

Use case of Connected Verticals: Cross-Vertical Supply-Chain (Universal)

HORIZON-CL4-2023-DATA-01-04 Cognitive Computing Continuum: Intelligence and automation for more efficient data processing (AI, data and robotics partnership) (RIA); Project: CoGNETs 101135930; Period: 01-06-2024 to 31-05-2027; EC contribution 5.7M EUR.

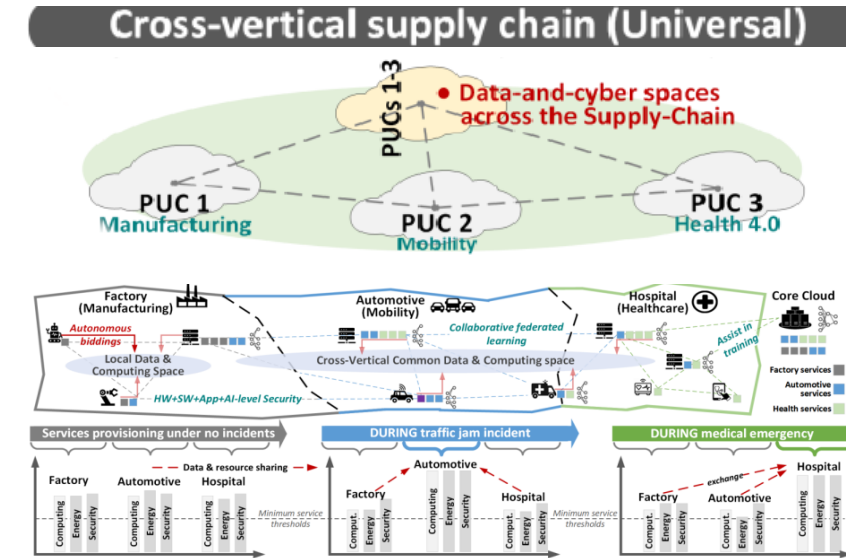
Concept:

Exploiting the computing capabilities of **cross-vertical infrastructure sharing** by facing efficiently the following challenges:

- **Cross-vertical Operationalization** to handle big volumes of common data
- **Cross-Infrastructure Scalability** to adapt to changes on-demand
- **Cross-Infrastructure Accessibility** to ensure trust in data collection and processing
- **Cross-Infrastructure Security** to minimizing risks of cross-vertical cyber-attacks.
- **Cross-Infrastructure Optimization** to find and tackle supply chain issues by analyzing business data via collaborative AI.
- **Cross-infrastructure Greenification** to achieve minimum GHG/CO2 emissions via supply-chain verticals' collaborations.

Benefits:

The added value of this use case is the creation and maintenance of a common data space between different EU **Manufacturing**, **Mobility**, and **Health** verticals to facilitate joint data monitoring, cooperative computing optimization, and coordinated response against known and unknown threats, thereby effectively improving their (common) supply-chain operation.



Use case of Hyper-distributed Data Processing for Fujitsu's Mobility Digital Twin Initiative – ENACT Project



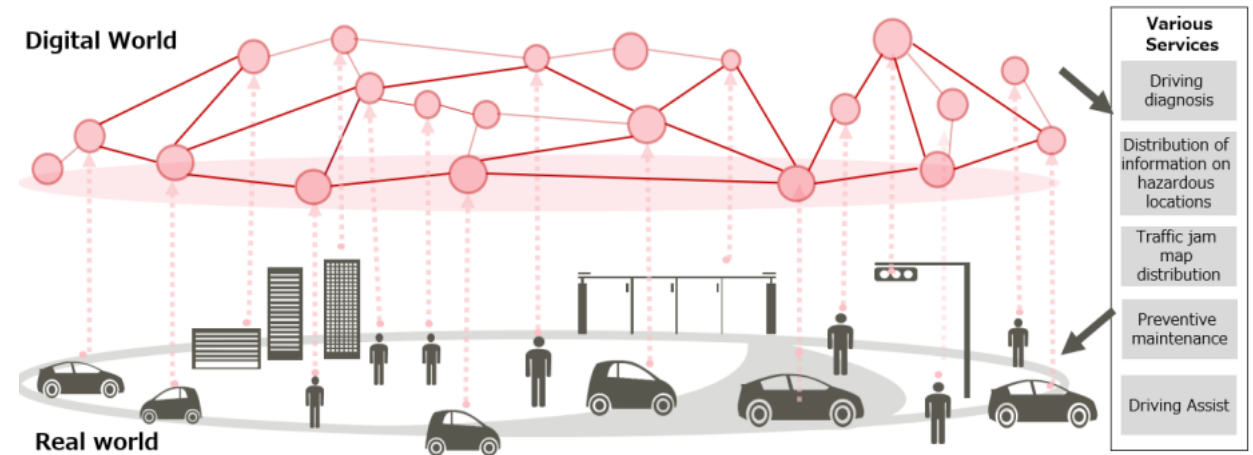
HORIZON-CL4-2023-DATA-01-04 Cognitive Computing Continuum: Intelligence and automation for more efficient data processing (RIA); Project: ENACT 101135423; Period: 01-01-2024 to 31-12-2026; EC contribution 5.05M EUR

Concept:

Fujitsu has recently launched an integrated virtual platform for the mobility space, which allows users to seamlessly integrate and manage information on devices including connected cars, smartphones, and tablets. However, there is a continuously increasing number of data coming from various sensors (GPS, mobile phones, roadside sensors, traffic controls systems, environmental monitoring systems) distributed across the transportation infrastructure. Therefore, mechanisms to efficiently handle, orchestrate and manage the underlying distributed compute and storage infrastructure are needed to accelerate new mobility innovations

- ENACT enables real-time processing and analysis of massive volumes of vehicle sensor data across the edge-cloud continuum leveraging AI and ML for intelligent workload placement, optimal scheduling and adaptive performance optimisation.

Reproduce/analyze/predict real-world information such as ever-changing vehicles and roads in real-time in the digital world



Benefits:

- ✓ *Savings in cloud computing costs due to distribution of data and processing over edge clusters*
- ✓ *Less replication of data to the cloud while maintaining same quality of service, resulting in cost and environmental benefits.*
- ✓ *Increased usage of the edge devices for enhanced scalability of the platform and reduced cost of data collection*

HYPER-AI Project Mobility and Automotive Use Case: Accessing automated and connected vehicle computing platforms



HORIZON-CL4-2023-DATA-01-04 Cognitive Computing Continuum: Intelligence and automation for more efficient data processing (RIA); Project: HYPER-AI 101135982; Period: 01-04-2024 to 31-03-2027; EC contribution 4.6M EUR

Application:

This use case models the computing power of automated vehicles as a resource that can be utilized during downtime for external tasks.

Operations Using Computing Swarms:

Swarms will harness the idle computing power of parked autonomous vehicles, dynamically allocating tasks to these vehicles based on availability and computational needs.

Examples:

Parked autonomous vehicles will perform AI inference tasks, such as processing visual of LIDAR data for city surveillance systems. Swarms will manage job distribution and ensure efficient use of vehicle computing resources.