# ICT - Enterprises 2023

# Access and use of the internet

**Mandatory for all enterprises**

**A1a** Does your enterprise have access to the internet?

☐ Yes

☐ No

**Mandatory for all enterprises**

**A1b** Average number of persons employed in Ireland during {{survey year -1}}
(as per Revenue Payroll Notification)

[                    ]

**Only answer this question if A1b Equal to 0**

Please confirm that there were no persons employed in Ireland by the enterprise in {{survey year -1}}

☐ Confirm

**Number cannot be greater than A1b**
**Only answer this question if (A1b Greater than 0) And (A1a Contains Any 1 Yes)**

**A1ci**     Number of persons employed with internet access for business purposes:

(Include fixed line and mobile connections)

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**Only answer this question if (A1b Greater than 0) And (A1ci is equal to 0)**

**A1cii**   If you can't provide this value.

Please indicate an estimate of the percentage of the total number of persons employed who have access to the internet for business purposes

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**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**A2** Does your enterprise use any type of fixed broadband connection to the internet?

(e.g. DSL, ADSL, SDSL, VDSL, fibre optics technology (FTTP), cable technology, etc.)

☐ Yes

☐ No

**Mandatory for all enterprises**

**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (A2 Contains Any 1 Yes)**

**A3** What is the maximum contracted download speed of the fastest fixed line internet connection of your enterprise?

☐ Less than 30 Mb/sec

☐ At least 30 Mb/sec but less than 100 Mb/Sec

☐ At least 100 Mb/sec but less than 500 Mb/sec

☐ At least 500 Mb/sec but less than 1 Gb/sec

☐ At least 1 Gb/sec

**Mandatory for all enterprises**

**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**A4** Does your enterprise have a website?

☐ Yes

☐ No

**Mandatory for all enterprises**

**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (A4 Contains Any 1 Yes)**

**A5**   Does the website have any of the following? Select all that apply

☐ Description of goods or services, price information

☐ Online ordering or reservation or booking, e.g. shopping cart

☐ Possibility for visitors to customise or design online goods or services

☐ Tracking or status of orders placed

☐ Personalised content on the website for regular/recurrent visitors

☐ A chat service for customer support (a chatbot, virtual agent or a person replying to customers)

☐ Advertisement of open job positions or online job application

☐ Content available in at least two languages (Please consider a multilingual website within a single domain(e.g. .com) or multiple domains of your enterprise in different languages (e.g. .es, .uk)

☐ None of the above

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**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**A6**   Does your enterprise have a mobile app for customers (e.g. for loyalty program, e-commerce or customer support)?

☐ Yes

☐ No

Enterprises using social media are considered those that have a user profile, an account or a user licence depending on the requirements and the type of the social media.

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**A7**    Does your enterprise use any of the following social media?

☐ Social networks (e.g. Facebook, LinkedIn, Xing, Viadeo, Yammer, etc.)

☐ Enterprise's blog or microblogs (e.g. Twitter, etc.)

☐ Multimedia content sharing websites (e.g. YouTube, Flickr, SlideShare, Instagram, Pinterest, Snapchat, etc.)

☐ None of the above

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**A8**   Does your enterprise pay to advertise on the internet? (e.g. adverts on search engines, on social media, on other websites, etc)

☐ Yes

☐ No

**Mandatory for all enterprises**

**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (A8 Contains Any 1 Yes)**

**A9**    Does your enterprise pay to advertise on the internet using any of the following targeted advertising methods?
Select all that apply

☐ Based on webpages' content or keywords searched by users

☐ Based on the tracking of internet users' past activities or profile

☐ Based on the geolocation of internet users

☐ Any other method of targeted advertising on the internet not specified above

☐ No targeted advertising

# e-Commerce sales

An e-commerce transaction is the sale or purchase of goods or services conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders. Payment and delivery do not have to be conducted online. E-commerce transactions exclude orders made by manually typed emails.

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**B1**  Did your enterprise receive orders for goods or services via a website or apps during {{survey year -1}}?

(Exclude manually typed emails)

☐ Yes

☐ No

**Mandatory for all enterprises**

**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (B1 Contains Any 1 Yes)**

**B1a** Through which websites or apps did your enterprise receive orders for goods or services during {{survey year -1}}:

Select all that apply

☐ Your enterprise's website or apps (include those of parent or affiliate enterprises, extranets)

☐ An e-commerce marketplace website or apps used by several enterprises for trading products (e.g. Booking.com, eBay, Amazon, Alibaba, Hotels.com etc.)

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (B1 Contains Any 1 Yes)**

**B2** What percentage of total turnover (by value) was represented by sales via a website or apps during {{survey year -1}}?

(Please provide percentages to .1 decimal if less than 1%)

☐

**Only answer this question if B1 Contains Any 1 Yes and (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**B3** What was the percentage breakdown of the value of web sales in 2022 via the following:

Percentage%

**(B3a)** your enterprise's websites or apps? ☐

**(B3b)** 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 etc.) ☐

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

**Only answer this question if B1 Contains Any 1 Yes and (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**B4**   Of the sales ordered via a website or apps, what percentage was represented by:

Total must add to 100%                                                    Percentage%

Sales to other enterprises or public authorities?                    ☐

Sales to private consumers?                                               ☐

EDI-type sales covers 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

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**B5**   Did your enterprise receive orders for goods or services via EDI during {{survey year -1}}?

☐ Yes

☐ No

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**
**and (B5 Contains Any 1 Yes)**

**B6** What percentage of total turnover (by value) was represented by sales via EDI during {{survey year -1}}?

(Please provide percentages to .1 decimal if less than 1%)

# Data utilisation, sharing, analytics and trading

**Mandatory for all enterprises**
**Only answer this question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**C1** Does your enterprise use the following business software?

Select all that apply

☐ Enterprise Resource Planning (ERP) software. Software used to manage resources by sharing information among different functional areas (e.g. accounting, planning, production, marketing). ERP software can be off-the-shelf software, customised to the needs of the enterprise or self-created software.

☐ Customer Relationship Management (CRM) software. Software for managing information about customers (e.g. relations or transactions). CRM facilitates communication with the customer and helps track customer interests, purchasing habits.

☐ Business Intelligence (BI) software. BI Software accesses and analyses data (e.g. from internal IT systems and external sources and presents analytical findings in reports, summaries, dashboards, graphs, charts and maps, to provide users with detailed insights for decision-making and strategic planning.

☐ None of the above

**Mandatory for all enterprises**

**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**C2**   Does your enterprise share data electronically with suppliers or customers within the supply chain (e.g. via websites or apps, EDI-systems, real-time sensors or tracking)?

This data may be exchanged via websites, networks or other means of electronic data transfer, excluding e-mails not suitable for automated processing or manually typed.

Some of the examples of data exchange: information on inventory levels, progress of deliveries, progress in service provision, demand forecasts, products availability, customer requirements, e-commerce data, information regarding production or maintenance.

☐ Yes

☐ No

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**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**C3** Does your enterprise perform data analytics by own employees?
Please, consider internal and external data sources.

Data analytics refers to the use of technologies, techniques or software tools for analysing data to extract patterns, trends and insights to make conclusions, predictions and better decision-making with the aim of improving performance (e.g. increase production, reduce costs.) Data may be extracted from your own from your own enterprise's data source or from external sources (e.g. suppliers, customers, government).

☐ Yes

☐ No

**Mandatory for all enterprises**

**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And (C3 Contains Any 1 Yes)**

**C4**   Does your enterprise perform data analytics on data from the following sources?
Select all that apply

☐ Transaction records such as sale details, payments records( e.g. from Enterprise Resource Planning system (ERP), own webshop)

☐ Customers such as customer purchasing information, location, preferences, customer reviews, searches (e.g. from Customer Relationship Management system (CRM) or own website)

☐ Social media, including your enterprise's own social media profiles (e.g. personal information, comments, video, audio, images)

☐ Web data (e.g. search engine trends, web scraping* data) *use of computer program for extracting data from websites

☐ Location data from the use of portable devices or vehicles (e.g. portable devices or vehicles (e.g. portable devices or vehicles (e.g. portable devices using mobile telephone networks, wireless connections or GPS)

☐ Smart devices or sensors (e.g. Machine to Machine (M2M) communications, sensors installed in machinery, manufacturing sensors, smart meters, Radio frequency identification tags, A Radio Frequency Identification-RFID tag is a device that can be applied to or incorporated into a product or an object and transmits data via radio waves)

☐ Government authorities open data (e.g. enterprise public records, weather conditions, topographic, transport data, housing data, buildings data)

☐ Satellite data (e.g. satellite imagery, navigation signals, position signals) Please, include data acquired from enterprise's own infrastructure or from externally provided service (e.g. AWS Ground Station) and exclude location data from the use of portable devices or vehicles using GPS

☐ None of the above

**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**C5** Does an external enterprise or organisation perform data analytics for your enterprise?

Please include data analytics based on data from internal and external sources.

☐ Yes

☐ No

# Use of cloud computing services

Cloud computing refers to paid ICT services that are used over the internet to access software, computing power, storage capacity, etc. where the services have all of the following characteristics:

• are delivered from servers of service providers
• can be easily scaled up or down (e.g. number of users or change of storage capability)
• can be used on-demand by the user, at least after the inital set up (without human interaction with the service provider)
• are paid for (i.e. per user, by capacity used, or pre-paid)

Cloud computing may include connections via Virtual Private Networks (VPN).

**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**D1** Does your enterprise buy any cloud computing services used over the internet?

(e.g. Microsoft OneDrive, Apple iCloud, Dropbox. Exclude free of charge services)

☐ Yes

☐ No

**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) and (D1 Contains Any 1 Yes)**


**D2**   Which of the following cloud computing services does your enterprise buy for use over the internet?


(Exclude free of charge services)
Select all that apply

☐   E-mail (as a cloud computing service)

☐   Office software (e.g. word processors, spreadsheets) (as a cloud computing service)

☐   Finance or accounting software applications (as a cloud computing service)

☐   Enterprise Resource Planning (ERP) software applications (as a cloud computing service)

☐   Customer Relationship Management (CRM) software applications (as a cloud computing service)

☐   Security software applications (e.g. antivirus program, network access control) (as a cloud computing service)

☐   Hosting the enterprise's database(s) (as a cloud computing service)

☐   Storage of files (as a cloud computing service)

☐   Computer power to run the enterprise's own software (as a cloud computing service)

☐   Computing platform providing a hosted environment for application development, testing or deployment (e.g. reusable software modules, application programming interfaces (APIs)) (as a cloud computing service)

☐   None of the above

# Artificial Intelligence

Artifical 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.

Artifical 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, etc.

or embedded in devices, e.g.

- autonomous robots for warehouse automation or production assembly works
- autonomous drones for production surveillance or parcel handling, etc.

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**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**E1**    Does your enterprise use any of the following Artificial Intelligence technologies?
Select all that apply

☐ Technologies performing analysis of written language (data mining)

☐ Technologies converting spoken language into machine-readable format (speech recognition)

☐ Technologies generating written or spoken language (natural language generation)

☐ Technologies identifying objects or person based on images (image recognition, image processing)

☐ Machine learning (e.g. deep learning) for data analysis

☐ Technologies automating different workflows or assisting in decision making (Artificial Intelligence based software robotic process automation)

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

☐ None of the above

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**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0) And ( E1 Contains Any 1 or 2 or 3 or 4 or 5 or 6 or 7)**

**E2** Does your enterprise use Artificial Intelligence software or systems for any of the following purposes? Select all that apply

☐ 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 order processing

☐ 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

☐ Organisation of business administration processes or management, some 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

☐ 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

☐ 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

☐ 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 for bookkeeping documents

☐ Research and development (R&D) or innovation activity (excluding research on AI) some examples may be: analysis of data for conducting research, solving research problems, developing a new or significantly improved product/service based on machine learning

☐ None of the above

# Invoicing

There are invoices in paper form and electronic form. Invoices in electronic form are of two types:

• E-invoices in a standard structure suitable for automated processing, excluding the transmission of PDF files. They are exchanged either directly or via service operators or via an electronic banking system.

• Invoices in electronic form not suitable for automated processing, including the transmission of PDF files.

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**Mandatory for all enterprises**
**Only answer question if (A1a Contains Any 1 Yes) And (A1b Greater than 0)**

**F1**   In {{Survey Year -1}}, did your enterprise send any of the following types of invoices:

Include also invoices sent via intermediaries, e.g. accountants, e-invoice service providers

☐ Invoices in electronic form, in a standard structure suitable for automated processing (e-invoices) (EDI 9e.g. EDIFACT), XML (e.g. UBL) Excluding the transmission of PDF files

☐ Invoices in electronic form not suitable for automated processing? (e.g. emails, JPEG or other format) Including the transmission of PDF files

☐ Paper invoices

☐ None of the above

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# Details of enterprise activity

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**Mandatory for all enterprises**

**G1**   What is the main activity of the enterprise?

[                    ]

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**Mandatory for all enterprises**

**G2**   Total turnover (in monetary terms, excluding VAT) in Ireland, for {{survey year -1}}

Figures per most recent set of accounts will suffice, or best estimate

[                    ]

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**Mandatory for all enterprises**

**G3**  Total purchases of goods and services (in value terms, excluding VAT), for {{survey year -1}}

Figures per most recent set of accounts will suffice, or best estimate

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# Comments, Administrative Burden and Contact Details

Please add any comments that would help us to interpret the data provided and avoid further queries:

How many minutes did it take you to collect the data for this form?

Please note: Queries or future surveys from the CSO may be directed to the email or phone number provided by you.

| Contact | Details |
|---|---|
| Name: | |
| Position: | |
| Phone: | |
| Email: | |
| Website: | |
| Eircode of Enterprise: | |

You will have the opportunity to view and print or save a copy of your answers after submitting this survey.