

# SWEDEN

## COUNTRY REPORT

### A Deep Dive into Sweden's Digital Landscape

The Nordic nations surveyed in this study (Sweden, Denmark, Norway and Finland) are front runners in the journey to achieving the European Commission's [Digital Decade goals](#), with both businesses and people embracing the possibilities of new and frontier digital technologies. Nordic businesses particularly recognise the transformative potential of AI and are increasingly exploring AI technologies.

[This research](#), the first of its kind since the boom in generative AI and large language models (LLMs) in 2023, surveyed 1,000 citizens and 1,000 businesses in each Nordic nation to examine where Sweden finds itself on its journey towards the realisation of the goals of the Digital Decade policy programme, and to uncover the benefits of and barriers to the adoption of key digital technologies, including AI. It showed a significant increase in AI adoption, as well as significant barriers to be overcome in order to maintain this growth rate.

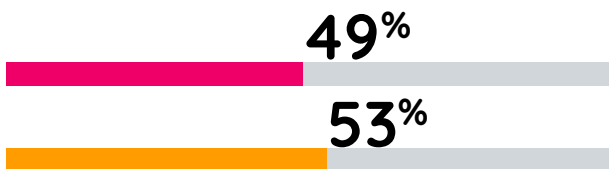
This study, which builds on a [2022 report](#) carried out by Public First and commissioned by AWS, suggests barriers remain that, if unremoved, could prevent businesses and people in Sweden from achieving their full digital potential. In order to reach the Digital Decade targets that 75% of businesses are using AI and a minimum of 80% of the population have basic digital proficiency by 2030, Swedish businesses and government need to work together to improve digital skills training and increase adoption. Removing barriers in Sweden will enable individuals and businesses to realise the full benefits of the increased adoption of AI and cloud technologies.

#### Key Statistics

- **31%** of Swedish businesses were using at least one AI tool in 2023, up from 22% in 2022. This is a growth rate of **41%**.
- The increased adoption of digital technologies, most notably AI, could unlock **1.292 trillion SEK** for the Swedish economy by 2030.
- Swedish businesses predicted a **53%** increase in digital investments in the next year, and a further **53%** increase in the next three years.
- **69%** of Swedish businesses that use cloud computing report that these technologies are essential or important to their business
- **41%** of Swedish businesses suggest that more choice among AI providers is needed to increase their adoption of AI technologies.
- Swedish businesses which have adopted AI are using more advanced technologies – **60%** are using LLMs or generative AI.
- **More than half (55%)** of Swedish citizens believe AI will be important in addressing big societal changes, such as climate change or disease control.

### The Expanding Potential of Digital Technology

Swedish businesses are increasingly adopting and looking to incorporate new and frontier technologies into their everyday operations, especially cloud computing and AI tools.



**Almost half (49%)** of Swedish businesses state that cloud computing technologies have become more important to their businesses in the past year, while **53%** state that AI has become more important. These trends are in line with Nordic businesses, with 49% reporting that cloud technologies have become more important to them in the past year, and exactly half stating that AI has become more important.

Excitement about the future potential of digital technology for business purposes in Sweden is demonstrated by rapidly rising investment in digital technology by Swedish businesses.



In the past year, Swedish businesses have **increased their investment** in digital technology by **48%** just below the Nordic average of **51%**.



Sweden is matching the Nordic **increase in investment** over the next year, with a projected **53%** increase in digital investment.

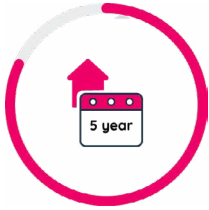


However, its **investments in digital technology** over the next three years fall slightly short, with Nordic businesses as a whole projecting a **59%** increase in investment, compared to Sweden's **53%** projected increase.

Despite slightly lagging behind their Nordic comparators, Swedish businesses demonstrate a clear desire to invest in digital technology.

Swedish businesses in our survey reported that **18%** of their IT budget in 2023 was spent on AI, largely in line with European businesses, which spent 20% of their IT budget on AI in 2023. Swedish businesses estimated that this figure will rise to **27%** of their IT budget by 2030, slightly above the Nordic average (25%) and in line with the overall European average (27%). These figures reflect Sweden's committed long-term investment and digitalisation intentions, indicating that Swedish businesses recognise the transformative potential of emerging technologies such as AI.

Swedish businesses are increasingly excited about the powerful potential of digital technology in driving company growth, and are looking to explore more advanced forms of AI technology.



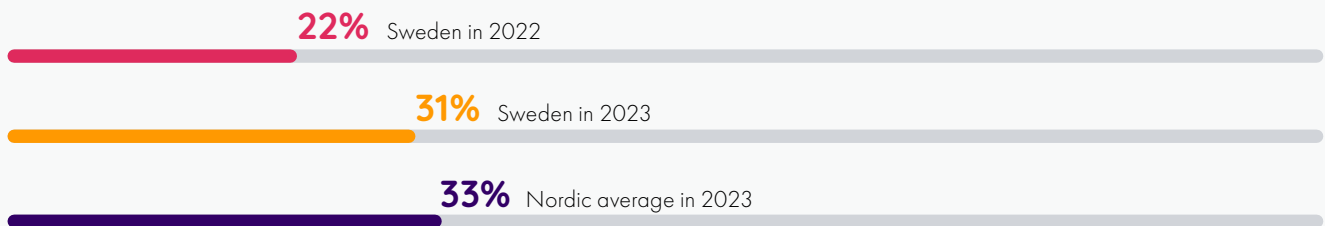
**82%** of Swedish businesses consider digital technology essential or important for achieving their five-year growth plans, in line with the Nordic average of 81% and European average of 84%.



Digital technologies are particularly important to small businesses (those employing under 50 people), with **87%** of small businesses seeing these technologies as essential or important for their growth plans.

Not only are Nordic businesses increasingly using AI technologies, but they are using them with a greater degree of sophistication. **60%** of Swedish businesses which have adopted AI are using LLMs and generative AI. While in line with the Nordic average, this trails the European figure - 66% of European businesses reported using LLMs and generative AI.

## Harnessing the Potential of AI



In the rapidly developing world of AI, Swedish businesses are demonstrating a proactive approach to integration and adoption. **31%** of Swedish businesses reported consistently using at least one AI tool in their daily practices in 2023, up from **22%** in 2022, reflecting a percentage increase of **41%**. The proportion of businesses using AI in Sweden is therefore in line with the Nordic average (33%). Only 8% of Swedish businesses say that they do not intend to introduce AI technologies into their business.

Maintaining this rate of growth to 2030 could unlock **1.292 trillion SEK** for the Swedish economy by the same year. This is equivalent to **20%** of Sweden's economy.

The most common use for AI technology in Swedish businesses is to interpret and generate human language (for example, through machine translations or chatbots). **55%** of Swedish businesses intend to use AI for this purpose, and this is matched by **54%** of Nordic businesses. The next most common uses for AI among Swedish businesses are for detecting fraud or anomalies (**45%**) and for using data to make predictions, decisions, or forecasts (**40%**).

**Swedish businesses are also increasingly looking to use AI in more advanced ways.**



This is highlighted by increased uptake of and excitement about generative AI. **46%** of Swedish businesses believe that generative AI will completely or largely transform their industry's landscape over the next five years, slightly below the Nordic average (**52%**).



Cloud computing underpins Sweden's adoption of AI technology and is a necessary foundation technology for the increased implementation of digital technologies, for both quantity and sophistication. Furthermore, cloud computing serves as an important tool in helping Swedish businesses reach their sustainability goals. **59%** of Swedish businesses reported that cloud technologies have enabled them to replace paper or manual systems, significantly more than the Nordic average (**39%**).



Swedish businesses have a general understanding of cloud technology, with **86%** having heard of the concept before, slightly above the Nordic average (**84%**).

*This differs significantly by size, with **91%** of large businesses (employing over 250 people) familiar with the concept compared with just **75%** of small businesses.*



Notably, **71%** of Swedish businesses report that cloud services support remote or flexible working, far above the Nordic average (**53%**).

In Sweden, as in the wider Nordics, the excitement surrounding AI's potential is clear and Swedish businesses foresee potential for AI to positively impact their businesses. More than half (59%) of Nordic businesses anticipate that AI will substantially or entirely transform their businesses within the next five years, as do **56%** of Swedish businesses. This is highlighted by the increase in adoption of AI technology among Swedish businesses.

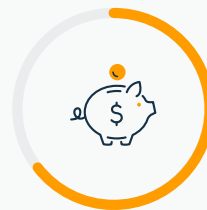
**95%** of Swedish businesses that have adopted AI report that AI has enhanced automation and efficiency. Further reported benefits among AI adopters include an improved customer experience (**70%**) and stimulating innovation, for example improving product development (**75%**).

Swedish businesses foresee AI continuing to improve business performance in a variety of ways over the next five years. For example, **90%** expect AI to significantly improve decision making and analysis, more than the Nordic average (84%), while **88%** expect AI-driven productivity improvements, again above the Nordic average (82%).

#### The adoption of AI has stimulated growth across Swedish businesses, with



**65%** of Swedish AI adopters stated that the technology has already increased their revenues. Nordic businesses report similar benefits, albeit to a slightly higher extent, with 76% of Nordic and 75% of European AI adopters reporting increased revenues.



A further **65%** of Swedish businesses state that AI technologies have already led to cost savings.



Although Swedish businesses that have adopted AI have already reported tangible benefits, only **20%** were able to name a specific everyday problem within their business that they believed AI could solve, although this was slightly above the Nordic average (14%).

**This suggests that, despite increased uptake, there is still space for greater understanding regarding the specific potential uses of AI in Nordic businesses.**

## Unlocking Ambitions

In spite of their increased technological ambitions, Swedish businesses continue to face substantial challenges to accessing the full potential of digital technologies, particularly AI and cloud computing.



In particular, **40%** of Swedish businesses state that greater choice between AI providers would help them to increase their experimentation with and adoption of AI tools. This desire for greater choice in AI providers is shared by 41% of Nordic businesses and 39% of European businesses.



A further **15%** of Swedish businesses stated that more flexible regulations regarding the exchange of data between AI providers would similarly enable them to increase their adoption of AI tools. Legal compliance issues are a notable cause for concern among Swedish businesses.



**20%** of Swedish businesses noted that the potential liability or damage caused AI use was a barrier for their adoption of the technology, double the European average (10%) and more than the Nordic average of 13%.

Both Swedish and Nordic businesses as a whole demonstrate a clear preference for a regulatory framework that provides clarity, easing the regulatory burden on businesses and providing companies with clear guidelines for their use of AI in business practices.

In December 2023, the EU reached a provisional agreement on the AI Act, forming a broad legal framework for regulating the use of AI. AWS supports government efforts to put in place effective risk-based legislation for AI that protects people and their rights and encourages trust, while also allowing for continued innovation and practical application.

AWS encourages policymakers to continue pursuing an innovation-friendly and internationally coordinated approach and are committed to collaborating with the EU and industry to support the safe, secure, and responsible development of AI technology.

Another significant challenge across the Nordics is the lack of in-house skills for utilising AI technology. **30%** of Swedish businesses cited this barrier as preventing them from adoption more AI tools, in line with the Nordic average and European averages. The digital skills gap is a problem faced by Nordic and European businesses alike: businesses have advanced digital ambitions but limited digital capabilities in the workforce prevent them from realising these ambitions. For example, only **35%** of Swedish businesses believe it is easy to find new employees with good digital skills, although this is more than the Nordic average (22%). **This differs dramatically by size, with 43% of large businesses reporting that it is easy, compared with only 30% of small businesses.** Swedish businesses state that, from the posting of a job vacancy, it takes **5.2 months** to find an employee with the appropriate digital skills. While this is less time than the Nordic average of 6.2 months and European average of 6.4 months, it highlights a digital skills dilemma faced by Swedish businesses. Furthermore, within the workforce, only 27% of Nordic businesses find it easy to train existing employees in digital skills.

**Of particular concern are the gaps that emerge with regards to basic digital skills.**



## Over half

**(52%)** of Swedish businesses report that basic digital skills, such as creating a spreadsheet, backing up data, or editing an online document, are the digital skills most lacking in their organisation. This is the case for **51%** of both Nordic and European businesses more generally.



## 35%

of businesses which lack digital skills reported that this slowed their business growth, above the Nordic average (**25%**).

Swedish people are impacted by this skills gap. **60%** of Swedish people, just below the Nordic average (62%), feel that their weaknesses in digital skills are hindering their job opportunities.

To overcome this issue, Swedish businesses are beginning to invest in digital training programs. Although **88%** of Swedish businesses are offering some form of digital skills training, less than a third (**31%**) report that they regularly invest in comprehensive digital training programmes for all employees. Sweden is leading the Nordics in this regard, with 25% of Nordics businesses offering comprehensive training.

Further investment in quality and comprehensive digital skills training is needed in order to act upon the recognition that digital skills are becoming increasingly important and meet Digital Decade targets. **71%** of Swedish businesses predict that digital skills will take precedence over university degrees in hiring decisions within the next five years.

## Public Concerns

Swedish people demonstrate both excitement and concern about the potential impact of AI. **53%** believe that AI will positively impact their lives in the next three years, slightly below the Nordic average (56%) but ahead of the overall European average (51%). Swedish people predict that AI will have a transformative impact on sectors such as **healthcare (67%), education (65%), and entertainment (67%)**.

Although people recognise the power of AI, they still harbour concerns about the technology. **73%** of Swedish people voiced some fear about AI, in line with the Nordic average.



The main concern, noted by **48%** of respondents, was the potential for AI to cause job losses.



Behind this, **44%** of Swedish people were also concerned about a lack of transparency in how AI makes decisions.



**33%** were concerned that AI could be used to develop weapons or conduct terrorist attacks.

Despite this, **47%** of Swedish citizens believe that AI will create more opportunities than risks in regard to job security and the future of work. Similarly, the 2023 World Economic Forum Future of Jobs report estimates that AI is expected to have a **25.6%** net positive effect on job growth over the next five years.

Although cloud computing underpins the uptake of AI, only 12% of Swedish people state that they are very familiar with cloud computing as a concept. Despite this, Swedish companies are using cloud computing to improve their business in a variety of ways.

# CASE STUDY:

## Era of We and Opsio



### Era of We and Opsio: How a Digital Platform is Making Coffee Production More Sustainable and Ethical

Era of We is a Swedish company seeking to improve the coffee supply chain, empowering coffee producers and promoting sustainable and fair industry practices. Opsio, as Era of We's dedicated AWS partner, was engaged to leverage cutting-edge technologies from AWS to power Era of We's initiative for sustainability and transparency.

69% of Swedish businesses think that cloud computing is essential or important to their business and Era of We and Opsio uses its cloud-based digital platform to reinvent their supply chain and reduce the distance across coffee producers, distributors, and consumers.



#### Core Features:

- **Community:** Era of We is using cloud computing to create an online environment that brings together people at every stage of the coffee industry – from farmers and roasters to restaurants and individual consumers. Almost a quarter (24%) of Nordic businesses state that cloud computing has improved the way they work with their suppliers, and Era of We's partnership with Opsio highlights a cloud-based system which enables collaboration across the supply chain.
- **Transparency and Trust:** by creating a more transparent supply chain, Era of We emphasises the importance of fairness, ethics, and trust in the coffee industry.
- **Global Expansion:** Opsio powered Era of We's innovative use of cloud technology, streamlining the company's ability to grow across locations. AWS services allowed Era of We to create a framework of fully integrated data from various locations and platforms.
- **Shared Responsibility:** Opsio worked with Era of We to integrate modern DevSecOps principles into the infrastructure of the supply chain.<sup>1</sup> Security is a shared responsibility throughout the IT system's life cycle, and speeds development times, which are no longer slowed by security measures at the end of the process. This helped Era of We, a digital startup, to create a system with global scale and complexity.



#### Key Advantages:

- **A fair market:** the use of AWS cloud, through Opsio, provides Era of We with the tools to create a collaborative coffee industry for people working at all levels. By including every stakeholder in the supply chain to be proactive in growth, Era of We creates an equitable and productive market for coffee.
- **Increased communication:** Era of We eliminates communication barriers between various levels of the supply chain, improving the distribution of products.
- **Streamlined operations:** by using AWS cloud technologies, Era of We is able to monitor and manage all aspects of development on its platform. Additionally, digital technology allows Era of We to provide fast and consistent system updates.

#### Here are some additional details about how Opsio has harnessed cloud technology, helping Era of We to raise its ambitions:

As the performing layer between Era of We and AWS, Opsio provides the framework for Era of We to grow and adapt as it looks to the future. A scalable cloud computing infrastructure ensures that Era of We can handle increasing amounts of data and expand its network globally. By partnering with a variety of suppliers, consumers, and distributors, Era of We has forged new connections across the coffee supply chain, from farming to consumption.

## Conclusion

### **Swedish businesses and people are increasingly looking to adopt new digital technologies, with a particular focus on AI.**

Businesses are increasing their investments in digital technology and will continue to do so, with AI making up an increasingly large portion of their IT budgets. Businesses which have already adopted AI have reported a range of benefits, especially in regard to streamlining operations and stimulating growth.

Swedish people believe in the transformative potential of AI but have concerns about the technology's potential impact, particularly on their job opportunities. In order to maintain the current growth rate in AI adoption, the Swedish government and businesses will need to work to address consumer concerns regarding AI and highlight the opportunities for growth that the technology presents.

Although Swedish businesses and people are moving rapidly towards the Digital Decade goals, they face barriers to AI adoption. Swedish businesses report that they would benefit from greater choice among AI providers, while reporting legal uncertainty as a particular concern. 55% of Swedish businesses reported that greater choice and flexibility regarding AI providers would help them to increase their adoption, while a notable 20% reported the potential liability or damage caused by AI use as a barrier to adoption.

In order to fully realise their digital potential and achieve the goals of the Digital Decade, businesses and individuals must be able to operate in a regulatory landscape that continues to provide clarity and guidance. Businesses also need to continue to invest in digital skills training for both tech and non-tech employees. By doing so, Sweden will be able to fully unlock its digital ambitions and to achieve the ambitious targets set by the European Commission.

### **References:**

1. DevSecOps refers to development, security, and operations and refers to an approach to culture, automation, and platform design that integrates security as a shared responsibility throughout the IT system's entire cycle, rather than as a single stage.