C-ROADS

Antwerp-Helmond

Introduction to the C-Roads Antwerp-Helmond project

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Introduction

- C-Roads Antwerp-Helmond is part of C-Roads and C-Roads Platform

The C-Roads Partnership

- **50 European cities**
  Starting with C-ITS deployment in urban areas
- **Short-range C-ITS**
  20,000 km of European roads equipped with C-ITS
- **Long-range C-ITS**
  100,000 km of European roads covered by C-ITS services

- The aim of the platform is:
  - Linking all C-ITS deployments
  - Develop, share, and publish common technical specifications
  - Planning intensive cross-testing to verify interoperability
  - Develop system tests based on the common communication profiles, focusing on hybrid communication mix, which is a combination of ETSI ITS-G5 and operational cellular networks
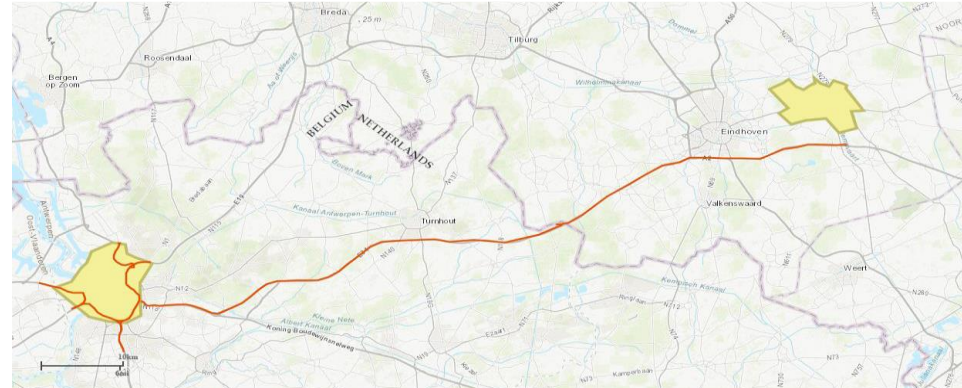
Introduction

- Start date: November 2022 (24 months)
- Our consortium consists of the following 9 partners:

Co-funded by the European Union
Connecting Europe Facility

The project set-up

- Two cities involved:

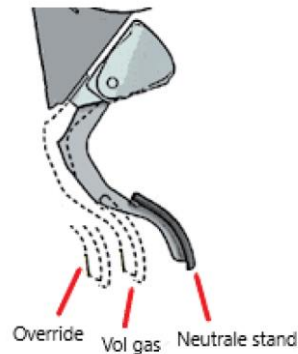Antwerp   Helmond

The project set-up

- Two C-ITS applications:

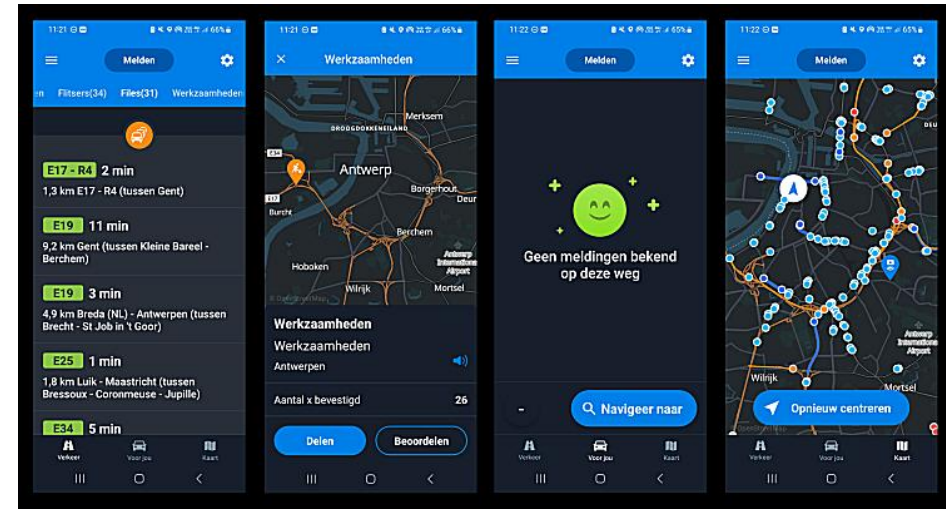### OBU

- Provides day 1 C-ITS services
- Intelligent speed assistance
- Closed ISA

Smartphone –app

Provides day 1 C-ITS services

Provides speed limit information

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The project set-up

- Different use case groups:
  - C-ITS day-1 services in combination with ISA
  - C-ITS in combination with UVAR
  - C-ITS in combination with mobility services:
    - Light prioritization
    - P+R information
- Different user groups:
  - Drivers
  - Professional drivers
  - Active Road Users

The project set-up

- Deployment of **combined Day-1 and Day-1.5 C-ITS services** in Antwerp and Helmond

- Test and deploy **OBUs** for ISA and UVAR

- Test with **professional and private drivers**

- **Active users (ARU)** (bicyclist, micro-mobility, and shared bike users) testing the application on UVAR and green light priority

The project set-up

- Some use cases more in-depth
  - ISA testing
    - Test in Antwerp with 20 vehicles
    - Test in Helmond on a dedicated location.

- Slow speed zones (UVAR) for micromobility and ARU
  - No-go zones, no-park zones and slow-speed zones
  - Functional evaluation
  - Survey with users and pedestrians in MEIR (shopping area)
  - Observations & countings
  - => Is there acceptance of slow speed zones?
    - How to expand this?
    - And how to make speed zone information available for ARU'S?

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The project set-up

- UVAR-testing
  - School zones and temporary 30 km/h area (user testing)
  - Tunnel Height Warnings (functional testing)

- Light prioritization on 3 locations
  - Use case with ARU (bikes)
  - Use case with cargo-bikes*
  - Use case with trucks

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The project set-up

- Truck-buffering (conceptual)
  - Conceptual work out and testing
  - Traffic information and smart routing

- P+R information
  - Conceptual testing/technical validation
  - If ok -> functional testing

Main goal of the project

- Cross-border and **interoperability testing** of the services between Antwerp and Helmond

- **Evaluation** of the different services on:
  - Functional aspects
  - Impact assessment
  - User acceptance

- Development of **scalability and implementation strategies** for the different services.

Status of the project

- Technical aspects of all the use cases are defined
- Technical validations and some data testing
- Test and evaluation plan completed
- Functional testing of the Mobile application
- Preparations for the tests starting in January

Status of the project

- Recruitment is started!
- If interested (or your company) to participate go to:

  https://www.croads-antwerpen-helmond.eu/

Lessons learned (so far)

- Some ambitious use cases were defined and studied more in-depth which resulted in no go for roll-out with users:
  - Although the data seemed (in lab) quite good, the quality was too bad for roll-out
  - Cooperation with external parties took too long or could not come to an agreement (e.g. Rail-road crossing)
  - Technical aspects were/are too challenging

- What could be of interest on local level in 2021 could change quickly in 2023/2024:
  - Change of scope regarding light prioritisation
  - Partly roll out of UVAR for micro-mobility

- Legal aspects and cooperation between local and governmental administrations can take some time which can cause delays.

Timing

- January 2024:
    - User testing of mobile application in Antwerp and Helmond
- March/April 2024:
    - ISA/OBU-user testing in Helmond
- April/May 2024:
    - ISA/OBU- user testing in Antwerp
- March 2024
    - Functional testing of different use cases
- September 2024:
    - Evaluation results