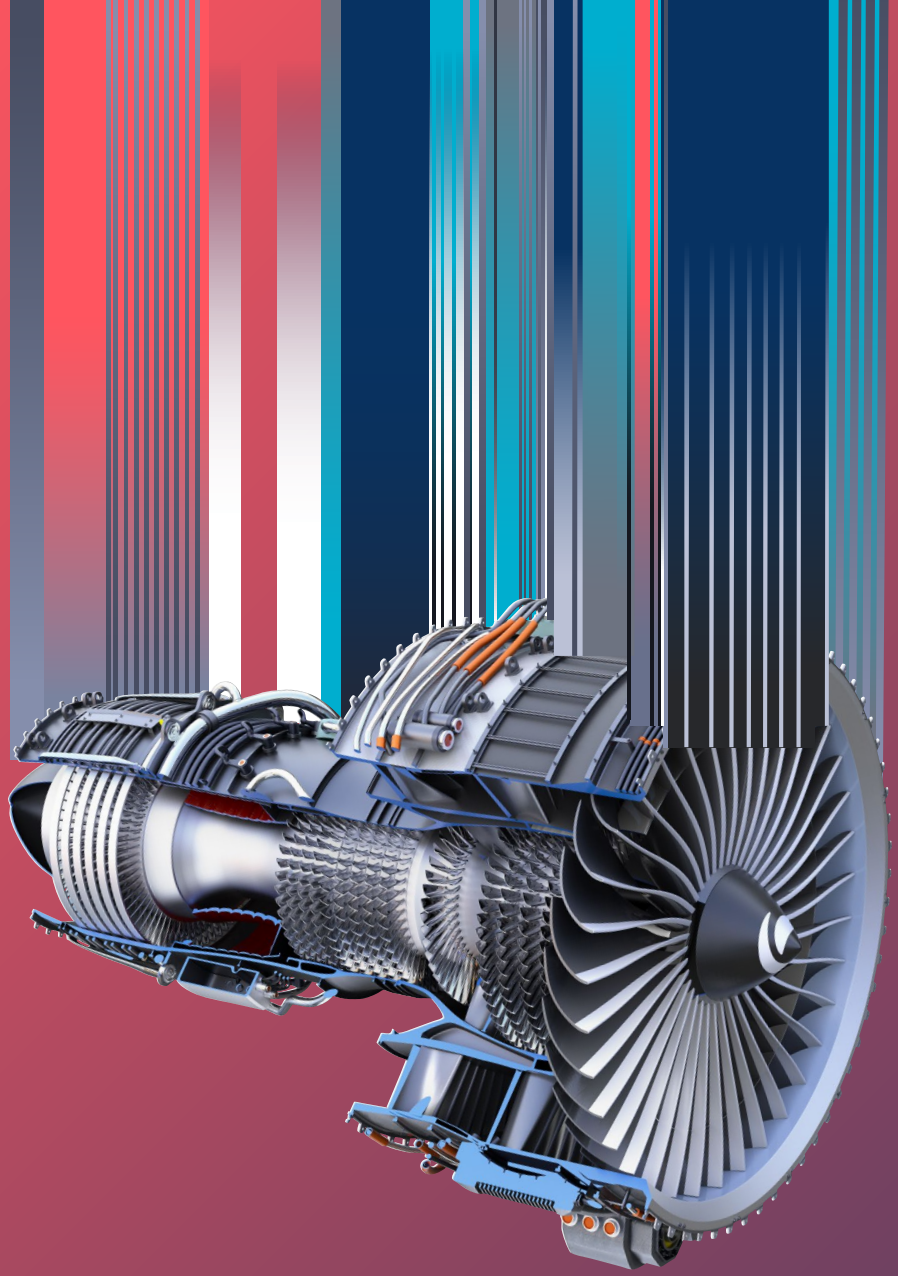


Manufacturing in the Age of Instinct

From developing products to engineering experiences

genpact
Transformation Happens Here

In the future, the manufacturers that transition from developing products to engineering experiences will thrive.

Read on to accelerate your transformation.

Manufacturing in the age of instinct

Manufacturing foresight: The world in 2025

Today's events are shaping the future and, as the world evolves, manufacturers must offer connected services to support customers. In the years to come, manufacturing will have transformed to meet the needs of customers who are expecting more from products and the companies that make them. A need to deliver memorable and sustainable experiences will drive the servitization of manufacturing.

We've partnered with The Future Laboratory to understand how manufacturers can prepare, and have developed a guide to aid your transformation.

In this report, we lay out the significant shifts manufacturing must make to succeed in this changing world. To thrive, organizations must connect, predict, and adapt at speed, placing data at their core and embedding artificial intelligence (AI) throughout.

Read on for:

- **The current global snapshot**
- **Three macrotrends that will transform the world**
- **How manufacturers must capitalize on today's and tomorrow's trends to thrive**

“Leading manufacturers have shifted their focus from making products to delivering services. But customers demand exceptional experiences too, so manufacturers must invest in technology, talent, and an ecosystem of partners to focus on non-core-business areas.

At the same time, manufacturers need full transparency and control over resources. This move to own less but control more represents a major cultural shift that enables manufacturers to protect business continuity and serve customers effectively - whatever the future holds.”

– Patrick Cogny, Senior Vice President, High-Tech, Manufacturing, and Services, Genpact

From developing products to engineering experiences

The coming decade will see manufacturers embrace servitization and explore new ways to create value for customers seeking flexibility, personalization, and ethical choices. Manufacturers will need to shift from mass production to engineering unique customer experiences.

Using data from smart devices, 5G connectivity and the internet of things (IoT), manufacturers will create end-to-end experiences covering customization, upgrades, repairs, platforms, and user communities. Every product will have a series of wraparound services to embed products into the everyday life of the customer and drive loyalty.

This servitization will require manufacturers to unlock capital to invest in digitization, attract new talent, and nurture new management cultures focused on experiences. This will be achieved by manufacturers owning less, through partnerships, tightly controlling resources and processes, and turning linear supply chains into networked supply brains.

Leading manufacturers will embrace the challenge. Those who don't will be left behind.

Manufacturing today: Connecting the disconnected

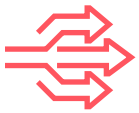
Global snapshot: The current view

Manufacturers that operate in siloes often struggle to innovate making them susceptible to disruption, as evidenced by the recent coronavirus pandemic. Digital technologies can help build resilience, but adoption has been slow.

70%

Adoption remains slow and limited. More than 70% of industrial companies are at the start of the journey or unable to go beyond the pilot stage.

Source: World Economic Forum, The Next Economic Growth Engine: Scaling Fourth Industrial Revolution Technologies in Production, 2018



"For many of our companies, it's a transition problem - so taking them from where they are to where they want to be. Very few know what that transition path looks like."

Professor Ben Hicks, Co-Director, Design and Manufacturing Futures Lab, University of Bristol

$72bn

The AI market is predicted to grow from $8 billion in 2016 to $72 billion in 2021, attaining a 55.1% compound annual growth rate.

Source: Forbes, The Future of Manufacturing Technologies, 2018

Now is the time for manufacturers to explore the possibilities of smart, connected and robust supply chains to prepare for a more responsive and resilient future.

Mass manufacturers become hyper-personalized

In a sharing economy filled with subscription and direct-to-consumer services, customers expect customization and personalization.

$604bn

The positive impact of industrial digitalization technologies on the UK economy over the next decade could be as high as $604bn.

Source: Gov.uk - Made Smarter Review, 2017

"The customer today wants to have much more variable value-add, specialty, or greater precision or managed precision, around the different attributes of a particular product."

Jim Davis, Co-Founder, Smart Manufacturing Leadership Coalition

To get closer to customers and boost profits, manufacturers must develop customer-centric services backed by customer-centric processes.

Data separates leaders from laggards

Manufacturers have made limited use of data, but the IoT and 5G connectivity promise a fourth industrial revolution with data powering manufacturing.

"Data is the raw material of 21st century manufacturing. Data will become this increasingly complicated asset where whoever owns the data or has the right to use it, will really impact its commercialization."

Alec Ross, Author,
The Industries of the Future

20%

"72% of executives are convinced that the industrial internet of things will fundamentally change the industry, but just 20% have a strategy for harnessing it."

Eric Shaeffer, Author, Industry X.0: Realizing Digital Value in Industrial Sectors

Manufacturers that successfully handle data today, will be more likely to thrive tomorrow and less likely to be disrupted by smaller, more nimble competitors.

Circular consumption replaces linear models

The circular economy is restorative and regenerative. Companies are figuring out how to use resources in closed loops.

x2

Nearly twice as many US companies said they were embedding sustainability into strategic decision-making in 2019 compared to 2018.

Source: ING Group

62%

of American companies are planning to move toward circularity. Another 16% already use circular economy principles.

Source: ING Group

$600bn

a year by 2025 – estimate of the net material cost-saving benefits to the European economy of adopting a more restorative approach.

Source: Ellen Macarthur Foundation

If products and materials stay in use longer, the economic opportunity is vast: less resource extraction means less waste, more profits, and satisfied customers.

Technology prepares people for the future of work

To move to service-led business models, there's a need to augment existing workforces and attract fresh talent with a diverse range of skills.

15m

The robotics revolution will create 15 million new jobs by 2027, equivalent to over 10% of the workforce.

Source: Forrester Research

"It's about the synergy between technology and humans. You can have machines and AI harnessing insights and humans using these insights to meet emerging needs and opportunities. This man-and-machine connection will deliver the best of both worlds."

Mark Hall, Vice President, High-Tech, Manufacturing and Services, Genpact

While advances in technology will displace some roles, creative, data science, and customer-facing roles will appear.

Manufacturers must expect the unexpected

Social and geopolitical uncertainty is impeding long-term-planning for manufacturers. Supply chains must become more agile to cope with periods of disruption and uncertainty.

Companies with agile supply chain practices have higher service levels and lower inventory levels than their less agile peers.

Source: McKinsey & Company

"Manufacturers must avoid an overdependency on certain geographies as less predictable situations – like global pandemics or natural disasters – can cause huge disruption for manufacturers who aren't globally minded."

Monty Manoranjan, Senior Vice President, Aerospace and Industrial Manufacturing, Genpact

With such rigid infrastructures, manufacturers today do not have the agility required to respond to unexpected and drastic social, political, environmental and health challenges.

Manufacturing 2025: Three trends that will change the world

Manufacturing 2025: Global macrotrends

Driven by the changing expectations of new generations, three macrotrends will shape the future – and manufacturers must adapt to flourish.

We explore each trend, highlight early movers, and share the steps your business can take to get ahead.

01

Optimized reality

02

Ethical impact

03

Whole-system planning

01 Optimized reality

Businesses must blend technology and people to create augmented workforces and systems equipped to deliver hyper-personalized services and experiences.

Manufacturers must shift from mass products to customized services.

Optimized reality

Customers expect personalization as standard. Manufacturing will adopt service-led business models where careful customization replaces mass production.

Manufacturers will need to attract and develop people with digital skills and an understanding of customer experience for a transition to this service-led future.

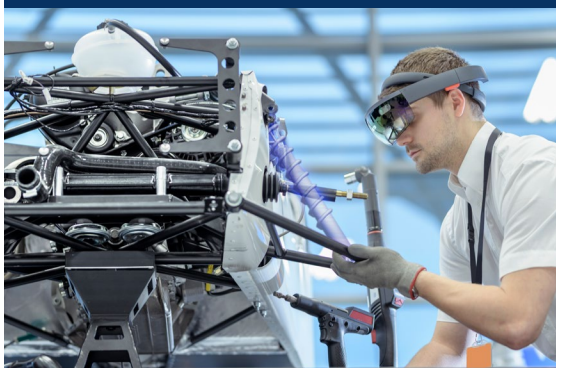
Technology will present an opportunity to create augmented workforces that can react in real-time to changing conditions. Processes will become even more effective, in an innovation loop that continuously improves.

Manufacturers will move from the production silos of the past to a series of systems as agile as they are endlessly responsive. Such systems will usher in a new era of smart factories focused on product optimization.

Microtrends

Servitization as standard

Blending people and technology



Flexible factories

Servitization as standard

Manufacturers need to offer added value to valued customers

Real-time relationships

Using the product-as-a-service business model, manufacturers are extending the longevity of their products. Upgrades, user communities, maintenance, and even repairs deepen customer relationships while boosting revenue.

Seasonal support:
John Deere uses technology to develop services that give customers advice on how to use their products during different weather conditions. Now customers can make the most of their investment no matter the weather.

Updates on the move:
Tesla delivers vehicle upgrades to drivers in real time, creating a loyal community of customers who always have the latest innovations when they're in the drivers seat.

Data lights the way

Making connections:
Creating IoT-enabled products gives manufacturers greater insight into the way customers use them. This helps them demonstrate the added value of service-led business models.

A bright idea:
Lumenstream installs LED lighting for business customers at no charge, and offers maintenance for up to five years. The client pays Lumenstream a monthly fee, which is a fraction of the savings made by switching to lower-energy lighting.

Blending people and technology

Manufacturers must create augmented workforces that support servitization

A customer-centric community

By creating an agile human-machine workforce across the supply chain, manufacturers can offer more personalized and customizable services at speed.

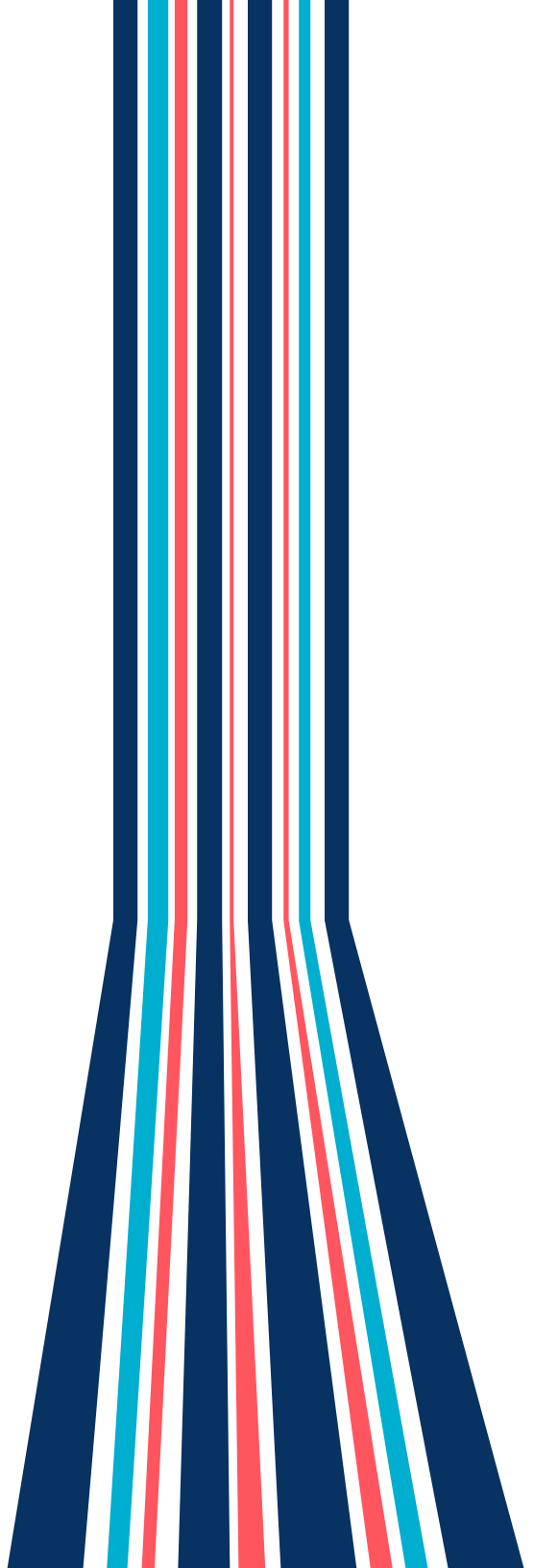
Reducing downtime:
HSO, an enterprise business solutions company, has been training employees via a 'digital twin' VR factory. The technology avoids downtime of factory assets which could lead to product delays and a negative impact on customer satisfaction.

Retain and retrain

Combining people with technology presents an opportunity to retain, rather than displace, employees, and create a resilient workforce. Perhaps they are physically unable to complete a task, lack the skills required for the roles of the future, or are limited by social distancing measures. Whatever the challenge, technology can help.

A helping hand:
Ford is using cobots to fit shock absorbers to cars. This boosts productivity, reduces risk of human injury and allows the workforce to focus on more strategic tasks.

Shared skills:
Reskilling initiatives, such as Genpact's Genome program, can use technology to identify, connect and share expertise across a company. Employees can learn the new skills they need to remain effective in an increasingly digital world.



Flexible factories

Manufacturers will be ready to adapt with ease to customer demand

Connected and customizable

Manufacturers are moving from the model of the past toward production lines composed of flexible cells that can reconfigure themselves on demand.

Bringing in the bots:
Automation company ABB is constructing a robotics manufacturing facility based on cells of automation rather than a fixed assembly line. Robots can move from station to station for greater customization than in traditional, linear production systems.

92% of senior manufacturing executives believe that 'smart factory' digital technologies - including artificial intelligence – will enable them to increase their productivity levels and empower staff to work smarter.

Source: The Manufacturer, Annual Manufacturing Report 2018

Manufacturing- as-a-service

"Additive manufacturing opens the door to a new approach: manufacturing-as-a-service. A digital file could be created somewhere in the world, prototyped in another place a few hours later, and sent the next day to the other side of the globe."

Jean-François Mathieu, Director EMEA, UPS

Printing the furniture:
Opendesk is a London-based design company reinventing how furniture is made. All of its furniture is designed to be downloaded via its platform and locally-made on a CNC machine.

From scents to sanitizer
Luxury firm LVHM is converting its Dior, Givenchy, and Guerlain fragrance production facilities to produce free hand sanitizer for health-care workers in France to reduce the spread of COVID-19.

How manufacturers can prepare

To transition from mass products to customized services, companies across the manufacturing ecosystem should consider the following steps:

Connect

Become more agile:
Harness the power of IoT connectivity to digitize products and processes to ensure your supply chain has the transparency and flexibility required to expand and contract with demand.

Nurture cognitive systems:
Explore how to allocate resources in new ways to focus on improving processes with data and technology, rather than on more tangible aspects like machinery.

Make finance the data owner:
Give finance teams access to insights across the entire manufacturing ecosystem to see how technology can boost productivity, efficiencies, and profits.

Predict

Get ahead:
To anticipate risks, clean up unstructured data and adopt predictive analytics to discover the services and experiences of the future.

Spot the patterns:
Equip employees with customer data to help them identify purchase patterns and customer behavior trends, and predict future spikes in demand.

Put data to work:
Design services that gather data on how customers use your products. Combine this with operational data to build rich insights into product lifecycles.

Adapt

Support your workforce:
Invest in technologies, such as VR, AR, and robotics to reduce downtime, and increase productivity to satisfy demanding customers.

Invest in new talent:
Give employees a view of all stages of the value chain and access to insights that allow them to spot better ways of working in real-time.

Find diverse skills:
Support service-led business models by creating diverse teams. Blend creativity, problem solving, empathy with data science, software, and design skills.

02 Ethical impact

Manufacturers who control standards and sources across supply chains are meeting customer expectations for companies to be ethically and environmentally responsible.

Manufacturers need to shift from product focused to purpose driven.

Ethical impact

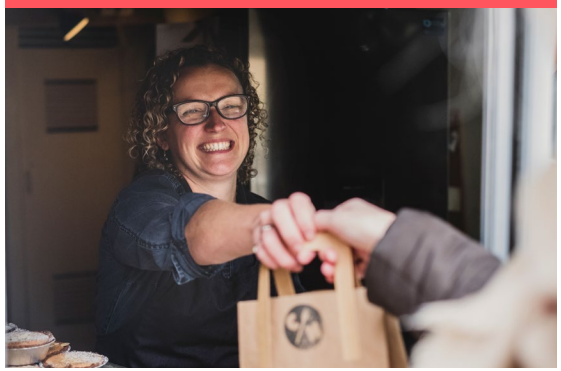
Customers are concerned with the ethics behind the products they purchase. More civically minded brands are communicating a sense of purpose and when purpose is proven to customers, profits follow.

Manufacturers are taking their responsibility to the people, communities, and environments involved in their supply chains seriously. They're hiring employees whose personal values align with business values. This caring culture extends to using technology to keep employees safe.

Manufacturers are also prioritizing social and environmental issues beyond the factory floor. At the center of supply-chain innovation is a quest for fairer materials and more ethical practices.

Microtrends

Purpose leads to profits



Attract and protect talent

Take control of resources

Purpose leads to profits

Manufacturers who meet sustainability expectations gain loyal customers

Good brands win

Companies buying goods and services from other businesses must show the battle for customer loyalty isn't solely about cost, but also about tracing the environmental impact that customers care about. Environmentally conscious customers will determine which businesses thrive in the future of manufacturing.

Sustainable in more ways than one:
Unilever has named 26 of its brands as being sustainable, including Ben & Jerry's, Vaseline, and Dove. These brands have grown 46% faster than others in its portfolio over the past year. The company's sustainable brands support social or environmental initiatives, or provide more transparency about where ingredients are sourced.

Time for trailblazing

Setting new standards:
Audi's new E-tron electric SUV factory in Brussels, Belgium, is the first premium high-volume electric car factory to be certified carbon neutral. The firm has achieved this by using different types of energy production and by minimizing the energy the plant uses.

A new era:
The US Shared Value Initiative was launched by global strategy consulting firm FSG as part of the 2012 Clinton Global Initiative Annual Meeting. The initiative proposes a new era of responsibility, where businesses find opportunities in social needs and challenges.

Attract and protect talent

Manufacturers led by ethical values can offer safe and fulfilling careers

Changing perceptions

To attract people with a sense of purpose, manufacturers are repositioning themselves as innovative, responsible and sustainable. This is essential to attract the next generation of talent who closely examine company culture.

Inspire future generations:
Saint-Gobain is addressing the talent shortage by touting positions in which people can design a career, “invent themselves and reshape the world,” says Valerie Gervais, the company’s senior vice president of human resources.

Protect your people

As robots are deployed more extensively within manufacturing, customers will expect the industry to use technology to keep people safe and protect employees whose jobs have been automated. This can also extend the careers of some employees who might be unable to continue demanding, physical work.

Safer and stronger:
Following successful trials, carmaker Ford has introduced exosuits to 75 workers across its factories, aiming to reduce repetitive strain injuries. Exosuits support the arms of workers reaching up and loading components in overhead factory set-ups.

Take control of resources

Manufacturers put purpose into practice across the supply chain

Protect all people

Championing ethical practices across the supply chain is essential to create service-led business models that engage the customer throughout the production process.

Accountability also extends beyond the factory floor. Customers expect transparency and ethical practices for everyone in the supply chain. Furthermore, quality and ethics should never be compromised, even during periods of disruption.

Traceable and transparent

Check your source:
Microsoft has helped Starbucks to trace its entire supply chain from farmer to store to customer's cup, driven by demand from customers for traceability and ethical practices. Industrial manufacturing can adopt similar practices.

Fighting fakes:
LuxTag raises customer engagement using blockchain to track the movement of products and after-purchase trends. It also protects brands from buying counterfeit and fake goods which might have unethical origins.

How manufacturers can prepare

To transition from being product focused, to purpose-driven, companies across the manufacturing ecosystem should consider the following steps:

Connect

Attract an ethical workforce:
To find ethically and environmentally conscious talent, partner with educational institutions, governments, and businesses to promote your purpose.

Combine cultures:
Create an environment where suppliers can add value to each other by sharing best practices and ethical insights.

Predict

Look beyond the bottom line:
Make sure procurement teams have the data and visibility required to choose partners based on shared ethical values across the supply chain.

Adapt

Keep employees safe:
To boost worker productivity and safety across the supply chain, use technology and sensors that can feedback on and predict health and safety issues before they arise.

Extend the ethics:
Make sure employees working at partner sites are as cared for as those on your factory floor. Connect with suppliers and partners regularly and share best practices for working conditions with each other.

03 Whole-system planning

Manufacturers must be willing to own less and explore new partnerships to unlock and realign the capital required for service-led business models.

Manufacturers should shift from monolithic ownership to seamless collaboration.

Whole-system planning

The circular economy is the driving force behind a renewed focus on efficient use of resources. Manufacturers must invest wisely to protect the core parts of their business, while freeing up capital to invest in innovative solutions that boost profits.

In the wake of social, environmental, and political uncertainty and health challenges on a global scale, supply chains must take a more holistic, circular approach and think long-term to remain resilient. In the coming decade, this will be vital to future profitability.

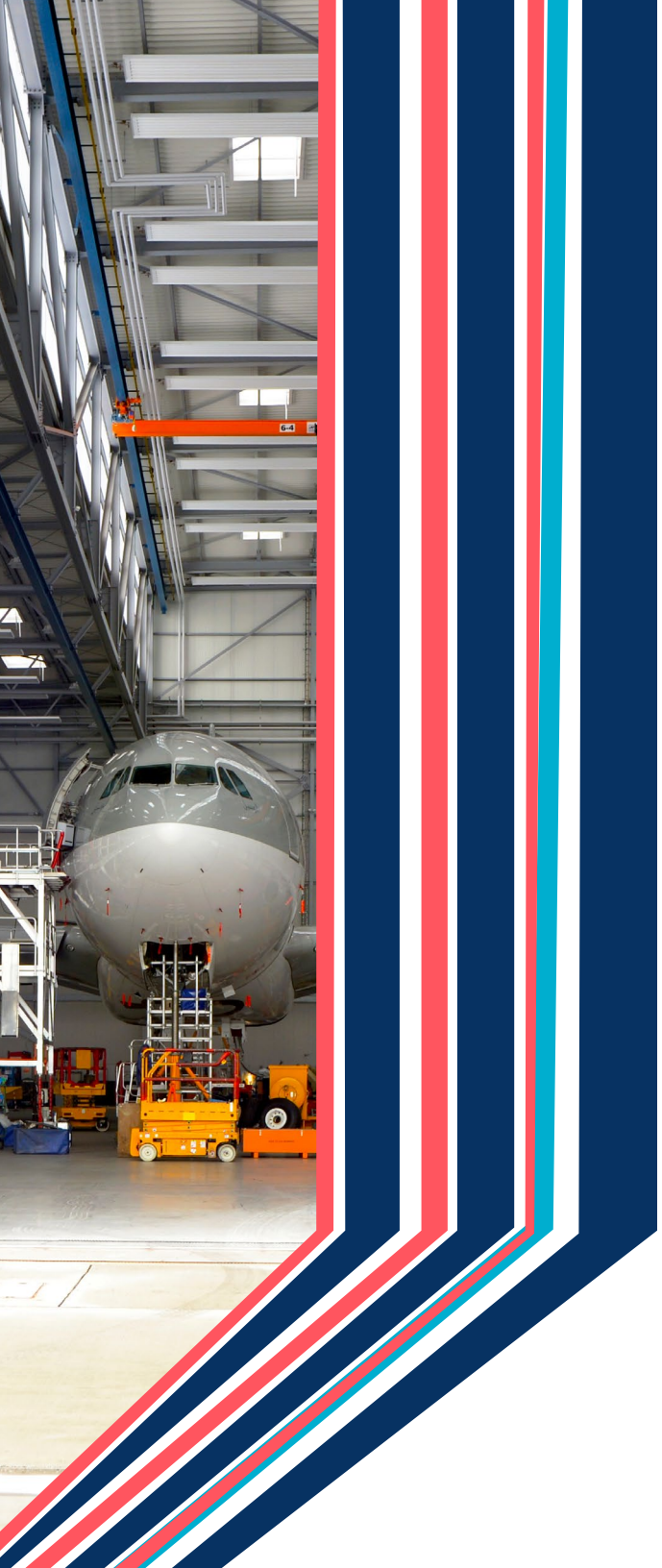
As service-led business models evolve, linear supply chains will become networked supply brains. The rise of automation and data will welcome smart, connected factories and service ecosystems living and breathing new technology, constantly learning and adapting.

Microtrends

Ecosystem investments

Own less through partnerships

Closing the loop



Ecosystem investments

Manufacturers recognize the need to reallocate resources for innovation

Spinning-out innovation

Companies are using new investments strategies to nurture innovation. Spinning off high-performing parts of the business can maximize returns and investing in start-ups can accelerate the discovery of new processes, materials, technology, and software.

A spin off story:
Spirit Aerosystems is an aerospace manufacturing supplier, having originated as a division of Boeing. It was spun off and sold in 2006, yet has remained a major supplier of Boeing aircraft components and one of the largest aircraft parts designers and manufacturers in the world.

Investing in supply chains

Smart and sustainable:
Outdoor clothing company Patagonia has a fund called Tin Shed Ventures that invests in socially responsible start-up companies. One example is a company called Bureo that is transforming reclaimed fishing nets into plastic skateboards. Patagonia is working with Bureo to explore ways to replace plastic within its product line in a cost-effective manner.

Own less through partnerships

Manufacturers explore more collaborative and cost-effective ways of working

Dynamic data

Service-led business models require tight control of the supply chain and the ability to visualize huge amounts of data to deliver transparency, flexibility, and quality.

Always on time:
Integrate different data sets to gain a holistic view across the supply chain. Machine learning algorithms can accurately predict when to expect a part based on supplier behavior to improve on-time delivery, inventory management, and cash flow.

A single source of truth:
One of the world's largest power companies wanted its procurement function to spend less time owning and managing operations, and more time controlling data governance. By standardizing its target operating model, it has a single source of procurement data, analytics supports more informed spending decisions, and its operations are 40% more efficient.

Powerful partnerships

Through new collaborations, contracts and managed service relationships, manufacturers gain control without the investment needed to own every aspect of the value chain.

A helping hand:
When Pfizer's prescription heartburn treatment became an over-the-counter medication, the company needed to enhance its technology to manufacture the tablets. Instead of building capacity internally for an older product, Pfizer entered into an agreement with Catalent, another pharmaceutical company, which had the necessary manufacturing experience.

Closing the loop

Manufacturers can thrive in the circular economy

Reduce, reuse, recycle

A circular economy aims to redefine growth, based on three principles: design out waste and pollution, keep products and materials in use, and regenerate natural systems.

Partnerships in practice:
Apple's Supplier Clean Energy Program has forged 44 partnerships with its suppliers. The program sees Apple suppliers committing to generating more than 4 gigawatts of clean energy by 2020 - nearly one-third of the electricity the firm used to make products in 2018.

Sustainable systems

As an alternative to mining materials and manufacturing products that ultimately end up in landfill, companies are increasingly trying to figure out how to use resources in closed loops with little or no waste, to protect profits. This is another area where partnerships will become essential.

Acting on insight:
Volvo's Belgian division has joined forces with clean electricity provider Eneco to offer customers low-cost green energy for homes. According to Volvo, 90% of Belgians who drive hybrid or electric vehicles do so for environmental benefits, but 56% do not charge their car with green electricity.

Whole-system planning

How manufacturers can prepare

To transition from monolithic ownership to seamless collaboration, companies across the manufacturing ecosystem should consider the following steps:

Connect

Set new standards:
Connect data across ecosystems and partnerships to create sustainable, innovative, and cost-effective products, services, and circular systems of production.

Be selective with suppliers:
Connect and track data across all suppliers and think about selecting suppliers based on how useful their data will be to your ecosystem.

Predict

Get a clear picture:
Improve visibility and decision making by embedding technologies, such as cloud-native data platforms and AI across the supply chain.

Preach what you practice:
Use analytics to make predictions on the cost implications of sustainable resources.

Make things clear with technology:
To increase transparency, invest in technologies that will enable visibility across all partners for safety, product efficiency, and maintaining high standards.

Adapt

Procure with purpose:
To identify partnerships that will help you reduce waste and protect profits across the supply chain, empower procurement teams to adapt their supplier criteria based on sustainability credentials.

Empower employees:
Make sure employees understand the importance of protecting resources. Give them the tools they need to work in the least wasteful ways.

The road to engineering experiences

To thrive within each macrotrend, manufacturers will need to make major cultural changes to support servitization and navigate the three shifts:

Optimized reality

From mass products to customized services

- Embrace servitization, explore new ways to create added value for customers, and harness connected product insights to engineer customizable experiences
- Build networked, flexible factories primed for customization, empower a data-smart, creative workforce augmented by technology

Ethical impact

From product focused to purpose driven

- Meet customer expectations for socially, ethically, and environmentally conscious choices and resources to drive profits with purpose
- Define your values and empower employees, suppliers, and partners to champion ethical practices across the supply chain

Whole-system planning

From monolithic ownership to seamless collaboration

- Own less through strong partnerships with collective intelligence, invest in the supply chain, and spin-off innovation to free up capital
- Embrace the circular economy, move from linear consumption to regenerative production, cut out waste, and find ways to use resources in closed loops

Manufacturing in the age of instinct

Realizing the manufacturer of the future

Before your business can transform to thrive in 2025, it must:

01 Move data into the core of your organization

02 Collaborate seamlessly internally and externally

03 Harness foresight to spot risks and opportunities

04 Nurture a purpose-driven workforce

05 Embed AI and combine its insights with the context and knowledge of your workforce

The successful manufacturers of the future will build on these foundations to meet customer expectations and form the next generation of manufacturing. **We call this forward-thinking organization the instinctive enterprise.**

Thriving in 2025

Evolve into an instinctive enterprise

Companies that thrive in a world shaped by optimized reality, ethical impact, and whole-system planning, will connect data, knowledge, people, and insight from across their ecosystems to make fast, accurate decisions that benefit users and customers. These are instinctive enterprises.

When manufacturers shift from developing products to engineering experiences - supported by emerging technologies - they will own less, through partnerships, while controlling values and standards at every stage. This gives them the flexibility, agility and resilience required to deliver customizable, sustainable, and ethical services and experiences to their customers.

> “We see the potential for business leaders to guide this evolution by changing their organizations, industries, and society at large. With connected ecosystems, predictive insights, and adaptive workforces, the world’s most advanced companies will evolve to become instinctive enterprises and define the next era of business.”
>
> – ”Tiger” Tyagarajan, President and CEO, Genpact

The instinctive manufacturer

An instinctive manufacturer that can navigate the macrotrends of the future will be prepared to explore augmented workforces, create new partnerships, and embrace new technologies to deliver sustainable services and memorable experiences.

An instinctive manufacturer brings together AI insights with the context and knowledge from its workers and partners, and has three hallmarks:

Connected ecosystem

Servitization requires manufacturers to break down silos and explore the power of partnerships built on collective intelligence. Social and environmentally conscious customers force businesses to take a proactive rather than reactive approach. As a result, new eco-friendly materials and ethical practices will become more widespread across supply chain.

Predictive insights

Harnessing data and advanced technologies, instinctive manufacturers will gain real-time actionable insight from predictive analytics that anticipate customer expectations to create future services and experiences. The dawn of the smart factory will see connected systems combine AI and robotics with 3D printing and the internet of things, creating a living, breathing factory of the future.

Adaptive workforce

Augmented by technology, the manufacturing workforce will integrate the best of humans and machines at every touchpoint ushering in the necessary culture change to support servitization. Keeping employees safe and boosting productivity will also be essential. By partnering with other manufacturers, educational and government bodies, companies will re-deploy, re-educate, and upskill people and create entirely new roles.

What if manufacturers could evolve into instinctive enterprises?

Visualize the future

What if manufacturers could digitally replicate entire value chains? Using machine learning and powerful VR and AR simulations, to virtualize everything from individual components to processes, workflows, and consumption lifecycles. These systems would be capable of predicting factory maintenance, customer demand, and shipping logistics without causing downtime or disruption to the core value chains.

See-through supply chains

What if we could trace every step across every part of a supply chain? Microbiome technologies allow companies to match the microbes of an object to a place, providing an entirely new level of transparency in global supply chains. By verifying product origin, companies can ensure sustainable sourcing, and enhance the overall resilience and performance of their supply chains.

What if manufacturers could evolve into instinctive enterprises?

Homegrown factories

What if the factories of tomorrow could be in our homes or neighborhoods? Advances in additive manufacturing, industrial 3D printing, and service-led business models mean instead of shipping physical products in large containers, we will send digital files and have things made with local, sustainable, and maybe even recycled materials.

Living in a biomaterial world

What if all the materials used in manufacturing were biologically engineered or reclaimed from waste? With biological technologies advancing rapidly, environmentally friendly alternatives - materials from bacteria, plants, mushrooms - could help manufacturers reach a future of zero waste. Biorefineries might make fuels, chemicals, and electricity from residual organic biomass, with the by-products able to be regenerated into new circular ecosystems.

Manufacturing 2025: Are you ready?

As your business prepares for the world it will operate in tomorrow, our report offers a guide to transformation.

Future-focused manufacturers are already taking decisive steps towards enabling connected ecosystems, predictive insights, and an adaptive workforce with AI embedded as their neural wiring.

It is the instinctive manufacturer that will make these shifts and thrive. Focused on the customer, it will deliver superior, service-led business models and move from developing products to engineering experiences.

It’s time to accelerate your transformation.

Learn more about how to begin, visit genpact.com

About Genpact

Genpact (NYSE: G) is a global professional services firm that makes business transformation real. We drive digital-led innovation and digitally-enabled intelligent operations for our clients, guided by our experience running thousands of processes primarily for Global Fortune 500 companies. We think with design, dream in digital, and solve problems with data and analytics. Combining our expertise in end-to-end operations and our AI-based platform, Genpact Cora, we focus on the details – all 90,000+ of us. From New York to New Delhi and more than 30 countries in between, we connect every dot, reimagine every process, and reinvent companies' ways of working. We know that reimagining each step from start to finish creates better business outcomes. Whatever it is, we'll be there with you – accelerating digital transformation to create bold, lasting results – because transformation happens here.

Get to know us at genpact.com and on LinkedIn, Twitter, YouTube, and Facebook.

genpact
Transformation Happens Here

It’s time to accelerate your transformation.

Learn more about how to begin, visit genpact.com