

**NTT DATA**

# **INDIVIDUALIZED PRODUCTION ACCELERATOR**

**MAKE IT BETTER,  
MAKE IT UNIQUE**



## WHAT IS IT?

NTT DATA Individualized Production enables Lot Size One orders generated in the SAP S/4HANA core to be processed and controlled automatically using RFID tags affixed to product carriers, which load ad hoc information needed for downstream production and handling.

The accelerator provides manufacturers with a Plug and Play solution that reduces time to market and the cost of adapting production lines to Lot Size One production without requiring major changes to existing production assets and IT systems.



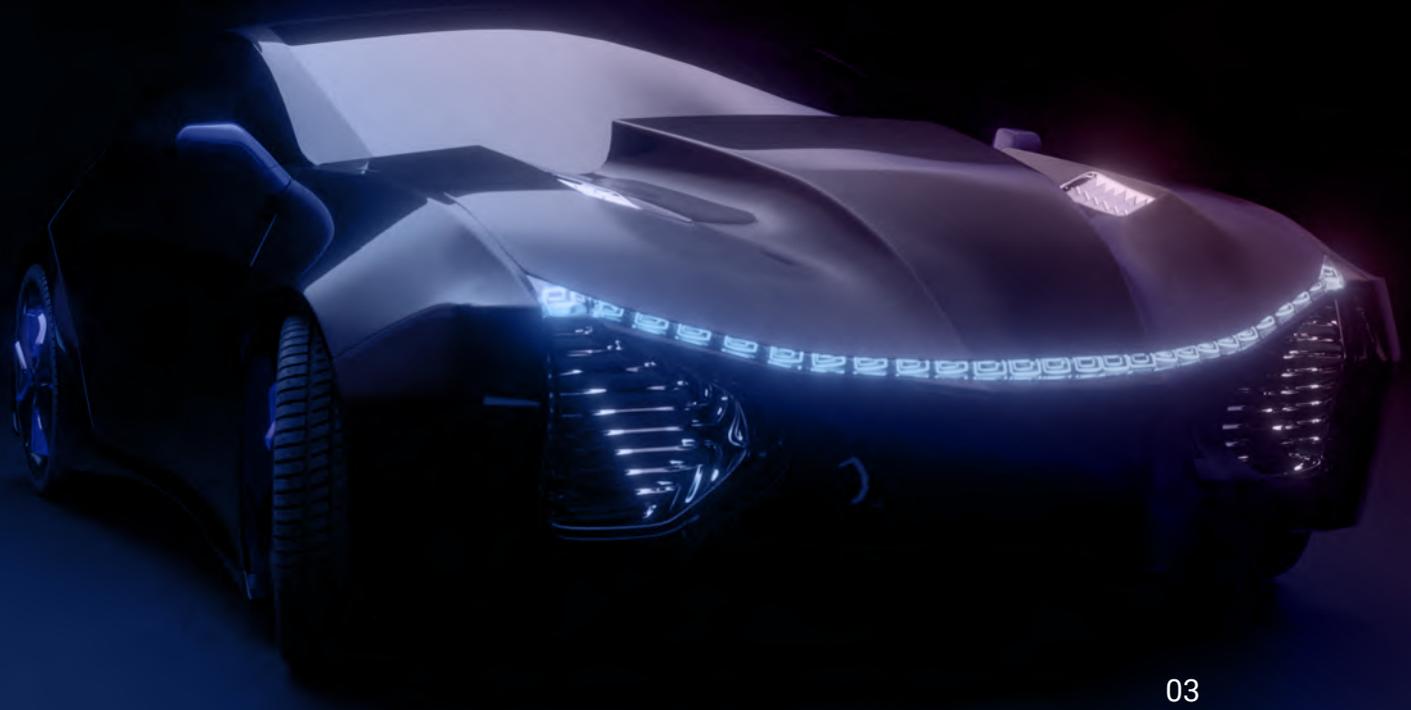
## THE BUSINESS CASE

The manufacturing of automobiles and other mass-market products has historically been done on assembly lines characterized by long production runs of standardized products to maximize output, reduce downtime and lower unit production costs.

This type of mass production is inflexible because it is difficult and costly to alter the process once the production line has been implemented. It works best for highly standardized products and ad hoc variations, beyond cosmetic changes to bodywork or decoration, are difficult to accommodate on the production line.

As the technological sophistication of products has increased and consumer expectations risen, buyers of cars and other high-tech products expect to be able to personalize their purchase vehicle by choosing from an ever-growing list of factory-fitted options.

This requires OEMs to adopt more flexible forms of manufacturing that will allow more variation in product's features and specifications and more frequent design refreshes while still reducing downtime and maximizing output.



# INDIVIDUALIZED PRODUCTION AND INDUSTRY 4.0

Industry 4.0 takes customization to the next level by allowing each product that emerges from the production line to have been uniquely customized to an individual buyer's specifications, a concept known as Lot Size One.

But today's production lines are characterized by islands of automation and siloed IT systems that make it difficult to undertake the mass production of individualized products without significant increases in costs, resources and quality issues.

The challenges for OEMs are two-fold. They need to be able to identify opportunities for customization that communicate a differentiated value proposition to potential buyers. But they also need to be able to efficiently translate the customers' desires for "uniqueness" into specifications for customized products that can be cost-effectively manufactured using mass-production techniques but in batch sizes that may be as low as one.

Assembly lines today must be as flexible as possible without compromising efficiency. The problem with traditional production lines is that the production process gets more complex as more variability is introduced, either in response to market requirements or simply through "feature creep" – the tendency for designers and engineers to add new capabilities, features and functions to new products. This leads to cost increases, longer product development cycles and inefficiencies.

So how can mass production methods be applied to individualized products? Fortunately, the technologies that are becoming more commonplace thanks to Industry 4.0 finally make it feasible to move to Batch Size One production.

Online product configurators enable customers to choose the options for a car or other customizable product and their wishes are then automatically translated into a custom order.

Dynamically programmable robots and other production assets then automatically and rapidly configure themselves for each custom order and without the need for human involvement, so avoiding downtime and human error.

The NTT DATA Individualized Production Accelerator has been designed to accelerate this evolution to Lot Size One without requiring major changes to existing production assets and IT systems.



# NTT DATA INDIVIDUALIZED PRODUCTION ACCELERATOR

## Main Features

The NTT DATA Individualized Production Accelerator offers an end-to-end solution for Lot Size One production and easily integrates into existing SAP-based production environments.

It provides the real-time visibility and control needed to automate the entire process from the reception of each individual order, through production planning and execution, to production control and final delivery to the customer.

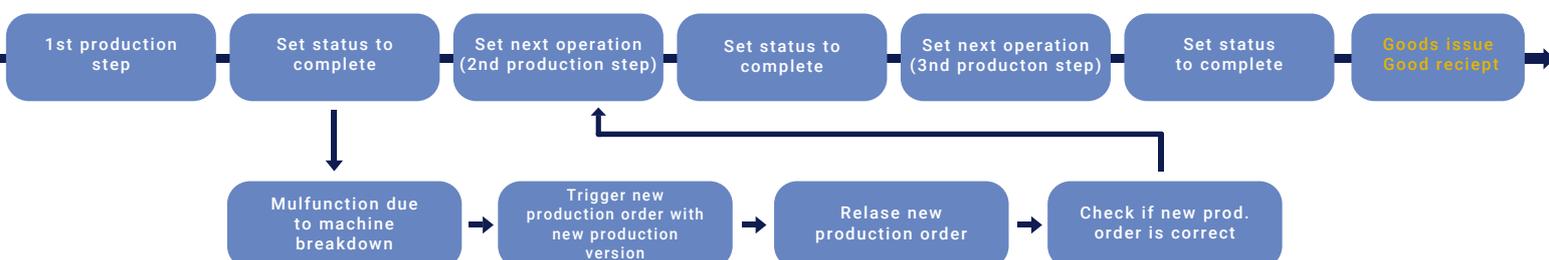
RFID tags fitted to the product carrier and sensors on the production line enable the progress of the product being customized to be controlled and monitored automatically. The SAP IoT service collects and processes sensor data at scale, either at the edge or in the cloud, and stores it on the SAP BTP.

Intuitive dashboards in SAP MII provide real-time information to monitor and control the production process and display relevant KPIs.

NTT DATA provides services to all industries/sectors across all geographies

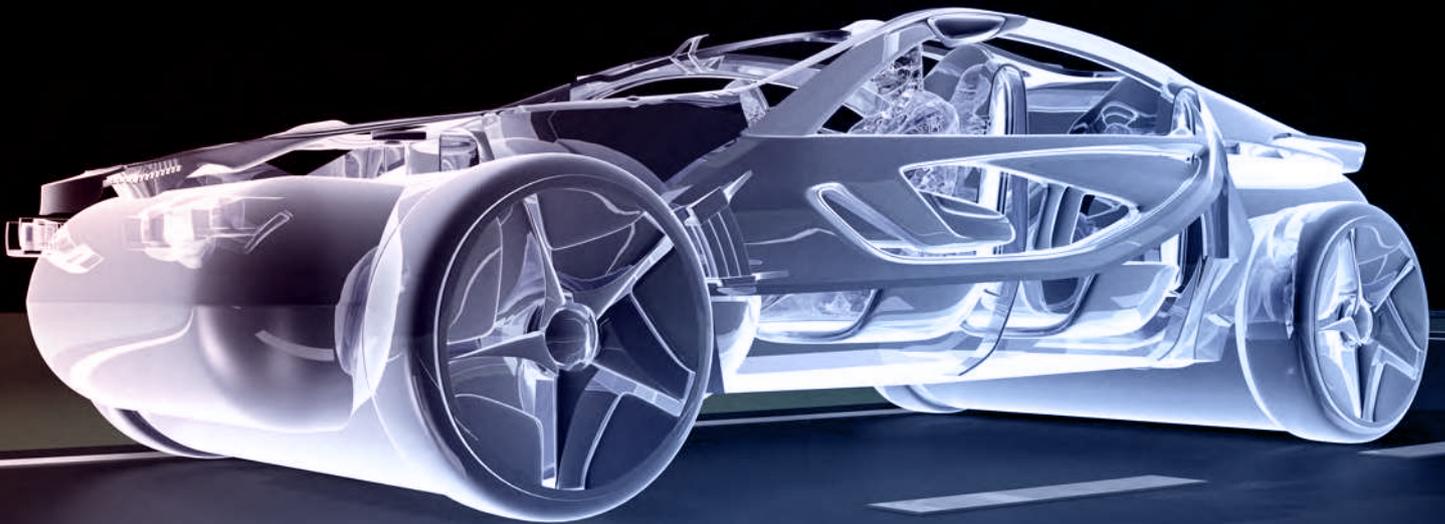
## How It Works

1. A customer's individual order is created in S/4HANA containing the variant configuration of the finished vehicle or other good to be customized.
2. A unique production plan is created for each custom order based on its required configuration.
3. This production plan controls all the activities relating to the execution of the custom order, such as availability checking, material staging, production confirmation and material movements.
4. As the product carrier passes down the production line, its RFID tag identifies the product to each production asset and load ad-hoc information from the MES/ERP to perform each production step.
5. When the process is complete, the product is released to goods reception and a new order is loaded to start the next customization process.



## BENEFITS

- Simplifies scheduling and execution of Batch Size One manufacturing with real-time control of production process and automatic confirmation of process steps.
- Production can be monitored in real time as the top floor and the shop floor are connected.
- Customer satisfaction increases as they are sold a product that meets their exact requirements.
- Lot Size One allows manufacturers to hold less WIP and finished goods inventory, so reducing working capital needs and the costs associated with warehouses.
- Data accessed through RFID tags can be easily reconfigured and extended to cope with different customer requirements.



# SYSTEM REQUIREMENTS

- S/4HANA core
- SAP IoT
- SAP Business Technology Platform
- SAP Asset Central with PdMS.
- SAP MII

NTT DATA has Global Centres of Excellence around the world for each industry that feed regional centres and local capacities



# WHY CHOOSE NTT DATA FOR YOUR SAP AUTOMOTIVE PROJECT

## We are experts in automotive

NTT DATA has worked with the automotive industry for 45 years and we currently serve more than 85 OEMs, suppliers and dealerships. We understand the challenges and the needs of enterprises in this sector and we have considerable experience creating innovative solutions that deliver sustainable business value for automotive companies, so helping them achieve a competitive advantage.

To accompany automotive companies on their S/4HANA journey, NTT DATA has a team dedicated to S/4HANA transformation and an S/4HANA Center of Excellence that establishes the most appropriate evolution strategy for companies that want to evolve to S/4HANA and other SAP solutions, platforms and technologies.

NTT DATA has developed a SAP Automotive template for S/4HANA and accelerators to help automotive companies overcome specific challenges and reduce time to value.

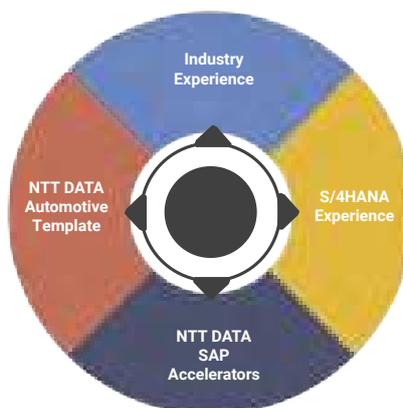
NTT DATA is a formidable force in SAP services with more than 20,000 SAP professionals, 2,700 SAP clients worldwide, 21 delivery centers and operations in 41 countries.

- NTT DATA has achieved the highest accolade awarded by SAP, Global Strategic Services Partner, which recognizes its ability to offer a wide range of best-in-class business consulting and solution implementation services in support of SAP technology.
- NTT DATA is in the Top Ten of SAP services providers worldwide according to Gartner.
- Our solutions leverage our business-specific expertise and skillsets in SAP technologies but also in other digital technologies, such as AI and IoT, for example.

Fully customized SAP S/4HANA system  
Including all core-areas such as Finance, Sourcing & Procurement, Manufacturing, Asset Management, Sales, Supply Chain. Includes 113 Best Practices.

NTT DATA has + 10 SAP accelerators to reduce the time to market and costs.

- Supply Chain Control Tower
- Individualized Production
- Smart EWM High-Bay Racks
- SAP JIT/JIS
- Others



- NTT DATA has been serving the automotive industry for more than 40 years.
- NTT DATA has more than 10,000 IT Consultants serving 85 clients in the automotive value chain including OEMs, suppliers and dealerships.

- 29-year partnership with SAP.
- Over 5,000 active SAP clients.
- Leading SAP partner with over 300 S/4HANA projects.
- Resource coverage in over 58 countries.

# THE NTT DATA DIFFERENCE

## NTT DATA SAP automobile template

- Fully customized SAP S/4HANA system including all core areas such as finance, procurement, sales, logistics and production
- Includes new SAP modules such as EWM, IBP, TM, VMS, etc.
- SAP Business Technology Platform and BTP Integrations

## NTT DATA SAP automobile accelerators

- SAP JIT/JIS
- Supply Chain Control Tower
- Edger Computing Integration via Cloud Platform
- Smart EWM Hight-Bay Racks
- Individualized Production
- Sales and operations planning IBP and SAC
- Digital Supply Chain Execution with SAP Yard Logistics for SAP S/4HANA
- Manufacturing Innovation Platform
- Automotive Digital Business & Growth Platform



## ABOUT NTT DATA

NTT DATA – a part of NTT Group – is a trusted global innovator of IT and business services headquartered in Tokyo. We help clients transform through consulting, industry solutions, business process services, IT modernization and managed services. NTT DATA enables clients, as well as society, to move confidently into the digital future. We are committed to our clients’ long-term success and combine global reach with local client attention to serve them in over 50 countries. Visit us at [nttdata.com](http://nttdata.com).



A dark-colored car, possibly a truck or SUV, is shown from a front-quarter perspective at night. The headlights are illuminated, casting a glow. The background is dark with some blurred lights and signs. The text 'JOIN US!' is overlaid in large, white, bold, sans-serif font across the middle of the image. There are several semi-transparent colored squares (yellow, grey, blue) scattered around the image, some overlapping the car and the text.

**JOIN US!**

**2022**