

Building ethical foundations for digital innovation



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Human history is in large part the story of how we have developed and responded to new technologies, from the wheel and the plough to paper, the printing press, the steam engine, the automobile and all the recent innovations of computing and the digital age.

Today, we stand at the brink of a new epoch. The great inventions of the past have helped us move faster, produce goods more efficiently, communicate more easily, perform complex calculations more quickly and better organize our societies, but always from a human-centric perspective.

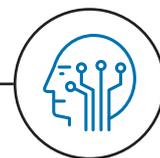
Now, with the rise of innovations such as artificial intelligence (AI), automation, data analytics and digital business models, digital technologies are offering tremendous power to transform society and shape the lives of each and every one of us. However, if new

technologies are introduced irresponsibly, devoid of any ethical context, the consequences could be dramatic for the human species.

This is why organizations need to adopt a far-reaching digital vision which addresses the digital dilemmas of today and which puts human beings and their values at its heart.

The development of technologies such as AI poses a profound ethical and social challenge. As human beings, we generally aspire to base our judgements and decisions on personal and societal values and ethical principles. For the most part, such ideals are not a fundamental part of innovations such as AI systems, which although capable of expanding the frontiers of our understanding, could generate undesirable outcomes if they are not designed in a way that is consistent with the ethical standards that govern human behavior.





At Atos, we are committed to a human-centric vision of digital technology as a force for good. We strive for the best compliance with all ethics principles through the pursuit of Corporate Digital Responsibility. In accordance with the "Raison d'être" or "Sense of purpose" that our shareholders approved in 2019, it is part of our mission to enable our customers, employees and members of society in general to live, work and develop sustainably and confidently in the information technology space.

I firmly believe that when ethical considerations are fully integrated into the development and applications of AI and other innovations, today's technologies will be able to fulfil their immense potential, complementing human intelligence and helping humanity respond to the great challenges of our time.

Please read on to find out more about our Digital Vision for Ethics.

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What's at stake?

Digital technology has already fundamentally transformed the world we live in. As the pace of innovation continues to increase, significant changes will be felt through decision-making, attitudes and behaviors in all walks of life – from business, finance and employment to welfare support, healthcare and transport. We look at where we are on that journey – and how technology can transform society for the better.



Customer & citizen relationships

The success rate of bot interactions in the healthcare sector (those completed without relocation to a human operator) will move to over **75%** in 2022¹



Data privacy

A projected **146 billion** records will be stolen between 2018 and 2023⁴



Future of work

Automation will displace 75 million jobs but generate **133 million** new ones worldwide by 2022²



Productivity

By 2025 AI will power **95%** of customer interactions⁵



Productivity

The impact of AI technologies on business will boost labor productivity by up to **40%**³



Inefficiency

Through 2022, **85%** of AI projects will deliver erroneous outcomes due to bias in data, algorithms, or the teams responsible for managing them⁶

¹ <https://www.juniperresearch.com/press/press-releases/chatbots-a-game-changer-for-banking-healthcare>

² <https://www.weforum.org/agenda/2019/08/the-robots-are-coming-but-take-a-breath/>

³ <https://www.accenture.com/gb-en/insight-artificial-intelligence-future-growth>

⁴ <https://www.irmsecurity.com/resources/10-staggering-cybersecurity-statistics-for-2019/>

⁵ <https://www.financedigest.com/ai-will-power-95-of-customer-interactions-by-2025.html>

⁶ https://www.ey.com/en_gl/wef/why-we-need-to-solve-the-issue-of-gender-bias-before-ai-makes-it



Research & health

The approximate reduction in cost of sequencing a full human genome over a decade (2006-2016) was **10,000-fold**⁷



Future of money

The estimated total value held globally in cryptocurrencies is **\$100 billion** (June 2019)¹⁰



Research & health

AI can address **20%** of the unmet demand for clinicians in healthcare⁸



Wealth creation

AI could deliver additional global economic output of **\$13 trillion** by 2030¹¹



Future of transport

At least **15** original equipment manufacturers have pledged to release autonomous vehicles between 2019-2025⁹



Ethical standards

42 countries have adopted the new OECD Principles on Artificial Intelligence¹²

⁷ <https://www.genome.gov/about-genomics/fact-sheets/Sequencing-Human-Genome-cost>

⁸ https://www.accenture.com/t20171215T032059Z_w_us-en/_acnmedia/PDF-49/Accenture-Health-Artificial-Intelligence.pdf

⁹ <https://home.kpmg/content/dam/kpmg/uk/pdf/2019/08/mobility-2030-transforming-the-mobility-landscape.pdf>

¹⁰ <https://www.investopedia.com/tech/how-much-worlds-money-bitcoin/>

¹¹ <https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy>

¹² <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>