ICT usage in enterprises 2024

10 or more employees

A. Access to and use of internet

1. Indicate an estimate of the percentage of the total number of persons employed who have access to the internet for business purposes.

Include employees who have access to the internet, but never use the internet and/or employees that at least sometimes use a computer, mobile phone, or similar, that allows internet access.

_____ **Share of employees (%)**

A1. Use of a fixed line connection to the internet for business purposes

Refers to connection at your workplace (or on the premises) to the internet that goes via, for example:

- Fixed line telephone network, e.g., DSL, ADSL, VDSL, or SDSL.
- Cable television network.
- Public wireless networks, e.g., public Wi-Fi, hotspots.

Wireless networks (such as Wi-Fi) are regarded as fixed connections, **assuming they are connected to a fixed connection.**

2. Does your enterprise use any type of *fixed line connection* to the internet?

☐ Yes

☐ No

3. What is the maximum contracted download speed of the fastest fixed line internet connection of your enterprise?

If you have fixed line connections at multiple addresses, select the speed of the fastest connection.

The contracted download speed may be specified on your **invoice.**

☐ Less than 30 Mbit/s

☐ At least 30 but less than 100 Mbit/s

☐ At least 100 but less than 500 Mbit/s

☐ At least 500 but less than 1 Gbit/s

☐ At least 1 Gbit/s

4. Is the speed of the enterprise's fixed connection to the internet usually sufficient for the actual needs of the enterprise?

☐ Yes

☐ No

A2. Remote access and meetings via the internet

5. Do any of the persons employed have remote access to the following?

Via computers or portable devices such as smartphones.

	Yes	No
a) E-mail system of the enterprise.	☐	☐
b) Documents of the enterprise e.g. files, spreadsheets, presentations charts, photos.	☐	☐
c) Business applications or software of the enterprise e.g. access to accounting, sales, orders, CRM. iii	☐	☐

iii Exclude applications used for internal communication, for example Skype, Teams etc.

6. Does your enterprise conduct remote meetings?

For example via Skype, Zoom, MS Teams, WebEx.

☐ Yes

☐ No

B. E-Commerce sales

E-commerce sales means:

- Customers order/book directly on a website, app, or EDI-type of messages using methods specifically designed to receive orders. Payment does not have to be made online.
- Internal handling of orders does not need to be automated.

Do not include orders/bookings received via manually written e-mail, telephone, text message or via messages on social media.

Please report web sales in section B1 and EDI sales in section B2. They are defined by the way the customer places the order:

- **B1. Web sales**: the customer places the order on a **website or via an app**.
- **B2. EDI types of orders**: an EDI order is created in the customer's business system and orders are made by companies to companies (B2B).

B1. Web sales of goods or services

Web sales cover orders, bookings and reservations placed by your customers via:

- Enterprise's websites or apps:
  - online store (webshop)
  - web forms
  - extranet (webshop or web forms)
  - booking/reservation applications for services
  - apps for mobile devices or computers.
- E-commerce marketplace websites or apps (used by several enterprises for trading goods or services) e.g., Amazon, Booking, Bookatable, Bokadirekt, Foodora.

Note web sales also refers to digital bookings of appointments for e.g., haircut, car service, restaurant table.

Do not include orders/bookings received via manually sent e-mail, telephone, text message or via messages on social media.

7. During 2023, did your enterprise have web sales of goods or services via:

	Yes	No

a)	enterprise's own website / app or joint website / app in your enterprise group, franchise, or company chain.	☐	☐
b)	an e-commerce site where several enterprises sell, e.g., Amazon, Booking, Bookatable, Bokadirekt, Foodora.	☐	☐

8. During 2023, what *percentage of total turnover* was generated by web sales iii of goods or services?

If you cannot provide the exact percentage an approximation will suffice.

_____ **% of enterprise´s total turnover**

iii Web sales cover orders, bookings and reservations placed by your customers via:

- Enterprise's websites or apps e.g., online store (webbshop), web forms, extranet
- E-commerce marketplace websites or apps (used by several enterprises for trading goods or services) e.g., Amazon, Booking, Bookatable, Bokadirekt, Foodora.

9. During 2023, what was the percentage breakdown of the value of *web sales* for the following:

Answer based on the answer to question 8. If exact information is missing, an estimate is sufficient.

a)	enterprise's **own** website / app or **joint** website / app in your enterprise group, franchise, or company chain.	_____ %
b)	an e-commerce site where **several enterprises sell**, e.g., Amazon, Booking, Bookatable, Bokadirekt, Foodora.	_____ %
	N.B. the total sum of (a) and (b) should add upp to 100 %	_____ %

10. During 2023, what was the percentage breakdown of the value of web sales by type of customer:

Answer based on the answer to question 8. If exact information is missing, an estimate is sufficient.

a) sales to private consumers **(B2C).**	_____ %
b) sales to other enterprises **(B2B)** and Sales to public sector **(B2G).**	_____ %
N.B. the total sum of (a) and (b) should add upp to 100 %	_____ %

11. During 2023, did your enterprise have web sales to customers located in the following geographic areas?

	Yes	**No**
a) Sweden	☐	☐
b) Other EU countries iii	☐	☐
c) Rest of the world	☐	☐

iii List of EU countries

In addition to Sweden, the EU consists of Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Croatia, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, the Czech Republic, Germany, Hungary and Austria.

B2 EDI-type sales

Refers to orders placed by the enterprise’s customers via EDI-type messages (Electronic Data interchange):

- Orders are sent from customers' business systems in an agreed format or standard formats suitable for automated processing.
- The order is a file in a format that a computer can process with special software. Examples of EDI format: EDIFACT and of XML format: UBL.
- The file is processed fully or partially automatically. Files in XML format can also be processed manually. Include files that went directly into the business system.

N.B. customers can possibly send the orders through another enterprise, which technically adapts the orders so that you can receive them.

12. During 2023, did your enterprise have EDI-type sales of goods or services?

☐ Yes

☐ No

13. During 2023, what percentage of total turnover was generated by EDI-type sales of goods or services?

If you cannot provide the exact percentage an approximation will suffice.

_____ **% of enterprise´s total turnover**

C. ICT specialists and skills

14. Does your enterprise employ ICT specialists?

Employees whose main tasks revolve around ICT. For example, software support, operation and maintenance of ICT systems or applications, development of ICT systems, applications, web pages.

☐ Yes

☐ No

iii Examples of occupations

Here are some examples of names of professions based on the Standard for Swedish Occupational Classification (SSYK).

- Software, web or system developers
- M.Sc. information technology, computer technology, hardware, electronics
- Support technician, IT
- Data techniques
- Network techniques
- System technician, IT
- Operation technician, data
- IT Manager
- Service technician, data
- Computer repair
- Graphic designer
- Interactive designer
- IT teacher
- Network or database administrator
- Technical salesman in IT

15. During 2023, did your enterprise provide any type of training (internal or external) to develop ICT-related skills of the persons employed?

Refers to professionally designed training with internal or external trainer, instructor or teacher. Also, include online training.

	Yes	No
a) Training for ICT specialist	☐	☐
b) Training for other persons employed iii	☐	☐

iii E.g.
- Training in standard word processing or calculation programs
- use of enterprise applications or systems,
- use of programs or systems to control machines or equipment in industry, commerce, healthcare.

16. During 2023, did your enterprise recruit or try to recruit ICT specialists?

Refers to recruitment of employees for whom ICT is the main job.

☐ Yes

☐ No

17. During 2023, did your enterprise have vacancies for ICT specialists that were difficult to fill?

☐ Yes

☐ No

18. During 2023, did your enterprise have any of the following difficulties to recruit ICT specialists?

	Yes	No
a) Lack of applications.	☐	☐
b) Applicants' lack of relevant ICT-related qualifications from education and/or training.	☐	☐
c) Applicants' lack of relevant work experience.	☐	☐
d) Applicants' salary expectations too high.	☐	☐

19. During 2023, who performed your enterprise's ICT functions?

E.g., maintenance of ICT infrastructure; support for office software, development, or support of business management software/systems and/or web solutions, security and data protection.

	Yes	No
a) Own employees (incl. those employed in parent or affiliate enterprises).	☐	☐
b) External suppliers (e.g. consultants or via service agreements).	☐	☐

D. ICT Security

Measures, practises, and procedures applied to the ICT securty systems or ICT services in order to ensure confidentiality, accuracy and availability of data.

D1. ICT security measures

20. Does your enterprise apply any of the following ICT security measures on its ICT systems?

Refers to measures applied by your enterprise or by another enterprise.

	Ja	Nej
a) Authentication via strong password (e.g., minimum lenght, use of numbers and special characters, changed periodically).	☐	☐
b) Authentication via biometric methods used to access the enterprise's ICT system (e.g., authentication based on fingerprints, voice recognition, face recognition).	☐	☐
c) Identifiering baserad på en kombination av minst två andra identifikationssätt. iii	☐	☐

d)	Encryption of data, documents, or e-mails. iii	☐	☐
e)	Data backup to a separate location, including backup to the cloud.	☐	☐
f)	Network access control to the enterprise's network (i.e. management of user rights in enterprise's network).	☐	☐
g)	VPN (Virtual Private Network is a technology that extends a private network across a public network to enable secure exchange of data over a public network).	☐	☐
h)	ICT security monitoring system that allows to detect suspicious activity in the ICT systems and alerts the enterprise about it, other than anti-virus software. iii	☐	☐
i)	Maintaining log files that enable analysis after ICT security incidents. iii	☐	☐
j)	ICT risk assessment, i.e., periodical assessment of probability and consequences of ICT security incidents.	☐	☐
k)	ICT security tests (e.g. performing penetration tests, testing security alert system, review of security measures, testing of backup systems).	☐	☐

iii 20c) A combination of e.g., user-defined password, one-time password (OTP), code generated via a security token or received via a smartphone, biometric method (e.g., based on fingerprints, voice, face)).

iii 20d) Information encrypted to prevent unauthorized parties from reading the informations. Authirized parties can read the information as usual without checking the encryption.

iii 20h) Refers to e.g., intrusion detection or prevention systems that monitors users' or devices' behaviour, network traffic.

iii 20i)

- Logg files record activities, processes, and incidents that together describe the computer's work.
- Logg files can be used to search for errors or to track cyberattacks.
- Log files have corresponding functions for servers, mobile phones etc.

21. Does your enterprise make persons employed aware of their obligations in ICT security related issues in the following ways?

	Yes	No
a) Voluntary training or internally available information, e.g., information on the intranet.	☐	☐
b) Compulsory training courses or viewing compulsory material.	☐	☐
c) By contract, e.g., contract of employment.	☐	☐

22. Does your enterprise have document(s) on measures, practices or procedures on ICT security?

Documents on ICT security and confidentiality of data cover employee training in ICT use, ICT security measures, the evaluation of ICT security measures, plans for updating ICT security documents, etc.

☐ Yes

☐ No

D2 Incidents related to ICT operations or ICT security

23. During 2023, did your enterprise experience any ICT related security incident leading to the following consequences?

	Yes	No
a) Unavailability of ICT services due to hardware or software failures.	☐	☐
b) Unavailability of ICT services due to attack from outside, e.g., ransomware attacks, Denial of Service attacks.	☐	☐
c) Destruction or corruption of data due to hardware or software failures.	☐	☐
d) Destruction or corruption of data due to infection of malicious software or unauthorised intrusion.	☐	☐
e) Disclosure of confidential data due to intrusion, pharming, phishing attack, intentional actions by own employees.	☐	☐

f) Disclosure of confidential data due to unintentional actions by own employees.	☐	☐

E. Artificiell intelligens

Artificial intelligence (AI) refers to systems that use technologies such as: **text mining, computer vision, speech recognition, natural language generation, machine learning and deep learning.** The technology can be used to both collect data and utilize data to predict, recommend, or decide, with varying degrees of autonomy, the best course of action to achieve specific goals.

Artificial intelligence systems **can be purely software based**, e.g.:

- Chatbots and business virtual assistants based on natural language processing.
- Face recognition systems based on computer vision or speech recognition systems.
- Machine translation software.
- Data analysis based on machine learning.

or **embedded in devices**, e.g.:

- Autonomous robots for warehouse automation or production assembly works.
- Autonomous drones for production surveillance or parcel handling.

24. Does the enterprise use any of the following Artificial Intelligence technologies?

	Yes	No
a) AI technologies performing analysis of written language (text mining).	☐	☐
b) AI technologies converting spoken language into machine-readable format (speech recognition).	☐	☐
c) AI technologies generating written or spoken language (natural language generation).	☐	☐
d) AI technologies identifying objects or persons based on images (image recognition, image processing).	☐	☐
e) Machine learning (e.g. deep learning) for data analysis.	☐	☐
f) AI technologies automating different workflows or assisting in decision making (AI based software robotic process automation).	☐	☐

g) AI technologies enabling physical movement of machines via autonomous decisions based on observation of surroundings (autonomous robots, self-driving vehicles, autonomous drones).	☐	☐

25. Does your enterprise use AI-based software or systems for any of the following purposes?

	Yes	No
a) Use of AI for marketing or sales. iii iii • Customer profiling, price optimisation, personalised marketing offers, market analysis based on machine learning. • Chatbots based on natural language processing for customer support. • Autonomous robots for orders processing.	☐	☐
b) Use of AI for production or service processes. iii iii • Predictive maintenance based on machine learning. • Tools to classify products or find defects in products based on computer vision. • Autonomous drones for production surveillance, security or inspection tasks. • Assembly works performed by autonomous robots.	☐	☐
c) Use of AI for organisation of business administration processes. iii iii • Business virtual assistants based on machine learning and/or natural language processing. • Data analysis or strategic decision-making, e.g. risk assessment based on machine learning. • Planning or business forecasting based on machine learning. • Human resources management based on machine learning or natural language processing, e.g. pre-selection screening of candidates, employee profiling or job performance analysis.	☐	☐
d) Use of AI for logistics. iii iii • Autonomous robots for pick-and-pack solutions in warehouses. • Route optimisation based on machine learning. • Autonomous robots for parcel shipping, tracking, distribution and sorting. • Autonomous drones for parcel deliveries.	☐	☐
e) Use of AI for IT security. iii iii • Facial recognition based on computer vision for authentication of ICT users • Detection and prevention of cyberattacks based on machine learning.	☐	☐
f) Use of AI for accounting, controlling or finance management. iii iii • Machine learning to analyse data as an aid in financial decision-making. • Invoice processing based on machine learning. • Machine learning or natural language processing for bookkeeping.	☐	☐

g) Use of AI for research and development (R&D) or innovation activity. iii iii • Analysis of data for conducting research, solving research-related problems, developing a new or improved product/service based on machine learning.	☐	☐

26. How did your enterprise acquire the Artificial Intelligence software or systems that it uses?

	Yes	No
a) They were developed by own employees (including those employed in parent or affiliate enterprise).	☐	☐
b) Commercial software or systems were modified by own employees (including those employed in parent or affiliate enterprise).	☐	☐
c) Open-source software or systems were modified by own employees (including those employed in parent or affiliate enterprise).	☐	☐
d) Commercial software or systems ready to use were purchased (including examples where it was already incorporated in a purchased item or system).	☐	☐
e) External providers were contracted to develop or modify them.	☐	☐

27. Has your enterprise ever considered using any of the Artificial Intelligence technologies listed in question 24?

Click on "Show more information" to see what is listed in question 24. iii

☐ Ja

☐ Nej

iii

- Text mining
- Speech recognition

- Natural language generation
- Image recognition, image processing
- Machine learning e.g. deep learning
- AI-based automation of different workflows or AI-based decision making
- Autonomous robots, self-driving vehicles, autonomous drones

28. What are the reasons for your enterprise not to use any of the Artificial Intelligence technologies listed in question 24?

Click on "Show more information" to see what is listed in question 24. iii

	Yes	No
a) The costs seem too high.	☐	☐
b) There is a lack of relevant expertise in the enterprise.	☐	☐
c) Incompatibility with existing equipment, software, or systems.	☐	☐
d) Difficulties with availability or quality of the necessary data.	☐	☐
e) Concerns regarding violation of data protection and privacy.	☐	☐
f) Lack of clarity about the legal consequences (e.g., liability in case of damage caused by the use of Artificial Intelligence).	☐	☐
g) Ethical considerations.	☐	☐
h) Artificial Intelligence technologies are not useful for the enterprise.	☐	☐

iii

- Text mining
- Speech recognition
- Natural language generation
- Image recognition, image processing
- Machine learning e.g. deep learning
- AI-based automation of different workflows or AI-based decision making
- Autonomous robots, self-driving vehicles, autonomous drones

F. ICT and the environment

29. Does your enterprise apply any measured to affect the following?

	Yes	No

a) Amount of paper used for printing and copying.	☐	☐
b) Energy consumption of the ICT equipment.	☐	☐

30. Does your enterprise consider environmental impact of ICT services, or ICT equipment when selecting them?

For example, by evaluating the energy consumption of the ICT service/equipment etc.

☐ Yes

☐ No

31. What does your enterprise do with ICT equipment when it is no longer used?

Refers to e.g., computers, monitors, mobile phones.

	Yes	No
a) It is disposed of in electronic waste collection/recycling or returned to the retailer to dispose of.	☐	☐
b) The ICT equipment is kept in the enterprise in order to be used as spare parts or in fear of disclosing sensitive information.	☐	☐
c) It is sold, returned to a leasing enterprise, or donated.	☐	☐

X. Background information

X1. Main economic activity of the enterprise, during 2023

X2. Average number of employees and self-employed persons (persons employed), during 2023

X3. Total turnover (in monetary terms, excluding VAT), for 2023