

Digital Maturity Assessment for EDIH Customers

Target group: Enterprises

Stage: T0 (prior to EDIH support start)

MODULE 1: Customer Data

In this module, please provide basic general information about the enterprise that is interested in receiving EDIH support. This data is needed in order to analyse how your enterprise's level of digital maturity compares to that of others in your sector, size category (from micro to large), region and/or country.

M1.1. General Data:

1. Date (*automatic*)
2. Name of the enterprise supported by the EDIH: (*free text for specification*)
3. Fiscal registration number (VAT or equivalent): (*free text for specification*)
4. Contact person: (*free text for specification*)
5. Role in the enterprise: (*free text for specification*)
6. Email address: (*free text for specification*)
7. Telephone: (*free text for specification text box*)
8. Website: (*free text for specification text box*)
9. Enterprise's staff size² (*drop down menu with list, only 1 option possible*)
 1. Micro-size (1-9)
 2. Small-size (10-49)
 3. Medium-size (50-249)
 4. Large-size (250 or more)
10. Enterprise's foundation year (*four digit numeric field*)
11. Country where the enterprise business unit is located: (*drop down menu with list of EU and associate countries*)
12. Region (NUTS2) where the enterprise business unit is located: (*drop down menu with list of NUTS2 code/name per country selected above*)
13. Postal code
14. Full address

M1.2. Sector of Activity:

15. In which sector of activity is your enterprise's business primarily focused? Please select only one option:
 1. Aeronautics & Space
 2. Agriculture and food
 3. Community, social and personal service activities
 4. Construction
 5. Consumer goods/products
 6. Culture and Creative industries
 7. Defence and security
 8. Education
 9. Energy and utilities
 10. Environment
 11. Financial services
 12. Life sciences & healthcare

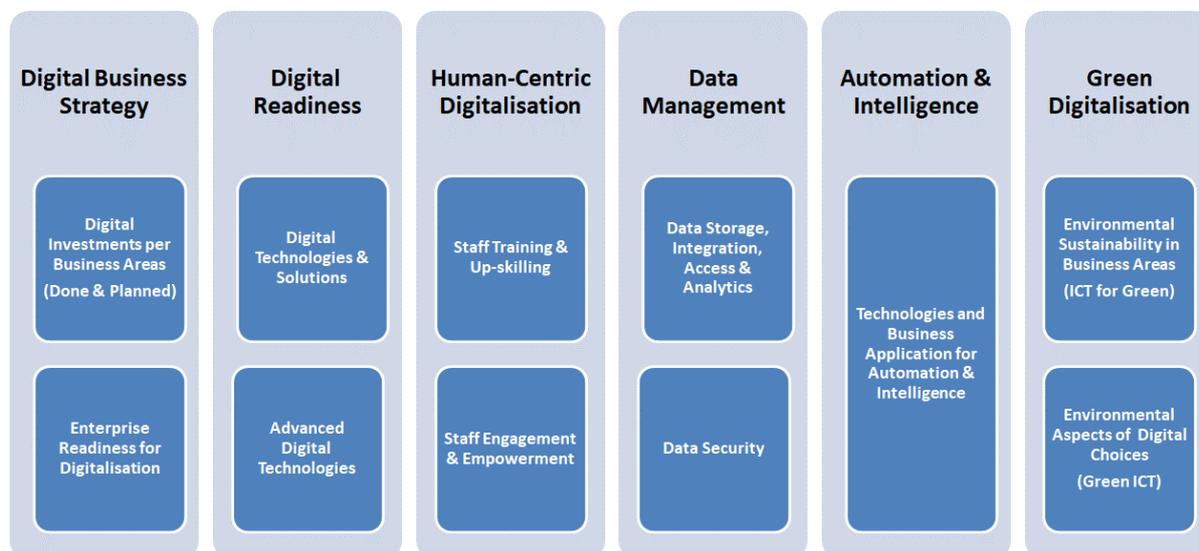
13. Manufacturing
14. Maritime and fishery
15. Mining and quarrying
16. Mobility (incl. Automotive)
17. Public administration
18. Real estate, renting and business activities
19. Professional, Scientific and Technical Activities
20. Telecommunications, Information and Communication
21. Tourism (incl. restaurants and hospitality)
22. Wholesale and retail

16. In addition, in which other sectors of activity is your enterprise's business already operating/wishing to operate? Please select up to three options:

1. Aeronautics & Space
2. Agriculture and food
3. Community, social and personal service activities
4. Construction
5. Consumer goods/products
6. Culture and Creative industries
7. Defence and security
8. Education
9. Energy and utilities
10. Environment
11. Financial services
12. Life sciences & healthcare
13. Manufacturing
14. Maritime and fishery
15. Mining and quarrying
16. Mobility (incl. Automotive)
17. Public administration
18. Real estate, renting and business activities
19. Professional, Scientific and Technical Activities
20. Telecommunications, Information and Communication
21. Tourism (incl. restaurants and hospitality)
22. Wholesale and retail
23. Other sector of activity not listed above (please specify)
24. No other sector

MODULE 2: Digital Maturity

Questions in this module aim to measure the digital maturity of your enterprise. This information will help to characterise the departing point of the digital transformation journey of your enterprise, identifying areas where it might need EDIH support. It will also help to assess the services eventually provided by the EDIH to your enterprise as well as to fine tune the EU policies and financial instruments supporting EDIHs. The following dimensions will be assessed (applying the scoring criteria detailed in the end page):



M2.1. Digital Business Strategy

The questions of this dimension are intended to capture the overall status of a digitalisation strategy in your enterprise from a business perspective. They ask about your enterprise's investments in digitalisation per business areas (either executed or planned) as well as company's readiness to embark in a digital journey that might require organisational and economic efforts not yet foreseen.

1. In which of the following business areas has your enterprise already invested in digitalisation and in which ones does it plan to in the future? Please select all options that apply:

	Already invested	Plan to invest
1. Product/Service design (incl. research, development and innovation) [0, 1 pt]		
2. Project planning and management [0, 1 pt]		
3. Operations (production of physical goods/manufacturing, packaging, maintenance, services, etc.) [0, 1 pt]		
4. Collaboration with other internal site locations or other companies in the value chain [0, 1 pt]		
5. Inbound logistics & warehousing [0, 1 pt]		
6. Marketing, sales & customer services (customer management, order processing, helpdesk, etc.) [0, 1 pt]		
7. Delivery (outbound logistics, eInvoices, etc.) [0, 1 pt]		
8. Administration and human resources [0, 1 pt]		
9. Purchasing and procurement [0, 1 pt]		
10. (Cyber)security and compliance with Personal Data regulations/GDPR [0, 1 pt]		
11. None of the above [0 pt]		

2. In which of the following ways is your enterprise prepared for (more) digitalisation? Please select all options that apply:

1. Digitalisation needs are identified and are aligned with business objectives [0, 1 pt]
2. Financial resources (own, loans, subsidies) are identified to secure digitalisation during at least one year [0, 1 pt]
3. IT infrastructures are ready to support digitalisation plans [0, 1 pt]
4. ICT specialists are employed/sub-contracted (or hiring/subcontracting needs have been identified) [0, 1 pt]
5. Enterprise's management is ready to lead the necessary organisational changes [0, 1 pt]
6. Concerned business departments and their staff are ready to support digitalisation plans [0, 1 pt]
7. Business architecture and operational processes can be adapted if required by digitalisation [0, 1 pt]
8. Manufactured products are already commercialised as a service (so-called Servitisation) or supplemented by services enabled by digital technologies
9. Clients' and partners' satisfaction with online services/interactions is monitored regularly (on social media channels, e-commerce operations, emails exchanges, etc.) [0, 1 pt]
10. Risks of digitalisation (e.g. non-planned effects over other business areas) are considered [0, 1 pt]
11. None of the above [0 pt]

M2.2. Digital Readiness:

The digital readiness dimension provides an assessment of the current uptake of digital technologies (both mainstream and more advanced technologies) that is valid for both manufacturing and service companies.

3. Which of the following digital technologies and solutions are already used by your enterprise? Please select all options that apply:

1. Connectivity infrastructure (high speed (fibre) internet, cloud computing services, remote access to office systems) [0, 1 pt]
2. Enterprise's website [0, 1 pt]
3. Web-based forms and blogs/forums to communicate with clients [0, 1 pt]
4. Live chats, social networks and chatbots to communicate with clients [0, 1 pt]
5. E-Commerce sales (Business-to-Consumer, Business-to-Business) [0, 1 pt]
6. E-Marketing promotion (online ads, social media for business, etc.) [0, 1 pt]
7. E-Government (online interaction with public authorities, including public procurement) [0, 1 pt]
8. Remote business collaboration tools (e.g. teleworking platform, videoconferencing, virtual learning, business-specific) [0, 1 pt]
9. Internal web portal (Intranet) [0, 1 pt]
10. Information Management Systems (Enterprise Resources Planning, Product Lifecycle Management, Customer Relationship Management, Supply Chain Management, e-invoicing) [0, 1 pt]
11. None of the above [0 pt]

4. Which of the following *advanced* digital technologies are already used by your enterprise? Please grade all options that apply using a 0-5 scale (0=Not used, 1=Consider to use, 2=Prototyping, 3=Testing, 4=Implementing, 5=Operational):

1. Simulation & digital twins (i.e. real-time digital representations of physical objects/processes) [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
2. Virtual reality, augmented reality [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
3. Computer-aided design (CAD) & manufacturing (CAM) [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
4. Manufacturing execution systems [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
5. Internet of Things (IoT) and Industrial Internet of Things (IIoT) [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
6. Blockchain technology [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
7. Additive manufacturing (e.g. 3D printers) [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
8. None of the above [0 pt]

M2.3. Human-centric digitalisation:

This dimension looks at how staff are skilled, engaged and empowered with and by digital technologies, and their working conditions improved, with a view to increase their productivity and wellbeing.

5. What does your enterprise do to re-skill and up-skill its staff for digitalisation? Please select all options that apply:

1. Performs staff skill assessment to identify the skills gaps [0, 2 pt]
2. Designs a training plan to train and up-skill staff [0, 2 pt]
3. Organises short trainings, provides tutorials/guidelines and other e-learning resources [0, 1 pt]
4. Facilitates learning-by-doing/peer learning/experimentation opportunities [0, 1 pt]
5. Offers traineeships & job placements in key capacity areas [0, 1 pt]
6. Sponsors staff participation in trainings organised by external organisations (training providers, academia, vendors) [0, 1 pt]
7. Makes use of subsidised training and upskilling programmes [0, 1 pt]
8. None of the above [0 pt]

6. When adopting new digital solutions, how does your enterprise engage and empower its staff? Please select all options that apply:

1. Facilitates staff awareness about new digital technologies [0, 1 pt]
2. Communicates digitalisation plans to staff in a transparent and inclusive way [0, 1 pt]
3. Monitors staff acceptance and takes measures to mitigate the potential collateral effects (e.g. fear to change; 'always on' culture vs. work-life balance; safeguards to risks of privacy breaches etc.) [0, 1 pt]
4. Involves staff (including non-ICT staff) in the design and development of product/service/process digitalisation [0, 2 pt]
5. Gives staff more autonomy and appropriate digital tools to take and execute decisions [0, 2 pt]
6. Redesigns/Adapts jobs and workflows to support the ways that staff actually would like to work [1 pt]
7. Sets up more flexible working arrangements enabled by digitalisation (e.g. telework) [1 pt]
8. Puts at staff disposal a digital support team/service (internal/external) [1 pt]
9. None of the above [0 pt]

M2.4. Data Management and Connectedness

This dimension captures how data is digitally stored, organised within the enterprise, made accessible across connected devices (computers, etc.) and exploited for business purposes, keeping an eye on ensuring sufficient data protection via cybersecurity schemes.

7. How is your enterprise data managed (i.e. stored, organised, accessed and exploited)? Please select all options that apply:
1. Data is not collected digitally [0 pt]
 2. Relevant data is stored digitally (e.g., office applications, email folders, stand-alone applications, CRM or ERP system, etc.) [0, 1 pt]
 3. Data is properly integrated (e.g. through interoperable systems, application programming interfaces) even when it is distributed amongst different systems [0, 1 pt]
 4. Data is accessible in real-time from different devices and locations [0, 1 pt]
 5. Collected data is systematically analysed and reported for decision-making [0, 2 pt]
 6. Data analytics are enriched by combining external sources with own data [0, 1 pt]
 7. Data analytics are accessible without need of expert assistance (e.g. through dashboards) [0, 1 pt]
8. Is your enterprise's data sufficiently secured? Please select all options that apply:
1. An enterprise data security policy/set of measures is in place [0, 1 pt]
 2. All client-related data is protected from cyberattacks [0, 1 pt]
 3. Staff is regularly informed and trained on cybersecurity and data protection issues/risks [0, 1 pt]
 4. Cyber-threats are regularly monitored and assessed [0, 1 pt]
 5. A full backup copy of critical business data is maintained (off-site/in the cloud) [0, 1 pt]
 6. A business continuity plan is in place in case of catastrophic failures (e.g. all data locked by a ransomware attack or physical damage to the IT infrastructure) [0, 1 pt]
 7. None of the above [0 pt]

M2.5. Automation and Artificial Intelligence

This dimension explores the level of automation and intelligence facilitated by digital means that is embedded in business processes.

9. Which of the following technologies and business applications are your enterprise already using? Please grade all options that apply using a 0-5 scale (0=Not used, 1=Consider to use, 2=Prototyping, 3=Testing, 4=Implementing, 5=Operational):
1. Natural Language Processing incl. chatbots, text mining, machine translation, sentiment analysis [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
 2. Computer vision / image recognition [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
 3. Audio processing / speech recognition, processing and synthesis [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
 4. Robotics and autonomous devices [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
 5. Business intelligence, data analytics, decision support systems, recommendation systems, intelligent control systems [0, 0.2, 0.4, 0.6, 0.8, 1 pt]
 6. None of the above [0 pt]

M2.6. Green digitalisation:

This dimension captures the capacity of an enterprise to undertake digitalisation with a long-term approach that takes responsibility and cares about the protection and sustainability of natural resources and the environment (eventually building a competitive advantage out of this).

10. How does your enterprise make use of digital technologies to contribute to environmental sustainability? Please select all options that apply:

1. Sustainable business model (e.g. circular economy model, product-as-a-service) [0, 1 pt]
2. Sustainable service provision (e.g. usage tracking for further reuse by other users) [0, 1 pt]
3. Sustainable products (e.g. eco-design, end-to-end product lifecycle planning, end-of-life & extension of useful life) [0, 1 pt]
4. Sustainable production and manufacturing methods, materials and components (incl. end-of-life management) [0, 1 pt]
5. Emissions, pollution and/or waste management [0, 1 pt]
6. Sustainable energy generation in own facility [0, 1 pt]
7. Optimisation of raw material consumption/cost [0, 1 pt]
8. Reduction of transport and packaging costs [0, 1 pt]
9. Digital applications to encourage responsible consumer behaviour [0, 1 pt]
10. Paperless administrative processes [0, 1 pt]
11. None of the above: [0 pt]

11. Is your enterprise taking into account environmental impacts in its digital choices and practices? Please grade all options that apply using this scale: *No, Partially, Yes*:

1. Environmental concerns and standards are embedded in the enterprise's business model and strategy [0, 1, 2 pt]
2. There is an Environmental Management System/certification implemented [0, 1, 2 pt]
3. Environmental aspects are part of digital technologies/suppliers' procurement criteria [0, 1, 2 pt]
4. Energy consumption of digital technologies and data storage are monitored and optimised [0, 1, 2 pt]
5. Recycling/re-use of old technological equipment is actively practised by the enterprise [0, 1, 2 pt]
6. None of the above: [0 pt]

Digital Maturity scoring criteria

- Each Dimension will be scored on a scale from 0 to 100.
- Each Question will be scored on a scale from 0 to 10.
- Inside each Dimension, all questions will weight equally, meaning that each question's mark will be multiplied by that question's coefficient.
 - In the case of Q1 (double question), each column counts as a single question (already invested / plan to invest), so Dimension 1 score is calculated as follows: $D1 = Q1ai \times 3.33 + Q1pi \times 3.33 + Q2 \times 3.33$.
 - In the case of Dimensions 2, 3, 4 and 6, each Dimension's score is the result of multiplying each of its two questions' individual scores by 5.
 - In the case of Dimension 5, the Dimension's score is the result of multiplying its single question score by 10.
- Options' assigned scores inside a question typically sum up 10 points. However:
 - Individual option scores may vary from one to another (0, 1, 2 pt) depending on their relevance for digital transformation. Eventually, options weighting could be revised and adjusted after collection and analysis of a first round of data to identify off-scales.
 - In questions where the sum of possible points is lower than 10, the results will be scaled up to 10 by multiplying the scorings by $10 / \text{sum of possible points}$.
- Option grading types:
 - No/Yes (No = 0, Yes = 1)
 - No/Partially/Yes (No = 0, Partially = 0.5, Yes = 1)
 - 0-5 scale (scale values 0 to 5 to be converted into 0, 0.2, 0.4, 0.6, 0.8, 1)
- Score calculation:
 - Example [Question 5]: an Option assigned with 1 pt (out of a total of 5 for the Question) is graded 3 by the respondent (in a 0-5 scale), then this answer contributes with $0.6 \times 10 / 5 = 1.2$ to the total score of such Question.