AWARD

Scaling autonomous logistics

AWARD has received funding from the European Union's Horizon 2020 research and innovation program under Grant Agreement No 101006817

Scaling Autonomous Logistics – the AWARD Approach

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H2020 context

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H2020 objectives – Innovation for the Industry

1. Contribution to the **accelerated deployment of innovative connected and automated freight transport solutions in Europe**

2. Contribution to the **increase of the overall safety and efficiency of freight operations** of individual trucks or fleets in confined areas and in mixed traffic (hub to hub) **through innovative connected and automated driving systems**

3. Actions will show the **uptake of new business models**

4. Actions will seek to reach a **total cost reduction of operations and logistics and supply chain**, leading to improved competitiveness of the European transport and logistics industry

"Our focus is to develop, test and demonstrate connected and **automated** systems for **heavy commercial vehicles** in **real logistics operations**."

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AWARD response

H2020 framework

- **2018-2020** : Digitising and Transforming European Industry and Services: Automated Road Transport
- **DT-ART-05-2020** : Efficient and safe connected and automated heavy-duty vehicles in real logistics operations

AWARD : All Weather Autonomous Real logistics operations and Demonstrations
Project Coordinator : EasyMile
Partners : 29
Timeline of the project : 1st of January 2021 – 31st of December 2023

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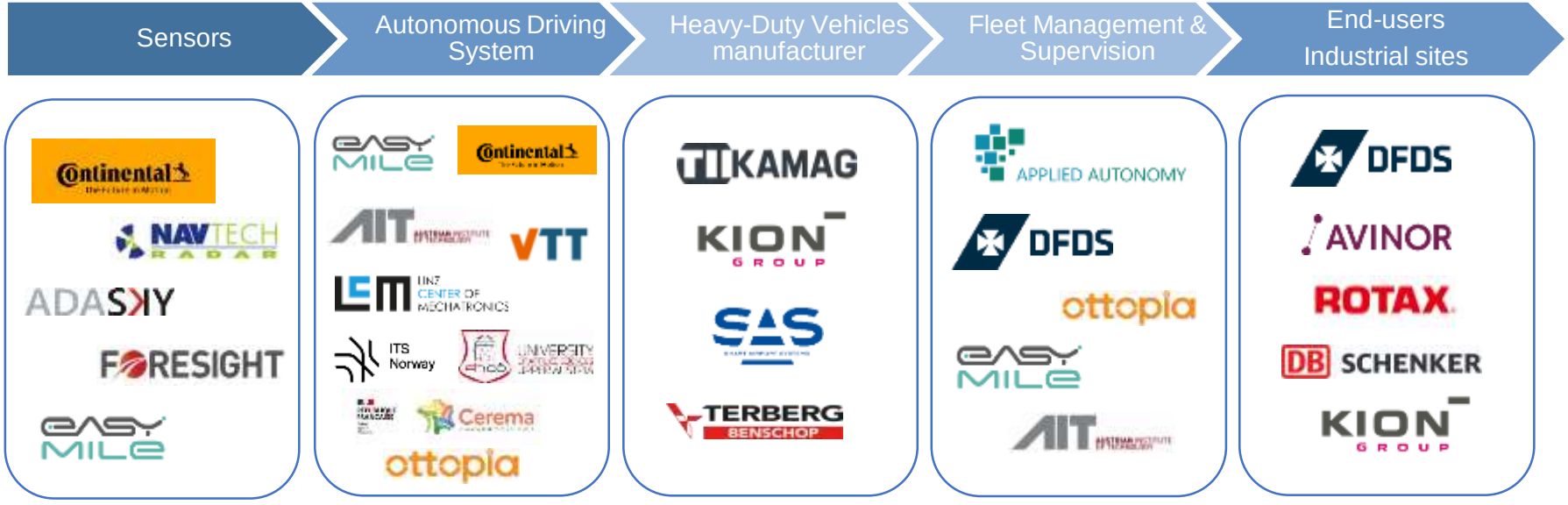
Complementary-skilled Consortium



From multiple horizons

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AWARD approach

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Project ambitions

Ambition 1

AWARD ADS architecture **offers a unique set of sensors that enables 24/7 availability** (night and day, good or bad weather conditions), **within an extended ODD**

ODD = Operational Design Domain

Ambition 2

By addressing 24/7 availability, the fully automated HDV will be **deployed over key pilot projects that are highly scalable and replicable** over warehouses, factories, airports and ports, **in mixed traffic in confined areas and on public roads**

Ambition 3

The new **fleet management system** will integrate **data from vehicles, logistics systems and the road infrastructure**, coordinating exchanges with different data providers to ensure economic viability of data-related business models, **while providing high-reliable and secured tool that optimizes logistics flows and ensures safety for other road users**.

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Global approach

Development of the ADS

Able to **handle adverse environmental conditions** such as heavy rain, snowfall, fog

Targeting compliance with **ISO 26262** and taking into consideration **SOTIF recommendations**

Integrating **multiple sensor modalities and an embedded teleoperation system to address 24/7 availability**

Optimized fleet management & supervision system for logistics use cases

Integration into HDV

KION

KAMAG

TLD

TERBERG

Demonstrations

Industrial autonomous loading & unloading operations

Hub to hub autonomous logistics on public roads

Airport autonomous ground support equipment

Port Trailer autonomous transfer operations

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Use Case 1: Autonomous loading & unloading forklift operations

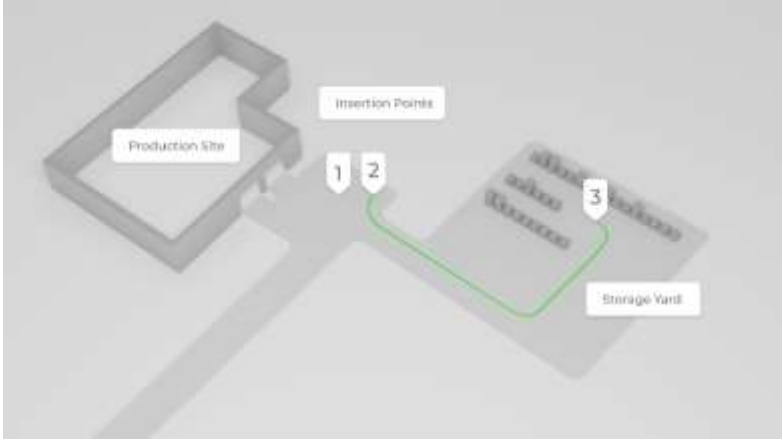
Site

Linde Aschaffeburg Material handling

Private site

Objective

To demonstrate gitter boxes transport and yarding on Linde Aschaffenburg site, using an autonomous counter-balanced forklift vehicle.



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Use Case 2: Hub-to-hub shuttle service from warehouse/production site to logistics hubs

Site

Engine Factory of BRP-Rotax

Logistic Hub of DB Schenker

Public & private site

Objective

To demonstrate highly automated, continuous, hub-to-hub freight transportation between both sites, which are connected via public side roads, public crossing areas and a public main road.

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Use Case 3: Automated baggage tractor on airside in Avinor OSL Gardermoen airport

Site

OSL Gardermoen aiport

Private site

Objective

To demonstrate automated baggage tractor transportation under harsh-weather conditions from proximity storage to the makeup area, and from the makeup area to the aircraft stand.

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Use Case 4: Container transfer operations and automated boat loading in Rotterdam port

Site

Rotterdam port terminal

Restricted site

Objective

To demonstrate and validate AWARD technology on a busy Roll-in/Roll-off terminal in Rotterdam (NL). The objective is to integrate automated trailer transfer with DFDS terminal systems and operate in a live environment with other vehicles and people

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Let’s keep in touch!

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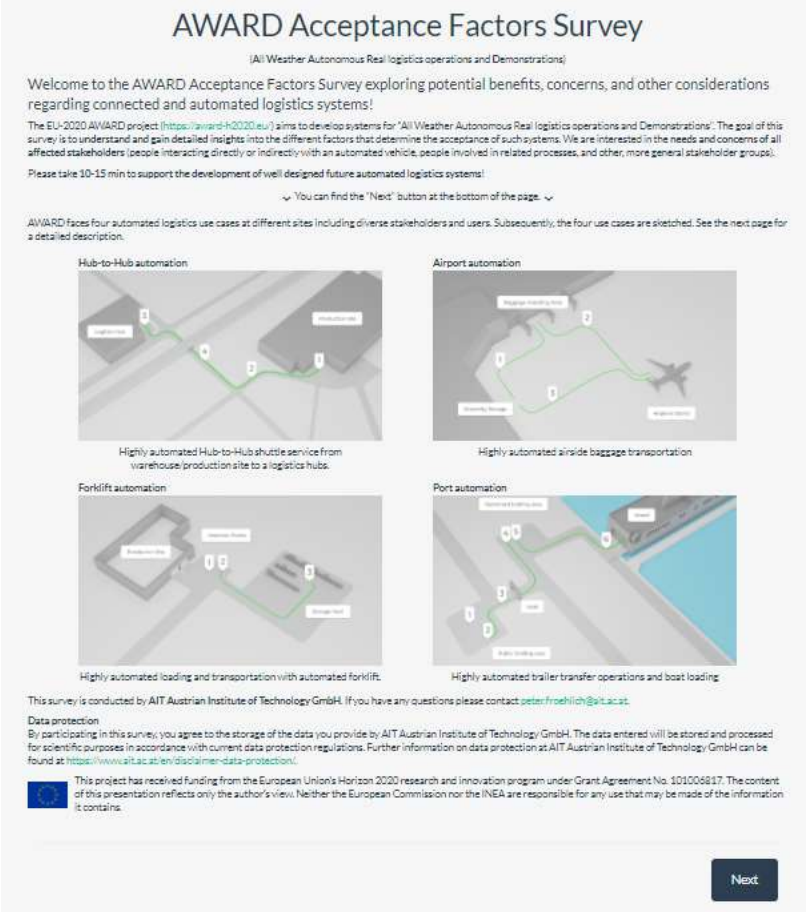
Participate to our Acceptance Factors survey!



AWARD Acceptance Factors Survey

(All Weather Autonomous Real logistics operations and Demonstrations)

Welcome to the AWARD Acceptance Factors Survey exploring potential benefits, concerns, and other considerations regarding connected and automated logistics systems!

The EU-2020 AWARD project (https://award-h2020.eu/) aims to develop systems for "All Weather Autonomous Real logistics operations and Demonstrations". The goal of this survey is to understand and gain detailed insights into the different factors that determine the acceptance of such systems. We are interested in the needs and concerns of all affected stakeholders (people interacting directly or indirectly with an automated vehicle, people involved in related processes, and other, more general stakeholder groups).

Please take 10-15 min to support the development of well designed future automated logistics systems!

You can find the "Next" button at the bottom of the page.

AWARD faces four automated logistics use cases at different sites including diverse stakeholders and users. Subsequently, the four use cases are sketched. See the next page for a detailed description.

Hub-to-Hub automation

Highly automated Hub-to-Hub shuttle service from warehouse/production site to a logistics hubs.

Airport automation

Highly automated airside baggage transportation

Forklift automation

Highly automated loading and transportation with automated forklift.

Port automation

Highly automated trailer transfer operations and boat loading

This survey is conducted by AIT Austrian Institute of Technology GmbH. If you have any questions please contact peter.froehlich@ait.ac.at.

Data protection

By participating in this survey, you agree to the storage of the data you provide by AIT Austrian Institute of Technology GmbH. The data entered will be stored and processed for scientific purposes in accordance with current data protection regulations. Further information on data protection at AIT Austrian Institute of Technology GmbH can be found at https://www.ait.ac.at/en/disclaimer-data-protection/.

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Next

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Thank you!

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