Digital Skills and Jobs Coalition

Community-led Event

Outcome paper

The Italian Digital Skills Strategy and its implementation

Date: 27th July of 2021

Version: v1.0

Digital skills for all

Digital skills for the labour force

Digital skills for ICT professionals

Digital skills in education

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COMMUNITY-LED EVENT ON THE ITALIAN DIGITAL SKILLS STRATEGY AND ITS IMPLEMENTATION, 2-16 DECEMBER 2020

ORGANISED JOINTLY BY REPUBBLICA DIGITALE AND THE EUROPEAN DIGITAL SKILLS AND JOBS COALITION

1 Executive Summary

The European Digital Skills and Jobs Coalition (DSJC) supports actions to reduce the digital skills gap at a national level, as carried out by National Digital Skills and Jobs Coalitions, of which there are 25. The Community-led Events are sessions jointly organised by National Coalitions and the DSJC, which aim to engage members, broaden the stakeholder network, and provide new insights and contributions to specific relevant topics and themes.

Repubblica Digitale is a multi-stakeholder alliance of organisations that forms the Italian National Coalition for Digital Skills and Jobs, launched in the spring of 2020. Repubblica Digitale coordinated the publication of the first Italian Digital Skills Strategy in July 2020. The Plan aims to close the gap with other European countries, and to reduce the digital divide that characterises the Italian national context. Alongside this, Repubblica Digitale has been crafting an associated Implementation Plan with over 220 actions tasked with converting the strategy into a practical reality.

The Community-led event provided an opportunity for the National Coalition to present the Strategy and Implementation Plan to all its members and beyond, highlighting the most relevant actions. Feedback on these and overall, on the challenges and solutions to reduce the digital skills gap in Italy was collected through both panel discussions during the event, as well as indirectly through a participant survey. The discussion was centered around the 4 axes of intervention of the Coalition, and these were the main findings:

1.1 Education

The obstacles here include insufficient physical infrastructure, a resistance to distance education, a lack of awareness of the need for improving digital skills, the need for better teacher training and the inclusion of ICT throughout education. Participants presented solutions for each of these, as well as examples, including top-down changes to the curriculum, as well as bottom-up approaches from social partners such as Parole_O_stilli or the Torino City Living Lab.

1.2 Labour Force

Challenges here include a lack of human capital with the right digital skills, or of awareness of the need to upskill, which has impacted the rate of digital transformation. Regional differences were highlighted, but the overall trend of the need for culture change is worth noting. Among the proposed solutions were specific actions to upskill and reskill workers (the ASSINTER academy) with certification, business support for companies, particularly SMEs (the 'Eccellenze in Digitale' initiative), all of which were centralised in the Implementation Plan.

1.3 ICT Specialist Skills

The issues in the ICT sector are greater than in the average workforce, with a lack of skilled human capital, a significant gender gap and a low degree of collaboration, both internally and with European partners being noted. The proposed solutions start with evaluating the issue, (see for example the Ministry of Universities and Research Digital Skills Observatory, which can help increase awareness of the problem so targeted action to reduce the human capital gap in ICT can be taken) increasing collaboration (as exemplified by the city of Turin) and specific actions to foster Italian digital experts (see She Tech programme).

1.4 All Citizens

A culture change is needed here, in order to ensure there is digital skills training for all citizens, which can take into account the needs of each group and increase collaboration between the different regions of Italy. Solutions include the combination of a national level approach (OutReach platform of the National Research Council) with initiatives directed at specific regions or groups (the 'Grandparents on the Internet' initiative), and the use of mass media (television programmes and podcasts being prepared by RAI).

Overall, several cross-cutting themes are identified through this exercise, which are particular areas that the Strategy, Plan and following policy initiatives could focus on:

- Changing the culture to increase awareness of the need for digital skills, taking into account regional differences. Solutions should be designed in collaboration between public and private actors, national and regional entities and industry and social partners.
- Making digital skills training a part of education, and offering it from the early age throughout the lifetime of citizens, making it easy to find training when needed.
- Supporting companies, educators and Italian citizens in general with the right infrastructure and opportunities to put these competences in practice, and finally to be able to certify them.

2 Introduction

2.1 Community-led Events

The Community-led Events are jointly organised by National Digital Skills and Jobs Coalitions and the Digital Skills and Jobs Coalition. These sessions support the National Coalition in engaging members, broadening the stakeholder network, and providing new insights and contributions to specific and relevant topics and themes .

The Events consist of two online sessions set two weeks apart: the first outlines the topic and challenges to be debated, through a series of presentations, as well as panel discussions; the second Event addresses the received inputs (through surveys or similar methods) and provides a debate in the form of expert panel discussions.

2.2 Role of the National Digital Skills and Jobs Coalitions

Currently, there are 25 active National Coalitions across the EU. These communities bring together relevant actors at a national level to address digital skills challenges, to promote and stimulate initiatives, and supporting the development and implementation of digital strategies.

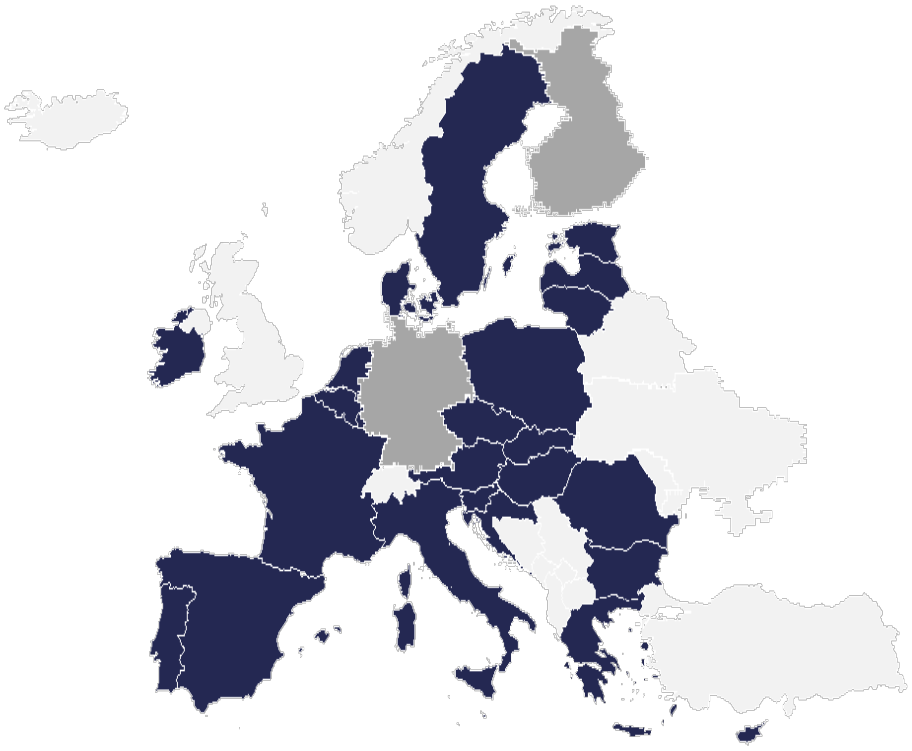


Figure 1. EU Member States with active National Coalitions (in dark blue)

Each National Coalition, initiated under the New Skills Agenda, is unique in its structure, activities, and membership. This is due to their local nature where stakeholders have come together to address the evolving nature of digital skills. The activity within the National

Coalitions may be coordinated by either a public body, a business or sectoral association, or a combination of both in a collaborative structure.

They bring together companies, education and training providers, policy makers, trade and business associations, social partners, and any other relevant actors to carry out initiatives aimed at reducing the digital skills gap on a national level.

They carry out actions to strengthen digital skills at a national level such as awareness events, sharing knowledge on digital skills training and upskilling initiatives, or the submission of DSJC pledges.

2.3 Repubblica Digitale and the first Italian Digital Skills Strategy

The Repubblica Digitale is an initiative of the Italian government, launched with the goal of bridging the digital skills gap in Italy. The initiative manifests itself in practice through the establishment of a multi-stakeholder alliance of organisations that form the Italian National Coalition for Digital Skills and Jobs working together with the European Digital Skills and Jobs Coalition.

The Italian Digital Skills Strategy was published by Repubblica Digitale in July 2020. The Strategy provides a series of ambitious targets:

- 70% of the population with at least basic digital skills.
- Eliminating the gender gap in digital jobs.
- Doubling fraction of the population with advanced digital skills (78% of young people with higher education, 40% of workers in the private sector and 50% of civil servants).
- Tripling of the number of ICT graduates.
- Quadrupling the number of female ICT graduates.
- Doubling the share of companies that uses big data.
- Increasing by 50% the number of SMEs using ICT specialists.
- Increasing by five times the share of the population using public digital services (64%).
- Increasing the use of the Internet by the elderly, to 84% in the 65-74 age group.

The Plan aims to close the current digital skills gap to other European countries by 2025, making digital technology a real opportunity for social and economic growth by reducing digital illiteracy.

Since July 2020, Repubblica Digitale has been working on defining an associated Implementation Plan which defines the practical steps required to make the Strategy a reality. This was published in December, outlining over 100 actions and aims to achieve the ambitious

goals of the Strategy by 2025[1]. The 4 axes have been translated into actions and indicators to be implemented in an action plan, including the consultation of citizens on the ParteciPA website.

A significant part of the Plan is the creation of two monitoring cycles. The objective of which is to ensure that the strategy and the plan are fully aligned with the evidence that emerges as a result of the actions and their impacts.

- The first monitoring cycle is applied on a six-monthly basis to verify the achievement of the objectives of the actions and the possible evolution in connection with European policy and the Piano Nazionale di Ripresa e Resilienza (PNRR, the Italian Plan for accessing the Recovery Fund).
- The second cycle is annual and focuses on the achievement of the objectives of the impact indicators within a calendar year.

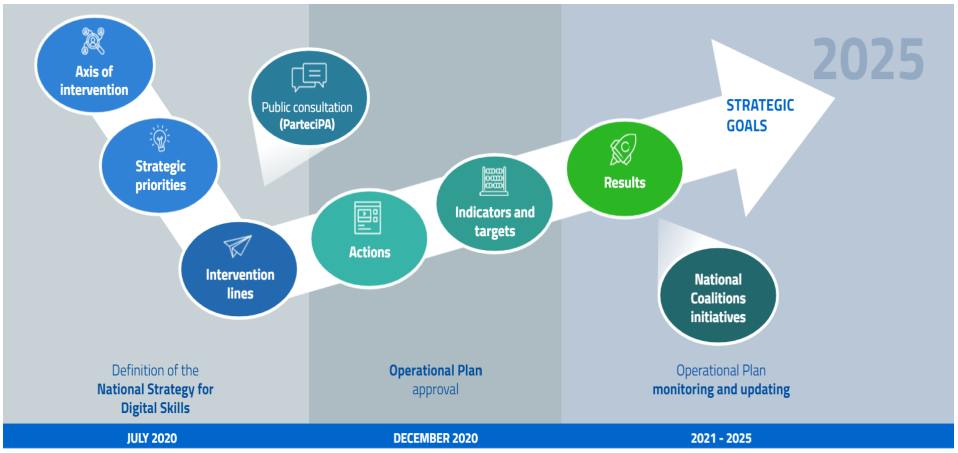


Figure 2. Timeline of the National Digital Skills Strategy, Repubblica Digitale

The scoping of the Operational Plan was possible thanks to a multi-stakeholder collaboration that involved Regional, Provincial and Municipal Administrations, Ministries, Universities, Research Institutes, Enterprises, Professionals, Mass-media Organisations, Associations, as well as the organisations adhering to the National Coalition, directed by Repubblica Digitale Technical Steering Committee, coordinated by the Department for Digital Transformation of the Presidency of the Council of Ministers on behalf of the Minister for Technological Innovation and Digitisation.

[1] Piano operativo para la Strategia Nazionale de Competenze Digitali, (2020), Repubblica Digitale

Figure 3. The National Digital Skills Strategy in numbers, Repubblica Digitale

To inform the completion of the Plan and the Implementation Strategy, the National Coalition brought together over 200 relevant actors in the digital skills and jobs space in Italy for a Community-led Event in December 2020, to discuss the actions and collect community insights on how to turn the strategy into reality. The discussion was split along 4 axes of action corresponding to the four key areas of the DSJC:

- Higher education and training cycle;
    - Education;
    - University and higher education;
- Labour Force;
    - Private sector and unemployed;
    - Public sector;
- ICT Professionals;
- Citizens.

Specific challenges and initiatives which address these challenges were identified in each of these areas. The aim of the sessions was to first present these challenges and solutions, and collect feedback as well sourcing ideas from the Italian digital skills community on areas of improvement to the Plan.

3 Community inputs

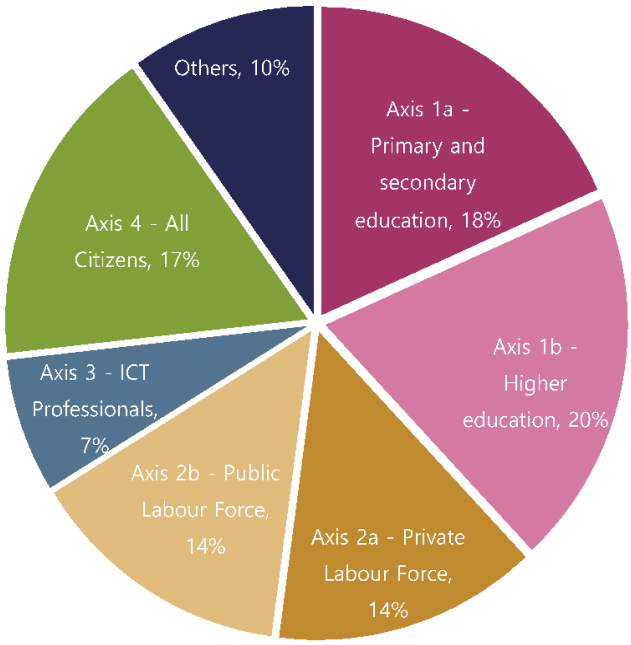


Figure 4. Organisational profile of survey respondents

Participants to the Event were requested to complete a survey collecting their feedback on the Digital Skills Strategy and suggested areas of improvement of the Plan as well as their own organisational digital skills priorities. The survey results are outlined below, questions used are outlined in Annex 2.

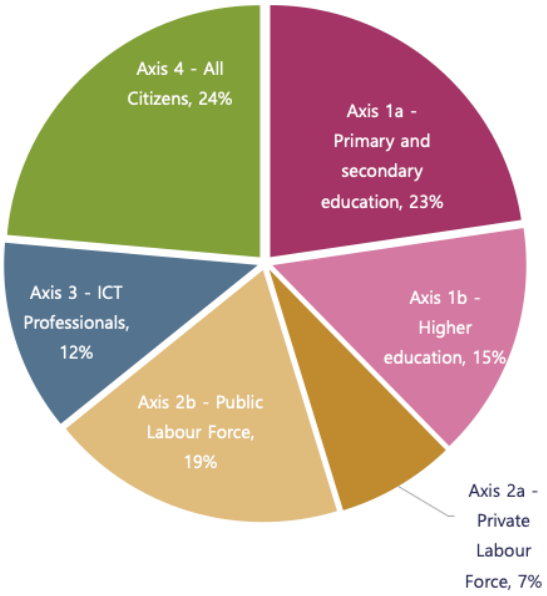


Figure 5. Survey responses to 'Which axis do you see as most requiring a change in approach compared to the past?'

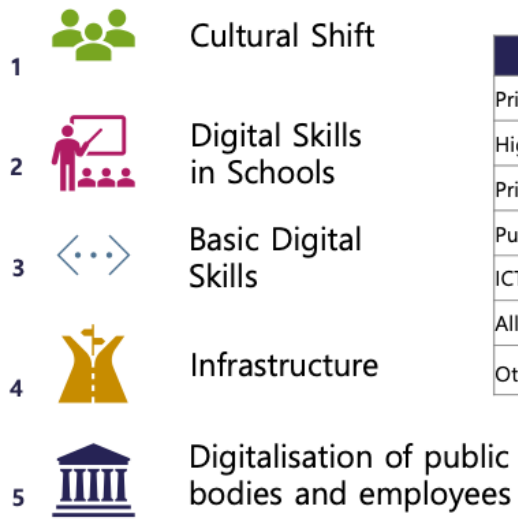
- Most respondents were from the education environment (38% of the participants), followed by the labour force (28%), with 7% on ICT specialist skills and 17% on all citizens. 38% of participants indicated that their organisation priorities fall within only one specific axis. A small subjective bias based on the interest groups was detected, with 33% of responders with a singular priority axis focus indicating that the National Coalition should focus on priorities aligning with the organisational focus.
- Respondents felt a change of approach compared to the past was most needed in axis 4 - citizens (23%) and 1 - education (22%). It is worth noting that public workforce (19%) is seen as a higher priority than the private workforce (7%), even though the number of the respondents from the private and public workforce was similar.

Organisation Priority	Top Obstacle
Primary & Secondary Education	Digital Skills
Higher Education	Teacher Training
Private Labour Force	Access to Tech and Tools
Public Labour Force	Access to Tech and Tools
ICT Professionals	Awareness, Existing Systems
All Citizens	Access to Tech and Tools
Other	Culture

Figure 6. Perceived obstacles to change

- The main obstacles to change identified by participants included:
  - Insufficient access to tools and technologies; availability of adequate equipment and learning systems/environments for the acquisition of these skills;
  - Cultural change; cultural resistance resulting from not understanding that IT is the science behind digitalisation;
  - Insufficient collaboration ('Need for more synergies between the different actors involved in formal and non-formal adult education.');
  - Low digital skills among the public administration, as well as the wider population ('Lack of e-skills of public servants/managers and citizens');
  - Teacher training ('unpreparedness of teaching staff with regard to the use of new technologies and innovative learning environments').
- The priority objectives of the strategy reflect the main identified obstacles:

- Creating a cultural shift, that will bring the change needed to increase digitalisation nationally ('Digital culture (awareness of use, risks, opportunities)');
- A stronger element of digital skills in the curriculum will result in better overall competences in the population, and better trained teachers ('Include the teaching of digital citizenship in the school curriculum');
- A need to ensure that all Italians have at least basic digital skills will lift up the country overall in digitalisation ('Providing basic ICT skills to all');
- Improvement of the national digital infrastructure, so all citizens can have access to tools and technologies ('A priority objective is internet access as a prerequisite');
- The provision of digital skills training for the public administration to improve collaboration between different public departments ('Digitisation of PA, and failure of operators suspension').



Organisation Priority	Top Objective
Primary & Secondary Education	Digital Skills in Schools
Higher Education	Digital Skills in Schools
Private Labour Force	Infrastructure
Public Labour Force	Cultural Change
ICT Professionals	Other
All Citizens	Cultural Change
Other	Awareness

Figure 7. Priorities of the Strategy

- In terms of investment, a homogeneous need was found, with a slight emphasis on education, the public labour force and all citizens. In terms of distribution, respondents felt the private labour force requires a medium level of investment, and all other axes a medium to high level of investment.

Table 1. Investment and improvement priorities for the different target groups of the National Coalition, on a scale of 1-5

AXIS	GREATEST INVESTMENT NEEDED	AREAS FOR PLAN IMPROVEMENT
1a - Primary and secondary education	4.4	4.1
1b - Higher education	4.0	3.8
2a - Private Labour Force	3.6	3.5
2b - Public Labour Force	4.3	4.2
3 - ICT Professionals	4.0	3.9
4 – All Citizens	4.4	4.2

- The areas where the Plan most requires improvement were seen by the respondents to be the Public labour force, all citizens and school education. A medium level of improvement of the plan was required in the higher education, ICT specialist skills and private workforce areas, whereas all other focus areas required a high level of improvement.

4 The Italian Digital Skills Strategy and its Implementation Plan

4.1 Principal axes of action

The Italian National Coalition divides its activities between 4 axes of intervention, aligned with the 4 target areas of the DSJC, as outlined in Table 1 below.

Table 2. Axes of action of the Italian National Coalition

AXIS	OBJECTIVE	RESPONSIBLE MINISTRIES	SUB-AXES
1 – Education	Supporting the development of digital competences throughout higher education and training.	Ministry of Education (MI) and Ministry of Universities and Research (MUR)	School (1a) and University (1b) level education
2 – Labour force	Ensuring that the entire working population has the key skills to adapt to the new digital ways of working.	Ministry for Economic Development (MISE) and the Ministry for Public Administration (MPA)	Public (2a) and Private (2b) workforce
3 – ICT specialist skills	Promoting the development of key skills for the future and increasing the percentage of ICT specialists, especially with regards to emerging technologies.	Ministry for Economic Development (MISE) and the Ministry for Universities and Research (MUR)	
4 – All citizens	Combating the digital divide between Italian citizens, with the end-goal of improving the digital skills of all Italians.	Ministry for Technological Innovation and Digital Transition (MITD)	

Figure 8. Challenges identified in each of the target axes during the event

The discussion in both Events was split into separate panels, addressing the challenges (presented with the first session) and proposing solutions (second session) in each specific area. For each of the 4 axes of focus of the National Coalition, Figure 4 maps out the identified challenges, with the suggested solutions presented in Figure 5 (see the subsequent sections for a detailed discussion).

Figure 9. Solutions to each of the challenges identified along the target axes

4.2 Axis 1 - Education

Several speakers felt that the issue of low digital skills in Italy is rooted in education, with digital skills training often not playing as prominent a role as needed. Addressing challenges in digital education is crucial to ensuring that the National Digital Skills Strategy is holistic, addressing obstacles across all relevant areas. This is essential to ensuring a strategic medium and long-term vision for the Strategy, which will enable it to be effective during emergencies such as the COVID-19 crisis.

Several areas of intervention and priorities for digital education in Italy were identified:

CHALLENGE 1.1 RESISTANCE TO DISTANCE EDUCATION

CHALLENGE	RESISTANCE TO DIGITAL EDUCATION
Description	• The immediate response required to the crisis may have generated resistance to ICT tools in the general population. • Lessons can be learned from emergency teaching to improve distance education in the long run and the system as a whole.
Solution 1	**Digital awareness as part of the curriculum**
Description	• Teaching computer science in schools is essential to generate digital awareness and ensure citizens take full part in the digital society. • Future action should be driven by young people, accompanying them and understanding their needs. • By considering the European dimension, new areas of focus can be identified, such as the gamification of education.
Examples	Parole O_stili designed a course for several school levels, starting with an introduction to civic education using gamification.
Solution 2	**Working directly with companies**
Description	• Connecting with businesses so that the taught material better reflects what is required in the world of work. • Organising formal placements and orientation sessions for students to help them integrate into the workforce after graduation.

CHALLENGE 1.2 INFRASTRUCTURE NOT FITTING NEEDS

CHALLENGE	INFRASTRUCTURE NOT FITTING NEEDS
Description	• It was reported that Italy still has a significant connection problem, particularly in schools, where more WiFi systems and specialised technicians are needed. • The existence of a digital divide for families in less affluent socio-economic classes - there are children who do not have access to digital technology and are therefore digitally vulnerable.
Solution 1	**Investment in infrastructure and boosting innovation**
Description	• Schools need the right digital infrastructure, combined with investment to boost innovation in education.
Examples	• "Riconnessioni" project of the Torino City Lab; over 200 schools in the Turin area have been provided with fibre optics for fast internet connection in order to support digital and hybrid teaching. • The IRCSS San Raffaele Hospital Living Lab in Milan infrastructure improvement programme.

CHALLENGE 1.3 AWARENESS OF THE IMPORTANCE OF DIGITAL EDUCATION

CHALLENGE	AWARENESS OF THE IMPORTANCE OF DIGITAL EDUCATION
Description	• Low awareness of the need for cultural change in digital education, which could lead to digital illiteracy.
Solution 1	**Collaboration and sharing of information**
Description	• An interdisciplinary view is recommended, fostered cross-sectoral working groups.
Examples	• The Cabinet Office has been spearheading collaboration between Ministry offices and public actors, with the support of Repubblica Digitale to improve information sharing between schools and public agencies. • The MUR has defined success indicators in fighting illiteracy and the digital divide in schools, which are published in the Digital Skills Observatory or reports from Research Institutes.

CHALLENGE 1.4 INSUFFICIENT TEACHER TRAINING

CHALLENGE	INSUFFICIENT TEACHER TRAINING
Description	• Teacher training in general was considered to have suffered from low investment, particularly in digital areas. • Specific training is required in order to transform teachers into designers of educational experiences, creating environments and tools for educational paths, through hybrid experiences. • Through better training teachers can gain the competences to infuse a digital element throughout the syllabus.
Solution 1	**Innovative teacher training**
Description	• Designing new learning models with a 360-degree view, including the theories and techniques of instructional design and teaching at all levels.
Examples	• The MI has been designing a new teaching model as part of the Operative Plan. • More than 150,000 teachers have been provided with teaching materials and trained through webinars for distance learning by Parole O_stili. • More than 5,000 teachers have been trained in digital skills through projects of Torino City Living Lab, and supported through the Covid pandemic on the challenges of remote teaching with webinars and opportunities to share their needs for effective teaching.

CHALLENGE 1.5 ICT TRAINING THROUGHOUT EDUCATION

CHALLENGE	ICT TRAINING THROUGHOUT EDUCATION
Description	• The quantity of Italian graduates relative to the general population is lower than in other EU countries. • The number of ICT graduates from Italian universities does not fill the requirements of industry for digital experts. • Graduates often have strong specialised digital skills in one technical area (machine learning, graphic design, etc) but lack a basic level of transversal digital skills that are needed across all jobs (processing data, cybersecurity). • University enrolment in STEM disciplines is below 30% of the overall registrations (see full report here). • It was suggested that this comes as a result of insufficient ICT training in schools, combined with poor advice being offered to school leavers on the potential of educational paths that open up digital careers.
Solution 1	**Reform the educational offer**
Description	• Improve existing courses by bringing "digital thinking", for better teaching methodologies. • Couple this with major investments in IT resources. • Experiment with innovative teaching methods and tools such as virtual laboratories. • Offering access to students to large volumes of data.
Examples	• Some universities have set up specific degrees, Academy, or joint initiatives with the businesses, to develop communities of practice.
Solution 2	**Strengthening human capital in education**
Description	• Improving university education by adding a digital element to all courses, • Apply practical measures to increase the number of graduates.
Solution 3	**Digital skills from an early age and initiatives for gender equality**
Description	• Developing initiatives aimed at improving basic digital skills from early ages. • Following this through the educational cycle to ensure that school leavers have at least basic digital skills. • The logic of algorithmic programming needs to be a part of the curriculum, so pupils can grow up with control over their data. • Increasing the STEM literacy of young women, by starting with coding.

Examples	• The university system is jointly working with schools on providing guidance to pupils from an early age on ICT careers. The approach to designing and delivering this support is no longer only informative but also focuses on practical aspects such as specific educational or vocational paths that can be followed to different professions. • Fondazione Mondo Digitale has already reached 100,000 female students in 33 universities nationwide with their programme of increasing STEM literacy for young women, and is poised to scale this up.

OTHER SOLUTIONS

SOLUTION	DESCRIPTION
Certification	• It was suggested that the digital competences of school leavers should be tested through a framework such as the PISA-INVALSI test. • Work done by AICA to measure the digital skills of individuals and evaluate the effectiveness of the initiatives implemented provides a good example.

4.3 Axis 2 - The Labour Force

The following challenges and solutions were identified by the speakers and participants within the second axis:

CHALLENGE 2.1 CULTURAL RESISTANCE TO DIGITAL IN THE PUBLIC ADMINISTRATION

CHALLENGE	CULTURAL RESISTANCE TO DIGITAL IN THE PUBLIC ADMINISTRATION
Description	• The need for urgent digital skills training is accelerated by the advanced age and low turnover of some of the public administration staff. • A culture of remote and agile working is required within an efficient public sector. The COVID pandemic only accelerated the need to face this challenge.
Solution 1	**Support for the public workforce through the Implementation Plan**
Description	• Specific actions from the Plan dedicated to public managers working on the digital transformation of the public sector.
Examples	• The 'Competenze digitali nella PA' initiative, the strategic action based on the development of a digital skills syllabus.

CHALLENGE 2.2 HUMAN CAPITAL BELOW INDUSTRY NEEDS

CHALLENGE	HUMAN CAPITAL BELOW INDUSTRY NEEDS
Description	• Companies face challenges in filling their openings with the candidates they need. • Research at the Ministry of Economic Development shows that only 5% of companies in Italy have a high level of digital skills, and almost a third of open positions (28%) are difficult to fill.
Solution 1	**Implementation Plan activities aimed at improving human capital in ICT**
Description	• MPA together with the National School of Administration (SNA), the (MID) and The Agency for Digital Italy (AgID) have been defining a framework of actions to improve the digital skills of public workers. • For the private workforce, the Plan contains 8 lines of intervention translated into 11 actions to support the private workforce in the short, medium and long terms. • 5 specific lines of intervention and 17 actions to improve digital skills in the public workforce are identified in the Plan
Examples	• Tax voucher financing and non-repayable contributions (Digital transformation and Industry 4.0 actions). • Actions to achieve ultra-wideband connectivity and inclusion (Voucher Plan). • 'Smarter Italy', facilitating innovative start-ups.
Solution 2	**Upskilling and reskilling the workforce**
Description	• Creating Digital Manager (DTTs) positions to focus on the process of digital transformation in Public Administration, with competences regulated by the Digital Administration Code (CAD).
Examples	• Digital upskilling of existing staff was recommended to ease the digitalisation process, as recruiting staff with specific competences was found to be difficult. • AgID organised a round table with all the actors in the field of public training, pooling resources to kickstart training initiatives to improve digital skills of the active workforce in the public sector (through masters, webinars, etc.). • Participants to training initiatives organised by AgID received a certificate of digital skills. • Industry 4.0 laboratories promote the 'Eccellenze in Digitale' initiative, which is being launched in partnership with Google, to give >30,000 people (both entrepreneurs and employees) basic digital skills.

	• ASSINTER has set up an academy involving the major private players in the sector in upskilling and reskilling through the lens of agile working, and qualified 120,000 employees for agile working.

CHALLENGE 2.3 AWARENESS OF DIGITAL SKILLS NEEDS IN THE WORKFORCE

CHALLENGE	AWARENESS OF DIGITAL SKILLS NEEDS IN THE WORKFORCE
Description	• Workers are often unaware of the need to invest in digital upskilling. • According to research from the Smart Working Observatory in Polimi, 27% of workers say they need to update and revise their skills because their job will change.
Solution 1	**Increasing awareness in workers and their companies of the need to update and revise their skills**
Description	• Specific projects focused on increasing awareness of digital upskilling and reskilling needs.
Examples	• 'House of Emerging Technologies', call for proposals launched in Turin for experimentation, applied research and technology transfer, based on the use of emerging technologies.

CHALLENGE 2.4 PRACTICAL IMPLEMENTATION OF DIGITAL TRANSFORMATION IN THE LABOUR FORCE

CHALLENGE	PRACTICAL IMPLEMENTATION OF DIGITAL TRANSFORMATION IN THE LABOUR FORCE
Description	• In the post-COVID19 landscape, entrepreneurs need support to find new business models focused on digital, considering the skills element. • The digital transformation of Italian companies was estimated to be worth 6-7% GDP. • It was suggested that more resources need to be allocated to support the transformation.
Solution 1	**Supporting SMEs in implementing new business models**
Description	• Third-level education institutes, as well as the private sector are presenting initiatives to train SMEs in the use of new business models through acceleration programmes. • Along with training SMEs in the use of new models, support is being offered for hiring personnel with the necessary competences.
Examples	• Higher Technical Institutes (ITS) and universities are providing skills support for digital transformation to businesses, especially SMEs. • B Heroes selects start-ups for mentoring and support on advice from a committee of 60 managers and business experts. Their stories are then disseminated through social media and television,

	to foster involvement. Worker talent swap schemes between companies on digital skills were another suggested approach. • ASSINTEL is promoting a programme to support hiring in digital and for the R&D sector, as well as to increase participation in STEM courses together with Government and Industry.
Solution 2	**Predicting demand**
Description	• Adding a professional with the specific role of 'Demand Manager' can help aggregate company needs, and subsequently recruit the right digital profiles.
Examples	• Work between the municipality of Torino and local Living Labs has been done to understand the job and skill needs in the city for the next 30 years from now, creating synergies between the public and private sectors to improve the impact of digital technology and skills, as part of the vision of Turin as a smart city.

CHALLENGE 2.5 DIGITAL SKILLS CERTIFICATION FOR THE LABOUR FORCE

CHALLENGE	DIGITAL SKILLS CERTIFICATION FOR THE LABOUR FORCE
Description	• Defining a clear framework for evaluating the digital skills of workers is essential to support companies in digitalisation.
Solution 1	**Defining digital skills certification for the PA**
Description	• A common syllabus to prove skills adoption was seen as necessary, and it was advised that this be defined in collaboration between all stakeholders (competence centres, ITS, etc.).
Examples	• 'Digital skills in PA' offers a platform for non-specialist employees to assess their level of digital skills and then train to address their gap.

CHALLENGE 2.6 CONSIDERING REGIONAL AND SPECIFIC VIEWPOINTS

CHALLENGE	CONSIDERING REGIONAL AND SPECIFIC VIEWPOINTS
Description	• Digital skills initiatives can struggle to gain regional traction in remote locations in Italy, such as the towns in the Apennines, without strong collaborative action. • Activities need to consider the perspective of both workers (what skills are needed?) and companies (what can be done to support workers in developing digital skills?). • Initiatives targeting upskilling and reskilling of workers should be specific to the region and transversal covering all relevant areas. • Digital soft skills are important across industry, not just in technology-intensive sectors.

	• Regional digital transformation requires the acquisition of technical skills as well as an ability to understand the changes that are taking place, to enable workers to be resilient to upcoming changes in the digital age.
Solution 1	**Activities aimed at specific regions**
Description	• Defining lines of action designed for specific regions of Italy, considering their regional specificities and own viewpoints.
Examples	• The specific action 'Strengthening the administrative capacity of small municipalities'.

4.4 Axis 3 - ICT specialist skills

A taxonomy of ICT specialist skills has been identified comprised of three typologies:

- Vertical-specific skills.
- Specialist skills that can be applied across multiple but not all verticals.
- Specialist transversal skills, applicable across industry, can be sub-categorised into:
  - Knowledge: skills that contribute to the cultural and economic growth of individuals or communities.
  - Data: data mining, data strategy, data management.
  - User Experience: human-computer interfaces.

CHALLENGE 3.1 CONVERGENCE WITH EUROPEAN THEMES

CHALLENGE	CONVERGENCE WITH EUROPEAN THEMES
Description	• AI, Cybersecurity and Quantum Technologies are key European themes, and converge within the Italian focus areas. • Data policy is another key focus that requires specific methodologies to be applied.
Solution 1	**Implementation Plan actions fostering ICT specialist skills**
Description	• The Implementation Plan presents 7 specific lines of intervention and 7 actions in this axis to foster specialist ICT skills nationally.

CHALLENGE 3.2 INSUFFICIENT INVESTMENT IN RESEARCH

CHALLENGE	INSUFFICIENT INVESTMENT IN RESEARCH
Description	• Italian research, both in universities and institutes, is of high quality, but most investment in research in Italy was reported to be private, by companies, and at a lower overall level than in other countries. • The academic community requires the right resources to support the development of specialist ICT skills.
Solution 1	**Implementation Plan actions to support research**

Description	• The Implementation Plan presents 7 specific lines of intervention and 7 actions in this axis to foster specialist ICT skills nationally.

CHALLENGE 3.3 SILOED DEFINITION OF ICT SKILLS TRAINING

CHALLENGE	SILOED DEFINITION OF ICT SKILLS TRAINING
Description	• Education at universities should fit business needs, and building on the progress in the last 40 years in Italy will be essential for this. • Collaboration between disciplines by ensuring transversality and interdisciplinarity was reported as an area of interest, such as between data science and humanities.
Solution 1	**Public-private collaboration to foster ICT skills**
Description	• Public-private collaboration is essential to the growth of skills. • Reskilling campaigns should be co-designed with companies.
Examples	• The city of Turin and Torino City Lab are carrying out a project to test innovations and evaluate their expected results in improving ICT skills. • The MUR is working on specialist ICT skills through the Digital Innovation Hubs initiative (together with the MISE), and the Innovative Procurement (with other ministries).

CHALLENGE 3.4 THE HUMAN CAPITAL DEFICIT IN ICT

CHALLENGE	THE HUMAN CAPITAL DEFICIT IN ICT
Description	• The number of employed people with ICT skills is reported to add up to <4% of the total workforce, and empowering workers to improve their skills and increase this fraction according to business needs poses a significant challenge. • Of particular focus are the specific profiles with advanced digital skills, increasingly in demand. • The gap in human capital in SMEs was seen as partly reflected in the Italian economy. SMEs were seen as often lacking the skills internally to perceive the benefits of digitisation and innovation, and therefore face the risk of being left behind. • A lack of awareness was reported to be one of the main causes of the low ICT specialist supply, both at school level and beyond.
Solution 1	**Understanding the magnitude of the problem of the human capital in ICT**
Description	• In order to solve the problem, Italy needs to quantify the number of people finishing a university degree, evaluate university progress

	related to emerging technology areas, and define initiatives for the university to respond to the needs of the world of work. • Then this can be extended to research (PhDs) with a significant industrial component.
Examples	• The MUR Observatory identifies needs by evaluating the number of trainees needed to fill the needs of both the research and business worlds.
Solution 2	**An early start**
Description	• Fostering ICT specialist skills was reported to require teaching elements of computer science in primary school, and a re-evaluation of student digital skills needs. • Italy needs to develop computational thinking in students. This requires specific teacher training. • These skills must be extended to non-ICT university degrees, such as medicine.
Examples	• All of these solutions are addressed within the axes of action of the Operative Plan.
Solution 3	**Fostering innovation**
Description	• Selecting innovation managers. • Fostering dynamic innovation ecosystems will support SMEs to develop the needed practical digital skills in a coordinated manner.
Examples	• Two actions are already underway under the lead of the MISE: strengthening of the system of Higher Technical Institutes and Vouchers for innovation managers. • 3600 Innovation Managers have already been selected by companies. Although only 15% of these are women. • Free licences in multimedia content and software, to enable their reuse and the expansion of knowledge will support the growth in ICT specialists.

CHALLENGE 3.5 THE GENDER GAP IN ICT

CHALLENGE	THE GENDER GAP IN ICT
Description	• Only 19% of Italian women have above basic digital skills, as indicated in the Women in Digital Scoreboard 2020. • The gender gap increases by 20% between registration and graduation in subjects such as engineering and computer science.

	• The ICT sector was reported to suffer from a greater gender pay gap compared to others, which increases for roles such as cybersecurity or cloud computing experts. • There is a reported gap in female entrepreneurs to be addressed.
Solution 1	**Training actions with a gender element**
Description	• Systemic actions in the field of training, retraining and research are required to face these challenges. • Direct in-company training can help speed up the concrete application of the skills acquired in work
Examples	• She Tech provides tools for those who want to use digital channels for promotion (selling on Instagram or communicating through TikTok). In these modules, participants learn about professions of the future (data science, machine learning). • Another She Tech initiative was inspired by Google in London, a one-day basic level coding training programme.

4.5 Axis 4 - All citizens

The lack of basic digital skills in society is still evident, and is affecting every profession. The pandemic has shown that a concerted and coordinated effort needs to be made to improve the digital skills situation and move Italy up the DESI ladder.

Work in the fourth axis aims at supporting the digital inclusion of all Italian population. 20 integrated actions are presented in the Plan, with a view to network development and continuous enhancement. The Italian public administration will shortly launch an investment path for the country that includes digital skills. There will be an accompanying phase for businesses and administrations. The key areas of focus in this target group are ensuring all citizens' participation rights in the digital world are respected, raising awareness of the importance of digital in everyday life, and ensuring there is transparency and accountability for the digital transformation process.

CHALLENGE 4.1 SILOED APPROACH TO DIGITAL SKILLS TRAINING FOR ITALIANS

CHALLENGE	SILOED APPROACH TO DIGITAL SKILLS TRAINING FOR ITALIANS
Description	• The success of the plan was seen as hinging on a good relationship between Regions, ministries and institutional actors, public and private bodies. • It was suggested that the Regions can play an implementing role, but the whole country must come together for a significant and organic leap, involving all the players in the field.

	• The operational capacity at the territorial level is seen as fundamental.
Solution 1	**Collaboration between all stakeholders in providing digital skills training to citizens fostered through the National Strategy for Digital Skills**
Description	• Collaboration between citizens, businesses and public administration in working together to explore and test innovative products and technologies and assessing their usefulness for end users and impact on the quality of life was suggested as a good approach. • This will help increase citizen trust in the public administration, which is essential to achieving digital transformation. • The Strategy and Plan have a key role here in creating the mechanisms to foster this collaboration at a practical level.
Solution 2	**Addressing regional differences in all digital skills training**
Description	• A clear understanding of regional and cultural differences (such as between the north and south of Italy) in digital skills initiatives was reported as essential, for this target group but also for the labour force (see Challenge 2.6), through surveys followed up by support via common offices and systems for digital transformation.
Examples	• A good approach in this area is the ProDigi initiative, which aims to develop regional centres of competence for innovation. Provinces could set up digital laboratories starting with spaces such as high schools to promote digital literacy among citizens.
Solution 3	**Setting up indicators and comparing to Europe**
Description	• Defining specific indicators to compare within the country and with Europe. • Assessing progress against a benchmark of what is done in other European countries.
Examples	• The Digital Agenda Observatory has been defining indicators, divided into enabling factors and results to be obtained, which would allow the actions taken and the results obtained to be measured, as well as to compare with other European countries. • Future suggested actions include the set up of an observatory to focus on territories, gender gap and reskilling of the workforce.

CHALLENGE 4.2 DEFINING RESPONSIBILITY FOR SUPPORTING ALL CITIZENS

CHALLENGE	DEFINING RESPONSIBILITY FOR SUPPORTING ALL CITIZENS
Description	• Where the responsibility and the manner of providing digital skills to citizens lies was found to be unclear. Two decades ago, it was formal training delivered through the telecentres, but this has evolved into a dynamic and cooperative environment, where the learner is not just a user but a prosumer who contributes to building the services they will benefit from. • The Covid-19 emergency experience showed the growing demand for digital services and supporting citizens in producing and interacting with content safely online. • The primary challenge is that of web access, and once this need is satisfied the emphasis moves to developing digital competences. • The last step is improving competences to make the web user more conscious and responsible in order to ensure an ultimately enjoyable experience.
Solution 1	**National level approaches**
Description	• The MITD aims to systemise successful regional initiatives to create a digital facilitation network throughout Italy: citizens will go to a physical location to acquire skills and be trained in the use of digital services.
Examples	• The 'I percorsi della strada' action provides a good example, where neighbourhood associations, local communities and all other actors in the public space work together to enhance the support offered to citizens, including the Digital Civil Service. This will lead to the implementation of facilitation services, with the support of 1,000 volunteers. • The Conference of Regions has collected lessons learned from digital skills activities on the ground, highlighting significant experiences that can be reproduced on a national scale. These experiences will have to be adapted to the regional context, considering existing partnerships. • The OutReach platform made available by the National Research Council has been providing information from scientific research during the Covid-19 emergency to citizens.
Solution 2	**Using mass media to reach citizens**
Description	• This was reported as key to communicating the message on digital skills, starting with the National Day of Digital Skills and combining

	this with campaigns designed by the Ministry of Labour to promote assistive technologies.
Examples	• The RAI 'Inclusion' structure has partnered with the MITD, within the framework of the Repubblica Digitale, to promote inclusiveness and ensure maximum diffusion and adapting the message as needed. This partnership will soon be formalised with the signing of a memorandum of understanding between MITD and RAI. • RAI will support the Operational Plan with short and long-term actions to be implemented in the next three years. • A series of podcasts on the world of work have already been launched. • Through ANG in radio, 100 stations work together to offer young people the technological tools to create their own radio stations

CHALLENGE 4.3 MONOLITHIC APPROACHES TO DIGITAL SKILLS TRAINING PROGRAMMES

CHALLENGE	MONOLITHIC APPROACHES TO DIGITAL SKILLS TRAINING PROGRAMMES
Description	• A risk in defining homogeneous and unique monolithic categories of citizens was identified, e.g. seniors. • Within this demographic a difference was seen between those who have been excluded from the web during the lockdown and could only be reached with the support of TV, and those with basic skills that need training at a different level, through quality content.
Solution 1	**A stepped, bottom-up, co-creation approach**
Description	• An informal, lifelong learning approach was suggested, including self-assessment and an online training environment, starting with basic skills to ensure a safe online interaction for all. • Adult digital skills trainers, using formal or informal settings, offer a good solution to facilitate the co-creation processes, working to design interactive digital content, and ultimately improve the final result. The focus of these initiatives should not only be on catching up but on moving the country forward.
Solution 2	**Targeted actions for specific groups**
Description	• Creativity and youth participation were reported as key to enhancing the skills of young people, and are particularly effective combined with the learning by doing methodology. • Non-formal education was seen as a good promoter of female empowerment and a strong tool to closing the gender gap.

Examples	• Specific actions for e-inclusion aimed at the most disadvantaged have been devised by the MITD. • The "Grandparents on the Internet" project sees over 100,000 elderly people trained, based on an intergenerational training model, now requiring support to be scaled up to the national level.

CHALLENGE 4.4 INSUFFICIENT SOFT DIGITAL SKILLS

CHALLENGE	INSUFFICIENT SOFT DIGITAL SKILLS
Description	• Along with tools and infrastructure, citizens were reported to need soft digital skills training to empower their role in the digital transformation.
Solution 1	**Mass media influence**
Description	• Collaborating with TV and radio to increase the soft digital skills of Italians through live broadcasts and podcasts of an informative nature.

CHALLENGE 4.5 CULTURAL RESISTANCE TO DIGITAL

CHALLENGE	CULTURAL RESISTANCE TO DIGITAL
Description	• The direct involvement of citizens in the digital transformation process is reported to require a cultural change, which will need a focus on the human dimension, particularly for disadvantaged groups.
Solution 1	**Fostering digital culture**
Description	• The dissemination of knowledge and spreading the culture of efficient technology use by understanding the mechanisms that impact human behaviour was reported as important.
Examples	• Initiatives to be mentioned include supporting the fight against online hate for young people and the Festival of Computer Scientists Without Borders. • Social Academy Labs are good examples of places where citizens experience the social impact of digital innovation, with digital culture disseminated into society, offering increasingly accessible services to citizens and minorities.

5 Conclusions

The following conclusions were drawn based on the Event, in terms of priorities for reducing the digital skills gap in Italy:

- Targeted investments in all four axes of intervention, within the specific areas of challenge identified and following the good models from existing initiatives will be key to increasing both the basic and advanced digital skills in Italy compared to the European level, that will make sure the first Digital Skills Strategy and its Implementation Plan are a success.
- For **Education**, ICT needs to be embedded throughout the teaching process – by preparing teachers with the right competences, reforming the curriculum to include elements of digital skills at all pupil ages, and improving collaboration between public actors to make progress in this area.
- For the **Labour Force** axis, a cultural change to understand the importance of digital skills is needed. This will require both the public and private sector to work together in developing upskilling and reskilling programmes, supporting SMEs through the digital transformation of their business as well as human capital, and certifying the skills of workers.
- In terms of **ICT specialists**, the first step will be defining the skills needs, which requires wide public-private collaboration, then an understanding of the size of the problem overall as well as in specific dimensions such as the gender element, and only then working at the right level, from an early age and with innovative methods to solve the issue.
- To ensure **All Citizens** in Italy have the right digital skills, a good combination of a national approach, based on specific indicators to compare to other European countries, and a regional approach taking into account cultural differences will be required. This should be a stepped, bottom-up co-creation approach with targeted action, making use of all relevant channels such as mass-media.

Following on from the discussion on the day, two main actions were carried out:

- The Operational Plan was published in December 2020.
- The lessons learned during the event were used to adjust the Implementation Plan, with the aim of creating a systemic approach to improving digital skills in Italy.

6 About the organisers

6.1 Italian National Digital Skills and Jobs Coalition

In April 2020, the Ministry for Technological Innovation and Digital Transition launched the Italian Coalition for Digital Skills and Jobs. The Coalition builds on "Repubblica Digitale", a multi-stakeholder initiative that promotes digital skills at all levels of the Italian economy and society. The initiative aims to identify and engage as many stakeholders as possible (e.g., businesses, public entities, NGOs etc.), creating a cultural change based on improving the necessary competences to fully realise the benefits of digital transformation. Up to now, more than 180 organizations have joined the Italian Coalition and they have launched more than 220 projects. In 2020, the initiatives of the National Coalition for Digital Skills have trained more than 2.7 million students, 70,000 teachers, over 90,000 citizens, and more than 250,000 workers from both the private and public sectors.

Read more here.

6.2 Digital Skills and Jobs Coalition

The Digital Skills and Jobs Coalition is a unique community supported by the European Commission that:

- Enables stakeholders to propose actions, programmes, initiatives to improve the digital skills situation in Europe;
- Offers a platform of exchange to learn from peers and to showcase actions, initiatives developed and their impact;
- Helps to join forces to pave the way for a strong and inclusive digital Europe.

Any such organisation, be it an SME or corporate, an education provider, a social partner, or non-governmental organisation is encouraged to become a member of the Digital Skills and Jobs Coalition: join here.

Since 2016, members of Coalition have made pledges to tackle the digital skills gap and taken action to provide skills training, job placements, certifications and other activities addressing four target groups: citizens, the labour force, ICT Specialists and digital skills in education.

6.3 Partner Living Labs

The City of the Future is a Living Lab in Milan that aims to explore methods and tools for the promotion of innovation and the dissemination of digital services of the future, involving users directly in the creation process. Read more here.

Torino City Lab is an initiative of the City of Turin born to promote, develop and test innovative solutions in a specific area of the city in order to evaluate their functionality and usefulness

for those who use them and to establish the impact they have on their quality of life. Read more here.

Annex 1: Agenda

Event 1: The Italian Digital Skills Strategy

2nd December 2020

Time 15:00 – 17:00 CEST

Time	Title	Description
15:00	Welcome and opening of the event	• **Paola Pisano**, Minister for Technological Innovation and Digitization
15:10	The Digital Skills and Jobs Coalition	• **Fabrizia Benini**, Head of Digital Economy and Skills Unit, European Commission
15:20	Introduction to event topic	• **Nello Iacono**, Repubblica Digitale National Coordinator
15:25	Panel 1 - **Higher Education and Training cycle**	• **Elisa Pintus**, Italian Ministry of Education, Repubblica Digitale Technical Steering Committee • **Nicola Mazzocca**, Italian Ministry of University and Research, Repubblica Digitale Technical Steering Committee • **Stefano Laporta**, ConPER, Repubblica Digitale Technical Steering Committee • **Alessandro Bogliolo**, EU Code Week Italian coordinator, Repubblica Digitale Technical Steering Committee • **Enrico Nardelli**, Director of the C.I.N.I. National Lab on 'Informatics and School • **Alberto Sanna**, The City of Future Living Lab Moderator: **Pier Giorgio Turi**, ITER – Torino City Lab
15:25	Panel 2 - **Active workforce**	• **Daniel De Vito**, Italian Ministry of Economic Development, Repubblica Digitale Technical Steering Committee • **Sauro Angeletti**, Italian Ministry for Public Administration, Repubblica Digitale Technical Steering Committee

		• **Franco Patini**, Confindustria Digitale representative, Repubblica Digitale Technical Steering Committee • **Andrea Sammarco**, Unioncamere, Repubblica Digitale Technical Steering Committee • **Nicola Farronato**, Head of Staff, Turin City Councilor for Innovation, Torino City Lab Moderator: **Federica Meta**, Cor.Com Digital360 Group
16:05	Panel 3 - **ICT specialist skills**	• **Nicola Mazzocca**, Italian Ministry for Universities and Research, Repubblica Digitale Technical Steering Committee • **Daniel De Vito**, Italian Ministry of Economic Development, Repubblica Digitale Technical Steering Committee • **Lisa Di Sevo**, She Tech • **Paolo Atzeni**, GII - The association of Italian faculty members in Computer Science in Engineering Departments and Programs , Partner of Repubblica Digitale • **Marco Ferretti**, University Consortium representative, Partner of Repubblica Digitale Moderator: **Fabio Sgaragli**, Fondazione Brodolini, Torino City Lab representative
16:05	Panel 4 - **Citizens**	• **Erika Miglietta**, Italian Ministry for Technological Innovation and Digital transition representative, Repubblica Digitale Technical Steering Committee • **Dimitri Tartari**, Conference of Regions, Repubblica Digitale Technical Steering Committee • **Altheo Valentini**, SGI, Repubblica Digitale Technical Steering Committee • **Gaetano Grasso**, Innova Puglia • **Laura Zanella**, Italian National Institute of Statistics, Partner of Repubblica Digitale • **Gaetano Palombelli**, UPI, Repubblica Digitale Technical Steering Committee

		Moderator: **Federica Meta**, Cor.Com Digital360 Group
16:45	Considerations and survey presentation Closing	• **Nello Iacono**, Repubblica Digitale National Coordinator

Event 2: Implementing the Italian Digital Skills Strategy – practical considerations

2nd December 2020

Time 15:00 – 17:00 CET

TIME	TITLE	DESCRIPTION
15:00	Welcome and opening of the event	• **Nello Iacono**, Repubblica Digitale National Coordinator
15:05	Presentation of survey results	• **Erika Miglietta**, Italian Ministry for Technological Innovation and Digital transition, Repubblica Digitale Technical Steering Committee
15:15	Discussion of results Panel 1 **Higher Education and Training cycle**	• **Gerardo Canfora**, The Conference of Italian Universities Rectors representative • **Lorenzo Benussi**, Riconnessioni Foundation, Torino Living Lab • **Tiziana Montalbano**, Parole O_stili, Repubblica Digitale National Coalition • **Mirta Michilli**, Fondazione Mondo Digitale, Repubblica Digitale National Coalition • **Ernesto Caffo**, Telefono Azzurro, Italian Repubblica Digitale National Coalition Moderator: **Giampaolo Colletti**, Digital Transformation Department
15:15	Discussion of results Panel 2 **Active workforce**	• **Rosamaria Barrese**, AgID, Repubblica Digitale Technical Steering Committee representative • **Daniele Lunetta**, Italian Ministry of Labour, Repubblica Digitale Technical Steering Committee representative • **Fiorella Crespi**, Smart Working Observatory, Polimi • **Luca Rigoni,** Digital Competence Observatory representative (ASSINTER) • **Paola Borz**, Trentino School of Management, Repubblica Digitale National Coalition • **Zeno Pellizzari**, CEO of B Heroes, Milano Living Lab • **Andrea Ardizzone,** Digital Competence Observatory representative (ASSINTEL) Moderator: **Giuseppe Mayer**, Digital Transformation Department representative

15:50	Presentation of survey results - part two	• **Erika Miglietta**, Italian Ministry for Technological Innovation and Digitization, Repubblica Digitale Technical Steering Committee
15:55	Discussion of results Panel 3 **ICT specialist skills**	• **Paolo Schgor**, AICA, Repubblica Digitale Technical Steering Committee, Digital Competence Observatory • **Fabio Gadducci**, Computer Science Group GRIN • **Maria Pia Dall'Armellina**, Wikimedia, Repubblica Digitale National Coalition • **Laura Morgagni**, Torino Wireless, Torino City Lab • **Riccardo Balbo**, IED, Fondazione Morelli • **Eleonora Faina**, Digital Competence Observatory (ANITEC-ASSINFORM) Moderator: **Giampaolo Colletti**, Digital Transformation Department
15:55	Discussion of results Panel 4 **Citizens**	• **Luca Gastaldi**, Digital Agenda Observatory representative • **Caterina Stagno**, Rai, Repubblica Digitale Technical Steering Committee • **Lucia Abbinante**, National Youth Agency, Repubblica Digitale Technical Steering Committee • **Maurizio Dino**, Informatici Senza Frontiere, Repubblica Digitale National Coalition • **Vitalba Paesano**, Grey Panthers, Repubblica Digitale National Coalition • **Patrizia Saroglia**, Fondazione Brodolini, Torino City Lab Moderator: **Giuseppe Mayer**, Digital Transformation Department
16:35	Summary of outcomes	• **Valentina Parziale**, European Commission
16:50	Concluding remarks	• **Nello Iacono**, Repubblica Digitale National Coordinator

Annex 2 - Survey questions

Table 3. Survey questions

#	QUESTION	AVAILABLE OPTIONS	OTHER SPECIFICATIONS
1	In which axis of intervention do you think a change of approach is more important than in the past?	a. axis 1a - education b. axis 1b - higher education c. axis 2a - workforce - private d. axis 2b - workforce - public e. axis 3 - ICT specialist skills f. axis 4 - citizens	
2	With respect to the axis identified, specify which you believe can be the main obstacle to change?	Open field	Maximum 100 characters
3	With respect to the axis identified, specify which you believe can be a priority objective to be achieved?	Open field	Maximum 100 characters
4	In which axis of intervention do you think more investment is needed in the next 5 years?	a. axis 1a - education b. axis 1b - higher education c. axis 2a - workforce - private d. axis 2b - workforce - public e. axis 3 - ICT specialist skills f. axis 4 - citizens	Participants were required to assign a score from 1-low to 5-high for each axis
5	In which axis of intervention do you think it is necessary to strengthen the implementation plan of the strategy introduced up to now	a. axis 1a - education b. axis 1b - higher education c. axis 2a - workforce - private d. axis 2b - workforce - public e. axis 3 - ICT specialist skills f. axis 4 - citizens	Participants were required to assign a score from 1-low to 5-high for each axis
6	Indicate an action that you think it is necessary to be integrated into the implementation plan of the strategy	Open field	Maximum 100 characters

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