

# SOUTHEAST EUROPE STARTUP REPORT 2017

## EXECUTIVE SUMMARY

The startup ecosystem in Southeast Europe (SEE) is alive and well. In all eight countries of the region, there are startups, supporting institutions, interesting technology, and founders with an ambitious mindset believing that even in this part of Europe, globally successful companies can be created. In 2017, there was evidence that this is indeed the case. Outfit7, a family-entertainment company with Slovenian founders and pioneer in the field of digital entertainment, has been sold for 1 billion USD to a Chinese investor in January, thus becoming the first unicorn in the region. It might not be the last – companies like Celtra (SLO), Rimac (CRO), NSoft (BiH) and Nordeus (SRB) are increasing their valuations fast, joining partnerships with high-profile corporations, and planning for potential IPO's.

These companies also act as focal points in their local communities/ecosystems. Inspired by Nordeus's success, a nascent mobile gaming industry has started to develop in Belgrade, Serbia. Similarly, NSoft is supporting the development of the local startup ecosystem in BiH. Zemanta, pioneers in digital marketing, has arguably spurred the development of the whole startup community in Ljubljana, Slovenia, after its establishment a decade ago. In addition to providing direct support, these companies have motivated and inspired an entire generation of entrepreneurs, and promoted startups as a potential career choice to young professionals with global ambitions. These startup pioneers are still guiding the way forward.

Zemanta has been acquired by the global leader in its industry, Outbrain from Israel. Additionally, Rimac has raised money from its most important partner, the global leader in electric battery supplies from China, which is also its potential exit partner. Frame (SRB) has raised a 16 million USD round from Bain capital and Microsoft. Partnering with the global leaders is their strategy to succeed – and to exit. Successful exits seem to be the next step in the development of the local ecosystem and its leading companies. These will help spawning the next generation of the regional startups. When successful, an exit can bring new strategic partners, significant amounts of new money, forming the basis for the next round of investments, and experienced founders that want to repeat their success story.

The next generation of startups in the region will be more experienced, better funded, and faster. They will aim for global success from their inception. A series of successful Initial Coin Offerings (ICO) by this new generation of Slovenian startups has raised more funding in 2017 than the total combined value of public financial support in the whole region – in the last decade. These startups are now among the global tech leaders and have turned Slovenia into hub for blockchain technologies, and example for ICO startups in the SEE region. Other industries are sometimes less well known, but no less funded or ambitious. Seven Bridges (SRB) is a three-time Bio-IT World Best of Show winner that has raised 50 million USD to transform biomedical data companies, and Genialis (SLO) follows in similar footsteps.

While the regional startups' ambition and potential are not in doubt, they could use more support. Regional governments are often unable to support these financially or simply lack knowledge about how to do it best. Moreover, the lack of equity (the 'equity gap') for seed- and early-stage financing is especially detrimental for the development of regional startups and impacts their survival rate. Additionally, the lack of national cooperation is worsened with significant obstacles to travel, especially in terms of visa requirements. Most importantly, however, potential founders in the region need to believe that they can create globally successful companies – and convince others to follow them on their path. Recent successes are the best growth drivers the SEE region could hope for.



The founders of the first SEE unicorn come from Slovenia

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## 1. FOREWORD

Southeast Europe is not the first part of the world that comes to mind when talking about startups and future tech companies. It is rather associated with political conflict, war and strife. Its everlasting problems have even created its own description of the region's problems – balkanization. Recent developments add economic mismanagement to the long list of troubles in the region and it is easy to think that the whole region is on the verge of collapse and without hope for the future. Even many young people believe that and are leaving the region for a better future elsewhere.

However, recently the young in the region have started to see other options. They are increasingly opening new companies, developing innovative digital solutions, and even providing service for some of the best IT companies in the world. This recent development is creating a new economy that is open, competitive, and has global potential.

This new economy is not well known even in the region. No single map of the ecosystem has ever been created and no single source of its best startups is available. Some countries have piecemeal information about their national innovation systems, but others remain a black spot on the map.

EIT Digital is recognizing these developments and obstacles and is implementing activities that would help the emerging ecosystem. ARISE Europe is a program of EIT Digital designed to stimulate regional growth in the Balkan countries. Its objective is to connect local and regional Innovation Centers to EIT Digital's innovation and education ecosystem. It has partnered with the leading venture accelerator in the region, Slovenian ABC Accelerator, to map the local startup support ecosystems, recognize the perspective startups and help them grow. This report is one result of their collaboration.

With these initiatives, EIT Digital aims to put the local startups on the global map of interesting startup ecosystems, thus create a viable opportunity for the region's young professionals that could spur the economic development of the whole region. We hope this report will help reach these goals and create a thriving and well connected regional startup ecosystem.



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## 2. ABOUT EIT DIGITAL

EIT Digital is a leading European open innovation organization that brings together a partnership of over 130 top European corporations, SMEs, startups, universities and research institutes. EIT Digital invests in strategic areas to accelerate market uptake of research-based digital technologies and to bring entrepreneurial talent and leadership to Europe.

EIT Digital is a Knowledge and Innovation Community of the European Institute of Innovation and Technology (EIT). EIT Digital headquarters are in Brussels with co-location centers in Berlin, Budapest, Eindhoven, Helsinki, London, Madrid, Paris, Stockholm, Trento and a hub in Silicon Valley.

[www.eitdigital.eu](http://www.eitdigital.eu)



## 3. ABOUT ABC ACCELERATOR

ABC Accelerator, d.o.o. is a privately-owned company and the largest and fastest-growing accelerator in the region of Southeast Europe. ABC Accelerator focuses on early stage startups and accelerates their development. It was established in March 2015 in Ljubljana and has organized 6 batches and accelerated more than 80 startups from 20 different countries. In 2016, it has opened up a small VC fund and expansion support offices in Munich, Germany, and Silicon Valley, USA. In the Slovene entity, there are 14 professionals employed, with another 10 employees in the other two entities. It also offers comprehensive programs for corporations that exploits internal innovation potential, creates open innovation systems and connects large businesses with other stakeholders in innovative environments. They aim to accelerate corporations by helping them independently implement such programs for their internal workforce.

ABC Accelerator is the regional partner of EIT Digital's Regional Innovation Scheme within its ARISE program. It has also a strong network of partners in the Balkans.

[www.abc-accelerator.com](http://www.abc-accelerator.com)



## 4. OBJECTIVE OF THE REPORT

This report was prepared by local stakeholders in eight countries in order to achieve a non-biased, reliable and objective representation of the national startup ecosystems and explore the potential opportunities it offers to its stakeholders. One of its aims is to help establish a successful startup ecosystem in the region of Southeast Europe that would be greater than the sum of its parts – national ecosystems. In addition, this report is an avenue to reach out to a wider investment, entrepreneurship and innovation community in more developed parts of Europe in order to encourage strategic partnerships between stakeholders in different regions of Europe. By identifying the most promising startups, we are providing them with visibility to our partner EIT Digital and other European bodies that aim at developing the regional economy through investment in innovation. Finally, we hope to encourage more collaboration between stakeholders (including startups) in the region itself as it remains hopelessly divided and fragmented even though it has the potential (for example, the lack of language barriers) to become much more integrated. With more collaboration between high-tech companies, corporations, startups, policy-makers, researchers and other stakeholders, South-east Europe has the potential to replicate the successful development of other Central and Eastern European regions – and transform the Adriatic region into the next Baltics.

## 5. METHODOLOGY

In order to prepare the overview of eight countries in the region with very different economic systems and characteristics, we have developed a uniform template for country profile analysis. This template was used by eight local correspondents to gather national data. Most of the reports gather both quantitative and qualitative data and use descriptive analysis to evaluate their respective national startup ecosystems. They relied on their local expertise and interviews with relevant stakeholders and startup experts within their ecosystems. Additionally, they were using information obtained from secondary sources (reported in the report) including press releases, company websites and social media accounts, specialized startup databases and other sources.

Due to the relatively early stage of the startup ecosystem, no specific verticals were targeted and no specific timeframe was used to define the most interesting startups (although a very large majority of them is less than 10 years old and most were established after 2011).

As a lot of company data were unavailable from local sources as they are not demanded to be disclosed by local legislation. That includes total revenue generated by a startup (in majority of cases) and total amount of capital raised (in minority of cases). Consequently, this basically allows us to only recognize the best startups in the researched regional ecosystem and its countries and list them in the Chapter below. Based on the expert opinions from the national correspondents the presented startups are the best and most successful startups in their countries. Additionally, an expert group from different countries has reviewed the selected startups from the whole region and confirmed that they comprise a comprehensive list of the best startups in the SEE region.

While this severely hinders the potential for quantitative analysis and benchmark analysis of the different companies and countries, we were focusing on different elements of their ecosystem in order to assure qualitative and quantitative comparative analysis among countries. For that reason, we have gathered data on the following dimensions:

1. Framework conditions for each country in the region
2. Startup and venture ecosystem overview (including stakeholder's description, their connections and emerging startups)

3. Ecosystem performance
4. Role of the government and its policy measures

The whole questionnaire used for data collection specifying the quantitative and qualitative indicators and descriptions is available in the attachment.

## 6. MAIN INSIGHTS

### 6.1 STATE OF THE STARTUP ECOSYSTEM IN SEE

The first insight from the analysis is that there is a startup community and at least some basic start-up support ecosystem in every country of the region. There are clear differences between countries, but no country is completely without an ecosystem.

That being said, the differences between countries or groups of countries are also clear. Slovenia is the most developed startup community. Its startups have raised around USD 100 million per year in 2015, 2016 and have already raised more in 2017 to date. This is still much less than in Portugal or other similar ecosystems. In comparison, Croatian startups probably raised USD 10 million in 2015 and USD 15 million in 2016. Still, this is probably more than all the other startup ecosystems in the region combined, as capital raising is still very limited in other countries. Most of the financing to startups in other countries is public and due to very limited local resources, this lack of financing remains the most pressing issue for all ecosystems.

| COUNTRY                | Number of startups<br>(in F6S database) | Population<br>(in million) | Startup density<br>(startups per million inhabitants) | Capital raised<br>(2016, est.) |
|------------------------|-----------------------------------------|----------------------------|-------------------------------------------------------|--------------------------------|
| Albania                | 160                                     | 2,9                        | 55,7                                                  | < USD 1 mil                    |
| Bosnia and Herzegovina | 179                                     | 3,8                        | 73,0                                                  | < USD 1 mil                    |
| Croatia                | 500                                     | 4,2                        | 119,3                                                 | USD 15 mil                     |
| FYROM                  | 189                                     | 2,1                        | 89,7                                                  | < USD 1 mil                    |
| Kosovo*                | 58                                      | 1,9                        | 30,5                                                  | < USD 1 mil                    |
| Montenegro             | 59                                      | 0,7                        | 87,0                                                  | < USD 1 mil                    |
| Serbia (excl. Kosovo)  | 631                                     | 7,1                        | 89,4                                                  | USD 1 – 5 mil                  |
| Slovenia               | 439                                     | 2,1                        | 213,1                                                 | USD 95 mil                     |

Sources: F6S, World Bank, Wikipedia, <http://silicongardens.si/ecosystem2016/> , <http://zipzg.com/investicije-u-hrvatske-start-up-timove-2016-infografika-2/> and own calculations

Comparing the local ecosystems with the largest ecosystem in the region –Bulgaria – it seems clear that the country has a larger startup base than the eight countries that we have analysed. However, its startups seem to be in earlier stages of development and raising less money than for example in Slovenia. Its startups success stories also seem to be smaller in size (with notable exceptions like Telerik), but their development follows a similar pattern to the countries that we have analysed.



| COUNTRY  | Number of startups<br>(in F6S database) | Population<br>(in million) | Startup density<br>(startups per million inhabitants) | Capital raised<br>(2016, est.) |
|----------|-----------------------------------------|----------------------------|-------------------------------------------------------|--------------------------------|
| Bulgaria | 3012                                    | 7,2                        | 420,3                                                 | USD 50 – 100 mil               |

Sources: F6S, World Bank, Wikipedia, <https://www.slideshare.net/moldovaictsummit2016/bulgarian-startup-ecosystem> and own calculations

The development cycle of the startups in the region seems to be that of a large number of seed and smaller early stage startups, but only a handful of successful later stage startups that emerge later with the development of the whole ecosystem. Countries that have started to develop their ecosystems sooner have already progressed to this stage where scaleup companies have emerged – and grown out of this region as the regional market soon becomes too small. While they grow by expanding internationally (and sometimes globally), they do usually retain offices (most often at least their R&D function) in the region. In general, there are not that many scale-up companies in the region since most local startup ecosystems are still quite under-developed. The industry with most advanced scaleup companies is software development and several large companies (for the region's standards) in software development have emerged in several countries. In those countries, where scaleups have emerged, they have acted as a focal point of the ecosystem, representing 'heroes' and the role models for the other startups and future entrepreneurs. They also present more tangible support, from connections with the global markets and experts to financial support for the ecosystem's institutions.

This is very welcome as the obstacles for the development of the ecosystem remain very large. The framework conditions in most countries remain challenging, from macroeconomic instability, fast and drastic political changes and a general environment that does not understand nor support startup culture and thinking. Even more problematic are the significant differences and obstacles to mutual cooperation between countries in the region – sometimes as simple as border controls and stringent visa requirements for traveling between countries. In other cases, differences are more cultural and historic – understandable due to recent history of civil conflict and strife in the Balkan wars of 1990's and early 2000's but sometimes still representing a barrier to mutual cooperation. However, the most problematic and difficult aspect of all local ecosystems is the lack of funding for startups. There are huge disparities between the needs of the startups and the funding available to them. In more developed ecosystems, public funding would at least aim to bridge the gap (Slovenia and Croatia are attempting that), but fiscal constraints in most countries prevents them from having much impact. A great need remains even with some public interventions from the EIF that led to the establishment of the only regional VC Fund (South Central Ventures). Especially in the early stage and seed financing stage, there are almost no funding opportunities for the startups in the region – with the exceptions being Slovenia and Croatia, but even there, little funding is available. Any kind of support would have great impact on the regional startups – and greatly increase their survival and success rates.

The focal role of the scale-ups is also evident in the industry focus of the local ecosystems. Many more startups are established in the industries and segments where successful scale-up companies exist – like NSoft (BiH), Nordeus (Srb) or successful software development companies in Macedonia or Kosovo. Software is generally the industry of choice for startups in the region, but there is also interesting development in hardware (like hardware incubators Reactor in Osijek, Croatia or Katapult in Zagorje, Slovenia). Startups from other industries are rare – but the potential for their development is large as a lot of R&D is implemented in research institutions of the region. However, the commercialization of this R&D is a great unfulfilled potential in the startup ecosystem – even in its

most developed parts. Similarly, there are very few women founders in the region – even though they are generally equal to their male counterparts in other professions and lines of work. As in developed startup ecosystems, female founders could contribute much to the ecosystem, but almost no specific activates targeting them are currently implemented.

Finally, there are some specific industries that have interesting potential in the region apart from software and ICT. The energy segment and tourism seem to be two such industries with more financing than other industries and good potential for growth in this region based on its natural resources.

## 7. COUNTRY REPORTS

### 7.1 SLOVENIA

#### 7.1.1 FRAMEWORK CONDITIONS

With the 2017 population estimated at 2.07 million, Slovenia is arguably the most developed of the post-communist countries in Europe with GDP per capita being 19.576 € (total GDP: 40,4 billion €). Fortunate to see almost no conflict during the Balkan wars in the 90s, the economy has seen steady growth since the transition to capitalism and democracy, which was heavily interrupted by the 2007 global financial crisis, resulting in a laggard recovery. Slovenia has been a member of the EU since 2004, and accepted the Euro in 2007. The economy as a whole, is heavily export-driven, exporting 25 billion € in 2016 (65 % of its GDP), with the largest trading partners being Germany, Italy, and Austria, along with the rest of the EU, with the biggest non-EU partners being Russia and China. The overall growth of the economy has been on the lower end of the group of the post-communist EU states, with the exception being the whole of 2017, when the Slovenian economy has seen one of the fastest growth rates in Europe – Slovenia's Statistical Office shows that the GDP increased 4.5 % over Q3 in 2016 – and the OECD's growth prediction for the country is 4.9 % for 2017, the highest of all its EU members. However, its long term growth is lagging behind some other new EU members (e.g. Estonia, Slovakia) that are gradually catching up with Slovenia's level of development.

The growth of the economy is, however, hampered by one of the most quickly ageing populations in Europe. Fueled by high life expectancy and low birth rates, along with relatively early retirement – almost everyone over the age of 64 is retired - result in the working-age group diminishing in spite of immigration.

The total unemployment of Slovenia is 6.2 % as of October 2017, a figure that has improved significantly since the beginning of the same year, when it stood at 7.6 %. Youth unemployment, however, remains relatively high and is leading to moderate brain drain problem for the country. Nevertheless, the country is still enjoying more immigration than emigration as many people from ex-Yugoslav countries find Slovenia's proximity and relatively high level of development more alluring than some other EU countries. However, most immigrants are not educated while most emigrants from the country are highly educated.

| INDICATOR                         | VALUE          |
|-----------------------------------|----------------|
| Total population                  | 2,07 million   |
| Total GDP                         | 40,4 billion € |
| GDP per capita                    | 19.576 €       |
| Inflation rate (HCIP)             | 1,2 %          |
| GDP Growth (2016)                 | 3,1 %          |
| GDP Growth (Q2 2017)              | 4,5 %          |
| Current account surplus (Q3 2017) | 6,3 % of GDP   |
| Unemployment rate                 | 6,3 % of GDP   |
| Public debt                       | 78,5 % of GDP  |
| Budget deficit                    | 1,9 % of GDP   |
| R&D investments                   | 2,0 % of GDP   |
| Patent applications               | 513            |

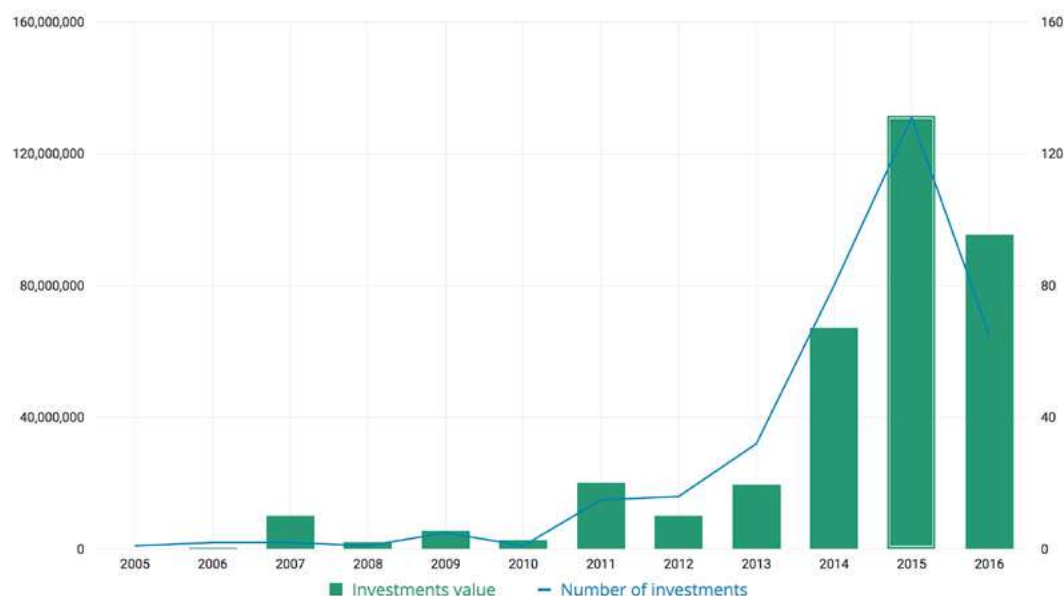
## 7.1.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW

Slovenian startup ecosystem has developed fast in the last six years. While the first fast growing startups were created in mid-2000s, the ecosystem has really taken off after the economic crisis hit Slovenia after 2008 and in particular after 2011. According to the 2016 Startup Ecosystem Report (available at <http://silicongardens.si/ecosystem2016/>), this has resulted in significant increase in the funding raised by the startups, leading to 100 million € capital raise in both 2015 and 2016 (a number already exceeded in 2017). Since 2005, 258 startups raised over \$350M in over 400 transactions. Many startups are also bootstrapping – financing their development from their revenues – and can thus finance their development without capital raising. Additionally, Slovenian startups are among the most active in the world in certain specific areas, with the most prominent example being crypto-currencies and ICO's. Many such startups are operating in Slovenia and their results will only become apparent in the next years. Some estimations hint that as many as a third of the funding might be stealth funding.

In 2016, more than 70 % of the funding came from VC funds – mostly foreign ones. More than 10 % came from different crowdfunding initiatives, especially Kickstarter where Slovenian projects are among the most successful (per capita) in the world. However, government and accelerator funding is the most important according to the number of supported startups, showing their importance in the early stages of the startup development. Only 5 % of the capital invested is coming from Slovenian investors, however, showing that the capital market remain under-developed even in Slovenia – probably the most developed country in the whole region.

## Investments in start-ups from 2005 to 2016

After phenomenal 2015, last year was a slight step-down, but still impressive - Slovenian founders have raised almost \$100M worldwide. We will predict that \$100M +/- \$20M is a new standard for Slovenian startups.



Source: <http://silicongardens.si/ecosystem2016/>

### 7.1.3 STAKEHOLDERS DESCRIPTION INCUBATORS, ACCELERATORS, EARLY PROGRAMS

**ABC Accelerator** is the largest private accelerator in the country. It has accelerated more than 80 startups since 2014, many of them foreign. They have established offices in San Jose (USA) and Munich (Germany) as well as in Kiev (Ukraine). It also has a small seed VC Fund. It is closely connected with the regional ecosystem and is a member of the Global Accelerator Network (GAN.co).

**Tovarna Podjemov** – the focal institution of the Startup Slovenia initiative, Tovarna Podjemov is implementing incubation programs in Maribor for more than 10 years. It is formally connected with the University of Maribor and has been widely acclaimed as one of the best incubation programs in Slovenia.

**Hekovnik** – startup school with the longest track record in the country. Lately it has focused mostly into corporate entrepreneurship and data-science services to startups and corporations. However, it still closely cooperates with the whole ecosystem.

**Ljubljana University Incubator** – is implementing the incubation program for startups originating from University of Ljubljana and is formally part of the University. It is implementing the incubation activities for its tenants.

**CorpoHub** – a new, corporate innovation focused private program, targeting mostly large corporations and organizing hackathons, incubation programs for corporations and innovation-idea competition.



**Katapult** – a private venture accelerator in Zasavje region, targeting hardware projects and aiming to create jobs in this high-unemployment region of Slovenia. Their mission is to help projects develop their prototypes into a product.

**Geek House** – a publicly funded accelerator program for innovative start-ups and companies with a global growth potential wanting to get a firm-to-market confirmation of their idea on the market as soon as possible. It is mandatory for all startups that obtain 75,000 € in the form of a convertible loan (capital is provided by the SPS under the SK75 tender).

**GoGlobal** – A public program usually following up the GeekHouse program for start-up companies that have already found their product-market fit, it offers everything necessary for a successful start of rapid global growth. It is mandatory for all startups that obtain 200,000 € in the form of a convertible loan (capital is provided by the SPS under the SK200 tender).

**DsgnFwd** – lately not very active, DsgnFwd is a specialized acceleration program with a focus on the design of products, services and communications.

**SmartNinja** – a startup specializing in software development education, teaching people to code – and connect them with startups or corporations.

There are many local incubation programs, supported by public financing and covering different regions in Slovenia. Vrelec Incubator, SaSa incubator, Incubator of the Savinja Region, Program at Primorski tehnoloski park and at Pomurski tehnoloski park, RC IKT incubation program and many others...

### 7.1.3.1 MEDIA

**Startup Slovenia** ([www.startup.si](http://www.startup.si)) provides up to date information about the start-up scene, investors, founders, entrepreneurs. It represents the startup 'industry' association of Slovenia and tries to represent the startup ecosystem to other stakeholders, including policy-makers.

**Finance** ([www.finance.si](http://www.finance.si)) – the leading Slovenian daily newspaper is covering startup activity extensively and on a daily basis. It is also publishing the Startaj.si portal with news specifically from the startup ecosystem. Other daily newspapers are also covering startup news, especially successful capital raise news. Other weekly newspaper addition also covering startups is Svet Kapitala, issued by Delo daily.

**RTV SLO** – is preparing a popular weekly TV show called Prava Ideja ('the right idea') presenting the stories of successful entrepreneurs. Similar shows are aired on other, competing TV stations, for example Dober posel at Planet TV.

**Netokracija** – founded in 2009 in Croatia but covering the whole SEE region, Netokracija is a simple idea put in practice: get people across Central and Eastern Europe talking more about web business, marketing and startups. From Austria to Romania and Russia to Croatia, the web is helping businesses and cultures grow in ways they couldn't before. The leading startup medium in the region.

**Mladi podjetnik** – an entry point to the world of entrepreneurship, this media web portal is gathering all news connected to startups and entrepreneurship and also offering services to potential entrepreneurship, including assistance in the establishment of legal entities.

### 7.1.3.2 EVENTS

**PODIM** – The biggest and most influential startup conference in the European Adriatic & Balkan region, it takes place in mid-May every year in Maribor. More than a match-making event, it also hosts speakers, lectures and pitching competition and is the most popular startup event in the region.

**Meet&Match** – a closed event co-organized by EIT Digital, it targets match-making between corporations and startups. Selected startups and corporations are invited to a series of pre-arranged meetings aiming to establish business collaborations.

**HealthDay.si** – pitching competition for health startups and matchmaking event for that vertical.

**PowerUp!** - pitching competition for energy startups and matchmaking event for the energy industry.

**Štartaj Slovenija** – a promotion campaign by Spar Slovenia promoting startups through allowing access to the Spar stores. It includes regular TV show with significant impact on the startup community in Slovenia.

### 7.1.3.3 INVESTORS

**Slovenian Business Angels** – the Slovenian Business Angels Network is an association of approximately 30 investors. It is investing up to 500.000 € but most investments are much smaller. Usually, they invest in syndicates, often with business angels from abroad. Their services include Startup Klinik consulting to startups and matchmaking services to VC Funds.

**RSG Kapital** – the first VC Fund in Slovenia with experiences from 2006, It has invested 10 million € and already done its first exit. It has invested 10 million € but is currently not investing as it is out of its investment period.

**STH VC Fund** – a local VC Fund established in 2010 with 7 million € funds under management. It has already closed their investment period.

**ABC First Growth** – a seed VC Fund connected to ABC Accelerator, it is investing small amounts of money to both ABC and external startups. However, it remains fairly small and is still increasing the size of its fund.

**Silicon Gardens Fund** – a seed VC Fund investing 20k-40k € for 5- 15 % equity. Founded as a syndicate of business angel investors investing seed-sized investments. Established in 2010, it has invested into 9 startups. Recently, it also started informing the ecosystem with annual Ecosystem Reports and a Dealbook service.

**Fil Rouge Capital** is a private early-stage venture capital fund, run by its founders. It is not limited to Slovenian or even regional startups. Run by its founders, it invests in early stage business from angel investment, seed, early-stage VC and series A. Often investing with co-investors, it is able to combine equity and debt structures. Both FRC's Founders have a core knowledge of technology, services, and an entrepreneurial history that they can bring to the benefit of an investment.

#### 7.1.3.4 PUBLIC INSTITUTIONS

**The Slovene Enterprise Fund** - established with purpose of improving the access to financial resources for different development – business investments of micro, small and medium-sized enterprises (SMEs) including with financial resources for SMEs startup and micro financing in the Republic of Slovenia. Every year, the Fund offers proper financial solutions for development – business projects in Slovenian entrepreneurial sector via financial engineering, which is mainly based on financial instruments with refundable means (loans, guarantees for loans, subsidised interest rates, venture capital) which allows combining of financial resources of different financial institutions (financial lever). Its P2 instrument offer 75k € grants to startups while its SK75 and SK200 convertible loans offer the most widely used financial support for Slovenian startups.

**SID Bank** – the Slovenian national development bank is getting involved in the startup ecosystem in 2017 as it aims to establish a Fund of funds that will also support new VC Funds in the future. It cooperates closely with the Slovenian government and both the EIB and EIF. It is expected to have a strong role in the startup and investment community in the future.

**Technology Parks** – There are several technology parks in Slovenia who also implement incubation services for startups. They cover different regions in Slovenia. The largest technology park is in Ljubljana and is the founding member of the Startup Slovenia initiative.

**Tehnološki park Ljubljana** – it hosts more than 300 companies with a total of over 1500 employees. With its support programs, physical spaces and connection to other actors, it claims to be the largest innovation ecosystem for commercialization of knowledge and technology in SEE. While publicly owned, most of its revenue comes from market activities, mostly rents.

**Josef Stefan Institute** – the largest public research organisation in Slovenia is active in the technology transfer field. It is the leading Slovenian scientific research institute, covering a broad spectrum of basic and applied research. The staff of more than 960 specializes in natural sciences, life sciences and engineering and its research is at the global technology frontier. This creates a lot of opportunities for the creation of spin-off companies with state-of-the-art tech and intellectual property.

#### 7.1.3.5 UNIVERSITIES

**University of Ljubljana** – the oldest and largest University in Slovenia with more than 40.000 students and 5.600 staff divided into 23 faculties and three arts academies. The University of Ljubljana is the central and largest educational institution in Slovenia. It is also the central and largest research institution in Slovenia with 30 % of all registered researchers (according to the data from the SICRIS database). The University of Ljubljana is listed amongst the top 500 universities in the world according to the ARWU Shanghai, Times THES-QS and WEBOMETRICS rankings.

**University of Maribor** – the second largest and oldest University in Slovenia, it has 19 institutions and is focusing on the development into a focal point for Eastern Slovenia's R&D and innovation. It is collaborating closely with Tovarna Podjemov, their university incubator.

**University of Primorska** – the youngest University in Slovenia is also the smallest one but is very active and is actively developing the academic-government-industry cooperation. Due to its proximity to the Italian border and the city of Trieste, it is closely connected to the Italian innovation system and often acts as a bridge between Slovenia and Italy in the field of innovation cooperation.

**University of Nova Gorica** – the only private University in Slovenia is a research-focused local university from Nova Gorica, a town on the Slovenian-Italian border. With its potential to act as a cross-border bridge and good relations between its researchers, students and local community, it can act as a strong supporter of local startup community, both on the Slovenian and Italian side of the border.

### 7.1.3.6 STAKEHOLDERS' CONNECTIONS

The Slovenian startup ecosystem is quite closely connected. Most people in these institutions know each other personally and are open for mutual cooperation and the advancement of the ecosystem. Formal cooperation between stakeholders is taking place under the Startup.si association. In general, the startup ecosystem has a good balance between public and private institutions, different types of stakeholders (incubators, funds, public institutions etc.) and even with some corporations. It is also very open to cooperation with neighbouring startup ecosystems, in particular with Italian, Austrian and SEE startup ecosystems.

What is lacking is better support from the civil service as the support from the regulators is often lacking. Some public financing is available but more could be desired, especially in the form of equity financing. Successful Slovenian startups, especially the ones that have expanded abroad, could also be better connected with the local ecosystem and bring their expertise, connections and also funding back to their home environment.

### 7.1.3.7 ECOSYSTEM PERFORMANCE

In the last few years, between 100 – 150 startups are created in Slovenia every year. This is in line with the more general data on the new business density that shows app. 10 new companies are being registered every year in Slovenia per 1000 people between ages 15 and 64. This is some 30 % more than the EU average. However, the share of employees in high growth companies (those growing by 10 % or more) was lower than in the EU, showing significant challenges in supporting the growth of newly created companies. This observation is reinforced by the relatively high bankruptcy rate that is also app. 15 % higher than in the EU. So while Slovenian ecosystem is able to generate quite substantial number of new companies and in particular startups, they also have higher chances of bankruptcy and are less likely to grow fast.

They are also less high-tech than most. Only 6,5 % of Slovenia's exports are in high-tech goods – an increase from previous years but still much less than many other countries, for example Croatia. The best estimations show that around 3 % of Slovenia's GDP is created in the high-tech industries (among it the pharmaceutical industry, one of the most competitive industries in the country). These results are average at best, but also hide potential for further growth of the startup ecosystem in the future. The IUS (and GII) studies confirm this view, with Slovenia being average, although nominally a Strong Innovator according to the IUS, but still below EU's average at 98 % of the EU's innovation index. IUS score has also been declining in the last 5 years, a worrying trend resulting from the austerity measures that have hurt innovation expenditure in Slovenia.

Studies like IUS show that a significant part of the blame for this is due to a large equity financing gap, resulting in financing constraints of the startups. Public intervention is thus not only desirable but also crucial for the success of the startup ecosystem in Slovenia. 64 companies were supported by different public equity instruments (including grants and convertible notes) available by the Slovene Entrepreneurship Fund in 2017, obtaining an aggregate of EUR 3,5 million. More funding was available through micro-loans and loan guarantees. Altogether, the SEF grant financing worth almost 33 million € had been obtained by 660 companies between 2007 and 2016. 65 companies have received seed financing (worth almost 6 million €) and additional 29 companies were able to obtain venture capital investment by the VC funds supported with matching funds from the SEF totalling 29 million €.

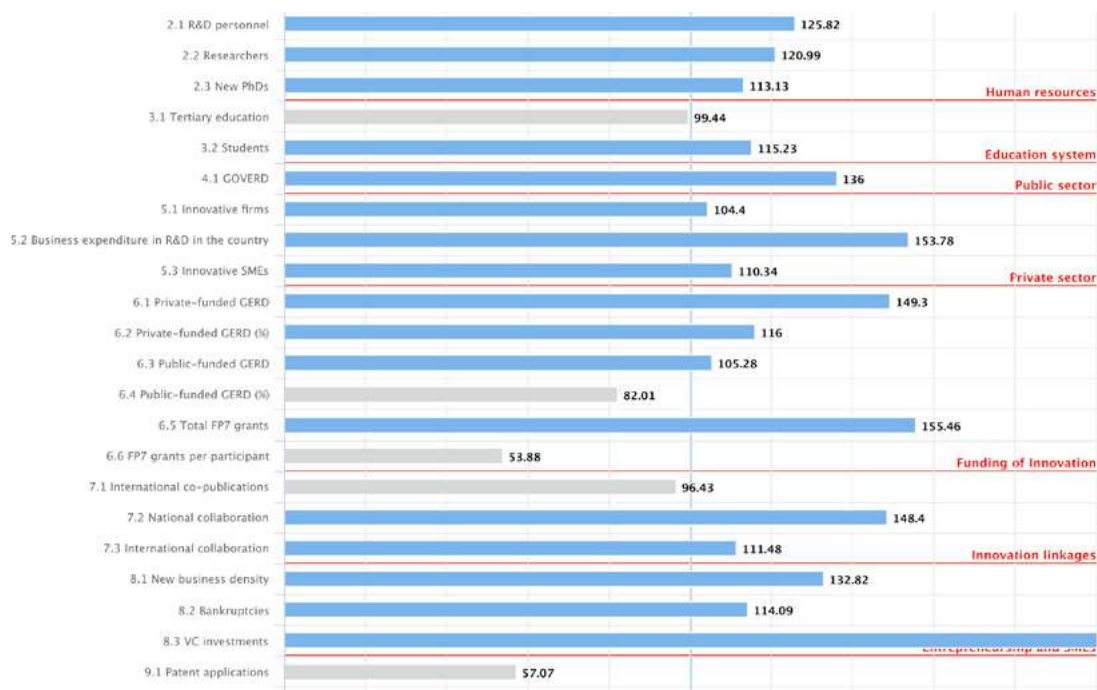
In the same period, Slovenian Business Angels have supported startups with between 5 – 10 million €. But the most important equity financing source remains foreign investments. According to the Slovenian ecosystem report for 2016, as much as 95 % of all investments (of \$95 million) resulted from foreign capital. That also means that 75 % of the startups supported had moved abroad.





Source: <http://silicongardens.si/ecosystem2016/>

While these numbers are significant and fairly large, they are stretching the definition of a Slovenian startup. Nevertheless, they show that financing gap is currently the most pressing concern for Slovenian startups. However, the latest development in obtaining financing shows that more than 50 million € (and perhaps as much as 100 million €) were raised by Slovenian startups in ICO's in 2017. The focus on this alternative source of financing is capitalizing on the strong position of blockchain technologies in Slovenian startups. It also continues the trend that shows Slovenian startups finding alternative financing sources. Previously they were among the most successful (measures by the amount of money raised from backers per capita) on the Kickstarter. Similarly, they are very successful in utilizing the SME Instrument of H2020. These sources represent alternatives for the 'regular' financing options that remain sorely missing in Slovenia.



Source: <http://adriaticinnovationmap.eu>

While financing is the problematic part of the ecosystem performance, human resources are the strong element. Slovenia has better-than-EU-average number of R&D personnel in the companies, researchers (mostly in public research institutes and universities) and especially PhD graduates. While promising, these indicators show that a lot of resources in Slovenia are committed towards

(basic) research and less towards development and applicative research. Patent applications by Slovenian entities are reinforcing this view as they are well below EU average while published scientific papers (but not best, highly-cited scientific papers) are much above EU average. Lack of connections between basic research, applicative development and its commercialization of research through startups remains the second most problematic feature of the Slovenian startup ecosystem. And while private financing is increasing, there are no significant changes that would lead to more commercialization of research in Slovenia.

### 7.1.3.8 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

Slovenian government is supporting startups and its ecosystems, but with relatively minor policy measures and funds. They are also not very efficient and remain dispersed. Most problematically, there is no clear and measurable goal for their efficient use, so different measures have very different impact on the success of the startup ecosystem.

The Slovenian government has generally supported the innovation policy with a specific Research and Innovation Strategy (RISS) that was closely connected with the Development plan for higher education. Both strategies are currently not being implemented in accordance with the proposed time plan and investments – Slovenia was supposed to reach a goal of investing 3 % of its GDP into R&D by 2020, while in reality the share has been decreasing (even nominally – it was 809,2 million €) in the last few years to only 2 % in 2016. While most (75 %) of the R&D is performed in the business sector, public support often influences that part as well through joint project financing and performance. Most of the public support is unfortunately attributed to basic research in the government and higher education sectors, not applicative research and development in the business sector.

#### Gross domestic expenditure on R&D, Slovenia, 2016

| SOURCE OF FUNDS                  | SECTOR OF PERFORMANCE |                 |                   |                         |                           |
|----------------------------------|-----------------------|-----------------|-------------------|-------------------------|---------------------------|
|                                  | total                 | business sector | government sector | higher education sector | private non-profit sector |
|                                  | 1000 €                |                 |                   |                         |                           |
| Total                            | 809,18                | 611,897         | 109,131           | 87,951                  | 201                       |
| Business enterprises             | 559,38                | 542,562         | 7,389             | 9,281                   | 149                       |
| Government                       | 163,99                | 19,116          | 83,191            | 61,635                  | 43                        |
| Higher education                 | 3,204                 | -               | -                 | 3,204                   | -                         |
| Private non-profit organisations | 46                    | 30              | -                 | 9                       | 6                         |
| Abroad                           | 82,565                | 50,189          | 18,551            | 13,822                  | 2                         |

Source: <http://www.stat.si/StatWeb/en/News/Index/7059>

Perhaps the most important part of the general R&D policy is the tax breaks for R&D investments worth 50 % of the corporate income tax. They are widely popular and used by numerous companies, startups and larger corporations. Tax breaks are also somewhat inefficient and crude measure as they are helping all companies in mostly the same manner – the most innovative companies are not differentiated from less innovative ones as long as they can show R&D investments at all. On the oth-

er hand, Ministry of Finance has increased the overall corporate income tax rate recently and abolished the tax exemption for the realized returns from VC fund investments. This essentially abolished the preferential treatment of VC investments and discouraged the investments from VC funds. The change of tax code was implemented without any public discussion with local VC community. Additionally, several proposals for preferential tax treatment of business angel investments into startups were rejected

The startup ecosystem is also targeted by subsidies and direct financing. Most of these measures are implemented through Slovene Entrepreneurship Fund (SEF) that is offering grants, equity investments and loans (or loan guarantees). This is the most important element of the startup ecosystem in Slovenia and has the most impact on ecosystem from different public initiatives. SEF is also acting as a public partner to the Slovenian startup ecosystem. This ecosystem is usually represented by the Startup Slovenia Initiative ([www.startup.si](http://www.startup.si)) that is comprised of all the main stakeholders in Slovenia, mostly public incubators and public technology parks. These institutions are additionally supported from direct funding through Subjects of the Innovative Environment (SIO in Slovene) funding scheme. This support is mostly connected to supporting their operations and regional presence of these institutions across different regions in Slovenia and is not effectively connected to the outputs (number of supported startups or their quality). Some additional direct public financing support is also available, for example for Go:Global program or for the PODIM startup conference. Both would likely not be implemented without this support. Some minor support is also available to startups through another public institution: The Public Agency for Entrepreneurship, Internationalization, Foreign Investments and Technology– SPIRIT – but this support remains limited to only few specific fields that startups can use, for example internationalization. Another government program that has more effect on the startups is called 'VEM' and 'e-VEM' (its electronic version) that allows companies to be established in 1 day and with very low costs. This support is quite important and streamlines the administrative and other procedures when opening new companies. Unfortunately, the same cannot be said for visa requirements for foreign entrepreneurs that still face significant obstacles and limitations to their stay and work in Slovenia.

Even though there is some substantial support measures, other fields remain underdeveloped and would require more public support and measures. Startup Visa is only one example. More such measures are presented in the table below and have been supported by the whole ecosystem for years with only limited success. In 2017, it seems that the government is starting to work towards making some elements of the startup business environment and ecosystem more favourable for startups, but the total development of the startup ecosystem will continue to depend on the private initiative, financing and ideas more.

| PROPOSED MEASURES TO SUPPORT THE SLOVENIAN STARTUP ECOSYSTEM | POSSIBLE SPECIFIC MEASURES TO BE IMPLEMENTED                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Increase access to capital                                   | <ul style="list-style-type: none"> <li>- More support to local VC investments</li> <li>- Support the development of angel and seed investments</li> <li>- Establish a supporting environment for crowdfunding platforms</li> <li>- Actively promote and search for different possibilities for investors to exit start-up companies</li> <li>- Support other financing forms (like ICO's)</li> </ul> |

|                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Raise the level of business talent activation and implement comprehensive support programmes</p>  | <ul style="list-style-type: none"> <li>- Promotional workshops</li> <li>- Startup Weekends and Hackathons</li> <li>- Co-working spaces</li> <li>- Business infrastructure within university and regional centers</li> <li>- Spread entrepreneurship culture into mature organizations</li> <li>- Actively attract foreign founders of start-up companies to Slovenia</li> <li>- Supporting activities for entrepreneurial talent activation and motivation in schools</li> <li>- Educate teachers about new skills for teaching entrepreneurship</li> <li>- Promotion of startups (through conferences, competitions etc...)</li> <li>- Media and public support to start-up entrepreneurship</li> <li>- Attract experienced foreign start-up mentors into Slovenia</li> </ul> |
| <p>Accelerate the commercialization of knowledge and technologies</p>                                | <ul style="list-style-type: none"> <li>- Establish a modern system of intellectual property protection</li> <li>- Help Public research organizations (PRO) and universities create companies</li> <li>- Entrepreneurship departments at universities</li> <li>- Technology vouchers for R&amp;D services in public research organizations</li> <li>- Support mentorship programmes and scientific officers in PRO</li> </ul>                                                                                                                                                                                                                                                                                                                                                   |
| <p>Encourage growth of start-up companies on global markets with connections across the world</p>    | <ul style="list-style-type: none"> <li>- Programme for global growth of start-ups and their placement in supporting ecosystems abroad</li> <li>- Establish Innovation ambassadors of Slovenia</li> <li>- Support own infrastructure in start-up centres abroad</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>Ensure consistent, comprehensive and strategic governance of the start-up support environment</p> | <ul style="list-style-type: none"> <li>- Efficient and transparent governance of the start-up ecosystem – nominate the Startup Tzar in the government for horizontal coordination among Ministries.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 7.2 CROATIA

### 7.2.1 FRAMEWORK CONDITIONS

#### 7.2.1.1 POPULATION, HDI, UNEMPLOYMENT

Croatia has a population of 4.19 (2016 estimate), and is the last country to join the EU – in 2013. The population is shrinking due to high emigration and low total fertility rates (1,5 children per mother), despite the fact that the country has seen positive net migration. Croatia has a very high number of foreign-born immigrants, the percentage was 17.6 % in 2013 according to the United Nations report of that year.

The GDP of Croatia in 2016 was 50.425 billion USD, having seen moderate growth since its transition from communism and the Croatian war of independence. The country saw positive growth in the range of approximately 4-6 % in the years before the 2007 financial crisis, except for 1999 and 2000, recession set in due to a lag in tourism (a key component of the Croatian economy), which was the consequence of the conflict in Kosovo. Since the 2007 financial crisis, the economy has struggled, with growth being negative since 2009, getting into the green only in 2015.



Figure 1: GDP growth of Croatia (Source: World Bank)

GDP per capita rose very quickly from about 4,919 USD in 2000, peaking at 15,893 in 2008, and has since fallen to 11,579 USD. Inflation was very big during the early years of the 1990s, but settled to between 2 and 6 % in the years since. In 2014 and 2015, however, Croatia saw deflation of -0.215 % and -0.464 %, respectively.

Unemployment remains high, rising from a low of 8.53 % at the beginning of 2008 to 16.28 % in 2015. Youth unemployment, especially, remains a big problem at 26.1 % - the 5th worst in the EU, after Greece, Spain, Italy, and Cyprus.

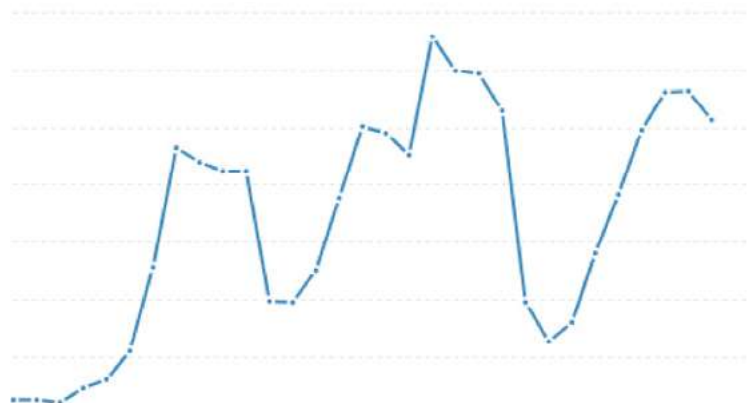


Figure 2: Unemployment in Croatia (Source: World Bank)

One of the most important sectors of Croatia is tourism, its sweeping Adriatic beaches and other destinations attracting 15.4 million tourist arrivals in 2016, up almost 100 % compared to a baseline of between 7.9 and 8.7 million between 2006 and 2011.



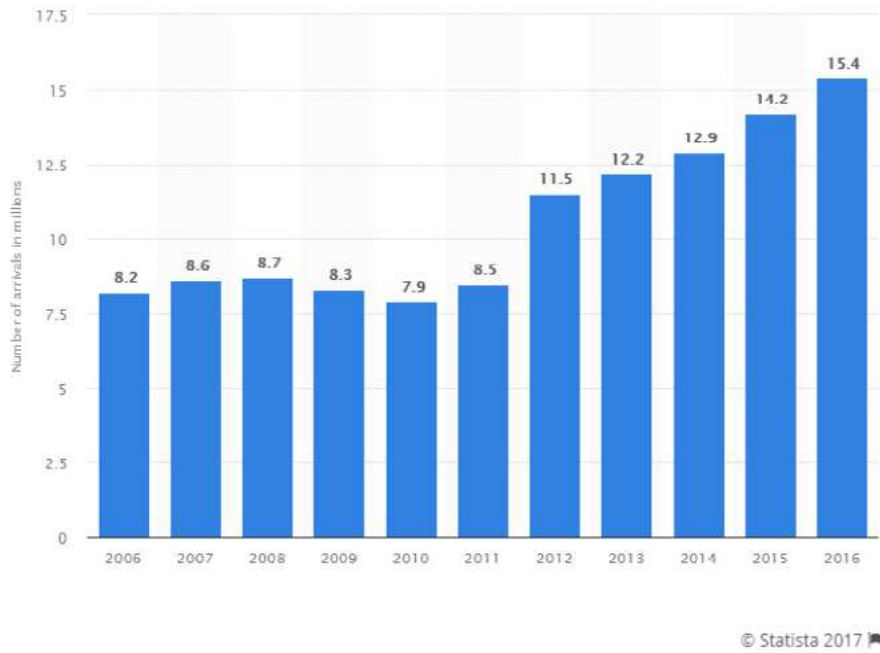


Figure 3: Number of tourist arrivals in Croatia (Source: Statista)

Croatia is a net importer, with 2016 seeing 21.6 billion USD imported versus 13.6 billion USD in exports. The country's main export partners are Italy, Slovenia, Germany, and Austria within the EU, and it has significant exports outside the EU, mainly to Bosnia and Herzegovina, Serbia, and the USA. Its main import partners are predominantly within the EU, with notable exceptions being China, Bosnia and Herzegovina, and Serbia.



Figure 4: Croatian Exports (Source: MIT OEC)

Research and development receives less funding compared to EU averages, but in comparison with SEE countries, it is at the higher end, with a relatively constant expenditure of between 0.745 (2010) and 1.046 (2000).

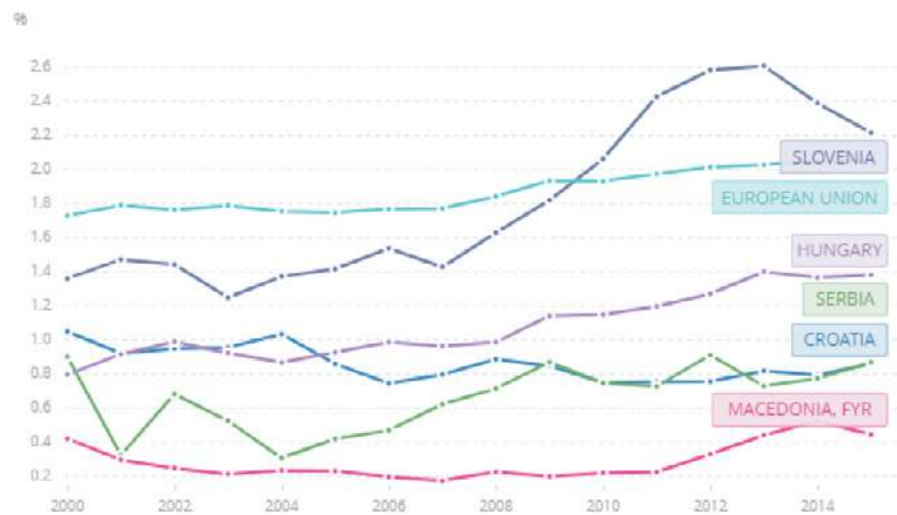


Figure 5: R&D expenditure as % of GDP in Croatia vs comparable countries (Source: World Bank)

Patent applications, however, have declined significantly after peaking at 387 in 2003, falling over 50 % to 169 in 2015.



Figure 6: Patent applications in Croatia

Anyone starting a business in Croatia can effectively go with one of two options: registering a craft ("obrt"), which effectively turns the private person into a legal person, and all liabilities are held by the private person, too. A more suitable form would be a limited liability company ("d.o.o. – društvo s ograničenom odgovornošću"), which requires an initial investment of 20,000 HRK (approximately 2600€). This isn't much, but can still prove a hurdle for the local entrepreneurs. Croatian legislation is not particularly well-suited for startups' needs, especially in terms of equity transfers in the case of vesting, stock options, etc. Because the legislation is relatively unknown with foreign investors, most later-stage startups from Croatia choose to transfer their incorporation to a foreign entity in a more well-known legislation.

In terms of the ease of starting a business, the number of procedures required to start a business in Croatia has fallen to 8 since the reforms between 2005 and 2007 (before, it was 11). Still, that is significantly above the EU countries, where in 2017, an average of 5.357 procedures were required. Within the OECD, the number is even lower – 5.029 in 2017.



Figure 7: Number of procedures required to start a business (Source: World Bank)

## 7.2.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW

### 7.2.2.1 STAKEHOLDER'S DESCRIPTION INCUBATORS, ACCELERATORS, EARLY PROGRAMS

**HUB385** is the home of developers, creatives, innovators and entrepreneurs with the goal of helping innovation, cooperation and knowledge exchange. They also organise an Academy, which is a program combining learning, researching, and finding own potentials. Meant for anyone, regardless of knowledge levels, it serves as an idea incubator.

**ZIP** – Founded in 2012 with the goal of helping aspiring entrepreneurs from the SEE region to build their companies, ZIP has established itself as the strongest startup incubator in the region. Awarded as the best entrepreneurship support institution in Croatia in 2014 by the Ministry of entrepreneurship and crafts.

**Impact Hub Zagreb** – Located in Zagreb's creative district, Impact Hub is a space and a community of entrepreneurs and social innovators that attracts an eclectic mix of tech startups, social entrepreneurs, and NGOs.

**CORE Incubator** – a recently defunct private startup incubator and investment company.

**Startup Factory Zagreb** is a pre-acceleration program initiated by the Development Agency Zagreb – TPZ Ltd. and the City of Zagreb within the Technology Park Zagreb. It is a publicly funded, non-equity program. It focuses on Smart Energy, Smart Mobility, and Smart Tourism.

**Startup Incubator Rijeka** – Supporting small and medium sized enterprises development by providing them with office space and production facilities and other business-related services in the most critical development phases. With these activities we participate in the economic development of our region and the decrease of unemployment rate in the region. BIOS provides services to its tenants and other entrepreneurs.

**BIOS Incubator Osijek** – Supporting small and medium sized enterprises development by providing them with office space and production facilities and other business-related services in the most critical development phases. With these activities we participate in the economic development of our region and the decrease of unemployment rate in the region. BIOS provides services to its tenants and other entrepreneurs.

**Founder Institute Zagreb** – Zagreb's local chapter of The Founder Institute, the world's premier idea-stage accelerator and startup launch program. Through a challenging curriculum and strong post-program support, we provide aspiring entrepreneurs with structure, mentorship, and a network to start an enduring company.

### 7.2.2.2 MEDIA

**Netokracija** – founded in 2009 in Croatia, Netokracija is a simple idea put in practice: get people across Central and Eastern Europe talking more about web business, marketing and startups. From Austria to Romania and Russia to Croatia, the web is helping businesses and cultures grow in ways they couldn't before. The leading startup medium in the region.

**BUG** – A print publication since 1992, BUG has successfully transformed into a tech and business web portal. They organise the Idea Knockout pitch competition.

**Poslovni dnevnik** is a printed publication and a web portal. Poslovni dnevnik is a mainstream business daily newspaper that regularly dedicates column space to stories from the startup ecosystem.

**ICTBusiness.info** – Established in 2013, ICTBusiness.info is a media portal that focuses mainly on the Croatian startup scene and the larger tech and ICT environment.

**Mojbiz** – a more general business portal, focusing not only on tech startups, but entrepreneurship as a whole.

**ZIMO** – a web portal focused on the internet, new media, and tech.

### 7.2.2.3 EVENTS

**Zagreb Connect** – A startup conference happening annually in December, Zagreb Connect serves to connect the local community and also help startups through bootcamp workshops. Organised by Croatian Business Angel Network and the City of Zagreb. The event manages to attract a few foreign speakers every year.

**Idea Knockout** – an annual pitch competition with the main prize being an all-expenses-paid trip to the CES in Las Vegas.

**Shift Split** – A conference held in May in the seaside city of Split (the second largest in the country), Shift used to be a startup and investment conference, but has since turned into a developer conference.

**Startup Island** – as the name would suggest, a startup conference on an island. The last one was organised in 2014.

## 7.2.2.4 INVESTORS

**South Central Ventures** – Run by the Slovenian team behind RSG Capital, SCV is a venture capital fund financed through Enterprise Innovation Fund (ENIF) set up under Western Balkans Enterprise Development Facility's (WB EDIF). It is meant to invest in the Western Balkans (Ex-Yugoslavia minus Slovenia plus Albania). SCV has offices in Zagreb, Belgrade, and Skopje.

**CRANE** – the Croatian Business Angels Network is one of the earliest, and most persistent organisations in the Croatian startup ecosystem; currently the only organisation with a specific focus on coordinating angel investor activity in Croatia. However, investment activity of angel investors has been declining greatly in the recent years.

## 7.2.2.5 PUBLIC INSTITUTIONS

**HAMAG-BICRO** - Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO) was founded with the aim of supporting the development of small and medium-sized enterprises, improving the innovation process and encouraging investments. They promote investment, issue guarantees for bank credits to SMEs, implement grant schemes, and financial instruments. Up until recently HAMAG-BICRO also offered matching funds for equity investments up to 200,000 EUR, but only one round of applications was considered for co-financing so far.

**Regional Development agencies** – Each of the 21 counties in Croatia has its own regional development agency. The roles are the same – they help people with finding business zones, potential partners and suppliers, information about traditional sectors in the county, and provide services to investors.

**Technology Parks** – There are 8 technology parks in Croatia, mainly centred in major cities and their universities. They have mainly been operational for a while already, and have varying success in supporting startups. To a large extent, they have transformed into office rental companies.

## 7.2.2.6 UNIVERSITIES

**IGBS** – the International Graduate Business School Zagreb is designed to meet the need for management education in Croatia and the region. IGBS Zagreb offers dual MBA/M.Sc. degree in partnership with Kelley School of Business, Indiana University. A leading Croatian public research centre in the field of economics, The Institute of Economics, Zagreb, founded IGBS Zagreb as a private business school in 2003 with support of a grant from U.S. Department of State.

**University of Zagreb** – the largest and most prominent university in the country, the UoZ offers a variety of programs catering entrepreneurship and tech, among others. Public university.  
**University of Split** – Similarly to the Zagreb University, the one in Split offers a large variety of programs.

**Josip Juraj Strossmayer University of Osijek** – offers a range of studies relevant to the startup ecosystem, with the most prominent entities relevant for the ecosystem being Faculty of Electrical Engineering, Computer Science and Information Technology (FERIT), Department of Mathematics, and International Centre for Entrepreneurial Studies (ICES).

**Vern University** – the oldest and largest private university in Croatia, VERN is a business university of applied sciences.



**ZSEM** - The Zagreb School of Economics and Management began operations in September 2002, and is bringing the best practices of business schools to Croatia.

### 7.2.2.7 STAKEHOLDERS' CONNECTIONS

Although Croatia invested heavily in the entrepreneurship support ecosystem, much of this investment (dominantly in brick-and-mortar assets) failed to have a direct impact on Croatian startup ecosystem, and serve as the catalysts for networking.

For a long time, main focal points of the ecosystem were almost exclusively startup events, something which can be traced back to very first Seedcamp events that actually produced the first high-profile success stories such as Farmeron.

Whereas in places like Osijek and Rijeka, incubators set up by local governments or universities began to shift focus to startups and began to act like local hubs, the local government in Zagreb failed to provide similar support to the local ecosystem for a long time. Due to the size of its urban core, Zagreb is the largest and thus most vibrant part of the entire Croatian ecosystem, and a lack of publicly funded support infrastructure motivated private initiatives (like ZIP, Impact Hub, and Hub385) to fill the gap and meet the demand, which they succeeded, to an extent.

With time, fixed physical spaces (co-working spaces, incubators, and accelerators) took over from events as key nexus points of networking for the ecosystem. In Zagreb, the Zagreb Startup Factory was set up by the local government, recognizing the importance of the startup ecosystem. Smaller urban areas are moving ahead too, with Šibenik and Koprivnica leading the way among second-tier cities, with incubators and co-working spaces being set up by their respective local-governments.

There are still some exceptions. In Split, for example, ecosystem is gravitating around successful startups like CodeAnywhere and their Shift Conference, rather than public-sector or university-driven initiatives.

Startup events still play a major role in the ecosystem, with Zagreb Connect, Idea Knockout, and Shift Conference occupying the central stage.

On the university and research front, there is much to be desired. The universities themselves, while providing basic services to would-be entrepreneurs, are still rather isolated from core of the startup ecosystem.

In summary, the ecosystem is somewhat interconnected, but not nearly enough for its size. Co-working spaces and incubators are playing a leading role as connectors, with events running a close second. Much more could be done to facilitate a better interconnectivity.

### 7.2.2.8 ECOSYSTEM PERFORMANCE

Croatian ecosystem remains hamstrung by a chronic lack of risk capital. With only one active VC fund specifically targeting the Balkans region (SCV), entrepreneurs find it extremely hard to raise capital for early and growth stages alike. Pockets of risk-finance activity can be found around a precious few large and more mature IT companies, but those will, more often than not, be geared towards impact investing rather than outsourcing innovation through corporate venturing.

The lack of risk capital is the single most important obstacle to a more vibrant startup ecosystem in Croatia. When it comes to raising capital, startups have to rely almost exclusively on international funding, which is rather challenging to raise.

Despite the small size of the ecosystem, and the lack of funding available, the Croatian startup ecosystem managed to generate a few success stories. Companies like Infobip and Rimac, that have already outgrown the label of “startup”, have been founded rather early in the development of the ecosystem, and have managed to become industry-defining players. Then there are companies such as the Slovenian-Croatian Bellabeat, a well-funded YCombinator alum that successfully managed to internationalise its business out of the region.

Recently, there is a growing trend of interesting hardware startups being created in Croatia, such as STEMI, MAKERbuino, and Me.mum. Many of them are finding it helpful that there are specialised service companies focussed on various aspects of hardware development, most prominent being Tenzor Hardware Innovation Lab based in Osijek, which has been involved with most of the hardware startups in the Balkans region.

There are also several other prominent startups across a variety of stages, which are featured here without a company profile due to a lack of available detailed info:

**Spectral Core:** a software vendor specializing in database solutions since 2001. Founded in Croatia, their headquarters are now in London, United Kingdom. Their customers are from over 90 countries. Thousands of individuals and companies use their applications designed to compare and synchronize tables, solve database-related issues and migrate their data. Probably, their most significant product is Full Convert, a database conversion and synchronization tool with various databases supported.

**Codeanywhere:** Codeanywhere is a complete toolset for web development, enabling users to edit, collaborate and run projects on any device. It supports sharing of files, folders, or entire environments to collaborate together in real time. They have over 1M users all across the world. Codeanywhere was accelerated in Techstars’ Boston Fall class of 2014.

**Bulb Technologies:** an established provider of services to telecom companies, which has developed a new product in Customer Experience Management. CEMPRESSO is a new-concept solution for customer support automation and knowledge management. It provides automated diagnostics and step-by-step guided troubleshooting. It is used by all types of CSPs, irrespective of the access infrastructure – xDSL, cable, FTTx and mobile. CEMPRESSO is integrated with all telecom OSS/BSS systems. It provides end-to-end visibility of the entire network, encompassing all infrastructure elements involved in service delivery.

**Oradian:** the global team of microfinance and technology experts behind Instafin, the world’s first core banking system designed especially for the microfinance industry. They are bringing global best practice to the industry using a simple subscription model that allows customers to invest in their growth. Recently raised Series A from Credo Ventures and DayOne Capital.

**Smart Lumies:** connected toy cubes that allow kids to play endless games with color and sound. During playtime, the toy measures the movement, child’s reaction time, game preferences and scores. After the play, it recommends what to play next in order to improve different skills. Investments by HAX, SOSV, and Hardware.co.

**Agrivi:** farm management software to help plan, monitor and analyze all activities on a farm easily. Tillage, planting, spraying, fertilization, irrigation, harvesting and all other activities are managed with a few clicks. Recently raised Series A from SC Ventures.

**Hipersfera:** an array of different un-manned floating airship (moored or free-flying) with applications ranging from telecoms, autonomous driving, disaster management, farming, and surveillance.

**Gideon Brothers:** A stealth company in the fields of robotics, autonomic assemblies, and AI.

**Tenzor:** a hardware Innovation Lab in Osijek that provides R&D and manufacturing services to start-ups and corporates. In addition to providing engineering services to clients, Tenzor also develops next generation First-Person View (FPV) technology stack for drone piloting, assisted autonomy, and various other immersive telepresence applications.

It is difficult to determine the exact most important industries in the Croatian startup ecosystem, because most successful startups operate in very different fields from one another. The industries range from automotive to agriculture, and from cybersecurity to telecommunications. One of the key competitive advantages of the Croatian ecosystem is the availability of good and affordable engineering talent. This is particularly true for hardware, where a rather low cost base for engineering talent and services in Croatia allows for setting up an EU-based operation that is rather competitive to Asian counterparts.

One interesting point is that – while tourism represents a very big and important part of the overall economy, it doesn't feature in the startup ecosystem. Surprisingly small number of Croatian startups are focussed on tourism.

#### Below are the sought indicators

| INDICATOR                                                     | ESTIMATED VALUE                                                                                       |                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Angel investors</b>                                        | 30                                                                                                    | CRANE has approximately 20 members (the data is not public), and there are some other angels, who are not part of the network.                                                                                                                                                                                                                                         |
| <b>Capital raised</b>                                         | 14,877,000 € (2016)<br>10805233 € (2015)<br>21805000 € (2014)<br>2370000 € (2013)<br>5670000 € (2012) | The ZIP Zagreb incubator compiles a funding infographic every year to show how much money Croatian startups have raised. This is money raised by companies where founders are Croatians, not necessarily companies incorporated or located in Croatia.                                                                                                                 |
| <b>Employees</b>                                              | 1500                                                                                                  | It is very difficult to estimate this number, since this information is mostly undisclosed. Furthermore, it is nearly impossible to track exactly how many people are working in startups, since there is no data that can be easily obtained from official sources – there would need to be a clear distinction between startup and non-startup companies to do that. |
| <b>Fastest growing industry</b>                               | IT & defense                                                                                          | Official statistics: WB, EUROSTAT, UNECE, similar                                                                                                                                                                                                                                                                                                                      |
| <b>Most developed industries</b>                              | Industry, Tourism, Agriculture                                                                        | Official statistics: WB, EUROSTAT, UNECE, similar                                                                                                                                                                                                                                                                                                                      |
| <b>Number of newly created startups – in the past 5 years</b> | 300                                                                                                   | Official database is non-existent. Data can be partially obtained through online research, personal connections and cooperation with incubators/accelerators.                                                                                                                                                                                                          |

|                                                                                                                                                             |                                                                                                            |                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Number of newly created startups – in the last year</b>                                                                                                  | 80                                                                                                         | Official database in non-existent. Data can be partially obtained through online research, personal connections and cooperation with incubators/accelerators. |
| <b>New business density</b>                                                                                                                                 | 4.63 (2014)<br>2.821 (2012)<br>2.487 (2011)<br>2.402 (2010)                                                | World Bank                                                                                                                                                    |
| <b>Startup survival<br/>Business survival</b>                                                                                                               | 95 % of startups fail<br>8.03 % (2015)<br>9.75 % (2014)<br>9.32 % (2013)<br>11.81 % (2012)                 | For startups – almost impossible to correctly determine. Rest: Eurostat                                                                                       |
| <b>% of high-tech employees in the total economy</b>                                                                                                        | 3.6 % (2016)<br>3.3 % (2015)<br>3.1 % (2014)<br>2.8 % (2013)<br>2.6 % (2012)<br>2.8 % (2011)               | Eurostat                                                                                                                                                      |
| <b>% of high-tech products in the total value of exports</b>                                                                                                | 8.98 % (2015)<br>8.425 % (2014)<br>10.217 % (2013)<br>9.909 % (2012)<br>7.557 % (2011)                     | World Bank                                                                                                                                                    |
| <b>Innovation Union Scoreboard value for the country</b>                                                                                                    | 55 (2016)<br>54 (2015)<br>49 (2014)<br>54 (2013)<br>51 (2012)<br>56 (2011)                                 | European Commission. Score as percentage of EU performance in 2010                                                                                            |
| <b>Global Innovation Index score for the country</b>                                                                                                        | 39.8 (2017)<br>38.29 (2016)<br>41.70 (2015)<br>40.75 (2014)<br>41.95 (2013)<br>40.7 (2012)<br>37.98 (2011) | Global Innovation Index                                                                                                                                       |
| <b>Number of researchers in the total number of employees in the country (absolute number and % of total employment, so we want need indicator as well)</b> | Global Innovation Index<br>Researchers, FTE/<br>mn pop. =1,501.5<br>Ranks 42nd<br>(2017)                   | Global Innovation Index                                                                                                                                       |

|                                                                           |                                                                                                        |                                             |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>Number of new PhD graduates</b>                                        | Global Innovation Index<br>Tertiary education=38.7<br>Ranks 52nd<br><br>35,273 (2015)<br>32,458 (2014) | Global Innovation Index<br><br>Eurostat     |
| <b>Number of newly issued patents and trademarks - official WIPO data</b> | 250 ; 6734 (2015)<br>259 ; 6188 (2014)<br>411 ; 6541 (2013)<br>345 ; 3269 (2012)<br>366 ; 4596 (2011)  | Patents ; Trademarks (YEAR)<br>Source: WIPO |
| <b>Number of published scientific articles and their citations</b>        | 87,037 papers<br>695,289 citations                                                                     | SJR Country Rank                            |

### 7.2.2.9 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

The Croatian government has unfortunately been rather absent in the development of the startup ecosystem. There are some relatively successful initiatives, but much more should have been implemented. What is widely perceived as a major shortcoming of public policy in the context of tech startups is a failure to launch equity type financial instruments akin to very successful seed funds Bulgaria, or numerous and well-funded JEREMIE instruments in Hungary.

The government was almost exclusively focussed on disbursing support through grant instruments (dominantly through HAMAG-BICRO). Among the most prominent beneficiaries of this program was Rimac Automobili, the makers of arguably the fastest fully electric car on the market. Rimac was the recipient of over 52 million HRK (almost 7 million €) – the largest grant of the agency, and the total grants given to date exceed 257 million HRK (34 million €).

HAMAG-BICRO had launched a World Bank funded co-investment programme, which garnered a great deal of interest from the entrepreneurs and investors, but has curiously disappeared after only one call for applications.

In late 2016, HAMAG-BICRO launched a well-targeted soft-loan scheme (a debt-type ESIF financial instrument), which got a great deal of traction among the early stage companies. Among the instrument launched, the micro-loan facility targeted really well the working capital funding gap that many of the early-stage hardware startups face.

There are many ways, however, where significant improvement would be necessary. Starting a business should be easier – at least at the EU average. There should be a possibility to establish a so-called 1€ LLC, where you only need a minimal initial investment to open a limited liability company. The labour, tax, and incorporation laws should be more startup-friendly.

In the last few years, there are several policies or programmes in effect, a few of them being:

- Strategy for Development of Entrepreneurship in the Republic of Croatia 2013-2020;
- Strategic Plan of the Ministry of Entrepreneurship and Crafts for the period 2015-2017;
- Programme to Encourage Entrepreneurship and Crafts – Entrepreneurial Impulse 2015;



- Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020;
- Cluster Development Strategy in the Republic of Croatia 2011-2020;
- Strategy for Innovation Encouragement of the Republic of Croatia 2014-2020;
- 2014-2015 Export Support Action Plan;
- Action Plan for Reducing the Administrative Burden on the Economy.

These strategies, however, are in danger of being very much like other similar governmental strategies, which have little practical result. Croatia should decide, on a national level, what kind of innovation ecosystem it wants to have – based on its existing industries and environmental properties – and then work actively and consistently to achieve that.

In the short- and mid-term, the Government should focus strongly on bridging the critical market gap in the availability of risk capital (early-stage in particular) by setting up a range of equity type financial instruments.

## 7.3 SERBIA

### 7.3.1 FRAMEWORK CONDITIONS

The economic situation in Serbia has not changed radically in the last 5 – 10 years, with some changes in the implementation of economic reforms, such as fiscal consolidation, privatization, and reduction of public spending. The average net salary in June 2017 was 480\$ and in 2016 nominal GDP amounted \$37.745 billion, which is \$5,376 per capita, while the GDP based on purchasing power parity (PPP) stood at \$101.752 billion, which is \$14,493 per capita. GDP growth in 2016 was +2.7 %, while inflation was 1.2 %. Official unemployment rate in 2016 was 15.3 %, while in 2014 25.4 % were living at-risk-of-poverty line, which is 110 € per month of income.

International Trade: Exports amounted to \$14.883 billion in 2016, with major export goods being: motor vehicles (\$1.527bn), electrical machines (\$1.241bn), fruits and vegetables (\$0.806bn), cereals (\$0.701bn), machinery (\$0.669bn). Main export partners of Serbia are: Italy 14.6 %, Germany 13 %, Bosnia and Herzegovina 8.3 %.

In 2016 imports amounted to \$19.246 billion, with the main import goods being: motor vehicles (\$2.163bn), oil (\$1.808bn), electrical machines (\$0.813bn), natural gas (\$0.807bn), medical products (\$0.700bn). Main import partners are: Germany 12.8 %, Italy 10.3 %, China 8.3 %

Major economic challenges ahead: high unemployment rates and the need for private sector job creation; structural reforms of state-owned companies; strategic public sector reforms; need for new foreign direct investment. Other serious longer-term challenges include an inefficient judicial system, high levels of corruption, and an aging population. Factors favourable to Serbia's economic growth include the economic reforms it is undergoing as part of its EU accession process and IMF agreement, its strategic location, a relatively inexpensive and skilled labour force, and free trade agreements with the EU, Russia, Turkey, and countries that are members of the Central European Free Trade Agreement.

Research and Development: Gross Domestic Expenditure on R&D in 2014 was 0.77 % of GDP, with gross expenditure on R&D at 301 million € (42 € per capita). In 2015 Serbia had 178 patent applications by filed through the Patent Cooperation Treaty procedure or with a national patent office.

Serbia holds the 47th place on the World Bank's Doing Business list, and the same position for ease of starting a business.

## 7.3.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION AND THEIR CONNECTIONS

### 7.3.2.1 Government/public programs:

**The decade of Entrepreneurship** – The year 2016 was declared The year of entrepreneurship by the Serbian Ministry of Economy, and accompanied with the support program for entrepreneurs (both financial and non-financial). After declaring the implementation of the program successful, the government has extended it and renamed it to The Decade of Entrepreneurship. It consists of around 30 different support programs, and 150 million € for financial support for the year 2017. Under the umbrella of the Decade of entrepreneurship, the program gathers ministries, agencies, the chamber of commerce, international donors, socially responsible companies, business associations, and NGOs.

**Innovation fund** – Innovation fund is located in the Science and Technology Park in Belgrade. It was launched in 2011, with the support of the World Bank and the EU Commission. In the period from 2011 – 2016 the fund has awarded a total of 6 million € to 52 innovative projects. Claimed results: revenue of companies which were awarded financing under the Serbia Innovation Project increased by 62 %, from 6.21m € in 2011 to 10.09m € in 2014; 300 mostly high-end jobs were created and the total exports of these companies rose from 0.59m € to EUR 3.10m €, a total of 33 national patent applications were filed by Innovation Fund's beneficiaries, as well as 25 international patent applications (13 PCT, 4 EPO, 1 US, 1 Australia, Eurasia and Japan). The fund also provides mini and matching grants.

**Serbian Development Agency (RAS)** – established on January 11, 2016, after the Agency for foreign investments and promotion of export (SIEPA) and National agency for regional development (NARR) were formally closed. RAS coordinates 16 Regional Development Agencies. Results in 2016: 22 investment contracts that will bring in 236.8 million € of investment and create more than 16,000 job positions; more than 1,100 projects were supported through support programs aimed at the sector of micro, small and medium enterprises and entrepreneurs with about 7.5 million €.

**Science and Technology Park (STP)** – STP was established by the RS Government (represented by the Ministry of Education, Science and Technological Development), the City of Belgrade and the University of Belgrade, with the aim to create a favourable environment for developing IT entrepreneurship. The STP houses the Belgrade Incubator of Technical Faculties (BITF), which is the main support instrument for startups there. The results so far: 70 newly established high-tech startups; 45 new technologies/services developed in innovation projects; 10 patent applications; 3 clusters/networks established; 1 service centre developed (set of legal, accounting and financial services, business plan).

### 7.3.2.2 Private programs/initiatives:

**Startit** – One of the oldest pre-accelerators in Serbia, started in 2010. They started off at an attic in Belgrade and have grown into a significant regional actor. Originally their main focus was an annual acceleration program called Startap akademija, which lasts 3 months. Before 2017, the program was paid, but from 2017, the academy will be free for all the startups selected. In the last year Startit has been focused on opening more Startit centres across Serbia, with 12 offices planned (7 opened so far). Startit is also one of the biggest startup event organizers in Belgrade.

**ICT HUB** – Established in 2014 through a USAID program and based in the STP, ICT HUB has grown into one of the most recognised actors in Serbia, and since June 2017 has relocated to the centre of Belgrade, which has increased their presence in the ecosystem. They organize numerous events and meetups and have launched their own fund (ICT HUB Venture) worth 1 million €, completely private with 8 individuals funding it. In September 2017, the first three investments were announced, each worth 30.000 €, with two more in the pipeline. They take between 5 and 15 % equity from startups they invest in.

**Impact Hub Belgrade** – Member of global Impact Hub network, has 2 programs, pre-acceleration called Kick (from MVP to growth), and acceleration called Venture Growth (up to investment ready). The programs have been running since late 2016, before that IHB was mostly a coworking and event space.

**Novi Sad Business Incubator** – City of Novi Sad and its University are the founders of the incubator, which has been operational since 2010. The incubator mostly rents out space and provides administrative and logistical support to companies (incubation program) and plans to build a sustainable pre-acceleration program before spring 2018 (pilot program called nStarter ran in summer of 2017).

**Erste bank Step by Step program** – Startup support loans since 2015 accompanied with a mentoring program, supports startups and social businesses with commercial loans in the seed phase with favourable conditions.

**Razlivaliste** – Started off as a youth organization, but now has a pre-acceleration (Unreasonable Lab) and incubation (Social Impact Award) programs, both of which are ran once a year, supported by corporate and public donors. They are planning on improving their programs in the future.

**StartLabs** – A completely private VC, registered in the USA. They provide up to 50.000\$ of investments and a 6 months support program. The co-founder of StartLabs, Nebojsa Lazic is one of the most well recognized and knowledgeable individuals in the startup ecosystem in Serbia.

**South Central Ventures** - South Central Ventures (SCV), through EIF's Enterprise Innovation Fund (ENIF), is focused on investing in tech companies in the Balkans. They have offices in Belgrade, Zagreb and Skopje. The majority of the fund is allocated for early stage and growth investments of up to € 3 million per company. These investments are intended to fuel the international business expansion and growth of the most promising tech startups that can show traction and prove their potential to "make it big".

**ICT clusters** – There are 3 ICT clusters in Serbia, ICT Cluster of Central Serbia, Vojvodina ICT Cluster and the Nis Cluster of Advanced Technologies (NiCAT). The clusters are membership-based organizations lobbying for the interests of their members, but they also sometimes provide support for different ecosystem activities (e.g. companies from ICT Cluster of Central Serbia collected some funds to for the award for the startup competitions in Kragujevac).

**Kragujevac ecosystem** – There is no one main actor in Kragujevac, but right now there is an initiative to help build up the startup community in Kragujevac led by a local NGO (with some funding from the Ministry of Youth) and followed by the Engineering Faculty, local co-working space, IT cluster and a few well-known entrepreneurs and enthusiasts (in particular one startup which went to TC Disrupt in 2016).

**Serbian Venture Network (Seven)** – Serbian Venture Network (SeVeN) is an association committed to development of the startup and entrepreneurship ecosystem in Serbia and South-East Europe. Seven is the organizer of Belgrade Venture Forum (BgVF), an annual entrepreneurship conference in Belgrade. Aside from BgVF, Seven also implements a few different entrepreneurship related projects.

Most of the actors in the ecosystem have a basic understanding who does what, but the deeper connections and exchanges are lacking. It is important to note that the situation has been improving since 2016, where more connections have been established and the actors are in closer communication. A good example is the cooperation between ICT HUB and Novi Sad Business Incubator, these two organizations have been organizing some events and mentoring sessions together, even though they almost didn't know each other a year or two ago.

Aside from the connection between STP (and BITF) with the technical faculties, there is not that many connections between academia and the startup ecosystem. The best communication on this level is in Novi Sad, where the Faculty of Technical Sciences (FTN) is one of the founders of the incubator, and the employees in the incubator are mostly professors at the faculty, so there is a fast track for talented engineers to develop their ideas and get into the incubation program. Faculty of Organizational Sciences in Belgrade has a connection with the ICT HUB, though mostly through personal connections, and the two have organized some guest lectures for the faculty.

### 7.3.2.3 Emerging startups:

**GiftsUwish** - an iOS, Android and web-based app for crowdfunding gifts. They have received an investment from ICT HUB in September 2017 worth 30.000 €. They are operating in US, and have participated on the Collision conference in New Orleans.

**Publitio** - A Platform-as-a-Service providing advanced Video & Image APIs, meant to be used by the developers of websites and applications and provides a solution for all media file handling. The founding team is very experienced, having founded a few startups in the early 2000s (one of which was acquired by Kim Dotcom and integrated into Megaupload). They have received an investment from ICT HUB in September 2017 worth 30.000 €.

**Good Game Arena** - Another startup that received an investment from ICT HUB in September 2017 worth 30.000 €. It's a gaming platform for the DOTA2 MOBA game, which matches players according to their levels. They exist since 2015, but are still in a very early stage.

**TruckTrack** - Provides a suite of tools that help trucking businesses to manage their businesses with greater ease, more efficiency and bigger profits. A well-recognised startup in Serbia, active since 2013. They have raised 3 investments so far, totalling at 285.000 €, with Seedcamp and 500 startups investing in them.

**FishingBooker** - Another well-known startup in Serbia, which has been bootstrapping since it was founded in 2013. FishingBooker is an online marketplace for fishing charters. It enables users to list, find, and book fishing trips worldwide. Their main markets are the US and Central America, and they are looking into spreading its business on the Australian market.

**CityExpert** - City Expert is a Serbian startup that introduces new technologies and business approach to the traditional real estate sector. It focuses on creating new standards in the advertising and agency real estate sector. Founded in 2015, City Expert was one of the first investments made by South Central Ventures, with 700.000 € in seed capital. They are now looking to scale outside of Serbia.

**CubeTeam** - CUBE Team is a business information and credit risk service company that provides risk assessment, reporting, and monitoring services, market analysis, competition and trade intelligence to more than 1000 companies that are involved with their business on the Serbian market, plan their

expansion within this region or investigate their competition's presence in Serbia and the region. Founded in 2012, they have raised \$1.000.000 for their B2B platform from SCV in 2017.

**WorkPlus** - WorkPlus is automatic time tracking software for organizations. It monitors applications and websites employees use, shows how they work and generates productivity reports. Another startup that received the investment from SCV and StartLabs. The terms of the investment are undisclosed.

**BeeWeb** - A startup related to the beekeeping business which had numerous pivots. Aside from a matchmaking platform for beekeepers and orchard owners, they are now building an IoT device for beekeepers, and looking to open up the Ukrainian market. The founding team of 2 is very experienced, and have had successful startup(s) in the 2000s. They also attended TC Disrupt in 2016.

**Farmia** - An online livestock marketplace that helps farmers and buyers to trade in a more efficient, cost effective and secure way. The founder of Farmia is a recognised entrepreneur in the Serbian ecosystem, working for around 5 years, especially because he's dealing with a very difficult customer group (farmers). Farmia has reached the proof of concept and is slightly pivoting right now, having entered the Impact Hub Belgrade's acceleration program. They have also raised around \$300.000 of investments from different sources.

**TeleSkin/MySkin/SkinZ** - Mobile and software solution for identifications of health issues with skin. One of the oldest living startups in Serbia, founded in 2007. They have raised more than \$200.000 of investments.

**Zumoko** - An augmented reality research and development company specialized in 3D model detection and tracking. The company offers innovative software solutions with disruptive potential in various industries. They have participated on AWE USA 2017, an augmented world expo and one of the world's largest AR & VR conferences. Still bootstrapping.

**Car:GO** - The first ride-sharing service in Belgrade, operational since 2015. Looking to expand regionally and globally. They have struggled for a while, competing with Taxi services, and they had some legal issues, due to internet payments, which fall under very old and rigid regulation in the Serbian legal system. They have managed to brush these off and are now working well, expanding their pool of drivers and customers.

**Eipix** - Founded in 2005, Eipix entered the gaming industry by working on a number of independent projects of various size and scope, most notably Pyroblazer and Ziro. 2016 marked a new era for Eipix Entertainment, as the company began self-publishing its own games. They now employ around 250 people, while still bootstrapping.

**Content Insights** - A SaaS editorial intelligence suite providing information on how to have more effective and efficient content production. They have received a total of \$1.5 million in 5 investment rounds so far. Founded in 2014, CI is a well-established startup, with 24 employees and well-developed international customer base.

### 7.3.3 ECOSYSTEM PERFORMANCE

#### Key indicators for the startup, research and innovation ecosystem:

- Number of newly created startups – in the last year, based on the observations of the pipeline of startup support organizations, less than 100 startups went through (finished) the incubation/acceleration programs, not all of which survive. If we say that similar numbers are realistic for start-



ing startups outside of the programs, and we consider that most of these are on the idea level, we can estimate the number to be around 200 startups in the last year. Out of this 200 most are probably unregistered and some of them dropped off even after finishing the acceleration and other programs, so the number of the ones which are registered (or functional as an early stage business) is probably around 100. This is a very rough estimate, based on a very small amount of data. For the period from 2012 and 2015 it is impossible to have an estimate, since there were almost no support organizations, and no research to rely on.

- New business density (measuring all new companies, not just startups) – in 2016 there have been 42.450 newly established companies, out of which 1.902 in IT (4.5 %).
- Startup survival (estimating number of startups that do not succeed) and business survival (the same but for all companies, not only for startups) – According to the outdated information from the Serbian Chamber of Commerce, survival rate of small and medium enterprises is 61.8 %. Startups are not SMEs, and colloquially used estimate of the survival rate is considered to be 10 % with some other sources claiming it to be at 21 % . Considering the conditions in Serbia are not as favourable as some other parts of the world, a more conservative percentage should be used, and the survival rate is considered to be somewhere around 10 %.
- % of high-tech companies in the total economy – Unavailable, the Statistical Office of the Republic of Serbia doesn't have a separate classification for High-Tech companies, and no relevant studies have been conducted so far.
- % of high-tech products in the total value of exports – concrete data is unavailable, but the number used (mostly for political purposes) is 400 million € of exports in the IT sector.
- Innovation Union Scoreboard value for the country – 64.2 in 2016.
- Global Innovation Index score for the country:

| SERBIA GII IN THE LAST 5 YEARS | RANK | SCORE |
|--------------------------------|------|-------|
| <b>2012</b>                    | 46   | 40    |
| <b>2013</b>                    | 54   | 37.9  |
| <b>2014</b>                    | 67   | 35.9  |
| <b>2015</b>                    | 63   | 36.5  |
| <b>2016</b>                    | 65   | 33.8  |
| <b>2017</b>                    | 62   | 35.3  |

- Number of researchers in the total number of employees in the country – In 2016, Serbia had a total of 23.542 employees in R&D according to the Statistical Office of the Republic of Serbia, which makes for 7.1% of scientists - researchers in total employment
- Number of new PhD graduates – Serbia had 2012 PhD graduates in 2016, which is a big increase compared to 2012, when there was 770.
- Number of newly issued patents and trademarks - official WIPO data – Since 2011 up until 2015 Serbia has had a regular of around 200 patent applications per year and 6200 trademark application and registration, and around 430 patents in force per year;
- Number of published scientific articles and their citations – There has been a total of 7324 scientific papers in Serbia in 2016, with a total of 6164 citations (0.84 per document). These numbers have remained mostly the same for the last 5 years.

### 7.3.3.1 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

There is not much official communication between the government of Serbia and startup ecosystem. Most of the support organizations (accelerators, incubators, etc.) have grown not to expect anything

positive from the government. With the political changes in the country in 2017, the new Prime Minister (Ana Brnabić) has announced that IT sector and innovation will be in the focus in years to come. She also introduced a new Minister without portfolio, focused on innovation and technology, Mr. Nenad Popović, personally successful entrepreneur, with great experience in innovation and high technology industries. He introduced a new definition of innovations as an economical category not only scientific and social in the Serbian ecosystem. Serbia has ranked 62nd (out of 127 ranked countries) on the Global Innovation Index in 2017 with the score of 35 (out of 100).

In her initiation speech the Prime minister said that Serbia exports 400 million € in IT sector, and she plans to quadruple that amount and increase the number of capable programmers by 15.000 in the next 10 years. Main focus of the new government so far has been the opening of new technology parks. The one in Nis has been opened, and the one in Novi Sad is under construction and should be finished in the next 2 years. Main public instrument for the development of IT sector is the Innovation Fund, which should provide 150 million € in 2017, the money comes mostly from the EU and World Bank.

So far there is no unified “front” of the ecosystem towards the government, but there have been some ideas to coordinate between the support organizations to sit together and identify some common issues they all face and present them to the government in the form of a white paper. This is just an idea, since most of the actors are reluctant to engage with the government, as most of them had only negative experience so far.

A few important changes in policy that most of the people in IT sector hope for is a better tax system (most of the employed in the IT sector are registered as independent entrepreneurs, thus paying less taxes), improved customs (everything that crosses the border with estimated value of 50 € or more falls under the customs regulations) and improved law on financial operations (current law makes it difficult for establishing e-commerce platforms and internationalization).

It will be interesting to follow what the future holds for the ecosystem in Serbia. Right now, it seems all the necessary ingredients (talent, education, support infrastructure, funding, community, international networks, etc.) for a successful ecosystem are present, but these “ingredients” don’t seem to be interacting seamlessly yet. One thing that is lacking still are the angel investors. There are some angel investments taking place, but none of them are public or official, so it’s difficult to estimate the number and scope of these investments.

More time is necessary for Serbia to grow its first generation of entrepreneurs with a global mindset, which will then act as mentors and potentially angel investors, while also serving as a bridge between Serbian ecosystem and the rest of the world. Anyhow, it should be noted that the entrepreneurs in Serbia have demonstrated small, but significant change in the mindset over the last two years, being more open to sharing ideas and openly discussing them (which is necessary for proper mentoring) and also an increased number of meetups and events have also brought closer some basic concepts (e.g. lean methodology) and startup terminology. We have also seen the start of a trend of moving away from outsourcing into developing original products.

## 7.4 BOSNIA AND HERZEGOVINA

### 7.4.1 FRAMEWORK CONDITIONS

#### 7.4.1.1 POPULATION, HDI, UNEMPLOYMENT

According to the 2013 census, the population of Bosnia and Herzegovina decreased from 4.3 million to 3.5 million since 1991. Even though the Human Development Index increased by 5.2 % between 2005 and 2014, social and economic disparities are increasing, and poverty is on the rise, particularly in rural areas. According to the latest estimates, 15-20 % of the population lives in poverty and 25 % are on the brink of falling into poverty. Unemployment reached 25.4 % in 2016 according to the results of the labour force survey. It is particularly high among youth: 54.3 % for the age group of 15 - 24 years. Almost 75 % of all unemployed have been out of work for more than two years. Additionally, gender inequality remains problematic: of all working-age women, only 34 % are employed or actively looking for a job. With regard to men, the labour force participation rate stands at 57 % (SDC, 2016, p.11).

#### 7.4.1.2 GNI, GDP, BUSINESS CLIMATE

With a Gross National Income per capita of USD 4,800 in 2015, Bosnia and Herzegovina is an upper middle-income country. The GDP stood at 16.7 billion USD in 2016, and GDP per capita was 4771 USD in the same year. Annual GDP growth for 2017 is at 2.7 %, and it is projected to pick up modestly, reaching 2.9 % by 2018 (WB, 2017). As a small open economy, the country heavily depends on exports, local consumption and transfers of diaspora remittances, which account for at least 11 % of its Gross Domestic Product. Business climate in the country is considered to be relatively good providing favorable legal environment (7 week registration process) and low tax rates (corporate tax rate 10 %, and VAT 17 %), as well as certain regional and bilateral trade agreements. However, the salary tax for potential employees is cca. 60 % of the net salary which is among the highest in Europe. Also, while registration of a private company is relatively easy and quick, running a business requires heavy administration, lengthy processes and good connections in the government.

#### 7.4.1.3 STRUCTURAL PROBLEMS, BRAIN DRAIN, R&D

Bosnia and Herzegovina suffers from major structural problems: relaunching sound privatization, improving banking regulation, restructuring the educational system and preventing brain drain, as well as reforming the labour market and containing public expenditure are the key issues to be addressed. Furthermore, significant imbalances between an oversized public sector, which absorbs about two thirds of the country's revenues, and a weak private sector with still a low investment and employment potential, create additional structural issues. Moreover, the present educational system that is fragmented and not responsive to labour market needs, increases outbound migration towards better economic opportunities, with almost 80,000 citizens who left the country between 2013 and 2016 (SDC, 2016, p.12).

The numerous challenges concerning capacity for economic growth also relate to extreme underdevelopment of knowledge base of research and technology to foster new sources of competitiveness of the private sector. While no reliable statistics exist, estimates for R&D expenditure are quoted at about 0.12 % of GDP (billions of US, PPP) which is less than a tenth of the average for EU-27 of 1.8 % (RCI Project Paper, 2016, p.3). Gross expenditures for R&D are estimated between 0.1 and

0.14 %, which is much lower than in neighbouring Serbia (0.35 %), Croatia (0.90 %), Montenegro (1.10 %) or the EU-27 average (1.84 %) (World Bank, 2016, p.5). In 2012, BiH ranked 72 out of 125 countries according to the Global Innovation Index Rank (World Bank, 2016, p.6). In 2010, only one patent was filed by BiH in the USA, while the average of the Western Balkans is 60 (World Bank, 2016, p.11). Additionally, capacities to grow are limited. Universities lack resources, connections between academia and private sector are almost non-existent, as well as the connection between science and technology. Moreover, there is no financing structure for R&D, and business sophistication is low and limited by high expenditures related to running a business. There have been certain improvements in recent years, in particular with the adoption of the Strategy for the Development of Science in BiH 2010-2015 (STI Strategy), the Framework Law on Science (2009), and the Framework Law on Higher Education (2007). Consulting and advisory bodies have been created, but implementing agency, monitoring mechanisms and countrywide approach for research and innovation have yet to be established (World Bank, 2016, p.5).

## 7.4.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION

### 7.4.2.1 METHODOLOGY

The startup and venture ecosystem in Bosnia and Herzegovina is growing, but it is still underdeveloped, unexplored and undocumented. The data provided below regarding the stakeholders active in the system is a result of available web and print information, but more so of the direct involvement in the system in the period of 2015-2017. If available, data was gathered from official sources. Otherwise, it was obtained through interviewing and private connections. Conclusion reflects the author's personal opinion about the development of the existing startup ecosystem in the next 10 years.

### 7.4.2.2 OVERVIEW

The number of programs for young entrepreneurs is expanding, from university programs through non-governmental organizations and government initiatives to professional incubators and accelerators. The geographical scope is also increasing highly and the aforementioned can be found in all bigger towns in the country including Sarajevo, Mostar, Banja Luka, Tuzla, Zenica. Smaller towns are also exposed to this trend through larger initiatives and/or as a part of current projects. Below you will find a short description of the key players in a national startup ecosystem that have been most active in the past 5 years, and that have brought about some results and outcomes. Links to their websites are also provided.

### 7.4.2.3 INCUBATORS AND ACCELERATORS

First incubators and accelerators in Bosnia-Herzegovina appeared in 2008 already, but have only received public interest in the last two years (Fijuljanin, 2017, p. 39 -45):

#### HUB387

The HUB387 is an information technology park, whose main goal is to create an environment conducive to strengthening of local IT ecosystem, promoting culture of collaboration and shared knowledge. Its mission is to build a vibrant IT community, a space where aspiring IT companies and individuals can connect and collaborate; creating new ideas and solutions to challenges in the country.

### Spark Business Park

Spark Business Park is an infrastructural complex located in the city of Mostar. It promotes new technologies and lifelong learning, a place where investing happens, and new products and services develop. Its creator is NSoft, one of the most developed IT companies in the country.

### INTERA Technology Park

INTERA is a non-governmental organization established with the aim of encouraging and supporting the development of economic processes in the region of Herzegovina. It was created as a result of the need for technological development and innovative projects and quality and educated workforce that will be competitive in the domestic and foreign markets.

### ICBL - Innovation Centre Banja Luka

ICBL is a concept that is significantly broader than an “ordinary” incubator. While the center is designed to have an incubator function, it contains education and training elements, conference facilities, and so called “business gardens” whose beneficiaries are students, faculty members, trainers, researchers, entrepreneurs and SMEs.

### BIT Centar

BIT Center's main goal is to provide opportunity for young prospective experts and entrepreneurs to start and develop their businesses. It also offers office space with modern equipment, and provides its members with professional help in finance, marketing accounting and law. BIT Centar has its own Seed Capital Fund.

### QLAB

QLab is a coworking space and community hub in Banja Luka. It offers its members education, mentoring and networking. It was founded by a group of freelancers who wanted to expand their network and create new products.

## 7.4.2.4 FOUNDATIONS

### Foundation Networks

Foundation Networks works closely with Network INT and other organizations to bring globally-known experts to hold mentoring and educational workshops, all with an aim of increasing entrepreneurial and employability skills of young people in Bosnia and Herzegovina. The foundation works on strategies that would contribute to the overall creation of a startup ecosystem in the country, including creation of a mentoring network, creation of a business angels network, and the creation of a formal network of national and regional incubator and accelerator programs.

### Foundation Mozaik

Mozaik is a social business incubator whose mission is to identify, facilitate, and accelerate the development of enterprising young leaders, so they can achieve their full potential and to put into function the untapped resources for the sake of socioeconomic development of BiH.

## 7.4.2.5 ORGANIZATIONS/PROJECTS

### RESTART

Restart aims to serve entrepreneurs, business-oriented individuals, and municipalities in Bosnia and Herzegovina needing better international networks, a better information base, as well as consulting regarding direct and indirect investments. Restart reaches out also to all other members of the Bosnian diaspora who desire to directly take part in the economic and social transformation of their homeland.



**ZeDA - Zenica Development Agency**

ZeDA is the central organization providing support for the development of the city of Zenica, which they achieve through direct cooperation and strong support by the local government. They manage the entrepreneurial infrastructure, promote the importance of entrepreneurship and support micro business with their market placement. ZeDA has a business incubator and technology park with innovation development centers.

**SECO Entrepreneurship Program**

SECO contributes to improving the functioning of local financial markets and to nourishing a competitive body of entrepreneurs. The goal is to increase the country's' attractiveness as a business location and to trigger national and foreign investments. SECO therefore works toward improving the business environment for companies in the partner countries and facilitating access to external financing for SMEs.

**Youth Employment Project**

YEP in Bosnia is implemented by the German company GOPA mbH. They offer support to the programs that promote entrepreneurship through the institutions of all entities. The most significant projects that they have done in this field are "Young Entrepreneur", "Online School of Entrepreneurship" and general support in development of mechanisms that promote entrepreneurship.

**7.4.2.6 COMPANIES****ANT COLONY**

Ant Colony is a product oriented software company that helps entrepreneurs, innovators and bold inspired people to build products. They challenge and validate ideas through a lean process and a journey together with the client to find the strongest product/market fit. ANT COLONY engages in full application development, including analysis, design, development, infrastructure and most importantly they advise, mentor, and guide startups.

**SAMSUNG**

Samsung has recently opened an APP Lab within the Faculty of Electrical Engineering in Sarajevo. The investment, worth 48 000 € will contribute to the practical knowledge of students in Sarajevo, and it aims to prepare them better for the labor market.

**7.4.2.7 VENTURE CAPITAL FONDS****SEEBA**

SEEBA is a venture capital fund which offers consulting services and financial investment in a sphere of business and digital strategies. Their clients are coming from both public and private sectors, and they benefit from resources provided by the offices in Stockholm, Belgrade, and Sarajevo.

**7.4.2.8 PUBLIC INSTITUTIONS****Federal Ministry of development, entrepreneurship and crafts**

Its main tasks include regulation of business laws regarding the SMEs, creation of investment funds, entrepreneurship programs and grants, as well as institutional support and international promotion.

**USAID**

USAID's Partnership for Innovation project helps young market entrants improve their work readi-

ness and skills to prepare for jobs in the ICT sector. It also assists SMEs to adopt and better utilize the latest ICT technologies and processes to improve their efficiency and competitiveness. The project supports the competitiveness of ICT SMEs in local and international markets by conducting more than 50 ICT boot camps, advanced technology trainings and workshops, and access-to-markets programs for at least 300 local SMEs that are expected to improve their sales and profits by 2 % per annum on average as a result.

#### UNDP

In the last year, UNDP has been actively working on developing the startup community all across the country. Over 200 business ideas from various areas with a social responsibility component were presented during six startup Days which were held in Tešanj, Zenica, Sarajevo, Ljubuški, Bijeljina and Banja Luka, gathering more than 1,000 participants from 25 partner local communities.

### 7.4.2.9 UNIVERSITIES

#### Faculty of Economics Sarajevo

The Entrepreneurship and Knowledge Management Center of School of Economics and Business in Sarajevo is a center that offers encouragement, education, networking and support to students and business community in BiH. The most important project is the CEO Conference - an annual event that connects youth with successful people who are positive examples which motivate participants to proactive approach to entrepreneurship and career development by breaking the myths of success and adoption of new knowledge and skills.

#### International BURCH University

Burch & Inside StartUp incubator for students functions as part of the Burch Business Center platform whose purpose is connecting the University with the business sector. With that, all students who start their own firm have free access to business space for one year, which includes offices, a conference hall, meeting hall, lounge bar, fitness center, and more. Also, all firms have an opportunity for free mentoring from the academic staff and access to over 50 member firms of the Burch Business Center.

### 7.4.2.10 ADDITIONAL

The above mentioned are the key players in the startup and venture ecosystem in Bosnia and Herzegovina that are active in the last five years. Apart from these, there are other initiatives that help make a change in their local communities, but are usually short-term projects that are not self-sufficient and sustainable. Because of that, they have not been brought to focus in this Report.

However, important to mention are many IT companies in Bosnia and Herzegovina (NSOFT, Mistral, Atlant BH, Authority Partners, Symphony, KLIKA, Ministry of Programing, BS Telecom Solutions, codeNest, Comtrade, Green River Media, Lanaco, Mania, Misija:web, PING, Zira..) that invest in product development as well as in education and training of developers, UX/UI designers and PM's, many of whom later decide to take a try in the startup world. They are also working on lobbying the government to ease the business activity in the country – especially in the ICT sector. Unfortunately, their direct influence in the startup and venture ecosystem is hard to measure and attribute – especially so because most of the products developed by them are in foreign ownership.

### 7.4.2.11 STAKEHOLDERS'S CONNECTIONS

Key players in the startup and venture ecosystem in BiH have been described above in short, and links to their websites where more information can be found have been provided. In the next few

lines, I will attempt to discuss the connections amongst them. Written reports and official data about their collaboration, knowledge exchange and their role in the system are unavailable. Thus, the text below represents general, public knowledge and author's personal observations.

Incubators and accelerators, as well as foundations often collaborate with each other, exchanging not only information and knowledge, but also their domestic mentoring network. For example, Demo Day held in Networks, in September 2016, also allowed startups from SPARK and from University of Sarajevo to pitch. Similarly, SPARK invites startups from all over the country to attend various trainings and events that they organize. Additionally the, Sarajevo Unlimited Conference gathered most of the startups from BiH and enabled them to pitch their ideas to the audience.

When it comes to stakeholders such as those operating as 'projects' under different organizational bodies, they usually attempt to use the existing infrastructure of accelerators and incubators to implement their activities. For example, UNDP has been collaborating with Networks in organizing six pitching events in local communities across the country. Similarly, USAID has organized many entrepreneurship workshops in collaboration with staff and startups from SPARK, ICBL, INTERA, and Networks.

Universities mostly do not collaborate with each other, or with other organizational structures. BURCH has a very closed startup program, for its students only. Similar case is with the University of Sarajevo. Both organize internal Hackathons for their students, but they rarely prepare them and send them to pitch at demo days organized by incubators and accelerators. Universities are more focused on collaboration with large companies that show interest in investing in their infrastructure. Recently, University of Sarajevo partnered with Samsung to open the first App Lab at the Faculty of Engineering.

When talking about universities, it is important to mention the lack of academic research regarding startups and ventures. Research on this topic is very rare and not applicable.

Discussion about stakeholders in the startup and venture ecosystem in BiH cannot go without mentioning SECO EP that has been acting as a community leader in the last two years. SECO EP brings 90 % of the foreign mentors in the startups ecosystem in the country. Mentors visit most of the organizations mentioned in the first part of this Report and organize specialized workshops. SECO EP also works on strengthening the overall system, connecting stakeholders and bringing potential foreign investors in BiH.

Similarly to SECO EP, RESTART works on bringing foreign investment to the country. Their annual event gathers all of the key players and allows 5-10 best startups to pitch their ideas. Information about the outcomes of the pitching is unknown.

Regarding the public institutions, it is important to mention their increased interest for the topic in the last few years. They have created special programs for startups allowing them to apply for grants in various forms, which was not the case in the past where one of the key criteria for application was the 2-year existence on the market which immediately disqualified younger startups. Public institutions also offer funding for accelerators and incubators who can apply for it with different projects, all focused on education of young people and decreasing unemployment. However, while the funds are made available, it is questionable who gets them and how they are spent.

Finally, it is important to discuss the collaboration among startups which is non-existent. Perfect example would be Demo Day held in September 2016, where there were three startups (Coffee-time, Meetup and Meetwhiz) pitching the exact same idea – two of them (Meetup and Meetwhiz) even working on the same floor in the same co-working space (Networks). Instead of collaborating,

exchanging knowledge and even partnering, startups choose to work individually, with increased expenses and lower potential of success.

In conclusion, there are no obstacles to collaboration between stakeholders, except maybe the lack of easily available information. It is rather the lack of will of shareholders to collaborate and share information and/or fear of competition that prevents the overall startup and venture ecosystem in BiH to grow further.

#### 7.4.2.12 EMERGING STARTUPS

Bellow you will find the profiles of the top five emerging startups in Bosnia and Herzegovina. Information was obtained directly from the CEOs of the startups and it was combined with online resources, thus it is considered to be credible and up to date. Selected startups all come from different verticals: industrial, agritech, media, business/web and consumer/gaming, and they were selected based on a few criteria:

- Currently active
- Were able to raise an investment of some sort
- Were part of incubators/accelerators
- Innovative (within the country)
- Younger than 1.1.2011

Apart from these startups, there are many others that are listed in international databases, or that satisfy some of the criteria mentioned above. For example, Angel.co lists 58 startups and 2808 investors in BiH. However, most of the companies listed are currently not active and/or are not even startups. Provided below is a list specially designed for the Report that lists startups in BiH that are currently active and that satisfy at least one other criteria from the above. Included also is their short description and a link to their website.

#### 7.4.2.13 SCALE-UP STARTUPS

Anchors of the local ecosystem, scale-up startups, are pretty much non-existent in Bosnia and Herzegovina. As it has already been mentioned, the startup scene in the country is only active in the last 3-5 years (there was some activity recorded already in 2008, but no results were created) which did not allow enough time for startups to get large and achieve annual revenue of 1 million € and more, or even close to that number.

There are certain companies that recorded great success in the last few years, but they are categorized as IT companies, not startups. These are NSOFT, Mistral, Atlant BH, Authority Partners, Symphony, KLIKA, Ministry of Programing, BS Telecom Solutions, codeNest, Comtrade, Green River Media, Lannaco, Mania, Misija:web, PING, and Zira. More information about them can be found on the website of BIT Alliance, which is the main organization of the software industry in B&H.

The only broadly visible company from the startup and venture ecosystem in BiH is NSOFT. It is the only entrepreneurial company that made it to the list of "100 most successful companies in BiH". All other companies on the list are either state-owned companies or come from traditional industries (wood, metal, electricity, and similar).

## 7.4.3 ECOSYSTEM PERFORMANCE

### 7.4.3.1 DATA

Measuring the national startup ecosystem in Bosnia and Herzegovina is a rather difficult task. Official statistics are non-existent for most of the indicators, or outdated. Different international platforms that provide information about startups have a few issues: most of the companies registered there are non-existent anymore, and in many cases they are not even startups; newly registered startups in the country are not registered on these platforms; information provided is incorrect, profiles are incomplete and do not provide information on turnover, capital raised, and employees. Table below shows some of the key indicators, or their estimates, as well as brief suggestions on how to measure them.

### 7.4.3.2 INDUSTRY

Accounting for more than the quarter of the GDP (26.2 %) the industrial sector in BiH represents a substantial driving force behind the economic development of the country. Most important and most developed industries in BiH are mining and metal processing, automotive industry, timber industry, and textile industry. Companies within these industries operate traditionally, without much innovation in their business models and activities, and are thus not in the focus of this Report.

On the other hand, it is of substantial importance to discuss the IT industry as the fastest growing industry in BiH, with the potential of becoming a leading industry in terms of domestic revenues as a percentage of GDP. The number of ICT companies and startups in Bosnia and Herzegovina is growing rapidly, with BIT Alliance estimating around 1,400 companies and about 2,500 to 3,500 programmers that are now working in information-technology, communications, and computer programming. An example of such a successful company is Lanaco, the largest private system integrator and IT company in Bosnia and Herzegovina, established in 1990 and based in Banja Luka. At the same time, it is one of the most successful family managed and owned IT companies in the Western Balkans region with business operations consisting of 10 departments and more than 280 employees. These young, highly educated, specialists own more than 1,000 vendor certificates and 80 % of their revenue comes from their own products and services, making it possible for the company to invest millions of dollars in software development, education, and training for their employees. Aspiring to increase its number of quality programmers, the company has organized a Programmers' Youth Camp "Pitam Da", together with the association Gaudeamus, which aims to encourage high school students to take more interest in programming by introducing programming through peer education. Lanaco has received many vendor awards, and since April 2016, the firm is participating in the London Stock Exchange ELITE Program, a testament to the company's strategic validity, but also an opportunity to further develop its existing management approach, and adapting to the digital transformation of the global market.

Lanaco is only one of the many IT companies who are leading the economic growth of BiH, but who are also investing greatly in entrepreneurial education and in the startup and venture ecosystem in the country. The government is slowly (but not enough) recognizing importance of these companies for the overall economy- the overview of the policy measures is provided in the last part of the Report.



| INDICATOR                                                     | ESTIMATION                                                                              | PROPOSAL FOR MEASUREMENT                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Angel investors</b>                                        | 10                                                                                      | Official database in non-existent. Data can be partially obtained through personal connections and cooperation with incubators/accelerators.                                                                                                                                                                          |
| <b>Capital raised</b>                                         | N/A                                                                                     | Detailed, in-depth research is required for two main reasons: 1. These information are usually undisclosed and 2. It is necessary to clearly define 'startup' and 'venture' as there is a lot of capital being raised but the line between startups and regular companies is blurred.                                 |
| <b>Employees</b>                                              | N/A                                                                                     | Detailed, in-depth research is required for two main reasons: 1. These information are usually undisclosed as employees are often undocumented and 2. It is necessary to clearly define 'startup' and 'venture' as there is an increase in employment but the line between startups and regular companies is blurred. |
| <b>Fastest growing industry</b>                               | IT                                                                                      | Official statistics: WB, EUROSTAT, UNECE, similar                                                                                                                                                                                                                                                                     |
| <b>Most developed industries</b>                              | Mining and metal processing, automotive industry, timber industry, and textile industry | Official statistics: WB, EUROSTAT, UNECE, similar                                                                                                                                                                                                                                                                     |
| <b>Number of newly created startups – in the past 5 years</b> | 150, of which 20 are still active (excluding year 2017)                                 | Official database in non-existent. Data can be partially obtained through online research, personal connections and cooperation with incubators/accelerators.                                                                                                                                                         |
| <b>Number of newly created startups – in the last year</b>    | 15                                                                                      | Official database in non-existent. Data can be partially obtained through online research, personal connections and cooperation with incubators/accelerators.                                                                                                                                                         |
| <b>New business density</b>                                   | 0.8 in 2014                                                                             | World Bank                                                                                                                                                                                                                                                                                                            |

|                                                                                                                                                             |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Startup survival<br/>Business survival</b>                                                                                                               | 95 % of startups fail<br>Unavailable                                                                                                   | Business survival of the companies is hard to estimate, as many of them, even though still registered do not record any business activity. Additionally, many companies are being registered and closed soon after by Arabs, because owning a company is one of the conditions for purchasing the land in BiH by foreigners. |
| <b>% of high-tech employees in the total economy</b>                                                                                                        | Information for BiH is not available in official databases.                                                                            | Use information provided by BIT Alliance                                                                                                                                                                                                                                                                                     |
| <b>% of high-tech products in the total value of exports</b>                                                                                                | Information for BiH is not available in official databases.                                                                            | Use information provided by BIT Alliance                                                                                                                                                                                                                                                                                     |
| <b>Innovation Union Score-board value for the country</b>                                                                                                   | N/A                                                                                                                                    | N/A                                                                                                                                                                                                                                                                                                                          |
| <b>Global Innovation Index score for the country</b>                                                                                                        | 0.2 in 2017 (score 0-100)<br>29.62 in 2016<br>32.31 in 2015<br>32.43 in 2014<br>36.24 in 2013                                          | Official statistics                                                                                                                                                                                                                                                                                                          |
| <b>Number of researchers in the total number of employees in the country (absolute number and % of total employment, so we want need indicator as well)</b> | Global Innovation Index<br>Researchers, FTE/mn pop. =328.7<br>Ranks 69th<br><br>UNESCO<br>2008: 745 male<br>2013: 829 male, 302 female | Official statistics                                                                                                                                                                                                                                                                                                          |
| <b>Number of new PhD graduates</b>                                                                                                                          | Global Innovation Index<br>Tertiary education=31.4<br>Ranks 76th<br><br>Other information unavailable                                  | Official statistics<br><br>Direct communication with universities could provide more relevant information.                                                                                                                                                                                                                   |

|                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <p><b>Number of newly issued patents and trademarks - official WIPO data</b></p> | <p>Total patent applications (direct and PCT national phase entries) were 56, 43, 2, 7, 41 in the years 2010-2015 respectively in the BA office and only 54 patents in all other offices together in all the years.</p> <p>Total patent grants (direct and PCT national phase entries) were 26, 28, 16, 7, 1 in the years 2010-2015 respectively in the BA office. There were 1 in Canada, Serbia, Montenegro, 3 in the USA and total of 5 in the EU.</p> <p>Total trademark applications (direct and via the Madrid system) were 298, 243, 224, 276, 257, 326 in the years 2010-2015 respectively in the BA office. Most others are coming from Serbia, Croatia and Montenegro.</p> <p>Trademarks in force (by office) were 10234, 11596, 12976, 13560, 14172 and 14993 from 2010 to 2015 respectively.</p> <p>Resident class count per million population (by origin) were 185, 130, 147, 185, 160 and 195 from 2010 to 2015 respectively.</p> | <p>Patents ; Trademarks (YEAR)<br/>Source: WIPO</p> |
| <p><b>Number of published scientific articles and their citations</b></p>        | <p>96th place with 8212 published documents. In the last few years there was notable increase in the amount of scientific articles in the following areas: computer science, engineering, medicine.</p> <p>Serbia is 54th with 62428 published documents, and Croatia 48th with 87037 and Slovenia 49th with 78751 documents (Scimagojr, 2017)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>SJR Country Rank</p>                             |

## 7.4.4 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

The involvement of the government in the startup ecosystem in BiH has been increasing in the last few years, but it is still rather small and ineffective. Different programs have been tried out, but have not shown to be self-sustainable. Two notable programs are listed below:

1. Co-financing employment that was implemented by different bodies in different regions in the country. Under this program, the government co-finances the salary for new employees in young companies. On average, the amounts spent are 50 000 € per region. However, most of the pro-

grams usually have a limit where the company must be existing for at least 2 years, and where employees have to be of certain age, sector, and experience – all of which act as obstacles for startups to apply.

2. Subsidies and grants which are not adjusted to the needs of startups in financing initial entrepreneurial activity, and usually have to be spent on education and workshops, rather than business activities.

Key recommendations to the government for the successful implementation and development of the startup ecosystem are:

1. Improving overall business environment with a focus on administrative and regulatory obstacles: According to Doing Business (World Bank, 2016) ranking for 2016, for most factors observed, the position of BiH was worse than in 2015, its overall ranking is by 5 positions lower, and in the observed four-year period the country recorded the lowest ranking in terms of: starting a business (175), paying taxes (154), protecting investors (66) etc. When it comes to the “starting a business” criterion, the comparison with the average data for the countries in Europe, Central Asia and the Organisation for Economic Co-operation and Development (OECD), shows that our country lags behind by the number of procedures required for starting a business (a total of 12 procedures, while the average number for the countries of Europe and Central Asia is 5 and the OECD 4.8). One of the segments that certainly discourage entrepreneurs in BiH is the time needed for starting a business, which is 67 days, while the average in Europe and Central Asia is 12.1 and in OECD countries 9.2. startup costs are 2.5 times higher than in the compared countries, while the minimum paid-in capital is up to 4 times higher than the average for the observed regions. The total cost of business registration (various fees, certificates and forms) in BiH amounts to about BAM 1,190.
2. Enabling legal use of online payment gates such as Paypal, which would enable startups to offer their products abroad and to operate more effectively.
3. Establishing seed-co-investment fund that would replace existing grant programs which are hard to monitor and are shown to be ineffective, and which would create safer environment for angel investors to invest in BiH startups.
4. Creating an R&D Tax for IT companies that invest in product development and create new employment opportunities.
5. Tax relief programs for incubators and accelerators that offer free office space for startups, but which, under existing infrastructure still have to pay taxes – to put it simply, today they have to pay to the government to provide free office space to young entrepreneurs.

In conclusion, the existing startup ecosystem in BiH has great perspectives to develop further in the next 10 years. However, the real question is “in which direction?”.

Based on my experience, as well as on the existing statistics, we are placed high when it comes to ‘innovation’ indicators. Among the startups listed in previous sections of this Report, not a single one has a product that is unique, first-of-a-kind. All of them are good (or bad) copies of Western startups. What is unquestionable is that we have a great geographical location, a growing and high-quality IT industry, and a relatively cheap labour force. These are all factors that guarantee that BiH will become an inevitable part of European startup scene. However, it is most likely that we will be ‘the muscles behind the brains’ – our developers, designers, and companies will be working for Western startups and ventures. All of us should embrace this and find ways to utilize it for our own benefit. The government especially should work harder on creating business environment that will bring investment into the country – and if the easiest way is through the IT sector, then so be it.

## 7.5 KOSOVO

### 7.5.1 FRAMEWORK CONDITIONS

Kosovo is a lower-middle-income country which has experienced a solid economic growth at an average of 3.4 %, and has seen growth in every year since the global financial crisis of 2008. Kosovo has a population of over 1.8 million people, with a GDP per capita of US\$3,641 in 2016, which still positions the country as the third-poorest in Europe.

In the Doing Business Report of 2017 from the World Bank, Kosovo has improved from position 64 in 2016, to position 60 in 2017, ranking above Bosnia & Herzegovina (Rank 81) and closely following Albania (58), and other Balkan countries such as Croatia (Rank 43), Bulgaria (Rank 39), Slovenia (Rank 30), etc. The economic growth of Kosovo has outperformed neighbouring countries, however it has not been sufficient to reduce unemployment, formal jobs, women and youth employment, or migration. The fuel of domestic growth still remain the remittances from its strong diaspora.

Kosovo ranks in the 13th position in the ranking of 190 economies on the ease of starting a business in the Doing Business report from the World Bank, standing far ahead of Albania (Rank 46), Croatia (95) or Bosnia & Herzegovina (Rank 174). There is no capital or fee required to register a company, and there's a one-stop shop for incorporation.

### 7.5.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION AND THEIR CONNECTIONS

The startup ecosystem of Kosovo is not a startup hub for the Balkan region, however with a growing number of startups, entrepreneurs and ecosystem actors, it has built good infrastructure for startups. Notable institutions and actors that are active in the ecosystem include the Innovation Centre Kosovo, founded in 2011 (a startup incubator / training centre supported initially by the Norwegian Ministry of Foreign Affairs and now by the Embassy of Sweden and other donors), STIKK - The Kosovo ICT Association, established in 2008, IPKO Foundation, UNICEF Innovations Lab Kosovo, Prishtina Hackerspace, Bonevet (an exciting makerspace in Gjakova / Prishtina), Girls Coding Kosova, Open Data Kosovo, Gjirafa Lab (a new startup incubator / accelerator established by Gjirafa Inc. in 2017), CEED Kosovo, American University in Kosovo – RIT, American Chamber of Kosovo – AmCham; donors: GIZ Kosovo, USAID Kosovo, US Embassy, SIDA Kosovo, UNDP Kosovo, Embassy of Sweden, Embassy of Norway, Embassy of Germany, Swiss Cooperation Office Kosovo, universities: The University of Prishtina (Public University), The Universum College (Private College), The University for Business and Technology – UBT (Private), political actors: Ministry of Entrepreneurship (New Ministry, created in 2017).

The institutions, donors, supporters, universities and other relevant actors more or less collaborate with each other, with certain goals and projects in mind. Some good examples of cooperation include the Global Entrepreneurship Week, hosted by the Innovation Centre Kosovo, which gathers a number of actors to collaborate with each other and organize various activities. As far as the cooperation goes between universities and startup support infrastructure, there is a link and there is also room for students, however there hasn't been any case when academic research has been used in startups or high-tech companies (or patents). Generally speaking, the coordination between actors active in the ecosystem remains challenging. Notable start-ups that have come out of the local market since 2011, include:

**Gjirafa Inc.** – Gjirafa is the first search engine and news aggregator for Albanian, a lexically unique language spoken by over 12 million people worldwide. Using advanced Natural Language Processing algorithms, Gjirafa provides access to data that currently cannot be searched online; already raised \$2



million in Series A funding and is working on closing Series B funding (ICT Vertical). - [www.gjirafa.com/](http://www.gjirafa.com/)

**Hello** – Talk to Strangers - The simplest way to talk with new and interesting people around the world, a thriving startup with over 500,000 downloads on iOS and Android. It has been talking to various investors, but hasn't accepted any investment yet, expect an investment from a business angel from Kosovo. (ICT Vertical) - <http://hello-app.net/>

**Decissio** - Decissio is an online service that leverages artificial intelligence and blockchain technology to optimize and bring data power to your investment decision making processes. Accepted at Start-upYard Accelerator Program in Prague. - <https://decissio.com>

**SOLABORATE** – a new productive communication platform, initially launched as a cross-over social network between Facebook / LinkedIn / Twitter, and recently pivoted to new communication tools and services. Just recently it closed two very successful funding rounds on Kickstarter and Indiegogo for it's Hello Device. - <https://www.solaborate.com/>

**HUM App** - HUM makes it possible for users to ask questions and get answers from people who care to share their opinions with the world. It has raised some money from US-based investors, however the sum is unknown. <http://www.hum-app.com/>

**Formon** - Formon designs, develops, and manufactures state of the art Desktop 3D Printers and has been part of the Incubator of ICK for a couple of years now. It has managed to grow, but not to the level of graduating from the incubator. (ICT Vertical) - <http://formon3d.com/>

### 7.5.3 ECOSYSTEM PERFORMANCE

There are some notable startups in Kosovo that have been mentioned in this report, which have raised over \$2M in funding from foreign and local capital. Getting access to data on their annual turnover remains challenging, while startups themselves have difficulties raising capital or getting access to capital. There is one successful startup that has managed to successfully raise-funding and scale-up and that is Gjirafa.com, other notable startups that would be worth mentioning are still missing from the scene. The current situation of the ecosystem is in the same league with Albania, Macedonia and Montenegro, albeit at least a bit better than Albania and Montenegro, however when compared to other regional countries, it's still lagging behind. The greatest source of net job creation remain startups, but the rate of entry is relatively low.

Indicators for the startup, research and innovation ecosystem:

- In total there are over 150,000 registered businesses in Kosovo . 55,000 active businesses;
- Approximately 130 startups registered / created in the past 5 years;
- Each year approximately over 10,000 new businesses are established;
- Startup survival is very low and a high number of startups fail, shut-down after passing through an incubator, startup, or grant program. Approximately 2,000 - 2,500 businesses (not tech-startups, but businesses in general) close-down their operations each year. On average, 48 % of Kosovo's firms survive beyond the first five years of operation. Survival rates are considerably higher among larger firms – only 45 % of micro firms do not exist in the first five years, compared to more than three quarters of firms in the 20+ employee size category;
- There are 2 high-tech companies, in the pharmaceutical production industry (OECD definition of high tech);
- Innovation Union Scoreboard value for the country doesn't exist;
- Global Innovation Index score for the country – doesn't exist;
- 23 PhD programs accredited for the Public University;
- There are very few private research institutes that have employees with PhD degrees. The

research conducted in most of these institutes is mainly donor-driven and includes reports and publications which are constructed in the form of business and economic evaluations (consulting reports);

- There is no data on the number of newly issued patents and trademarks, and no data in the official WIPO data as well.

## 7.5.4 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

The coordination between various actors to enable the proper functioning of the startup ecosystem has been a constant challenge in Kosovo, to enable and improve the environment for startups. With the new government, elected in 2017, a new Ministry of Entrepreneurship has been created, with the goal to facilitate the whole entrepreneurship and innovation sector, however its goal and financial budget has not been clearly identified yet.

The vital actors of the ecosystem depend highly on international donor funding, which is one of the biggest challenges and risks for a stable environment in the country. STIKK and ICK are the most successful projects / models implemented to date by international donor funding, with local cooperation, however they still remain heavily reliant on donor funding, and face a big challenge for long-term planning.

An innovation fund has been mentioned for a couple of years now but nothing concrete has come to life yet. There's no other funding program that would enable research activities, to drive innovation and new service development. Reliable research or better said academic research in general, is very scarce in Kosovo and startups have virtually no access to it.

Total R&D investment is close to zero. There are only very little R&D activities on the university and company level. R&D in general is characterized by weak cooperation and most activities are carried out in the framework of FP7 and Horizon2020 projects.

As a closing statement it would be safe to say that the startup ecosystem of Kosovo and supporting policies need to follow models of developed countries, as in the current form they rely heavily on donors and grants, which represent a fragile framework for a stable development / growth in the next 10 years. There needs to be tighter cooperation going on within the whole sector, resulting in the formation of tech clusters, tech parks and finally in closer cooperation with the universities which would result in R&D products, which are totally out of the scene for the moment.

In Kosovo, there are about 1,523,373 Internet users as of March, 2017, 80.4 % penetration, per IWS. It is the highest rate in the region and is comparable to major developed countries like Germany, Switzerland, UK, etc. 860,000 Facebook users on Jun 30/16, 45.4 % penetration rate. With these stats in mind Kosovo is an online country, with close access to the latest technology trends and high-impact from social media. Global trends influence the startup ecosystem and it's not rare to find ideas that are founded from the latest tech trends, like augmented reality, virtual reality, big data or something related, however scaling and expanding to the global scene is a constant challenge for everyone.

As stated above in the report, Kosovo has some successful projects, which however are still reliant on donor funding. To have a stable environment for local entrepreneurs and startups, the government should further be focused on providing the necessary financial means to support the establishment of relevant tech clusters and tech parks, which would strengthen the community and its cooperation, for higher competitiveness in terms of innovation, products, and services. This would also lay the groundwork for proper cooperation between the industry, academia, donors, and government institutions. The IT Strategy of Kosovo represents an interesting read related to these suggestions.

## 7.6 MONTENEGRO

### 7.6.1 FRAMEWORK CONDITIONS

Montenegro has a population of 666.000 with a GDP of USD 4,17 billion and an annual growth of 2.5 %. Exported goods and services are 42 % of GDP compared to 66 % of the GDP that represent imports of goods and services .

The percentage of the population living below the national poverty line is 8.6. That being said, the unemployment rate was at 21 % in September of 2017 and the average monthly wage at the same time is 763 € with a minimum monthly wage of 288.05 €.

It takes around 7 days in total to register a business in Montenegro and the procedure is simplified. There is no need for an attorney since the establishment of the Montenegro Notary Chamber. All forms can be obtained online. Since year 2012, there is a one-stop shop model of starting a business.

At the same time, World Bank Report for 2016 ranked Montenegro at the 58th position in terms of starting a business, which is higher than most of the countries of the region with the exception of highly rated FYR Macedonia (4) and closely ranked Serbia (47).

### 7.6.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION AND THEIR CONNECTIONS

The Montenegro startup ecosystem is in the early stage of forming. Even though the country is among the smallest in Europe by the size of its population, it already is a recognised mover and shaker in the regional startup ecosystem.

It all started with the first startup competition organized as part of the Spark.Me conference. The conference brings together influencers of new business development from all over the world and gives the whole region an opportunity for networking and learning in the fields of business development, digitalization of business, and new marketing methods. It is held annually and in 2017, there were 600 attendees from all over the world. The conference is organized by the agency of the national domain registrar Domain.Me in cooperation with NGO Digitalizuj.Me.

The NGO Digitalizuj.Me was founded in the year 2011 by a group of enthusiasts that wanted to help the development of the digital community of Montenegro by organizing all sorts of lectures, workshops, and projects. Part of their strategy is developing and boosting the startup community, by organizing startup workshops and competitions such as startup weekend and hackathons. So far, there were 2 workshops with 50 attendees and 2 startup weekends that resulted in 20 teams working on 20 different ideas. They bring together both local and regional mentors as well as mentors from all around the world. They are well-connected with global incubators, accelerators and venture funds such as HUB:raum, Eleven, LaunchHub, TechStars, Seedcamp, and Startupbootcamp.

There is also a good cooperation between this NGO and public and private universities. They organized some lectures at the public Faculty of Political Studies, University of Donja Gorica and University of the Mediterranean. That being said, there is almost no research on startups or high-tech companies.

The cooperation with media is on a high level. All traditional and digital media are highly interested in reporting about the startup ecosystem and high-tech development. The biggest obstacle would be the nonexistence of local investment opportunities and hardly any support from the government.

Since 2011, there were 7 startups with founders from Montenegro. There aren't any startups that raised series A yet:

**TourViaMe (registered in Bulgaria)** – Tourism, Marketplace. TourViaMe is a marketplace for group guided tours. TourViaMe was founded in 2013. The same year they got to the finals of Spark.me startup competition and were fast-tracked by Eleven Accelerator. They received total funding of EU-R100K in seed and convertible note from Eleven Ventures. After failing to raise a series A, they closed the startup.

**BudoFinder (registered in Bulgaria)** – Sports, Marketplace. Budo Finder is a community marketplace for martial arts. It was founded in 2015, and it is still active with the main focus shifted towards general IT solutions. They were also funded by the Eleven Accelerator with seed investment of EU-R50K. <http://budofinder.com/>

**BeeAnd.me (registered in Austria)** – Agriculture, Hardware. Smart monitoring system for beehives. BeeAnd.me aims to help beekeepers overcome the traditional challenges of beekeeping, by providing beekeepers with technological assistance. BeeAnd.me got the idea during the second Digitalizuj. Me Startup weekend in 2015 and won the first prize. Shortly after, they got accepted into HUB:raum Krakow accelerator. They got an undisclosed investment from Acccoi Partners Accelerator.

**More Money (registered in Poland)** – FinTech, SaaS. A platform powering a new generation of enterprise AI advisors. They use latest NLP and ML technologies to make a simple and easy solution to replace financial advisors. They got into the HugeThing accelerator program in Warsaw in June 2017, after starting with the pilot in Montenegro. They are focused on large enterprises and currently getting the first customers on board. <http://moremoney.me/>

**Clockwork Briefcase (registered in Montenegro)** – Games, Hardware. The award winning electronic bomb defusal game. The prototype was finished in April 2016 and its premiere was at the Reboot Develop 2016 games developer conference, where it became an instant hit. They have been selected to top competitions and won some: Belgrade Venture Forum 2016, December 2016 – The Winner; Idea Knockout 2016, September 2016 – Second place; How To Web 2016 - Startup Spotlight, November 2016. The project is bootstrapped by the founder. [http://www.dlabac.com/me/clockwork\\_briefcase.html](http://www.dlabac.com/me/clockwork_briefcase.html)

**The Badger (registered in USA)** – Media, Wearable. A wearable electronic badge. They raised an undisclosed amount / Non Equity assistance from ASU Venture Devils, and had a successful crowdfunding campaign on Indiegogo, raising \$25K. They finished the prototype and are working on mass production. <http://thebadger.me/>

**Talkini – Communications, SaaS.** Talkini is a software for billable video calls. No installations required, it's ideal for consultants, lawyers, doctors, coaches. It was founded in 2017. They didn't get any funds yet. <https://www.talkini.com/en>

## 7.6.3 ECOSYSTEM PERFORMANCE

Although it is emerging as a dynamic destination for entrepreneurship, Montenegro is nowhere close to being a promising startup destination. Government support, changes in the education system, and a more vibrant network of VCs, angel investors, and mentors are still lacking in order to help the

country get there. These are key reasons why most of the startup founders are moving abroad in order to incorporate their companies.

In general, Montenegro continues to have very few enterprises that are basing their activities on innovation, knowledge and modern technologies. Furthermore, the present cooperation of enterprises with scientific and research institutions is still in an initial phase, thus it has not yet produced significant results in the field of innovation.

- In total, there are over 28 268 registered businesses in Montenegro
- There are 7 startups founded by Montenegrin founders, taking into consideration only ones with intent is to scale and to grow into a large, disruptive company, seeking additional funding
- The total number of new companies in 2016 is 2313, which amount to an 8,2 % year-over-year increase
- The startup survival rate is relatively high, since most of the companies have been established recently
- Less than 1 % of high-tech companies in the total economy
- High-tech products amounted to 3.9 % of the total value of exports in 2016
- There is no Innovation Union Scoreboard value for Montenegro
- Global Innovation Index score for Montenegro is 38.07 (2017), 37.36 (2016), 41.23 (2015), 37.01 (2014), 40.95 (2013)
- There are 1800 researches , which represent 1 % of total number of 177 908 employees in the country
- There were 28 new PhD graduates in 2016
- There are 30 patents, 232 trademarks, and 5 industrial designs issued in 2015.
- In total, the number of published scientific articles is 2791, whereas the number of citations is 12364.

## 7.6.4 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

Economic growth in Montenegro is currently constrained by several factors and one of them is the low level of competitiveness and innovation affected by the fact that gross expenditure on research and development (R&D) represented some 0.4 % of GDP, i.e. 13.667.834 € (figures for 2015) . There were 1766 key personnel, i.e. researchers among whom 849 were researchers with a PhD (ISCED 8), 745 had a master degree (ISCED 7) including PhD students, and 172 researchers had completed the first cycle of higher education. Of the total number of researchers, 840 are women and 926 men. Taking into account that the R&D jobs among the majority of personnel are only a part of their working engagement, full-time-equivalent is an important indicator of intensity of work on R&D. Accordingly, there was a full-time-equivalent of 673 people on R&D jobs. From the total expenditure of 13.667.834 €, 5.404.323 € came down to institutional R&D spending, 2.647.254 € was spent on projects, while the remaining 5.616.257 € cannot be segregated into those two categories. Total expenditure is split to 10.985.046 € for current costs (80 %) and 2.682.788 € for capital costs (20 %). Almost half of R&D activity was carried out in the higher education sector (47 %), followed by the business sector (30 %). In the “Montenegro Economic Reform Program 2016-2018” The Government of Montenegro outlined the measures to remove obstacles and implement financial support to the SME sector (including startups). It is planned that the existing lending scheme will be updated with new lending lines, such as micro loans, lending to SMEs operating in the ICT sector, no-interest lending to university students for business startups, and a combination of non-financial and financial support for business startups. A special reform segment pertains to the introduction of a new financial instrument for financing equity capital for startups and innovative enterprises and enterprises in the development phase engaged in innovation activities.

In the context of incentives for entrepreneurial potential based on innovation, the institutional framework is realized by establishing the first Scientific and Technological Park in Montenegro (2014-



2020), which is designed as a network structure that will be headquartered in Podgorica with three decentralized units – impulse centers in Nikšić, Bar, and Pljevlja.

Innovation Entrepreneurship Center “Tehnopolis” , in Niksic has began work in 2016 with the goal to create a strong link with local and regional business centers, incubators, clusters, and voucher schemes. It will enable commercialization of innovative ideas into new products and services, which could be placed onto the market.

Following a call for proposals launched in 2013 for the development of Montenegro’s first Centre of Excellence, a three-year funding programme was granted to the BIO-ICT Centre of Excellence at the University of Montenegro, led by the Faculty of Electrical Engineering.

Scientific research activities in Montenegro are financed from the following resources: the Budget of Montenegro, Capital budget, the budget of the scientific research institutions, private sector investment, EU funds (IPA, HORIZON 2020, EUREKA, COST), and other international funding (UNESCO, IAEA, ICGB etc.). According to the Updated Strategy for Scientific and Research Activity 2012-2016, Montenegro’s R&D priority areas include Energy, ICTs, Competitiveness, Medicine and health, Science and education, etc.

As a conclusion, in order to accelerate the development of the startup ecosystem, The Government has to set up a framework that includes:

- Establishing a Fund for supporting startups through the grant and subsidy programs for their research and development;
- Establishing a Fund for support new venture capital funds and angel investors with additional investment capital;
- Subsidizes for the R&D costs of technology startups;
- Establishing a program of supporting startups all over the country that can get access to the network of both national and international business leaders to help their growth;
- Support the launch of acceleration and incubation programs.

## 7.7 THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

### 7.7.1 FRAMEWORK CONDITIONS

Situated in the central part of the Balkan peninsula, Macedonia is a country where the official numbers – statistics - are taken with a huge grain of salt. Just to illustrate, there has not been an official census since the 2002 Census was undertaken in the Republic of Macedonia. This is why most of the numbers in this report are taken from other institutions.

Total population numbers are estimated in July 2017 to be 2.1 million people according to CIA World Factbook. Around 57 % of the population lives in urban areas, and the literacy rate of adults 15 and older is more than 97 % with a median age of the population being 37. These facts make Macedonia a fertile ground for innovation and entrepreneurship, because of its young and highly educated population. Unfortunately, this is not the case because of the high levels of corruption and huge infrastructural problems.

According to an UNDOC report Macedonians rank unemployment as the most important problem facing their country today (42 % of adult population believe so), followed by poverty/low standard of living (24 %) and corruption (13 %). Unemployment has stayed persistently high at about 23 %, but may be overstated based on the existence of an extensive grey market. According to the latest esti-

mates, the grey economy would be between 20 % and 45 % of GDP, which is not captured by official statistics.

Employment has accelerated in 2016 and early 2017, helped by public investment and employment programs. Labour force participation stood at around 57 % in 2016 and early 2017, the lowest rate since 2012. The unemployment rate fell to 22.8 % in the first half of 2017, a historic low. Despite government efforts, youth unemployment and long-term unemployment remain high at 46 and 81 %, respectively.

This translates into real long-term trouble for the country, with the European statistic agency (Eurostat) numbers showing that around 230,000 people left Macedonia to live abroad legally in the period between 1998 and 2011. In these 14 years, more than 10 % of the country's population has been drained by emigration. The real number of emigrated citizens is probably much higher when counting Macedonians who fled the country illegally.

The impact of this huge migration wave is not only on the demographics of the population. According to the State Statistical Office of the Republic of Macedonia, the educational level of emigrants is increasing. Some estimations show that in the period of 1997-2005, the emigration rate among tertiary educated persons reached 29.4 %. This so-called "brain drain" and the emigration of high-skilled workers did not help reduce unemployment. In fact, as a consequence of the numerous Macedonian diaspora, almost 20 % of the population is economically dependent on remittances, according to the IMF.

According to World Bank data, Macedonia has a Gross National Income per capita of USD 4,980 in 2016, making Macedonia an upper middle-income country. GDP per capita in 2016, according to World bank data has been USD 5,222. In the period between 2002 and 2008 due to a short period of strong economic growth, GDP growth averaged 4.3 %. This growth has been slowed since 2009 to a stuttering average of 2.1 % per year. During this period, the main drivers of growth have been high government spending on non-capital construction projects, then industry, wholesale agriculture, and textile and retail trade.

We've seen a growth slowdown and reverse in the last two years with GDP growing less than 2 % in 2016 and turning to negative in the first half of 2017 (WB, 2017). This was mainly due but not exclusively to political uncertainty, which affected investment in the whole economy. It is expected to recover to 1.5 % by the end of the year, supported by consumption and growing investment.

Macedonia, as a small economy has to do everything to attract more foreign investment and ignite the local economy. Thus, most of the laws and regulations for starting a company have been changed over the years, now it takes just one week to start a company and presently there is a flat tax rate of 10 % for corporate and personal income, and VAT is 18 %. Following is a snapshot of the Macedonian economy according to the World bank:

| IMACEDONIA                                        | 2016 |
|---------------------------------------------------|------|
| <b>Population, million</b>                        | 2.08 |
| <b>GDP, current US \$ billion</b>                 | 10.4 |
| <b>GDP per capita, current US \$</b>              | 5.2  |
| <b>School Enrolment, primary (% gross) (2015)</b> | 93.2 |
| <b>Life Expectancy at Birth, years (2015)</b>     | 75.5 |

Data from The World Bank in Macedonia outlook

## 7.7.2 STRUCTURAL DIFFICULTIES

Some of the major structural problems facing the economy of Macedonia are:

- Inconsistent legal framework
- Highly corrupt public sector
- Corrupt and sluggish judicial system
- Inhospitable banking regulation
- Oversized public sector and large public spending in non-capital construction projects
- Very low level of R&D spending - Total R&D investment (as a % of GDP) was 0.44 % in 2015

These factors have contributed to a limited ability for the growth of the whole economy. Primarily, there is a shortage of direct links between universities and the real sector. The government has been trying to push forward Innovation and Entrepreneurship, mainly funded by the European Union with the “Innovation Strategy of The Republic of Macedonia for 2012-2020” (SEECCEL, 2011), the “Entrepreneurial Learning Strategy 2014-2020” (SEECCEL, 2013) and finally the establishing of a Fund for Innovation and Technological Development which since its inception in 2015 has the ability and the budget of 9.5 million € from the World Bank, with a single purpose to invest in early stage startups. Unfortunately, they have used only 9 % of the funds up until now, and have been unsuccessful, to put it mildly.

## 7.7.3 STARTUP AND VENTURE ECOSYSTEM OVERVIEW

In the author’s opinion, it is very evident that Macedonia is a former communist country. This has many repercussions such as: high structural unemployment, low wages, no notable exports, and an increasingly growing “brain drain”. As an antithesis to this, it has excellent post-secondary education (particularly in engineering & science), a low cost of living, and a youth culture that reflects US and European tastes far more than previous generations.

IT talent in Macedonia is solid and very competitively priced (median salary for senior engineer is approx. \$1000/month according to the STAT Office RM 2016). This gives an opportunity to be competitive on a larger scale. However, entrepreneurial education is almost non-existent and a “communist” way of doing business still seems to dominate the landscape.

The entrepreneurial mind-set is still in the peripheries of perception in Macedonia. The problem here is that there are still more young people that want to work for the government and/or large companies than the ones that want to start their own company or even go work for a startup (based on the authors own research and experience). Risk-taking young people have been playing second fiddle to the majority of the workforce, who still strive for stability, consistent income, and low-risk living.

It is the opinion of the author that this is the main reason that IT outsourcing companies have been the ones that dominate the startup space and the companies that have started as pure startups are in short supply. Surely, there are examples of entrepreneurs starting from scratch and raising investments but they are few and far in between, and even those examples have turned into outsourcing companies over time. From talking to founders, the risk is simply too high to put it all on the line. This line of reasoning has been prevalent even in the risk-taking industry of VC investment in Macedonia, where most of the investments have been made into companies that also work as outsourcing service providers.

More than a year ago we had the first VC investment in the Macedonian startup Letz by South Central Ventures (SCV), this was very important information for the ecosystem. The probability of failure

does not diminish with VC investment however, just this November the team behind Letz decided to shut it down.

Another investment by SCV was in InPlayer, a next generation video and digital asset monetization platform, with the amount raised being 560.000 €. This is the largest investment in a Macedonian company made by a venture capital fund. Additionally, SCV made a syndicated investment together with 8 other investors into the startup Cognism for the amount of 500.000 €. These investments are more than needed to boost the whole ecosystem in the right direction.

Additionally, there are exciting startups like iVote, which is responsible for the tech solutions behind many of the elections in the Balkans. Another notable startup team, the one behind Sportify, the fitness app that was one of the most downloaded fitness apps 2010 in the Apple App store and Google play store. They have been working on a new project that will soon come into fruition as the BaaS (Backend as a Service) platform Microtica.

The profiles of the above-mentioned startups and more can be found in the appendix of startup profiles.

## 7.7.4 STAKEHOLDERS DESCRIPTION

The main stakeholders in the Macedonian ecosystem are:

- Co-working spaces in Skopje
- Incubators
- Pre-acceleration programmes
- One technology park
- Tech meetups and events
- Major Universities
- Government Fund Fund for Innovation and Technological Development
- Investors (CEED Business Angels and South Central Ventures)
- NGOs' supported by Foreign Embassies
- Associations

Even though this list seems quite long, in the authors opinion, longer-term viable infrastructure is still lacking in Macedonia. The incubation programs lack helpful structure, there are still no legitimate startup accelerator programmes, we have seen only the beginning of a pre-accelerator programme that has come short to provide any results.

Spearheading the ecosystem approach is an association called Startup Macedonia.

## 7.7.5 Associations

### Startup Macedonia

Founded less than two years ago, Startup Macedonia is an Association created by a group of Macedonian startup enthusiasts, experts, investors, accelerators, and organizations in Macedonia, with the ultimate goal in mind to encourage and help create a suitable and creative work environment for startups in Macedonia.

## 7.7.6 Co-working Spaces and Incubators

### SEEU TechPark

A technology park located on the South East European University campus in Tetovo, Macedonia.

Started working in 2013 with a vision to create conditions to stimulate the creation of new startup companies. They also strive to create a synergy between the companies and encourage the growth of existing SMEs. This translates into them having tenants that are companies doing outsourcing, but also students that want to start their own company.

The Technological Park of South East European University (SEEU TechPark) is in line with the strategic goals of public policy for the economic development of Macedonia and the region, because the information and communications technology sector in Macedonia and in the region, is capable of sustainable development.

#### Seavus Incubator

Seavus Incubator is a multi-functional work space committed to supporting entrepreneurs, artists, and media. Entrepreneurs are invited to build their dream ventures at their offices or co-working space, while they help them with mentoring, resources, and access to finance. Seavus Incubator provides intensive 8-week training, with 8 hot topics and mentorship program for entrepreneurs and startups with disruptive ideas in the area of IT (apps, software solutions and/or services). Their systematic pre-accelerator program is structured to provide knowledge and business skills to the entrepreneurs and to make the startups ready for early product launch or funding. This is the only pre-acceleration programme offered in Macedonia,

#### Newmans BA

An education provider with a creative community consisted of students, freelancers, entrepreneurs, and even corporates.

#### CEED HUB Skopje

A hub where startups and business can accelerate and grow with the help of Macedonian investors.

#### Funky Co-working

A community of startups and freelancers who organize meetups to network and celebrate co-working lifestyle.

#### Public Room

Public Room is a restaurant and a co- working space for entrepreneurs, designers, freelancers, and startups.

#### Coffice

Coffice is a shared office space for entrepreneurs, located in Skopje's city centre.

#### Next Gen Centre

Shared office for startups and freelancers, offering membership to Global Startups from Skopje.

#### Open Spaces

The newest co-working space in Skopje for young entrepreneurs and digital nomads.

## 7.7.7 Investors

#### South Central Ventures

South Central Ventures is allocating 1.5 million € for seed investments for startups to get off the ground and validate their business concept; and up to 3 million € per company that is growing, has traction and is expanding on the international stage. These investments are intended to fuel the



international business expansion and growth of the most promising tech startups that can show traction and prove their potential to “make it big”.

With offices in Belgrade, Zagreb and Skopje, South Central Ventures (SCV), through Enterprise Innovation Fund (ENIF), is focused on tech companies in the Balkans. The 40 million € fund is dedicated primarily to early stage and growth investments.

#### **CEED Business Angels Club**

CEED Business Angels Club is a club of 16 Macedonian entrepreneurs who are willing to invest in business ideas or existing businesses if they identify potential for growth or innovation.

#### **Fund for Innovation and Technological Development**

The state fund is co-financing micro, small and medium enterprises registered in Macedonia, in order to encourage innovation activities. Investments are between 30.000 and 100.000 €. No equity is taken. The fund has a mission to encourage and support innovation activities in micro, small and medium-sized enterprises (MSMEs). Striving to achieve more dynamic technological development based on knowledge transfer, development research and on innovations that contribute to job creation, and to economic growth and development, while simultaneously improving the business environment for the development of competitive capabilities of companies.

## **7.7.8 Universities**

#### **The Faculty of Economics –Skopje**

The Faculty of Economics –Skopje operates within the state university “Ss. Cyril and Methodius University in Skopje”. It is the biggest educational and research institution in the field of economics and business in the Republic of Macedonia. The Faculty's mission is to provide continuous education of highly qualified professionals capable of meeting the challenges of the new millennium and of strengthening the international competitiveness of Macedonian companies by offering high quality programmes in business and economics. As well as being a leader in higher education at national level, the Faculty also enjoys growing international reputation. As it is the most popular HEI, they win by sheer numbers and not by doing any steps in promoting entrepreneurship to their students.

#### **The Faculty of Computer Science and Engineering (FCSE) - Skopje**

The Faculty of Computer Science and Engineering (FCSE) is the result of the unification of the two largest institutions in the area of informatics and computer technologies in Macedonia – the Institute of Informatics (II) at Faculty of Natural Sciences and Mathematics and the Institute of Computer Techniques and Informatics at Faculty of Electrical Engineering and Information Technologies (ICTI). The Faculty of Computer Science and Engineering (FCSE) within the state university “Ss. Cyril and Methodius University in Skopje”, is the largest and most prestigious faculty in the field of computer science and technologies in Macedonia, and among the largest faculties in that field in the region. As a result, more than 750 students are enrolled in 8 different modules (majors) with more than 20 profiles (minors) in the first year of undergraduate studies. The total number of students enrolled at FCSE is more than 3000, of these 2600 undergraduate students, more than 400 master students and 100 PhD students. These figures make FCSE the largest technical faculty in Macedonia. The FCSE offers wide range of selective courses to its students making different profiles capable to cope with different professional challenges.

FCSE together with the Faculty of Mechanical engineering and the Faculty of electrical engineering and Information Technologies are widely known as Stanford and MIT in Macedonia, with the highest level of quality output students.

### Faculty Of Electrical Engineering And Information Technologies

FEEIT as it is called one of the leading educational and research institution in the Republic of Macedonia in the field of electrical engineering and new technologies. Providing permanent continual technological innovation, quality and creativity in the student's curricula. One of the rare colleges that enables the conditions for transfer of the knowledge and technology provide a respectable support of technological and economical sustainable development of industry.

### The Faculty of Mechanical Engineering-Skopje

The Faculty of Mechanical Engineering at the University "Ss Cyril and Methodius" in Skopje offers a variety of study programs, which comprise disciplines from both the fundamental engineering sciences that represent the core of mechanical engineering, and the modern scientific disciplines dedicated to engineering analyses and concepts younger than two decades. All of the new study programs are created in accordance with the European higher education system and the scientific achievements. They are closely related to the Faculty's basic mission-to provide high standards in education of highly competent and skilled engineers with competences and skills, competitive on the global labour market.

### South East European University (SEEU) Tetovo and Skopje

South East European University (SEEU) is private, public, not for profit higher education institution, consisting of faculties, centres and institutes as its integral part, specialized in socio-economic sciences. At the core of SEEU's mission are the aims of excellence, equity, transparency and efficiency. The University strives for the highest quality in every faculty and department and sees quality improvement as both an individual and collective responsibility.

### University American College - Skopje

The University American College Skopje is an institution for higher education that combines the best of American and European educational experiences. It was founded with the understanding that all people are created equal and enriched by education. Founded in 2005 as one of the few private and independent universities in the Republic of Macedonia.

The University is accredited internationally by ACBSP – Accrediting Council for Business Schools and Program.

## 7.7.9 ECOSYSTEM PERFORMANCE

Macedonia is developing its business culture with an open mind to progress towards European values. The talented people here have already crossed the borders, with most of them outsourcing for US and European partners. It is a well-connected country with an access to new technologies that are being adopted by the tech-savvy Macedonian professionals. Following is a comparison of Macedonian performance with comparable countries in terms of population and location.

| COUNTRY                                   | MACEDONIA | ESTONIA | ICELAND | SERBIA | LATVIA | SLOVENIA |
|-------------------------------------------|-----------|---------|---------|--------|--------|----------|
| <b>POPULATION (MILLION)</b>               | 2         | 1.3     | 0.3     | 7.1    | 1.9    | 2        |
| <b>GDP/Capita k\$</b>                     | 13.3      | 27.8    | 43.3    | 13.3   | 23.7   | 29.9     |
| <b># Startups on angel.co</b>             | 52        | 333     | 65      | 241    | 235    | 175      |
| <b>Startup Index<br/>(#Startup / pop)</b> | 26.00     | 256.15  | 216.67  | 33.94  | 123.68 | 87.50    |

Out of the startups on angel.co there are a lot of outsourcing companies that have put up their profiles and this number as such may be lower than this.

Speaking more objectively, the whole economy of Macedonia is struggling to compete. This can be seen as an opportunity for the smart entrepreneurial spirits still hiding from plain sight in this community.

Because of its current position, Macedonia is becoming more and more welcoming towards international entrepreneurs who can use their business acumen and benefit from the resources that are at their disposal. We believe that there is a potential for doing business in Macedonia, and we can help you achieve that goal starting with this guide on how to launch your company in Macedonia.

## 7.7.10 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

In a fully functional economy it is in the interest of all actors for the government not to have a huge role. As was hopefully conveyed, the Macedonian economy is not a fully functional economy. However, steps are being made by the government towards a greater involvement and support of the startup ecosystem.

I will comment one of the major steps in this direction the establishment of the Fund for Innovation and Technological development. It was formed with an aim of providing additional sources for financing to the small and medium enterprises, with a special emphasis on innovation. Through this fund, grants for innovation, technical assistance for the companies for facilitation of the access to the regional fund, conditioned loans (royalty), equity investments, financial assistance for research and development and the like will be provided. Additionally, the fund aims to provide financial support for establishment of University spinoff companies – new companies founded in order to commercialise the knowledge derived as a result of the scientific-research and development research projects.

They are focusing their efforts into three main areas of potential improvement:

First, co-financing micro, small and medium-size enterprises (MSMEs) registered in the Republic of Macedonia, with the aim of encouraging innovation activities, implementation of innovative solutions and innovative processes, introducing innovation and transfer of technology among companies, as well as support for companies which have high growth potential.

Then, financing newly established micro and small enterprises registered in the Republic of Macedonia, foundations and accelerators, with the aim of encouraging innovation among companies.

Finally, supporting the formation of business and technology accelerators, entities providing infrastructural support for innovation activities in order to promote entrepreneurship by supporting individuals who want to establish an enterprise, as well as already established companies in their initial stage (not older than 6 years ) by providing educational, logistical and financial support.

The instruments used to achieve its goals are:

- Co-financing grants for newly established enterprises: startup, spin-off;
- Co-financing grants and conditional loans for commercialization of innovations;
- Co-financing grants for technology transfer;
- Co-financing grants for establishment, operation and investments of Business technology Accelerators.

Up until now FITD has published four calls out of which, one completely fell through. Under the two instruments (Co-financing grants for newly established enterprises startups and spin offs and Co-financing grants and conditional loans for commercialization of innovations) 32 projects are ongoing from the last two call published in 2015.

Under the first instrument (from the first call) one project is already completed. In June 2016, FITD launched the third call for proposal for the first instrument Co-financing grants for newly established enterprises start up and spin off. It resulted in only 10 % of all funds being used. This is a very low number by any standards. It has become known that out of the total budget of 9.5 million € only 10 % have been allocated to financing innovative startups. This budget was allocated by the World Bank and has to be invested by H1 2019, but by the looks of it this will be very tough to achieve. In only commenting this one case, some of the largest pitfalls become obvious when the government starts helping startups through bureaucracy, more bureaucracy and regulations that hamper rather than help the whole ecosystem.

Macedonia's main strength is it being small, this should allow for fast changes of policies. We should practically be run like a startup in the lean startup way. Our main setback is the size of the local market. One way to mitigate this would be to increase risk capital and startup support structures. However, as observed, the current ecosystem needs help prior to the startup phase. This should be addressed through educational programs, inspiration and local grassroots events.

Macedonia is currently behind in terms of startup activity. Stagnation, mixed with brain drain might lead the country to a slow growth. It is important to re-align the efforts of donors/government with the needs of the local community in a bottom up / support approach lead by entrepreneurs (leaders) versus a top down approach lead by non-entrepreneurs (feeders).

The country could be extremely attractive to digital nomads and international entrepreneurs due to a low cost of living associated with high quality commodities. The Macedonian diaspora is equally important. The opportunity relies on strategy to communicate the country's opportunities internationally.

## 7.8 ALBANIA

### 7.8.1 FRAMEWORK CONDITIONS

#### 7.8.1.1 CURRENT ECONOMIC ENVIRONMENT

Albania's economy expanded 3.4 % in 2016, supported by robust domestic demand. Private investment in two large FDI-financed energy projects and a recovery in private consumption drove growth, contributing 1.8 and 2.1 percentage points respectively. Improvements in employment and credit growth encouraged private consumption. Net exports contributed 2.1 percentage points, driven by tourism services exports. With extractive industry affected by unfavorable commodity prices, services were the main driver of growth, followed by construction and agriculture. Recent data confirms stronger growth in early 2017. Business confidence strengthened, especially in services. The fiscal deficit declined to 1.8 % of GDP in 2016 (compared to 4.9 % in 2015) in line with the country's fiscal consolidation efforts. The primary surplus of 0.7 % of GDP helped lower the debt to GDP ratio for the first time since the global crisis, reaching 72.4 % of GDP in 2016. Despite the general elections, revenues and expenditure remained within budgeted targets in the first half of 2017, consistent with constraints in the new organic budget law. Average annual inflation fell from 1.9 % in 2015 to 1.3 % in 2016, below the Bank of Albania's target of  $3 \pm 1$  %. However, higher food prices lifted inflation to 2.2 % in the first half of 2017.

The current account deficit (CAD) narrowed from 10.8 % in 2015 to 9.6 % in 2016, despite the increase in investment related imports. Lower electricity imports and higher services exports more than compensated for the increase in investment related imports. Remittances remained broadly stable despite weak growth in source EU countries.

Net FDIs increased to 8.9 % of GDP from 8 % in 2015, helped by inflows associated with energy projects, and financed 93 % of the CAD. Despite the steady growth in exports, a pickup in imports of energy during the summer 2017 are expected to drive a widening of the current account in 2017. Stronger growth stimulated job creation in 2016. In 2016, employment grew by 2.5 percentage points, reaching 48.7 %, driven by industry and services.

Labor force participation increased to 57.5 %, 1.8 percentage points higher than in 2015. The official unemployment rate declined by 1.9 percentage points to an average of 15.2% in 2016. Labor market recovery continued in the first half of 2017, with improvements in the employment rate (1.5 pp y-o-y) driven mostly by declining unemployment (2.3 pp y-o-y).

Poverty is estimated to have declined as growth and employment continued to pick up. The poverty rate (measured as US\$ 5.5/day, 2011 PPP) is estimated to have decreased in 2016 to 33.9 %, compared to 35.4 % in 2015. Research and development expenditure (% of GDP) was 0.6 % in 2015, no data for 2016

### 7.8.1.2 ECONOMIC OUTLOOK

Albania's economic outlook is expected to improve over the medium-term. Growth is projected at 3.5 % during 2017-19 driven by private investments and private consumption.

As the economy continues to accelerate and labor markets improve, further gains in poverty reduction are expected. Continued fiscal consolidation and other reform efforts are expected to gradually reduce the debt-to-GDP ratio below 60 % of GDP by 2021.

Economic prospects are vulnerable to downside risks. Uncertain global market conditions, and a slower growth in the Euro area, could reduce Albania's exports and FDI inflows, with implications for a slower output growth.

Harnessing growth will require continuous efforts to stabilize the economy and achieve fiscal consolidation. Importantly, the reform agenda should be informed by equity considerations to sustain and enhance the poverty and inclusion gains thus far.

## 7.8.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION AND THEIR CONNECTIONS

### 7.8.2.1 OVERVIEW

Albanian startup and Venture Ecosystem is infantile and in its early stages. I would classify it in the discovery and action stage and just the beginning of startup stage. Discovery is the phase in which an individual begins to connect with like-minded entrepreneurs, mentors, or experts in the field of interest. Identifying with others who also challenge the traditional notions of success and acknowledge the potential hazards that lie ahead is often all that is needed for the entrepreneur to tackle the path that they hope to pursue. We see a lot of entrepreneurs in this category as a result of our observation of the ecosystem. At the same time, there is an increase in demand for learning how to launch a business and form a team. Programs and events such as Startup live and Startup weekend are becoming popular as they fit the majority of entrepreneurs in this category. These characteristics fit the Action Stage group. The startup stage where teams are created and a sustainable business model has been identified is in the early days but it has momentum. In the last two years there have been a handful of startups that have launched their initiatives with a few of them even getting seed money and angel funding. However, as observed, the current ecosystem needs help prior to the Startup phase. This should be addressed through educational programs, inspiration and local grass-roots events.



Overall, Albania is currently behind in terms of Startup activity. Its low local market size mixed with brain drain might lead the country to a slow growth. It is important to re-align the efforts of private sector and government with the needs of the local community in a bottom-up support approach led by entrepreneurs and organizations supporting Startups versus a top down approach lead by the government. Another weakness in the ecosystem is the lack of capital, and, to a lesser extent, other support systems. At present, investment is seen as a high-risk proposition, without a proven value proposition or proven track record of success in innovation. Moreover, many support networks such as co-working spaces, accelerators, and incubators feel that there is not a critical mass of serious, highly qualified startups in order for their work to become financially self-sufficient

## 7.8.3 ECOSYSTEM STAKEHOLDERS GROUP

### 7.8.3.1 Government Agencies

**Ministry of Innovation** is supporting the Innovation Hub. Yet, they don't have any plans, since this is the period right after the elections and they don't know if the Ministry will change some of its objectives. That would depend on the new minister that will be assigned.

**AIDA (Albanian Investment Development Agency)** is a government body with a main objective to attract foreign investment, increase the competitiveness of the Albanian economy through the support for small and medium-sized enterprises (SMEs), as well as through innovation. It has different funds for young companies like: Innovation Fund and startup Fund. They have collaborated with different organizations (Startup Live, Startup Albania, Giz IDEA project, Risi Albania) in order to allocate these funds, but companies can apply directly to AIDA to request these grants. They will have the funds in the coming years, but they don't have yet a new concrete intervention strategy, since they have a new chairwoman.

### 7.8.3.2 Media

**Business Magazine.** Right now they are the main content creator website regarding entrepreneurship. They want to raise the number of publications regarding entrepreneurship and in 2018 they are thinking to organize a TV Show about entrepreneurs, in collaboration with other actors of the ecosystem.

**PC World.** A media house that is focused on promoting talented individuals and startups in the tech industry in Albania. Their founder, Kushtrim Shala, has started to work sporadically on creating an Official Angel Fund, with Albanian Investors that will fund Albanian Speaking startups. He finds it very difficult and the project is more an idea at this stage.

**Techsot.** It is mostly publishing news about technology rather than entrepreneurship. They don't have any specific plan.

### 7.8.3.3 Labs

**Open Labs.** It is very active organizing events about open data, online privacy etc. In their community, they have around 5 open data startups (Citizen, Logo Bridge, Event Lab etc.) that have a prototype or an MVP. Starting from September, they will organize different events: FOSSCamp, State of the Map Albania, Open Diversity Hackathon, 3D Printing Workshop, Open Source Design Workshop, etc. They don't plan to build a program, because they believe that the startups that they have in their community are results of a 3-4 years of people working together, and that it is impossible to build a yearly program to facilitate that. Despite this, they need support regarding pitching training and opportunities.

**Think-lab.** It looks like they organize monthly meetings, but other than that, they don't seem active in any way, and we didn't get a response from them.

**Innovation Hub.** Right now they have 3 labs: Startup Lab, Developing Lab, Robotic Lab. There are a few people using these labs properly, besides enthusiasts who frequent them everyday. One team has already built an oscilloscope. They aim to collaborate with other regional organizations that have the same aim and to enrich the Labs with more tools, so that teams can build prototypes (makers space) etc. They also are aiming to find ways on how to become profitable and sustainable in the market.

### 7.8.3.4 Co-Working spaces

**MyOffice .** They are not active right now. They do want to be more involved in the ecosystem and are interested to collaborate with other ecosystem actors.

**TAG.** TAG has retracted from the entrepreneurship scene. They offer co-working space and ad hoc support for individuals that are hosted there. Most of them are outsourcing services for Italian companies. TAG plans to remain a co-working space.

**Tirana Business Park.** They organize a co-morning networking event in collaboration with another business once a month (it can be hosted at TBP or not). They also try to give support to the companies they host ad hoc, but they don't have a program for that. They have a new director and are very open to future collaboration. The EiR program was very interesting for them and the idea of supporting them in designing an acceleration or Incubation program. I picked up that their staff is not very familiar with these concepts, even though they are enthusiasts to go through with it.

**Innovation Hub.** They have approximately 10 -12 startup teams that are hosted there. They are active members of the events that Innovation Hub organizes. They want to build mentoring and acceleration processes, but as understand they don't have the know-how so they need support in this aspect.

### 7.8.3.5 Events

**Startup Grind** Organizing monthly events that include networking and Fireside Chat with a Successful Entrepreneur. They will continue this the same format, organizing monthly events.

**Startup Weekend.** Startup Weekend this year will be organized in the end of November, the last days of Entrepreneurship Week. This year they aim to target a different age segment, 23 and above. They are also considering to organize it under a certain theme or industry.

**Startup Live.** They just finished the 6th edition of Startup Live Tirana. They find it difficult to raise funding for any other plans besides Startup live Tirana, for the time being.

**AllWeb Conference.** This year's conference already took place on 12 October 2017. Those who are responsible for the content and the speakers is the Macedonian Team, the Albanian partner are in charge of the fundraising and the marketing.

**Albanian Skills Competition.** They had their Third Edition in 26-27 May 2017. Right now, they are thinking of new collaboration opportunities. Besides the next competition that will probably happen next year, they are thinking of organizing a series of workshops (3-4 per year) regarding entrepreneurship skills, business skills etc. Since they are all volunteers they are looking for partners to share partially the responsibility of the trainings.

**Alb. Business Generation.** It's the second year of their short program about entrepreneurship. They had two batches (8 days each) this year. They aim to train students from 15-21 years old on different fields related to entrepreneurship by working on a real business idea. Most of the participants are from high school, so they don't really go through with it after the program, but they learn the basic concepts about entrepreneurship and business models. They pitch their business in the end of the program and select one winner for each batch. Right now they are in discussing with BIESS (Balkan International Entrepreneurship Summer School) for the winners to be part of this summer school for free. This shows their willingness to collaborate and to provide follow up activities for their participants. Based on their personal experience they want to organize a yearly program for high-school students. They want to collaborate with the High Schools and local businesses. This program is aimed to be part of the school curriculum, and will present the students with all aspects of building a real business. Even though the leader of this initiative lives abroad, the other team members are very dedicated to go through with this initiative.

**Partners Albania.** They are organizing different activities regarding youth, employment, and entrepreneurship, among other things. For two years, they have been organizing a contest called "Green Ideas" for eco businesses. They give more than 5000 € in cash and support for 1 year to the winners. They are an NGO and are donor-oriented.

**ICT Awards.** They try to promote the Tech talents and supporting them to become entrepreneurs eventually. Besides this, they don't really follow up with those who are part of this award event. According to ICT it would be a good idea to have a program for the participants of the ICT Awards, who don't make it to the first place and need to improve their product/service. But right now they don't have the capacity to go through with this.

**Global Entrepreneurship Week.** This year Protik will be the official Host of GEW. They plan to do a lot of activities in collaboration with other partners. A Startup Grind event can be held during that week, they will organize open classes in Universities, a Youth Talk event and finally the Startup Week-end Competition. They are open to collaborate with every partner in the ecosystem to make GEW a very productive and impactful week. They are still in the drafting phase.

**Innovation week.** During this week, among a lot of events, Innovation Hub organized a Fair with 32 new Albanian enterprises. They also donated the first prize of Startup Live Tirana - around 3500 €. It is still too early to think about the next year's event.

**OSCAL.** OSCAL (Open Source Conference Albania) is the first annual conference in Albania organized to promote software freedom, open source software, free culture and open knowledge. The Second Edition was organized in 13-14 May 2017 and gathered more than 100 members of the Open Labs community. It is still too early to think about the next year's event but they do have confirmed that it will held at OFICINA accelerator in Tirana

**AIESEC.** They organize Youth Speak (inspiring event) and they have a program that send students abroad for internships in different startups and also brings students in Albania to be interns in Albanian Startups.

### 7.8.3.6 Mentors

**CEED Albania.** CEED Albania is now focused in a program in North of Albania that supports agri-tourism businesses. They would like to replicate their program CEED Grow, which is a program that targets those businesses that are on the market for 1-2 years and want to scale. Their mentor club is not active for the moment and it can be engaged in this program.

**Mentor Club (Protik).** At first the Mentors had a very High Profile and even though they were willing to contribute, when they were asked to help a certain case they couldn't find time. Then Protik focused on Mentors with medium profiles that were very willing to contribute. Protik decided to build an on-line platform to organize and plan all the mentoring activities and requests from their community.

**Oficina Mentor Pool.** Oficina has a mentor pool based on their connection. They try to find new mentors (for the startups that are part of their program) that match their industry and specific need. They have a structure that is based on the months when the acceleration program is running, but also provide mentorship to startups after they have left the program.

**Yunus Mentor Pool.** They mentor in different activities of the ecosystem themselves. They provide systematic mentoring (also from the mentors that are part of their network) for the startups that are considered for investment or that they have invested. They will still support the ecosystem with mentoring.

### 7.8.3.7 Investors

**Yunus Social Business.** Their last investment was in Fushe Arrez, a collection center for wild berries. Right now, together with Kleidor from Swisscontact, they are making the Financial Analysis of an Artistic Furniture Producer. In the end of October they plan to organize a Conference on Impactful Investment in Albania and they want to invite different actors and institutions from the region. In the end of November they plan to organize another conference "How to incentive technology and Innovation in Agriculture and Tourism".

### 7.8.3.8 Accelerators

**Oficina.** Oficina is the only accelerator that has a program built around Lean Startup. They help startups from prototyping to validation and connect startups with potential investors. They are on their second batch and have 5 startups. During July, they cover the prototyping phase and during holidays the entrepreneurs are asked to test them. In September and October they will cover pitching and then will have the Demo Day. Oficina has been successful with its program and launched 3 startups but lacks the funding to continue as it finds it difficult to raise capital through donors and sponsors.

**Protik.** Right now, Protik is providing different training in ICT and Coding to children (8-13) and high-schoolers (N2 Academy). They are working (still an idea, they haven't got any funding yet, they are discussing with AADF) on building a Themed Acceleration program that will last 3 months and will have 1-2 batches/year.

### 7.8.3.9 Pre-accelerators

**Yunus Social Business.**

- They just finished their Acceleration program for NGOs, two of which will become social businesses.
- They have trained also a group of women in Puka, 5 teams have benefited from an Italian grant and now are selling (2) or testing (3) their products.
- They are training 10 teams with social business ideas in collaboration with Swisscontact and Impact Hub. After a small period of incubation and mentoring they, in September, they will award the three best teams with 1500 € /each.
- They are continuously giving ad hoc support to other organizations and startups, but they don't have any specific plan on organizing an intensive long-term program.

**CEBE.** They implement the UNDP Self-employment program.

**GIZ.** They are still thinking of organizing the round two of the project IDEA.

**GOA.** They are organizing the “Balkan International entrepreneurship Summer School.”

### 7.8.3.10 Incubators

#### AIA

- AIA is based in the city of Durres. After organizing different bootcamps in collaboration with other organizations in other cities they have chosen the best teams to be part of their second batch of “Wannapreneur Academy” that will start in October 2017. Beside this, they have a mentoring program called “Startup 101” where new companies get mentoring and support from AIA’s board. The founders that are part of the mentoring program are those who mentor and support the young participants of the “Wannapreneur Academy”.
- Right now they need some financial support to cover the costs of a full time administrator of the AIA offices. Till now all the work and initiatives were from the founders done voluntarily and as a part time project. They also need help to reach local organizations in other cities like Vlora, Shkodra etc. since they plan to have an AIA in each city of Albania. This year’s program will be organized in three cities: Durres, Shkodra and Tirana. For this reason Swiss EP facilitated the connection of them to one of the local organizations that we have collaborated for the outreach events.

**TBP.** They organize a co-morning networking event in collaboration with another business once a month (it can be hosted at TBP or not). They also try to give support to the companies they host ad hoc, but they don’t have a program about that. They have a new director and are very open for future collaboration.

### 7.8.3.11 Corporate

**Telekom.** They are actively supporting different organizations that cover the Technology field as their CSR strategy. They will continue with the same supporting strategy for different organizations. They are willing to support with know-how, mentoring, and also financially.

**Vodafone.** They are not being engaged in activities regarding entrepreneurship. They don’t plan to get engaged in the near future.

### 7.8.3.12 Universities

**University of Tirana.** They organize Summer/winter School on entrepreneurship. They are highly depended on sponsors and donors when it comes to organizing this kind of programs. They are open for collaboration, but right now they are not planning anything specific.

**Marin Barleti University.** Marin Barleti is operating through their Institute for technology and research. They are partners at Innovation Hub and are very active with events regarding technology. Planning on building an incubation program through the support of Swiss EP.

**Metropolitan University.** They have an incubator open for their students. Planning on redesigning the incubation program through the support of Swiss EP.



**EUT.** They are organizing a girls entrepreneurship competition twice a year. Beside this, they are very interested in building an incubation/acceleration program.

**EPOKA.** They are not involved actively in any entrepreneurship activity, but their students are. The first and second prize winners of Startup Live Tirana 6 were students at Epoka. They have different clubs within the school such as: Entrepreneurship Club, Programmers Club etc. and they see a good opportunity for them to be engaged in an incubation program. Very interested in building an incubation program through the support of Swiss EP.

**New York University.** They have a career office and often organize open lectures days about entrepreneurship. They are interested in developing an incubation/acceleration program within the school through the support of Swiss EP and are interested to have STEs or EiRs as lecturers on entrepreneurship in certain days.

## 7.8.4 ECOSYSTEM PERFORMANCE AND THE ROLE OF THE GOVERNMENT AND ITS POLICY MEASURES

Since 2009, the Government of Albania developed two strategies supporting innovation: the National Strategy for Science, Technology and Innovation 2009-2015, and the cross-cutting strategy “Digital Agenda for Albania 2015-2020”. The 2009 strategy focused on supporting centres of excellence, building communities of excellence in research and innovation that attract good scientific actors, increasing public R&D spending, diffusing innovation in 100 businesses and organizations, enabling integration with European counterparts, and officially recognized the importance of innovation in Albania. The 2015 strategy was developed with the vision of: “A society based on knowledge and information, through the consolidation of digital infrastructure in the whole territory of the Republic of Albania; improvement of the quality of online services and increase of governance and transparency”. The main aims were investment and policy measures to improve the ICT infrastructures, new digital services for citizens, and improvement of their livelihood. One key difference between this strategy and previous is the focus on ICT as enabler for innovation by providing more efficient and transparent public services, notably in education, as a means of driving growth, a competitive economy and socio-economic inclusion. The education focus will improve human capital and by consolidating the national infrastructure, the expected outcome is more open and competitive infrastructure in-line with European principles. The National Strategy for Development and Integration, the Instrument for Pre-accession Assistance and similar documents connected to the EU accession process broadly lay out visions and strategies for the government and society. These include a number of details related to innovation, ICTs and entrepreneurship, but only briefly, not laying out a specific strategy for these areas, but including them as small features in a larger vision for national development. Critically, all of these strategies note that there is a need for all ministries to contribute to pushing forward the agenda, speaking to the issue, discussed below, that many ministries and sectors are developing independent strategies, and need to be better aligned. The Ministry of Economic Development, Trade and Entrepreneurship established a working group to draft the Business and Investment Development Strategy, which covers a range of issues, including many touched on in this report, such as investment, taxation, and regional integration. It similarly lays out a range of strategic focuses, including the development of business clusters, support of SMEs and entrepreneurship, and the development of innovation as a focus of many industries, which again, mirror findings and recommendations of this report.

One of the major concerns regarding legislation and regulation is the lack of effective support for the innovation ecosystem. Increased and improved provision of services, especially to entrepreneurs, should be a priority. Beyond this, access to funding for various projects is a particular concern.

Presently, there are a number of plans that have not been fully executed, projects that are not fully supported, or activities for which funding and support have lapsed. There are government-run resources, such as research programmes, accelerators and incubators. These projects, along with their counterparts coming from academia and the private sector are not optimally effective, because they are not receiving the support and funding they need to thrive.

## 8. TOP STARTUPS IN THE REGION

### 8.1 GJIRAFa



|                         |                |                                     |     |
|-------------------------|----------------|-------------------------------------|-----|
| NAME OF STARTUP:        | <b>GJIRAFa</b> | Industry<br>(Application vertical): | ICT |
| HEADQUARTERS (Country): | Kosovo         | Number of employees:                | 90+ |
| YEAR FOUNDED:           | 2014           | Number of founders:                 | 3   |

#### 8.1.1 COMPANY DESCRIPTION

Gjirafa is for over 12 million of people who speak Albanian language worldwide, and who can't search the Albanian web, due to their very unique language. Gjirafa, is an Albanian search engine and a news aggregator that uses natural language processing to finally make the Albanian web accessible to all.

#### 8.1.2 BUSINESS MODEL

Gjirafa uses B2C and B2B as business model, through various products such as Gjirafa50, Gjirafa Ad Network, GjirafaBiz, etc.

#### 8.1.3 TOTAL CAPITAL RAISED

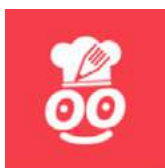
| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL  | NATURE OF CAPITAL                                                      |
|--------------------------------|--------------------|------------------------------------------------------------------------|
| N/A                            | Domestic / Foreign | In 2014, Gjirafa raised an un-disclosed amount / Seed from StartupYard |
| 2,000,000                      | Foreign            | In 2016, Gjirafa raised \$2,000,000 / Series A from Rockaway Capital   |

#### 8.1.4 CONTACT INFORMATION

Mergim Cahani – CEO & Founder: megrim@gjirafa.com; +377 44 991 206

WEBSITE: [www.gjirafa.com](http://www.gjirafa.com)

## 8.2 BABOON



|                         |                    |                                     |                                                                    |
|-------------------------|--------------------|-------------------------------------|--------------------------------------------------------------------|
| NAME OF STARTUP:        | <b>BABOON</b>      | Industry<br>(Application vertical): | Travel, Logistics,<br>Administrative<br>Services, Restau-<br>rants |
| HEADQUARTERS (Country): | Tirana,<br>Albania | Number of employees:                | 11-50                                                              |
| YEAR FOUNDED:           | July 1 2015        | Number of founders:                 | 3                                                                  |

### 8.2.1 COMPANY DESCRIPTION

Baboon is an online food delivery marketplace that enables users to order online at local restaurants through website or mobile application.

Customers register their phone number on the site, and through on line ordering they hunt for the right restaurant and the favorite menu.

### 8.2.2 BUSINESS MODEL

N/A

### 8.2.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|-----------------------------------|-------------------|-------------------|
| 250,000 €                         | N/A               | N/A               |

### 8.2.4 CONTACT INFORMATION

Xhulio Selenica – CMO & Founder

Genti Selenica – CEO & Founder: +35504431588

WEBSITE: [www.baboon.al](http://www.baboon.al)

## 8.3 SOFTMOGUL



|                                |                  |                                            |                                                      |
|--------------------------------|------------------|--------------------------------------------|------------------------------------------------------|
| <b>NAME OF STARTUP:</b>        | <b>SOFTMOGUL</b> | <b>Industry</b><br>(Application vertical): | Travel Accommodations, Service Industry, Hospitality |
| <b>HEADQUARTERS (Country):</b> | San Francisco    | <b>Number of employees:</b>                | 11-50                                                |
| <b>YEAR FOUNDED:</b>           | 2015             | <b>Number of founders:</b>                 | 1                                                    |

### 8.3.1 COMPANY DESCRIPTION

Softmogul is a cloud-based mobile application that offers hotel management services to its users. The application features channel management, notes, packages, discounts, reporting, payment management, and room rates. Furthermore, it provides its users with video tutorials to assist them in operating the application. The application is available for iOS devices.

### 8.3.2 BUSINESS MODEL

B2B

### 8.3.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                          |
|--------------------------------|-------------------|--------------------------------------------|
| Over 1 million                 | N/A               | Investors - Plug and Play, Alireza Masrour |

### 8.3.4 CONTACT INFORMATION

Albi Zhulali – CEO: +1 628-232-0652

WEBSITE: [www.softmogul.com](http://www.softmogul.com)

## 8.4 NETTRADE



|                         |                 |                                     |                 |
|-------------------------|-----------------|-------------------------------------|-----------------|
| NAME OF STARTUP:        | <b>NETTRADE</b> | Industry<br>(Application vertical): | Online shopping |
| HEADQUARTERS (Country): | Tirana, Albania | Number of employees:                | 11-50           |
| YEAR FOUNDED:           | 2012            | Number of founders:                 | N/A             |

### 8.4.1 COMPANY DESCRIPTION

NetTrade Albania is the first company focused on online sales in Albania. They are specialized in building online stores.

### 8.4.2 BUSINESS MODEL

N/A

### 8.4.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|-----------------------------------|-------------------|-------------------|
| Not disclosed                     | Private investors | N/A               |

### 8.4.4 CONTACT INFORMATION

Valer Pinderi - CEO: +355 675050999; info@nettrade.al

WEBSITE: www.nettrade.al



## 8.5 CREATIC



|                                |                 |                                            |                                  |
|--------------------------------|-----------------|--------------------------------------------|----------------------------------|
| <b>NAME OF STARTUP:</b>        | <b>CREATIC</b>  | <b>Industry</b><br>(Application vertical): | Mobile • Social •<br>Photography |
| <b>HEADQUARTERS (Country):</b> | Tirana, Albania | <b>Number of employees:</b>                | 11-50                            |
| <b>YEAR FOUNDED:</b>           | 2016            | <b>Number of founders:</b>                 | 2                                |

### 8.5.1 COMPANY DESCRIPTION

CreatiC is a social photo editor for mobile devices. Using DeliXSoftware's innovative technology, CreatiC gives people the ability to retouch and explore photos with powerful and easy to use tools, from the convenience of their mobile device.

The goal for CreatiC is to create a network of photo filters that are easy to download and use by everyone. Every user, professional or not, can create a personalized filter, save it as a 'Formula' and share it to the community so others can view or use it.

All the photos shared on CreatiC can be discovered in a natural way. Unlike other social networks, CreatiC lets the users view or download any 'Formula' shared, not just the popular one. The users of CreatiC are able to utilize the most powerful editing tools in which can be found in 'Photoshop for Desktop', to easily create the perfect filter/formula. The saved 'Formulas' can be used on the 'Camera' while taking a photo/video or they can be applied on the pre-saved photos.

### 8.5.2 CONTACT INFORMATION

Loràn Dyrnishi – Founder & CEO: +355 692861780; [contact@delixsoftware.com](mailto:contact@delixsoftware.com)  
Ledion Dyrnishi - Founder

WEBSITE: [www.delixsoftware.com/CreatiC/](http://www.delixsoftware.com/CreatiC/)

## 8.6 NORDEUS



|                         |                |                                     |        |
|-------------------------|----------------|-------------------------------------|--------|
| NAME OF STARTUP:        | <b>NORDEUS</b> | Industry<br>(Application vertical): | Gaming |
| HEADQUARTERS (Country): | Belgrade       | Number of employees:                | 160+   |
| YEAR FOUNDED:           | 2010           | Number of founders:                 | 3      |

### 8.6.1 COMPANY DESCRIPTION

Nordeus's mission is to provide the highest quality social gaming experience to millions of people. They create social games that are free and accessible for everyone to play, on any device. Top Eleven Football Manager is their first game published in May 2010, with an updated v2.0 released on October 10th, 2011.

Nordeus is the biggest startup and most well recognized in Serbia. Their founder Branko Milutinovic is one of the best-known entrepreneurs in the ecosystem, often participating on different events as a speaker. He is also associated with Startit and one of their main mentors on the Startup Akademija.

### 8.6.2 BUSINESS MODEL

B2C, freemium game model, earning from add placement and in-game sales.

### 8.6.3 TOTAL REVENUE CREATED

| 2012         | 2013         | 2014      | 2015      | 2016       |
|--------------|--------------|-----------|-----------|------------|
| 12.000.000 € | 15.000.000 € | 6.000.000 | 7.500.000 | 11.000.000 |

### 8.6.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED          | SOURCE OF CAPITAL               | NATURE OF CAPITAL |
|-----------------------------------------|---------------------------------|-------------------|
| Initial capital claimed to be \$100.000 | Unclear, most probably founders | N/A               |

### 8.6.5 CONTACT INFORMATION

Branko Milutinović – CEO & Founder  
WEBSITE: [www.nordeus.com](http://www.nordeus.com)

## 8.7 SEVEN BRIDGES



|                         |                                    |                                  |                     |
|-------------------------|------------------------------------|----------------------------------|---------------------|
| NAME OF STARTUP:        | <b>SEVEN BRIDGES</b>               | Industry (Application vertical): | Biotech/health tech |
| HEADQUARTERS (Country): | Cambridge, USA;<br>Belgrade Serbia | Number of employees:             | 300 - 350           |
| YEAR FOUNDED:           | 2009                               | Number of founders:              | 2                   |

### 8.7.1 COMPANY DESCRIPTION

Seven Bridges is the biomedical data analysis company accelerating breakthroughs in genomics research for cancer, drug development and precision medicine. The scalable, cloud-based Seven Bridges Platform empowers rapid, collaborative analysis of millions of genomes in concert with other forms of biomedical data. Three of the largest genomics projects in the world use Seven Bridges: U.S. National Cancer Institute's Cancer Genomics Cloud pilot, the Million Veteran Program, and Genomics England's 100,000 Genomes Project. As the NIH's only commercial Trusted Partner, Seven Bridges authenticates and authorizes access to one of the world's largest cancer genomics dataset. Named one of the world's smartest companies by MIT Technology Review, and a three-time Bio-IT World Best of Show winner, Seven Bridges has offices in Cambridge, Mass.; Belgrade; London; Istanbul; Ankara; and San Francisco.

### 8.7.2 BUSINESS MODEL

Business to government (B2G), since they sell their platform mostly to the universities/institutes.

### 8.7.3 TOTAL REVENUE CREATED

| 2012 | 2013    | 2014     | 2015     | 2016       |
|------|---------|----------|----------|------------|
| N/A  | <50.000 | 200.000€ | 350.000€ | 1.500.000€ |

### 8.7.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL                                                                           | NATURE OF CAPITAL |
|--------------------------------|---------------------------------------------------------------------------------------------|-------------------|
| 48.000.000\$                   | Seed round (3.000.000\$) by Procyon Ventures,<br>Series A (45.000.000\$) by Kryssen Capital | Venture Capital   |

### 8.7.5 CONTACT INFORMATION

Brandi Davis-Dusenbery – CEO: +1 (617) 294-6582

WEBSITE: [www.sevenbridges.com/](http://www.sevenbridges.com/)

## 8.8 FRAME



### FRAME

|                         |                               |                                     |                |
|-------------------------|-------------------------------|-------------------------------------|----------------|
| NAME OF STARTUP:        | <b>FRAME</b>                  | Industry<br>(Application vertical): | Consumer & web |
| HEADQUARTERS (Country): | San Mateo,<br>California, USA | Number of employees:                | ~100           |
| YEAR FOUNDED:           | 2012                          | Number of founders:                 | 3              |

### 8.8.1 COMPANY DESCRIPTION

Frame is a revolutionary cloud platform that lets enterprises deliver Windows apps to users on any device, anywhere. Built from scratch for the cloud age, without legacy code, or capacity limits. Frame provides easy to build enterprise-grade custom workspaces for teams, customers, or partners. It seamlessly integrates with existing systems using APIs, SDKs, and developer tools.

Main customers: Siemens, HP, Adobe, and Autodesk; backed by Microsoft. Frame is headquartered in San Mateo, CA, with additional offices in Washington, DC and Europe.

In summer of 2017 they have established a partnership with VMware.

### 8.8.2 BUSINESS MODEL

B2B and B2C selling Software as a Service.

### 8.8.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL                                                             | NATURE OF CAPITAL                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 28.500.000\$                      | 4 rounds; Plug&Play, Columbus Nova Technology Partners, Bain Capital Ventures | Convertible note from Plug&Play accelerator, and VCs (including Microsoft Ventures) |

### 8.8.4 CONTACT INFORMATION

Nikola Bozinovic – CEO & Founder

WEBSITE: [www.fra.me](http://www.fra.me)

## 8.9 KOOLA



|                                |              |                                            |            |
|--------------------------------|--------------|--------------------------------------------|------------|
| <b>NAME OF STARTUP:</b>        | <b>KOOLA</b> | <b>Industry</b><br>(Application vertical): | Industrial |
| <b>HEADQUARTERS (Country):</b> | Sarajevo     | <b>Number of employees:</b>                | 4          |
| <b>YEAR FOUNDED:</b>           | 2015         | <b>Number of founders:</b>                 | 3          |

### 8.9.1 COMPANY DESCRIPTION

Koola is a predictive maintenance platform utilizing AI and machine learning that connects car dealerships and OEM's with its clients, shows service opportunities, and increases customer's retention, satisfaction and dealership revenues.

Koola was a part of Networks' accelerator in 2016, and it also participated in the ABC accelerator's program.

### 8.9.2 BUSINESS MODEL

B2B

### 8.9.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                                          |
|--------------------------------|-------------------|------------------------------------------------------------|
| 50.000 €                       | Domestic          | Business angels – Edin Mehić, Haris Čeremida, Adnan Mandžo |

### 8.9.4 CONTACT INFORMATION

Sergio Ermacora – CEO: [sergio@getkoola.com](mailto:sergio@getkoola.com); +38761180923

WEBSITE: [www.koola.io](http://www.koola.io)

## 8.10 FRESS



|                         |                   |                                     |          |
|-------------------------|-------------------|-------------------------------------|----------|
| NAME OF STARTUP:        | <b>FRESS LTD.</b> | Industry<br>(Application vertical): | Agritech |
| HEADQUARTERS (Country): | Sarajevo          | Number of employees:                | 11       |
| YEAR FOUNDED:           | 2016              | Number of founders:                 | 5        |

### 8.10.1 COMPANY DESCRIPTION

Fress is an online retail and distribution grocery product business. It offers a very tangible retail 'outlet' for the sale of organic products in BiH.

It is currently the most active startup in Sarajevo, and it is quickly expanding to other towns. Under different management and different name, it was a part of the first incubator in Sarajevo, BIZZO in 2008.

### 8.10.2 BUSINESS MODEL

Fress Online Retail model is focused on B2C. Thousands of costumers every week or month order online organic groceries.

Our B2B model is focused on offices with big number of employees, private schools, kindergartens etc. Weekly supply of groceries to business make about 30 % of our income.

### 8.10.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL             |
|--------------------------------|-------------------|-------------------------------|
| 140.000 €                      | Foreign           | Business angels - undisclosed |

### 8.10.4 TOTAL REVENUE CREATED

| 2012 | 2013 | 2014 | 2015 | 2016      |
|------|------|------|------|-----------|
| N/A  | N/A  | N/A  | N/A  | 100.000 € |

### 8.10.5 CONTACT INFORMATION

Almir Mukača – CEO: almir@fress.ba; +38761342647

WEBSITE: [www.fress.ba](http://www.fress.ba)



## 8.11 VIDIOVO



|                         |                |                                     |       |
|-------------------------|----------------|-------------------------------------|-------|
| NAME OF STARTUP:        | <b>VIDIOVO</b> | Industry<br>(Application vertical): | Media |
| HEADQUARTERS (Country): | Sarajevo       | Number of employees:                | 6     |
| YEAR FOUNDED:           | 2017           | Number of founders:                 | 3     |

### 8.11.1 COMPANY DESCRIPTION

Vidiovo is the first digital media project of its kind in the ex-Yugoslav media space. Through a redefinition of the traditional view and definition of what media is in the Balkans, Vidiovo gives new meaning to telling stories. We exist and distribute exclusively through Facebook, YouTube, Instagram and Twitter. So far, we have worked with and alongside a variety of local and regional successful businesses, as well as international ones, such as the United Nations Population Fund, UN Women, the British Embassy, the World Bank and more.

### 8.11.2 BUSINESS MODEL

Our business model operates on the principle of sponsored content, which is essentially a combination of both B2B and B2C marketing.

### 8.11.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                         |
|--------------------------------|-------------------|-------------------------------------------|
| Undisclosed                    | Domestic          | Both VC and Business Angels - undisclosed |

### 8.11.4 CONTACT INFORMATION

Nedim Hadrovic – CEO: nedim@vidiovo.net; +38763272052

WEBSITE: [www.vidiovo.net](http://www.vidiovo.net)

## 8.12 BIZBOOK.BA



|                         |                   |                                     |              |
|-------------------------|-------------------|-------------------------------------|--------------|
| NAME OF STARTUP:        | <b>BIZBOOK.BA</b> | Industry<br>(Application vertical): | Business/Web |
| HEADQUARTERS (Country): | Sarajevo          | Number of employees:                | 1            |
| YEAR FOUNDED:           | 2017              | Number of founders:                 | 2            |

### 8.12.1 COMPANY DESCRIPTION

Bizbook is a marketplace for business deals. It connects companies on a single online platform and offers them a new way of doing business and reducing their operating costs by placing their products and services to target groups of potential customers, enabling them to buy cheaper, to communicate directly with the authorized representatives of the company and gives them the opportunity to promote their company through the offers of their product and/or services. It has 100 users, and signed partnership with Bisnode BH d.o.o. who is a part of the international group Bisnode AB, the leading EU provider of business and rating information based in Stockholm. Bisnode is currently a part of Networks' accelerator.

### 8.12.2 BUSINESS MODEL

B2B

### 8.12.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|--------------------------------|-------------------|-------------------|
| No funding raised              | N/A               | N/A               |

### 8.12.4 CONTACT INFORMATION

Erna Šošević - CEO: [erna@bizbook.ba](mailto:erna@bizbook.ba); +38761271226

WEBSITE: [www.bizbook.ba](http://www.bizbook.ba)

## 8.13 GOODY



|                         |              |                                     |                 |
|-------------------------|--------------|-------------------------------------|-----------------|
| NAME OF STARTUP:        | <b>GOODY</b> | Industry<br>(Application vertical): | Consumer/Gaming |
| HEADQUARTERS (Country): | Sarajevo     | Number of employees:                | 5               |
| YEAR FOUNDED:           | 2017         | Number of founders:                 | 2               |

### 8.13.1 COMPANY DESCRIPTION

Goody's central theme revolves around a luck-based winning of different discounts and prizes. This app easily connects businesses and consumers, allowing customers to win goodies, and businesses to promote their products or service. Users can win goodies by selecting a prize/discount and trying their luck using goody's virtual scratch-card. Goody is currently a part of Networks' accelerator.

### 8.13.2 BUSINESS MODEL

We charge companies an advertising fee and offer them to promote their products/services to attract customers and increase engagement. Our next revenue stream is from users: scratching a goody (coupons/prizes) requires a certain amount of coins, which can be earned by watching videos, installing apps, linking social media links etc.

### 8.13.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|--------------------------------|-------------------|-------------------|
| No funding raised              | N/A               | N/A               |

### 8.13.4 CONTACT INFORMATION

Shahriyar Mohammadi – CEO: shahi@goody.ba; +38761815812

WEBSITE: [www.goody.ba/en](http://www.goody.ba/en)

## 8.14 NSOFT



|                         |              |                                     |           |
|-------------------------|--------------|-------------------------------------|-----------|
| NAME OF STARTUP:        | <b>NSOFT</b> | Industry<br>(Application vertical): | IT/Gaming |
| HEADQUARTERS (Country): | Mostar       | Number of employees:                | 180+      |
| YEAR FOUNDED:           | 2008         | Number of founders:                 | 1         |

### 8.14.1 COMPANY DESCRIPTION

NSoft is a premium betting software and gaming solutions provider. It provides top quality software solutions for online gaming and sports betting industry including platform, virtual games, sportsbook and lotteries.

NSoft is the only company ever from Bosnia and Herzegovina to enter Deloitte's Fast 50 competition. With a four-year growth rate of 1,760 %, it claimed number five spot.

### 8.14.2 BUSINESS MODEL

B2B

### 8.14.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL             |
|-----------------------------------|-------------------|-------------------------------|
| Undisclosed                       | Foreign           | Strategic corporate investors |

### 8.14.4 CONTACT INFORMATION

Ivan Rozić - Managing Director, Sales and Marketing: [ivan@nsoft.com](mailto:ivan@nsoft.com)

WEBSITE: [www.nsoft.com/](http://www.nsoft.com/)

## 8.15 VIBERATE



|                         |                 |                                     |               |
|-------------------------|-----------------|-------------------------------------|---------------|
| NAME OF STARTUP:        | <b>VIBERATE</b> | Industry<br>(Application vertical): | Entertainment |
| HEADQUARTERS (Country): | Slovenia        | Number of employees:                | 50+           |
| YEAR FOUNDED:           | 2015            | Number of founders:                 | 3             |

### 8.15.1 COMPANY DESCRIPTION

Viberate is the first blockchain-based online marketplace where musicians, event organizers, booking agencies and venue owners come together. Beside promoting themselves to clients, these stakeholders can process bookings or analyse marketing efforts through the platform. Consumers can use Viberate to browse through the musician and venue profiles. All payments are carried out through Viberate tokens called "Vibs".

Viberate claims to have to date 130,000 profiles of musicians, 60,00 venue profiles, and 210,000 events in their database. This year the start-up managed to raise 11 million \$ in 4 minutes and 42 seconds through an Initial Coin Offering.

### 8.15.2 BUSINESS MODEL

Due to the variety of users Viberate is aiming to target – booking agencies, event organizers, venue owners and end consumers - it has to be classified as B2B and B2C.

### 8.15.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL    | NATURE OF CAPITAL    |
|--------------------------------|----------------------|----------------------|
| 11,000,000 \$                  | Domestic and Foreign | Domestic and Foreign |

### 8.15.4 CONTACT INFORMATION

Matej Gregorcic – CEO & Founder: [matej@viberate.com](mailto:matej@viberate.com)

WEBSITE: <https://www.viberate.io/>

## 8.16 OUTFIT7



|                         |                |                                     |                      |
|-------------------------|----------------|-------------------------------------|----------------------|
| NAME OF STARTUP:        | <b>OUTFIT7</b> | Industry<br>(Application vertical): | Family Entertainment |
| HEADQUARTERS (Country): | United Kingdom | Number of employees:                | 205                  |
| YEAR FOUNDED:           | 2009           | Number of founders:                 | 8                    |

### 8.16.1 COMPANY DESCRIPTION

The multinational family entertainment company Outfit7 has grown from an instant app success called Talking Tom and became a fully-developed global media franchise. 50 free mobile apps, an animated series, chart-topping YouTube channels and related merchandise products reside currently under their umbrella.

Outfit7 apps generated 350 million active monthly users and are among the Top 10 free games in the world with more than 7 billion downloads. They won three awards at the 2017 Jingling Awards, including the "Best Overseas Mobile Game" award as well as the Google Play's Best of 2016 "Most Entertaining" award.

### 8.16.2 BUSINESS MODEL

Outfit7 main activity is in the B2C sector. Activities in B2B surged subsequently through merchandising and licensing to TV channels such as Netflix and Boomerang.

### 8.16.3 TOTAL REVENUE CREATED

| 2012 | 2013 | 2014                             | 2015                              | 2016 |
|------|------|----------------------------------|-----------------------------------|------|
| N/A  | N/A  | 79 million €, 60 million profits | 108 million €, 82 million profits | N/A  |

### 8.16.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|--------------------------------|-------------------|-------------------|
| 250,000 \$                     | Domestic          | Bootstrapped      |

### 8.16.5 CONTACT INFORMATION

Žiga Vavpotič, Chairman, [info@outfit7.com](mailto:info@outfit7.com)

WEBSITE: [www.outfit7.com](http://www.outfit7.com)



8.17 ICONOMI

|                         |          |                                     |         |
|-------------------------|----------|-------------------------------------|---------|
| NAME OF STARTUP:        | ICONOMI  | Industry<br>(Application vertical): | FinTech |
| HEADQUARTERS (Country): | Slovenia | Number of employees:                | 23      |
| YEAR FOUNDED:           | 2016     | Number of founders:                 | 2       |

## 8.17.1 COMPANY DESCRIPTION

Iconomi is a Digital Assets Management Platform that enables asset managers to combine various digital assets in so-called "Digital Asset Arrays™". Subsequently, investment in these funds is offered to customers, who are willing to invest in digital assets, also known as cryptocurrencies and tokens. Investors receive a share of proceeds in return.

More recently, Iconomi was named by Forex News as one of the "Best blockchain startups to watch in 2018". Furthermore, the blockchain consultancy platform Cofound.it evolved from Iconomi.

## 8.17.2 BUSINESS MODEL

Iconomi can be classified as B2B2C marketplace. By selecting experienced asset managers and providing them necessary tools to manage funds ("Digital Asset Arrays™"), Iconomi is in the first place B2B. Subsequently, Iconomi provides the platform for average consumers to invest in digital asset funds.

## 8.17.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL    | NATURE OF CAPITAL           |
|-----------------------------------|----------------------|-----------------------------|
| 10,500,000 \$                     | Domestic and foreign | Initial Coin Offering (ICO) |

## 8.17.4 CONTACT INFORMATION

Jerca Bergant - Executive Assistant: [jerca@iconomi.net](mailto:jerca@iconomi.net)

WEBSITE: [www.iconomi.net](http://www.iconomi.net)

## 8.18 EUROSENDER



|                         |                   |                                     |           |
|-------------------------|-------------------|-------------------------------------|-----------|
| NAME OF STARTUP:        | <b>EUROSENDER</b> | Industry<br>(Application vertical): | Logistics |
| HEADQUARTERS (Country): | United Kingdom    | Number of employees:                | 30        |
| YEAR FOUNDED:           | 2014              | Number of founders:                 | 2         |

### 8.18.1 COMPANY DESCRIPTION

Eurosender Ltd is a digital platform for booking door-to-door logistics services in Europe, enabling users to send parcels and organize less than truckload and full truckload transports through their website. The company implements state-of-the-art technology for a more user-friendly and cost-effective approach.

Eurosender negotiated 11 Million quotes to date, while being active in over 30 different countries. It is partnering with global leaders in logistics, such as DHL, UPS, DB Schenker and Keune+Nagel. Recently, Eurosender was in the Top 20 of Feedspot's Ranking of Websites for Shipping Industry Professionals.

### 8.18.2 BUSINESS MODEL

Eurosender is B2B and B2C, targeting SMEs as well as end users.

### 8.18.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL    | NATURE OF CAPITAL                                                                                                    |
|--------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------|
| \$652,000                      | Domestic and foreign | ProSieben/Sat. 1 Accelerator, Munich Reinsurance, MH2 Capital, Fil Rouge Capital, Jugoslav Petkovic, Silicon Gardens |

### 8.18.4 CONTACT INFORMATION

Tim Potocnik - CEO & Founder: [tim.potocnik@eurosender.com](mailto:tim.potocnik@eurosender.com)

WEBSITE: [www.eurosender.com](http://www.eurosender.com)

8.19 CELTRA

|                         |        |                                     |                     |
|-------------------------|--------|-------------------------------------|---------------------|
| NAME OF STARTUP:        | CELTRA | Industry<br>(Application vertical): | Digital Advertising |
| HEADQUARTERS (Country): | USA    | Number of employees:                | 190                 |
| YEAR FOUNDED:           | 2006   | Number of founders:                 | 3                   |

## 8.19.1 COMPANY DESCRIPTION

Celtra is a Creative Management Platform for digital advertising. Brand and performance advertisers create, distribute, and optimize the highest quality data-driven ads at scale with great efficiency and control. The service works across all screens and channels.

More than half a million ads were built and shown in more than 70 countries.

The company was named in the 2012 American Business Awards one of the most innovative tech companies of the year. In 2014 it won the Gold Stevie Award of the American Business Awards in the category "New Product or Service of the Year - Software - Marketing/Public Relations Solution". In the same year Celtra won awards of iMedia ASPY and AlwaysOn Media.

## 8.19.2 BUSINESS MODEL

Celtra's business model is B2B. 2/3 of Fortune 500 brands use Celtra for video, native and rich media ads. Clients are for instance Google, Rovio, Shazam, CNN and The Wall Street Journal.

## 8.19.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL    | NATURE OF CAPITAL                                                                  |
|-----------------------------------|----------------------|------------------------------------------------------------------------------------|
| 20,000,000+ \$                    | Domestic and foreign | RSG Capital<br>GrandBanks Capital<br>SoftBank Capital<br>Unilever Ventures and WPP |

## 8.19.4 CONTACT INFORMATION

Gregor Smrekar - CEO: gregor@celtra.com

WEBSITE: [www.celtra.com](http://www.celtra.com)

## 8.20 REPSLY



|                         |                                |                                     |       |
|-------------------------|--------------------------------|-------------------------------------|-------|
| NAME OF STARTUP:        | <b>REPSLY</b>                  | Industry<br>(Application vertical): | Sales |
| HEADQUARTERS (Country): | Boston, USA<br>Zagreb, Croatia | Number of employees:                | 40    |
| YEAR FOUNDED:           | 2010                           | Number of founders:                 | 2     |

### 8.20.1 COMPANY DESCRIPTION

With customers in over 40 countries, Repsly targets organizations with field representatives that visit established clients on a recurring basis to perform customer service and field management functions, such as taking replenishment orders, merchandising products on retail shelves, marketing for referrals, or performing regular maintenance. Deployed by leading global brands as well as innovative start-ups, Repsly enables these organizations to improve the efficiency of their field teams, and greatly simplifies the collection and analysis of field data. As a result, Repsly's solution helps organizations create a tight connection between the field and back-office operations.

### 8.20.2 BUSINESS MODEL

Repsly (formerly Salespod) is a B2B SaaS company focused on providing a solution to simplify processes for field teams and their managers.

### 8.20.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                       |
|--------------------------------|-------------------|-----------------------------------------|
| 4.5M€                          | Foreign           | Venture Capital - Keiretsu Capital, USA |

### 8.20.4 CONTACT INFORMATION

Marko Kovac – CEO & Founder: marko.kovac@repsly.com

Marko Linke – CTO & Founder

WEBSITE: [www.repsly.com](http://www.repsly.com)

## 8.21 BOUXTIE



|                         |                                           |                                     |            |
|-------------------------|-------------------------------------------|-------------------------------------|------------|
| NAME OF STARTUP:        | <b>BOUXTIE</b>                            | Industry<br>(Application vertical): | E-commerce |
| HEADQUARTERS (Country): | San Francisco,<br>USA, Zagreb,<br>Croatia | Number of employees:                | >10        |
| YEAR FOUNDED:           | 2012                                      | Number of founders:                 | 1          |

### 8.21.1 COMPANY DESCRIPTION

Bouxtie allows you to select from top retail brands and instantly send a digital gift card right from your phone. Personalize your gift card with a thoughtful video, image, or message. Redeem instantly, in-store or online. Over the last years, Bouxtie has managed to successfully penetrate the US market.

### 8.21.2 BUSINESS MODEL

Bouxtie has a B2B2C approach, giving large retailers a platform to offer gift cards to their customers.

### 8.21.3 TOTAL REVENUE CREATED

| 2012 | 2013 | 2014 | 2015 | 2016 |
|------|------|------|------|------|
| N/A  | N/A  | N/A  | N/A  | >1M€ |

### 8.21.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                       |
|-----------------------------------|-------------------|-----------------------------------------|
| 4.5M€                             | Foreign           | Venture Capital - Keiretsu Capital, USA |

### 8.21.5 CONTACT INFORMATION

Renato Libric – CEO & Founder: +1 447 887 495 735

WEBSITE: [www.bouxtie.com](http://www.bouxtie.com)

## 8.22 REVERSING LABS



|                         |                                   |                                     |                |
|-------------------------|-----------------------------------|-------------------------------------|----------------|
| NAME OF STARTUP:        | <b>REVERSINGLABS</b>              | Industry<br>(Application vertical): | Cyber Security |
| HEADQUARTERS (Country): | Cambridge, USA<br>Zagreb, Croatia | Number of employees:                | >75            |
| YEAR FOUNDED:           | 2009                              | Number of founders:                 | 2              |

### 8.22.1 COMPANY DESCRIPTION

ReversingLabs solutions drastically accelerate and broaden organizations' ability to detect new threats, respond to incidents and gain intelligence on attacks. Large enterprises and security vendors use these solutions as a foundation for protecting digital assets. Their solutions implement unique, innovative technologies that detect and analyse threats within files. Included in the array of solutions are elastic file analysis, malware hunting and reputation services.

### 8.22.2 BUSINESS MODEL

ReversingLabs is applying a B2B-only approach, servicing high-profile clients around the world.

### 8.22.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL                                                        |
|-----------------------------------|-------------------|--------------------------------------------------------------------------|
| 25M€                              | Foreign           | Venture Capital - JP Morgan Chase, Trident Capital<br>Cybersecurity, USA |

### 8.22.4 CONTACT INFORMATION

Mario Vuksan – CEO & Founder: [Mario.vuksan@reversinglabs.com](mailto:Mario.vuksan@reversinglabs.com)

Tomislav Pericin – CSA & Founder

WEBSITE: [www.reversinglabs.com](http://www.reversinglabs.com)



## 8.23 RIMAC



|                                |              |                                            |            |
|--------------------------------|--------------|--------------------------------------------|------------|
| <b>NAME OF STARTUP:</b>        | <b>RIMAC</b> | <b>Industry</b><br>(Application vertical): | Automotive |
| <b>HEADQUARTERS (Country):</b> | Croatia      | <b>Number of employees:</b>                | 250+       |
| <b>YEAR FOUNDED:</b>           | 2009         | <b>Number of founders:</b>                 | 1          |

### 8.23.1 COMPANY DESCRIPTION

Rimac Automobili is a car manufacturer that develops and produces electric supercars, drivetrain and battery systems, headquartered in Sveta Nedelja, Croatia. Rimac Automobili's first model, the Concept One, is known as the world's fastest production electric vehicle. While Rimac sells high-performance vehicles under their own brand, the company develops and produces drivetrain systems and full vehicles for other companies. Additionally, Rimac has recently moved into the realm of electric bicycles, launching its own brand Greyp.

### 8.23.2 BUSINESS MODEL

Rimac automobiles are retailed by several exclusive car dealerships around the world. Additionally, the company is following a B2B approach, making its technology commercially available.

### 8.23.3 TOTAL REVENUE CREATED

| 2012 | 2013 | 2014  | 2015  | 2016 |
|------|------|-------|-------|------|
| N/A  | N/A  | 1.4M€ | 3.9M€ | N/A  |

### 8.23.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL            | NATURE OF CAPITAL                                   |
|--------------------------------|------------------------------|-----------------------------------------------------|
| 35M€<br>6.9M€                  | Foreign<br>Domestic<br>Grant | Venture Capital - Camel Group, China<br>HAMAG-BICRO |

### 8.23.5 CONTACT INFORMATION

Mate Rimac - CEO & Founder

Other: martina.zubcic@rimac-automobili.com

WEBSITE: [www.rimac-automobili.com/en](http://www.rimac-automobili.com/en)

## 8.24 INFOBIP



|                         |                               |                                     |                    |
|-------------------------|-------------------------------|-------------------------------------|--------------------|
| NAME OF STARTUP:        | <b>INFOBIP</b>                | Industry<br>(Application vertical): | Telecommunications |
| HEADQUARTERS (Country): | Zagreb, Croatia<br>London, UK | Number of employees:                | >1200              |
| YEAR FOUNDED:           | 2006                          | Number of founders:                 | 2                  |

### 8.24.1 COMPANY DESCRIPTION

Infobip is an international IT and telecommunications company. It operates a full-stack Communications Platform as a Service (CPaaS) with private cloud infrastructure and zero-hop connectivity to telecoms globally. Services include SMS messaging, voice, app notifications, email, chat apps messaging and carrier billing. Within the last 10 years, it has grown into one of the world's largest telco-IT providers with offices on six continents.

### 8.24.2 BUSINESS MODEL

As a B2B company (CPaaS), it serves both mobile network operators and enterprises, notably banks, social networks, and corporations. Among Infobip's clients are various kinds of non-profit organisations and public institutions.

### 8.24.3 TOTAL REVENUE CREATED

| 2012 | 2013 | 2014 | 2015 | 2016   |
|------|------|------|------|--------|
| N/A  | N/A  | N/A  | N/A  | >170M€ |

### 8.24.4 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|--------------------------------|-------------------|-------------------|
| No funding raised              | -                 | -                 |

### 8.24.5 CONTACT INFORMATION

Silvio Kutić – CEO & Founder: [Silvio.kutic@infobip.com](mailto:Silvio.kutic@infobip.com)

Izabel Jelenić – CTO & Founder

Other: [sanja.krnjak@infobip.com](mailto:sanja.krnjak@infobip.com); [kreso.zmak@infobip.com](mailto:kreso.zmak@infobip.com)

WEBSITE: [www.infobip.com](http://www.infobip.com)

## 8.25 IVOTE



|                         |              |                                     |                  |
|-------------------------|--------------|-------------------------------------|------------------|
| NAME OF STARTUP:        | <b>IVOTE</b> | Industry<br>(Application vertical): | SaaS, e-learning |
| HEADQUARTERS (Country): | Macedonia    | Number of employees:                | 10-30            |
| YEAR FOUNDED:           | 2012         | Number of founders:                 | 3                |

### 8.25.1 COMPANY DESCRIPTION

iVote is a SaaS-based platform that offers e-learning and elections management systems. The company offers iVote Demokra, an integrated elections management platform that supports all the election processes from registration of voters, election day functions, results, up to management of mandates. iVote Demokra technology has been trusted by more than 136 million voters around the world. It has contributed to the most timely, transparent, and credible election results in the history as democracies in many countries worldwide.

Cisium, an e-commerce solution for easy online presentation and internet selling;  
Papirium, an effortless way to organize documents; and Epistum, an advanced e-learning and e-testing platform.

### 8.25.2 BUSINESS MODEL

B2B and B2G

### 8.25.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|-----------------------------------|-------------------|-------------------|
| No funding raised                 | N/A               | N/A               |

### 8.25.4 CONTACT INFORMATION

Ljupcho Antovski - Founder  
Tomislav Zografski - COO

WEBSITE: [www.ivote.mk](http://www.ivote.mk)

## 8.26 GROUPER



|                         |                |                                     |                             |
|-------------------------|----------------|-------------------------------------|-----------------------------|
| NAME OF STARTUP:        | <b>GROUPER</b> | Industry<br>(Application vertical): | Coupon Sales,<br>E-commerce |
| HEADQUARTERS (Country): | Macedonia      | Number of employees:                | 10-50                       |
| YEAR FOUNDED:           | 2011           | Number of founders:                 | 2                           |

### 8.26.1 COMPANY DESCRIPTION

Grouper was launched in January 2011 as the first group buying deal platform in the e-commerce market in Republic of Macedonia. It introduced discounted prices in the form of coupons for services and products and offered substantial savings for the buyers in times of recession, thus directly incentivizing the online buying. Acting as an intermediary between companies and end-customers Grouper enabled over 2000 companies to start selling online and offered a new promotional and sales tool on the Macedonian market. It cleared the path for many companies that want to enter the e-commerce market and built trust in online buying.

### 8.26.2 BUSINESS MODEL

B2B and B2C

### 8.26.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL | NATURE OF CAPITAL |
|-----------------------------------|-------------------|-------------------|
| No funding raised                 | N/A               | N/A               |

### 8.26.4 CONTACT INFORMATION

Nina Angelovska – CEO & Founder

Martin Kitanovski - Founder

WEBSITE: [www.grouper.mk](http://www.grouper.mk)

## 8.27 COGNISM



|                         |                |                                     |                      |
|-------------------------|----------------|-------------------------------------|----------------------|
| NAME OF STARTUP:        | <b>COGNISM</b> | Industry<br>(Application vertical): | Sales, Marketing, AI |
| HEADQUARTERS (Country): | Macedonia      | Number of employees:                | 10-50                |
| YEAR FOUNDED:           | 2011           | Number of founders:                 | 1                    |

### 8.27.1 COMPANY DESCRIPTION

Cognism is an end-to-end sales-acceleration solution that provides sales organizations with a more efficient way to prospect. Delivered as a software service (SaaS), with its unique data asset and compliance engine, Cognism is helping to enrich CRM records, stream leads into the funnel and is using artificial intelligence to surface opportunities and identify customer trends. Cognism is a pure AI sales technology company that generates prospect data at scale, cleaning and enriching it, helping sales teams to grow and scale across all levels of the sales process.

### 8.27.2 BUSINESS MODEL

B2B

### 8.27.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL    | NATURE OF CAPITAL                 |
|-----------------------------------|----------------------|-----------------------------------|
| 500.000 €                         | Foreign and domestic | Seed round (9 investors in total) |

### 8.27.4 CONTACT INFORMATION

Stjepan Buljat – CTO: [stjepan.buljat@cognism.com](mailto:stjepan.buljat@cognism.com)

James Isilay - CEO

WEBSITE: [www.cognism.com](http://www.cognism.com)

## 8.28 INPLAYER



|                                |                 |                                            |                      |
|--------------------------------|-----------------|--------------------------------------------|----------------------|
| <b>NAME OF STARTUP:</b>        | <b>INPLAYER</b> | <b>Industry</b><br>(Application vertical): | Sales, Marketing, AI |
| <b>HEADQUARTERS (Country):</b> | Macedonia/UK    | <b>Number of employees:</b>                | 10-50                |
| <b>YEAR FOUNDED:</b>           | 2010            | <b>Number of founders:</b>                 | 1                    |

### 8.28.1 COMPANY DESCRIPTION

InPlayer provides next generation video and digital asset monetization platform. Helping clients monetise their library of online media assets, be they live, recurring or on-demand. To date they have managed millions of dollars in transactions, making thousands of live events profitable. 24 hours a day, around the world, we process valued content for over 100,000 clients' subscribers.

### 8.28.2 BUSINESS MODEL

B2B

### 8.28.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT<br>OF CAPITAL RAISED | SOURCE OF CAPITAL           | NATURE OF CAPITAL      |
|-----------------------------------|-----------------------------|------------------------|
| 560.000 €                         | Domestic Venture<br>Capital | South Central Ventures |

### 8.28.4 CONTACT INFORMATION

Nenad Cubrinovski – COO: +44 020 303 400 42

Elena Draganovska – Head of Customer & Sales Support

WEBSITE: [www.inplayer.com](http://www.inplayer.com)



## 8.29 DENTEM



|                         |                            |                                     |                                |
|-------------------------|----------------------------|-------------------------------------|--------------------------------|
| NAME OF STARTUP:        | <b>DENTEM</b>              | Industry<br>(Application vertical): | Health, Information Technology |
| HEADQUARTERS (Country): | Toronto,<br>Ontario Canada | Number of employees:                | 11-50                          |
| YEAR FOUNDED:           | 2016                       | Number of founders:                 | 4                              |

### 8.29.1 COMPANY DESCRIPTION

Dentem allows dentists better manage their daily workflow by removing the pain of scheduling and simplifying customer relations with automated notifications as well as giving access to the doctor to the patients data and information on the go via the mobile solutions.

Dentem is striving forward in machine learning and digital assistants, allowing dentists to analyze x-rays and offer help and guidance in their assessments. User Dentem through voice commands with our DAssistant without touching your pc or phone.

### 8.29.2 BUSINESS MODEL

B2B, Marketplace

### 8.29.3 TOTAL CAPITAL RAISED

| TOTAL AMOUNT OF CAPITAL RAISED | SOURCE OF CAPITAL         | NATURE OF CAPITAL                                                                     |
|--------------------------------|---------------------------|---------------------------------------------------------------------------------------|
| Over 400000                    | Domestic and non domestic | Investors – Abc Accelerator, Ardit Basho, Eltion Frasheri , VC(round to be disclosed) |

### 8.29.4 CONTACT INFORMATION

Alen Sage - CEO +1(647)8062223; alen@dentem.co

Website : [www.dentem.co](http://www.dentem.co)

## 9. OPPORTUNITIES AND RECOMMENDATIONS

While the SEE startup ecosystem is relatively small and under-developed, it still holds great potential for creating fast-growing startups. In particular, we have recognized the following areas of the start-up and innovation ecosystem with the greatest potential:

- Commercialization of innovation and research from academia and public research organizations in the region. The region has retained a lot of its core tech and research capabilities, but it depends almost entirely on public financing. This creates a lot of research (and sometimes cutting edge research) results that have the potential for commercialization. However, IP protection and sales, as well as other types of commercialization activities are virtually non-existent in the region. This creates great pool of knowledge and ready-to-use research results for potential startups to tap into. Unfortunately, there are almost no success stories in this field in the region.
- Education systems are creating people with knowledge that is not very suitable for startup development. However, a highly skilled and thriving software development community has developed in parallel to the formal education system that has led to the emergence of a strong outsourcing software development community in all countries of the region. These skills and connections to the global software development system can be well utilized by the startup community in their growth stage as they have a good human resource pool to utilize when needed.
- Cooperation between startups and large corporations would help both. Increasing the innovativeness of large companies in the region that have resources at their disposal but usually lack innovative ideas and projects would be possible with the implementation of open innovation systems into these large companies. It would also benefit the startup community by offering them not only access to their resources but also an exit plan. Unfortunately, this is only starting to happen in the most developed countries in the region but every single country has at least a handful of large companies that could start to cooperate with startups – with mutually beneficial effects. This would also expand the scope of the startups from ICT to other industries that currently lack startups.
- The crucial element that is linking the startup ecosystem together are accelerators and/or incubators. When connected to scale-up startups, they prove to be the focal points of the local ecosystem. Their support, mutual collaboration and expansion would benefit the whole region.
- Overall, there is still only a small number of new startups being established – even in comparison to neighbouring Bulgaria. Any kind of support to the establishment of new startups would help increase the chances of one of them successfully growing.

### **Recommendations to take advantage of these opportunities include:**

- The overall ease of opening companies, paying taxes and starting a business can be greatly improved. Similarly, the bankruptcy procedures are often preventing the startups to fail and start again due to unduly long processes and social stigma associated with it. Countries would do well to greatly simplify both procedures – and digitalize them. Estonia offers a great example on how to create a digital environment for cheap and fast establishment of new companies.
- The equity investment gap is the most pressing problem in the region. All types of equity investments are needed, but seed and early stage investments are most interesting in the regional ecosystem. Support to emerging business angel community (in form of co-investments, co-investment funds, tax breaks, or any other support) and particularly to the regional venture capital industry are the most important recommendations that would help develop the ecosystem. Local governments will be unable to support this due to the lack of public funds, stable macroeconomic environment or understanding of the needs of the venture capital industry. However, EU can help develop this market, even with very small amounts of equity investments. For example, a program investing 15.000 € per startup in 10 startups per year in 8 countries would require 1,2 M investment per year but would greatly increase the total investment potential of the current

public support in the region. A fund-of-funds for the region would essentially start the VC industry where there is almost none at the moment.

- Entrepreneurship visa system would enable founders and ecosystem stakeholders to freely travel and exchange ideas and good practices. A system similar to the one implemented by the UK would enable the development of a connected regional ecosystem by lowering physical barriers to travel. International bridging would also help bring knowledge to the local ecosystem that can only be obtained by meeting and learning from other founders and startups in more developed environments.
- Innovation vouchers and support to corporate – startup (or founder) matchmaking events – hackathons, startup weekends, investment conferences, Demo Days and other pitching competitions – would help establish more matchmaking between the two groups.
- Linking the region together into a single startup region with central databases (platforms) of startups, investors and cross-border coordination and collaboration by all stakeholders, including policy-makers.
- Finally, the general feeling of pessimism and resentment is preventing the emergence of the startups as founders simply do not believe that they have a (small) chance of succeeding. The change in the public perception and the promotion of entrepreneurship as a viable career choice would not only benefit the startup ecosystem in all countries, but also improve the overall perceptions of the population and their satisfaction with the social systems that they live in. It would also lower the problem of brain drain that is troubling all the regional countries.

## 9.1 RECOMMENDATIONS FOR BUILDING A SUCCESSFUL ECOSYSTEM

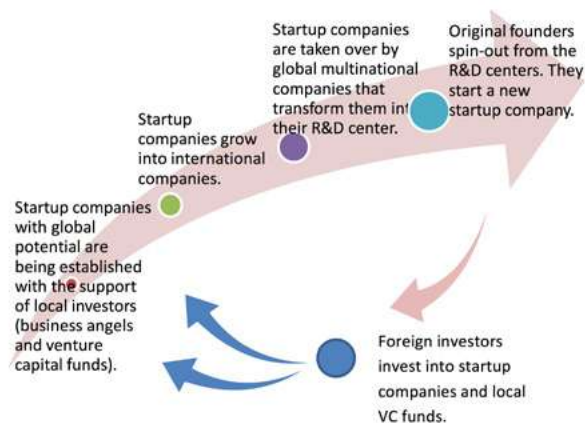
Based on examples of countries who have established a successful startup ecosystem, it seems that all of the ecosystems have common elements:

1. They all try to systematically raise the level of entrepreneurial activation of talent (human capital) for the increase in the number of innovative startups. More knowledgeable people should dream of building a breakthrough company that changes its field and achieves multi-million valuations. A special role here is played by the school system and the wider system of entrepreneurial education.
2. They build on the knowledge that the commercialization of knowledge and technology is key in innovative startup enterprise. Entrepreneurs do not work and cannot work in a vacuum, they must build their companies based on links to R&D achievements and ideas, which are created within institutions of knowledge and other companies in the ecosystem. This requires a suitable and successful support infrastructure and a developed R&I system.
3. Global connections foster international growth. Talented people with entrepreneurial ambitions want to success on global markets, because this allows for the creation of an influential company, which achieves a remarkable value and influences the development of the whole field. Entrepreneurial ecosystems establish global links to other entrepreneurship nodes, which gives them effective access to global resources and markets.
4. They contribute to greater capital accessibility, as the lack of funds is one of the key obstacles for growth and development of startups. This is true even for the most developed ecosystems, and is much more acute in Slovenia and the region. The company must have the support of capital in all phases and helps build the company with related services (“smart money”), and at the same time, it “forces” it into fast development and growth. At the same time, experienced investors quickly eliminate projects and companies that do not achieve the expected results, and thus save the resources that would have otherwise been lost. The financing system is therefore of great importance for the success of the ecosystem. This is mostly concerned with capital investments, and to a much smaller extent, loans and other debt. An example of a wide financial system in support of startups is Singapore.
5. Everyone understands the importance of the activation of all the different stakeholders of the

ecosystem and tries to involve them in a more active role. The entrepreneurial ecosystem cannot function effectively, if various stakeholders are not active and coordinated. It is important to find the appropriate incentives and also ensure a suitable level of their key abilities. A coordinated, comprehensive and strategic management of the support environment is necessary. It is important to stress that a lack of services of only a few parts of the ecosystem or their inappropriate level can stop the creation of the positive feedback loop. Some factors are necessary for success and without them, the others cannot bring success.

Based on case studies of successful support ecosystems developed in smaller countries, it seems that for establishing a successful startup ecosystem, creating a positive feedback loop is of crucial importance.

1. startup companies with global potential are founded.
2. startup companies are growing globally and fast, with help of investments (so called “smart money”) and support programmes.
3. After the transition to a certain phase, the companies are sold – sometimes over the stock market (IPO), but more often to foreign multi-national companies that transform them into their innovation centre or centres of excellence.
4. This brings money into the ecosystem, which is re-invested inside the ecosystem and represents an additional financing source for new startup companies.
5. Initial entrepreneurs usually make a “spin- out” after a few years in the R & D centre and create a new startup.
6. Due to previous successful examples, foreign investors sometimes also directly invest into local startup companies and VC funds.
7. With dynamic development of the ecosystem, more and more companies can develop independently in the long run, and thus contribute to a great growth of value added and employment in the host country environment.



With this approach, money, knowledge and market connections (usually of companies that already have access to markets) circle inside the ecosystem, which develops and grows. But this also makes the ecosystem attractive for entrepreneurs and companies from nearby environments, who see the advantage in moving to an ecosystem that enables them faster growth and development. A successful ecosystem thus quickly outgrows the local frame and becomes regional, closely connected with global ecosystems. In the long run, it can even influence the creation of independent local multinational companies. Thus entrepreneurship can contribute to achieving long-term employment and national development goals, but only in case of ambitious and knowledge-based entrepreneurship, focused on growth. The economic policy and entrepreneurship policy should therefore understand that not all entrepreneurship activities are the same and that motives for entrepreneurship engagement differ greatly. Creating the conditions for ambitious innovative entrepreneurship is significantly different to creating conditions for self-employed necessity entrepreneurship. It is thus crucial that the ecosystem stakeholders, with the government at the front, focus their efforts and resources on measures that will contribute towards motivating and enabling as many highly educated talented individuals as possible to choose an entrepreneurship career and build companies that will be able to compete internationally and provide new jobs.

An important goal of a successful startup ecosystem is to contribute to suitably placing high-tech and knowledge based service entrepreneurship with growth potential amongst the key tasks of the economic and industrial policy of the country. Startup communities in the SEE region have the potential to transform the economic and social picture of each country and the whole region.

## 10. CONCLUSION WITH LIMITATIONS AND SUGGESTIONS FOR FURTHER WORK

The main conclusion of the first comprehensive startup ecosystem report in Southeast Europe is that the ecosystem is alive and well, and in some places even thriving. In all eight countries of the region, there are startups, supporting institutions, groundbreaking technology and ambitious founders. In some cases, there are also scale-up companies, although often spread internationally with somewhat limited presence in their home countries. The best multinational companies originating from the region are already reaching high valuations, in one case even unicorn status. Nevertheless, even if they have grown out of the region, they contribute significant amount of support to the local ecosystems, mostly in their experiences, connections and often also with financial support.

On the other hand public support is often small to non-existent (except for verbal support from policy-makers). This is problematic as the whole ecosystem is experiencing a significant equity financing gap – insufficient resources to financially support (or invest) into the regional startups. Even very small investments in the region are very rare in more than half of the countries of the region. This represents a significant obstacle for the growth and development of the region's startups and the whole startup ecosystem.

While the impact of the regional ecosystem is still modest and limited, even when compared with other regions of Southern Europe, the diversity of stakeholders and startups is surprising and promising. It hints at the fact that the local ecosystems are more resilient and creating more independent startup companies than in some other regions. The mix of the players at the local levels and the willingness to operate (and learn) from partners across the whole region shows the potential for the establishment of a true regional ecosystem that would be more than the sum of eight local startup ecosystems. However, systematic and comprehensive support will be needed to establish a truly successful regional startup ecosystem – especially in the assuring of early stage financing. EIT Digital can have a truly strong impact in its establishment with relatively modest involvement and investments as it can act as a catalyst for its creation.

This report has a significant limitation due to a lack of data, in particular financial data. The majority of startup revenue data was not available and we were not able to analyse the financials of individual startups and the industry as a whole. This remains the main goal for the future report, but it might be difficult to obtain the necessary data as financial reporting is not publicly available in all the countries. The main goal for the future ecosystem reports will be the gathering and analysis of the quantitative data on their financials and capital raising.

On the other hand, startup ecosystem stakeholders are very open to collaboration and willing to share data and good practices. The main limitation connected to the regional stakeholders is their limited experience and their tendency to present their local ecosystems in a non-objective manner – usually promoting it and trying to show it as a more welcoming than it actually is. This is not even needed as the startups from this region are very interesting by themselves and can reach great heights with a little bit of support.

## 11. ACKNOWLEDGEMENTS

EIT Digital is the main reason why the first startup ecosystem report in the Southeast Europe was possible. Without its support, including but not limited to financial support from its ARISE program, this report would not be possible. We would especially like to thank Laszlo Gulyas, Fabio Pianesi and Thomas Kösters at EIT Digital, whose personal support was crucial for the decision to prepare the report and their assistance during the data gathering travels was instrumental in the writing of the report. Additionally, we would like to thank Alexis Poulin for his support in preparing the communication strategy.

This report would not be possible without the data gathering and analysis from the national correspondents. We sincerely appreciate their efforts and thank them for their work contributing to the report. They are (in alphabetical order of countries):

- Erkens Gjini (Oficina Accelerator), ALBANIA
- Ajla Fijuljanin, BOSNIA AND HERZEGOVINA
- Srđan Kovačević, CROATIA
- Çelik Nimani, KOSOVO
- Ivan Zografski (Solveo), The former Yugoslav Republic of MACEDONIA
- Djuro Stojanović and Itana Prljević, MONTENEGRO
- Miloš Lazović, SERBIA
- Dr. Aleš Pustovrh, SLOVENIA

Finally, I would like to thank all the persons at ABC Accelerator who contributed to the report. Maša Abrič, Ksenja Jaklič, Špela Pangerl, Urška Jež, Jakob Gajšek, Tomas Teichmann and Yunus Berndt all directly contributed to this report while many others (Milan Lazarević, Siniša Kanižaj, Bernard Grum, Vesna Drofenik, Tanja Golčman and Petra Fon are just some of them) were offering different kinds of support so that this report was possible. I sincerely thank you all.





## 12. ATTACHMENTS

### 12.1 12.1 QUESTIONNAIRE FOR COUNTRY ANALYSIS

Country:

Person responsible for the local data:

#### 12.1.1 FRAMEWORK CONDITIONS

Please describe the general economic environment. Please include written description, but try to include as much data as possible (such as data on GDP per capita, GDP growth, inflation, unemployment, export/import data, R&D invest. as % of GDP, patent applications, ease of starting a business...)

#### 12.1.2 STARTUP AND VENTURE ECOSYSTEM OVERVIEW – STAKEHOLDER'S DESCRIPTION AND THEIR CONNECTIONS

Please provide an overview of the startup and venture ecosystem in your country. We are interested in the description of stakeholder's in the system. In the first part, we would like to understand which institutions and actors are active in the ecosystem. Please include public institutions, companies (that invest into innovation and start-ups), investors, supporters, universities, public and private research institutions as well as other institutions active in the startup support system.

In the next part, we are interested in their connections – how effectively do they collaborate, exchange knowledge and what kind of obstacles do they meet when trying to cooperate. For example, we would like to evaluate the academic research results and its usage in startups or high-tech companies (often exchanged in the form of patents). We are not only looking for descriptions of such connections but also specific and when possible quantified analysis of these actors, their role in the system and their connections.

In this analysis we would like to prepare the profiles of the top emerging startups (at least 5, have to be younger than 1.1.2011). Please focus on specific verticals: ICT, Medical & Health, CleanTech & Industrial, Consumer & Web, Other (gaming, gambling, agritech, etc...) so that we can classify the startups according to these verticals. In order to prepare these profiles, please use the local sources and in-depth knowledge about the local ecosystem obtained via press releases, company websites, company social media platforms, Crunchbase Pro, PitchBook, Gust, F6S, LinkedIn, DB Informa and other data reporting tools. Try to provide the best emerging startups for descriptions but do discuss those that have been able to raise an investment, were accepted into accelerators or are listed in international databases (like the ones mentioned here).

Finally, we would also like to prepare the profiles of potential Scale-up startups – anchors of the local ecosystem (at least 1, can be older than 5 years). These startups companies are already large, often with more than EUR 1 million annual revenue. Often they act as an anchor in the local ecosystem – for example NSoft in BiH or Nordeus in Belgrade.

With data on emerging and scale-up startups, we will aim to build a total database of all startups in the SEE region – but this will take several years.

For these profiles, we would like to obtain very specific data. We are especially looking for data on total amount of capital raised from each startup (and the source of investment: domestic or foreign; grant, BA's, VC's or Corpo), total revenue generated in the period, number of founders and the company. For each startup we want to fill the template provided at the end of this document !

In order to obtain such data, please use secondary sources (press, webpages, database data like F6S) but also try to interview them.

If possible, try also to gather what kind of advice (from both startup's and Scale-ups) they would provide to new startups.

### 12.1.3 ECOSYSTEM PERFORMANCE

In the last part, we would like to estimate the results of the national startup ecosystem. That means that we would like to measure or estimate the total number of startups&scaleups – their turnover, capital raised, employees, which industries are most important and most developed, which industries are growing the fastest, benchmark comparison to other countries (e.g. total capital raised per capita). As these data are often very difficult to gather, we would be satisfied with your estimation and idea or proposal on how to measure these in the future – basically estimation of the current situation and proposal for how to precisely measure this in the future.

We want to do this as we would like to show the contributions of national startup ecosystem to economic growth of the country. Often, indicators like new business density and business survival rate are also used for this so try to provide them as well. However, as it is difficult to measure innovation in general, we usually need to gather more indicators. We suggest the following indicators for the startup, research and innovation ecosystem:

- Number of newly created startups – in the past 5 years and in the last year
- New business density (measuring all new companies, not just startups)
- Startup survival (estimating number of startups that do not succeed) and business survival (the same but for all companies, not only for startups)
- % of high-tech companies in the total economy (please use the OECD definition of high-tech)
- % of high-tech products in the total value of exports
- Innovation Union Scoreboard value for the country – if it exists
- Global Innovation Index score for the country – values for the last 5 years
- Number of researchers in the total number of employees in the country (absolute number and % of total employment, so we want need indicator as well)
- Number of new PhD graduates
- Number of newly issued patents and trademarks - official WIPO data
- Number of published scientific articles and their citations
- We are always interested in the latest available data – and hopefully for the trend after 2011.

### 12.1.4 ROLE OF GOVERNMENT AND ITS POLICY MEASURES

Finally, we would like to prepare some key recommendations to the government for the successful implementation and development of the startup ecosystem.

First, we would like to make an overview of policy measures that the government is currently implementing in your country. We would like to also get your estimation if each measure is effective and successful or not. Often, their success depends on the amount of resources available for each measure, so we would hopefully be able to estimate the amount of money available for each measure and for the overall government's policy in this field. The least we can gather is the overall investment into the R&D that is invested in each country:

- Total R&D investment (in absolute terms and as a % of GDP)
- If available try to obtain data on private and public investments (together they need to be 100 % of the total R&D investment figure, of course)

Often, there are already existing policy assessments available. In the EU and neighbouring countries, there is the Innovation Union Scoreboard, for most countries of the world the Global Innovation Index is available and for Adriatic Innovation Map for the Adriatic countries. However, most of such analysis is not directly targeting startups but rather more general innovation ecosystem, so we can use them as an overview but need to gather startup data by ourselves.

As a conclusion, we will also be interested in your opinion and discussion about how the existing startup ecosystem and supporting policies will develop in the next 10 years. In particular, we would like to estimate how the technological trends and other mega-trends will influence the startup ecosystem in your country and how do you think the changing global environment will influence the startups in your country. We will also be interested in what your country should do to help the startups use the opportunities these changes will bring about and what could the EU do to help these ecosystems exploit the rapid global changes that will be happening in the next 10 years.



ABC  
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The acceleration engine that pushes entrepreneurs of  
all shapes and sizes to greater heights.





## ABC STARTUP ACCELERATOR

[www.abc-accelerator.com](http://www.abc-accelerator.com)

Our global network of ABC Accelerator Slovenia, Germany, and Silicon Valley, enables us to select the best startups for our programs. We provide you with a “soft landing” in all locations, including:

- accommodation,
- office space,
- legal, accounting, immigration, financial, and insurance services/support
- mentorship and integration into our network.

In the last **36 months**, we have accelerated **83 startups** and raised **\$35M in seed capital** combined.



## ABC ENTERPRISE ACCELERATOR

[www.abc-edg.com](http://www.abc-edg.com)

We **accelerate enterprise's** innovation cycle in close collaboration with our partner **EDG** from **Palo Alto**, California. EDG has been active in the Silicon Valley for over **30 years**, working on enterprise innovation with many local and international companies.

Some of our clients include: UniCredit, Boeing, Lufthansa, LIDL, Axa, Apple, Intel, & IBM.

## ABC TALENT ACCELERATOR

[www.moveonmiles.com/en](http://www.moveonmiles.com/en)

Based in Kiev, Ukraine, Move On Miles (“MOM”) accelerates tech talent and developers selected for utilization by startups, SMEs, corporations, and VCs.



ABC is highly proficient in terms of **ICO fundraising** and **Blockchain** technology, having finished the one of the fastest ICO's in history with our startup Viberate in September 2017, raising **\$12M in less than five minutes**.

## ABC IMMERSION EXHIBITION TOURS

(to Munich and Silicon Valley) and **ABC business academy** (Munich, Toronto, Silicon Valley)



## ABC FIRST GROWTH VENTURE FUND

Our own VC fund, founded in 2016, supports startups with seed- and gap investments, ranging from \$30k to \$150k.



With offices in **Ljubljana, Munich, San Jose, Kiev, St. Gallen, Tuzla**, and our partnership with WeWork, we have the capacity to accelerate our clients around the world.







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ACCELERATOR  
SLOVENIA

Two things define you...  
Your patience when you have nothing and your attitude when you have everything.  
Unknown

# START SMALL. DREAM BIG.

We help you bridge  
the gap.



## Where you are matters!

ABC Accelerator lies in the capital of Slovenia. The startup scene in this small country is booming – and with good reason.

Slovenia offers a diverse and representative, but still small enough to be manageable, testing market along with accessible talent that is never far away. Positioned in the largest retail center in CEE region –

BTC – ABC Accelerator's location presents **the perfect place to start** a journey to the top with **the ideal testing ground** consisting of more than 4,500 businesses and 22 million visitors every year.



### Private coworking office

spread on more than 3600m<sup>2</sup>

## WE'RE ALL PART OF SOMETHING BIGGER.

ABC Accelerator is a part of the ABC group, with the headquarters located in the heart of the fastest growing startup ecosystem in the Silicon Valley – San Jose.

Startups participating in any ABC program have access to ABC's Silicon Valley office, and through that, an opportunity to expand to the U.S. market.



**ACCELERATION  
BUSINESS  
CITY**

"If you have blindfolded me and put me into a room I would never guess that I am in Ljubljana, Slovenia. It all felt very much like Silicon Valley, California and that is very exciting!"

Patrick Mullane, Harvard University



#### Stage 0

##### ABC Hub, Ljubljana

A community of idea generators, creators and makers: ABC Hub! If you wish to kick-start your business, be surrounded with like-minded individuals and spend time in a beautifully decorated place, this is it! **Office space** with style.



#### Stage 1

##### ABC Accelerator, Slovenia

Early stage startups with a finished product, searching for rounds up to 1mill € who wish to test and scale their business in an ideal testing market, know that all roads leave from Ljubljana, Slovenia to our **Acceleration program**.



#### Stage 3

##### ABC Global Home, Silicon Valley

Later stage startups focused on the U.S. market searching for larger investments and partners now have a place to expand beyond borders. A place uniting startups and corporations with partners, **Ecosystem Hub**.



#### Stage 2

##### ABC Venture Gates, Germany

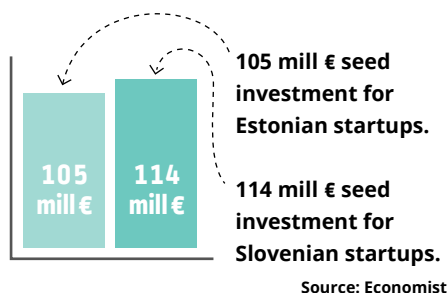
Later stage startups searching up to A round investment up to 5mill € and B round investment up to 10mill € now have their community collaborating with German corporations focusing on EU markets: **Entrepreneurial Hub**.



# THE OFFER YOU CAN'T REFUSE

## SLOVENIA, A STARTUP COUNTRY.

Estonia is seen as the startup country of Europe and yet, they've raised less than Slovenian startups in 2015.



## INSTANT RAMEN MONEY

48% of the startup companies in general raise at least **\$750.000** in the first month after acceleration.

Source: CBInsights



## SERVICES

Absorb the knowledge of more than **150 entrepreneurs and experts**. Don't make the same mistakes they did. Skyrocket your success with their help.

## OFFICE SPACE

**Free office space** covers all your needs. Start your day with coffee in the kitchen, walk to the lecture room, make calls in any of the offices or relax in the playroom.

## THOSE SIX MONTHS WILL MAKE A DIFFERENCE.

**Our startups get much more than seed capital.** They get to meet likeminded people and attend exciting events. They form bonds that will last a lifetime, while enjoying our welcoming, cosy environment where you feel like part of a big family.

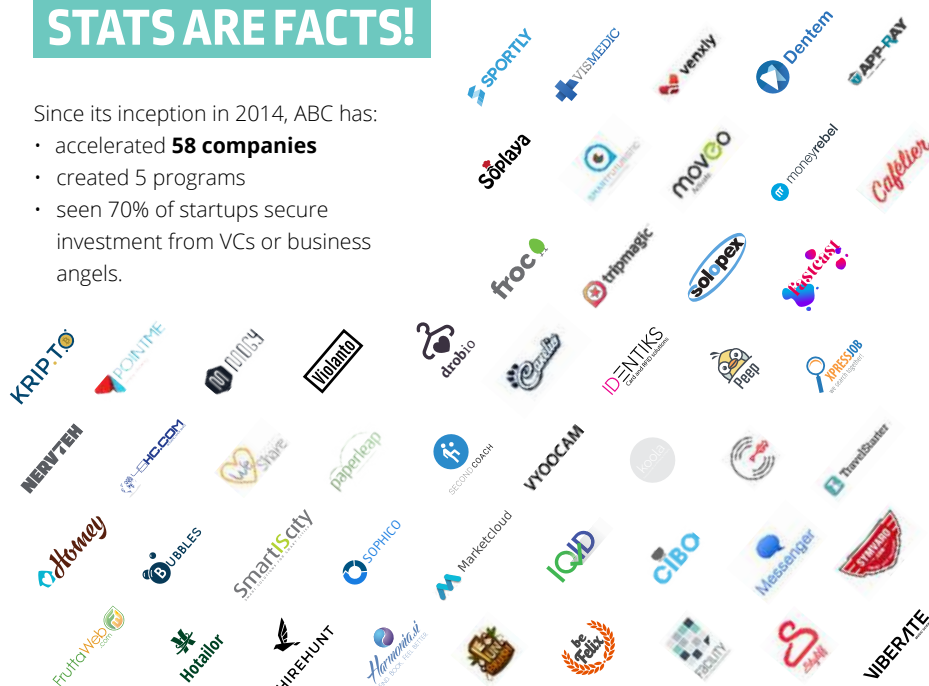
## ACCOMMODATION

International startups are welcome to stay in ABC apartments free of charge during the 6 months of the acceleration process. **We got you covered!**

## STATS ARE FACTS!

Since its inception in 2014, ABC has:

- accelerated **58 companies**
- created 5 programs
- seen 70% of startups secure investment from VCs or business angels.



## GOODY BAG

**15.000 € seed capital is guaranteed** when you join the program, up to 310k € in services in the form of Cloud services and much, much more.



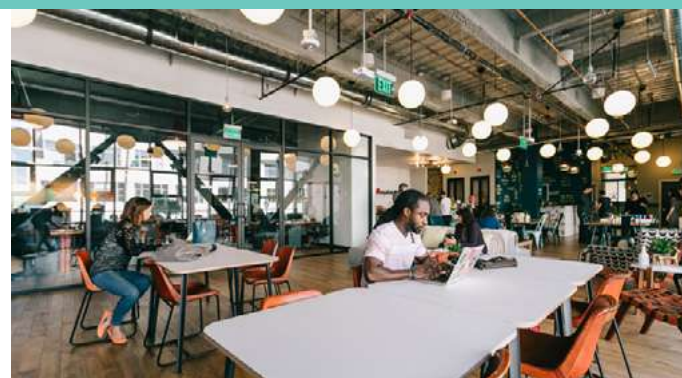
## IT'S THE D-DAY

Pitch in front of investors on the Demo Day. Our reputation will get their attention; you just need to capture their curiosity.

**More than 300 international and local investors have attended our Demo Days.**

## WHO YOU SURROUND YOURSELF WITH MATTERS.

Use our global connections to find what you're looking for anywhere in the world. The sky is the limit with our network.



## AFTER ACCELERATION

**ABC Accelerator's offices in San Francisco and San Jose** allow startups' expansion to the U.S. market after the acceleration period and provide a logical next step. Our Alumni are important to us.

Where do startups grow?

**IN THE MAGIC FIELDS OF  
ABC ACCELERATOR.**

**APPLY NOW!**



### Contact

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ABC Accelerator is a member of the **Acceleration Business City** group.



The Silicon Valley is the holy site of disruptive business.

**TAKE THE PILGRIMAGE!**

**JOIN US  
ON THE SUNNY  
COAST.**

