Country Review

Albania

Digital innovation ecosystem: Strategies and recommendations for accelerating digital transformation

Contents

Acknowledgements

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Process Summary

Digital Innovation Capacity

15+ development and tech indicators reviewed

Desktop Research

250+ country-specific documents reviewed

Stakeholder Identification

74 ecosystem stakeholders' roles analysed

Stakeholder Engagement

37 stakeholders directly engaged in activities

Co-Creation Workshops

2,000+ ideas captured through 2 workshops

National Stakeholders' Event

33 strategies and recommendations presented

Execution of Recommendations

$25.43 billion present-day GDP boosted

1. Introduction

Albania has embarked on an overarching development vision and key strategies, as outlined in the National Strategy for Development and European Integration (NSDEI) 2022-2030, the Digital Agenda 2022-2026, and the Smart Specialization Strategy (currently under drafting process). The NSDEI provides a comprehensive roadmap, emphasising alignment with the Sustainable Development Goals (SDGs) and the European integration process. Under this strategy, the vision for 2030 is for Albania to become "a dynamic economy, part of the European Union and the region, that offers equal conditions for increasing the well-being of all its citizens based on a functional democracy that guarantees fundamental rights and human freedoms." Albania's Digital Agenda 2022–2026 which acts as a guiding force and aims to boost investments in advanced computing and data processing, artificial intelligence, and cyber security and develop the digital skills needed to create them. Its goal is to connect businesses, public administration and citizens with the latest technologies and resources to become competitive globally and enable digital transformation. In addition, Albania is in the process of building a long-term development strategy called Smart Specialization Strategy (S3) for the period 2024-2030. The strategy aims to integrate industrial, educational, research/scientific policies, and innovation, thus generating economic growth by leveraging the country's innovative competitive advantages while addressing key socio-economic challenges. The vision is to drive innovation and sustainable economic growth by capitalising on the country's unique competitive advantages. This strategy strongly emphasises the digital transformation of key sectors, enabling Albania to compete successfully in international markets. By fostering technological development, enhancing research and innovation capabilities, and ensuring the competitiveness of these priority sectors, the S3 Strategy aims to create a modern, resilient economy. Understandably, various factors contribute to the performance of the ICT sector, including its innovativeness. The Ministry of Infrastructure and Energy, jointly with the ITU, commissioned this study to better understand the digital innovativeness of the ICT sector.

Digital innovation profiles are an important element in the ITU series of snapshots of ICT-centric innovation ecosystems. Each profile assesses and summarizes the opportunities and challenges in a country's ICT ecosystem. The at-a-glance format of the report enables international comparisons and provides a measurement overview of an ecosystem's capacity to accelerate digital transformation as well as its capability to integrate digital innovation into its national agenda. The digital innovation profile is an accurate diagnosis of digital innovation ecosystem health to develop strategies and inform national policies for accelerating digital transformation.

Digital innovation profiles offer a rapid and straightforward means of analysing and optimizing an ICT ecosystem. This analysis then helps navigate through a country's fast-moving ICT/telecommunication landscape to enhance the competitiveness of the ICT sector and unlock the potential for a sustainable digital transformation to support the country's transition into a knowledge economy. Further collaboration with ITU can target specific engagements, including the implementation of appropriate, co-developed, bankable projects of high value in the national context.

All digital innovation profiles are developed by experts specially trained to apply the ITU Digital Innovation Framework, which involves stakeholder engagement across various stages of the process of developing a DIP. This framework features highly structured workshops and facilitated assessments, designed to build national capacity, enhance on-the-ground skills and powerfully accelerate digital transformation. The framework process equips ITU Member States with the tools to assess and monitor their ICT innovation ecosystems and produce evidence-based assessments and concrete recommendations to change the dynamics and propel the country towards digital transformation.

The analysis and the positions expressed in this report reflect the research of the national expert, working within the ITU Digital Innovation Framework process, and with guidance from the ITU-D Digital Innovation Ecosystems cluster. The findings are shaped by a defined methodology that emphasises secondary research and a collaborative, ecosystem-driven approach. This methodology includes comprehensive secondary research and in-depth one-on-one interviews with over 30 local stakeholders from the public sector, private sector, financial institutions, academia, entrepreneurs, and entrepreneurial support networks. These stakeholders were carefully selected in collaboration with the host organisation to ensure a broad and relevant range of perspectives. Additionally, the report integrates insights from group engagements and interactive sessions conducted throughout the process. This included a co-creation workshop aimed at assessing the current state of the ecosystem, envisioning its future, identifying areas for improvement, and developing recommendations. A stakeholders' forum was also held, where key findings were presented for review, allowing stakeholders to provide feedback and validation before the report's finalisation.

For further details on the methodology employed, please refer to Appendix 3.

2. Background and Context

Key Indicators	
Population: 2,745,972	ITU Digital Development Index [2024]: • Individuals using the Internet: 82.6% • Households with Internet access at home: 96.5% • Mobile broadband subscriptions per 100 inhabitants: 75.3% • Population coverage by at least 4G mobile networks: 99% • Fixed broadband basket as a % of GNI p.c: 1.3% • Individuals owning a mobile phone: 88.2%
Population Density: 103 km2	ITU Development Index score [2024]: 84.7
Gross National Income per capita: USD 14,399.9	Global Innovation Index rank [2023]: 83/132
Region: Southeast Europe	Global Gender Gap Index rank [2024]: 23/146

Located in Southeastern Europe, Albania is a country on the Balkan Peninsula known for its rich history, stunning landscapes, and diverse culture. Classified as an upper-middle income country by the United Nations[1], with a current GDP of USD 25.43 billion[2], Albania scores a 79.1 Universal Score and a high 90.3 Meaningful Score on the ICT Development Index 2024 released by the International Telecommunication Union[3].

[1] United Nations, 2024. *World Economic Situation and Prospects 2024*. [online] Available at: https://www.un.org/development/desa/dpad/publication/world-economic-situation-and-prospects-2024/ [Accessed 31 July 2024].

[2] International Monetary Fund (IMF), 2024. *Albania Data Profile*. [online] Available at: https://www.imf.org/external/datamapper/profile/ALB

[3] International Telecommunication Union (2024) *Measuring digital development: Facts and figures 2024*. Available at: https://www.itu.int/hub/publication/d-ind-ict_mdd-2024-3/.

Albania boasts a very high adult literacy rate[4] of 99 per cent but the average Albanian unemployment rate has been recorded at 11.6 per cent in 2023[5]. The unemployment rate is even higher among youth, and stands at 22 per cent[6]. Having said that, the plan for National Education in Albania is laid out in the Strategy on Education 2021-2026. This strategy includes all education levels, from preschool to higher education. The vision is to offer quality education based on inclusive principles and lifelong learning, prioritising curricula emphasising digital competencies and computer programming skills. It is worth noting that over the last decade, the quality of public education has been improving steadily. The Albanian government has significantly invested in improving educational facilities, increasing teacher salaries, and revising the curriculum.

According to the International Monetary Fund[7] (IMF), Albania's economy stands out as a notable regional performer. Tourism has demonstrated its significance, registering a substantial growth of nearly 5 per cent during 2023. According to latest data from the Institute of Statistics (INSTAT), an independent public legal entity tasked with producing official statistics in Albania, the country has seen more than 10 million tourists in 2023, 34.6 per cent more than 2022[8]. Generally, the economies of South-Eastern Europe experienced a significant slowdown in 2023 but strong tourism flows in Albania supported domestic demand (WESPA, 2024[9]). The World Bank notes that, in 2023, trade, tourism and real estate led growth on the supply side; and annual inflation rate dropped to 3.9% in December 2023[10]. Consequently, expectations point towards increased income levels and improved employment opportunities. Albania's top political, social, and economic priorities encompass EU integration, comprehensive economic reforms, and the pursuit of anti-corruption measures.

Recent efforts have helped Albania with a growing and dynamic private sector, which includes various industries such as manufacturing, construction, tourism, services, and trade. The country has experienced economic reforms and liberalisation since the 2000's, encouraging private sector development and foreign investments. According to the INSTAT

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[4] World Bank, 2024. *Literacy rate, adult total (% of people ages 15 and above) in Albania*. [online] Available at: https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=AL

[5] World Bank, 2024. *Unemployment, total (% of total labour force) in Albania*. [online] Available at: https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=AL

[6] Trading Economics, 2024. *Albania Youth Unemployment Rate*. [online] Available at: https://tradingeconomics.com/albania/youth-unemployment-rate

[7] International Monetary Fund (IMF), 2023. *Albania: Staff Concluding Statement of the 2023 Article IV Mission*. [online] Available at: https://www.imf.org/en/News/Articles/2023/10/27/mcs102723-albania-staff-concluding-statement-of-the-2023-article-iv-mission

[8] Institute of Statistics (INSTAT), 2024. *Tourism Statistics*. [online] Available at: https://www.instat.gov.al/en/themes/industry-trade-and-services/tourism-statistics/#tab2

[9] United Nations, 2024. *World Economic Situation and Prospects 2024*. [online] Available at: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP_2024_Web.pdf

[10] World Bank, 2024. *Albania Overview*. [online] Available at: https://www.worldbank.org/en/country/albania/overview#3

([11]2022), agriculture is the most important contributor to the economy, accounting for almost 20 per cent of the total GDP. Also, trade, transport, accommodation, and food services activities contribute 16.17 per cent, followed by public administration, education, and health, with 12.29 per cent. The Albanian government has especially recognised the importance of SMEs in economic development and has taken several steps to support them. Initiatives have included providing SMEs access to financing and credit, simplifying business registration and licensing procedures, and promoting entrepreneurship. An increased access to finance and infrastructure, and improvements in bureaucracy, skills and training would greatly complete the government efforts. Albania has developed a liberal and reformist investment climate, making it an attractive destination for foreign investors. Through the Strategic Investment Law and participation in free trade agreements, Albania offers significant incentives and protections for foreign investments, particularly in sectors such as energy, mining, tourism, and ICT.

The country's strategic geographic location and expanding infrastructure, including improvements in air transport through Tirana International Airport and the planned new Vlora Airport and new port such as Porto Romano, position it as a key hub for trade in the Western Balkans. This infrastructure development supports Albania's goal of becoming a year-round destination for high-end tourism and a regional centre for logistics and transport. energy sector, historically reliant on hydropower, is diversifying through significant solar and wind energy investments. Projects like the Karavasta photovoltaic park and Albania's participation in European energy corridors underscore the country's commitment to renewable energy and sustainability, positioning it as a key energy supplier in the Balkans.

On the telecom front, Albania has a competitive telecommunications market with multiple service providers offering fixed-line, mobile, and internet services. In June 2000, the introduction of the 'Law for Telecommunications' led to the liberalisation of the market, thus supporting increased competition and innovation. The major players in the sector include One Albania and Vodafone Albania. In January 2023, former incumbent Albtelecom and One Albania merged to form One Albania. Gradually but steadily, significant investment and modernisation efforts have been made to improve infrastructure and expand services. In Albania, 96.5% per cent of households have Internet access and while 82 per cent of individuals are counted as Internet users (IDI 2024[12]).

Through various efforts over the last couple of years, it is evident that the country is eyeing accelerated innovation. Albania ranked 83 on the Global Innovation Index by the World

[11] Institute of Statistics (INSTAT), 2024. *Gross Domestic Product*. [online] Available at: https://www.instat.gov.al/en/statistical-literacy/gross-domestic-product/

[12] International Telecommunication Union (2024) *Measuring digital development: Facts and figures 2024*. Available at: https://www.itu.int/hub/publication/d-ind-ict_mdd-2024-3/.

Intellectual Property Organisation (2023), improving its rank from 104 in 2019. This substantial improvement reflects the country's growing focus on innovation investment. While there is room to further enhance the translation of these investments into innovation outputs, which are still relatively low, Albania's progress highlights its strong commitment to building a more dynamic and innovative economy, setting the stage for even greater advancements in the near future. High-tech exports were equal to 0.1 per cent of total trade[13], and efforts have been ongoing to increase this even more. The ICT-BPO sector though, in particular, has seen significant interest its inception, increasing employment and reaching industry values that exceed USD 130 Million ([14]AIDA, 2023). ICT exports has slowly improved to 1.7% of total exports in the last few years[15]. In fact, the ICT-BPO sector seems to be the major area of FDI in Albania as well.

The digital revolution of public services in Albania has long since changed the perception of citizens regarding electronic communication with state institutions. The Albanian government, as a promoter of the transformation of offline services into online services, turned the eAlbania platform, which in 2013 had only 14 electronic services, into a success story and managed to build a serious image of the state and restore the trust of citizens in public institutions. The platform, managed by the National Agency of Information Society (AKSHI), acts as a single point for the provision of public services of government institutions, serving citizens 24/7 and offering over 1,247 electronic services thus far. The platform is connected to the Government Interaction Platform which is the basic architecture that allows interaction between 63 electronic systems of public institutions, enabling over 200 million transactions every year[16]. Albania's ICT sector is a driving force behind its economic modernisation. The government's digital transformation efforts, particularly through initiatives like the e-Albania platform, have significantly improved public services. With over 1,200 digital services available and 95% of central government services accessible online, the country is well-positioned to leverage ICT for sustainable economic growth and foreign investment.

It is worth noting that Albania's National Strategy for Development and European Integration (NSDEI) reflects the country's commitment to sustainable development and its path toward European Union (EU) membership. The first NSDEI (2015-2020) set the foundation for a stable economy, democratic governance, and the protection of human

[13] World Intellectual Property Organization (WIPO), 2023. *Global Innovation Index 2023*. [online] Available at: https://www.wipo.int/global_innovation_index/en/2023/

[14] Albanian Investment Development Agency (AIDA), 2024. *ICT and BPO Sectors in Albania*. [online] Available at: https://aida.gov.al/en/business-in-albania/sectors/ict-and-bpo

[15] World Intellectual Property Organization (WIPO), 2023. *Global Innovation Index 2023*. [online] Available at: https://www.wipo.int/global_innovation_index/en/2023/

[16] Western Balkans Investment Framework (WBIF), 2024. *WB26-ALB-DII-01 Technical Assistance Grant*. [online] Available at: https://www.wbif.eu/technicalassistancegrants//WB26-ALB-DII-01

rights. It prioritised economic growth, environmental sustainability, and EU integration through key reforms in public administration, judicial independence, and the fight against corruption and organised crime. Building on this, NSDEI II (2022-2030) continues to advance Albania's development, focusing on macroeconomic stability, enhanced well-being for citizens, and alignment with EU standards. The strategy promotes policies that strengthen Albania's competitiveness, foster sustainable economic growth, and ensure the country's successful integration into the European Union, aligning with the Sustainable Development Goals for 2030.

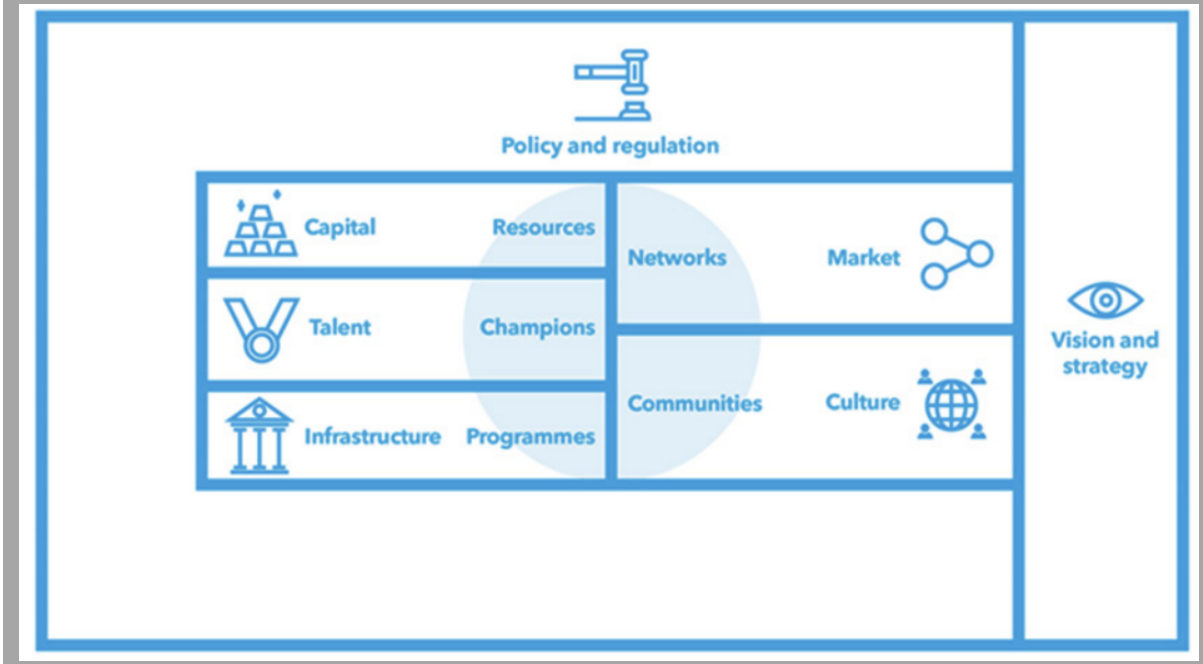
From recent improvements in the ecosystem, across sectors and priorities, it is thus clear that Albania is actively advancing its digital government, leveraging electronic systems and digital services to align with EU integration and uphold digital principles and rights. Economically, digital technologies are beginning to drive transformation and competitiveness in key sectors like agriculture, manufacturing, and financial services, with a focus on universal, high-quality digital connectivity for balanced regional development. Environmentally, Albania's digital transition emphasises sustainability, aiming to achieve climate targets and reduce carbon emissions.

A lot of the recent ICT investments, efforts and early successes stem from the Digital Agenda 2022–2026, and the anticipated Smart Specialisation Strategy (S3) is also likely to have a significant positive impact. In recent years, the European Union (EU) has adopted Smart Specialisation Strategies (S3) to enhance innovation and regional development. This approach, increasingly recognised globally, is tailored to each region's unique context, identifying key areas where public investments in research, development, and innovation can have the greatest impact. S3 promotes diversification through cross-sectoral linkages and involves a participatory process, known as the Entrepreneurial Discovery Process, engaging policymakers, the private sector, academia, research institutes, and civil society. Efforts are underway to develop the strategy at the national level while keeping a regional perspective, focusing on the potential of Albania's 12 regions. The initial mapping of the economic and productive areas under this strategy points towards the following priority sectors: (i) Agriculture, Forestry and Fishing, (ii) Manufacturing, (iii) Energy, (iv) Tourism, (v) Information Communication Technologies, and (vi) Business Processing Outsourcing.

3. Current Landscape

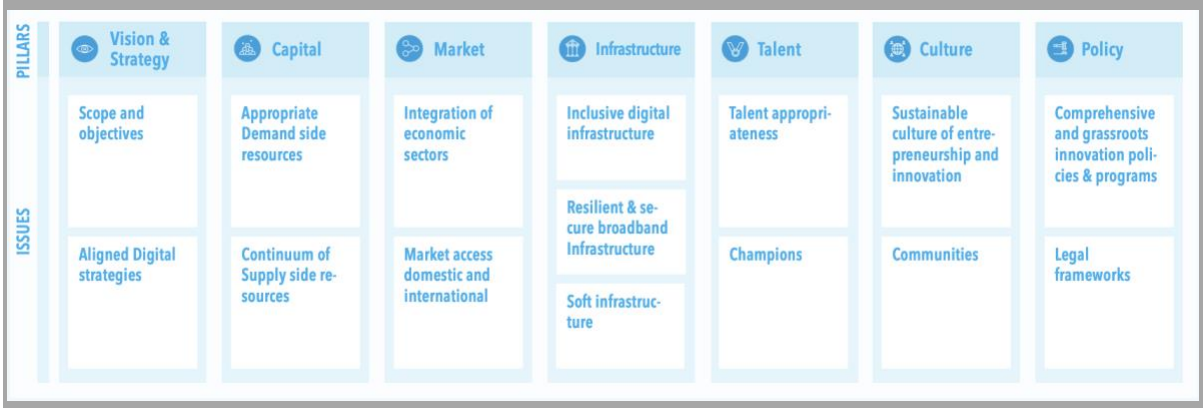
Understanding the ecosystem assessment canvas

Figure 1 - Ecosystem assessment canvas



The ecosystem assessment canvas gives an overview of the seven components that make up the innovation ecosystem. It helps assess both the challenges and opportunities for the components essential to building a vibrant and innovative digital ecosystem.

Figure 2 - Ecosystem assessment canvas and its related issues



Building on the ecosystem assessment canvas, the image above presents the main issues of an enabling environment that, if achieved, can accelerate digital transformation in the economy.

The following section provides insights into the current landscape of the ecosystem across the seven components, based on expert interviews and group discussions during the co-creation workshops with local stakeholders, and further validated by secondary research and literature reviews.

3.1 Vision and Strategy

- *Numerous national strategy documents exist and are supportive of innovation. However, enhancing coordination among these strategies would foster a more cohesive ecosystem vision, enabling stakeholders to align efforts and maximise impact.*
- *Various stakeholders prioritise different challenges within the ecosystem. However, there is a widespread acknowledgement of the need for more inter-stakeholder connectivity and collaboration.*
- *Stakeholders demonstrate a thorough understanding of their organisational missions and objectives though strengthening the alignment of their roles and contributions to an overarching national mission and vision would further enhance collaboration and drive collective success.*
- *Many stakeholders are actively engaged with the ecosystem, and fostering a shared vision with a clearly defined and communicated direction would further empower all participants to contribute more effectively and collaboratively.*

§ 1 Need for one vision

Albania has developed numerous strategic documents for the digital innovation ecosystem, such as the National Strategy for Development and European Integration 2022-2030 (NSDEI2022-2030) and the Digital Agenda 2022-2026. There is also ongoing work towards the drafting of the Smart Specialisation Strategy (S3). Multiple government bodies are responsible for consulting, proposing and implementing these strategies. The process of drafting NSDEI2022-2030 was carried out through the engagement of a significant number of state institutions, including all ministries of the Albanian government, independent institutions, important agencies implementing sectoral policies, local government representatives and other important actors in the process [17]. Next, the Digital Agenda is led by the Deputy Prime Minister and implemented by the National Agency of Information Society in cooperation with other institutions. Lastly, an inter-ministerial committee led by the Deputy Prime Minister in collaboration with the Ministry of Economy, Culture and

[17] Albanian Government NSDEI2022-2030 (2022) available at: https://s3albania.org/wp-content/uploads/2023/07/1b.-NSDEI-2022-2030-Final-English-Version-23-Jan-1.docx

Innovation is responsible for drafting and implementing the S3. These efforts will accelerate innovation in Albania and contribute to its socio-economic development. Having said that, to fully unlock their potential, there is a need for stronger alignment and integration among existing visions and strategies. By fostering a more cohesive and complementary approach, stakeholders will be better positioned to unite around a common vision, driving collective progress toward shared goals.

The ongoing efforts to draft the S3 clearly indicate that the vision for EU integration is central to Albania's digital agenda. The country's alignment with EU standards, legislative frameworks, and digital regulations reflects its commitment to democracy, the rule of law, and fundamental rights. The S3 focuses on digital strategies to support key economic sectors, including agriculture, energy, and tourism.

In 2022, a significant win for the Digital Agenda initiative was the transition of 95 per cent of public administration services to online-only delivery through the e-Albania platform. Stakeholders recognised this as a significant shift towards enhancing service quality and transparency. This move has encouraged and motivated citizens and businesses about the potential of national ICT development, with stakeholders increasingly not advocating for creating more strategies but effectively implementing existing strategies to accelerate innovation with enhanced coordination and synchronisation. A strong consensus is that improving these aspects could significantly advance ICT developments in the country and foster optimism about Albania's future capabilities. For the country to realise the full potential of its strategic initiatives, it is imperative to streamline and synchronise these efforts, ensuring they are comprehensive on paper and effective in practice. Establishing the new Agency of Innovation and Excellence, under the Ministry of Economy, Culture and Innovation is a positive step forward that aims to address these needs. The agency's primary goal is to act as an internal driving force within government ministries and central departments, ensuring that innovation is integrated into national strategies and development processes. This initiative aims to support Albania’s broader agenda of economic modernization and digital transformation. If effective, it will support Albania’s goals for European integration and enhance governance transparency and service delivery to its citizens.

§ 2 Agreement on issues

Various stakeholders within the ecosystem prioritise different challenges, underscoring the complexity of fostering innovation, particularly in ICT. At a high level the skills gap is universally recognised as a critical challenge across all groups. Another common issue within the ecosystem is the lack of awareness and trust among stakeholders, often due to misunderstandings about each other's roles. This misalignment underscores the need for

clearer communication and better-defined roles to enhance collaboration. There is a consensus that the education system could significantly amplify its impact by expanding digital, technical, and entrepreneurial education, helping to close the skills gap. There is a clear will and motivation within the ecosystem to solve these problems collectively. Enhancing these areas would benefit all stakeholder groups substantially, contributing to a more skilled workforce and a more innovative entrepreneurial community.

§ 3 Ecosystem working together

Stakeholders clearly understand their organisational missions and objectives, with several actors collaborating effectively. For instance, the Ministry of Infrastructure and Energy actively supports various industrial sectors—including telecommunications, energy, mining, and transport—and is at the forefront of leading EU digital integration. Academia is concentrating on identifying best practices and tackling challenges to enhance the understanding of how digitalisation can transform organisations. In the financial sector, a select few banks invest in innovation and digitising services for citizens and businesses. Numerous chambers and associations, such as the Albanian Investment Council, represent private sector concerns. Non-governmental organisations like Protik are among the most well-connected, with a mission to foster innovation and entrepreneurship. They facilitate entrepreneurial programmes, networking, hosting events and training sessions to increase ICT sector collaboration. Protik has enhanced connections with academic institutions and the labour market through its initiatives, bringing together private companies, public institutions, ICT experts, and academics to facilitate synergies, partnerships, and business opportunities. Most recently, the drafting of the S3 strategy involving collaboration with stakeholders following the "Quadruple Helix" approach has been acknowledged as a significant positive effort, encompassing views from all stakeholders in the consultation process. A notable collaborative success within the ecosystem is the TUMO Centre for Educational Technologies. Launched by the Albanian-American Development Foundation in partnership with TUMO Ventures and supported by the Municipality of Tirana, this innovative and educational centre caters to youths aged 12 to 18. Students combine self-learning activities, workshops and learning labs, picking and choosing from whatever piques their interest. The centre aims to provide a new educational experience at the intersection of technology and design. While these collaborations have positively impacted the ecosystem, some players still operate independently, and there is a pressing need for more partnerships between the public and private sectors. Many entrepreneurs and private sector organisations work internationally and have limited local partnerships. Nevertheless, stakeholders recognise the importance of collaboration in addressing ecosystem challenges effectively. The need for improved connectivity and collaboration among stakeholders is a widely acknowledged

concern. This recognition underscores the critical importance of collective efforts in advancing national ICT development. In an encouraging development, the government has recently established a new ministry dedicated to the Economy, Culture, and Innovation. This ministry aims to strengthen coordination among these sectors, positioning them to harness the opportunities of the digital age better, thus facilitating a more integrated approach to innovation and cultural advancement. This is a positive step for the ecosystem and closer collaboration between stakeholders will help to accelerate the digital economy.

§ 4 Support for shared vision

Numerous support networks catering to businesses perceive their endeavours as integral to national strategies. Many associations advocate for legislative reforms and the rights of their members. In addition to promoting the use of digital public services to enhance efficiency and providing capacity-building initiatives to strengthen skills. Despite the efforts of these support networks, there remains a degree of uncertainty among stakeholders regarding the most effective ways to contribute to the national vision as there is an unclear sense of common goals. This uncertainty is due to the absence of a clear, unified direction for national development caused by the number of strategies and lack of a recognised leader institution responsible for innovation during the past years. To drive innovation and digitalisation forward, actors assert the need for a clear leader and owner of this agenda. Furthermore, they acknowledge that greater clarity regarding their respective roles and contributions to the overarching national mission and vision would be beneficial. Progress has been made with initiatives such as the S3 consultation process that offer a promising avenue for stakeholders to come together, identify common goals, and develop strategies for achieving them. Stakeholders in the process stated it was very good for identifying regional strengths and involving all actors. By fostering collaboration and consensus-building, these consultation processes have the potential to unite stakeholders around shared objectives and drive meaningful progress towards national development goals.

3.2 Infrastructure and Programmes

- *Recent initiatives and investments have improved hard infrastructure, yielding positive outcomes for businesses, organisations, and individuals, especially in Tirana, but there is scope for improvement in other areas.*
- *There are quite a few soft infrastructure facilities available in Tirana, with plans to expand beyond, but not many of them are offering holistic and sustainable suite of support services.*

- *Most of the soft and hard infrastructure is concentrated in the national capital. There are efforts to expand to other areas, but it's been slow, pushing communities to come to Tirana to access most of the quality services.*
- *Equipment is readily available in the ecosystem, but smaller enterprises often find it challenging to justify the expense of digitalisation and ICT investment.*
- *Stakeholders feel there is potential to make Albania competitive in the Balkans region, but not enough ingredients are available yet or interacting with each other in the ecosystem.*

§ 1 Hard/ICT infrastructure

Significant investments have enhanced hard infrastructure in Albania, delivering positive results for businesses, organisations, and individuals. Currently, 96.5 per cent of homes are connected to the internet, with 87.2 per cent enjoying high-speed fixed broadband (ITU, 2022[18]). On the mobile front, Albania's mobile internet adoption scored 66.1 out of 100 in 2022 (Mobile Connectivity Index, 2022[19]). One Albania leads the market by covering 245,000 households, or 55% of the addressable market in 2024, and plans to significantly expand its optical fibre network to 450,000 urban households by 2026 (See News, 2024[20]). In March 2024, the Electronic and Postal Communications Authority (AKEP) started the public consultation procedure for granting rights to use frequencies in the 3.5 GHz band, marking the official start of the procedures for implementing 5G technology in this frequency band. Some stakeholders have been involved in the public consultation for 5G. While data centres are scarce, cloud services are accessible to all organisations. Through a strategic focus on Cloud technology adoption and IT infrastructure transformation, Raiffeisen Bank successfully transitioned 50% of its workload to the Cloud. This move improved operational efficiency and demonstrated the bank's commitment to modernising its practices. The banking sector's investments in strengthening electronic payment infrastructure have increased digital currency usage. The banking sector has maintained steady growth, contributing to economic development while ensuring sufficient liquidity and capitalisation levels. The quality and accessibility of hard infrastructure in Tirana are generally commendable, although there is room for improvement in other regions. In most urban areas, stakeholders benefit from access to high-speed internet, facilitating effective communication and business operations.

[18] International Telecommunication Union (ITU), 2024. *Dashboard: Upper-Middle-Income Countries - Albania*. [online] Available at: https://datahub.itu.int/dashboards/umc/?e=ALB&i=

[19] GSMA, 2022. *Mobile Connectivity Index: Albania*. [online] Available at: https://www.mobileconnectivityindex.com/index.html#year=2022&zoneIsocode=ALB

[20] SeeNews. (2024). One Albania to expand fibre network by 2026 - report. Available at: https://seenews.com/news/one-albania-to-expand-fibre-network-by-2026-report-1244199

In terms of power, over 99 per cent is generated from hydropower (Statistica, 2023[21]). Water management is improving, with better quality drinking water, sanitation services, customer service, management, and increased transparency. Over 80 per cent of urban households and just half of rural homes are connected to the water supply network (GIZ, 2023[22]). Around 100 km of local and regional roads are being reconstructed or extended under a programme supported by the EBRD and EU (EBRD, 2023[23]). This initiative aims to enhance connectivity to local tourist sites and boost the quality of Albania's vital tourism sector. Albania's urban centres are well-supported by robust infrastructure, providing a strong foundation for digital innovation. While rural areas face certain challenges, addressing these gaps offers a valuable opportunity to unlock the potential of the entire population. By enhancing connectivity and infrastructure in rural regions, Albania can fully harness its resources, ensuring inclusive development and maximising contributions to the innovation ecosystem.

§ 2 Soft infrastructure & programmes to support innovators

The ecosystem benefits from several soft infrastructure facilities, such as TechSpace, established by the National Agency of Information Society (NAIS). This centre is designed to foster the co-design of innovative products, enable testing, facilitate the sharing of ideas, aid in creating prototypes, and provide relaxation in dedicated spaces. Already, the centre boasts over 100 members, including start-ups, digital nomads, and private-sector actors. Another significant facility, Oficina, was founded in 2015 to assist entrepreneurs and start-ups in building successful and sustainable businesses, enhancing the entrepreneurial ecosystem, and supporting policy-making in the country. As the country's first accelerator for digital start-ups, it offers several start-up programmes. Since its inception, Oficina has evaluated over 400 start-ups and accelerated 72. In 2021, Tirana Inc. was established as Albania's first multi-university incubator, supporting student-led entrepreneurship through training, mentoring, and networking within the local and regional ecosystems. Its goal is to become the premier destination for ambitious students to launch their companies. So far, 10 student teams have participated in the first cohort. While successful examples like these exist, some believe the ecosystem is not fully equipped to support innovation due to a lack of experienced mentors and entrepreneurs. Some stakeholders are overwhelmed by the number of start-up programmes. However, not enough of these initiatives provide a

[21] Statista, 2024. *Electricity Production in Albania by Source*. [online] Available at: https://www.statista.com/statistics/1382561/electricity-production-albania-by-source/

[22] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), 2024. *GIZ Worldwide: Albania*. [online] Available at: https://www.giz.de/en/worldwide/127873.html

[23] European Bank for Reconstruction and Development (EBRD), 2023. *100 km of Regional Roads in Albania to be Reconstructed This Year*. [online] Available at: https://www.ebrd.com/news/2023/100-km-of-regional-roads-in-albania-to-be-reconstructed-this-year.html

comprehensive suite of services. Furthermore, there is a noted competition among incubators and accelerators for donor funds and start-up ideas due to the limited pool. This competition often impacts the long-term strategic direction and sustainability of some programmes. Albania is undoubtedly making positive strides in developing its soft infrastructure. Soon, Durrës (Xhafzotaj area) is set to become the site for the new science and technology park, Durana Tech Park, initially covering an area of 140,400 m². It will be developed by the Albanian Investment Corporation. The feasibility study of this technology park was drafted with the support of Risi Albania project, supported by the Swiss Agency for Development and Cooperation (SDC) in collaboration with the Ministry of Finance and Economy (now Ministry of Finance and Ministry of Economy, Culture and Innovation). Durana Tech Park is a state-of-the-art development designed to advance innovation and ICT skills in Albania. Strategically located near major transport hubs like Tirana Rinas Airport and the Port of Durres, the park will provide a collaborative environment for technology companies, startups, universities, and research centres. It aims to foster innovation by offering resources such as incubators, funding, and flexible working spaces for digital nomads and tech firms. Through partnerships with educational institutions, Durana will play a key role in aligning academic training with industry needs, ensuring that the workforce is equipped with practical and research-oriented skills. This initiative will contribute significantly to Albania's innovation ecosystem, supporting the development of high-tech industries and creating qualified job opportunities.

The biggest challenge at present is the pipeline of innovative new ideas from the ecosystem. This may be attributed to its relatively young age and emerging entrepreneurial mindset. In 2024, the government is launching ten new digital innovation hubs nationwide to address some of these issues. These hubs aim to bolster the soft infrastructure for innovation and support the large-scale digital transformation of SMEs and the public sector, providing a much-needed boost to the innovation landscape.

§ 3 Infrastructure distribution across country

In Albania, hard and soft infrastructure are primarily concentrated in Tirana, with efforts to expand into other areas progressing slowly. This centralisation compels communities to migrate to Tirana to access high-quality services. Almost 50 per cent of the total population (approx. 1,400,000 people) lives in rural areas, of whom 15 per cent live below the national poverty line (Digital Impact Exchange, 2023[24]). Although internet connectivity has steadily increased in recent years, a disparity between urban and rural areas persists. Efforts are

[24] DIAL Global, 2024. *Sustainable Rural Development in Albania*. [online] Available at: https://exchange.dial.global/projects/sustainable-rural-development-in-albania

underway to improve coverage along the Albanian Riviera[25] and expand into the country's mountainous terrain. This is crucial because internet access is increasingly essential for accessing public services, particularly as most government services are now delivered online via eAlbania. Without a well-distributed internet infrastructure across the entire country, the digital divide is likely to grow, making it difficult for rural, marginalised, or remote areas to fully utilise e-government services. Despite ongoing efforts, the country has yet to establish a solid financing scheme to extend networks into areas without commercial interest from private operators.

When it comes to entrepreneurship and innovation, they remain limited outside the capital, although some initiatives aim to address this issue. For example, the Sustainable Rural Development (SRD) project collaborates with businesses and the government to enhance the competitiveness and incomes of rural areas. This initiative seeks to create a supportive policy environment, introduce agriculture and rural tourism innovations, and facilitate their replication across the market. However, the impact of this relatively new initiative is still to be seen. Overall, hard and soft infrastructure investment in rural areas should be increased to bridge the gap between rural and urban areas and boost the potential market and the capacity of ICT firms.

§ 4 Availability of equipment

Equipment and parts are readily available from European vendors, although cost considerations may pose a deterrent for smaller companies, startups, and SMEs. Stakeholders agree that smaller enterprises often find it challenging to justify the expense of digitalisation and ICT investment. Therefore, further education is necessary to highlight the commercial benefits of such investments. Several universities are actively investing in high-tech equipment, making it accessible to members of the ecosystem and entrepreneurial students alike. Additionally, providers of soft infrastructure play a crucial role in facilitating access to equipment for prototype testing. Despite these efforts, business uptake of available equipment remains relatively low. To address this issue, more concerted efforts are needed to increase awareness of these facilities and promote collaborative research and development (R&D) within the ecosystem. This includes fostering partnerships between businesses and universities to maximise the utilisation of available resources and drive innovation forward.

[25] Telecompaper, 2024. One Albania expands mobile and fixed network. [online] Available at: https://www.telecompaper.com/news/one-albania-expands-mobile-and-fixed-network-capacity--1509595

§ 5 Competitiveness

Stakeholders acknowledge Albania's potential to emerge as a frontrunner in ICT products and services within the Balkans region. Nevertheless, they observe that the current ecosystem lacks some essential components, hindering Albania from attaining full competitiveness. Although most smaller companies compete locally, a few have expanded their software development efforts beyond national borders. Albania has transformed into a major destination for ICT-BPO services, bolstered by its urban culture, resource availability, infrastructure, and attractive investment incentives. Tirana leads as the primary ICT-BPO hub, followed by Durrës, Shkodër, and Vlorë. The ICT-BPO sector in Albania has experienced steady growth since its inception, significantly increasing employment and achieving industry values exceeding $130 million (AIDA, 2023[26]). Although this sector benefits the economy, outsourcing companies focus on volume-driven services such as human resources, customer care, technical support, finance and accounting services, and website services rather than innovation. This approach may ultimately hinder innovation within the ecosystem. Some stakeholders also argue that restricted access to the European market is a limiting factor for Albanian companies. Despite Albania having no significant non-tariff trade barriers, administrative bureaucracy can impede the movement of goods and elevate costs. Furthermore, applying market prices to calculate customs dues and other taxes could pose problems, albeit infrequently. Having said that, Albania is dedicated to fostering a stable and predictable business climate by continuing to implement comprehensive reforms to meet EU accession requirements, which will facilitate open access to the EU market. In addition to market access challenges, local companies grapple with the availability of talent. In 2020, the Albanian Investment Development Agency introduced the "Made in Albania" campaign to enhance local competitiveness. This initiative aims to promote Albanian businesses in international markets and foster connections with foreign counterparts. The campaign has led to increased enquiries and regional recognition for participating companies. Additionally, the in-the-works S3 has identified priority sectors such as agriculture, manufacturing, energy, and tourism to enhance local competitiveness. Integrating ICT solutions within these sectors could offer Albania a competitive edge regionally. This strategic approach aims to improve productivity, efficiency, and innovation within these key areas to strengthen Albania's position in the global marketplace.

[26] Albanian Investment Development Agency (AIDA), 2024. *ICT and BPO Sectors in Albania*. [online] Available at: https://aida.gov.al/en/sectors/ict-and-bpo/

3.3 Talent and Champions

- *Opinions vary regarding the availability of soft skills within the ecosystem. While universities assure of improvements, industry experts feel there is a need for more integration of relevant soft skills, particularly critical and systems thinking.*
- *Technical skills seem to be stronger than soft skills in Albania, however, they may not be available in the desired quantity due to emigration of skilled talent and remote working for foreign companies.*
- *Universities can do more to inspire talent to move to innovation, but they also would require a lot more support from the overall ecosystem to encourage entrepreneurship, innovation, and research.*
- *Stakeholders recognise a variety of champions in the ecosystem across industry, finance, academia, and development agencies. But there is no one clear champion that is leading the ecosystem.*

§ 1 Soft skills

Differing opinions exist regarding the availability of soft skills within the ecosystem. Some stakeholders observe that most entrepreneurs excel in communication and collaboration. However, there is a consensus on the need to enhance critical thinking, creativity, and analytical skills to help identify and address issues that foster or support innovative solutions and service delivery. The education sector is frequently cited as a bottleneck by stakeholders, impeding the development of these soft skills, despite some recent improvements. Due to the rapid pace of technological and industrial change, educational curricula often struggle to keep up. Some university programmes focus on developing soft skills, offering specific modules and lectures, but the access and adoption of these among technical talent is still limited. Moreover, many universities participate in the Erasmus programme, providing students with opportunities for study, teaching, and training abroad, thus enhancing soft skills. Although universities assure stakeholders of ongoing improvements, industry experts believe there is a pressing need for greater integration of relevant soft skills matched with practical application. To address this gap, large corporations offer employees management and leadership training, yet the challenge of retaining talent persists, as high-quality professionals often emigrate for better opportunities abroad. In 2022, approximately 46,460 Albanians left the country, marking a 10.5% increase from 2021, with the majority, around

36,000, being young people (INSTAT, 2022[27]). This data also indicates a decline in youth completing their studies and entering the labour force. For instance, in the academic year 2021-2022, approximately 30,910 students graduated from higher education, marking a 5.4% decrease from the previous academic year. This brain drain negatively impacts ICT innovation and entrepreneurship, as company growth is hindered by intense competition for the best graduates. Nevertheless, stakeholders are actively trying to tackle these challenges. Skills for Jobs (S4J) is a collaborative initiative between the Swiss Agency for Development Cooperation (SDC) and Swisscontact, operating within the Economic Development and Employment Domain of the Swiss Cooperation and Strategy for Albania. This project aims to enhance employability within the workforce by providing high-quality vocational education and training. The overarching goal of S4J is to elevate Albania's economic competitiveness by equipping its youth with the skills needed to access lucrative employment opportunities. Through modern teaching methodologies and strategic collaboration with vocational education and training (VET) institutions, industries, and national authorities, S4J aims to ensure that the VET offerings remain aligned with the evolving needs of the labour market. Currently in its third phase, S4J 3, the project seeks to create training and employment opportunities for approximately 29,400 individuals, contributing to economic growth, social inclusion, and development. Another key player is the Protik Centre, which has implemented a training portfolio targeting students, businesses, and entrepreneurs, significantly enhancing technical and management skills. Similarly, TUMO, an educational centre for Albania's youth, promises further advancements. However, Albania cannot tackle the brain drain and youth migration alone. EU membership would help alleviate the problem by encouraging more investment while providing the region access to the EU single market to inject economic growth and opportunities for investment and social development. It may be useful to leverage digital nomads initiative with EU membership in the future to attract entrepreneurial talent to Albania, provided a supportive environment can be created.

§ 2 Technical skills

Technical skills such as coding, analytics, data science, and robotics are fairly advanced within the ecosystem. This proficiency is reflected in the offerings of private universities in the country, which have started introducing advanced technical degrees to cater to the rising demand from students. There is a clear enthusiasm among the youth to develop advanced and emerging technical skills. However, the ecosystem faces a significant challenge: a

[27] Institute of Statistics (INSTAT), 2024. *Migration and Migrant Integration*. [online] Available at: https://www.instat.gov.al/en/themes/demography-and-social-indicators/migration-and-migrant-integration/#tab2

shortage of technical personnel to meet industry needs. According to INSTAT, only 1,830 ICT graduates entered the labour market in 2021[28], revealing a stark gap between supply and demand. AIDA reports that over 35,000 people are employed in the BPO sector alone (AIDA, 2024[29]). Furthermore, while adopting remote working practices for foreign companies has enabled technical personnel to remain in Albania, it has not necessarily benefited the local ICT ecosystem. This situation, compounded by a small and diminishing talent pool and high emigration rates, poses severe challenges for startups and SMEs in securing skilled coders and programmers. This scarcity limits growth and innovation within companies despite their ability to offer technically high-quality solutions to clients. Larger firms can attract experienced data scientists and developers with competitive salaries, which often disadvantages smaller companies. Additionally, support networks have identified difficulties in recruiting workshop leaders for technical courses, complicating efforts to educate the future workforce. In response to these challenges, universities and other organisations are bridging this gap. A notable initiative is ProSEED 2.0, funded by the German Corporation for International Cooperation (GIZ) and EU4Innovation. This programme is crucial in enhancing vocational education and training (VET) by modernising qualifications and curricula to include digital and green elements across 10 VET courses. It also provides VET personnel with essential equipment and training. Through initiatives like ProSEED 2.0, approximately 5,000 individuals are acquiring green and digital skills through non-formal and formal qualification measures, contributing to the enhancement of the ecosystem. These efforts are important in addressing the current technical skill shortage, but all stakeholders need to work together, not just the education sector, to solve these issues.

§ 3 Skills moving to innovation

Most stakeholders think the education system as well as the current job market is currently inadequate in motivating young individuals to pursue careers in innovation or entrepreneurship within Albania. A significant shortfall is the absence of ICT training for teachers at both primary and secondary levels. This lack of training hampers the ability of students to effectively transition into tertiary education, ultimately leading to a deficiency in skilled talent for both the industry and the broader ICT market. Moreover, many young graduates choose to emigrate or work remotely for foreign companies. There is a clear opportunity for universities to encourage students to explore avenues of innovation more effectively. However, realising this potential requires substantial backing from the whole

[28] Institute of Statistics (INSTAT), 2021. *Press Release: Graduation Statistics 2020-2021*. [online] Available at: https://www.instat.gov.al/media/9982/press-release-statistika-te-diplomimeve-2020-21_eng.pdf

[29] Albanian Investment Development Agency (AIDA), 2024. *ICT and BPO Sectors in Albania*. [online] Available at: https://aida.gov.al/en/sectors/ict-and-bpo/

ecosystem. Support should come from comprehensive policies, programmes, initiatives, vocational training, and networks that nurture entrepreneurship, innovation, and research. Such collective endeavours are crucial for addressing talent retention issues and developing a stronger ICT ecosystem within the country. The Law on Higher Education recognises employability as a critical measure for evaluating educational performance. Since its implementation, there has been a notable increase in collaborations between higher education institutions and the business sector, with internships becoming more widespread. These partnerships are proving beneficial as larger companies, recognising the value of cultivating their talent pools, increasingly offer placements and internships. B4Students, a platform for students, runs an internship and employment programme; last year, students from all the universities in the country had the opportunity to grow professionally at the companies of BALFIN Group with the support of the Mane Foundation. Until now, more than 250 students have been part of this programme. In the recent call, about 100 students completed internships at Tirana Bank, ACREM, Mane TCI, Mane Development, Jumbo, Neptun Albania, Fashion Group Albania, SPAR Albania, Stella Mare, Milsped Albania, Balfin Real Estate & Hospitality, Scan TV, OnSolutions, and Elektro-Servis. Some areas included sales, marketing, human resources, finance, technology, logistics, engineering, and architecture. These opportunities aim to bridge the existing skills gap. Nonetheless, the allure of higher salaries from foreign companies remains a dominant preference among graduates upon completing their studies.

§ 4 Champions leading and being recognised

Stakeholders acknowledge a variety of champions across industry, finance, academia, and development agencies in the ecosystem. Leading the financial sector, Raiffeisen Bank has established an Innovation Department focused on exploring cutting-edge technologies, developing revolutionary ideas, and driving transformative change in banking. In 2024, Raiffeisen Bank launched its first Innovation School in Albania, training participants in "Design Thinking" and "Agile" methodologies and the latest innovations. Other notable private champions include Vodafone and Balfin Group. Banka Kombetare Tregtare (BKT), Albania's largest and oldest commercial bank, has also received several awards, including Most Innovative Bank, multiple times, including by EMEA Finance. Vodafone Albania recently organised an "Agro-culture and Artificial Intelligence" event, which brought together key figures from government, NGOs, and the business and agribusiness sectors. The annual Balfin Innovation Summit, an integral part of the BALFIN Group's initiative driven by its core value of innovation, showcases employee-driven projects culminating in a festival of novel ideas. The University of Tirana is also recognised as a leading academic institution in innovation and entrepreneurship. Appreciation was also expressed by the ecosystem for

the support from various donors, including GIZ, USAID, UNDP, and the Swiss Embassy. The annual ICT Awards, organised by the ALBICT Association and ICTSMedia, have celebrated success for the past 12 years. This event creates a platform for innovation, bringing together over 100 founders, young entrepreneurs, enthusiasts, and technology experts from Albanian-speaking regions annually. Since its inception, the competition has seen over 300 events, 2,500 competitors, and 200 finalists. However, stakeholders do not recognise a singular champion leading the ecosystem. Furthermore, despite the universities producing quality talent and the diaspora achieving some global successes, the ecosystem lacks homegrown startup champions or unicorns. This absence of successful entrepreneurial role models represents a significant gap that needs addressing.

3.4 Capital and Resources

- *Telcos and MNCs are reinvesting in innovation but other companies are slow to perceive the benefits of innovation or allocate necessary budgets towards it.*
- *While some startup funds are available, many entrepreneurs rely on bootstrapping. SMEs can access bank funding, although it is not always easy.*
- *Government funds for startups show a commitment to fostering entrepreneurship, but there is a need for larger, more diverse funding options to fully realise the ecosystem's potential. Expanding these funds can nurture startups and attract investment, while reviewing international funders' contributions is essential for ensuring the sustainability of initiatives post-grant.*
- *There has been more FDI visibility in energy, tourism, and real estate sectors, with limited success in ICT, aside from talent utilisation for BPO services.*
- *Most R&D funding is directed toward basic research; and a lack of coordination and collaboration between industry and academia affects the relevance and quality of research and potential commercialisation.*
- *The ecosystem support networks are growing but it requires more mentors, industry coaches, and university professors with hands-on experience in innovation and entrepreneurship to guide startups in their entrepreneurial journey, beyond the early stages.*

§ 1 Availability of investment for the private sector

Albania's private sector is experiencing investments across various sectors, predominantly focusing on green technologies, energy efficiency, and business expansion. These investments stem from multiple sources, including international financial institutions and local banks, highlighting an interest in creating a more competitive and sustainable economic environment. Telecommunications companies and multinational corporations are increasingly redirecting funds towards innovation. Many of these entities have established dedicated innovation departments and earmarked some internal funds for research. Despite these efforts, private companies do not benefit from cost-based tax incentives for training and research. Although initiatives have been aimed at enhancing public-private collaboration in this field, the relatively low investment in innovation remains a barrier to the much-needed boost in productivity. A fundamental issue for the private sector remains a perceptual gap; numerous companies fail to recognise the tangible benefits of innovation, which diminishes their inclination to invest in new technologies. Additionally, budget constraints, especially among SMEs, restrict adequate funding allocation towards R&D, thus impeding potential progress in this domain. Government bodies, including the Ministry of Finance, AIDA, the Ministry of State for Entrepreneurship and Business Climate and the newly established agency Startup Albania, periodically provide funds to support the ICT sector. However, investment in R&D within the country remains minimal, and current R&D expenditures have little impact on developing and commercialising new products, services, and business processes. This scenario underscores the critical need for enhanced investment strategies and incentives to foster a more robust innovation ecosystem.

§ 2 Availability of investment at all stages of the innovation journey for digital startups and SMEs

Investments are increasingly being channelled into startups across Albania through various initiatives, highlighting a dynamic shift towards innovation. The EU-funded Challenge Fund, along with contributions from international donors, is a competitive financing facility that plays a pivotal role at every stage of a company's development—from the idea phase to validation, growth, and scaling up. The Fund's vision is to energise the innovation ecosystem by supporting promising companies to navigate the 'valley of death'—the critical phase where many startups falter—allowing them to scale up their innovative ventures. It leverages Albania's expertise to foster improvement and add value through new ideas, methods, or products. Additionally, the newly established state agency, Startup Albania, is dedicated to nurturing the startup ecosystem's growth and development. This agency will be crucial in promoting collaborations across government bodies, business sectors, academia, and investors, striving to create a supportive regulatory environment for start-ups. Startup Albania also provides funding to startups and is currently evaluating over 500 applications for its grant call. The programme is expected to support 50-80 projects, with a total fund of

EUR 3 million. While seed funding is available for ideas at the initial stage, the ecosystem still lacks substantial angel investment and venture capital. Efforts to establish angel networks have been made, but only a few angel investors are currently active, leading most startups to rely on bootstrapping. SMEs can access bank funding, though securing these funds is not straightforward; only well-established SMEs can obtain low-interest loans for projects, business expansions, or technological enhancements. SMEs can access some external financial support, which is crucial for technological enhancements. A prime example of this support is the aid from the European Bank for Reconstruction and Development (EBRD), which, in partnership with the EU, provides substantial funding and grants. One notable initiative is the EBRD's provision of a EUR 3 million loan to ProCredit Bank in Albania, further supported by EUR 450,000 in EU incentive grants. These funds are specifically aimed at bolstering local enterprises and enhancing their competitiveness, and a considerable portion is dedicated to investments in green technology and energy efficiency. Notably, no startups have yet entered the stock market or gone public. Several challenges hinder local and international investments in startups, including a complex regulatory environment, high investment risks, underdeveloped infrastructure, and skill gaps. The small domestic market also poses limitations for startups aiming for rapid scaling, potentially deterring large-scale international investors. These factors collectively mean that the current levels of funding and investment, though improving, are still insufficient to support the growth and development of the startup ecosystem fully.

§ 3 Government funding

The government has outlined a strategic plan to implement 22 ICT projects financed by the State Budget over 2022-2024, with total technology investments projected at around ALL 9.95 billion (Open Data Albania, 2022). The primary goals of these initiatives are to enhance hardware and software infrastructure, develop ICT systems, and optimise security frameworks, representing a significant advancement for the ICT ecosystem and laying down the foundational structure necessary for future growth. However, the tangible impacts of these projects might take time to become evident. Beyond these specific projects, the government is committed to fostering innovation by allocating funds to support startups and further develop the ICT ecosystem, reflecting Albania's dedication to nurturing entrepreneurship. At a recent meeting with startup representatives, the incumbent State Minister for Entrepreneurship and Business Climate announced a startup support programme for 2024, structured into three phases. The initial phase, "Pioneers," is open to any young individual, student, or digital nomad with an innovative idea who requires funding to realise it, allowing applicants to receive up to ALL 1.5 million without needing to be registered as a business. The second phase targets registered companies in Albania's commercial registry that demonstrate a working prototype, existing customer base, and

ongoing economic activity, with funding of up to ALL 4.5 million available. The final phase focuses on more established enterprises, requiring them to have a functional product or service and proven economic activity, with funding reaching up to ALL 9 million. Despite these efforts, the funding amounts provided remain relatively modest. To truly unlock the potential of the ecosystem and nurture entrepreneurship, there is a need for larger and more diverse funding options across all stages of development. Expanding these funds would help attract and retain top-tier talent, accelerate growth, and create success stories that inspire further innovation and investment. Stakeholders recognise that while international funders have played a significant role, their contributions must be reviewed to ensure the sustainability of initiatives after grant periods expire. More investment in the ICT ecosystem is essential for empowering existing projects and fostering an environment conducive to entrepreneurship and innovation.

§ 4 International funding

Stakeholders acknowledge the significant role that international funders play in supporting Albania's development. Among these, external development banks like EBRD and the World Bank are key contributors. The World Bank is involved in seven projects in Albania, with a combined loan value of USD 490 million (World Bank, 2024[30]). Although not all these projects are directly linked to the ICT sector, the Resilience and Green Development programmes are noteworthy. With a budget of USD 80 million, these programmes aim to enhance the resilience of government sectors and households, develop the energy market framework, expand renewable energy and energy efficiency, safeguard the environment, and reduce Albania's carbon footprint, indirectly benefiting the ICT sector. The European Union significantly boosts the local ecosystem through the EU4 Innovation project, one of the largest innovation projects in the country, with a budget of 11.75 million euros. This initiative, supported by GIZ Germany and SIDA, fosters start-up creation by providing funding, entrepreneurial mentoring, and international exposure to local founders. Another important international funder is the Albanian-American Enterprise Fund (AAEF), established under the Support for Eastern Europe's Democracy Act of 1989 (SEED Act). Since its incorporation in 1995, the AAEF, with an initial grant of USD 30 million from USAID, has considerably expanded its influence. The Fund has invested USD 109 million in 77 investments across 40 companies, creating over 7,000 jobs and contributing more than USD 2 billion to Albania's GDP. Since Albania joined in 1993, the Islamic Development Bank (IsDB) has also played a vital role. It predominantly funds projects in the transportation sector, followed by agriculture, water, sanitation, and urban services. IsDB's efforts have resulted in substantial job creation through infrastructure projects and microfinance initiatives. However, utilising

[30] World Bank, 2024. *Albania Overview*. [online] Available at: https://www.worldbank.org/en/country/albania/overview#2

these grant-based funds, primarily available to organisations and the government, requires periodic review to ensure the sustainability of initiatives beyond the grant period. This strategic approach aims to foster a long-term positive impact on Albania's developmental landscape.

§ 5 Foreign direct investment

Foreign direct investment (FDI) in Albania's ICT sector has seen contributions from various countries, including Switzerland, the Netherlands, Canada, Italy, Turkey, Austria, Bulgaria, and France. These investments are part of a broader spectrum of FDI, which focuses on industries like energy, banking, and real estate (US Department of State, 2023[31]). Bank of Albania data for 2022 shows a flow value of €1372 million, marking a record figure in the flow of foreign direct investments in the country (AIDA, 2024[32]). The country has implemented several strategies to attract more FDI into the ICT and digital sectors. These include enhancing its legal and regulatory frameworks to protect and encourage foreign investments. The country allows 100% foreign ownership in most sectors, and the Law on Strategic Investments aims to attract domestic and foreign investments. In addition, businesses benefit from tax incentives, with just a five-percent tax on software production. Moreover, Albania's focus on digital transformation as a key driver for the economy has led to specific initiatives designed to enhance the digital capabilities of businesses and attract FDI (Risi Albania, 2021[33]). FDI is a catalyst for digital economy development. With competition increasing as countries announce various FDI-attractive policies, policymakers must think strategically, not tactically. The government prioritises energy, tourism, and ICT as areas for FDI. However, while there has been more visibility and success in energy, tourism, and real estate, ICT hasn't seen as much success as desired besides talent utilisation for BPO services. Some of the major players in the BPO sector include Teleperformance Albania, Epoka Group, EasyPay Albania and FirstSource Albania. Some stakeholders see FDI as a threat due to increased competition in both output markets and markets for skilled labour, but others view it as an opportunity to compete better and grow. Another initiative launched to encourage investment is the Digital Nomad Visa to attract remote workers. It is a strategic tool for stimulating economic growth, enhancing the digital infrastructure, and fostering an innovative business environment that can grow the digital economy. Still a

[31] United States Department of State, 2023. *2023 Investment Climate Statements: Albania*. [online] Available at: https://www.state.gov/reports/2023-investment-climate-statements/albania/

[32] Albanian Investment Development Agency (AIDA), 2024. *Foreign Direct Investment (FDI) in Albania*. [online] Available at: https://aida.gov.al/en/investment-in-albania/fdi/

[33] Risi Albania, 2024. *Digital Economy in Albania: Where Do We Stand and What Can the Private Sector Do to Accelerate It?*. [online] Available at: https://www.risialbania.al/digital-economy-in-albania-where-do-we-stand-and-what-can-the-private-sector-do-to-accelerate-it/?lang=en

relatively new scheme, the benefits are yet to be quantified. The Durana Tech Park is another initiative to attract Foreign Direct Investment (FDI) and international ICT companies by offering a highly competitive incentive package. This includes benefits such as a 15-year exemption from profit tax, tax-free salaries for personnel for ten years, and VAT exemptions on goods and services used within the park. Additionally, the park provides customs relief and infrastructure tax exemptions, making it an attractive destination for global tech companies seeking to invest in Albania. These incentives, combined with the park's proximity to key transportation hubs and access to a highly skilled labour market, position Durana as a key player in Albania's drive to become a regional innovation hub. To further support FDI, Albania should actively direct investments into targeted digital services with a focused approach. Investment policies, incentives, and the investor pitch must resonate with the country's unique strengths – human capital, business ecosystem, or technological capabilities.

§ 6 Availability for investment in research

In 2023, Albania modestly increased its funding for scientific research to 0.08% of its GDP, marking a gradual rise from 0.05% in 2022 to 0.04% in 2021. Despite these increases, the country remains significantly below its ambitious target of 1% GDP by 2030. When considering research funding as a percentage of public expenditure, the figure stood at 0.17% of GDP in 2022 (European Commission, 2023[34]). Although Albania now enjoys better access to EU research funds thanks to its association with Horizon Europe, which commenced in 2022, domestic funding for research and development is still minimal. However, in January 2024, the Ministry of Education and Sport allocated approximately EUR 200,000 for organisations collaborating on international R&D projects in the EUREKA Western Balkans call, and NASRI promoted the participation of Albanian businesses in the programme. NASRI also launched a call for participation in a "matchmaking workshop between business and academia", which was organised in the framework of the IPA's twinning project "Strengthening the Science and Research Ecosystem in Albania". NASRI selected ten businesses to receive exposure to cutting-edge technologies from academia and help to innovate their processes and products and become more sustainable while accessing opportunities to join R&D&I funding consortia. The national strategy on technology and innovation for 2023-2030 aims for a substantial increase in public funding for research and development to 1% of GDP. Additionally, comprehensive data on actual research funding are currently lacking. Funding is distributed across various sectors, including business enterprise, government, higher education, and private non-profit sectors, covering basic,

[34] European Commission, 2023. *Staff Working Document: Albania 2023 Report*. [online] Available at: https://neighbourhood-enlargement.ec.europa.eu/system/files/2023-11/SWD_2023_690%20Albania%20report.pdf

applied, and experimental research. The country has implemented policies such as the Law on Higher Education to stimulate research and innovation within universities. However, there seems to be a lack of detailed policies specifically aimed at enabling the distribution of R&D funding or covering the commercialisation of ideas and technology transfer. This indicates a potential area for policy development to ensure more effective use of R&D funds and to foster innovation (World Bank, 2023[35]). Furthermore, the current general R&D funding mainly supports the development and implementation of research projects, with no explicit coverage for commercialising research outputs and technology transfer. This highlights a gap where specific funding mechanisms and policies must be introduced or strengthened. Such measures would support the entire innovation process, from initial research to developing market-ready products and technologies, enhancing the digital innovation ecosystem.

§ 7 Resources to build ecosystem supports

In Albania, incubators and accelerators predominantly receive funding from international donors and private companies, offering essential support to startups and SMEs through various programmes. For instance, Ofiçina conducts yearly incubation and acceleration programmes in collaboration with international support organisations and the private sector. Their notable Proof-of-Concept programme, aimed at the Western Balkans, benefits from funding under a multi-country IPA initiative, allowing for collaborations with researchers and enterprises. Elevator Lab, a prominent fintech partnership programme led by Raiffeisen Bank International is designed to foster innovative fintech solutions and shape the future of banking. In academia, universities are increasingly participating in these entrepreneurial initiatives. Tirana Inc. was established through a collaboration among Albanian universities, Preneurz. Amsterdam and the EU for Innovation was created to make Albania a prime destination for aspiring entrepreneurs from across Europe. Metropolitan Incubator, the first on-campus incubator in Albania's university district, aims to drive business development and regional economic growth. METINC provides mentoring, technical support, academic advice, and co-working spaces, alongside access to various funding programmes. This incubator has supported over 20 start-ups, with 12 currently engaged in its mentoring programs. However, most programmes predominantly focus on early-stage incubation rather than acceleration, highlighting a gap in targeted support for more developed enterprises. Though some newer efforts are trying to bridge this gap, the impact is yet to be ascertained. The dependency on external funding poses challenges for the long-term sustainability of these programmes, and there is a recognised need for better coordination

[35] World Bank, 2024. *Research and Development Expenditure (% of GDP) in Albania*. [online] Available at: https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?view=chart

among the various support networks to ensure that startups receive comprehensive support throughout their development stages. The EBRD's Star Venture programme targets promising startups and accelerators, providing tools to enhance business performance and benefit the broader entrepreneurial ecosystem. This programme includes mentoring for accelerators, training for local investors, crowdfunding opportunities, and policy advisory services to foster a supportive start-up environment. Albania joined the EU Digital Program in 2023 as an associated country. In the framework of the EU Digital Program, the first call for European Digital Innovation Hubs for associated countries was launched in December 2023. Currently, two Albanian consortiums are in the process of grant agreement with the EU. These are positive steps for the ecosystem as there still remains a need for more mentors, coaches, and university professors with practical experience in innovation and entrepreneurship to provide holistic support services and guide potential entrepreneurs on their journeys to success. These efforts are crucial for nurturing the entrepreneurial ecosystem and enhancing its capacity for innovation.

3.5 Market and Networks

- *There are well-recognised and prominent national, regional, and global associations, pushing for innovation, but some are primarily known for providing networking opportunities rather than contributing to constructive action-oriented roadmaps.*
- *Efforts have been made to map the digital innovation ecosystem; however, a holistic and comprehensive ecosystem mapping is missing.*
- *The e-Albania System has bolstered the public procurement system, but it could still benefit from increased transparency and accountability.*
- *Although trade flows are supported by the government, there has not been significant success in exporting ICT products and services besides BPO services.*

§ 1 Formal associations

There are well-recognised and prominent national, regional, and global associations that support the ICT ecosystem. Among these, the Albanian ICT Association, established in 2007, stands out as an initiative of local enterprises to address the IT sector's needs. It strives to be the primary voice and representative of the IT sector in government interactions. Additionally, the Albanian E-Commerce Association (AECA), founded in 2022 as a private

initiative, aims to enhance the capacities of companies and expand their online competitive presence, thereby supporting economic growth. As a relatively new association, it is perceived as active and energetic by stakeholders. The Chamber of Commerce and Industry in Tirana is another significant player, managing over 25 projects in collaboration with partners from EU countries, IPA, and cross-border programmes. These projects focus on entrepreneurship support, competitiveness, capacity building, monitoring, and the assimilation of best practices. The American Chamber of Commerce in Albania is a private, not-for-profit organisation that promotes business development. It works to create a more favourable business environment and aims to be the foremost representative for U.S. and international businesses in Albania. The International Chamber of Commerce seeks to promote international trade and investment to foster inclusive growth and prosperity. Another significant player is the Women's Economic Chamber of Albania, which advocates for the rights and interests of women entrepreneurs, professionals, and self-employed individuals across diverse economic sectors. Beyond advocacy, the Chamber is actively involved in implementing practical measures to support its members. This includes promoting the use of digital public services to enhance efficiency, providing capacity-building initiatives to strengthen skills, and advocating for legislative reforms that create a more conducive environment for women in business. Their multifaceted approach aims to foster an inclusive and supportive ecosystem for women in the business community, ultimately contributing to broader economic development goals. The Albanian Manufacturers Union, representing over 50 active members and more than 500 associates across four main market macro-sectors, focuses on enhancing the competitiveness of "Made in Albania" products nationally and internationally, adhering to the principles of sustainable development. These organisations significantly impact the ICT innovation ecosystem through advocacy, awareness-raising, capacity building, and participation in government reform processes. Their efforts are crucial for fostering a civil society-friendly environment that stimulates democratic and innovative processes within the ICT sector. Informally, there are few associations known to stakeholders. Some actors mentioned small niche communities are being formed but have yet to have a significant impact. Although formal associations strive to represent private sector views, some face funding and long-term sustainability challenges. Moreover, among the actors in the ecosystem, some formal networks are primarily known for providing networking opportunities rather than contributing to actionable, constructive roadmaps.

§ 2 Ecosystem mapping and collaborations

Generally, stakeholders in the digital innovation ecosystem are familiar with each other, though they often lack a detailed understanding of each other’s roles and activities. As part of the S3 initiative, a mapping process commenced with the quantitative analysis in late 2020

and concluded in 2021 by a group of independent experts that analysed Albania's capacities, resources, and competitive advantages. The development of this strategy has facilitated effective collaboration among stakeholders from government, business, academia, and civil society, enabling them to explore and identify priority sectors for innovation in the country. The Albania Tech online platform provides a comprehensive overview of ecosystem actors, listing key communities and innovation hubs. To map it out and empower startup creation, Albania Tech, through the support of the EU for Innovation programme implemented by GIZ in Albania, created an online startup ecosystem database. It also offers information about various events and initiatives that unite different stakeholders within the ecosystem. The structured strategies and platforms for mapping and engagement have enhanced collaboration within the ecosystem. As demonstrated in the Entrepreneurial Discovery Process and S3 initiatives, the alignment of stakeholders around common goals promotes a more integrated and strategic approach to innovation. Additionally, the Ministry of State for Entrepreneurship and Business Climate has mapped the ecosystem. However, many stakeholders are unaware of this map, resulting in limited collaboration, particularly between academia and industry. This underscores the need for improved communication and transparency to enhance collaborative efforts across all sectors of the innovation ecosystem.

§ 3 Domestic markets: Public Procurement and domestic ICT markets

The ICT sector offers numerous opportunities across various markets, fostering local development and enabling regional and global trade. The finance sector is highly digitised, with substantial investments being made by banks in digital transformation. This sector is recognised as a leader in adopting digital solutions, which opens further opportunities for innovation and service enhancement. Similarly, the BPO sector engages in digital transformation, indicating a market for ICT services to enhance operational efficiencies. In the tourism and hospitality sector, there is ongoing investment in digital initiatives to improve customer experiences and operational efficiencies. The agribusiness sector also displays significant growth potential by adopting ICT to enhance accounting, communication, and marketing processes. As the country's integration with global and European markets strengthens, the ICT sector, including telecommunications, is emerging as a vital area for exports and investment. This can leverage the country’s strategic location and its existing trade relationships. There is a gradual shift in the local consumer market towards digital services, notably marked by the introduction of the e-Albania platform. Stakeholders report local demand and appetite for digital services. However, the market is relatively small and faces challenges like skill gaps in digital usage. In addition, the market remains untapped by entrepreneurs, who could potentially use it as a testbed, although this opportunity has not been fully exploited. This may indicate insufficient market research by entrepreneurs to address local challenges and a perceived reluctance among customers to

adopt local products and services. While the country presents a growing market for ICT innovations, further development is needed to support innovators adequately. This includes enhancing the technical skills of the workforce, providing more substantial support for startups, and improving strategic digital transformation planning across various sectors. Public procurement, governed by the Law on Public Procurement, could present opportunities for local firms. According to the EU Commission, Albania has made some progress in public procurement by increasingly adopting the most economically advantageous tender award criteria. However, transparency is still a concern according to local stakeholders and more support is necessary for smaller companies to participate in tender processes to be able to compete with the larger firms. There is a belief that large established companies tend to win most tenders. Improving access to public procurement opportunities for startups and SMEs could significantly enhance the local ICT innovation ecosystem. The ICT sector's strategic development is crucial for economic growth and ensuring that the country competes globally. This involves tapping into underutilised sectors and enhancing the capacity of existing industries through digital transformation.

§ 4 Trade Flows

Although Albania's imports of ICT goods have fluctuated substantially in recent years, they increased to 4.2 per cent of total trade in 2023 ([36]GII, 2023). Despite local companies being able to import the essential IT and tech components necessary for creating IT products, the low investment could hinder innovation and product development, particularly in sectors such as telecommunications, software development, and digital services. Importing more ICT products and services could significantly benefit the country, especially in areas with limited local capabilities. Such imports, including advanced software, hardware components, and specialised IT services, support ICT product creation and enable local companies to integrate cutting-edge technologies into their offerings. The country faces challenges related to foreign exchange rates, which can affect the cost-effectiveness of imports and exports. Additionally, payment standards vary, and aligning with international payment gateways can pose challenges. Adhering to international standards like ISO for quality and security is also a hurdle, particularly for smaller companies, impacting their ability to compete globally. Albania's integration into international trade frameworks has been extensive. It joined the WTO in 2000, applying WTO rules on import licensing. In 2006, Albania signed the Stabilization and Association Agreement (SAA) with the EU, ratified in 2009, liberalising trade relations regarding tariff barriers for agricultural and industrial goods. Albania is a member of the Central European Free Trade Agreement (CEFTA) and has also signed free

[36] World Intellectual Property Organization (WIPO), 2023. *World Intellectual Property Indicators 2023*. [online] Available at: https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2023/al.pdf

trade agreements (FTAs) with Turkey and the European Free Trade Association (EFTA). These agreements enhance the export possibilities for Albanian ICT products and services, particularly to regional markets in the Balkans and broader European regions. Albania is also working hard on EU accession, which will eliminate any trade barriers with the EU. Key exportable areas are mainly software development, data processing services, and digital solutions tailored to specific industries like tourism and agriculture. AIDA supports local enterprises by promoting their presence in international markets, creating connections and cooperation opportunities with foreign businesses and organising conferences and fairs. Despite these efforts, significant success in exporting ICT products and services has been limited, apart from BPO services. This can be attributed to the country's limited manufacturing of ICT products and services. Overall, the import of ICT products and technologies plays a significant role in enhancing the local ICT infrastructure and capabilities, thereby stimulating the overall digital ecosystem. This provides local businesses with the tools needed to innovate and improve their domestic and international competitiveness. The country needs to invest more in this area to accelerate ecosystem growth.

3.6 Culture and Communities

- *Numerous events, training opportunities, and engagements occur within the ecosystem throughout the year. However, stakeholders believe some efforts often seem disjointed, lacking follow-up or long-term sustainable support and measurable impact to truly make a difference.*
- *Entrepreneurial interest has surged recently, especially among younger demographics seeking independence and self-employment. However, this interest dwindles with age, as most aspiring entrepreneurs lack the support services and relevant skills to create, grow, and sustain a business.*
- *There exists a mixed attitude toward risk and entrepreneurship, with some individuals showing greater entrepreneurial spirit than others. There has also been increasing acceptance of failure in recent years, motivating many entrepreneurs to persevere and try again.*
- *Gender diversity appears equitable within the ecosystem. However, there may be limited representation of other marginalised communities. Rural representation is beginning to increase, driven by ongoing developments in digital infrastructure within these areas.*

§ 1 Communities and Events

The tech and entrepreneurship communities have been growing, characterised by several initiatives and projects that foster innovation and business development. For instance, the Protik Innovation Centre and Oficina support startup communities through training and networking. Oficina has played a significant role in developing the digital ecosystem, with thousands of hours invested in hundreds of entrepreneurial activities. Since 2016, they have evaluated more than 400 startups and accelerated 72. Additionally, the ecosystem runs events and engagements throughout the year. Startup Grind has been active in Tirana since 2014, hosting monthly startup events to teach, inspire, and connect entrepreneurs. The Albania Tech platform is a dynamic force in promoting ecosystem events. Furthermore, Expocity Albania, an international exhibition and conference organisation, hosts various trade fairs, exhibitions, B2B, and special events in both local and international markets, showcasing the potential of the tech ecosystem. Innovation FEST is another platform that fosters connections, exchanges knowledge, and encourages collaboration to achieve innovation. The Albanian ICT Awards is the largest nationwide event on technology and innovation, which brings together the tech community with business angels, donors, and entrepreneurs. This plays a vital role in sharing success and inspiring future leaders. Moreover, awards give companies visibility, which can be crucial for attracting funding and customers. These events are helping to foster startup growth through access to resources and mentorship, enhancing skills and knowledge in the ICT sector, and facilitating partnerships between local startups and international companies, helping local businesses expand their reach. However, stakeholders believe other efforts often seem disjointed, lacking follow-up and measurable impact. Events could be better connected so that there is a common thread and action plan. Stakeholders agree that events where all stakeholders meet to discuss the needs and challenges of the ecosystem are not frequent enough and sometimes difficult to obtain information. Additionally, and inevitably, the same faces often end up at different events. Better coordination could avoid duplication of efforts and give innovators the comprehensive and sustained support they need to thrive.

§ 2 Spread of entrepreneurial culture

In Albania, interest in entrepreneurship, particularly among the youth, is on the rise, driven by global trends and local developments. Also, some talented individuals are considering returning home to launch businesses after completing their education abroad. This interest is evidenced by the increasing number of startup events, hackathons, and business incubators nationwide, which attract young participants eager to explore and develop new business ideas. Support from the government and the private sector, including funding

opportunities, mentorship programmes, and networking events, is crucial in encouraging young people to consider entrepreneurship a viable career path. Additionally, some universities and private organisations offer educational programmes focusing on entrepreneurship and equip young people with the skills and knowledge required to launch their ventures. The Internet has facilitated young entrepreneurs' access to global markets and trends, broadening their opportunities and deepening their understanding of potential business ventures. This connectivity fosters a growing desire among young people to become independent and forge their paths in the business world. However, stakeholders believe a notable proportion of entrepreneurial minds still lack the relevant skills to create, grow, and sustain a business. In addition, traditional beliefs about employment continue to pose challenges. Many citizens still regard traditional employment as offering more stability and security than entrepreneurial ventures, a particularly prevalent view among older generations. Moreover, high startup costs and limited access to capital can be significant barriers, discouraging young entrepreneurs from pursuing their business ideas. The ecosystem needs inspirational role models and success stories to enhance entrepreneurial interest and foster an entrepreneurial mindset. It also needs the conversations around entrepreneurship to start as young as in primary school. Such examples could help shift cultural perceptions and inspire more individuals to embrace the risks and rewards of entrepreneurship.

§ 3 Attitudes towards risk and entrepreneurship

Attitudes towards risk and entrepreneurship vary, with a discernible entrepreneurial spirit growing among some individuals, especially in the last few years. Many startups supported by incubators receive the necessary training to conduct market research. This research is crucial for understanding the risks and shaping their business strategies. However, stakeholders are concerned that many startups lack a fundamental understanding of business models before entering the market, which can lead to failure. There is a prevailing culture of risk aversion, with many preferring the security of steady employment over the uncertainties associated with entrepreneurship. Nonetheless, stakeholders confirm there has been a growing acceptance of business failure in recent years, which has motivated many entrepreneurs to persevere and try again. If an entrepreneurial venture fails initially, some entrepreneurs opt to pivot their business model or tweak their product based on feedback and lessons learned from the market. Others may return to traditional employment to rebuild their finances or gain more experience before venturing out again. However, with increasing exposure to global business practices, there is a gradual cultural shift toward viewing entrepreneurship and associated risks more favourably. Government support for entrepreneurs also makes an impact, giving startups more confidence to launch their ideas.

This support is helping to cultivate a more robust entrepreneurial ecosystem and encouraging a more positive outlook on risk-taking.

§ 4 Diversity and equality

Gender diversity appears reasonably equitable within the ecosystem. Albania ranks an impressive 23rd out of 146 countries in the Global Gender Gap Index 2024 rankings ([37]World Economic Forum, 2024). The[38]). A significant development in the entrepreneurial landscape is women's growing presence and influence. They have capitalised on the opportunities arising from these transformations, substantially contributing[39]). These are positive steps, yet stakeholders are keen to see even greater female representation within the ecosystem. There is an increasing number of women leading ICT startups and SMEs. In fact, data shows that women entrepreneurs ran about 31 per cent or 36,917 of total of 118,627 companies of all sizes across Albania as at the end of 2021[40]. However, other marginalised communities are less represented. For example, citizens from rural areas face barriers such as lower access to technology, fewer educational opportunities, and limited connectivity, which hinder their ability to lead ICT startups and SMEs. Efforts to decentralise innovation through digital infrastructure, such as technology hubs or incubators in rural areas, are still evolving. Furthermore, people with disabilities often find themselves underrepresented in the ecosystem, facing challenges such as physical accessibility and a lack of tailored educational resources. Older individuals frequently encounter difficulties entering the startup ecosystem, primarily due to the fast-paced nature of technology and a preference for younger, more digitally native entrepreneurs. Marginalised youths from lower socioeconomic backgrounds also struggle with limited access to the educational resources and networks necessary to launch startups. Various programmes are being implemented to address these challenges to enhance inclusivity in entrepreneurship. Initiatives to support women in technology and entrepreneurship are growing, including activities by the Women's Chamber of Commerce, which offers networking events, mentorship programmes, and dedicated funding opportunities to encourage more female-led enterprises. Additionally, under the National Plan for Sustainable Development of Digital Infrastructure, Broadband 2020-2025, the government aims for 100% of households in rural and remote areas to have

[37] World Economic Forum, 2024. *Global Gender Gap Report 2024*. [online] Available at: https://www3.weforum.org/docs/WEF_GGGR_2024.pdf

[38] World Bank, 2020. *Toward Gender Equality in Albania: Shifting Mindsets Through Institutional Reform*. [online] Available at: https://www.worldbank.org/en/results/2020/06/19/toward-gender-equality-in-albania-shifting-mindsets-through-institutional-reform

[39] Sheatwork, 2024. *Albanian Women Entrepreneurs: Pioneers of Economic Transformation*. [online] Available at: https://sheatwork.com/albanian-women-entrepreneurs-pioneers-of-economic-transformation/

[40] Regional Cooperation Council (RCC), 2022. *Albania: Country Report December 2022*. [online] Available at: https://www.rcc.int/download/docs/Albania%2520FINAL_DEC2022.pdf/c2e839cd543dbfc21d822a10588e59ae.pdf

broadband access with at least 100 Mbps by the end of 2025. The Albanian Disability Rights Foundation & National Agency for Employment and Skills (NAES), in collaboration with the Municipality of Tirana, is implementing the project "Advance Social and Labour Inclusion of Persons with Disabilities" from 2022-2024, with financial support from the European Union in Albania. The project aims to strengthen national, regional, and municipal capacity to effectively support access for citizens with disabilities to inclusive social and labour programmes and services. While Albania is progressing towards inclusivity in the entrepreneurial and ICT sectors, challenges remain. Continued efforts through targeted programmes and policies are essential to ensure that all population segments can participate in and benefit from the growing digital economy.

3.7 Policy and Regulation

- *The public sector acknowledges its role and is engaged in innovation, but the ecosystem could benefit from an accelerated pace of execution and coordination and sharing of outcomes.*
- *There has been increasing engagement of the public sector with stakeholders in the ecosystem, who have had positive feedback about the engagement and outcome. However, some still believe more could be done to engage academia and support public-private partnerships.*
- *There is an IP policy that aligns with EU standards and appears to be fair awareness about it. However, the number of IP and patent registrations remains relatively low.*
- *Albania's R&D budget remains low, but progress is being made in accessing EU programs to support research and innovation. The newly launched R&D strategy aims to enhance applied research and technology transfer, and although it is still in early implementation stages, increased participation in EU initiatives like Horizon Europe is anticipated to yield positive outcomes soon.*
- *The government has significantly invested in improving educational facilities, increasing teacher salaries, and revising the curriculum. However, stakeholders indicate that there is still room for improvement in modern curricula to meet industry needs and in training educators to teach 21st-century skills.*
- *There are tax benefits for ICT companies, but more incentives are needed to foster entrepreneurship and investments.*

- *The Business Development and Investment Strategy (2021-2027), offers supportive frameworks to SMEs. However, only a small percentage of SMEs are involved in offering ICT-related products and services, presenting an area of opportunity for the country.*
- *Policies and strategies supporting industrial development are in place. However, further efforts are needed to encourage the adoption of ICT across traditional economic sectors to enhance operations and service delivery.*
- *While several trade agreements benefit the country at the regional and global levels, no dedicated agreement supports the trade of ICT products or services.*

§ 1 Public sector engagement with innovation

The public sector acknowledges its role and is actively engaged in innovation. Many stakeholders view it as the country's digitalisation leader, as most public services are now available via the e-Albania platform. This demonstrates their intent and drive to accelerate the development of the digital economy. The public sector recently established two new agencies to support the ecosystem. Firstly, the Agency for Innovation and Excellence aims to contribute, encourage, and promote innovation by engaging local and international experts. It supports the implementation of advanced technologies through the design and execution of policies in cooperation with the relevant ministries and sectors. This agency develops and implements new, innovative, and advanced ideas to improve efficiency, effectiveness, and quality within specific sectors. Secondly, Startup Albania was established to foster the growth and development of the startup ecosystem. The agency plays a key role in promoting collaborations among stakeholders from government, business sectors, academia, investors, and beyond, aiming to establish a conducive regulatory environment for startups. Additionally, Startup Albania aims to assist local startups in reaching global markets, leveraging international partnerships to enhance their competitiveness and visibility. Their main focus areas include the startup environment, investment, talent, and regional development. Both agencies have the potential to positively impact the ecosystem, but they are relatively new and have yet to demonstrate a significant impact. Additionally, various initiatives at the policy and funding levels have been launched, presenting opportunities for stakeholders to contribute and collaborate. While the public sector has taken commendable steps in innovation and entrepreneurship, there is room for improvement. The ecosystem could benefit from a more accelerated pace of execution and

coordination. Once the ecosystem is fully developed, the government can step back and support other stakeholders in leading initiatives.

§ 2 Public sector connections to ecosystem

The public sector has been engaging with ecosystem stakeholders more frequently, and this engagement has received positive feedback regarding its outcomes. *Stakeholders recognise that the Ministry of Infrastructure and Energy has strong commitment and is active with National Agency of Information Society in particular in relation to developing the European Digital Innovation Hub in the framework of EU Digital Europe Program.* In addition, the S3 process following the "Quadruple Helix" approach led by the public sector has successfully rallied actors around a common goal. However, some still believe more could be done to engage academia and support public-private partnerships. The country has increasingly adopted public consultation practices, particularly in recent years. This effort is evident in the engagement of various stakeholders in the policy-making process, ensuring that the interests and insights of different groups are considered. Public consultations are conducted through forums, public hearings, and online platforms, allowing citizens and stakeholders to provide feedback on proposed policies and initiatives. Despite these efforts, not all stakeholders are actively involved in consultations. More awareness raising and promotion could encourage more actors to take part. Public sector administration is interconnected; however, policy priorities and objectives differences can lead to disjointed efforts and sometimes a lack of cohesive strategies. However, establishing the two new agencies should help remedy this.

§ 3 Intellectual Property Policies

Stakeholders acknowledge that Albania has made significant progress in legislation concerning industrial property rights. The country joined the World Intellectual Property Organization (WIPO) in 1992 and has been a Contracting Party to the Paris Convention for the Protection of Industrial Property and the Patent Cooperation Treaty (PCT) since 1995. It is also a member of the European Patent Organization. The General Directorate of Industrial Property (GDIP) is legally responsible for registering, managing, and promoting intellectual property (IP) objects. The National Strategy of Intellectual Property states that the IP system aims to protect IP objects effectively, encourage creativity and innovation, and stimulate economic growth and cultural and scientific development in the Republic of Albania. Stakeholders know this strategy and recognise that the GDIP is active in the ecosystem, promoting IP and coordinating industry events. As a result of the work carried out on promotion, DPPI closed 2022 with an increase (948 patent applications, 19 national

applications for industrial designs, 1165 applications for marks) which translates into more quality services to citizens and higher levels of performance ([41]DPPI, 2022). According to WIPO, Albania registered 35 patents in 2022 and ranked 120th globally ([42]WIPO, 2022). Although significant progress has been made, some challenges still exist. These challenges include the need to develop further and implement the National Strategy of Intellectual Property, increase awareness of IP, and strengthen and build the capacities of specialised IP entities. Addressing these issues will promote understanding of IP in the private sector and increase patent registrations, leading to more innovation and ecosystem development.

§ 4 Research and Development Policies

The National Strategy for Science, Technology and Innovation 2023-2030 has been approved for implementation, with three main policy objectives. Firstly, it aims to increase the efficiency and sustainability of the system supporting scientific research across various fields, including natural sciences, engineering, technology, medicine, agriculture, social sciences, and humanities, with a focus on international integration. Secondly, the strategy seeks to create an environment that facilitates interaction and technology transfer between the research community, the economy, innovation, and public institutions. The third objective is to promote a culture of science and innovation in education, emphasising research practices and projects. While these ambitious goals could enable significant scientific progress, it is still too early to measure their impact. Some stakeholders have been consulted and are aware of the policy documentation, but concerns remain regarding funding. Reports indicate that the new strategy requires at least €274 million to achieve all its objectives (CNA[43], 2023).

Despite the challenges posed by a low current R&D budget and allocation, as well as difficulties in producing sufficient quality research—which have historically limited opportunities for technology transfer and commercialisation—Albania has made significant strides in accessing EU programs and funding to support research and innovation. This includes increased participation in initiatives like Horizon Europe. The newly launched R&D strategy aims to foster applied research and enhance technology transfer and

[41] Department of Public Policy and Innovation (DPPI), 2024. *Annual Report*. [online] Available at: https://dppi.gov.al/en/raportivjetor/

[42] World Intellectual Property Organization (WIPO), 2023. *Country Profile: Albania*. [online] Available at: https://www.wipo.int/edocs/statistics-country-profile/en/al.pdf

[43] CNA, 2024. *Scientific Research and Innovation: The New Strategy Requires 274 Million Euros*. [online] Available at: https://www.cna.al/english/ekonomi/kerkimi-shkencor-dhe-inovacioni-strategjia-e-re-kerkon-274-milione-euro--i375491

commercialisation opportunities. Although still in the early stages of implementation, these efforts are expected to yield positive outcomes in the near future.

§ 5 ICT Policies

The National Strategy for Development and Integration (2022-2030) is the main strategic document at the national level. Digitalisation is one of the main pillars of this document. The National Broadband Plan is a sectoral policy paper linked with digital infrastructure. Albania has a legal framework that directly and indirectly regulates ICT and e-commerce law, eID and trust services law; right of information; reuse of public documents, and data protection law. The Digital Agenda and Action Plan 2022-2026 was adopted in 2022, and the country also introduced a Strategy on Cyber Security for 2020-2025. This strategy is based on key principles such as applying the same basic values in both the physical and digital worlds, protecting fundamental rights, freedom of expression, personal data, and privacy, ensuring access for all, promoting democratic and efficient governance, and fostering joint responsibility in guaranteeing cyber security. However, a breach of citizens' data in 2021 raised concerns about Albania's cyber-security infrastructure. These concerns have since been addressed. Most stakeholders are aware of these policies and believe they enable progress in the country. The Digital Agenda recognises the pivotal role of ICT in the social and economic development of the country. If effectively leveraged, it has the potential to strengthen the country's innovation capacity.

§ 6 Education policies

The National Strategy for Skills and Employment 2023-2030 was approved in 2021 and, for the first time, encompasses all levels of education. This strategy focuses on qualitative employment and lifelong learning for everyone. It addresses 16 challenges and proposes 16 solutions, grouped around five main goals: reducing the skills mismatch across all professions, increasing the skill levels of both men and women of working age, improving the overall functioning of the labour market, delivering support programmes for effective and inclusive employment, and ensuring decent work for everyone. Regarding pre-university education, the strategy advocates changes in teacher development, inclusiveness, and ICT development. The section dedicated to higher education includes objectives related to the internationalisation of higher education, quality improvements in assessment frameworks for higher education programmes, enhancements in research infrastructure, and upgrades in ICT infrastructure and services for public higher education institutions. In 2023, NAES implemented a new Active Labour Market Program (ALMP) through outsourcing (specialised private Vocational Education and Training (VET) providers) related to the provision of

advanced training in the field of ICT, mainly programming, coding, etc. Through financial support, this programme aimed to qualify and reskill job seekers and unemployed job seekers to prepare them for rapid integration into the labour market. The programme offers budget support of 50% of the course value for job seekers and 100% for unemployed job seekers. In 2023, it benefited 1,291 people (1,135 job seekers and 156 unemployed job seekers) and will continue to be successfully implemented in 2024. To diversify the programmes and better address the needs of job seekers, NAES and the Ministry of Economy, Culture and Innovation (MECI) have drafted the reintegration programme for job seekers who have been unemployed for over six months. In October 2023, the Pilot Phase of the Youth Guarantee was launched with the presence of high representatives of the European Delegation in Albania, the Ministry of Economy Culture and Innovation (MECI), the Ministry of Health and Social Protection (MoHSP), the Ministry of Education and Sports (MES), the Ministry of State for Children and Youth (MsCHY), as well as other partners such as ILO, EU4SI, and UNICEF. By March 2024, 78 young people treated in the Scheme have come out positively through employment offers, incentive programmes and professional training provided by the National Employment and Skills Agency.

Since 2017, Albania has had a law on Vocational Education and Training (VET). This law aims to create and develop a unified VET system that can respond to socioeconomic and technological changes in compliance with the overall educational system and local and global labour market needs. It aims to create sustainable mechanisms for quality assurance in vocational education institutions. Thanks to these efforts, the quality of public education has been improving over the last decade. The government has significantly invested in improving educational facilities, increasing teacher salaries, and revising the curriculum. However, despite these efforts, some issues still need to be addressed. Stakeholders indicate there is room for improvement in modern curricula to meet industry needs and in training educators to teach 21st-century skills. Actors would also like to see further integration of technology into the teaching and learning process. Recent improvements to education policy and strategies aim to support academia at various levels to update curricula and offer students more relevant and emerging skill sets. One of the Digital Agenda Strategy's core pillars is focused on enabling and developing basic and advanced digital skills and calls weekly information technology (IT) classes in all secondary education classes and for implementing digital skills subjects in all curricula of higher education institutions. ICT will continue to play a crucial role in transforming education. The current strategies are positive enablers; however, their impact may take a few years to manifest in the talent pool to support the growth of the ecosystem.

§ 7 Finance Policies

New and supportive regulations and strategies, including some tax benefits for ICT companies, have recently shaped the financial landscape. The new law "On Income Tax" was introduced in 2023 and enacted on 1 January 2024. This law introduces significant changes to corporate income tax and individual income tax. Key corporate income tax amendments include a broader definition of tax residence, more stringent requirements for the application of the dividend participation exemption, extended limitations on interest deductibility, simpler depreciation methods on non-current assets, rules for bad debt recognition, specific provisions for long-term contracts, the introduction of an exit tax, and changes to the loss carry forward rules. From an individual income tax perspective, important amendments include a broader definition of tax residence, the categorisation of income into three distinct types (employment, business, and investment), an extension to the scope of employment income, the introduction of controlled foreign company rules, the introduction of taxation of inheritances and gifts, and a revised tax rate system for employment income. The new law repeals the current provisions related to the simplified profit tax on small businesses. Regardless of size, all entities will be subject to Corporate Income Tax (CIT) regardless of their annual income levels. The CIT rate is set at 15 per cent, with a few exceptions, including software production/development, which may benefit from a reduced rate of 5 per cent. The Law on Startups was introduced in 2022. The purpose of this law is to create a favourable regulatory and institutional framework for creating and developing innovative startups in the areas of technology and innovation. It aims to promote research, implementation, and the use of new ideas, models, products, and processes that bring innovation to the economy. Innovative startups that are certified, registered in the commercial register, and meet the criteria and procedures set out in the law during the incubation period (24 months) are exempt from payment of local taxes. Stakeholders recognise the changes in tax legislation as supportive of the ecosystem but note that it has been inconsistent and sometimes confusing for companies in the past. Additionally, stakeholders seek greater clarity and vision on how the new regulations will effectively support and regulate the ICT industry, which forms the core of the digital innovation ecosystem. Stakeholders suggest that certain policies must be revised or relaxed to support innovation and entrepreneurship better. For instance, the criteria for tax incentives could be broadened to include more types of ICT companies and start-ups. Additionally, bureaucratic hurdles in accessing financial support should be reduced to make it easier for SMEs to benefit from government programmes. While progress has been made, more incentives are needed to foster entrepreneurship and investments.

§ 8 SMEs Policies

SMEs make up as much as 99.8 % of active enterprises in Albania (INSTAT, 2023[44]). Recognising this critical role, the government has recently established a comprehensive regulatory framework for SME activities. The country's primary SME policy document is the Business and Investment Development Strategy (BIDS) 2021-2027. The Ministry of Economy Culture and Innovation oversees the implementation and review of this strategy. The objectives of the strategy include strengthening cooperation between companies and industries, increasing competitiveness, boosting SME scale-ups and supporting internationalisation activities. BIDS also focuses on fostering innovation and innovation ecosystems, promoting entrepreneurship, start-ups, and spin-offs. Additionally, it aims to advance social and sustainable economy initiatives, promote employment, upgrade skills and competencies, enhance territorial cohesion, and increase supply chain resilience. The strategy focuses on helping SMEs collaborate with research facilities, promoting their internationalisation and export capacities, and developing human capital. The strategy estimates an overall implementation cost for 2020-2027 of ALL 9.61 billion (EUR 78.09 million) (ECCP, 2022[45]). Further, funding is provided from both the state budget and international programmes. AIDA oversees implementation and is managed by a board of directors with members from the private and public sectors chaired by the Prime Minister of Albania. While stakeholders recognise the government's efforts in creating this policy, they say they are yet to see a significant impact given that it is still a fairly recent intervention. They state that SMEs still need more support to access finance. Thus, awareness-raising, promoting, and implementing the existing policy should remain a government priority.

§ 9 Industrial Policies

Several policies and strategies reflect the Albanian government's strategic efforts to encourage economic transformation between and within sectors. S3 and the Country Programme for Inclusive and Sustainable Industrial Development (ISID) 2020-2024 are among these. The S3 draft has identified priority sectors, with digitalisation as a cross-cutting theme. The ISID includes around 20 project proposals in three priority areas: industrial competitiveness and market access, productive employment and entrepreneurship development, and sustainable energy for productive uses and environmental management. The National Strategy for Agriculture and Rural Development also focuses on improving productivity, market access, and sustainable farming practices. This policy outlines actions

[44] Institute of Statistics (INSTAT), 2021. *Results on SMEs 2021*. [online] Available at: https://www.instat.gov.al/media/11356/results-on-sme-2021.pdf

[45] European Cluster Collaboration Platform (ECCP), 2022. *Cluster Factsheet: Albania 2022*. [online] Available at: https://clustercollaboration.eu/sites/default/files/2023-04/ECCPfactsheet_Albania_2022.pdf

to develop the agriculture, food, livestock, and fisheries sectors sustainably and effectively, based on innovation and digitalisation. The strategy aims to better cope with the pressures of national and international markets and address challenges related to climate change, biodiversity, and the green economy through the sustainable management of natural resources. It also aims to improve the quality of life for residents and ensure rural development. The National Strategy for Sustainable Tourism Development 2019-2023 focused on creating new industries, consolidating the tourism offer, increasing the added value and impact of the sector on the economy and employment, developing new products and services in tourism, improving their quality, and enhancing the country's image and promotion of local products. A new Strategy for Tourism is currently under drafting and is expected to be finalised and approved soon. Free zones and industrial parks are integral to BIDS and key elements in attracting foreign investment. Consequently, the government approved the creation of world-class Technological and Economic Development Areas (TEDA). These areas will have the necessary infrastructure for production, industrial development, trade, and service provision. They are subject to a special tax and customs regime by the legislation on establishing and performing technological and economic services in development areas. It is also fair to say that industrial policies in Albania are designed to interact with other sectors, particularly ICT. For example, the Digital Agenda complements BIDS by promoting digital transformation across various industries, enhancing productivity and innovation. Stakeholders have mixed views on these policies. While many appreciate the government's efforts to create a supportive environment for businesses, there are concerns about their practical implementation and accessibility. Further efforts are also needed to encourage the adoption of ICT across traditional economic sectors to enhance operations and service delivery.

§ 10 Trade Policies

In Albania, trade and trade-related policies are integral to broader economic strategies to attract foreign investment, foster economic growth, and generate employment. In addition to its efforts to join the EU, Albania implements free trade agreements (FTAs) with the EU, the Western Balkans (CEFTA), Turkey, EFTA, and Great Britain, among others. The trade policy adopts a liberal approach, focusing more on trade facilitation than tariff reductions. Approximately 98% of the trade volume is conducted with partners with which Albania has FTAs. Exports of goods increased significantly between 2016 and 2022, with the EU being Albania's main trade partner. In 2022, 73.4% of total exports were directed to the EU, and 51.6% of total imports came from the EU (WTO, 2023[46]). Stakeholders acknowledge that

[46] World Trade Organization (WTO), 2024. *Trade Policy Review: Albania*. [online] Available at: https://www.wto.org/english/tratop_e/tpr_e/g449_e.pdf

while several trade agreements benefit the country at regional and global levels, there is no dedicated agreement supporting the trade of ICT products or services. Albania remains committed to an open, non-discriminatory, and rules-based global multilateral trading system. Recent years have seen improvements in trade facilitation, particularly regarding appeals, fees and charges, documents, procedures, and coordination at borders. Since May 2019, customs declarations must be filed online using an electronic signature. They also suggest that Albania could benefit from a network of experts to train both the public and private sectors in export, thereby further increasing export volume and efficiency.

4. Ecosystem Challenges and Opportunities

The three main ecosystems essential to Albania's digital transformation journey are:

I. the innovation ecosystem (universities, research institutes, and the public sector);

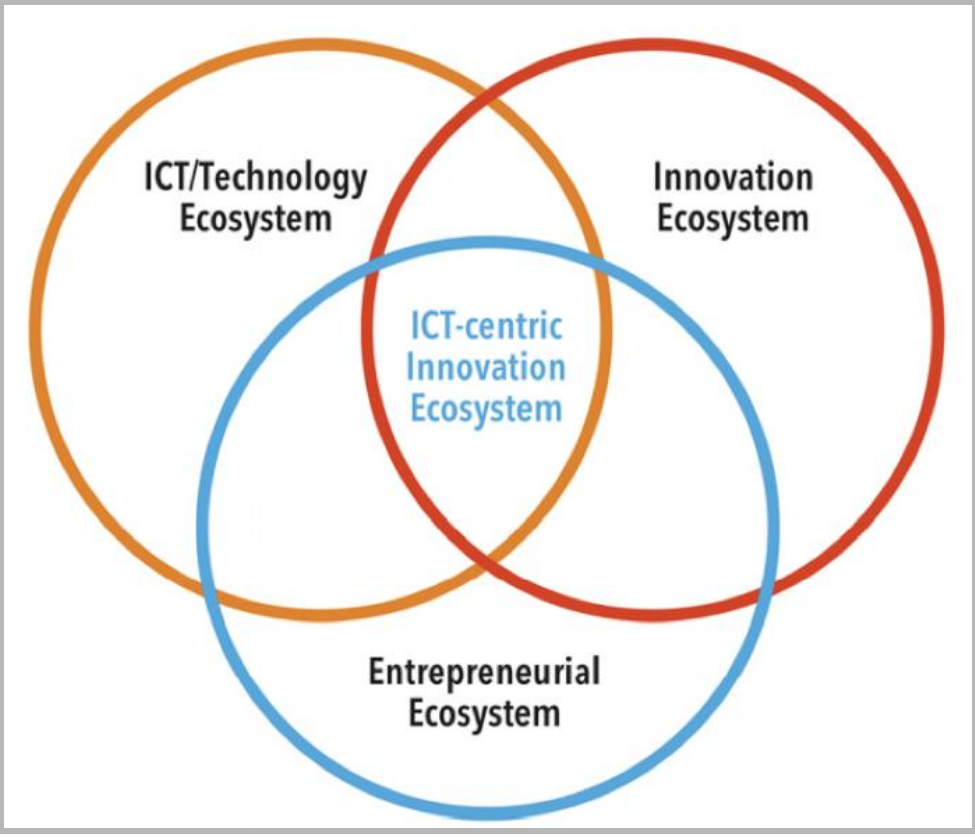
II. the entrepreneurial ecosystem (innovators and support organisations); and

III. the technological ecosystem (high tech, ICTs, technology business-to-business (B2B), and manufacturing companies).

Understanding the ICT-centric (digital) innovation ecosystem

The three ecosystems — innovation ecosystem, entrepreneurial ecosystem and technology ecosystem — are closely linked to developing a country's digital transformation landscape. At the intersection of the three ecosystems lies the ICT-centric innovation ecosystem, also referred to as the digital innovation ecosystem.

Figure 3 - Engines of growth



The following sections contain a brief analysis of each of the three ecosystems and ends with a macro level overview of the challenges and opportunities in each of them, as gathered through interviews and group discussions during the co-creation workshops with local stakeholders. A detailed analysis of the current landscape has been presented in Chapter 3, while the recommendations are covered in Chapter 9 of this report.

4.1 Innovation Ecosystem

The innovation ecosystem includes research institutes, universities, public sector entities such as national innovation agencies and public sector funding agencies, the private sector and other actors involved in commercialization. It plays an invaluable role in the national journey of innovation, especially in the launch of an innovation.

- *Despite being at an early stage of development, the national innovation ecosystem is organised and supported by the government.*
- *While the government has made substantial investments in initiatives to support and strengthen the innovation ecosystem, there remains a need to raise greater awareness among stakeholders to fully realise the potential for effective collaboration and maximise the ecosystem's capacity.*
- *Albania has the potential to achieve economic and technological growth by fostering a culture of innovation and collaboration.*

§ 1 Overview of actions in the National Innovation Ecosystem

Despite being at an early stage of development, the national innovation ecosystem is organised and supported by the government. Recently, the government established two new agencies, the Innovation and Excellence Agency and Startup Albania, to bolster the ecosystem. These agencies can act as a preliminary platform for innovation until the private sector becomes competitive enough to lead. Another positive initiative, led by the Ministry of State for Entrepreneurship and Business Climate, is the initiative for supporting the Startups, providing a substantial grant of EUR 10 million for start-ups. This initiative is managed and implemented by the newly established Startup Albania Agency. Universities have also played a key role in supporting innovation and developing 21st-century skills with programmes such as Tirana Inc., a multi-university incubator supporting student-led entrepreneurship through training, mentoring, and networking within the local and regional ecosystems. Additionally, some universities promote entrepreneurship through events, career services, competitions, and other activities, making students aware of an alternative career path and highlighting its advantages.

§ 2 Overview of challenges in the National Innovation Ecosystem

The government has launched numerous initiatives and programmes to actively support and lead the development of the ecosystem. While knowledge of these initiatives has been increasing, there is a need to enhance greater awareness of these efforts among stakeholders to foster more effective collaboration and explore the ecosystem's full potential. By improving communication and engagement, these initiatives can facilitate more cohesive and dynamic interactions, encouraging stronger growth and innovation across the ecosystem. This focus on raising awareness and collaboration will help maximise the impact of government-led efforts and unlock new possibilities for the ecosystem's development. The challenge for universities is that technology transfer offices are still relatively new. Some universities have established specialised offices dedicated to technology and intellectual property transfer, offering various services such as intellectual property management, licensing, and business incubation. While universities have attempted to gain experience in technology transfer processes through collaborations with companies, the number of applied research contracts remains low. Only a few universities have some experience supporting spin-offs. Although there are spaces dedicated to this service, significant issues include the training of office managers, as well as the provision of equipment to support creativity and prototype development (International Journal of Engineering Technology and Scientific Innovation, 2023[47]). Although the national innovation ecosystem is operational, there is significant potential for improvement. Strengthening trust and collaboration between the private sector and academia, alongside increasing research funding, will unlock greater efficiency. As both sectors begin to align more closely and access growing support through government programs and international funding opportunities, the ecosystem is positioned to become more effective in driving innovation and research outcomes.

§ 3 Overview of opportunities in the National Innovation Ecosystem

The public sector has taken several important steps to support ecosystem development by establishing innovation agencies and initiatives. Various ministries are focused on this mission, and enhanced coordination and collaboration will help amplify their efforts. The public sector needs to identify a leader within the government to create awareness and ensure the efficient implementation of a digital transformation roadmap with a clear vision, strategy, and development of key initiatives. Universities can play a more proactive role by enhancing their networking capacities to foster partnerships with industry. Additionally, they

[47] International Journal of Emerging Trends in Science and Technology (IJETSI), 2023. *More 2023*. [online] Available at: https://www.ijetsi.org/more2023.php?id=6

should do more to cultivate an entrepreneurial mindset among students, researchers, and public sector employees to drive innovation and startup creation. By leveraging the strengths of the public sector and fostering a culture of innovation and collaboration, Albania has the potential to advance its national innovation ecosystem and achieve economic and technological growth.

4.2 Entrepreneurial Ecosystem

The entrepreneurial ecosystem includes the entrepreneurs, their support systems, and the organizations that nurture business creation through the "valley of death" and subsequently accompany their growth into sustainable SMEs.

- *The entrepreneurial ecosystem is slowly but steadily growing, with public and private incubators partnering with international development organisations.*
- *Start-ups show significant potential but face challenges in accessing growth finance, entering international markets, and attracting talent. As the innovation ecosystem matures and resources become more accessible, they are starting to navigate the "valley of death" and position themselves for sustainable growth, however, they need more support from the ecosystem.*
- *Albania could see its first unicorn start-ups with the right support, improved access to capital, and enhanced innovation.*

§ 1 Overview of actions in the Entrepreneur Ecosystem

The entrepreneurial ecosystem is growing but is still in its early stages. Both public and private sector incubators are supporting local talent by working in partnership with international development organisations to boost start-up development and entrepreneurship. Though mainly based in Tirana, many entrepreneurial support networks, including TechSpace, Protik, and Oficina, provide training, mentoring, and networking opportunities to nurture business ideas into start-ups. Agencies like Startup Albania and programmes such as 'STARTUP-et' offer grants and financial resources to start-ups. Through these efforts, support organisations have helped to build a more connected start-up ecosystem in the country than what existed in the country until three years ago. Albania has also recently introduced a digital nomad visa, which is encouraging foreign talent to become part of this growing ecosystem, thus indicating an intent to support and nurture local and foreign talent to contribute to the country's entrepreneurial ecosystem.

§ 2 Overview of challenges in the Entrepreneur Ecosystem

Despite some positive efforts, the country experiences a significantly high brain drain. This limits start-up growth due to a reduced talent pool. Additionally, intense competition for skilled individuals raises salary expectations that start-ups cannot meet. Limited funding opportunities from angel investors and venture capitalists at the scale-up stage also pose a serious challenge, restricting investment in technology and slowing ecosystem development. As a result, promising technology start-ups often find it difficult to cross the "valley of death." Start-ups also face difficulties accessing international markets due to lacking networks and knowledge, leading to stunted growth and innovation. Though support networks exist and are trying to address these issues, they are sometimes fragmented and lack coordination. Consequently, entrepreneurs do not receive comprehensive support, resulting in gaps in essential areas like funding, training, and networking. Moreover, some entrepreneurs and support organisations lack a long-term strategic vision for sustainable growth and innovation. Further, due to limited donor funding, support network efforts tend to be short-term and reactive rather than proactive, limiting potential breakthroughs and large-scale impacts.

§ 3 Overview of opportunities in the Entrepreneur Ecosystem

Albanian entrepreneurs often demonstrate high resilience and adaptability, essential for thriving in a challenging environment. Entrepreneurs are known for maximising limited resources and showing creativity in problem-solving and business innovation. There is a growing support ecosystem that could play a more proactive role in developing these individuals. Closer collaboration with successful entrepreneurs and talented diaspora would stimulate innovation by building firms that deliver novel solutions. Also, dedicated digital accelerators could engage with international investors and provide specialist support in the growth stages. For example, scale-ups need to build skills in effective pitching, financial management, and investor relations. Additionally, to create a thriving start-up ecosystem, founders need to foster a more collaborative mindset, support each other and develop a stronger focus on understanding customer needs. While Albania has not seen any unicorn yet, it could see its first unicorn start-ups with the right support, improved access to capital, and enhanced innovation.

4.3 Technology Ecosystem

The technology ecosystem includes high-growth technology companies, equipment manufacturers, systems integrators, companies in the ICT sector and B2B technology

platforms supporting SMEs, among others. The development of the technology ecosystem is essential to a country's ability to benefit from technological innovation and create high-growth industries and jobs.

- *Albania is now a major destination for ICT-BPO services, which has helped to grow the country's technology ecosystem.*
- *Brain drain is a major challenge leading to a loss of skilled professionals, exacerbated by misalignment between education system outputs and industry needs.*
- *To support a vibrant and expanding tech community, companies must actively support their existing workforce through reskilling and capacity building to keep pace with new technologies and business models.*

§ 1 Overview of actions in the Technology Ecosystem

The technology ecosystem comprises a mix of early-stage start-ups and established tech companies working in various sectors, such as fintech, software development, e-commerce, and digital services. Software development is a significant sector with a projected revenue of USD 51.83m in 2024 (Statistic, 2024[48]). Enterprise Software dominates the market with a projected market volume of US$21.71m in 2024[49]. Albania is now a major destination for ICT-BPO services, which has helped to grow the country's technology ecosystem. The country is steadily gaining popularity as an attractive location for FDI due to its urban culture, availability of resources and infrastructure, and attractive Investment Incentives.

§ 2 Overview of challenges in the Technology Ecosystem

Although Albania has successfully developed its ICT-BPO sector, some challenges remain. Brain drain leads to a loss of skilled professionals in other countries, exacerbated by an insufficient alignment between education system outputs and industry needs. Consequently, a skills gap exists, particularly in advanced tech areas like AI, cybersecurity, and data science. This increases competition for limited talent, driving up hiring and retention costs. In addition, low levels of investment in research and development result in a slower pace of innovation and technological advancement, making it difficult to stay competitive and attract

[48] Statista, 2024. *Software Market Outlook in Albania*. [online] Available at: https://www.statista.com/outlook/tmo/software/albania

[49] Statista, 2024. *Software Market Outlook in Albania*. [online] Available at: https://www.statista.com/outlook/tmo/software/albania

top talent. Additionally, there are few small local companies that are part of the B2B value chain.

§ 3 Overview of opportunities in the Technology Ecosystem

Albania boasts a vibrant and expanding community of tech enthusiasts, start-ups, and professionals, supported by strong technical education programmes and universities producing skilled computer science, engineering, and IT graduates. Proactive government, business, and citizen involvement is critical to efficiently adapting to the ever-changing labour market. Companies must actively and continually support their existing workforce through training and upskilling to keep pace with new technologies and business models. Cultivating a commitment to lifelong learning and staying updated with global trends and best practices is essential. The technology ecosystem must address funding, talent, regulation, infrastructure, and market access challenges to achieve a significant impact. Enhancing coordination among support networks, fostering a strategic long-term vision, and being part of public-private collaboration are essential steps. The ecosystem can better support tech entrepreneurs, drive innovation, and achieve sustainable growth by tackling these areas. Ultimately, this will contribute to a more dynamic and competitive technological landscape, potentially leading to the emergence of Albania's first unicorn start-ups.

4.4 Macro Challenges

At a macro level, the three ecosystems face some common challenges:

1. *A lack of a shared and common long-term strategic vision impacts the overall ecosystem development and progress.*
2. *Access to talent with advanced technical skills is challenging for all ecosystems, as they compete to recruit the best candidates from a limited pool.*
3. *Limited funding and investment in R&D hamper innovation and slow ecosystem growth at the ideal pace.*
4. *Coordination and collaboration among various stakeholders are often insufficient, hindering effective ecosystem functioning.*

5. Stakeholders

Understanding the stakeholders

Collaboration between key actors in the innovation ecosystem is the foundation of the assessment process and drives the actions taken to build the ecosystem.

An important part of the country review is thus finding ways of identifying and engaging with a pool of stakeholders across diverse groups.

Table 2 lists the many stakeholders who contributed to this analysis, grouped into entrepreneurs, the finance sector, entrepreneurial support networks, the private sector, academia and the public sector. Stakeholders who were interviewed and participated in co-creation workshops and/or one-on-one qualitative interviews are marked as "engaged".

Table 2 - Stakeholders

	Stakeholders (in alphabetical order)
Academia	• Alekasander Moisiu University (Durres) • Barleti University "engaged" • Barleti University, Research Unit • European University of Tirana • University Metropolitan Tirana "engaged" • University of New York, Tirana "engaged" • University of Tirana, Faculty of Economic • University of Tirana, Faculty of Economic (Department of Informatics) • University of Tirana, Faculty of Economy (Department of Statistics and Applied Informatics) "engaged" • University of Tirana, Faculty of Natural Science • University of Tirana, Faculty of Natural Sciences (Informatics Department) "engaged" • Polytechnic University of Tirana • Polytechnic University of Tirana, Faculty of Geology "engaged" • Polytechnic University of Tirana, Department of Electronics and Telecommunications "engaged" • Polytechnic University of Tirana, Department of Informatics, Research

Entrepreneurs	• Assist Digital • Baboon • Digit Sapiens "engaged" • EUROELEKTRA "engaged" • Skaitech "engaged" • S-systems "engaged" • Vigan Group "engaged"
Entrepreneurial Support Networks	• Albanian Academic Network "engaged" • Association of Business Process Association Albania (ABSL) • Albanian Energy Association • Albanian E-Commerce Association (AECA) "engaged" • Albanian ICT Association (AITA) • Albanian manufacturers union "engaged" • Albania Tech • HELVETAS Swiss Intercooperation, Risi Albania • Foreign Investors Association of Albania • National Association for Skills Competitions • Oficina "engaged" • Protik Innovation Center "engaged" • TechSpace "engaged" • Tirana Chamber of Commerce and Industry • TUMO Tirana "engaged" • Uplift • Women Economic Chamber of Albania "engaged"
Finance	• Albanian Association of Banks • Abi Bank • BKT Bank • National Investment Council "engaged" • Procredit Bank "engaged" • OTP Bank • Raiffeisen Bank "engaged" • Union Bank "engaged"
Private Sector	• Albadrone Academy "engaged" • ASC/Tring "engaged" • BALFIN • Devoll Hydropower • EVEREST • Easy Pay • Fasttech • IKONS "engaged" • Lufthansa Solutions "engaged" • One Albania "engaged" • Shell Albania "engaged" • Vodafone Albania • Voltalia Albanie • Yura Corporation Albania

Public Sector	• Authority for Electronic Communications (AKEP) "engaged" • Albanian Investment Development Agency (AIDA) "engaged" • Albanian Media Authority (AMA) • Deputy Prime Minister Office "engaged" • Innovation and Excellence Agency "engaged" • Ministry of Education and Sports • Ministry of Finance and Economy • Ministry of Infrastructure and Energy (MIE) "engaged" • Municipality of Tirana • Ministry of State for the Protection of Entrepreneurship • National Authority for Cyber Security and Electronic Certification • National Agency of Information Society (AKSHI) "engaged" • National Agency for Scientific Research and Innovation "engaged" • National Institute of Statistics "engaged" • Startup Albania Agency "engaged" • State Agency for Strategic Programming and Assistance Coordination (SASPAC)

6. Ecosystem Maturity Map

Understanding the ecosystem maturity map

The ecosystem maturity map, also referred to as the innovation journey map, highlights the work that needs to be done in the ecosystem to harness innovation on a transformative journey from pre-ideation to high growth. It describes stakeholder roles and actions in support of entrepreneurs and innovators at each stage of the start-up lifecycle. The colour coding identifies areas that are well-supported (green), inadequate (yellow) and missing or weak (red). In some cases, to arrive at a consensus with the group, orange has been used to indicate maturity between a red and a yellow; and light green has been used to indicate maturity between a yellow and a green.

The heatmap of stakeholders in the ecosystem and the current status of their jobs- to-be-done is based on interviews and group discussions in co-creation workshops with local stakeholders and validated by secondary research and literature reviews.

It must be understood that the innovation lifecycle or entrepreneurial journey is not linear. Instead, it is made up of a series of jobs-to-be-done across different stages of the cycles. In the pre-ideation stage, key actors plant the seeds of support in the innovation ecosystem. In the ideation stage, innovations are developed but have not yet been incorporated as businesses. In the start-up stage, innovations evolve from concepts into businesses. The valley of death is a challenging stage of development where entrepreneurs need strong support to survive. In the SME stage, the velocity of start-up growth increases as they expand rapidly into established businesses, reach steady-state, or exit through buyouts or initial public offerings (IPOs).

There is a need for a comprehensive understanding of how ecosystem actors can work together to implement national development priorities within the maturity ecosystem of digital innovation. Initiatives that are constructed in silos might lead to duplication of efforts and wasted resources.

The ecosystem maturity map in the Republic of Albania shows an ecosystem in an early growing stage. Profiling key stakeholder actions is necessary to accelerate digital transformation.

Actors	Cycle Stage				
	PRE-IDEA	IDEATION	STARTUP	THE "VALLEY OF DEATH"	SME
Entrepreneurs	Entrepreneurial interest	Engage with problems	Develop business models	Build collaboration	Expand
Finance	Research funding	Seed funding	Angel investment	Venture capital	Business finance and loans
Entrepreneurial Support Networks	Entrepreneurial events	Hackathons and competition	Co-working and support	Incubators and accelerators	Business association
Private Sector	Success stories	Research programmes	Lab programmes	B2B & support services	Skill training programmes
Academia	Community of entrepreneurs	Basic research	Spin offs	Soft skill trainings	Human capital
Public Sector	Vision and strategy	IP & R&D support	Tax support	Public procurement	Trade policy

6.1 Entrepreneurs

- *There is a growing interest in entrepreneurial culture among talent at the pre-idea stage, but the first preference is often a stable job with an international company for most.*
- *Innovators generally find local problems to solve. However, barring a few industries, most ideas may not be unique but rather duplications of other successful businesses.*
- *Entrepreneurial education at all levels is underdeveloped, resulting in weaker business models and potentially higher failure rates among start-ups though there have been some efforts more recently to tackle this.*

- *Entrepreneurs are open and willing to support each other, but a lack of role models and mentors may affect the ecosystem's capacity to sustain and grow new ventures.*
- *Start-ups struggle to expand into high-growth SMEs through buyouts and IPOs, limiting the overall economic impact and success of the entrepreneurial landscape in Albania.*

6.2 Finance

- *Limited funding is available for innovators to conduct basic and applied research, which hampers innovation and leads to lower levels of patenting and intellectual property development.*
- *Early-stage entrepreneurs are motivated by the initial support, particularly via government funds and grants.*
- *Underdeveloped high-risk investment from angel networks limits start-ups' ability to scale effectively, resulting in slower growth and development within the entrepreneurial ecosystem.*
- *The scarcity of venture capital investment creates a bottleneck, making it hard for start-ups to survive the valley of death, reducing the overall success rate of new ventures.*
- *Mature SMEs and large companies have the motivation, ability and collateral to access commercial bank loans for expansion.*

6.3 Entrepreneurial Support Networks

- *Young talent is motivated by opportunities to network and gain support at events, particularly at the pre-idea stage.*
- *Innovators are driven by the opportunity to validate and develop their ideas through a growing number of hackathons and challenges round the year.*
- *Several co-working spaces offering support services to entrepreneurs have come up recently, especially in urban areas.*
- *There are a number of incubator and accelerator programmes to support, guide and scale start-ups, however, due to lack of holistic and comprehensive support services through a sustained period of time, startups find it hard to transition to high-growth stage.*

- *While business associations and chambers are motivated to support local firms and are actively engaging with their stakeholders, their focus on larger organisations sometimes leaves smaller start-ups without adequate representation and advocacy.*

6.4 Private Sector

- *There are some success stories from the private sector that are encouraging young innovators, however, the communication about them is limited which means they have less impact in encouraging others to follow.*
- *Some large blue-chip firms are engaging in and funding research to support innovation. Local SMEs, however, are often constrained by resources and do not reinvest in innovation, limiting overall innovation capacity.*
- *Some large companies have corporate innovation teams to support and foster internal and open innovation projects, but their limited support for external firms via internal incubators restricts broader collaboration.*
- *The private sector has limited engagement with small B2B firms, making it difficult for start-ups to overcome early-stage challenges.*
- *The growing focus on upskilling in large firms is enhancing workforce quality in the country, but the inability of SMEs to offer similar programmes creates a skills gap and limits the overall talent development within the ecosystem.*

6.5 Academia

- *Some universities motivate talent with their supportive environments, encouraging early-stage entrepreneurial activities and benefiting the ecosystem. However, the curriculum still primarily creates job seekers rather than entrepreneurs.*
- *The shortage of basic research restricts the flow of innovative ideas that can be commercialised, thereby stifling the development of new, practical innovations within the ecosystem.*
- *Entrepreneurs are motivated to commercialise their findings but face significant challenges due to inadequate support frameworks, limiting the ecosystem's potential to generate high-impact innovations.*
- *Some university training programmes enhance the entrepreneurial capabilities of innovators, contributing positively to the ecosystem by enabling the creation of more start-ups, although their reach is limited.*

- *The gap in industry-ready skills among graduates places a burden on employers to invest in training, which can slow down the integration of new talent into the workforce and impact overall productivity and innovation in the ecosystem.*

6.6 Public Sector

- *The government has developed several forward-looking strategy documents aimed at driving Albania's future growth and development. As awareness and understanding of these strategies continue to improve among stakeholders, there is great potential for enhanced coordination and alignment. However, a greater clarity in roles and responsibilities is needed for stakeholders to work more efficiently and seize opportunities to strengthen the ecosystem.*
- *Although government research funding is limited, Albania is increasingly leveraging international programmes, such as EU initiatives, to boost innovation, patenting, and intellectual property development, enhancing the ecosystem's capacity for technological advancement and economic growth.*
- *Tax incentives for software development have significantly strengthened the ICT-BPO sector from its earlier benchmark, and with the introduction of broader investor incentives, the start-up ecosystem has the potential to achieve even greater growth and diversification.*
- *Reforms in public procurement processes have enhanced access for smaller firms, but their lack of training limits their ability to fully take advantage, reducing the potential impact on innovation and business growth within the ecosystem.*
- *Policies to support investment and trade by innovative businesses are in place and have contributed to the ecosystem but more awareness and support mechanisms are needed to foster their effectiveness, and the overall growth and dynamism of the entrepreneurial ecosystem.*

7. Relevant Practices

During the assessment process, the following practices were identified as noteworthy and potentially positive for the ecosystem. As the next step in this process, an in-depth collaborative analysis could lead to the recognition of champions and good practices throughout the ecosystem.

STARTUP-et

Led by the incumbent Minister of State for the Protection of Entrepreneurship and Business Climate, the Albanian Government, in May 2022, launched the 'STARTUP-et' initiative to empower young entrepreneurs. The programme offers innovative business opportunities, providing a substantial grant of EUR 10 million for startups led by young individuals. This grant supports startups and facilitators engaged in innovative projects across priority sectors such as environmental impact, youth empowerment, female entrepreneurship, social inclusion, diversity, and other areas. The first call from May-December 2022 received 628 applications (498 startup applications; 130 facilitators applications). In total 58 beneficiaries received the grant support with a total amount of 2,5 mil EUR: 29 startups and 29 facilitators. The grant facilitates the establishment, market-entry, and operation of startups, aiming to create a conducive environment for attracting, involving, and retaining talent and human resources. It also strives to enhance access to financial resources, promote social inclusion, and foster diversity while upholding democratic values. The initiative encourages innovation across economic sectors, contributing to the overall development of the country. The primary goal is to establish favourable conditions for talent retention, financial resource access, social inclusion, diversity promotion, and innovation integration, aligning with democratic values and advancing economic sectors. There are plans to launch this call on a regular basis.

EU for Innovation Program – Challenge Fund

The EU for Innovation is a programme financed by the EU and executed through GIZ and the Swiss Government Development Office in Albania. The programme was designed in partnership with the Albanian government in 2017, to develop the startup and innovation ecosystem in the country. One of the instruments of the programme has been the Challenge Fund, which aims at improving and diversifying finance opportunities for (i) start-ups and MSMEs, with innovative solutions (e.g., products, services, business models, processes), (ii) start-ups with a prominent tech content with innovative solutions (e.g., products, services, business models, processes), and (ii) start-ups with a prominent tech content. The grantees are selected in a competitive and transparent manner, based on specific criteria, involving

an evaluation committee with national and international expertise. Successful grantees have to match up the grant with their own financing. As part of the 1st Call in December 2023, 247 startups applied. At the end of the evaluation process the Jury selected 20 winners. The Challenge Fund also comprises the design and delivery of a Capacity Building Program with the aim to increase capacities of awarded Albanian MSMEs / start-ups to initiate and/or strengthen their business initiatives that foster inclusive development in the form of an integration between training, mentoring, and coaching, and study visits to enterprises.

The Digital Europe Program

The Digital Europe Program (2021 – 2027) was created and financed by the European Union to enable digital transformation and increase the use of digital technologies by businesses, citizens, and public administrations. The programme has five specific objectives focused on high performance computing, artificial intelligence, data and the cloud, cyber security, advanced digital skills, and accelerating the best possible use of technologies. Albania became part of the Digital Europe Program (2021-2027) by signing and ratifying the agreement for the Republic of Albania's participation in the Digital Europe Program (2021-2027). With the agreement's entry into force, all legal entities of Albania, including those in the public, private, and academic sectors, have the right to participate in the calls opened by the EU within the framework of this program. The Ministry of Infrastructure and Energy and the National Agency of Information Society are the two leading institutions for this programme

Startup Albania Agency

The Albanian Council of Ministers approved the establishment of the 'Startup Albania' Agency following the enactment of the Startup Law. The creation of the agency is seen as positive for the startup ecosystem and aspiring entrepreneurs with innovative ideas. The development follows recent governmental changes, including amendments to support and develop startups, introducing the concept of digital nomads with eased entry and one-year tax exemption. The new organizational structure brings two key changes. Firstly, government support, evaluation, and financial assistance will be channelled through the 'Startup Albania', which will also oversee fund monitoring from both the government and potential donors. Secondly, and crucially, real-time assistance will be provided to startups, including a one-stop-shop for information on other institutions, addressing queries on industrial property, tax, and customs facilitations. The agency opened and managed the call for grants during the first half of 2024 which marked.

Oficina Incubator

Oficina serves as a private startup incubator in Albania, catering to early-stage startups with significant aspirations. The programme is inclusive, welcoming founders who have diligently worked on their projects, possess a Minimum Viable Product (MVP), and are committed to advancing their startup towards full commercialization, with the ambition to extend their reach beyond national borders. The incubation programme is neutral regarding technology preferences and accepts applications throughout the year. Moreover, they deliver personalised development support to each startup, considering factors such as industry, stage, and future plans. This programme is suitable for any team aiming to create a prototype in either software or hardware, evaluating outcomes against the current state-of-the-art in the market. Oficina provides participating startups with valuable resources, access to experts, and a dedicated staff committed to supporting their entrepreneurial journey. Since its inception, Oficina has evaluated over 400 start-ups and accelerated 72.

Albanian ICT Awards

Established in 2012, the Albanian ICT Awards, spanning over a decade, stands as a pioneering initiative with a noble mission. It aims to identify, promote, and reward Albanian trailblazers in technology, innovation, and entrepreneurship, including distinguished individuals and successful business leaders within the ecosystem. Across 10 editions, the awards have seen over 10,000 hours of jury work, welcomed 2,500 participants, emotionally engaged 200 finalists in gala evenings, and hosted over 300 events. Each year the awards recognise 70 successful startup founders through 13 diverse categories, the awards celebrate contributions to innovation, entrepreneurship, and technology in various sectors, be it organisations, institutions, agencies, or individual enterprises in the private or public sector. Positioned as a significant stage for Albanian achievements in technology, innovation, and entrepreneurship, the ICT Awards not only serves as a unique event but also acts as a vital catalyst for the ecosystem. It promotes, encourages, and inspires transformative ideas throughout the Albanian community.

Global Digital City Platform

Global Digital City, is an initiative by ABSL Albania and serves as a platform dedicated to increasing awareness and disseminating information regarding the myriad opportunities presented by the digital era on a global scale. The initiative strives to explore and embrace innovative ideas, serving as initial steps to furnish opportunities and a foundational platform for aspiring young entrepreneurs. The focus is on equipping them with the skills necessary for independent work, facilitating the startup of their businesses, and ensuring alignment

with evolving market requirements, whether at the local or global level. An integral facet of Digital City's mission is aiding companies in Albania to proactively prepare for the future of work. The initiative has multiple objectives: firstly, to raise awareness regarding the imperative need for digital skills that enhance the productivity and performance of companies. Secondly, to promote accessibility to diverse technologies, with a particular emphasis on startups and small businesses. Lastly, Global Digital City aims to broaden the availability of digital skills through the implementation of events, workshops, and comprehensive training systems. In essence, this initiative seeks to empower individuals and businesses, fostering a dynamic ecosystem that is adept at navigating the challenges and opportunities of the digital landscape, both locally and globally. At the recent Korca Digital City event almost 200 individuals participated.

Raiffeisen Bank

Raiffeisen Bank Albania is the market leader, with the largest branch network in Albania, with 74 Branches, eight of which are digital branches, distributed in most cities in the country. Raiffeisen's digital banking channel, designed for retail and business customers, offers fast and secure banking services through its advanced technology. Being the most innovative digital banking platform in the Raiffeisen ON app, it has more than 260,000 total users in both retail and business. Its mission is to transform continuous innovation into a superior customer experience, with the vision of being the most recommended bank in the Albanian market. In 2022, Raiffeisen Bank took significant steps towards digital transformation, pioneering the provision of fully digital loan products. This achievement was made possible by implementing identification and digital signature technologies. Collaborating with third-party entities and fintech firms, the bank aimed to enhance its digital lending capabilities and embrace digital banking processes. Further, Raiffeisen Bank has an established Innovation Department focused on exploring cutting-edge technologies, developing revolutionary ideas, and driving transformative change in banking. This department is engaged in several activities, including organising the Cloud Connect 2024 Conference, Innovation School, Key Academy, Cloudification event, AI hackathons and workshops, and Innovation events throughout the year.

Tirana Inc

Tirana Inc. is the first multi-university incubator in Albania, supporting student-led entrepreneurship through training, mentoring, and networking in the local and regional ecosystem. Its mission is to grow into the number one destination for ambitious Albanian students to kickstart their companies. In 2021, Tirana Inc. opened its doors to ambitious

student teams with a great business idea. Polis University and University Metropolitan Tirana are the founding universities of this initiative, along with these associated universities: Polytechnic University of Tirana, University of Tirana, and Epoka University. Powered by EU4 Innovation, the programme is implemented by Tirana Inc. in collaboration with Preneurz.Amsterdam. In 2022, 10student start-up teams, which had been incubated for 12 weeks on the first Tirana Inc. pilot programme, pitched their business ideas in the final DEMO DAY in front of an audience composed of EU and Member States Ambassadors, Minister of State for the Protection of Entrepreneurship, the Mayor of Tirana, university and private sector representatives, innovation ecosystem actors, friends and family. From the ten presenting student start-ups, the expert jury awarded the top three start-ups, RentNow, Bite in Bytes, and ClickHome, with money prizes of respectively EUR 2500, sponsored by Albtelecom, EUR 1500, provided by Credins Bank and EUR 1000, including a workspace, given by Tirana Business Park. In 2024, the Tirana Inc. Bootcamp was a three-day event that took place at the Metropolitan Innovation Center.

8. Perspectives on National Priorities

Understanding the national vision and key strategies

A clear vision for digital transformation, shared at a community or national level, results in synergizing the resources and efforts towards one shared objective. It is important to understand that the digital economy is a product or outcome of digital transformation in a country. Stakeholder visions and strategies can be aligned with this goal, tearing down legacy silos and enabling a collective understanding of gaps and opportunities. This alignment will lead to the creation of a cohesive common agenda.

Most countries have established their national vision for a digital economy, based on national or international narratives such as the Sustainable Development Goals (SDGs), smart cities, smart societies and the creative economy. The national vision is essential to have a common language among stakeholders to avoid miscommunication or misleading information. Most countries are also enacting various strategies, including digital economy strategies, to achieve the vision. However, the needed enablers in many cases are not present to a sufficient degree, especially with regard to how ICT can drive this acceleration.

Albania has already embarked on an overarching development vision and key strategies, as outlined in the National Strategy for Development and European Integration (NSDEI) 2022-2030, the Digital Agenda 2022-2026, and the Smart Specialization Strategy (currently under drafting process).

The NSDEI, in particular, provides a comprehensive roadmap, emphasising the alignment with Sustainable Development Goals (SDGs) and the European integration process. Under this strategy, the vision for 2030 envisions a dynamic economy, part of the EU and the region, ensuring the well-being of its citizens and a functional democracy. The strategy's pillars, focusing on democracy, sustainable economic development, and social cohesion, are essential drivers for the digital transformation.

Meanwhile, the Digital Agenda 2022-2026 serves as a strategic guide for digitization efforts, emphasising the need to maximise economic and societal potential through information and telecommunication technologies. It underscores the importance of increasing access to digital technologies, enhancing digital skills, ensuring data protection, and prioritising cybersecurity. This time again, aligning with EU regulations, such as the Digital Markets Act and Digital Services Act, the agenda reflects Albania's commitment to international standards.

The under development S3 for Albania, embedded within the EU's Innovation Agenda, outlines priorities for economic development. Sectors like energy, agriculture, tourism, and digitization are identified as key areas for growth. Notably, the emphasis on digitization recognizes its role in fostering innovation, improving public services, and enhancing overall economic development.

Considering these strategic frameworks, the perspectives on national priorities are interconnected. The goals for EU integration underpin the country's digital agenda, reflecting a commitment to democracy, rule of law, and fundamental rights. Anti-corruption efforts are bolstered by digital governance, enhancing efficiency and transparency in public services. Emphasis on renewable energy and digital technologies aligns with environmental sustainability and the goal of becoming a net energy exporter. Digital innovation in agriculture addresses climate and labour challenges, contributing to economic growth and the Smart Specialization Strategy. There is also a commitment to tourism, with a focus on improving infrastructure, including digital connectivity, to support tourism growth and economic development. Additionally, there is a push to realise the importance of access to digital technologies, data protection, and cybersecurity, fostering a digitally empowered society.

As Albania moves forward, aligning digital strategies with the country's broader development vision, existing or new, and key strategies will be instrumental in achieving a cohesive and transformative digital profile. This integration ensures that digital initiatives contribute effectively to economic development, social cohesion, and the realisation of the national vision outlined in strategic frameworks.

Table 4: Digital transformation strategies towards the national vision

<table>
<tr><th colspan="4">National Vision</th></tr>
<tr><td colspan="4">Albania 2030 : " A dynamic economy, part of the European Union and the region, that offers equal conditions for increasing the well-being of all its citizens based on a functional democracy that guarantees fundamental rights and human freedoms "NSDI 2022-2030.</td></tr>
<tr><th colspan="4">Digital Transformation Strategies</th></tr>
<tr><td colspan="4">The development of digital strategies to accelerate digital transformation and benefit populations is based on digital innovation strategies to:
Drive digital transformation in the public sector or to enable access to efficient public services for citizens and the private sector (such as transparency, e-governance, laws and regulations, one-stop services and e-citizens).
Achieve social goals that promote inclusion and diversity, such as education and health, while enhancing digital skills across the workforce to support the integration of new technologies.
Benefit key economic sectors vital to employment and inclusion, such as agriculture, tourism, and energy, by transforming traditional industries, improving productivity, and promoting sustainable development to ensure Albania's successful participation in the global digital economy.
Promote environmental sustainability through consideration of areas like green energy and smart grids.</td></tr>
<tr><th>Political</th><th>Social</th><th>Economic</th><th>Environmental</th></tr>
<tr><td>Advancing Digital Government through electronic systems and enhanced services.</td><td>Aspiring to be a digital leader, focusing on inclusion and bridging the digital divide.</td><td>Strategic digital transformation in priority sectors of the economy such as agriculture, energy, and tourism.</td><td>Emphasising environmental sustainability through the digital transition</td></tr>
</table>

Chapter 9 presents recommendations to support Albania and its vision. These recommendations are targeted towards strengthening the country's executive programmes and related strategies to achieve the digital economy vision and mission. These recommendations include specific new measures, policies and initiatives to fulfil the national ambition.

9. Recommendations

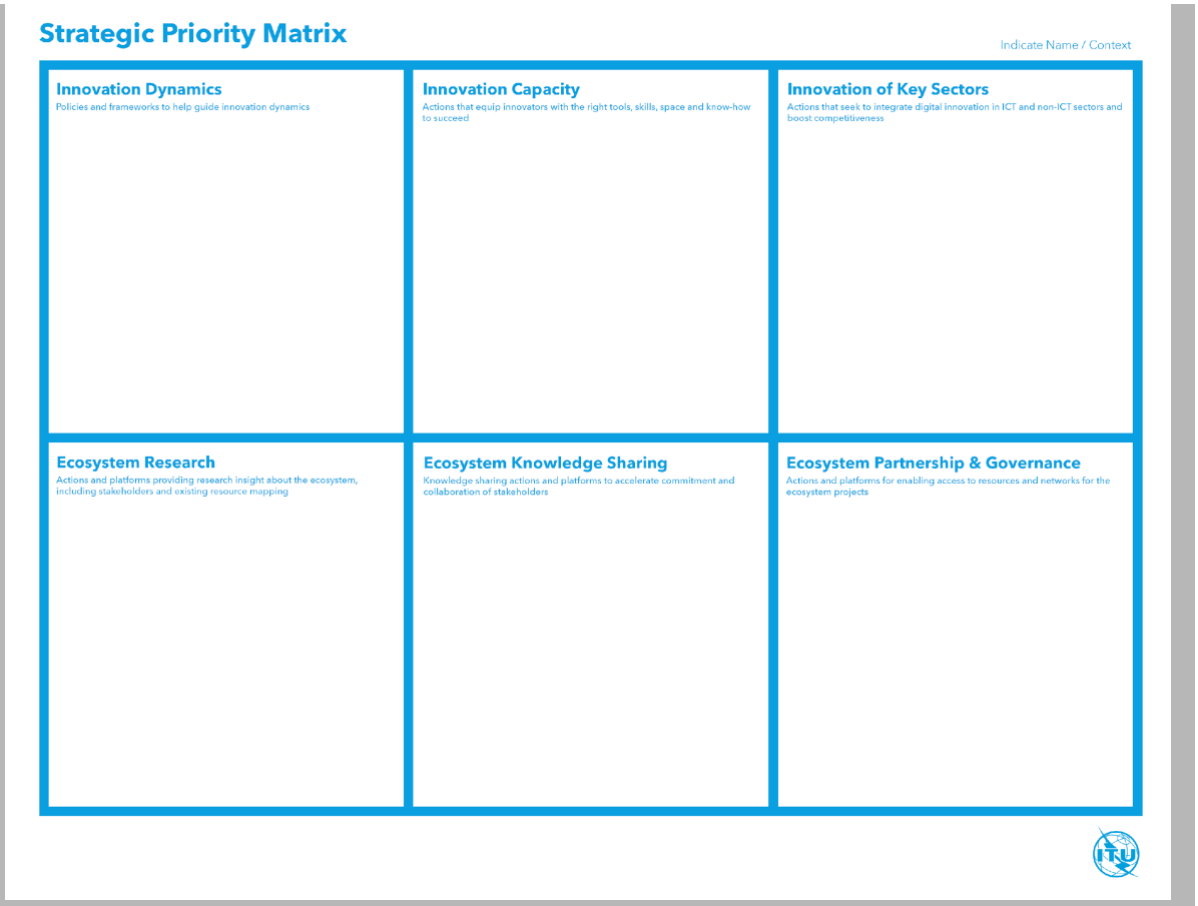
Understanding the strategic priority matrix

Identifying the most critical needs and solving them within resources in an ecosystem is an important consideration. Without prioritisation and proper planning, success can be limited. Developing the capabilities of an ecosystem requires an agreement from stakeholders on key recommendations and key performance indicators to monitor them.

The strategic priority matrix identifies actions, programmes, policies and initiatives that must be in place to unlock the key enablers necessary for digital transformation.

The strategic priority matrix helps to develop a high-priority roadmap that amplifies the ecosystem good practices and fills in the gaps identified. This tool allows stakeholders to identify actions that need to be taken to support the ecosystem and propose missing elements as new complementary actions for the organic development of the ecosystem. The actions proposed need to be aligned with the country's national strategies and should facilitate ICT policies and programmes to be upgraded. All stakeholders should agree on the priorities.

Figure 4 - Strategic Priority Matrix



The opportunities presented for the ecosystem in this chapter have been arrived at through group discussions with local stakeholders in co-creation workshops and supported with detailed complementary information in the detailed Appendix 1.

There are three main strategies for developing the ecosystem. These focus on actions that enhance the nurturing environment and concentrate the ecosystem on key sectors:

- innovation dynamics;
- innovation capacity;
- innovation in key sectors.

Three additional cross-cutting strategies help mature the ecosystem through actions that strengthen knowledge and linkages within the ecosystem:

- ecosystem research;
- ecosystem knowledge sharing;
- ecosystem partnership.

The following table lays out key recommendations, using the six strategic priorities, that will help develop and mature the ecosystem to achieve the national ambition for digital transformation.

Ecosystem Strategies and Recommendations			
Strategic Priorities	Timeframe		
	Short-term (Year I)	Medium-term (Year II)	Long-term (Year III onwards)
Innovation Dynamics (ID)	ID 1: Establish a clearly communicated vision to align existing and future strategies towards a common goal.	ID4: Revise finance policies, and regulations to nurture new investment funds focused on ICT innovation for startups and SMEs.	ID7: Revise employment law and benefits to retain talent in ICT innovation work.
	ID 2: Synergise overlapping strategies and vision documents for improving cohesiveness and reduce duplication of efforts among public sector and external stakeholders.	ID5: Establish an operational framework to foster the use of ICT and strengthen cybersecurity in innovation.	
	ID3: Revise education policy to develop local human resources to support ICT capacity development in the private sector.	ID6: Support local research through a stronger policy and increase in budget allocated for research and innovation.	
Innovation Capacity (IC)	IC1: Identify ICT and relevant entrepreneurship skills needed for Albania's emerging future.	IC4: Develop a platform to establish an angel investment network.	IC7: Develop a programme to promote digital innovation and intrapreneurship in the public sector.
	IC2: Develop a holistic support programme that provides innovators and talents with sustainable guidance and mentors.	IC5: Develop a roadmap of joint projects for talent education, upskilling and development.	IC8: Expand and expedite the benefits of connectivity infrastructure across the country to cover rural areas in a timely manner.
	IC3: Develop a programme for digital innovators to unlock opportunities in disadvantaged communities.	IC6: Establish prototyping labs for innovators to test solutions and encourage tech transfer and commercialisation.	

Innovation of Key Sectors (IS)	IS1: Develop a programme to support Business to Business platforms for digital innovation in key sectors.	IS4: Strengthen existing strategies and programmes that provide support to startups and SMEs to gain access to the regional and global market.	IS7: Strengthen and promote value chain for green energy.
	IS2: Develop a programme to support local talents to unlock domestic market opportunities across sectors.	IS5: Introduce more agility into a procurement programme for startups/SMEs to have the ability to test their ideas, validate their market opportunities, and grow into viable businesses.	
	IS3: Identify and promote thematic areas based on key sectors identified in S3 to incentivise startups to solve local problems.	IS6: Create clusters of companies for strengthening the value chain ecosystem of thematic sectors such as agriculture, tourism and energy.	
Ecosystem Research (ER)	ER1: Strengthen a platform with products and services that map stakeholders, resources, opportunities, and activities of the digital innovation ecosystem.	E2: Develop a platform with products and services that connect academia, private sector and government.	E4: Develop a one-stop-shop platform with products and services to accelerate the commercialisation of ideas to market.
		E3: Develop a programme to identify and pilot existing research or innovations in key sectors.	
Ecosystem Knowledge Sharing (EK)	EK1: Establish and run an Innovation Acceleration Centre to strengthen the ecosystem capacity to develop, monitor and implement flagship projects with strategic partnerships.	EK2: Develop a platform to share success stories and knowledge about the digital economy's opportunities and challenges.	
		EK3: Develop a roadmap of holistic events and a suite of services for developing digital communities.	

Ecosystem Partnership and Governance (EPG)	EP1: Create a governing body for the Acceleration Centre that drives digital innovation in the country as a clear owner.	EP2: Strengthen the mechanism to integrate and interconnect ministries and departments to strengthen e-governance.	EP4: Build human and institutional capacities within the ecosystem to strengthen the foundation for innovation and entrepreneurship in the country.
		EP3: Track and report the progress of ecosystem development through regular dissemination of results linked to clear milestones and KPIs in a periodic manner.	

10. Next Steps

Decisive and active interventions can help transform an ICT ecosystem, making it more innovative and a true driver of accelerated digital expansion in all aspects of society — with real gains in public, professional and personal lives.

Stakeholders, based on co-creation and ecosystem priorities, shared recommendations that have helped conceptualise the following priority projects.

The value of this assessment — which identifies the main obstacles and catalysts that already exist in the ecosystem — is to provide the ideal platform for the launch and development of high-impact flagship projects. Each of these projects, designed to be of unique relevance to the country, would help accelerate digital transformation.

This digital innovation profile provides a valuable first glimpse of both the ecosystem and the existing practices. The profile is designed to raise awareness about the local challenges and opportunities and engage all stakeholders in implementing flagship projects — which can foster an enabling environment for the ICT-centric innovation ecosystem — to unleash the full potential of Albania, and ultimately help bridge the innovation gap.

A roadmap has been co-created with a wide pool of domestic stakeholders. Recommendations based on country-level evidence are aimed at integrating the stakeholders and their actions into a collaborative and knowledge-driven ecosystem that works towards the common goals and catalyses digital transformation in the country.

As a next step, further engagement is needed to design, implement, monitor and evaluate each item in the roadmap. ITU can also provide Albania with an extracted view of the top 10 priorities as an overview of the immediate tasks at hand, which can be viewed as the minimum job to be done to steer change in the ecosystem. One such priority recommendation with cascading impact is around establishing and running an Acceleration Centre to cater to community and national needs through targeted service delivery. Towards this, ITU can further support the country in designing the Centre, strengthening institutional and human capacity, and building governance systems to take the roadmap forward and guide its execution in a continued effort to improve and accelerate the digital innovation ecosystem in Albania.

APPENDICES

APPENDIX 1: Detailed Recommendations Roadmap

These recommendations are inspired by the co-creation workshops in which all stakeholders participated. ITU can help you convert each of these recommendations into concrete projects with clear strategies and key performance indicators (KPIs) to accelerate the ecosystem.

Table 6: Detailed roadmap for ecosystem strategies and recommendation

Ecosystem Strategies and Recommendations Roadmap							
Strategic Priorities	Opportunity Opportunities to address a particular ecosystem challenge	Opportunity Brief Challenge explanation, analysis of the risk of the opportunity, as well as benefits users gain from using product or service.	Product or service to develop Proposed solutions to the ecosystem challenge that meet the needs of users	Ecosystem outcomes How will one know the ecosystem challenge is solved; what will be measured	National outcomes The Key Performance Indicators as established by the country	Champions Core stakeholders with high power and interest to be involved in this opportunity	Good Practice Good practices from around the world to inform the course of action.
Innovation Dynamics 1	Establish a clearly communicated vision to align existing and future strategies	Stakeholders are not working together towards a common goal or direction. The	A clearly communicated vision from the government to	Percentage increase in stakeholder awareness and	Strategic Thrust 3: Economic Empowerment	Albanian Government	National Vision: Smart Nation Initiative (Singapore)

	towards a common goal.	ecosystem needs closer collaboration and clear direction.	unite stakeholders.	knowledge of common vision.	through Digital Innovation	Ministry in charge of Innovation	
Innovation Dynamics 2	Synergise overlapping strategies and vision documents for improved cohesiveness and reduce duplication of efforts among public sector and external stakeholders.	There is some duplication of effort, time and resources due to lack of clarity of clear roles, responsibilities and ownership.	An integrated strategy and vision document that outlines clear roles, responsibilities, and ownership for each stakeholder. A set of clear, smart and measurable milestones, KPIs and goals towards the vision.	Number of KPIs and milestones achieved.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of Innovation	Smart Specialisation Strategy (EU)
Innovation Dynamics 3	Revise education policy to develop local human resources to support ICT capacity	Albania needs a project roadmap to build ICT skills of the future, to include ICT in formal and non-formal education,	A set of revisions to regulations and processes to enable alignment of the education curriculum to industry and	Number of new ICT-related programs and graduates in the ecosystem	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of Innovation	Educational Reforms for ICT Integration (Finland)

	development in the ecosystem.	and to develop digital education content.	future needs with agility.		Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Ministry in charge of Education and Sports Consortium of universities	
Innovation Dynamics 4	Review finance policies, and regulations to nurture new investment funds focused on ICT innovation for startups and SMEs.	There is a need to create new investment funds at all stages of the innovation journey, particularly among angel investment groups and venture capital.	A revision of strategies to incentivise operators, banks and other international private actors to support digital SMEs and start-ups.	Number of new investment funds accessible to digital innovation start-ups and SMEs. Number of new funds distributed to digital innovation start-ups and SMEs.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Ministry in charge of Finance and Economy Ministry in charge of Innovation Albania Association of Banks National Investment Council	Small Business Investment Company Programme (US)

Innovation Dynamics 5	Establish an operational framework to foster the use of ICT and strengthen cybersecurity in innovation.	Cybersecurity represents a growing risk in digital innovation. The breach of data can negatively impact society.	An operational framework with new and enhanced cyber security measures for the public and private sectors. A sandbox for cybersecurity innovation to safely develop and test new security technologies, strategies in a controlled environment.	Score from a third party assessment of government departments to increase standardisation. Percentage decrease in reduction of data breaches in Albania. Number of cybersecurity ideas tested in the sandbox.	Strategic Thrust 1: Public Sector Digital Innovation Strategic Thrust 3: Economic Empowerment through Digital Innovation	Ministry in charge of Infrastructure and Energy Agency responsible for Cyber Security and Electronic Certification	ICT and Cybersecurity Policies (South Korea)
Innovation Dynamics 6	Support local research through a stronger policy, and increase in budget allocated for research and innovation.	Lack of collaborative research and funding are hampering commercialisation of innovation.	A revised policy and strategy to support the needs of academia and industry. Greater budget allocation for collaborative	Number of key sectors identified in policy to promote through research and innovation. Percentage increase of research spending.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albania Government Ministry in charge of Innovation Agency responsible for Scientific Research and Innovation	High-Tech Strategy (Germany)

			research and development.	Number of collaborative R&D projects initiated. Number of IPs registered in Albania.		Consortium of Universities Tirana Chamber of Commerce	
Innovation Dynamics 7	Revise employment law and benefits to retain talent in ICT innovation work.	ICT talent is emigrating to more established ecosystems, leading to a brain drain.	A revised law and employee benefits system to retain national talent.	Percentage decrease in emigration.	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Albanian Government Ministry in charge of innovation	Labour Market Policies (Sweden)
Innovation Capacity 1	Identify ICT and relevant entrepreneurship skills needed for	There is a need to identify specific gaps in ICT and entrepreneurial skills to focus policy and	Conduct a strategic foresight exercise to identify ICT skills needed to accelerate	A set of ICT skills identified through stakeholder engagement to promote across education and	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	Strategic Foresight for ICT and Entrepreneurship

	Albania's emerging future.	programmes in these priority areas.	innovation and for the future of Albania.	employment levels.		Ministry in charge of Education and Sports Industry Consortium of universities Protik ICT Resource Center Albanian ICT Association	Skills (The Netherlands)
Innovation Capacity 2	Develop a holistic programme that provides innovators and talents with sustainable support services and coaches throughout their lifecycle.	Incubators and accelerators need to be available and accessible to encourage innovators to start and scale new ventures.	A holistic and sustainable programme that supports start-ups from ideation to exit.	Number of new start-ups onboarded under the programme. Number of training opportunities and support services provided. Number of successful IPOs launched.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	De-Hub Digital Hub Initiative (Germany)

Innovation Capacity 3	Develop a programme for digital innovators to unlock opportunities in disadvantaged communities.	The ecosystem needs to harness the talent in disadvantaged communities such as people with disabilities, older people, and rural communities.	A programme for digital innovators to unlock opportunities in disadvantaged communities.	Number of individuals included and active in digital innovations from disadvantaged communities.	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Albanian Government Ministry in charge of innovation	Digital Inclusion Programme (UK)
Innovation Capacity 4	Develop a platform to establish an angel investment network.	Angel investments are rare and not specifically focused on digital innovation. This funding is essential to enable innovators to grow their businesses and contribute to the	A platform to support angel investors, including training and introductions to local entrepreneurs.	Number of business angels on the programme. Number of angel investments made in start-ups.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Ministry in charge of finance and the economy Albanian Investment Development Agency	Startup Estonia Platform (Estonia)

		local innovation ecosystem.					
Innovation Capacity 5	Develop a roadmap of joint projects for talent education, upskilling and development.	Albania needs a roadmap of joint projects to increase collaboration and maximise impact for talent education, upskilling and development.	A roadmap of joint projects, talent education, upskilling and development.	Number of joint projects launched. Number of partners onboarded for the join project(s). Number of project learners.	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Ministry in charge of education and sports TUMO University Consortium Industry	SkillsFuture Initiative (Singapore)
Innovation Capacity 6	Establish prototyping labs for innovators to test solutions and encourage tech transfer and commercialisation.	The country needs more well-equipped labs and research centres to inspire talent, solve local problems, assist in times of experimentation	Prototyping labs to support innovators across the country.	Number of prototyping labs across the country. Number of participants for	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	MIT Media Lab (US)

		and learning, and keep the momentum for development going.		each of these labs. Number of university prototype labs made available for public use on rental basis.		Ministry in charge of education and sports SportsFlat6Labs University Consortium	
Innovation Capacity 7	Develop a programme to promote digital innovation and intrapreneurship in the public sector	Intrapreneurship can help to drive innovation and create champions within the public sector.	A programme to promote digital innovation and intrapreneurship.	Number of internal innovation projects. Number or programme participants.	Strategic Thrust 1: Public Sector Digital Innovation	Albanian Government Ministry in charge of innovation	GovTech Centre (Poland)
Innovation Capacity 8	Expand and expedite the benefits of connectivity infrastructure across the country to cover rural areas in a timely manner.	Rural areas are not represented in the ecosystem due to limited access to high-speed internet and connectivity.	Expand high-speed connectivity across rural areas.	Percentage increase in coverage of Internet connectivity in rural areas. Increase in Internet usage in rural areas.	Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Ministry in charge of infrastructure and energy Authority responsible for Electronic Communications.	National Broadband Network (Australia)

Innovation of Key Sectors 1	Develop a programme to support Business to Business platforms for digital innovation in key sectors.	The ecosystem needs a Business to Business platform for digital innovation in key sectors	A programme to support a Business to Business platform for digital innovation in key sectors.	Number of companies using the platform. Number of solutions offered on the platform.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albania Tech Albanian Government Ministry in charge of innovation	HGC Marketplace (China)
Innovation of Key Sectors 2	Develop a programme to support local talents to unlock domestic market opportunities across sectors.	The ecosystem needs to support local talent to address	A supportive programme for local talents to unlock domestic market opportunities.	Number of programme participants. Number of ideas or products/ services launched. Number of public tenders offered to local SMEs and startups.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Protik Innovation Center TechSpace Oficina Ministry in charge of finance and the economy	Startup India (India)
Innovation of Key Sectors 3	Identify and promote thematic areas based on key sectors identified in S3 to	The ecosystem lacks a structured environment for exploring and experimenting in	An awareness programme to encourage innovation in thematic priorities	Number of awareness sessions hosted to encourage	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	MIT's Regional Entrepreneurship Acceleration Program (US)

	incentivise startups to solve local problems.	thematic areas based on key sectors.	through careful and unique problem identification. Develop digital innovation flagship projects in the key sectors.	thematic priorities. Number of projects launched in priority areas. Number of startups and digital SMEs launched with focus on thematic priorities. Number of unique problems identified.	Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Ministry in charge of finance and the economy	
Innovation of Key Sectors 4	Strengthen existing strategies and programmes that provide support to startups and SMEs to gain access to the regional and global market	Companies need support to access regional and global markets and attract investment to scale and grow.	An enhanced programme of support, mentorship and networks for export and investment raising.	Number of participants on the programme. Number of companies that have successfully exported.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	AIDA Albanian Government Ministry in charge of innovation	European Enterprise Network (EU)

	and attract investment.						
Innovation of Key Sectors 5	Introduce a more agile procurement programme for startups and SMEs so that they can test their ideas, validate their market opportunities, and grow into viable businesses.	The ecosystem needs more agile procurement processes, and more awareness and education to allow for start-ups to gain greater access to public procurement contract opportunities.	An agile procurement programme for start-ups/SMEs to have the ability to test their ideas, validate their market opportunities and grow into viable businesses.	Number of revisions made to ease the public procurement process. Number of awareness and education sessions for start-ups and SMEs. Number of start-ups and SMEs applying for public procurement contracts. Number of start-ups and SMEs gaining public procurement contracts.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Ministry of Finance and Economy	Innovation Procurement Programme (The Netherlands)

Innovation of Key Sectors 6	Create clusters of companies for strengthening the value chain ecosystem of thematic sectors, such as agriculture, tourism and energy.	To develop thematic sectors, the ecosystem needs to strengthen existing value chains through clusters.	Thematic sector clusters of companies.	Number of companies created in the value chain. Number of thematic clusters promoted. Percentage increase in GDP contribution of sector.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	Silicon Valley (US)
Innovation of Key Sectors 7	Strengthen and promote the value chain for green energy.	To develop a competitive green energy sector, the ecosystem needs to strengthen and promote its value chain.	Enhanced and strengthened the value chain for the green energy sector.	Number of companies in the value chain. Percentage increase in the GDP contribution of green energy. Percentage increase in adoption of green energy.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	Masdar City (UAE)

Ecosystem Research 1	Strengthen a platform that maps stakeholders, resources, opportunities, and activities of the digital innovation ecosystem.	Platforms and partial mapping of the ecosystem exists but more information is needed to understand its current strengths and gaps to maximise the use of scarce resources, improve efficiencies and build on its strengths.	A digital innovation ecosystem map with reliable and up-to-date information to foster awareness, connections and collaborations between stakeholders.	Number of stakeholder groups mapped. Number of sectors mapped. Number of stakeholders mapped.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation	StartupJo Mapping (Jordan)
Ecosystem Research 2	Develop a platform with products and services that connect academia, private sector and government.	The ecosystem would benefit from a shared platform that connects all stakeholders via common products and services, and supports tech transfer to commercial research and	A platform that connects academia, private sector and government to promote the activation of the Triple Helix model.	Number of stakeholders onboarded on the platform from public sector, private sector and academia. Number of knowledge exchange, training, and capacity building sessions hosted	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Consortium of universities Albanian ICT Association Chamber of Commerce	EUREKA Network (EU)

		address real industry issues.		for the stakeholders. Number of collaborative projects and initiatives between the member stakeholders. Number of commercialised projects			
Ecosystem Research 3	Develop a programme to identify and pilot existing research or innovations in key sectors.	The ecosystem needs to identify and capitalise on existing research and innovation from around the world to maximise impact and reduce time to market in the local context.	A programme that identifies and pilots existing research and innovation in key sectors in local context.	Number of research identified to pilot. Number of pilots successfully launched. Number of pilots commercialised.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation University Consortium Industry	Innovate UK's Innovation Funding (UK)

Ecosystem Research 4	Develop a one-stop-shop platform with products and services to accelerate the commercialisation of ideas to market.	The ecosystem needs to democratise access to resources, information regarding stakeholders, transformative impact, activities, and opportunities to commercialise ideas in high-growth markets.	A comprehensive platform offering products and services designed to accelerate the commercialisation of ideas to market through a Triple Helix collaboration approach.	Number of products and services listed on the platform. Number of collaborations and connections formed. Number of research projects completed. Number of ideas commercialised.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation University Consortium Industry	Innovation Hub (France)
Ecosystem Knowledge Sharing 1	Establish and run an Innovation Acceleration Centre to strengthen the ecosystem capacity to develop, monitor and implement flagship projects with strategic partnerships.	The country needs a platform for knowledge generation, knowledge exchange, capacity building towards critical problem solving using an ecosystem-thinking approach for accelerating innovation.	An Innovation Acceleration Centre that engages with the ecosystem to launch flagship programmes, projects and initiatives towards the goal of accelerating innovation in the country.	Number of problems onboarded to address through the Centre. Number of strategic objectives mapped towards problem solving. Number of programmes, projects and	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote	Albanian Government Ministry in charge of innovation ITU	MaRS Discovery District (Canada)

			A set of KPIs to measure success and impact.	initiatives launched towards problem solving. Number of KPIs met. Number of partnerships formed.	inclusivity and diversity		
Ecosystem Knowledge Sharing 2	Develop a platform to share success stories and knowledge about the digital economy's opportunities and challenges.	The ecosystem needs awareness of role models to reduce the fear of failure and inspire the next generation of entrepreneurs. This will increase early-stage entrepreneurship and help the ecosystem grow.	An enhanced platform to raise awareness of role models, challenges and opportunities in the ecosystem.	Number of success stories shared and promoted. Percentage increase in engagement with the platform. Number of knowledge or capacity building sessions hotels. Number of mentors brought on board.	Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Albania Tech	TechCrunch (United States)

				Number of mentees brought on board.			
Ecosystem Knowledge Sharing 3	Develop a roadmap of holistic events and a suite of services for developing digital communities.	The ecosystem must work together to ensure innovation events are joined up, addressing fundamental challenges, and results and actions are disseminated to eliminate duplication of efforts and redundancies of opportunities offered.	A digital platform which lists a roadmap of holistic events and a suite of services for developing digital communities.	Number of events listed. Number of event hosts listed. Number of impact reports published. Number of participants engaged. Percentage increase in platform engagement.	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity	Albanian Government Ministry in charge of innovation	TechFest (United Kingdom)
Ecosystem Partnership and Governance 1	Create a governing body for the Acceleration Centre that drives digital innovation	The ecosystem needs effective, accountable leadership to align common understanding and concerted	An effective governing body with the capacity to develop, monitor, and implement flagship projects	Number of Board members. Number of meetings held between the Board.	Strategic Thrust 3: Economic Empowerment through Digital Innovation Strategic Thrust 2: Social Inclusion	Albanian Government Ministry in charge of innovation	

	in the country as a clear owner.	digital innovation efforts around a clear plan of implemented strategies	through strategic partnerships.	Number of initiatives approved by the Board. Number of funding raised by Board members.	and Diversity: Leverage digital innovation to achieve social goals that promote inclusivity and diversity		
Ecosystem Partnership and Governance 2	Strengthen the mechanism to integrate and interconnect ministries and departments to strengthen e-governance.	Effective ICT usage by the government would enhance and facilitate government services, exchange of information, communication transactions and integration of various standalone systems and services.	An operational mechanism to enhance ICT usage across all of the government administration for knowledge exchange, data sharing, capacity building and strengthening of operations and service delivery.	Increase in the number of eGovernment services available on eAlbania platform across ministries and departments. Percentage increase in engagement between ministries and departments. Percentage increase in collaborative projects between	Strategic Thrust 1: Public Sector Digital Innovation Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Agency responsible for Information Society Authority responsible for cyber security and electronic certification	eGovernance System (Estonia)

				ministries and departments.			
Ecosystem Partnership and Governance 3	Track and report the progress of ecosystem development through regular dissemination of results linked to clear milestones and KPIs in a periodic manner. .	The ecosystem needs greater visibility of results linked to clear milestones and KPIs. This will motivate stakeholders to act toward a common vision.	A communication and dissemination plan for all ecosystem stakeholders to share progress against milestones and KPIs.	Number of KPIs mapped towards the vision. Number of KPIs achieved. Number of reports and case studies published. Number of events hosted to disseminate status of progress made. Number of unique ecosystem stakeholders engaged. Ranking in Global Entrepreneurship Monitor	Strategic Thrust 3: Economic Empowerment through Digital Innovation	The Acceleration Centre Albanian Government Ministry in charge of innovation	eEstonia Dashboard (Estonia)

Ecosystem Partnership and Governance 4	Build human and institutional capacities within the ecosystem to strengthen the foundation for innovation and entrepreneurship in the country.	The ecosystem needs to build human and institutional capacity to lay the foundation to accelerate innovation and entrepreneurship across the country.	A strategy and plan, supported by initiatives, to build human and institutional capacity to navigate the fast-paced technological world.	Number of initiatives organised to build institutional and human capacity. Number of stakeholders engaged. Number of organisations or institutions engaged.	Strategic Thrust 1: Public Sector Digital Innovation Strategic Thrust 3: Economic Empowerment through Digital Innovation	Albanian Government Ministry in charge of innovation Ministry in charge of education and science	European Institute of Innovation and Technology (EU)

APPENDIX 2: Good Practices

Good practices

To develop the recommendations, it is necessary to draw inspiration from good practices used in other ecosystems without necessarily copying them.

Good practice has been tested to produce an impact, based on evidence and positive results and which can be scaled up and replicated. Good practice is needed to help develop flagship projects, to benchmark the strengths and weaknesses of a practice, and to initiate evidence-based policy or programme development. Good practice allows actors to effortlessly add value to initiatives in their ecosystems. However, good practice should not be reproduced "as is", because every ecosystem and every project is different.

ITU has developed a database of good practices, a framework to better develop these recommendations in a country's ecosystem. Stakeholders can choose to find inspiration from these best practices to strengthen their existing initiatives or develop new ones. For more information, please see: innovation.itu.int or contact: innovation@itu.int.

1. National Vision - Smart Nation Initiative (Singapore): Singapore's "Smart Nation" initiative is a comprehensive vision that aims to transform the country through technology. This vision is clearly communicated across various sectors, ensuring alignment of strategies and efforts towards achieving a tech-driven, efficient, and sustainable nation. The initiative is spearheaded by the Prime Minister's Office, demonstrating high-level commitment, and uses multiple platforms, including websites, public campaigns, and educational programmes, to disseminate the vision widely. Regular forums, workshops, and feedback sessions with citizens, businesses, and public sector entities to ensure alignment and buy-in.
2. Smart Specialisation Strategy (European Union): The Smart Specialisation Strategy (S3) is an innovative approach adopted by EU countries to boost regional innovation and economic development. It focuses on identifying and leveraging each region's unique assets and strengths to drive sustainable growth and competitiveness. The S3 adopts a bottom-up approach where stakeholders collaboratively identify niche areas with potential for competitive advantage and innovation; and data is used for informed decisions, ensuring that strategies are grounded in regional capabilities and opportunities.

3. Educational Reforms for ICT Integration (Finland): Finland's forward-thinking education system includes significant efforts to integrate ICT skills development from an early age. ICT skills are integrated across subjects rather than taught as a standalone subject. This ensures that students develop digital literacy in a holistic manner. There is an emphasis on project-based and problem-solving approaches that encourage students to use ICT tools creatively and collaboratively; and continuous professional development for teachers to ensure they are well-equipped to deliver lessons effectively. Additionally, collaboration with tech companies provide up-to-date resources, tools, and real-world insights into the classroom.

4. Small Business Investment Company Programme (United States): The Small Business Investment Company (SBIC) Programme, administered by the US Small Business Administration, facilitates the flow of long-term capital to America's small businesses, especially those that focus on high-growth sectors, including ICT. SBIC raises capital from a variety of sources, including banks, institutional investors, and high-net-worth individuals. And the government partners with private investors by matching funds to increase the capital available for investment to ensure that innovative startups and SMEs receive necessary funding. Streamlined regulatory frameworks encourage private investment with oversight to ensure proper fund management.

5. ICT and Cybersecurity Policies (South Korea): South Korea has developed an advanced ICT infrastructure and robust cybersecurity policies to support innovation and protect its digital ecosystem. The Ministry of Science and ICT, along with the Korea Internet & Security Agency, plays a central role in coordinating ICT development and cybersecurity efforts across various sectors. This includes implementation of smart city projects and significant investment in research and development for both ICT and cybersecurity technologies, fostering innovation and the development of cutting-edge solutions. Further, the development and enforcement of national cybersecurity standards and guidelines for both public and private sectors ensures a high level of security across the board. And comprehensive training and education programmes are regularly organised to build a skilled workforce in ICT and cybersecurity.

6. High-Tech Strategy (Germany): The High-Tech Strategy aims to position the country as a global leader in innovation by promoting R&D across high-tech sectors. The identification of key areas of focus is aimed at channelling resources effectively and creating high-impact innovations. There has been a substantial increase in budget allocation for research and innovation, including direct funding for institutions, universities, and private sector R&D. The encouragement of collaboration between public research institutions and private companies drives innovation and commercialisation of outcomes. Overall, a strong policy framework, including tax

incentives for R&D, streamlined regulatory processes, and IP protection encourages innovation.

7. Labour Market Policies (Sweden): Sweden has developed a robust system of employment laws and benefits designed to support a dynamic labour market and retain skilled talent. Implementation of flexible working hours and remote work options to enhance work-life balance has proven to be particularly appealing to tech professionals. Comprehensive social benefits, including healthcare, parental leave, pensions, and unemployment insurance, provide a stable and secure environment for employees. Encouragement and support for continuous professional development allows employees to stay current with rapidly evolving technologies. Provision of stock options and profit-sharing schemes, where possible, aligns employees' interests with company success.

8. Strategic Foresight for ICT and Entrepreneurship Skills (Netherlands): The Netherlands employs strategic foresight to anticipate future skills needs, particularly in ICT and entrepreneurship. Stakeholders collaborate to gather insights, analyse labour market trends, map existing skills in the environment, validate future scenarios, and identify future skill gaps. Consequently, educational curricula and training programmes are designed to address these gaps, ensuring that graduates and professionals acquire the skills necessary for future ICT and entrepreneurial challenges. Mechanisms are established for regular monitoring and adjustment of skills development strategies while industry collaboration ensures training and education programmes remain aligned with market needs.

9. The Digital Hub (De-Hub) Initiative (Germany): Launched by the Federal Ministry for Economic Affairs and Energy, De-Hub fosters innovation and digital transformation through a network of regional digital hubs. These hubs offer tailored support services, including funding, mentorship, technical assistance, and business development resources. They facilitate networking and collaboration among startups, established companies, research institutions, and government bodies. Training programmes cover essential skills like business planning and technology development. The initiative provides access to co-working spaces, laboratories, and testing environments. Continuous evaluation and feedback ensure that services evolve to support both early-stage startups and scalable ventures.

10. Digital Inclusion Programme (United Kingdom): The UK's Digital Inclusion Programme is designed to harness the talents of individuals from disadvantaged communities, including people with disabilities, older people, and those from rural areas. These groups are empowered through digital skills development and access to opportunities with accessible learning materials, adaptive technologies, and

inclusive participation. Experienced mentors provide guidance, support, and skills development tailored to the participants' goals and needs. Collaboration with the local civil society that have established connections with disadvantaged groups help to identify specific needs, facilitate engagement, and provide meaningful support.

11. Startup Estonia Platform (Estonia): Estonia's Startup Estonia platform exemplifies a successful model for creating an angel investment network that connects investors with high-potential startups and fosters entrepreneurial growth. It features a centralised online platform with detailed startup profiles, advanced matching algorithms, and a comprehensive resource centre offering educational materials and investment guides. The platform organises networking events, pitch days, and webinars to facilitate connections, and provides due diligence support, mentorship, and advisory services. It includes investment tracking and reporting features, incentive schemes, and community-building initiatives. Additionally, it offers legal and regulatory support to help investors navigate compliance and IP considerations.

12. Skills Future (Singapore): Singapore's Skills Future initiative is a comprehensive programme promoting lifelong learning and skills development across sectors through collaboration among government, industry, and educational institutions. It features an integrated national roadmap outlining joint projects and partnerships to set clear talent development goals. Sector-specific skills frameworks detail required competencies, guiding targeted training programmes. The initiative also provides funding and incentives, including grants for collaborative research, training, and industry-academia partnerships, to support workforce upskilling.

13. MIT Media Lab (United States): The MIT Media Lab is a leading research hub in the United States, renowned for advancing innovation through state-of-the-art prototyping and technology transfer. It offers cutting-edge facilities, such as 3D printers and advanced fabrication tools, enabling rapid development and testing of ideas. The lab fosters interdisciplinary collaboration among researchers, industry professionals, and entrepreneurs, which accelerates the transition from prototypes to commercial products. Additionally, its technology transfer programmes assist innovators with patenting, licensing, and industry partnerships, facilitating the commercialisation of new technologies.

14. GovTech (Poland): The GovTech Centre in Poland drives digital innovation in the public sector by fostering collaboration between government entities and technology experts. It features innovation labs for developing and testing digital solutions, and facilitates collaborative projects between government agencies, startups, and tech companies. The Centre offers training in digital skills and innovation management for public servants and organises open innovation challenges to source ideas from

external innovators. Additionally, it supports digital startups with funding, mentorship, and pilot opportunities, and creates platforms for knowledge sharing and networking among public sector professionals, tech experts, and entrepreneurs.

15. National Broadband Network (Australia): The National Broadband Network (NBN) is a significant infrastructure project in Australia, aiming to deliver high-speed internet nationwide, including in remote and rural areas. It features a nationwide rollout to extend connectivity across all regions, leveraging public-private partnerships to fund, build, and manage the network. The network's deployment is phased, prioritising areas based on demand and need to ensure timely expansion. Additionally, the NBN provides subsidies and support for infrastructure development and adoption of broadband services for digital literacy initiatives, particularly in underserved rural and remote areas.

16. HGC Marketplace (China): HGC Marketplace, developed by HGC Global Communications in Hong Kong, is an online B2B platform designed to facilitate transactions and digital innovation. It provides a comprehensive platform for businesses to connect and transact, offering digital solutions like cloud services, data management, and communication tools. The marketplace integrates various services, fostering ecosystem collaboration among technology providers and businesses. It also offers support services, including technical assistance and training, to help businesses adopt and use digital technologies effectively. Additionally, the platform provides data-driven insights for informed decision-making and operational optimisation, enhancing B2B digital innovation.

17. Startup India (India): The Startup India initiative is a comprehensive programme designed to support and foster entrepreneurship within India. It offers financial support through grants, subsidies, and tax incentives to help startups access necessary capital and resources. The initiative includes incubation and acceleration programmes that provide mentorship, training, and resources to early-stage startups, aiding their market entry and scaling efforts. It facilitates networking and partnerships between startups, industry experts, and established businesses to connect with potential partners and investors. Additionally, the initiative includes market access programmes, offering support through trade fairs, exhibitions, and guidance on regulatory and market entry challenges.

18. MIT's Regional Entrepreneurship Acceleration Program (United States): The Regional Entrepreneurship Acceleration Program (REAP) at the Massachusetts Institute of Technology (MIT) aids regions in crafting strategies to foster innovation by focusing on local strengths and sectoral priorities. It organises thematic workshops and seminars to engage stakeholders in pinpointing key innovation opportunities, and

encouraging collaboration among entrepreneurs, experts, and leaders. Employing data-driven insights and benchmarking, it validates and aligns thematic areas with both local needs and global trends. REAP also offers tailored support for startups, including funding, mentorship, and market access, to promote the development of solutions addressing local challenges.

19. European Enterprise Network (European Union): EU's European Enterprise Network supports SMEs in accessing both regional and global markets by providing resources and guidance for internationalisation and investment. It offers market access support through trade missions, matchmaking events, and market intelligence to help businesses identify opportunities and connect with potential partners. The network facilitates investment by linking startups and SMEs with investors and venture capitalists, organising investment forums and pitching events. Additionally, it provides tailored advisory services to assist businesses in navigating regulatory requirements, developing international strategies, and optimising market entry approaches, ensuring they are prepared for expansion and investment opportunities.

20. Innovation Procurement Programme (Netherlands): The procurement programme for innovation in the Netherlands supports startups and SMEs by integrating their innovative solutions into public sector procurement. It employs pre-commercial procurement to acquire R&D services and solutions still in development, allowing startups to test and refine their innovations. The programme uses a competitive dialogue approach to involve startups and SMEs early in the procurement process, facilitating iterative development and feedback. Additionally, it fosters innovation partnerships between startups, SMEs, and public sector entities, co-developing and testing new solutions to ensure they align with market and regulatory requirements.

21. Silicon Valley (United States): The Silicon Valley in California is a renowned hub for technology companies and startups, exemplifying how clusters can enhance the value chain in technology and innovation sectors. It fosters a collaborative environment that encourages cooperation among companies, research institutions, and investors, creating a dynamic ecosystem for innovation and growth. The region offers specialised services, including access to talent, venture capital, and technical expertise, which address critical challenges and strengthen the value chain. Networking opportunities, such as events, meetups, and conferences, facilitate knowledge sharing and partnerships, driving further innovation within the cluster.

22. Masdar City (United Arab Emirates): Masdar City is a sustainable urban development in Abu Dhabi designed to be a hub for clean technology and renewable energy. It serves as a model for strengthening the green energy value chain. It develops and implements integrated green energy solutions, including solar power, wind energy,

and sustainable urban planning, to demonstrate practical applications and scalability. The city features a R&D hub, promoting collaboration among research institutions and industry leaders. The PPP model is central to its approach, fostering collaboration between public, private and academic institutions to advance green energy projects and technologies, driving investment and cutting-edge solutions.

23. StartupJo (Jordan): Startup Jordan is an interactive and evolving platform that comprehensively maps the startup ecosystem, including stakeholders, resources, and opportunities. It features a dynamic directory of key stakeholders—entrepreneurs, investors, accelerators, and service providers—facilitating connections and partnerships. Regularly updated by ecosystem stakeholders themselves, the platform also lists resources such as funding options and mentorship programmes, and provides details on events, networking opportunities, and innovation challenges. Interactive visualisation tools and data insights enhance understanding of ecosystem dynamics and trends, aiding informed decision-making and identifying emerging opportunities.

24. EUREKA Network (European Union): The EUREKA Network promotes regional and international collaboration in research and development by bridging academia, industry, and government. It supports collaborative R&D projects that bring together academia, private companies, and public organisations, enabling the pooling of resources and expertise to tackle complex industry challenges. EUREKA offers innovation support services such as project management, funding access, and technology transfer to facilitate the progression of projects from research to commercialisation. Additionally, it fosters strategic partnerships across sectors and countries, enhancing cross-border collaborations and maximising the impact of research outputs.

25. Innovation Funding (United Kingdom): Innovate UK's Innovation Funding provides funding programmes that support the identification, piloting, and commercialisation of research and innovations across key sectors. Its key practices include challenge-led innovation, focusing on projects that address specific industry challenges and align with market needs. The programme promotes collaborative pilots by encouraging partnerships between researchers, businesses, and public sector organisations, enhancing the credibility and impact of innovations. Additionally, Innovate UK offers support for scaling successful pilots with further funding, market intelligence, and business development resources, facilitating the transition from pilot to commercial success.

26. Innovation Hub (France): France's Innovation Hub aims to accelerate the commercialisation of new ideas by fostering collaboration among academia, industry,

and government. It employs a Triple Helix Collaboration model, integrating universities, businesses, and government agencies into a unified platform to enhance the development, testing, and market entry of new technologies. The hub provides comprehensive services, including research support, incubation, funding opportunities, and business development resources, ensuring ideas are nurtured from conception to market. It also focuses on key sectors such as technology, health, and energy, addressing specific industry needs and expediting the commercialisation process for relevant innovations.

27. MaRS Discovery District (Canada): MaRS in Toronto is a premier innovation hub dedicated to supporting entrepreneurs and startups through acceleration and strategic partnerships. It offers a variety of support services, including mentoring, office space, and access to a network of partners to accelerate startup growth. The hub focuses on flagship projects in key sectors such as health, cleantech, and fintech, collaborating closely with strategic partners. It also facilitates strategic partnerships between startups, corporations, and academic institutions, driving innovation and the successful implementation of high-impact projects.

28. TechCrunch (United States): TechCrunch is a prominent technology media platform that delivers news, success stories, and analysis about the digital economy and startups. It features articles and interviews with successful entrepreneurs and startups, showcasing their journeys and providing inspiration and practical insights. TechCrunch also publishes detailed industry reports and analyses on trends and opportunities within the digital economy, offering valuable information on market dynamics and emerging prospects. Additionally, it organises events and conferences where industry leaders and innovators share their experiences and knowledge, providing opportunities for networking and learning.

29. TechFest (United Kingdom): TechFest is a platform that organises events centred on technology and innovation, connecting entrepreneurs, tech professionals, and innovators. It provides comprehensive event listings for upcoming tech conferences, workshops, and meetups. TechFest facilitates networking opportunities by bringing together industry leaders and innovators to share insights and build connections. The platform covers a range of technology sectors, including AI, blockchain, and digital transformation, ensuring diverse and relevant content for attendees.

30. eGovernance (Estonia): Estonia is a leading example of e-governance, featuring a comprehensive digital infrastructure that integrates government ministries and departments. It employs the X-Road platform to connect various government databases and systems, facilitating seamless data exchange and interoperability. The country provides a secure digital identity system that allows citizens and officials to

access services and interact with the government online. Additionally, Estonia has implemented a robust interoperability framework for data sharing and integration across government entities, enhancing efficiency and collaboration.

31. eEstonia Dashboard (Estonia): Estonia's e-Estonia Dashboard is a centralised platform that monitors the progress and development of the country's digital ecosystem. It tracks various digital initiatives and milestones, including e-governance, digital services, and IT infrastructure. The dashboard offers real-time reporting on key performance indicators (KPIs), providing up-to-date data and analytics on digital ecosystem development. Public access to the dashboard ensures transparency and fosters stakeholder engagement by allowing the general public to stay informed and involved in the digital transformation efforts.

32. European Institute of Innovation and Technology (European Union): The EU body is dedicated to enhancing innovation and entrepreneurship across Europe by building human and institutional capacities. It supports Knowledge and Innovation Communities (KICs) that target various sectors, including climate, health, and digital technologies, fostering robust innovation ecosystems. The EIT offers educational programmes, training, and workshops to develop entrepreneurial skills among students and professionals. Additionally, it collaborates with universities, research institutions, and businesses to create integrated innovation ecosystems and support institutional development.

APPENDIX 3: Methodology

This study was carried out using a global comparative framework developed by ITU for the diagnosis and development of ecosystems centred on ICTs. The analysis of a country consists of five steps. The aim is to reduce the disparities in digital innovation using a practical kit to strengthen ICT-centric ecosystems that allow defining of common objectives, diagnosing the ecosystem, formulating recommendations, setting up an implementation framework and proposing a monitoring and evaluation method.

The toolkit for strengthening ICT-centric ecosystems is available here: bit.ly/DIPpolicykit

Building on the ITU innovation toolkit series, another toolkit shares more insights on how stakeholders can undertake rapid ecosystem diagnosis, establish key recommendations, and develop flagship projects that effectively nurture ICT-centric innovation within their digital ecosystems.

The toolkit for developing sustainable ICT-centric projects is available here: bit.ly/DIPtoolkit

APPENDIX 4: Key words and definitions

Key Word	Definition
Vision	The vision defines an ideal to be achieved after a given time. Its objective is to mobilise the stakeholders for its realisation while giving the necessary direction to obtain the desired situation.
Strategies	A strategy defines the main axes to be developed in order to obtain the objectives and results towards the vision. The transformation of value chains for each sector with the contribution of digital technology is one of the major research objectives. The strategies should also define the roles and responsibilities of non-digital actors and how their contributions reinforce the defined objectives or sub-objectives. Four pillars of strategies are proposed for sustainable development: political, social, economic, and environmental. For each strategy to be developed, it is recommended to develop a theory of change that unites and measures the actors' contributions.
Dynamics of innovation (ID) with digital technology	Measures that allow innovation to exist. They support the general environment for innovation. A dynamic innovation environment needs a coherent regulatory and organisational framework that guides, encourages and fosters a culture of innovation, mindset, projects and programmes.
Capacity for innovation (IC) with digital	Measures that make it possible to have sufficiently developed infrastructures and talents within the ecosystem, which will be conducive to digital transformation. They give innovators the tools, skills, spaces and know-how they need to be successful.
Innovation in key sectors (IS) with the contribution of digital	Measures that integrate innovation in key sectors, so that startups and SMEs can unleash their full potential and expand beyond their niche, making transformation in other sectors possible.
Research in the digital ecosystem (ER)	Measures and mechanisms to search for information on the ecosystem, in particular the mapping of actors and existing resources.
Knowledge sharing in the digital ecosystem (EK)	Mechanisms and measures to share knowledge to accelerate the mobilisation and collaboration of stakeholders.
Partnership and Governance in the digital ecosystem (EP)	Measures and mechanisms allowing access to resources and networks, to develop a public-private partnership model, to focus actors on ecosystem projects.
Digital Economy	Digital economy refers to a broad range of economic activities that use digitised information and knowledge as key factors of production.
Digital Transformation	Digital transformation is the integration of digital technology into all areas of operations, fundamentally changing how you deliver services and value to citizens and customers.

Theory of change and indicator development	Measures and mechanisms allowing access to resources and networks, to develop a public-private partnership model, to focus actors on ecosystem projects.
Unicorn	A unicorn is a privately held startup company whose valuation is over $1 billion.
Valley of Death	A post-ideation period when innovators need significant investments and a lot of support, and the risk of business failure is high.

APPENDIX 5: Acronyms and abbreviations

Key Word	Definition
AAEF	Albanian-American Enterprise Fund
AECA	Albanian E-Commerce Association
AIDA	Albanian Investment Development Agency
AKEP	Electronic and Postal Communications Agency
AKSHI	National Agency of Information Society
ALL	Albanian Lek
BIDS	Business and Investment Development Strategy
BPO	Business Process Outsourcing
CEFTA	Central European Free Trade Agreement
CIT	Corporate Income Tax
DIP	Digital Innovation Profile
EBDR	European Bank for Reconstruction & Development
EFTA	European Free Trade Agreement
EU	European Union
EUR	Euro
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GDIP	General Directive of Industrial Property
GDP	Gross Domestic Product
GII	Global Innovation Index
GIZ	German Cooperation for International Development
ICT	Information and Communication Technologies
IMF	International Monetary Fund
INSTAT	National Institute of Statistics
IP	Intellectual Property

IsDB	Islamic Development Bank
ISID	Inclusive and Sustainable Industrial Development
ITU	International Telecommunications Union
NAIS	National Agency of Information Society
NGO	Non-government organisation
NSDEI	National Strategy for Development and European Integration
PCT	Patent Cooperation Treaty
R&D	Research and Development
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
SEED	Support for Eastern Europe's Democracy
SME	Small and Medium Enterprises
SRD	Sustainable Rural Development
S3	Smart Specialization Strategy
S4J	Skills for Jobs
TEDA	Technological and Economic Development Areas
UNDP	United Nations Development Programme
USD	US Dollars
VET	Vocational education and training
WIPO	World Intellectual Property Organisation

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