

# Building the ZF Hybrid Data Bridge

ZF Friedrichshafen is a major player in automotive, and one of the few manufacturers in the world that offer an extensive range of ADAS/AD technologies. ZF needed to tap into IBM's expertise to build the most robust the data management platform.

## ZF's challenge

ZF needed to develop a robust data management system that can...

Be accessed by 25,000 engineers worldwide

Quickly transfer complex data types across shared data pipelines

Integrate across ZF's hybrid multi-cloud environment

Handle ADAS workloads, especially in the training phase of their algorithms

Automatically migrate and archive cold data to tape storage



## Our solution stack

Together with IBM, ZF is building the Hybrid Data Bridge – the most powerful data management system.

## IBM Spectrum Scale High-performance data management

IBM Spectrum Scale storage solution provides superior scalability, resiliency and control to handle demanding data analytics, content repositories and technical computing workloads for ADAS/AD development.

IBM Spectrum Scale is the foundation for building ZF's global namespace. It allows engineers to create active data copies and form data lakes across ZF's hybrid multi-cloud environment, enabling real-time global collaboration for their development teams. The automated data migration and tiering function optimises storage utilisation, helping R&D managers to simplify data management and reduce storage costs.



## IBM AREMA Efficient workflows for complex data formats

IBM AREMA orchestrates automotive video and sensor files. It automates the end-to-end workflows for ingesting, curating and using data during the full life cycle of training and developing ADAS/AD solutions.

AREMA forms the heart of ZF's Hybrid Data Bridge. Its AI-integrated workflow solution allows engineers to automate the processes of archiving and extracting metadata from various automotive data formats (including ADTF, MDF, rtMAPS and ROS), and to initiate subsequent workflows for labelling and training. This is improving ZF's overall workflow efficiency and agility and allows engineers to fully manage and control the data production processes.

## IBM Aspera® High-speed data transfers across long distances

IBM Aspera software can reliably transfer ADAS/AD data of any size across any distance, at line speed.

Using IBM Aspera, ZF's engineers can quickly transfer, distribute and sync more than 70 terabytes of engineering data each day across their global locations. By efficiently utilising available network bandwidth, ZF can architect highly scalable workflows running across a hybrid multi-cloud environment and accelerate their project schedules for their ADAS development and test teams.



## Red Hat® OpenShift® Secure and scalable hybrid cloud container & DevOps platform

Red Hat OpenShift is a leading open source container application platform based on Kubernetes – the basis for the world's most successful ADAS/AD development solutions.

Using OpenShift, ZF can create and scale containerised applications to accelerate ADAS/AD software development, AI/ML training, simulation, verification and validation. The easy-to-use interface empowers ZF engineers to manage their hybrid multi-cloud resources in one place, while allowing R&D managers to build engineering environments with speed, agility and confidence.



## Outcome

Using the Hybrid Data Bridge, ZF is accelerating ingest and data-centric workflows while retaining continuous and company-wide control over the ADAS/AD development processes.

“Managing huge amounts of data in a hybrid multi-cloud environment is very important. Transparent access to files in data lakes with low latency is essential when developing autonomous vehicles, where we have to process images and information from many different data sources.”

– Harald Holder, Director of IT Infrastructure Platforms, ZF Friedrichshafen

With unparalleled automotive knowledge and proven data management solutions, IBM is your strategic partner to help you build the most powerful ADAS/AD data platform, so you can create the most secure and reliable autonomous vehicle experiences of the future.

To find more about how you can be the driver of your ADAS/AD engineering data, please contact **Bernd Gmoser** at [gmoser@de.ibm.com](mailto:gmoser@de.ibm.com) and visit [ibm.com/daimler-adas](http://ibm.com/daimler-adas)

