

ARTICLE

**ARTIFICIAL INTELLIGENCE
AND THE FOURTH
INDUSTRIAL REVOLUTION**

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Artificial Intelligence (AI) is already a widespread concept, given the presence of automation and data communication technologies in all industrial processes.

We are already talking about the transition to the fourth industrial revolution, marked by the convergence of various digital technologies, in which the main driver is AI, which brings complex challenges, from social and economic to legal.

AI brings with it exponential challenges in its regulation, raising the problem of its conceptualisation as, for example, a legal figure that is equivalent to a product or service, or even equivalent to a legal person, subject to rights and duties.

Thus, the standardisation of AI requires safe and efficient regulation, which guarantees that AI systems are transparent, traceable, non-discriminatory and respectful of fundamental rights, which is already urgent because it not only represents relevant opportunities in various fields, but also because it is a disruptive technology, capable of affecting governments, economic security and social stability.

In this area of regulation, the European Union has been a pioneer with the approval of the Artificial Intelligence Regulation, which is the world's first comprehensive AI regulation, comprising 113 articles, 180 recitals, 68 definitions and 13 annexes.

In this regulation, AI is approached as an asset, where the main characteristics are a variable level of autonomy, the ability to adapt based on data and the capacity for inference, which distinguish it from software systems or traditional programming approaches based on rules defined to perform operations automatically.

In another quadrant of the world, the Chinese government is eyeing a comprehensive AI law similar to that of the European Union, as well as establishing rules that target specific AI products as they are developed.

Meanwhile, in October 2023, the United States issued an executive order on AI, which aims to set new standards for AI safety, protect citizens' privacy, stimulate innovation and competition, and strengthen US leadership globally.

Among us, the Continental Artificial Intelligence Strategy and the African Digital Pact were approved during the 2nd Extraordinary Session of the Specialised Technical Committee on Communication and ICTs, which brought together virtually 130 ministers and experts from the sector.

The African Union's Continental Strategy on Artificial Intelligence identifies the main priorities and actions to ensure that Africa fully benefits from the opportunities that AI offers and calls for an African-owned, people-centred, development-oriented and inclusive approach.

‘Africa has already missed out on the first, second and third industrial revolutions. We are convinced that we will not miss the fourth revolution,’ a statement by H.E. Mahamudu Bawumia, Vice President of Ghana, which denotes how determined Africa is to harness new technologies for the well-being and development of the African continent and also for the continent’s inclusive progress.

However, debates about when regulation of AI is justified and concerns about stifling innovation may represent an obstacle, while the lack of AI infrastructure may hinder adoption of technology.

Some experts fear that Africans will face social harm if African countries don’t develop their own regulatory frameworks that protect citizens from the misuse of technology, including prejudices that can exacerbate inequalities. And if these countries don’t also find a way to harness the benefits of AI, others fear that these economies could be left behind.

In Mozambique, this discussion has not gone unnoticed either, with signs of an attempt to create a National Artificial Intelligence Commission to ensure the adoption and dissemination of good practices for the development and ethical use, among other aspects of policies, strategies and regulation of Artificial Intelligence at the country level, aligning the best ways of doing science, developing and innovating technology linked to Artificial Intelligence.

For example, during the US-Mozambique Cyber Security Forum, the PCA of the National Institute of Information and Communication Technologies (INTIC) IP, Prof. Dr. Eng. Lourino Chemane addressed the pillars of the development of national defence and cyber security capacity, stating that Mozambique urgently needs to strengthen its legal instruments to tackle the problem of cyber-crime, which includes the formulation of artificial intelligence regulation.

These actions demonstrate in practice the importance of regulating artificial intelligence in this new industry involving technological development and digital transformation, which is already showing signs of a real revolution that will move at the speed of data.

The projected benefits of adopting AI in the Mozambican economy are tantalising and must be accompanied by a model of local regulation and governance of AI that balances the risks and rewards of this technology.



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