

# ROStartUp

Build the Ecosystem ▶

## ROMANIAN STARTUP ECOSYSTEM WHITE PAPER

CONSULTATION EDITION

OCTOBER 2021

**rubikhub**  
mix to match

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Agenția pentru Dezvoltare Regională  
NORD-EST

 European  
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 **WORLD BANK GROUP**  
Finance, Competitiveness & Innovation

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**FOREWORD**

*“If you don’t think about your future, you cannot have one.” – John Galsworthy*

ROStartup is an ambitious approach for the future. Now is the best moment for Romania's entrepreneurial revolution and requires a strategic approach to turn the country into a hub of global innovation.

The efforts to develop Romania's Startup Ecosystem Strategy are the result of an institutional collaboration between Romania's North East Regional Development Agency through Rubik Hub, the Romanian entrepreneurial community including innovative startups, the Directorate General for Structural Reforms of the European Commission and the Finance, Competitiveness and Innovation Global Practices unit of the World Bank, and last but not least Romanian policy makers including General Secretariat of the Romanian Government, Ministry of European Investments and Projects, Ministry of Research and Digitization and the other seven Regional Development Agencies.

There's no question, we're living in a highly competitive and interconnected world, with unlimited access to information, but limited material resources and increasingly sophisticated needs, challenges and constant change. Startups are increasingly viewed as innovative forces to promote competitiveness and innovation. Globally we are seeing momentum for Startup Acts and National Entrepreneurship Policies. Countries such as Estonia, Serbia, Poland are supporting this agenda. The enhancement of human creativity is the chance for progress for our country, and if creativity is properly capitalized then it can help address Romania's most pressing needs.

A pipeline of startups can help bridge the connections between Romania's scientific community and the private sector. It is not enough to have scientific discoveries and patents, unless it translates into improvements in quality of life. We need social systems and institutions that are focused on leveraging technology to contribute to a better living environment.

Our ambition is to start the revolution and change the way people are inspired, educated and supported in order to become successful entrepreneurs. We are doing this through a co-creation process that involves all ecosystem actors and national and international experts to identify the needs of Romanian innovative entrepreneurs. We are capitalizing on the World Bank's expertise and peer learning from more developed international ecosystems.

We hope you will join the ROStartup movement to help Romania reach its economic potential by capitalizing on the innovation potential of our growing entrepreneurial ecosystem. We need to ensure Romanian policies and regulations are updated to account for growth and competitiveness of innovative startups.



Mr. Vasile Asandei  
Director General, North East Regional Development Agency

## ABBREVIATIONS

ADR	Authority for the Digitization of Romania	Mbps	Megabits per second
CEE	Central and Eastern European (European Commission nomenclature)	NE RDA	North East Regional Development Agency in Romania
CIO	Chief Information Officer	NIS	National Innovation System
CTO	Chief Technology Officer	NYSE	New York Stock Exchange
DESI	Digital Economy and Society Index	OECD	Organization for Economic Cooperation and Development
DG REFORM	Directorate-General for Structural Reform Support	PE	Private Equity
DIH	Digital Innovation Hub	PER	Public Expenditure Review
DISC	Digital Innovation and Scale-up Initiative	PMR	Product Market Regulation
EC	European Commission	RD&I	Research Development and Innovation
ECA	Eastern Europe and Central Asia (World Bank nomenclature)	RDIs	Research & Development Institutes
eDIH	European Digital Innovation Hub	SEIS	Seed Enterprise Investment Scheme
EIS	Enterprise Investment Scheme	SMEs	Small and Medium Enterprises
EPSD	European Single Procurement Document	SOEs	State-Owned Enterprises
ESOP	Employee Stock Options Plan	STEM	Science, Technology, Engineering and Mathematics
ESPP	Electronic System for Public Procurement	STI	Science, Technology, and Innovation
EU	European Union	SWOT	Strength, Weaknesses, Opportunities, and Threats
FCI	Finance, Competitiveness, and Innovation	TAFTIE	The European Network of Innovation Agencies
GERD	Gross Domestic Expenditure on Research & Development	TEA	Total Entrepreneurial Activity
GVCs	Global Value Chains	ToC	Theory of Change
HEIF	Higher Education Innovation Fund	TTOs	Technology Transfer Office
ICT	Information Communication Technology	VC	Venture Capital
PO	Initial Public Offering	VHCN	Very High-Capacity Network
IT	Information Technology	WBG	World Bank Group
IoT	Internet of Things		
KPIs	Key Performance Indicators		
M&E	Monitoring & Evaluation		

## GLOSSARY OF KEY CONCEPTS

**Access to Finance:** In the context of this white paper, access to finance refers to the availability and accessibility of appropriate funding mechanisms for entrepreneurs and firms. Types of financial instruments include loans from commercial banks, grants, financing from angel investors / networks, and private equity / venture capital funding. Access to finance is indicated by many sources as an important enabler of entrepreneurship, with firm growth often constrained by the availability of funding. Finance needs to be available throughout the country in sufficient quantities, in different forms, and with sufficient risk-appetite from the financier.

**Access to Markets:** Also referred to as “market access”, this refers to the ability of a company or country to sell goods and services across borders. Market access can be used to refer to domestic trade as well as international trade, although the latter is the most common context. This white paper approaches access to markets from the perspective of e-commerce use or use of other digital platforms to facilitate exporting.

**Culture:** This refers to social norms, perceptions, and attitudes that influence an individual or society. Culture matters for entrepreneurship since evidence suggests that entrepreneurial attitudes are shaped by culture to some degree. Entrepreneurial activity at a country level is strongly correlated with positive perceptions of entrepreneurship and entrepreneurial opportunities. Moreover, there is evidence that exposure to innovation substantially increases the chances that children become inventors, and that the presence of visible role models of entrepreneurs may influence a person’s decision to becoming one, indicating that social factors matter.

**Digital Platforms:** This refers to an online channel that creates value through facilitating exchanges between two or more interdependent groups.

**E-Commerce:** This refers to the buying and selling of goods over the Internet. It can be a substitute for ‘brick and mortar’ stores, but some businesses maintain both.

**Entrepreneurship:** This refers to the activity of setting up a business or businesses. Specific to this white paper, we will focus on a subset of entrepreneurs starting growth-oriented innovative firms. High growth-firms aim to create large, vibrant businesses that grow rapidly, much beyond an individual’s subsistence needs, and intends to create significant income and jobs for others<sup>1</sup>. Throughout this paper, the terms “high growth firm” and “high growth entrepreneur” are used interchangeably.

**Entrepreneurship Ecosystem:** This refers to a system of interconnected and interdependent actors and resources that directly and indirectly support the creation and growth of new ventures. Ecosystems also refer to a physical environment whose development and growth are catalyzed by social and economic factors – e.g. Silicon Valley, which is renowned for its startups that turn into international technology giants such as Apple, Google, PayPal, and much more.

**Human Capital:** in this white paper, this refers to the availability of skills necessary to support growth entrepreneurship. This includes, but is not limited to, managerial skills and technical skills (e.g. advanced digital skills). Skilled talent is a critical input for high growth firms. Skills shortages pose a great challenge to the innovative potential of the entrepreneurship ecosystem.

**Infrastructure:** This refers to the fundamental facilities and systems that facilitates connectivity; trade; the exchanges of goods, services, and ideas; and knowledge spillovers. By improving connectivity in

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<sup>1</sup> Schoar, 2009.

physical realms (better roads, trains, general transport), we facilitate physical connections between stakeholders. By providing Internet access and ability to use it, we open new opportunities for entrepreneurs and future markets. By creating more enablers, such as providing more space for research and development (R&D) and entrepreneurs, we create a denser network and a more robust innovation ecosystem.

**Innovation:** This white paper adopts the definition defined by the fourth edition of the Oslo Manual: innovation is defined as “a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)”<sup>2</sup>.

**Innovation Agency:** This typically refers to government-funded or managed institutions that provide financial and other support to catalyze or drive private sector innovation.<sup>3</sup> Many high-income and developing countries have established agencies to promote innovation, entrepreneurship, even SME development. Effective innovation agencies have a clear strategy for remedying the market, coordination, and institutional failures in their respective National Innovation Systems (NIS)<sup>4</sup>.

**Research Development & Innovation:** This refers to the set of activities undertaken by corporations, governments, universities, or other actors to develop new products or services and improve existing ones. Innovation requires conscious effort to develop new ideas for products and processes.

**Regulatory Framework:** In the context of this white paper, “regulatory framework” refers to laws, regulations, policies, decrees, and executive orders developed and officially approved by the government to regulate the business environment<sup>5</sup>, particularly related to startups. The regulatory environment can significantly help or hinder startups. Startups have numerous interactions with the state, from the initial process of company formation, to hiring or dismissing employees, obtaining permits, and resolving insolvency. Evidence suggests that the lighter the administrative burden of the processes, the more readily startups can form and scale.

**Regulatory Sandbox:** This refers to regulatory support via facilitation of mutual learning to develop regulatory frameworks which better accommodate or anticipation innovation, usually in a particular industry or sector, such as fintech. Sandboxes serve as testing grounds for new business models that are not protected by current regulation or supervised by regulatory institutions, and may help both innovators and regulators understand how to adapt.

**Startup Act<sup>6</sup>:** This refers to packages of measures intended to provide a regulatory framework for a country’s national entrepreneurship strategy. It often exempts startups from more onerous regulations. Startup/Small Business Acts are gaining momentum globally as governments seek to harness the economic potential of startups and high-growth firms to improve economic competitiveness. Countries including Tunisia, Senegal, the United States, Italy, Malaysia, and many more have passed “Startup Acts” or “Small Business Acts”. In times past, it was commonly referred to as a Small Business Act and in more recent times it’s common to refer to it as a Startup Act. Indicates growth-orientation of these firms. This is not to be confused with Romania’s Small Business Act<sup>7</sup>.

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<sup>2</sup> [Oslo Manual, Fourth Edition \(2018\)](#)

<sup>3</sup> [Nesta \(2016\) How Innovation Agencies Work: International lessons to inspire and inform national strategies](#)

<sup>4</sup> [World Bank Group \(2019\) Innovation Agencies: Cases from Developing Economies](#)

<sup>5</sup> [World Bank Group, Doing Business](#)

<sup>6</sup> Also known as “National Entrepreneurship Policy”

<sup>7</sup> [Small Business Act -EU Recommendation 2003/361](#) is implemented in the Romanian legislation

**SMEs:** The white paper adopts the European Commission (EC) definition,<sup>8</sup> which is based on two factors: (1) staff headcount and (2) either turnover or balance sheet totals<sup>9</sup>.

Company category	Staff headcount	Turnover	-OR-	Balance sheet total
Medium-sized	< 250	≤ € 50M		≤ € 43M
Small	< 50	≤ € 10M		≤ € 10M
Micro	< 10	≤ € 2M		≤ € 2M

**Startups:** The white paper adopts the North East Regional Development Agency's proposed definition of a startup<sup>10</sup>, which is an independent organization (legal entity or not, depending on development phase), which has (or is in search of) a scalable business model, the capacity to disrupt and innovate, is developed under conditions of uncertainty, and requires funding for high and rapid growth. Startups are considered a specialist subset of SMEs. *See figure 1 on page 13.*

**Support Programs:** This refers to programs or instruments, implemented by public or private sector actors, that stimulate and/or support innovation and entrepreneurship. Support programs may take many different forms, including provision of financial, infrastructure or technical support, such as advice and mentorship. Other programs may be specifically intended to signpost or coordinate multiple activities, or provide multiple services, e.g., accelerators or "startup hubs."

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<sup>8</sup> [European Commission \(2003\)](#)

<sup>9</sup> These ceilings apply to the figures for individual firms only. A firm that is part of a larger group may need to include staff headcount/turnover/balance sheet data from that group too.

<sup>10</sup> This is the definition discussed and agreed upon by the Project Team. This definition will be modified depending on discussions in subsequent consultations.

## 1. EXECUTIVE SUMMARY

**The Romanian startup ecosystem has been expanding in the last 5 years.** Romania's startup communities, including startup support organizations, joined forces with investors and launched projects of extraordinary technical diversity. In March 2018, UiPath<sup>11</sup>, founded in Bucharest and headquartered in the US, became Romania's first unicorn, reaching \$1 billion in valuation, and listed on the New York Stock Exchange (NYSE). In 2019 a second Romanian unicorn rose, Elrond<sup>12</sup>, a blockchain startup. The successes of UiPath and Elrond, indicates Romania's great potential to become one of the most vibrant innovation hubs in Central and Eastern Europe (CEE). Despite the emergence of the Romanian startup ecosystem, the country still needs to develop a common vision on how innovative startups can contribute to Romania's economic growth.

**Romania's economic development lags that of other European Union (EU) peer countries.** While the Bucharest region is more developed than other Romanian regions, three of the poorest regions in the European Union are located in Romania.<sup>13</sup> Hence, geographic convergence between lagging and advanced regions is a major development imperative for Romania.

**Romania significantly lags other EU countries on innovation and entrepreneurship performance.** Innovation and entrepreneurship are drivers of growth and productivity. However, on some measures, the gap between Romania's performance and the rest of the EU has widened over the past decade.<sup>14</sup> Focus on the country's innovation and entrepreneurship system is thus critical.

**The current policy mix indicates important gaps in the support for entrepreneurs.** There is a gap in instruments targeting early-stage, pre-profit, startups and individual entrepreneurs - as well as the intermediary organizations that support such firms, including incubators, accelerators, mentorship programs, etc. Some namesake 'entrepreneurship' instruments may potentially reinforce the role of incumbents rather than encourage the formation or growth of innovative startups.

**Analysis of the current portfolio of public instruments reveals weaknesses on program design.** Specifically, WBG analysis found a persistent weakness in the logic models (or theories of change) of instruments, and also found many smaller instruments that are likely to be sub-scale. A review of the portfolio of entrepreneurship support is therefore warranted, with the rationalization of smaller instruments and the development of clearer theories of change.

**A variety of new modalities of public support for entrepreneurship could be considered.** Grants are the primary instrument for entrepreneurship support. Whilst helpful, and merits expansion, it is important to consider that not every element of the ecosystem can be resolved through the addition of public money alone. Regulatory reform remains important and factors such as cultural perception of innovation and entrepreneurship also matter.

**That current regulatory framework does not target competitiveness or market inclusion.** Although many reforms were enacted to support Romania's accession to the EU, consistency in implementation remains a challenge. Furthermore, policymakers do not embed considerations for startups as many reforms benefit state-owned enterprises (SOEs) and disadvantage other private sector firms, resulting in lack of competitive neutrality.<sup>15</sup>

**Given this context, ROStartup emerged as a grassroots movement within Romania's startup community that has garnered support from the North East Regional Development Agency (NE RDA), the World Bank Group (WBG), and the European Commission (EC).** In addition to improving networks and linkages between key ecosystem actors, including the Romanian Authorities, ROStartup also seeks

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<sup>11</sup> <https://www.uipath.com/>

<sup>12</sup> <https://elrond.com/>

<sup>13</sup> [World Bank Group \(2018\) From Uneven Growth to Inclusive Development: Romania's Path to Shared Prosperity](#)

<sup>14</sup> [European Index of Digital Entrepreneurship Systems \(EIDES\)](#)

<sup>15</sup> [World Bank Group \(2020\) Markets and People: Romania Country Economic Memorandum](#)

to ensure regulatory reforms are adapted to specific needs of startups. This will be accomplished through the Romania Startup Ecosystem Strategy project.

**This project employs an *open and inclusive development process* for Romania's first Startup Ecosystem Strategy.** Direct input and participation of the entrepreneurship community and other stakeholders is a critical component for the creation of a successful and sustainable strategy for lasting ownership. To better manage the bottom-up strategy development, six Working Groups were created around topics that represent the critical pillars of an entrepreneurship ecosystem. The Working Groups' purpose is to represent community needs / concerns, identify opportunities, and define the strategic direction in which the pillar is represented in the strategy. Their continued inputs will result in the creation of a Startup Ecosystem Strategy for Romania that can guide community and government efforts for the years to come. In order to promote a transparent process, the priorities for the Strategy were consulted through the [ROStartup online portal](#) and the live skeleton of the strategy document will also be maintained and consulted through this platform.

**This white paper combines data collected as part of the diagnostic that uses the “*New Metrics of Entrepreneurship: Assessing Entrepreneurship Ecosystems to Guide Policy Action*” framework, with inputs collected from an extensive, 6-month public consultation process.<sup>16</sup>** In summary, analysis revealed that:

- *Regulatory framework:* There is a need for a regulatory framework that is optimized to better serve the needs of the entrepreneurial community, in order to stimulate research development and innovation (RD&I), entrepreneurship, and drive digitization to help Romania achieve its multiple developmental goals.
- *Access to finance:* Romanian Venture Capital (VC) investment as a share of GDP is very low. Additionally, Romanian deals are also smaller than the European average.
- *Market conditions,* also referred to as Access to Markets: While Romania's e-commerce usage increased because of the pandemic, overall usage remains low and driving adoption may require more Internet use (especially in rural areas) through education, skills, infrastructure, and institutions which encourage trust in online transactions.
- *Entrepreneurial culture:* Romania's attitude towards entrepreneurship is favorable.
- *Support programs:* As mentioned above, there is a gap in instruments targeting early-stage, pre-profit, startups and individual entrepreneurs - as well as the intermediary organizations that support such firms, including incubators, accelerators, mentorship programs, etc.
- *Human capital:* Romania's strengths lie in the relatively high proportion of graduates specializing in Science, Technology, Engineering and Mathematics (STEM) disciplines. However, this does not necessarily translate into skills needed for startups (which includes managerial skills).
- *Research development and innovation (RD&I):* Romania is a “Emerging Innovator” among EU countries (based on European Innovation Scoreboard)<sup>17</sup>, indicating untapped potential for growth.
- *Infrastructure:* Romania's investments into ICT infrastructure have paid off, however a gap remains between urban and rural areas. Additionally, looking at the geographical spread of spaces supporting startups, many are concentrated in Bucharest-Ilfov, North West, West, and North East regions.

<sup>16</sup> The public consultation process involves: (a) weeklong strategy design workshop that occurred in January 2021, (b) followed by submission of position papers along 8 thematic areas that formed the basis of the top 12 interventions, and (c) public voting on the top 12 interventions (launched on the ROStartup website).

<sup>17</sup> European Innovation Scorecard 2020

The Strategy Working Groups identified the following strengths, weaknesses, opportunities, and threats (SWOT) analysis within the entrepreneurship ecosystem. This aligns with the analysis generated by the *New Metrics for Assessing Entrepreneurship Ecosystems* diagnostics.

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>– High rates of entrepreneurial activity and self-reported expectations to start a business</li> <li>– Low-cost environment for innovation and product development</li> <li>– World-class ICT talent and high share of women in STEM</li> <li>– Increasing number of business angels and networks</li> <li>– UiPath’s success made local startups interesting to VC funding</li> <li>– Increasing interest from public authorities to support entrepreneurship agenda and crowd-in private sector participation in policy development</li> <li>– Strong and cheap Internet connectivity</li> </ul>	<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>– Lack of legislative framework for equity investments, tax incentives for angel business investors and VC funds, and crowdfunding</li> <li>– Limited availability of funding for earlier stage (ideation, proof-of-concept) startups</li> <li>– Lack of quality entrepreneurial education</li> <li>– Insufficient ecosystem collaboration</li> <li>– Limited research, tech transfer, and innovation outcomes</li> <li>– Low usage of e-commerce</li> <li>– High fear of failure in entrepreneurship</li> <li>– Limited public support programs supporting startups and market-driven innovation</li> <li>– Low exporting rate</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>– EU-level regulations, e.g. crowdfunding regulation</li> <li>– More financial and non-financial intermediaries entering the market</li> <li>– Public procurement to validate domestic startups</li> <li>– Encourage tech transfer from large ICT firms</li> <li>– Strong presence of the ICT, mobility, and energy industry</li> <li>– Access to the European market</li> <li>– Leveraging Romanian diaspora entrepreneurs and investors</li> <li>– EC Operational Program 2021 – 2027</li> <li>– National Recovery and Resilience Program developed by the Romanian Authorities</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>– Increasing brain drain</li> <li>– Lack of competitiveness on international markets</li> <li>– Unsustainability of low-cost based competition</li> <li>– Low levels of public support for RD&amp;I investment</li> <li>– No long-term thinking when it comes to supporting firms throughout their lifecycle</li> <li>– Fragmentation in public research sector</li> <li>– No national implementing agency for innovation and entrepreneurship</li> <li>– Political instability due to changes in the Government</li> </ul>

The proposed Top 4 interventions and the additional ecosystem activities are adapted to the regulatory needs of startups. Startups have many unique characteristics which distinguish them for other firms and other SMEs: they are typically young, highly innovative, working with emerging technology or in nascent sectors, and are often still trying to establish a scalable business model. There are fundamental differences between a young startup attempting to scale within a new industry, and an old SME with little growth ambition in a traditional sector: even though they may be the same size, the core characteristics and the resources on which they draw will be quite distinct. For example, the high technical risk or market risk of many startups means that risk finance such as venture capital is often appropriate, but VCs will not be interested in established firms with no growth ambition. For these reasons, startups are best considered *not just* as SMEs, but rather as a *specialist subset* of SMEs which have particular needs, and hence require specific policies, programs, and instruments. See figure 1 below.

**Figure 1:** Difference between Startups and SMEs

	STARTUPS	SMEs
<b>Aspiration</b>	– Scalable business, high growth	– Stable growing business, earn profits
<b>Growth rate</b>	– Fast	– Gradual
<b>Risk</b>	– High technology and market risk	– Dominant market risk
<b>Funding</b>	– Often seek large-scale funding from VCs, angel investors, IPOs, public support, „friends, family and fools”, etc.	– Self-funded or financed from bank loan, public support „friends, family and fools”, etc.
<b>Product</b>	– In search of a unique and profitable business model, often related to advance technologies	– Often successful business model, various products
<b>Nature of support</b>	– Support in the nascent stages and critical first years – Focus more on founders’ capabilities	– Support for mainly established businesses – Focus on firm managerial capabilities overt founders
<b>Kind of support instruments</b>	– Main support from specialized enablers such as accelerators, incubators, etc.	– Main support from non-specializes enablers such as enterprise/export development agencies, traditional BDS providers
<b>Results timeline</b>	– Results more mid-/long-term	– Results more immediate/mid-term

## THE VISION, MISSION & VALUES OF ROMANIA’S STARTUP ECOSYSTEM STRATEGY

### Vision

The Strategy's ambitious vision is to make Romania a top 10 global innovation hub, one of the most competitive startup ecosystems in the world, the ideal place to start and grow globally scalable businesses, a place that attracts and retains talent while fostering collaboration within the ecosystem.

### Mission

The Strategy's mission is to contribute to the development of a sustainable Romanian entrepreneurial ecosystem by 1) providing clear guidelines on specific regulatory and institutional framework changes needed 2) by fostering collaboration amongst all relevant players and 3) by ensuring that best support structures for entrepreneurs are in place. By *support structures* we mean access to the right talent, capital, markets and expertise for entrepreneurs across all stages of development.

### Values

#### Existing values

##### 1. *Perseverance*

We exhibit a strong will to win against all odds.

##### 2. *Competence / competent*

We have a professional way of doing business.

##### 3. *High performers*

We constantly challenge ourselves and our organizations.

#### Aspirational values

##### 1. *Community-driven mindset*

We value and respect everyone involved in the startup ecosystem, acknowledge their contribution and encourage their development.

##### 2. *Uncertainty is part of the game*

Uncertainty is an integral part that allows startups to be successful.

##### 3. *Collaborative environment*

Across the ecosystem, we collaborate with and trust all involved stakeholders.

## TOP 5 INTERVENTIONS FOR ROMANIA

The upcoming Startup Ecosystem Strategy for Romania would introduce reforms, regulations, and activities to address key constraints in the current entrepreneurship ecosystem. Through a virtual public consultation platform, the Romanian startup community has prioritized the TOP 5 interventions and proposed supporting ecosystem activities (TOP 6 - 12).

### Intervention 1: Reform Startup and Investment Related Regulations

Specifically:

- a. Stock options
- b. Digitization of company formation
- c. Venture capital regulations
- d. Crowdfunding
- e. Angel investment
- f. Corporate venture capital

### Intervention 2: Establish a One-Stop Agency for Startup Ecosystem

Its role could include:

- a. Advocacy
- b. Think and Do Tank
- c. Connector
- d. Capacity-builder
- e. Funder
- f. Data-gatherer

### Intervention 3: Improve Entrepreneurship Education

Specifically:

- a. Entrepreneurship education
- b. Infuse academia with entrepreneurs
- c. Expose lecturers to entrepreneurship

### Intervention 4: Strengthen Ecosystem Enablers

Proposed activities:

- a. Capacity-building for enablers
- b. University collaboration with European Digital Innovation Hubs (eDIHs) / chambers of commerce / business associations
- c. Organization of a Romania Ecosystem Summit

### Intervention 5: Create a Startup Fund

This entails:

- a. Establishing the fund
- b. Co-creating the investment thesis
- c. Monitoring fund targets

## ADDITIONAL ECOSYSTEM ACTIVITIES FOR ROMANIA

### Intervention 6: Incentivize Innovation

Including:

- a. Enterprise sector collaboration
- b. Tech transfer capability fund
- c. Clarification of unclear tech transfer legislation
- d. Promoting in-house research & development (R&D) activities in firms

### Intervention 7: Implement Startup Visas

Introducing:

- a. Startup visas
- b. Incentives for digital nomads

### Intervention 8: Share R&D Infrastructure

Including:

- a. Developing an open access policy
- b. Mapping and dissemination
- c. Pilot program for accessibility

### Intervention 9: Startup to Scaleup through Exports

To improve access to markets, activities include:

- a. Establishing an overseas 'Landing Pads'
- b. Showcasing Romanian startups
- c. Creating a diaspora entrepreneurs' network

### Intervention 10: Transform Public Procurement

Reforms to perceived barriers to public procurement opportunities include:

- a. Training for public sector officials
- b. Targeting SMEs / startups
- c. Challenge prizes

### Intervention 11: Appoint Chief Technology Officers (CTOs) in Government

Proposed activities to help the public sector play a critical role in this agenda:

- a. Funding CTO roles at city-, regional-, national-levels
- b. Building political legitimacy on all levels
- c. Introducing sandboxes and testbeds to promote experimentation and innovation

### Intervention 12: Build Confidence in Digital

Promote internet use and market access through:

- a. E-commerce education
- b. "Trust in E-commerce" body
- c. Clarifying ministerial responsibilities

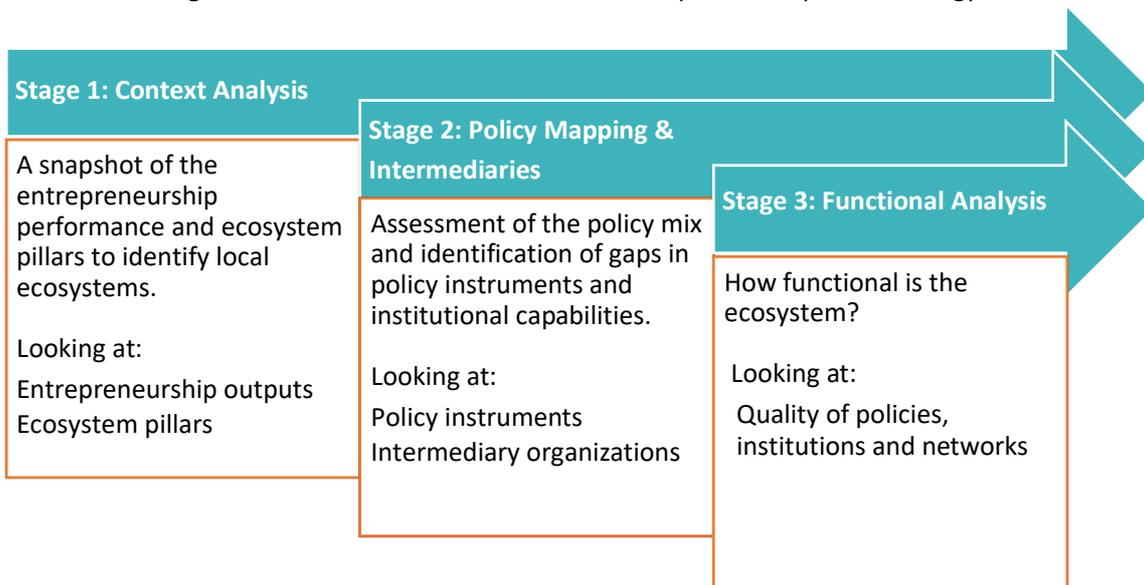
## 2. STRATEGY DEVELOPMENT PROCESS

This project employs an *open and inclusive* development process for Romania's first Startup Ecosystem Strategy. Direct input and participation of the entrepreneurship community and other stakeholders is a critical component for the creation of a successful and sustainable strategy for lasting ownership. To better manage the bottom-up strategy development, six Working Groups were created around topics that represent the critical pillars of an entrepreneurship ecosystem. The Working Groups' purpose is to represent community needs / concerns, identify opportunities, and define the strategic direction in which the pillar is represented in the strategy. Their continued inputs will result in the creation of a Startup Ecosystem Strategy for Romania that can guide community and government efforts for the years to come. In order to promote a transparent process, the priorities for the Strategy were consulted through the [ROStartup online portal](#) and the live skeleton of the strategy document will also be maintained and consulted through this platform.

### 2.1 DATA DRIVEN ASSESSMENT OF ROMANIA'S STARTUP ECOSYSTEM

In order to provide evidence-driven input for the preparation of the strategy, the World Bank Group (WBG) conducted an **Entrepreneurship Ecosystem Assessment** of Romania's entrepreneurship and innovation ecosystems leveraging the WBG's recently developed methodology "*New Metrics of Entrepreneurship: Assessing Entrepreneurship Ecosystems to Guide Policy Action*". This methodology consists of three stages: 1) context analysis, 2) policy mapping, and 3) functional analysis (see figure 1). As part of this process, stakeholders were engaged to generate insights around the key issues facing the ecosystem and surface key priorities on access to skills, markets, infrastructure, finance, entrepreneurial culture, regional integration, minority participation, gender, etc. These will be codified by the Working Groups and the wider community into the strategy with proposals of activities to be funded in the future.

**Figure 2:** Phases of the New Metrics of Entrepreneurship Methodology



## Stage 1: Context Analysis

The WBG team conducted desk research and gathered data (secondary, institutional, administrative data), from available traditional sources (e.g. Eurostat, Romania National Institute of Statistics, OECD, WB) and is filling-in gaps from non-traditional sources through web-scraping (e.g. via relevant digital platforms such as Pitchbook, etc.). The team also worked closely with the Romanian Ministry of Finance and the counterparts at the General Secretariat to secure business registry data for the context analysis. Relevant literature, previous or ongoing assessments were also identified and leveraged for the context analysis.

## Stage 2: Policy Mapping & Intermediaries

The policy mapping relies on program budget data being gathered by responsible ministries or regional authorities, whereas intermediary mapping relies on participation of both public and private sector actors. Data has been collected through:

- Desk research, from traditional sources (secondary, institutional, administrative data). Traditional data can be coupled with information from non-traditional sources (e.g. social media, corporate sites, location data, etc.) to map policies and intermediaries; and
- Surveys and interviews were conducted with the enabler and startup community, as well as a broader set of firms.

## Stage 3: Functional Analysis

The functional analysis assesses the quality of the policies, institutions, and measures the connectedness of networks in the entrepreneurship ecosystem. This stage includes two analyses:

- Functional analysis aims to assess the design, implementation and evaluation systems for policy instruments by intermediaries, which can expose reforms needed (e.g. in terms of governance or program design) for the successful implementation of the Startup Ecosystem Strategy; and
- Network analysis measures the level of connectedness and the quality of connections among ecosystem actors. Data is collected through one-on-one interviews with program managers for public support instruments, entrepreneurs, policymakers, and intermediary institutions, surveys and analysis by the WBG.

## 2.2 STRATEGY WORKSHOP CONSULTATIONS

As part of the Strategy Consultation process, the WBG, and NE RDA organized a weeklong design workshop occurred in January 2021. Over 70 participants from academia, finance, incubators/accelerators, and the public sector participated in this workshop. Participants were divided into 6 Strategic Working Groups of Access to Finance, Culture and Human Capital, Support Programs and Infrastructure, Market Conditions, Research Development and Innovation (RD&I), and Regulatory Framework.<sup>18</sup> Upon conclusion of the workshops, each Working Group submitted position papers summarizing challenges and proposed recommendations. These inputs have been validated, aggregated, and incorporated into this document and also formed the basis of the Top 12 Interventions, listed on page 46. The WBG and NE RDA invited Romanian ecosystem stakeholders to vote and prioritize on the Top 12 Interventions, featured on the virtual public consultation tool, discussed below.

## 2.3 PUBLIC CONSULTATION TOOL & LIVE SKELETON OF STRATEGY

The WBG and the NE RDA launched a virtual public consultation tool, available here, <https://www.rostartup.com/public-consultation/>. This tool, hosted on the project website, ROStartup,

<sup>18</sup> The Strategic Working Groups were created based on the identified critical ecosystem pillars as further outlined in Section 3.2 “Vertical Building Blocks of the Strategy”. Select ecosystem pillars were grouped into one Strategic Working Group due to interrelated topics.

allowed the Romanian ecosystem stakeholders to i) up-/down-vote on the TOP 12 interventions, ii) comment on the co-created interventions, and iii) propose additional interventions to be included in the Strategy. Over 200 ecosystem stakeholders contributed to the process and voted to prioritize the TOP 5 interventions and proposed the other interventions (TOP 6-7) as additional ecosystem activities that could be included into the Strategy based on available resources. The results of the Strategic Working Groups and the public consultations will be updated on the project website as a “live skeleton of the Startup Ecosystem Strategy” on a regular basis.

### 3. BUILDING BLOCKS OF THE STARTUP ECOSYSTEM STRATEGY

The building blocks of the Startup Ecosystem Strategy provides a framework that includes the key features of a strategy including the vision, mission statement (horizontal building blocks) and key thematic areas of the ecosystem pillar (vertical building blocks). Looking at the strategy through the lens of building blocks enables the alignment of key features and components of the strategy and allows us to structure the stakeholder engagement based on expertise and interest.

#### 3.1 HORIZONTAL BUILDING BLOCKS OF THE STRATEGY

The horizontal building blocks of the Startup Ecosystem Strategy were drafted collaboratively with representatives of all target stakeholder groups and thematic areas of the strategy.

**Figure 3:** Description of the Horizontal Building Blocks of the Strategy



#### 3.2 VERTICAL BUILDING BLOCKS OF THE STRATEGY

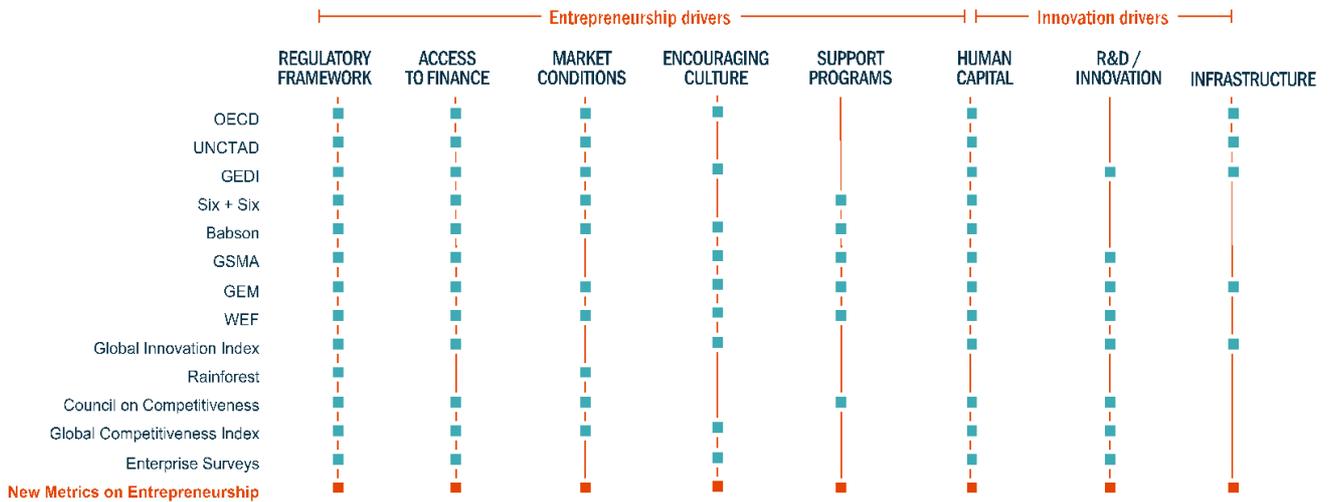
The vertical building blocks of the Startup Ecosystem Strategy represent the key thematic areas of the future strategy and can also be considered as critical “ecosystem pillars”:

- 1) Regulatory framework,
- 2) Access to finance,
- 3) Market conditions,
- 4) Encouraging culture,
- 5) Support programs,
- 6) Human capital,
- 7) Research development and innovation (RD&I), and
- 8) Infrastructure.

The Core Working Group (see acknowledgements) decided that the Startup Ecosystem Strategy will cover all of the eight ecosystem pillars, completing the horizontal building blocks, given that this is the very first Startup Ecosystem Strategy for the country and that it would be important to take a

systematic approach to ecosystem building. These ecosystem pillars were identified through extensive literature review of 13 globally recognized entrepreneurship frameworks (i.e. OECD’s *Framework for Addressing and Measuring Entrepreneurship*) that identify and evaluate the critical determinants of a vibrant entrepreneurship ecosystem.<sup>19</sup> The methodology by the WBG for assessing entrepreneurship ecosystems (*New Metrics of Entrepreneurship*) also validates these eight ecosystem pillars.

**Figure 4: Mapping of Drivers the Vertical Building Blocks of the Strategy**



## 4. ECOSYSTEM ASSESSMENT

As mentioned earlier, the WBG conducted an ecosystem assessment, leveraging a methodology developed in-house: “*New Metrics of Entrepreneurship: Assessing Entrepreneurship Ecosystems to Guide Policy Action* “. The assessment was carried out from July 2020 to June 2021. Early analysis from the Context Analysis supports inputs provided by the Strategy Working Groups.

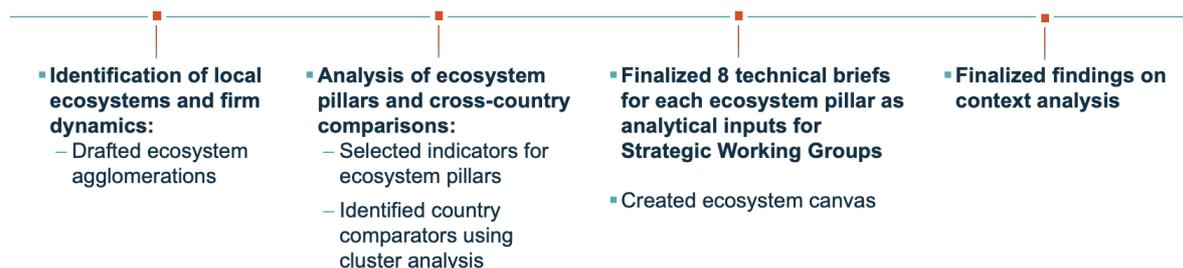
### 4.1 CONTEXT ANALYSIS (BY PILLAR)

An entrepreneurial ecosystem is a set of complementary factors that enable entrepreneurship, such as knowledge and resources, available through institutions and individuals within a region. These ecosystems are dynamic, self-regulating networks of different types of entities and resources<sup>20</sup> needed to support the development of new and economically impactful businesses. These entities and resources can be material (funds, equipment, facilities, etc.) and human capital (startup founders, students, faculty, staff, industries researchers, industry representatives, etc.) that make up the institutional entities participating in the ecosystem (universities, business schools, business, venture capitalists, state, funding agencies, policy makers, etc.).

<sup>19</sup> [Framework for Addressing and Measuring Entrepreneurship by Nadim Ahmad and Anders Hoffman](#) (Organization for Economic Cooperation and Development, 2007); [The Entrepreneurship Policy Framework and Implementation Guidance](#) (United Nations Conference on Trade and Development); [Global Entrepreneurship Index](#) (Global Entrepreneurship and Development Institute, 2019); [The Six + Six Entrepreneurship Ecosystem Model](#) (Koltai & Co. LLC, 2016); [The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship](#) (The Babson Entrepreneurship Ecosystem Project, 2011); [Digital Entrepreneurship Ecosystem Toolkit](#) (GSM Association, 2014); [Entrepreneurial Framework Conditions](#) (Global Entrepreneurship Monitor, 2015); [Entrepreneurial Ecosystems Around the Globe and Company Growth Dynamics](#) (World Economic Forum, 2013); [Global Innovation Index](#) (World Intellectual Property Organization, 2020); [A Practical Framework for Growing Innovation Potential](#) (Rainforest Scorecard, 2015); [Asset Mapping Roadmap: A Guide to Assessing Regional Development Resources](#) (Council on Competitiveness, 2007); [The Global Competitiveness Report](#) (World Economic Forum, 2019); [Enterprise Surveys](#) (World Bank Group, 2019); *New Metrics Of Entrepreneurship: Assessing Entrepreneurship Ecosystems to Guide Policy Action* (World Bank Group, to be not published).

<sup>20</sup> Isenberg, D. (2014). What an entrepreneurship ecosystem actually is. *Harvard Business Review*, 5(1), 7

Figure 5: Context Analysis Phases



This section also incorporates early lessons from the Policy Mapping and the Functional Analysis. Detailed analyses are available in a separate report, available by December 2021.

#### 4.1.1 HUMAN CAPITAL

##### Key Findings:

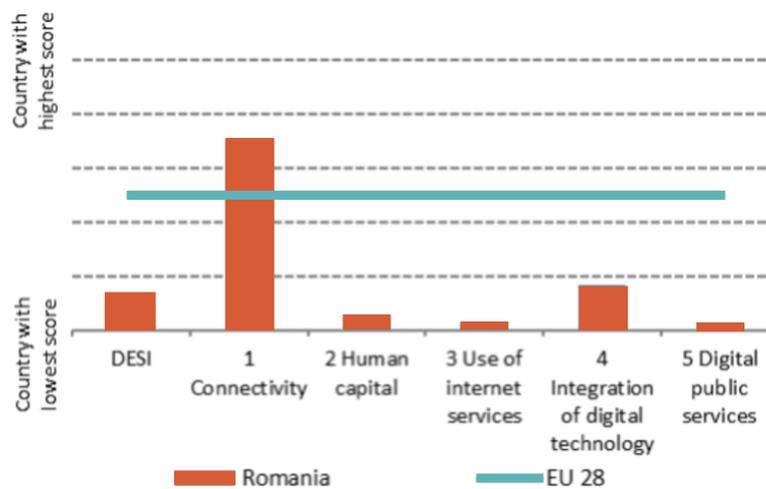
- **Romania's strengths lie in the relatively high proportion of graduates specializing in STEM disciplines. However, there is a potentially large jobs mismatch resulting in an under-utilized tech talent pool, which also has implications for high growth firms.**
- **When it comes to skills needed for startups:**
  - **Better managerial skills remain a challenge<sup>21</sup>.**
  - **Romania has a high proportion of people with only basic skills, and it would benefit from more targeted approaches to supporting education and training programs.**
  - **There is a need to create demand for digital entrepreneurship in society by equipping Romanians with pre-requisite digital skills.**
  - **Romania has also been experiencing significant "brain drain".**

**Policymakers emphasize STEM disciplines as technological innovation and entrepreneurship depend on talent supply from these fields.** The proportion of Romanian students choosing to study STEM subjects is slightly above the EU-28 average (28 percent vs 26 percent for tertiary education graduates in natural sciences, mathematics, ICT, engineering, manufacturing and construction, according to EUROSTAT data for 2019). This is a strength for the region. Higher education is crucial for economies to move up the value chains beyond the simple production process and product manufacturing. This provides Romania with opportunities to develop and support R&D and innovative entrepreneurship.

**Compared to other EU member states, Romania ranks 26 out of 28 on the 2020 Digital Economy and Society Index (DESI) overall.<sup>22</sup>** According to this index, Romania performs best on the Connectivity dimension, thanks to the high take-up of ultrafast broadband and the wide availability of fixed very high-capacity networks, especially in urban areas. Romania lags on the dimensions of Human Capital, Use of Internet services, Integration of digital technology, and digital public services. This indicates a need to promote digital skills among citizens and public officials, to drive adoption and use of digital products and services.

<sup>21</sup> [World Bank \(2020\) Markets and People: Romania Country Economic Memorandum](#)

<sup>22</sup> [Digital Economy and Society Index \(DESI\) \(2020\)](#)

**Figure 6: Romania's Performance in Digital Economy and Society Index**

Source: Digital Economy and Society Index (2020)

Although there are several instruments devoted to human capital development, few target managerial skills. Our analysis of the existing policy mix found 20 instruments that were intended to increase skills (either as the main objective of the instrument, or as a subsidiary objective). However, we were able to identify only 2 instruments that related specifically to improving managerial skills. Evidence suggests that managerial skills are important in helping a firm scale, and also affect a firm's adoption of new technology.<sup>23</sup>

## DIGITAL SKILLS

A recent Authority for the Digitization of Romania (ADR) study argues that for a creation of an inclusive digital economy and society, Romanians digital skills are prerequisites to drive demand and consumption of digital products and services<sup>24</sup>. Romania exhibits low levels of digital skills acquisition. Over 43 percent of the population report a low level of digital skills and only 10 percent have skills above the basic level. DESI scores show that Romania ranks second to last among the Internet User skills in 2020. While some people use basic apps and entertainment features, those in the more digitally savvy or experienced categories can use complex services and create more opportunities for themselves<sup>25</sup>. This indicates the need for more education on how to use various digital tools and also a need to understand digital rights to protect against fraud and other deceptive practices. Lifelong learning, whether for further training or retraining, is also an important element in being able to take advantage of the new labor market opportunities. According to the ADR study, for Romania to reach the Digital Frontrunner<sup>26</sup> level, the number of adults participating in courses and training would have to increase eightfold<sup>27</sup>.

**Digital skills are also needed for both technology adoption and creation, particularly amongst firms including digital startups.** Use of various digital platforms increased during COVID and the WBG's

<sup>23</sup> See, for example, [Revoltella, Rückert & Weiss \(2020\) Adoption of digital technologies by firms in Europe and the US](#); [Bloom, Sadun & Reenen \(2012\) Americans Do IT Better: US Multinationals and the Productivity Miracle](#); and [OECD: Andrews, Nicoletti & Timiliotis \(2018\): Digital technology diffusion - A matter of capabilities, incentives or both?](#)

<sup>24</sup> [Dragoman et al. \(2021\) Barriers to Digitization in public and private sectors in Romania. Autoritatea Pentru Digitalizarea Romaniei report](#)

<sup>25</sup> [Digital Economy and Society Index \(2020\)](#)

<sup>26</sup> According to the OECD and McKinsey, "digital frontrunner" refers to countries with the following characteristics: small, open economies that rely on trade and participate in international value chains and are digitally advanced which in turn has a positive impact on their citizens' attitudes towards digitization and its adoption. In Europe, there are 9 digital frontrunners: Belgium, Estonia, Finland, Ireland, Luxembourg, the Netherlands, Norway, and Sweden. See McKinsey Reports titled "[Digitally-enabled automation and artificial intelligence: Shaping the future of work in Europe's digital frontrunners](#)" and "[How nine digital frontrunners can lead on AI in Europe](#)"

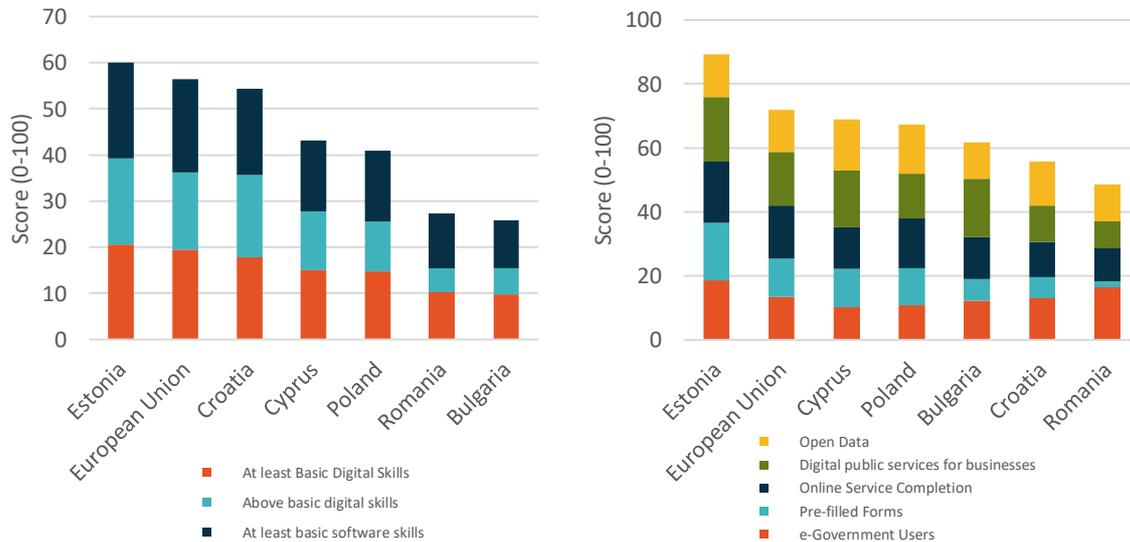
<sup>27</sup> Ibid.

Business Pulse Surveys reported an uptick in digital usage. However, to ensure that a wider percentage of the population can also benefit and to have a longer-term impact on firm productivity, there is a need to accelerate digital skills adoption to accelerate COVID-19 economic recovery<sup>28</sup>. Romanian SMEs have been reported having low levels of awareness of digital tools available to them, which may further slowdown the COVID-19 recovery<sup>29</sup>. However, providing skills for the creation of digital technologies will support the longer-term competitiveness of Romania. WBG analysis of the last EU funding cycle (2014-2020) showed that while there is funding dedicated to technology adoption, less than 16 percent of funds (€171M) were designated towards instruments supporting creation. Out of these, only three instruments included training digital skills as one of its objectives.

**ROMANIA’S PROGRESS ON E-GOVERNMENT INITIATIVES**

**A well implemented e-government initiative can reduce bureaucratic procedures and costs for individuals and firms, thus use of e-government services has become an important metric in assessing a country’s progress on digitization initiatives.** Despite a higher-than-average number of e-government users (82 percent versus an EU average of 67 percent) in 2020, Romania ranked last among EU member states during the last three years on digital public services (see figure 7)<sup>30</sup>. In part, this high number is driven by the high level of interaction only between public authorities and only those Internet users who need to submit forms. The lower scores for the pre-filled forms indicate a systematic problem with the usability of the services. Romania also ranks last on the digital public services for the private sector. The main barriers to achieving digital public services in Romania are: (i) the lack of coordination between public institutions in setting up such services; (ii) the migration of IT specialists from the public sector to the private sector or to other countries; and (iii) the overall lack of digital skills (see figure 6)<sup>31</sup>.

**Figure 7:** Ranking of Internet Users Skills with Select Comparator Countries (right)  
**Figure 8:** Ranking of e-Government with select comparator countries (left)



Source: Digital Economy and Society Index (2020)

**Policymakers and civil servants need to be equipped with necessary digital skills, and consideration could be afforded to instituting/strengthening Chief Technology Officer (CTOs) positions.** Estonia was one of the first countries that created a Chief Technology Officer position to usher in the Digital Society. They supported the government’s ability to implement e-government initiative and manage procurement of IT or ICT vendors resulting in improved transparency in the bidding process; further

<sup>28</sup> World Bank Group Brief (2021): Identifying Areas of Opportunities to Support Recovery (in Romania)

<sup>29</sup> Dragoman et al. 2021. Barriers to Digitization in public and private sectors in Romania. Autoritatea Pentru Digitaliza rea Romaniei report.

<sup>30</sup> Digital Economy and Society Index (2020)

<sup>31</sup> Ibid.

drive other critical digitization measures; ensuring adequate legislative frameworks (e.g. cybersecurity, data protection and consumer privacy) are in place resulting in online trust in online transactions; and much more.

## ATTRACTING TALENT

**Romania has been experiencing demographic decline and brain drain for much of the last few decades.** The outward migration of highly skilled specialists in key sectors of the Romanian economy is an issue that has been high on the public agenda. This migration occurred both after Romania's integration into the EU in 2007 and the 2008 global financial crisis. In terms of highly educated migrants, Romania recorded the largest increase as a country of origin, with around 4,920 people (OECD, 2017). The number of employees with tertiary education (secondary, post-secondary and tertiary) also decreased in Romania, and is said to have further affected key economic sectors. In some sectors, such as medicine, this has been countered by a program of internationalization: in the past decade, the country's medical schools have intensified their efforts to either open or expand the capacity of medical programs taught in English or French<sup>32</sup>. A similar approach could be explored for other key sectors.

**Policymakers have taken a "brain gain" approach, by implementing programs and initiatives to attract skilled foreign talent and Diaspora, as part of measures to improve competitiveness.** Since it is difficult to fully reverse "brain drain", Romania is attempting to attract highly skilled labor. Various studies have shown that such an approach could foster and encourage economic growth<sup>33</sup>. Recently, countries including Chile, France, Serbia, and many more have introduced "Startup Visas" (also referred to as "Innovator Visa", or "Digital Nomads") to attract top global talent and reduce bureaucratic barriers to establishing new businesses outside of one's native country, see Annex 1 for a full list.

## OPPORTUNITIES

- Programs and incentives to attract talent via a Startup Visa.
- Embed entrepreneurship education into the curricula of relevant knowledge institutions for all education levels and infuse academia with entrepreneurs. Exposing lecturers to entrepreneurship would further increase their understanding with practical knowledge.
- The WBG's Europe 4.0 framework distinguishes between various digitalization technology types and highlights that promoting transactional technologies (such as e-commerce and platforms) creates multiple benefits: towards the general competitiveness of the country, providing opportunities for young and small firms to enter the market and geographical convergence of lagging regions with the growth poles. Furthermore, transactional technologies help to generate more employment opportunities for the population<sup>34</sup>.

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### 4.1.2 CULTURE

#### Key Findings:

- **In Romania, the proportion of people (including women, youth and older people) who are actively working to start a business or managing a young business are greater than the EU average. That many people have already formed a company is a plus, however many of these businesses are "necessity driven" and not "innovation driven", which would require a shift towards a "growth entrepreneurship" mindset.**

<sup>32</sup> Romania attracts a large talent pool of foreign medical students thanks to internationalization measures implemented by universities.

<sup>33</sup> One such study found that scientific migration stimulates the quality of research and the biggest gainers from migration could be the labs that attract people from different backgrounds and disciplines to create a dynamic team. For more information, see: [Hunter, Philip. "Brain drain, brain gain or brain sharing? New studies of the migration routes of scientists show that international mobility benefits all parties including countries that are net exporters of researchers."](#)

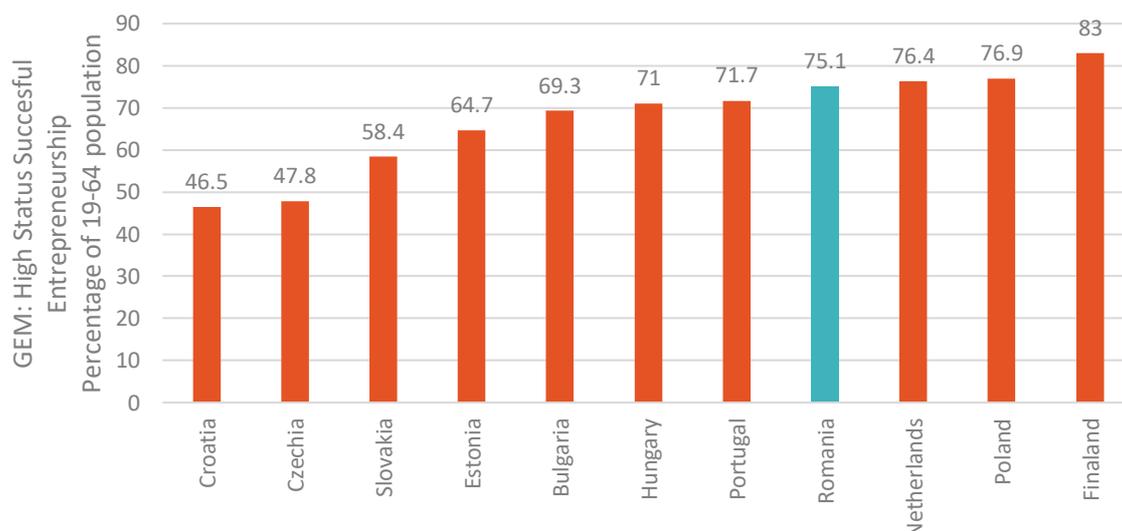
<sup>34</sup> [WBG \(2020\) Europe 4.0: Addressing Europe's Digital Dilemma](#)

- **Low rates of volunteerism may hinder the culture of “giving back” characteristic of many startup communities globally. Studies<sup>35</sup> also show that access to mentors and access to finance are typically key constraints for startup growth, thus highlighting the importance of nurturing a pool of seasoned advisors and mentors from the business community.**
- **Romania ranks poorly on attitudes towards entrepreneurial risk, although its position may be improving and is comparable to EU levels.**

**Culture matters because evidence suggests that entrepreneurial attitudes are shaped by culture to some degree.** Moreover, in addition to influencing who becomes an entrepreneur, culture may also affect entrepreneurs' ambition to scale, and the ease with which they can do this. Understanding culture, specifically entrepreneurial attitudes, overlaps with human capital, this analysis focuses on entrepreneurs' motivations, perceptions, and mindsets.

**Romania's self-employment rate of 16.4 percent in 2017, is above the EU average of 13.7 percent.**<sup>36</sup> Total entrepreneurial activity (TEA) rates in Romania are also above the EU average for the period of 2013-2017 (9.2 percent vs. 7.4 percent)<sup>37</sup>. However, many of these businesses are considered necessity-driven enterprises because they were created due to limited opportunities in the labor market<sup>38</sup>. A change in mindset is likely needed to move people from being “self-employed” to becoming “growth entrepreneurs”.

**Figure 9: Status of Successful Entrepreneurship**



Source: Global Entrepreneurship Monitor (latest available year of Romania is 2015)

**In Romania, entrepreneurship is accorded a reasonably high social status, and increasingly considered a desirable career choice and is widely promoted by the media.**<sup>39</sup> While data suggests that Romania's perception of opportunities is improving, Romania performs less favorably compared to other countries in the CEE region. Additionally, Romanian entrepreneurs were less likely than the EU average to offer new products and services. Romania ranks low on attitudes

<sup>35</sup> Findings in the [OCED's \(2014\) "Policy Brief on Access to Business Startup Finance for Inclusive Entrepreneurship"](#) is corroborated by similar studies conducted in other regions, including in Africa. Also see the [International Trade Centre's report \(2019\) "Tech Hubs in Africa: How can they support startups across the continent?"](#)

<sup>36</sup> [OECD \(2017\) Inclusive Entrepreneurship Policies, Country Assessment Notes: Romania](#)

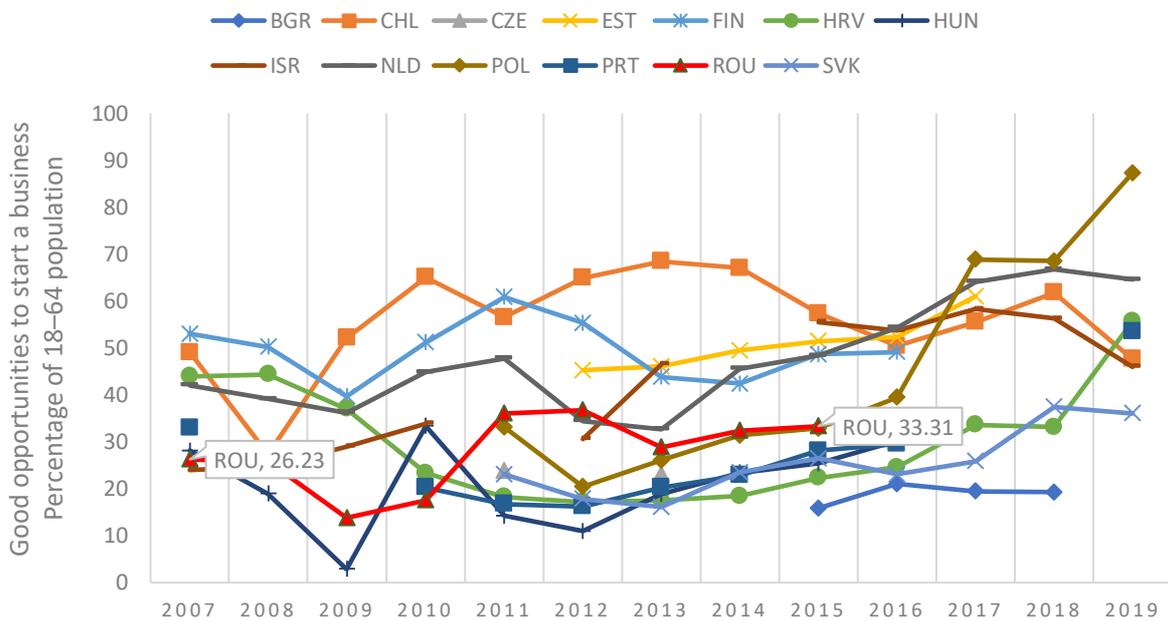
<sup>37</sup> Ibid.

<sup>38</sup> Over the period of 2013-2017, nearly three in ten businesses were created because the entrepreneurs did not have any other opportunities in the labor. This proportion (of 29 percent) exceeded the EU average (20.3 percent). OECD data reinforces this: the share of entrepreneurs pushed by necessity was higher than the EU average in all observed demographic groups. Older people were likely to be active in entrepreneurship due to lack of job opportunities (30.7 percent). One-in-five youth starting a business did so because they could not find employment.

<sup>39</sup> [Global Entrepreneurship Monitor \(2019\)](#)

towards entrepreneurial risk, although its position has been improving and is comparable to levels of the EU.

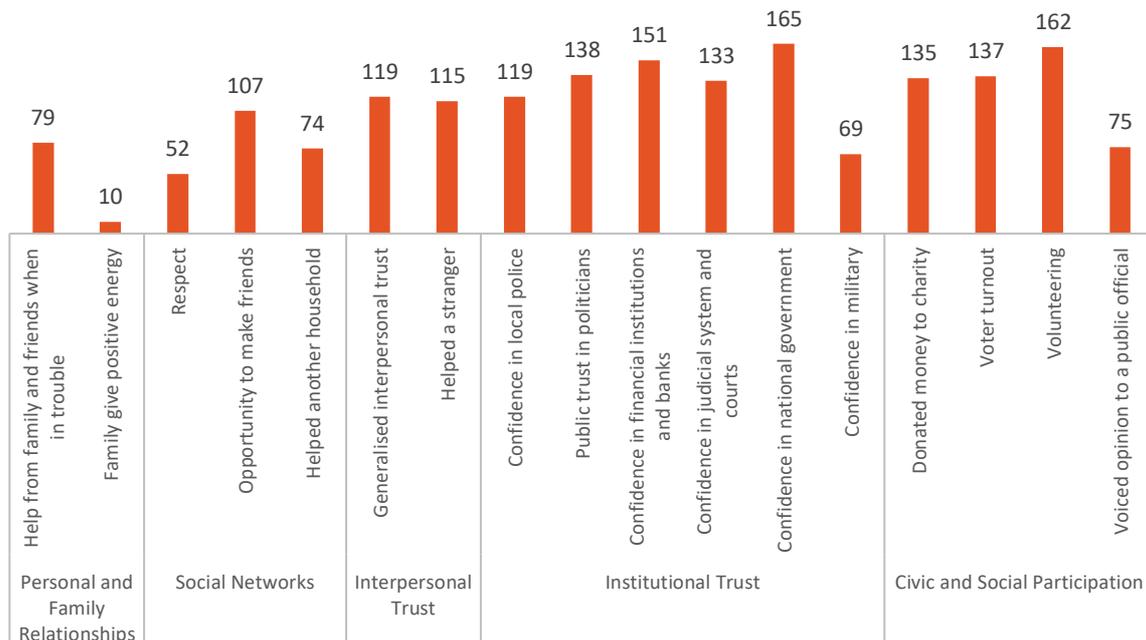
Figure 10: Perceived Opportunities in Entrepreneurship



Source: Global Entrepreneurship Monitor (2019)

**Notably, Romania ranks low on indicators of Social Capital: this is driven by weak performances on the Institutional Trust and Civic and Social Participation rankings within the Legatum Index’s social capital pillar<sup>40</sup>.** In 2015, Romania had the lowest participation rate in formal voluntary activities in the EU (3.2% overall; 2.9% for men and 3.4% for women), within the Civic and Social Participation sub-pillar, see figure below. Culture of volunteerism, or “give back” is especially important when it comes to developing a culture of mentorship, especially for early-stage, pre-revenue firms, that ability to experts. During the early stages of company establishment, startups rely on critical business advisory support mechanisms including business coaching, technical guidance, and free mentorship, which is why many startups associate with incubators, accelerators and other entrepreneurship support programs that offer these services at reduced costs. Romania’s limited “give back” culture could be constraining growth of startups that rely on advice and stewardship from seasoned business experts. Relatedly, ecosystem stakeholders also cited limited connectivity between key actors and siloed networks, reinforcing the perception of ecosystem fragmentation and limited collaboration, especially in the form of volunteerism.

<sup>40</sup> The Social Capital pillar of the Legatum Prosperity Index assesses social cohesion and engagement, community and family networks, and political participation and institutional trust (2020). The scale ranges from 0 (low) to 100 (high). Romania’s rank out of 167 countries included in the report on all the indicators under the social capital pillar.

**Figure 11:** Romania's ranking on the social capital pillar of the Legatum Prosperity Index

Source: Legatum Prosperity Index (2020)<sup>41</sup>

## OPPORTUNITIES

- Promoting network and linkages between key ecosystem actors across Romania,
- Showcasing and elevating profiles of successful Romanian high-growth entrepreneurs/companies also within national and international events/conferences/fairs.
- Launching a Romanian Diaspora network to strengthen mentorship, promote knowledge transfer and thought leadership.
- Exposing youth to innovation and entrepreneurship education at an earlier age. For example, Serbia's school curriculum now embeds advanced digital skills (i.e., coding) to stimulate creativity and innovation.
- Improving entrepreneurship education in relevant institutions. Possible initiatives include creating a dedicated entrepreneurship program, inviting "Entrepreneurs in Residence" to serve as adjunct professors while also increasing exposure of other faculty members to successful role models, and infusing R&D programs with entrepreneurship support.

### 4.1.3 INFRASTRUCTURE

#### Key Findings:

- **Romania's investment in ICT infrastructure have paid off and connectivity is no longer the biggest challenge. However, rural and other lagging regions are less likely to use ICT infrastructure.**
- **These supply-side improvements need to be matched by demand-side changes, including better digital skills (discussed in the Human Capital section).**

<sup>41</sup> The Social Capital pillar of the Legatum Prosperity Index assesses social cohesion and engagement, community and family networks, and political participation and institutional trust (2020). The scale ranges from 0 (low) to 100 (high). Romania's rank out of 167 countries included in the report on all the indicators under the social capital pillar.

- **The COVID-19 pandemic may provide an opportunity for policymakers to re-emphasize the importance of digital skills for remote work and promote use of digital platforms for public and private sector activities.**

**When it comes to supporting entrepreneurship, quality of ICT and physical infrastructure and availability of physical spaces for startup support (such as coworking spaces, incubators, and accelerators) are considered important inputs.** ICT infrastructure is considered an important enabler and the backbone of digital and digitally enabled entrepreneurship. Evidence from several global studies indicates that broadband penetration enhances economic growth, with the impact estimated to be, on average, around 0.85 to 1.16 percent increase in GDP for every 10 percent increase in Internet penetration<sup>42</sup>. Physical infrastructure, including logistics, is essential for access to supply chains, as well as access to physical innovation and entrepreneurship hubs. Business support organizations, such as incubators and accelerators, are typically located in universities or in urban areas. For entrepreneurs located outside of these centers, the inability to travel to these centers can constrain startup growth.

As discussed under the *Human Capital* section, **investments in connectivity and broadband affordability are paying off, but the country is still lagging on the use of Internet services, integration of technology, and digitalization of public services**<sup>43</sup>. Forty-nine percent of Romanian homes subscribe to ultrafast (at least 100 megabits per second) broadband, the fifth highest figure in the EU<sup>44</sup>. The strong infrastructure-based competition in Romania, mainly in urban areas, is reflected in the indicators in which the country performs very well, namely fixed very high-capacity network (VHCN) coverage and at least 100 Mbps fixed broadband uptake (68 percent and 49 percent respectively). However, Romania's urban-rural digital divide is illustrated by the figures for VHCN coverage, where only 39 percent of rural areas are covered<sup>45</sup>. Romania also ranks first in the EU in terms of broadband prices when analyzing all product baskets (fixed, mobile, converged). While Romania should not lose pace in providing affordability, connectivity services, policymakers should pay attention to promoting Internet usage and digital skills.

**Compared to other EU countries, cities and commuting zones in Romania are geographically spaced out and the efficiency of train services indicators show that Romania is lagging in transportation infrastructure.** If cities are far from each other, roads, trains, and airplanes can compensate for the physical distance. For 2018, Romania's score was comparable to ECA for logistics, competence, tracking, tracing and timeliness, and international shipments. However, Romania is falling behind in physical infrastructure<sup>46</sup> (by 7 percentage points) and Customs<sup>47</sup> (by 17 percentage points)<sup>48</sup>. While ecosystem stakeholders have not cited this as a constraint to accessing entrepreneurship support activities, this merits attention by policymakers as it could impact scope and reach of activities to promote inclusion (particularly rural or other underserved areas) and impact e-commerce delivery logistics.

**Physical spaces that support innovation and entrepreneurship also play a role in facilitating ecosystem development.** Currently, spaces are distributed well throughout the country, except for the Center and the South. Though, it is noteworthy that Romania has a limited number of enablers providing physical space for entrepreneurs and innovators to date. An overview of existing innovation and entrepreneurship enablers in Romania is shown in Figure 18 under the Section 4.1.8 "SUPPORT PROGRAMS".

**Based on non-exhaustive lists and self-reported data, spaces are concentrated in Bucharest, North West, West, and North East regions.** There are some major science parks under construction that are

<sup>42</sup> [International Telecommunications Union \(2012\) Impact of Broadband on the Economy: Research to Date and Policy Issues](#)

<sup>43</sup> [Digital Economy and Society Index \(2020\)](#)

<sup>44</sup> Ibid.

<sup>45</sup> Ibid.

<sup>46</sup> This refers to the quality of trade and transport-related infrastructure, e.g., ports, railroads.

<sup>47</sup> This refers to the efficiency of the clearing process.

<sup>48</sup> According to the [WBG \(2018\) Logistics Performance Index](#)

to provide space for startups and tech transfer offices (TTOs) in the future. A dynamic ecosystem consists of active networks of these enablers for robustness and sustainability. Ecosystem stakeholders indicated that robust connections between key players within Romania is limited. While innovation hubs are likely linked to other international innovation hubs, ecosystem fragmentation persists due to limited connectivity between actors.

## OPPORTUNITIES

- Strengthening active linkages for robust networked innovation ecosystem.
- Bolstering the impact of existing innovation and entrepreneurship enablers, i.e., through outcome focused capacity building activities for the sustainability of innovation ecosystems.
- In the medium to long-term, upgrading Romania's lagging physical infrastructure can enable physical connectivity between clusters across the country.

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### 4.1.4 RESEARCH DEVELOPMENT & INNOVATION

#### Key Findings:

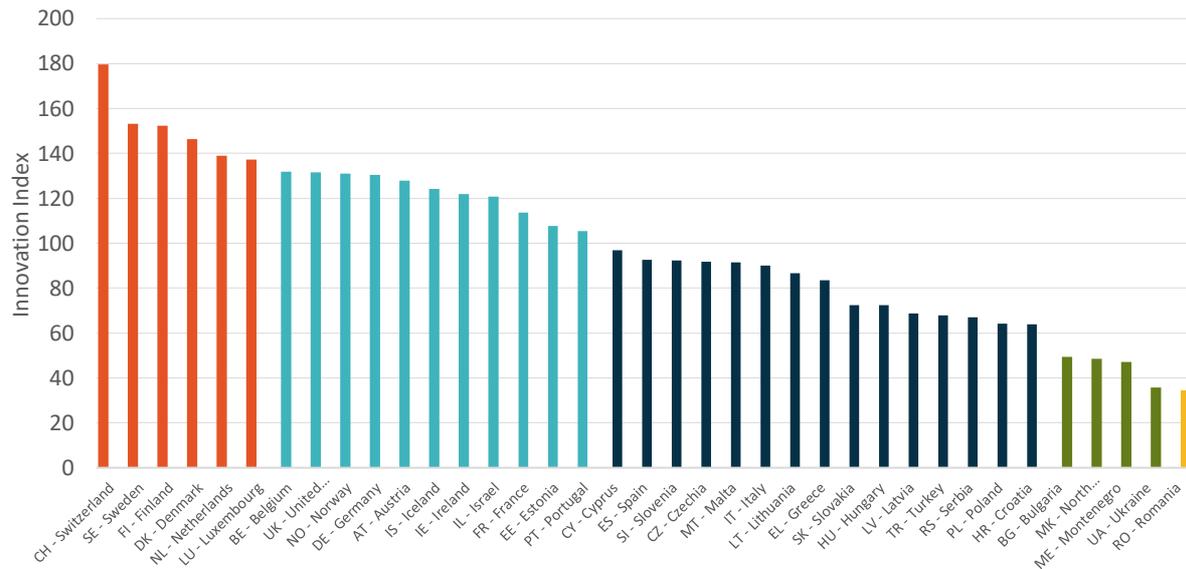
- **Structural shortcomings in Romania's Research Development & Innovation (RD&I) systems are constraining contributions to economic growth.**
- **Shortcomings include insufficient funding, low quality of the public science base, weak public-private collaboration, lack of a robust national innovation and entrepreneurship ecosystem, and institutional fragmentation.**
- **Romania is possibly the only EU member state that does not have a properly functioning innovation/startup agency which can address RD&I constraints.**

Although the EU's innovation performance continues to increase at a steady pace, Romania's innovation performance declined relative to that of the EU in 2012. Romania is a "Emerging Innovator" among EU countries (based on European Innovation Scoreboard)<sup>49</sup>, indicating untapped potential for growth. After a strong decline between 2011 and 2015, Romania's innovation performance started to improve after 2015. With more targeted strategies, Romania could help firms to further capitalize on their strength and move towards higher value-added activities. Among the indicators measured by the scorecard: Innovators, Firm investments and Human resources, are Romania's weakest innovation dimensions. Romania's lowest indicator scores are on (i) Lifelong learning, (ii) SMEs with product or process innovations, (iii) SMEs with marketing or organizational innovations, and (iv) SMEs innovating in-house. These four indicators are also the lowest in the EU. Sub-nationally, Bucharest-Ilfov is the only region in Romania categorized as a "moderate innovator" while the other regions are categorized as "modest innovator". In all eight regions, innovation performance has decreased over time.<sup>50</sup>

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<sup>49</sup> [European Innovation Scoreboard \(2021\)](#)

<sup>50</sup> [Regional Innovation Scorecard \(2019\)](#)

**Figure 12: European Innovation Scoreboard**

Source: European Innovation Scoreboard (2021)

**Romania's overall innovative capacity is low, and its future competitiveness severely challenged by large productivity and innovation gaps, especially between foreign-owned and domestic firms.**<sup>51</sup> Romania's investment in research and development is the lowest in the EU (0.5 percent of GDP) and public research and development expenditures have declined.<sup>52</sup> Israel and Finland, which are widely viewed as leaders on the innovation and entrepreneurship agenda, have the highest gross domestic expenditure on R&D as a share of GDP at 4.94 percent and 2.76 percent respectively<sup>53</sup>. In comparison, Romania underinvests in R&D, at 0.51 percent of GDP – well below the national target of 2 percent and the EU average of 2.12 percent – which has negatively impacted the diffusion of technology amongst firms in Romania.

**Compared to public sector investments, Romania's private sector invests considerable amounts into R&I but overall spending in this sector remains low and academia-business links are poor.** Since most RD&I funds are allocated directly to the public sector, there is a missed opportunity to create incentives for public-private collaboration. Regulatory barriers (e.g., red tape, conflicting or unclear rules) hamper academia-business links, which tend to occur on an ad-hoc basis. Pockets of innovation excellence exist across the country, as evidenced by regional disparities<sup>54</sup> and development of heterogeneous regional innovation systems. At the national level, however, there is significant institutional vacuum in terms of innovation system management.

**Implementation capacity and public sector leadership on this agenda are reflected in the structural shortcomings of the RD&I system, constraining its contributions to growth.** Among Romania's most formidable roadblocks, include insufficient funding, low quality of the public science base, weak public-private collaboration, lack of a robust national innovation and entrepreneurship ecosystem, institutional fragmentation, and ability to evaluate innovation programming at the national level.

**Romania is the only EU member state that does not have a properly functioning innovation or startup agency.** Romania loses out in terms of knowledge sharing on innovation/entrepreneurship

<sup>51</sup> [European Innovation Scoreboard \(2021\)](#)

<sup>52</sup> Ibid.

<sup>53</sup> Eurostat (2018)

<sup>54</sup> [Regional Innovation Scorecard \(2019\)](#)

policy making and programming by not being a member of TAFTIE (The European Network of Innovation Agencies).

**In post-transition economies<sup>55</sup>, innovation, entrepreneurship, or startup agencies are often under the auspices of a ministry in charge of research, innovation, science, technological development or economy.** This is mostly because since these ministries tend to have a better understanding of the nature of technology driven startups and the need to support RD&I intensive companies in collaboration with the research sector. It is also viewed as an opportunity to prevent brain drain of young entrepreneurs, or promote brain gain from among diaspora or international technical and research talent. More importantly, it identifies a political champion or ally since innovation and entrepreneurship tends to be a cross-cutting agenda that spans several ministries and agencies. This includes building alliances with the Ministry of Economy to ensure implementation of critical business environment regulations<sup>56</sup>.

**The pressing need for an innovation, entrepreneurship, or startup agency<sup>57</sup> was also revealed during the design and implementing a proof-of-concept program for innovative companies under the DG REGIO Catching Up Region's Initiative.** The complexity associated with managing such programs with the right governance mechanisms, including international technical peer review, surpassed the ability of the ministry in charge and resulted in extensive delays in pilot roll out and implementation across the country.

**In addition to catalyzing RD&I, establishment of innovation agencies also benefit startups.** Startups have many unique characteristics which distinguish them from other firms and other SMEs: they are typically young, highly innovative, working with emerging technology or in nascent sectors, and are often still trying to establish a scalable business model. There are fundamental differences between a young startup attempting to scale within a new industry, and an old SME with little growth ambition in a traditional sector: even though they may be the same size, the core characteristics, and the resources on which they draw will be quite distinct<sup>58</sup>. For these reasons, regulatory support to startups should differ from regulatory support to SMEs.

**During public stakeholder consultations, the ecosystem expressed a need for a common voice.** Since the entrepreneurship agenda tends to be spread across several agencies and private actors, ensuring alignment between all ecosystem actors requires dedicated resources consolidated under one entity. This entity will also be empowered to conduct other activities, including lobbying. Therefore, the idea of having an independent entity representing the interests of the ecosystem was put forward since Romanian startups at present have no such voice to champion their needs.

**This is supported by data from the WBG's mapping of the existing policy mix for entrepreneurship support in Romania.** The WBG's analysis found that, of the 50 support instruments examined, around 36 were open to SMEs (36 for small businesses, 35 for Medium, 36 for Micro), but only 21 were open to startups, and just 9 to pre-seed-stage firms. In many cases, the instrument required that the firm be revenue-generating or even profit-making in order to qualify for support; such instruments are clearly unsuitable for early-stage startups, and reflect a lack of dedicated focus on young, dynamic, high-growth-potential firms. A public-sector supported startup or innovation fund, managed by private sector experts, would be a more suitable financing mechanism.

**One-stop agencies can introduce nimble programming for entrepreneurs that are freed of administrative and bureaucratic requirements that often result in delayed disbursement to innovative research, projects, and firms.** Stakeholders mentioned that where governmental support

<sup>55</sup> Specifically, Poland, Croatia, Serbia, Bulgaria, and Kazakhstan.

<sup>56</sup> Such as starting/closing a business, bankruptcy, investors regulations, R&D tax credits, investor protections, and more.

<sup>57</sup> "Establishment of a One-Stop-Agency" is one of the top voted interventions by the Romanian Entrepreneurship Ecosystem.

<sup>58</sup> For example, the high technical risk or market risk of many startups means that risk finance such as early stage grant programs and venture capital is often appropriate, but VCs will not be interested in funding established firms with no growth ambition. See the **Access to Finance** section for more details.

exists, it is often too slow and bureaucratic to be worth applying. A new, dedicated organization with a high degree of autonomy and specialist capacity, rather than a team within an existing government department, will be most effective at deploying, overseeing, and monitoring investments into startups.

**Research shows a wide variety of successful models exist, differing in purpose, structure, and the type of instruments and interventions they manage**<sup>59</sup>. The WBG's *Innovation Agencies: Case Studies from Emerging Countries* identify 7 common ingredients of success: (1) A clear but adaptable mission; (2) Capable staff; (3) Effective governance and management structures; (4) Diagnostic-based interventions; (5) Robust monitoring and evaluation; (6) Sustainable funding; and (7) Strategic partnerships and networks.

**Specific examples of bodies which might serve as a template for a One Stop Startup Ecosystem Agency** include:

- Startup Estonia a “governmental initiative aimed to supercharge the Estonian startup ecosystem.”<sup>60</sup>
- Bonjour Startup Montreal “a non-profit organization whose mission is to facilitate the creation, growth and influence of Montréal startups and position Montréal among the world’s most dynamic ecosystems.”<sup>61</sup>
- Techleap.nl which provides programs, tools and resources for startups.
- La French Tech: A publicly funded initiative to showcase French startups, promote entrepreneurial exchanges between them, and increase the coherence of public policy regarding startups.
- Startup Poland, a non-governmental organization, established to advocate for startups to policymakers.
- Coadec, a privately funded initiative to provide a voice for UK digital startups to policymakers.
- The Israeli Innovation Authority: a government funded entity which administers an R&D Fund as well as an Incubator Program.

**The Romanian public sector needs to be willing to modernize and reform the system, including creating new institutions to coordinate and lead on the R&I agenda.** This will help address some of the systemic issues listed above but also support Romania’s ambition to become a leading innovation hub in the CEE region.

## OPPORTUNITIES

- Establish a One Stop Startup Ecosystem Agency that crowds in public and private sector participation to reinforce the startup ecosystem.
- Programs and policies to accelerate access of public R&D infrastructure to startups, to increase use of existing facilities. This will help derive development and testing of new products, or certify existing ones, to facilitate innovation and competitiveness.
- Incentivizing collaborations across sectors. This includes industry-academia linkages, corporate-startup linkages, and more.
- Establish a Romanian Startup Fund that invests into riskier stage startups, including startups that are pre-revenue

<sup>59</sup> [Nesta \(2016\) How Innovation Agencies Work](#) and [WBG \(2019\) Innovation Agencies: Case Studies from Emerging Countries](#)

<sup>60</sup> Direct quote from [organization website](#)

<sup>61</sup> Direct quote from [organization website](#)

### 4.1.5 ACCESS TO FINANCE

**Key Findings:**

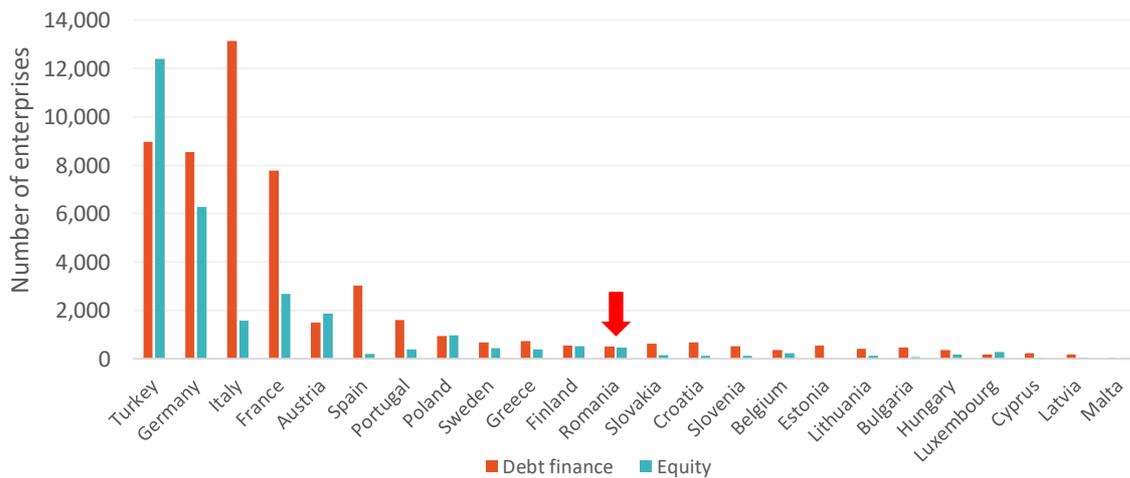
- Access to financial capital in Romania is represented by several financial institutions (including banks, VCs, angels, crowdfunding), although access is lacking in geographical diversity and, more importantly, access for all stages of a company is not covered.
- Romanian Venture Capital (VC) investment as a share of GDP is very low. While many communities remain informal, Romania’s first business angels’ association was formalized and joined the European Business Angels Network (EBAN).
- Romanian deals are also smaller than average:
  - The median deal size is \$1.2M for angel/seed, \$2.7M for early-stage VC, and \$5.9M for later-stage VC investments in Europe<sup>62</sup>.
  - In Romania, the average funding at €552k per round is similar to the last year, in a context of increased numbers of seed rounds (without UiPath transaction the average round would be at €75k)<sup>63</sup>.

Entrepreneurs with novel and unverifiable technologies struggle to receive funding by traditional financial institutions (i.e. commercial banks) because it is difficult to evaluate the credit worthiness and returns of the project. Lack of finance typically prevents new ventures from investing in innovative projects, improving their productivity, financing their growth, covering working capital requirement and meeting market demand. Startups typically self-finance or raise investment from accelerators, angel investors, and VC funds.

**Policymakers need to consider regulatory incentives to stimulate Angel and VC Investment.** This is particularly important as the financial capital markets mature. Currently, there is no legislation to promote VC activity and this merits further exploration by authorities.

**In Romania, equity and debt financing for RD&I remain below the EU average.** This is in line with the findings discussed in the Research & Development & Innovation section. However, smaller average deal sizes contribute to low levels of equity financing in Romania.

**Figure 13:** Equity and Debt Financing for R&D or other Innovation Activities



Source: Eurostat (2018)

<sup>62</sup> KPMG Venture Pulse (2020), Pitchbook (2020), and Activize (2020)

<sup>63</sup> Based on data from Activize (2020)

**As discussed in the [Research Development & Innovation](#) section, public sector financing mechanisms are not appropriately tailored for startups.** These instruments tend to favor post-revenue firms - which may have the effect of supporting incumbents over new entrants. It can take years for technology-intensive startups to start generating profits and many are susceptible to the “valley of death”<sup>64</sup>. This suggests that the establishment of a Startup Fund can be catalytic in financing early-stage firms.

**Romania has 14 active networks<sup>65</sup> for business angels totaling more than 250 investors, which could represent an important financing and mentorship resource for startups.** Angel investing, which is the practice of private individuals investing personal capital into private companies, is typically associated with startup and early-stage firms with high-risk profiles. Angel investors are particularly valuable in supporting young firms as they are often committed to providing non-capital support such as mentoring, guidance on developing business strategies, industry or commercial connections, and follow-on funding. While many communities remain informal, Romania’s first business angels’ association was formalized and joined EBAN. This indicates a need for capacity building activities to (i) help formalize angel networks including identifying a viable business model and dedicated resources for angel network management, (ii) providing masterclasses on how to source deals and conduct due diligence, and (iii) ensuring alignment between angel investors and startups through mentorship or other direct support.

**Similar to other ecosystem enablers, most VCs are located in Bucharest, Cluj, and Iasi, limiting the access to entrepreneurs from other regions due to geographic distance.** Evidence from elsewhere, including the United States, suggests that there is a strong geographic dimension to angel and VC investments, with investors preferring to invest in firms which are closer to them, presumably because it enables easier contact and closer scrutiny. A Bloomberg CityLab report<sup>66</sup> tracked venture capital investment and startup activity across cities in the United States and found that venture capital investments are extremely concentrated in specific regions while other regions show very little investment activity. The United States’ most powerful and fastest-growing companies are clustered in hubs like the Silicon Valley, New York City, and Seattle, and venture capital shares a similar concentration. Since Romania is characterized by high regional disparities, this merits further attention by policymakers seeking to stimulate Romania’s nascent startup ecosystem. Figure 12 below illustrates key financing stakeholders identified by the Project Team.<sup>67</sup>

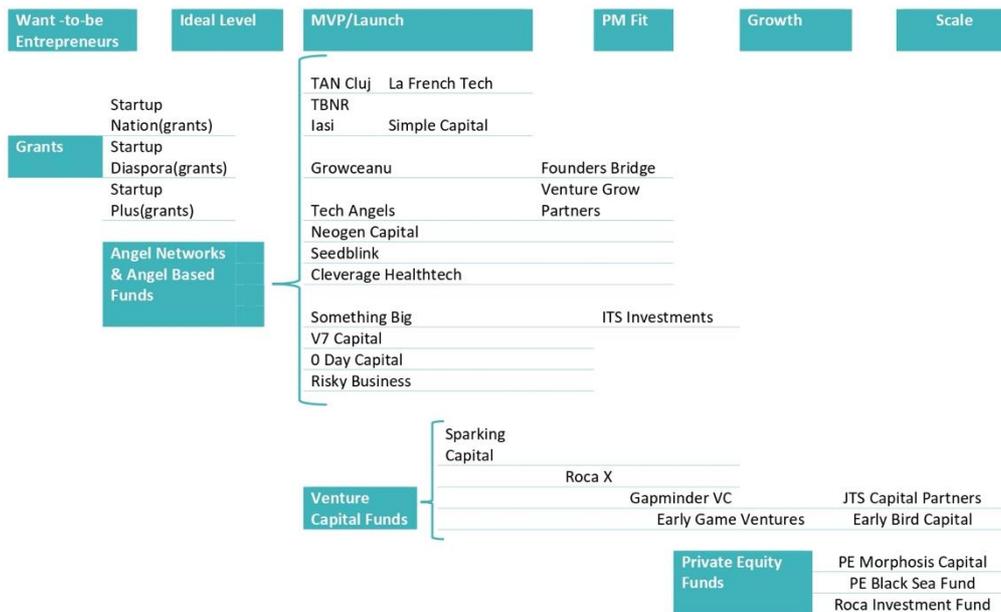
<sup>64</sup> The “valley of death” refers to a period from inception to product market fit, during which a startup has to rely largely on money from investment to survive. During this period, startups have begun operations but have not yet generated revenue.

<sup>65</sup> Only one of these networks is formalized and registered with EBAN.

<sup>66</sup> [Bloomberg \(2016\) A Closer Look at the Geography of Venture Capital in the U.S](#)

<sup>67</sup> Banks financing startups: Banca Transilvania, Raiffeisen Bank Romania, ING Bank Romania, CEC Bank. Other programs/vehicles: European Investment Fund, JEREMIE, Competitiveness of Enterprises and Small and Medium-Sized Enterprises (COSME), Competitiveness Fund-of-Funds Romania for SMEs.

**Figure 14: Select Key Financing Stakeholders in Romania**



**Evidence<sup>68</sup> suggests that crowdfunding platforms can also play a useful role in funding startups.** Crowdfunding—the practice of raising funds from multiple individuals via the web—first emerged in an organized form in the low-investment environment of 2008 and has quickly grown into a multi-billion-dollar industry that channels funds into hundreds of thousands of ventures globally. Hollywood has also used crowdfunding to finance movie projects. In Romania, the equity crowdfunding platform, SeedBlink considerably contributed to the ecosystem by facilitating 48 crowdfunding campaigns with a total value of over €23M, more than half of which came from equity crowdfunding investors<sup>69</sup>.

**Opportunities for investors to exit their investment<sup>70</sup> and recycle their capital into other firms, are also very important.** To date, the Romanian ecosystem has recorded one significant exit, UiPath’s Initial Public Offering (IPO) on the NYSE<sup>71</sup>. With €225 million, the total funding plunged by 60 percent in 2020 due the lack of Series A+ rounds, revealing no intermediate growth rounds between UiPath and the rest of the ecosystem<sup>72</sup>. However, during 2020, 54 startups received cumulative €18M from angel investments and equity crowdfunding campaigns<sup>73</sup>. VC activity on the other hand appears to be more robust. In the first half of 2021, Romania VC deals amounted to €82.2M, representing 50 deals<sup>74</sup>.

<sup>68</sup> WBG (2013) [Crowdfunding’s Potential for the Developing World](#)

<sup>69</sup> Ernst & Young (2020) based on Dealroom (2020), Crunchbase (2020), Press Releases

<sup>70</sup> Investment exits can be achieved through (1) IPOs, (2) Mergers and acquisitions, or (3) Business shutdown.

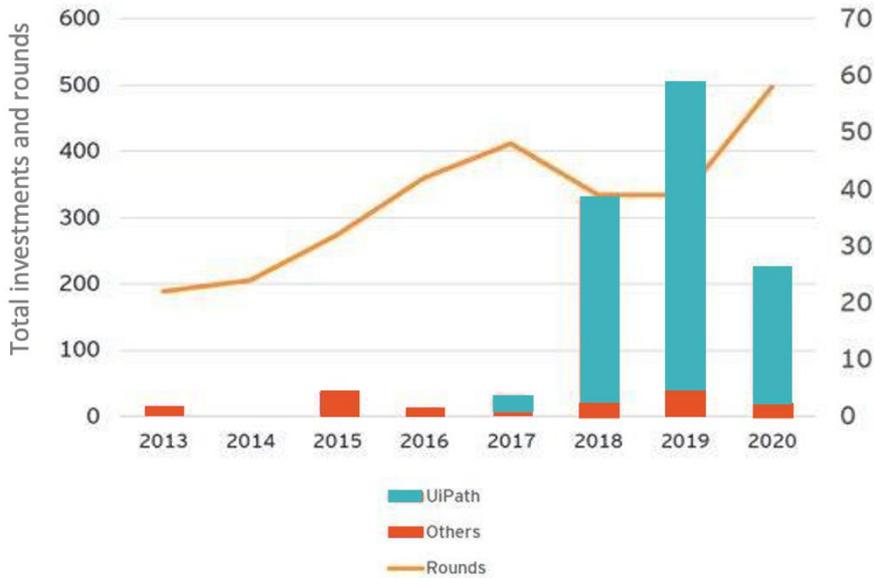
<sup>71</sup> <https://www.cnbc.com/2021/04/21/ui-path-rises-17percent-in-nyse-debut-after-one-of-top-software-ipos-ever.html>

<sup>72</sup> Ibid.

<sup>73</sup> Based data from Activize (2020)

<sup>74</sup> Based data from [Activize \(2021\)](#)

**Figure 15: Dealflow Activity in Romania - including UiPath**

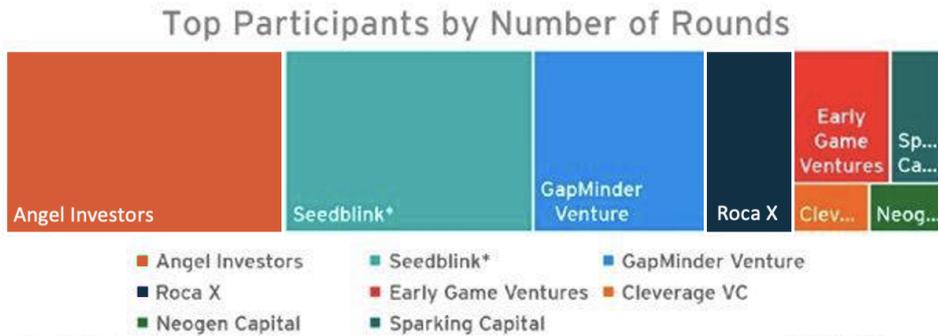


**Figure 16: Dealflow Activity in Romania - excluding UiPath**

€80-100m

(w/o UiPath)

Valuation of startups that raised funds in 2020



Source: Ernst & Young (2020) based on Dealroom (2020), Crunchbase (2020), Press Releases

**In Romania, average deal sizes are smaller than European averages.** The average funding at €552K per round is similar to the last year, in a context of increased numbers of seed rounds (without UiPath transaction the average round would be at €75k)<sup>75</sup>. In Europe, the median deal size is \$1.2M for angel/seed, \$2.7M for early-stage VC, and \$5.9M for later-stage VC investments<sup>76</sup>.

**PUBLIC SECTOR FINANCING SUPPORT TO DIGITAL FIRMS**

Romania is participating in the EC’s Digital Innovation and Scale-up Initiative (DISC), launched at the 2019 Digital Assembly in Bucharest. The initiative is meant to address programming and financing gaps constraining growth and competitiveness of digital firm.

<sup>75</sup> Based on data from Activize (2020).

<sup>76</sup> KPMG Venture Pulse (2020), Pitchbook (2020), and Activize (2020)

## OPPORTUNITIES

- Designing and establishing a Romania Startup Fund, managed by private sector partners, that mobilizes public funds into innovative startups. This will also help Romania actualize its participation in DISC while also providing funding to seed stage firms, startups, scale-ups, and businesses transitioning from idea to proof-of-concept and minimum viable product, as well as businesses with the potential to scale.
- Providing financial incentives to promote public-private collaboration projects aimed at designing, developing and testing demonstration models (prototypes) for new or significantly improved products, technologies, methods, systems or services.
- Designing and implementing effective regulation, which balances financial stability (e.g., loan guarantees), investors' protection (e.g., tax incentives for business angels and private investors) and the opening of new financing channels for entrepreneurs (e.g. directing capital to VCs). Supportive policies should also consider international capital flow (e.g., overseas investors) and capital recycling (e.g. trade sales and initial public offerings).
- Simplify investor-related regulations:
  - Encourage private investors via significant tax breaks, such as the UK's Enterprise Investment Scheme (EIS) and Seed Enterprise Investment Scheme (SEIS).
  - Clarify the legislation surrounding business angel and business angel syndicate investment.
  - Encourage Corporate Venture Capital investment through tax relief for corporate investment in Romanian startups.
  - In line with the EU Directive on Crowdfunding, publish equity crowdfunding guidelines or regulations for Romania.

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### 4.1.6 REGULATORY FRAMEWORK

#### Key Findings:

- **Although Romania has undergone many reforms since joining the EU, there is still a need for significant institutional improvement, and greater commitment to policy implementation. Regulators do not routinely consider the impact of new regulation on innovation and entrepreneurship, and there appear to be very few mechanisms for meaningful engagement with innovators**

**Romania's *Doing Business*<sup>77</sup> ranking (55/190) does not fully reflect regulatory volatility within its business environment.** Use of Internet services in Romania continues to be the lowest in the EU: 21 percent of individuals aged 16-74 have never used the Internet (compared to the EU average of 11 percent). Europe 4.0 highlights the need to accelerate digitization, Romania is among the lowest in adoption. To reduce time spent dealing with bureaucracy, many countries have digitized civic functions. However, the WBG's *Europe 4.0*<sup>78</sup> report highlights a need to acceleration digitization, particularly in Romania, which is one of the lowest adopters in the EU.

**The legal framework needs to be further strengthened to de-risk entrepreneurship and encourage new entrants.** In the *Doing Business* 2016 rankings, Romania improved its insolvency system by introducing time limits for the observation period (during which a reorganization plan must be confirmed, or a declaration of bankruptcy made) and for the implementation of the reorganization plan. To accomplish this goal, it introduced additional minimum voting requirements for the approval of the reorganization plan and clarified rules on voidable transactions and on payment priority for claims of post-commencement creditors.

**The regulatory framework is not conducive to competition; the restrictiveness of Romania's regulatory environment is driven by state control (55 percent) and barriers to entrepreneurship (41 percent).** Pro-competition regulation can help boost income per capita by increasing investment and

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<sup>77</sup> [WBG \(2020\) Doing Business Report](#)

<sup>78</sup> [WBG \(2020\) Europe 4.0: Addressing the Digital Dilemma](#)

employment, and it can also stimulate firms to become more innovative and efficient. According to the Product Market Regulation (PMR) indicators, Romanian markets are characterized by higher levels of restrictiveness than comparator newer EU member countries:

- Romania's regulatory environment scores 1.69/6;
- This is more restrictive to competition than both the average EU country and regional peers, such as Bulgaria, Hungary, and Poland; and
- The restrictiveness reflects the widespread presence of State-Owned Enterprises (SOEs) in the economy and the direct involvement of the state in network services.

**Romania has not fully realized its innovation potential and transition towards a knowledge-based economy.** Currently, no coordinated national policy making effort coupled with a lack of leadership at the national level is resulting in a lack of clarity about which ministries are responsible for leading a complex RD&I agenda that includes setting priorities on how to improve the RD&I sector's performance and necessary regulatory reforms. Reliance on strategies to address gaps in agenda vs reforms to regulatory framework:

- Romania's National Strategy for Research, Development and Innovation 2014-2020 (NSRDI 2020) prioritized Smart Specialization Strategies (S3).
- Competitiveness Strategy, the National RDI Strategy 2014-2020, implemented according to the RDI National Plan 2015-2020, and the 2014 Small and Medium Sized Enterprises Strategy) do not have aligned priorities and measures and are loosely coordinated.
- Romania adopted a National Strategy on the Digital Agenda (SNADR) in 2015 however implementation progress remains limited.

## OPPORTUNITIES

- Drafting and passing a Startup Ecosystem Strategy.
- Establishing a national One Stop Agency for the startup ecosystem to streamline the administrative process for establishing a startup while also centralizing the innovation and entrepreneurship functions within the Romanian national government.
- Digitize company formation procedures and reduce time and cost of starting a business as benchmarked by Doing Business indicators.
- Modify the legislation regarding joint stock companies (SA), creating a coherent legislation and taxation system for the implementation of ESOP (Employee Stock Options Plan) plans in SA / SRL.
- Establishing regulatory sandboxes to provide testing grounds for new innovative products, such as fintech<sup>79</sup>. Regulators globally have embraced the regulatory sandbox as a means of providing a dynamic, evidence-based regulatory environment to test emerging technologies. Twenty-three (23) sandboxes created globally focus on financial inclusion or financial inclusion themes and 70% of the sandboxes created are in emerging markets. The Eastern Europe and Central Asia (ECA) region has second highest number of fintech-related sandboxes. The list includes Bulgaria, Hungary, Georgia, Serbia, Lithuania, Poland & Turkey. In Romania, RoFin.Tech (<https://www.rofin.tech/>) launched in January 2020 (comprised of 16 startups) to create regulatory sandbox for the fintech sector. Romanian authorities and financial regulators do not appear to be a member of this association.
- See [Access to Finance](#) section for additional regulatory recommendations regarding equity investments.

<sup>79</sup> Supporting fintech products and deriving legislation to government digital financial transactions have positive spillover effects for use of e-commerce and other digital commercial platforms.

#### 4.1.7 ACCESS TO MARKETS

##### Key Findings:

- Globally, e-commerce usage increased because of the pandemic as countries went into lockdown and embraced social distancing guidelines.
- In Romania, e-commerce usage remains low and driving adoption may require more Internet use (especially in rural areas) through education, skills, infrastructure, and institutions which encourage trust in online transactions.
- Romanian startups also expressed desire for improved access to public procurement.

Access to new markets for startups are typically through (1) leveraging e-commerce channels; (2) accessing corporate opportunities – either in the form of Open Innovation programs or into supply chains; and (3) access to public procurement opportunities (i.e., government contracts).

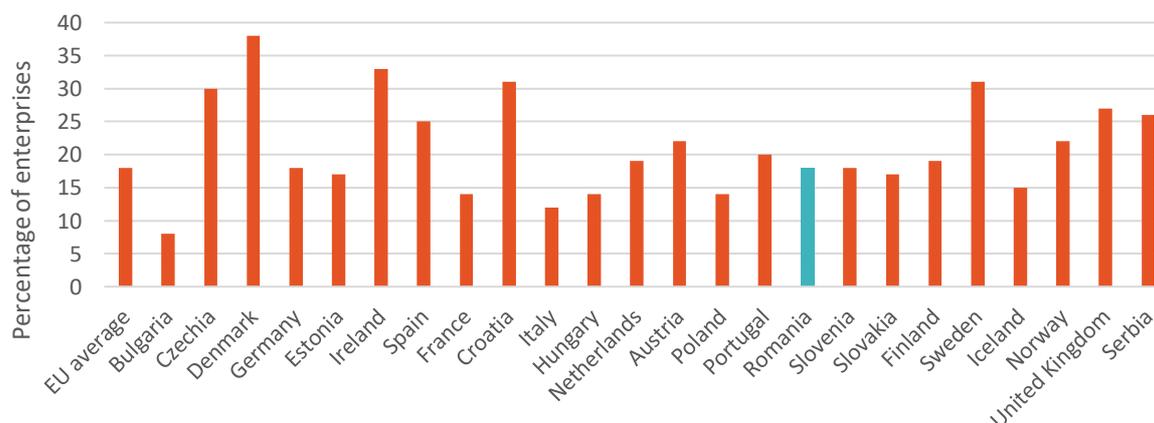
There are few instruments dedicated to supporting access to markets or linkages with foreign firms. Our analysis reviewed 50 public policy instruments for supporting entrepreneurship and found that only 4 of these included support for development of the domestic market, and only 2 included support for exporting or links with overseas firms. Given that exporting is an important means to achieve scale, this seems like a gap in the current policy mix.

#### USE OF E-COMMERCE PLATFORMS

Use of Internet services in Romania continues to be the lowest among the EU Member States.<sup>80</sup> Relatedly, there is limited uptake of e-commerce in Romania, by sales and by value. In addition, digital skills are low. Only 10% of the population have digital skills 'above the basic level'; this is significantly lower than the European average.

During the COVID-19 pandemic, there was accelerated uptake of e-commerce platforms. Romania saw a share of firms selling online rise to 19 percent in 2020 from 9 percent in 2018; however, there remains vast unrealized potential: less than 20% of firms received even 1% of their revenue via online sales.<sup>[63]</sup> Promoting more confidence in transacting online will benefit not only the users of technology (who will gain access to a much wider range of innovative goods and services), but also startups and other developers of digital technology (who will gain access to a wider domestic market).

**Figure 17:** Share of Enterprises with e-Commerce Sales of at Least 1% Turnover  
(All enterprises, without financial sector, 10 persons employed or more)



Source: Eurostat (2020)

<sup>80</sup> [Digital Economy and Society Index \(2020\)](#)

## PUBLIC PROCUREMENT

**Consultations from ongoing World Bank projects reveal that startups seek public procurement opportunities but the process is opaque.** In Romania, public procurement represents around 8% of GDP; this is about half of the EU average. Data on public procurement is limited: it is unclear what percentage of public procurement contracts are won by SMEs or startups—or even if this data is tracked closely. There are also significant opportunities to improve public procurement for startups while also avoiding administrative burdens on small suppliers.

**During stakeholder consultations, it was evident that perceptions of corruption remain widespread, leading to mistrust in the procurement processes.** Despite this, government tenders are still a viable business opportunity. Therefore, it is imperative that the Romanian government builds trust whilst avoiding 'overcompensating' through excessively onerous qualification procedures.

**Romania implemented the Electronic System for Public Procurement (ESPP) / Sistemul Electronic de Achizitii Publice (SEAP),** an electronic environment which enables all users (contracting authorities and economic operators) to conduct public procurement procedures, which is currently used by approximately 20,000 contracting authorities and 140,000 economic operators. ESPP will be enhanced through the implementation of the Open Contracting Data Standard, the integration of the European Single Procurement Document (ESPD) and e-Certis platform and the electronic invoice. The World Bank Romania office is providing Public Procurement Strategy Support to the Ministry of Public Finance and its subordinated National Public Procurement Agency to reform the public procurement system.

## OPPORTUNITIES

### Promoting Digital Confidence:

- Establishing a regulatory body charged with improving consumer trust in online transactions. This body could focus on, for example, improving online dispute resolution processes, ensuring that consumer protection law for distance selling remains adequate and up-to-date, and examining how else online trust can be improved (e.g., certifying websites).
- Passing legislation that protects consumers from deceptive online practices to build trust in online transactions.
- Enabling e-commerce (and other Internet related activity) through e-commerce education. This includes encouraging more basic Internet education and financial literacy (if applicable).
- Deepening linkages with established firms and multi-nationals through Open Innovation or supplier development programs to increase opportunities for startups.

### Promoting Public Procurement Opportunities:

- Capacity building activities for Public Sector Officials on how to manage public procurement. This could be developed in collaboration with startup organizations to help Public Procurement Managers and other public sector officials understand the potential benefits of procuring from startups.

Setting specific targets to ensure that a certain percentage of public spending awarded to SMEs are also awarded to startups.

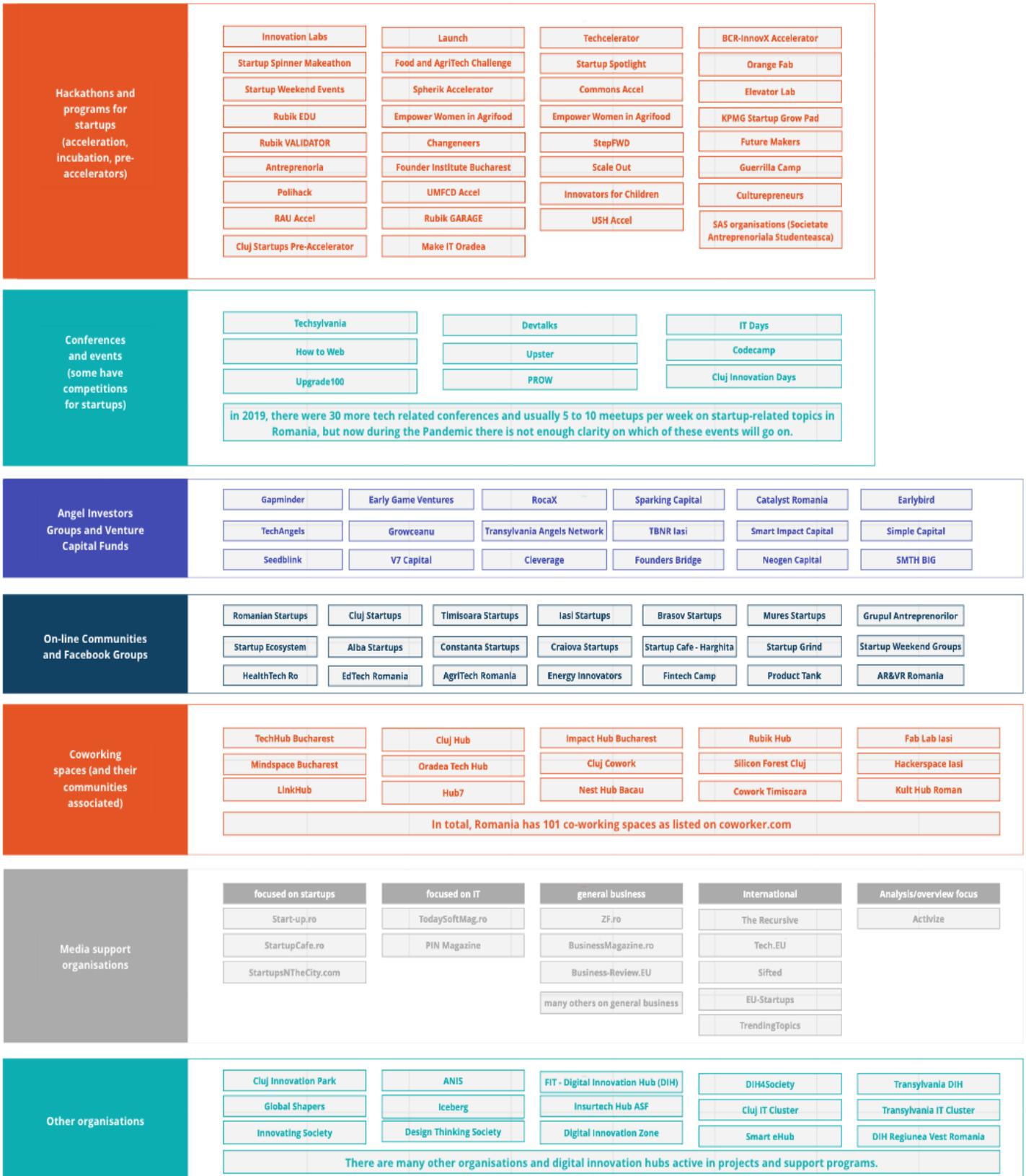
#### 4.1.8 SUPPORT PROGRAMS

**Data from the WBG's mapping of the existing policy mix for entrepreneurship support in Romania** found that, of the 50 public support instruments examined, around 36 were open to SMEs (36 for Small businesses, 35 for Medium, 36 for Micro), but only 21 were open to startups, and just 9 to pre-seed-stage firms. In many cases, the instrument required that the firm be revenue-generating or even profit-making in order to qualify for support; such instruments are clearly unsuitable for early-stage startups, and reflect a lack of dedicated focus on young, dynamic, high-growth-potential firms. A public-sector supported startup or innovation fund, managed by private sector experts, would be a more suitable financing mechanism.

**In parallel, private sector funded Romanian startup support programs and organizations have launched startup support initiatives in major Romanian cities.** Not surprisingly, they are often clustered with the IT / tech companies and universities. The vast majority of startup support programs are positioned very early in the startup lifecycle, i.e., at idea / minimal viable product (MVP) stage since they are connected to hackathons, educational programs, or pre-accelerators which offer workshops, networking, mentoring, office space, but do not provide direct funding. At the moment, there is no stand-alone accelerator offering funding, but the few existing incubators / accelerators are tightly connected with venture capital funds.

**There is a strong connection between the existing programs, co-working spaces (offering office space and network), and angel investor community (through mentoring and angel funding) thus forming a triangle of support for new startups, with involvement from VC funds.** Overall, there is ongoing linkages and information exchange among the ecosystem players regarding startup pipeline, events, and other opportunities, however this can be improved through more centralized communication channels.

**Figure 18: Non-exhaustive List of Innovation and Entrepreneurship Enablers in Romania, including Access to Finance Enablers**

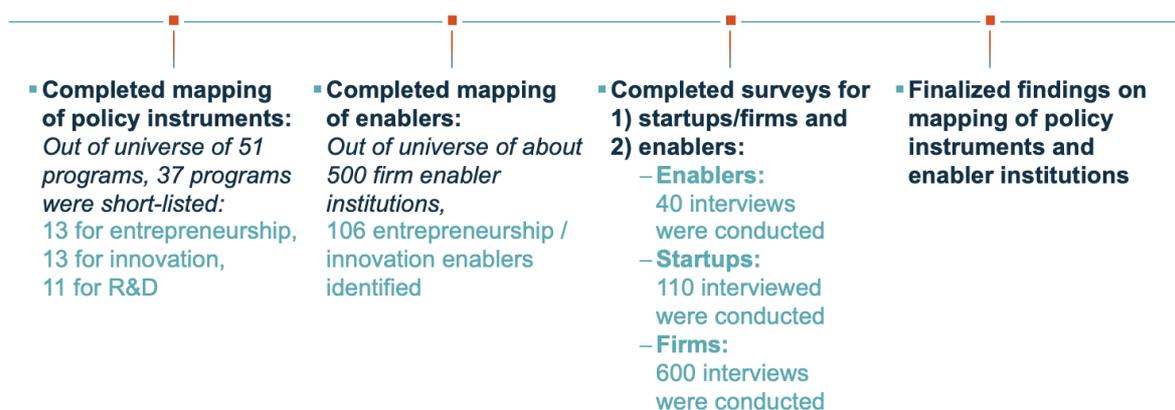


## 4.2 POLICY MIX MAPPING

This analysis leverages the **Public Expenditure Review (PER) methodology developed by the WBG to examine public spending on Science, Technology, and Innovation (STI) programming**. It looks at expenditures of each instrument and the entire set of instruments (i.e., the “policy mix”) with regard to the patterns of objectives, types of intervention, beneficiaries and the features of firms supported. Such an analysis is helpful in identifying gaps in support, or characteristics of the existing portfolio (such as duplication) which may be undesirable.

The policy mapping exercise also involves consultations with Romanian public authorities. The figure below illustrates an overview of the mapping exercise conducted by the World Bank team.

**Figure 19:** Mapping of Policy Programs Phases



The main conclusions of the Policy Mix Mapping were that:

**The current portfolio of policies is highly concentrated**, with significant resources devoted to a few instruments and a ‘long tail’ of much smaller instruments which are likely to be sub-scale. Half of the annualized budget for entrepreneurship support is spent on three instruments, whilst the remaining half of the budget is spread across 47 instruments, with the result that some of these are likely to be sub-scale (especially considering that some administrative costs will be fixed). Rationalizing or scaling some of the smaller instruments is therefore recommended.

**Most instruments have multiple top-level objectives**, such as productivity improvement combined with job creation. This may suggest a lack of clarity in the design of instruments.

**There are gaps in intermediate-level objectives.** Specifically, there are relatively few instruments which address management practices, linkages with foreign firms and market access, as means of achieving the top-level objectives. We therefore recommend the development of instruments to address these in particular.

**There are important gaps in support for entrepreneurs.** Specifically, we recommend the development of more instruments which are targeted at early-stage, pre-profit, startups and individual entrepreneurs - as well as the intermediary organizations which support such startups, such as incubators and accelerators. Some ‘entrepreneurship’ instruments may potentially reinforce the role of incumbents rather than encouraging the growth of innovative startups.

**Grants are the dominant intervention mechanism.** This may be appropriate in a relatively under-developed innovation and entrepreneurship ecosystem, notwithstanding their potentially distortionary effect. However, it is important to remember that not every element of the ecosystem can necessarily be resolved through the addition of public money: regulatory reform is also needed and factors such as cultural perceptions of innovation and entrepreneurship are also important.

### 4.3 FUNCTIONAL ANALYSIS

This analysis also leverages the Public Expenditure Review (PER) methodology developed by the WBG. The analysis assesses *functionality*, rather than the budget or impact, of STI support instruments. Functionality here refers to the quality of processes involved in creating and implementing each instrument, including the design; implementation; monitoring and evaluation systems; human resources; and governance (the instrument's integration and interactions with other programs, institutions, and regulations).

**Figure 20:** Functional Analysis Phases



The main conclusions of the Functional Analysis were that:

**Logic models are consistently weak.** The analysis found a persistent weakness in the logic models (or theories of change) of instruments. Developing and articulating these models should enable better accounting of inputs and activities by managing authorities, as well as improved targeting of the instrument. It should also prompt ideas for alternative instruments and mechanisms, which would assist with rationalization of the portfolio, and the development of a wider range of mechanisms (as suggested by the Policy Mix Mapping).

**Instrument-level evaluation could be improved.** Evaluation of the portfolio was relatively strong at the Priority Axis level, but less strong at the instrument level. Improved evaluation at the instrument level would also support rationalization of the portfolio, by providing information about which instruments should be scaled-up.

**Administrative burdens for many beneficiaries are still high.** There has been a significant effort by managing bodies to simplify the application processes for support scheme and reduce the bureaucracy for applicants. However, there are still indications that these processes remain overly complex for applicants and could be further simplified. For example, the fact that startups often need to hire consultants and advisors in order to apply for government support schemes is an indicator that the application processes are overly complex. In turn, this may have the effect of shifting support away from the most resource-scarce firms, where it is most needed.

**Bureaucratic burdens for administrators are also significant.** In particular, multiple auditing of instruments appears to impose a significant burden on administrative teams. Bureaucratic friction is likely to be increased by the structure of many instruments which have both a Managing Authority and a separate Intermediate Body; this may be a necessary condition of some European funding, but is unlikely to be optimal.

#### 4.4 ALIGNMENT WITH ECOSYSTEM SWOT ANALYSIS

The Strategy Working Groups identified the following strengths, weaknesses, opportunities, and threats (SWOT) analysis within the entrepreneurship ecosystem. This aligns with the analysis generated by the *New Metrics for Assessing Entrepreneurship Ecosystems* diagnostics.

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>– High rates of entrepreneurial activity and self-reported expectations to start a business</li> <li>– Low-cost environment for innovation and product development</li> <li>– World-class ICT talent and high share of women in STEM</li> <li>– Increasing number of business angels and networks</li> <li>– UiPath’s success made local startups interesting to VC funding</li> <li>– Increasing interest from public authorities to support entrepreneurship agenda and crowd-in private sector participation in policy development</li> <li>– Strong and cheap Internet connectivity</li> </ul>	<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>– Lack of legislative framework for equity investments, tax incentives for angel business investors and VC funds, and crowdfunding</li> <li>– Limited availability of funding for earlier stage (ideation, proof-of-concept) startups</li> <li>– Lack of quality entrepreneurial education</li> <li>– Insufficient ecosystem collaboration</li> <li>– Limited research, tech transfer, and innovation outcomes</li> <li>– Low usage of e-commerce</li> <li>– High fear of failure in entrepreneurship</li> <li>– Limited public support programs supporting startups and market-driven innovation</li> <li>– Low exporting rate</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>– EU-level regulations, e.g. crowdfunding regulation</li> <li>– More financial and non-financial intermediaries entering the market</li> <li>– Public procurement to validate domestic startups</li> <li>– Encourage tech transfer from large ICT firms</li> <li>– Strong presence of the ICT, mobility, and energy industry</li> <li>– Access to the European market</li> <li>– Leveraging Romanian diaspora entrepreneurs and investors</li> <li>– EC Operational Program 2021 – 2027</li> <li>– National Recovery and Resilience Program developed by the Romanian Authorities</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>– Increasing brain drain</li> <li>– Lack of competitiveness on international markets</li> <li>– Unsustainability of low-cost based competition</li> <li>– Low levels of public support for RD&amp;I investment</li> <li>– No long-term thinking when it comes to supporting firms throughout their lifecycle</li> <li>– Fragmentation in public research sector</li> <li>– No national implementing agency for innovation and entrepreneurship</li> <li>– Political instability due to changes in the Government</li> </ul>

These inputs provide foundational inputs for the Project Team’s:

- Vision, mission, values,
- TOP 5 interventions and additional ecosystem activities,
- Proposed KPIs, and
- The draft Startup Ecosystem Strategy.

## 5. OBJECTIVES OF THE STARTUP ECOSYSTEM STRATEGY

The vision, mission, and values of the Startup Ecosystem Strategy are defined below.

### VISION

The Strategy's ambitious vision is to make Romania a top 10 global innovation hub, one of the most competitive startup ecosystems in the world, the ideal place to start and grow globally scalable businesses, a place that attracts and retains talent while fostering collaboration within the ecosystem.

### MISSION

The Strategy's mission is to contribute to the development of a sustainable Romanian entrepreneurial ecosystem by 1) providing clear guidelines on specific regulatory and institutional framework changes needed 2) by fostering collaboration amongst all relevant players and 3) by ensuring that best support structures for entrepreneurs are in place. By *support structures* we mean access to the right talent, capital, markets and expertise for entrepreneurs across all stages of development.

### VALUES

#### Existing values

##### 1. *Perseverance*

We exhibit a strong will to win against all odds.

##### 2. *Competence / competent*

We have a professional way of doing business.

##### 3. *High performers*

We constantly challenge ourselves and our organizations.

#### Aspirational values

##### 1. *Community-driven mindset*

We value and respect everyone involved in the startup ecosystem, acknowledge their contribution and encourage their development.

##### 2. *Uncertainty is part of the game*

Uncertainty is an integral part that allows startups to be successful.

##### 3. *Collaborative environment*

Across the ecosystem, we collaborate with and trust all involved stakeholders.

## 6. TOP 5 INTERVENTIONS UNDER THE STARTUP ECOSYSTEM STRATEGY

These are the “TOP 5 Interventions” identified from the Strategy Working Group position papers. The Romanian entrepreneurial ecosystem was invited to vote on their prioritized interventions. Descriptions of the additional ecosystem activities (TOP 6-12) are outlined in the subsequent sections.

### INTERVENTION 1. REFORM STARTUP & INVESTMENT RELATED REGULATIONS

#### Summary:

The intervention calls for a package of legislative reforms and tax incentives to make the process of starting a business and investing in startups easier.

#### SPECIFIC ACTIVITIES

##### 1. Stock Options

Modify the legislation regarding joint stock companies (SA), creating a coherent legislation and taxation system for the implementation of ESOP (Employee Stock Options Plan) plans in SA / SRL.

##### 2. Digitize Company Formation

Make company formation processes entirely digital, in order to make the process simpler and quicker by reducing the number of procedures and time.

##### 3. Incentivize Venture Capital

Encourage private investors via significant tax breaks, such as the UK’s EIS and SEIS.

##### 4. Crowdfunding

In line with the [EU Directive on Crowdfunding](#), publish equity crowdfunding guidelines or regulations for Romania.

##### 5. Angel and Angel Syndicate Investment

Clarify the legislation surrounding business angel and business angel syndicate investment.

##### 6. Corporate Venture Capital

Encourage more Corporate Venture Capital investment through tax relief for corporate investment in Romanian startups.

##### 7. Secondary Market Equity Transactions

Modify the legislation regarding secondary market equity transactions to ease and streamline transactions.

#### Rationale:

Current regulations slow down the process of company formation and core growth activities, such as fund-raising. They may also prevent entrepreneurs from structuring their firm in the most appropriate way (e.g., it is common for startups to reward staff with stock options; however, this is difficult under current legislation). Fundraising can be particularly onerous: many entrepreneurs report that fund-raising can become a full-time activity, diverting precious attention away from building their business. Many Romanian startups are underfinanced, and hence unable to scale effectively.

This intervention therefore calls for a range of regulatory reforms that make the process of company formation easier; simplify and encourage investment; and make it easier for entrepreneurs to structure their firms in the most appropriate way. These reforms also seek to encourage different forms of finance (including ‘alternative finance’ such as [crowdfunding](#)), which, at present, have an

unclear status within the Romanian regulatory environment. Lack of clarity regarding legislative measures can, in itself, dissuade investors – especially investors from overseas.

#### **Ownership:**

We anticipate that this intervention should be led by the Ministry of Finance in collaboration with the Ministry of Investment and EU Projects. In collaboration with the Ministry of Finance. These ministries would consult investors and ecosystem participants in the process.

#### **Beneficiaries:**

Investors in startups (business angels, business angel syndicates, VCs, early-stage investors, financial investment companies, equity funds, crowdfunding sites, corporate investors), startup founders and employees

## **INTERVENTION 2. ESTABLISH A ONE-STOP AGENCY FOR STARTUP ECOSYSTEM**

#### **Summary:**

This intervention proposes creating and funding a new institution that will serve as the ‘voice of the startup ecosystem’ (that is, including startups, investors and support organizations), bring greater system-level coordination and support.

#### **SPECIFIC ACTIVITIES**

##### **Role 1: Advocate**

Be an advocate for startups, championing awareness of their role in driving economic growth and job creation. Work with policymakers to clarify and upgrade legislation where relevant to startups based on evidence.

##### **Role 2: Think and Do Tank**

Develop and pilot new interventions and test how these support startups and gather evidence on piloted interventions - e.g., early-stage startup grant program, investigating the role of social safety nets in encouraging risk taking, and piloting sandboxes or testbeds with public sector CTOs (see intervention 8)

##### **Role 3: Connector**

Map and connect different components of the startup ecosystem with each other and with government (potentially via a new online portal). Serve as a conduit for government consultations on relevant legislation. Connect startups with corporates in order to stimulate greater collaboration and open innovation.

##### **Role 4: Capacity-builder**

Develop and run capacity-building programs for all ecosystem stakeholders (e.g., ecosystem builders, training courses for national and regional civil servants; masterclasses for accelerator managers, etc.) - as well as entrepreneurs themselves.

##### **Role 5: Funder**

Act as funding institution, directly dispensing grants to early-stage startups and/or acting as a conduit for other public programs.

##### **Role 6: Data-gatherer**

Collect data and monitor metrics for the ecosystem as a whole and for pilot interventions; in order to provide timely data to government for program further scaling/ discontinuation and reporting on the ecosystem’s progress.

**Rationale:**

The Romanian Startup ecosystem faces several challenges, including a lack of understanding of startups and how they differ from other SMEs, and reliable data about the ecosystem as a whole. Many startups report that existing SME legislation does not take into account the needs of young, growth-oriented firms with novel technology or new business models. There is also poor coordination between policy makers and startup ecosystem stakeholders. Despite promising regional clusters, Romanian startups have no coherent national voice to champion their needs.

This intervention therefore proposes the creation of an entity, which includes the functions of a Think Tank - that is, serving as the 'voice of the ecosystem' to government; scrutinizing and gathering evidence on policy and programming; advising on legislative reform; and ensuring that the needs of startups are taken into account.

In addition, it will also have several practical "Do Tank" roles, including ecosystem coordination (helping connect different existing actors and aspects); capacity-building (e.g. developing online programs for startup education and IP education); piloting new activities, e.g. administering early stage grants, forming a new public fund.

**Ownership:**

It is proposed that this body is independent in its operations, and publicly funded. Examples of bodies which might serve as a template for this agency include: the [Israeli Innovation Authority](#), [LaFrenchTech](#), [StartupPoland](#), [Coadec](#) and [Techleap.nl](#).

It is suggested that a 5-year budget be provided to build capacity of the institution and execute on its mission with clear KPIs. It is important that this body has substantial resources and is closely linked with government in order to influence policy. However, it also needs to reflect the needs and opinions of the 'grassroots' startup community (including founders, enabler organizations, universities and investors). Establishing the appropriate public-private partnership and governance (including an advisory board of relevant stakeholders) will thus be very important, especially given potential tension between the various roles. The Ministry of Economy, Entrepreneurship and Tourism in collaboration with the Ministry of Research, Innovation and Digitization should be interested in supporting the establishment of such an agency to support this cross-cutting agenda.

**Beneficiaries:**

Startups, Enabler organizations, RDAs and public authorities

**INTERVENTION 3. IMPROVE ENTREPRENEURSHIP EDUCATION****Summary:**

This intervention proposes a national program, and related policies, to improve formal and informal entrepreneurship education.

**SPECIFIC ACTIVITIES****1. Develop Incentives for Entrepreneurship Education**

Develop and implement specific incentives for universities, high schools, and other formal and informal education institutions to encourage entrepreneurship and enterprise education. These incentives could include specific public funding that is linked with entrepreneurial outcomes and incentives for university, high school, and other lecturers to incorporate/to be involved in entrepreneurial activities as part of performance criteria.

**2. Infuse Academia with Entrepreneurs**

Currently, the requirements for guest lecturers at schools and universities prevent entrepreneurs and mentors without a teaching qualification from speaking to students. These regulations should be relaxed to allow educational institutions to provide students with more direct exposure to entrepreneurs. Universities, high schools, and other formal and informal education institutions should also attract staff with private sector experience (e.g. via changes to staff recruitment)

**3. Expose Existing Lecturers to Entrepreneurship**

In order for existing university, high school, and other relevant lecturers to increase their knowledge about entrepreneurship, it is proposed to establish a program to 'educate the educators'. This may include a funding scheme for overseas visits by Romanian staff to leading ecosystems (Silicon Valley, Tel Aviv, London, etc.), and/or secondments into Romania from staff overseas, so as to increase the transfer of good practice and result in the implementation of solutions seen abroad.

**Rationale:**

Universities can play many important roles in stimulating entrepreneurship. However, many entrepreneurs complain that their university education did not provide them with appropriate knowledge or skills. A particular concern is that teachers have limited contact with the real economy. Actual exposure to successful entrepreneurs would strengthen their capacity to nurture budding entrepreneurial talent.

This intervention proposes developing and implementing initiatives to persuade universities to provide more relevant enterprise education, and undertake other activities that encourage entrepreneurship. This will support the longer-term development of appropriate human capital.

Based on analysis of student spinouts from various universities (which come from multiple departments), it is proposed that entrepreneurship is not 'pigeonholed' within Business Studies, but is seen as a cross-sectoral activity which may be of interest (and should be accessible) to students studying every subject.

**Ownership:**

It is proposed that this initiative is owned by the Ministry of Education, but with an advisory board comprised of public representatives and key stakeholders from the Romanian startup ecosystem (incubators, accelerators, VCs, angel investors, founders)

**Beneficiaries:**

Students (high-schools, universities, ...), university staff, and high school staff

**INTERVENTION 4. STRENGTHEN ECOSYSTEM ENABLERS****Summary:**

This intervention would take the form of a program to support existing or new ecosystem enabler organizations to increase their efficiency and effectiveness.

**SPECIFIC ACTIVITIES****1. Capacity-Building Grants for Enabler Organizations**

These may be used in a variety of ways, including but not limited to financial support for existing operations, developing new programs for entrepreneurs, mentoring programs, train-the-trainer/mentors programs, subsidizing staff on visits to overseas ecosystems, organizing international

guest lectures, enabling exchanges, secondments and collaboration between organizations. The remit of the scheme is deliberately broad, but applicants would have to justify how the funding will lead to a lasting increase in capacity or adoption of good practice.

### **2. Grants for Universities and High Schools To Collaborate With Enablers**

These grants are specifically intended to help universities and high schools work with enabler organizations such as accelerators, in order to build links and ultimately improve their own entrepreneurial education offers.

### **3. Grants for Chambers of Commerce / Business Associations / (European) Digital Innovation Hubs**

Currently, Chambers of Commerce, (European) Digital Innovation Hubs, and existing business associations are perceived as not very 'startup-friendly'. These grants would be targeted specifically at such organizations to provide incentives to include startups in their networks, increase their understanding of startups' specific interests.

### **4. Grants for Romanian Ecosystem Summit**

A major, high impact event at the national level, bringing together all startup players and support organizations from city/regional to national level. This will help build connections across the ecosystem and reduce fragmentation. It will also make connections with other global ecosystems, in order to share good practice and raise the profile of Romanian startups internationally.

#### **Rationale:**

Vibrant ecosystems typically have several support organizations, such as incubators, accelerators and professional networks. Many of these provide services (such as education about product-market fit) that are not available through other channels. There are several such established support organizations in Romania. However, those that exist are largely privately-funded and there are no programs to support their development. As a result, the landscape of existing ecosystem enablers is fragmented and subscale.

This intervention seeks to build the capacity of existing ecosystem enablers, creating closer links between these organizations and closing gaps in the Romanian Startup Ecosystem as a whole. Consequently, this will help develop the skills and capacity of entrepreneurs themselves.

It proposes to do this via a series of publicly-funded grants, which would be used to improve the operation and capacity of organizations - e.g. by encouraging knowledge exchange with respected enabler organizations in leading ecosystems.

#### **Ownership:**

The intervention could potentially be managed by the "One-stop Agency" for startups. Otherwise, it could be managed by a division within the Ministry of Economy, Entrepreneurship and Tourism, the Chancellery of the Prime Minister, or the General Secretariat of the Government.

#### **Beneficiaries:**

Accelerators, incubators, professional networks, business associations, startups (indirectly)

## INTERVENTION 5. CREATE A ROMANIAN STARTUP FUND

### Summary:

This intervention proposes the creation of a new public fund to increase the capital in private VC firms.

#### SPECIFIC ACTIVITIES

##### 1. Establish Fund

The fund will be 100% Government owned but will have a performance-driven selection process for funding of new viable startups. It is intended that this will operate with a private sector mindset, working with partners from the private sector (e.g., Business Angels, seed and VCs investors, enabler organizations incubators, accelerators), while applying private-sector selection principles.

##### 2. Co-create the Investment Thesis

Work with stakeholders, including government, the One-Stop-Agency, and the wider startup ecosystem, to develop the fund's investment thesis. This might include identifying investment stages, sectors or types of entrepreneurs where targeted support is needed.

##### 3. Monitor Funding Targets

The fund should monitor outcomes of its intermediaries and final beneficiaries of its funding. Depending on the investment thesis, it may be appropriate to establish targets and monitor investment in specific priority stages, sectors, cleantech, female entrepreneurs, etc.

### Rationale:

Even with the regulatory reforms discussed in intervention (2) above, many Romanian VC funds will remain under-capitalized. In many European countries, governmental support to venture capital funds has been used successfully to 'crowd-in' private funding, rather than crowding-out private investors.

This intervention therefore proposes creating a public Romanian Startup Fund. This fund would invest in startups - either directly, or ideally, by providing capital to private sector VC funds to leverage their expertise for investment decisions. In this way it would act similarly to the [European Investment Fund](#), which also invests in Romania, e.g., through GapMinder or Early Games Ventures, or the [British Business Bank](#).

The Fund managers would work with the ecosystem, the One-Stop-Agency and government stakeholders to define the mandate, co-create the investment thesis, and identify specific stages, sectors, areas where funding is especially needed.

### Ownership:

This fund would be 100% government-owned but managed independently in line with international practices. It would combine private sector expertise with public money. The fund could potentially be managed by the "One-stop-agency" (discussed in Intervention 1), or a new institution, or a ministry.

### Beneficiaries:

Early-stage angel, seed, venture capital funds, and startups (final beneficiaries)

## 7. ADDITIONAL ECOSYSTEM ACTIVITIES UNDER THE STARTUP ECOSYSTEM STRATEGY

These TOP 6 – 12 interventions were identified as supporting ecosystem activities in addition to the prioritized TOP 5 interventions.

### INTERVENTION 6. INCENTIVIZE INNOVATION

#### Summary:

This intervention proposes a program to improve tech transfer in universities and research and development institutes (RDIs) and firm-level innovation, including but not limited to some related regulatory changes. This will encourage the creation of more university and RDI spinouts, as well as helping existing firms develop innovative products or services.

#### SPECIFIC ACTIVITIES

##### 1. Incentives and KPIs for Activity with Enterprise Sector

Develop and implement specific incentives for universities (incl. lecturers) and RDIs to encourage entrepreneurship and enterprise activity (e.g., a league table with leaders of entrepreneurial activity, specific funding linked to entrepreneurial outcomes, or entrepreneurial activity as part of performance criteria for lecturers). Government should request specific Key Performance Indicators (KPIs) from every university and RDIs on an annual basis (e.g., number of patents filed, spinouts formed, contract research conducted).

##### 2. Tech Transfer Capability Fund

Create a capacity-building fund for TTOs. Like the UK's [Higher Education Innovation Fund \(HEIF\)](#) this would be a pool of public money allocated for building tech transfer capabilities in universities and RDIs, which could be used in various ways (e.g. study visits; establishment of good-practice networks and exchanges; experiments with entrepreneurs-in-residence, funding state-of-the-art TTO labs, and improving IP awareness).

##### 3. Clarify Unclear Legislation

Replace the current unclear legislation concerning university and RDI IP ownership and who owns the rights to commercialize it. This could take the form of a [Bayh-Doyle](#)-type act, which specifically empowers universities to take ownership of inventions made with publicly funded research. Set appropriate incentives for both universities and researchers and limit the equity share and revenue royalties of universities according to global best practice.

##### 4. Incentives for Inhouse R&D Activities for Firm-level Innovation

Develop and implement specific incentives for tech companies that usually deliver contracted tech solutions to engage in inhouse R&D activities to develop own product, process, and/or or service innovation correlated with Smart Specialization Sectors.

#### Rationale:

In many countries, university and RDI spinouts constitute a significant number of startups. Such spinouts are typically created by 'technology transfer offices' (TTOs). These same offices often also deal with patenting and licensing of intellectual property, which can help existing firms innovate or bolster their competitive advantages. In addition, some TTOs help broker connections between startups and corporates, acting as neutral brokers. The proper functioning of technology transfer offices is therefore of importance to entrepreneurship.

On various measures, however, the Romanian tech transfer system is failing to make the most of the innovations that are developed by Romanian universities and RDIs. Reasons for this include insufficient incentives to commercialize research; lack of knowledge of best practices; lack of funding to support

collaboration between universities and the private sector; and regulations surrounding IP and commercialization which are seen as too general and vaguely-worded, requiring expert legal advice to interpret, and leaving much uncertainty concerning liabilities for both sides.

It is therefore proposed that government establish a number of incentives for TTOs, together with key performance indicators (KPIs) to monitor their progress. In addition, government should establish a capability fund which could be used by TTOs in various ways to build their capacity. Moreover, government should clarify the legal basis by which Universities and RDIs own Intellectual Property and any regulations or restrictions that hinder commercialization.

**Ownership:**

Ministry of Research, Innovation and Digitalization and Ministry of Education.

**Beneficiaries:**

Universities, research development institutes, [technology transfer entities in Romania](#), VCs & other investors, startup founders

## INTERVENTION 7. IMPLEMENT STARTUP VISAS

**Summary:**

This intervention proposes a program to mitigate the existing ‘brain drain’ by attracting talent from the global pool.

### SPECIFIC ACTIVITIES

**1. Startup Visas**

Develop a ‘Romanian Startup Visa’, which is a simplified, fast-track scheme for non-EU startup employees, founders and investors to obtain a residence permit for Romania. Recognized ecosystem players could serve as sponsoring organizations (like [La French Tech Visa](#))

**2. Incentives for Digital Nomads**

Develop a ‘Digital Nomad’ package to capitalize on the growing ‘remote-work from anywhere’ trend. This package would define a status of ‘digital nomads’ and offer specific advantages – such as assistance in relocating to Romania for tax purposes, discounts, informal training, and so on – in order to encourage them to relocate to Romania.

**Rationale:**

Access to talent is a key ingredient for startups. Many startups report that the limiting factor affecting their growth is the inability to find and keep appropriate talent. This is a problem in many ecosystems, but is exacerbated by the ‘brain drain’ of top Romanian talent overseas, where individuals can command higher salaries.

To mitigate the impact, this intervention proposes creating a Startup Visa scheme, to make it easier to attract talent into Romania from overseas. Such schemes, which aim to fast-track highly skilled individuals and entrepreneurs, have been used to good effect in many countries.

The Startup Visa scheme would also be complemented by a Digital Nomads scheme, focused on ‘remote-work from anywhere’ workers. This would aim to leverage the advantages of the country’s comparatively cheap cost of living and cheap broadband. (Romania was placed 3rd place in a [Digital Nomad Index](#), based on broadband speed, mobile speed, broadband cost, monthly rent and some

related variables). This scheme would offer various advantages for such workers to base themselves in Romania.

#### **Ownership:**

The program could be managed by the “One-stop-agency” for the startup ecosystem or by a division within the Ministry of Economy, Entrepreneurship and Tourism or the Chancellery of the Prime Minister, or within the General Secretariat of the Government. It could be a joint program with the Ministry of Labor and Social Protection and Ministry of External Affairs.

#### **Beneficiaries:**

Non-EU startup employees, founders and investors to obtain a residence permit for Romania, and Romanian diaspora investors and talent to re-connect with Romania

## **INTERVENTION 8. SHARE R&D INFRASTRUCTURE**

#### **Summary:**

This intervention proposes a program and policy change to accelerate access of public R&D infrastructure to smaller firms and startups, in order to increase use of existing facilities. This will help them develop and test new products, or certify existing ones, and so become more innovative and competitive.

#### **SPECIFIC ACTIVITIES**

##### **1. Open Access Policy**

Modify Law no. 324/2003 - Governmental Order nr. 57/2002, with regard to Scientific Research and Technological development, so as specifically to permit and encourage open access to academic infrastructure and other innovation infrastructure.

##### **2. Infrastructure Mapping & Dissemination**

Build on the UEFISCDI Registry of Research Infrastructure ([erris.gov.ro](http://erris.gov.ro)), encourage continued updates to the mapping of resources, improving user-friendly features, and conducting outreach to a wider community on the resources.

##### **3. Pilot Program for Accessibility**

Fund a program that encourages open access to academia infrastructure for startups. This program would seek to identify suitable incentives for universities to share their infrastructure (e.g. collaboration with startups as part of performance criteria of lecturers), as well as identifying barriers (e.g. concerns over liability, damage, trained staff, state aid rules, etc.), and checking that infrastructure is correctly mapped. If the startup community agrees that it is needed, this program could potentially also fund wholly new infrastructure that is intended, from the outset, to be shared between universities and startups.

#### **Rationale:**

Research infrastructure and equipment is expensive. Many facilities are unaffordable for startups, which invariably have very limited resources. Additionally, there are incorrect perceptions around the eligibility of firms to use public research infrastructure. Lowering the entry barrier for startups to access R&D facilities, such as those held by universities, would thus benefit startups considerably. In particular, it will help startups undertake research, test and improve products, and certify existing products.

In addition, sharing of infrastructure between universities and startups may also be expected to produce other spillover benefits, such as enhanced collaboration and entrepreneurial awareness within universities. Moreover, the collaborative sharing and reuse of facilities will support the [European Green Deal](#), which specifically recommends the more efficient use of resources. However, at present, there is no policy which specifically encourages or incentivizes the collaborative use / reuse of the Romanian R&D Infrastructure.

UEFISCDI has developed a Registry of Research Infrastructure ([erris.gov.ro](http://erris.gov.ro)). However, this infrastructure remains underutilized by startups, both because of limited awareness and because of regulatory hurdles (real and perceived). This intervention therefore proposes a program to stimulate and enable sharing of R&D infrastructure. This intervention could benefit from the lessons learned during the pilot Structured Contract Research Programs underway in the NE and NW regions between universities and firms.

**Ownership:**

It is suggested that this is led by the Ministry of Research, Innovation and Digitalization, together with the Ministry of Education, Universities and Romanian Innovation and [Technology Transfer Entities](#).

**Beneficiaries:**

Startups, universities, and public funders (who are ultimately responsible for infrastructure investment).

## INTERVENTION 9. STARTUP TO SCALEUP THROUGH EXPORTS

**Summary:**

The intervention proposes a program to help startups access markets overseas, and hence enable them to grow and scale.

### SPECIFIC ACTIVITIES

**1. Develop Overseas ‘Landing Pads’ for Startups**

Develop, fund and operate an international network of centers, like [Australia’s Landing Pads](#). These would be physical locations in key markets (e.g., US east coast; US west coast; London; Tel Aviv; etc.) that provide flexible office space - like a coworking space - for incoming Romanian startups. Importantly, the Landing Pads would have close links to local Embassies, in order to provide advice on immigration, visas, etc. They would also seek to foster peer-to-peer interaction and learning between Romanian startups located in the Landing Pad, and may also run networking events to connect incoming startups with Romanian expats. Chambers of Commerce should also play a role here (e.g., creating campaigns to help startups export).

**2. Showcase Romanian Startups Overseas**

In order to improve the reputation of Romanian startups, it is proposed to run an annual showcase of leading firms and talent. This should include making better use of embassies and consulates, as well as participation in reputable international events or tradeshows (TC Disrupt, CES, Slush, etc.).

**3. Build a Romanian Diaspora Entrepreneurs Network**

The ‘brain drain’ of Romanian talent overseas was widely seen as a major weakness by the ecosystem. It is proposed to turn this into a strength by forming an international network of Romanian diaspora entrepreneurs. This network would be actively curated, with the support of public funding for

collaborative research or business ventures. This network would then provide contacts and local market insight to other startups seeking to export.

**Rationale:**

The domestic market may not be large enough to for startups in certain sectors and business models. So, exporting becomes crucial to achieve scale. Unfortunately, export rates among Romanian SMEs are very low in comparison with other countries. Many entrepreneurs report being ‘put off’ from exporting because they do not understand the conditions and culture in overseas markets, and do not know where to start. This is often because overseas networks are under-developed; because trade attachés and related civil servants do not understand startups; and because entrepreneurs lack the appropriate skills and confidence. There is a perceived lack of support from government and Romanian trade offices abroad for startups to ‘go global’. Reportedly, the weak image of Romanian startups is a barrier for penetrating overseas markets.

Fortunately, there is evidence which suggests that, once a firm starts exporting, further expansion into other overseas markets is easier. The hardest step is thus the first one. This intervention therefore proposes to improve access of Romanian startups to overseas markets by various means, including leveraging the Romanian diaspora networks.

**Ownership:**

This program could be led by the Ministry of Economy, Entrepreneurship and Tourism in conjunction with the Ministry of External Affairs and Romanian Consulates and Commercial Offices abroad.

**Beneficiaries:**

Startups and broader ecosystem

**INTERVENTION 10. TRANSFORM PUBLIC PROCUREMENT****Summary:**

This intervention proposes a program of incentives and reforms to address the perceived problems with public procurement, in order to improve domestic market access for startups, whilst simultaneously helping the public sector to innovate.

**SPECIFIC ACTIVITIES****1. Training for Public Sector Officials**

Develop a course developed in collaboration with startup organizations to help Public Procurement Managers and other public sector officials understand the potential benefits of procuring from startups. This would include a general primer on innovation and risk, and how qualification thresholds reduce risk but invariably also reduce innovation.

**2. SME / Startup Public Procurement Target**

Establish a target for central government procurement spend with SMEs and startups (e.g. 25% of spend by 2025).

**3. Challenge Prizes**

Together with knowledgeable enabling organizations (accelerators, incubators), pilot a program of ‘Challenge Prizes’, in order to short-cut established procurement systems and demonstrate the value and relevance of startups. This could include a Challenge to solve specific problems in public services, in order to demonstrate how innovative startups can help digitize public services.

**Rationale:**

The public sector is an important market in its own right, and public sector customers can also bring important validation for startups, which helps them to attract further customers. In addition, startups can bring innovation into the public sector by helping to solve specific problems, create efficiency and deliver better public services and deliver new innovative products to the market.

Unfortunately, there are a number of barriers in existing public procurement processes that are poorly suited to the participation of startups. As the [EU has summarized](#), this includes inconsistent decisions and guidance; a lack of trained staff; perceptions of corruption; a lack of complaint resolution mechanisms, high entry barriers, and other issues. Bureaucratic processes and a lack of risk appetite are common criticisms, as is a lack of understanding in the public sector about the potential benefits of procuring from startups that may not have long track records in the market.

To address this, it is proposed to create a training program for procurement managers, together with specific targets for central government spending on SMEs. In addition, greater use of Challenge Prizes is suggested, as a means to 'short-cut' current procurement processes and demonstrate the value that startups can bring.

**Ownership**

The reform could be led by the Ministry of Finance or within the General Secretariat of the Government.

**Beneficiaries**

Startups, public procurement managers, and public bodies and general public (indirectly, via better public services).

**INTERVENTION 11. APPOINT CHIEF TECHNOLOGY OFFICERS IN GOVERNMENT****Summary:**

This intervention proposes the creation of a number of CTOs, or Chief Innovation/Information Officers (CIOs) within the public sector, at city-, regional- and national-level, who will work with startups to realize the potential of 'govtech' and 'civtech', etc. This will build on existing Central CIO Office's experience by strengthening its role in the entrepreneurship agenda and complementing the position with other CTOs at various levels of the public sector.

**SPECIFIC ACTIVITIES****1. Fund CTO Roles at City, Regional and National Level**

Complementing the current central CIO Office, the central government and/or regional development agencies should provide specific additional funding for a number of CTO roles at various levels of the public sector. It is suggested that the selection panel for such roles includes a range of stakeholders from the wider innovation system, including the private sector.

**2. Provide Political Legitimacy at All Levels**

In order to ensure that these additional roles are suitably empowered at city-, regional- and national-level, the central government and CIO Office should collaborate with regional agencies, mayors and city-level authorities to underline the importance of these positions and ensure that they have sufficient authority and decision-making powers. The roles themselves should report to the most senior executive of the organization (e.g., the mayor, in the case of city-level CTOs) and closely collaborate with the central CIO Office. Additionally, the role of the CIO Office should be further expanded to realize the potential of the entrepreneurship community.

### 3. Develop Sandboxes and Testbeds

One of the roles of the central CIO Office and the new CTOs at various levels of the public sector, should be to develop sandboxes and testbeds for startups. These test environments should be 'bidirectional' - that is, not only helping startups understand how to work within specific constraints, but also helping the public body understand how to work with startups, and what constraints should potentially be changed. The Digital Innovation Hubs could also be leveraged in this exercise.

#### Rationale:

'Govtech', 'civtech' and IoT (internet of things) are increasingly popular areas for startups, and many startups in these areas perceive major opportunities to improve services. However, taking advantage of these opportunities often requires collaboration, co-design and a level of technical understanding within the public body. Whilst corporations often have innovation units and CTOs, these are rare within public bodies. Many public sector program managers may not have the appropriate technical knowledge, or the authority that is required to ensure implementation.

This intervention therefore proposes the creation of Chief Technology Officers or Chief Innovation Officers, at city-, regional- and national-level, complementing and leveraging the existing central CIO Office. The role of such [governmental CIOs](#) at various levels of the public sector would be to lead digital transformation, guide the innovation strategy of the organization, spot opportunities for innovation and digitization, and establish routes into the public body for startups, liaise with Digital Innovation Hubs and the central CIO Office. Such individuals may also help link local innovation and digitization strategies with the National digital agenda. These CTOs/CIOs would also help drive reform within their own departments, and would be responsible for developing sandboxes and testbeds to help startups experiment.

#### Ownership:

Ministry of Research, Innovation and Digitalization; individual city-level authorities; General Secretariat of the Government

#### Beneficiaries

The citizens, public authorities, and Digital Innovation Hubs (indirectly)

## INTERVENTION 12. BUILD CONFIDENCE IN DIGITAL

#### Summary:

This intervention aims to increase the addressable domestic market for startups by encouraging greater public use of online services and more e-commerce, via a program of education and a new institution to build online trust. This will not only support startups but also spread the benefits of digital innovation more widely across the population.

### SPECIFIC ACTIVITIES

#### 1. E-commerce Education

A program to enable and encourage more basic internet education (especially in rural areas). This would consist of grants delivered to training organizations, potentially in collaboration with local councils, churches, community groups, etc.

#### 2. Establish a 'Trust in E-commerce' body

Establish a dedicated body charged with improving consumer trust in online transactions. This body could focus on, for example, improving online dispute resolution processes, ensuring that consumer

protection law for distance selling remains adequate and up-to-date, and examining how else online trust can be improved (e.g. certifying websites).

### 3. Clarify Ministerial Responsibility

Establish clearer political responsibility for e-commerce. Although 'e-commerce promotion' is part of the 2020 National Strategy for the Digital Agenda for Romania, faster progress and greater accountability are needed.

#### **Rationale:**

Many startups are digital, relying upon the internet to reach their customers and provide their goods or services. However, whilst Romania's investment in digital infrastructure is paying off, the country is still lagging behind in the *use* of internet services: almost 20% of Romanians have never used the internet, and rates of e-commerce – buying goods and services online – are the lowest in Europe. This limits the addressable domestic market for many firms, making it more difficult for digital startups to grow and scale within Romania.

This results from many factors, including mistrust of online transactions and weak digital skills, especially in rural communities: only 10% of the population have digital skills 'above the basic level', whilst over 43% of the population report a low level of digital skills; this is significantly below the European average. Digitally-unskilled communities are less likely to benefit from the potential benefits that digital startups might bring. Mistrust and weak digital skills thus inhibit both sides of the market: inhibiting the sellers from scaling and inhibiting the buyers from reaping the rewards of productivity-enhancing innovations.

This intervention seeks to encourage public online activity and e-commerce through education and confidence-building, thus building the domestic market for many startups. It also seeks to provide a more coherent voice for e-commerce within Government, since at present it is unclear where responsibility resides.

#### **Ownership:**

It is proposed that this is owned by the Ministry of Research, Innovation and Digitalization, with involvement of the Ministry of Economy, Entrepreneurship and Tourism, RDAs (Regional Development Agencies) and LAGS ([Local Action Groups](#)) (EU Network for Rural Development)

#### **Beneficiaries:**

Startups, broader ecosystem, and consumers (especially in rural communities)

## 8. IMPLEMENTATION & MONITORING PROGRESS

This white paper will be presented during a series of consultations with Romanian Authorities and ecosystem actors, also referred to as a roadshow. The objective of the roadshow is to answer the following questions:

- Which National Authority will take ownership of the strategy including finalizing the strategy and sponsoring it in Parliament?
- Who are other stakeholders (public or private) that should be invited to the public consultation on the draft Startup Ecosystem Strategy?
- What is the final prioritization of the interventions based on the public consultation?
- Will the Romanian Authorities designate and establish a One Stop Agency for the startup ecosystem to implement the strategy?
- What is the Theory of Change (ToC) for the Startup Ecosystem Strategy?
- What is final set of key performance indicators (KPIs) to support the ToC and measure efficacy of the Startup Ecosystem Strategy?

### 8.1 KEY PERFORMANCE INDICATORS

This section showcases the initial set of KPIs developed post-workshop consultations. These KPIs will be revised following the roadshow with ecosystem stakeholders, including the Romanian authorities, and the ToC workshop.

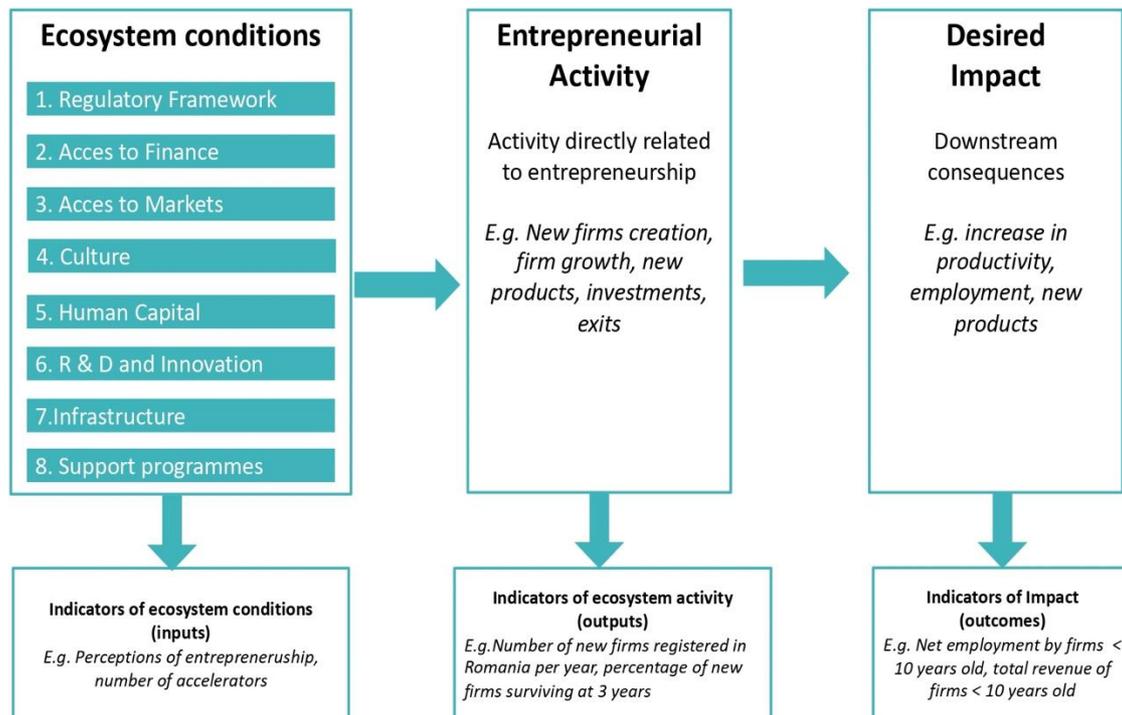
#### GUIDING PRINCIPLES

In developing metrics for the Startup Ecosystem Strategy, several considerations are relevant:

- A. First, the purpose of the metrics is to support the monitoring and evaluation of the Startup Ecosystem Strategy, in order to encourage learning and improvement. In turn, this means that the metrics must be aligned with identified strategic priorities of the Strategy.
- B. Second, where possible, the metrics should be “SMART” - that is:
  - a. *Specific* - The indicators should be clear, unambiguous, and as objective as possible.
  - a. *Measurable* - Indicators must be capable of quantification.
  - b. *Attainable / Attributable* - Gathering data for the indicators should ideally not require much additional resource. Attribution requires that changes in the measure can be linked to the intervention; thus, metrics should ideally relate as directly as possible to the factor under consideration, with proxies used only where more direct metrics cannot be found. It should be remembered that “the entrepreneurial firms that are of interest are perhaps the least willing, or able, to accept the significant burden of statistical queries”.
  - c. *Relevant* - Captures policy-relevant information at the appropriate geographical and sectoral resolution. Indicators stay relevant in the face of changing technology and activities (which are likely to be more common amongst innovative startups than in other firms).
  - d. *Timely* - There should be minimal time-delay between capture and use of the information.
- C. Third, it would also be helpful for the indicators to be Trusted, Compatible, and Open:
  - a. *Trusted* - data sources should be capable of being used by policymakers without major concerns about whether they are representative, or of sufficient quality, interpretability or timeliness. The limitations of each indicator should be clearly known in order to prevent misuse and misapplication.

- b. *Compatible* - the indicators are widely recognized within other frameworks, such as those used by the EU & OECD, in order to encourage comparisons across ecosystems, and use by other researchers
  - c. *Open* - indicators should ideally be taken from open data sources, in order to ensure that they are transparent and accessible by others. Where new surveys are conducted, they should ideally be published as an open dataset. This will increase the likelihood of third-party adoption and improvement and help prevent abuse.
- D. Fourth, for the “basket” of metrics as a whole, it would also be useful to bear in mind:
- a. *Leading versus Lagging* - it should be clear whether indicators are leading entrepreneurial activity (as may be the case for many of the ecosystem conditions) or lagging (as will be the case for some of the downstream impact measures). A mix of indicators across the categories may be helpful in order to form a comprehensive view of the strategy, see figure below.
  - b. *Quantity versus Quality* - wherever possible indicators should ideally describe, quantitatively, aspects of both *quantity* and *quality* (e.g. both the number of new firms and their survival rate or funding raised, as a proxy for quality)
  - c. *Breadth versus Depth* - the basket should capture a wide range of entrepreneurial activity (e.g. in services, creative and digital). An overly narrow set (e.g. focusing only on initial startup stages rather than scaling) will be more likely to skew behavior towards maximizing that metric at the expense of the more holistic picture.

**Figure 21:** Basic Model Used in Considering the Choice of Metrics



## 8.2 SUGGESTED METRICS

This is divided into inputs, outputs, and outcomes – as well as some process-specific measures which relate to the near-term implementation of this strategy. ‘Tier’ indicates relative importance: ‘Tier 1’ metrics are proposed as being the most important and a minimum set.

### ECOSYSTEM PILLARS (INPUTS)

The Startup Ecosystem Strategy is based around 8 ecosystem pillars. The table below suggests metrics for each of these 8 pillars.

Tier	Type	Category (Pillar)	Indicator
1	Input	1. Regulatory framework	Time required to start a business (days)
1	Input	1. Regulatory framework	Cost of business start-up procedures (% of GNI per capita)
1	Input	2. Finance	Total funds raised by young firms (<5 years old)
1	Input	2. Finance	Total seed / early-stage funds raised by young firms (<5 years old)
1	Input	2. Finance	Total late/stage funds raised by young firms (<5 years old)
1	Input	2. Finance	Percentage of firms identifying finance as a major constraint
1	Input	3. Access to Markets	People who sold goods or services online (local online market) (DESI desi_3c3_sell)
1	Input	5. Human capital	People with "basic" or "above basic" digital skills (NB. DESI metric desi_2a1_bds)
1	Input	5. Human capital	Ease of finding skilled employees (WEF GCI 4.0)
1	Input	5. Human capital	Measure of connections with other founders & investors (e.g., ‘in the last month, how many other founders & VCs have you met?’)
1	Input	6. R&D/innovation	Gross national research and development expenditure GERD (% of GDP)
1	Input	7. Infrastructure	DESI Country score for Digital Connectivity
2	Input	1. Regulatory framework	Mean Likert scale score of samples of entrepreneurs’ perception of “favorable regulatory environment for startups”
2	Input	1. Regulatory framework	Time spent complying with regulation (WB Enterprise Surveys)
2	Input	2. Finance	Total alternative finance (crowdfunding, ICOs) raised by young firms (<5 y old)
2	Input	2. Finance	Total inward foreign investment into young firms (<5 years old)
2	Input	3. Access to Markets	Trade barrier index
2	Input	4. Culture	% Expecting to start a new business in the next three years (= GEM FUTSUP)
2	Input	4. Culture	% Who personally know someone who started a firm in the past two years (=GEM KNOWENT)
2	Input	4. Culture	% Agreeing with statement that ‘in your country, those successful at starting a new business have a high level of status and respect’ (= GEM NBSTATUS)
2	Input	4. Culture	Social capital (Legatum / WEF GCI 4.0)
2	Input	5. Human capital	Mean Likert scale score of samples of entrepreneurs’ perception of ‘university education prepared me for a career in entrepreneurship’

2	Input	5. Human capital	Mean Likert scale score of samples of entrepreneurs' perception of 'access to suitably talented people is a significant inhibitor to growth'
2	Input	5. Human capital	Ease of hiring foreign labor (WEF GCI 4.0)
2	Input	5. Human capital	Percentage of firms identifying lack of skills/talent as a major constraint
2	Input	6. R&D/innovation	Business expenditure on research and development BERD (% of GDP)
2	Input	6. R&D/innovation	% Of young firms (<5 y) who are 'innovation active'
2	Input	6. R&D/innovation	% Of young firms (<5 y) engaging in 'new to market' innovation
2	Input	6. R&D/innovation	% Of young firms (<5 y) co-operating on any innovation activities
2	Input	7. Infrastructure	Logistics Performance Index (LPI) for Physical Connectivity
2	Input	8. Support programs	Number of accelerator programs
2	Input	8. Support programs	Number of startups attending accelerator programs
3	Input	6. R&D/innovation	Total university income from intellectual property and spinouts
3	Input	6. R&D/innovation	% Of young firms (<5 y) who file a patent
3	Input	6. R&D/innovation	% Of young firms (<5 y) who license a technology
3	Input	6. R&D/innovation	% Of young firms (<5 y) who license a technology from a foreign company

## ENTREPRENEURIAL ACTIVITY (OUTPUTS)

The metrics in this table are typically 'outputs' which reflect levels of entrepreneurial activity, and which we hope that the Strategy will improve. However, these are not the ultimately-desired 'outcomes' of the Strategy:

Tier	Type	Category (Pillar)	Indicator
1	Output	Firm quantity	# New firms formed per year (new registrations per 1,000 people aged 18-64)
1	Output	Exporting	# Of young firms (<5 years old) who exported into EU in previous year
1	Output	Exporting	# Of young firms (<5 years old) who exported beyond EU in previous year
1	Output	Tech Transfer	# Of patent filings by universities
1	Output	Tech Transfer	# Of spinouts formed by universities (staff + students)
1	Output	Firm quantity	# Male founders
1	Output	Firm quantity	# Female founders
1	Output	Access to Markets	Percentage of young firms (<5 years old) selling online (>1% of revenue)
2	Output	Access to Markets	Percentage of young firms (<5 years old) selling to public sector customers
2	Output	Tech Transfer	# Of licenses from universities to young firms (<5 years old)
2	Output	Public Procurement	Total central government procurement spends with firms <5 years old
2	Output	Public Procurement	Total central government procurement spends with SMEs
2	Output	Market access	% Of young firms (<5 y) having a website

## DESIRED IMPACT (OUTCOMES)

The metrics in this table relate to the ultimate outcomes of the Strategy. These reflect the ‘downstream’ impact which is desired; hence if these measures show improvement then the Strategy should be judged as effective:

Tier	Type	Category (Pillar)	Indicator
1	Outcome	Firm quality	% Of new firms surviving 3 years
1	Outcome	Firm quality	% Of new firms surviving 5 years
1	Outcome	Firm quality	% Of new firms surviving 10 years
1	Outcome	Employment	# People employed by young firms (<5 years old)
1	Outcome	Employment quality	# People with degrees employed by young firms (<5 years old)
1	Outcome	GDP/ value creation	Total combined turnover of young firms (<5 years old)
1	Outcome	GDP/ value creation	Total combined value of exits in previous year (trade sales + IPOs)
1	Outcome	Firm quality	Total number of ‘unicorns’ (private firms valued at >\$1bn)
2	Outcome	Innovation outputs	Number of new products or services provided by firms

## PROCESS IMPLEMENTATION (RECOMMENDED PRIORITY ACTIONS FROM STRATEGY)

The final set of metrics relates to process implementation - that is to say, the short-to-medium term implementation of the Strategy and its recommended actions, as included in the Top 12 Interventions. Some of these measures will not have to be tracked in the long-term. This table also includes milestones (which can be considered binary [yes/no] measures).

Time	Type	Category (suggested reform package)	Indicator	Comments / Responsibility / Suggested targets
4Q21	Process	1 Establish One-stop agency	Milestone: agency mandate and governmental sponsor agreed	Ministry of research, innovation and digitalization
—	Process	1 Establish One-stop agency	Metric: perceived connectivity of the Romanian ecosystem by entrepreneurs	Produce interactive map of whole startups ecosystem (Connector role)
—	Process	1 Establish One-stop agency	Metric: data availability for Romanian ecosystem	Produce annual reports/reviews of startup ecosystem
—	Process	1 Establish One-stop agency	Metric: number of people interacting with agency (mailing list, attendees on capacity-building courses, etc.)	(Targets to be decided following consultation and determination of agency budget)
1Q22	Process	2 Reform Startup & Investment regulations	Milestone: New legislation regarding joint stock companies approved	National Trade Register Office (NTRO-ONRC/Ministry of Justice)

2Q22	Process	2 Reform Startup & Investment regulations	Milestone: Company formation process fully online	National Trade Register Office (NTRO-ONRC/Ministry of Justice)
1Q22	Process	2 Reform Startup & Investment regulations	Milestone: publish new equity crowdfunding guidelines or regulations for Romania in line with the EU Directive on Crowdfunding.	Financial Supervisory Authority.
1Q22	Process	2 Reform Startup & Investment regulations	Milestone: publish clarifying note surrounding business angel and business angel syndicate investment.	Ministry of economy, entrepreneurship, and tourism / Ministry of Finance
—	Process	2 Reform Startup & Investment regulations	Metric: Time taken to form a new company online	Target <1 day. National Trade Register Office (NTRO-ONRC/Ministry of Justice)
—	Process	2 Reform Startup & Investment regulations	Metric: Average time for licenses and permits	Target to get time for EU reference basket of firms to EU average by 2023. See DG Grow 'Start-up Procedures'. Ministry of economy, entrepreneurship, and tourism an all-other licenses and permits issuing authorities.
—	Process	2 Reform Startup & Investment regulations	Metric: Total early-stage venture capital into Romanian firms	Ministry of economy, entrepreneurship, and tourism / Ministry of Finance/ National Trade Register Office(NTRO-ONRC/Ministry of Justice)
—	Process	2 Reform Startup & Investment regulations	Metric: Total late-stage venture capital into Romanian firms	Ministry of economy, entrepreneurship, and tourism / Ministry of Finance/National Trade Register Office (NTRO-ONRC/Ministry of Justice)
—	Process	2 Reform Startup & Investment regulations	Metric: total Corporate Venture Capital into Romanian firms	Ministry of economy, entrepreneurship, and tourism / Ministry of Finance/National Trade Register Office (NTRO-ONRC/Ministry of Justice)
4Q21	Process	3 Improve Entrepreneurship education	Milestone: Launch consultation for developing incentives for entrepreneurship education	Ministry of research, innovation and digitalization / Ministry of education
2Q22	Process	3 Improve Entrepreneurship education	Milestone: Publish plan for incentives for universities to encourage entrepreneurship and enterprise education.	Ministry of research, innovation and digitalization / Ministry of education

1Q22	Process	3 Improve Entrepreneurship education	Milestone: Publish list of annual metrics for enterprise engagement which will be required from universities	Ministry of research, innovation and digitalization / Ministry of education
1Q22	Process	3 Improve Entrepreneurship education	Metric: # students participating in startup events (e.g., hackathons + business plan competitions)	Ministry of education
4Q21	Process	3 Improve Entrepreneurship education	Milestone: regulation removed or clarified to enable entrepreneurs and mentors without a teaching qualification from speaking to students.	Ministry of research, innovation and digitalization / Ministry of education
4Q21	Process	3 Improve Entrepreneurship education	Milestone: Launch initiative for existing schoolteachers and university lecturers to increase their knowledge about entrepreneurship	Ministry of research, innovation and digitalization / Ministry of education
—	Process	3 Improve Entrepreneurship education	Metric: Number of university staff with private sector experience or engagement	Ministry of research, innovation and digitalization / Ministry of education
—	Process	3 Improve Entrepreneurship education	Metric: Number of university staff attending entrepreneurship training or exchange programs	Ministry of research, innovation and digitalization / Ministry of education
—	Process	3 Improve Entrepreneurship education	Metric: Number of students receiving enterprise education lessons	Ministry of education
3Q21	Process	4 Strengthen Ecosystem Enablers	Milestone: Capacity-building grants launched	(May be responsibility of the Agency, depending on funding decision)
—	Process	4 Strengthen Ecosystem Enablers	Metric: grants delivered to DIHs and other enabler organizations	Ministry of research, innovation and digitalization
—	Process	4 Strengthen Ecosystem Enablers	Metric: startups supported by enabler organizations	(Target should be developed in relation to size of capacity-building grants.) Ministry of research, innovation and digitalization
—	Process	4 Strengthen Ecosystem Enablers	Metric: attendees at Romanian Ecosystem Summit	To be determined.
4Q21	Process	5 Create Romanian Startup Fund	Milestone: administrative team in place	To be determined.
1Q22	Process	5 Create Romanian Startup Fund	Milestone: funds allocated to ROStartup Fund	To be determined.
2Q22	Process	5 Create Romanian Startup Fund	Milestone: first investment made	Could be responsibility of the agency depending on remit and funding decision

—	Process	5 Create Romanian Startup Fund	Metric: total investments made	Will need to be adapted to fund size. Could be responsibility of the agency depending on remit and funding decision.
—	Process	5 Create Romanian Startup Fund	Metric: jobs created by funded startups	(Suggest that this is tracked but no target specified as this may create perverse incentives.) Could be responsibility of the agency depending on remit and funding decision
—	Process	5 Create Romanian Startup Fund	Metric: private-sector funds leveraged	(Suggest that this is tracked but no target specified)
—	Process	6 Scaleup via Exporting	Metric: Number of overseas 'Landing Pads' for startups	Ministry of Foreign Affairs / Ministry of economy, entrepreneurship, and tourism
—	Process	6 Scaleup via Exporting	Metric: Number of Romanian Startup Showcase events held overseas	Ministry of Foreign Affairs / Ministry of economy, entrepreneurship, and tourism
—	Process	6 Scaleup via Exporting	Metric: Number of members of Romanian Diaspora Entrepreneurs Network	Ministry of Foreign Affairs / Ministry of economy, entrepreneurship, and tourism
1Q22	Process	7 Incentivize Tech Transfer	Milestone: Incentives and KPIs for University Activity with Enterprise Sector agreed (e.g. # patents; #license deals; total licensing income; total contract research income; #spinouts formed; total value of spinout equity sold; total value of external funding raised by spinouts)	Ministry of research, innovation and digitalization / Ministry of education
4Q21	Process	7 Incentivize Tech Transfer	Milestone: Tech Transfer Capability Fund established	Ministry of research, innovation and digitalization / Ministry of education
4Q21	Process	7 Incentivize Tech Transfer	Milestone: publish clarification note regarding unclear tech transfer legislation	Ministry of research, innovation and digitalization / Ministry of education
—	Process	8 Appoint CTOs	Metric: Number of CTO roles at city-, regional- and national-level	Ministry of research, innovation and digitalization
—	Process	8 Appoint CTOs	Metric: Number of sandboxes and testbeds	(Suggest that this is tracked but no target specified). Ministry of research, innovation and digitalization
4Q21	Process	9 Transform Public Procurement	Milestone: Develop training course for innovative procurement in the public sector	Ministry for development, public works and administration?
—	Process	9 Transform Public Procurement	Metric: Number of Public Sector officials receiving training for innovative procurement	Ministry for development, public works and administration?

3Q21	Process	9 Transform Public Procurement	Milestone: establish SME / Startup Public Procurement Target (e.g. 25% of public sector spend)	Ministry for development, public works and administration? / Ministry of Finance
—	Process	9 Transform Public Procurement	Metric: percentage of public procurement spend directed to SMEs	(Progress targets to be determined once ultimate target is decided, as above)
—	Process	9 Transform Public Procurement	Metric: percentage of public procurement spend directed to SMEs <5 years old	(Progress targets to be determined once ultimate target is decided, as above)
—	Process	9 Transform Public Procurement	Metric: percentage of public procurement spend directed to first-time suppliers (i.e. not repeat providers)	(Progress targets to be determined once ultimate target is decided, as above)
1Q22	Process	10 Share R&D Infrastructure	Milestone: Modify Law no. 324/2003 - Governmental Order nr. 57/2002	Ministry of research, innovation and digitalization
4Q21	Process	10 Share R&D Infrastructure	Milestone: Establish Pilot Program for startups to access research infrastructure	Ministry of research, innovation and digitalization
—	Process	10 Share R&D Infrastructure	Metric: value of income to universities and public research organizations from external use of R&D infrastructure	(Progress targets to be determined once baseline established)
—	Process	10 Share R&D Infrastructure	Metric: number of SMEs using public R&D infrastructure	(Progress targets to be determined once baseline established)
1Q22	Process	11 Implement Startup Visas	Milestone: New legislation regarding a 'Romanian Startup Visa' approved	Ministry of labor and social protection
1Q22	Process	11 Implement Startup Visas	Milestone: New legislation defining 'Digital Nomads'	Ministry of labor and social protection
—	Process	11 Implement Startup Visas	Metric: Number of 'Romanian Startup Visas' granted	(Suggest tracked but no target specified to avoid perverse incentives). Ministry of labor and social protection
—	Process	11 Implement Startup Visas	Metric: Number of 'Digital Nomads' recognized in scheme	Ministry of labor and social protection
1Q22	Process	12 Building Confidence in Digital	Milestone: new 'Trust in E-commerce' body appointed	Ministry of Research, Innovation and Digitalization/Ministry of economy, entrepreneurship, and tourism
—	Process	12 Building Confidence in Digital	Metric: Number of attendees of E-commerce education courses	Ministry of Research, Innovation and Digitalization

—	Process	12 Building Confidence in Digital	Metric: Percentage of SMEs with a website	Ministry of Research, Innovation and Digitalization/Ministry of economy, entrepreneurship, and tourism
—	Process	12 Building Confidence in Digital	Metric: Percentage of young firms (<5 years old) selling online (>1% of revenue) NB. DESI metric (desi_4b1_smeso)	Ministry of economy, entrepreneurship, and tourism

## ANNEX: 1: LIST OF COUNTRIES WITH A STARTUP VISA

This table provides a list of countries that provide immigration incentives for entrepreneurs.

**Table 1:** List of countries with a Startup Visa<sup>81</sup>

Country	Program	Program Type
Australia	Business Innovation and Investment (Provisional) Subclass 188 (Entrepreneur Stream)	Entrepreneur
Austria	Red-White-Red Card for Start-up Founders	Startup
Canada	Start-up Visa Program	Startup
Cayman Islands	Cayman Enterprise City (CEC)	Entrepreneur
Chile	Start-Up Chile	Startup
Cyprus	Cyprus Startup Visa Scheme	Startup
Denmark	Start-up Denmark	Startup
Estonia	Estonia Digital Nomad Visa	Digital Nomad
Estonia	StartUp Visa Estonia	Startup
Finland	Start-up Entrepreneur Residence Permit	Startup
France	French Tech Visa	Startup
Georgia	Remotely from Georgia	Digital Nomad
Germany	Self-Employed Residence Visa	Entrepreneur
Ireland	Start-up Entrepreneur Programme (STEP)	Entrepreneur
Israel	Innovation Visas Program for Foreign Entrepreneurs	Entrepreneur
Italy	Italian Startup Visa	Startup
Japan	Startup Visa	Startup
Latvia	Latvia Startup Visa	Startup
Lithuania	Startup Visa Lithuania	Startup
Malaysia	Malaysia Tech Entrepreneur Programme (MTEP)	Entrepreneur
Netherlands	Dutch Startup Visa	Startup
New Zealand	Entrepreneur Work Visa	Entrepreneur
New Zealand	Global Impact Visa	Entrepreneur
Portugal	StartUP Visa	Startup
Rwanda	W2 - Entrepreneur in Information Technology and related activities	Entrepreneur
San Marino	San Marino Startup Visa	Startup
Singapore	EntrePass	Entrepreneur
Spain	Entrepreneur Visa Program	Entrepreneur
Sweden	Self-Employed Residence Permit	Entrepreneur
Thailand	SMART S (Startup) Visa	Startup
United Arab Emirates	Ras Al Khaima Economic Zone	Entrepreneur
United Arab Emirates	Dubai Silicon Oasis Authority	Entrepreneur
United Arab Emirates	Fujairah Creative City	Entrepreneur
United Arab Emirates	DMCC	Entrepreneur
United Kingdom	Innovator Visa	Startup
United Kingdom	UK Start-up Visa	Startup

<sup>81</sup> [Future Work Present \(2020\) Startup and entrepreneur visas around the world](#) and [NanoGlobals; Europe Startup and Entrepreneur Visa Index](#)

## ANNEX 2: COMMENTS FROM THE VIRTUAL PUBLIC CONSULTATION

Table 2: List of comments from the virtual public consultations

Comments collected through the virtual public consultation (consolidated and rephrased)		Response
<b>Reform Startup and Investment Related Regulations</b>		
1	Create an equity crowdfunding platform that allows smaller amounts of investment (e.g., starting from 100€).	Since there is already an equity crowdfunding platform on the market, this comment will be incorporated into the “intervention 1. reform startup and investment related regulations” to simplify crowdfunding regulations to allow existing and future crowdfunding platforms accepting smaller investments.
2	Provide tax incentives to software development agencies for inhouse product innovation.	This comment is incorporated as a new specific activity “incentives for in-house R&D activities for firm-level innovation” under the “intervention 6 incentivize innovation”.
<b>Improve Entrepreneurship Education</b>		
3	Provide entrepreneurship education at high schools.	This comment is incorporated into all specific activities of the “intervention 3. improve entrepreneurship education” by including high-schools as one of the target beneficiaries.
5	Provide capacity building for mentors.	This comment is incorporated into the specific activity “capacity-building grants for enabler organizations” under the “intervention 4. strengthen ecosystem enablers”.
<b>Strengthen Ecosystem Enablers</b>		
6	Provide grants to eDIHs/DIHs as incentives to include startups in their networks.	This comment is incorporated in the specific activity “Grants for Chambers of Commerce/Business Associations/(e)DIHs” under the “intervention 4. strengthen ecosystem enablers”.
<b>Create a Romanian Startup Fund</b>		
7	There is no need for another public fund since there are already government funds and various public financial schemes available.	This comment could not be incorporated as the “intervention 5. create a Romanian startup fund” received significantly more upvotes than the comment. However, the intervention proposes an independent ownership model with transparent compliance mechanisms to design the fund more private sector driven.
8	This is a great initiative proposal and I'd like to add a great example of something identical/similar but with an economical twist to the fund, what some call the very first example of Universal Basic Income in practice. A UBI connected to the overall fund performance.	
<b>Incentivize Innovation</b>		
9	Incentivize university spin-offs by limiting the equity shares of	This comment is incorporated into the specific activity “clarify unclear legislation” to limit the equity share and

	universities according to best practices from the USA.	revenue royalties of universities under the “intervention 6. incentivize innovation”.
10	Public grants should target the most promising and successful startups and social startups.	The objective to target promising and successful startups is already included in the “intervention 2. establish a one-stop agency for startups” and “intervention 5. create a Romanian startup fund”.
<b>Any other ideas?</b>		
11	Modify legislation to ease secondary market equity transactions.	This comment is incorporated by adding a new specific activity “modify legislation to ease secondary market equity transactions” under the “intervention 1. reform startup and investment related regulations”.
12	Increase transparency and openness of institutions.	The objective to increase the transparency and openness of institutions is already included by proposing “intervention 2. establish a one-stop agency for startups” and “intervention 5. create a Romanian startup fund” with independent ownership models and transparent compliance mechanisms.
13	Include all legal forms of enterprises such as social and not-for-profit startups in public and private measures.	The Startup Ecosystem Strategy is inclusive of all types of enterprises that fall under the startup definition in this white paper, which would include social and not-for-profit startups with economic activities.
14	Strengthen micro-credit institutions.	This comment could not be incorporated as micro-credit institutions typically do not invest in entrepreneurship. However, the “intervention 5. create a Romanian startup fund” includes grants for earlier-stage startups (ideation and proof-of-concept stage).
15	Raise awareness of entrepreneurship on social networks.	Raising awareness of entrepreneurship across various channels is already included in the specific activity/role “advocate” under the “intervention 2. establish a one-stop agency for startups”.
16	Create mentoring and train-the-trainers/mentors’ programs.	This comment is incorporated in the specific activity “capacity-building grants for enabler organizations” by including mentoring and train-the-trainers/mentors program under the “intervention 4. strengthen ecosystem enablers”.
17	Create a seed-level accelerator like Y-Combinator.	The introduction of a seed-level accelerator will depend on the market analysis to understand the knowledge and funding gaps of entrepreneurs. Furthermore, the general entrepreneurship education is already included with the “intervention 3. improve entrepreneurship education”.
18	Advocate and lobby for entrepreneurship across all population groups.	Promoting entrepreneurship across all population groups and all regions is already included in the specific activity/role “advocate” under the “intervention 2. establish a one-stop agency for startups”.
19	Invest 1% of Pillar 2 of Romania's Pension fund in innovative startups.	This comment could not be incorporated as this white paper for the Startup Ecosystem Strategy proposes to investment in startups through market-driven instruments as outlined in the “intervention 5. create a Romanian startup fund”.
20	Focus on supporting and investing in select industry verticals such as energy or mobility.	This white paper for the Startup Ecosystem Strategy can currently not consider the focus on industry vertical as this will depend on market diagnostics to identify the verticals with the highest strategic value-added.

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