Executive summary of **Belgian AI Startups**

Paragraph	Question
Artificial intelligence (AI) is often seen as a technology that can bring about profound economic and social changes. While there are legitimate concerns about potential risks, recent developments also offer opportunities: AI could accelerate innovation, reverse declining productivity growth and thus contribute to sustainable growth. There is considerable uncertainty about the ultimate impact of AI on economic growth and productivity but high expectations explain why this technology is becoming increasingly central to economic policy and why policymakers consider a critical presence and sufficient dynamism in the AI sector to be crucial for future economic prosperity.	What is the topic? What is the relevance?
Nevertheless, knowledge about the Belgian AI sector remains fragmentary. There is a lack of information about which companies are active in this field, how successful they are, in which sectors they operate and what their broader impact on the economy is. A better understanding of this sector is necessary in order to evaluate and strengthen AI policy. Our research aims to increase that understanding by mapping Belgian AI producers as comprehensively as possible.	What is the gap of knowledge? What is the aim of our research?
An analysis of a sector or industry usually starts with industry codes, such as the NACE code, which EU countries use to classify the economic activities of companies. For companies active in AI production, there is currently no specific industry code. Most studies of AI companies are therefore based on surveys, data on companies receiving venture capital or companies with patents for AI applications. However, surveys cover only a sample of the business population, and companies with venture capital or patents represent only a small proportion of all AI start-ups, as our study shows. Such an approach therefore provides a very partial overview.	Why is the standard method for analysis not suitable for our study?
In our study, we therefore started from an existing list of Belgian AI companies, which we supplemented with online information and the results of various web searches in Dutch, French and English. This ultimately yielded 1,027 Belgian companies for which we found a company number in the Crossroads Bank for Enterprises (CBE). We further selected companies that were founded after 2010, to limit ourselves to companies whose core activities are built around recent developments in AI. For our analysis, we only consider companies that offer services or goods based on AI. After verifying that companies are actually active in the field of AI production, and therefore do not just use AI, we are left with 744 Belgian AI start-ups.	So, how did we construct our overview of AI companies? (Methods?) What is the result? How many AI start-ups did we find?
Belgian AI start-ups are mainly located in large urban centres, particularly around universities, colleges and research institutions. At the municipal level, Ghent has the largest number of AI companies (108, or approximately 15% of all identified companies). There are 86 based in Antwerp. In Brussels, there are 124 AI start-ups, but they are spread across various municipalities. Leuven (53 AI start-ups) is the only other centre with more than 50 AI start-ups. Hasselt (26), Liège (20), Kontich (16), Louvain-la-Neuve (15) and Charleroi (10) are the only other municipalities with 10 or more AI start-ups.	OUR RESULTS: Where are Belgian start-ups located?

For the Belgian start-ups in AI that we identified, we tried to determine which AI technologies they use (text mining, speech recognition, speech synthesis, image recognition, machine learning, workflow automation, autonomous robots, text-image generation and hardware) based on available company information (website, media reports). Belgian AI start-ups mainly use AI technologies to automate various workflows or to assist in decision-making, for machine learning for data analysis and for generating written or spoken language (chatbots, translation software). We also tried to find out for which tasks the AI offered can be used (marketing or sales, production or service processes, management, logistics, ICT security, accounting and financial management, research and development). The organisation of business administration or management, marketing or sales, and production or service processes are the main purposes for which Belgian AI start-ups offer applications. Finally, we also examined the sectors in which the customers of Belgian AI start-ups are active. Retail and distribution, health, transport, manufacturing and energy appear to be the most popular sectors.	What AI technologies do they use? For what tasks can the AI they offered be used? In which sections are they active?
By using data from the annual accounts of companies, we can compare the business performance of AI start-ups with that of non-AI start-ups. Looking at the main financial ratios, it is striking that the average profitability of Belgian AI start-ups is clearly more negative than that of non-AI start-ups and is also developing less favourably in the period 2010-2023. An increasing proportion of AI start-ups suffer losses and few are managing to make significant profits. In terms of liquidity, however, AI start-ups are performing better than non-AI start-ups. The conclusion regarding solvency is less clear and depends on which indicator is chosen. However, AI start-ups seem to be more dependent on equity financing, such as venture capital, than non-AI start-ups, probably due to the high uncertainty of the activities.	How do they perform financially?
Our analysis also shows that, compared to non-AI start-ups, Belgian AI start-ups mainly aim for rapid growth in turnover, which is often accompanied by a sharp increase in the number of employees. The productivity of AI start-ups is also increasing faster than that of non-AI start-ups. On the other hand, as already evident from the profitability results, many AI start-ups are not yet profitable. In the first few years after their establishment, the losses of AI start-ups often increase, and only from the fifth year onwards is there a slight improvement.	How do AI start-ups grow and profit?
Among the small group of exceptionally successful start-ups (AI start-ups and non-AI start-ups) – companies that simultaneously achieve high turnover, have many employees and are highly profitable – AI start-ups without venture capital are clearly overrepresented. AI start-ups with venture capital, on the other hand, are underrepresented. This can be explained in part by the fact that these start-ups were, on average, established more recently than non-AI start-ups and AI start-ups without venture capital, but perhaps also because they are among the most innovative companies with a higher risk profile, which take longer to become profitable than less innovative companies.	How do AI start-ups relate to venture capital?