

The automotive business of the future

# How to make your supply chain resilient

teradata.





# Put data in the driver's seat

From R&D to customer service; massive amounts of data are collected throughout the lifecycle of a vehicle. But whether from smart machines in factories, sensors in vehicles, or interactions between brands and customers, the majority of this data sits in isolation today.

The vehicle moves along a physical path as it is planned, designed, produced, sold, and used by the end customer. But the data generated and used at each point remains behind – rarely if ever impacting any other part of the lifecycle.

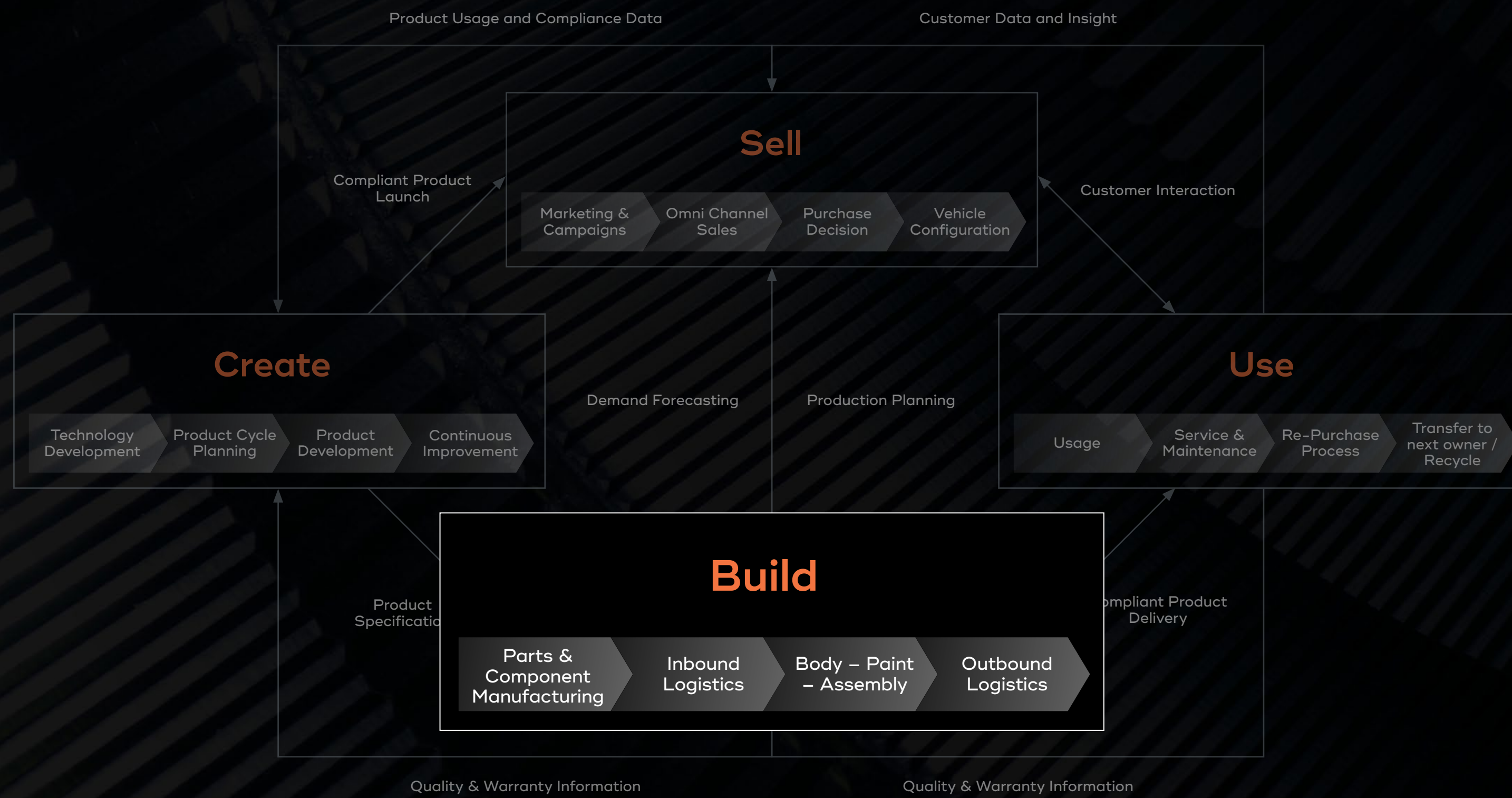
A new, connected model is needed to compete in today's digital economy. A digital fabric that connects data from disparate processes, to create a complete and accurate picture across the entire enterprise.

Many are looking to machine learning and AI as the silver bullet to build and retain competitive advantage. But the truth is that automotive businesses must first create the right context and data environment for these technologies to deliver the intended business value.

**In this brochure, we give you ideas on how to utilize data in manufacturing to win the race for the car of the future.**



# The Digital Fabric: Data drives efficiency and value as it integrates the automotive product lifecycle



## Build

Capitalize on flexible manufacturing by providing visibility over parts and component manufacturing, inbound and outbound logistics, and the next generation of connected factories to minimize risk and improve productivity.

It is essential that you create a holistic 360° view and strategy of your data from development and manufacturing to sales and customer service. Our in-depth brochure shows you how to do just that.

[Read brochure now](#)



# Build

**The industry prides itself on delivering exceptionally high-quality products with extreme efficiency. However, the industry is beginning to realize that it must dynamically disrupt itself to meet rapidly evolving customer expectations and deliver new business models.**

Global supply shortages in 2020 and 2021 have highlighted the fragility of some supply chains, causing large scale stoppages and the inability to deliver vehicles as ordered. Improved visibility across the inbound supply chain and production is a daunting task – but will feed transformative risk management capabilities and minimize the financial impact of disruptions.

The efficiency of a mass-market production line must be transformed to deliver mass-customized products, on multiple drive trains, and without adding back the costs or inefficiencies so effectively squeezed out over decades of progress.

Contact Teradata to explore how the digital fabric can help you build better.

GET IN TOUCH

# Make your supply chains resilient

The shock of COVID-19 exposed the fragility of many global supply chains. By necessity, focus has shifted to resilience. Automotive companies must find the right balance between agility, resilience, quality, service, and cost in today's dynamic market.

Supply chains have been traditionally split into silos for ease of management. It is simply too hard for human-oriented processes to manage the complexity and scale of end-to-end, granular supply chains. But this creates gaps in data, information, and visibility between silos.

But what if you could manage this level of complexity at an enterprise scale? End-to-end visibility, operating in real time, at a granular level for both the physical supply chain and demand signals, is the essential foundation of resilience. It enables earlier visibility into disruption risk on the production floor, as well as optimizing risk mitigation strategies by supporting tactical decisions (which car should I build in the next 15 minutes), and strategic supply chain design (inventory holding levels).



## How can it be done?

Advanced data analytics with a resilient data platform that enables flexible querying of part and BOM data allows you to create the perfect balance between resilience and the traditional supply chain KPIs of service, cost, and quality.

Integrated, granular data gives companies the ability to constantly tune their supply chains to suit evolving needs, including the increasing demands to track and reduce environmental footprint.

## Learn from a leading global OEM

Teradata Vantage enabled a leading global OEM to see granular details about suppliers, pricing, and key performance indicators (KPIs) that are shared across all process partners. This allowed insights into pricing across all suppliers and processing plants. The supply chain analytics identified if one location paid a different price for the same part from the same supplier than another plant, and if so, why it was happening.



# Realize the benefits of Industry 4.0

Only about 30% of companies are capturing value from Industry 4.0 solutions at scale today<sup>2</sup>. Initial efforts have already shown that individual, isolated Connected Factory projects will not deliver the step change in productivity anticipated.

Isolated projects are neither repeatable nor shareable, and quickly incur costs that outweigh any benefits due to repeated data and analytics management overhead. In order to combat rising costs, analytical productivity needs to be industrialized.

"The use of process data for 100 percent process monitoring is a decisive step towards the smart factory and will be the basis for further applications that contribute to continuous improvement."

**Mathias Boomgaarden,**  
project manager at Volkswagen's Emden plant.

## How can it be done?

An integrated analytics platform enables reusable, shareable and portable analytics solutions to be created faster. It allows the efficient reuse of data and analytics solutions within an enterprise, while minimizing the vital overhead of data management and governance.

Due to the scale of the data and the complexity of analytics associated with Industry 4.0, increased analytical productivity and efficiency is a must to improve productivity metrics at an Enterprise level.

Without it, OEMs may find themselves simply transferring costs from the shop floor to the data centre instead of achieving the full value of productivity improvements.

## Learn from Volkswagen

With "Spot Welding Analytics", an interdisciplinary team from Volkswagen, AWS and Teradata has created an intelligent solution that enables greater transparency and efficiency in car body construction. The solution integrates and analyzes data generated by welding robots – a previously untapped source of manufacturing data. "Spot Welding Analytics" is already in use today at the Volkswagen plant in Emden, where it is transforming the body shop into a digitized factory.

[Read more](#)





# The Digital Fabric: Important considerations for building analytics at scale

**Find out how data helps you innovate during the whole automotive life cycle.**

[Read more](#)



## **Accelerate innovation that delivers positive business outcomes**

Feed back data from across your business to continuously plan, optimize, and deliver new technologies and product innovations in shorter R&D cycles.



## **Rapidly deploy analytics, AI and ML into business processes, vehicles and services**

Increasing analytic throughput from idea to operationalization is critically important, as is managing analytic model maintenance throughout the full lifecycle.



## **Digital trust – governance and data traceability**

Teradata customers enjoy appropriate response times even when ML is run concurrently to simple reporting. This removes the need to fragment data into silos, reducing data governance overhead and increasing digital trust through an auditable analytic production line.





# The road ahead

The journey from isolated pilot projects to enterprise-ready capability is a treacherous one. To support thousands of projects, which together create millions of models and consume petabytes of data, you need a co-driver with an unprecedented level of data expertise. Because for the automotive industry, this is a brand new race. But for Teradata, it's one we have been perfecting for decades.

## Why Teradata?

Only Teradata offers true scalability without exponentially increasing costs. We are cloud-first, and offer multi-cloud and hybrid infrastructure for the ultimate in data flexibility. And only Teradata Vantage is capable of scaling in every direction – handling the immense data demands that you will be required to meet tomorrow, today.

Teradata is working with leading manufacturers in the Open Manufacturing Platform community to develop solutions for Industrial IoT and Industry 4.0.

[Read more](#)

Teradata is supporting the Volkswagen Industrial Cloud – an open IoT platform combining the data of all machines, plants and systems from all facilities of the Volkswagen Group – with cloud-based data analytics to optimize production processes and drive productivity increases in the plants.

[Read more](#)



# Talk to the experts

Book a virtual or face-to-face meeting with an expert from Teradata to explore how we can help you become the automotive company of the future.

[BOOK A MEETING](#)

17095 Via Del Campo, San Diego, CA 92127 [Teradata.com](https://www.teradata.com)

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