



# Digital Skills Assessment Albania

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## Introduction

Digital skills are at the core of almost every aspect of people's work and lives. Today, nearly every private or professional activity requires the use of digital skills. They are used at home for personal purposes, at school or university to enhance learning, in government offices to provide or receive government services as well as in the workplace, be it for big corporate, start-ups or even independent freelancers.

Digital skills are defined as "the knowledge and skills a person needs to use ICT to achieve identified goals in personal and professional life."<sup>1</sup> Technology and digital work opportunities are constantly changing in the modern world, with new options emerging and old ones becoming outdated. In this context, digital skills mark an expanding range of skills that evolves. They include "a combination of behaviours, experiences, know-how, work habits, personality traits, dispositions, and critical understanding."<sup>2</sup> Therefore, they include technical, cognitive, and non-cognitive "soft" skills such as interpersonal and communication skills.

In addition, digital skills are further defined as a range of abilities to use digital devices, communication tools, and networks to access and manage information. They allow people to produce and share digital content, communicate, cooperate, and solve problems for practical and creative fulfilment in various aspects of life in general.

The Digital Skills Toolkit developed by the International Telecommunication Union (ITU) classifies digital skill levels into three categories: basic, intermediate, and advanced.<sup>3</sup> Basic digital skills allow users to perform essential tasks. For example, they enable users to engage with each other and obtain commercial, financial, or government services. They include interacting with hardware, e.g., using a keyboard; working with software, e.g., word processing, privacy settings; and basic online functions, e.g., email, search engine.

Intermediate skills are considered job-ready skills. They cover the skills needed to perform employment-related functions, such as content creation, digital graphic design, or digital marketing. They allow people to use digital skills in more appropriate and beneficial ways. It is generally generic skills, and they enable users to participate in community life as engaged citizens and productive workers. However, it is important to note that intermediate digital skills are volatile and change with changes in technology.

Advanced skills are a set of unique skills required for a job. They are mainly needed for information and communication technologies (ICT) related careers, such as coding,

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<sup>1</sup> Commission on Science and Technology for Development. (2018). *Building digital competencies to benefit from existing and emerging technologies, with a special focus on gender and youth dimensions*. United Nations Economic and Social Council, p.5 [https://unctad.org/meetings/en/SessionalDocuments/ecn162018d3\\_en.pdf](https://unctad.org/meetings/en/SessionalDocuments/ecn162018d3_en.pdf)

<sup>2</sup> Broadband Commission for Sustainable Development. (2017). *Working Group on Education: Digital skills for life and work*, p.4 <https://broadbandcommission.org/Documents/publications/WG-Education-Report2017.pdf>

<sup>3</sup> ITU. (2018a). *Digital Skills Toolkit*. International Telecommunication Union (ITU), p.5 <https://www.itu.int/en/ITU-D/Digital-Inclusion/Documents/ITU%20Digital%20Skills%20Toolkit.pdf>

cybersecurity, artificial intelligence, mobile app development, etc. Advanced skills are usually obtained through formal education. It has been observed that in recent years the demand for qualified ICT professionals continues to increase.

Digital skills are necessary to address the challenges and opportunities of today's world. Therefore, governments must ensure the development of digital skills programmes and their implementation to ensure that citizens have the opportunities to acquire the skills needed to live productive and employable lives, including those vulnerable groups such as persons with disabilities and women and girls. Moreover, digital skills strategies need to be updated regularly to include new technologies and their possible effect on the digital economy and digital society.

New evolving technologies and the challenges and opportunities that follow, have led to a large skills gap. The global rise of the digital economy and digital society calls for a range of digital skills to allow individuals to succeed professionally and personally. Professionally, digital skills enable better jobs in both traditional and emerging sectors, opening more employment opportunities. Digitally skilled individuals can take advantage of an expanded range of options offered by the constant evolution of the digital market. Privately, citizens with relevant digital skills have access to information, securely communicate, and access essential services such as e-health, e-government, and many others.

This study has been commissioned from the International Telecommunication Union in cooperation with the Ministry of Infrastructure and Energy of Albania and National Agency of Information Society (NAIS) to focus on assessing the current situation when it comes to basic and intermediate digital skills in Albania today. The project scope includes the assessment of digital skills in the private sector, including start-ups and large companies, as well as the general public covering the age between 18-54 years old. This assessment excludes a review of digital skills situation in public administrations.

The goal of the assessment is to evaluate the level of digital skills of the country's population and contribute to the development of a digital skills strategy that will meet the needs of the citizens and contribute to further growth of the digital economy and digital society in Albania. The assessment will provide a set of clear and implementable recommendations.

## 2. Country Background

| KEY INDICATORS                    |           |   |                            |
|-----------------------------------|-----------|---|----------------------------|
| <b>Population [2020]:</b>         | 2,837,743 | <b>ITU Global ICT Dev. Index [2017]:</b>    | Rank 89/176, Score 4.90/10 |
| <b>Population Density [2020]:</b> | 104       | <b>Global Innovation Index [2021]:</b>      | Rank 84/131                |
| <b>GDP per capita [2020]:</b>     | 5,215.3   | <b>Global Competitiveness Index [2019]:</b> | Rank 81/141                |
| <b>GNI per capita [2020]:</b>     | 13,580    | <b>Innovation capability (GCI):</b>         | Rank 110/141               |
| <b>Region:</b>                    | Europe    | <b>Business dynamism (GCI):</b>             | Rank 63/141                |

Table 1: Key background indicators

With a population over 2.8 million, Albania is a middle-income country with a stable macroeconomic climate. Albania's economic growth has been driven by an influx of foreign direct investment (FDI) and the ongoing transformation and development of different sectors, particularly agriculture, service industries, ICT, and telecommunications. However, over the past year, the government has focused on recovering from the COVID-19 pandemic and the November 2019 earthquake that left series repercussions in the affected areas.

The global COVID-19 pandemic has put critical sectors of the economy at risk, with serious consequences such as the decline of the economy by 10.2% in the second quarter of 2020. The travel and tourism service sectors were most affected. Small and medium-sized enterprises (SMEs) were hit disproportionately by sales, profits, and employment declines. As a result, the unemployment rate has increased to 11.9% by the end of 2020.<sup>4</sup>

Albania's economic growth rate gradually increased in 2021, and the country's GDP is expected to accelerate to 4.5% due to a partial recovery in exports, consumption, and investment. The Government is undertaking significant structural reforms to promote equitable economic growth, boost productivity and competitiveness, generate more employment opportunities, and improve governance and public service delivery. In addition, good regional connectivity, and access to regional and global markets, combined with export and market diversification, also contribute to support faster economic growth.<sup>5</sup>

The service sectors, namely tourism and construction are expected to be key drivers of the recovery, supported by investments in reconstruction. Thus, private investment will contribute to growth, on condition that the government continues the reform process that has been in stagnation due to above-mentioned events.

<sup>4</sup> <https://www.worldbank.org/en/country/albania/overview#3>

<sup>5</sup> <https://www.worldbank.org/en/country/albania/overview#1>

Albania's economy is still considered an efficiency-driven economy. However, some significant changes have occurred. In 2016, the country's Global Competitiveness Index was 93,<sup>6</sup> while in 2019, it rose to the 81 place.<sup>7</sup> Moreover, the Global Innovation Index had also increased from 92 in 2016<sup>8</sup> to 84 place in 2020.<sup>9</sup>

At the same time, the Innovation Capability Index of Albania has moved down from 92 in 2017 to place 110 in 2019. As well as the Business Dynamism Rate has declined from 53 in 2017 to 63 place in 2019.<sup>10</sup> In this regard, particular attention has to be given to talent and skills, the creation, distribution, and commercialization of knowledge, and effective policies that enable growth. Digital Skills is a key factor that must be looked after and developed in order for Albania to be back up on the rankings. The growing capacity of the innovation system will positively contribute to the rise of the labour market and thus to economic growth. Therefore, the country must keep developing technology, innovation, skill sets and the market for further improvement.

### 3. Current state

Information and Communication Technologies (ICT) services play a vital role in the development of the economy in Albania. Based on knowledge and innovation, ICTs ensures a better quality of life for citizens, facilitate business processes, and make them more efficient and effective.

Albania has significantly progressed in implementing the digital agenda and strengthening the regulatory and policy frameworks. The government has a major role in stimulating and creating demand in the existing ICT ecosystem and is working to establish an enabling ICT environment. In 2014 the government of Albania approved the first midterm strategy, "Digital Agenda 2015-2020". The strategy's main objective was to address the challenges of the new digital world, which included challenges in domains like broadband and internet access, e-services, cyber security, business innovation, and the use of ICT tools.

In 2020 the National Agency of Information Society (NAIS / AKSHI) started working on the new Digital Agenda 2021+ (currently in the phase of public consultation). The new Strategy will be based on the draft pillars of the Albanian Digital Agenda 2021+. Pillar four on "Digital education and digital skills" indicates the importance of advancing digital skills in the general population, to prepare individuals for employment in the ICT sector. As the new digital agenda

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<sup>6</sup> <http://reports.weforum.org/global-competitiveness-report-2015-2016/economies/#indexId=GCI&economy=ALB>

<sup>7</sup> [https://www3.weforum.org/docs/WEF\\_TheGlobalCompetitivenessReport2019.pdf](https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf)

<sup>8</sup> [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf)

<sup>9</sup> [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2021/al.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021/al.pdf)

<sup>10</sup> [https://govdata360.worldbank.org/indicators/ha54e9517?country=ALB&indicator=41604&viz=line\\_chart&years=2017,2019](https://govdata360.worldbank.org/indicators/ha54e9517?country=ALB&indicator=41604&viz=line_chart&years=2017,2019)



has a dedicated pillar on digital skills, it already showcases the importance that the Albanian government is putting on this very important topic.

The automation and digitalization of services, both in the private and public sectors, grows every year and stimulates the need for digital skills. In addition, programming skills are in high demand among Albanian companies. Furthermore, the development of the local market attracts more and more companies to explore new opportunities, increasing the demand for jobs in the ICT sector.

The COVID-19 pandemic underlined the necessity for digital skills development both in education and the employment sector. The education sector was hit the hardest, given that many teachers were not trained or ready to do the shift from offline to online. Parents were another group who had to adapt to their children's online education, a change that took place almost overnight. The pandemic was a double-edged sword, which indicated the need for further development of digital skills in education not only for students and teachers but also for parents, who serve as supporters of their children's education at home.

When it came to employment, companies were also hit by the change of the pandemic and had to introduce new working methods, one of which was working from home. The necessity to work from home showed how critical digital skills are for many professions. Some companies were more prepared than others, and this was based on the type of industry they were in. The pandemic encouraged private companies to adapt to the new reality and helped identify what digital skills employees need to continue working in a pandemic environment.

Finally, the need to ensure that the pandemic was not spreading pushed the government to implement curfews and restrictions. Many had to apply online for permission to move after curfew hours, which meant the need for digital skills was eminent. The elderly population, a vulnerable group, was most affected by this (compared to younger generations), as some of them have faced difficulties accessing government digital services by themselves without help. Nevertheless, those who have faced difficulties have accessed the e-services through the help or under supervision of someone else (in general a younger member of their family). The pandemic indicated the need to include the elderly and those with disabilities in digital skills planning, as they are a big group of users when it comes to government services.

Youth was the least affected group when it came to the move online, which indicated a smooth transition in university lectures and jobs. The adaptability of the youth is a key indicator that with intermediate digital skills, the population can benefit from all the services as well as many more opportunities.

The pandemic also brought to light the gap between rural and non-rural areas which were affected differently based on their levels of digital skills, which heavily differ.

### **3.1 Vision and strategy**

Albania is moving forward fast and steady with creating policies and investing in implementing programmes to support their citizens towards digitalization. It has already

started by offering many digital services as part of its e-government model for citizens and companies. The new digitalized ID cards for citizens allow one to even have their official digital signature, something not possible just a few years ago. Albanians in the country and abroad are now able to make online requests when it comes to simple documentation such as a birth certificate or the renewal of a driving licence. These are just a few of the many solid steps that the country has taken and plans to.

The Albania of 2030 will be a fully digitalized, serving citizens, entrepreneurs, and the next generation almost fully online. Electronic systems will be improved and modernized in every sector to automate and facilitate the lives of the citizens, businesses, and public administration activities. As of November 2021, 95% of the public services are already offered online through e-Albania platform. However, full digitalization does not mean completely eradicating the offline services, which are also needed for different groups of the population.

To implement this vision, the government has to address the following objectives:<sup>11</sup>

- Introduce digital signatures to all e-Albania services and digitize physical archives to increase the number of real-time services received with electronic stamps.
- Launch the e-Residence platform, which allows foreign investments without the need for investors to be physically present, using digital identification and electronic services on the e-Albania platform.
- Ensure that electronic signatures and stamps are accepted and recognized by the countries of the region.
- Expand the GovNet network to reduce the cost of Internet service for public institutions and increase data security.

The government of Albania has already set out on a path to create a favourable innovation environment, especially for youth. It is directly related to boosting their digital skills by providing more opportunities for upskilling, capacity building, business orientation, and increasing the country's innovation capacity by ensuring a well-coordinated approach among all actors.<sup>12</sup>

The government also supports a competitive and inclusive Digital Agenda, with digital skills playing an important role in driving innovations and fostering prosperity. This agenda is in line with the vision of digitalization and addresses the following challenges:

- Support ICT as an integral part of the educational system through periodic curriculum review. It will contribute to the development of the human capital and stimulate employees' growth and ability to compete in the local market.

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<sup>11</sup> <https://kryeministria.al/wp-content/uploads/2021/10/Government-Program-2021-2025.pdf>

<sup>12</sup> [https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Documents/Events/2021/Digital%20skills/1\\_Florensa\\_Haxhi\\_Albania.pdf](https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Documents/Events/2021/Digital%20skills/1_Florensa_Haxhi_Albania.pdf)

- Bridge the digital skills gap in education to build digital citizenship. It will provide citizens with a broader set of digital skills and facilitate access to better career opportunities.
- Promote Digital Skills as a key component of life-long learning, personal development, and job creation/career opportunities.
- Encourage and support an inclusive Digital Strategy by recognizing Digital Skills for all where everyone in Albania has an opportunity to acquire enhanced digital skills and be able to participate in a technology-driven society and economy.<sup>13</sup>

The National Agency of Information Society (NAIS) is working on a new Digital Agenda 2021+. Currently, it is in the phase of consultations. It emphasizes the need for digital skills development and focuses on the following pillars:<sup>14</sup>

- Further development of the information society and promotion of the economy, culture, and digital tourism
  - Further development of e-Government
  - Promoting and enabling the digital economy, culture, and tourism
  - Improving cyber security and trusted services
- Development of national electronic communications infrastructure and regulation in the field of audio-visual media
- Enabling and developing basic and advanced digital skills for broad public involvement in ICT services and increasing the number of ICT professionals
- Policy development and piloting, testing and experimentation in new areas of ICT

The e-Government platform in Albania (e-Albania) has proven to be successful and a powerful platform. According to the Prime Minister’s Order No 153 of November 25, 2019, “On measures undertaken and adjusting the legal provisions for the application of services only online from January 1, 2020”. Currently 95% of public services can be obtained online. Online services through the e-Albania portal are replacing on-site services in institutions. Administrative documents, which serve as additional documentation for electronic services on the e-Albania portal, are now mostly signed electronically and are created by Albanian citizens and businesses through online applications. This is a step forward in implementing the concept of a more digital and citizen-centric public services.<sup>15</sup>

Several initiatives have been introduced in the education sector. In 2016, Albania approved the 2014-2020 Pre-University Education Development Strategy to define the future vision along with an implementation plan that outlines specific activities, responsibilities, and timelines.<sup>16</sup>

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<sup>13</sup> [https://akshi.gov.al/wp-content/uploads/2018/03/Digital\\_Agenda\\_Strategy\\_2015\\_-\\_2020.pdf](https://akshi.gov.al/wp-content/uploads/2018/03/Digital_Agenda_Strategy_2015_-_2020.pdf)

<sup>14</sup> Draft Digital Agenda 2021 - 2025

<sup>15</sup> [https://qbz.gov.al/share/QKiGeNtaRtOmLe\\_6mcaL7A](https://qbz.gov.al/share/QKiGeNtaRtOmLe_6mcaL7A)

<sup>16</sup> [https://www.itu.int/dms\\_pub/itu-d/opb/phcb/D-PHCB-CONN\\_EDUC-2021-PDF-E.pdf](https://www.itu.int/dms_pub/itu-d/opb/phcb/D-PHCB-CONN_EDUC-2021-PDF-E.pdf)

Key points:

- Improved leadership, management, and resource management capabilities of the pre-university education system.
- High-quality and inclusive learning.
- Quality standards aligned with countries.
- Up-to-date teacher training and professional development.

In cooperation with UNICEF and with the assistance of specialists, experts, and other interested parties, the Ministry of Education, Sports and Youth drafted and conducted consultations on the Strategy for the development of pre-university education for 2021-2026. The Strategy is aligned with the Ministry's vision of a high-quality education system grounded in the principles of inclusion and lifelong learning. The goals of the Strategy also include provisions related to digital competencies. The first goal foresees enhancing digital competencies through more effective use of ICT in teaching and learning. And, the third goal includes the development of ICT infrastructure and digital services for public higher education institutions.<sup>17</sup>

The outbreak of the COVID-19 pandemic urged the government to adapt educational approaches to the new circumstances. The Ministry of Education, Sports and Youth formed a task force to respond to the issues raised from distance learning and to introduce new educational strategies assuring the continuity and quality of learning process. The Ministry of Education, Sports and Youth formed a task force to respond to the issues raised by distance learning and to implement new educational strategies to enable the continuity and quality of the learning process. Among actions taken were for example, creating guidelines for learning at home and daily lessons on national television channels.

Furthermore, the Ministry of Education, Sports and Youth of Albania has launched the educational online platform Academia.al.<sup>18</sup> The aim of the platform is to provide free online lessons for students of different levels and to support them in their learning process. The Platform complies with digital accessibility standards to ensure access to distance learning for all. About 17,000 videos on various topics are available on the platform.<sup>19</sup> Also, students can benefit from virtual classrooms features for live learning. In addition to that, the pre-school support that allows parents to actively participate in the learning process and monitor students' attendance, learning results, homework, etc.

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<sup>17</sup> Ibid.

<sup>18</sup> <https://www.akademi.al>

<sup>19</sup> [https://www.itu.int/dms\\_pub/itu-d/opb/phcb/D-PHCB-CONN\\_EDUC-2021-PDF-E.pdf](https://www.itu.int/dms_pub/itu-d/opb/phcb/D-PHCB-CONN_EDUC-2021-PDF-E.pdf)

Besides, the government also supported teacher training to ensure successful distance learning. Teachers received training in lesson preparation and content development as well as emotional support. In addition, the Ministry of Education, Sports and Youth has set ICT standards teachers to ensure successful implementation of ICT in the educational process.

Interviews conducted as part of the Digital Skills Assessment in Albania revealed that the pandemic was a stress test for digital skills. With lockdown and high demand for remote work, both private and education sectors needed to adapt to the new reality. Speaking about private companies, it required more digital skills from almost every job profile in the company. Using technology to communicate and collaborate was one of the primary skills required for businesses to survive. Company investments in business development and their overall approach to working remotely was critical to a quick and smooth transition to the new way of doing business. Today, businesses are thinking ahead and trying to be more flexible to the needs and requirements of employees to retain their talents and be more competitive in the labour market. To that end, they are investing in new programmes to train employees in learning new digital skills needed for blended or remote working. Corporations are more progressive in this respect, while SMEs lack the financial tools to support this.

### 3.2 Instruments and Programmes

#### *e-Albania Service Platform*

Albania advanced when it comes to the development of the information and communication technology sector. The government promotes ICTs in different sectors by introducing and implementing various strategies and policies centred on ICTs, information society development, and the digital agenda. In addition, in recent years, the Albanian government has increased investments in the digitization of public infrastructure and the establishment of public E-Systems and services.

e-Governance is a tangible reality in Albania and is managed and coordinated by the National Agency of Information Society. A real-life success story of Albania, where e-Governance is not just a project to be implemented but a foundation through which institutions, citizens, businesses, and civil servants co-operate and interact. Albania is currently undergoing one of the most critical transformation processes on public services digitalization and the complete digitalization of the administration's work processes.

Electronic services in Albania are provided through e-Albania, a one-stop-shop for online public administration services. It is an online channel that delivers public services 24/7.<sup>20</sup> Through e-Albania, every citizen or any interested party can receive detailed information about public services, including licenses, permits, authorizations, documents equipped with digital stamps, certificates, or other similar services of similar nature. e-Albania is entirely in

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<sup>20</sup> <https://e-albania.al>

line with government policies on ICT and Cross-cutting Strategy "Digital Agenda of Albania 2015-2020".

e-Albania acts as a front-end point for government institutions to deliver their services and currently provides 1209 e-services or 95% of public services (In 2013, only 14 electronic services were implemented in the portal).

From January 1, 2020, a new public services process began, providing 95% of the public service applications to citizens and businesses exclusively online. e-Albania is connected to the Government Interoperability Platform, the underlying and core architecture allowing the interaction between 55 electronic systems of public institutions.

The Government Interoperability Platform enables 66% of the application forms to be pre-filled automatically by interacting and exchanging data between these registers in real-time. 2,302,050 million citizens and businesses are registered in e-Albania, while in 2013 were only 50,000 registered. A significant part of the services offered on the portal is 100% re-engineered hence offering a completely paperless service and provided at no cost, without waiting in queues at the state counters, without having any physical contact with administration employees.

To access electronic services established and supported by various public or private institutions, users need to acquire basic digital skills. The platform allows communication in case of ambiguities, questions or issues regarding registration or services provided on the portal. In this case, the user can contact the support service of the platform through its forum, e-mail address, comments, or messages on social networks. As the public uses the e-Albania platform, the delivery of services has been improved, and delivery time has been decreased. Moreover, it helps to eliminate bureaucracy, and reduce corruption.

As part of the new Digital Agenda 2021+ the Albanian government aims to increase the population's digital skills. It includes providing more skills development opportunities for young people and re-skilling adults. In addition, the programme foresees business-oriented capacity building and enhancing the country's innovation potential by ensuring a well-coordinated approach among all actors.

### *Digital Skills Instruments*

Acknowledging the importance of boosting digital skills among the new generation and vulnerable groups such as women and girls, the government is developing the following instruments:

#### **Techspace**

- A space offering digital tools to develop start-ups ideas.
- A space that provides step-by-step follow-up and free of charge professional consultations from experts specialized in different fields through incubation programmes.

- Organizing different events for their members: Information Sessions, Trainings, Job Fairs, Workshops and Hackathons focused on coding, Start-up development, etc.
- Incubation Program: Startup Program-Roadmap to Silicon Valley in collaboration with Albanian-American Development Foundation.
- Numerous information sessions on digital transformation and discussions with young people have been conducted on TechSpace by various Microsoft experts. Focus on the introduction of new technologies. In these sessions were treated formulas for professional success, presentations of new ICT fields, AI, quantum computing, blockchain etc.

### **Multifunctional centre "Pyramid" (TUMO)**

- It aims to be the most significant digital innovation hub in the region.
- It will offer digital skills training for high school students.
- It is located in central Tirana, the country's capital, which makes it accessible for all.

### **Digital skills training for women and girls**

- To create, implement and support digital skills training for young women, with focus on entrepreneurial digital skills, which will allow earning online degrees as well as financial benefits.

The most in-demand programmes offered by Techspace are related to digital skills transformation. They are open to the general public free of charge and include training programmes for Microsoft Multimedia tools.

*Digitalization and TVET* is an initiative by GIZ Albania that aims to teach VET students digital skills. The project is conducted in ten VET schools in Albania, focusing on Tourism and Agrobusiness students. The project started in September 2021 and will continue up to April 2022. As part of the project, two conferences take place with workshops, panel discussions, and participation from managing staff and teachers.

*Digital Jobs Albania* is a World Bank Group initiative jointly implemented by Coderstrust and EuroPartners Development, aiming to provide young Albanian women from 16 to 35 years old with more access to online work opportunities and connect them to the Global Economy.

The initiative consists of the delivery of a training and mentorship program in the fields of:

1. Digital Marketing
2. Graphic Design
3. Web Development

which will equip participants with the marketable skills needed to earn income on some of the top online freelancer websites such as Upwork, Fiverr, Freelancer and People per Hour.

Students will be trained on their technical and soft skills as well as receive daily assistance from highly experienced mentors and facilitators, while they will also be encouraged to start taking on online jobs to start earning income during the training program itself. The training will be delivered for free for the successful applicants through the Coderstrust Academy's online learning platform. Upon successful completion of the training, students will receive a final certification from the program, will be promoted in the Digital Jobs Albania Platform, and have the chance to be connected with some of the top Albanian ICT leaders.

### *e-Learning Services*

The Covid-19 pandemic pushed many countries reconsider their approach to online education. Since the crisis hit the country, the government of Albania started actively supporting digital skills development in the education sector through the following measures:

- Identifying and promoting e-learning good practices (online platforms for interactive learning).
- Enhancing online teaching capacity through training programmes for teachers on the use of online distance learning platforms.
- Updating curriculum for distance learning.
- Providing equipment such as digital tablets and internet sticks to pre-university students from rural areas and marginalized groups (however, this initiative did not reach all target groups).
- Developing user-friendly guides for teachers and students on how to use online learning platforms.

### *The National Agency of Vocational Education Training and Qualifications (NAVETQ)*

The National Agency of Vocational Education Training and Qualifications (NAVETQ) is a public, budgetary legal entity under the responsibility of the Ministry responsible for Vocational Education and Training, currently Ministry of Finance and Economy. NAVETQ is responsible for developing the system of vocational qualifications based on the labour market needs and in line with Albanian Qualifications Framework, for employment and skills development policy, labour relations, and social policy (in accordance with the Law on Vocational Education and Training No. 64/2014).<sup>21</sup> NAVETQ's mission is to develop a common national system of vocational qualifications based on the Albanian Qualification Framework (AQF) and the European Qualifications Framework (EQF). In addition, NAVETQ provides expertise on VET system development and lifelong learning. The organization is responsible for the professional qualifications and standards development for the improvement of curriculum frameworks, assessment methodologies, and tools. It further supports the advancement of

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<sup>21</sup> <https://epale.ec.europa.eu/en/nss/national-support-services-albania>



short-term courses for adults offered by public vocational training centres. Mostly, courses include basic, intermediate, or advanced digital skills training.

Besides, NAVETQ promotes and supports the Electronic Platform for Adult Learning (EPALE). The Platform is part of the European Union’s strategy to expand and improve learning opportunities for all adults and is funded by the Erasmus+ programme. EPALE uses blog posts, forums, and a search tool to help members connect with and learn from peers across Europe using basic and intermediate digital skills.

As well, NAVETQ, in partnership with the Swiss Agency for Development Cooperation, launched the Skills for Jobs (S4J) initiative.<sup>22</sup> This project is part of the Economic Development and Employment Domain of the Swiss Cooperation and Strategy 2018-2021 for Albania, with a particular focus on employment opportunities. It is implemented by Swisscontact, the Swiss foundation for technical cooperation, and seeks to ensure systemic change, capacity building, and empowerment of key players. The main goal of the S4J is to offer young people in Albania better vocational education and training, placing emphasis on digital skills. Improving digital skills will help young people to get jobs that match their expectations. The initiative includes professional apprenticeship with ICT company, the use of technology in the classroom, blended and personalized learning process. The project also seeks to make Vocational education and training (VET) both valuable and relevant to students by providing training based on industry standards and applying business thinking to the management of VET institutions. VET responds to the needs of the economy, but also provides learners with skills important for personal development

Ten education providers in six selected regions benefit from the project:

- Vocational ‘Hamdi Bushati’ school in Shkodra
- Vocational ‘Kolin Gjoka’ school in Lezha
- Technical ‘Gjergj Canco’ school in Tirana
- Technical-Economic school in Tirana
- Vocational ‘Ali Myftiu’ school in Elbasan
- Vocational ‘Salih Çeka’ school in Elbasan
- Vocational ‘Kristo Isak’ school in Berat
- Commercial school in Vlora
- Industrial ‘Pavarësia’ school in Vlora
- Vocational Training Centre in Vlora

According to the S4J reports, more than 16,000 young people in Albanian key cities such as Shkodra, Lezha, Tirana, Elbasan, Berat and Vlora have improved access to IT-based, innovative and demand-oriented Vocational Skills Development opportunities in tourism and hospitality,

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<sup>22</sup> <https://www.swisscontact.org/en/projects/s4j>

smart construction, textile, ICT, etc.<sup>23</sup> S4J is now in its second phase, with new training centres and VET schools joining the initiative.

See Annex 1 for the list of programmes, initiatives and platforms in Albania involving and promoting digital skills.

### 3.3 Policy and regulation overview

In its articles the Stabilization and Association Agreement (SAA) with Albania provides an obligation to harmonize domestic legislation with the European Union (EU) law and align it with EU policy. Following the SAA's commitments, several important laws have been drafted and adopted:

|   |   |
|---|---|
| Law no. 107 of 1.1.2015 "On electronic identification and trust services"   | Establish the necessary legal framework for electronic identification, electronic seals, electronic registered delivery services and certificate services for website authentication in the Republic of Albania <sup>24</sup> . |
| Decision of Council of Ministers no. 495 , dated 13.9.2017 "On approval of rules to benefit electronic public services" | Defines the, rules on the way of communication and interaction systems, which possess the state databases and documents that are produced through electronic broadcasting service. <sup>25</sup>                                |
| Law No. 9880 of 25.2.2008 "On electronic signature"   | Provide electronic signatures for institutions, businesses, and citizens. <sup>26</sup>   |
| Law No. 9887 of 10.03.2008, "On the Protection of Personal Data"  | Regulate personal data access and processes such as collection, registration, organization, storage, adaptation, modification, restoration, consulting, exploitation, transmission, distribution etc. <sup>27</sup>             |
| Law No. 9918 of 19.5.2008 "On Electronic Communications in the Republic of Albania"                                     | Regulate electronic communication in  |

<sup>23</sup> <https://www.swisscontact.org/en/projects/s4j>

<sup>24</sup> [https://cesk.gov.al/publicAnglisht\\_html/wp-content/uploads/2016/04/ligji107.pdf](https://cesk.gov.al/publicAnglisht_html/wp-content/uploads/2016/04/ligji107.pdf)

<sup>25</sup> [https://cesk.gov.al/publicAnglisht\\_html/wp-content/uploads/2016/04/vendim%20per%20miratimin%20e%20rregullave%20e%20perfitimit%20e%20sherbimeve%20publike%20elektronike.pdf](https://cesk.gov.al/publicAnglisht_html/wp-content/uploads/2016/04/vendim%20per%20miratimin%20e%20rregullave%20e%20perfitimit%20e%20sherbimeve%20publike%20elektronike.pdf)

<sup>26</sup> <https://akshi.gov.al/wp-content/uploads/2019/10/Ligji-Nr.9880-dat%C3%AB-25.2.2008-P%C3%ABr-N%C3%ABnshkrimin-Elektronik-i-ndryshuar.pdf>

<sup>27</sup> <https://akshi.gov.al/wp-content/uploads/2019/10/Ligji-Nr.9887-dat%C3%AB-10.03.2008-P%C3%ABr-Mbrojtjen-e-t%C3%AB-Dh%C3%ABnave-Personale-i-ndryshuar.pdf>

|  |   |
|--|---|
|  | Albania. <sup>28</sup>  |
| Law No. 10 273 of 29.4.2010 "On the Electronic Document"                                 | Create the necessary legal framework for the use of electronic documents by public and private parties whose electronic programmes and equipment enable the implementation, production, transmission, receipt, storage, and security of electronic document information. <sup>29</sup>                        |
| Law No. 10 325 of 23.9.2010 "On State Databases"   | Define ground rules and special provisions, increasing general public awareness and transparency for the creation of public database administration and interaction among them to ensure effective use in the public interest and services by any stakeholder. <sup>30</sup>                                  |
| Law No. 66 of 21.05.2020 "On Financial Markets Based on Distributed Registry Technology" | Regulate the generation of digital tokens or coins, licensing, monitoring, and oversight of organizations that operate, distribute, trade, and store digital tokens or virtual currencies, digital token agents, innovation service providers, and automated collective investment enterprises. <sup>31</sup> |
| Provision added to the Penal Code of Albania on cybercrime legislations.                 | Regulate cybersecurity crimes. <sup>32</sup>  |

Table 2: Legislation overview

The laws mentioned above identified and supported more qualified public services, but they also outlined the need to improve citizens' digital skills so they can use these services and benefit from these innovations. Additionally, they increase the readiness of private sector for digital economy and facilitate transformation processes.

#### 4. Stakeholders

This section indicates the stakeholders that participated in the various interviews and surveys and supported the findings of this assessment.

##### 4.1 Tech and non-tech start-ups

<sup>28</sup> [http://www.akdie.org/sites/default/files/ligji\\_per\\_komunikimet\\_elektronike.pdf](http://www.akdie.org/sites/default/files/ligji_per_komunikimet_elektronike.pdf)

<sup>29</sup> [https://akshi.gov.al/wp-content/uploads/2018/03/ligi\\_nr\\_10273\\_per\\_dokumentin\\_elektronik.pdf](https://akshi.gov.al/wp-content/uploads/2018/03/ligi_nr_10273_per_dokumentin_elektronik.pdf)

<sup>30</sup> [https://akshi.gov.al/wp-content/uploads/2018/03/ligji\\_10325\\_per\\_databazat.pdf](https://akshi.gov.al/wp-content/uploads/2018/03/ligji_10325_per_databazat.pdf)

<sup>31</sup> [https://akshi.gov.al/wp-content/uploads/2021/08/Ligji66-2020\\_2.pdf](https://akshi.gov.al/wp-content/uploads/2021/08/Ligji66-2020_2.pdf)

<sup>32</sup> <https://akshi.gov.al/wp-content/uploads/2020/11/LEGJISLACIONIMBIKRIMINKIBERNETIK.pdf>

| #   | Start-up               | Sector                         |
|-----|------------------------|--------------------------------|
| 1.  | Yuni                   | Software as a service (SaaS)   |
| 2.  | Dropit                 | SaaS                           |
| 3.  | Creative Nomad Agency  | Digital Marketing              |
| 4.  | Sapientify             | Education                      |
| 5.  | Softmogul              | SaaS - Hospitality Management  |
| 6.  | AGOG Marketing         | Digital Marketing              |
| 7.  | Balkans Capital        | Finance                        |
| 8.  | Altropost              | SaaS / Social Media Management |
| 9.  | Movida.al              | e-commerce                     |
| 10  | EJF Production         | Video Production               |
| 11. | IP Marketing Solutions | Digital Marketing              |

Table 3: Tech and non-tech start-ups

## 4.2 Tech and non-tech companies

| #   | Company          | Sector                                  |
|-----|------------------|---|
| 1.  | ATD              | ICT Services                            |
| 2.  | Dev AL           | Software Development / Digital Products |
| 3.  | BNT Electronics  | ICT Services                            |
| 4.  | Ikub Info        | Software Development                    |
| 5.  | Horizon          | ICT Services                            |
| 6.  | Division5        | Software Development                    |
| 7.  | New Media        | Marketing                               |
| 8.  | Big Media Expert | Digital Marketing / Video Production    |
| 9.  | Green Leaf       | FinTech / FoodTech                      |
| 10. | KreatX           | Software Development / Digital Products |
| 11. | TOP Lingua       | Education                               |

|     |                        |                           |
|-----|------------------------|---------------------------|
| 12. | HR Focus               | Human Resource Services   |
| 13. | Euronews Albania       | Media                     |
| 14. | iNet Albania           | ICT Services              |
| 15. | Eurostep               | e-Commerce                |
| 16. | Spontan Creative Media | Communication & Marketing |
| 17. | Easypay                | FinTech                   |
| 18. | Albania ICT Academy    | Education                 |
| 19. | Triple City            | Consulting Services       |
| 20. | Legal Firm             | Legal Services            |

Table 4: Tech and non-tech companies

### 4.3 General public

The general public was approached using the individual assessment methodology developed as part of the ITU digital skills framework. The assessment was distributed in various regions of the country, to ensure good representation and avoid any potential geographical biases. The questionnaire was developed based on the ITU’s framework, taking into account the limited time individuals have today. The questionnaire was disseminated online, through social media, email campaigns and WhatsApp or over the top players, as well as offline through Agency for the Delivery of Integrated Services (ADISA) offices. ADISA’s mission is to provide public services by creating and administrating citizens’ reception centres (front office) and one-stop shop comprehensive service centres<sup>33</sup>.

The questions were developed considering the current situation in Albania, political, economic, and social. The questionnaire aims not to bias the reader, but to allow them to honestly assess their skills and tries to obliterate any margin of error that a self-questionnaire might bring. When it comes to self-assessment, the researchers are aware of the biases that come with it, and therefore this has been taken into consideration in the analysis section.

The results cover geographically the following administrative areas: Tirana, Kavaja, Kruja, Fier, Gjirokaster, Shkoder, Lushnje, Elbasan, Maliq, Belsh, Patos, Librazhd, Divjake, Malesi e madhe, Kukes, Pogradec, Mat, Roskovec, Kolonje, Tepelene and Himara.

The questionnaire responders included 56% women and 44% men (see Annex 2). Among participants 7% are unemployed and 93% employed (see Annex 2). Responders represented more than 80 different companies and professions.

<sup>33</sup> Agency for the Delivery of Integrated Services <https://www.adisa.gov.al/>

## 5. Methodology

### 5.1 Development of methodology

Utilizing the methodology of the ITU Digital Skills Assessment Guidebook, the digital skills assessment for Albania focuses on assessing the digital skills of the private sector (including start-ups and SMEs as well as large companies) and the general public (aged from 18-54-years-old).

The work was divided in two phases: desk review based on international and national datasets and studies and phase two comprising of primary research. Primary research consisted in self-assessment survey, knowledge-based assessment and targeted interviews and their analysis. The assessment was focused on the private sector and general public (18-54-years-old).

The methodology was developed in the following steps:

- I. desk research was done to understand the current situation in country and map the initiatives and regulatory ecosystem in existence.
- II. development and information collection through a self-assessment questionnaire, on the practices for measuring and assessing digital skills in the country.
- III. one on one interviews with key stakeholders from the various sectors identified. Interviews were not recorded to ensure complete honesty of the interviewer, to achieve best results.
- IV. validation of findings, through feedback from stakeholders that reviewed the draft report.
- V. development of recommendations that will feed into the digital agenda of the country.
- VI. validation of results and recommendations.

The Digital Competence Framework for Citizens (DigComp) and the European e-Competence Framework (e-CF) were also reviewed during this exercise.

### Limitations

The methodology used has limitations when it comes to the bias involved in the digital skills self-assessment. When self-assessing, we are running the risk of having a misunderstanding or different understanding of the questions. Additionally, the level of digital skills of individuals might be conceived differently from the reality. These biases are taken into consideration when performing the analyses.

When it comes to the one-on-one interviews, the most important and risk factor is related to the honesty of the responders. Even though the methodology does not involve any recording,

the risk is there. Additionally, those who are interviewed might pre-prepare for some questions by doing research and not giving direct answers.

Both above limitations are taken into consideration in this study.

## 5.2 Assessment

### 5.2.1 Summary of survey and interviews – private sector (quantitative and qualitative)

There were 31 companies who participated in the semi-structured interview mentioned in previous sections. These companies were also asked questions in the survey related to the digital skills development strategy and the current implementation in the workplace. A summary of their quantitative responses is presented in the Table below.

|   | Non-tech Companies | Tech Companies |
|---|--------------------|----------------|
| <i>Digital skills are a key part of the work for senior management and employees.</i>                 | 67%                | 100%           |
| <i>Periodic digital skills training is needed in the workplace for employees.</i>                     | 33%                | 81%            |
| <i>Difficulties exist in hiring new employees due to the digital skills gap in the labour market.</i> | 67%                | 75%            |
| <i>Implemented or planning to implement a digital transformation plan.</i>                            | 33%                | 94%            |

Table 5: Digital skills development strategy

Qualitative (semi-structured interviews) were conducted following the ITU Digital Skills Assessment Guidebook.

Participants in the quantitative survey were divided in three target groups as follows:

- 1 Start-ups (11 participating entities)
- 2 Companies (20 participating entities)
- 3 General Public 18–54-year-old (725 participants)

Target groups represent sectors such as: health, media, various technologies, including tech and non-tech companies, tech, and non-tech start-ups, as well as the education sector, and training institutions, etc.

#### Research Sampling

A stratified random sampling method was applied in order to assure reliable representation of each target group of all sectors mentioned above. As a result, 30 out of 55 contacted companies participated in the interviews. Ten of the participating companies were start-ups. Sixteen of participating companies operate in the technology sector.

### *Instruments*

Semi-structured interviews were used as a qualitative research instrument. Three primary semi-structured interviews (one for each target group) were conducted to gather qualitative data from the participants based on the findings from the research on phase one.

### *Data Analyses*

Thematic analysis is used to identify patterns and themes in the qualitative interviews. The process begins at the data collection stage and continues through transcription, reading and re-reading, analysis, and interpretation of the data.

Thematic analysis of the data from the companies' semi-structured interviews focused on the main aspects of the type of digital skills requirements of a position, based on employer perceptions' and identifying industry current "gaps" in digital literacy. In terms of skills demands. Digital skills were divided into three categories:

1. Basic digital skills
2. Intermediate digital skills
3. Advanced digital skills

This method clarifies which digital skills are common and easily transferrable from one position to another and which digital skills serve as an entry for a particular career path. The digital skills considered in this report were derived from employer needs expressed in the semi-structured interviews.

### *Basic digital skills*

Baseline digital skills, such as productivity tools (Computer literacy, Use of Microsoft Office Package (Word, Excel, Outlook etc), are the most common ones. They are considered a basic requirement and therefore don't necessarily provide a competitive advantage. The business representatives often expressed in the interviews that: "Employers ask for a group of digital literacy skills in the vast majority of jobs across all sectors in the Albanian labour market. These are basic computer literacy skills and productivity software tools such as spreadsheets and word processing programs. In addition, they often serve as the foundation for more advanced digital positions and so are requested for jobs at all skill levels. The most common productivity software skills requested by employers are the Microsoft Office suite including Word, Excel, PowerPoint, Outlook.



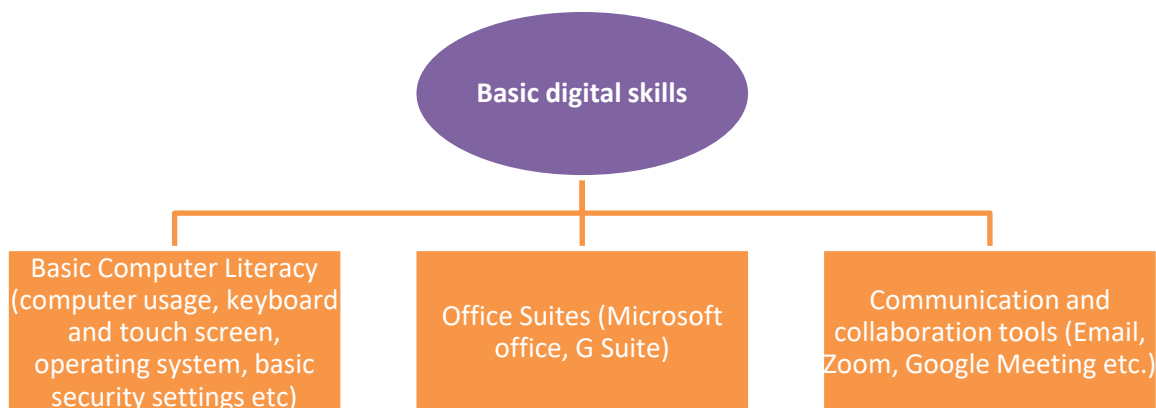


Figure 1: Basic digital skills

### Intermediate digital skills

We have further broken down the intermediate digital skills into five clusters of related digital skills that are commonly required to employees who are trying to qualify for jobs in specific domains.

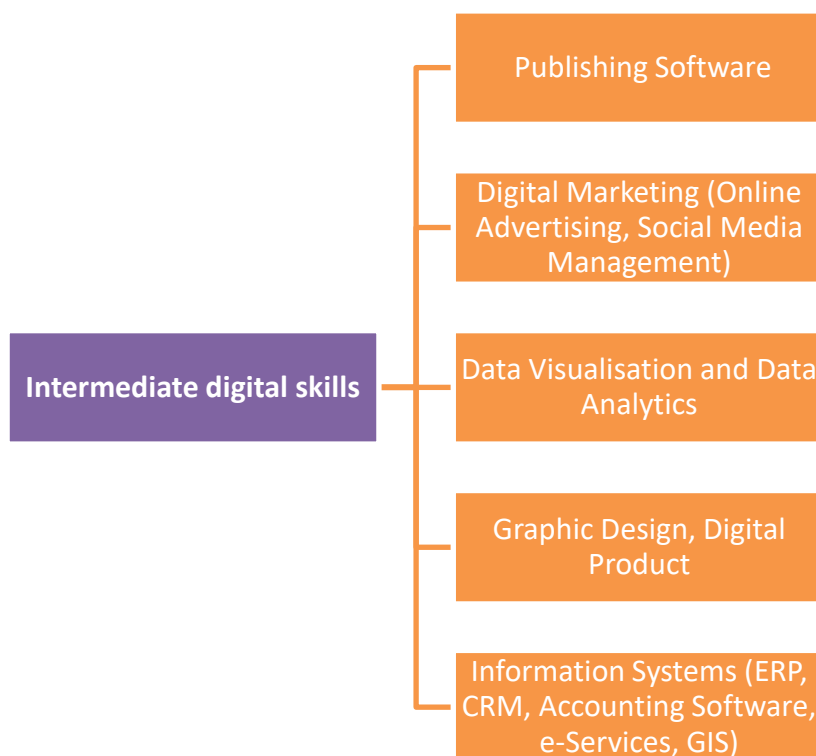


Figure 2: Intermediate digital skills

## Advanced Digital Skills

Advanced digital skills are more specific skills and are not required across the majority of jobs but define or even dominate specific roles within the ICT sector. Most common advanced skills required are programming, information security, database administration, server administration, cloud administration and networking for IT professionals.

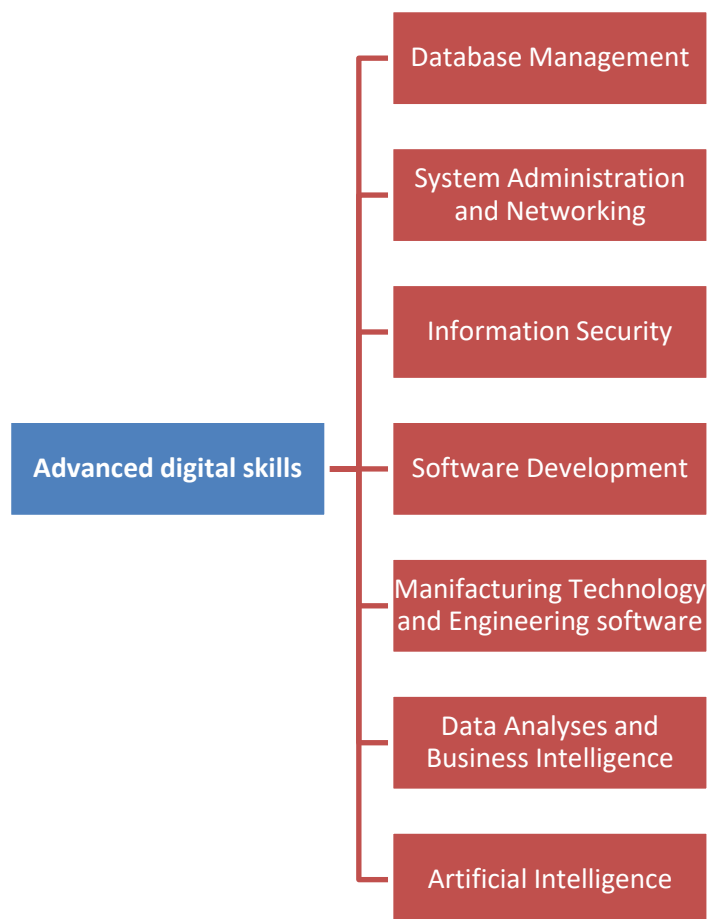


Figure 3: Advanced digital skills

## 5.3 Individual assessment results

### 5.3.1 Surveys

The total of participants in this study were 725, 94% of which belonged to the 25 – 44 age group. 405 (55.9%) were women and 320 (44.1%) were men. Most of the participants 675 (93.1%) were employed versus 50 (6.9%) unemployed (see Annex 2).



Figure 4: Survey participation

The majority, which comprised of 521 (72%) of the respondents lived in Tirana and 204 (28%) lived in other main cities of Albania, such as Fier, Gjirokastra, Elbasan, Shkodra, Vlora, Korca, Durres, Lushnje, Vlora, Pogradec, Himara, to name a few.

They come from different sectors and industries (Hospitality, Information and Communication Technology, medical care, public-services, digital marketing, managing, human resources, teaching, banking, accounting, training, sports etc.). The majority of participants have a university degree, be it a bachelor or masters. This comprised 97.6%, which showcases that the population is highly educated.

Results pointed out that 714 (98.5%) of participants own or have access to a smartphone, 595 (82.1%) of participants own or have access to a laptop, 574 (79.2%) of participants own or have access to a desktop, 235 (32.4%) of participants own or have access to a tablet, and only 107 (14.8%) of them use another smart device.

705 (97.2%) have internet broadband service at home, while 20 (2.8%) of them don't have internet access at home. 100% of them declared that they have an email account and that they can search information using a search engine (Google search was the most named one).

A five-point likert scale variable was used to assess their digital skills level based on their perceptions. As expected, graduates demonstrated a higher level of digital skills (self-evaluation) compared to undergraduates (mean 4.16 vs. mean 3.64).

More precisely, participants with a general high school diploma reported (3.5±0.52) digital skills level (measured with a five-point likert scale from "very good" (5) to "very weak" (1)). Participants with a technical-vocational high school diploma reported (3.43±0.31) digital skills level (measured with a five-point likert scale from "very good" (5) to "very weak" (1)). Participants with a bachelor degree reported (3.98±0.90) digital skills level (measured with a five-point likert scale from "very good" (5) to "very weak" (1)). Participants with a master degree reported (4.19±0.74) digital skills level (measured with a five-point likert scale from "very good" (5) to "very weak" (1)). Participants with a PhD degree reported the most higher

(4.3±0.67) digital skills level (measured with a five-point likert scale from “very good” (5) to “very weak” (1)). Results of Digital Skills Self-Evaluation are presented in Table 1.

### Case Summaries

#### Self-Evaluation – Digital Skills

| Education Level                  | No  | Mean   | Std. Deviation |
|----------------------------------|-----|--------|----------------|
| High School                      | 10  | 3.5000 | .52705         |
| Technical-vocational high School | 7   | 3.4286 | .31339         |
| Bachelor                         | 137 | 3.9763 | .89570         |
| Master                           | 540 | 4.1917 | .73812         |
| PhD                              | 31  | 4.3000 | .67082         |
| Total                            | 725 | 4.1259 | .77297         |

Table 6: Digital skills case summary report

Self-evaluation of digital skills by gender revealed similar scores between males (4.14+0.83) and females (4.11+0.73). In this regard we can conclude that results of this survey suggest that there are no significant differences between males and females on digital skills. Results proved a significant positive correlation between education level and digital skills level (based on participants’ self-evaluation).

## 6. Gap analysis (findings from the analysis)

Findings of the survey pointed out the following progress regarding digital skills:

- They use smart devices daily.
- The most used device is the smartphone.
- 97% of the respondents have internet broadband service at home.
- 100% of the respondents have an email account.
- 100% of respondents can search information using a search engine(google).
- They have basic to intermediate digital skills for communication via email, text/audio/video chat, collaboration tools etc.

- They have basic to intermediate digital skills to content creation.
- They have basic information security awareness.
- They have basic digital skills knowledge for problem solving.

Findings of the survey pointed out the following challenges regarding digital skills:

- Only 59% of the respondents use a laptop/desktop daily.
- They can use digital content but still some (7% of the respondents) lack the self-production or self-creation or configuration of such content.
- They still lack dealing with every-day information security issues.
- They still are not aware of all technological risks, copyright issues and other information security problems.
- Regarding electronic services usage some of the respondents seem confused “what an electronic service represents”, while 89% of them report that they have used a government or third-party electronic service (e.g., e-banking, e-commerce, etc), 97.2 report that they have used e-Albania.
- They still are not aware of the problem-solving potential that technology can provide them with.

Interviews regarding participants suggestions about the e-services pointed out the following:

- They think that e-services in Albania are user-friendly and intuitive.

#### *Main factors in the digital skills gap that affect the labour market in Albania*

Information and data collected in this report highlights three main factors in the digital skills gap that affect the labour market in Albania.

1. The first and possibly most pressing factor is the lack of digital skills amongst existing workforces.
2. The second factor is the lack of properly trained graduates to fill digital posts in growing technological industries.
3. The third factor is the lack of processes/business strategy of a “long-life learning” training programme in the workplace, in order to provide employees with necessary and specific digital skills based on the market dynamic needs.

All three factors can inhibit the growth of individual businesses and whole economies in Albania. The lack of digital skills amongst existing workers is known to be a particular problem for developing economies. The lack of properly trained graduates to fill digital posts in growing technological industries is linked to “gaps” in the current digital skills learning process of the general Albanian educational system. Upskilling further, an already educated workforce to be able to work with digital products can be an enormous challenge. However, companies that fail to meet this challenge are likely to be superseded by those that do not. Albania must grow further their human resource capabilities in the private sector to grasp the full potential of service digitalization and digital transformation. It should guide workforce toward the

Digital Era by engaging with public and private sector e-services and digital products. This goal can be achieved by a multidimensional approach that requires partnership and collaboration between public institutions and private businesses.

This multidimensional approach consists of four main areas of intervention as detailed below, which were highlighted in the interviews and survey responses.

i. Develop human resources through a model of professional training school programmes, and widen the focus of ICT education programmes for children and youth

There are mainly 3 ways through which a moderate to highly digital skilled individual is fostered: (i) through the traditional academic educational route, (ii) through self-learning, or (iii) through digital skills vocational training programmes.

Two of the main challenges of the educational system in Albania are to provide technology labs that are functional in educational institutions of all stages with updated technology and to provide qualified computer science/ICT professionals to teach and train. Development of the ICT curricula topped with training of teachers and the creation of tech labs should facilitate the digital transformation process of the educational system.

Digital skills vocational training programmes enable the preparation of highly skilled individuals and allow individuals with no or little ICT background to transition into a career in the tech industry.

ii. Establish and develop Higher Education Technology Hubs and coding bootcamps oriented towards digital skills learning, product innovation, research and development.

The establishment and development of Higher Education Technology Hubs and coding bootcamps supports human resources and talent creation by fostering highly qualified professionals with strong digital skills. These hubs and bootcamps can make the Albanian technology ecosystem more attractive to foreign and local businesses in fields such as software development, business intelligence, design thinking, 3D printing, artificial intelligence, etc.

iii. Establish Community Technology Centres for ICT interdisciplinary education for children, youth and adults by aiming to achieve digital inclusion of all

The establishment of Community Technology Centres is very important in order to disseminate within community's tech education, combined with other subjects ranging from foreign languages, STEM, arts, etc. The objective of these ICT enabled Community Technology Centres is to enlarge the target group by including all ages, different social groups, and vulnerable groups such as girls, the elderly and persons with disabilities.

These centres can directly contribute to help digital literacy increase up-to advanced levels and motivate the communities to engage in tech and increase digital literacy and help the community through an “inclusion for all” strategy.

iv. Encourage companies to build internal training processes and support intermediation between technology companies and human resources.

The human resources and talent that will be fostered in the country should be matched with the work and business opportunities available. The setup of partnered training providers will be instrumental to achieve this goal. Companies should be encouraged to build internal training processes and functions related to career guidance services, trainees tracking, collaboration with technology companies, and proactively engaging with them for on-hand job digital skills training. In this context training providers should also be encouraged to proactively engage with local companies.

## 7. Good practices from the region

This section briefly summarizes good practices from two countries that are similar to Albania in their socio economic status and are working towards the same goal of digital skills for all their citizens.

### 7.1 Croatia

Croatia has developed a national strategic action plan for the period 2018 to 2030, which aims to support the twin digital and green transition of the Croatian society and economy<sup>34</sup>. This strategy outlines four strategic priority clusters:

- Sustainable economy and society
- Strengthening resilience to crises
- Green and digital transition
- Balanced regional development

Online services for Croatian citizens and business are provided through e-Citizens platform<sup>35</sup>.

The digital platform offers the following e-services to EU citizens, EU Businesses, but also to all other foreign nationals with temporary residence in the Republic of Croatia:<sup>36</sup>

- Family and living: Registration of newborn child and wedding, retrieval of electronic documents from the civil status registers, and social welfare services
- Rule of law and security: Communication of citizens with institutions in the fields of internal affairs, judiciary, finance, etc.

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<sup>34</sup> Croatian National Strategic Plan 2018-2030 <https://hrvatska2030.hr/>

<sup>35</sup> E-Citizens Platform <https://gov.hr>

<sup>36</sup> e-Citizens platform: Catalogue of services <https://gov.hr/en/catalogue-of-services/10>

- Family and living : Registration of newborn child and wedding, retrieval of electronic documents from the civil status registers, and social welfare services
- Education: Overview of grades in elementary and secondary school, applications for study programs and online training courses
- Traffic and vehicles: Issuance of documents required for operating various types of vehicles and other means of transport
- Active citizens: Citizens can be actively involved in communication with the government
- Consumer rights: Checking rights in respect of public service providers
- Finance and taxes: Communication of citizens with institutions in the field of finance and taxes
- Health: Access in personal health information services, and information related to health insurance
- Employment: Services related to the individual's employment rights status
- Business: Business registration, tourist registration, chamber services
- Housing and environment: Municipal and similar services, cadaster and land registry services
- Croatian veterans : Services intended for Croatian veterans and their families

Croatia is making progress in the field of Artificial Intelligence (AI) and robotics through several research projects.<sup>37</sup> The Centre for Artificial Intelligence and Cybersecurity (AIRI) and the Regional Centre of Excellence for Robotics (CRTA) are operating as a reference center for research, development and educational activities on robotics and AI.<sup>38</sup>

Several e-services for VET training, teachers' professional training and other "long-life" learning opportunities are offered by the Agency for VET and Adult Education.<sup>39</sup>

## 7.2 North Macedonia

Over the past few years, the electronic communications market in Northern Macedonia has developed rapidly. This has led to the opening of the telecommunications sector to competition, progress in regulatory reform, and harmonization with EU legislation. However, due to the emerging challenges, the development of the digital infrastructure has slowed down.

To foster digital development, the Government launched a consultation on the draft Action Plan of the National ICT Strategy 2021-2025 and the Action Plan, two essential documents that remain to be finalized. Digital skills continue to be a key component of this Strategy, along

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<sup>37</sup> <https://100.fsb.hr/en/118/Regional+Center+of+Excellence+for+Robotic+Technology>

<sup>38</sup> <https://airi.uniri.hr>

<sup>39</sup> <https://www.asoo.hr/en/>



with other topics such as connectivity, innovation, e-government services, data protection, etc. The main pillars of the future ITC Strategy are infrastructure, centralization of resources, and digital skills.

The Digital Citizenship Model includes all vertical groups such as ICT professionals, unemployed persons, educators, public officers, and vulnerable categories and divides them into three categories:

- I. Digital citizens – Have the knowledge and skills for efficient use of digital technologies to communicate with other citizens, engage in society, and create and use digital content.
- II. Digital user – Digital citizens who have the knowledge and skills to efficiently use digital technologies in everyday life, professional life, learning, or socializing.
- III. Digital creators – Digital citizens who create hardware and software digital content, new digital tools, technologies, and resources.

Then, the Strategy previews the digital empowerment of communities to connect people for networking purposes, communication, and cooperation. North Macedonia's National ICT Strategy offers a reference framework to outline the digital skills agenda to ensure that digital skills are empowered across all sectors of society and the economy. The Government will create a common framework that all stakeholders involved will refer to develop their initiatives and actions. Its goal is to get a framework that can provide recognition for lifelong digital skills. It requires a national digital empowerment coalition. The Government of North Macedonia will play a key role in coordinating the digital empowerment process. It will take the lead in laying the groundwork for a national digital skills coalition. Various stakeholders such as ICT Forum, Ministries, faculties, telecom operators and ICT companies, training organizations, NGOs, etc. will be involved in this process.

Digital upskilling will make a significant contribution to digital transformation. In this regard, the Government needs to raise awareness of the importance of digital upskilling, ensure coordination between different strategies, and develop digital skills enhancement in public spaces. In addition, to ensure digital inclusion, the Government must focus on underrepresented groups.

In addition, the Government will ensure the incorporation of digital knowledge into the education system by integrating ICT curricula into the learning system and introducing digital tools into schools. It will also encourage the private sector to promote ICT, support educational programmes and scholarships, and participate in the development of accelerated learning programmes. To provide skills development for the workforce, the Strategy envisions designing specific skills development programmes for the employed workforce and reinforcing skills training for the unemployed. The digital skills framework also includes digital skills self-assessment and capacity building for public officials.

Finally, the National ICT Strategy 2021-2025 will support creating a unique environment for ICT professionals by offering short, specialized training courses for the qualified workforce and facilitating networking events for ICT professionals.

### 7.3 Ukraine

The main driver of digitalization in Ukraine is the Ministry of Digital Transformation. It was established to implement Ukraine’s digital agenda, mainly the initiative “State in Smartphone.”<sup>40</sup>

The initiative includes transferring all public services online by 2024, providing 95% of the transport infrastructure, settlements, and their social facilities with high-speed Internet, involving 6 million citizens in digital skills development programmes, and bringing the share of the IT industry’s contribution to the country’s GDP to 10%.<sup>41</sup>

The Ministry is currently implementing 94 digital transformation projects targeting economic and social development.<sup>42</sup> Some projects have already been implemented, and others are planned to be launched by the end of 2021 or implemented in 2022.

The key focus of the digital transformation in Ukraine is the transfer of public services online and the digitization of all government processes. To this end, the national online platform Diia was created. It is the brand of e-government in Ukraine, which includes a web portal and a mobile application. As of November 2021, Diia Platform has around 9.5 active users.

Diia Platform includes:

- Diia Portal – Online public services
- Diia Application – e-documents and personal data from different agencies available 24/7
- Diia Business – Online services for small and medium enterprises
- Diia Education – Online education courses
- Diia City

Ukrainians can use the Diia portal to obtain any state services at any time and from any place. In addition, the creation of this platform contributes to the reduction of corruption in public institutions.

The purpose of Diia Business is to increase national exports, assist companies entering new markets, help foreign companies to import goods and services from Ukraine, and strengthen

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<sup>40</sup> ITU, Digital Skills Development Ukraine. Good practices case study <https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Documents/Publications/2021/Digital%20Skills%20Development%20-%20Ukraine%20-%20Good%20practice%20case%20study.pdf>

<sup>41</sup> <https://www.kmu.gov.ua/en/news/pershi-cifrovi-poslugi-derzhava-v-smartfoni-skoro-zapracuyut>

<sup>42</sup> <https://diia.gov.ua/services>

and establish partnerships.<sup>43</sup> It includes such services as online consulting for entrepreneurs, online business courses, a catalog of services and documents for entrepreneurs, self-assessment tools, references to support centers, event calendar, etc.

Furthermore, to facilitate conducting business in Ukraine for foreigners, there is an e-residency service that allows them to make operations from abroad, including receiving a visa or opening a bank account.

Due to the outbreak of the COVID-19 pandemic, the Ministry of Education and Science, together with the Ministry of Digital Transformation, launched the online platform “All-Ukrainian School Online” in December 2020 to manage distance learning and ensure equal access to learning materials for students across the country and abroad. Currently, there are more than 600,000 users on the platform, of which only 200,000 are registered. Sixty-seven percent of these are students, 28% are faculty, and 5% are other participants. In addition, more than 2 million users have visited the platform.<sup>44</sup>

Besides Diia Digital Education offers opportunities to assess and develop digital skills through microlearning and entertainment in micro-series for different target groups, such as seniors, teachers, parents, young people, government officials, entrepreneurs, etc.

Finally, as a part of the digital transformation strategy, the Government aims to create Diia City, an “IT hub in Central and Eastern Europe, with unlimited investment prospects, job opportunities, and brand-new technologies.”<sup>45</sup> Diia City will be available to Ukrainian and foreign enterprises on equal terms and governed by special rules set by the Ministry of Digital Transformation.

## 8. Recommendations and next steps

The following recommendations are a result of the work conducted with stakeholders in Albania through interviews and surveys as well as additional primary research. The focus of these recommendations is on the role of central government in providing policy direction, national focus and leadership, roles of employers, the education sector and local government and agencies in delivering solutions that address the digital skills gaps Albania.

**Recommendation 1:** The government should provide leadership, coordination, and key resources in establishing the conditions for digital skills development by ensuring that digital skills are learned pervasively at all stages of education and training. In this regard government should set in place changes in the educational system so that digital skills are embedded in education and training, enabling individuals to participate fully in the modern digital

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<sup>43</sup> <https://business.diia.gov.ua/en>

<sup>44</sup> ITU, Digital Skills Development Ukraine. Good practices case study <https://www.itu.int/en/ITU-D/Regional-Presence/Europe/Documents/Publications/2021/Digital%20Skills%20Development%20-%20Ukraine%20-%20Good%20practice%20case%20study.pdf>

<sup>45</sup> Ibid.

economy, whether as tech specialists, leaders of digitally-enabled businesses or workers in digitally-enabled jobs across the economy. Government should ensure that students are provided with all needed means to leave school digitally literate, with the digital skills needed in the workplace.

**Recommendation 2:** Government should further collaborate with industry to understand which digital skills are of particular strategic importance to the nation and to identify emerging trends such as those identified in this report. Strategies should be put in place to address shortages in these areas of strategic importance such as information security, the Internet of Things (IoT), apps development, e-business, artificial intelligence etc.

**Recommendation 3:** Employers should take ownership of digital skills development and collaborate with other companies and public institutions, through collaboration networks and partnerships, to develop coherent digital training related process to raise digital skills levels. In this regard industry should take a lead role in researching key productivity gaps with their relevant business sector, so they can understand the advantages of upskilling and future proofing their workforce. Employers should ensure existing staff have the training to keep their digital skills updated and develop active recruitment and development strategies to maximize the digital skills of their employees. They should foster a lifelong learning digital training approach.

**Recommendation 4:** The education sector should develop and adapt their offers to meet the changing needs of the digital economy, working within government digital agenda and collaborating with stakeholders. Education and training providers should ensure that they understand the supply of educational courses to build digital skills capacity with industry-relevance. Schools and community training centres should be better equipped to inform young people about the advantages of digital skills in their career progress. They should also better promote the advantages of digital literacy for the most vulnerable groups of the community. They should also implement training programmes to continually update the digital skills of their teacher/instructors to properly deliver the updated ICT related curriculums. This includes helping current teachers/instructors retrain through an effective programme of continuous professional development and ensuring new teachers/instructors are equipped with the right skills to teach the ICT related curriculums.

**Recommendation 5:** Local and regional agencies should address the digital skills needs of their local areas and establish local community tech centres and tech boot camps. In this regard local partnerships and networks (local Councils, Universities, training centres, schools, companies) should work together to determine the skills needs for their local area, so that education and training provision is better matched to local demand and also help the inclusion of the most vulnerable groups of the society through fully or partially sponsored internship/training programmes. Programmes to address digital literacy for the elderly are imminent and should be put in place. However, Government must encourage these partnerships and initiatives to share best practice and knowledge of successful digital literacy training programs.

## Annex 1: Abbreviations and acronyms

SDC - Swiss Agency for Development and Cooperation

S4J - Skills for jobs

ESCO - European Skills, Competences, Qualifications and Occupations

NAIS / AKSHI – National Agency for Information Society

AKPA - Albanian National Employment and Skills Agency

GDP - Gross domestic product

GIIA – Government e-Services of Ukraine

NGO – Non-Government Organization

EU – European Union

CRTA - Regional Centre of Excellence for Robotics

AIRI - Centre for Artificial Intelligence and Cybersecurity

AI – Artificial Intelligence

DigComp - Digital Competence Framework for Citizens

e-CF - European e-Competence Framework

ADISA - Agency for the Delivery of Integrated Services

FinTech – Financial Technology

FoodTech – Food Technology

SaaS – Software as a Services

SAA – Stabilization and association agreement

EPALE - Electronic Platform for Adult Learning

NAVETQ – National Agency of Vocational Education Training and Qualifications

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

VET - vocational education and training

UNICEF - United Nations Children's Fund

GovNet – Government Network

ID – Identification

FDI - foreign direct investment

SME - Small and medium-sized enterprises

ICT – Information and Communication

IT – Information Technology

ITU - International Telecommunication Union

## Annex 2: Digital skills programmes, initiatives, and platforms

### List of programmes, initiatives and platforms in Albania involving and promoting digital skills

| Programme/Initiative                         | Description  | Stakeholders/Actors  | Access/Portal   |
|--|--|--|---|
| eGovernment Portal - eAlbania                | eAlbania is the unique multifunctional government portal. It is administered and developed by the National Agency for Information Society, serves as a gateway through which any interested person can access electronic services provided by public institutions in Albania. The government portal e-Albania is connected to the Government Interaction Platform, which is the basic architecture on which interaction with the electronic systems of public institutions is enabled. | Albanian Government<br>- Albanian National Agency for Information Society,<br>Citizens,<br>Public Institutions,<br>Private Companies   | <a href="https://e-albania.al/">https://e-albania.al/</a>     |
| TUMO- digital skills center                  | TUMO Educational Program is an after-school program where teens learn skills at the intersection of design and technology. Teens between 12–18 years old learn skills with multiple learning targets including animation, game development, graphic design, filmmaking, music, robotics, programming and 3D modeling.  | Albanian Government,<br>AADF, middle and high school students  | <a href="https://tirana.tumo.al/">https://tirana.tumo.al/</a> |
| National Employment Portal in Albania - ESCO | ESCO was first launched in 2017. It is created <b>National Agency for Information Society (AKSHI)</b> , through contractor Communication Progress, has recently developed the National Employment Portal, for the Albanian National Employment and Skills Agency (AKPA), which uses ESCO   | Albanian Government<br><b>-Albanian National Agency for Information Society,</b><br>Jobseekers, Public Institutions, Private Companies | <a href="https://puna.gov.al/">https://puna.gov.al/</a>       |

|   |  |  |  |
|---|--|--|--|
|   | <p><b>to support the Albanian labour market leveraging on information such as work experience and skills of candidates.</b></p> <p>The portal is free to use for a variety of actors, such as enterprises, associations, public and private employment organisations, and jobseekers. The portal has been designed in a flexible way, so that new functionalities can be added or improved in the future based on current needs of the national labour market.</p> <p><b>The use of ESCO helps generating more accurate results when mapping job seekers and vacancies.</b> The portal has the goal to collect, assign weights, and map information concerning categories of occupations (at different level of granularity), national occupations, categories of skills, skills, and links between the occupations and skills categories. As a result, suggestions are based on evaluation points that indicate the level of compatibility between demand and supply of work.</p> |  |  |
| <p>Skills for Jobs S4j - Project for VET Training, Professional Developments and Digital Skills</p> | <p>S4J is a project of SDC and is implemented by Swisscontact. The project is part of the Economic Development and Employment Domain of the Swiss Cooperation and Strategy 2018-2021 for Albania, with specific focus on employability. The main goal of ‘Skills for Jobs’ (S4J) project is to offer young people in Albania the best vocational education and training.,</p>  | <p>Albanian government, Swiss Contact, Ministry of Finance and Economy</p> <p>Students, Teachers and staff of:</p> <p>Vocational ‘Hamdi Bushati’ school in Shkodra</p> <p>Vocational ‘Kolin Gjoka’ school in Lezha</p> | <p><a href="https://www.swisscontact.org/en/projects/s4j">https://www.swisscontact.org/en/projects/s4j</a></p> |

|  |  |  |   |
|--|--|--|---|
|  | where digital skills play an important role  | <p>Technical ‘Gjergj Canco’ school in Tirana</p> <p>Technical-Economic school in Tirana</p> <p>Vocational ‘Ali Myftiu’ school in Elbasan</p> <p>Vocational ‘Salih Çeka’ school in Elbasan</p> <p>Vocational ‘Kristo Isak’ school in Berat</p> <p>Commercial school in Vlora</p> <p>Industrial ‘Pavarësia’ school in Vlora</p> <p>Vocational Training Centre in Vlora</p> |   |
| Electronic Platform for Adult Learning in Europe (EPALE) | EPALE is a European, multilingual (offered also in Albanian). It is a open membership community of adult learning professionals, including adult educators and trainers, guidance and support staff, researchers and academics, and policymakers,                                      | European Commission, Ministry of Finance and Economy, citizens of Albania  | <a href="http://europa.eu">EPALE   Electronic Platform for Adult Learning in Europe (europa.eu)</a> |
| eTwinning  | eTwinning offers a platform for staff (teachers, head teachers, administrative staff, etc.), working in a school in one of the European countries involved, to communicate, collaborate, develop projects, share and, in short, feel and be part of this learning community in Europe. | European Commission<br>Ministry of Education and Youth of Albania<br>Teachers and staff of Schools in Albania  | <a href="https://www.etwinning.net">https://www.etwinning.net</a>                                   |



### Annex 3: Individual Assessments

| Gender |        |           |         |               |                    |
|--------|--------|-----------|---------|---------------|--------------------|
|        |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Female | 405       | 55.9    | 55.9          | 55.9               |
|        | Male   | 320       | 44.1    | 44.1          | 100.0              |
|        | Total  | 725       | 100.0   | 100.0         |                    |

| Age   |       |           |         |               |                    |
|-------|-------|-----------|---------|---------------|--------------------|
|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 18-24 | 15        | 2.1     | 2.1           | 2.1                |
|       | 25-34 | 325       | 44.8    | 44.8          | 46.9               |
|       | 35-44 | 360       | 49.7    | 49.7          | 96.6               |
|       | 45-54 | 15        | 2.1     | 2.1           | 98.6               |
|       | 55-64 | 10        | 1.4     | 1.4           | 100.0              |
|       | Total | 725       | 100.0   | 100.0         |                    |

| Education Level |                          |           |         |               |                    |
|-----------------|--------------------------|-----------|---------|---------------|--------------------|
|                 |                          | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid           | Bachelor                 | 137       | 18.9    | 18.9          | 18.9               |
|                 | PhD                      | 31        | 4.3     | 4.3           | 23.2               |
|                 | High School              | 10        | 1.4     | 1.4           | 24.6               |
|                 | Professional High School | 7         | 1.0     | 1.0           | 25.5               |
|                 | Master                   | 540       | 74.5    | 74.5          | 100.0              |
|                 | Total                    | 725       | 100.0   | 100.0         |                    |

| Employed vs. Non- Employed |               |           |         |               |                    |
|----------------------------|---------------|-----------|---------|---------------|--------------------|
|                            |               | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                      | Non- Employed | 50        | 6.9     | 6.9           | 6.9                |
|                            | Employed      | 675       | 93.1    | 93.1          | 100.0              |
|                            | Total         | 725       | 100.0   | 100.0         |                    |

| Occupation / Jobs |                       |           |         |               |                    |
|-------------------|-----------------------|-----------|---------|---------------|--------------------|
|                   |                       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid             | Accountant            | 20        | 2.8     | 2.8           | 2.8                |
|                   | Administrative Clerk  | 3         | .4      | .4            | 3.2                |
|                   | Architect             | 10        | 1.4     | 1.4           | 4.6                |
|                   | Agricultural Engineer | 4         | .6      | .6            | 5.1                |
|                   | Artist                | 10        | 1.4     | 1.4           | 6.5                |

|  |    |     |     |      |
|--|----|-----|-----|------|
| Banker                                 | 10 | 1.4 | 1.4 | 7.9  |
| Biotechnology specialist               | 2  | .3  | .3  | 8.1  |
| Biologist                              | 3  | .4  | .4  | 8.6  |
| Booking Agent                          | 7  | 1.0 | 1.0 | 9.5  |
| Brand Manager                          | 5  | .7  | .7  | 10.2 |
| Business Analyst                       | 8  | 1.1 | 1.1 | 11.3 |
| Chemist                                | 7  | 1.0 | 1.0 | 12.3 |
| Construction Engineer                  | 5  | .7  | .7  | 13.0 |
| Civil Engineer                         | 23 | 3.2 | 3.2 | 16.1 |
| Coach                                  | 3  | .4  | .4  | 16.6 |
| Consultant                             | 13 | 1.8 | 1.8 | 18.3 |
| Cook                                   | 4  | .6  | .6  | 18.9 |
| Data Analyst                           | 2  | .3  | .3  | 8.2  |
| Data scientist                         | 5  | .7  | .7  | 19.9 |
| Database Administrator (DBA)           | 5  | .7  | .7  | 20.6 |
| Dentist                                | 4  | .6  | .6  | 21.1 |
| Designer/Tailor                        | 4  | .6  | .6  | 21.7 |
| Digital Marketing Manager              | 7  | 1.0 | 1.0 | 22.6 |
| Digital Marketing Officer              | 5  | .7  | .7  | 23.3 |
| Doctor                                 | 17 | 2.3 | 2.3 | 25.7 |
| Driver                                 | 5  | .7  | .7  | 26.3 |
| E-business Analyst                     | 5  | .7  | .7  | 27.0 |
| Economist                              | 55 | 7.6 | 7.6 | 34.6 |
| E-commerce Specialist                  | 7  | 1.0 | 1.0 | 35.6 |
| E-services (Data operator)             | 10 | 1.4 | 1.4 | 37.0 |
| Electrical engineer                    | 5  | .7  | .7  | 37.7 |
| Environmental engineer                 | 11 | 1.5 | 1.5 | 39.2 |
| Pharmacist                             | 7  | 1.0 | 1.0 | 40.1 |
| Financier                              | 5  | .7  | .7  | 40.8 |
| Fitness instructor                     | 1  | .1  | .1  | 41.0 |
| Founder                                | 5  | .7  | .7  | 41.7 |
| Graphic designer                       | 8  | 1.1 | 1.1 | 42.8 |
| Hospitality Service (Receptionist)     | 4  | .6  | .6  | 43.3 |
| Hospitality Service (Waiter-Bartender) | 2  | .3  | .3  | 43.6 |
| Human Resource Specialist              | 4  | .6  | .6  | 44.1 |
| Industry worker                        | 6  | .8  | .8  | 45.0 |
| Industry Senior specialist             | 2  | .3  | .3  | 45.2 |
| Inspector (Tax specialist)             | 2  | .3  | .3  | 45.5 |
| IT                                     | 38 | 5.2 | 5.2 | 50.8 |
| Journalist                             | 4  | .6  | .6  | 51.3 |
| Lawyer                                 | 28 | 3.9 | 3.9 | 55.2 |
| Lecturer                               | 22 | 3.0 | 3.0 | 58.2 |
| Manager                                | 36 | 5.0 | 5.0 | 63.2 |
| Marketing Manager                      | 12 | 1.7 | 1.7 | 64.8 |

|  |                                   |     |       |       |       |
|--|-----------------------------------|-----|-------|-------|-------|
|  | Marketing Specialist              | 4   | .6    | .6    | 65.4  |
|  | Mechanical Engineer               | 9   | 1.2   | 1.2   | 66.6  |
|  | Mechanical Engineering Technician | 5   | .7    | .7    | 67.3  |
|  | Microbiologist                    | 1   | .1    | .1    | 67.4  |
|  | Midwife                           | 5   | .7    | .7    | 68.1  |
|  | Mathematician                     | 3   | .4    | .4    | 68.6  |
|  | Network Engineer                  | 1   | .1    | .1    | 68.7  |
|  | Nurse                             | 9   | 1.2   | 1.2   | 69.9  |
|  | Office Assistant                  | 5   | .7    | .7    | 70.6  |
|  | Office Manager                    | 1   | .1    | .1    | 70.8  |
|  | Personal Trainer                  | 1   | .1    | .1    | 70.9  |
|  | Pharmacist                        | 3   | .4    | .4    | 71.3  |
|  | Plumber                           | 4   | .6    | .6    | 71.9  |
|  | PR & Communication Expert         | 5   | .7    | .7    | 72.6  |
|  | Programme Manager                 | 4   | .6    | .6    | 73.1  |
|  | Programmer                        | 23  | 3.2   | 3.2   | 76.3  |
|  | Project Manager                   | 11  | 1.5   | 1.5   | 77.8  |
|  | Psychiatrist                      | 3   | .4    | .4    | 78.2  |
|  | Psychiatric Aide                  | 1   | .1    | .1    | 78.3  |
|  | Psychotherapist                   | 4   | .6    | .6    | 78.9  |
|  | Publisher                         | 1   | .1    | .1    | 79.0  |
|  | Psychologist                      | 2   | .3    | .3    | 79.3  |
|  | Publicist                         | 1   | .1    | .1    | 79.4  |
|  | Real Estate Agent                 | 13  | 1.8   | 1.8   | 81.2  |
|  | Researcher                        | 4   | .6    | .6    | 81.8  |
|  | Risk Analyst                      | 5   | .7    | .7    | 82.5  |
|  | Sales agent                       | 4   | .6    | .6    | 83.0  |
|  | Sales Manager                     | 5   | .7    | .7    | 83.7  |
|  | Sales specialist                  | 5   | .7    | .7    | 84.4  |
|  | Secretary                         | 8   | 1.1   | 1.1   | 85.5  |
|  | Social Worker                     | 10  | 1.4   | 1.4   | 86.9  |
|  | Social Media Manager              | 4   | .6    | .6    | 87.4  |
|  | Software Engineer/Analyst         | 6   | .8    | .8    | 88.3  |
|  | Student                           | 10  | 1.4   | 1.4   | 89.7  |
|  | Teacher                           | 27  | 3.7   | 3.7   | 93.4  |
|  | Technical director                | 5   | .7    | .7    | 94.1  |
|  | Telemarketing specialist          | 11  | 1.5   | 1.5   | 95.6  |
|  | Trainer                           | 14  | 1.9   | 1.9   | 97.5  |
|  | Translator                        | 14  | 1.9   | 1.9   | 99.4  |
|  | Travel Agent                      | 4   | .6    | .6    | 100.0 |
|  | Total                             | 725 | 100.0 | 100.0 |       |

**Do you own or have access to a smartphone/laptop/desktop/tablet/other smart devices?**

|       |            | Frequency |
|-------|------------|-----------|
| Valid | Smartphone | 714       |
|       | Laptop     | 595       |
|       | Desktop    | 574       |
|       | Tablet     | 235       |
|       | Other      | 107       |

| Frequency of usage [Desktop] |                        |           |         |               |                    |
|------------------------------|------------------------|-----------|---------|---------------|--------------------|
|                              |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                        | Never                  | 85        | 11.7    | 11.7          | 11.7               |
|                              | Every Day              | 420       | 57.9    | 57.9          | 69.7               |
|                              | Once or twice in total | 10        | 1.4     | 1.4           | 71.0               |
|                              | FREQUENTLY             | 100       | 13.8    | 13.8          | 84.8               |
|                              | At least once a week   | 55        | 7.6     | 7.6           | 92.4               |
|                              | At least once a month  | 55        | 7.6     | 7.6           | 100.0              |
|                              | Total                  | 725       | 100.0   | 100.0         |                    |

| Frequency of usage [Laptop] |                        |           |         |               |                    |
|-----------------------------|------------------------|-----------|---------|---------------|--------------------|
|                             |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                       | Never                  | 25        | 3.4     | 3.4           | 3.4                |
|                             | Every Day              | 385       | 53.1    | 53.1          | 56.6               |
|                             | Once or twice in total | 5         | .7      | .7            | 57.2               |
|                             | FREQUENTLY             | 190       | 26.2    | 26.2          | 83.4               |
|                             | At least once a week   | 80        | 11.0    | 11.0          | 94.5               |
|                             | At least once a month  | 40        | 5.5     | 5.5           | 100.0              |
|                             | Total                  | 725       | 100.0   | 100.0         |                    |

| Frequency of usage [Tablet] |                        |           |         |               |                    |
|-----------------------------|------------------------|-----------|---------|---------------|--------------------|
|                             |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                       | Never                  | 240       | 33.1    | 33.1          | 33.1               |
|                             | Every Day              | 90        | 12.4    | 12.4          | 45.5               |
|                             | Once or twice in total | 55        | 7.6     | 7.6           | 53.1               |
|                             | FREQUENTLY             | 85        | 11.7    | 11.7          | 64.8               |
|                             | At least once a week   | 70        | 9.7     | 9.7           | 74.5               |
|                             | At least once a month  | 185       | 25.5    | 25.5          | 100.0              |
|                             | Total                  | 725       | 100.0   | 100.0         |                    |

| Frequency of usage [Smartphone] |  |           |         |               |            |
|---------------------------------|--|-----------|---------|---------------|------------|
|                                 |  | Frequency | Percent | Valid Percent | Cumulative |

|       |                      |     |       |       | Percent |
|-------|----------------------|-----|-------|-------|---------|
| Valid | Every day            | 665 | 91.7  | 91.7  | 91.7    |
|       | FREQUENTLY           | 40  | 5.5   | 5.5   | 97.2    |
|       | At least once a week | 20  | 2.8   | 2.8   | 100.0   |
|       | Total                | 725 | 100.0 | 100.0 |         |

| Frequency of usage [Other Devices] |                        |           |         |               |                    |
|------------------------------------|------------------------|-----------|---------|---------------|--------------------|
|                                    |                        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                              | Never                  | 160       | 22.1    | 22.1          | 22.1               |
|                                    | Every Day              | 100       | 13.8    | 13.8          | 35.9               |
|                                    | Once or twice in total | 35        | 4.8     | 4.8           | 40.7               |
|                                    | FREQUENTLY             | 120       | 16.6    | 16.6          | 57.2               |
|                                    | At least once a week   | 85        | 11.7    | 11.7          | 69.0               |
|                                    | At least once a month  | 225       | 31.0    | 31.0          | 100.0              |
|                                    | Total                  | 725       | 100.0   | 100.0         |                    |

| How do you assess your knowledge in using these devices? [Desktop] |           |           |         |               |                    |
|--|-----------|-----------|---------|---------------|--------------------|
|  |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Good      | 290       | 40.0    | 40.0          | 40.0               |
|  | Weak      | 5         | .7      | .7            | 40.7               |
|  | Average   | 100       | 13.8    | 13.8          | 54.5               |
|  | Very Good | 315       | 43.4    | 43.4          | 97.9               |
|  | Very Weak | 15        | 2.1     | 2.1           | 100.0              |
|  | Total     | 725       | 100.0   | 100.0         |                    |

| How do you assess your knowledge in using these devices? [Laptop] |           |           |         |               |                    |
|---|-----------|-----------|---------|---------------|--------------------|
|   |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | Good      | 285       | 39.3    | 39.3          | 39.3               |
|   | Weak      | 5         | .7      | .7            | 40.0               |
|   | Average   | 100       | 13.8    | 13.8          | 53.8               |
|   | Very Good | 325       | 44.8    | 44.8          | 98.6               |
|   | Very Weak | 10        | 1.4     | 1.4           | 100.0              |
|   | Total     | 725       | 100.0   | 100.0         |                    |

| How do you assess your knowledge in using these devices? [Tablet] |           |           |         |               |                    |
|---|-----------|-----------|---------|---------------|--------------------|
|   |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | Good      | 255       | 35.2    | 35.2          | 35.2               |
|   | Weak      | 40        | 5.5     | 5.5           | 40.7               |
|   | Average   | 165       | 22.8    | 22.8          | 63.4               |
|   | Very Good | 215       | 29.7    | 29.7          | 93.1               |
|   | Very Weak | 50        | 6.9     | 6.9           | 100.0              |

|  |       |     |       |       |  |
|--|-------|-----|-------|-------|--|
|  | Total | 725 | 100.0 | 100.0 |  |
|--|-------|-----|-------|-------|--|

| <b>How do you assess your knowledge in using these devices? [Smartphone]</b> |           |           |         |               |                    |
|--|-----------|-----------|---------|---------------|--------------------|
|  |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Good      | 310       | 42.8    | 42.8          | 42.8               |
|  | Weak      | 5         | .7      | .7            | 43.4               |
|  | Average   | 80        | 11.0    | 11.0          | 54.5               |
|  | Very Good | 320       | 44.1    | 44.1          | 98.6               |
|  | Very Weak | 10        | 1.4     | 1.4           | 100.0              |
|  | Total     | 725       | 100.0   | 100.0         |                    |

| <b>How do you assess your knowledge in using these devices? [Other Devices]</b> |           |           |         |               |                    |
|---|-----------|-----------|---------|---------------|--------------------|
|   |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | Good      | 205       | 28.3    | 28.3          | 28.3               |
|   | Weak      | 50        | 6.9     | 6.9           | 35.2               |
|   | Average   | 245       | 33.8    | 33.8          | 69.0               |
|   | Very Good | 160       | 22.1    | 22.1          | 91.0               |
|   | Very Weak | 65        | 9.0     | 9.0           | 100.0              |
|   | Total     | 725       | 100.0   | 100.0         |                    |

| <b>Do you have access in internet at home?</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 20        | 2.8     | 2.8           | 2.8                |
|  | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

### FINDING INFORMATION

| <b>[Can you search for information online using a search engine (eg google)?]</b> |     |           |         |               |                    |
|---|-----|-----------|---------|---------------|--------------------|
|   |     | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | Yes | 725       | 100.0   | 100.0         | 100.0              |

| <b>[Did you know that there is information on the Internet, which is not reliable?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 20        | 2.8     | 2.8           | 2.8                |
|   | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you store content on your devices: a) a text, photo, music, video, or website? b) files (documents, tables, presentations)]</b> |    |           |         |               |                    |
|---|----|-----------|---------|---------------|--------------------|
|   |    | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No | 15        | 2.1     | 2.1           | 2.1                |

|  |       |     |       |       |       |
|--|-------|-----|-------|-------|-------|
|  | Yes   | 710 | 97.9  | 97.9  | 100.0 |
|  | Total | 725 | 100.0 | 100.0 |       |

| <b>[Can you retrieve them after saving them?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 5         | .7      | .7            | .7                 |
|   | Yes   | 720       | 99.3    | 99.3          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

**FOR COMMUNICATION**

| <b>[Do you use your mobile phone to communicate by text message (SMS), voice message (MMS), or phone call?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   |       | 5         | .7      | .7            | .7                 |
|   | No    | 30        | 4.1     | 4.1           | 4.8                |
|   | Yes   | 690       | 95.2    | 95.2          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you use services like Skype, and Whatsapp?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 5         | .7      | .7            | .7                 |
|   | Yes   | 720       | 99.3    | 99.3          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you have an email address?]</b> |     |           |         |               |                    |
|--|-----|-----------|---------|---------------|--------------------|
|  |     | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                                  | Yes | 725       | 100.0   | 100.0         | 100.0              |

| <b>[Can you send or reply to incoming emails?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 5         | .7      | .7            | .7                 |
|  | Yes   | 720       | 99.3    | 99.3          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you create a new email address?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 30        | 4.1     | 4.1           | 4.1                |
|  | Yes   | 695       | 95.9    | 95.9          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you share files and / or content using communication / technology devices?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 10        | 1.4     | 1.4           | 1.4                |
|   | Yes   | 715       | 98.6    | 98.6          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know how to use the equipment/devices to access an electronic service (eg from government, banks, hospitals)?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 45        | 6.2     | 6.2           | 6.2                |
|   | Yes   | 680       | 93.8    | 93.8          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you have a social media account (eg Facebook, Instagram)?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 20        | 2.8     | 2.8           | 2.8                |
|   | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Are you aware of online communication / collaboration tools (eg Zoom, Microsoft Teams, Google Doc, Skype for Business)]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 40        | 5.5     | 5.5           | 5.5                |
|   | Yes   | 685       | 94.5    | 94.5          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Are you aware of the rules of online communication (eg when commenting, sharing personal information, etc.)?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 75        | 10.3    | 10.3          | 10.3               |
|   | Yes   | 650       | 89.7    | 89.7          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

**FOR CONTENT CREATION**

| <b>[Can you create plain digital content (e.g. text, spreadsheets, images, audio files) in at least one format (e.g. excel, pdf, image, video) using digital tools ?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 20        | 2.8     | 2.8           | 2.8                |
|   | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |



| <b>[Can you make simple edits / changes to content (eg documents, text, images, audio, video) produced by others?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 50        | 6.9     | 6.9           | 6.9                |
|  | Yes   | 675       | 93.1    | 93.1          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know that content can be covered by copyright?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 20        | 2.8     | 2.8           | 2.8                |
|  | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you apply and modify simple functions and settings of software and applications (e.g. change default settings)?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 110       | 15.2    | 15.2          | 15.2               |
|  | Yes   | 615       | 84.8    | 84.8          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Can you modify simple operating system functions and configurations (eg windows, mac)]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 220       | 30.3    | 30.3          | 30.3               |
|  | Yes   | 505       | 69.7    | 69.7          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

**FOR SECURITY**

| <b>[Can you take simple steps to protect your devices (e.g. setting a code / password, use antivirus)?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 35        | 4.8     | 4.8           | 4.8                |
|   | Yes   | 690       | 95.2    | 95.2          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Are you aware that your credentials (username and password) may be stolen?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 10        | 1.4     | 1.4           | 1.4                |
|   | Yes   | 715       | 98.6    | 98.6          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know that you should not reveal private information online?]</b> |  |  |  |  |  |
|---|--|--|--|--|--|
|---|--|--|--|--|--|

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | No    | 10        | 1.4     | 1.4           | 1.4                |
|       | Yes   | 715       | 98.6    | 98.6          | 100.0              |
|       | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know that using digital technology too extensively can affect my health? ]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 60        | 8.3     | 8.3           | 8.3                |
|   | Yes   | 665       | 91.7    | 91.7          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

**FOR PROBLEM SOLVING**

| <b>[Can you find support and assistance when a technical problem occurs or when using a new device, program or application?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 30        | 4.1     | 4.1           | 4.1                |
|  | Yes   | 695       | 95.9    | 95.9          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know how to solve routine problems like closing a non-responsive program]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 40        | 5.5     | 5.5           | 5.5                |
|  | Yes   | 685       | 94.5    | 94.5          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know how to solve some routine problems (e.g. close program, re-start computer?)]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 25        | 3.4     | 3.4           | 3.4                |
|  | Yes   | 700       | 96.6    | 96.6          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know how to solve some routine problems (e.g. re-install/update program)?]</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 80        | 11.0    | 11.0          | 11.0               |
|   | Yes   | 645       | 89.0    | 89.0          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know how to solve some routine problems (e.g. check internet connection)?]</b> |    |           |         |               |                    |
|---|----|-----------|---------|---------------|--------------------|
|   |    | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No | 35        | 4.8     | 4.8           | 4.8                |

|  |       |     |       |       |       |
|--|-------|-----|-------|-------|-------|
|  | Yes   | 690 | 95.2  | 95.2  | 100.0 |
|  | Total | 725 | 100.0 | 100.0 |       |

| <b>[Did you know that technology (digital tools) can help you solve problems?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 10        | 1.4     | 1.4           | 1.4                |
|  | Yes   | 715       | 98.6    | 98.6          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[Do you know that digital tools can help me in solving problems. I am also aware that they have their limitations?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 40        | 5.5     | 5.5           | 5.5                |
|  | Yes   | 685       | 94.5    | 94.5          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>[When confronted with a technological or non-technological problem, can you use digital tools to solve it?]</b> |       |           |         |               |                    |
|--|-------|-----------|---------|---------------|--------------------|
|  |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | No    | 105       | 14.5    | 14.5          | 14.5               |
|  | Yes   | 620       | 85.5    | 85.5          | 100.0              |
|  | Total | 725       | 100.0   | 100.0         |                    |

| <b>Have you ever used electronic services? (eg eBanking)?</b> |       |           |         |               |                    |
|---|-------|-----------|---------|---------------|--------------------|
|   |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | No    | 80        | 11.0    | 11.0          | 11.0               |
|   | Yes   | 645       | 89.0    | 89.0          | 100.0              |
|   | Total | 725       | 100.0   | 100.0         |                    |

| <b>Have you ever used e-Albania?</b> |       |           |         |               |                    |
|--------------------------------------|-------|-----------|---------|---------------|--------------------|
|                                      |       | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                                | No    | 20        | 2.8     | 2.8           | 2.8                |
|                                      | Yes   | 705       | 97.2    | 97.2          | 100.0              |
|                                      | Total | 725       | 100.0   | 100.0         |                    |