Optimize processes with Industry 4.0 for high tech

Industry 4.0 technology is a must-have for the new normal

Manufacturers inhigh techindustries face distinct challenges. Raw materials, new technology,evolvingmarket demands, and the continual need for innovation and new product development keep high tech manufacturers pushing boundaries. But these new ideas, new product launches, and new ways of producing goods require collaboration, data insights, and sharing of research and drawings. Advanced technology keeps the complexity under control so personnel can focus on meeting their priorities and driving the enterprise forward.

For manufacturers to agilely respond to the new market landscape, advanced, modern solutions and Industry 4.0 strategies—such as the cloud, analytics, artificial intelligence (AI), and the internet of things (IoT)—will play a valuable role in supporting new organizational initiatives and connecting people, processes, and data. These new technologies will enable manufacturers to combine intelligent automation with robust, real-time decision-making capabilities, enabling a more productive and efficient "smart manufacturing" environment.

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Optimize high tech processes for better Industry 4.0 productivity

Manufacturers in hightech can see today's marketdemands as challenges—or opportunities. Companies that can step up to the call for innovation have wide open fields of potential customers eager for new products and applications. Those that struggle with outdated legacy solutions risk being left behind, playing catch-up, or holding obsolete inventory. From design to delivery, cloud-based solutions are necessary to streamline processes so manufacturers can respond with agility.

Manufacturers that are ready to embrace the opportunity to modernize their systems should take action. Rapidly identify business process limitations and invest in technologies that can improve productivity, expedite tasks, and support fast decision-making. The value of modern enterprise software lies in its ability to automate workflows and business processes—via technologies such as digitization, advanced and predictive analytics, virtual and augmented reality, and the industrial internet of things (IIoT)—making it easier to run operations and deliver products faster.

Drive smarter decision-making with AI

AI is akey Industry4.0 technology.In fact,AI is now oftenembeddedwithinmany businesstechnologies—fromenterpriseresourceplanning (ERP) solutions with built in business intelligence (BI) capabilities to networked supply chains using predictive analytics. AI plays a critical role in helping humans do their jobs. It's a tool, not a replacement, for enhancing decision-making and business insight in manufacturing.

Machine learning

AI can streamline complex decision trees and act with defined actions based on parameters learned from user input. Risk-adverse companies can automate systems to follow safe protocols, such as weighing vendor selections to favor reliability over cost.

Predictive analytics

BI solutions with built-in AI can provide managers with highly accurate forecasts. AI technology recognizes patterns, discovers cause-and-effect relationships, and uncovers more data to refine projected outcomes and improve accuracy.

Automation

Many routine plant tasks can be automated with AI, ranging from modest time-savers to huge improvements in resource use. For example, workflows can be established for data points to trigger reorders, update schedules, reroute materials, and more.

Fraud detection

AI-based monitoring like banks use to recognize atypical charges and trigger fraud alerts can be used by manufacturers to identify irregularities in customer orders and flag possible errors. This technology can also be used to monitor regulation and safety compliance.

IoT

AI and IoT work in unison to interpret data received from sensors. Sensors generate such vast amounts of data that the power of AI is truly needed to not only aggregate, sort, and identify the significant data points, but also recommend what action to take.

Forecasting

Explore what-if scenarios using predictive insights to forecast outcomes, analyze risks, and determine best courses of action.

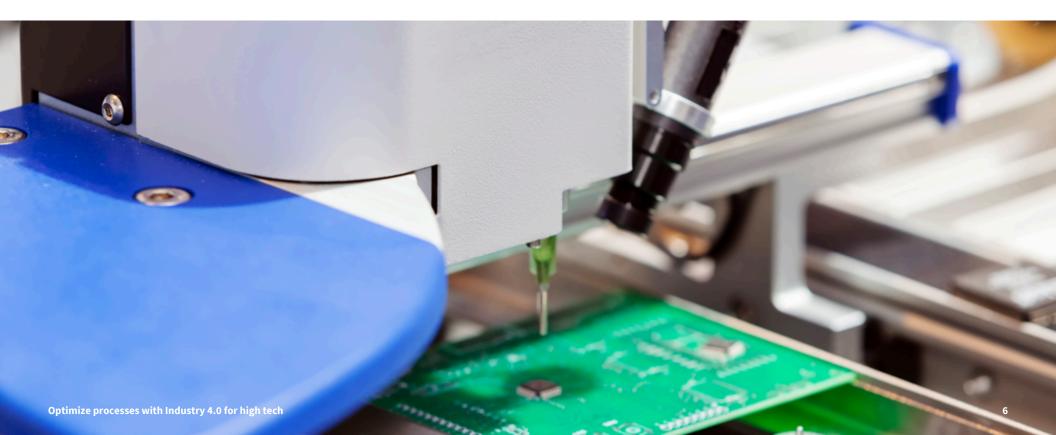# Creating an integrated network of high tech supply chain partners

For high tech manufacturers, access to raw materials is essential. Of the five rare earth materials used in technology—tantalum, silver, lithium, gallium, and indium—some of these minerals are present in only small quantities in the earth itself and cannot be recreated in the lab. "Many are used in today's electronics devices, such as smartphones, and, increasingly, in renewable energy products such as solar panels and the batteries for electric vehicles (EVs)," according to Engineering & Technology.

With tight reserves for raw materials, high tech manufacturers need a digital network of real-time information in order to see, control, and proactively manage inventory and shipments from the production source to their final destination.

But a lot can happen in between, especially when so much of an organization's supply chain data resides with other companies and partners.

Components, parts, and finished goods become obsolete so quickly that manufacturers must be strategic in how they set buffer stock levels. This is where predictive analytics can help manufacturers forecast their supply chain needs and plan ahead.

High tech manufacturers must begin their digitalization strategy with tools that can intelligently help them to manage inventory planning, monitor scheduling purchases, route deliveries, and build better relationships with suppliers.

Infor OS: A foundation for innovation

It's not enough to say you needanew ERPtomodernize. Choosea solutionthatis highly flexible and will grow with you as your organization evolves. A digital operations platform, like Infor® OS, can support your innovation and growth, by providing you with the services, flexibility, and agility necessary to meet your productivity goals.

As you transition to Industry 4.0 technologies, you'll rely on artificial intelligence (AI), machine learning (ML), and advanced analytics. A foundational cloud platform can provide horizontal technology services and extend into third-party solutions as well, with services that range from essential, business-critical functionality to more advanced high–tech capabilities that can provide competitive advantages.

This platform delivers a unifying foundation for the entire business ecosystem, including: easy-to-use reporting and the ability to integrate with legacy solutions, along with machine-to-machine connectivity, conditions-based sensors for IoT and integration with robotics, materials handling equipment, and mission-critical assets which require continuous monitoring.

Why high tech manufacturers should move to the cloud

Cloud-basedenterprise software providesbusinesses with an infrastructurethatenablesquickerresponsestonewopportunitiesandcustomer needs. The right cloud solution can drive agility from end to end, and help an organization:

Innovate faster

Cloud solutions enable organizations to keep pace with industry changes and pursue new opportunities without adding expensive infrastructure, while taking advantage of emerging functionality quickly and cost effectively. If a new initiative succeeds, it can be scaled seamlessly to a wider audience.

Improve performance and scalability

Cloud-driven businesses benefit from best-in-class performance and scalability, allowing rapid response to mergers and acquisitions challenges. They can establish presence or expand operations in virtually any region without having to physically be there, minimizing capital investments and risk.

Reduce total cost of ownership (TCO)

Moving to the cloud converts software from a capital to an operational expense. With this switch in revenue reporting, companies will have access to funds for expansion and new business initiatives, and the ability to quickly respond to growth opportunities.

Encourage technology adoption

Cloud software typically supports how the new generation of digital natives likes to work. Users across the business ecosystem will have a positive experience with an intuitively designed system that offers BI embedded on any device, encouraging them to integrate data into decision-making.

Simplify security and compliance

By moving enterprise systems and platforms to the cloud, organizations can effectively hand off cybersecurity responsibilities and significant costs to a committed cloud partner. Security and compliance updates can be pushed out automatically to the entire organization as soon as they're available.

Align the customer experience

Cloud solutions deliver the agility to stand up new warehouses and parts/components partnerships to improve productivity, streamline the supply chain, and align customer needs, as well as support for nearshoring operations, and responding to changing expectations and market trends.

Choosing your path

Cloud strategy is not "one-size-fits-all"

The key to an effective migration strategy is to consider your complete technology ecosystem when identifying priorities in time to value.
Many factors must be considered when creating a plan—including budget, change readiness, available skills, risk profile, and strategic objective.

Create the path to the cloud that best suits your business needs by evaluating the following areas:

A complete platform	Integration strategy	Key business operations	Strategic priorities
Organizations benefit the most when utilizing a cloud operating platform that seamlessly connects services to provide a robust integration framework and serves as the foundation of an entire business ecosystem.	Many enterprises currently wrestle with a variety of stand-alone applications that are fragmented and not integrated. When defining your need, consider applications that make it easier to work with partners and customers.	Identify functional groups and applications that urgently require additional capabilities or would receive the greatest value by moving to the cloud.	Whether your organization is prioritizing core ERP capability improvements, near-term business value, or advanced tools for business insights, there is an agile path to the cloud that will create the most value for your business.

Harness innovation and break through barriers

Thehigh tech vertical industryis exciting, driven by innovationand productlaunches. But it's also complex and fraught with challenges. Now, more than ever, market pressures demand a fast response. Fortunately, modern technology makes it possible for forward-thinking companies to not only keep pace with change and stay relevant—but to also break new barriers. It's time for high tech manufacturers to take advantage of all the opportunities Industry 4.0 technology has in store. Robust real-time decision-making capabilities, AI-driven analytics, and end-to-end supply chain networks are just some of the modern technologies manufacturers can leverage with cloud-based enterprise software to gain a more productive, efficient, and profitable operating environment.

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