

How To Thrive in the New World of Manufacturing

Improve Safety and Process Efficiency
With Innovation and Technology





Technology Is Disrupting Manufacturing, But It's Also Offering New Opportunities for Workers and Companies To Thrive

Manufacturers today face significant challenges due to disruption from technology, generational change, worker retraining and international pressures. These challenges present manufacturers with more opportunities than ever before. For example, technology is helping to improve safety, reduce waste and increase production efficiency, while simultaneously coordinating, benchmarking and collaborating with internal departments, multiple factories and partners.

This best practice guide captures some of the learnings that Hitachi has gathered from manufacturing customers. With the help of solutions that leverage innovative technologies, such as the internet of things (IoT), artificial intelligence (AI), video insights and 3D lidar, these customers have become smarter. As one of the largest manufacturers in the world, we “drink our own champagne” at Hitachi by implementing these solutions in our own award-winning factories. This guide provides insights from the field to help manufacturers improve business, sustainability of operations, and well-being of workers.

Smart Manufacturing Has Many Different Meanings, But the Paths Are Similar

- 1 It's not too late to get started on the path to Industry 4.0. Most manufacturers intend to begin or have just begun their transformation.
- 2 Start with specific, tangible and realistic projects and iterate along the way as value is demonstrated.
- 3 Work with outcomes in mind while leveraging existing infrastructure. Work with a partner who best works within your installed equipment and software base.
- 4 Prioritize use cases and choose ones to start with that will provide high value and be relatively less complex to implement.
- 5 Every factory is different, so take the time up front with your partner to define your challenges and how solutions will provide specific points of value.



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Harnessing the power of big data is a primary component of any digital transformation effort and central to realizing the promise of Manufacturing 4.0.

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Source:

[Manufacturing Leadership Council](#)

1 Now Is the Time for Manufacturers To Start on the Path to Industry 4.0

A lot of hype surrounds Industry 4.0, including IoT, AI and data-driven manufacturing. However, the reality on the ground often includes spreadsheets, clipboards and the expertise of seasoned workers. Even if you still rely on these approaches, the world hasn't passed you by: There are plenty of opportunities to remain competitive in today's world if you get started today and plan for the future of your business.

Manufacturing is undergoing a massive shift in technological disruption, but it has been undergoing disruption for decades, from international price pressures, outsourcing, supply chain fluctuations, and automation during the first industrial revolution. Just as in the past, those who innovate will thrive in the future.



2 Start With Specific, Tangible and Realistic Projects That Demonstrate Value

Rome wasn't built in a day, and Manufacturing 4.0 won't be either. Identify areas of your production process, worker safety records, and extended facility and raw materials management that show an opportunity for improvement. Start with specific, tangible projects that will provide value from day one, and demonstrate that you're on the right path to "smart." The right path will pay back proportionally as you expand and invest in the future. Thinking holistically can open up new opportunities to save on worker's comp claims through better safety, better managed materials and scrap reduction, or shorten the learning curve for new employees to become great employees.

3 Don't "Rip and Replace": Work With a Solution Partner Who Will Build on What You Have

Many manufacturers hear from the industry that they need to completely replace their existing hardware and software to keep up. But many existing systems can be optimized and made safer through augmentation with new technology and data-driven approaches. Hitachi has worked with a variety of manufacturing customers to improve worker productivity and safety, as well as machine efficiency, without "ripping and replacing" the existing machinery or digital systems. The advent of video analytics and 3D lidar creates tremendous new opportunities to measure what was previously unmeasurable, and thereby provide more data for managers, as well as experienced and new workers. These technologies help to reduce disruption and retraining costs, while minimizing the financial impact of innovating.

4 Prioritize and Start With Projects That Provide Value and Are Not Too Complex To Implement

Hitachi helps its internal manufacturers and customer manufacturers by engaging in value engineering workshops. These events help them identify which projects will be most likely to provide high value, as well as be feasible to deliver in a relatively short period of time. Once value is proven for the specific approach, the project is scaled out to additional sites or scaled up to address more of the process at hand. From there, we work to deliver the next step of innovation that will provide further value. We take our customers along the “Stairway to Value,” which is a data discussion centered on storage, enrichment, activation and monetization. Along the way, we help them to discover opportunities for optimization, cost savings and new revenue.

5 Focus on Choosing Strategic Solution Partners, Not Widget Vendors

It's easy to get excited about technology, but a true solution needs to be in place to provide the most value. The answer could include multiple technologies, but a true partner will have a holistic point of view and expertise from similar projects they have done with other customers or internally. No two factories are the same, so you need a partner who will understand what solutions will or won't work with your specific configuration and needs. Hitachi is a manufacturer, too. We operate nearly 200 factories globally and use IoT-based solutions in our facilities, as well. We can help you make the transition to smarter manufacturing, just like our factories and those of our customers.



[See case study.](#)



Admittedly, we didn't know how to go about changing our business with digital tools. We're not experts in digital technologies; we had to start developing a culture and mindset for digital transformation. But since partnering with Hitachi Vantara, it's been a wonderful journey. Previously, we were very data rich, but were probably not even using 5% of that data. With Hitachi Vantara, we now know what's possible. ... It is exciting to have all our machines integrated in one place and be able to extract value from our data."



Source:

Vijay Kamineni, Business Transformation Leader at Logan Aluminum



We're a Manufacturer, Too

Hitachi operates nearly 200 manufacturing facilities, employing over 140,000 people around the world. We experience the same challenges as our manufacturing customers and have deployed solutions to address these issues. We are now sharing these solutions with the market to help our customers see the same benefits that we see in our operations.

At Hitachi, we refer to this leveraging of technologies and solutions we sell to customers in our own operations as “drinking our own champagne.” In fact, Hitachi’s Omika Works factory in Japan was recognized as an “Advanced 4th Industrial Revolution Lighthouse” by the World Economic Forum in 2020. We invite our peers and customers to employ these same solutions to similarly improve their operations, training and safety, much as we do in our own facilities.

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It is imperative for manufacturers to look beyond individuals and invest in the partner and supplier ecosystem so that they are contributing to their success and improve their business agility.

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Source:
Manufacturing Leadership
Council

Industry 4.0 Is an Opportunity To Transform to Smart Manufacturing

Technology disruptions, generational change in the workforce, worker retraining and international pressures that manufacturers face today present a great opportunity to begin the path to Industry 4.0. Manufacturers who are innovative today and evolve with digital transformation will thrive in the future.

Take the Next Step

Deliver insights for data-driven decisions using video from the physical world to improve your manufacturing quality assurance with Lumada Video Insights .

LEARN HOW >

Maximize return on data and respond to manufacturing challenges, while minimizing your risks with Hitachi Vantara's manufacturing solutions.

SEE HITACHI SOLUTION >

We Are Hitachi Vantara

We guide our customers from what's now to what's next by solving their digital challenges. Working alongside each customer, we apply our unmatched industrial and digital capabilities to their data and applications to benefit both business and society.



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