

Incentivising Business Investment in Skills:  
**A SELF-ASSESSMENT TOOL  
FOR FIRMS' SKILL NEEDS**



Co-funded by  
the European Union

## Foreword

The Italian Government's National Reform Programme 2021-27 includes among its objectives the development of a new set of policy measures to support investment in skills for the 'smart specialisation, industrial transition and entrepreneurship' of 'small and medium-sized enterprises'.

Through the project "Incentivising business' investment in skills in Italy", the Directorate-General for Structural Reform Support (DG REFORM) and the OECD aim to help Italian national authorities to identify and implement the reforms and processes that can meet this objective most effectively, taking into account good practices and lessons learnt from other countries in dealing with similar situations. The project also aims to increase the recruitment of skilled labour and employee training among small and medium-sized enterprises, and to promote collaboration between the various ministries involved in skills policies for SMEs, as well as between central government and other relevant stakeholders. The project is co-financed by the European Union through the Structural Reform Support Programme and implemented by the OECD, in cooperation with the European Commission.

The present report is one of the results of that project, and offers a tool for companies to map the skills of their workers and additional skills needed. This document has been produced with the financial assistance of the European Union. The views expressed in this document in no way reflect the official opinion of the European Union.

# Contents

Foreword	2
Introduction	4
Skills needs analysis and public policy	5
Company-level instruments	6
Skills Mapping Questionnaire	8
Administration of the survey	23
Follow-up	24
Possible changes to the questionnaire	25
Conclusions	27
Bibliography	28
APPENDIX 1: Follow-up questions after completing of the questionnaire	29
APPENDIX 2: Questions for a possible future version of the questionnaire	30
Possible new questions	30
<b>Figures</b>	
Figure 1. The use of skills needs analysis instruments among social partners	7
Figure 2. Sample structure	24
Box 1. Examples of publicly available self-assessment tools	7

## Introduction

Perhaps no time like the present requires companies to be dynamic and adaptable. Successful companies strive to respond effectively to the changing competitive environment and emerging needs through process and product innovation, digitalisation, and highly customisable products and services.

Against a public policy backdrop that aims to encourage the creation and growth of such companies – and therefore to invest in innovation and digital/green technologies – adequate human capital in companies is key. As such, public policies designed to bolster companies' investment in technology must also take into account investment in human capital.

However, this policy objective runs up against the challenge of keeping human capital up to date with the major changes imposed on the labour market by the two technological transitions (as well as the development of international value chains and an ageing population). The shortage of certain skills on the labour market, and more broadly the mismatch between the supply and demand for skills, can have severe economic consequences for enterprises and workers. At the individual level, inadequate skills have a negative impact on workers' job satisfaction and wages. At the company level, the mismatch stunts productivity growth, raises worker turnover and recruitment costs, and hinders the adoption of new technologies. At the macroeconomic level, skills shortages, the misallocation of labour and lower productivity translate into higher unemployment and lower GDP growth.

One effective public policy instrument to limit mismatch is a training needs analysis. *Assessing and anticipating skill needs* covers a wide range of tools that produce information on the current or future skills needs of economic actors, which can be aggregated to identify which skills are in greatest demand on the labour market (OECD, 2016<sup>[1]</sup>). These instruments can be applied at national, territorial, sectoral or company level, depending on the needs of the actors themselves. A company-level tool is appealing insofar as it helps companies to articulate an adequate demand for training, leading to a clearer reading of professional development needs and greater personalisation of the resulting training offer.

To this end, micro, small and medium-sized enterprises (MSMEs) are of particular concern to the policy maker: they find it harder to attract and retain more skilled personnel than larger companies, as they tend to offer less attractive salaries and career prospects. High employee turnover at SMEs can curtail the desire to invest in developing the skills of their staff (OECD, 2017<sup>[2]</sup>). As it is the case for most firm investments with a large initial cost, SMEs analyse and interpret skills needs less frequently than larger companies, exacerbating the impact of the mismatch on company performance (OECD, 2016<sup>[1]</sup>). MSMEs are less likely to have a department dedicated to human resources management, let alone someone in charge of regularly carrying out a skills analysis and organising training activities (OECD, 2019<sup>[3]</sup>).

Looking at Italy in particular, MSMEs often employ low-skilled workers and produce goods with low added value, and little value is attached to investing in worker training (OECD, 2017<sup>[4]</sup>). In a recent survey conducted by the OECD on behalf of the Ministry of Economic Development, 7 out of 10 MSMEs report having carried out a skills needs analysis in the previous three years, but

only 5 out of 10 do so regularly. The larger the company, the more likely it is to produce a needs analysis (OECD, 2021<sup>[5]</sup>).

For this reason, the OECD Recommendations for two public policy instruments to encourage skills investment by Italian MSMEs (OECD, 2022<sup>[6]</sup>) call for “*expanding the use of skills analysis tools to an ever-increasing number of companies*”, also among those that do not have an in-house human resources department or specialised personnel, and even making proof of the use of these tools compulsory to benefit of certain state subsidies. The aim of the Recommendations is to encourage companies to carry out frequent and rigorous skill needs analyses that can signal skills needs in the short and medium term, especially in the case of projects that involve a technological upgrade of production. This Recommendations are the result of extensive consultation with institutional representatives and socio-economic partners that are involved in the design, implementation or monitoring of public policies for skills in Italy.

The questionnaire presented here provides a self-assessment tool that businesses can use to assess their skill needs. It includes questions on four different areas of interest, as identified in the stakeholder consultation process mentioned above: the company’s main business functions, employees’ skills (actual ones and future requirements), human resources management tools (including training) in the company, and the company’s medium-term strategic objectives.

Once finalised, the questionnaire was sent in digital format to 15 companies for a cognitive test. The 15 respondents were selected to reflect the range of companies potentially interested in using the questionnaire. No attempt was made, however, to reproduce Italy’s economic structure in the sample. While this could have been achieved by a fully-fledged statistical survey, this was considered too risky an endeavour before testing the questions in the tool.

A few days after completing the questionnaire, the respondent companies were contacted by phone to inquire about their experience in replying to the questionnaire, and in particular to discuss its strengths and weaknesses. The flagged difficulties revolve around the length of the questionnaire (15-20 minutes on average) and the repetitiveness of some questions.

The present document presents the questionnaire, discussed the obtained feedback after the cognitive testing, and proposes some possible amendments to the questionnaire. Its overall aim is to develop an instrument that can foster investment in targeted training in companies, and maximise its impact.

## Skills needs analysis and public policy

Globalisation, technological progress and demographic shifts, but also the recent COVID pandemics, are having a far-reaching impact on the world of work, both in terms of available jobs and of changing skills requirements. It is therefore vital to develop and implement public policies that (i) allow people to retrain, so that they can retain their jobs and/or find new ones, and (ii) allow companies to bridge the skills gaps that emerge from an evolving economy.

Closing skills gaps requires accurate and timely information on skills needs. Tools for assessing and anticipating skill needs include a wide range of instruments used to generate information on current and future skills needs of economic operators.

Most OECD countries engage in some kind of skills assessment and anticipation exercise, but there are significant differences in the quality of the data collected and how information is used. OECD (2016<sup>[11]</sup>) reviews the tools that are used in OECD countries to analyse and anticipate skill requirements. However, it focused on instruments that collect and process information at the macro (i.e. national, regional or sectoral) level. The most common approaches include medium-term employment forecasts or assessments of current skills needs that leverage labour force or

job vacancy data. Many countries carry out several different exercises, as each approach/method has inherent advantages and disadvantages.

Italy has several tools that retrieve information at the regional or industry level. One of Italy's main skills assessment and anticipation exercises is conducted by Unioncamere via the Excelsior survey. Excelsior-Unioncamere collects monthly information on the professional profiles and skills that are sought by Italian companies. The resultant data are used to identify shortages or job opportunities for the following quarter, and to steer training provision towards growing sectors (Unioncamere, 2020<sup>[7]</sup>).

Nevertheless, the coverage of these needs analysis tools – and of the findings from their aggregated analysis – is still limited. The collected information is used sporadically to inform companies' development policies (OECD, 2019<sup>[8]</sup>). The OECD Skills Strategy for Italy (OECD, 2018<sup>[9]</sup>) highlighted the importance of further developing these tools, using new data to produce real-time assessments, improve the granularity of the information collected, and provide long-term forecasts.

### ***Company-level instruments***

Arguably the largest shortcoming of the above-mentioned tools is that the collected information is seldom elaborated by detailed industry, let alone at the individual company level.<sup>1</sup> An assessment of the skills needed at company level is more coherent with the stated goal of enhancing firms' ability to adjust to the current economic transformations. A number of public policy instruments for training already require companies to carry out an assessment of skill needs in order to evaluate their request for public support (e.g. collective calls for proposals in Training Funds; Fondo Nuove Competenze).

Many businesses already produce an internal needs analysis, no matter their participation to public support programmes. However the analysis is often infrequent and unstructured, especially in micro and small enterprises, which most often lack the tools to carry out the analysis or do not necessarily have a long-term vision to guide their investment in human capital. Such companies can however acquire 'skills auditing' services from companies that offer them.

Yet it remains true that the smallest companies cannot or do not necessarily want to pay for the cost of a service provider in this area. In this case, companies have two options: use intermediaries that offer this service free of charge or as part of a package they are already paying for, or carry out a self-assessment using diagnostic tools that are freely available online.

Where the analysis is facilitated by intermediaries such as chambers of commerce, industry associations or trade unions these entities also encourage members to make use of the analysis to shape their investment. Figure 1 shows that 70% of employer associations in various OECD countries claim to use skill need analyses to inform their members' decisions.

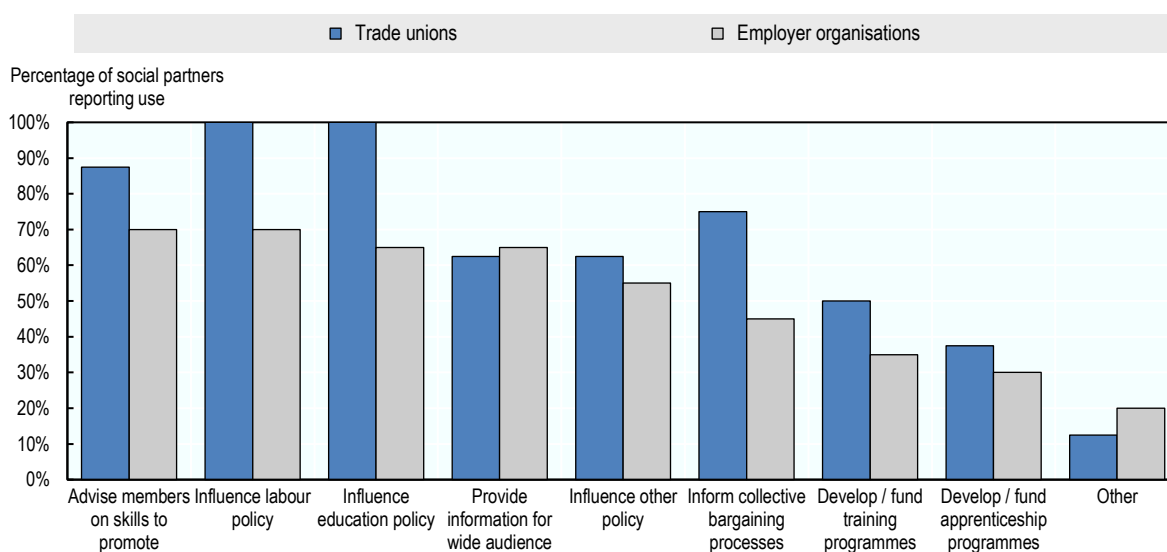
In recent years, self-assessment tools have become more and more popular, mainly because they are easily if not freely accessible to businesses. Many of them, though, focus on digital maturity within the company and not on skills. The Selfie4.0 self-assessment tool is an example which has received positive feedback from participating businesses (see Box 1). In contrast, the use of skills-needs self-assessment tools in Italy seems less well established. The remainder of this document introduces a template for a self-assessment questionnaire with this focus.

---

<sup>1</sup> Lastly, there are tools to identify the skills of each individual worker in a company. While these may be of interest to the company itself, this report only addresses tools that enable the assessment of a company's skills needs as a whole.

**Figure 1. The use of skills assessment and anticipation exercises by social partners**

Percentage of all trade union and employer organisation responses



Notes: Percentages based on responses from 20 employer organisations with at least one use reported (Canada (2 employer organisation responses), Chile, the Czech Republic, Denmark (2), Finland, France, Germany, Greece, Ireland, Japan (2), Korea, the Netherlands, Norway, Portugal, Spain, the Slovak Republic and Slovenia) and eight trade union confederations with at least one use reported (Denmark, Finland, France, Norway, Spain (2 trade union responses), Sweden and the United Kingdom).

Source: (OECD, 2016<sup>[1]</sup>), survey on analysing and anticipating skills needs.

### Box 1. Examples of publicly available firm self-assessment tools

#### [SELF4.0 for digital maturity in Italy](#)

- Managed by the Chambers of Commerce.
- Used by companies to assess their own digital maturity.
- Mapping companies' degree of digitalisation, but also asking some questions on the digital skills in the companies' workforce.

#### [DIGINNO for digital maturity in the Baltics](#)

- Online tool aimed at SMEs in Latvia and Estonia.
- On completion, companies receive basic recommendations on possible next steps to take on their digitalisation journey, especially on investing in digital skills.
- There is a short version (10 minutes) and a long version (30 minutes), in which the business is also benchmarked against others in its field.

#### [Australian Government Self-Assessment tool](#)

- Managed by the Department of Education, Skills and Employment.
- An online questionnaire for businesses and non-profit organisations, followed by a guided discussion of the findings of the questionnaire.
- Focused on managing/integrating older workers.

## Skills Mapping Questionnaire

This section contains the administered questionnaire and its introductory text.

The questionnaire is articulated in four sections:

1. The first two sections, titled ‘ABOUT THE RESPONDENT’ and ‘ABOUT THE COMPANY’, cover general information about the companies in question and the person filling out the questionnaire for the company. These sections are designed to provide information for the Administration if the company decides to apply for a subsidy.<sup>2</sup> Claiming a subsidy can be a powerful incentive for the company to complete the questionnaire. That said, self-assessments are valuable regardless of such an application procedure.
2. The second section, titled “SKILLS OF THE COMPANY’S WORKFORCE”, requires the company to describe the *status quo* in terms of the job functions and skills of the company’s workforce.
3. The third section, titled “HUMAN RESOURCE MANAGEMENT STRUCTURE”, inquires about a set of managerial practices including personnel management and training practices.
4. The fourth section, titled “THE COMPANY’S MEDIUM-TERM STRATEGIC OBJECTIVES”, asks questions about the company’s growth strategy for the following three years and how the company’s demand for skills may change accordingly.

– Beginning of the questionnaire –

**This survey aims to take a snapshot of the training needs of small and medium-sized enterprises, so that firms can map the skills of their employees, and therefore design appropriate roles and tasks, depending on the capabilities of each individual in the company. The toolkit can also enhance workers’ skills by improving the design of training courses.**

**The company completing the questionnaire will retain the information gathered, unless requested by the Administration as part of a separate subsidy application procedure that would require the results of a skills mapping analysis.**

### SECTION 0 – ABOUT THE RESPONDENT

- NAME, SURNAME: ....
- E-MAIL: ....
- YEAR OF BIRTH: ....
- SEX: ....
- EDUCATION LEVEL (**select one option only**):
  - PRIMARY OR LOWER SECONDARY DEGREE
  - HIGH SCHOOL DIPLOMA OR EQUIVALENT
  - TERTIARY DEGREE OR EQUIVALENT
  - POSTGRADUATE QUALIFICATION

---

<sup>2</sup> However, this section is not designed to capture all the information that is usually required in the subsidy application phase. In that case, further information would be collected via a separate procedure. As such, the “About the company” section of the questionnaire can be further streamlined.



## SECTION 1 - ABOUT THE BUSINESS

### 1.1: GENERAL CHARACTERISTICS

(Complete each field)

- ENTERPRISE NAME: ....
- SECTOR (FOR ITALY: ATECO CODE): ....
- ADDRESS: ....
- NO. OF EMPLOYEES: ....
- NO. OF OUTSOURCED STAFF (INCLUDING NON-STANDARD CONTRACTS):

### 1.2. COMPANY SIZE

(Select one option only):

- MICRO ENTERPRISE (< 10 employees with an annual turnover or budget not exceeding 2 million Euros)
- SMALL ENTERPRISE (> 10 and ≤ 50 employees with an annual turnover or budget not exceeding 10 million Euros)
- MEDIUM ENTERPRISE (> 50 and ≤ 250 employees with an annual turnover or budget not exceeding 43 million Euros)
- LARGE ENTERPRISE

### 1.3. What is the main target market in which the company operates?

(Select one option only)

- LOCAL/REGIONAL
- NATIONAL
- INTERNATIONAL

## SECTION 2 - SKILLS OF THE COMPANY'S WORKFORCE

### 2.1 NUMBER OF STAFF EMPLOYED BY YOUR ENTERPRISE

(Choose the approximate number for each type)

1. FRONT OFFICE AND RECEPTION	...
2. ADMINISTRATIVE STAFF	
3. TECHNICAL SUPPORT STAFF	
4. GENERIC PRODUCTION LINE WORKER	
5. SPECIALISED PRODUCTION LINE WORKERS	
6. PLANT SUPERVISORS AND MACHINE OPERATORS	
7. TECHNICAL PROFESSIONS	
8. QUALIFIED SALES AND SERVICE WORKERS	
9. EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS	

### 2.2 LEVEL OF EDUCATION

(Insert the approximate number for each category)

*N.B.: The professional qualification certificate is a document in which the body offering the professional training service, i.e. the region of residence, certifies the professional skills and knowledge acquired by the student during the training course.*

NO QUALIFICATIONS	...
PRIMARY SCHOOL CERTIFICATE	
MIDDLE SCHOOL CERTIFICATE	
HIGH SCHOOL VOCATIONAL QUALIFICATION	
HIGH SCHOOL DIPLOMA	
POST-DIPLOMA VOCATIONAL REGIONAL QUALIFICATION	
POST-DIPLOMA VOCATIONAL NATIONAL QUALIFICATION	
BACHELOR DEGREE	
POSTGRADUATE DEGREE	

**2.3 FOR EACH OCCUPATIONAL CATEGORY IN THE COMPANY, HOW IMPORTANT ARE THE FOLLOWING SKILLS FOR THE PERFORMANCE OF THEIR WORK? (1-5 Scale. 0 stands for “not applicable”/“there are no such workers”)**

1. **TECHNICAL SKILLS.** Examples: use of technical tools and machinery. Analytical skills.
2. **“HARD” DIGITAL SKILLS.** Examples: programming languages, use of software for production, Internet of Things, artificial intelligence, cybersecurity, blockchain.
3. **“SOFT” DIGITAL SKILLS.** Examples: app and website programming and development, data analytics, digital design, digital product and/or project management, digital marketing and social media.
4. **“SOFT” SKILLS.** Examples: critical and analytical thinking, problem solving, resilience and adaptability, leadership, creativity, emotional intelligence, project management.
5. **LANGUAGE SKILLS.** Examples: foreign languages, writing skills.

**P1. FRONT OFFICE AND RECEPTION**

**1.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.2. “HARD” DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.3. “SOFT” DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.4. “SOFT” SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	



--	--	--	--	--	--	--	--

**4.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.5. SPECIALISED PRODUCTION LINE WORKERS**

**5.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P6. PLANT SUPERVISORS AND MACHINE OPERATORS**

**6.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**6.2. "HARD" DIGITAL SKILLS**

	0	1	2	3	4	5	
--	---	---	---	---	---	---	--



important							Important
-----------	--	--	--	--	--	--	-----------

**8.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.9 EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS**

**9.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

## SECTION 3 - HUMAN RESOURCE MANAGEMENT STRUCTURE

### 3.1. DOES YOUR ORGANISATION HAVE AN ORGANISATIONAL CHART WITH A WELL-DEFINED DESCRIPTION OF TASKS FOR EACH JOB?

*N.B.: The task description should be compiled in an internal document formalising and outlining the tasks and responsibilities of the company's workforce.*

- YES
- NO
- I DON'T KNOW

### 3.2. WHAT TOOLS DO YOU NORMALLY USE TO MAKE UP FOR A SKILLS SHORTAGE?

**(Select up to 3 answers)**

- HIRING
- REALLOCATION OF EXISTING STAFF
- 
- ASSIGNING EXTRA TASKS TO EXISTING PERSONNEL WITH A COMMENSURATE PAY INCREASE
- ASSIGNING EXTRA TASKS TO EXISTING PERSONNEL WITHOUT PAY INCREASE
- BROAD-SCOPING INTERNAL REORGANISATION
- TRAINING COURSES
- LEARNING ON THE JOB SUPPORTED BY MORE EXPERIENCED COLLEAGUES
- AUTOMATION
- OUTSOURCING
- STOPPING THE ACTIVITY IN QUESTION

### 3.3. HAVE YOU HAD ANY DIFFICULTY RECRUITING STAFF IN THE LAST 3 YEARS?

- YES
- NO
- I DID NOT DEAL DIRECTLY WITH THIS

### 3.4. IF YES, WHAT DO YOU THINK IS THE REASON?

**(Select up to 3 answers)**

- The company is looking for something/someone that the market does not currently offer
- Potential candidates have excessively high expectations
- Candidates did not have adequate skills
- Communication problems
- Salaries are lower than in other organisations
- Strong competition from other employers
- Long/antisocial hours
- Other unattractive working conditions
- Other (specify)

### 3.5. IN WHICH JOB CATEGORIES HAVE YOU FOUND IT EASIEST TO FIND QUALIFIED PEOPLE?

**(Select all relevant categories)**

- FRONT OFFICE AND RECEPTION
- ADMINISTRATIVE STAFF
- TECHNICAL SUPPORT STAFF
- GENERIC PRODUCTION LINE WORKERS
- SPECIALISED PRODUCTION LINE WORKERS
- PLANT SUPERVISORS AND MACHINE OPERATORS
- TECHNICAL PROFESSIONS
- QUALIFIED SALES AND SERVICE WORKERS
- EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS

**3.6. IN WHICH JOB CATEGORIES HAVE YOU FOUND IT HARDEST TO FIND QUALIFIED PEOPLE?**

**(Select all relevant categories)**

- FRONT OFFICE AND RECEPTION
- ADMINISTRATIVE STAFF
- TECHNICAL SUPPORT STAFF
- GENERIC PRODUCTION LINE WORKERS
- SPECIALISED PRODUCTION LINE WORKERS
- PLANT SUPERVISORS AND MACHINE OPERATORS
- TECHNICAL PROFESSIONS
- QUALIFIED SALES AND SERVICE WORKERS
- EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS

**3.7. WHAT KIND OF COURSES ARE PROVIDED, IF ANY?**

**(You may select up to 2 answers)**

- MANDATORY TRAINING COURSES
- EXTERNAL TRAINING COURSES THAT ARE MAINLY FUNDED BY PUBLIC RESOURCES
- EXTERNAL TRAINING COURSES THAT ARE MAINLY SELF-FUNDED
- IN-HOUSE TRAINING COURSES THAT ARE MAINLY FUNDED BY PUBLIC RESOURCES
- IN-HOUSE TRAINING COURSES THAT ARE MAINLY SELF-FUNDED

**3.8. DID ANY OF THE FOLLOWING FACTORS LIMIT OR HINDER THE PROVISION OF TRAINING (COURSES OR OTHERWISE) IN YOUR ENTERPRISES IN 2018-2019?**

**(Select up to 3 answers)**

- The skills level at the company already met the requirements
- The company's preferred strategy was to recruit new people with the required qualifications, skills and competencies
- Difficulties in assessing the company's training needs
- Lack of adequate training opportunities on the market
- Difficulties in finding information on available courses
- High costs of training courses
- Greater focus on apprenticeships
- Adequate continuous training efforts in recent years
- High workload and limited time available for staff to participate in training

**3.9. DID ANY OF THE FOLLOWING FACTORS LIMIT OR HINDER THE PROVISION OF TRAINING (COURSES OR OTHERWISE) IN YOUR ENTERPRISE IN 2020 - 2021?**

**(Select up to 3 answers)**

- The skills level at the company already met the requirements
- The company's preferred strategy was to recruit new people with the required qualifications, skills and competencies
- Difficulties in assessing the company's training needs
- Lack of adequate training opportunities on the market
- Difficulties in finding information on available courses
- High costs of training courses
- Greater focus on apprenticeships
- Adequate continuous training efforts in recent years
- High workload and limited time available for staff to participate in training
- Inability to attend courses due to Covid



## SECTION 4 - MID-TERM STRATEGIC OBJECTIVES OF THE COMPANY

### 4.1. IS YOUR COMPANY CONSIDERING INVESTMENT, GROWTH OR RESTRUCTURING PLANS FOR THE YEARS 2023-2025?

(choose only one answer)

- YES
- NO, THERE IS NO NEED AT THE MOMENT
- NO, SIGNIFICANT INVESTMENTS HAVE ALREADY BEEN MADE IN THE LAST 2 YEARS.
- NO ASSESSMENT HAS YET BEEN MADE OF THIS

### 4.2 IN WHICH AREAS DO YOU THINK IT WOULD BE BEST TO INVEST TO FACILITATE BUSINESS GROWTH OR RESTRUCTURING IN THE YEARS 2023-2025?

(Select up to 3 answers)

- NO INVESTMENTS ARE PLANNED (as per previous question)
- NEW MARKETS
- NEW INVESTMENTS IN DIGITALISATION OF BUSINESS PROCESSES (SOFTWARE, HARDWARE)
- NEW INVESTMENTS IN EQUIPMENT (EXCLUDING DIGITAL/ICT EQUIPMENT)
- NEW PRODUCTS, PROCESSES OR ORGANISATIONAL FORMS IN THE COMPANY
- ENVIRONMENTAL SUSTAINABILITY, ENVIRONMENTAL AND LAND PROTECTION
- ADJUSTMENT TO MEET REGULATORY PROVISIONS
- ADJUSTMENT TO A RECENT INVESTMENT
- REDUCTION IN PERSONNEL
- OUTSOURCING/OFFSHORING

### 4.3 IN WHICH AREAS DID YOU INVEST TO FACILITATE BUSINESS GROWTH OR RESTRUCTURING IN THE YEARS 2018-2019?

(Select up to 3 answers)

- NO INVESTMENTS WERE MADE
- NEW MARKETS
- NEW INVESTMENTS IN DIGITALISATION OF BUSINESS PROCESSES (SOFTWARE, HARDWARE)
- NEW INVESTMENTS IN EQUIPMENT (EXCLUDING DIGITAL/ICT EQUIPMENT)
- NEW PRODUCTS, PROCESSES OR ORGANISATIONAL FORMS IN THE COMPANY
- ENVIRONMENTAL SUSTAINABILITY, ENVIRONMENTAL AND LAND PROTECTION
- ADJUSTMENT TO MEET REGULATORY PROVISIONS
- 
- ADJUSTMENT TO A RECENT INVESTMENT
- REDUCTION IN PERSONNEL
- OUTSOURCING/OFFSHORING

### 4.4 WITH THE ABOVE CHANGES IN MIND, WHAT WILL BE THE IMPORTANCE OF THE FOLLOWING SKILLS IN THE YEARS 2023-2025?

(0 stands for “not applicable”/“this type of worker will be affected”)

1. **TECHNICAL SKILLS.** Example: use of technical tools and machinery Analytical skills
2. **“HARD” DIGITAL SKILLS.** Example: programming languages, use of software for production, Internet of Things, artificial intelligence, cybersecurity, blockchain.
3. **“SOFT” DIGITAL SKILLS.** Example: app and website programming and development, data analytics, digital design, digital product and/or project management, digital marketing and social media.
4. **“SOFT” SKILLS.** Example: critical and analytical thinking, problem solving, resilience and adaptability,

*leadership, creativity, emotional intelligence, project management.*

5. **LANGUAGE SKILLS.** Example: foreign languages, writing skills.

**P1. FRONT OFFICE AND RECEPTION**

**1.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**1.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.2. ADMINISTRATIVE STAFF**

**2.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**2.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**2.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**2.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**2.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.3. TECHNICAL SUPPORT STAFF**

**3.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**3.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**3.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**3.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**3.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.4. GENERIC PRODUCTION LINE WORKERS**

**4.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.5. SPECIALISED PRODUCTION LINE WORKERS**

**5.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P6. PLANT SUPERVISORS AND MACHINE OPERATORS**

**6.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**6.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**6.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**6.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**6.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.7 TECHNICAL PROFESSIONS****7.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**7.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**7.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**7.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**7.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.8 QUALIFIED SALES AND SERVICE WORKERS****8.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**8.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.9 EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS**

**9.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.2. "HARD" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.3. "SOFT" DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.4. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**9.5. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.5. IF YOU ARE PLANNING ON RECRUITING STAFF, WHAT CATEGORY WILL THIS INVOLVE?**

**(Select all relevant areas)**

- FRONT OFFICE AND RECEPTION
- ADMINISTRATIVE STAFF
- TECHNICAL SUPPORT STAFF
- GENERIC PRODUCTION LINE WORKERS
- SPECIALISED PRODUCTION LINE WORKERS
- PLANT SUPERVISORS AND MACHINE OPERATORS
- TECHNICAL PROFESSIONS
- QUALIFIED SALES AND SERVICE WORKERS
- EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS

**4.6. ON A SCALE OF 1 TO 5, HOW MUCH DO YOU AGREE WITH THE FOLLOWING STATEMENT?**

**"THE MARKET PREDOMINANTLY REQUIRES HIGHLY SPECIALISED PROFESSIONALS WHO CAN IMMEDIATELY RESPOND TO THE COMPANY'S NEEDS"**

Completely disagree	1	2	3	4	5	Completely agree
---------------------	---	---	---	---	---	------------------

– End of the questionnaire –

## Administration of the survey

The questionnaire was administered to 15 selected companies, which also responded to a short follow-up phone interview to collect their satisfaction or the problems they encountered in completing the questionnaire. The questionnaire was administered online to the person responsible for human resources at the company (sometimes: the owner). No assistance was provided by the OECD during the compilation. This decision was driven by the self-assessment nature of the questionnaire – and thus to understand whether the questionnaire was suitable for this purpose.

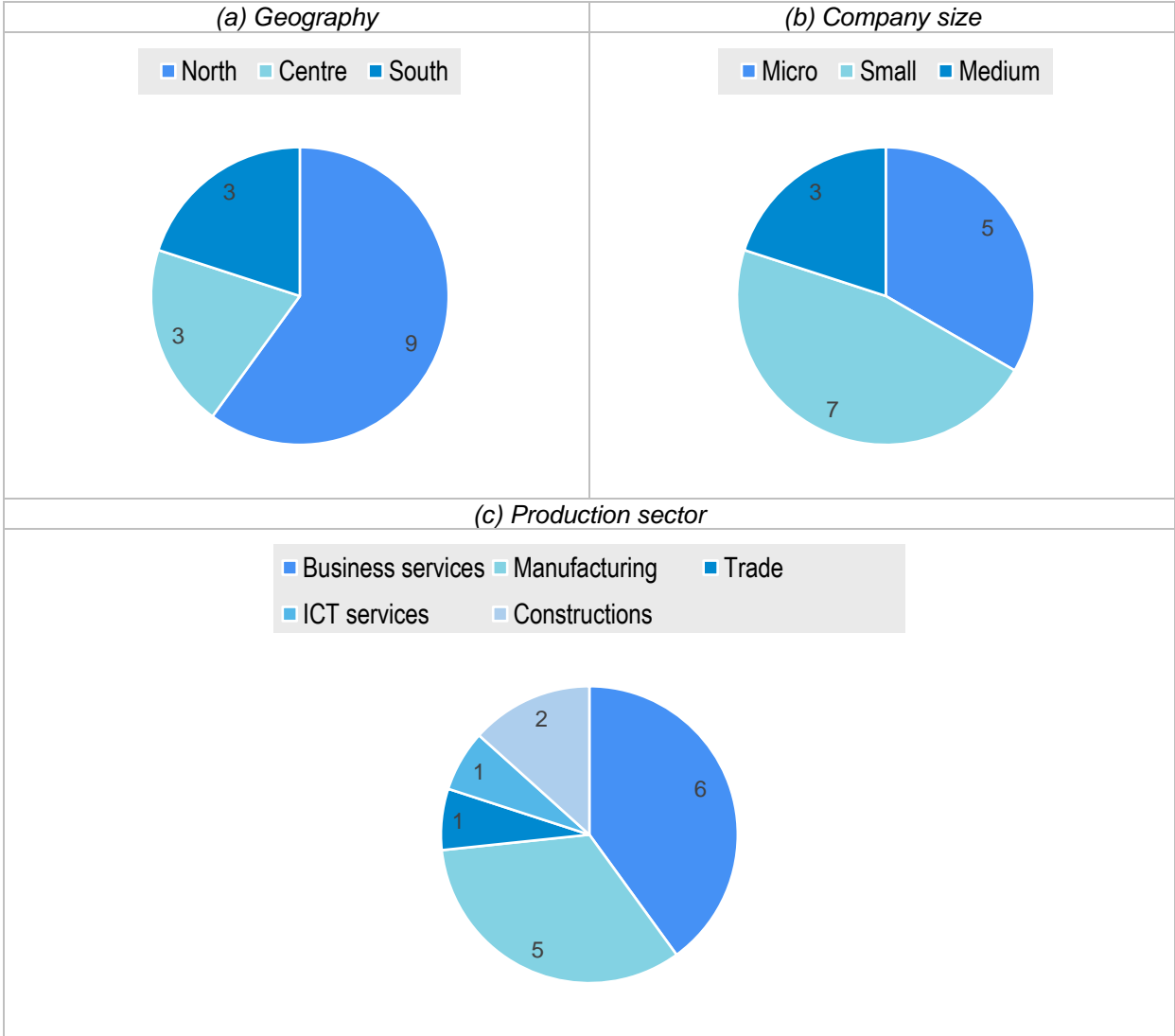
This process aimed at understanding whether (and where) the questionnaire was difficult to answer, the questions unclear, the structure complex, or the findings hard to understand. It did not aim to compile the 15 answers and compare them or compare them with other national data sources containing similar questions. Indeed, such an analysis would require a much higher number of respondents to yield meaningful results, which would represent a risky investment if the questionnaire had not been appropriately designed.

As a consequence, the 15 respondents were selected to reflect the range of companies potentially interested in using the questionnaire. No attempt was made to reproduce Italy's economy in the sample in terms of size, sector or location. Accordingly, the collected data cannot be considered a statistically representative picture of the Italian economy.

Figures 2(a-c) describe the broad features of the sample of 15 responding companies. Special care was placed on involving companies of different size (Figure 2.b) which, as mentioned above, is closely correlated with the likelihood of the company conducting a skill needs analysis. Some 80% of the selected enterprises were small or micro. Secondly, an effort was made to diversify the production sectors (2.c), while restricting the scope to sectors where the role of state-owned companies is limited and where the propensity to innovate is higher. The respondents were mostly located in the North of Italy (2.a).

The majority of respondents were female (67%) and relatively well educated, with either a high school diploma (47%) or a university degree (53%).

Figure 2. Sample structure



Notes: The sample size was 15. 'Micro' enterprises have up to 10 employees, 'small' 11-50 employees, 'medium' 51-250 employees. "Manufacturing" includes ISIC Rev.4 sectors 10-33, "business services" the sectors 58-82, "construction" the sectors 41-43, "trade" the sector 45 (wholesale), and "logistics" the sectors 49-53.

## Follow-up

As mentioned, the questionnaire was sent to the respondents in digital format and they were not directly assisted in completing it (unless there were technical problems, which were solved over the phone as they arose). However, a few days after completing the questionnaire, the respondent companies were contacted by phone for a follow-up on their experience of doing so. The aim was to briefly summarise and discuss the strengths and weaknesses of the survey. Appendix 1 contains the outline of the main questions that were put to the respondents, with additional follow-up questions depending on the context.



The follow-up found that the questionnaire was relatively easy to complete.

The greatest difficulties were encountered in Section 2 – the heart of the self-assessment questionnaire. The interviewed were keen to answer the questionnaire, but reported that they faced an initial difficulty with question 2.2, which asks for an approximate breakdown of employees by educational qualification. This apparently took a long time to research, especially in more complex companies with a larger workforce where people may have been recruited many years in the past.

Question 2.3 (and, by extension, 4.4) gave rise to the second issue. Respondents found it difficult to remember which skills fall into each of the five stated categories (technical skills, 'hard' digital skills, 'soft' digital skills, language skills). Indeed, the description of the skill categories is only given at the onset of the question and is not repeated for each job profile, so the respondent cannot check back to see which skill falls into which category as the need arises. Secondly – and more rarely –, some respondents had difficulty distinguishing between 'hard' and 'soft' digital skills.

Finally, the overall result of the 15 surveyed companies shows that high-profile jobs ('executives, managers and highly specialised professionals') seem to need all five categories, at a medium-high level of importance. While this might have been an indication that, for these jobs, the suggested skills categories are too broad and do not allow for a proper distinction between the types of skills required for a given job, no such feedback was received in the follow-up.

Despite the few problems, respondents reported that filling in the questionnaire took longer than expected, i.e. between 15 and 20 minutes. That is fairly long, at least when compared to other company sample surveys, and despite the relatively lower number of questions. The follow-up revealed that the time taken to complete the questionnaire was mainly due to (i) the need to gather some information, e.g. the educational level of particular employees, and (ii) the repetitiveness of questions 2.3 and 4.4, where the same assessment is required for several job categories.

When asked about the purpose of the questionnaire, the companies saw it as a tool to carry out a needs assessment, in light of a possible future application to public support for training. Respondents found the questionnaire useful to take periodic stock of their training needs. However, they also expressed an interest in receiving some kind of feedback on the result of their analysis, e.g. a (free) report with suggestions to bridge the skill shortage and advice on opportunities to access funding to this scope.

### ***Possible changes to the questionnaire***

Based on the findings of the follow-up, a number of changes can be made to the questionnaire to try to simplify it and reduce the time of administration. The changes need to be evaluated in terms of the trade-off between the difficulty and the usefulness of the questionnaire. Shortening and simplifying the questionnaire would make it easier for all companies, especially smaller ones, to participate. It would also possibly result in a larger pool of potential beneficiaries of a public policy, in case the needs analysis was made compulsory to access public support (as suggested in OECD (2022<sup>[6]</sup>)). At the same time, though, the questionnaire is a means of self-reflection for the company. Hence, it is in the policy maker's interest to ensure that the exercise achieves its objective and that the company invests the necessary time gain useful insights from it. Shortening the questionnaire could therefore be detrimental to effective use of its findings. It follows that not all changes that would shorten the questionnaire are necessarily desirable.

With that premise, some possible changes to the questionnaire are listed below.

1) Reducing the number of occupational categories in questions 2.3 and 4.3 from the current nine to five, making the exercise less repetitive. The distinction between 'hard' and 'soft' digital skills could also be removed. A version of the two questions amended in this sense is presented in Appendix 2 (questions 2.3\_a and 4.4\_a). If the number of occupational profiles were to be reduced, the change would need to be mirrored in questions 2.1, 2.2, 3.5, 3.6 and 4.5. Lastly, the IT tool used to administer the questionnaire to the company should enable the respondent to consult the definitions of the five skill categories at any time.

2) Reducing the number of questions asked, potentially making them optional. The following questions could be considered first: 2.2 (employee educational qualifications), 3.5 (job categories that are easiest to recruit), 3.9 (barriers to training in the pandemic), 4.5 (expected future recruitment by occupational category).

3) A more comprehensive initial explanation of the purpose of the questionnaire and how the information collected will be used, underlining the potential usefulness of the questionnaire, first and foremost for the company itself. Mentioning that some of these data might be required later when applying for support does act as an incentive for the company to start the questionnaire.

4) Structuring the online questionnaire tool in such a way as to allow the automatic generation of some summary results, principally a numeric comparison between the answers to 2.3 (importance of current skills, by type of skill and occupational profile) and 4.4 (importance of future skills according to the company's future development strategy, by type of skill and occupational profile). The administration tool could also be structured to provide the definitions of the macro skill categories at each step.

If there was any desire to extend the questionnaire, two areas could be of interest: technology investment diagnostics, and the company's positioning in enterprise networks.

5) As for the diagnostics of firms' investment in technology: the first version of the questionnaire did not include these items, since other popular self-assessment tools to this goal already exist (and since investment in technology and investment in skills need not take place simultaneously). While still limiting the length of the questionnaire, a minimum of information on this subject can be collected adding questions 6.1 and 6.2 in Appendix 2.

6) In terms of the company's positioning in enterprise networks: for existing formal networks, the questionnaire could inquire about the role of the company within the network, while for individual companies the questionnaire can ask about the firm's willingness to join a network. See question 7.1 in Appendix 2.

7) Finally, the reporting periods used in the questionnaire should be updated to reflect its actual starting date. For example, at the end of 2022, the reference period '2018-2019' could be changed into '2020-2022'.

## Conclusions

The changes ushered in by a globalised and increasingly digital economy make it critical for micro, small and medium-sized enterprises to invest in the skills needed to engage in a process of industrial transformation.

However, such developments entail a rising degree of managerial and organisational complexity for companies. Encouraging companies to carry out frequent and rigorous skill needs analyses should help raise awareness of their skill needs in the short and medium term. It should also help businesses provide more targeted training and make more efficient use of their resources.

The OECD Recommendations for two public policy instruments to incentivise skills investment in Italian MSMEs (OECD, 2022<sup>[6]</sup>) suggest that a skill needs analysis could be made compulsory for a company to be eligible for public support. This should be done before the application for public support is submitted to the Administration, with the aim of ensuring a better match between the skills needed by the company, and the services that would receive public support. Alternatively, this could be the object of an initial voucher for less structured companies.

The present report set out a model questionnaire for the self-assessment of skill needs in enterprises. Split into four sections, it includes the assessment of the skills that are already present in the company, and of the skills that will be needed in the future, given the company's strategic investments. Finally, yet another section asks the company to reflect on its human resource practices, especially on continuous training and on recruitment practices.

The questionnaire was tested on a sample of 15 Italian companies to identify problems in the questions and in the structure of the questionnaire. The report also proposed some possible changes to the tested questionnaire, which would reduce the time of administration. Given the self-assessment nature of the tool, it is ultimately up to the company to make the best use of the findings of the questionnaire. Companies might also need support from a third-party service provider, which could help the company to understand the results of the self-assessment and use them to design its reskilling pathway accordingly.

## Bibliography

- OECD (2022), *Incentivising Business Investment in Skills in Italy: Recommendations for Two Public Policy Instruments*, OECD. [6]
- OECD (2021), *Raising Skills in SMEs in the Digital Transformation: A Review of Policy Instruments in Italy*, OECD. [5]
- OECD (2019), *Adult Learning in Italy: What Role for Training Funds ?*, Getting Skills Right, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264311978-en>. [8]
- OECD (2019), *OECD SME and Entrepreneurship Outlook 2019*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/34907e9c-en>. [3]
- OECD (2018), *OECD Skills Strategy Diagnostic Report: Italy 2017*, OECD Skills Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264298644-en>. [9]
- OECD (2017), *Entrepreneurship at a Glance 2017*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/entrepreneur\\_aag-2017-en](https://dx.doi.org/10.1787/entrepreneur_aag-2017-en). [2]
- OECD (2017), *OECD Skills Strategy Diagnostic Report: The Netherlands 2017*, OECD Skills Studies, OECD Publishing, Paris, <https://doi.org/10.1787/9789264287655-en>. [4]
- OECD (2016), *Getting Skills Right: Assessing and Anticipating Changing Skill Needs*, Getting Skills Right, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264252073-en>. [1]
- Unioncamere (2020), *Previsioni dei fabbisogni occupazionali e professionali in Italia a medio termine (2020-2024)*. [7]

## APPENDIX 1: Follow-up questions after completing of the questionnaire

1. Did you have any problems completing the questionnaire?
  - YES
  - NO
2. On a scale of 1 to 5, how difficult was it?
  - 1
  - 2
  - 3
  - 4
  - 5
3. IF YOU ENCOUNTERED DIFFICULTIES, PLEASE COULD YOU SPECIFY IN WHICH SECTION?
  - Section 1
  - Section 2
  - Section 3
  - Section 4

In detail: *(solicit further information - open question)*

4. What do you think is the purpose of the questionnaire? *(open question)*
5. How much time did you spend filling in the questionnaire?
  - less than 10 minutes
  - between 10 and 20 minutes
  - more than 20 minutes
6. How would you assess the time needed to complete the questionnaire?
  - Too long
  - A bit long
  - Normal
  - Short
  - Very short
7. Do you think completing the questionnaire was useful for your company?
  - Yes
  - No
  - Nothing has changed
8. Why? *(open question)*
9. What do you think should be improved? *(open question)*

## APPENDIX 2: Questions for a possible future version of the questionnaire

This appendix contains potential new questions that may:

- replace one or more questions currently in the questionnaire: questions (2.3\_a) and (4.4\_a);
- supplement the information currently in the questionnaire: questions (6.1, 6.2, 7.1).

### Possible new questions

**2.3\_a:** FOR EACH OCCUPATIONAL CATEGORY IN THE COMPANY, HOW IMPORTANT ARE THE FOLLOWING SKILLS FOR THE PERFORMANCE OF THEIR WORK? (1-5 Scale. 0 stands for “not applicable”/“there are no such workers”)

**4.4\_a:** WITH THE ABOVE CHANGES IN MIND, WHAT WILL BE THE IMPORTANCE OF THE FOLLOWING SKILLS IN THE YEARS 2023-2025? (1-5 Scale. 0 stands for “not applicable”/“this type of worker will be affected”)

1. **TECHNICAL SKILLS.** Example: use of technical tools and machinery Analytical skills
2. **DIGITAL SKILLS.** Example: programming languages, use of software for production, Internet of Things, artificial intelligence, cybersecurity, blockchain, app and website programming and development, data analytics, digital design, digital product and/or project management, digital marketing and social media.
3. **“SOFT” SKILLS.** Example: critical and analytical thinking, problem solving, resilience and adaptability, leadership, creativity, emotional intelligence, project management.
4. **LANGUAGE SKILLS.** Example: foreign languages, writing skills.

### P1. ADMINISTRATIVE STAFF

#### 1.1. TECHNICAL SKILLS

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

#### 1.2. “HARD” DIGITAL SKILLS

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	
	○	○	○	○	○	○	

#### 1.3. “SOFT” SKILLS

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

#### 1.4. LANGUAGE SKILLS

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	



**P.4 QUALIFIED SALES AND SERVICE WORKERS****4.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.2. DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.3. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**4.4. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**P.5 EXECUTIVES, MANAGERS AND HIGHLY SPECIALISED PROFESSIONALS****5.1. TECHNICAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.2. DIGITAL SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.3. "SOFT" SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	

**5.4. LANGUAGE SKILLS**

Not at all important	0	1	2	3	4	5	Very Important
	○	○	○	○	○	○	



**6.1 IN 2018-2019, DID YOUR COMPANY INVEST IN ANY OF THE FOLLOWING DIGITAL TECHNOLOGIES?**

(Select all that apply)

**6.2 IN THE YEARS 2023-2025, DOES YOUR COMPANY PLAN TO INVEST IN ONE OF THE FOLLOWING DIGITAL TECHNOLOGIES?**

(Select all that apply)

	Yes	No	I don't know
A Big data and data analysis			
B Industrial robots or automated services (e.g. for security, cleaning, transport)			
C Enterprise resource planning, digital integration of business processes			
D Cloud or fog computing			
E The Internet of Things, machine-to-machine communication			
F Augmented and virtual reality			
G Cybersecurity			
H Additive manufacturing (or 3D printing)			
I Human-machine interface			

**7.1 IN 2018-19, DID YOUR COMPANY COOPERATE WITH OTHER COMPANIES IN TRAINING OR RECRUITMENT PROGRAMMES FOR NEW STAFF?**

(Select one answer only)

1. Yes, via a Network Contract (Law No. 33 of 9 April 2009)
2. Yes, within the industrial district where I am located
3. Yes, with my main customers but not in a Network Contract or in an industrial district
4. Yes, with one or more ITS
5. Yes, in other forms
6. No, but this is in the business's short-term plans
7. No
8. I don't know.