

December 21, 2021



EMCEE Research Insights Series

Digital frontrunners going global: Internationalization patterns of leading antivirus software businesses from Central and Eastern Europe

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AVAST, Bitdefender, ESET and Kaspersky are global players in the antivirus software industry founded in CEE. Their successful internationalization based on entrepreneurial spirit, advanced technology, strategic partnerships and localization may serve other firms from the region as a model. Despite their global presence in up to 170 countries and after many M&As, their headquarters and core R&D facilities are still located in the founding places in CEE.

Over the last 30 years, we could observe a steadily increasing number of businesses originating from Central and Eastern Europe expanding successfully to international markets. An outstanding group among those internationalization pioneers that managed to overcome local resource-constrained business environments and stand up to leading Western competitors were antivirus software firms. The 1990s opened a window of opportunity for entrepreneurial-minded software developers when the first computer viruses started to spread. Software programs to detect and eliminate viruses were in strong demand. The fulminant growth of the internet and with it of computer malware have fueled the antivirus market since then. For entrepreneurs in the radically transforming economies in CEE the rise of the software industry was a tremendous boon. It offered individuals with excellent programming skills and an entrepreneurial trait to start a business with little capital outlay and a huge growth potential, particularly in the larger foreign markets.

In May 2020, among the top-10 firms in the global Windows anti-malware application market three vendors came from CEE: 2nd AVAST Software A.S., Prague, Czech Republic (12.7% market share), 3rd ESET, Bratislava, Slovak Republic (11.5%) and 9th Bitdefender, Bucharest,

Romania (4.3%).¹ No other industry shows such a high share of global players from CEE. Even after three decades in business, their headquarters and core R&D facilities are still in CEE. How did it come that so many firms from CEE made it to the top in this industry? What are the ingredients of this successful internationalization?

The analysis of the internationalization patterns of those three cybersecurity and antivirus software firms and of a fourth competitor, Kaspersky from Moscow, Russia, reveals interesting similarities and differences. In all cases it was the interplay of push and pull factors that triggered the international expansion. The foundation of all the firms (or their predecessors) in the late 1980s and early 1990s goes back to individuals or teams of computer science researchers who were commissioned to remove a virus on infected computers. The original solution that they developed for detecting and removing the virus – and later for preventing from cyberthreats in general – became their flagship product and was the starting point for the business. Small home markets and insufficient domestic demand at this time pushed Bitdefender, ESET and Kaspersky to enter foreign markets quickly (today we name such firms “born global”) while it took nine years in the case of AVAST.

Market-seeking motives dominated the “going international” while the vision and entrepreneurial drive of the founders also played a special role. Growing up and living in a communist country with a centrally-planned economy, the encounters with their first Western customers were a culture shock for the founders. These interactions taught them about the importance of customer satisfaction, high quality standards and competitiveness. Given their focus on computer sciences, the lack of management and foreign language skills as well as of a thorough understanding of the workings of a market economy hampered the internationalization of their businesses at the beginning and triggered a fast learning process.

In addition, their firms also suffered from a negative country-of-origin effect as Western customers associated producers from CEE with low-quality products in the 1990s. While the excellent technical performance of the antivirus products has convinced foreign customers in the meantime and helped building trust, geopolitical conflicts in combination with an increased awareness of cybersecurity bring new threats for firms on the global marketplace. The newly inflamed tensions between the U.S.A. and Russia and alleged suspicion of spying via its software products have damaged Kaspersky’s reputation and sales in the large U.S. market.²

Initial market entry modes were exporting of packaged software and licensing. OEM partnerships with local cybersecurity vendors where the own technologies were licensed and integrated into third party security products, offered Kaspersky the opportunity to enter large markets such as Germany and the U.S.A. and to build an indirect presence there. For instance, 70% of the firm's revenue came from technology licensing with European clients in 1998 and provided the necessary cash flow for further business development. Today, more than 120 companies license technology from Kaspersky. Also AVAST initially licensed its antivirus software to the large U.S. competitor McAfee. The licensing agreements provided both CEE firms with financial stability and a better understanding of what is possible in the global market.

Building up a distribution network of partners and resellers parallel to setting up own sales offices in all major markets followed. Then the internet as a distribution channel became the norm, especially in the consumer market, what facilitated a quick and cost efficient internationalization. Interestingly, in the B2B business, the local physical presence is still an important success factor. Business customers are more demanding; they value regular personal contact and communication as building and maintaining trust is an essential precondition to become a legitimate player in the cybersecurity market.

Concerning trust the case of ESET LLC, the U.S. sales subsidiary established in 1999 in San Diego, California, is very instructive as this move went beyond the central role of the U.S.A. as the leading and largest IT market. The subsidiary was upgraded to become the international business center for ESET being responsible for all Western foreign markets to get rid of negative country-of-origin associations. At this time, ESET (as well as the other players from CEE too) suffered from low-quality associations and mistrust connected to its roots in a former communist "Eastern Bloc" country among Western prospects. This move remedied the deficiency and the dual organizational structure was terminated in 2008 through a merger of the U.S. subsidiary with its parent company. ESET had itself established as a leading player in the industry and was valued above all for its competence and quality performance.

Which role did acquisitions play in this ascent to global player status? While Kaspersky refused to internationalize through acquisitions (mainly due to their potential threat to the unique company spirit), it was a major growth driver in AVAST's internationalization, a move that was followed later by Bitdefender and ESET too. In AVAST's case, the entry of a U.S.-based private equity fund as the first investor brought capital, strategic advice and ties to Silicon

Valley in 2010. In 2013, AVAST began with its acquisitions of local and foreign firms in the core and related product markets. In the following six years it bought eight firms headquartered in the U.S.A., Germany, U.K., Slovakia and Czech Republic. The biggest acquisition was the Czech cybersecurity giant AVG for US-\$ 1.3 billion in 2016 that doubled the user base to over 400 million devices and brought about new talent and technologies.

Today, all four companies are present in up to 170 countries and foreign sales account for 80% to 99% of total sales.³ Return on sales (EBIT/revenues) figures show that antivirus software can be a highly profitable business: in 2019, ROS ranged from 11% (Kaspersky) to 41% (AVAST). All of the firms have still their headquarters in the founding places and three of them are still privately held. Only AVAST went public by a listing on the London Stock Exchange in 2018. In August 2021, it was bought by the U.S. competitor NortonLifeLock for more than US-\$8bn. The combined business is now listed on Nasdaq and is run from two headquarters in Prague and Tempe, Arizona.⁴

Regarding competitive strategy, the main sources of competitive advantage of all companies were related to technological or business model related strengths. However, when looking closer, the key source of the competitive advantage are the brains and the entrepreneurial spirit of the founders, the core R&D and management team, and the strong innovation-driven organizational culture. All companies follow a niche strategy in the software market by concentrating on antivirus solutions. Bitdefender and ESET pursue a strategy that combined high quality solution with lower price, i.e. a “good-value-for-money” strategy, that is often employed by CEE firms, while Kaspersky bet on differentiation and a premium price strategy. The disruptive freemium business model of AVAST is based on a pricing strategy that aims at a quick penetration of the private user market. “AVAST Free Antivirus” offers basic features initially for free or at low-cost, while upgrades or extensions are already subject to a charge. This is a more radical approach than offering free trials or selected tools for free a done by the other competitors.

The internationalization success is based on advanced technological expertise and related innovation capabilities, high product quality, product localization and local presence via subsidiaries and strategic partnerships. High economies of scale and strong network effects have been driving the globalization of digital products in general. The digital nature of the product and the internet as the distribution channel allow for a faster, less costly

internationalization and an enormous international reach, especially in consumer markets. However, some physical presence is still required for business markets where the firms have to provide regular on-site maintenance or support and have to build up trust with clients, licensees and other partners. Tapping local R&D resources and talent are further advantages of a local physical presence.

All four firms stick to their roots in CEE what is mirrored in the still existing location of headquarters and core R&D facilities in the founding cities. The pool of talented software engineers, the strong R&D culture and engineering ethos are brought forward as reasons. And of course national pride resonates when Pavel Baudiš, co-founder of AVAST, states that IT firms do not have to pass directly through the Silicon Valley to become successful globally.

Original paper

Michaela Večeřová: Digital frontrunners going global: Internationalization patterns of leading software businesses from Central and Eastern Europe. WU Master Thesis. August 2021

¹ Statista (2021): Market share held by the leading Windows anti-malware application vendors worldwide, as of May 2020. <https://www.statista.com/statistics/271048/market-share-held-by-antivirus-vendors-for-windows-systems/> [Accessed October 8, 2021].

² Financial Times (2021): Russia sends warning to cyber security sector with arrest of Ilya Sachkov. October 13, 2021. <https://www.ft.com/content/ac0f8029-bb18-45e8-bb2c-f79dbe580ab6> [Accessed December 14, 2021]

³ Total revenues 2019 (in €): AVAST 791mio., Kaspersky 609mio., ESET 527mio., Bitdefender 143mio.

⁴ Financial Times (2021): NortonLifeLock strikes deal for UK-listed cyber security group Avast. August 10, 2021. <https://www.ft.com/content/eb9ab52f-aede-4d32-a474-dad87b3d80d5> [Accessed December 2, 2021].