

# Our robot future

## How many robots have replaced humans?

MIT researchers found that in the US between 1990 to 2007, one robot replaced 3.3 employees in manufacturing on average<sup>1</sup>. However, these numbers are disputed.

Automation may in fact increase employment by:

- Increasing demand, by making products/services cheaper.
- Substituting existing jobs with other digital-skill-based jobs.

## What jobs do they replace?

Studies show that low-wage occupations are particularly susceptible to automation-induced job loss<sup>2</sup>. However, robots tend to only *partially* automate an occupation. Researchers at Boston University found that only one of the 270 occupations in the 1950 US Census has been eliminated due to automation: the elevator operator.

Similarly, studies of US job advertisements from 1950-2000 showed a decline in routine cognitive and manual tasks – and an increase in demand for capabilities to perform non-routine analytical and interactive tasks<sup>3</sup>.

## How smart are robots?

Most robots are basic in their ability to collaborate or interact with humans – they use sensors and specialized processors to perform human-like functions, achieving some semblance of the human ability to see, talk, or move.

Truly ‘intelligent’ robots – which use artificial intelligence (AI) to learn, reason, solve problems, perceive, *and* understand languages – are still some way off<sup>4</sup>.

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### Facts about industrial robots

- › 2.4 million industrial robots worldwide (in 2018).
- › 20% growth per annum since 2013.
- › 422,000 industrial robots were shipped in 2018.
- › China, Japan, and South Korea have the most industrial robots.
- › Singapore, South Korea, and Germany have the highest robot density.

SOURCE: [IFR](#)