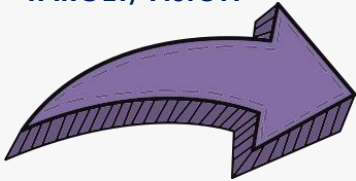


## Architecture for Scalable, Self-human-centric, Intelligent, Secure, and Tactile next generation IoT

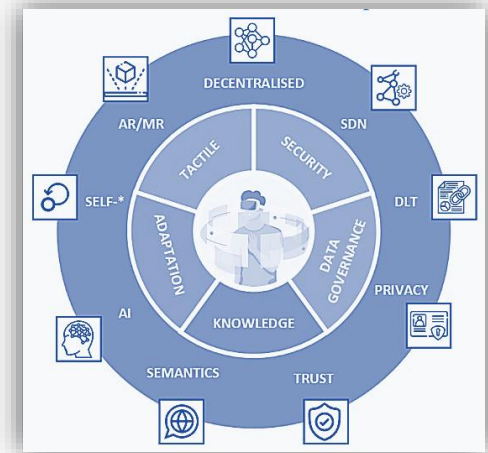
H2020 ICT-56-2020 "Next Generation Internet of Things (NGIoT)"

### TARGET/VISION



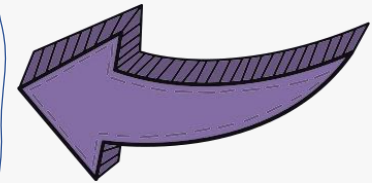
**ASSIST-IoT** is a EU H2020 ICT-56-2020 funded research project (Research and Innovation Action - 36 months duration), which aims at designing, implementing and validating an open, decentralized reference architecture, associated enablers, services and tools, for assisting human-centric applications in multiple verticals.

**ASSIST-IoT** will design, implement and validate, in a realistic, measurable, and replicable way, a unified innovative multi-plane, (semi-)autonomous, decentralized edge-cloud reference architecture, supplemented by cross-cutting digital enablers. The architecture will support continuous integration and long-term sustainability of domain-agnostic, interoperable, self-\* capable, intelligent, distributed, scalable, secure and trustworthy IoT ecosystems.



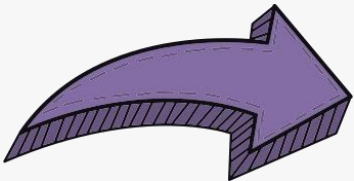
There are 8 objectives related to the **ASSIST-IoT** concept and validation:

- ✓ Design, implementation and validation of an NGIoT Reference Architecture
- ✓ Definition and implementation of distributed smart networking components
- ✓ Definition and implementation of decentralized security and privacy exploiting DLT
- ✓ Definition and implementation of smart distributed AI enablers
- ✓ Definition and implementation of human-centric tools and interfaces
- ✓ Definition, deployment and evaluation of real-life pilots
- ✓ Establishment of an innovative cooperation and business framework
- ✓ Impact creation: Showcasing ASSIST-IoT and Disrupting the current market



### OBJECTIVES/DETAILS

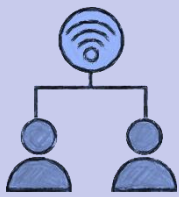
### THE CONSORTIUM



The **ASSIST-IoT** Consortium combines expertise of every area required to create, evaluate and promote innovative, transferable and sustainable results, needed to ensure quality of envisioned solution with an adequate level of manageability.

**ASSIST-IoT** brings together 15 partners from 7 European countries and forms a well-balanced mixture of stakeholders (TEMINAL LINK, MOSTOSTAL WARSZAWA, S21SEC), RTOs (UNIVERSITAT POLITÈCNICA DE VALÈNCIA, SRIPAS, CERTH, ICCS, CIOP), industry (FORD, NEWAYS TECHNOLOGIES, KONECRANES FINLAND), SMEs (PRODEVELOP, INFOLYSIS, TWOTRONIC) and telecom operators (ORANGE POLAND).



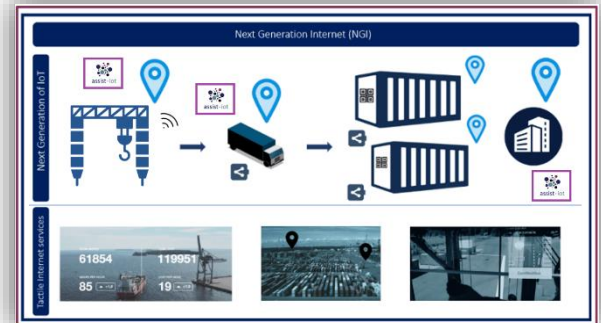


## THE PILOTS

### PORT AUTOMATION

The Port Automation pilot focuses on how ASSIST-IoT benefits port mechanisms by automizing them. Three business scenarios are considered:

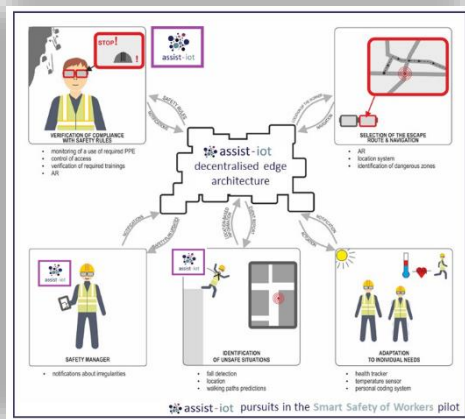
- Business Scenario P1-1: Tracking assets in terminal yard.**
- Business Scenario P1-2: Automated CHE cooperation.**
- Business Scenario P1-3: RTG remote control with AR support.**



### SMART SAFETY OF WORKERS

This pilot presents the benefits of the ASSIST-IoT approach on increasing OSH at the dynamic environment of a busy construction site. Four business scenarios are evaluated:

- Business Scenario P2-1: Occupational safety and health monitoring**
- Business Scenario P2-2: Fall arrest monitoring**
- Business Scenario P2-3: Safe navigation**
- Business Scenario P2-4: Health and safety inspection support**



### COHESIVE VEHICLE MONITORING AND DIAGNOSTICS

This pilot demonstrates the benefits of the ASSIST-IoT approach for the case of vehicle fleet diagnostics, where inputs coming from different sources are combined for providing an incremental and cohesive evaluation of the vehicle condition. Two business scenarios are considered:

- Business Scenario P3-1: Advanced powertrain monitoring and diagnostics**
- Business Scenario P3-2: Vehicle condition monitoring**

