SDG indicator metadata

(Harmonized metadata template - format version 1.1)

0. Indicator information (SDG_INDICATOR_INFO)

0.a. Goal (SDG_GOAL)

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

0.b. Target (SDG_TARGET)

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

0.c. Indicator (SDG_INDICATOR)

Indicator 4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

0.d. Series (SDG_SERIES_DESCR)

SE_ADT_ACTS - Proportion of youth and adults with information and communications technology (ICT) skills [4.4.1]

0.e. Metadata update (META_LAST_UPDATE)

2025-03-28

0.f. Related indicators (SDG_RELATED_INDICATORS)

4.5.1, 9.c.1, 17.6.1, 17.8.1

0.g. International organisations(s) responsible for global monitoring (SDG_CUSTODIAN_AGENCIES)

International Telecommunication Union (ITU)

1. Data reporter (CONTACT)

1.a. Organisation (CONTACT_ORGANISATION)

International Telecommunication Union (ITU)

2. Definition, concepts, and classifications (IND_DEF_CON_CLASS)

2.a. Definition and concepts (STAT_CONC_DEF)

Definition:

The proportion of youth and adults with Information and Communications Technology (ICT) skills, by type of skill defined as the percentage of individuals that have undertaken certain ICT-related activities in the last 3 months. From 2023, the percentage of individuals that have basic or above-basic ICT skills, by skill area can also be calculated. From 2024, the percentage of individuals with basic or above-basic **overall** ICT skills can also be calculated. The indicator is expressed as a percentage.

Concepts:

The indicator on the "proportion of individuals with ICT skills, by type of skills" refers to individuals that have undertaken certain activities using ICTs in the last three months. Most individuals will have carried out more than one activity and therefore multiple responses are possible.

The skills categories are:

Information and data literacy

- Verifying the truthfulness of information found online
- Finding information about goods or services*
- Accessing news or books in a digital format (e.g. reading online news, watching news videos online, reading e-books on an e-reading device)*
- Finding health information*

Communication and collaboration

- Sending content (e.g. document, picture, video through attached files, embedded content, hyperlinks) in messages (e.g. e-mail, messaging service, MMS)
- Making calls (Telephoning over the Internet/VoIP, using Skype, Whatsapp, Viber, iTalk, etc.; includes video calls via webcam)*
- Participating on social networking platforms (e.g. creating user profiles, reading or posting messages and other contributions to Facebook, X, Instagram, Snapchat, TikTok)*
- Taking part in consultations via the Internet to define civic or social issues (e.g. urban planning, signing a petition, voting)*

Digital content creation

- Duplicating or moving data, information and content in digital environments (e.g. within a document, between devices, on the cloud)
- Using spreadsheet software (e.g. using basic arithmetic formulae functions, macros)
- Creating content combining different digital media (including text, images, sound, video or charts)
- Programming or coding in digital environments
- Editing text documents, spreadsheets or presentations using digital tools (e.g. Google Docs, Sharepoint, Apple iCloud, etc)*

Problem solving

- Connecting new devices (e.g. camera, printer, wireless speakers, wireless headphones)
- Installing software or apps
- Using Internet or mobile banking (includes electronic transactions with a bank for payment, transfers, etc. such as M-Pesa, or for looking up account information)*
- Doing an online course or accessing online learning material (e.g. video tutorials, webinars, learning apps)*
- Purchasing or ordering goods or services (via the Internet whether or not payment was made online; includes purchasing of products such as music, travel and accommodation via the Internet)*

Safety

- Taking security measures to protect devices and online accounts (e.g. changing passwords, avoiding unsecure links or downloads, setting up two-factor authentication)

- Taking measures to protect privacy on your device, account or app (e.g. to limit the sharing of personal data and information, restrict access to social network profiles or geolocation, prevent targeted marketing)

* These questions should be asked to Internet users about the activities in which they have partaken in using the Internet. However, some countries with lower Internet use penetration may wish to adjust their surveys by not implementing filters on Internet use and including reference to locally available services that do not require an Internet connection. For example, countries where mobile banking is often done through SMS without an Internet connection or where widely used integrated voice recognition (IVR) services to find health information are available may wish to consider such adjustments.

ICT skills are measured irrespective of the device used (until 2019 data on ICT skills referred to computer-related skills only). From 2023, skills have been organized by areas and additional activities have been added to provide more balance to the assessment of ICT skills. The wording and organization of these indicators was subsequently revised in 2024 to increase their robustness, relevance, and clarity. To further increase clarity for respondents, countries are encouraged to adapt examples to reference the most popular local or national services.

Aggregate measure of ICT skills

From 2023, additional indicators to provide an overall view of an individual's level of ICT skills have been added. Countries should first assess each individual's skill level by the above listed skill areas.

- Individuals are assessed on the number of activities within a skill area they report having done in the last three months using the following categories:

None	Basic	Above basic
0 activities	1 activity	More than 1 activity

- Skill levels are not assessed in skill areas where fewer than two components of the skill area are collected.
- Indicators are weighted equally within each skill area.

Countries that have sufficient data to assess skill levels for each of the five skill areas should also assess the **overall** skill level of individuals. Countries not collecting sufficient data for all five skill areas cannot assess overall skill levels for international comparisons.

- Overall skill levels for individuals should be assessed based on their skill level in the five skill areas as shown below:

Category	Definition
Above basic skills	Above basic skills in all five areas
Basic skills	At least basic skills in all five areas – can be basic or above basic, but not all five at above basic
4 of 5	*Basic* or *above basic* in any four areas and no skills in one area (at least basic in four of five areas).

3 of 5	*Basic* or *above basic* in any three areas and no skills in two areas (at least basic in three of five areas).
2 of 5	*Basic* or *above basic* in any two areas and no skills in three areas (at least basic in two of five areas).
0-1 of 5	No skills in four or five areas (at least basic in one or fewer of five areas).

2.b. Unit of measure (UNIT_MEASURE)

Percent (%)

2.c. Classifications (CLASS_SYSTEM)

Activities are classified according to agreement at meetings of the ITU Expert Group on ICT Household Indicators (EGH).

Furthermore, for countries that collect this data through an official survey, and if data allow breakdown and disaggregation, the indicator can be broken down by region (urban/rural), by sex, by age group, by educational level (ISCED), by labour force status (ILO), and by occupation (ISCO). International Telecommunication Union (ITU) collects data for all of these breakdowns from countries.

3. Data source type and data collection method (SRC_TYPE_COLL_METHOD)

3.a. Data sources (SOURCE_TYPE)

Countries can collect data on this indicator through national household surveys. Data for different countries are compiled by the International Telecommunication Union (ITU).

3.b. Data collection method (COLL_METHOD)

Data for different countries are compiled and provided by the International Telecommunication Union (ITU).

3.c. Data collection calendar (FREQ_COLL)

Various. Each survey has its own data collection cycle. The International Telecommunication Union (ITU) collects data twice a year from Member States, in Q1 and in Q3.

3.d. Data release calendar (REL_CAL_POLICY)

The International Telecommunication Union (ITU) releases data twice per year on ICT skills.

3.e. Data providers (DATA_SOURCE)

Bodies responsible for conducting household surveys (including National Statistical Offices and Government Ministries) in which information on the use of ICT skills is collected. Data is compiled by the International Telecommunication Union (ITU).

3.f. Data compilers (COMPILING_ORG)

International Telecommunication Union (ITU)

3.g. Institutional mandate (INST_MANDATE)

As the United Nations (UN) specialized agency for ICTs, the International Telecommunication Union (ITU) is an official source for global ICT statistics, collecting ICT data from its Member States.

4. Other methodological considerations (OTHER_METHOD)

4.a. Rationale (RATIONALE)

ICT skills determine the effective use of information and communication technologies, so this indicator may therefore assist in making the link between ICT usage and impact. The lack of such skills continues to be one of the key barriers keeping people from fully benefitting from the potential of information and communication technologies. These data may be used to inform targeted policies to improve ICT skills, and thus contribute to an inclusive information society.

This is also a core indicator of the Partnership on Measuring ICT for Development's Core List of Indicators, which has been endorsed by the UN Statistical Commission (in 2022).

4.b. Comment and limitations (REC_USE_LIM)

This indicator is based on an internationally-agreed definition and methodology, which has been developed under the coordination of International Telecommunications Union (ITU), through its Expert Group on ICT Household Indicators and following an extensive consultation process with countries. It was also endorsed by the UN Statistical Commission in 2014[1], 2020, and 2022.

The indicator is based on the responses provided by interviewees regarding certain activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills nor do we know if those activities were undertaken effectively.

4.c. Method of computation (DATA_COMP)

This indicator is calculated as the proportion of in-scope individuals who have carried out each activity in the past 3 months, regardless of where that activity took place.

$$[(number\ of\ in-scope\ individuals\ by\ type\ of\ skills) / (number\ of\ in-scope\ individuals)] * 100$$

For aggregate measures by skill area the indicator is calculated as the proportion of in-scope individuals who have basic or above-basic ICT skill levels in each skill area. This is based on the activities that in-scope

[1] As one of the Core List of Indicators of the Partnership on Measuring ICT for Development.

individuals have carried out within each skill area in the past 3 months, regardless of where that activity took place.

Proportion of individuals with basic ICT skills = $(number\ of\ in - scope\ individuals\ carrying\ out\ at\ least\ one\ activity\ within\ a\ skill\ area) /(number\ of\ in - scope\ individuals)] * 100$

Proportion of individuals with above-basic ICT skills = $(number\ of\ in - scope\ individuals\ carrying\ out\ more\ than\ one\ activity\ within\ a\ skill\ area) /(number\ of\ in - scope\ individuals)] * 100$

For an overall measure of ICT skills the indicator is calculated as the proportion of in-scope individuals who have basic or above-basic ICT skill levels in all skill areas. This is based on the assessed skill levels of in-scope individuals for each skill area as calculated above.

Proportion of individuals with basic overall ICT skills = $(number\ of\ in - scope\ individuals\ with\ at\ least\ basic\ skills\ in\ all\ five\ skill\ areas) /(number\ of\ in - scope\ individuals)] * 100$

Proportion of individuals with above-basic overall ICT skills = $(number\ of\ in - scope\ individuals\ with\ above\ basic\ skills\ in\ all\ five\ skill\ areas) /(number\ of\ in - scope\ individuals)] * 100$

Figures supplied are expressed as a proportion of the in-scope population.

4.d. Validation (DATA_VALIDATION)

Data are submitted by Member States to the International Telecommunication Union (ITU). ITU checks and validates the data, in consultation with the Member States.

4.e. Adjustments (ADJUSTMENT)

No adjustments are made to the data submitted by countries.

4.f. Treatment of missing values (i) at country level and (ii) at regional level (IMPUTATION)

- **At country level**

None by data compiler.

- **At regional and global levels**

None by data compiler.

4.g. Regional aggregations (REG_AGG)

Regional and global aggregates are not currently available for this indicator.

4.h. Methods and guidance available to countries for the compilation of the data at the national level (DOC_METHOD)

International Telecommunication Union (ITU) Manual for Measuring Information and Communications Technology (ICT) Access and Use by Households and Individuals 2020:
https://www.itu.int/en/ITU-D/Statistics/Pages/publications/manual.aspx
Report of the ITU Expert Group on ICT Household Indicators subgroup on measuring ICT skills using household surveys, 2024:
https://www.itu.int/itu-d/meetings/egh2024/wp-content/uploads/sites/28/2024/09/EGH2024_ICTSkillsReport.pdf

4.i. Quality management (QUALITY_MGMNT)

Data are checked and validated by the ICT Data and Analytics (IDA) Division of the International Telecommunication Union (ITU). Countries are contacted to clarify and correct their submissions.

4.j Quality assurance (QUALITY_ASSURE)

The guidelines of the Manual for Measuring ICT Access and Use by Households and Individuals 2020 are followed.

4.k Quality assessment (QUALITY_ASSMNT)

The guidelines of the Manual for Measuring ICT Access and Use by Households and Individuals 2020 are followed.

5. Data availability and disaggregation (COVERAGE)

Data availability:
Overall, the indicator is available for more than 90 countries from at least one survey.

Time series:
2005 onwards

Disaggregation:
Since data for the indicator on the proportion of individuals with ICT skills, by type of skills are collected through a survey, classificatory variables for individuals can provide further information on the differences in ICT skills among men/women, children/adults (age groups), employed/unemployed, etc., according to national requirements These data may be used to inform targeted policies to improve ICT skills, and thus contribute to the development of an inclusive information society.

6. Comparability / deviation from international standards (COMPARABILITY)

Sources of discrepancies:
None

7. References and Documentation (OTHER_DOC)

URL:

International Telecommunication Union:
https://www.itu.int/en/ITU-D/Statistics/Pages/default.aspx

References:

ITU Manual for Measuring ICT Access and Use by Households and Individuals 2020:
https://www.itu.int/en/ITU-D/Statistics/Pages/publications/manual.aspx

Report of the ITU Expert Group on ICT Household indicators subgroup on measuring ICT skills using household surveys 2023:
https://www.itu.int/itu-d/meetings/statistics/wp-content/uploads/sites/8/2023/09/Report-of-the-EGH-subgroup-on-ICT-Skills.pdf

Report of the ITU Expert Group on ICT Household Indicators subgroup on measuring ICT skills using household surveys, 2024:
https://www.itu.int/itu-d/meetings/egh2024/wp-content/uploads/sites/28/2024/09/EGH2024_ICTSkillsReport.pdf