Data collection in project HCT DUO

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Revere Research Facility

REVERE
RESOURCE FOR VEHICLE
RESEARCH AT CHALMERS

REVERE

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REVERE vehicle lab
Chalmers University of Technology

REVERE – Resource for Vehicle Research

- Supporting academy, industry and public actors in advanced development, tests, validation and demonstrations
- Key areas:
  - Vehicle Automation
  - Active Safety
  - Vehicle Dynamics
  - Electromobility
  - Marine applications
  - Transport and logistics

CHALMERS

VÄSTRA GÖTALANDSREGIONEN

VOLVO TRUCKS

VOLVO
Volvo Car Corporation

REVERE research platforms

- Vehicles provided by Volvo Cars and Volvo Trucks serve as research platforms

- Interface for steering, braking, acceleration etc

- Sensors (Lidar, camera, radar, GPS, IMU etc depending on research requirements)

- Data logging equipment (on edge platform and cloud)

- Communication (over the air updates, data uploading, V2V, remote control etc)

- Open-source software platform OpenDLV used on all test vehicles

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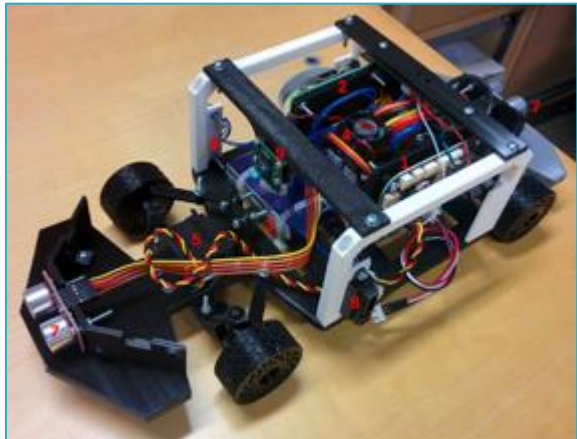
Selected REVERE research platforms

Volvo XC90 (two different)

Volvo FH16 (also trailers available)

Parator dolly with steerable axles

"Kiwi" 3D-printed miniature cars (50+ units)
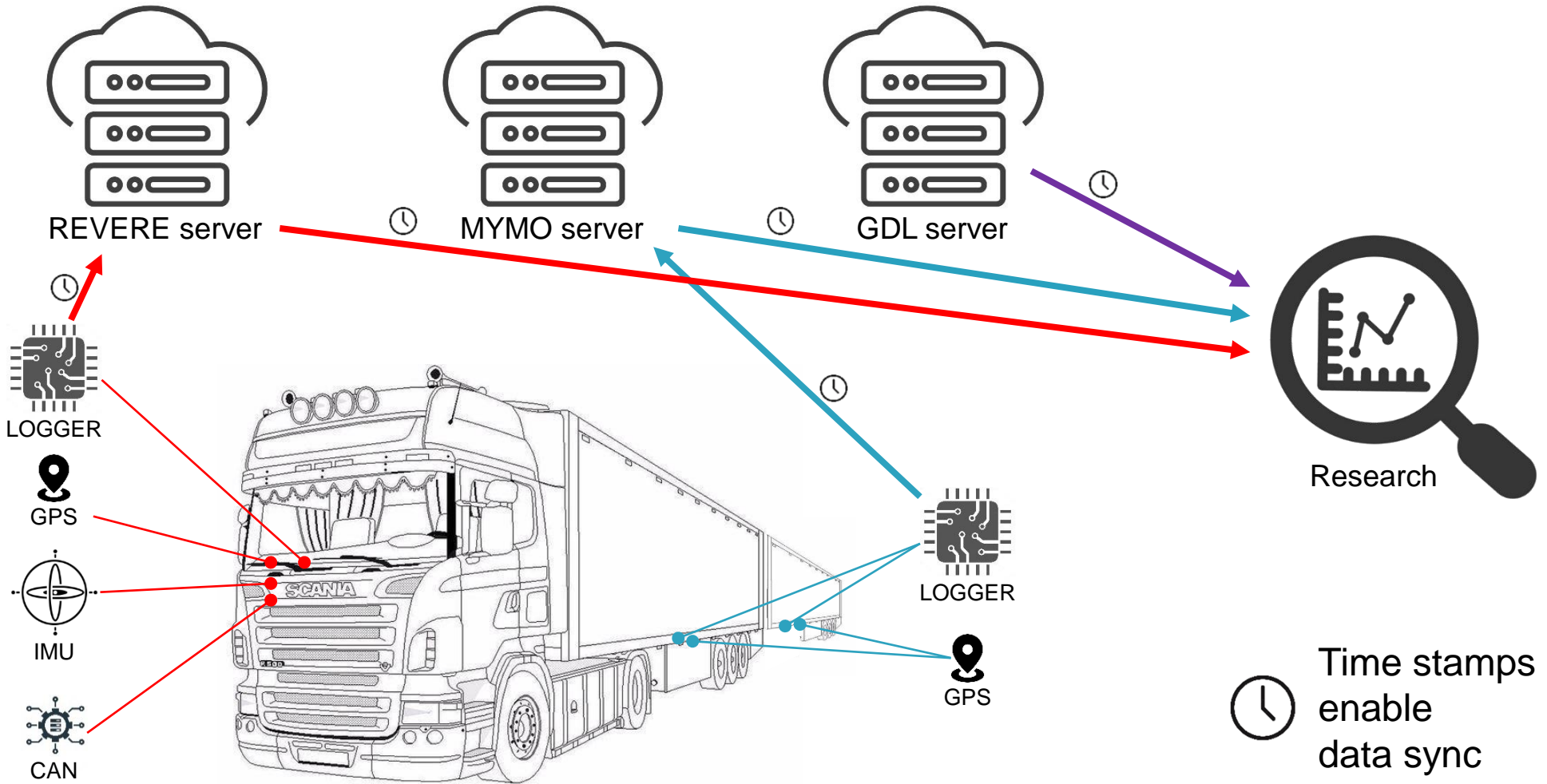

Chalmers Formula Student Driverless

Pilot boat

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HCT Duo Demo

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Data flow

REVERE server

MYMO server

GDL server

LOGGER

GPS

IMU

CAN

SCANIA

LOGGER

GPS

Research

Time stamps
enable
data sync

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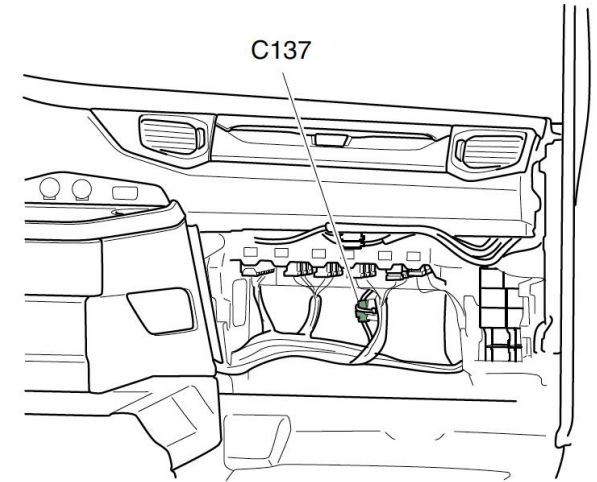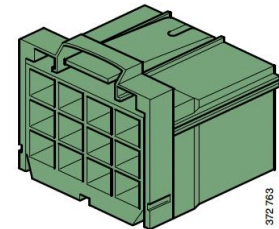
Data signals to be logged

- Position (GNSS/GPS)
- Accelerometer data
- CAN data from the truck (mainly fuel consumption)
- Data is time stamped using internal logger clock
- Data sampling rate 1Hz

Location of connector C137.

Connector C137.

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Proposed data logger for the truck

- [Axotec Technologies RG—870M](#)
- Many different data input options
- Reads 2x CAN from the vehicle
- Gyroscope for vehicle inclination
- GNSS
- Data upload via 4G
- Simple installation in the vehicle
- Need for data filtering