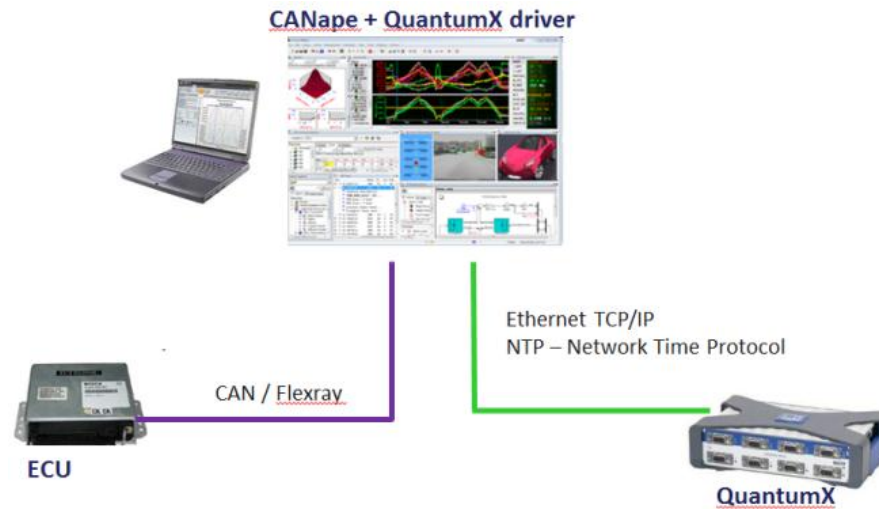
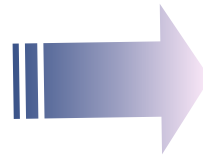


# Integration of **QUANTUMX** in CANape



1. Introduction
2. Integration of QuantumX in CANape

# Functionality in modern vehicles is dominated by **Electronics**



- 90 % of all innovation and function achieved through electronics
- Distributed functionality controlled by Electronic Control Units (ECU)
- ECUs are the „brain“ of the vehicle
- Increasing level of interconnection
- Busses: CAN, FlexRay, LIN, MOST, Ethernet / WiFi

- CANape is an established PC software to parameterize ECUs
- Up to 10.000 parameter for a single ECU have to be adjusted during development
- To perform this job **reliable measurement data** is needed
  - Recording of ECU internal signals
  - Additional sensors installed in test vehicles to measure mechanical strengths (torque, force, acceleration, displacement, temperature)

✓ Universal and fast

- Universal: Support all current transducer technologies
- Fast: High sampling rates, parallel, synchronized data recording

✓ Reliable

- Best in class data acquisition with high proven quality
- Precise: Secure measurement results with 24 bit resolution



✓ Flexible

- Extended modularity: From a single device to a networked system
- Variable topologies: Install modules close to measurement point

✓ Integrable

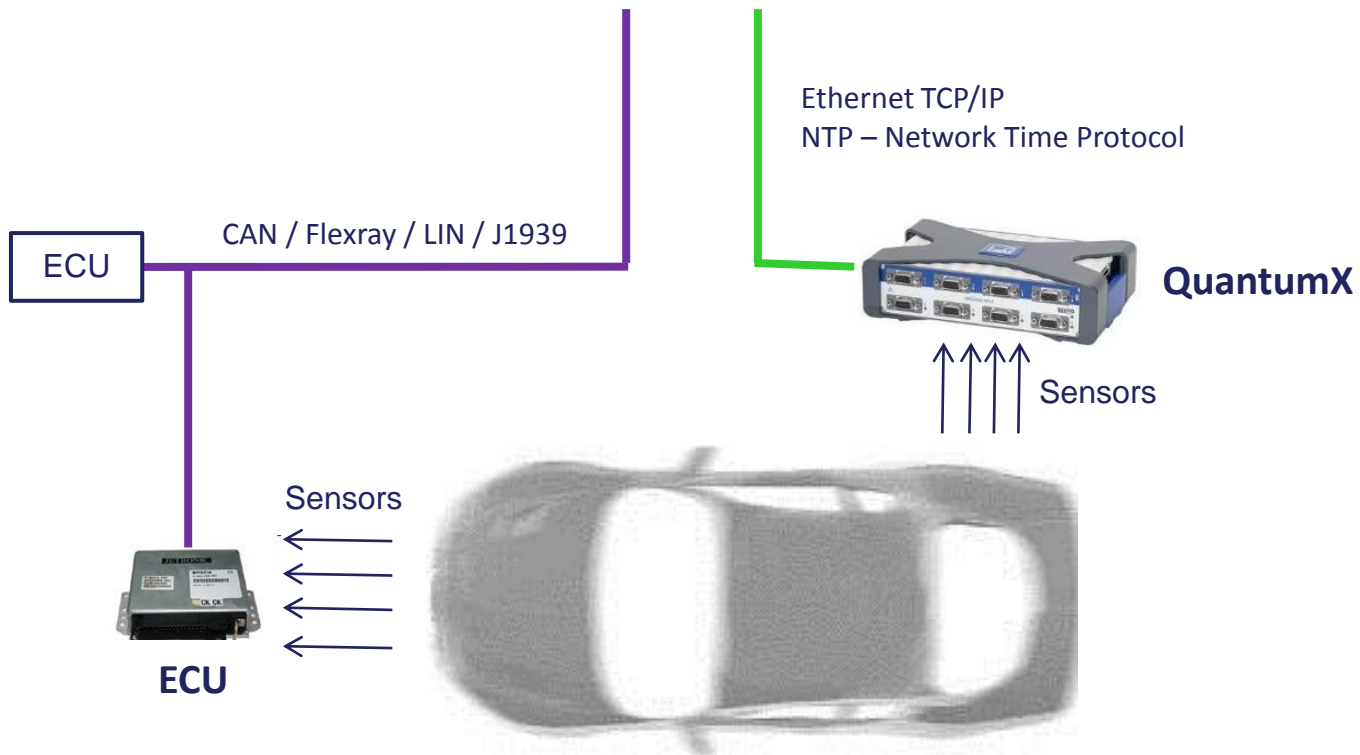
- Easy integration into your software: LabVIEW, DIAdem, CANape, customized software (.NET/COM API)
- Network Interfaces: Standard TCP/IP, EtherCAT



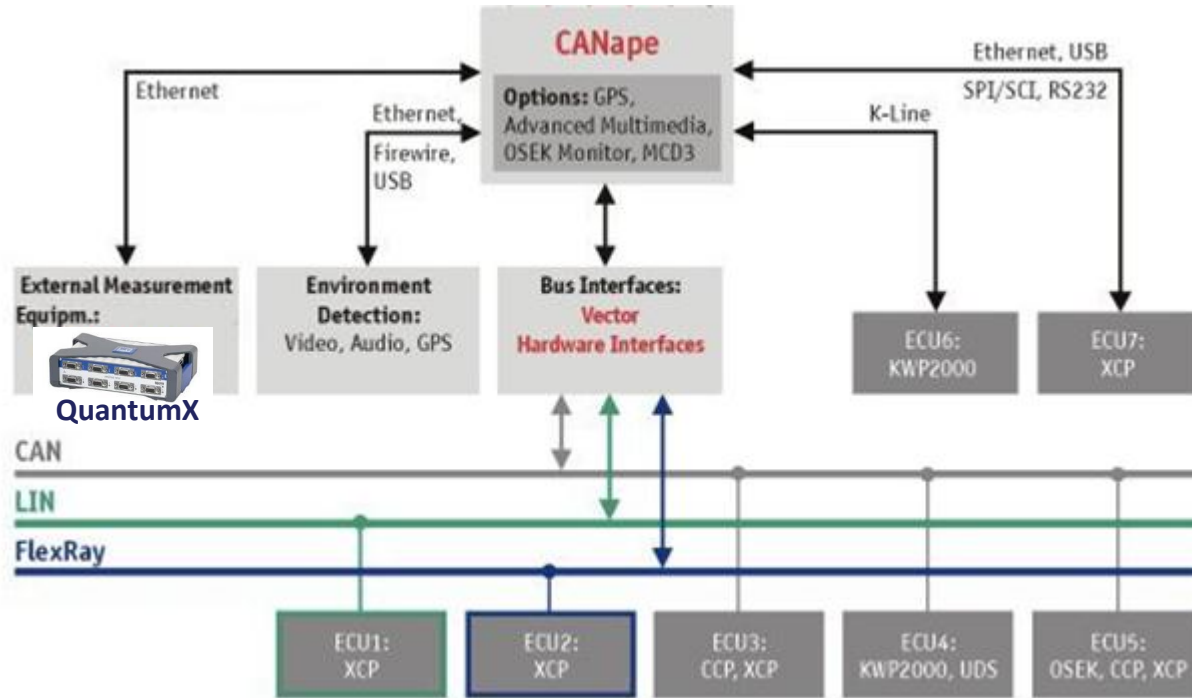
# Integration of **QUANTUMX** in CANape software

# Topology using QuantumX under CANape

## CANape + QuantumX driver



# CANape Architecture





- CANape min. version 10.0 including all service packs installed on PC
- QuantumX CANape driver is part of QuantumX System CD
  - Driver will also install QuantumX Assistant and NTP time server
- Supported QuantumX modules
  - In general all DAQ modules are supported – no CAN bus support!
  - MX840 / MX840A - CAN on connector 1 not supported!
  - MX440A, MX410, MX460, MX1601, MX1609, FW 2.9.x or higher
  - All rugged DAQ modules

- Step 1: Create QuantumX device in CANape
- Step 2: Configure all inputs with QuantumX Assistant
- Step 3: Work with CANape
  - Setup visualization
  - Configure test run
  - Execute test run
  - Acquire and store data



- Start up Package Content
  - Feature Video and first steps (in work)
  - Powerpoint Presentation
  - QuantumX CANape driver manual
  
- Available on HBM.com (coming soon)



The screenshot shows the HBM website navigation menu with the following items: Products, Services, Applications, Industries, Support, Tips & Tricks, Training & Events, and About Us. The left sidebar lists categories: Transducers & Sensors, Load Cells, Strain Gauges, Data Acquisition Systems (DAQ), Industrial Amplifiers, Weighing Indicators, Software (expanded), Data Acquisition Software, Fatigue And Durability Software, Production Software, and Weighing Software. The main content area displays the breadcrumb path "HBM > Products > Software" and a collage of software interface screenshots. Below the collage is the heading "HBM Data Acquisition Software, Visualization Software and Analysis Software" and a paragraph: "Professional software is the key to successful test and measurement. HBM's powerful data acquisition software software packages enable you to get your results quickly. Professional software offering maximum ease of use, know-how and expandability."



- One software for everything
  - CANape supports all automotive networks (CAN, LIN, Flexray, J1939, ...)
  - Time saving
  - All signals in one file
  - Recorded synchronously
  
- User can integrate in CANape external signals with QuantumX
  - ✓ **High precision** measurement with HBM transducers and strain gates
  - ✓ **High speed** measurement and integration in CANape (Other external signals are recorded much slower)
  - ✓ QuantumX is a **universal and flexible** system for data acquisition

... **CANape and QuantumX – engineering excellence**

[www.hbm.com](http://www.hbm.com)

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