



Automation and Robotics Increase Footprint Across Manufacturing

Balancing the needs and capabilities of automation and robotics with a skilled workforce requires careful balance.

BY LOUISE POIRIER

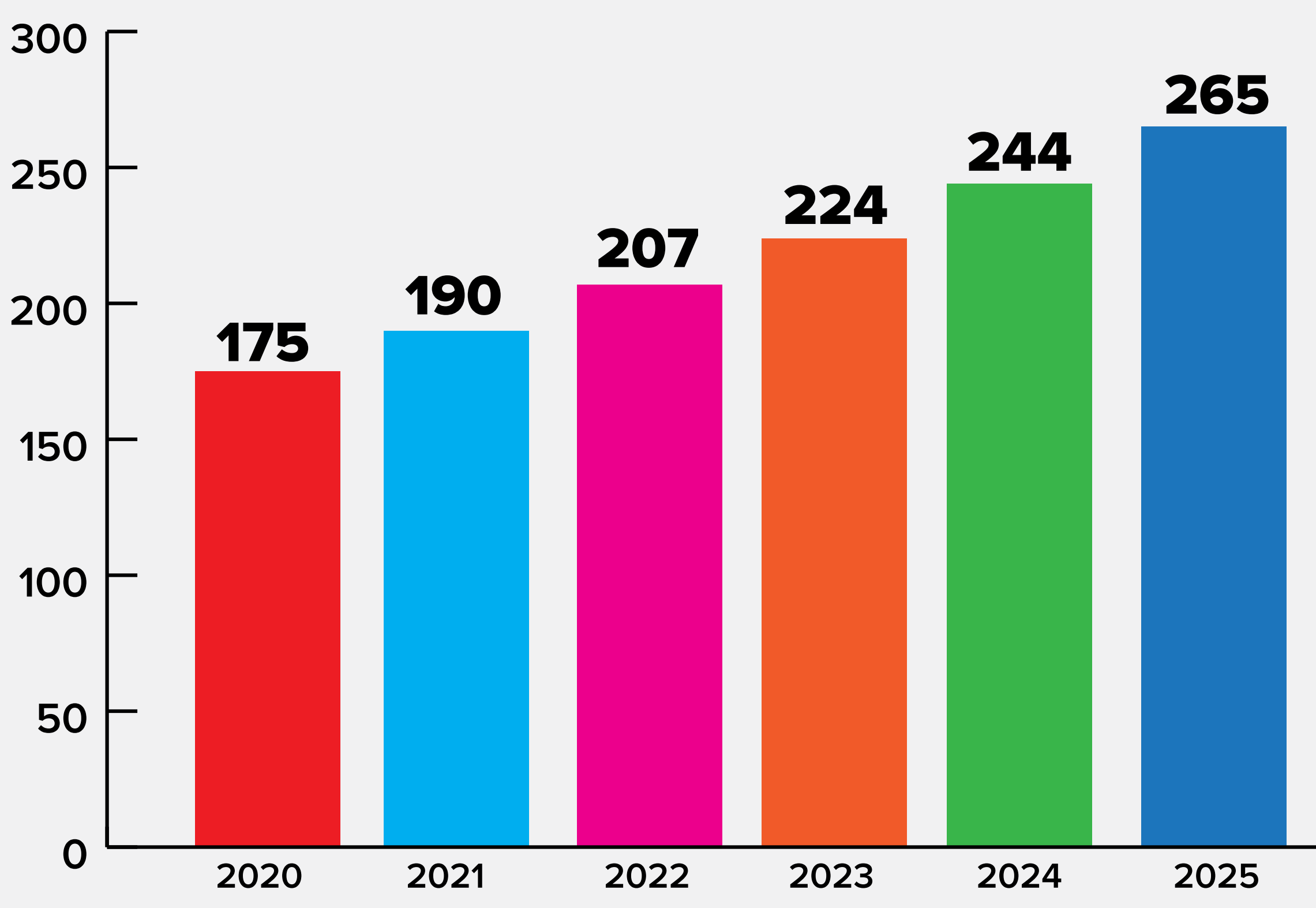
As the number of industrial robotic installations at factories worldwide continues to grow, concerns remain among workers and stakeholders about the uses of these technologies.

Despite fears of such technologies replacing workers, industry experts argue that the more automation tech integrates into today's manufacturing facilities, the more valuable human workers will become in ensuring the successful application of those technologies.

The World Economic Forum's (WEF) September report, *Advanced Manufacturing: A New Narrative*, offered strategies for how advanced manufacturing can offer solutions to global disruptions and a path to more innovative, inclusive, and sustainable industry transformation. "Augmentation technologies can offer gains in training effectiveness compared to in-person training, of up to **80 percent** as well as cost savings and gains in scalability," according to the WEF.

These markets are growing rapidly as well. According to Statista, the global industrial automation market reached an estimated **\$224 billion** in 2023 and is expected to reach **\$265 billion** by 2025.

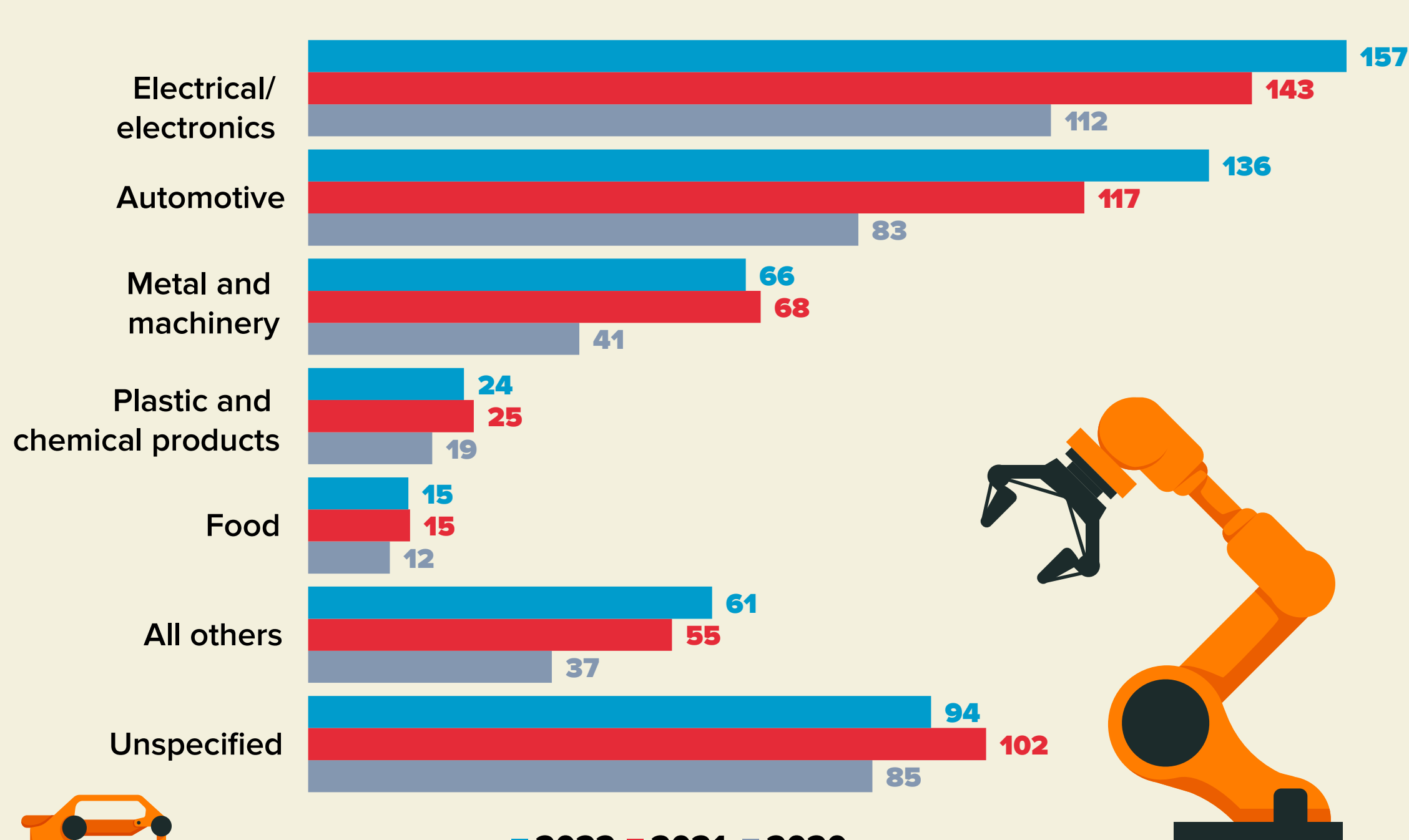
MARKET SIZE OF INDUSTRIAL AUTOMATION GLOBALLY 2020-2025



As for robotics themselves, new installations hit a new record of 553,052 units worldwide in 2022, according to the International Federation of Robotics' (IFR) World Robotics 2023. This marks a 5 percent gain over 2021, with the top users being the electronics industry, with 28 percent of newly installed robots in 2022, and the automotive industry, with 25 percent. This brings the operational stock of industrial robots up to 3,903,633 units in 2022, up 12 percent year over year. IFR forecasts that annual installations will continue to climb steadily through 2026.

ANNUAL INSTALLATIONS OF INDUSTRIAL ROBOTS BY CUSTOMER INDUSTRY GLOBALLY

1,000 units



Meanwhile, a recent position paper from the International Society of Automation furthers that "automation is critical in balancing the workforce skills shortage seen in many manufacturing sectors by enabling greater productivity. Indeed, without employing automation, it will be difficult to fill the gap in workforce skills faced across critical infrastructure and manufacturing industries."

But as geopolitical and economic woes continue, complicated by climate change and evolving technology integration, new strategies will be needed to ensure that rapid growth is successful and sustainable. To that end, the **WEF's Advanced Manufacturing Industry community committed to five principles at the Annual Meeting 2023 in Switzerland to help the industry advance:**

- 1** Make advanced manufacturing technologies and solutions openly available across sectors and countries, as well as large companies and small and medium-sized enterprises.
- 2** Put advanced manufacturing at the service of people by enabling upskilling and reskilling of workers through new investments and programs.
- 3** Leverage advanced manufacturing to make any production environment a more attractive space for new generations and help address the current talent gap in manufacturing.
- 4** Prioritize advanced manufacturing technologies and solutions that enable the transition towards more sustainable and circular production process and value chains.
- 5** Build new response mechanisms to help navigate future crisis and build resilience, and do so in collaboration and coordination with all stakeholders, including governments and civil society organizations.

Source: *Advanced Manufacturing: A New Narrative*, September 2023