COMMUNITY SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES
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Statistics Norway

Module	Description
A	**Access and use of the internet**
	Access to the internet
	Use of a fixed line connection to the internet for business purposes
	Use of a mobile connection to the internet for business purposes
	Remote access and meetings via the internet
	Other use of internet
B	**e-Commerce sales**
	Web sales of goods or services
	EDI-type sales
C	**ICT specialists and skills**
D	**ICT security**
E	**Artificial Intelligence**
F	**Use of government authorities' data**

Module A: Access and use of the internet

(Scope: all enterprises)

A1	**How many persons employed have access to the internet for business purposes?** (including fixed line, fixed wireless and mobile telephone network connection) (Filter question)	
	please indicate an estimate of the percentage of the total number of persons employed who have access to the internet for business purposes	⌐_⌐_⌐_⌐ % If the value=0, go to **C1**

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

A2.	**Does your enterprise use any type of fixed connection to the internet?** (e.g. ADSL, SDSL, VDSL, fiber optics technology (FTTP), cable technology, fixed wireless) *(Add national examples)* (Filter question)	**Yes ☐**	**No ☐** ->go to **A5**
A3.	**What is the maximum contracted download speed of the fastest fixed internet connection of your enterprise?** *(additional categories at national level can be added, if needed)* *(Tick only one)*		

a) less than 30 Mbit/s	☐
b) at least 30 but less than 100 Mbit/s	☐
c) at least 100 Mbit/s but less than 500 Mbit/s	☐
d) at least 500 Mbit/s but less than 1 Gbit/s	☐
e) at least 1 Gbit/s	☐

A4.	**Is the speed of your fixed connection(s) to the internet usually sufficient for the actual needs of the enterprise?**	**Yes ☐**	**No ☐**

Use of a mobile connection to the internet for business purposes

The following question refers to the usage of portable devices connecting to the internet through mobile telephone networks for business purposes. This includes the use of devices where the

	enterprise provides the devices and pays for the subscription and the costs of use fully or at least up to a limit.	
A5.	**How many persons employed use a <u>portable device</u> provided by the enterprise, that allows connection to the internet via mobile telephone networks, for business purposes?** (e.g. portable computers or other portable devices such as smartphones)	
	please indicate an estimate of the percentage of the total number of persons employed who use a <u>portable device</u> provided by the enterprise, that allows connection to the internet via mobile telephone networks, for business purposes (e.g. portable computers, or other portable devices such as smartphones)	☐ ☐ ☐ %

Remote access and meetings via the internet

(Scope: enterprises with access to the internet, i.e. if A1>0)

A6.	**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) *Please exclude applications used for internal communication, e.g. Skype, MS Teams, Yammer.*	☐	☐

A7.		**Yes**	**No**
	Does your enterprise conduct remote meetings (via e.g. Skype, Zoom, MS Teams, WebEx)?	☐	☐

Other use of the internet

A8.	**Does your enterprise pay to advertise on the internet?** (e.g. adverts on search engines, on social media, on other websites or apps) (Filter question)	**Yes** ☐	**No** ☐ ->go to **B1**
A9.	**Does your enterprise pay to advertise on the internet using any of the following targeted advertising methods?**	**Yes**	**No**
	a) Based on content or keywords searched by internet users	☐	☐
	b) Based on the tracking of internet users' past activities or profile	☐	☐

	Yes	No
c) Based on the geolocation of internet users	☐	☐
d) Any other method of targeted advertising on the internet not specified above	☐	☐

Module B: e-Commerce sales

(Scope: enterprises with access to the internet, i.e. if A1>0)

In e-commerce sales of goods or services, the order is placed via web sites, apps or EDI-type messages (EDI: Electronic Data interchange) by methods specifically designed for the purpose of receiving orders.

The payment may be done online or offline.

e-Commerce **does not include** orders written in e-mail.

Please report **web and EDI-type sales separately**. They are defined by the method of placing the order**:**

- WEB sales: the **customer** places the order on a website or through an app;
- EDI type sales: **an EDI-type order message is created from the business system of the customer.**

Web sales of goods or services

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

- your enterprise's **websites or apps:**
    - o online store (webshop);
    - o web forms;
    - o extranet (webshop or web forms) ;
    - o booking/reservation applications for services;
    - o apps for mobile devices or computers;
- **e-commerce marketplace websites or apps** (used by several enterprises for trading goods or services).

Orders written in e-mail are **not** counted as web sales.

B1.	During 2023, did your enterprise have web sales of goods or services via:	Yes	No
	a) your enterprise's websites or apps? (including extranets)	☐	☐
	b) e-commerce marketplace websites or apps used by several enterprises for trading goods or services? (e.g. e-Bookers, Booking, hotels.com, eBay, Amazon, Amazon Business, Alibaba, Rakuten, TimoCom) *[Please add national examples of e-commerce marketplaces incl. government marketplaces]*	☐	☐

If both B1 a) and B1 b) = "No" then go to B8
B2.   **What was the value of your web sales?**

	(please refer to the provided definition of web sales)

	b) What percentage of total turnover was generated by web sales of goods or services, in 2023? *If you cannot provide the exact percentage an approximation will suffice.*	⊔ ⊔ ⊔ %

	Question B3 should be answered only if both B1 a) <u>and</u> B1 b) = "Yes"	
B3.	**What was the percentage breakdown of the value of web sales in 2023 for the following:** (Please refer to value of web sales you reported in B2) *If you cannot provide the exact percentages an approximation will suffice.*	
	a) via your enterprise's websites or apps? (including extranets)	⊔ ⊔ ⊔ %
	b) via e-commerce marketplace websites or apps used by several enterprises for trading goods or services? **(**e.g. e-Bookers, Booking, hotels.com, eBay, Amazon, Amazon Business, Alibaba, Rakuten, TimoCom)	⊔ ⊔ ⊔ %
	TOTAL	**1 0 0** %

	What was the percentage breakdown of the value of web sales in 2023 by type of customer: (Please refer to value of web sales you reported in B2) *If you cannot provide the exact percentages an approximation will suffice.*	
B4.	a) Sales to private consumers (**B2C**)	⊔ ⊔ ⊔ %
	b) Sales to other enterprises (**B2B**) and Sales to public sector (**B2G**)	⊔ ⊔ ⊔ %
	TOTAL	**1 0 0** %

B5.	**During 2023, did your enterprise have web sales to customers located in the following geographic areas?**	**Yes**	**No**
	a) Own country	☐	☐
	b) Other EU countries	☐	☐
	c) Rest of the world	☐	☐

B6.	What was the percentage breakdown of the value of web sales in 2023 to customers located in the following geographic areas? (Please refer to value of web sales you reported in **B2**) *If you cannot provide the exact percentages an approximation will suffice.*	
	a) Own country	☐ ☐ ☐ %
	b) Other EU countries	☐ ☐ ☐ %
	c) Rest of the world	☐ ☐ ☐ %
	TOTAL	**1 0 0** %

EDI-type sales

EDI-type sales cover **orders placed** by customers via EDI-type messages (EDI: Electronic Data interchange) meaning:

- in an **agreed or standard format** suitable for automated processing;
- EDI-type order message created from the **business system** of the customer;
- including orders transmitted via EDI-service provider;
- including automatic system generated **demand driven orders**;
- including orders received directly into your **ERP** system.

Examples of EDI: EDIFACT, XML/EDI (e.g. UBL, Rosettanet, *[please add national examples]*).

B7.	During 2023, did your enterprise have EDI-type sales of goods or services? (Filter question)	**Yes** ☐	**No** ☐ -> go to **C1**

B8.	What was the value of your EDI-type sales? (please refer to the provided definition of EDI-type sales)	
	What percentage of total turnover was generated by EDI-type sales of goods or services, in 2023? *If you cannot provide the exact percentage an approximation will suffice.*	☐ ☐ ☐ %

	Module C: ICT specialists and skills (Scope: all enterprises)		
C1.	**Does your enterprise employ ICT specialists?** ICT specialists are persons employed for whom **ICT is the main job.** For example, to develop, operate or maintain ICT systems or applications.	**Yes** ☐	**No** ☐
C2.	**Did your enterprise provide any type of training to develop ICT related skills of the persons employed, during 2023?**	**Yes**	**No**
	a) Training for ICT specialists *Tick "No" if your enterprise didn't employ ICT specialists during 2023.*	☐	☐
	b) Training for other persons employed	☐	☐
C3.	**Did your enterprise recruit or try to recruit ICT specialists during 2023?** (Filter question)	**Yes** ☐	**No** ☐ ->go to **C6**
C4.	**During 2023, did your enterprise have vacancies for ICT specialists that were difficult to fill?**	**Yes** ☐	**No** ☐ ->go to **C6**
C5.	**Did your enterprise have any of the following difficulties to recruit ICT specialists during 2023?**	**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	☐	☐
C6.	**Who performed your enterprise's ICT functions in 2023** (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	☐	☐

Module D: ICT Security

(Scope: enterprises with access to the internet, i.e. if A1>0)

ICT security means measures, controls and procedures applied on enterprise's ICT systems to ensure integrity, authenticity, availability and confidentiality of enterprise's data and systems.

D1.	Does your enterprise apply any of the following ICT security measures on its ICT systems?	Yes	No
	a) authentication via **strong password** (e.g. minimum length, 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, face)	☐	☐
	c) authentication **based on** a combination of **at least two authentication mechanisms** (i.e. 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))	☐	☐
	d) Encryption of data, documents or e-mails	☐	☐
	e) Data backup to a separate location (including backup to the cloud)	☐	☐
	f) Network access control (management of user rights in enterprise's network)	☐	☐
	g) VPN (Virtual Private Network extends a private network across a public network to enable secure exchange of data over public network)	☐	☐
	h) ICT security monitoring system used to detect suspicious activity (e.g. intrusion detection or prevention systems that monitors users' or devices' behaviour, network traffic) ** Please exclude antivirus software and default firewall solution included in the operating system of personal computers and routers.*	☐	☐
	i) Maintaining log files that enable analysis after ICT security incidents	☐	☐
	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)	☐	☐

D2.	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)	☐	☐

D3.	Does your enterprise have document(s) on measures, practices or procedures on ICT security? (Filter question) (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**☐ ->go to **D5**

D4.	When were your enterprise's document(s) on measures, practices or procedures on ICT security, defined or most recently reviewed? (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.) *(Tick only one)*	
	*[1]a) within the last 12 months	☐
	b) more than 12 months and up to 24 months ago	☐
	c) more than 24 months ago	☐

D5.	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	☐	☐

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[1] Formulation in the national questionnaires should correspond to: a) <= 12 months; b) > 12 months and <= 24 months; and c) more than 24 months

Module E: Artificial Intelligence

(Scope: enterprises with access to the internet, i.e. if A1>0)

Artificial intelligence refers to systems that use technologies such as: **text mining, computer vision, speech recognition, natural language generation, machine learning, deep learning** to gather and/or use data to predict, recommend or decide, with varying levels of autonomy, the best 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.

E1.	Does your enterprise use any of the following Artificial Intelligence (AI) technologies?	Yes	No
	a) AI technologies performing analysis of written language (e.g. 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, speech synthesis)	☐	☐
	d) AI Technologies identifying objects or persons based on images or videos (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 (e.g. **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)	☐	☐

E1 a) to g) = "No" then go to E6

E2.	Does your enterprise use Artificial Intelligence software or systems for any of the following purposes?	Yes	No
	a) **Use of AI for marketing or sales** some of the examples may be: • 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** some of the examples may be: • predictive maintenance or process optimization 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	☐	☐

		Yes	No
	c) Use of **AI for organisation of business administration processes or management** some of the examples may be: • business virtual assistants based on machine learning and/or natural language processing, e.g. for document drafting • data analysis or strategic decision making based on machine learning, 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. candidates pre-selection screening, employee profiling or performance analysis	☐	☐
	d) Use of **AI for logistics** some of the examples may be: • autonomous robots for pick-and-pack solutions in warehouses for parcel shipping, tracing, distribution or sorting • route optimization based on machine learning	☐	☐
	e) Use of **AI for ICT security** some of the examples may be: • face recognition based on computer vision for authentication of ICT users • detection and prevention of cyber-attacks based on machine learning	☐	☐
	f) Use of **AI for accounting, controlling or finance management** some of the examples may be: • machine learning to analyse data that helps to make financial decisions • invoice processing based on machine learning • machine learning or natural language processing used for bookkeeping tasks	☐	☐
	g) Use of **AI for research and development (R&D) or innovation activity** (excluding research on AI) some of the examples may be: • analysis of data for conducting research, solving research problems, developing a new or significantly improved product/service based on machine learning	☐	☐

		Yes	No
E3.	**How did you 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	☐	☐

E4.	**Does your enterprise process data on individuals using AI technologies?** Some of examples of data on individuals (e.g. employees, job applicants or customers) are: sex, age, racial or ethnic origin, disability, religion or belief, sexual orientation, facial images, record of purchases, occupation or address.	**Yes ☐**	**No ☐** -> go to **F1**

If E4=Yes

E5.	**Does your enterprise have any measures to check the results generated by AI technologies for possible biases towards individuals based on sex, age, racial or ethnic origin, disability, religion or belief or sexual orientation?** Some of examples of measures to check for possible bias: • analysing the results of various machine learning models • examining the dataset that was used to train the machine learning model • data augmentation (which involves techniques to artificially generate additional data points from existing data, i.e. synthetic data)	**Yes ☐**	**No ☐**

Questions E6 is presented only to respondents who answered 'No' to E1a)-g) i.e. enterprises that did not use any of the Artificial Intelligence technologies listed in question E1.

E6.	**Has your enterprise ever considered using any of the Artificial Intelligence technologies listed in question E1?** *(Filter question)*	**Yes ☐**	**No ☐** -> go to **F1**
E7.	**What are the reasons for your enterprise not to use any of the Artificial Intelligence technologies listed in question E1?**	**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	☐	☐

Module F Use of government authorities' data

F.1 Does your enterprise use government authorities' data?

Answers: Yes/No
(Filter question. IF Yes-> Go to F4. IF No -> go to F2)

F.2 Even if your enterprise does not use data from public enterprises, does your enterprise still has a need to use government authorities' data?
(Scope: F.1 = No)

Answers: Yes/No
(Filter question. IF Yes-> Go to F.3. IF No, end of the surveying)

F.3 What are the reasons for your enterprise not to use government authorities' data?	
(Scope: F.2 = Yes)	
There is no relevant data from government authorities that the enterprise has use for.	**Yes/No**
It is resource-intensive to the acquire the data (e.g. acquiring data access is time-consuming).	**Yes/No**
The available data from public government authority is insufficient or of poor quality, etc.	**Yes/No**
Your enterprise lacks relevant expertise, IT equipment or software to use public data (e.g. lacks expertise to carry out data analysis).	**Yes/No**
Other reasons	**Yes/No**
Your enterprise is not authorized to use public data.	**Yes/No**

(End of the surveying)

F.4 How did your enterprise acquire government authorities' data?	
(Scope: F1=Yes) (tick only one of the answers under)	
a. **Acquired by your enterprise**	☐ If ticked, go to F5.
b. **Acquired by the government authorities, on behalf of your enterprise**	☐ If ticked, go to F5.
c. **Acquired by other (than the government authorities)**	☐ If ticked, go to F6.
d. **Don't know**	☐ If ticked, go to F6.

F.5 Does your enterprise acquire government authorities' data?		
(Scope: If F.4.a or F.4.b. is ticked)		
a. Search via "data.norge.no" (Felles datakatalog)	Yes	No
b. Search via the government authorities'website	Yes	No
c. Search via the government authorities' data platforms or data base (e.g. Traport-portal, Diskos, Copernikus, Geovekst, helsekatalog.no, etc)	Yes	No
d. Other methods	Yes	No

F.6 Does your enterprise encountered any issues when using the government authorities' data?

Answers: Yes/No
(Filter question. IF Yes-> Go to F.7. IF No, end of the surveying)

F.7 Does your enterprise encountered the following issues?		
(Scope: If F.6 = Yes)		
a. Difficult to access the data, e.g. high level of demands are placed on the rights holders to gain access.	Yes	No
b. High cost to obtain the data (e.g. it takes a lot of time or money to obtain data)	Yes	No
c. The data or metadata is deficient, poor quality, inaccurate, etc.	Yes	No
d. The data format is not suitable for automated processing	Yes	No
e. Challenge related to sharing the data or dissemination of information generated from the data with third parties (e.g. requirements for data protection, information security, etc.)	Yes	No
f. Other challegs.	Yes	No