



EQUINIX

A Guide to Getting Started

Transform your IT to enable a more agile future

How to tap into the power of
interconnection to enhance
manufacturing IT and business agility



Why read this guide?

We live in turbulent times. In today's unsettled world, manufacturing operations in sectors as diverse as pharmaceuticals, automotive, FMCG, energy and electronics are realizing the need to adapt and evolve to ensure they have a viable tomorrow. Building greater agility, flexible IT and resilience is essential for success.

In this guide, we look at:

- Why greater IT agility is essential for global manufacturing operations.
- Why IT architectures must be re-imagined to meet changing business needs for today and tomorrow.
- How manufacturers can take advantage of interconnection services to build more dynamic, flexible IT infrastructures.

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Navigating challenges in an unsettled world

Numerous issues are causing concern for global manufacturing operations. Socio-economic as well as industry-related, these challenges are combining to put IT infrastructures and the teams that are responsible for them under extraordinary pressures. They include:

Accelerated pace of change in customer demands and behaviors

Manufacturers need to continually innovate and refresh their offerings to attract customers. Customer expectations of shorter delivery times create additional pressures throughout supply chains, increasing the importance of real-time data flows—because delayed deliveries can lead to lost orders.

59% of manufacturers say their success is defined by their ability to meet on-time deliveries consistently¹

An increase in trade conflicts and competition

Trade disputes and increased competition—particularly from newer entrants into the market—are proving trying for many manufacturers. This is forcing many organizations to re-evaluate their supply chains and production locations.

Greater pressure to operate sustainably and ethically

Coming from consumers, investors and regulators, this is affecting manufacturing operations worldwide. However, sustainability isn't necessarily seen as a burden. 84% of manufacturers see climate change and a carbon-neutral future as an opportunity to transform.²

88% of consumers say they are now more loyal to companies that support social or environmental issues³

1 What drives growth in manufacturing, IQMS Manufacturing ERP, 2017

2 Annual Manufacturing Report 2020, PwC

3 Supply Chain Transparency, The Supply Chain Consulting Group

**The need to keep pace with technology-driven trends**

5G is promising to revolutionize the manufacturing industry being the first mobile/wireless communication network capable of advancing business use cases, including artificial intelligence, robotics and industrial internet of things (IIoT). Manufacturers must stay up to speed with trends such as digitization, automation and servitization or risk being left behind.

Unprecedented impact of a global pandemic

The global pandemic has intensified all these concerns and highlighted the importance for manufacturers to adapt quickly to changing market conditions. The pandemic has led to increased pressures on supply chains and production costs, dramatic changes in customer demand, and awareness of the need to support new ways of working across dispersed manufacturing operations globally.

More than 60% of European manufacturers say their post-COVID-19 technology roadmap is driven by a desire to take advantage of competitor's weakness and capture market share⁴



Ongoing need for greater agility and responsiveness

Achieving greater agility requires a different mindset and a different approach to IT. Manufacturing organizations must think differently about how they configure their operations, their supply chains and their distribution channels.

It is now more important than ever for manufacturing organizations to build high levels of agility and responsiveness into their businesses.

This means they need to be able to:

- Identify and respond to changing customer demands more quickly.
- Quickly reconfigure and scale production and supply chains up or down.
- Accelerate the pace of innovation and time to market.
- Use new technologies to increase production efficiency and support new customer experiences.
- Discover new ways to improve sustainability and supply chain transparency.

41% of customer complaints are caused by disruption through the supply chain⁵

To achieve greater agility, manufacturers need a flexible IT environment that enables:

Easy, secure sharing of data

Across the business and with ecosystem partners.

Quick and easy deployment of connectivity

To new locations, new suppliers or new partners.

Rapid deployment of new technologies,

New resources or new capacity to support changing business needs.

Fast, reliable access for dispersed teams

To all of the tools and information they need to collaborate effectively.

⁴ COVID-19 Impact Survey Europe, IDC EMEA, Wave 5:18-25 May 2020

⁵ The Gartner Supply Chain Top 25 for 2020



Legacy IT holds manufacturers back

Traditional IT infrastructures simply can't deliver the agility demanded by today's manufacturing operations.

IT Challenges

Inflexible, centralized IT architectures create a number of IT challenges:



Data Silos



Poor understanding of changing customer needs



Overloaded networks



Lack of supply chain resilience



Lack of connectivity with supply and distribution



Severely restricted rate of innovation



Lack of IT and network resilience



Excessive IT costs



The time required to deploy new infrastructure or network capacity



Inability to react quickly to changing market conditions





Interconnection is the solution

Manufacturers are increasingly taking advantage of the power of interconnection services and software-defined networking. This enables the transition to a more dynamic, distributed IT architecture that adds all-important agility and flexibility, while also addressing many of their current IT challenges.

The benefits of interconnection

Software-defined networking and interconnection services are available via interconnection hubs such as those provided by Equinix. They allow physically distributed businesses to locate resources and connect directly to third parties at the digital edge—something that's simply not possible with traditional, inflexible centralized IT architectures.

Interconnection offers numerous advantages for global manufacturing organizations:

Secure, real-time exchange of data

With supply chain partners, distributors and customers in regional hubs negates the need for slow, costly, private network links.

Rapid configuration and scaling of networks

Via a wide choice of network providers eliminates delays in connecting new suppliers or locations. Software-defined services enable new network links to be configured in a matter of minutes.

Data, resources and analytics located at the digital edge

So they are closer to dispersed manufacturing facilities, suppliers and customers, to improve performance and costs.

On-demand, dedicated access to cloud platforms

Enables rapid deployment of new infrastructure capacity to support new product launches or increases in demand.

Direct access to a wide range of IT service and content providers

Ensures that dispersed teams always have the tools and technologies they need.

The advantages of a more agile and dynamic IT infrastructure

Transitioning to an interconnection-based, distributed architecture can deliver numerous business benefits for manufacturing operations:

Improved agility

Quickly add new production or supplier locations and scale network capacity up or down.

Accelerated innovation and time to market

From improved data sharing and more seamless collaboration across the business and with key suppliers, partners and customers.

Enhanced supply chain efficiency and less waste

Thanks to the ability to track inventory, production schedules and customer demand in real time.

Better, faster insights

By improving the accessibility of data resources and enabling easy utilization of cloud-based analytics tools.

Greater resilience and lower risk

By eliminating single points of failure and enabling control points to be deployed closer to users.

A lower and more flexible cost base

Using interconnection services to optimize network architectures.

Improved sustainability and CSR governance

For greater transparency through the supply chain—helps ensure adherence to environmental and ethical standards.

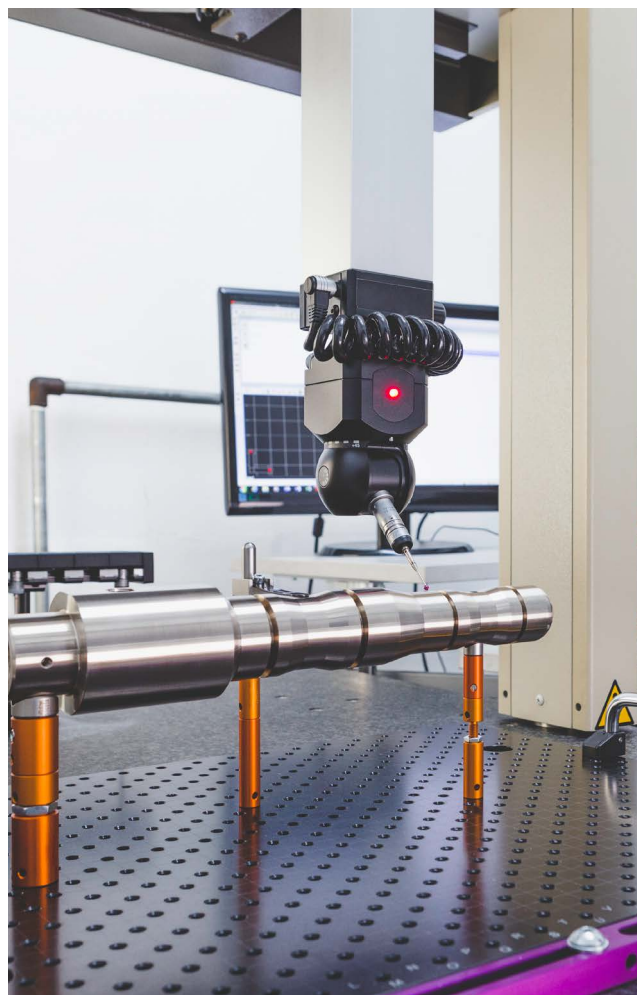
Unless manufacturers can achieve this more agile and dynamic IT infrastructure, they are at risk of being left behind by a rapidly evolving market and more fleet-footed competitors.



Interconnection for 5G manufacturing

Interconnection links devices, networks and critical ecosystems and supports 5G to enhance the adoption of digital technologies on the factory floor. These include:

High-precision engineering: 5G is helping a laser system manufacturer in the U.K. deliver a digitized design process to collaborate in real time with supply chain partners and also monitor its products in the field. An Equinix campus provides direct and secure, low-latency, software-defined virtual connections to its ecosystem partners via Equinix Cloud Exchange Fabric® (ECX Fabric®). The company is also using ECX Fabric to interconnect its own applications and data on multiple clouds, including Microsoft Azure, Oracle Cloud and Amazon Web Services (AWS).



Predictive maintenance: 5G technology allows massive volumes of sensor data to be quickly and reliably collected, enabling predictive maintenance algorithms to identify potential problems and respond in milliseconds. With the use of sensors, cameras and data analytics, IoT-enabled systems can sense warning signs, use data to create maintenance timelines and pre-emptively service equipment before problems occur. Determining when a piece of equipment will fail before it does saves companies millions of dollars by reducing manufacturing downtime, which significantly decreases operational expenditures.

Monitoring supply chains: 5G and IoT also simplifies inventory management. Materials and components can be tracked from the source to the production line, enabling just-in-time manufacturing. Sensors and mobile devices with RFID and GPS can send alerts when product stock is running low. 5G also provides the speed and bandwidth necessary for AI to monitor multiple data sources and protect against disruptions such as natural disasters by automatically re-routing to alternate suppliers when emergencies occur.

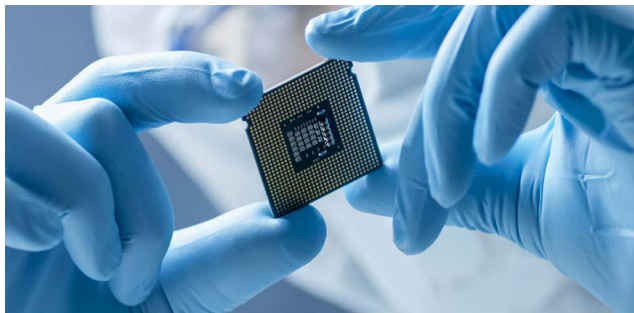
Advanced robotics: Robotics and automated systems are widely used in modern manufacturing, but wired connectivity has limited their full potential. With 5G, industrial processes can be monitored and controlled with greater precision. According to Verizon, in a 5G-driven smart factory, thousands of sensors at floor level can send a continuous stream of data to the cloud. The goal is to help managers better monitor quality, increase speed, respond to supply fluctuations and simplify workflows.

By leveraging private interconnection to distribute core IT infrastructure at the network edge, manufacturers achieve greater proximity to supply chain partners, digital ecosystems, customers and the IoT devices on their factory floors. This allows them to benefit from faster operational and customer insights so they can more cost-effectively bring products to market and better meet their customers' need.



Interconnection in action

Many global manufacturing operations are already using interconnection services to transform their IT infrastructures, enhancing both IT and business agility.



KEMET achieved greater speed and agility

What they did

The global electronics manufacturer optimized networking and security by using Equinix interconnection services to move its core, on-premises business application platform to the Oracle Cloud, supported by Equinix partner, Open Systems.

Results

- Greatly reduced latency.
- Improved security for worldwide users and applications.
- Established faster connection time to the cloud.
- Enabled greater resiliency.

“The Open Systems and Equinix solution has provided our employees secure access and stable performance to KEMET’s most mission-critical business applications. While most businesses are challenged by the COVID crisis, we are able to deliver a seamless experience for the 5x increase in remote users.”

Chris Hall, KEMET, VP of Global Information Technology



Orion Engineered Carbons reduced latency and running costs

What they did

Orion Engineered Carbons (OEC) is a global supplier of carbon black products, operating 14 production plants across five continents.

OEC leveraged an Interconnection Oriented Architecture* (IOA*) strategy deployed on Platform Equinix* to transform its infrastructure footprint, with services consolidated across three regional hubs.

Results

- Greatly reduced latency.
- Created redundancy where there was previously none.
- Cut running costs by 50%.

“We centralized everything first, and now we can decide how we’re running our hybrid cloud platform. Equinix is the strategic enabler for our transformation process that allows us to get there.”

Benjamin Scherer, Vice President of Global Infrastructure Services, Orion Engineered Carbons



Equinix: Enabling IT agility

Equinix is the world's digital infrastructure company, ideally placed to help enterprises running manufacturing operations transition to a more dynamic and flexible IT infrastructure through its global data center network and portfolio of innovative interconnection services.

Global data center footprint

Equinix's network of 220+ International Business Exchange™ (IBX®) data centers across five continents offer the highest levels of security, availability and environmental performance, supporting geographically dispersed manufacturing operations and extended supply chains.

Secure, scalable data exchange

Equinix IBX data centers serve as regional interconnection hubs that enable manufacturers to securely exchange data with suppliers, distributors and customers in real time, reducing the costs and risks of transferring data over large physical distances.

Direct access to IT providers

Platform Equinix provides direct access to an ecosystem of 2,900+ cloud, network and SaaS providers via secure, private, high-bandwidth connections. Secure connectivity to all major public cloud providers makes it easier to build flexible, hybrid multicloud infrastructures.

Dynamic interconnection

Equinix Cloud Exchange Fabric directly, securely and dynamically connects distributed infrastructure and digital ecosystems on Platform Equinix, enabling manufacturers to optimize networks and accelerate deployment of new resources.

Rapid, digital edge deployments

Equinix Network Edge provides virtual network services optimized for instant deployment to new digital edge locations—closest to manufacturers' users, clouds and networks—in minutes.

Ready to get started?

Discover how Platform Equinix™ helps manufacturers become digital ready.

Equinix.co.uk/solutions/?industry=manufacturing



Power Your Digital Leadership at Equinix

On Platform Equinix®, digital leaders bring together all the right places, partners and possibilities to create the foundational infrastructure they need to succeed. On a single global platform, place infrastructure wherever you need it. Connect to everything you need to succeed. Seize opportunity with agility, speed and confidence.