

# EXECUTIVE SUMMARY

## THE CHALLENGES WE FACE AS A COUNTRY

By 2040, Spain will have to speed up the modernisation of its private sector and public services if it aspires to continue improving the well-being of its population. The reduction in the labour force caused by demographic ageing and the transition towards a more environmentally friendly production and consumption model make productivity growth the only way to close the income gap with the most advanced countries in Europe. Our welfare state must also be strengthened to respond to the challenges posed by ageing and the new social demands linked to mental health, the development of healthy habits and lifelong learning. All this will have to take place at the same time as we reduce inequality and navigate a very uncertain global environment characterised by political instability in various parts of the world, competition among the major powers for technological supremacy and emerging battlegrounds such as cyberspace and social media.

## THE OPPORTUNITIES OFFERED BY AI TO RESOLVE THEM

Artificial Intelligence (AI) stands out as one of the tools with the greatest potential to help us deal with these challenges. Even in its current state of development, AI will allow us to be more productive and perform some tasks faster and better than if we were to do them alone. In sectors such as trade, consulting and transport, its use for writing and customer service tasks could generate average efficiency gains of up to 13%.

AI systems will significantly reduce the administrative burden on healthcare professionals, allowing us to move towards more agile and personalised services. In the case of primary care, this technology could free doctors from up to five consultations a day, while in specialised care, it could reduce waiting lists by 22 days. The same is true for education. Intelligent systems will take over some of the bureaucratic work currently undertaken by teachers. This would allow teachers to have up to one extra day a week to provide individualised learning and training or participate in school management. These same systems used by students as a support tool could improve their performance in maths as if they had received half a year's extra schooling. AI will also make the functioning of public authorities more efficient by streamlining judicial procedures and granting social benefits, simplifying procedures and enabling public employees to offer a service that is better adapted to the needs of the public.

In parallel, AI will pave the way towards environmental sustainability. It will allow us to improve

the design and management of energy production and storage systems, reduce the climate footprint of transport and make more rational use of natural resources. Regarding mobility, its use in traffic optimisation could cut emissions equivalent to those produced by 905,000 cars making a daily journey of 50km for a year. In water management, the benefits are also substantial, ranging from reducing losses in supply networks by 70% to achieving water savings of 20% in irrigation systems. By installing AI systems on 15% of our farms, we would achieve annual savings equivalent to twice the water consumption of the city of Madrid.

This technology also allows us to make our security and defence systems more sophisticated. Through these intelligent applications, we will be able to anticipate cyber threats, identify crime patterns, and reduce the risk of recidivism in cases of gender-based violence. AI can also be of great use in optimising military equipment and resources, customs control, and the management of emergencies caused by natural disasters or terrorist attacks.

Unlike previous innovations, AI need not benefit only the most educated and technologically savvy workers. Properly deployed, it could become a boon for our country's middle classes and complement the work of up to 65% of the working population. Thanks to it, issues such as programming an app, selling a product online, managing invoices or writing a document are now more accessible to the majority of the population, and skills such as empathy, communication skills and emotional intelligence, not always linked to the level of education, are becoming increasingly essential.

## THE STRATEGIC LINES TO ACHIEVE THIS

AI will not only generate benefits. Its rollout also brings with it significant challenges that will need to be addressed.

First, we must ensure that most companies and workers in our country adopt it and it reaches the main areas of our welfare state. If not, we could lose competitiveness, generate fewer jobs in the long term and see inequalities worsen. To avoid this, we must increase support and incentives to incorporate AI in SMEs, improve training and attract talent in advanced technologies, and strengthen our capacities in computing and data infrastructures. It will also be necessary to promote research in strategic areas such as biotechnology and cybersecurity, create an integrated and interoperable data system that facilitates its use between territories and public services, and promote the development of AI models that allow us to adapt it to our needs. This rollout must also be carried out ethically and responsibly, preserving privacy, intellectual property and data protection and ensuring the transparency of algorithms to avoid amplifying existing biases and social gaps, and injustices.

We will also need to monitor the environmental footprint of implementing AI on Spanish soil through research into green algorithms and the development of smaller, more sustainable models. We must also modernise our security and defence capabilities in the face of new digital threats, strengthen our cyber-attack response systems, and promote an international treaty that guarantees human control over autonomous weapons systems.

The opportunities offered by AI are manifold. If we harness them responsibly, they should outweigh the potential negative effects and help us achieve a more prosperous and fairer society and a better quality of life. It is up to us to make it happen. ■