ASSIST-IoT H2020 Project

Newsletter Issue 1

November2020 - January 2021

www.assist-iot.eu

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ISSUE HIGHLIGHTS

The first issue of ASSIST-IoT newsletter presents the project activities during the first period November 2020 - January 2021. This specific issue focuses on the initial communication and dissemination activities, the project deliverables (recent and upcoming), the virtual Kick Off Meeting, while it briefly provides a project overview and introduces ASSIST-IoT pilots.

ASSIST-IoT trimester activities in numbers:

- ➢ 1 Video-Project Overview
- ➢ 7 Presentations
- ➢ 4 Articles
- ➢ 1 Workshop-Webinar
- ➢ 1 Questionnaire/Survey
- ➢ 6 News-Press Releases
- ➢ 3 Submitted Deliverables
- ➢ 8 Upcoming Deliverables

assist-iot
Newsletter

Project Overview

ASSIST-IoT is a EU H2020 ICT-56-2020 funded research project which aims at design, implementation and validation of an open, decentralized reference architecture, associated enablers, services and tools, to assist 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.

You may learn more about the project by watching its video presentation at the official ASSIST-IoT YouTube channel: https://www.youtube.com/channel/UC8Sedd5UyB8R61d9YDkkeGg

ASSIST-IoT Pilots

Pilot 1: Port automation Pilot

This Pilot will be driven by the industrial partner and port terminal operator Terminal Link Group (TL) and will be deployed on its premises – in the Malta Freeport terminal (MFLT)

➢ **Scenario 1: Automated alignment of CHE (Container Handling Equipment)**
This scenario will enhance the operating performance by the automation of complex tasks and demonstrate the feasibility of technologies like for example, QR codes, in order to increase the throughput volume and reduce human error in the container terminals.

➢ **Scenario 2: Yard fleet assets location**
This scenario examines how by using a combination of real-time telemetry fleet assets, QR codes and image-based positioning we can automatically report containers location and reduce inventory errors.

➢ **Scenario 3: Augmented Reality and Tactile Internet HMIs for fleet yard drivers**
The aim of this scenario is to redefine how the staff in the terminal interacts with the heavy machinery through the application of AR and immersive spatial technologies.

➢ **Scenario 4: Remote control of CHE**
Relying on the architecture of the ASSIST-IoT project, this scenario will empower the crane operator with the ability to effectively control the crane from a distant control room following all the security measures.

Pilot 2: Smart Safety of workers Pilot

The Smart safety of workers with NGIoT solutions pilot will present the benefits of the ASSIST-IoT approach increasing OSH at the dynamic environment of a busy construction site.

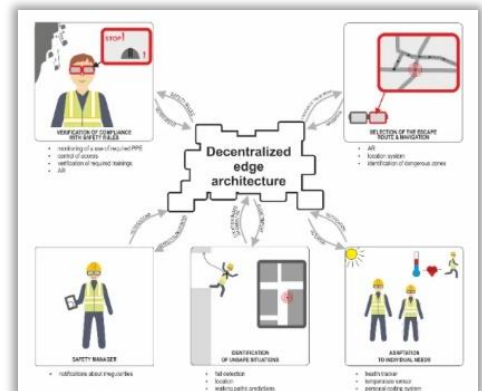➢ **Scenario 1: Optimization of safety and health plan with AR support**
This scenario focuses on optimizing the safety in workplace by preventing unauthorized personnel to entry critical zones with the support of AR technologies.

➢ **Scenario 2: Smart actuation of intelligent IoT devices with an adjustment to individual needs**
The objective of this scenario is to demonstrate the use of smart IoT devices functioning together in a closed loop feedback, in order to perform an Occupational Safety and Health (OSH) risk management process.

➢ **Scenario 3: Identification of suspicious and undesirable behaviors within the construction site**
The aim of this scenario is to move from traditional static and rule-based risk assessment approaches towards highly dynamic and real-time prediction of hazards and risks. Distributed ledger technology and intelligent IoT devices are essential for this approach.

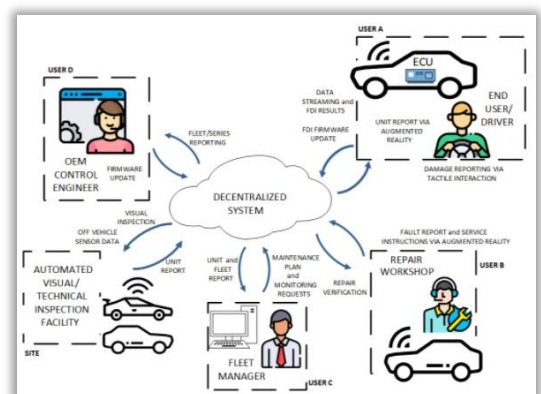## *Pilot 3: Cohesive vehicle monitoring and diagnostics Pilot*

The Cohesive vehicle monitoring and diagnostics pilot will demonstrate 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.

➢ **Scenario 1: Advanced powertrain monitoring and diagnostics**
This scenario includes advanced powertrain monitoring and diagnostics focused on identifying driving scenarios that are not fulfilling in-service conformity requirements.

➢ **Scenario 2: Vehicle condition monitoring**
This scenario deals with identification of mechanical malfunctions and monitoring of vehicle's aesthetic condition, in order to record deterioration of external body, facilitate driver/insurance liability and schedule maintenance and repair interventions.

ASSIST-IoT Consortium

The comprehensiveness of ASSIST-IoT objectives requires collaboration of a European expert Consortium in every area of the automotive industry, transport and logistics, and labour risk management, to analyze problems and already available technological products, human-centricity, data integration and communication, IoT platforms and global ICT solutions, from industry, SMEs, end-users, academia and public authorities. The Consortium has been judiciously composed to ensure quality of envisioned solution with an adequate level of manageability. The 15 ASSIST-IoT partners, from 7 European countries are a well-balanced mixture between stakeholders (TL, MOW, S21SEC), RTOs (UPV, SRIPAS, CERTH, ICCS, CIOP), industry (FORD, NEWAYS, KONE), SMEs (PRO, INFOLYSiS, TWOT) and telecom operators (ORANGE). Consortium combines expertise required to create, evaluate and promote innovative, transferable and sustainable results). ASSIST-IoT is coordinated by UPV that is highly experienced in administrative and financial management of large research, EU-funded projects, and related dissemination activities. More information available at ASSIST-IoT website: www.assist-iot.eu

Communication and Dissemination Activities

During the first three months of the project, the partners mainly concentrated on placing the pillars of the project and plan its route for the next couple of months. However quite a few activities were performed by several partners. Have a look at the activities of the first period and stay tuned, the best is yet to come!

➢ ASSIST-IoT partner Marcin Paprzycki from SRIPAS presented the "Towards Edge-Fog-Cloud Continuum in the Next Generation of IoT Ecosystems" presentation in the following events:
  - o At IEEE International Conference on Recent Advances and Innovations in Engineering on the 1st of December 2020. This action was considered as the first project dissemination activity.
  - o At the Eighth International Conference on Big Data Analytics (BDA 2020), Sonipat, India, December 2020. More information available here: http://bda2020.org/
  - o At the 2nd International Conference On Machine Learning, Advances in Computing, Renewable Energy and Communication (MARC2020), Ghaziabad, India, December, 2020. More information available here: https://www.krishnacollege.ac.in/marc/
  - o At the 3rd International Conference on Smart Systems: Innovations in Computing, that took place in Jaipur, India on January, 2021. More information:
  - o At the 5th International Conference on Computer Science and Computational Intelligence (ICCSCI) Information available here: https://socs.binus.ac.id/iccsci/
  - o At the National Seminar organized by West Pomerania branch of Polish Information Processing Society at the West Pomerania School of Business, Szczecin, Poland, January, 2021

➢ ASSIST-IoT partner Katarzyna Wasielewska-Michniewska from IBSPAN participated and presented in the International Conference on Research in Management and Technovation (ICRMAT-2020) on the 6th of December 2020. The presentation title was "Second rise of semantics in the era of next generation system architectures".

➢ ASSIST-IoT project carried out its first online Webinar-Workshop "Towards Market Review" on Monday 18 January 2021 10:00-11:00 CET within the context of WP3 activities. Agenda: 10:00-10:30 Project Introduction, 10:30-11:00 Market Report Strategy and Questionnaire Survey. You may watch online the recorded sessions of the ASSIST-IoT Webinar-Workshop at project's YouTube channel: https://youtu.be/0nKhkZU1lSo

- In the context of the Webinar, an Online Survey was conducted exploring the current adoption and actual needs for the adoption of Next Generation Internet technologies in the industry. This survey was addressed to key representatives of European industries that have contact with ICT technologies and its results are presented in D3.1.

- In parallel with the Workshop and Online Survey, ASSIST-IoT project organized interviews about the exploitation of ICT systems in a market environment. More details about the results are presented in D3.1.

- ASSIST-IoT article entitled: "Paving new ways for next-gen IoT" has been published online on BitsandChips. It is the first published article of the project and it provides information about the ASSIST-IoT Pilots. You may access and read the article online at https://bits-chips.nl/artikel/paving-new-ways-for-next-gen-iot/

- ASSIST-IoT online article has been published on the PEROSH website (Partnership for European Research in Occupational Safety and Health) providing core information about ASSIST-IoT project, a brief overview, its objectives, its partners-consortium, and specific pilots in which CIOP-PIB, ASSIST-IoT partner, participates and contributes. You may access and read the article online at: https://perosh.eu/news/ciop-pib-participates-in-project-assist-iot/

- ASSIST-IoT article has been published on the ECONOMIA3 (in Spanish) website giving insights about the pilots of the project and the challenges of AI technology and IoT will face in this new industrial era. Special thanks to UPV for representing the project to this activity. More information about the article available at: https://economia3.com/2021/01/03/295472-la-industria-encara-sus-retos-tecnologicos-con-ia-e-internet-de-las-cosas/?utm_medium=social&utm_source=twitter&utm_campaign=metricool#click=https://t.co/5NmUCWuVUH

- Another ASSIST-IoT article was published (in Spanish) by LARAZON website. In this article UPV shared information about the IoT technology. They also shared some interesting information about the context of ASSIST-IoT project. You may access the article by clicking on the following link: https://www.larazon.es/comunidad-valenciana/20210103/vbqf2gwxzjhofnp5kuwd4um2ue.html

- ASSIST-IoT project has been announced through CORDIS EU and five partners' websites in the form of news and press releases. These news share a brief overview of the project among with details about its plan and the role of participating partners. You may find these announcements/press releases in the following link: https://assist-iot.eu/press-releases/

Period Deliverables

D2.1 Project Management Handbook [M1] – The deliverable includes all necessary project management procedures (reporting, approvals, etc.) to be performed by Consortium members.

D2.3 Ethics and Privacy Protection Manual v1 [M3] – This deliverable formally specifies the ways in which conformance with ethical and legal guidelines will be ensured, in line with pertinent EU (and local) documents.

D3.1 State-of-the-Art and Market Analysis Report [M3] – This deliverable presents the main results of State of the Art review and stakeholders and market analysis carried out.

D9.1 Website, Social media Channels and Communication Support Material [M3] – details on project's Website, profiles in selected Social Networks, and core communication material such as posters and leaflets.

Upcoming Deliverables

D2.2 Data Management Plan [M6] – This deliverable will include ASSIST-IoT Guidelines on Data Management.

D2.8 Advisory Board Minutes – First Meeting [M6] – Minutes and report of the first meeting with the Advisory Board.

D3.2 Use Cases Manual & Requirements and Business analysis – Initial [M6] – Initial version of use cases and scenarios definition needed to deploy the reference architecture analysis of requirements (including dependencies and inter-relations), mapping requirements into business needs and definitions of solutions.

D3.5 ASSIST-IoT Architecture Definition – Initial [M6] – Initial specification of the ASSIST-IoT technical architecture and its components.

D6.1 DevSecOps Methodology and Tools [M6] – Specification of technologies, tools and environment needed to be put in place for instantiation of the DevSecOps approach of ASSIST- IoT.
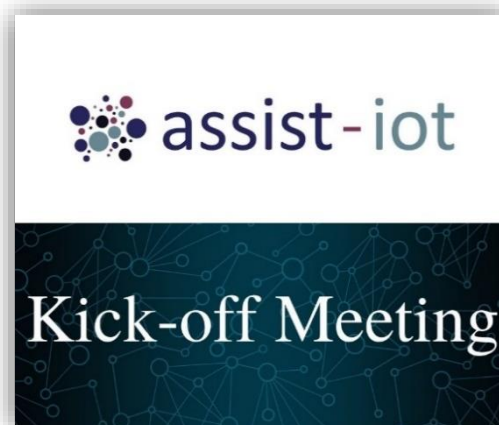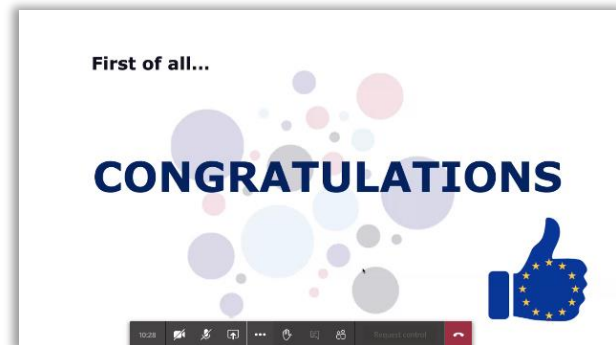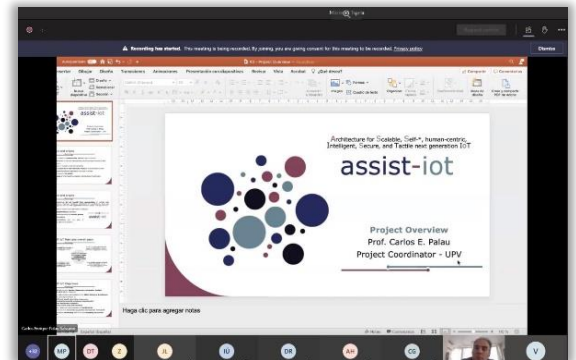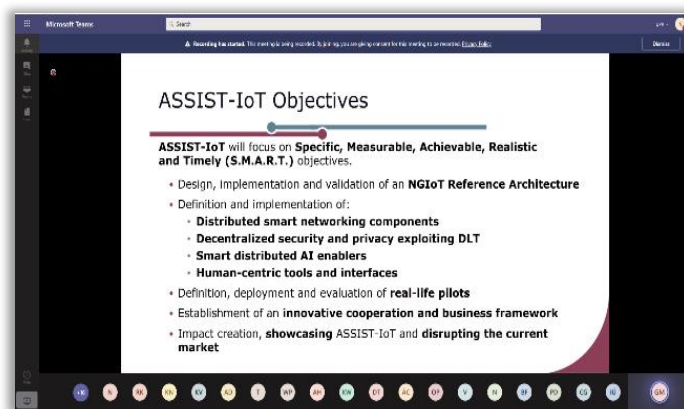
D9.2 Communication, Showcasing, Dissemination and Exploitation Plan and Standardization Roadmap [M6] – summarises the initial ASSIST-IoT communication, dissemination, show-casing and exploitation plan, as well indicative activities performed so far.

All public ASSIST-IoT deliverables are available for downloading

at ASSIST-IoT website: https://assist-iot.eu/deliverables/

Virtual Kick-off Meeting (12-13 November 2020)

Due to the COVID-19 impact and for safety reasons, the ASSIST-IoT Kick-Off Meeting took place remotely in a virtual way using MS Teams platform. It ran for 2 days (12-13 November 2020) and all project's partners had the chance to meet virtually each other and set the guidelines/plan for the first period of the project. They discussed in detail about the Work Packages and Tasks that already started their activities, as well as the course of action about the initial impact initiatives and upcoming deliverables.

Communication Channels

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