openMDM in the world of Big Data
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openMDM in Škoda Auto

6 openMDM applications in Škoda Auto and even more in VW Group.

Many different use cases in product development and quality assurance areas.

Business process behind the measured data is mostly the same. **Or is it?**
Test data lifecycle in electrical and electronics vehicle testing

Business process

Data recording

- **Standard**
  - CAN/CAN_FD
  - LIN
  - UART
  - Debugging Ethernet
  - BroadR-Reach Ethernet 100MB/1000MB

- **Optional**
  - Debugging OCU
  - Private BUSes CAN/LIN
  - Analog/Digital signals
  - CCP/XCP communication
  - Diagnostics
  - Video
  - Audio description of failure

Data transfer

- Upload station
  - Skoda user
  - LAN
  - WiFi
  - GSM

Data storage, processing and analysis
Test data lifecycle in electrical and electronics vehicle testing

Main use cases

- Trace conversion
- Trace cut-out
- Trace signal analysis
- Error and signal statistics
- System statistics
- Data analysis and advanced analytics
Test data lifecycle in electrical and electronics vehicle testing

Data volumes

Data volume / Electronic Architecture [GB/Hour]

Increasing data volume per car

Data volumes needed to be stored, processed and analyzed per year.

Increasing fleet size

Data volumes per year [PB]

0,2 0,4 0,9 1,5 2,6 3,9 4,7

2020 2021 2022 2023 2024 2025 2026

MQB  MQB  MQB  MQB  E3  MQB  E3
Big Data analytics and Measured Data Management
What are the options?

Robust data management

Data storage and processing capabilities
Big Data analytics and Measured Data Management
What are the options?

Robust data management
Integration?
Solutions mostly based on data replication
Data storage and processing capabilities
Big Data analytics and Measured Data Management
Škoda CARP – Car Analytics and Research Platform

openMDM
Data management
Data visualization
Job / script definition and request
Data download / upload
Administration
No mass data storage or data replication

DAP
Mass data storage
Data tiering (hot, warm, archive)
Job / script execution
Resource management
Network usage management
Analytical capabilities
GIT (DEVOPS)

Škoda Data Analytics Platform
DAP

Upload station
API