

Recognising the crucial role of digital competence in today's society, the European Commission's 2010 Digital Agenda for Europe devoted a whole pillar to digital literacy, skills and inclusion. Furthermore, recognising the need for indicators to measure the extent of digital competence in Europe, one of the actions of the Digital Agenda was to "propose by 2013 EU-wide indicators of digital competence and media literacy" (action 62).

Following a [report of May 2014](#), DG CONNECT and the Eurostat Information Society Working Group agreed to create and publish a "Digital Skills Indicator" based on the [Digital Competence Framework](#) (developed by JRC and DG EAC, and available for self-assessment on the [Europass](#) website), and to be populated with data collected through the ICT survey on ICT usage by Households and Individuals.

The framework identifies five competence domains: information, communication, content creation, safety and problem solving. The ICT survey collects information about activities realised during the previous 3 months by internet and computer users covering four of the five domains (the safety domain is not covered as adequate indicators this domain are not yet available within the survey). It is assumed that persons having realised certain activities have the corresponding skills.

The nature of the ICT survey doesn't allow investigating proficiency levels for each activity performed. However, for each of the four domains, a set of activities have been selected (between 4 and 7), to reflect the competences outlined within each domain of the Digital Competence Framework, with the purpose of discriminating between people having, or missing, the basic skills. When there is evidence about the variety of tasks accomplished or about their complexity, a flag "above basic" is also attributed. Once these three levels of skills ("none", "basic" and "above basic") are computed for each of the four dimensions, an overall composite indicator is computed following a similar logical approach.

This methodology has been applied fully for the first time using the 2015 survey results and Eurostat will replicate it in the future survey each time all the needed variables are available. The Digital Skills Indicator was piloted using a similar approach on the basis of the 2012 and 2014 survey results using available indicators based on other similar questions. As such the results from the pilots of 2012 and 2014 cannot be properly compared with the final 2015 indicator results. The figures of the overall indicator are used by the Commission as part of the Digital Economy and Society Index ([DESI](#)) and presented in the Digital Agenda Scoreboard [visualization tool](#).

Here below is the list of the "accomplished activities" basic indicators used to compute the digital skills indicators and the criteria used to attribute a basic/above basic level:

1. Information skills

- Copied or moved files or folders
- Saved files on Internet storage space
- Obtained information from public authorities/services' websites
- Finding information about goods or services
- Seeking health-related information

Levels of information skills

Basic : one item

Above basic: more than one item

Definition in Digital Competence Framework: identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.

2. Communication skills

- Sending/receiving emails
- Participating in social networks
- Telephoning/video calls over the internet
- Uploading self-created content to any website to be shared

Levels of communication skills

Basic : one item

Above basic: more than one item

Definition in Digital Competence Framework: communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.

3. Problem solving skills

A – Problem solving

- Transferring files between computers or other devices
- Installing software and applications (apps)
- Changing settings of any software, including operational system or security programs

B – Familiarity with online services

- Online purchases (in the last 12m)
- Selling online
- Used online learning resources
- Internet banking

Levels of problem solving skills

Basic : one or more items only from A or only from B

Above basic: at least one item from A and B.

Definition in Digital Competence Framework: identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose

or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.

4. Software skills for content manipulation

A – Basic

- Used word processing software
- Used spreadsheet software
- Used software to edit photos, video or audio files

B – Above basic

- Created presentation or document integrating text, pictures, tables or charts
- Used advanced functions of spreadsheet to organise and analyse data (sorting, filtering, using formulas, creating charts)
- Have written a code in a programming language

Levels of content creation skills

Basic : none of the "above basic" from B

Above basic: at least one "above basic" from B

Definition in Digital Competence Framework: Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.

Overall digital skills assessment

Individuals with "**above basic**" level of skills:

- "above basic" in all 4 domains

Individuals with a "**basic**" level of skills:

- at least "basic" in all 4 domains

Individuals with "**low**" level of skills (missing some type of basic skills):

- One or more "none" in one to three domains

Individuals with "**no skills**":

- Four "none" (no items ticked in all four domains, despite declaring having used the internet at least once during last 3 months),
- and those persons who used the internet more than 3 months ago or who never used it (*)

(*) the scales can be computed only for the persons having used the internet during the previous 3 months. The other individuals are out of the scope of the assessment, but when presenting the scales in percentage of the entire population can be aggregated to the group of those classified as without skills.

Formula and references to original variables collected by the survey on ICT usage by households and individuals, from the [Eurostat methodological manual](#) 2015.

DSK_I	0 1 2 9	<p><i>Digital skills - Information skills (Eurostat computed)</i></p> <p>If no condition from the following list is met, then 0 (none)</p> <p>If one condition is met, then 1 (basic)</p> <p>If several conditions are met, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>List of conditions for DSK_I:</u> CCPY=1, CC=1, IGOV12IF=1, IUIF=1, IHIF=1</p>	Individuals where IU=1
DSK_C	0 1 2 9	<p><i>Digital skills - Communication skills (Eurostat computed)</i></p> <p>If no condition from the following list is met, then 0 (none)</p> <p>If one condition is met, then 1 (basic)</p> <p>If several conditions are met, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>List of conditions for DSK_C:</u> IUEM=1, IUSNET=1, IUPH1=1, IUUPL=1</p>	Individuals where IU=1
DSK_PS	0 1 2 9	<p><i>Digital skills - Problem solving skills (Eurostat computed)</i></p> <p>If no condition from any of the following list is met, then 0 (none)</p> <p>If some conditions are met in list A or B but not both, then 1 (basic)</p> <p>If at least one condition is met in list A <u>and</u> in list B, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>Lists of conditions for DSK_PS:</u> List A: CXFER=1, CINSAPP=1, CCONF=1 List B: IBUY=1 or IBUY=2, IUSELL=1, IUOLC=1 or IUOLM=1 or IUOCIS=1, IUBK=1</p>	Individuals where IU=1
DSK_S	0 1 2 9	<p><i>Digital skills - Software skills (Eurostat computed)</i></p> <p>If no condition from any of the following list is met, then 0 (none)</p> <p>If at least one condition is met in list A <u>and</u> none in list B, then 1 (basic)</p> <p>If at least one condition is met in list B, then 2 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p> <p><u>Lists of conditions for DSK_S:</u> List A: CWRD=1, CXLS=1, CEPVA=1 List B: CPRES1=1, CPRG1=1, CXLSADV=1</p>	Individuals where IU=1
DSK	0 1 2 3 9	<p><i>Digital skills - Overall skills (Eurostat computed)</i></p> <p>If all of DSK_I, DSK_C, DSK_PS and DSK_S are 0, then 0 (none)</p> <p>If between 1 and 3 of DSK_I, DSK_C, DSK_PS and DSK_S is 0, then 1 (low)</p> <p>If none of DSK_I, DSK_C, DSK_PS and DSK_S are 0, but at least one of them is 1, then 2 (basic)</p> <p>If all of DSK_I, DSK_C, DSK_PS and DSK_S are 2, then 3 (above basic)</p> <p>Not applicable (IU=Blank or IU<>1)</p>	Individuals where IU=1