



DIGITAL ECONOMY SURVEY REPORT

2023



CONTENTS

3 Introduction

4 Executive Summary

5 Respondent Demographics

6 European Union-Singapore Digital Partnership

8 E-Commerce

10 Digital Identities

12 Digital Skills

13 Artificial Intelligence

15 Digital for Sustainability



EXECUTIVE SUMMARY

(* Updated as of August 18th 2023)

On February 1st 2023, the Minister-in-charge of Trade Relations for Singapore, S. Iswaran, and the European Commissioner for Internal Market, Thierry Breton, signed the EU–Singapore Digital Partnership (EUSDP) in Brussels. The EUSDP represents a new frontier in the burgeoning relationship between Singapore and Europe as it relates to the digital space and covers an expanse of topics related to the digital economy, including digital trade, infrastructure, connectivity, data flows, cybersecurity, supply chain resilience, artificial intelligence (AI), online platforms, digital identities and electronic authentication, digital transformation of SMEs, digital education and skills, and standards, technical regulations, and conformity assessment procedures. The partnership follows several other binding Digital Economy Agreements signed by Singapore with New Zealand and Chile, South Korea, Australia, and the United Kingdom. Accordingly, as of July 2023, Singapore has opened negotiations with the EU on a Digital Trade Agreement.

In light of the EUSDP, the European Chamber of Commerce, Singapore (EuroCham) conducted a survey to parse the priorities and current capabilities of organisations with a vested interest in digitalising their operations. This survey sought responses related to areas covered in the EUSDP from European organisations operational in Singapore and ASEAN as well as members of EuroCham, garnering a total of over 50 responses altogether.

The intention of this survey is to understand the specific areas in which the EUSDP may advance organisations' digital goals, and by extension, how the EUSDP's specific clauses can relate to organisations' current operational needs. Furthermore, this survey intends to assess the private sector's opinions on a future binding Digital Economy Agreement (DEA) between the EU and the Singapore government. Additionally, this survey explores companies' opinions on the relationship between digitalisation and sustainability.

The survey began with a query about the most important principles (to respondents) for a future legally binding agreement. Next, this questionnaire gauges the current operational capabilities and gaps of the respondents in relation to specific subjects broached by the EUSDP (e-commerce, digital identities, digital skills, and AI governance). Through this, the survey attempts to understand the opportunities for the EUSDP to promote growth and build on existing mechanisms.

The respondents ranked several clauses in the EUSDP relating to digital trade as particularly important – specifically, electronic transactions, e-commerce, paperless trade, and e-payment systems. Around 40% of the organisations surveyed reported existing reliance on or usage of e-commerce and AI in their operations. Over half of the organisations indicated reliance on digital identities. These figures indicate that digitalisation is well underway at many of these organisations. However, many respondents also highlighted ongoing challenges with digitalisation, including the tech skills gap, the ability to shape the digital customer experience, and a limited implementation of AI systems.

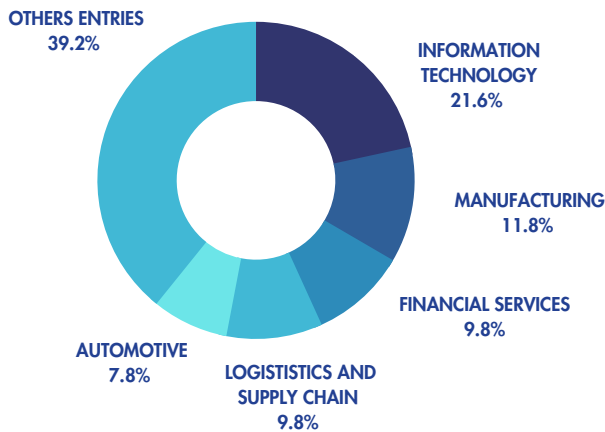
Furthermore, respondents were asked about digitalisation as a driver for sustainability – the overwhelming majority believe that digital transformation can support environmental goals, and in turn, that an Environmental, Social, and Corporate Governance (ESG) framework can accelerate digital transformation. As such, the findings from this questionnaire should drive a thorough understanding of the EUSDP's goals as they pertain to European organisations operating in Singapore, as well as the overall future of digitalisation within these companies.

EuroCham would like to thank each and every respondent for taking the time to respond to this survey. We value their openness and transparency in answering all relevant questions to drive an understanding of digitalisation. We are excited to continue informing on digitalisation in the near future.

RESPONDENT DEMOGRAPHICS

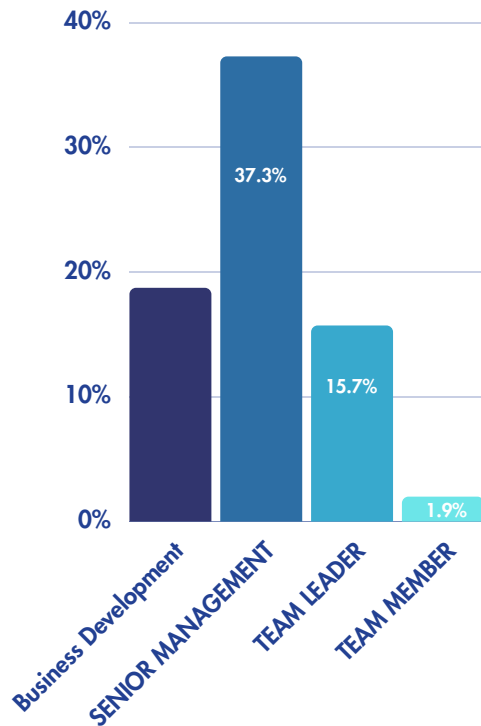
INDUSTRY BREAKDOWN

We received 51 responses from various organisations. 21.6% of the respondents are in the Information Technology (IT) sector, 11.8% specialise in manufacturing, 9.8% are localised to financial services, and 9.8% are in the logistics/ supply chain sector. 39.2% of the survey participants identified themselves as being in other industries, providing responses ranging from Food and Beverage to Real Estate.



There seems to be a range of industries represented in this particular sample of respondents. Furthermore, the respondents are fairly well distributed across categories, indicating that the responses are meaningful to a variety of corporations.

POSITION IN THE COMPANY

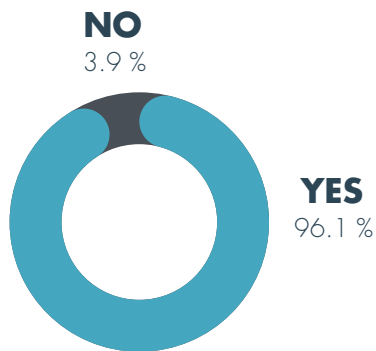


The majority of respondents are in senior positions at their companies. 45.1% of the respondents are in executive level positions – functioning as CFOs, CEOs, or Directors of their respective organisations. Accordingly, 37.3% of respondents are in senior management positions.

Therefore, the data from this survey has been garnered from individuals in leadership positions who can best speak to the present and future potential of digitalisation efforts within their organisations.

EUROPEAN UNION-SINGAPORE DIGITAL PARTNERSHIP

Would you welcome in the future a legally binding digital trade between the EU and Singapore?



The overwhelming majority of respondents (96.1%) would welcome a legally binding digital trade agreement between the EU and Singapore in the future.

If yes, rank the potential benefits of such an agreement in order of importance.

Respondents ranked the given options in order of their importance.

As such, respondents felt that paperless trading and e-payment systems would be the most important potential benefits of a legally binding digital trade agreement between the EU and Singapore. Cross-border data flows and preventing data localisation were also ranked highly as possible benefits of such an agreement. However, the participants ranked greater SME cooperation and digital identities as less important benefits of a legally binding digital trade agreement.

**MOST
IMPORTANT**

PAPERLESS TRADING

E-PAYMENT

CROSS-BORDER DATA FLOWS

PROHIBITING DATA LOCATION

ARTIFICIAL INTELLIGENCE

CYBERSECURITY

GREATER SME COOPERATION

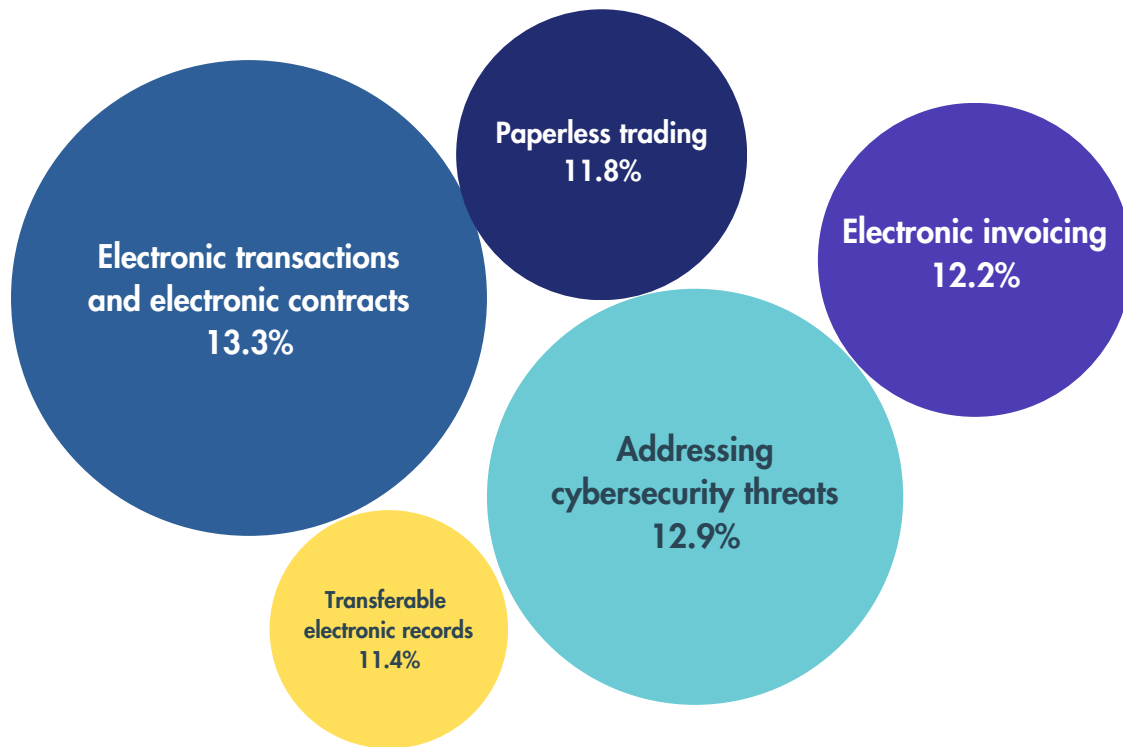
DIGITAL IDENTITIES

OTHERS

**LEAST
IMPORTANT**

EUROPEAN UNION-SINGAPORE DIGITAL PARTNERSHIP

Select 5 Digital Trade Principles of the EUSDP that are most important to your organisation.



Respondents were asked to choose five principles from the EUSDP that were most important to their organisation. The diagram above demonstrates the five principles that were selected most often. The other principles listed in the survey were:

- Free flow of protected data
- Regulation and collaboration on Artificial Intelligence
- Protection of source code and use of cryptography
- Single trade windows
- Online consumer protection
- Promoting open internet access

As the diagram demonstrates, respondents frequently highlighted the principles pertaining to digital trade as important – including electronic transactions and electronic contracts, electronic invoicing, paperless trading, and transferable electronic records. Respondents also indicated that addressing cyber-security threats was important to their organisations.

Interestingly, online consumer protection (4.3%) and promoting open internet access (4.3%) were least frequently chosen as important digital trade principles. This indicates that for the organisations surveyed, consumer-oriented principles were considered as less significant aspects of the EUSDP.

E-COMMERCE (*)

(*) E-commerce refers to transactions conducted electronically via the internet.

Does your business rely on e-commerce?

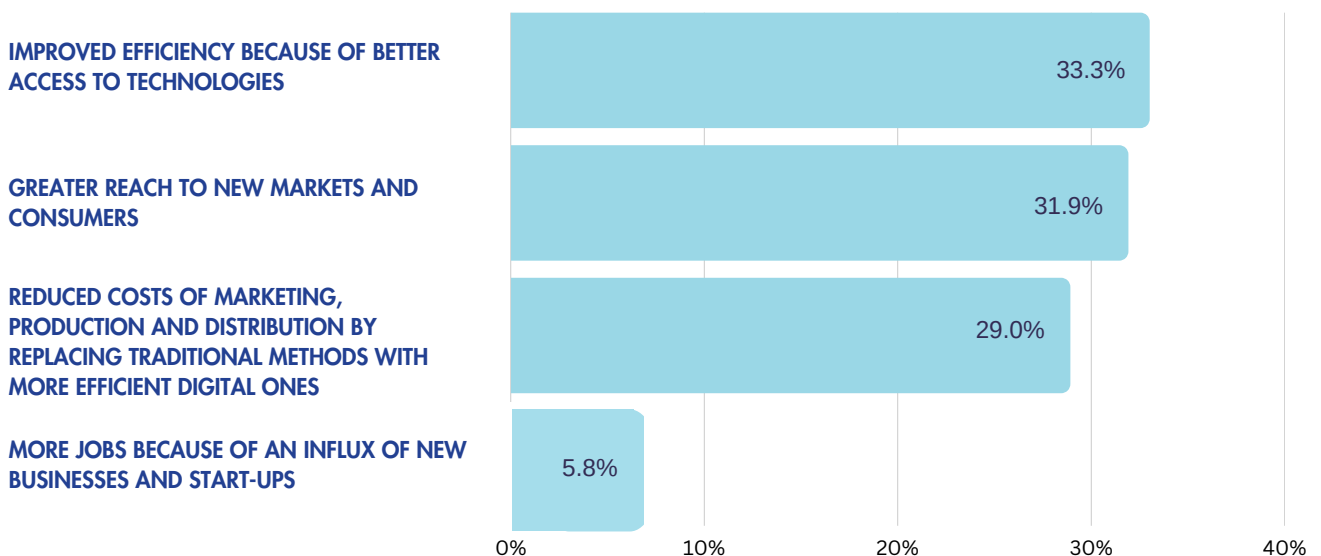


YES
45.1%

NO
54.9%

Slightly under half of the respondents (45.1%) rely on e-commerce as part of their business.

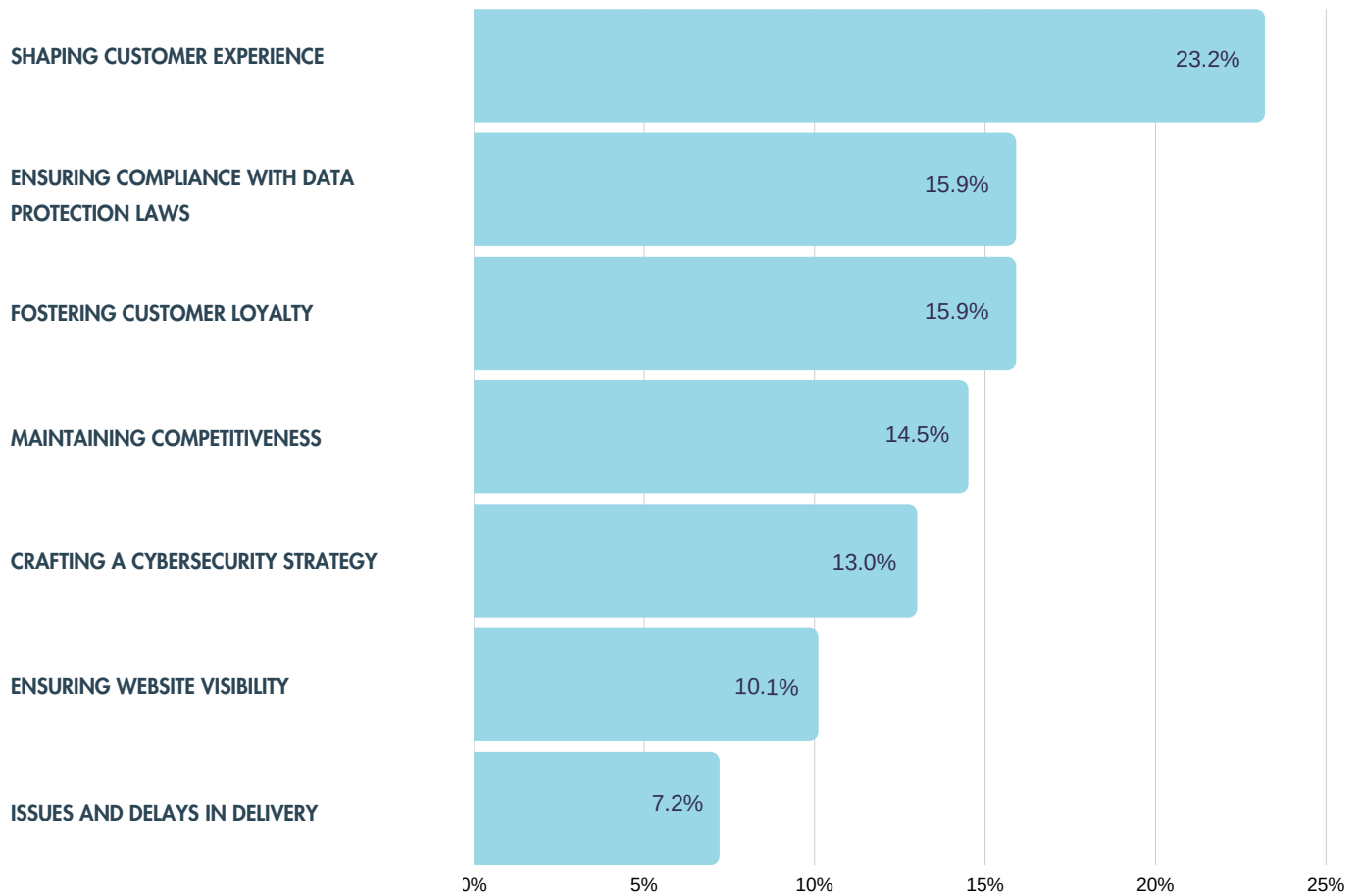
If yes, select 3 opportunities that e-commerce has brought to your business.



Around a third of respondents whose businesses rely on e-commerce indicated that e-commerce improved their efficiency, expanded their reach to new markets and customers, and reduced marketing, production, and distribution costs. Contrastingly, very few survey participants (5.8%) noted that e-commerce generated more jobs.

E-COMMERCE

If your business relies on e-commerce, select 3 challenges that e-commerce has brought to your business.



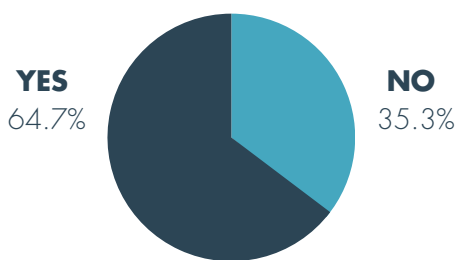
Of the respondents who indicated that their business was reliant on e-commerce, 23.2% noted that their businesses faced challenges with shaping customer experience.

Survey participants with e-commerce reliant businesses also highlighted ensuring compliance with data protection laws, fostering customer loyalty, and maintaining competitiveness as obstacles. Respondents selected website visibility as well as issues and delays in delivery less often as challenges related to e-commerce.

DIGITAL IDENTITIES(*)

(*) A digital identity is a body of information about a person, organisation, etc that allows for a computer to mediate relationships online. Businesses often use digital identities to be able to verify with whom they are transacting.

Does your business rely on digital identities?



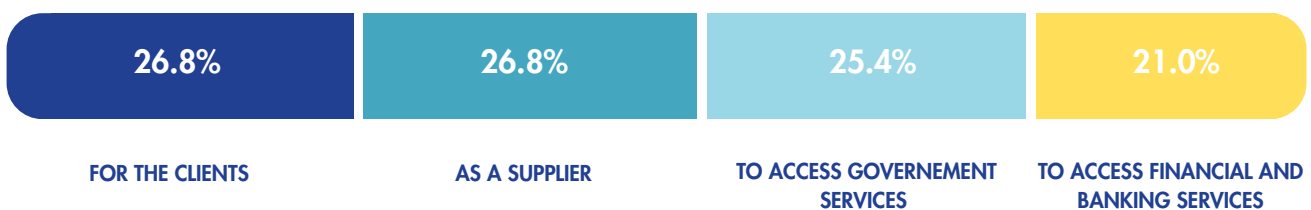
Our survey found that over half of the respondents' (64.7%) businesses rely on digital identities.

If yes, do you consider your current technological infrastructure sufficient to support the use of digital identities?



78.8% of the respondents whose businesses rely on digital identities indicated that they find their current technological infrastructure sufficient to support the use of digital identities.

If yes, in what form do you use digital identities?

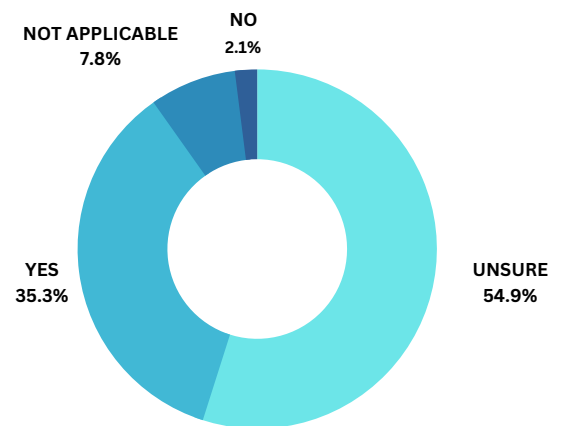


Of the businesses that rely on digital identities, 26.8% of respondents use digital identities for their clients and 26.8% use digital identities as a supplier. 25.4% use digital identities to access government services and 21.0% use these identities to access financial and banking services. The distribution of respondents across the various purposes for digital identities seems relatively even – indicating that there is no singular overwhelming use for digital identities.

DIGITAL IDENTITIES

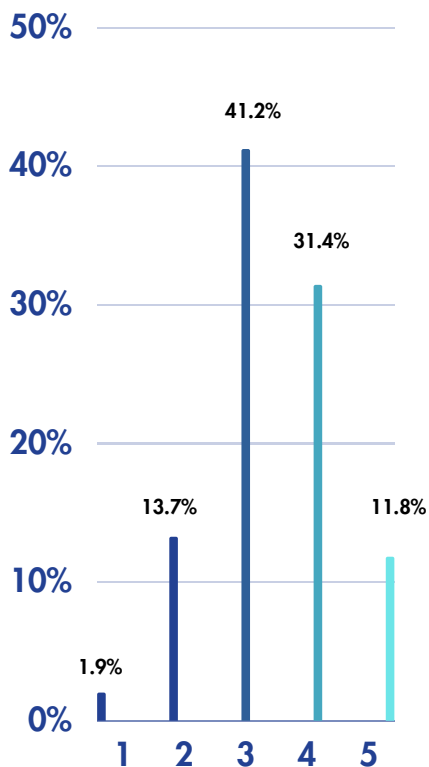
Would you support a regulation on blockchain enabled Direct Inward Dialling to route incoming calls to specific private branch systems without an operator?

Slightly over half of the respondents (54.9%) were unsure about supporting a regulation on blockchain enabled direct inward dialling that would route incoming calls to specific private branch systems without an operator. This could be because the question is relatively niche, or alternatively because the effects of such a regulation are relatively unknown.



How useful is blockchain enabled technology to your operations?

Rate from a scale of 1-5, with 1 being the least useful and 5 being the most useful.



Respondents were asked to rate blockchain enabled technology's utility.

The highest percentage of respondents (41.2%) rated utility as "3" indicating that blockchain-enabled technology is somewhat useful to their operations.

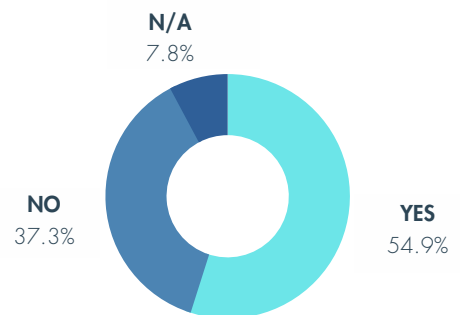
The distribution of answers is slightly skewed to the left, which means that more respondents rated blockchain technology as very useful as compared to not useful at all.

DIGITAL SKILLS(*)

(*) Digital skills are defined as the skills needed to use digital devices, communication platforms and networks to manage and access information.

Is your organisation challenged by the tech skills gap or shortage in Singapore?

Over half of the respondents (54.9%) reported that their organisations were challenged by the tech skills gap or shortage in Singapore. Over a third (37.3%) of those surveyed noted that they did not feel challenged by the tech skills gap or shortage.



If yes, select 3 prominent concerns about the tech skills gap or shortage in your organisation.

- 1 DATA ANALYTICS AND STATISTICS (29.7%)
- 2 COMPUTING AND ALGORITHMIC THINKING (27.4%)
- 3 CYBERSECURITY LITERACY (15.5%)
DIGITAL LITERACY (15.5%)
- 4 PROGRAMMING LITERACY (11.9%)

Respondents were asked to select three (out of the five options shown above) concerns relating to the divide or shortage in technological skills. Almost a third of survey participants mentioned being concerned with data analytics and statistics (29.7%) and computing and algorithmic thinking (27.4%).

This demonstrates the need for digital up-skilling in these particular areas. Our survey showed that cybersecurity and digital literacy were less significant concerns, with only 15.5% of respondents mentioning these respective skills as concerns within their organisation. Only 11.9% of survey participants indicated being concerned about the gap or shortage in programming literacy.

How often does your company send employees for digital upskilling?

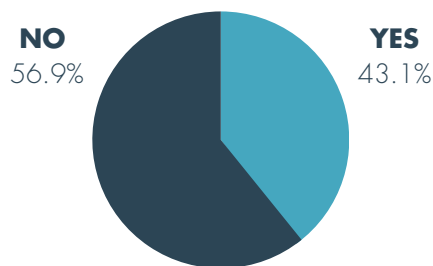


The majority of respondents (60.8%) reported sending their employees for digital upskilling "sometimes." Notably, 35.3% of respondents send their employees for digital upskilling "often" – indicating that some, although not all, companies are investing in empowering their employees with digital skills.

ARTIFICIAL INTELLIGENCE GOVERNANCE AND STANDARDS(*)

(*) Artificial Intelligence leverages machines and computers to mimic the problem solving and decision making capabilities of the human mind.

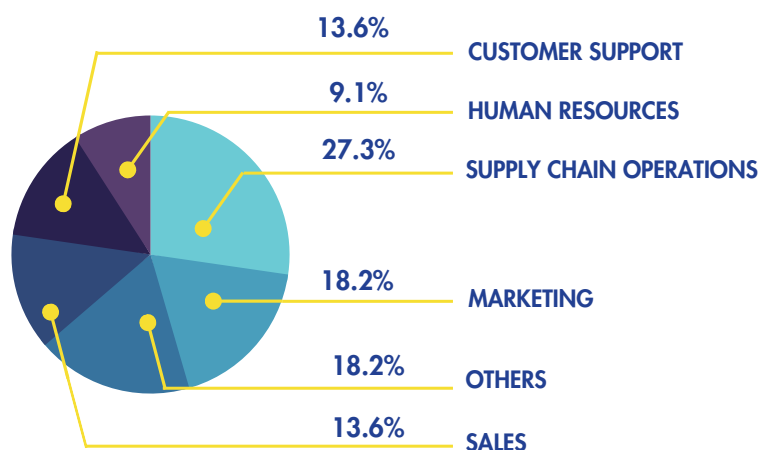
Does your business rely on Artificial Intelligence (AI) for its operations?



Amidst growing discussions about the applications for AI, our survey indicated that 43.1% of respondents' organisations currently rely on AI for their operations. We might expect a shift in this in the near future as more businesses obtain the technology and know-how to further the transition to AI.

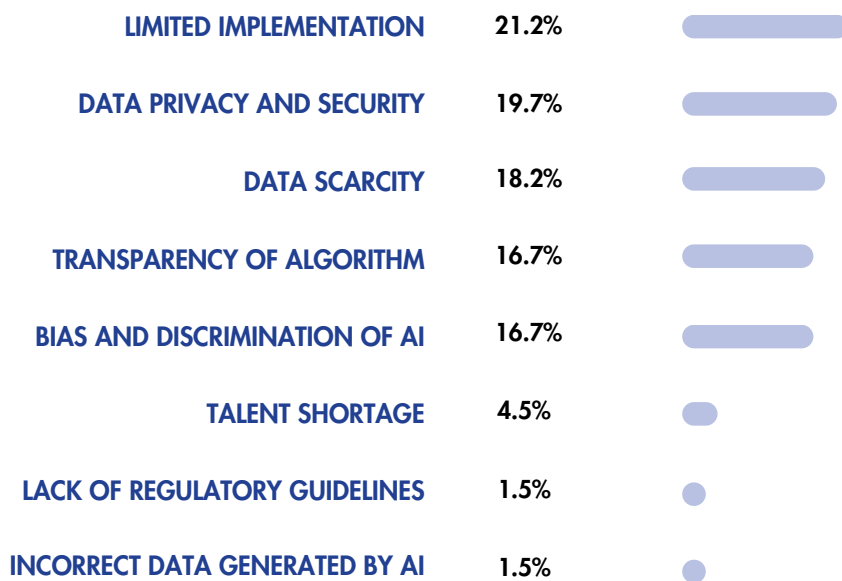
If yes, select the business area in which you most use this technology.

27.3% of the respondents who reported a reliance on AI selected supply chain operations as the area in which they most use AI technology. However, the distribution of AI usage across various business areas seems relatively even.



ARTIFICIAL INTELLIGENCE GOVERNANCE AND STANDARDS

If your business relies on AI, select 3 prominent challenges faced by your company in implementing AI systems.



For businesses that rely on AI, 21.2% of respondents said they faced issues with limited implementation. This could be for a variety of reasons.

- Initial costs
- Capital required to wield AI in business operations
- Lack of expertise
- Opacity around AI.

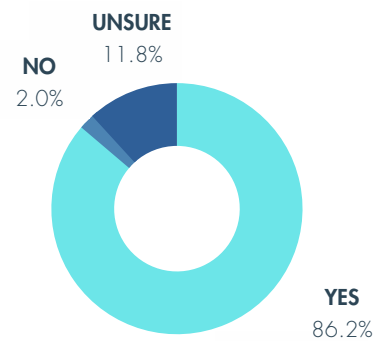
Interestingly, 19.7% of respondents cited data privacy and security as a challenge to implementing AI systems, and 18.2% claimed that data scarcity impeded their ability to use AI systems. Only very few businesses reliant on AI said that the lack of regulatory guidelines and incorrect data generation posed significant issues.

DIGITAL FOR SUSTAINABILITY(*)

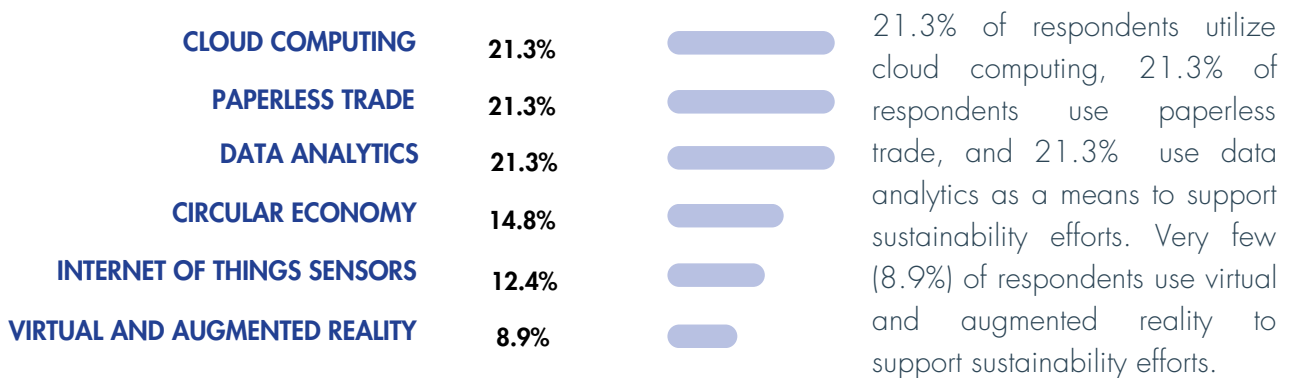
(*) Digital technologies can be used by businesses to reduce the environmental impact and to meet their sustainability goals.

Do you think that the drive towards digital transformation can support the environmental goals of your organisation?

The majority of respondents (86.2%) believe that the drive towards digital transformation can support the environmental goals of their organisation.



Select the digital technologies used by your company to support sustainability efforts.



Environmental, Social, and Corporate Governance (ESG) is a set of criteria used to evaluate a company's sustainability and ethical practices. Do you think an ESG framework can accelerate digital transformation efforts for your company?



The majority of respondents (76.5%) think that an ESG framework can accelerate digital transformation efforts.

This publication is supported by
EuroCham's Digital Economy Committee



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