

NTT DATA

MANUFACTURING INNOVATION PLATFORM WITH SAP DMC

INTEGRATE
TO INNOVATE

SAP
Global
Partner

WHAT IS IT?

NTT Data's Manufacturing Innovation Platform provides an "out of the box" solution for integrating S/4HANA, whether on-prem or cloud-based, into a manufacturer's production environment by leveraging the cloud-based functionalities of SAP Digital Manufacturing Cloud in areas such as scheduling, execution and insight.



THE BUSINESS CASE

Manufacturers in automotive and other sectors need to become smarter and more agile if they want to develop more innovative products and satisfy their customers' demands for individualized production and shorter product lifecycles. Manufacturers must react quickly and flexibly to events on the shop floor and this requires better communication and tighter integration between the IT systems used in their offices and factories.



NEW CHALLENGES

To make the vision of Industry 4.0 a reality requires that manufacturers have all essential information available in real time to enable more effective planning and better control of all processes along the entire industrial supply chain.

But manufacturers face hurdles in adapting their business and shop floor processes to realize this vision.

One key challenge is data transparency, the lack of which makes it difficult to achieve consistent performance measurement across plants and contract manufacturers. With greater transparency it becomes easier to schedule production across multiple plants for optimized throughput, higher quality and reduced costs.

Another big challenge is poor data integration. This makes it difficult to accommodate new product introductions, for example, as the engineering bill of materials (eBOM) will be different from the manufacturing bill of materials (mBOM).

The root cause of these challenges lies in the technological – and, perhaps, also cultural – barriers that traditionally separate the shop floor from the rest of the manufacturing enterprise.



BREAKING DOWN BARRIERS

Enterprise Resource Planning (ERP) solutions play a key role in helping the enterprise plan and prepare production, but are of limited use in the production environment, down on the shop floor, because they do not provide reliable, real-time data on plant operations.

That is the role for a Manufacturing Execution System (MES). It provides managers and workers on the shop floor with the necessary information to ensure effective execution of the manufacturing operations and covers a wide range of functional areas, including work order management, document management, personnel management, work scheduling and so on.

To complicate matters, large manufacturers may have a variety of systems and processes across their production sites, particularly if they have grown through acquisition. Some will be legacy systems that handle a discrete task, such as spreadsheets for production planning, for example.

By integrating their ERP and MES systems and standardizing on common technologies, manufacturers can connect their factories with the rest of the organization and with their extended supply chain, so increasing transparency, communication and collaboration.

NTT DATA has developed its Manufacturing Innovation Platform to help manufacturers break down the barriers and so achieve this goal.



NTT DATA MANUFACTURING INNOVATION PLATFORM

MIP leverages the functionalities of SAP Digital Manufacturing Cloud, a cloud-based manufacturing solution that automates shop-floor processes and resources to improve manufacturing efficiency, quality and productivity.

It supports production supervisors and workers during their daily work right on the shop floor where the products get manufactured.

It connects shop-floor business systems to shop-floor equipment to provide global visibility across all plants, while orchestrating execution and monitoring production operations down to the individual work center.

Main features

- Paperless production with intuitive user interfaces for production operators, automatic data collections and set machine parameters, thereby lowering cost, increasing productivity and quality.
- Design, distribute and dynamically control shop floor activities to create a smarter factory.
- Shift and labor planning to ensure availability of the most appropriate operator for a particular machine or task.
- Production order scheduling and dispatching considering labor, resource and maintenance constraints to plan operations and adapt to short term changes.
- Cross-plant, real-time analytics for manufacturing performance e.g. perfect order fulfillment, overall equipment effectiveness, loss analysis along with machine data to identify improvement opportunities.
- Ability to collect and share product genealogy data between members of the network for traceability, accountability and greater transparency.

How it works

By leveraging and tightly integrating the cloud-based functionalities provided by SAP DMC with those provided by S/4HANA, which will typically be installed on premises and, optionally, S/4HANA EWM, the Manufacturing Innovation Platform orchestrates and optimizes manufacturing tasks and automatically shares the information needed by the next stage in the production process.

Plan Production

- Plan Production Order (S/4HANA)
- Schedule Production Order in Resource Orchestration Chart (DMC)
- Release Production Order (DMC)

Production Supply

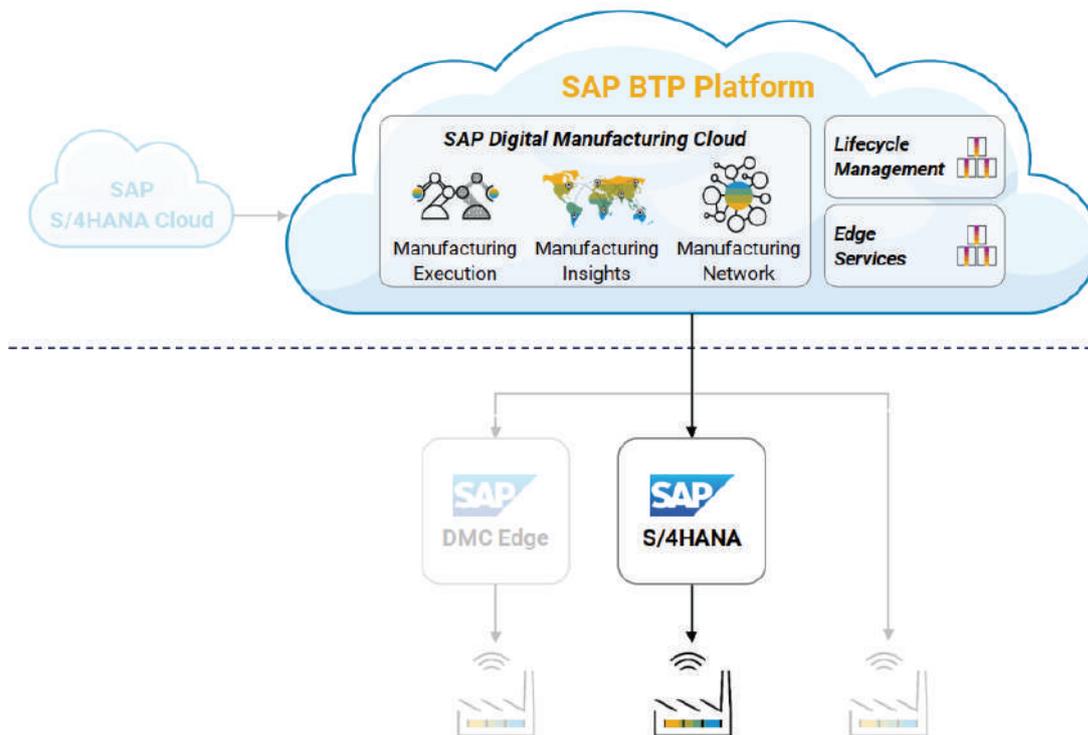
- Stage Materials with Production Material Request (S/4HANA EWM)
- Consumption (DMC)
- Goods receipt from production (DMC)

Execute Production

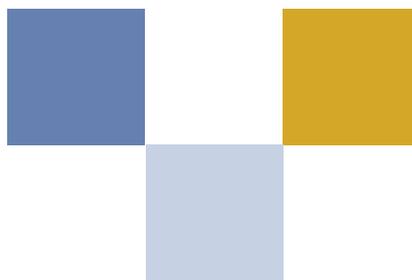
- Begin executing production order operations in Production Order Dashboard (DMC)
- Follow work instructions (DMC)
- Buy-off production (DMC)
- Confirm production (DMC)

Manufacturing Insights

- Evaluate global/plant production KPIs (DMC)
- Real-time alerts (DMC)



Stage	1 New Product Definition	2 Production Planning	3 Staging	4 Production Execution	5 Analytics
User Activities	Create Master Data once	Finite capacity scheduling with AI assist Graphical chart for interactive planning	Order based material staging Monitor automatic confirmations Material movements	Execute SFC Follow automatic instructions Check AI non-conformance	Evaluate automatically created KPIs
Technology	S/4HANA, DMC	DMC REO	S/4HANA eEWM, DMC	DMC POD	DMC Insights
Business Goals	Govern unified Master Data Distribution to systems	Finite optimized production Reducing non-working times	Ensure material flow	Optimized production Reducing unit cost	Discover trends Discover optimization needs
Business value	Seamless Data integrations Advanced graphical MD editing	Advanced DS algorithms Graphical chart for planning	Real-time stock and process visibility in the entire WH	Taylor-made POD with advanced enhancement options	Real-time embedded analytics on all levels of production network
Responsible	Master Data Coordinator	Production Planner	Warehouse Operator	Work Operator	Production Supervisor



BENEFITS

- **Greater Transparency**

Connects the internal business processes with the production systems and provides transparency across all plants and production sites.

- **Improved Orchestration**

Serves as a central cloud solution for orchestration of production processes in hybrid system landscapes.

- **Closer Collaboration**

Orchestrates production processes across company boundaries and provides a platform for cloud-based collaboration with customers and suppliers.

- **Reduces Costs**

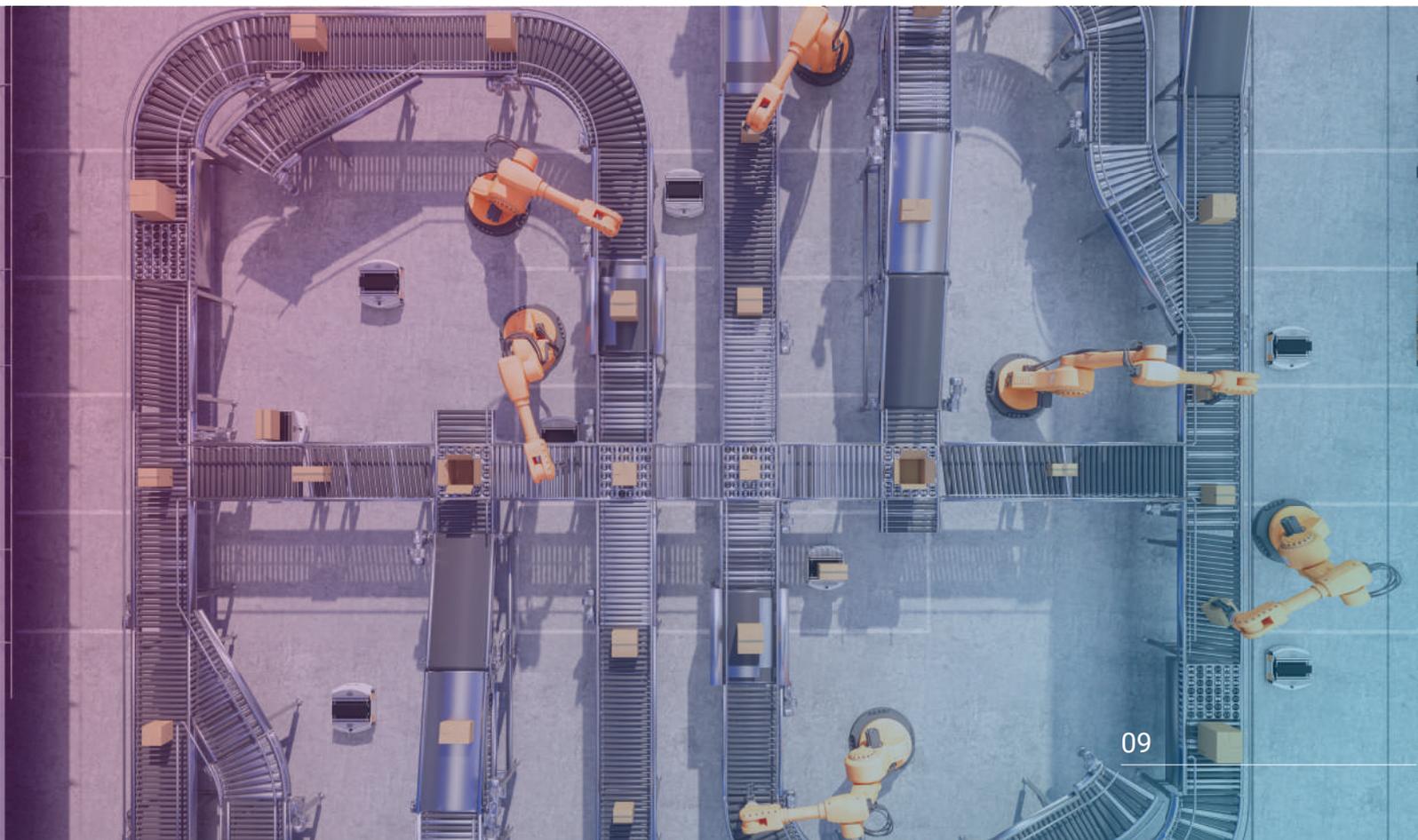
By increasing productivity and optimizing use of production resources, unit costs are reduced.

- **Higher Quality**

By ensuring higher product quality and less variance, less work gets rejected or needs reworking and customer satisfaction improves.

- **Flexible and Easy to Deploy**

Works with your existing MES systems and SAP solution, whether it is SAP ECC, S/4HANA, cloud based or on-premises.



SYSTEM REQUIREMENTS

- SAP Digital Manufacturing Cloud
- SAP Integration Suite
- SAP Cloud Connector
- SAP S/4HANA Production Planning or SAP ERP PP module
- S/4HANA Extended Warehouse Management (optional)



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 SAP S4/HANA journey, NTT DATA has a team dedicated to S/4HANA transformation and an S4/HANA 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 S4/HANA 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. It is a truly global organization committed to seamlessly working together with its clients to deliver SAP-centric projects that can be delivered at scale and across multiple locations. 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. NTT DATA has achieved the highest accolade awarded by SAP, Global Strategic 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.

THE NTT DATA DIFFERENCE

NTT DATA SAP AUTOMOTIVE 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 Integration

NTT DATA SAP AUTOMOTIVE ACCELERATORS

- SAP JIT/JIS
- Supply Chain Control Tower
- Edge Computing Integration via Cloud Platform
- Smart EWM High-Bay Racks
- Individualized Production
- Digital Supply Chain Execution with SAP Yard Logistics



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.





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