

# Central system for supporting automated vehicle testing and operation



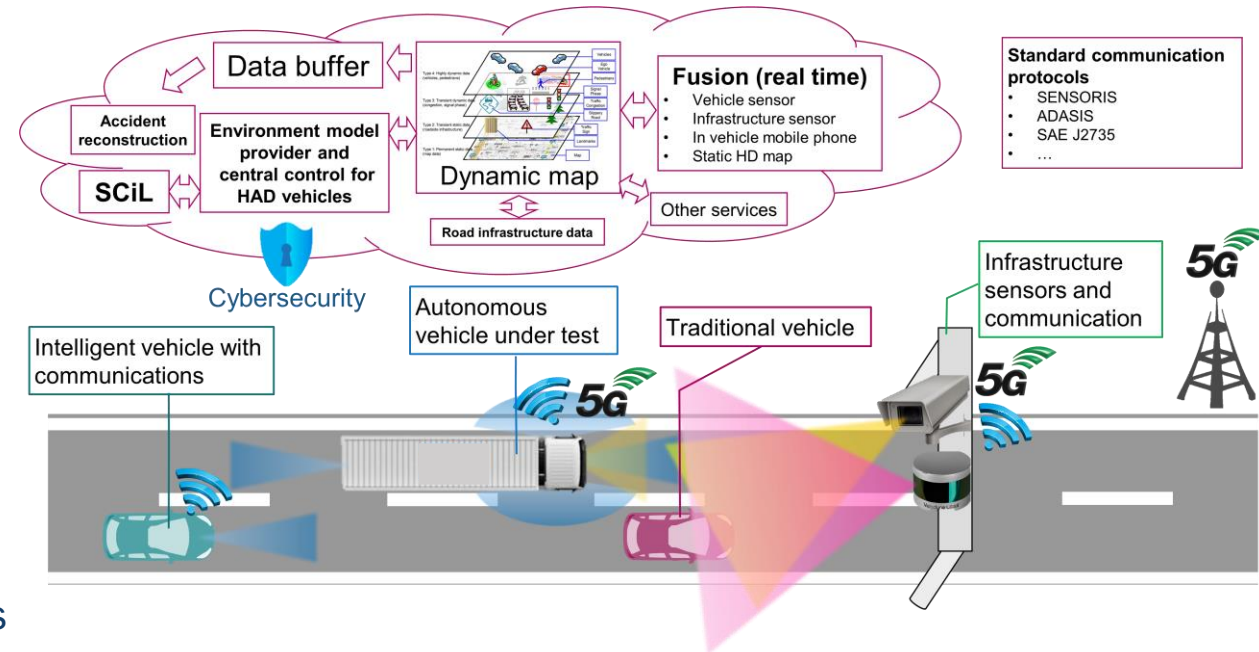
BME  
**AUTOMATED  
DRIVE**

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# Project vision

## Central System Features

- Real time digital world model including
  - Static 3D map
  - Low dynamic information (road works, weather, traffic..)
  - High dynamic information, vehicles, pedestrians...
- Central, real time fusion combining in vehicle and infrastructure sensor set
- Data record buffer
  - Supporting automated vehicle testing
  - Accident reconstruction support
  - GDPR compliant solution
- Using international standards for overall system (OpenDrive, Sensoris, Adasis..)
- Supporting automated vehicles (first testing and later operation) with real time environment data
- Ability to control automated vehicles and infrastructure elements (e.g. traffic lights)
- Supports mixed reality testing
- Cloud based scalable, distributed system



# R&D and infrastructure project roadmaps

## System R&D and exploitation

2020



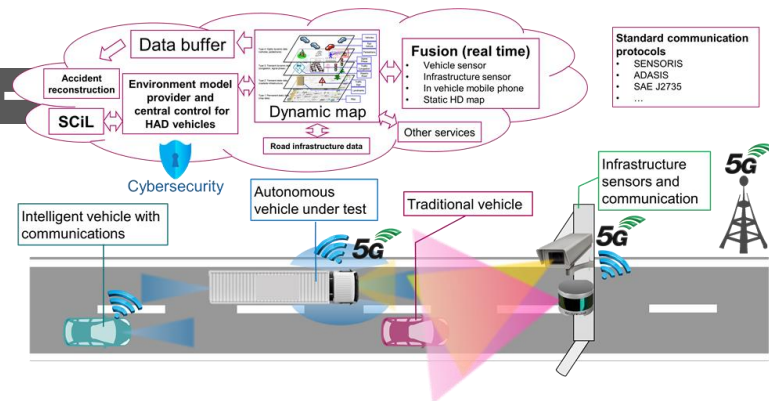
Exploratory project (AT-HU)

- Measurement campaign
- Functional sample
- State of the overview
- System architecture definition

2021-2024

Follow up project (AT-HU)

- Target:
- Realization of system
  - First services



2024- Expanded services and R&I infrastructure support

## Build up infrastructure (HU)

2020



Small scale flexible installation

- M86 campaign
- BME campus



2021-2023

DE-HU, AT-HU, ZalaZONE

- Zalaegerszeg city cross section with traffic light control
- M1-M7 common section
- ZalaZONE fix and flexible infrastructure



2024

NIF  
• M76



2025-

Further locations



# Project partners – phase 2

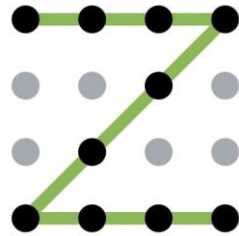
## Hungary



Σeureka &  Lead



Test region support



zone

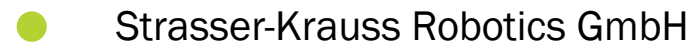
## Austria



 Lead



Test region support



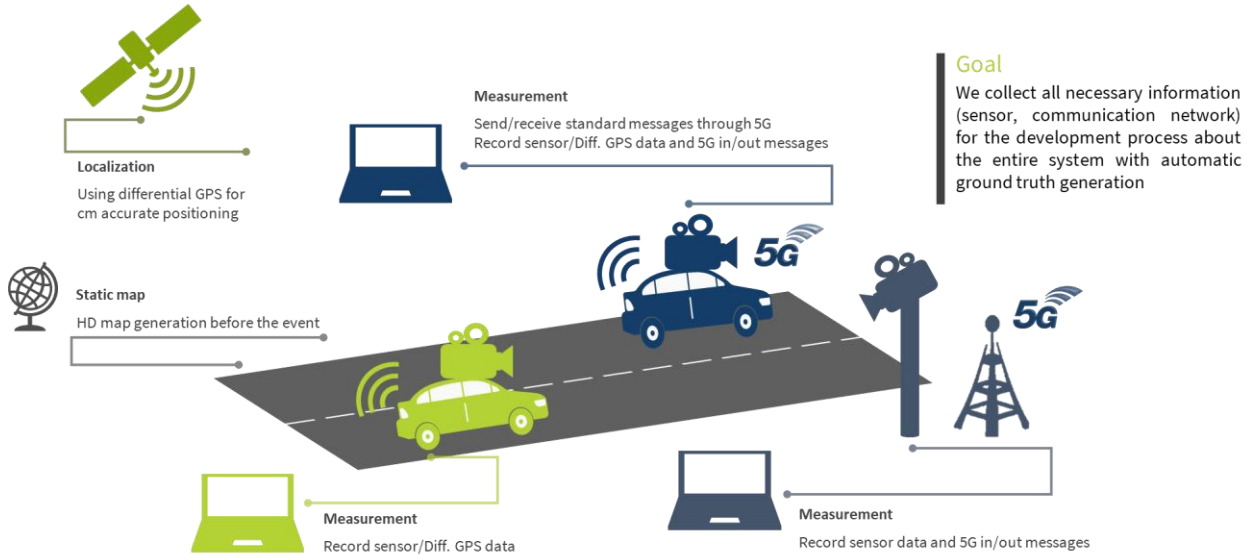




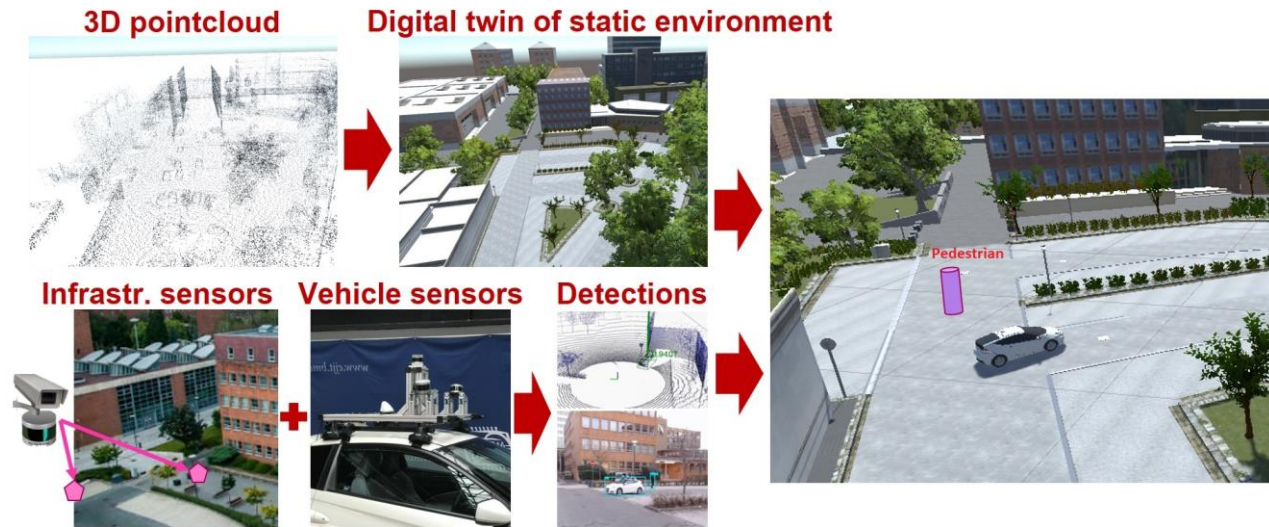
# Results

# Existing results from phase 1 (2020)

## Measurement campaign



## Functional prototype – collaborative perception



Magyar úton készülnek fel az önjáró autók hadára



Implementation done

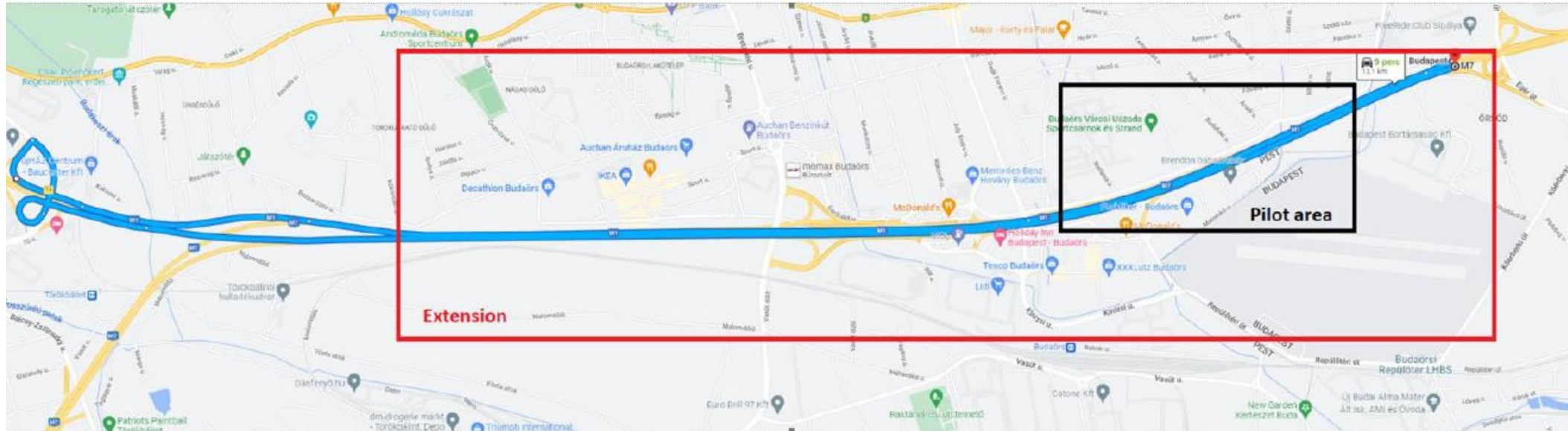
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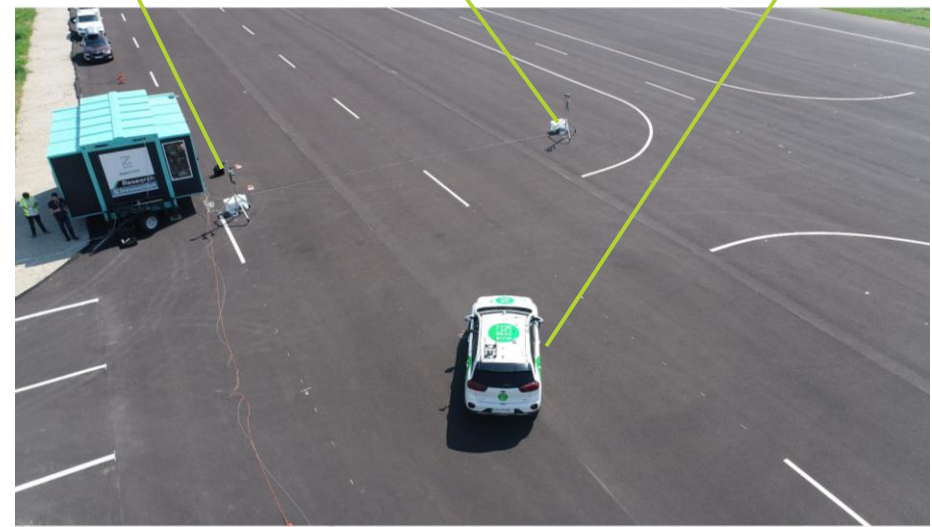
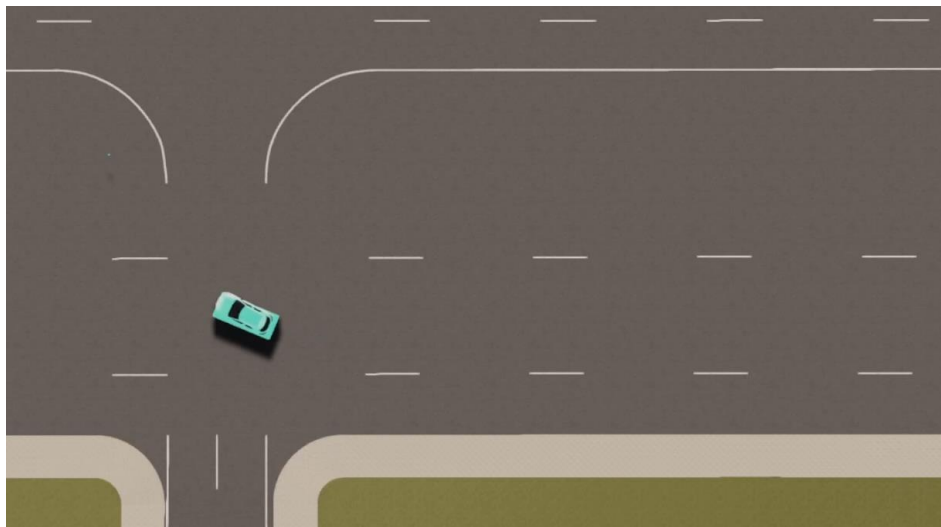
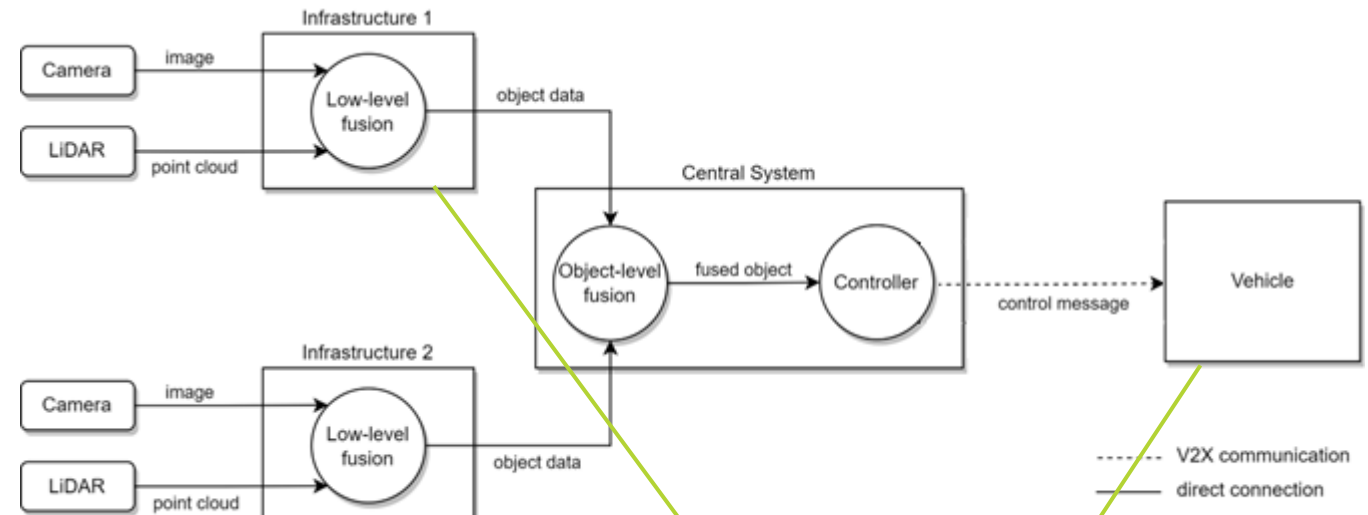
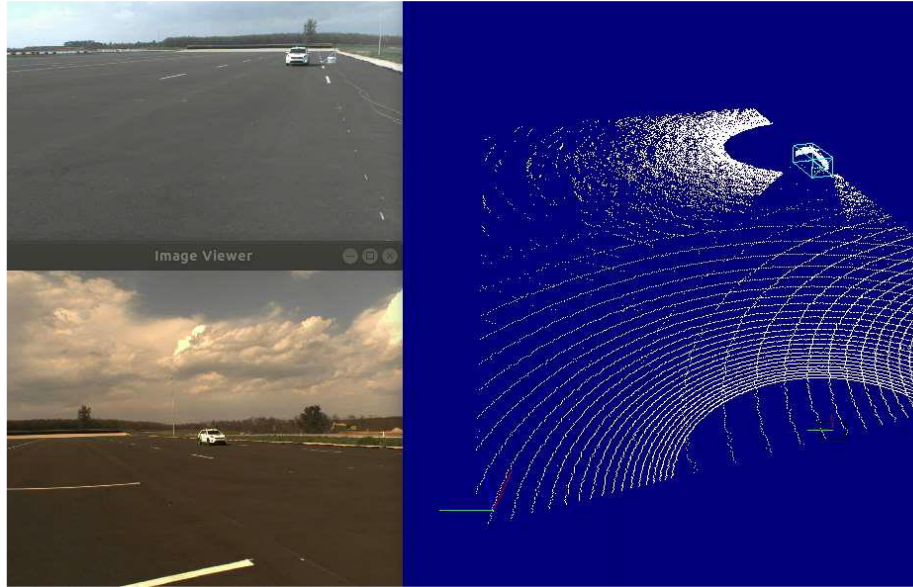
# Existing results from phase 2 (2022)

## Mobile mapping of M1-M7



# Existing results from phase 2 (2022)

## Digital twin based control functional results







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**THANK YOU FOR YOUR ATTENTION**

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