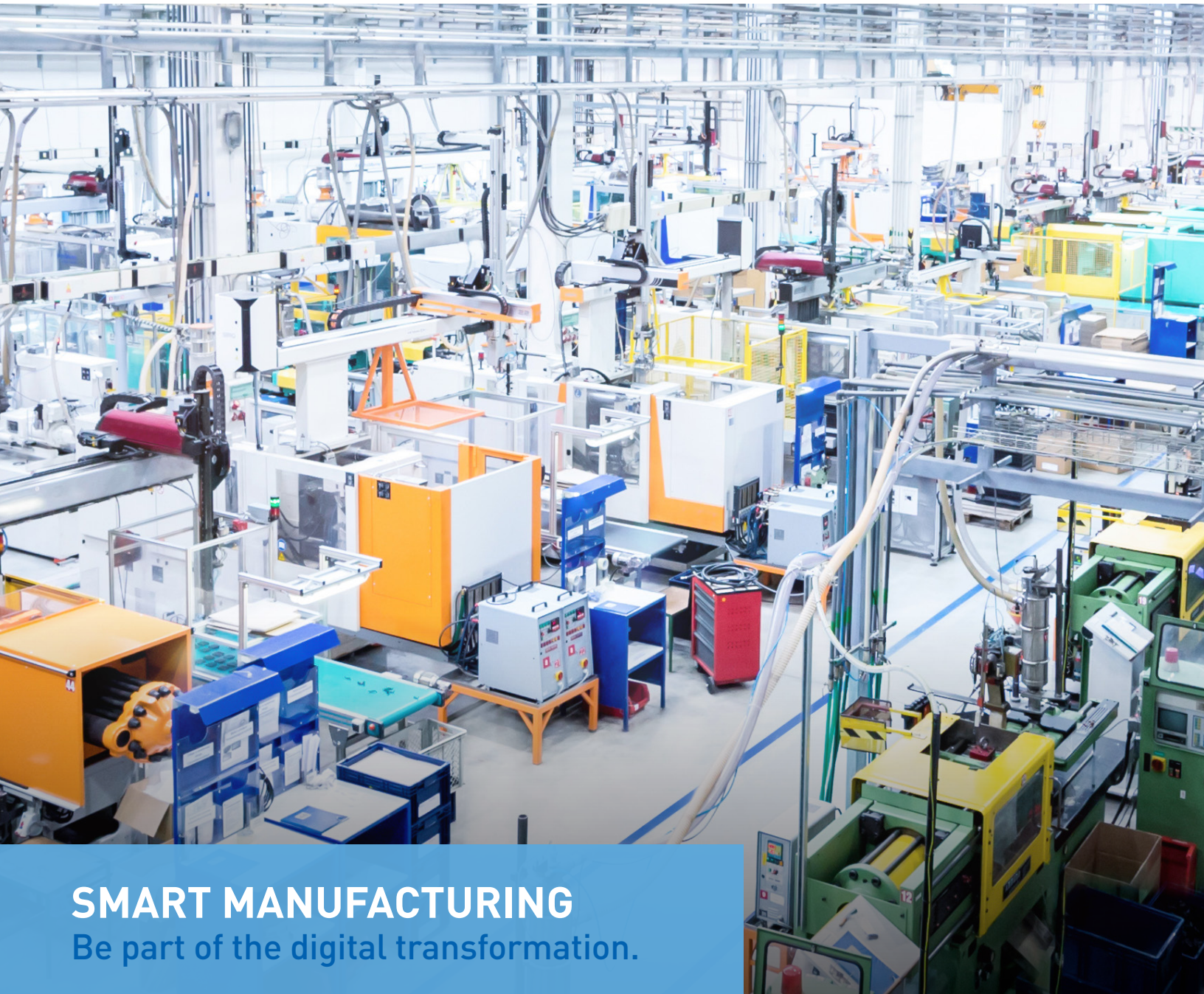




SMART MANUFACTURING

Be part of the digital transformation.

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na.panasonic.com/us/SmartManufacturing

CHANGING THE WAY
WORK
IS DONE



Why Panasonic?

We have over 30 years of experience developing customizable solutions to increase production output, factory capacity utilization & labor productivity, Panasonic will be your digital transformative partner, no matter where you are in the digital transformation journey.

Proven Factory Floor ROI/TCO visibility with certified KPIs

Panasonic is a hardware and software company that builds and tests the same software in our own manufacturing facilities that our customers use. We do this because we share the same KPIs:

- Improve Overall Equipment Effectiveness (OEE) and decrease production costs
- Improve First Pass Yield (FPY) and other Quality Yields
- Drive Continuous Improvements via Business Intelligence actionable insights



Industry 4.0 Ready

Developed to enable any customer's digital transformation with modular, scalable software solutions for the manufacturing floor that specifically targets track, trace, and control of end to end production. Wherever the customer is on their digital journey, our platform offers agile system integration, as we enter the fourth industry revolution.

Those who embrace the smart factory see an **average of 20% improved** asset efficiency.*

20%
↑

30%
↑

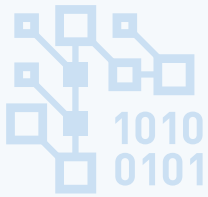
These organizations are seeing **product quality improve by 30%** – a key component of customer satisfaction as the marketplace evolves.*

Professional Services focused on enabling manufacturer's digital expertise



Panasonic's professional services team of digital transformation experts will start with a discovery workshop to assess the facility, processes, people, and systems of today with an eye on how to best move forward. We will take these learnings to create a customized transformational roadmap to optimize goals and mitigate risks. Resulting with a solution to catapult your digital manufacturing journey.

US Manufacturers believe Smart Factory initiatives will be the main driver of competitiveness over the next five years.*



The Suite of Digital Components to a Complete Solution

We offer Connected Operational Control supported by actionable data for Smart Manufacturing decisions that continually increase production capacity and productivity.



Digital Twins

Predictive Maintenance Reduces Downtime

It begins with replicating your physical manufacturing environment and creating the digital layer which will enable different machines and systems currently in silos, to now talk to one another. That translates into full visibility and the ability to gather both real time and historical data that can be used to optimize your operation. You'll have full visibility into your operations – and can analyze certain areas of your factory as you couldn't do this before the transformation. You can look at materials and timing, by which workers, for example, gather data and analyze maintenance schedules of machines to better determine which machines will be down and for how long, and who is assigned to do the work and are they certified to work on that particular machine.

This virtual twin provides the ability for disparate machines and systems to speak with one another so that data can be collected, aggregated, and analyzed, providing process and manufacturing optimization.

Panasonic's key digital transformation components:

• Process Enforcement

Our Smart Manufacturing Solution uses a digital twin model and configurable process plans to enforce your manufacturing processes and route in real time based on data captured from receiving to shipping.

• Material Management

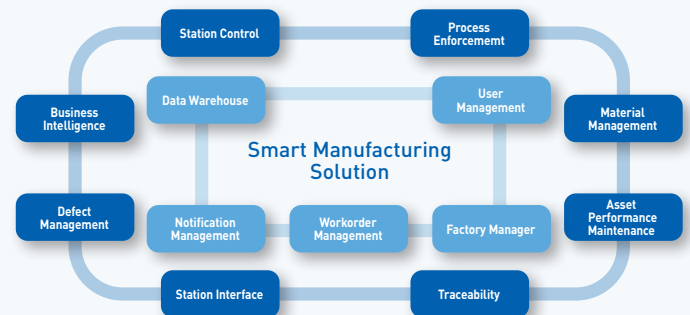
End to end tracking system for all factory floor materials. Create custom material workflows, allocate materials to work orders and seamlessly integrate with customer systems, including ERP, WMS, SCM, and APS.

• Asset Performance Maintenance

The overarching goal of a manufacturing facility is to increase productivity and efficiency, while lowering Total Cost of Ownership (TCO). Managing and monitoring assets provide a factory with opportunities to increase these process components, with the ultimate goal of increasing the ROI. Complete tracking solution for assets, maintenance work and spare parts, giving TCO transparency of the factory floor.

• Product Traceability

Detailed end to end traceability of every product built and every step of the process, enables organizations to closely monitor materials, stations, maintenance, quality and defects. With this ability there is an identifiable history to reference.



• Defect Management

Defect & ticket management system that tracks product defects from creation to repair. Supports custom workflows and individual defect history views.

• Business Intelligence

The key to any process is in the analytics. How can the manufacturing process be optimized? How can a produce reduce waste? How can they optimize employees? Real time analytics provide the answers. Business Intelligence produces actionable data and drives insightful smart manufacturing decisions.

• Station Control

Integrate and monitor equipment and automation in real time to allow engineers to add or revise intelligent process controls to the factory floor. A single source of interaction with physical systems enables clear direction of problems and solutions.



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