DINNOCAP

Multi-county report on Online SME Digital maturity recommender tool findings and usability

Project Output O.2.3: Online maturity tool evaluation report

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Abbreviations

BSR – Baltic Sea Region
CEO – Chief Executive Officer
CRM – Customer Relationship Management
DESI – Digital Economy and Society Index
DII – Digital Intensity Index (DII)
DOS – Denial of Service
DRL – Digital Readiness level
EDIH – European Digital Innovation Hub
ERP – Enterprise Resource Planning
EU – European Union
G2B – Government to Business
ICT – Information and Communications Technology
LIKTA – Latvian Information and Communications Technology Association
PWC – PriceWaterhouseCoopers
RFID – Radio Frequency Identification
SAT – Self-Assessment Tool
SME – Small and Medium Enterprises

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Introduction

DINNOCAP is an extension project of DIGINNO which was a digital collaboration project for the BSR carried out 2017-2020: **https://www.diginnobsr.eu.** DINNOCAP supports the research, distribution and implementation of innovative ICT tools developed in DIGINNO.

These are:
1. Business needs assessment of ICT in SMEs in BSR
2. SME Digital Maturity Online Recommender Tool
3. Digital Assessment Toolkit for SME's
4. Four show-case models of G2B cross-border e-service
5. DIGINNO Policy White Paper

SME Digital Maturity Recommender Tool was one of the most actively used interactive tools. Developed by DIGINNO project. DINNOCAP project contributed to implementation, dissemination and evaluation of these tools and solutions at the practical level together with companies and industry associations in the partner countries.

SME Digital Maturity Recommender Tool is considered to be the first step in understanding the maturity and the importance of digitalization in the Baltic Sea Region for companies, especially SMEs The tool was developed by the DIGINNO partner Latvian Information and Communications Technology Association (LIKTA) in collaboration with project partners from Estonia, Lithuania, Finland, Denmark, Poland and Sweden. It was based on the initial methodology of LIKTA initiative "Gudrā Latvija", the implementation of which has started in 2019.

This online recommender tool is primarily aimed at the industry SMEs at the management level. It enables SMEs to measure digital maturity across 10 business dimensions.

Upon completion, the SME Digital Maturity Recommender Tool generates tailored recommendations to guide companies and help them adapt to the digital transformation. Companies also receive tips on how to initiate an internal discussion on the topic of digitalization and its importance for organisational strategy. In addition, the tool helps managers, directors and heads of SMEs to understand where their company stands in comparison to others and invest in sustainable upskilling workforce programmes.

The tool is available in English and in the languages of the Baltic Sea Region in the following website: **www.diginnotool.eu**.The tool is useful in the evaluation of the digital transformation process of SMEs.

DINNOCAP project partners: https://www.dinnocapbsr.eu/partnerships

1. Online SME Digital maturity recommender tool: conceptualization and measurement model

1.1.Tool alliance with DESI methodology digital for measuring integration of digital technologies into businesses.

The European Commission has monitored Member States' progress on digital and published annual Digital Economy and Society Index (DESI) reports since 2014. Each year, the reports include country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the key digital policy areas.

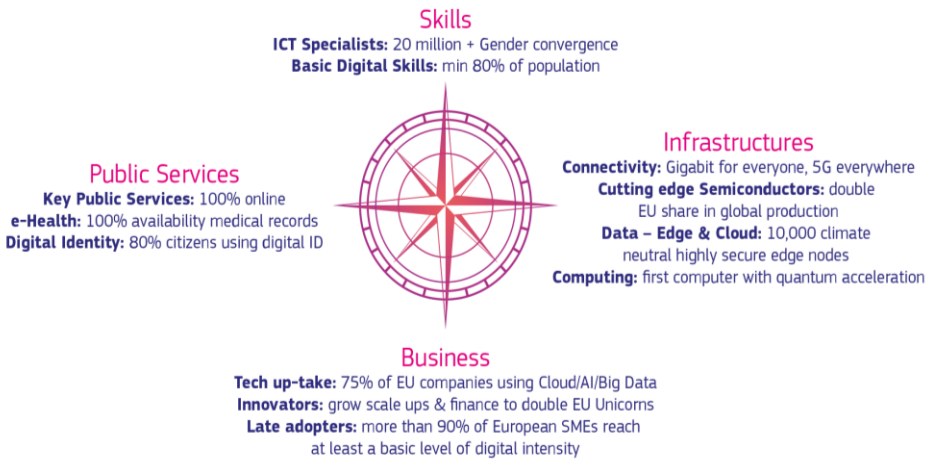
In 2021, the Commission adjusted DESI to reflect the two major policy initiatives that will have an impact on digital transformation in the EU over the coming years: the Recovery and Resilience Facility and the Digital Decade Compass[1].

To align DESI with the four cardinal points and the targets under the Digital Compass, to improve the methodology and take account of the latest technological and policy developments, the Commission made a number of changes to the 2021 edition of the DESI. The indicators are now structured around the four main areas in the Digital Compass, replacing the previous five-dimension structure. 11 of the DESI 2021 indicators measure targets set in the Digital Compass. In future, the DESI will be aligned even more closely with the Digital Compass to ensure that all targets are discussed in the reports.

The Communication 'Digital Compass: The European Way for the Digital Decade' set out digital ambitions for the next decade in the form of clear, concrete targets. The digital compass uses the 4 points of the compass to identify the main goals to reach over the next decade:

1. a digitally skilled population and highly skilled digital professionals;
2. secure and sustainable digital infrastructures;
3. digital transformation of businesses;
4. digitisation of public services.

Figure 1 Digital Compass



[1] https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade

Key policy areas to ensure these goals are met include cloud computing, artificial intelligence, digital identities, data, and connectivity.

Integration of digital technologies is measured from 2019 according to a common methodology. This dimension measures the digitalization of business and e-commerce from 2019 onwards.

Figure 2 Integration of digital technology indicators in DESI

	EU	
	DESI 2019	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	60% 2020
3b1 Electronic information sharing % enterprises	36% 2017	36% 2019
3b2 Social media % enterprises	18% 2017	23% 2019
3b3 Big data % enterprises	12% 2018	14% 2020
3b4 Cloud % enterprises	16% 2018	26% 2020
3b5 AI % enterprises	NA	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	66% 2021
3b7 e-Invoices % enterprises	25% 2018	32% 2020
3c1 SMEs selling online % SMEs	16% 2018	17% 2020
3c2 e-Commerce turnover % SME turnover	10% 2018	12% 2020
3c3 Selling online cross-border % SMEs	8% 2017	8% 2019

Source: DESI 2021, European Commission.

Most of the self-assessment questions in DIGINNO digital maturity measurement model are designed to cover these indicators, described in more detail in 1.3. section.

1.2. Comparison to other Digital readiness assessment tools

There are a number of other tools of value for SMEs in evaluating their digital transformation process. These tools are of relevance because the evaluation of the digital transformation process is an ongoing process. As long as there are new digital solutions that will provide value to the processes and tasks within the SMEs, their contribution to enabling the competitive advantage has to be evaluated. In appendix 1 some digital assessment tools are recommended. Technology developers and knowledge institutions develop these digital assessment tools. The technology developers include: CISCO, Oracle, Dell, and Ark group. The Knowledge institutions include Hitachi consulting, PriceWaterhouseCoopers (PWC) and Digital Readiness level (DRL). Digital Economy and Society Index (DESI)

The tools developed by these companies and knowledge institutions are mostly generic except for the one developed by DELL. The tool developed by Hitachi is broad and very comprehensive. It enables the head of the SME to evaluate not just the level of digital transformation but the impact of the transformation on customer acquisition, partnerships, organizational culture and the economic value derived from the digital transformation process.

The focus of the CISCO tool is on the internal technical aspects of the digital transformation process. It provides an in-depth analysis and insight into the level of digital readiness. The ORACLE tool focuses on the internal and external technical aspects of the digital transformation process. It evaluates not only the implementation of digital solutions, but also how the SME adopts external solutions (such as cloud solutions) for its production and operational processes. The DELL tool is also focused on the technical aspects, but specifically on the use of automation technologies, IT self-service, Infrastructure technology and DevOPs. It is not advisable for an SME to use the DELL tool if they are not working with any of these technologies. The DRL tool, the PWC and the Arrk group tool focuses on the organizational readiness either towards adopting or in the adoption of digital technologies.

One of the latest similar tools, also developed under the INTERREG Baltic sea region program, is the InnoCAPE Digital Maturity Assessment Tool (DMA Tool). The test has been designed for all kind of businesses (although with a special focus on SMEs), in order to provide them with the foundations to discuss about challenges and strategic priorities on digitalization processes for companies. It consists of 26 questions and it takes only around 20 minutes. You will be assessed across 5 dimensions, each vital to your capacity to leverage digitalization:

- digital technology integration;
- organisation and leadership;
- strategy;
- digital innovation;
- data analytics.

After talking the tests, the results will show the extent to which these dimensions are developed in the company, but also how the company measure up to others in their industry, country and the Baltic Sea Region. As well as launching a discussion about digitalization in the company, the results can also be used to initiate a dialogue with the Digital Innovation Hub (DIH) in your region.

All of these tools can be used simultaneously to evaluate different aspects of digital readiness. They are equipped with evaluation metrics that will help the SME judge their performance. They are also equipped with recommendations that will provide useful tips on how to improve.

1.3. Multi-dimensional digital maturity measurement

Targeting management-level workforce within small and medium sized enterprises (SMEs), the DIGINNO SME Digital Maturity Recommender Tool measures digital maturity across 10 business dimensions:

- Digital transformation and competition
- Financial data management
- Human resources environment
- Customer relationship management
- Resource management
- Communication and customer relations
- Digitalization of processes

- Security policy and practices
- Digitalization in production
- Innovation and growth perspectives

The tool include three stages of Self-evaluation. These are:

- The Pre-evaluation of digital maturity
- The Evaluation of digital maturity for different business processes
- The Post-evaluation

In the pre-evaluation phase, the SME's principal digital readiness is evaluated. In the evaluation phase, the actual level of digital solutions in performing functional tasks and processes is evaluated. In the post-evaluation phase, the readiness for future changes an innovations for selecting the appropriate digital solutions is evaluated.

1.3.1. Pre-evaluation of digital maturity

MODULE 1. DIGITAL TRANSFORMATION AND COMPETITION

This module highlights the pre-evaluation level of digital transformation and the resulting competitiveness of the SME in general. The greater the use of digital technologies, the greater the competitiveness of the SME. Here the evaluator is taking an inventory of the existing digital solutions and their utilization in the SME. The aim of the stocktaking is to find out which digital solutions are utilized, where they are utilized, how personnel utilizes the digital solutions in their daily work, and whether the digital solutions are adequate for the processes and tasks within the SME. To find out the answers to these issues, the evaluator asks the following question and sub-questions.

Question 1: Do you find your company above industrial average when it comes to digitalization?

1.1. Are you confident that the digital solutions and equipment implemented in your company are the most effective for you?

1.2. Are you confident that your employees make full use of the digital solutions implemented within the company?

1.3. Do you have a detailed plan regarding which digital solutions and/or improvements you will implement during the coming year?

1.4. Do you have a vision regarding what digital solutions/enhancements you want to implement in your company within 3-5 years?

The answers provided in this section should result in the evaluator developing a vision statement on how to further integrate relevant digital solutions in various tasks and processes. In order to make the vision statement concrete, the evaluator proceeds to evaluate different sections.

1.3.2. Evaluation of digital maturity for different business processes

This section provides tools that will aid in the evaluation of the functional tasks and processes

FUNCTIONAL TASK EVALUATION

MODULE 2. FINANCIAL DATA MANAGEMENT

This module evaluates the need for digital solutions that support financial data management systems in SMEs. Financial data management is at the heart of every SME. In every unit and department, there are costs and expenditures monitored by a centralized agency. In most cases, that agency is the accounts department. The accounts department has to be able to monitor and regulate the income and the expenditure of different sections within the SME. In bigger SMEs, section heads should be able to manage their accounts in conjunction with the accounts department. Furthermore, in order to expedite decision-making processes, the head of the SME should be able to access the accounting information of the company. Financial data management also supports the interaction between the SME and its clients, financial institutions, and government agencies (mostly tax authorities). These management practices can be enhanced by digital solutions. The relevant question and sub questions that can assist in the evaluation of digital transformation in the management of financial data are:

Question 2: Can you retrieve, store, and review your company's most important financial data at any time without involving accounting?

2.1. Do you have the appropriate software for bookkeeping in your company?

2.2. Do you have an accounting system with automated file exchange with banks?

2.3. Can you issue and receive electronic invoices?

2.4. Can you do all the accounting functions in paperless form (incoming/outgoing invoice processing, report generation, performing auditing, filling in/filing tax forms, etc.)?

2.5. When sending/receiving invoices, can you quickly and easily obtain billing information, reply from the payee, and the payment status?

MODULE 3. HUMAN RESOURCES ENVIRONMENT

This module evaluates the need for digital solutions that support the management of human resources. Paper- based, non-digital human resource management is cumbersome and less efficient. Such HR processes often result in demotivated personnel. This is because evaluating their performance or assessing their training and competence development needs will require long processing times. The adoption of digital human resource solutions and the proper integration of these solutions will result in better transparency, shorter processing times, reduced bureaucracy, and a highly motivated staff. It will also have a positive effect on the competitiveness of the SME. The guiding question and sub-questions that will enable the evaluator to assess the existing human resource systems are as follows:

Question 3: Do your employees go digital? Does your company use tools to streamline communication and processes on the company-employee line?

3.1. Does your company calculate wages with software that is specifically suitable for it?

3.2. Can employees easily and quickly apply for leave/absence on a special digital system that is linked to the financial accounting system?

3.3. Do your employees have access to online tools that make it easy to work outside the office?

3.4. Can you assign tasks and follow their completion electronically and remotely?

3.5. Do you have a digital system to follow employees' personal competence development/training, well-being and workplace atmosphere?

MODULE 4: CUSTOMER RELATIONSHIP MANAGEMENT

This module evaluates the need for digital solutions that support Customer Relationship Management (CRM) systems in SMEs. Customer relationship management is at the heart of any company. A company would not exist without its customers and keeping them satisfied ensures the inflow of revenue and, hence, sustainability of the company. However, in order to keep the customers satisfied, a company's business relationship with its customers has to continually improve. Else, they will flock to a competitor. Hence, there is a need for a system that helps analyse customer feedback and other data collected and derived from the company's own customer relationships or from the industry at large. Analysing such growing data requires the use of a comprehensive digital solution. This question and the following sub-questions will enable an evaluator to assess, if there is need for a Customer Relationship Management system.

Question 4: Can you find the history of each customer's purchase/cooperation pattern quickly and easily in a digital way?

4.1. Can you easily select customers by specific parameters in the customer database?

4.2. In the event of changes, are your customer data (such as name, reg., address, etc.) automatically updated in your information systems?

4.3. Can your products/services be conveniently purchased without direct communication with your employees (on the Internet, through an application, etc.)?

4.4. Do you use and analyse customer historical data to forecast purchase volumes/discounts/buying habits?

4.5. Is there a website for customers to see their transaction status/history?

MODULE 5. RESOURCE MANAGEMENT

This module evaluates the need for digital solutions that support Company's Resource Management Systems in operations management processes and tasks. Operations management enables the efficient management of resources. In contemporary times, digital solutions such as, Enterprise Resource Planning (ERP) systems etc., enable efficient operations management processes. Hence, the utilization of digital solutions for the identification, development and allocation of resources are critical activities for a company. Resources are diverse but also cross-cutting. For example, in project management, financial resources are used to employ and upgrade human skills, and human skills are needed to develop and manage resources used for service delivery. Obviously, these resources are handled by different systems, but if resources are to be identified, categorized, allocated, or developed, there is a clear need for digital solutions that can manage cross-cutting resources. Resource management requires that the evaluator first identifies the cross-cutting resources that need to be managed and then follows up with the tool that can support the management process. In this module, unlike in the other modules, there is no one question that fits all. However, the example provided here can serve as an inspiration. This example is related to asset management, but an evaluator can use the same logic to inquire about other forms of resource management.

Question 5: Can you quickly and easily access data about the asset management (raw materials, inventory, finances, etc.) for your company based on information derived from your digital systems?

5.1. Do you perform fixed asset inventory with the scanning feature on digital devices?

5.2. Can you automate purchase order scheduling to prevent resource shortages or stockpiling in advance?

5.3. Does your tracking system allow for electronic document exchange with partners (invoices, orders, etc.)?

5.4. Can you quickly and easily calculate your company's transport and logistics costs (maintenance, fuel costs, routes, hours)?

5.5. Can you immediately calculate the cost of goods/services?

MODULE 6. COMMUNICATION AND CUSTOMER RELATIONS

This module evaluates the need for digital solutions that support communication with customers. Aside from customer relationship management mentioned earlier, opening up channels of communication to customers is vital. If a customer does not have the means of either reaching or receiving feedback, chances are that the customer will look for a new supplier. Today, as evident on review platforms such as Trustpilot, customers value the open line of communication and rate it highly. Furthermore, they value the open line of communication much more, if they can give and receive instant and valuable feedback. Such feedback could be collected via, for example, a comprehensive knowledge base or an online chat. In order to understand whether an SME already has an effective digital solution that enables immediate customer feedback, the evaluator should ask this question and its follow-up questions.

Question 6: Will your potential customers/employees find the information about you on the Internet by entering keywords in search engines?

6.1. Have you defined the keywords you want to be found by in Internet search engines, and are your webpages tailored accordingly?

6.2. Do you have a digital system to track interaction with your customers?

6.3. Can you provide the customers with online support when they need it?

6.4. Can you reach a large number of customers (employees/partners) online?

6.5. Are you satisfied with how fast customers can find information about you?

PROCESS EVALUATION

MODULE 7. DIGITALIZATION OF PROCESSES

This module evaluates the need for digital solutions that support the digitalization of processes that interlink different functional tasks within the SME. Here the evaluator is assessing the flow of different processes and where they intersect with each other. For example, a customer decides to buy a machine and contacts the sales representative. The sales representative specifies the product and creates an order, the order is forwarded to the factory, where it is entered into the production pipeline and eventually manufactured, the finalized machine is delivered to the customer with an invoice, customer receives and approves the machine and pays the invoice, etc,. There are several different systems at play here, involving, for example, marketing and sales, component sourcing, production planning, production, internal and external logistics, and financial management. These systems could exist in silos where they neither share data nor interconnect with each other. In order to digitalise the overall

process, these systems either have to be interconnected to a separate system, which brokers the data exchange, or be interconnected directly with one another. The resulting process could be such that once the order is digitally created, the customer receives an electronic confirmation of the order, and the production department is alerted electronically prompting it to begin the sourcing and manufacturing processes. Once the machine has been produced, the sales department receives an electronic notification about customer delivery, the customer is also informed about the delivery, and invoicing and payment are done digitally. This is an example of different processes being interlinked within the SME. Enabling the digitalization of processes requires a step-by-step approach. In this module the evaluator is provided with questions that will help in kick-staring the journey.

Question 7. Have you automated/digitalised your company to the fullest potential?

7.1. Do you digitally approve documents and sign contracts electronically (using e.g. e-signature) in
your company?
7.2. If different digital solutions have been implemented within the company, are they interconnected and easy to use?
7.3. Do your systems perform automated customer risk assessment and monitoring (e.g. monitoring of customer tax debts, bankruptcy, etc.)?
7.4. Can employees from different departments easily track the progress and deadlines of joint projects?

MODULE 8. SECURITY POLICY AND PRACTICES

This module is for evaluators both with and without digital solutions. For evaluators without digital solutions, it is important to identify the threats associated with such digital solutions, like phishing, social engineering, hacking, Denial of Service (DOS), etc. Social engineering and phishing mostly occur on digital solutions used for human-to-human communications. Obviously, once successful, they provide potential for indirect or direct access to critical systems. Hence developing security policies and practices that will prevent employees of the SME from becoming victims of such threats is beneficial. To develop such policies, the company needs access to security experts. However, for critical systems that are prone to hacking and DOS, the evaluator should use the following questions to evaluate the threat. If the answers are negative then the evaluators should look for different solutions such as firewalls, encryption services, and the use of secured networks.

Question 8: Are you confident that if you lose access to your company data, you will be able to restore it quickly?

8.1. Does your company continuously review potential threats and take action to prevent, detect, respond to and recover from data breaches?
8.2. Do employees in your company receive regular education and do they take proper action regarding data security and safety topics?
8.3. Are your digital assets protected and can you remotely locate and control them?
8.4. Have you secured your data against breaches when employees work remotely?
8.5. Do you use secure connections when sending/storing documents/ business data?

MODULE 9. DIGITALIZATION IN PRODUCTION

This module evaluates the need for digital solutions that support the production processes. Aspects of production processes are increasingly being digitalised and delivered as (cloud-based) services. Here infrastructure, platforms, and software are delivered as services, and a company does not need to invest in building or developing certain critical infrastructure. If an SME decides to develop cloud-based services, it gains in several ways. For example, it can use the cloud for its internal production processes. It can also rent parts of the cloud infrastructure to other service providers for a fee. Other digital solutions that support digitalization of production processes are robots, digital twin technologies, and automation technologies.

It is important for evaluators to assess their production line to find out where digital technologies are needed to support, enable, or even become the critical player in the production process. Key advantages are the reduced cost of production as well as enabling efficiency gains in the production process. Here are questions for inspiring the evaluation process.

Question 9: Is your production process automated/digitalised?

9.1. Do you utilize sensors in production and send measurement results to the cloud or your server to
optimize production?

9.2. Can your management track production processes in real time (e.g. production flow, alerts, etc.)?

9.3. Do you use your production data to build models (Big Data) for better management or predictive maintenance?

9.4. Do you utilize RFID or similar digital functionality to track assembling parts or complete products to improve logistics?

9.5. Have you adopted robots, including collaborative robots (cobots) in your production?

9.6. Do you apply Virtual Reality/Augmented Reality to train your production/maintenance staff or in other applications?

1.3.3. Post evaluation

MODULE 10. INNOVATION AND GROWTH PERSPECTIVES

In this module, the evaluator is given tips on how to approach the technologies needed for the tasks and processes related to innovation and growth. In the evaluation phase, the evaluator typically thinks of different technologies that are needed to support each individual process and task. However, the choice of technologies should also be driven by the need to deliver innovations and ensure growth for the entire company. In other words, the individual choices should be geared towards overall cost reduction, increased efficiency, and enhanced value to customers.

Netflix was a video leasing company in the 1990s. They were not breaking even due to the cost of mailing video cassettes to their customers. But once they decided to digitize their content and digitalise their processes, they moved from being a video renting company to being a video-on-demand company. Netflix's adoption of digital technologies in their production and delivery processes has led to a major change in their whole business model while continuing to deliver the same customer

experience but with enhanced value. This is the mindset that is needed when thinking of the digital solutions that will fit the processes in your company. So before making choices on the technology ask yourself the following questions.

Question 10: Do you feel familiar with the most important trends and updates of digital solutions for your company? Are you considering/planning to implement digital solutions within your company during the next 2-3 years?

10.1. Digitalization on innovation of products and services (A good or service that is new or significantly improved. This includes significant improvements in technical specifications, components and materials, software in the product, user friendliness or other functional characteristics.)

10.2. Digitalization on innovation of organization processes (A new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.)

10.3. Digitalization on innovation of organizational structure (A new organizational method in business practices, workplace organization or external relations.)

10.4. Digitalization on innovation of marketing (A new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.)

If the conclusions are not positive, then it is imperative that the company upgrades its knowledge on the relevant technologies. It will also be helpful to ask advice and suggestions from IT experts and engineers regarding ideas on potential technical solutions. A pros and cons tabulation could be helpful in finding and defining, which technologies will be the most helpful. Once those technologies and solutions have been identified, then plans can be made to implement them in phases.

1.4. Guidelines for successful use of recommender tool

The tool is based on the following principles and partner recommendations to make it easier for SMEs to use:

- orientation on different business processes and aspects;
- use of business (SME), not IT terminology;
- consider possibility to skip detailed questions;
- have attractive visual and graphical solutions;
- smart presentation of individual and overall results;
- recommendations based on each SME assessment results.

Step-by-step description of how to evaluate a company's digital maturity using a recommendation tool:

STEP 1: To evaluate company's digital maturity, **its representative needs to fill up the registration form and provide the following information:** e-mail address, company name, your position, number of employees, the sector, region and turnover.

- The company needs to tick the acceptance checkbox if it would like to receive a copy of its company's results via e-mail.
- The company should read the privacy policy carefully to get a clear understanding of how company data is collected, protected or otherwise processed. **The company must tick the acceptance checkbox to confirm that they have read the Privacy Policy.**

STEP 2: This Online SME Digital maturity recommender tool enables a company to measure digital maturity across 10 business dimensions.

- **Only general questions can be answered to quickly understand a company's digital maturity.** It will take about 10 minutes to complete.
- **Or a company representative can answer all the questions to get a more detailed understanding** of a company's digital maturity. It will take about 30 minutes to complete.

STEP 3: STEP 3: The company's personalised report will be sent immediately to the email address provided by the representative. The company will receive:

- A PDF document describing the company's results and general recommendations for the next steps towards digitization.
- A link that will allow the company representative to return at any time to update the answers.

STEP 4: The company understands **where it stands in comparison to others** by selecting according to the following criteria: the sector, region, turnover, employees.

- **Overall results** show in which of the 4 result categories the company is currently standing.
- **Detailed results** show company percentages and averages in each of the 10 focus areas.

Figure 3 Types of results

STEP 5: **It is possible to share the company's results** via social media platforms.

Upon completion, the company receive:

- general recommendations about next steps towards digitalization;
- inspiration how to start internal discussion on digitalization in the company;
- understanding of the company's position in comparison with others.

The Online SME Digital maturity recommender tool is primarily aimed for the industry SME's management level (e.g. board member, development manager, owner, CEO).

1.5. Result types with corresponding result categories

For easier association, sports terminology is used to reflect the results of companies' digital maturity. The companies with the best results are assigned to the Champions League, in the middle are Sports Stars and Fitness Club, while the greatest effort in the future in the introduction of digital technologies is needed by those who are Tomorrow's Heroes.

CHAMPIONS' LEAGUE (very high)

The Champions League company is a forerunner in digitalization with deep understanding of digital business models, product structures, processes, technologies, tools, and organizational models. Its organization and internal processes have been designed with digitalization in mind. The Champions League company continuously follows international research and identifies relevant benchmarks also outside its own industry when seeking new ways to improve its strategic impact and operational excellence. The Champions League company has also the ability to leverage support from a portfolio of trusted, world-class partners representing different aspects of digitalization. A well-managed network of internal digitalization champions masters the skills needed in identifying, planning, leading, and explaining even the most complex and expansive projects or organizational changes. These champions go on to execute comprehensive digitalization projects, monitor their results, and manage business consequences and dynamics. They have a systematic approach to process improvement with the potential to make a significant impact on company-wide goals and productivity.

SPORTS STARS (high)

The Sports Stars company already has a solid understanding of digitalization: its benefits, challenges, and requirements. The Sports Stars company has defined its digitalization strategy and a continuous process of implementing it. Company also has a systematic, knowledge-based approach for digitalizing and developing its products, services and processes. The Sports Stars company has collected its digitalization champions either into a company-wide expert network (Center of Excellence) or into a centralized corporate function, which has its own role, resources, and responsibilities. Internal digitalization champions maintain and develop their skills by attending (formal or informal) training events, and the company seeks support from like-minded companies by regularly participating in industry events and conferences. They are ready to take charge of even major internal development projects, making connections between various digitalization concepts and the goals of their organization. They can put different tools into action, find chances to eliminate waste in processes, identify new business models, and glean useful insights from company and product data.

FITNESS CLUB (medium)

The Fitness Club company has already had some exposure to digitalization. For example, company representatives may have attended training sessions over a day or two, and they have formally recognized roles as digitalization champions inside the company. The Fitness Club company understands the potential of digitalization and has already started to define an overall digitalization strategy, or at least started testing and piloting digital solutions in selected business areas and functions. The Fitness Club company still needs external mentoring and support, but its internal

digitalization champions can be assigned to development projects as fully contributing team members or even as managers of limited-scope development projects.

TOMORROW'S HEROES (low)

Tomorrow’s Heroes company has just started its digitalization or is still in early phases of the process. Some individual employees have knowledge about challenges, benefits and business potential related to digitalization, but their understanding has not been collected systematically and the company does not have a formal digitalization plan. Digitalization is not yet on the company’s business agenda. Tomorrow’s Heroes company needs external support in defining and implementing its digitalization journey.

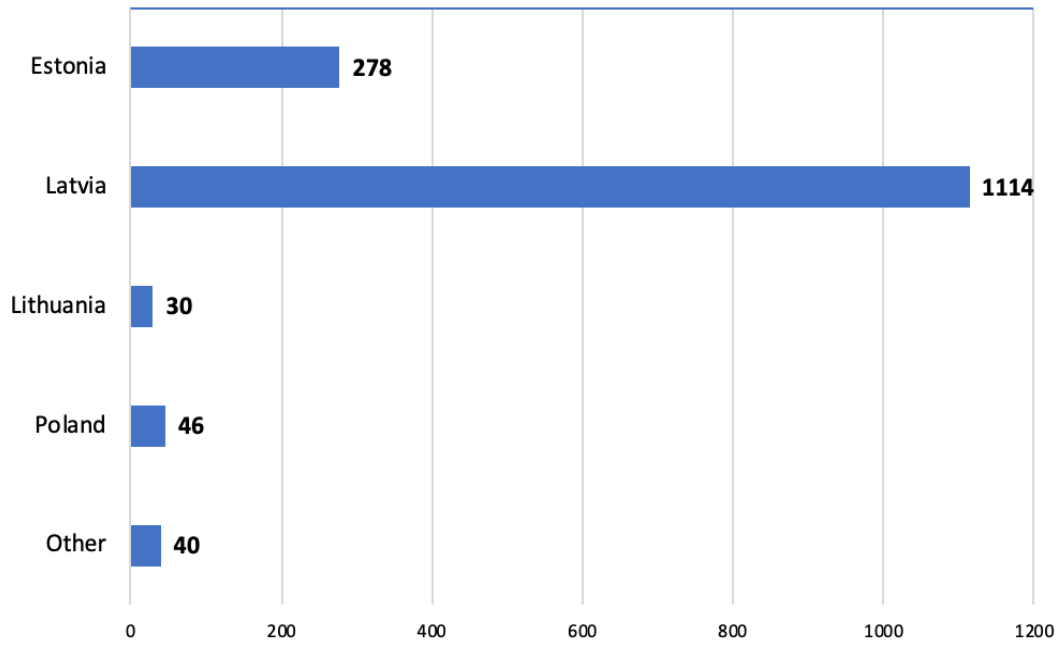
2. Multi-country analysis of the digital maturity tool results by BSR SMEs

The development of the local language versions of the SME Digital Maturity Recommender Tool was completed in May 2020. By the end of 2020, project partners had actively encouraged both industry associations and SMEs to use this tool to evaluate digital maturity. At the end of December 2021 (end of the DINNOCAP project), a total of 1508 companies had used the tool and evaluated their company. In Latvia, the tool was promoted earlier, so more company data have been received. Data were mainly received from companies from Latvia – 1114, Estonia – 278, Poland – 46, Lithuania – 30 as well as companies from other countries – 40 (see table 4 and figure 7).

Table 1 Respondents by country

Country	
Estonia	278
Latvia	1114
Lithuania	30
Poland	46
Other	40
In total:	**1508**

Figure 4 Respondents by country (N=1508)



The opportunity to evaluate the company's digital maturity during the first 1.5 years had been used by companies with different turnover, number of employees and from different industries. Only data from companies that have fully completed the self-assessment test and validated by experts have been used for data analysis.

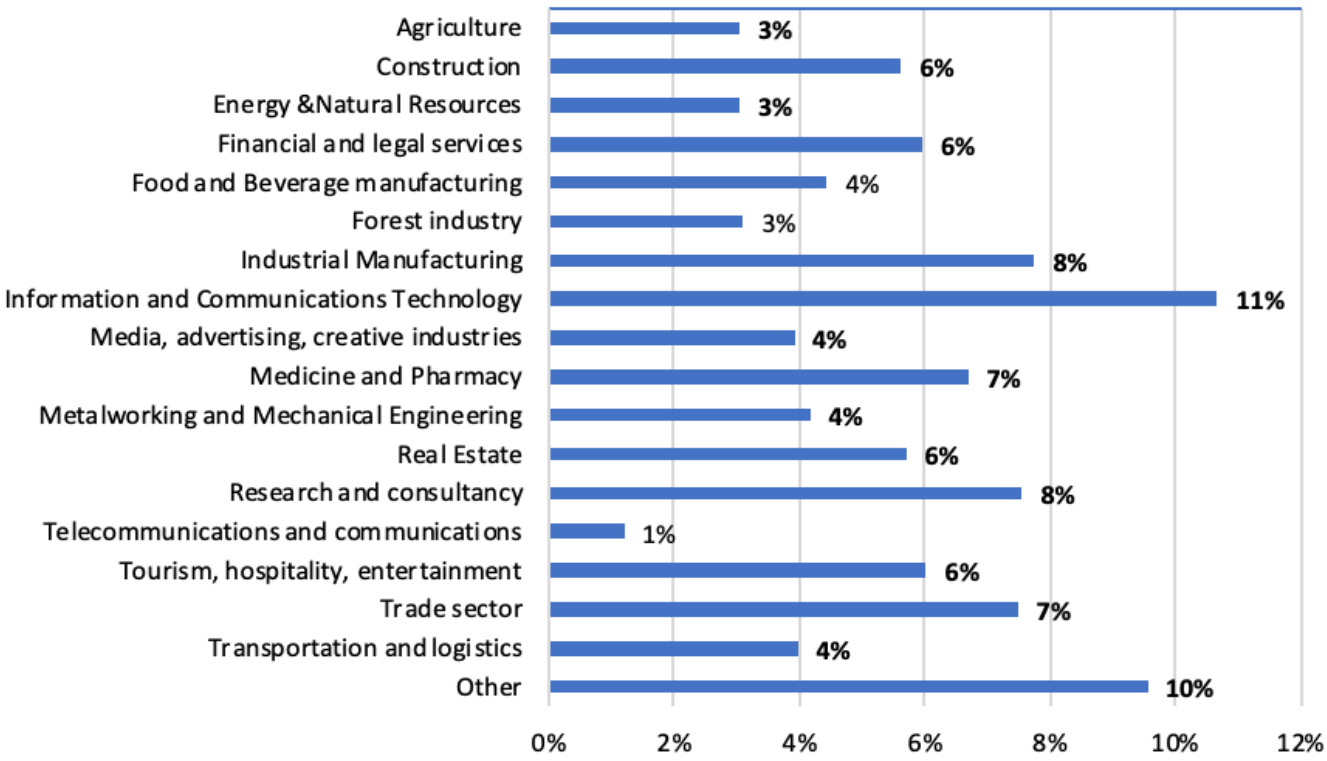
2.1. Characteristics of the respondents

In total, 1508 companies have evaluated their digital maturity. Of all the data received, most companies represent the Information and Communications Technology industry – 161 or 11%, Industrial Manufacturing industry – 117 or 8%, Research and consultancy industry – 114 or 8% and Trade sector – 113 or 5% (see table 2 and figure 5).

Table 2 Respondents by industries

Industry	
Agriculture	46
Construction	85
Energy &Natural Resources	46
Financial and legal services	90
Food and Beverage manufacturing	67
Forest industry	47
Industrial Manufacturing	**117**
Information and Communications Technology	**161**
Media, advertising, creative industries	59
Medicine and Pharmacy	101
Metalworking and Mechanical Engineering	63
Real Estate	86
Research and consultancy	**114**
Telecommunications and communications	18
Tourism, hospitality, entertainment	91
Trade sector	**113**
Transportation and logistics	60
Other	**144**
In total:	**1508**

Figure 5 Respondents by industries (N=1508)



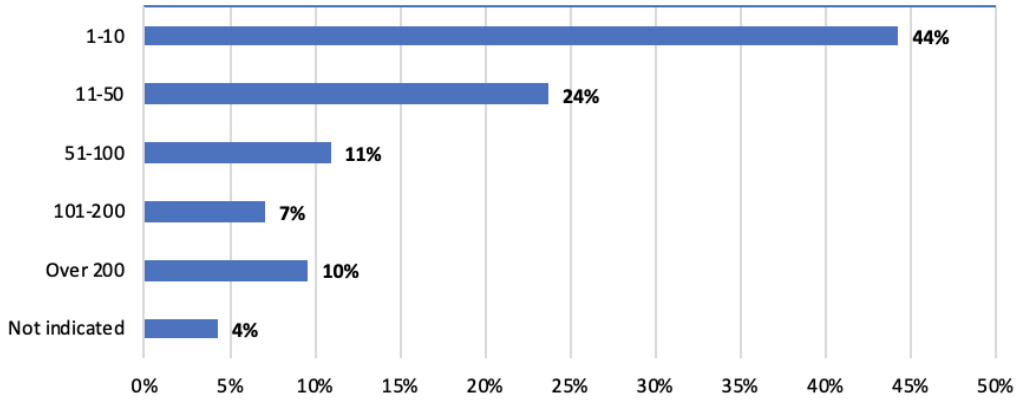
The partners intended to promote the use of the tool more among companies in the production industry. So far service industries were more active.

Looking at the received data by number of employees, a large part of the total number of respondents are micro companies with 1 to 10 employees – 668 or 44%. Many are also small companies with 11 to 50 employees – 365 or 24%, with 51 to 100 employees – 165 or 11%, with 101 to 200 employees – 107 or 7% and 145 or 10% of all companies are over 200 employees (see table 3 and figure 6).

Table 3 Respondents by number of employees

Number of employees	
1-10	**668**
11-50	358
51-100	165
101-200	107
Over 200	145
Not indicated	65
In total:	**1508**

Figure 6 Respondents by number of employees (N=1508)



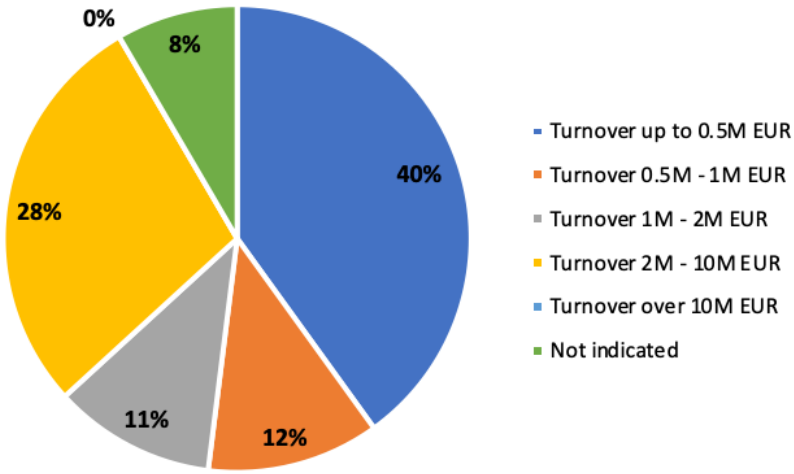
The industries in which companies have been most active so far often have a small number of employees. SME Digital Maturity Online Recommender Tool aims SMEs.

Looking at the received data by turnover, a large part of the total number of respondents are companies with turnover up to 0,5M EUR – 604 or 40%. Many are companies with turnover 2M to 10M EUR – 428 or 28%, companies with turnover 0,5M to 1M EUR – 180 or 12% and 169 or 11% companies with turnover 1M to 2M EUR (see table 4 and figure 7).

Table 4 Respondents by turnover

Turnover	
Turnover up to 0.5M EUR	604
Turnover 0.5M - 1M EUR	180
Turnover 1M - 2M EUR	169
Turnover 2M - 10M EUR	428
Turnover over 10M EUR	0
Not indicated	127
In total:	**1508**

Figure 7 Respondents by turnover (N=1508)



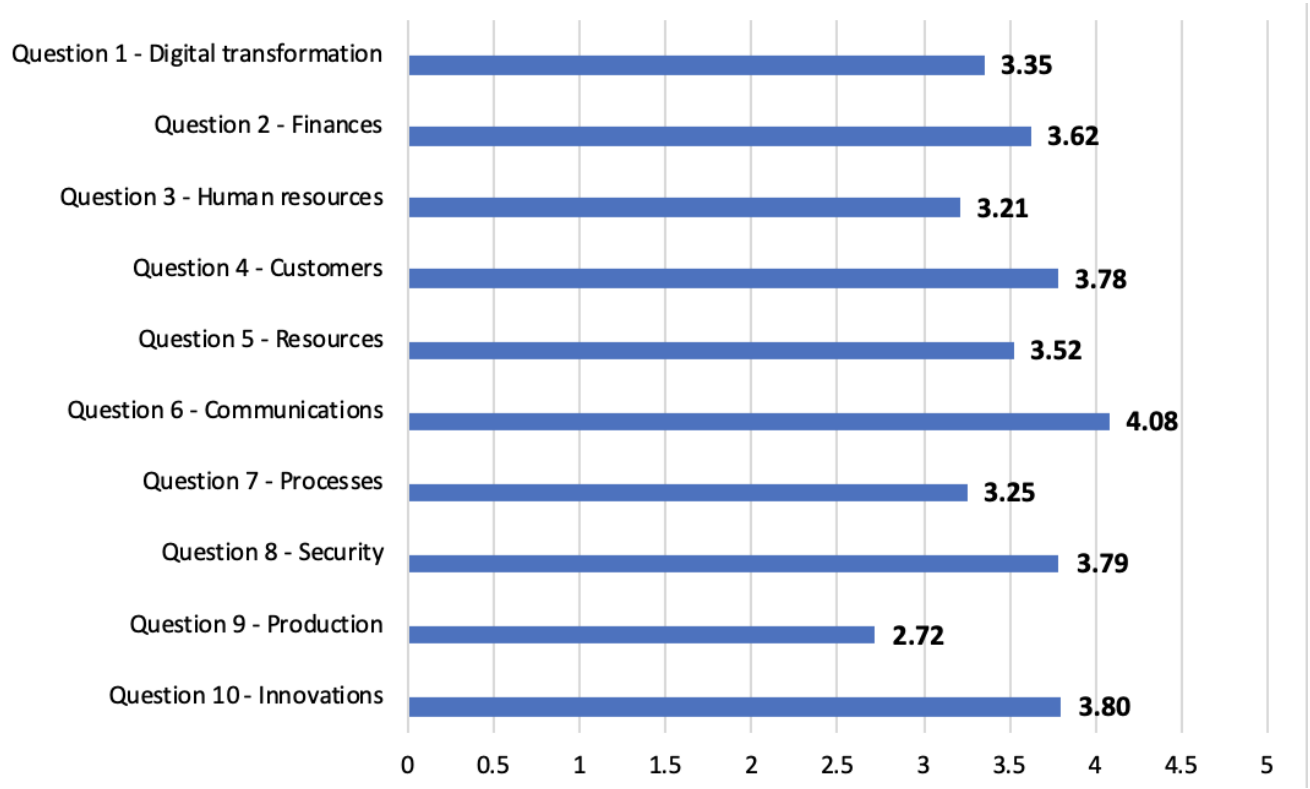
2.2. Main results

As mentioned above DIGINNO SME Digital Maturity Recommender Tool measures digital maturity across 10 business dimensions. Analysing the received data by these dimensions, the highest averages are shown for communications – 4,8 on a 5 point scale or 70%, innovations – 3,80 or 61% and security – 3,79 or 60% (see table 5 and figure 8).

Table 5 Respondents by business domains (N=1508)

BUSINESS DOMAINS	Average (%)
DIGITAL TRANSFORMATION	47%
FINANCES	55%
HUMAN RESOURCES	41%
CUSTOMERS	61%
RESOURCES	53%
COMMUNICATIONS	70%
PROCESSES	43%
SECURITY	60%
PRODUCTION	29%
INNOVATIONS	61%

Figure 8 Respondents by business domains (N=1508)



Looking at all respondents by sports classes (levels), most of the companies rank in the Fitness Club - 597 or 40%, while in the Sports Stars class 513 or 34%, Tomorrow's Heroes are 320 or 21% and in the Champions' league only 78 or 5% of all companies (see table 6 and figure 9).

Table 6 Respondents by level

Level		%
Champions' league	78	5%
Sports Stars	513	34%
Fitness Club	597	40%
Tomorrow's Heroes	320	21%
In total:	1508	

Figure 9 respondents by level (N=1508)

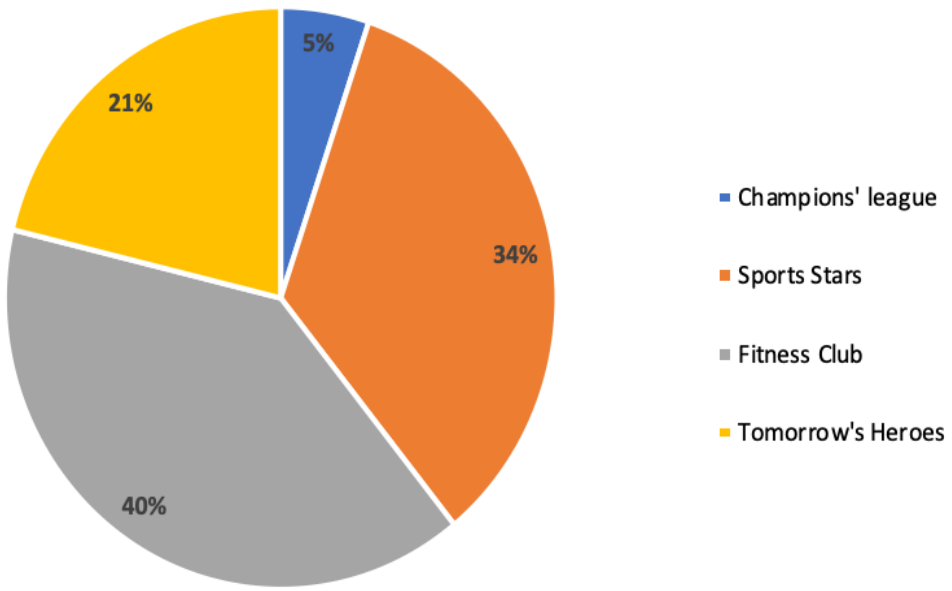
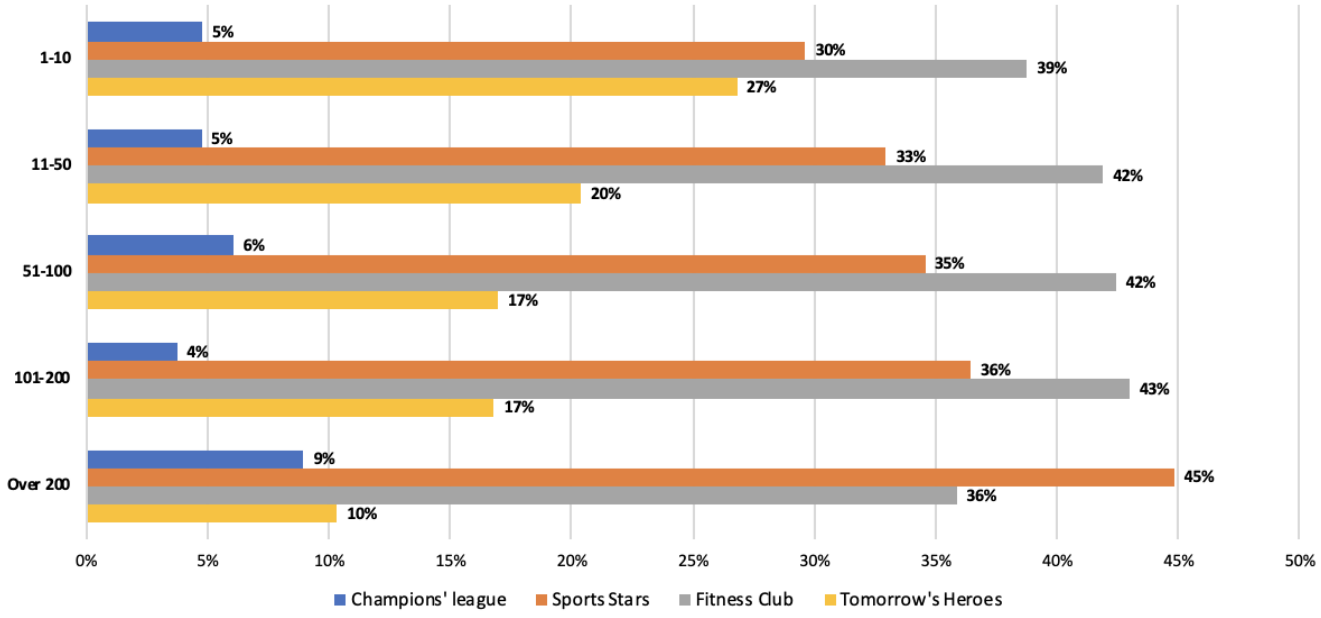


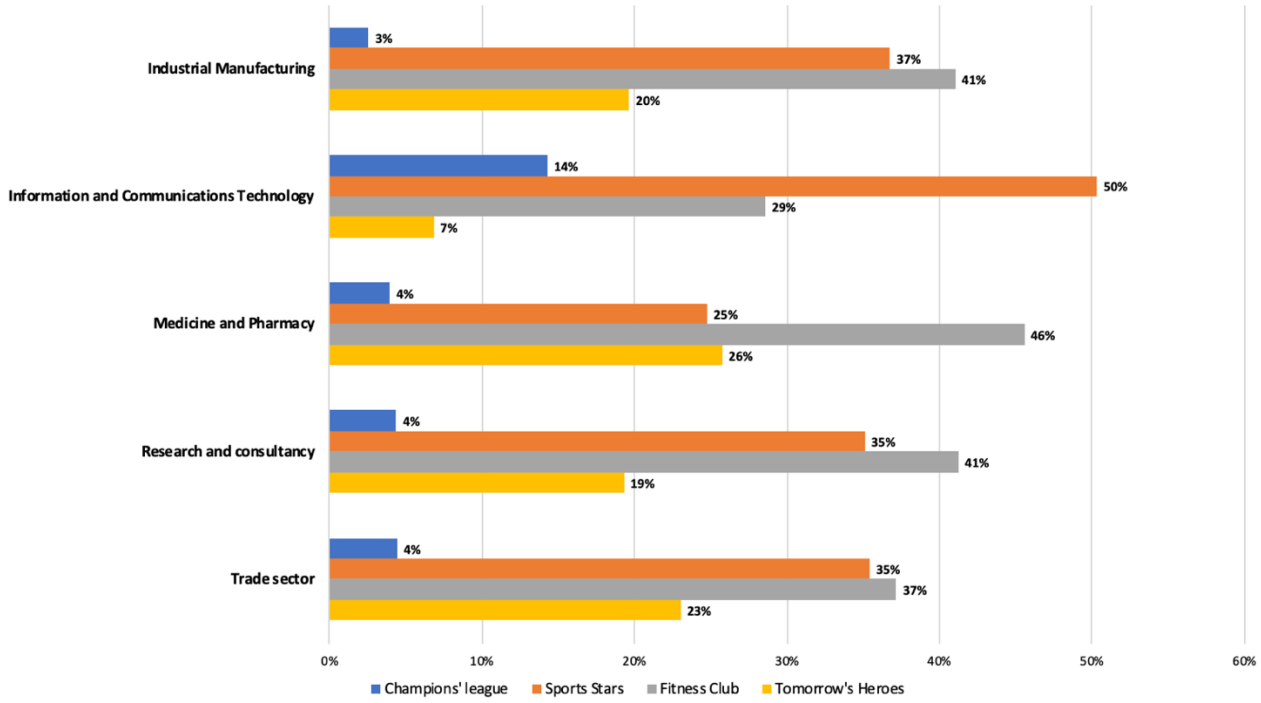
Figure 10 shows that in general companies with more than 200 employees have higher rates of digital maturity than smaller companies. In the Champions' League, the highest results are for companies with over 200 employees – 9% and the lowest for companies with 101-200 – 9%. In the Sports Stars class, the highest results are again companies with over 200 employees – 45% and the lowest for companies with 1-10 employees – 30%. In the Fitness Club class, the highest results are for companies with 101-200 employees – 43% and the lowest for companies with over 200 employees – 36%. And in the Tomorrow's Heroes class, the highest results are for companies with 1-10 employees – 27% and the lowest for companies with over 200 employees – 10%.

Figure 10 Level by number of employees (N=1443)



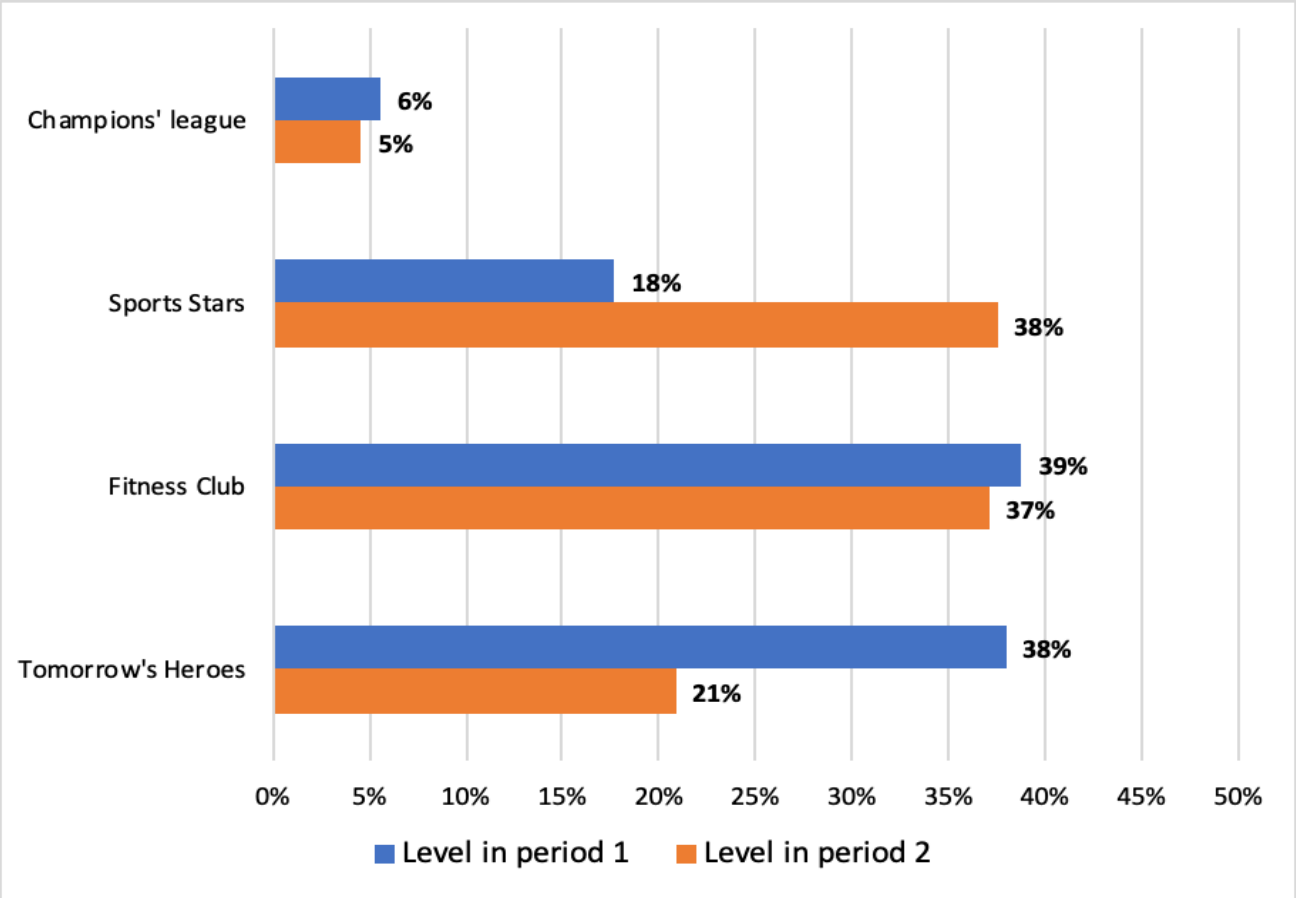
In figure 11 only industries with more than 100 respondents were included to compare levels by industry. In the Champions' League, the highest results are for ICT industry companies – 14% and the lowest for Industrial Manufacturing industry companies – 3%. In the Sports Stars class, the highest results are again for ICT industry companies – 50% and the lowest for Medicine and Pharmacy industry companies – 4%. In the Fitness Club class, the highest results are for Medicine and Pharmacy industry companies – 46% and the lowest for ICT industry companies – 29%. And in the Tomorrow's Heroes class, the highest results are for Medicine and Pharmacy industry companies – 26% and the lowest for ICT industry companies – 7%. This figure shows that in general companies in the ICT industry have the highest rates and in the Medicine and Pharmacy industry companies the lowest rates of digital maturity.

Figure 11 Level by industry (N=606)



In order to analyse the level of digital maturity of companies in dynamics, LV data were considered, as they were obtained from 2019, creating a larger data set. Due to the rapid spread of Covid-19, the first epidemiological safety measures were introduced in Latvia in March 2020. That is why these two periods (Period 1 - Until March 2020 and Period 2 - From March 2020 to July 2021) have been chosen to look at and analyse the digital maturity of companies in the face of different challenges. Figure 12 shows that the overall result of the companies in the Champions League has decreased by 1%, but in the Sport Stars class it has increased by 10%. In addition, the percentage of results in the Fitness Club class and Tomorrow's Heroes class has decreased. In the Tomorrows Heroes class, which is the lowest of all four classes, the percentage has almost halved. Looking at these data, it can be concluded that the level of digital maturity of companies has generally increased since the beginning of Covid-19. Both society as a whole and companies urgently needed to acquire knowledge and skills, as well as find appropriate solutions to work as safely as possible in person or remotely.

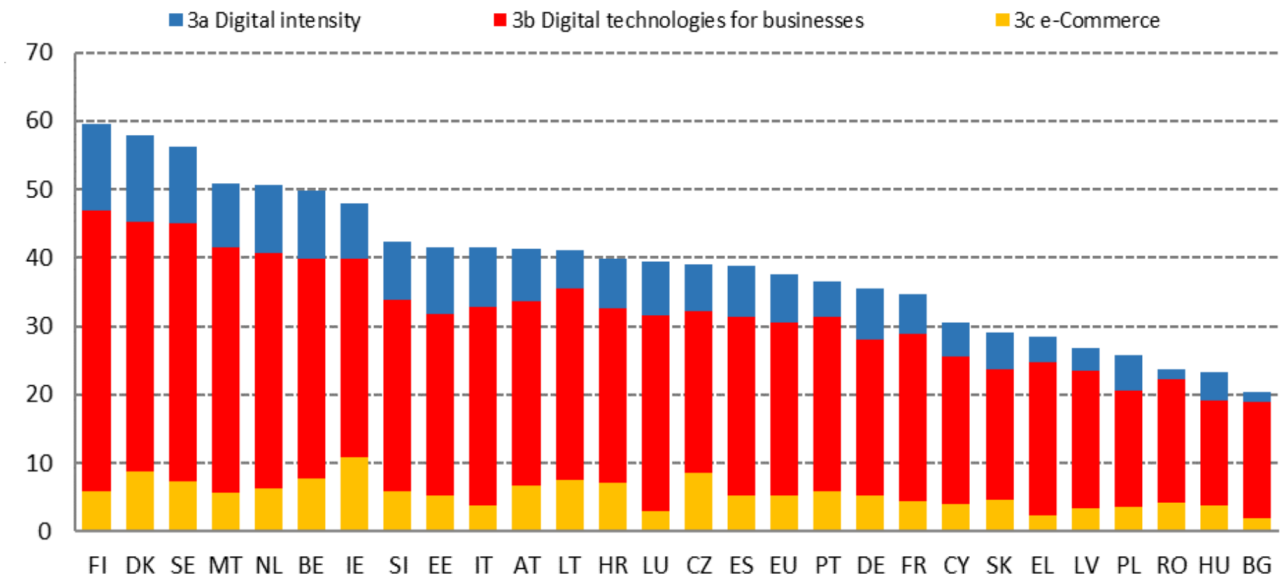
Figure 12 Level in 2 periods (N=957)



2.3. National differences and common trends in digital technology integration

As new technologies emerge, the European Commission monitors their integration in businesses and eCommerce. Already described in the section 1.1. that the Digital Intensity Index (DII) measures the use of different digital technologies at enterprise level. According to the Digital Compass target, by 2030 more than 90% of SMEs should reach at least a basic level of digital intensity.

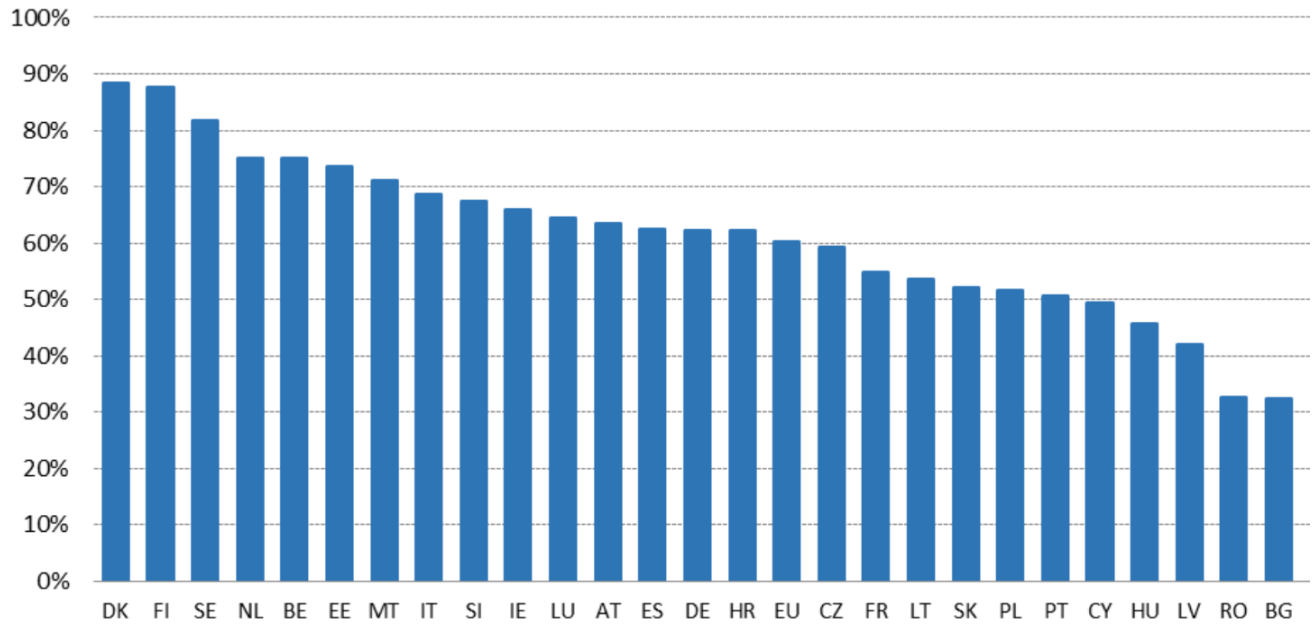
Figure 13 Digital Economy and Society Index (DESI) 2021, Integration of digital technology



Source: DESI 2021, European Commission.

Figure 14 depicts the percentage of SMEs with basic DII score. Basic DII level requires usage of at least four technologies and comprises SMEs with very high, high and low DII.

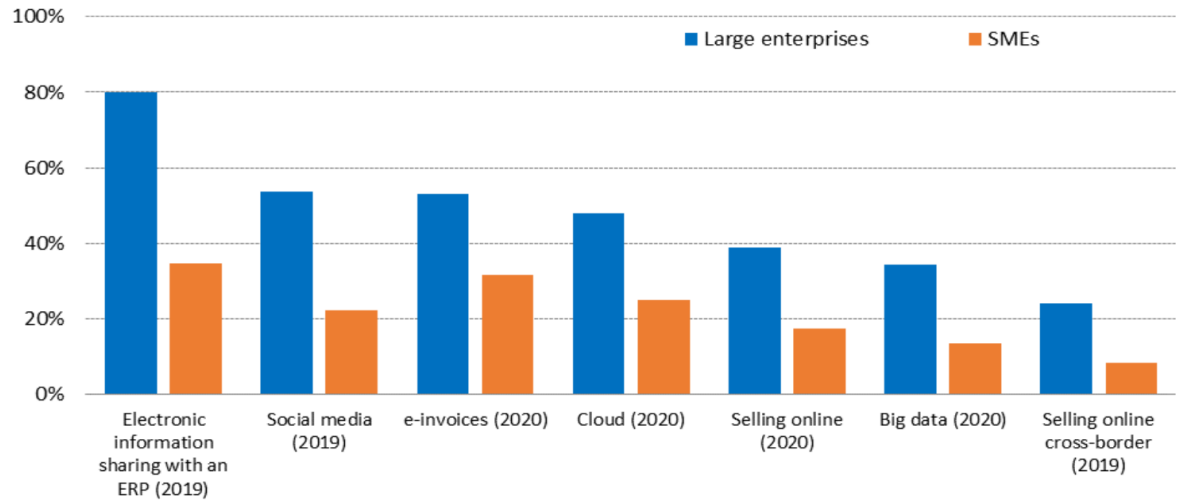
Figure 14 SMEs with at least basic level of digital intensity, 2020



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

It is evident that large enterprises are more likely to adopt new technologies. For example, electronic information sharing through enterprise resource planning (ERP) software is much more common in large enterprises (80%) than in SMEs (35%). SMEs exploit e-commerce opportunities to a limited extent, as only 17% sell online (versus 39% of large enterprises) and only 8% sell cross- border online (24% for large enterprises). There are many other technological opportunities yet to be exploited by SMEs such as cloud services and big data.

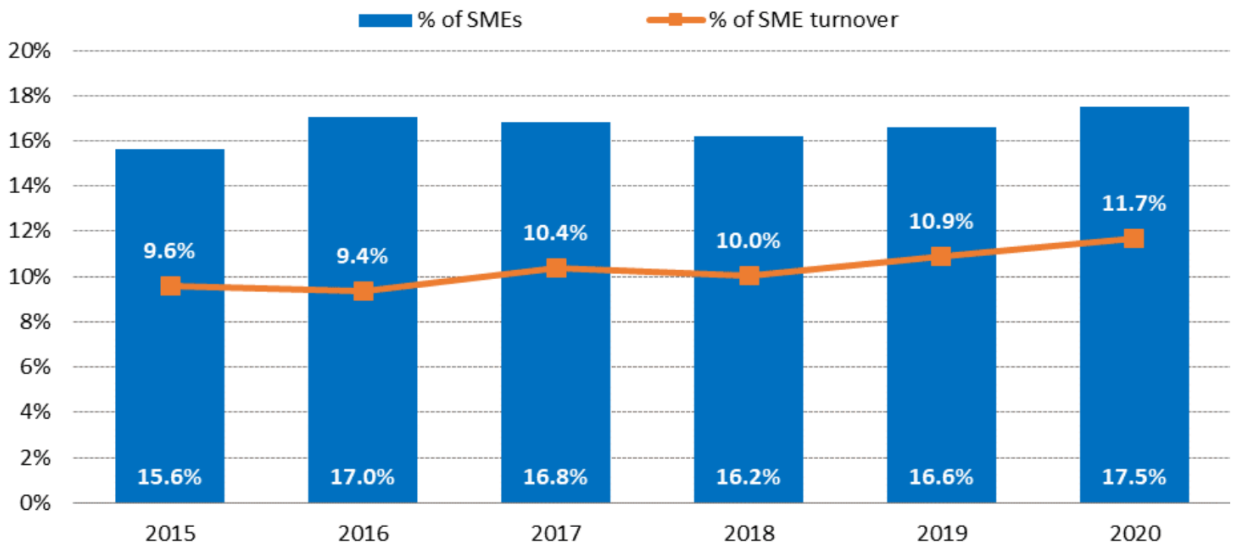
Figure 15 Adoption of digital technologies (% enterprises), 2019, 2020



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.[2]

One in five EU enterprises made online sales in 2020, amounting to 18% of total turnover of companies that employ 10 or more people. Between 2015 and 2020, the percentage of companies selling online increased by 1.9 percentage points and the turnover of these companies realised from online sales increased by 2.1 percentage points.

Figure 16 Trends in e-commerce (% of SMEs, % of SME turnover), 2015-2020



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

Enterprises benefit from cross-border e-commerce by exploiting economies of scale. This helps to reduce costs, increase efficiency, promote competitiveness and improve productivity. Cross-border e-commerce is even more important for enterprises and especially SMEs that are confined to a small home market. Nevertheless, only 8% of SMEs made web sales to customers in other EU countries in 2019.

[2] These are the DESI 2021 indicators under the sub-dimension 3b Digital technologies for businesses. For exact definitions, please see the DESI methodological note.

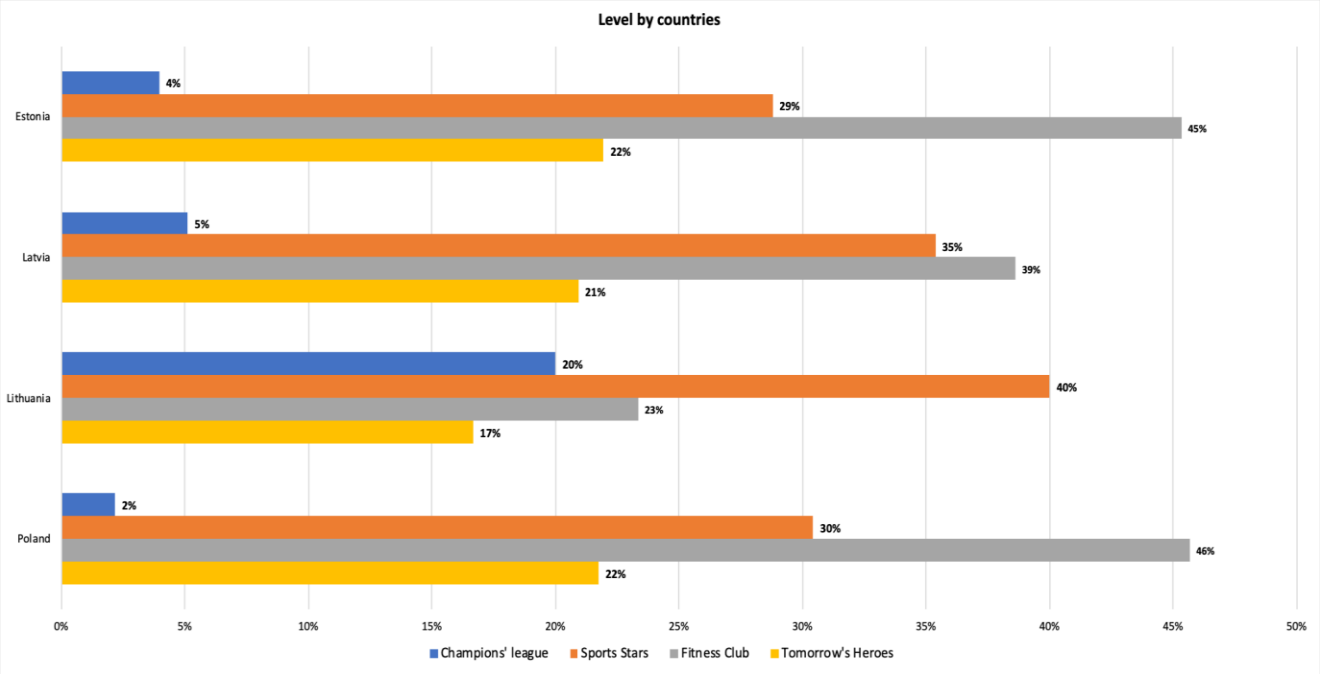
2.3.1. Integration of digital technologies by countries

Table 7 and Figure 17 shows the levels of digital maturity of companies by country. As mentioned above, data on Latvian companies have been collected since 2019, but on companies from other countries since May 2020.

Table 7 Level by countries (N=1508)

		Level			
Country		Champions' league	Sports Stars	Fitness Club	Tomorrow's Heroes
Estonia	278	11	80	126	61
Latvia	1114	57	394	430	233
Lithuania	30	6	12	7	5
Poland	46	1	14	21	10

Figure 17 Level by countries (N=1508)



2.3.2. Integration of digital technologies in ESTONIA

Looking at all Estonian companies by sports classes (levels), most of the companies rank in the Fitness Club - 126 or 45%, while in the Sports Stars class 80 or 29%, Tomorrow's Heroes are 61 or 22% and in the Champions' league only 11 or 4% (see table 8 and figure 18).

Table 8 Level of digital maturity of Estonian companies (N=278)

Level (ESTONIA)		%
Champions' league	11	4%
Sports Stars	80	29%
Fitness Club	126	45%
Tomorrow's Heroes	61	22%
In total:	**278**	

Figure 18 Level of digital maturity of Estonian companies (N=278)

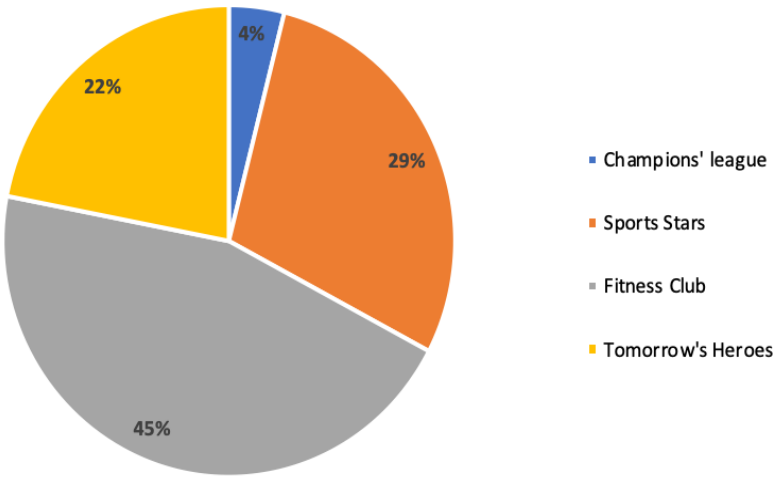
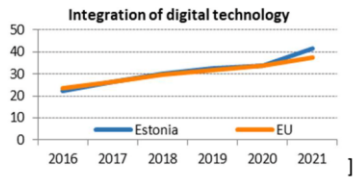


Figure 19 DESI 2021, Integration of digital technology - ESTONIA

3 Integration of digital technology	Estonia		EU
	rank	score	score
DESI 2021	9	41.5	37.6



	Estonia			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	74% 2020	60% 2020
3b1 Electronic information sharing % enterprises	28% 2017	26% 2019	26% 2019	36% 2019
3b2 Social media % enterprises	13% 2017	16% 2019	16% 2019	23% 2019
3b3 Big data % enterprises	11% 2018	11% 2018	10% 2020	14% 2020
3b4 Cloud % enterprises	26% 2018	26% 2018	48% 2020	26% 2020
3b5 AI % enterprises	NA	NA	15% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	62% 2021	66% 2021
3b7 e-Invoices % enterprises	23% 2018	23% 2018	62% 2020	32% 2020
3c1 SMEs selling online % SMEs	16% 2018	17% 2019	16% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	12% 2018	12% 2019	12% 2020	12% 2020
3c3 Selling online cross-border % SMEs	8% 2017	9% 2019	9% 2019	8% 2019

On the Integration of digital technology in businesses' activities, Estonia ranks 9th among EU countries. On the new indicator of SMEs with at least a basic level of digital intensity, Estonia scored 74%, 14 percentage points higher than the average EU score, and approaching the 90% target of the Digital Decade Communication[3]. 16% of Estonian SMEs sell online (EU average of 17%), while e-commerce represents 12% of SMEs' turnover, and 9% of SMEs sell across borders. On the use of advanced technologies, in 2020: (i) 15% of Estonian companies used Artificial Intelligence (AI) against an average of 25% in the EU, (ii) 16% of Estonian companies used social media (up from 13% in 2019 and compared to 23% at EU level); (iii) 48% of Estonian companies used cloud services (up from 26% in 2019 and compared to 26% at EU level); and (iv) 10% of Estonian companies accessed big-data services (EU average 14%). Estonia is close to the EU average (4 percentage points below) on the use of ICT for environmental sustainability.

On the Integration of digital technologies by businesses, significant potential remains untapped. Despite a very active start-up scene in the country, including some 'unicorns' (IT companies that are not yet listed on the stock-market, but which are privately valued at more than USD 1 billion), not all Estonian businesses are taking full advantage of digital technology and the online economy. Estonia needs to continue its efforts to better integrate digital technologies, particularly in Small and Medium-sized Enterprises (SMEs) and more traditional businesses.

2.3.3. Integration of digital technologies in LATVIA

Looking at all Latvian companies by sports classes (levels), most of the companies rank in the Fitness Club - 430 or 39%, while in the Sports Stars class 394 or 35%, Tomorrow's Heroes are 233 or 21% and in the Champions' league only 57 or 5% (see table 9 and figure 20).

Table 9 Level of digital maturity of Latvian companies (N=1114)

Level (LATVIA)		%
Champions' league	57	5%
Sports Stars	394	35%
Fitness Club	430	39%
Tomorrow's Heroes	233	21%
In total:	**1114**	

[3] https://eur-lex.europa.eu/resource.html?uri=cellar:12e835e2-81af-11eb-9ac9-1aa75ed71a1.0001.02/DOC_1&format=PDF

Figure 20 Level of digital maturity of Latvian companies (N=1114)

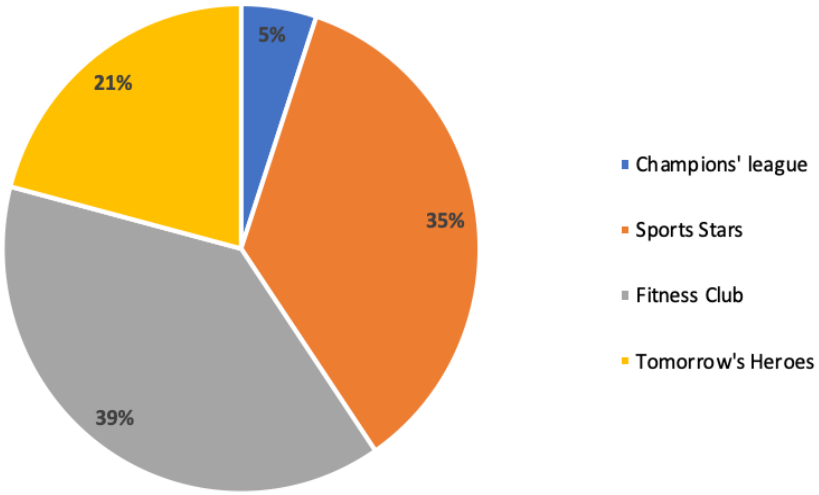
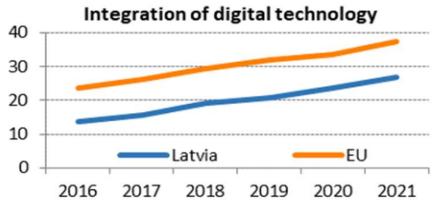


Figure 21 DESI 2021, Integration of digital technology - LATVIA

3 Integration of digital technology	Latvia		EU
	rank	score	score
DESI 2021	23	26.8	37.6



	Latvia			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	42% 2020	60% 2020
3b1 Electronic information sharing % enterprises	25% 2017	32% 2019	32% 2019	36% 2019
3b2 Social media % enterprises	13% 2017	19% 2019	19% 2019	23% 2019
3b3 Big data % enterprises	8% 2018	8% 2018	9% 2020	14% 2020
3b4 Cloud % enterprises	11% 2018	11% 2018	18% 2020	26% 2020
3b5 AI % enterprises	NA	NA	21% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	65% 2021	66% 2021
3b7 e-Invoices % enterprises	7% 2018	7% 2018	15% 2020	32% 2020
3c1 SMEs selling online % SMEs	10% 2018	11% 2019	11% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	5% 2018	5% 2019	7% 2020	12% 2020
3c3 Selling online cross-border % SMEs	5% 2017	7% 2019	7% 2019	8% 2019

Latvia ranks 23rd among EU countries in the integration of digital technology in enterprises, which is still well below the EU average in almost all categories. The share of SMEs with at least a basic level of digital intensity is 42%, while the EU average is 60%. Even though Latvian companies have increased their use of cloud services, the use of big data is progressing slowly. The share of companies using cloud services is 18%, a notable increase from 11% last year, but only 9% of enterprises use big data and only 19% have activities on social media, which is below the EU average. Regarding e-commerce, only 11% of SMEs sell online and only 7% of SMEs' turnover is from e-commerce.

On 6 July 2021, Latvia adopted its 'Digital Transformation Guidelines for 2021-2027'1. This is an overarching strategy for the country's digital transformation, covering ICT education and skills, internet access, modern and efficient public administration, e-services and digital content for society. Other guidelines have been developed in specific areas, i.e. for education from 2021 to 2027 ('Future skills for the society of the future'), focusing on ICT education and skills.

2.3.4. Integration of digital technologies in LITHUANIA

Looking at all Lithuanian companies by sports classes (levels), most of the companies rank in the Sports Stars class - 12 or 20%, while in the Fitness Club 7 or 23%, in the Champions' league 6 or 20% and Tomorrow's Heroes are 5 or 17% (see table 10 and figure 22).

Table 10 Level of digital maturity of Lithuanian companies (N=30)

Level (LITHUANIA)		%
Champions' league	6	20%
Sports Stars	12	40%
Fitness Club	7	23%
Tomorrow's Heroes	5	17%
In total:	**30**	

Figure 22 Level of digital maturity of Lithuanian companies (N=30)

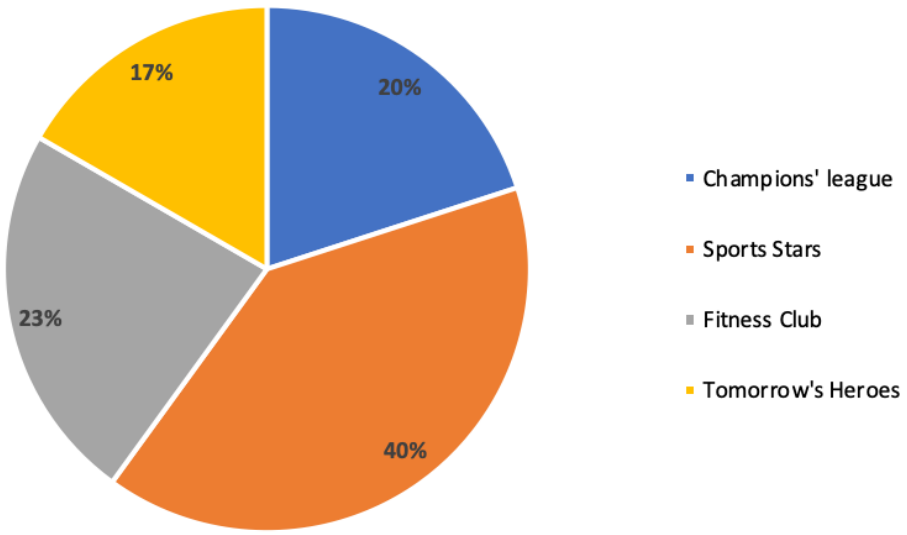
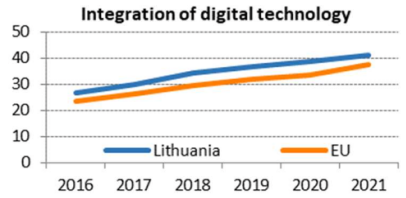


Figure 23 DESI 2021, Integration of digital technology - LITHUANIA

3 Integration of digital technology	Lithuania		EU
	rank	score	score
DESI 2021	12	41.2	37.6



	Lithuania			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	54% 2020	60% 2020
3b1 Electronic information sharing % enterprises	47% 2017	48% 2019	48% 2019	36% 2019
3b2 Social media % enterprises	20% 2017	24% 2019	24% 2019	23% 2019
3b3 Big data % enterprises	14% 2018	14% 2018	11% 2020	14% 2020
3b4 Cloud % enterprises	17% 2018	17% 2018	23% 2020	26% 2020
3b5 AI % enterprises	NA	NA	34% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	74% 2021	66% 2021
3b7 e-Invoices % enterprises	29% 2018	29% 2018	27% 2020	32% 2020
3c1 SMEs selling online % SMEs	21% 2018	24% 2019	28% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	14% 2018	12% 2019	15% 2020	12% 2020
3c3 Selling online cross-border % SMEs	12% 2017	13% 2019	13% 2019	8% 2019

Lithuania ranks 12th in the EU on Integration of digital technology. It performs above the EU average in the take-up of Artificial Intelligence (AI), ICT for environmental sustainability, SMEs selling online and electronic information sharing. Cloud services and big data usage are below the EU average. Despite higher than the EU average e-commerce turnover, the adoption of e-Invoices is decreasing and is lower than the EU average. Lithuanian enterprises use social media slightly more often and sell more across borders than their EU counterparts on average. On the other hand, the share of SMEs with at least a basic level of digital intensity is lower than in the EU.

To continue boosting the digital transformation of its economy, it is important that Lithuania further builds up its start-up ecosystem and supports the integration of digital technologies in SMEs, with particular attention to businesses in disadvantaged regions.

2.3.5. Integration of digital technologies in POLAND

Looking at all Polish companies by sports classes (levels), most of the companies rank in the Fitness Club - 21 or 46%, while in the Sports Stars class 14 or 30%, Tomorrow's Heroes are 10 or 22% and in the Champions' league only 1 or 2% (see table 11 and figure 24).

Table 11 Level of digital maturity of Polish companies (N=46)

Level (POLAND)		%
Champions' league	1	2%
Sports Stars	14	30%
Fitness Club	21	46%
Tomorrow's Heroes	10	22%
In total:	**46**	

Figure 24 Level of digital maturity of Polish companies (N=46)

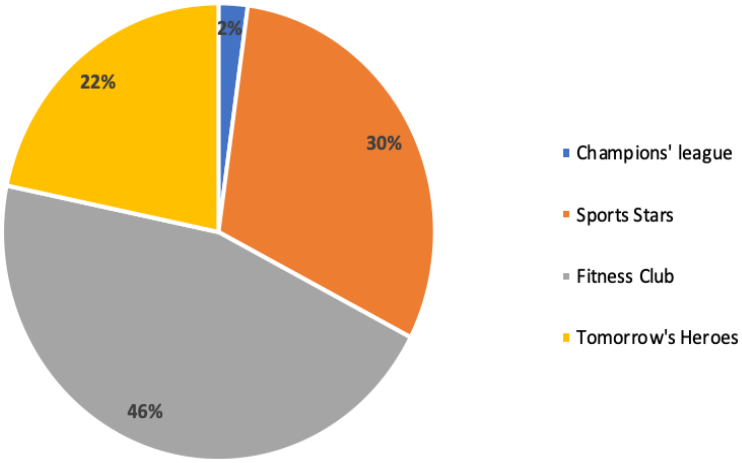
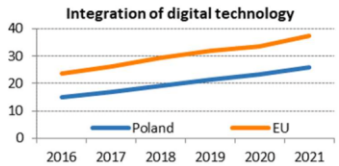


Figure 25 DESI 2021, Integration of digital technology - POLAND

3 Integration of digital technology	Poland		EU
	rank	score	score
DESI 2021	24	25.9	37.6



	Poland			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	52% 2020	60% 2020
3b1 Electronic information sharing % enterprises	26% 2017	29% 2019	29% 2019	36% 2019
3b2 Social media % enterprises	10% 2017	14% 2019	14% 2019	23% 2019
3b3 Big data % enterprises	8% 2018	8% 2018	8% 2020	14% 2020
3b4 Cloud % enterprises	7% 2018	7% 2018	15% 2020	26% 2020
3b5 AI % enterprises	NA	NA	18% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	60% 2021	66% 2021
3b7 e-Invoices % enterprises	16% 2018	16% 2018	13% 2020	32% 2020
3c1 SMEs selling online % SMEs	12% 2018	13% 2019	13% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	NA 2018	NA 2019	NA 2020	12% 2020
3c3 Selling online cross-border % SMEs	4% 2017	5% 2019	5% 2019	8% 2019

Poland ranks 24th among EU countries on the Integration of digital technology in businesses' activities. 52% of Polish SMEs have at least a basic level of digital intensity, which is below the EU average of 60%. As for ICT for environmental sustainability, Poland achieved a figure 60% of enterprises with medium/high intensity of green action through ICT, a value below the EU average of 66%. Polish enterprises slowly continued to take advantage of the opportunities offered by digital technologies engaging in online commerce, with 13% of SMEs selling online and 5% selling across borders to other EU countries. Advanced technologies are slowly gaining popularity among Polish enterprises, with 15% of them using cloud solutions and 18% integrating AI technology into their operations. Nevertheless, only 14% of Polish enterprises actively use social media, while 29% engage in electronic information sharing. e-Invoices and Big Data are not yet widely popular.

To continue boosting the digital transformation of the Polish economy, it is important to further develop governmental cloud services. Another area for further investment might be the introduction of electronic structured invoices to allow for the issuing, receiving and storing of structured invoices and to analyse and control data. Finally, Poland can speed it up by giving digital transformation further support to SMEs in their efforts to raise their uptake of advanced technologies and by encouraging start-up ecosystems, businesses in disadvantaged regions, and female digital entrepreneurs.

2.4. Summary of results

2.4.1. Usability of the TOOL and reaching DINNOCAP project outcomes

- The target of the DINNOCAP project was to test the TOOL for at minimum of 200 SMEs in 4 countries. That has been overachieved several times by having the TOOL tested and Digital maturity tool used by 1508 SME s in Estonia, Latvia, Lithuania, Poland and other BSR countries.
- The TOOL showed to be useful to evaluate digital maturity level of different sector SMEs, including:
    - Agriculture
    - Construction
    - Energy &Natural Resources
    - Financial and legal services
    - Food and Beverage manufacturing
    - Forest industry
    - Industrial Manufacturing
    - Information and Communications Technology
    - Media, advertising, creative industries
    - Medicine and Pharmacy
    - Metalworking and Mechanical Engineering
    - Real Estate
    - Research and consultancy
    - Telecommunications and communications
    - Tourism, hospitality, entertainment
    - Trade sector
    - Transportation and logistics
    - Other sectors

- The assessment questions of the TOOL allowed to measure the Digital maturity of SME s in 10 major business domains :
    - Digital transformation and competition
    - Financial data management
    - Human resources environment
    - Customer relationship management
    - Resource management
    - Communication and customer relations
    - Digitalization of processes
    - Security policy and practices
    - Digitalization in production
    - Innovation and growth perspectives
- The assessment questions of the TOOL are compatible and can provide additional information to the results of EU member states DESI report in domain "Integration of Digital Technologies".
- The assessment questions as well as the recommendation part of the TOOL supports reaching the targets of the EU Digital Decade, particularly for the Digital transformation of business pillar.

2.4.2. Practices of dissemination of the TOOL

The dissemination of the TOOL was organized by DINNOCAP partners using the following main channels:

- Online seminars to target audiences: SME s, Sectoral business associations, investment agencies and other.
- Targeted e-mails to different business sector associations and National agencies supporting the digital transformation of SMEs.
- Presentations at national and international conferences and workshops.
- Sharing the information on social media and inviting SMEs to assess their Digital maturity level with the TOOL.

2.4.3. Main findings of the assessment results overall and at country level

Processing the results of the 1508 SMEs that have completed the digital maturity assessment with the TOOL allowed to draw the following major observations:

- The Digital maturity level of a company in general has strong correlation with the company size (evaluated either by turnover or by number of employees), the smaller companies having overall lower achievements in digital transformation development than the larger ones.
- The Digital maturity level of a company has some relation with the business sector. The highest digital maturity level is understandably observed for the Information and Communication Technology sector. High results are also observed for other services sectors- like Financial and legal services, transport and logistics, media advertising and creative industries. For production sectors the level of Digital maturity varies for different industries and for different business domains.

- In overall there are some business domains where the digital transformation is more developed overall (communications, customers, finances) and some domains where the digitalization level is lower – production, processes, human resources.
- There is no major differences observed among the countries with the significant number of entries – Estonia, Latvia, Lithuania and Poland. Larger number of responses, however, could change this observation. Since, compared the DESI 2021 results of "Integration of Digital Technologies "the countries have quite different ranks among EU member states: Estonia and Lithuania having values higher than EU average and Latvia and Poland lower than EU average.

3. Current perspectives and future prospects of the TOOL usability

3.1. Current values of the TOOL for SMEs, Industry associations and public sector stakeholders

The TOOL is a valuable instrument towards digital transformation for the SMEs helping them understand the following aspects:

- The meaning of digital transformation and different business domains and processes that are subject to digitalization. In general – awareness about digital transformation.
- The overall comparison of the companies state of digital transformation in relation to other companies in the country or particular sector.
- The evaluation of more developed or less developed business domains of the company and initial recommendations what changes and innovations should be implemented.

The TOOL is a very practical instrument for the ICT and other trade associations in partners countries which allows to evaluate different sector digital transformation level and provide corrective actions:

- Organize SME seminars, technology briefings and other events and consultations based on TOOL results.
- Propose targeted state and regional support measures for SME digital transformation based on TOOL analysis data.
- Design and implement digital transformation awareness measures and campaigns.

The TOOL can be widely used by public sector stakeholders to have the initial evaluation of SME s digital maturity level and serve as a platform for EU/ National support measures

- Supporting SME involvement into Digital skills Development and digital technology introduction activities with financial support (co-financing).
- Using the TOOL as entry to EDIHS – the results of the TOOL will serve as a descriptor of the company needs and will be later a contribution to the more detailed Digital transformation Roadmap.

As the data set grows, more detailed data analysis can be performed, for example, for each industry by business domains.

The use of the DIGINNO SME Digital Maturity Recommender tool and recommendations of other digital readiness assessment tools provided in this Online SME Digital maturity recommender tool usability report in the evaluation of SME digital transformation process will enable SMEs develop their, Competitive advantage, Earn Return on Investment, Optimize production and service delivery processes, as well as adopt efficient resource management processes.