Wednesday, 2 June 2021

AWARD

Scaling autonomous logistics

Automation in Freight Transport & Logistics: User requirements Workshop

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

Welcome and introduction

Ted Zotos
Research and Innovation Manager, IRU

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Agenda

09:00h-09:15h | **Welcome and introduction**

09:15h-10:00h | **Session 1: Challenges and opportunities for Future Automated Transport Logistics**

10:00h-10:10h | **Coffee break**

10:10h-11:10h | **Session 2: Defining Requirements for Key Scenarios (Breakout sessions)**

11:10h-11:50h | **Session 3: Main findings from Breakout sessions**

11:50h-12:00h | **Concluding remarks and next steps**

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Workshop Housekeeping Rules

- Ensure you have a good internet connection
- You might want to use a headset
- You will be muted from the beginning to avoid any noises
- The chat will be public – your questions will be seen by the speakers and the audience
- Type your questions into the chat on the right of your screen
- Questions will be answered at the end of each session

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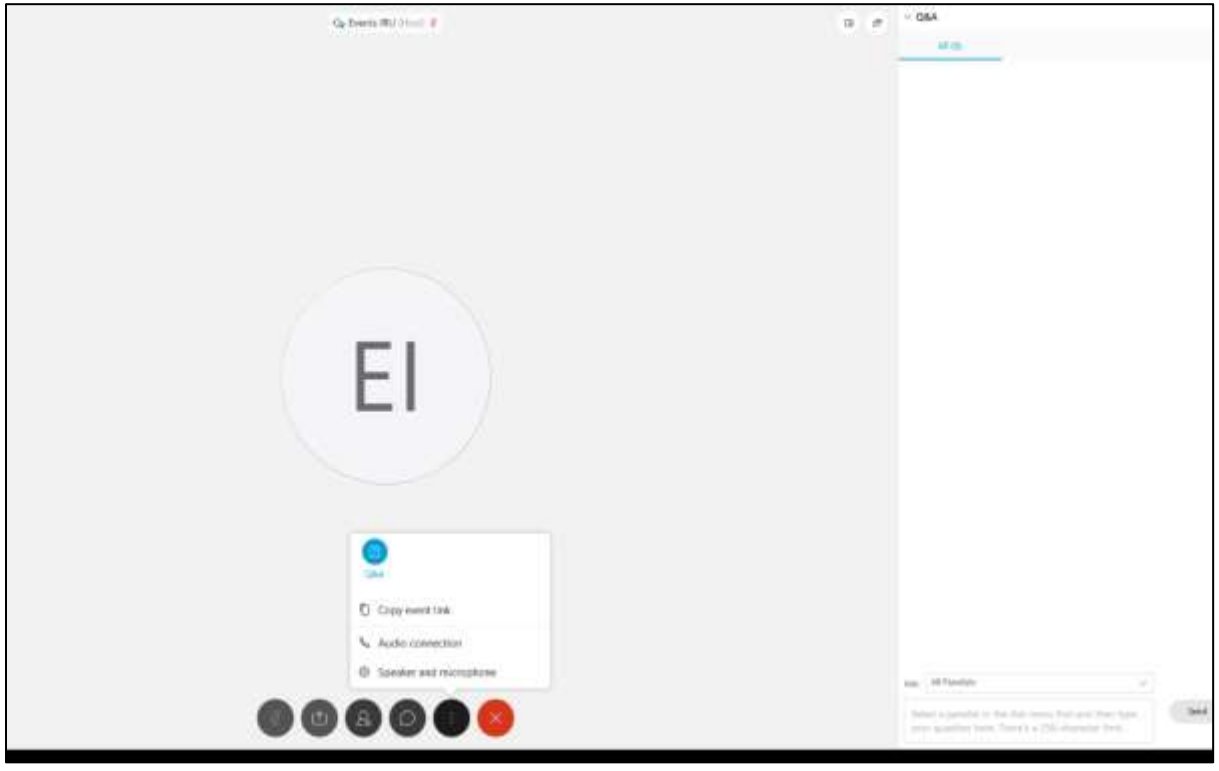

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1. Microphone
2. Share screen (if permitted)
3. Participants
4. Chat
5. Additional options
6. Close and leave the event
7. Questions and Answers panel
8. Interface and visibility options

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#AutonomousLogistics, #transport, #EutransportResearch, #H2020
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Session 1: Challenges and Opportunities for Future Automated Transport Logistics

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Scaling Autonomous Logistics – the AWARD Approach

Inès Guth
Project Manager, EasyMile

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Contents

- H2020 context
- 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
Start of the project : 1st of January 2021

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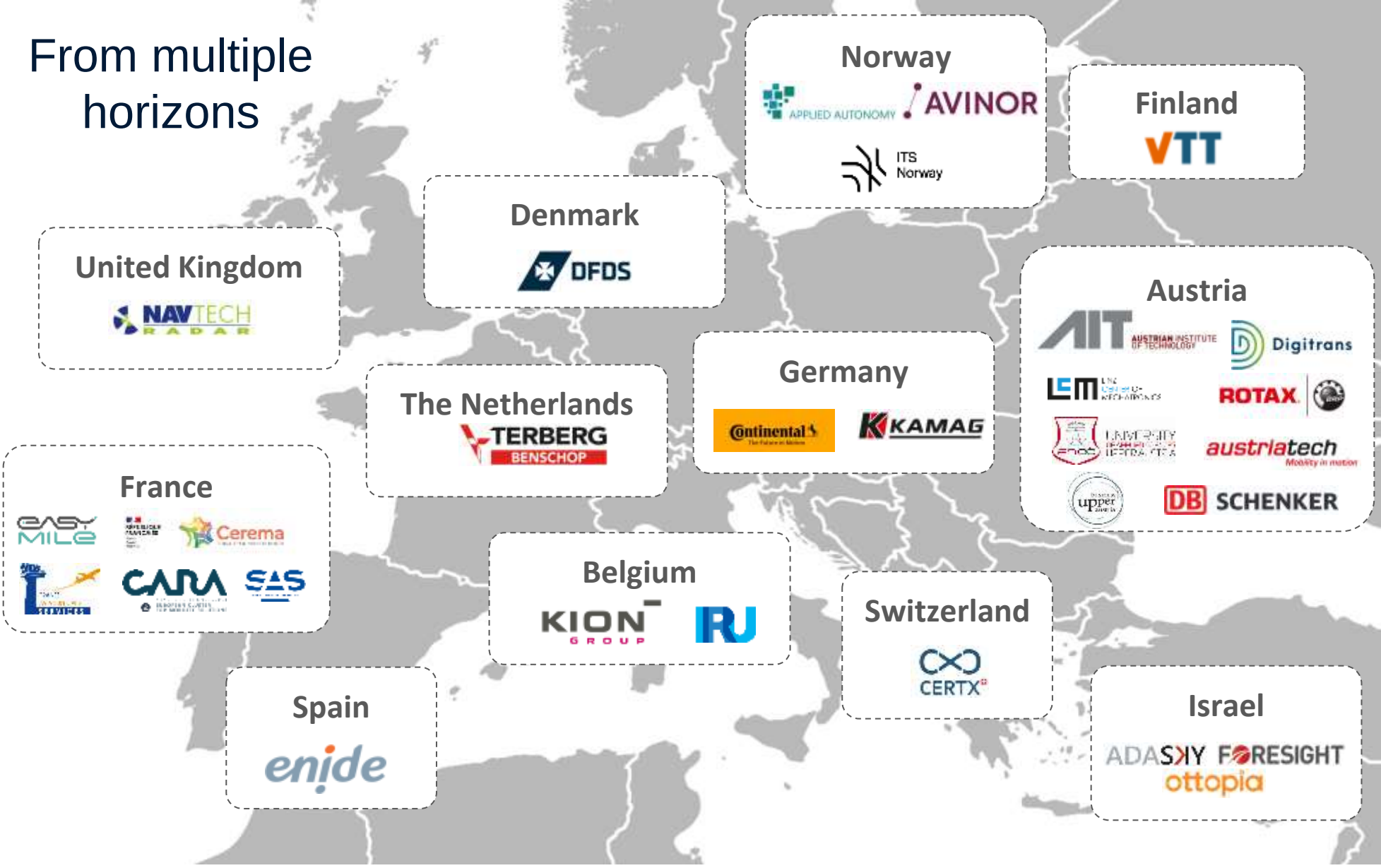
Complementary-skilled Consortium

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 ODDs**

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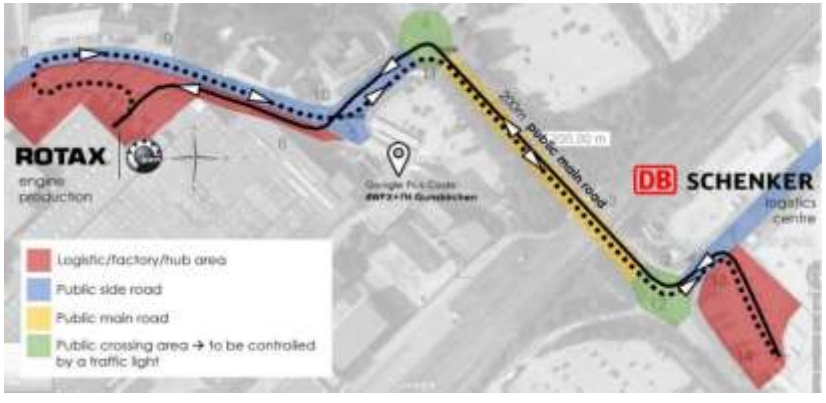
Use Case 2: Hub-to-hub shuttle service from warehouse/production site to logistics hubs

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 aircraft stand n°9 towards aircraft stand n°8 and vice – versa.

The use case will be extended with automated ULD transportation 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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Thank you!

Inès Guth

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Acceptance Factors for Autonomous Transport Logistics

Peter Fröhlich
Senior Scientist, AIT Austrian Institute of Technology

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Coffee break

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Session 2: Defining Requirements for Key Scenarios – Breakout sessions

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Breakout sessions

- Automated goods handling within the logistics
- Hub-to-hub transport on public roads
- Automated transport for airport baggage handling
- Automated trailer transfer with port terminal systems

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Session 3: Main Findings from Breakout sessions

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Reporting back from the Breakout sessions

- Automated goods handling within the logistics
- Hub-to-hub transport on public roads
- Automated transport for airport baggage handling
- Automated trailer transfer with port terminal systems

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Concluding remarks and next steps

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Manager – Research and Innovation, IRU

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Upcoming AWARD Workshops

- Testing methodology and evaluation
- Emerging business and operating models
- Regulatory and governance frameworks
- More TBD

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Let’s keep in touch!

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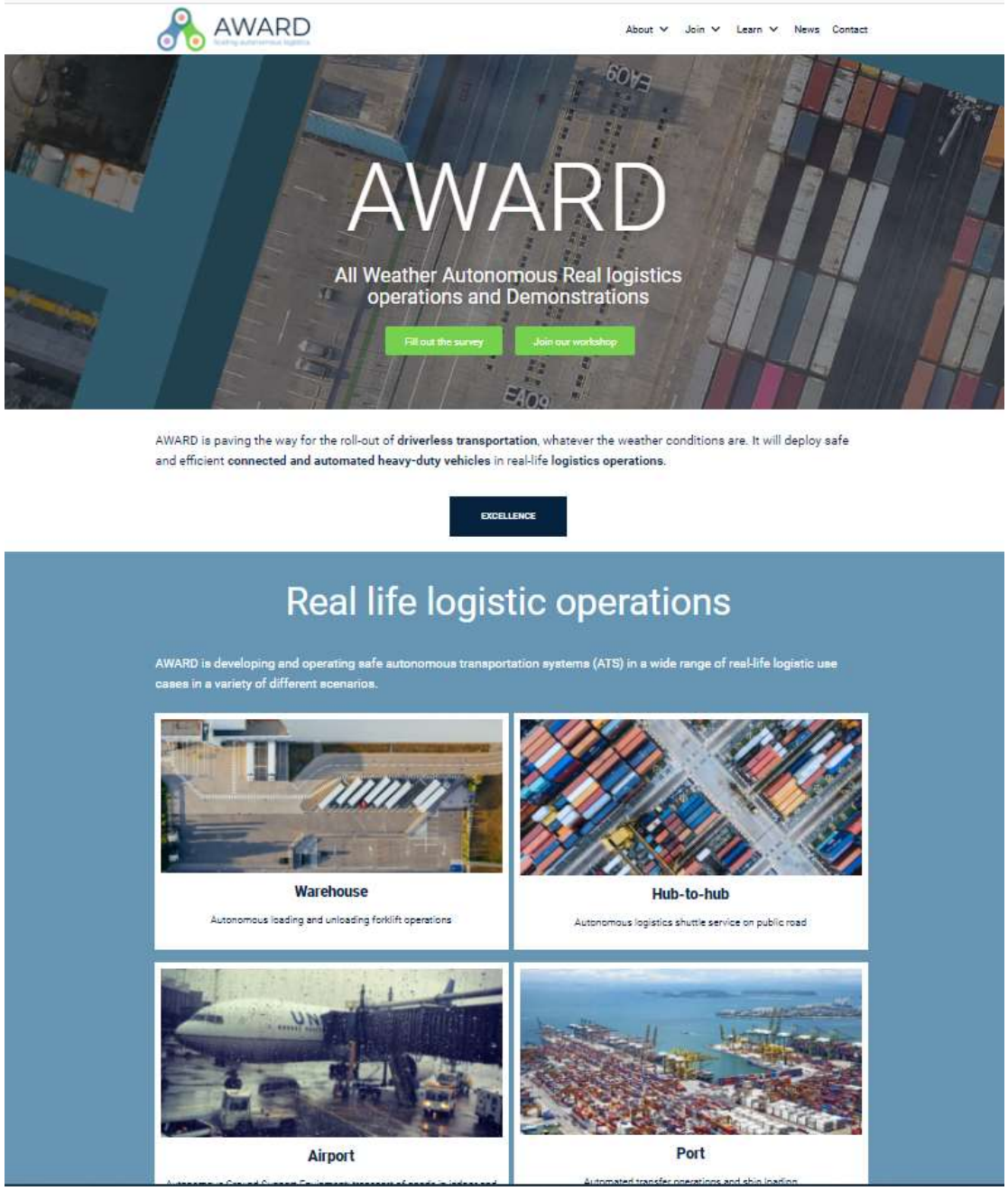

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