

Innovation trends in the manufacturing sector, 2019-2021



In 2021, the South African manufacturing sector contributed more than one-tenth (13.2%) to the economy, making it a vital role player. However, South African manufacturing businesses are considered low-tech relative to their peers in competitor countries.¹ Building their capacity to innovate is critical to enhance sector competitiveness, productivity and sustainability.²

This brief examines how much innovation happened in the manufacturing sector from 2019 to 2021, including the types of technologies manufacturing businesses used, the innovation challenges they faced, and the outcomes of their innovations.

During 2019-2021, over half of manufacturing businesses carried out activities intended for innovation.

Not all these businesses had developed product or process innovations by the end of 2021.

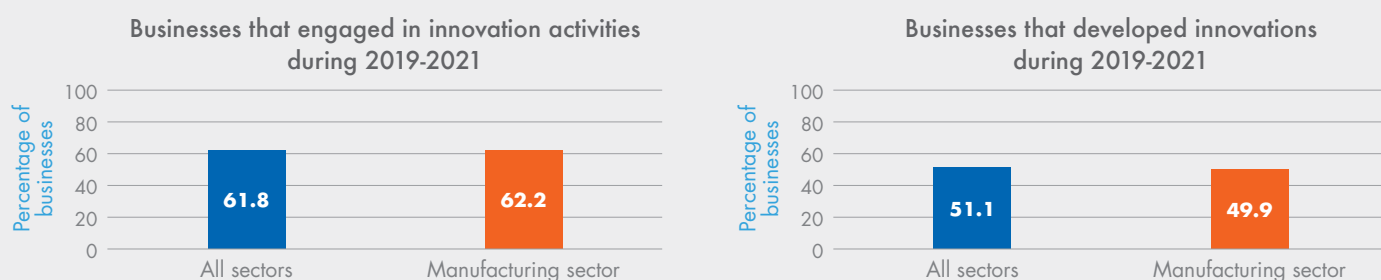


Figure 1: Percentage of businesses in manufacturing that engaged in innovation and developed innovations.

What types of advanced and emerging technologies did manufacturing businesses use or develop during 2019-2021?

Internet of Things was most widely used and developed, by almost 70% of businesses, followed by **business intelligence technologies** (35.4%).

While **advanced manufacturing** and **robotics** are particularly important for modernisation in manufacturing, engagement with these technologies was low.

Manufacturing businesses did not engage with a wide variety of advanced or emerging technologies, despite these being important for modernisation.

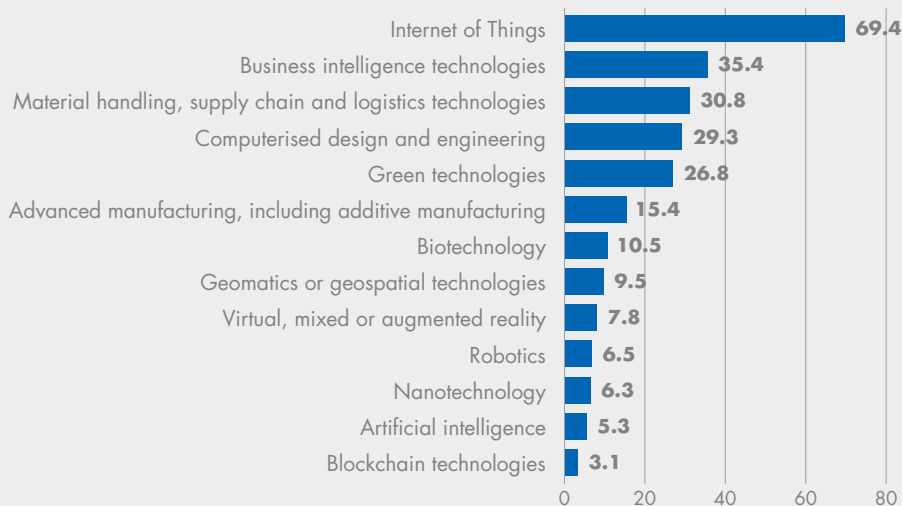


Figure 2: Percentage of businesses in manufacturing that used or developed advanced or emerging technologies.

¹ Department of Science and Innovation (2022). Decadal Plan on Science, Technology and Innovation 2022-2032, p. 37. Also: Statistics South Africa (2023). The Manufacturing Industry: A Detailed Exploration of Production, Employment and Finances (2021). Available at: <https://www.statssa.gov.za/publications/Report-30-02-03/Manufacturing%20industry%202021-Media%20presentation.pdf>. Last accessed: 28 November 2023.

² Pan-African Investment & Research Services (Pty) Ltd (2022). Revitalising SA's Manufacturing Sector: A report prepared for Proudly South African. Available at: <https://proudlysa.co.za/wp-content/uploads/2023/11/Revitalising-SAs-Manufacturing-Sector-2022-Final.pdf>. Last accessed: 28 November 2023.

What were the most important barriers to innovation that manufacturing businesses faced during 2019-2021?

A quarter of businesses in the sector reported that financial constraints, including a **lack of funds** or the **high costs of innovation**, were the most important barriers to innovation. Competition from other businesses was also rated as a highly important barrier.

Lack of technical and engineering skills were regarded as being less important challenges, despite severe national shortages of these types of skills.

Most businesses reported that they experienced financial challenges to innovating.



Figure 3: Percentage of businesses in manufacturing that rated barriers to innovation as highly important.

Percentage of businesses in manufacturing

What did innovative manufacturing businesses perceive to be the most important outcomes of their innovation(s) during 2019-2021?

The most important outcomes of the manufacturing sector's innovations were quality-related rather than cost-related.

Improved quality of goods or services and **met government regulatory requirements** were most frequently reported, while **entering a new export market or increased export market share** and **reduced materials and energy per unit output** were the least reported highly important outcomes.

Innovations were not likely to result in a decrease in production costs, but there were improvements in the quality of products as a result of innovations.



Figure 4: Percentage of innovative businesses in manufacturing that rated outcomes as highly important.

Percentage of manufacturing businesses

About this brief

This brief is one of eight sector-specific analyses drawn from the [South African Business Innovation Survey, 2019-2021](#). It provides deeper insight into innovation trends in the **manufacturing sector**, so that businesses can compare and benchmark their innovation activities. Industry associations and policymakers can use the data in their efforts to mobilise and support innovation activities across the manufacturing sector.