

Manufacturing, reimagined

**How can manufacturing firms
accelerate into the future?**

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In today's increasingly changeable global business environment, the challenges facing manufacturers are mounting – from supply-chain disruption to rising energy prices; from the talent gap to shifting customer expectations; and the impact of new technology. Manufacturers face a dilemma: should they prioritise dealing with these rising pressures on their day-to-day business, or on laying the foundations of future-readiness?

The challenge is acute: new research by Verizon suggests they may be struggling to deliver on both fronts at once.

A global survey carried out for our 2022 report on the [future of work – Business, reimagined](#) – lays bare the magnitude of the task.

COVID-19 hit manufacturing hard: 66% of manufacturing executives say the pandemic revealed weaknesses in their business strategies. And the research suggests that many manufacturers are struggling to keep up with the pace of change at a time when businesses in other sectors are bouncing back strongly.

Manufacturers are less likely than the all-sector average to say they have emerged from the crises of the last two years with an enhanced capacity for rapid decision-making; for adopting new technology at pace; or with improved levels of employee satisfaction. Unsurprisingly, then, manufacturers are under-represented among the “Accelerators” – the cohort of companies identified in [Business, reimagined](#) as leading the way on the four critical dimensions of future-readiness: technology, leadership, new ways of working, and skills and behaviours.

About the Business, Reimagined research

We surveyed 600 senior executives across 18 leading global economies in January 2022.

Respondents included 86 senior executives in manufacturing companies, including asset-oriented, process-oriented and high-tech manufacturers, as well as consumer packaged goods and construction firms.



The data also suggests that manufacturing leaders have different priorities to their counterparts in other sectors. Across sectors, the top strategic goal for business is meeting customer expectations; for manufacturers, that comes third, with cutting costs ranked as the number-one priority (identified by 77%), followed by the challenge of sourcing the right talent (74%). Compared to the all-sector average, fewer manufacturers are focused on entering new market segments (56% vs 62%), with over half (56%) admitting they struggle to act quickly and decisively in response to market opportunities.

At a time of high inflation and widespread supply-chain disruption, a focus on cutting costs is sensible. But it could mean manufacturers are holding back from investing in game-changing opportunities – for example, in deploying advanced technologies to create new digital services. There is no shortage of opportunities for businesses with the vision and ambition to seize them.

So, how can manufacturers make themselves truly future-ready? Our research points to four key steps.

Post COVID-19, manufacturing firms face a series of opportunities and challenges

It would benefit our business to be able to interact with all of the parties in our supply chain ecosystem in a more integrated and automated way

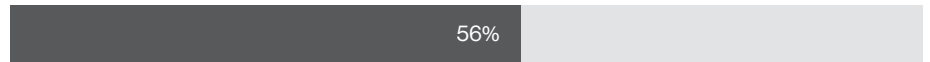
% manufacturing executives who "agree" or "strongly agree"



We are concerned that our current technologies are not sufficient to support the shift to hybrid working



Our organization often struggles to act quickly and decisively in response to new opportunities



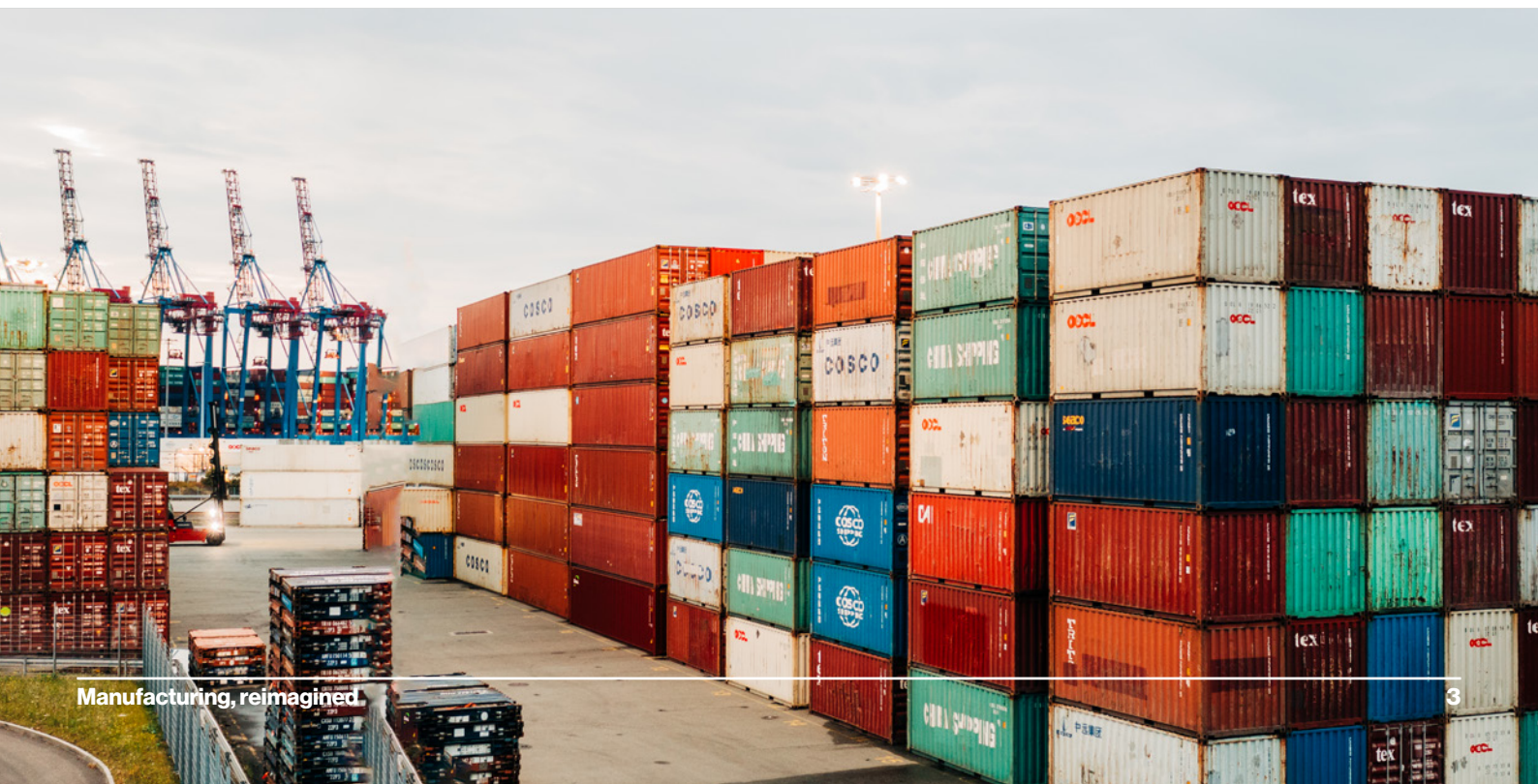
The COVID-19 pandemic has made us realize the importance of investing more in our core networks and remote working technologies



The COVID-19 crisis has highlighted weaknesses in our business strategy



Base size: 86 manufacturing executives



1. Experiment to accelerate strategic priorities

Whether increasing efficiency and reducing costs or developing products to tap into new markets, innovation has a critical role to play if manufacturers are to deliver their strategic goals through 2022 and beyond. Yet 33% of manufacturers say a lack of leadership skills is holding their business back (vs 27% across all sectors). And manufacturers are slightly less likely than other firms to say they have accelerated a “fail-fast” approach to innovation, meaning their employees do not enjoy the confidence to be creative and experiment without undue fear of failure (24% vs 27% across all sectors).

When it comes to innovation, manufacturers may need to raise their sights, nurturing a sense of ambition while developing a practical, low-waste approach. “True innovation is not an undisciplined process. It’s just a different discipline to what you use when you’re optimising,” explains Rita McGrath, Professor of Executive Education at Columbia Business School. Far from throwing unlimited resources at every hunch, she says, leaders should build systematic processes based on “exploration, measured risk, taking things in steps, building hypotheses and testing them”.



33%

of manufacturers say a lack of leadership skills is holding their business back



2. Deploy technology to enhance processes and build resilient, connected ecosystems

Of the four dimensions of future-readiness identified in our research, technology is the most relevant to manufacturers. Manufacturing has the highest proportion of firms (76%) planning to increase investment in AI and machine learning this year compared to 2021 (vs 68% across all sectors). Manufacturers are also more likely to be automating manual processes (38% vs 34%). A range of technologies are feeding into the development of smart factories; connective sharing of data from sensor-equipped devices via the Industrial Internet of Things (IIoT); predictive maintenance; and the use of autonomous vehicles and mobile robots (AMRs).

Some of the most enticing opportunities on the horizon lie in the roll-out of 5G, says Adam Koeppe, Verizon's Senior Vice-President for Technology Strategy, Architecture and Planning. He highlights a common use case: high-definition imaging for checking production lines and identifying flaws. The key requirements – extensive wireless coverage, high-throughput capability, and very low latency – “scream 5G private network with private edge computing,” suggests Koeppe.

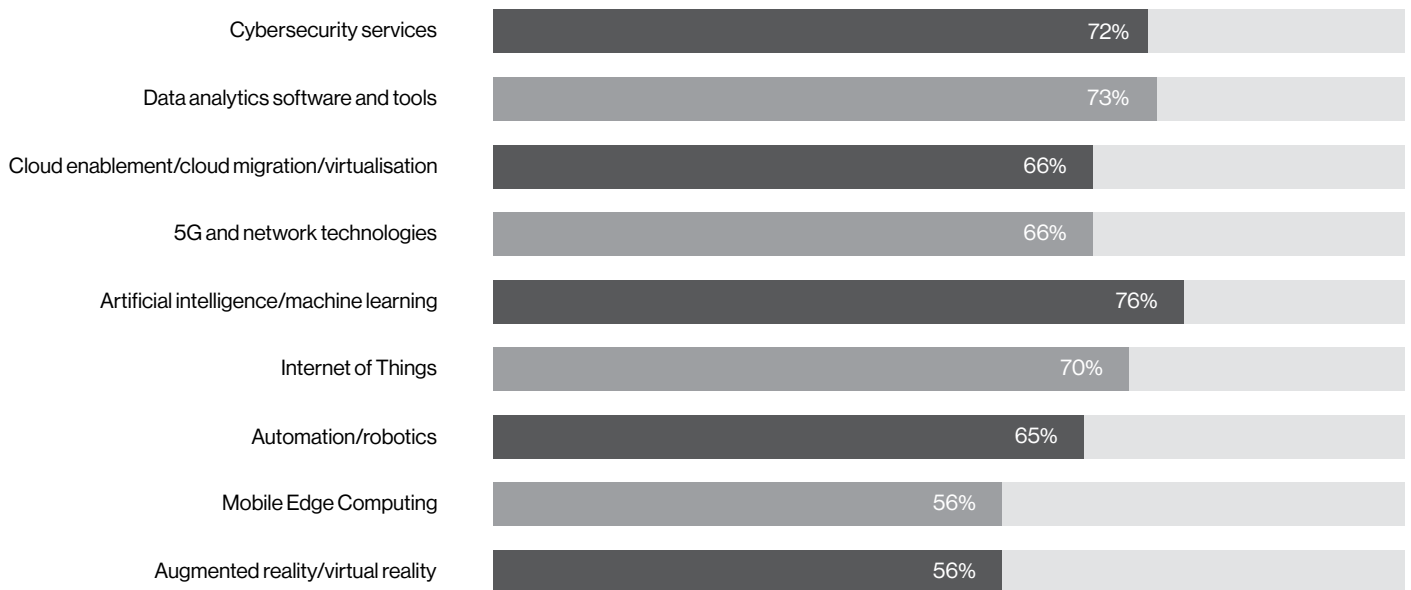
The potential applications of new technology are far-reaching. “Put that in my facility and you have just met my needs for transforming the way my facility operates, the way my business runs, the way I manage my inventory,” Koeppe adds.

Critically, the establishment of fast, secure, high-throughput private 5G networks also enables new levels of integration with supply-chain and logistics partners. This can offer a crucial business advantage at a time of widespread supply-chain disruption. “Once a business has the capability for a private 5G network with edge compute, they have almost infinite flexibility to tie in other parts of their operation, other partners, and other aspects of their workforce in a way that they’ve never had before,” explains Koeppe.

Through strategic use of next-generation technologies, businesses can deliver on their goals of realizing efficiencies, enhancing flexibility, and strengthening supply-chain resilience for whichever challenge comes next.

In 2022 do you plan to invest more or less in each of the following technologies compared with 2021?

% manufacturing executives who say "more" or "much more"



Base size: 86 manufacturing executives.

3. Reskill the workforce and engage with new, technology-enabled ways of working

Fears of how automation could affect current jobs are common – but can be misplaced. “Technology is never a magic power that replaces humans,” says Andreas Schleicher, Director for Education and Skills at the OECD. “Technology is just a great amplifier and accelerator of many human qualities.” While some jobs may disappear, new ones will emerge – often requiring enhanced skillsets. The need for data capabilities is growing quickly, for instance: being able to interpret and identify opportunities from the data generated by automated processes will be key as AI and machine learning are adopted more widely.

Sourcing those skills externally is likely to be challenging amid intense employer competition, so there is an urgency for manufacturers to upskill and develop talent already within the business to realise strategic ambitions. It is a win-win, for the business and for employees.

But learning must be closely aligned with future needs, says Karyn Stetz, Senior Vice-President of Human Resources, Verizon Business Group. Employers have to help employees think about key questions: “Why are you learning? Are you learning because you want to have a place in the future organisational structure?” Businesses should put employees “in the driver’s seat”, says Stetz, supporting them in navigating their own route to personal and professional development.

We have accelerated the following initiatives over the past 12 months



Base size: Manufacturing executives = 86; all executives = 600.

4. Embrace ESG and strengthen social responsibility

The imperative to make progress towards net zero is growing, with consumers seeking more sustainable options. With one-fifth of the world's carbon emissions coming from global production sectors, manufacturers have a major role to play.¹

Our survey found that manufacturing firms are more likely to have set net-zero targets (31% vs 26%) and implemented CSR initiatives (44% vs 39%) compared to the overall sample. Yet only 56% of manufacturers say that their leadership team has achieved social responsibility targets over the past 12 months.

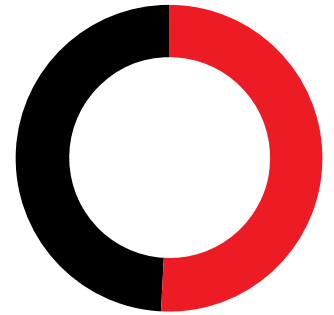
The challenges are complex. Osvald Bjelland, Founder and President of sustainability specialist Xynteo, points out: "If you run a steel company with enormous emissions, it is not a walk in the park to decarbonise your factory. It requires technology and funding – but it may also require policy support and demand for green steel. And this might mean that customers must be willing to pay more for green products."

Leaders need to prioritise solutions that cut down quickly on carbon emissions, in line with science-driven global targets. Businesses should optimise processes by:

- Cutting build times
- Adopting predictive maintenance for factory machinery
- Improving supply-chain logistics
- Building high-speed connectivity to enable analysis of big data

All these measures, and more, can contribute to greater efficiencies. Technology, partnerships and the development of new business models will all be part of the framework needed to tackle the climate challenge – not least in positioning manufacturers to grasp the emerging opportunities of the low-carbon economy.

The challenges facing the manufacturing sector globally are substantial, but so are the opportunities. If manufacturers can reimagine their sector as more innovative, more networked, more digitally enabled and more sustainable, there is no limit to where they could take it in the future.



56%

of manufacturers say that their leadership team has achieved social responsibility targets over the past 12 months

¹ The World Bank. <http://wdi.worldbank.org/table/4.2#.https://www.strategy-business.com/feature/00370?gko=e606a,%20>

