# DXC TECHNOLOGY

# DXC optimizes automated driving data collection with Mobile Ingest Box

**CUSTOMER**
**Mercedes-Benz AG**

**LOCATION**
**Stuttgart, Germany**

**INDUSTRY**
**Automotive**

# DXC Mobile Ingest Box provides stable and rapid data ingest and accelerated data analysis and access

## Highlights

- Enables fast ingest of large amounts of data – collected by several vehicles – anywhere, anytime
- During project duration, ingested solid-state drives (SSDs) with >100TB and easy-to-use interfaces
- Data ingest is operable by drivers without special IT expertise
- Increased economic efficiency due to immediate ingest after recording, for accelerated reuse of SSDs
- Data collection and data shipment were decoupled from each other in terms of time and location
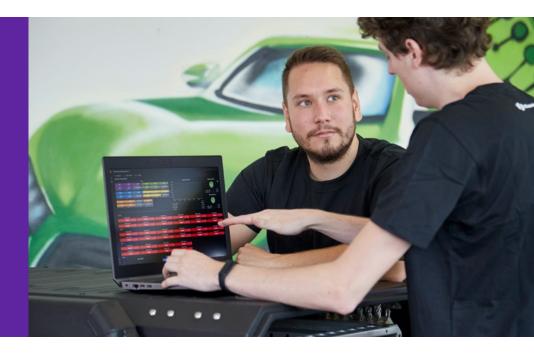
## Key figures

- 3 Mobile Ingest Boxes finalized, each with >1PB storage
- Collected data from multiple countries in Europe in 4 weeks
- 24x7 operations services
- Stable ingest with close to no downtime
- 40/100 Gbit network interface

# Business challenges

**24x7**

operations services

Mercedes-Benz AG is working to redefine the role of the automobile through automated driving, which is expected to enhance comfort and safety, and free up time for vehicle owners. This requires the daily capture and storage of petabytes of data from cameras, sensors, and control units, and managing the shipment of this data from the car to the data lake as a fundamental basis for the overall development of automated driving functions.

DXC Technology's challenge in this project was, therefore, to develop a stable data ingest solution, suitable for a rapid data ingest of the recorded sensor data from SSDs to the MIB, which can be executed anytime and anywhere and does not require any technical knowledge to perform the data ingest process. Challenges included:

- Limited storage capabilities in the vehicles.
- Data collection campaigns take up to several weeks without intermediate returns to headquarters.
- Recording drives in rural areas with limited IT infrastructure.
- Maximizing vehicle utilization to record data within a specific timeline.
- Minimizing the total amount of SSDs required for the data collection campaign.

# How DXC helped

**3**

Mobile Ingest Boxes finalized, each with >1PB storage

**>30**

SSDs with >100TB with easy-to-use interfaces ingested; increased economic efficiency due to fast data ingest time for accelerated reuse of SSDs

DXC Technology provided a combined software-, hardware- and service-solution stack, called the Mobile Ingest Box (MIB). It is designed for fast local ingest as well as to accelerate the time to analyze and access the collected data:

• MIB optimizes data collection and transfer by decoupling the transfer to the central data lake from the driving schedule

  − Features automated workflows, alerts, real-time monitoring and intuitive graphical user interface

  − Fully transportable from one place to another

  − Capacity for multiple SSD drives

  − Data is ingested from SSDs to the MIB, and offloaded from the MIB to a target cluster; recording drivers can initiate this process independently

  − Box is stable, secure, and customizable

• An end-to-end service team can be ramped up very quickly

• Individual architecture consultancy and software development by developers with deep automotive expertise

• Delivers coordinated agile development and operations

## Business benefits

A portable box, with a big impact: Enables provisioning of data recording, local ingest, data transport and ingest into main data center as end-to-end data-collection-as-a-service

- Mobile data lake to access and process data
- Automated data ingestion (24x7) to enable the reuse of SSDs on the next shift
- Data collection is independent from data center locations
- Customizable solution — from simple storage to high-performance compute workloads
- Intuitive graphical user interface for simple operation
- Integrated dashboard and alert system for monitoring
- Automated ingest/offload workflows
- Secure remote access via a virtual private network (VPN) using long term evolution (LTE) technology

"Even if we increase the virtual validation with simulation in the future, the 'right' and 'high quality' of real-world data from test and production fleets are key to developing safe automated driving functions."

**— Matthias Bauhammer, global offering lead for DXC Robotic Drive, DXC Technology**

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