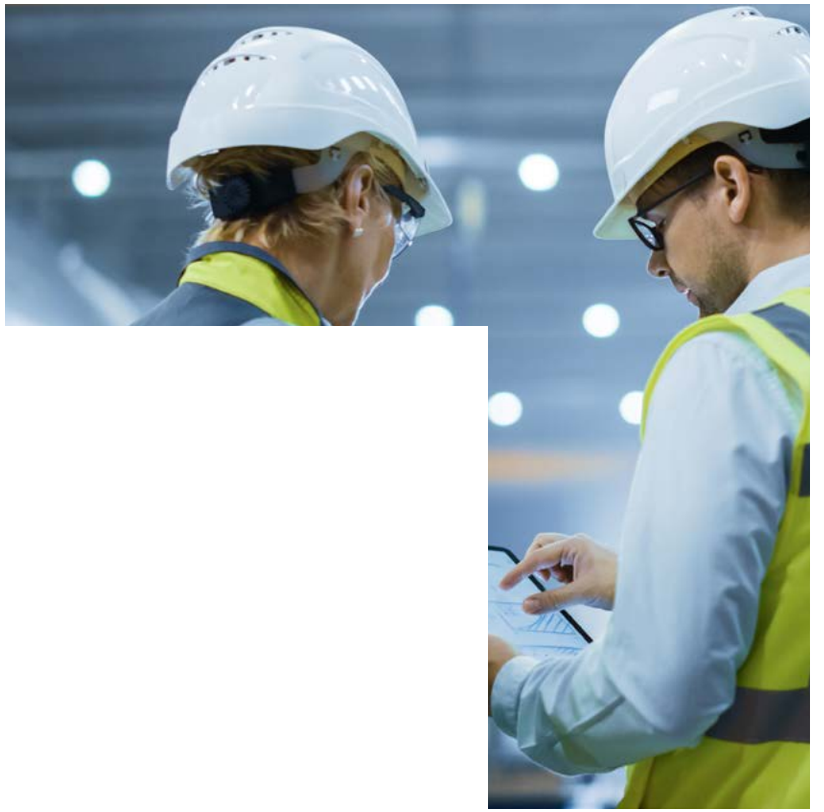
Top trends to watch in Manufacturing

Read on for CGI client insights on how to accelerate your digital journey and build a sustainable future



2022 CGI VOICE OF OUR CLIENTS

CGI

The future is connected, adaptive and sustainable

Impact of macro trends

Several key trends are reshaping the future of manufacturing; however, executives differ on their impact. Manufacturing's digital leaders* say climate change has a high impact on their organization. Commercial industry executives feel the impact of workforce shortages resulting from social and demographic changes more keenly than their natural resources counterparts.

Differences between North American and European executives emerge on most prominent macro trends; yet, both groups align closely on the high impact of technology acceleration to drive growth and innovation.

Interestingly, this trend is regarded as more impactful by business leaders than IT leaders.

Supply chain reconfiguration is an important focus for executives rather than the more drastic approach of repatriating production. However, the latter impacts automotive players the most, as they likely will move production closer to their headquarters or energy sources.

Top of mind for clients

As manufacturers continue to navigate the pandemic's long-term impacts, new challenges resulting from geopolitical and economic disruptions have emerged.

This requires accelerating digitization and leveraging agility as a competitive differentiator.

Sustainability and cybersecurity have grown significantly in importance this year. Notably, digital leaders are ahead in moving to Industry 5.0. They also outpace others in implementing their core technology priorities and producing results from their cybersecurity strategies.

As manufacturing becomes more unified, data-driven decisions, supported by the breadth of enabling technologies such as IoT, advanced data analytics and business intelligence, will help manufacturers accelerate transformation and enact real change.

About the insights

Each year, we meet with client executives from around the world to get their views on the trends affecting their organizations and industries. Through the CGI Voice of Our Clients, we analyze these findings to provide actionable insights by industry to benchmark best practices, including the attributes of digital leaders.

In 2022, we met with 1,675 business and IT executives. **This summary report shares sample insights from 156 manufacturing client executives.**

Interview demographics

Business leaders 34% | 66% IT leaders

C-level 54% | 46% Ops-level

*Digital leaders are those producing expected results from their digital strategies.

Top trends and priorities

For the first time, sustainability emerges as a top trend and business priority for manufacturing executives. Cybersecurity increases in relevance, especially for C-level executives, while application modernization moves to the top of all executives' IT priorities.

Key takeaway

As manufacturers continue to focus on cost reductions and operational excellence, they must now move toward new Industry 5.0 goals of human-centricity and sustainability.

	Top trends	Top business priorities	Top IT priorities
1	Sustainability	Sustainability	Driving IT modernization of applications
2	Becoming digital organizations	Optimizing operations	Protecting through cybersecurity
3	Protecting through cybersecurity	Improving the customer experience	Digitizing processes and integrating systems

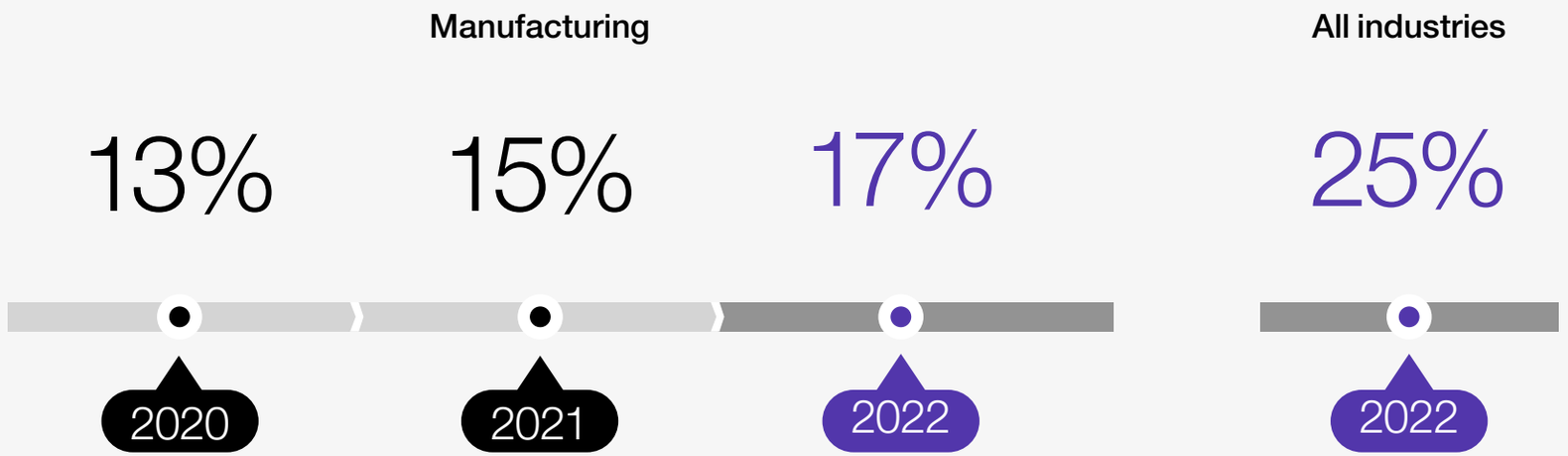
The industry trends capture key drivers with the greatest impact on the clients' industry. The business priorities represent how clients are addressing the industry trends, and the IT priorities reflect the technology areas of focus to address the trends and achieve the business priorities.

Digital progress in Manufacturing

In 2022, achieving expected results from digital strategies remains slow, up just 2 percentage points from last year and below the all-industries average.

We note that automotive manufacturers are on par with the all-industry average.

Executives who say their organizations are producing expected results from digital strategies



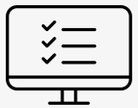
Digital leaders in Manufacturing

In examining the insights from the digital leaders who are producing expected results, some common attributes emerge.

The table compares responses from digital leaders to those from executives whose organizations are still building or launching digital strategies (digital entrants)

Significantly, digital leaders have an 8-year advantage in implementing core IT priorities.

Attributes of digital leaders vs. those building or launching digital strategies (digital entrants)

 Feel the impact of climate change more keenly	 Are further ahead in implementing digital processes	 Have implemented or are implementing data analytics capabilities	 Are better at aligning IT and business priorities	 Use managed services for applications more
71%	75%	68%	36%	80%
56%	29%	26%	17%	51%

Key findings from our interviews with Manufacturing clients

1.

Climate change is a top concern; regions differ on the impact.

59% of manufacturing executives say climate change has a high impact on their organizations. Geographies differ with European executives (62%) viewing this trend as more impactful than their North American counterparts (39%).

2.

Changing social demographics need to be addressed.

42% of executives say aging populations and talent shortages have a high impact on their business. One out of two digital leaders says it has a high impact, while commercial executives (48%) view it as more impactful than natural resources executives (27%).

3.

Supply chains pose a challenge for discrete manufacturers.

Discrete manufacturing executives, particularly automotive executives (50%), cite supply chain reconfiguration as a high-impact trend.

4.

Results from digital strategies remain slow.

Only 17% of manufacturing executives say they are producing expected results from their digital strategies, marginally up from 15% last year.

5.

Legacy pains level out with implementation of IT priorities.

43% of executives say legacy systems hinder the successful implementation of digitization strategies. While these challenges are felt when building out IT priorities, they level out once implemented. Notably, digital leaders are 8 years ahead of digital entrants in implementing their core technology strategies.

6.

Digital leaders are pivoting to Industry 5.0.

Digital leaders are moving beyond the first wave of digital transformation, i.e., Industry 4.0 initiatives, to a more integrated Industry 5.0 focus in which sustainability is a core topic.

7.

Cybersecurity has C-suite buy-in.

Manufacturing CXOs cite cybersecurity, mainly operational technology (OT) security, as the most impactful industry trend ahead of sustainability. Overall, executives say their top two cybersecurity elements are: employee awareness and training, and cloud security.

8.

Ecosystem-related cyber risks require attention.

65% of executives have implemented an enterprise-wide cybersecurity strategy, but just 29% have extended it to their external ecosystem. Significantly more digital leaders (71%) are seeing results from their cybersecurity strategies compared to digital entrants (25%).

9.

Achieving business priorities relies on people.

While cultural change and change management is the top-cited constraint to achieving business priorities for 65% of executives, this is a much lower percentage than last year's 79%. The culture challenge is felt more strongly by digital leaders (71%) and IT executives (71%).

10.

Customer focus drives new business value chains.

46% of executives say the need to reconfigure their business value chains (i.e., their business and operating models) is having a high impact on their organization. Overall, manufacturers cite customer experience and servicification as the top ways to evolve their business value chains. Yet, only 15% say their business model is highly agile to address digitization.

6 recommendations for achieving your top priorities

1. Secure the shop floor to the boardroom to operate with confidence.

With digital factories, digitally connected value chains and increasingly sophisticated industrial cyber-attacks amplified by geopolitical disruptions, traditional IT security solutions are not enough. As manufacturing becomes more unified, we believe defending against today's cyber risks requires a holistic end-to-end approach that addresses people, processes, machines and technology. We recommend a multi-pronged approach that includes putting in place cybersecurity policies, procedures, controls and responsive training. Employee awareness of cyber risks should be enhanced with regular internal training to stay current on skills and evolving threats. Lastly, access to the best cybersecurity talent and intelligence must be prioritized.

2. Enable seamless data continuity across operations to improve decision-making.

First, assess the most critical data sources, such as your core operations systems, including manufacturing execution systems (MES), product life cycle management (PLM) and enterprise resource planning (ERP) systems, and clearly identify the goals for extracting data from them. Next, integrate these systems to ensure an unbroken flow of information across the entire product life cycle from conception, design and production to maintenance and repair. This will result in rich data lakes and contextual data that can then be mined through technologies such as automation, data analytics and digital twins to derive actionable insights for greater efficiency, productivity and visibility.

3. Track and measure relevant ESG data to accelerate sustainability.

Manufacturers must identify and track insightful greenhouse gas (GHG) emission data across their entire value chains to measure, manage and report on their stated goals and meet regulations. Getting the right data will help advance strategic plans and implement the necessary culture change, business processes and enabling technologies, such as green coding and robotic process automation, to reduce scopes 1-3 emissions. Moreover, implementing environmental impact tracking processes and systems across value chains can measure and demonstrate progress and track goals.

4. Revisit your strategy and priorities to align business and IT.

When there are gaps between business and IT executive expectations, advancing your organization's transformation agenda is challenging at best. As digitization accelerates and IT and OT systems become more integrated, manufacturers must find ways to deepen relationships between IT and business, underpinned by trust and communication. This calls for a change in mindset, adopting new ways of working and being more collaborative. Digital literacy, common measurable metrics and complementary targets across IT and business will help bring everyone onto the same page.

Case in point

Embracing data-driven manufacturing for agility, efficiency and sustainability

Chemical manufacturer SABIC wanted to operate more efficiently, agilely and sustainably to meet new market and customer demands. To help SABIC run data-driven autonomous operations, we will develop, manage and modernize 50 core manufacturing applications over the next three years and provide industrial application security services.

"We view our collaboration with CGI as a three-stage rocket: implement, consolidate and improve. I'm particularly interested in working with CGI to uncover the last phase, which will help us answer the possibilities of optimizing our production facilities. We are not only going to look at the applications, but also at the internal processes to answer how we can operate more efficiently and sustainably."

John Bruijnooge, Site Director at SABIC Geleen

5. Pursue collaborative strategies to benefit from shared value.

Collaborating in ecosystems has the power to enhance customer experience, improve shop floor operations, generate new revenue streams and advance sustainability objectives. By building or participating in data ecosystems, manufacturers can share data in a secure and trusted environment while ensuring data sovereignty. Similarly, collaboration with stakeholders, partners and suppliers provides access to the right data at the right time to make informed sustainability decisions. Capacity sharing, such as warehouses or production facilities, offers flexibility and cost savings. We also recommend advancing modernization and cloud strategies to collaborate better across value chains and gain the elasticity and flexibility needed to react quickly to new market realities.

6. Improve customer experience and servicification to stay relevant.

Changing marketplaces and new ecosystems make it vital to diversify market offerings to better serve customers. This year, executives (particularly automotive manufacturers) cite customer experience and servicification as their top areas for evolving their business value chains and meeting customers' evolving preferences. There are several ways manufacturers can broaden their services—from frictionless aftersales services and tailored upgrades-as-a-service to online marketplaces and collaboration with partners to offer personalized insights and recommendations. To excel, manufacturers will need a good understanding of both their customers and product usage. Applying advanced data analytics will provide visibility into purchasing patterns, placing manufacturers in a better position to join the dots with other industries.

Case in point

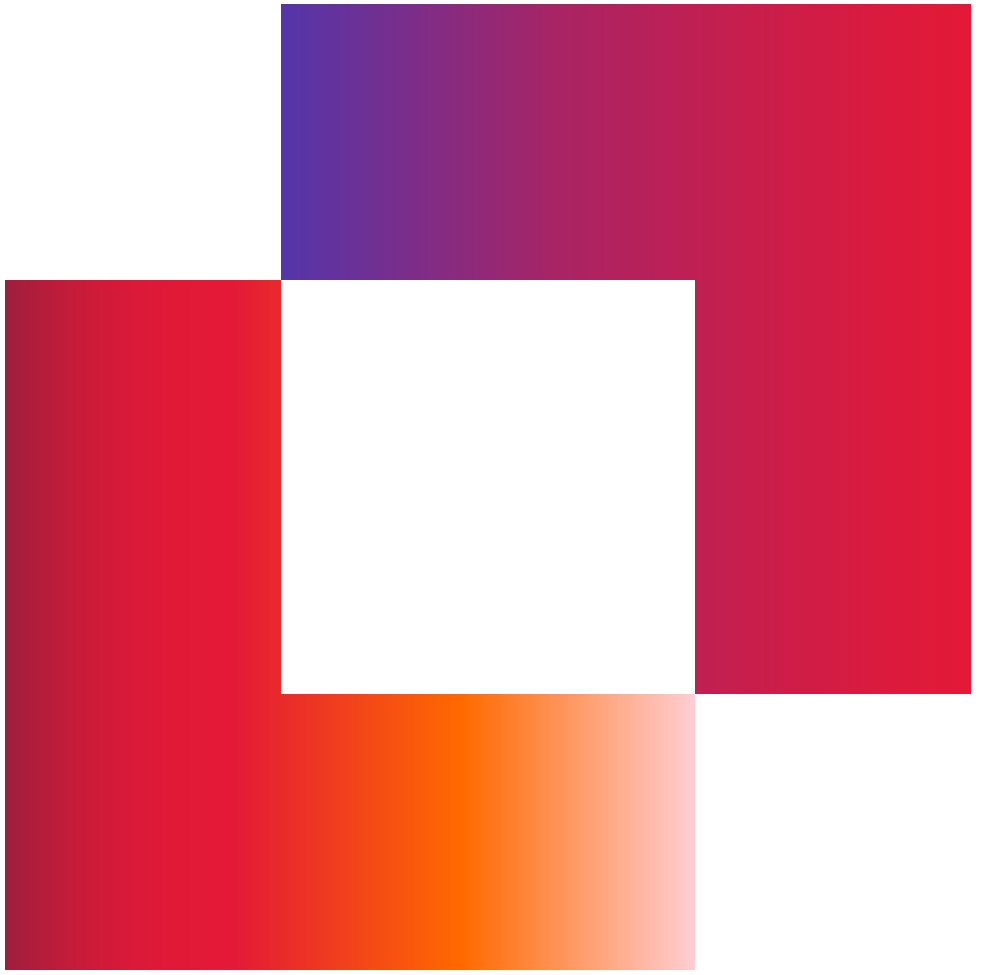
Working with Michelin on the Better Driving Community to build smarter, safer and more sustainable mobility using driving behavior data

The Better Driving Community is a unique data-driven ecosystem advancing the digital journey to improve road safety. By raising awareness among their employees and the general public, thanks to a connected driving coach solution and tackling innovative use cases contributing to safer mobility, Michelin, CGI and the other partners are building the mobility of tomorrow thanks to the potential of driving data.

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. We are insights-driven and outcome-based to help accelerate returns on your IT and business investments. Our insights represent deep knowledge of industry trends and your business and IT priorities.

For the latest CGI Voice of Our Clients industry insights, and to consult with one of our experts, please contact us.



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