

GVH: The use of artificial intelligence can increase the competitiveness of Hungarian businesses

Specific and targeted public interventions are necessary to ensure that the potential of AI-based technologies is widely realised

Budapest, 21 October 2024 – The rapid spread of artificial intelligence (AI) technologies could put small and medium-sized enterprises (SMEs) at a competitive disadvantage if they do not start adopting them, warns the Hungarian Competition Authority (GVH) in its recently completed market analysis. The experts of the GVH also draw attention to the fact that the so-called minor languages, such as Hungarian, may be adversely affected as self-learning systems are typically trained using texts written in major world languages. Based on the findings of the market analysis available on the Authority’s website, the GVH has also made proposals aimed at protecting consumers and maintaining intense competition between companies.

[The Hungarian Competition Authority was one of the first among EU competition authorities to launch a market analysis at the beginning of January](#) to examine the impact of artificial intelligence. The GVH’s objective was to investigate whether the rapid dissemination of AI-based technologies could distort competition in different sectors and make consumers more vulnerable.

As part of the recently completed market analysis, the case handlers of the GVH conducted a detailed analysis of the history of AI and its international regulatory framework. In addition, they sent detailed questionnaires to major international technology companies and prominent developers of generative AI models to obtain a comprehensive picture of the companies’ AI-related developments and AI-based services, the current market structure, the competitive situation and the respondents’ consumer protection practices. Furthermore, the case handlers consulted a number of domestic developers as well as businesses using AI-based technologies and held several rounds of consultations with domestic research institutions, universities, and public and non-profit organisations to gain a more comprehensive picture of national regulation, developments, the technological adoption of domestic businesses and the opportunities available to them. The market analysis of the GVH also targeted two specific priority markets (banking services and telecommunications).

The market analysis highlights that **the development and effective implementation of AI-based models requires a number of critical resources**: large and diverse datasets, sufficient computing capacity (hardware or cloud), a highly skilled and specialized workforce, and the financial resources to fund them. In addition, the availability of pre-trained models is a critical factor, both at the developer level and for the companies using the models. **Ownership of these critical model inputs is highly concentrated and often owned by the dominant players in the digital markets (Big Tech companies: Meta, Google, Microsoft, Amazon, etc.).** These

international digital giants are typically present at all levels of the value chain. However, the GVH's analysis shows that the development of AI technology is very dynamic and therefore the balance of power in the value chain is not yet consolidated. Therefore, competition authorities should pay continuous and close attention to the AI sector.

The GVH also points out that most forecasts predict that **the adoption of AI-based solutions will lead to increased productivity, which in turn could lead to significant GDP growth. The widespread use of AI could therefore become a key factor for competitiveness in various product and service markets.** Nevertheless, estimates of the exact impact vary widely at the moment.

The market analysis draws attention to the **low adoption of AI-based solutions and services among Hungarian businesses, which is particularly noticeable among small and medium-sized enterprises (SMEs).** Companies have little knowledge of the potential uses of the technology. Besides a lack of capital, this is mainly due to a shortage of skilled labour. Those companies that do use some kind of AI-based solution (e.g., chatbot, fraud detection, translation, virtual assistant) are basically using it for non-critical tasks of lesser importance. Based on the targeted research of the domestic focus markets (banking services and telecommunications), it can be said that the responding companies are only using AI-based applications and services to a small extent, but are monitoring the impact and results of these AI-based solutions and developing AI capabilities through internal trainings. This suggests that **while SMEs do not appear to be lagging behind larger enterprises in this area, this could change rapidly due to a lack of awareness and interest in using AI. As AI-based technologies continue to develop, large enterprises will begin to use them in more and more areas, while SMEs may be left behind in the race.**

The market analysis revealed that global technology companies offer the same products and services to their Hungarian clients as they do in other countries. Their business policies do not include the introduction or development of products specifically designed for the Hungarian market. However, the Hungarian Competition Authority points out in its market analysis that **the targeted development of self-learning systems based on minor languages, including Hungarian, is a key factor for a country's data sovereignty, data security and the preservation of its cultural identity.**

The GVH's experts made **several recommendations** in the market analysis that has just been completed.

- 1. Promoting the use of AI-based solutions and services in the domestic business sector, with a particular focus on SMEs.** In addition to the availability of technological infrastructure, this requires the creation and continuous maintenance of SMEs' technological knowledge, adequate capitalisation and the availability of a competent workforce, preferably through higher education.

2. **Provision of up-to-date and transparent information to consumers.** Businesses providing services based on AI solutions to end-users are encouraged to provide clear and visible information to consumers during the presentation of the service, and prior to its use by the consumer.
3. **The revision of the national AI strategy of Hungary,** with particular attention to the development and support of specialised training courses; the rational integration and coordination of AI related research directions and the government's AI strategy; the continuous development of an adequate IT infrastructure, including the already available but limited supercomputing capacities; and the creation of an ecosystem for AI development (data economy, education for technology applications, benchmark evaluation system, etc.).
4. **Targeted support for the development of Hungarian language models.** Effective coordination of the financial and strategic resources of public bodies is needed for the development, implementation and widespread availability of large language models in Hungarian.

The report on the results of the market analysis is available on the [website of the GVH](#).

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