HUNGARY

HUNGARY

Good news for Hungary that the Global Startup Ecosystem Report comparing 250 attractive startup locations worldwide included the Hungarian capital in its ranking for the first time in 2020. The survey placed Budapest in the international leading group of emerging cities and highlighted the country's achievement in the field of artificial intelligence (Ministry of Innovation and Technology, 2021). According to Startup Hungary's research – based on responses from 232 startups–, most startups focus on B2B SaaS. A little over 60% reported they are using some sort of "deep tech." The top verticals were AI, Big Data, Fintech, Analytics/BI, IoT and Medtech. This data strengthens the stereotype that we have better resources for building tech-heavy, B2B startups compared to consumer products in the CEE region (Startup Hungary, 2021). Hungary, anyway, faces the same challenges as many other CEE markets. The country has three important ecosystems: Budapest, Debrecen and Szeged. The value of the startup density is 99 startups/1 million inhabitants.

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

1. Capital and resources (including available information, flow of special knowledge/technology transfer and ecosystem support) & Talents, ideas and champions (human resources)
2. Infrastructure, education, universities, local/available knowledge and programmes
3. Culture and communities

The following table *(Table 14.)* 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 14. Relevance and distribution of startup ecosystem challenges in Hungary

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

Source: Government of Hungary (2016); Jáki et al. (2019); Novak et al. (2018); Startup Hungary (2021); Szerb et al. (2018)

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

Some notable detailed challenges mentioned by experts and relevant stakeholders:

- *The greatest challenges of a scaling strategy were considered the following: financing, penetrating new markets and the lack of distribution channels;*
- *Low quality of financial culture;*
- *Private and public VCs don't work together;*
- *In Hungary, there is not enough funding available from informal investors (family, friends and colleagues) who are private individuals (other than founders) for new technology firms;*
- *In Hungary, there is no sufficient funding available through initial public offerings (IPOs) for new technology firms;*
- *In Hungary, there is no sufficient funding available through private lenders' funding (crowdfunding) for new technology firms;*
- *The biggest challenges are finding talent, getting traction, and a lack of marketing &*

sales skills.

2. Infrastructure, education, universities, local/available knowledge and programmes

Some notable detailed challenges mentioned by experts and relevant stakeholders:

- *Access to entrepreneurial education;*
- *Few teachers have entrepreneurial competences;*
- *The educational system has been unable to catch up with the challenges of the 21st century; there is an increasing shortage of skilled experts;*
- *The educational curriculum still lacks training for the entrepreneurial spirit, which widens the gap and curbs entrepreneurship;*
- *Non-public-education solutions are too Budapest-centred and too expensive;*
- *The domestic education system not effectively prepares students for future workplaces dominated and lead by technologies;*
- *In Hungary, local and countrywide chambers do not provide effective support for new technology firms.*

3. Culture and communities

Some notable detailed challenges mentioned by experts and relevant stakeholders:

- *Advanced entrepreneurial culture (opportunity to start again after failing a startup);*
- *Low awareness of innovation;*
- *The fear of failure is high whereas the willingness to take risks is low;*
- *A weak entrepreneurial spirit resulting from cultural traditions has not changed while the perception of the ecosystem has not improved;*
- *The educational system fails to encourage people to start a business.*

Other remarkable challenges:

- *Young persons' competences lag behind the EU average;*
- *Low level of linguistic competences;*
- *Going global is challenging;*
- *Low level protection of intellectual property;*
- *There are few young entrepreneurs;*
- *Successful entrepreneurs are still underrepresented in mass media;*
- *The social perception of entrepreneurs has not improved due to the excessive tax and social security burdens;*
- *Domestic firms less adopt the newest technology in large numbers;*
- *There are only few domestic firms use globally new technologies;*
- *The Hungarian economically active population not possesses the necessary skills and competences to establish and effectively run a new technology firm;*
- *In Hungary, the brain drain, the leave of those that are the best and have the highest expertise to foreign countries, is significant;*
- *In Hungary, it is hard to reach and hire experts having special technological knowledges and skills;*
- *Experts do not believe that lagging Hungarian regions have adequate economic and social environment to attract new technology firms;*
- *„Brain drain" and need to reskill the workforce in the long-term;*
- *The protection of intellectual property also is deemed weaker in Hungary than in Digital Frontrunner countries;*
- *Regulatory and fundraising barriers push startups to set up entities abroad.*

Sources of the above mentioned opinions: (Government of Hungary, 2016; Jáki et al., 2019; Novak et al., 2018; Startup Hungary, 2021; Szerb et al., 2018).

To see a more sophisticated categorization, we should examine the two tables below *(Table 15. & 16.)*

- *Young persons' competences lag behind the EU average;*
- *Low level of linguistic competences;*
- *Going global is challenging;*
- *Low level protection of intellectual property;*
- *There are few young entrepreneurs;*
- *Successful entrepreneurs are still underrepresented in mass media;*
- *The social perception of entrepreneurs has not improved due to the excessive tax and social security burdens;*
- *Domestic firms less adopt the newest technology in large numbers;*
- *There are only few domestic firms use globally new technologies;*
- *The Hungarian economically active population not possesses the necessary skills and competences to establish and effectively run a new technology firm;*
- *In Hungary, the brain drain, the leave of those that are the best and have the highest expertise to foreign countries, is significant;*
- *In Hungary, it is hard to reach and hire experts having special technological knowledges and skills;*
- *Experts do not believe that lagging Hungarian regions have adequate economic and social environment to attract new technology firms;*
- *„Brain drain" and need to reskill the workforce in the long-term;*
- *The protection of intellectual property also is deemed weaker in Hungary than in Digital Frontrunner countries;*
- *Regulatory and fundraising barriers push startups to set up entities abroad.*

Sources of the above mentioned opinions: (Government of Hungary, 2016; Jáki et al., 2019; Novak et al., 2018; Startup Hungary, 2021; Szerb et al., 2018).

To see a more sophisticated categorization, we should examine the two tables below *(Table 15. & 16.)*

- *Young persons' competences lag behind the EU average;*
- *Low level of linguistic competences;*
- *Going global is challenging;*
- *Low level protection of intellectual property;*
- *There are few young entrepreneurs;*
- *Successful entrepreneurs are still underrepresented in mass media;*
- *The social perception of entrepreneurs has not improved due to the excessive tax and social security burdens;*
- *Domestic firms less adopt the newest technology in large numbers;*
- *There are only few domestic firms use globally new technologies;*
- *The Hungarian economically active population not possesses the necessary skills and competences to establish and effectively run a new technology firm;*
- *In Hungary, the brain drain, the leave of those that are the best and have the highest expertise to foreign countries, is significant;*
- *In Hungary, it is hard to reach and hire experts having special technological knowledges and skills;*
- *Experts do not believe that lagging Hungarian regions have adequate economic and social environment to attract new technology firms;*
- *„Brain drain" and need to reskill the workforce in the long-term;*
- *The protection of intellectual property also is deemed weaker in Hungary than in Digital Frontrunner countries;*
- *Regulatory and fundraising barriers push startups to set up entities abroad.*

Sources of the above mentioned opinions: (Government of Hungary, 2016; Jáki et al., 2019; Novak et al., 2018; Startup Hungary, 2021; Szerb et al., 2018).

To see a more sophisticated categorization, we should examine the two tables below *(Table 15. & 16.)*

Table 15. Importance of the startup ecosystem characteristics

	Mean	Median	Mode	Std. Deviation	95% confidence interval of mean		Very important (4) and absolutely essential (5) frequency
					Lower	Upper	
Inclination for cooperation among members of the ecosystem	4,42	5	5	0,855	4,250	4,590	87
International relations	4,39	5	5	0,852	4,221	4,559	82
Advanced entrepreneurial culture	4,29	5	5	0,957	4,100	4,480	83
Access to funding	4,25	4,5	5	0,892	4,073	4,427	79
Access to sufficiently educated workforce	4,25	4,5	5	0,947	4,062	4,438	83
Presence of successful startupers in the community as mentors, or angel investors	4,22	5	5	0,970	4,028	4,412	76
Number of high-quality ideas or projects	4,19	4	5	0,907	4,010	4,370	79
Favorable tax environment for entrepreneurs	4,18	4	5	0,968	3,988	4,372	80
Favorable level of required administration for entrepreneurs	4,14	4	5	0,975	3,947	4,333	74
Access to mentors, advisers, coaches	3,93	4	4	1,066	3,718	4,142	73
Access to entrepreneurial education	3,88	4	5	1,225	3,637	4,123	67
Social events (meetups, networking)	3,72	4	3	0,944	3,533	3,907	56
Technology transfer	3,59	4	4	1,065	3,379	3,801	55
Presence of co-working spaces	2,97	3	3	1,087	2,754	3,186	29
Startup competitions	2,96	3	3	1,205	2,721	3,199	35

Source: Jáki et al. (2019: 10)

Table 16. Evaluation of the startup ecosystem characteristics

	Mean	Median	Mode	Std. Deviation	95% confidence interval of mean		Good (4) and very good (5) frequency
					Lower	Upper	
Social events (meetups, networking)	3,71	4	4	0,820	3,547	3,873	61
Presence of co-working spaces	3,33	3	3	0,995	3,132	3,528	38
Startup competitions	3,24	3	3	0,911	3,059	3,421	40
Number of high-quality ideas or projects	3,08	3	3	1,079	2,866	3,294	32
Access to mentors, advisers, coaches	3,03	3	3	0,893	2,853	3,207	27
Presence of successful startupers in the community as mentors, or angel investors	2,88	3	3	0,967	2,688	3,072	29
Access to funding	2,87	3	3	1,116	2,649	3,091	30
Inclination for cooperation among members of the ecosystem	2,81	3	3	0,982	2,615	3,005	22
Technology transfer	2,68	3	3	0,898	2,502	2,858	11
Access to sufficiently educated workforce	2,67	3	3	1,035	2,465	2,875	19
International relations	2,61	2	2	0,973	2,417	2,803	18
Access to entrepreneurial education	2,22	2	2	1,021	2,017	2,423	11
Favorable tax environment for entrepreneurs	2,11	2	1	1,024	1,907	2,313	11
Advanced entrepreneurial culture	2,09	2	1	1,083	1,875	2,305	11
Favorable level of required administration for entrepreneurs	1,96	2	1	0,994	1,763	2,157	8
Evaluate the domestic startup ecosystem	2,91	3	3	0,900	2,731	3,089	22

Source: Jáki et al. (2019: 10)