



BOSNIA AND HERZEGOVINA

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We should agree with Yovchev (2021b) who described the ecosystem as follows: *It's still very early days for the startup ecosystem in Bosnia and Herzegovina and local ventures are still looking for the formula to scale internationally. (...) While a population of 3,3 million people presents a small local market, this state of affairs has also motivated the entrepreneurial community in the country to engage and collaborate with other ecosystems in the Western Balkans region.*

Bosnia and Herzegovina has a low startup density value: 16 startups/1 million inhabitants. The most advanced ecosystem can be found in Sarajevo.

According to our extensive literature review the top 3 challenges of the ecosystem are the following:

1. Talents, ideas and champions (human resources)
2. Capital and resources (including available information, flow of special knowledge/technology transfer and ecosystem support)
3. Market and networks

The following table (*Table 7.*) summarizes the frequencies of mentions on challenges and the relevance of these challenges according to their appearance regarding the pillars of ecosystem assessment canvas.

Table 7. Relevance and distribution of startup ecosystem challenges in Bosnia and Herzegovina

Startup ecosystem assessment canvas	Frequency of mentions	Relevance of the challenge according to frequencies
Vision and strategy	1	6th
Policy and regulation	4	5th
Capital and resources (including available information, flow of special knowledge/technology transfer and ecosystem support)	9	2nd
Talents, ideas and champions (human resources)	10	1st
Infrastructure, education, universities, local/available knowledge and programmes	4	5th
Market and networks	8	3rd
Culture and communities	7	4th

Source: Feldsott (2018); GIZ (2019); ITU Innovation (2018); Messenger (2020); Yovchev (2021b)

1. Talents, ideas and champions (human resources)

Some notable detailed challenges mentioned by experts:

- *The other big missing elements – success stories and startup culture.*
- *Before a startup ecosystem can achieve international attention, it needs success stories of its own to help spread the money around to other potential startups.*
- *Graduates with technical skills often lack on-the-job, hands-on experience.*
- *Further loss of value to the ecosystem is its inability to retain the pool of skilled ICT talent that exists. At the same time, higher education is focusing on skills and competences that are obsolete when set against the changing skill sets needed by fast-evolving technology and industry needs – the result is further under-utilization of human capital.*
- *Like other countries in the region, the country's tech firms are focused almost exclusively on outsourcing, with steady demand from international clients. This demand has in turn led to significant demand for a digitally skilled labour force: a demand that cannot be met. Recent figures estimate a need for an additional 6,000 people – a huge ask in such a small country.*
- *When you want to create an innovation ecosystem, you need entrepreneurs – leaders with a fresh mindset to bring the community to the next level. We still don't have a culture where failure is acceptable. Very often, you'd be judged for trying to build something new or for failing; it's somewhat legacy from the old system.*

2. Capital and resources (including available information, flow of special knowledge/technology transfer and ecosystem support)

Some notable detailed challenges mentioned by experts:

- *Capital is still mostly missing, though – beyond a few angels and the €40M regional South Central Ventures fund, there are not that many funding opportunities for innovators in Bosnia and Herzegovina;*
- *Startups outside of North America and Western Europe are usually ignored by Silicon*

Valley and most investors. This is one of the reasons it is incredibly difficult to build a new tech startup ecosystem from scratch, with limited resources, education, and talent;

- There are limited efforts to build those skill sets necessary to apply successfully for EU funds to support R&D projects in education and training;*
- Major challenges include adequate provision of seed capital and availability of low-interest commercial financial resources.*

3. Market and networks

Some notable detailed challenges mentioned by experts:

- The final piece needed for any budding tech startup ecosystem is the cooperation and involvement of larger, more established companies;*
- Large companies – both state-owned and private – are not encouraged to invest in research and development and are not incentivized to collaborate with young innovators;*
- Due to the relatively small local market and a lack of national demand for products and services, there is also little scope to develop and test digital products and services locally.*

Other relevant challenges:

- While there is a trend for students increasingly to opt for STEM (science, technology, engineering and math) subjects and ICT-related studies, numbers currently exceed universities' ability to offer them places;*
- Innovation capacity is very weak in the country – with few research specialists and innovators – and there is a clear need to build innovation capacity;*
- While the government is aware of the importance of innovation capacity and its direct link to improved economic performance, major investments have not been undertaken;*
- Government procurement does not include advanced technical products, and the private sector is not encouraged to invest in R&D;*

- *Entrepreneurs are not thriving and contributing as they could to the health of the ecosystem. A variety of factors contribute to this situation: an underdeveloped entrepreneurial culture; the lack of a state-level strategy for innovation; a scarcity of financial instruments designed to support innovation among SMEs. Significantly more public sector support is needed if entrepreneurs' creative and positive influence on the ecosystem is to meet its potential;*
- *The major challenge of the public sector remains the lack of a coordination mechanism across its various ministries and agencies and the lack of cross-cutting mandates clearly focusing on innovation;*
- *At the level of higher education, universities struggle to keep up with the fast-moving tech sector – a problem that is not unique to the Western Balkans. Poor collaboration between universities and the private sector means that computer science and related degrees are not meeting the needs of IT companies that are having to invest time and money into training staff before they are job-ready;*
- *A combination of the low interest in technology and risk aversion to entrepreneurship, and the business operating environment means that BiH has only a small number of startups. Those that exist are still in early stages and need mentoring to build their business skills, market knowledge, and commercial awareness.*

Sources of the above listed challenges and opinions: Feldsott (2018); GIZ (2019); ITU Innovation (2018); Messenger (2020); Yovchev (2021b).

