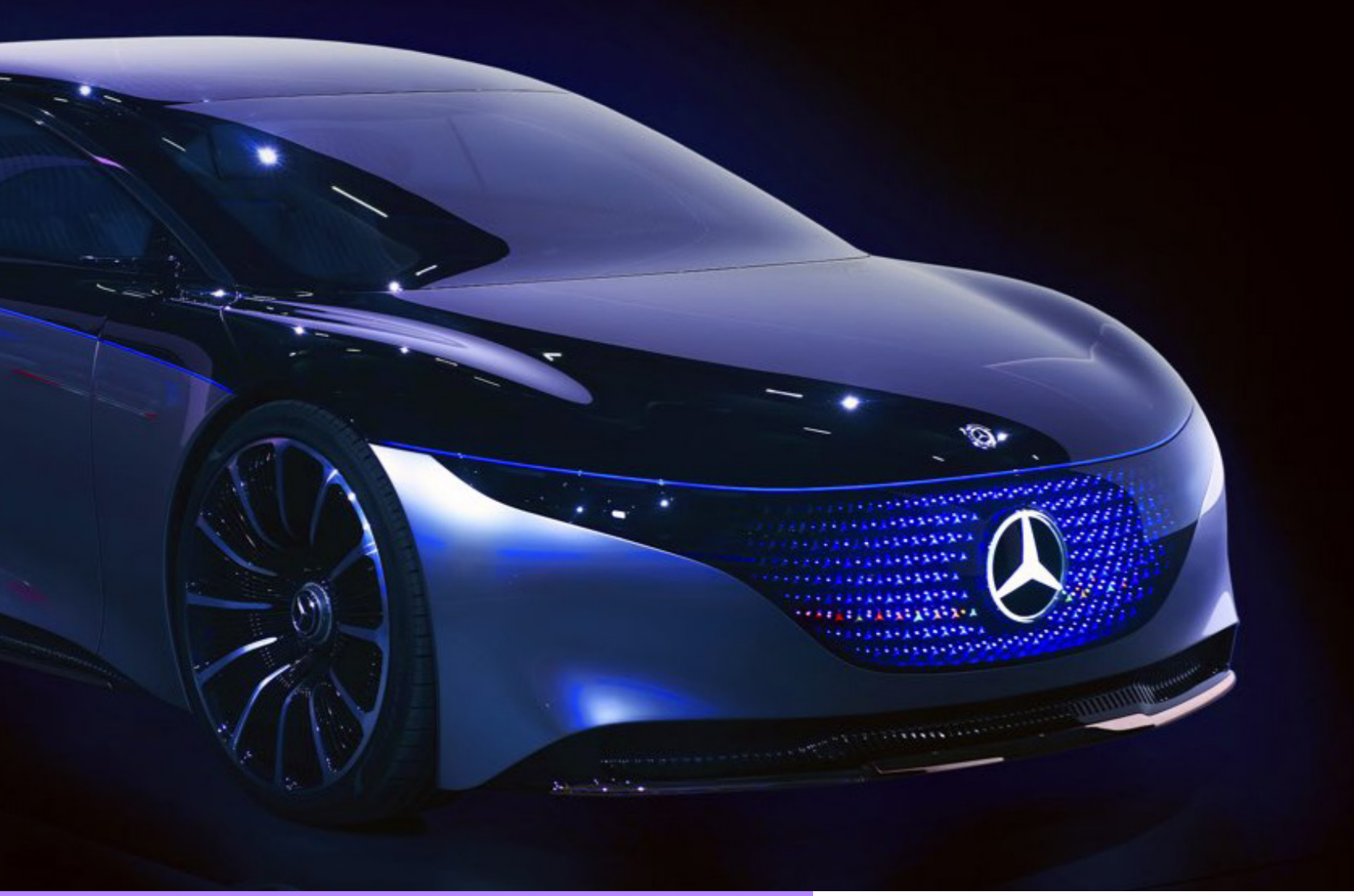


Software development shouldn’t have to be hard

Bring Mercedes-Benz and Daimler Truck’s data together to accelerate DevOps and eliminate silos.

NetApp

When is a car not a car? Right now

Digitalization is fundamentally changing the car.

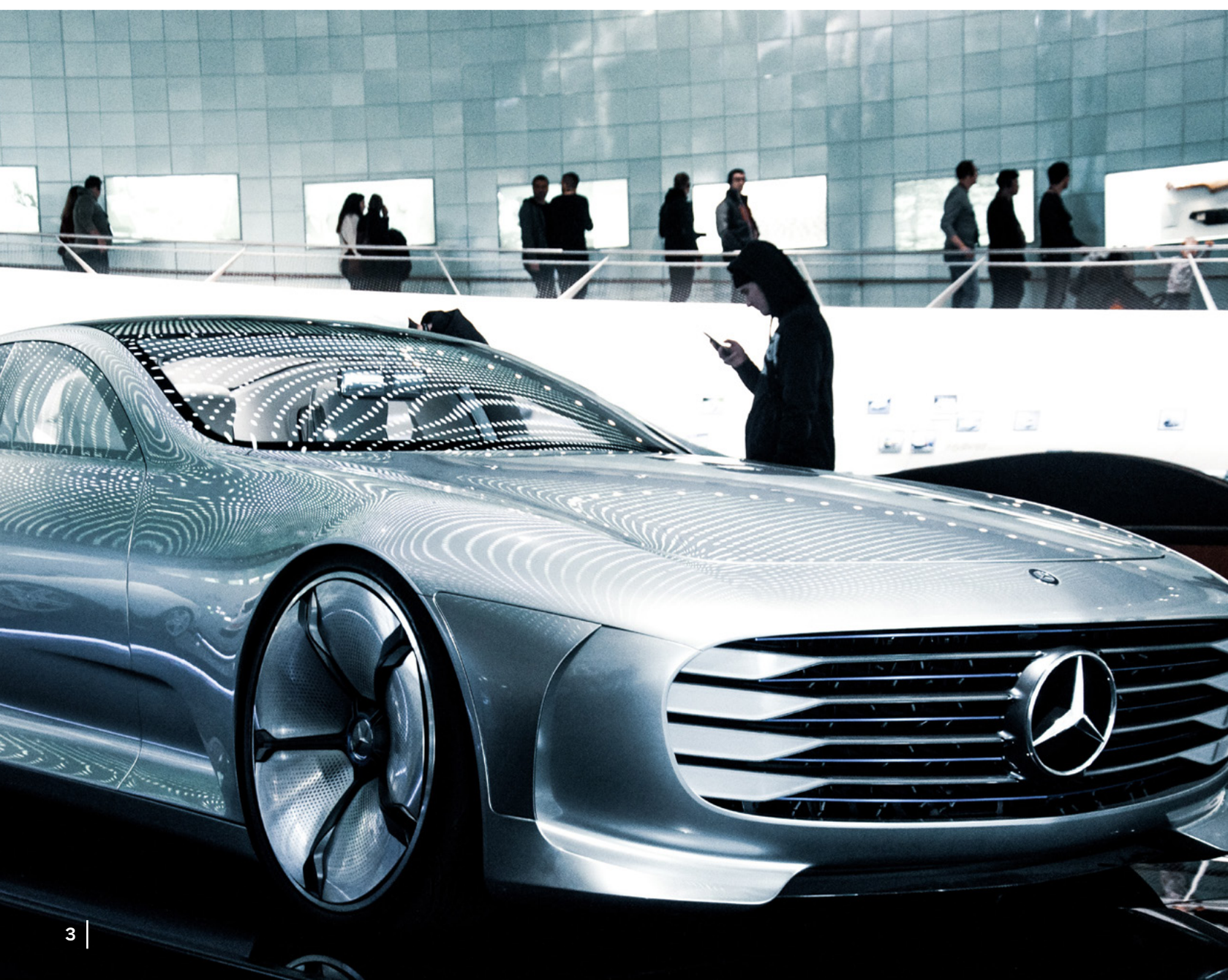
Digitalization is fundamentally changing vehicles. In the same way that phones aren't just for calls anymore, vehicles aren't just for getting from A to B – they've become software products. With functionalities from video streaming to app and smartphone integration, they're becoming a seamless part of the digital ecosystems that surround us.

These changes put automotive manufacturers in a tricky position. Building vehicles that keep up with these trends – or better yet, set them – requires skills, systems, and infrastructure that depart from the traditional core of the sector.

We know that Mercedes-Benz and Daimler Truck are in the process of shifting some of their focus from manufacturing to moving software development in-house. It's part of a digital initiative that will involve hiring thousands of coders, significant new infrastructure spend, and bring its own set of fresh business challenges. We should know: we went through a nearly identical cloud-first digital transformation, and we can share deep insights on this process with you.

Quality of data is the number one technology bottleneck for 50% of automotive organizations looking to transform.

Source: IDC, 2021



Handle truckloads of data

Sustainability concerns, shifting consumer preferences, and continuously evolving technologies are reshaping the auto sector.

Each represents a distinct challenge, but they all share a common need – data. More of it, at higher speeds, and of better quality. To achieve all three requires data handling capabilities that function across a single, connected platform.

With ever-increasing volumes of data, passenger and commercial vehicle makers like Mercedes-Benz and Daimler Truck need to have the ability to view and analyze the colossal data sets their vehicles and factories produce. And most importantly, draw out insights from within so they can be used by developers to tailor R&D programs and software to meet customer expectations.

If Mercedes-Benz and Daimler Truck want to lead the industry in building digital driving experiences, they need efficient and coherent DevOps processes and product data management practices to organize and understand the data they produce. Only then will they be able to effectively add improved functionality, differentiate customer experiences, and monetize what is learned.

> Business data grows 50% year on year, yet for most businesses data remains fragmented across different storage and infrastructure solutions.
>
> *Source: IDC, 2021*

Perfect data pipelines aren’t pipe dreams

With projects such as Factory 56, Mercedes-Benz has shown that it’s to lead the way in building the factories of the future.

However, doing so requires tackling one of the most different challenges in the industry: bridging the gap between the physical and the digital and the OT-IT divide.

For automotive manufacturers, it’s typical for large quantities of data to be siloed, stored insecurely, and inaccessible to other parts of the organization – blocking data pipelines, closing off insights, and hampering the ability to share production data globally.

NetApp can work with Mercedes-Benz and Daimler Truck to facilitate the digitalization of their entire automotive value chain and lay the foundations for next generation of manufacturing. Our hybrid and cloud solutions can improve efficiencies and empower Mercedes-Benz and Daimler Truck to incorporate technologies such as digital twins – improving data flow across regions, driving down costs and enhancing operational agility.

87% of manufacturing leaders say technologies such as IoT, analytics, AI, and digital twins are necessary for their businesses to prosper.

Source: The Manufacturer, 2020

We understand your journey, we've been there

Over the last seven years, we've undergone a similar transformation to the one Mercedes-Benz and Daimler Truck are looking at now.

Some of the challenges we faced may sound familiar:

- It was taking too long to make developers productive and keep it that way
- Slow build times significantly limited build frequency
- Large, distributed development teams required large, distributed infrastructure
- Business as usual left little time to focus on increasing time-to-market and quality

What we did

We transitioned away from a core-centered approach to become a hybrid- and cloud-centric software company. As a result of going serverless, our data engineering and continuous integration and development methodology, we're now able to deploy release cycles much faster. We used to release every six months – now, with our new architecture, we make them daily.

This has vastly improved our organizational flexibility and helped us to focus on product quality, maximize our resource efficiency, and scale our portfolio to include over 40 products.

By the numbers

75%
faster release of engineered products

26x
faster deployment of new analytics

52x
faster deployment of new data pipelines

40+
new products for go-to-market

6x-12x
reduction in time to develop and deploy AI services

Call on the cloud mechanics

The data fabric advantage

The data fabric framework we developed enables a common data service and transport layer from edge to core to cloud. It's now very easy to connect on prem to cloud in a hybrid environment and benefit from cloud economics while keeping cost under control. What's more, it gets rid of data silos – ideal for sharing insights and accelerating innovation.

In the past with cloud migrations, getting your data in was difficult, but getting your data out was nearly impossible. We build a technology ecosystem that allows data to be always available whenever and wherever it's needed. It doesn't matter if it's on prem, in the cloud, or in a hosted private cloud data center at a colocation provider, the data fabric is 100% consistent and connected. We can help you create yours.

Hybrid cloud made easy

We have uniquely longstanding and deep ties with every hyperscaler. We've worked hand in glove with leading public cloud providers to build cloud native solutions from the very start. It's why we can offer greater speed and performance within their environments: because those environments were built from the ground up in collaboration with our expertise and technology.

With our close links, we're ideally positioned to aid Mercedes-Benz and Daimler Truck's integration with every hyperscaler as they move workloads to the cloud. On top of that, with NetApp, any application refactoring or Lift and Shifts will be consistent across cloud providers – saving cost and reducing risk.

Accelerating engineering innovation with DevOps

To help fuel innovation and speed time to market, Bosch knew it needed a more agile development infrastructure that could grow and respond more quickly to developers' needs.

BOSCH

The challenge

In 2017, Bosch developed a private cloud solution that allowed developers to clone a running template Virtual Machine (VM) and use it immediately without having to run Sysprep.

This significantly streamlined development, but infrastructure growth put huge strain on its IT systems. Bosch realized that its storage systems simply weren't able to deliver the functionality required.

The outcome

Bosch turned to us to create a system that could handle its volume of cloned VMs. Our solution used building blocks with All-Flash FAS (AFF) nodes for easier expansion, with each one handling 3,500 VMs. With the help of NetApp FlexClone® technology, Bosch's cloned VM is instantly available. Plus, each time a developer commits a new feature, the platform provides them with a unique virtual machine and a fully automated build pipeline.

Bosch raised the bar for its DevOps teams with an infrastructure as-code solution that enables a continuous integration pipeline. This solution helps its developers innovate faster and keeps Bosch at the forefront of its field.

Engineering innovation is a Bosch hallmark. The infrastructure-as-code solution exemplifies smarter innovation by creating a continuous integration pipeline for developers. Bosch is expanding the solution so that 14,000 developers worldwide have access to the streamlined services.

Ready to unlock your software-driven future?

Find out how

NetApp