What if humans trusted robots in the workplace?

19

Robot Rapport

Within Reach | Transitional | Visionary

An international, cross-disciplinary research working group establishes a new model and global standards for human–robot interactions, focusing on building trust by addressing emotional responses and workplace dynamics.

UNCERTAINTIES

Technology, Values

MEGATREND (Most significant)

Life with Autonomous Robots and Automation

TRENDS

Cross-Sectoral Partnerships
Digital Communities
Human–Robot Interactions
International Collaboration
Mobilising Innovation

TECHNOLOGIES

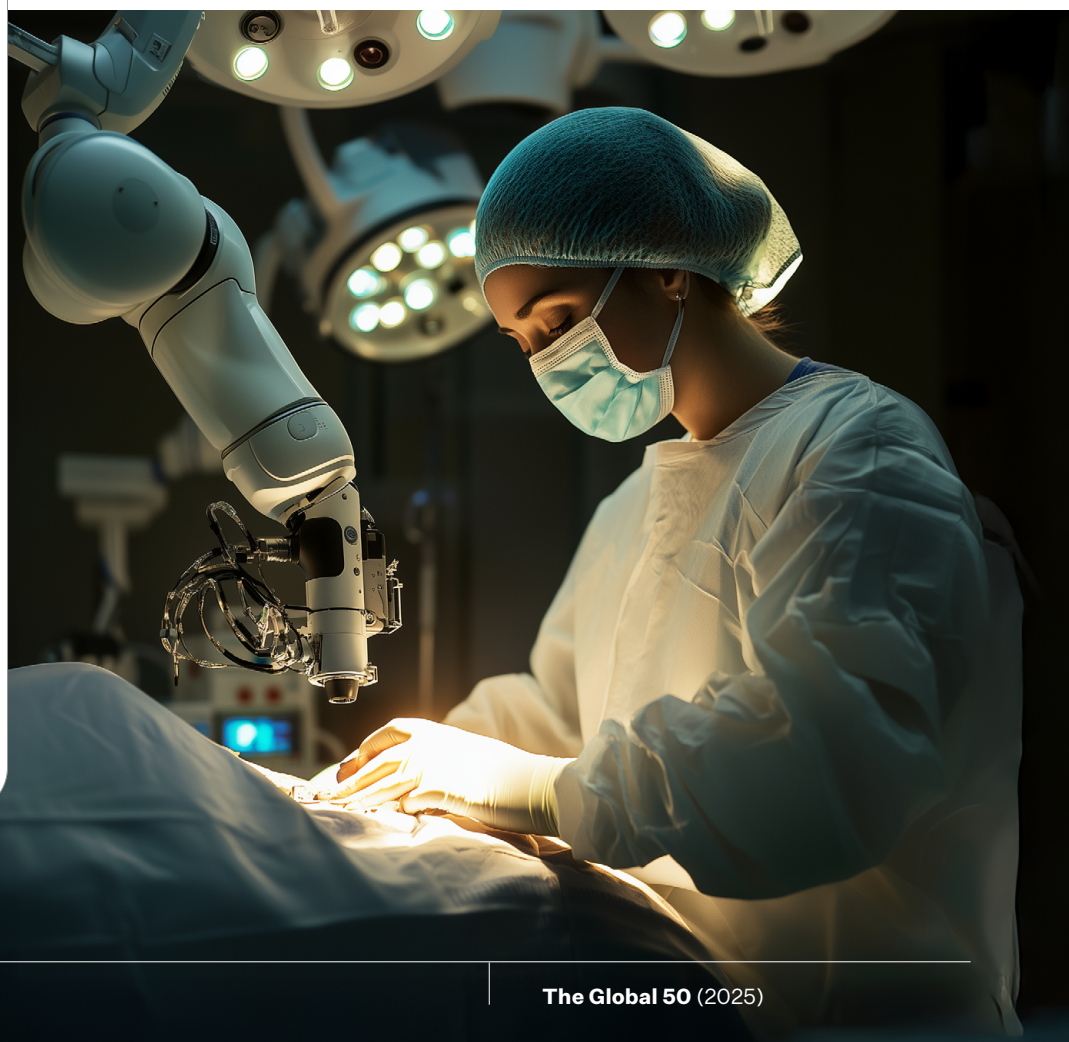
Automation
Robotics

SECTORS IMPACTED

Communication Technologies & Systems
Consumer Goods, Services & Retail
Cyber & Information Security
Data Science, AI & Machine Learning
Digital Goods & Services
Education
Financial Services & Investment
Government Services
Health & Healthcare
Professional Services

KEYWORDS

Human Agency
Human–Robot Interaction
Robots
Trust
Workplace



WHY IT MATTERS TODAY

The global population of industrial robots is

4 million

and between 2024 and 2027 the number of industrial robots is expected to increase by 4% per year in Asia, Australia and the Americas and by 3% in Europe

Despite growing reliance on AI in robotics,

71%

of people believe that AI regulation is required, highlighting concerns around **privacy, safety and the societal impact of AI technologies**

Robots are here. The population of industrial robots around the world is 4 million, with the automotive sector seeing a 25% increase in robot installations in 2023, followed by the electronics sector at 23% and the metal and machinery industry at 14%.[800] In large part because of growing labour shortages in high-income countries, between 2024 and 2027 the number of industrial robots is expected to increase by 4% per year in Asia, Australia and the Americas and by 3% in Europe.[801] The majority of professional service robots are used in transportation and logistics, followed by hospitality, agriculture, professional cleaning, and medicine.[802] This raises public concerns about job losses, bias, widening socio-economic disparities, and the impact on human interaction.[803]

Alongside robotics, artificial intelligence (AI) raises a mixed response. Across 17 countries, 71% believe that AI regulation is required, while less than one in five people (17%) believe that AI regulation is not needed, and the remaining 12% are unsure.[804] In the 2024 Edelman Trust Barometer, only 30% of global respondents embraced AI, while 35% rejected it, with key concerns including privacy, human value, societal impact, and insufficient testing.[805] Nevertheless, the extent to which robots and AI will replace people remains uncertain, despite earlier predictions about their integration into daily life and work.[806]

The human–robot relationship is complex. While ethical and safety standards (e.g. those of the International Organization for Standardization, the British Standards Institution, and the US National Institute of Standards and Technology) provide important guidelines, further development is needed to address evolving challenges of integrating robots into the workplace[807] and other social contexts. Beyond technical and safety concerns, the human–robot relationship extends to broader emotional, ethical and social landscapes.

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THE OPPORTUNITY

BENEFITS

Evidence-based integration of robots; global synergies; faster adoption of robots as a result of increased acceptance; increased human agency and sense of purpose in human–robot collaboration.

RISKS

Failure to reduce resistance; complex cross-cultural synergies; complex interdisciplinary coordination.

An international working group of researchers representing diverse disciplines – from anthropology, behavioural sciences, communications, engineering, neuroscience and psychology – developed a new model and related standards for human–robot interactions, particularly in the workplace. This model represents a paradigm shift in integrating robots into society for the long-term benefit and trust of humans.

In addition to consolidating existing research, the group builds a repository of longitudinal and real-world case studies and data to enhance research across cultural and situational contexts. The model explores why and how humans respond emotionally to various robots, focusing on theories such as social identity and emotional contagion.[808] This serves as a foundation for a robust human–robot ecosystem in which innovation thrives without sacrificing human agency or societal values, enabling faster and more confident adoption across sectors while establishing a sense of purpose for society.

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