D2.1 Roadmap of the Startup Ecosystem in Georgia

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Abbreviations

BIA – Baltic Innovation Agency, project partner; legal name of the organisation: Baltic Innovation Agency OÜ

BTU - Business and Technology University

ComCom - The National Telecommunications Commission of Georgia

EECCA - According to the Organisation for Economic Co-operation and Development, "Eastern Europe, Caucasus and Central Asia" (EECCA) is a block of countries that includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

EISMEA – European Innovation Council and SMEs Executive Agency, the granting authority under the powers delegated by the European Commission

EU - European Union

FinTech - Financial technology

GENIE - The National Innovation Ecosystem (GENIE) Project for Georgia

GIC – Georgian ICT Cluster, project partner; legal name of the organisation: Georgian ICT Cluster

GITA - Georgia's Innovation and Technology Agency

ICC - The International Chamber of Commerce

ICT - Information and Communications Technology

ITL – Estonian Association of Information Technology and Telecommunications, lead partner of the INFIMO project; legal name of the organisation: MTÜ Eesti Infotehnoloogia ja Telekommunikatsiooni Liit

MVNO - A Mobile Virtual Network Operator

NBA - The National Bank of Georgia

SDGs - Sustainable Development Goals

STEAM - Science, Technology, Engineering, Art and Mathematics

TRL - The technological readiness level

UNDP - United Nations Development Programme

USAID - United States Agency for International Development

Objective of this document

The central objective of this document is to systematically examine the current state of Georgia's startup ecosystem. The overarching goal is to construct a comprehensive mapping that delineates the principal stakeholders, encompassing startups, scale-ups, venture capitalists, accelerators, incubators, and other entities integral to fostering innovation. The primary purpose of this mapping initiative is to optimize targeted communication and facilitate the efficacious dissemination of pertinent information.

1. Startups and the startup ecosystem

Digitalization is undergoing a pervasive transformation across diverse facets of human existence, impacting modes of work, communication, and consumption[1]. Central to this paradigm shift is the Fourth Industrial Revolution, an epoch marked by the convergence of digital, physical, and biological technologies[2], instigating profound and expeditious alterations within the global economy and societal structures.

Within this transformative landscape, startups emerge as dynamic entities engineered for rapid expansion, consistently positioned at the vanguard of innovation[3].

Their pivotal role in the digitalization process is integral to the unfolding of the Fourth Industrial Revolution, evident in several key dimensions:

- Developing new products and services: Startups are in the process of developing innovative digital products and services that are reshaping the ways in which we live and work. For instance, startups have introduced novel approaches to shopping, traveling, communicating, and consuming entertainment;
- Creating new jobs: Startups are actively generating employment opportunities within the digital economy. Specifically, startups are recruiting professionals such as software engineers, data scientists, and other digital specialists;
- Driving innovation: Startups play a pivotal role in propelling innovation within the digital economy. They engage in continuous experimentation with emerging technologies and business models;'
- Disrupting traditional industries: Startups are causing disruptions in conventional industries by offering inventive products and services. For instance, startups have disrupted the transportation sector with the emergence of ride-sharing services, and they have revolutionized the retail industry through the proliferation of e-commerce.

Global changes caused by the Fourth Industrial Revolution:

- The rise of the knowledge economy: The Fourth Industrial Revolution is effecting a transition in the economy from one grounded in physical labor to one predicated on knowledge and creativity.

[t] How Digital Transformation Is Evolving Human Life
https://www.reachfirst.com/how-digital-transformation-is-evolving-human-life/#:~:text=It%20has%20been%20astonishing%20to,does%20daily%20is%20carried%20out.
[2] Fourth Industrial Revolution
https://www.weforum.org/focus/fourth-industrial-revolution#:~:text=It%20is%20a%20new%20chapter,huge%20promise%20and%20potential%20peril.
[3] THE IMPACT OF DIGITAL TRANSFORMATION IN THE STARTUP
https://joeducation.eu/the-impact-of-digital-transformation-in-the-startup/#:~:text=START%2DUPS%20AS%20ACCELERATORS%20OF,large%20companies%20facing%20digital%20transformation.

- The growth of the global economy: The Fourth Industrial Revolution is simplifying global trade and operations for businesses, thereby contributing to the expansion of the global economy.
- The Escalation of New Social and Economic Inequalities: The Fourth Industrial Revolution is additionally fostering the emergence of new social and economic inequalities. For instance, individuals possessing the requisite skills and knowledge to thrive in the digital economy are likely to experience more substantial benefits compared to those who do not.

Digitalization and startups are playing a key role in the Fourth Industrial Revolution[4], engaging in the development of new products and services, the creation of jobs, the propulsion of innovation, and the disruption of traditional industries. The Fourth Industrial Revolution is instigating rapid and fundamental changes in the global economy and society, necessitating preparedness for these transformative shifts.

This digital innovation holds the potential to catalyze sustainable economic growth, aligning with the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). This is achieved by fostering the entrepreneurship essential for the seamless integration of technology, innovation, and development. The convergence of these elements is indispensable in propelling progress towards a more sustainable and equitable future.[5]

1.1. Start-up

This paper is centred on technology startups. For the purposes of this study, the term "start-up" refers to an innovative or technology-driven company established within the past decade, with technology and/or scalability constituting fundamental components of its business model. This category encompasses not only software startups but also extends to those engaged in advanced technologies such as Robotics, Life Sciences, Agricultural Technology, and similar domains."[6]

[4] Industry 4.0: A Breakdown On Startup Driven Innovation
https://www.startus-insights.com/innovators-guide/disrupting-the-4th-industrial-revolution-a-breakdown-of-startup-driven-innovation-in-industry-4-0/
[5] Bridging the digital innovation divide: A toolkit for developing sustainable ICT-centric ecosystem projects
https://www.itu.int/pub/D-INNO-TOOLKIT.2-2020
[6] https://startupgenome.com/glossary

Box 1 - Main characteristics of a startup company[7]
Innovation[8] - Startups are often at the forefront of innovation, developing new products or services to meet the changing needs of consumers. **Growth**[9] **and Scalability** - Startups are designed to grow rapidly, with ambitious revenue and market share goals. **Risk-taking**[10]**/ High risk of failing -** Startups are willing to take risks in order to grow, experimenting with new business models, technologies, and markets. **Agility**[11]**/Lot of uncertainties in the business model** - Startups are agile and adaptable, able to quickly change their plans and strategies in response to market feedback. Many startups are providing unique services or product to the customers. That is the main reason why the business model (way of providing the solution and earning money) is not clearly defined in the beginning. **A small team**[12]**/Importance of team/founders** - Startups typically have a small team of founders and early employees who are passionate about the company's mission. The core team of a startup company is the biggest asset the company has. There are two things that are crucial to well-performing startup teams: mix of different professional skills that are needed to build the product or launch the service and the similarities in the expectations and working models of the team-members. **A limited budget**[13]**/ Lack of resources** - Startups often have limited access to capital, which forces them to be resourceful and efficient. **Different growth funding schemes** – To support the quick growth and fierce product development in a startup company, there is an option to use external money. This could be in the form of a loan, an investment, a grant, a crowdfunding solution etc. **A focus on customer feedback**[14]**/Client oriented approach** - Startups are typically very customer-centric, listening to customer feedback and using it to improve their products and services.

[7] STARTUP MANUAL - Guide to start and launch your startup business
https://smeportal.unescwa.org/sites/default/files/2019-12/Startup_Manual_to%20start%20a%20business.pdf
[8] Startups, SMEs and Marketing: The Dynamic Combination Driving Job Creation and Economic Growth. https://www.linkedin.com/pulse/startups-smes-marketing-dynamic-combination-driving-job-ma-vila/?trk=article-ssr-frontend-pulse_more-articles_related-content-card
[9] Startup vs. Small Business: What are the Differences?
https://online.maryville.edu/blog/startup-vs-small-business/#:~:text=On%20the%20other%20hand%2C%20startups,that%20allowed%20for%20that%20growth.
[10] The Role of Innovation in Startup Success
https://aicontentfy.com/en/blog/role-of-innovation-in-startup-success
[11] Agility adaptability and alignment in start-ups
https://www.emerald.com/insight/content/doi/10.1108/JSTPM-05-2022-0083/full/html#:~:text=Start%2Dups%20benefit%20from%20flexibility,high%2Dquality%20products%20or%20services.
[12] 3 Things to Consider Before Working at a Startup
https://hbr.org/2022/05/sm-pub-5-20-should-you-work-at-a-startup#:~:text=things%20to%20consider.-,You'll%20be%20expected%20to%20give%20150%25.,the%20company's%20mission%20or%20purpose.
[13] Navigating Your Path to Funding: A Guide for Tech Startups
https://www.linkedin.com/pulse/navigating-your-path-funding-guide-tech-startups-joseph-walker-/
[14] How startups can take a more customer-first approach while building their products and services
https://www.linkedin.com/pulse/how-startups-can-take-more-customer-first-approach-while-aiyaz-uddin/

A strong company culture[15]/Learning by doing mentality - Startups often have a strong company culture that is based on values such as collaboration, creativity, and innovation. There is no complete guide that helps to build up a successful startup company (there are lot of good advice available though).

Box 2 - Main differences between a startup and SME[16]

Characteristic	Startup	SME
Focus	Innovation, rapid growth	Established business model, steady growth
Risk	High	Lower
Funding	Requires external funding	May or may not require external funding
Size	Smaller, fewer employees and lower revenue	Larger, more employees and higher revenue
Ownership	Often owned by founders	More likely to be owned by individuals or families
Management structure	Flat	More hierarchical
Culture	More entrepreneurial and risk-taking	More conservative

1.2. Startup ecosystem: Elements and Factors

A digital startup ecosystem comprises a network of interconnected entities dedicated to fostering the growth and success of digital startups. These entities encompass entrepreneurs, investors, mentors, accelerators, incubators, co-working spaces, universities/academia, government agencies, and other supportive organizations.

The stratification of startup ecosystems occurs at different tiers, spanning continental and national levels to regional and city levels. This classification hinges on diverse factors, including the quantity and quality of startups, institutional support, and the overarching socio-

[15] Key Factors and Challenges of Building Startup Culture
https://alcor-bpo.com/your-own-rd-office-news/key-factors-and-challenges-of-building-startup-culture/#:~:text=let's%20dive%20in!-,What%20Is%20Startup%20Culture%3F,bureaucracy%20and%20absence%20of%20passion.

[16] Mikle, L. Startups and reasons for their failure. In SHS Web of Conferences; EDP Sciences: Ulis, France, 2020; Volume 83, p. 01046.
https://www.shs-conferences.org/articles/shsconf/pdf/2020/11/shsconf_appsconf2020_01046.pdf

economic environment that sustains their existence. These criteria serve to differentiate well-established ecosystems in developed regions from their counterparts in emerging economies.

In developed economies, stakeholders typically allocate more substantial resources and investments to facilitate the development of digital startups. Consequently, these regions exhibit a higher prevalence of thriving technology startups, resulting in elevated rankings within the global startup ecosystem hierarchy.

The global startup ecosystem ranking intricately links to the quality and effectiveness of the startup ecosystem, significantly influencing the growth and success of startups within it. A flourishing startup scene yields manifold social and economic advantages, encompassing job creation (SDG 8), advancements in innovation (SDG 11), mitigation of brain drain, and the reinforcement of economic development (SDG 9). Hence, the study and enhancement of startup ecosystems bear paramount importance in addressing the Sustainable Development Goals.

Box 3 - Start-Up Ecosystem Elements[17]

Start-Up Ecosystem Element	Description
Incubators and Accelerators	They help start-up entrepreneurs validate their business concepts and ideas, whereas accelerators provide existing companies (usually in the post-incubation stage) with the means to develop their minimum viable product. Additionally, accelerators provide digital technology start-ups with funding, networking, and mentorship. They play a crucial role in the start-up ecosystem by helping digital technology start-ups grow and scale
Corporates	These are large enterprises and places with open innovation models that co-create and work with digital technology start-ups by leveraging their technology. Corporations are essential in the start-up ecosystem as they provide digital technology start-ups with market access
Investors	Develop the start-up ecosystem. Start-up funding comes in different forms and at different stages of the business. Funding ranges from pre-seed, seed, and then series. High-net-worth individuals play a key role in the pre-seed stage of the start-up's development as they provide the capital for the start-up while it is being incubated. Venture capital firms fund seed and series funding to grow the business while the start-up is accelerating
Government	National, regional, and local governments create an enabling environment for

[17] Kayser, K.; Telukdarie, A.; Philbin, S.P. Digital Start-Up Ecosystems: A Systematic Literature Review and Model Development for South Africa. Sustainability 2023, 15, 12513. https://doi.org/10.3390/su151612513

	digital technology start-ups through tax incentives, talent attraction, ease of doing business, and fostering an investment and legal framework
Legal Framework	Protection of property rights also determines how investors choose where to invest their funding for digital technology start-ups. A legal framework that includes but is not limited to these elements will be crucial to building a thriving start-up ecosystem. It includes labour laws, tax laws, intellectual property, patents, and their associated bureaucracy.
Talent	Universities and reputable companies run incubators and accelerators that train and equip start-ups with methods to succeed. Universities and research centres provide information on technology that empowers the start-up by preparing the entrepreneur and providing networking opportunities. Universities and research centres also guide entrepreneurs in the technology transfer process. Successful, knowledgeable entrepreneurs serve as guides for beginners.

1.3. Benefits of digital startup ecosystems

Digital startup ecosystems offer a multitude of advantages to both the startups themselves and the broader economy.

Benefits to Startups:

- **Access to Capital:** Digital startup ecosystems facilitate access to various capital sources, including angel investors, venture capital firms, and private equity firms;
- **Mentorship and Support:** These ecosystems provide startups with opportunities to engage mentors and other supportive organizations, aiding in the development of business plans, capital acquisition, and the navigation of growth-related challenges;
- **Networking Opportunities:** Digital startup ecosystems create avenues for startups to network with fellow entrepreneurs, investors, and potential customers;
- **Shared Resources:** These ecosystems often grant startups access to shared resources, such as co-working spaces, conference rooms, and equipment.

Benefits to the Economy:

- **Job Creation:** Startups emerge as significant contributors to job creation within the global economy;
- **Innovation:** Startups consistently engage in innovation, propelling the development of new products and services;
- **Economic Growth:** Startups play a pivotal role in driving economic growth by establishing new businesses and markets;
- **Problem Solving:** Startups frequently spearhead initiatives aimed at addressing some of the world's most pressing issues, including climate change, poverty, and disease.

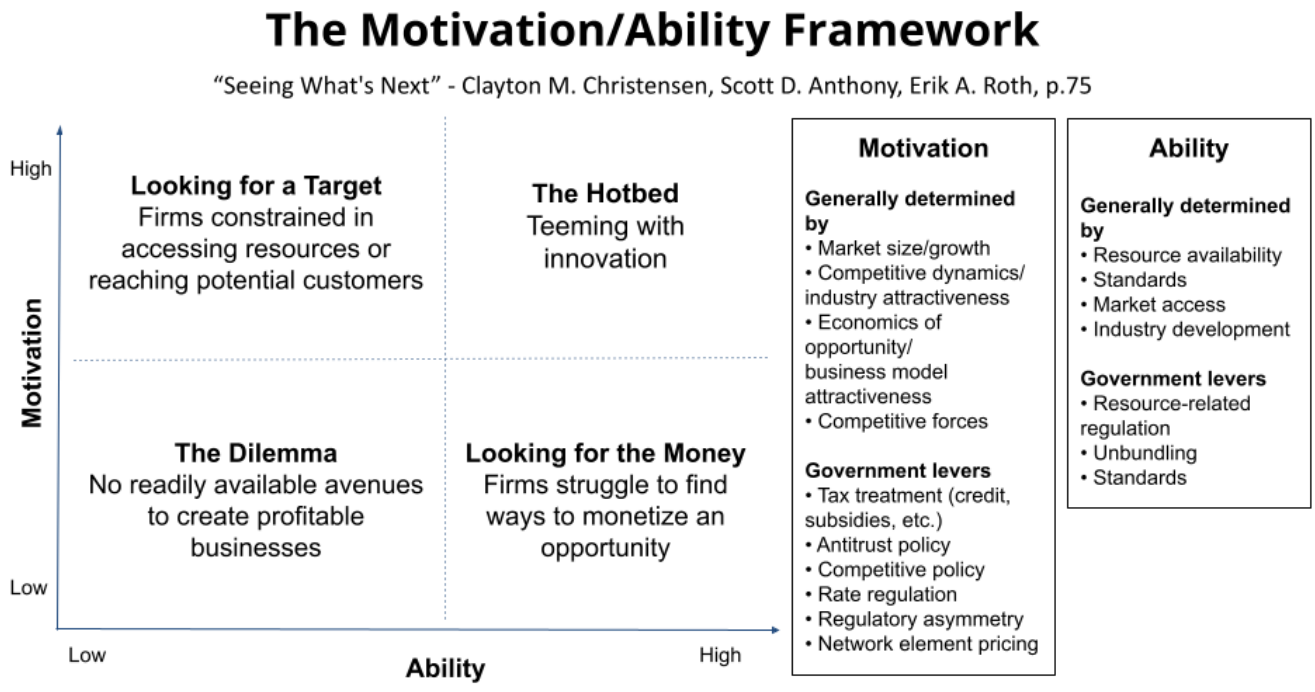
1.4. Nurturing the Growth of Startup Ecosystems

The prevailing notion[18] asserts that prosperous startups can arise from any corner of the globe. Paradoxically, it is often within the context of the distinctive challenges encountered by developing societies that innovators discover fertile ground for their ideas.

Although innovative concepts may originate from diverse locations, the ecosystem in which these ideas take root assumes a pivotal role in their progression. The level of support or impediment provided by this ecosystem can significantly influence the development and ultimate success of these groundbreaking ideas.

1.4.1. An environment for innovation - "To be, or not to be"

Clayton M. Christensen, a distinguished management scholar and the author of "Seeing What's Next," introduces the "Motivation/Ability Matrix" as a conceptual framework for comprehending and forecasting the traction that disruptive innovations can attain in the market. This matrix constitutes a fundamental element of Christensen's theory of disruptive innovation, a concept that has exerted a profound influence on the domain of business strategy.



The Motivation/Ability Matrix serves as a two-dimensional framework evaluating two pivotal factors:

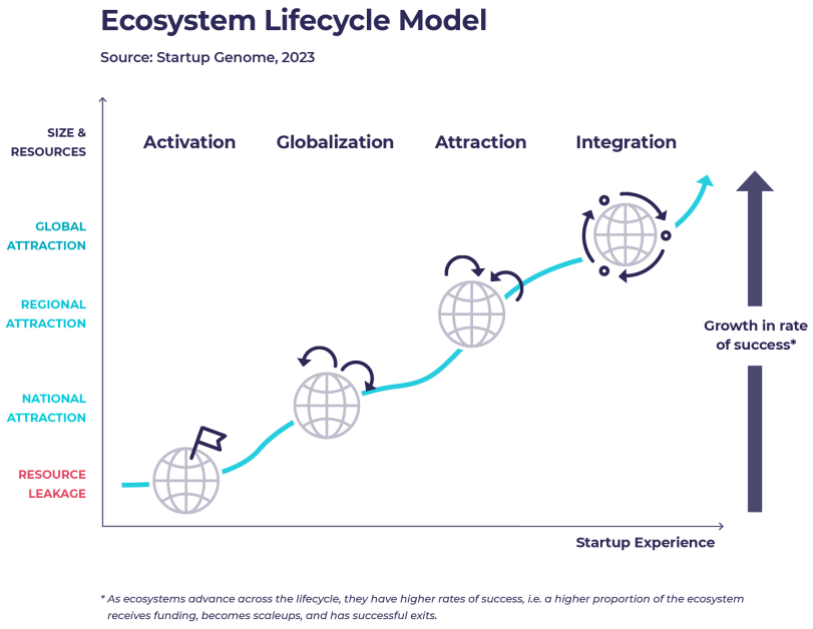
[18] Role of Startups in Driving Economic Growth
https://www.opengrowth.com/resources/role-of-startups-in-driving-economic-growth

- **Motivation**: This dimension gauges the willingness or desire of the market to adopt a new product or service. It holds critical significance, as innovations not aligned with a market's motivation may encounter challenges in gaining acceptance.
- **Ability**: In this context, ability pertains to the market's capacity to adopt a new product or service, considering factors such as affordability, ease of use, and access. An innovation may be appealing, but if it proves too expensive or technically demanding for the target market, it is less likely to succeed.

This matrix is subdivided into four quadrants, each representing a unique scenario for innovation adoption. By leveraging the Motivation/Ability Matrix, businesses can pinpoint the classification of their innovations and formulate strategies accordingly. Emphasizing the importance of not only creating innovative products but also comprehending the market's motivation and ability to adopt them, this framework facilitates informed decisions regarding investment, marketing, and overcoming adoption barriers.
In the context presented, this matrix serves as a valuable tool for assessing the responsiveness of a specific startup ecosystem to innovation. Through its application, insights into the ecosystem's preparedness and inclination to embrace innovative ideas and technologies are garnered, enabling informed evaluations of its innovation potential.

1.4.2. The evolution of startup ecosystems (phases)

The maturation of startup ecosystems undergoes a nuanced and intricate progression, analogous to the growth and transformation witnessed in ecological systems. This evolution traverses distinct phases, each characterized by unique attributes, resource requisites, and developmental prerequisites. Following Startup Genome's categorization, startup ecosystems progress through four fundamental phases: Activation, Globalization, Attraction, and Integration. Each phase boasts defining characteristics and critical catalysts propelling them to transition from one stage to the next.



Comprehending these lifecycle phases is crucial for devising precise strategies. Drawing upon years of evaluation and advisory expertise, Startup Genome has identified that tailored

strategies, termed Norm Strategies, prove effective contingent upon the phase of the ecosystem's evolution. Ecosystems failing to synchronize their initiatives with their particular lifecycle phase may inadvertently undertake appropriate actions but at an inopportune time, resulting in the inadvertent expenditure of resources and efforts without commensurate improvements to the overall startup ecosystem[19].

1.5. A Global Startup Ecosystem: Key Trends

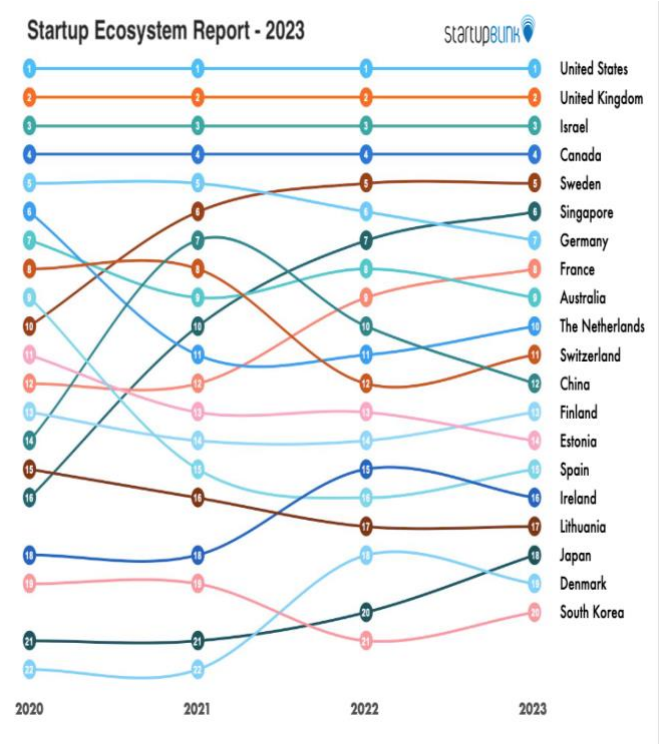
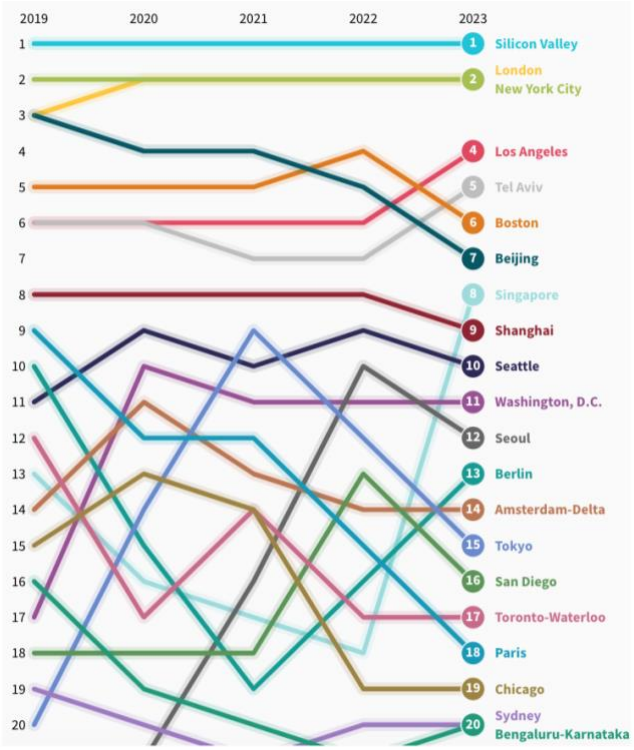
Key trends[20] of the global startup ecosystem include**:**

- **Dominance of Global West** - Startup ecosystems within the economies of the Global West persist in asserting their dominance. This underscores the intrinsic connection between the prosperity of startups and the strength and support of their parent ecosystems.

- **Geopolitical Impact and Deglobalization** - Geopolitical factors have instigated a discernible trend toward deglobalization and the fragmentation of startup ecosystems. This realignment has facilitated the rise of regional innovation centres.

- **Regional Hubs on the Rise** - The ascent of regional hubs is propelled by various factors, including robust local demand in domestic markets and targeted government initiatives, exemplified by those observed in the United States concerning the semiconductor industry. However, it is noteworthy that specific regions have encountered setbacks due to policy decisions, such as the "judicial reform" in Israel. This highlights the delicate equilibrium that governments must uphold in supporting their local ecosystems.

[19] THE GLOBAL STARTUP ECOSYSTEM REPORT 2023 (Ecosystem Life-cycle Analysis) https://startupgenome.com/article/ecosystem-lifecycle-analysis-1
[20] *STARTUPBLINK* - *The Global Startup Ecosystem Index Report 2023*, *STARTUP GENOME* - *The Global Startup Ecosystem Report 2023 (GSER 2023)*

Box 4 - The Global Startup Ecosystem 2023	
	
STARTUPBLINK *The Global Startup Ecosystem Index Report 2023*	*STARTUP GENOME* *The Global Startup Ecosystem Report 2023 (GSER 2023)*

Start-up Ecosystems and Diverse Industry Dynamics[21]

When examining various industries, specific sectors have garnered significant attention and investment in recent years. Notably, artificial intelligence and big data have emerged as focal points within the venture capital landscape. This sub-sector represented an impressive 28% of the global share in 2022, signifying considerable investor interest. Moreover, it observed the most substantial growth in exits, experiencing a notable 74% surge from 2017-2018 to 2021-2022. Remarkably, there was also a 34% upswing in Series A funding during this same period, emphasizing the robust growth and attractiveness of this segment.

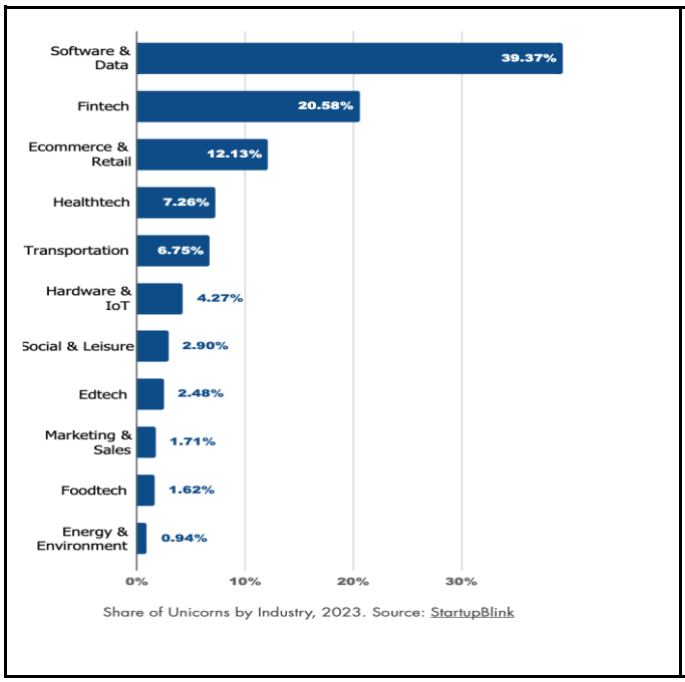
Deep Tech, another critical field, has demonstrated considerable promise. It exhibited faster exit growth compared to non-Deep Tech technologies, with an impressive 326% increase from 2017-2018 to 2021-2022, surpassing the growth rate of non-Deep Tech technologies, which stood at 225%.

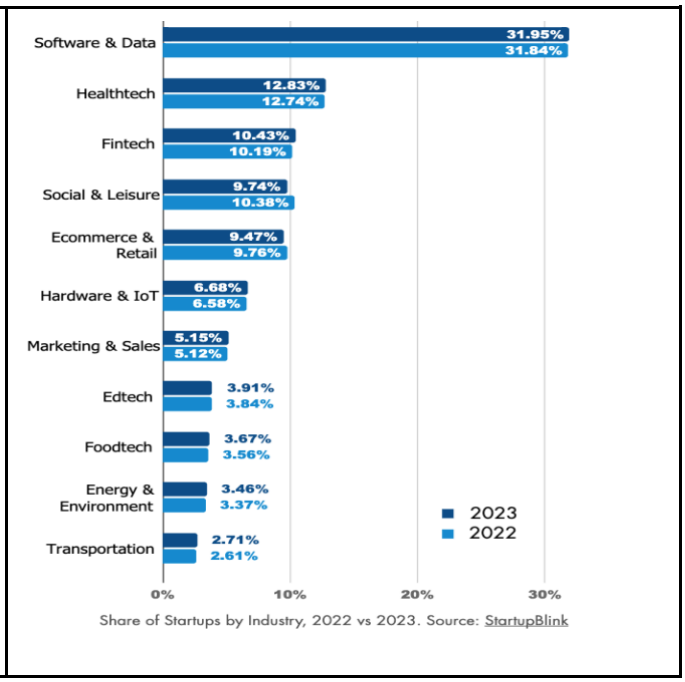
[21] *STARTUPBLINK* - *The Global Startup Ecosystem Index Report 2023*, *STARTUP GENOME* - *The Global Startup Ecosystem Report 2023 (GSER 2023)*

Advanced manufacturing and robotics have also showcased their potential, earning the distinction of being the fastest-growing sub-sector by Series A volume. This segment grew by an impressive 168% from 2017-2018 to 2021-2022, affirming its role as a dynamic and burgeoning domain.

Semiconductors and WEB.3 are among other sectors garnering substantial attention and interest from investors, further contributing to the diverse and dynamic landscape of venture capital investments.

However, the Edtech sector has followed a different trajectory, with Series A funding experiencing a notable decline of 44% from 2017-18 to 2021-22, contrary to expectations. This underscores the nuanced dynamics within industry segments.





Global Startup Funding Landscape[22]

Key dynamics within the global startup funding landscape:

- **North American Dominance -** The supremacy of North America in the startup realm is more pronounced than reflected in the global startup ecosystem index. North American startups command a substantial 49.9% share of global funding, although this represents a slight reduction from the previous year's 52%.

[22] *STARTUPBLINK - The Global Startup Ecosystem Index Report 2023, STARTUP GENOME - The Global Startup Ecosystem Report 2023 (GSER 2023)*

- **Asia Pacific's Steady Growth** -The Asia Pacific region has experienced a modest increase in its share, rising to 24.5% from the previous year's 24%. Notably, more than 60% of regional investments are directed into India and China.

- **European Resilience** - Europe has witnessed a slight upswing in its share, progressing from last year's 18.3% to 19.7%. Despite harboring a diverse startup landscape, constituting 41% of the top 1,000 cities, Europe receives a smaller portion of global funding compared to North America and Asia Pacific.

- **Africa & Middle East Gain Momentum** - The Africa & Middle East region has made significant strides, with funding surging to 3.7%, a notable increase from the prior year's 2.5%.

- **Israeli Prowess** - Israel commands prominence within the Middle East & Africa region, securing a commanding 53.3% of funding, affirming its position as an innovation hub in the region.

- **Latin America & Caribbean Challenges** - Conversely, Latin America & the Caribbean constitute the region with the lowest share of funding in 2023, capturing a mere 2.2% of global funding, down from close to 3% the previous year. Brazil, with 43.1%, Mexico with 14.2%, and Colombia with 13.4%, collectively account for over 70% of the region's funding, emphasizing the concentration of investments within this segment.

2. Georgian Start-up Ecosystem

2.1. General Overview

2.1.1. History

Georgia's startup ecosystem is in its early stages of development, despite nearly a decade of incubation since its inception in 2016. The ecosystem is characterized by youthful energy and enthusiasm, coupled with a strong emphasis on innovation. The startup scene in Georgia has experienced significant growth in recent years, fostering a growing sense of optimism about the ecosystem's future.

The defining moment for Georgia's startup ecosystem can be traced back to the launch of "Startup Georgia"[23] venture investment program in June 2016. This initiative, orchestrated under the Ministry of Economy, marked the official commencement of Georgia's foray into fostering a startup culture, as mandated by the Government of Georgia[24].

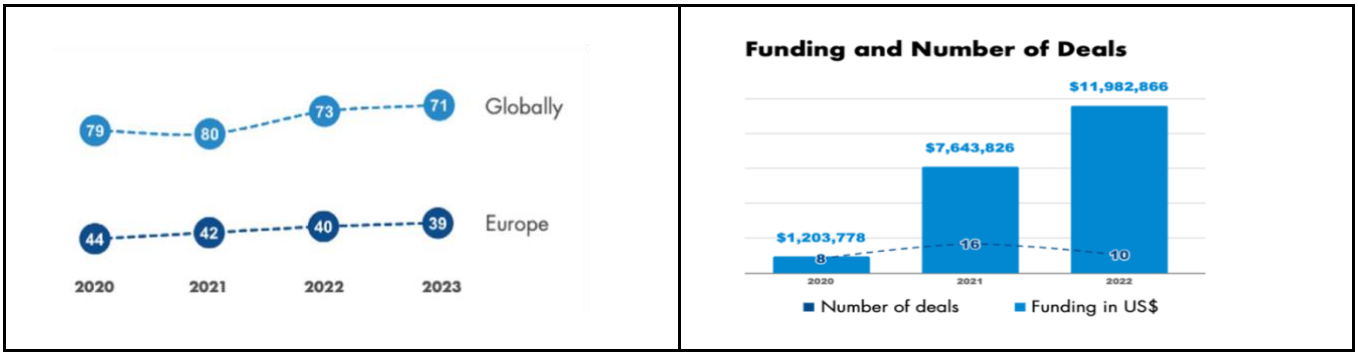
Presently, the primary orchestrator from the state is the "Georgian Innovation and Technology Agency" (GITA)[25] under the Ministry of Economy and Sustainable Development, playing a pivotal role in steering the trajectory of the country's startup ecosystem.

While the state remains the predominant driving force, signs of evolution are discernible. Emerging partnerships, such as the private-public collaboration exemplified by "500 Georgia,"[26] are beginning to take shape. Simultaneously, initiatives from academic institutions and the private sector, predominantly in the form of incubation-acceleration programs, are gaining ground. Notably, the two-year operation of the Axel[27] Association, representing private angel investors, signifies a nascent yet promising trend within Georgia's startup ecosystem.

As of now, the ecosystem is yet to witness the emergence of a "Unicorn." However, several instances illustrate the success of Georgian startups being strategically acquired in the American market, underscoring the gradual maturation and integration of Georgia's startups into the global entrepreneurial landscape.

[23] http://startup.gov.ge/geo/program
[24] https://www.economy.ge/?page=projects&s=29
[25] https://gita.gov.ge/en
[26] International Acceleration Program - https://500.co/accelerators/500-georgia
[27] Axel - Georgian Business Angel Network https://axelnetwork.org/

2.1.2. Georgia in the Global Startup Ecosystem Ranking



The latest findings from Startupblink's "Startup Ecosystem Report 2023"[28] indicate a noteworthy advancement for Georgia's startup ecosystem, securing the 71st position out of 100 countries. This represents a commendable two-point progress compared to the previous year. Moreover, within the European startup ecosystem rankings, Georgia has demonstrated a consistent upward trajectory, elevating its standing from 44th in 2020 to a more competitive 39th place in 2020-2023. Despite this, it is almost half behind Armenia in points (2,579:1,054), which is the leader in the Caucasus.

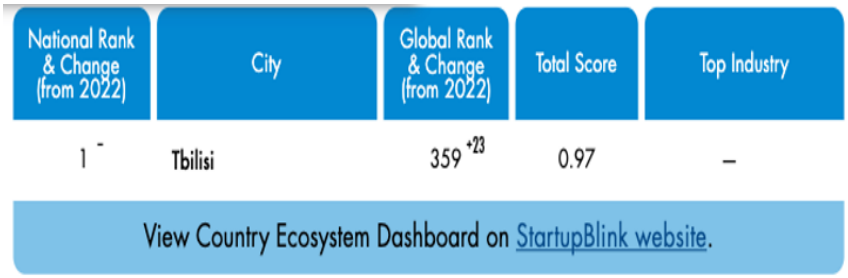
Georgia's progress is evident, but the comparative gap underscores the challenges and opportunities that lie ahead in further enhancing its startup ecosystem.

Within the countries comprising the region (Russia, Turkey, Ukraine, Armenia, Azerbaijan), Georgia's standing in the startup ecosystem ranking places it ahead of only Azerbaijan, as indicated in the provided table. This underscores the varying degrees of development and maturity across the startup landscapes in the region. Georgia's position, while reflecting progress, also indicates the need for continued efforts to align with and potentially surpass its regional counterparts in fostering a vibrant and thriving startup ecosystem.

Rank	Country	Rank Change (from 2022)	Total Score
29	Russia	-	8.095
45	Turkey	+1	5.126
49	Ukraine	+1	4.634
57	Armenia	+3	2.579
71	Georgia	+2	1.054

[28] https://www.startupblink.com/startup-ecosystem/georgia

84	Azerbaijan	+1	0.626



The heart of Georgia's burgeoning startup ecosystem lies in Tbilisi, securing the 359th position in the Startupblink Startup Ecosystem Report 2023 ranking. This marks a significant advancement of 23 points compared to the previous year, underscoring Tbilisi's accelerating momentum in the realm of startups. As the central hub, Tbilisi plays a pivotal role in shaping the trajectory of Georgia's startup landscape, reflecting a commitment to fostering innovation and entrepreneurial endeavors within the region. The notable leap in ranking signals a positive trajectory and underscores the city's commitment to nurturing a dynamic and evolving startup ecosystem.

Georgia's startup ecosystem position, while reflecting progress, also indicates the need for continued efforts to align with and potentially surpass its regional counterparts in fostering a vibrant and thriving startup ecosystem.

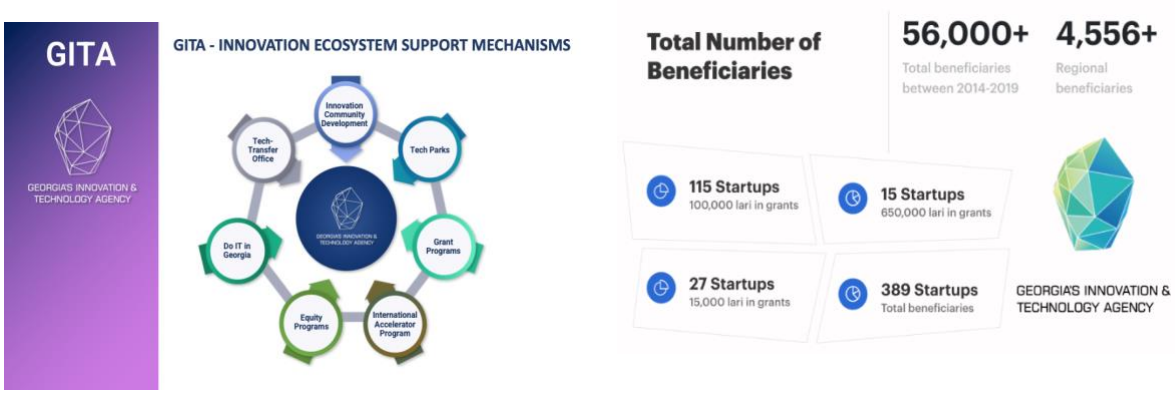
2.2. Georgian Start-Up Ecosystem (Elements)

2.2.1 Catalytic role of the Public Sector in the startup ecosystem of Georgia

The state assumes a pivotal role in the startup ecosystem of Georgia. Through the provision of funding, resources, and support, the state becomes an instrumental factor in aiding the growth and success of startups. Additionally, the state can contribute to establishing a conducive environment for startups by implementing regulations, innovative policies, and regulatory frameworks.

Georgia's Innovation & Technology Agency (GITA)

In the dynamic landscape of Georgia's startup ecosystem, the Georgian Innovation and Technology Agency (GITA) emerges as a pivotal force, spearheading interventions aimed at stimulating and nurturing innovation. GITA's multifaceted approach reflects a commitment to comprehensively cover key areas within the Georgian startup ecosystem, thereby shaping a conducive environment for entrepreneurial growth.



GITA´s Startup Funding and Incubation programs

GITA began by funding startups and launching acceleration programs in order to stimulate the Georgian startup ecosystem[29]. Tbilisi was the focus of the initial initiatives, which served as a springboard for developing the innovation landscape. However, these programs now cover not only the capital city but also the main regions of Georgia. This strategic expansion not only incentivizes innovators in the regions by providing them with access to funding and incubation resources, but also fosters innovation that addresses local challenges.

The selection of winners of the GITA startup funding program is conducted with the participation of independent international and local experts. This ensures objectivity and a high standard of project evaluation, giving the program credibility and attractiveness for innovators. GITA is actively involved as a sponsor and administrator of the program, ensuring its effective functioning.

GITA reports that the startups they invested in attracted a total of USD 115 million in private investment and generated $45 million in revenue, based on the $12 million they invested.

500 Global Accelerator Program[30]

In recent years, a pivotal initiative within the purview of GITA has been the introduction of the "500 Global" program. This noteworthy undertaking is executed in collaboration with the esteemed global business accelerator, 500 Global, and in association with the Bank of Georgia.

500 Global - Georgia's first international accelerator program, dedicated to startups in the EECCA region, is designed to promote entrepreneurship,

[29] https://grants.gov.ge/en/Grants?type=10
[30] GITA - 500 Global https://500.co/accelerators/500-georgia/apply

help develop the tech ecosystem, connect with international networks, and help participating companies with their fundraising.

500 Global includes:

- **Equity investment** - Equity investment for selected startups from 500 Global.
- **Mentorship and programming** - Dedicated mentorship and programming for 12 weeks from 500 Global mentors.
- **Global network access** - Access to 500's global network of founders, community events, partners and more.

GITA - ICT/Tech-Talent development

GITA - Training program for 3,000 IT specialists[31]
Georgia's Innovation and Technology Agency (GITA) with support from the World Bank, implemented the Georgia National Innovation Ecosystem (GENIE) Project, which aimed to increase the innovative activities of entities and individuals and their participation in the digital economy of Georgia. ICT training program in the scope of the GENIE project started with a pilot phase in November, 2020 aiming to train at least 500 IT specialists and was followed by larger scale phases aiming to train at least 2,500 IT specialists. Overall, the whole program aimed to train at least 3,000 participants by May of 2023. Every citizen of Georgia has the opportunity to enroll in the desired course, such as: programming, project management, game/mobile device development, artificial intelligence, design, cybersecurity, blockchain, networks, virtualization and others. There are 45 directions in total. To facilitate and deliver online training and international exams in ICT and Non-ICT domains for Georgian citizens, GITA, based on the international selection process, has invited the globally acknowledged IT Training Center – New Horizons, Space Cad, and Tbilisi Communication School.

GITA plays a key role in funding and facilitating ICT training initiatives for adults. A notable example is the training program designed to provide essential skills to 3,000 IT specialists. Simultaneously, GITA extends its educational reach to schoolchildren by organizing technical camps, which align with broader educational goals and foster early interest in science, technology, engineering, art, and mathematics (STEAM) disciplines. The agency further amplifies its impact by facilitating meetups, where accomplished professionals from diverse

[31] GITA - Training program for 3,000 IT specialists https://gita.gov.ge/programs/3000-it-spetsialistis-gadamzadebis-programa-RDlRVidNo ;
https://www.ict.gov.ge/

fields, particularly those from successful startups, share their experiential insights with a diverse audience.

GITA - Innovation and technology camp for schoolchildren[32]
The goal of the camp is to popularize STEAM (science, technology, engineering, art, mathematics) among students in grades X-XII living in different regions of Georgia. Campers will learn about technology and science issues that will help them choose a career.

In addition, GITA leads the "Startup Friendly" program, a strategic initiative that aims to consolidate and foster collaboration among stakeholders within the Georgian startup ecosystem. This program serves as a catalyst for uniting disparate entities, encouraging symbiotic relationships, and enhancing the overall collaborative ethos within the startup landscape.

By leveraging such programs, GITA strives to not only identify and cultivate technical talent, but also to fortify the interconnectedness of the entrepreneurial community, facilitating an environment conducive to knowledge exchange, cooperation, and sustained innovation.

Technology Transfer Program

Implemented through the Technology Transfer Program[33] GITA endeavors to foster the commercialization of scientific projects. Within the program's framework, a meticulous selection process ensues, wherein technologies and innovations demonstrating substantial potential for commercialization are considered. The program specifically targets research projects attaining the technological readiness level (TRL) of 4 and above, indicative of their sufficiently advanced developmental stage.

For the comprehensive evaluation of these projects, GITA engages the expertise of both local and international specialists possessing qualified and pertinent experience. These experts play a pivotal role in conducting both preliminary assessments and detailed examinations, ensuring a rigorous scrutiny of the projects under consideration. The Technology Transfer Program thus represents a strategic initiative by GITA to bridge the gap between scientific research and practical application, with an emphasis on advancing technologies poised for commercial viability.

[32] GITA - Innovation and technology camp for schoolchildren https://gita.gov.ge/programs/inovatsiebisa-da-teknologiebis-banaki-mostsavleebistvis-Ourwc0IhN
[33] GITA - Technology Transfer Program https://gita.gov.ge/programs/teknologiebis-gadatsemis-programa-e_mFxYJYG

GITA Physical Infrastructure for Startups

A startup ecosystem needs a physical environment for coworking and meetings, as well as a technological infrastructure that enables the physical implementation of innovative ideas. In this regard, technology parks opened by GITA in all regions of Georgia and the FabLabs network created in partnership with universities are important.

A FabLab is equipped with high-tech equipment (3D printers, laser cutters, programmable machines, etc.). FabLab allow individuals and companies to prototype and test a variety of innovative products and produce them in small quantities.

This infrastructure provides startups with the resources they need to develop and launch their products, and it also helps to connect them with other entrepreneurs and potential investors.

Enterprise Georgia[34]

Enterprise Georgia is a key agency under the Ministry of Economy and Sustainable Development of Georgia. Its primary objective is to enhance the business environment, foster private sector development, improve Georgia's investment climate, and advance export promotion.

The agency strategically implements programs in three core directions:

Produce in Georgia - Business

This initiative aims to promote entrepreneurship in Georgia. It provides support to entrepreneurs, encourages the establishment of new businesses, and facilitates the expansion or modernization of existing businesses. By nurturing the local business environment, this program contributes to economic growth and job creation.

Produce in Georgia - Export

Under this program, "Enterprise Georgia" actively promotes the export potential of the country. The initiative aims to enhance the competitiveness of Georgian products in international markets, increase the overall volume of exports, and diversify the export markets that Georgia engages with. This strategic direction is geared towards positioning Georgian products favorably on the global stage.

Produce in Georgia - Investment

Serving as a mediator between foreign investors and the Georgian government, this program is dedicated to attracting, promoting, and developing direct foreign investments in Georgia. It plays a crucial role in assisting interested investors by providing comprehensive information and facilitating effective communication with the Georgian authorities. By fostering a conducive environment for foreign investments, this direction contributes to the overall economic development of Georgia.

[34] https://www.enterprisegeorgia.gov.ge/en/home/about

While “Enterprise Georgia" is not focused on startups, it does play a positive role in the development of the startup ecosystem by promoting the introduction of innovative products created by startups into local businesses supported by Enterprise Georgia. Additionally, it is a good tool for exporting innovative solutions created by Georgian startups.

Regulators and other public sector actors

As regulators, **the National Bank of Georgia (NBA)**[35] and the **National Telecommunications Commission (ComCom)** are actively working to decentralize the sectors under their purview and develop an innovative ecosystem through the introduction of Open Banking[36], Digital Bank[37], and MVNO[38] mechanisms.

This creates a good opportunity for startups operating in the field of FinTech and telecommunications to pilot their innovations in the local market with the goal of scaling up in the global market. While these reforms are still in their early stages, some progress has already been made in the fintech/open banking arena.

In addition, the National Bank and ComCom have created specialized programs and units, such as the NBA's Regulatory Laboratory (Sandbox)[39], Financial Innovation Office[40], and ComCom's MediaLab[41], which are fully focused on promoting startups and introducing sector innovations.

Recently, the "Professional Skills Agency" has been actively involved in the development of entrepreneurial and start-up competencies. The Agency provides relevant courses and innovative labs on the basis of public vocational schools.

2.2.2 Other actors of the Georgian startup ecosystem

The Georgian startup ecosystem involves various stakeholders beyond the government and its agencies, contributing to its vibrancy and growth.

Universities (such as Ilia State University's Start-up Grind[42]/FabLab, the University of Georgia's Startup Factory, and BTU's "Silicon Valley Tbilisi"[43]) are actively creating startup labs and incubation-acceleration programs, as well as developing relevant training courses. Private initiatives are also emerging in this direction (such as FutureLab[44], TBC, BoG, Impact

[35] https://nbg.gov.ge/en/page/supervisory-policy-refor-1
[36] https://nbg.gov.ge/en/page/open-banking
[37] https://nbg.gov.ge/en/page/digital-bank
[38] https://www.comcom.ge/en/yvela-siaxle/comcom-extends-the-deadline-for-mandatory-access-of-mvnos-to-30-june-2024.page
[39] https://nbg.gov.ge/en/page/regulatory-laboratory
[40] https://nbg.gov.ge/en/page/financial-innovation-office
[41] https://medialab.ge/en/about
[42] https://iliauni.edu.ge/ge/siaxleebi-8/gonisdziebebi-346/impact-hub-tbilisi-s-startap-pre-aqseleratori.page
[43] https://btu.edu.ge/saqarthveloshi-globaluri-startap-phondi-gaikhsna/
[44] https://www.futurelab.ge/startups

Hub Tbilisi[45], Startup Grind Tbilisi, Tegeta Startup Drive[46], and the ICC Center of Entrepreneurship[47]).

Of particular note are private initiatives in the financing of startups. One such example is Axel[48] - the Georgian Business Angel Network, whose mission is to accelerate the development of Georgia's tech startup ecosystem by facilitating smart money investments in the most promising entrepreneurs. Leading Georgian banks (TBC[49], Bank of Georgia[50]) have special offers for startups, but these programs require more flexibility and customization to meet the specific needs of startups.

International donor organizations (such as USAID, UNDP, and EU programs) play a vital role in the development of the Georgian startup culture. By disseminating knowledge and the groups promoting gender balance, as well as vulnerable groups, they help to make the Georgian startup ecosystem more inclusive and diverse.

[45] https://dev.ge/news/startap-pre-akseleratori-2023-itsqeba-1693572747
[46] https://www.facebook.com/startupdrivetegeta ; https://startupdrive.ge/
[47] https://iccwbo.org/news-publications/news/new-icc-centre-of-entrepreneurship-in-georgia-to-support-small-businesses-in-the-caucasus-region/
[48] https://axelnetwork.org/about
[49] https://www.startuperi.ge/ka/
[50] https://fintech.ge/category/startups/