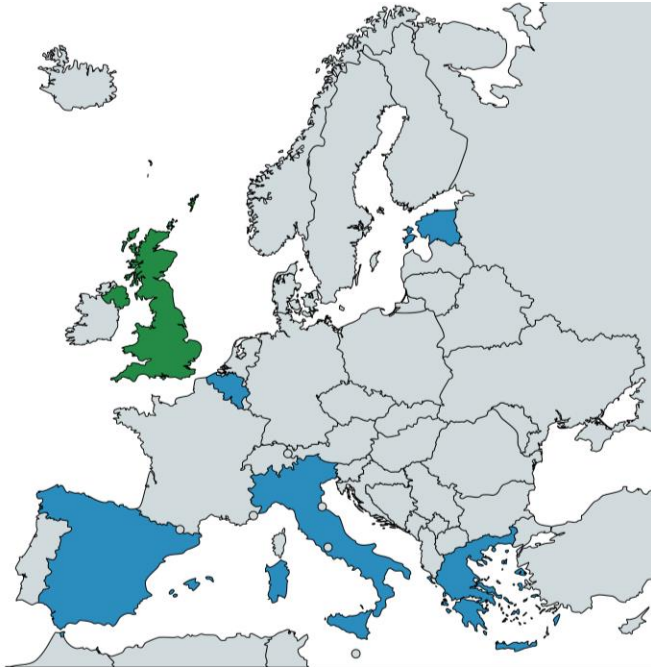# KEYSTONE At A Glance

KEYSTONE

Project name: KNOWLEDGEABLE COMPREHENSIVE AND FULLY INTEGRATED SMART SOLUTION FOR RESILIENT, SUSTAINABLE AND OPTIMIZED TRANSPORT OPERATIONS

Type of action: HORIZON Research and Innovation Actions

Project duration: 1 June 2023 - 31 May 2026 (36 months)

KEYSTONE

KEYSTONE At A Glance

🇮🇹 UNIMORE (COORDINATOR)

🇮🇹 TTS Italia

🇮🇹 T-BRIDGE

🇮🇹 RINA Consulting

🇪🇪 Etelatar Innovation

🇧🇪 Smart Transportation Alliance

🇪🇸 Universidad Politecnica de Madrid

🇬🇷 AETHON Engineering

🇮🇹 Gruber Logistics

🇮🇹 Centro Interportuale Merci (CIM)

🇮🇹 CEFRIEL

🇧🇪 Confederation of Organizations in Road Transport Enforcement (CORTE)

🇪🇸 Association Espanola de la Carretera (AEC)

🇮🇹 Interuniversity Consortium For Optimizationa and Operations Research (ICOOR)

🇬🇧 Coventry University

Our Motivation

02

Motivation

We set out to solve Challenges and harness Opportunities

- Real-time information sharing and compliance monitoring

- Enhancing transport workers' social conditions

- Lack of proof for sustainability compliance

- Business logics

- Direct and contactless access to real-time information

- Improve access to market services and platforms

- Increasing collaboration among stakeholders

- Standardizing digital data exchange in supply and logistics

Motivation

What has been achieved so far?

Motivation
Our starting thesis

- Companies do not want to switch their data model, but we must apply the Plug & Play Principle

- Initiatives such as Electronic freight transport information (eFTI) will be handled by data aggregators at least partially

- Data producers should send standardized data, but this is not always the case. This is inevitable when considering decentralized data flows and it should be facilitated

- We need to standardize storage and transportation of data

Discussion point #1

KEYSTONE

What are the capabilities of NAPs to store and handle data related to enforcement?

Can you think of preliminary standardisation needs?

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Our Vision

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EU-wide Vision

Smart Enforcement

for resilient, sustainable and more efficient transport operations

Establish an EU-wide **automated**, **sustainable**, and **cooperative** enforcement system, powered by digital technology

Compliance controls for all transport stakeholders

efficient and non-discriminatory with trusted and secure data exchange among public and private entities

Implementation in KEYSTONE

Develop tools to support the **federated operation of data sources and platforms** to automate enforcement, promote smart enforcement and allow easy compliance of stakeholders to regulations and rules.

Discussion point #2

KEYSTONE

How do you envision the integration of data exchange and compliance checks within a single, interoperable system, what the ideal state for you looks like?

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Objectives & Solutions

04

Objectives

KEYSTONE

Contribute to safety standards with digital information exchange

Promote collaboration among logistics stakeholders

Reduce compliance logistics costs through interoperable solutions

Develop standardized APIs and Plug-and-Play design for logistics platforms

Replicate success at the EU level with stakeholder involvement

Reduction of fuel consumption and of CO_2 and NOx emissions

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Solutions
What will KEYSTONE develop

API Reference Model and Standard

Smartphone and web app

Pilot implementations

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Solutions

What will KEYSTONE develop – Key Takeaways

KEYSTONE

Agile and standardised

Mechanism for implementation

Mechanism for standard creation

A standard developed in the project

Implementation of the eFTI logic using our API standard

Smartphone interface for drivers and web app for operators

Open source

Two pilot implementations

One logistics company and one intermodal hub

Feedback to DTLF

Discussion point #3

In your view, what are the safety and environmental implications of compliance checks in the transport sector that have the greatest priority to be addressed?

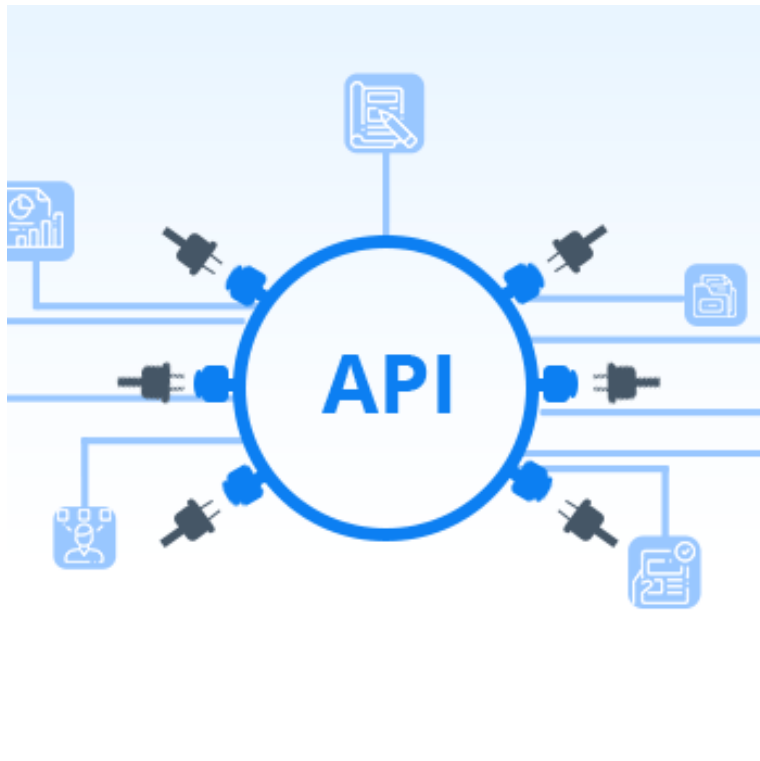# API Standardisation and NAPCORE's potential role

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API Standardisation
Our concept

The API reference model: it can adaptively extend to different end-users and different use-cases.

The model will:
- Allow exposure of the data that the user wants;
- Provide converters per data elements rather than the whole;
- Provide API endpoint exploration services.

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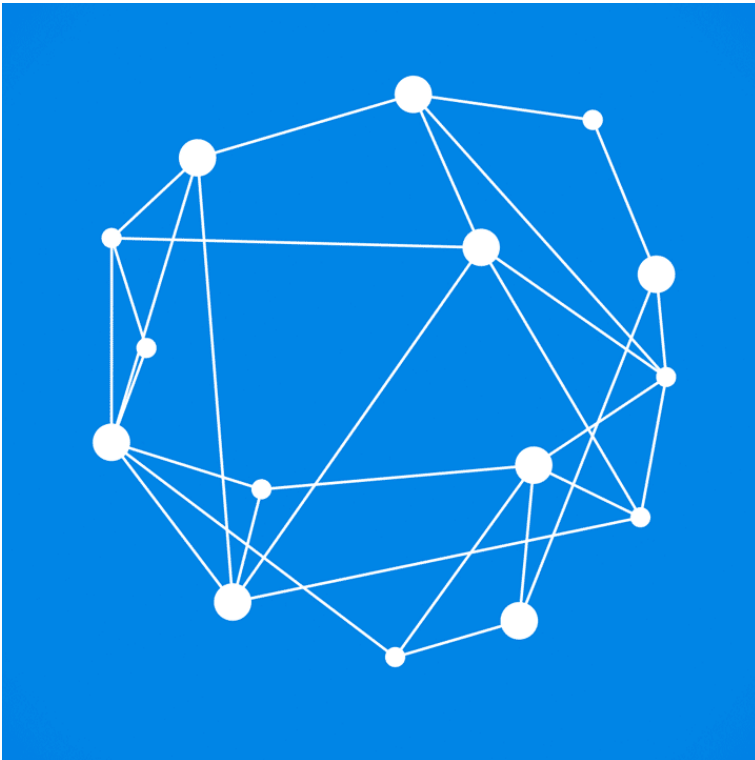
API Standardisation

What are the outcomes

➢ A practical implementation of Plug & Play design principles

➢ Open-source Python Library serving as a "coding kit"

➢ Each end-user will define their own APIs

➢ User-centric design

KEYSTONE

Standardise data transport

Adaptation to business logics

Foster Smart Enforcement

API Standardisation
Connections and synergies

We will also investigate the following:

- Interoperability with other platforms and systems (TACHOnet, ERRU, RESPER, IMI, eFTI, e-CRM, EU Central Hub, EUCARIS)

- Information exchange between vehicles and platforms (high automation level)

- Authentication mechanism for APIs and eID

NAPCORE's Potential Role
Some ideas to kick-start a collaboration – Part 1

Standardisation from NAPs' point of view

Insight about NAP's needs, requirements, accessibility, infrastructure

Consider standardisation for logistics

KEYSTONE can be a leap in efforts to include standards for logistics in NAPs

Consider API models

Test the capabilities of different API models and their correlation with different standards

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NAPCORE's Potential Role

Some ideas to kick-start a collaboration – Part 2

KEYSTONE

Work together on Paperless Transport

Consider NAP's role in eFTI implementation and documentation access

Utilise NAP infrastructure during pilots

Consider data storage possibilities in NAP's and the implementation of the API standard

Expert Review and Correlation

Compatibility assessment with existing standards, ensuring interoperability.

Thank you!

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www.keystone-project.com

KEYSTONE Survey

← A survey has been launched to map the needs of logistic operators and enforcement authorities!

Participants get to join the KEYSTONE community and benefit from exclusive stakeholder engagement activities.

Feel free to scan and start! It just needs a few minutes of your time and it is GDPR compliant.

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