AWARD
Scaling autonomous logistics

General information

An introduction to the AWARD project

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

Budget : € 26M

Partners : 29

An introduction to the AWARD project

4 real-life conditions demonstrations, showcasing the work of all consortium members

Development of the system

- Able to handle adverse environmental conditions

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

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

F⊙RESIGHT   Continental   ADASKY   NAVTECH RADAR

ottopia

- Optimized fleet management & supervision system for logistics use cases

APPLIED AUTONOMY

Integration into HDV and validation

Demonstrations

Port Trailer autonomous transfer operations

DFDS

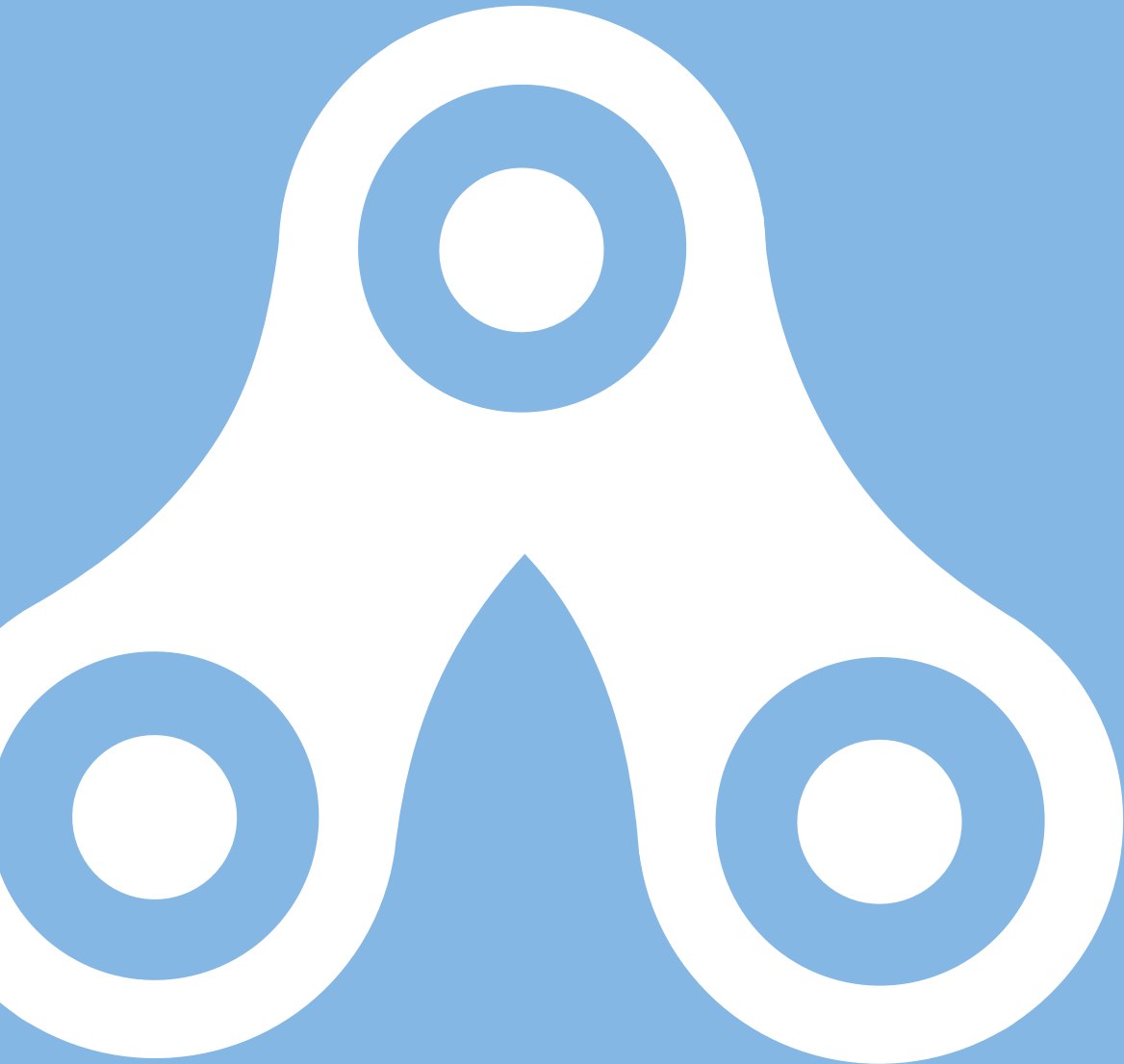Hub to hub autonomous logistics on public roads

ROTAX AIRCRAFT ENGINES / BRP

DB SCHENKER

Airport autonomous ground support equipment

AVINOR

OSLO

Autonomous loading & unloading operations

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

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Airport

Autonomous driving demonstrations in real logistics operations

Airport demonstrator: Vehicle presentation

Vehicle

- Manufacturer: TLD (Saint Lin, France)

- EZTow: airport and industrial towing tractor

- Vehicle speed: 15kph

- Towing capacity: 14 tons

Autonomous driving demonstrations in real logistics operations

Airport demonstrator: safety tests

Test description

- Vehicle running in autonomous mode on a straight line under the rain tunnel

- Dummy pedestrian as an obstacle

Route Description

- Use Case:
  - TractEasy waiting mission point
  - Go manually to pick up empty dollies along P-North, then go to Start Auto Mission point
  - Bring them autonomously to containers storage
  - Go back autonomously to End Auto Mission point
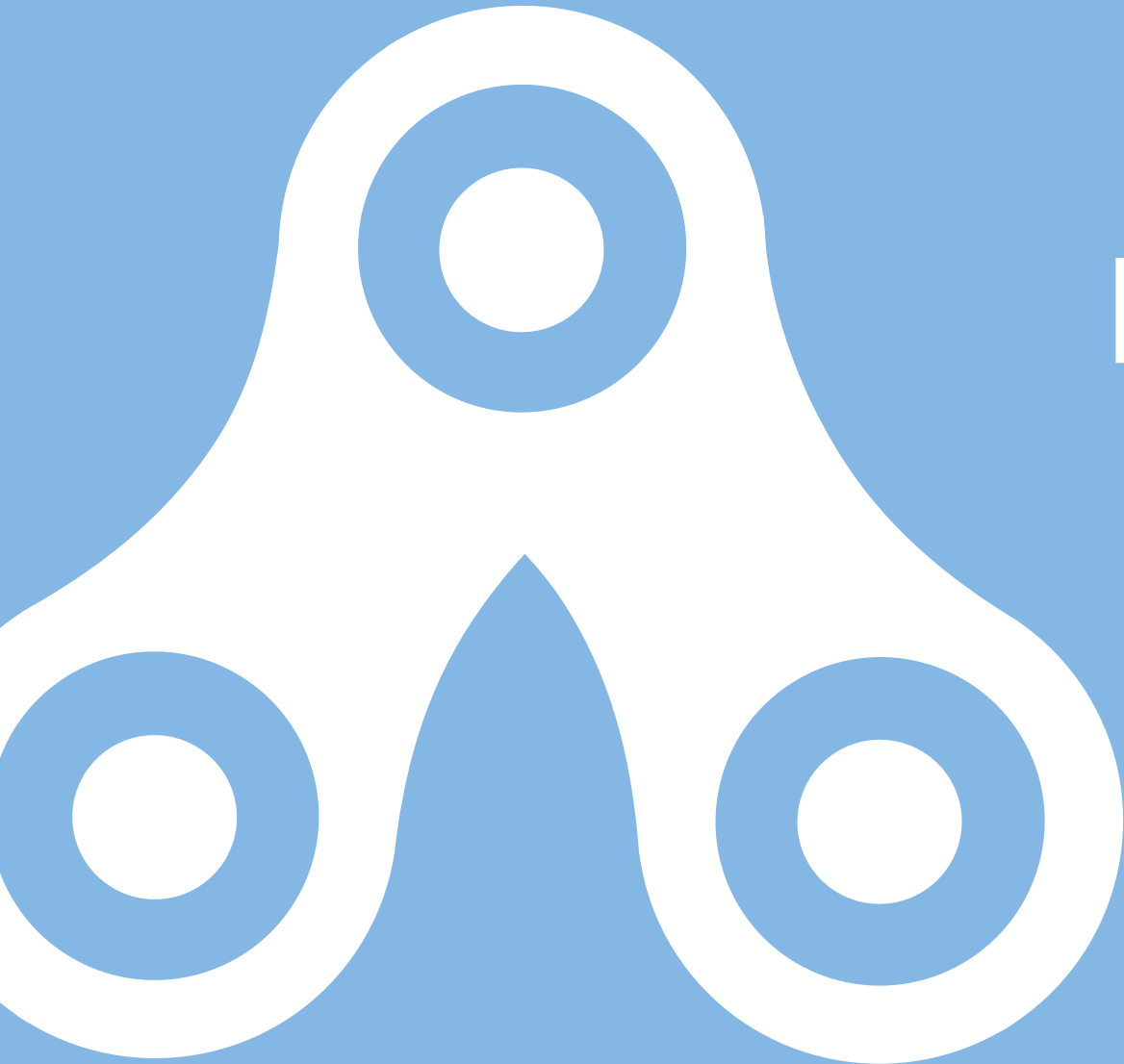 - Drive manually to TractEasy waiting Mission point

Waiting Mission point

End Auto Mission Station

Start Auto Mission Station

Containers storage

Hub to hub

Autonomous driving demonstrations in real logistics operations

Hub-to-hub autonomous logistics: Vehicle presentation

Vehicle

- Manufacturer: KAMAG (Ulm, Germany)

- Autowiesel: swap body transporter

- Vehicle speed in autonomous mode: 20kph

Autonomous driving demonstrations in real logistics operations

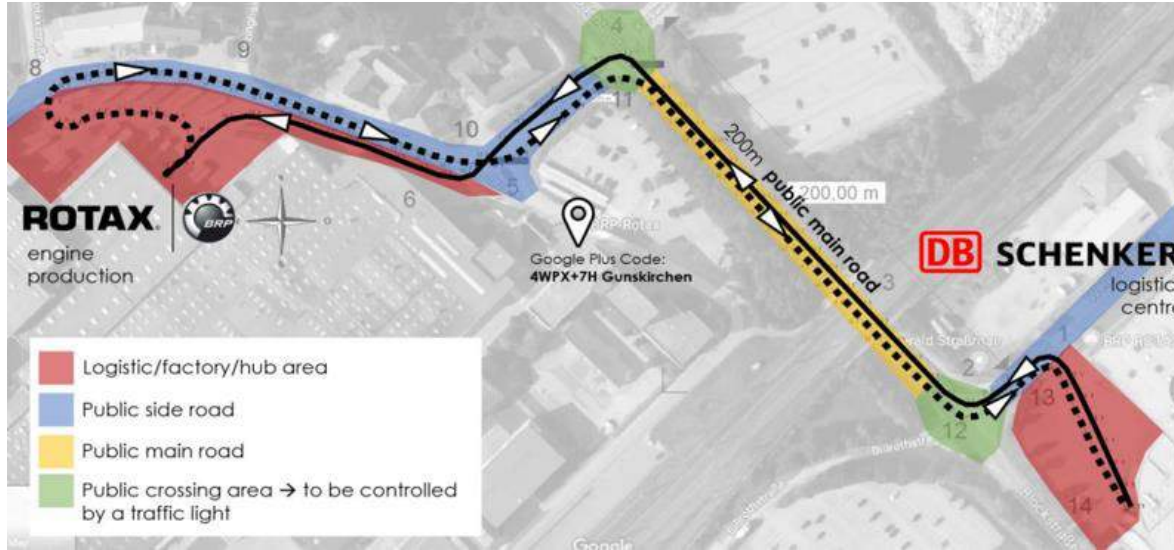## Hub-to-hub autonomous logistics: safety tests

Test description

- Vehicle equipped with container

- Reverse maneuver under the rain tunnel

- Different kind of obstacles (pallets, dummies)

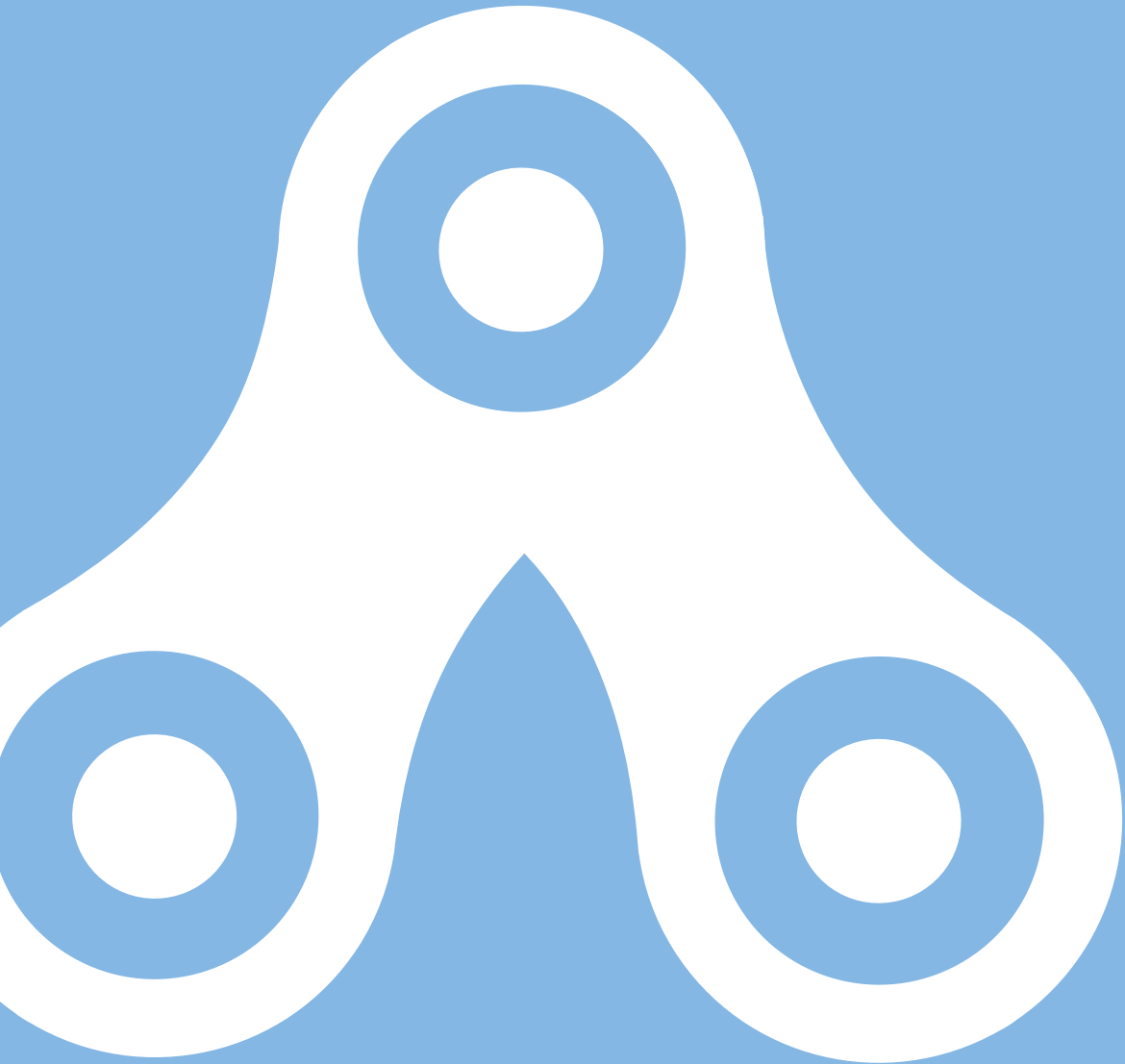# Autonomous driving demonstrations in real logistics operations

Hub-to-hub autonomous logistics: demo description

Legend:
- Logistic/factory/hub area
- Public side road
- Public main road
- Public crossing area → to be controlled by a traffic light

ROTAX engine production

Google Plus Code: 4WPX+7H Gunskirchen

DB SCHENKER logistics centre

200m public main road

Use case

- Component pick-up at a logistic site
- Autonomous movement through mixed traffic with C-ITS
- Delivery at Factory site

Port

Autonomous driving demonstrations in real logistics operations

Port demonstrator: Vehicle presentation

Vehicle

- Manufacturer: TERBERG (Benshop, Netherlands)

- EZTug: yard tractor

- Vehicle speed in autonomous mode: 25kph

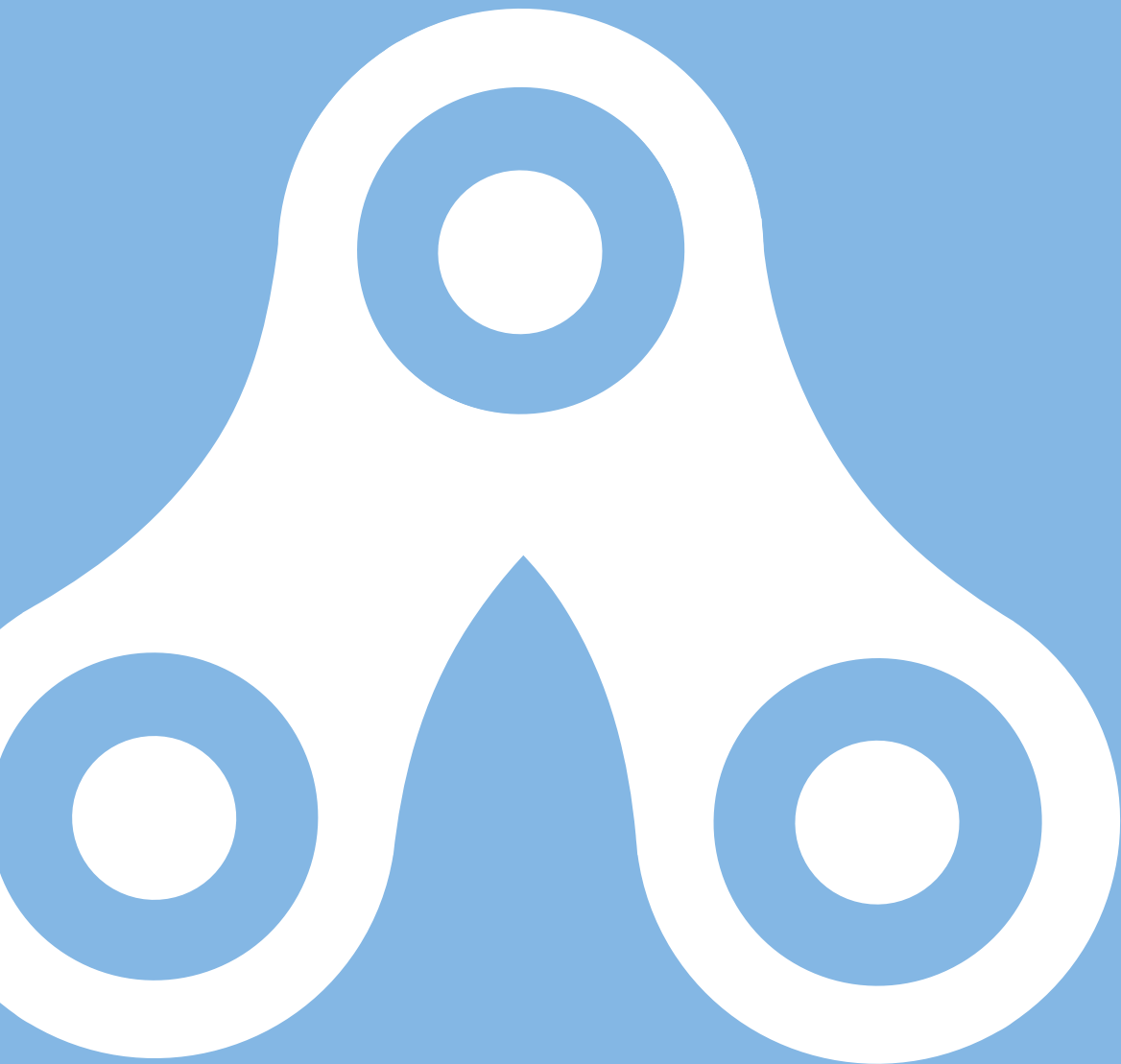# Autonomous driving demonstrations in real logistics operations

Port demonstrator: safety tests

Test description

- Vehicle running autonomously under the rain tunnel and along the round about

- Different kind of ostacles: dummy car, dummy pedestrian

Autonomous driving demonstrations in real logistics operations

Port demonstrator: demo description

Use case

- Phase 1 : Trailer move from in site – prepared for loading onto the ship

- Phase 2 : Public road access and gate-process without trailer

- Phase 3 : Loading of a trailer onto a ship

Forklift

Autonomous driving demonstrations in real logistics operations
Autonomous Truck loading with Autonomous Forklift demonstrator

Use case

- Truck parks at arbitrary position
- Driver or FMS assigns an area to unload
- Crayler starts autonomous unloading
- Operator responsible for supervision

19/10/2022

Thank you!

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