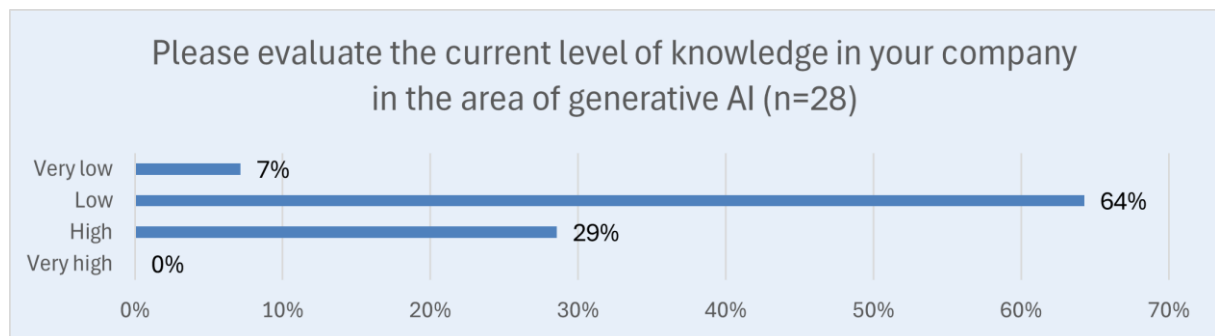# Generative AI in the high-tech sector: high benefits available and increased use expected

In today's world, characterized by rapid technological change and increasing digitalization, generative artificial intelligence (AI) is steadily gaining in importance and opening up new horizons for companies in terms of innovation and increased efficiency. Small and medium-sized enterprises (SMEs) in particular are faced with the challenge of recognizing the potential of these advanced technologies and harnessing them in order to remain competitive.

The fast-moving and innovation-driven high-tech sector in particular benefits from the application of AI technologies, as was confirmed in the current Executive Panel, which was created in collaboration with Hamm-Lippstadt University of Applied Sciences.
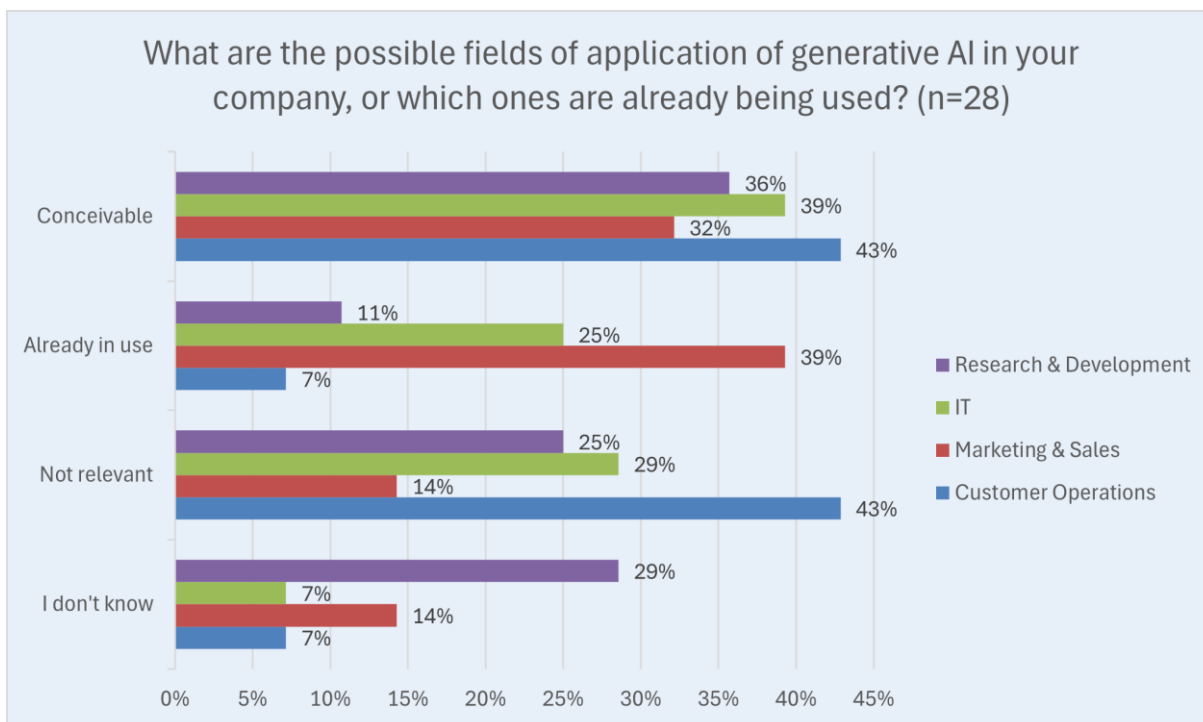
Knowledge of generative AI in SMEs still low

However, the level of knowledge about generative AI in the companies surveyed is still low.

71% of companies state that they have a low or very low level of knowledge in the field of generative AI in their company. According to their own statements, 29% of companies have a high level of knowledge in this new field of technology.

Marketing & sales and IT are currently the most common areas of application for generative AI

What are the possible fields of application of generative AI in your company, or which ones are already being used? (n=28)
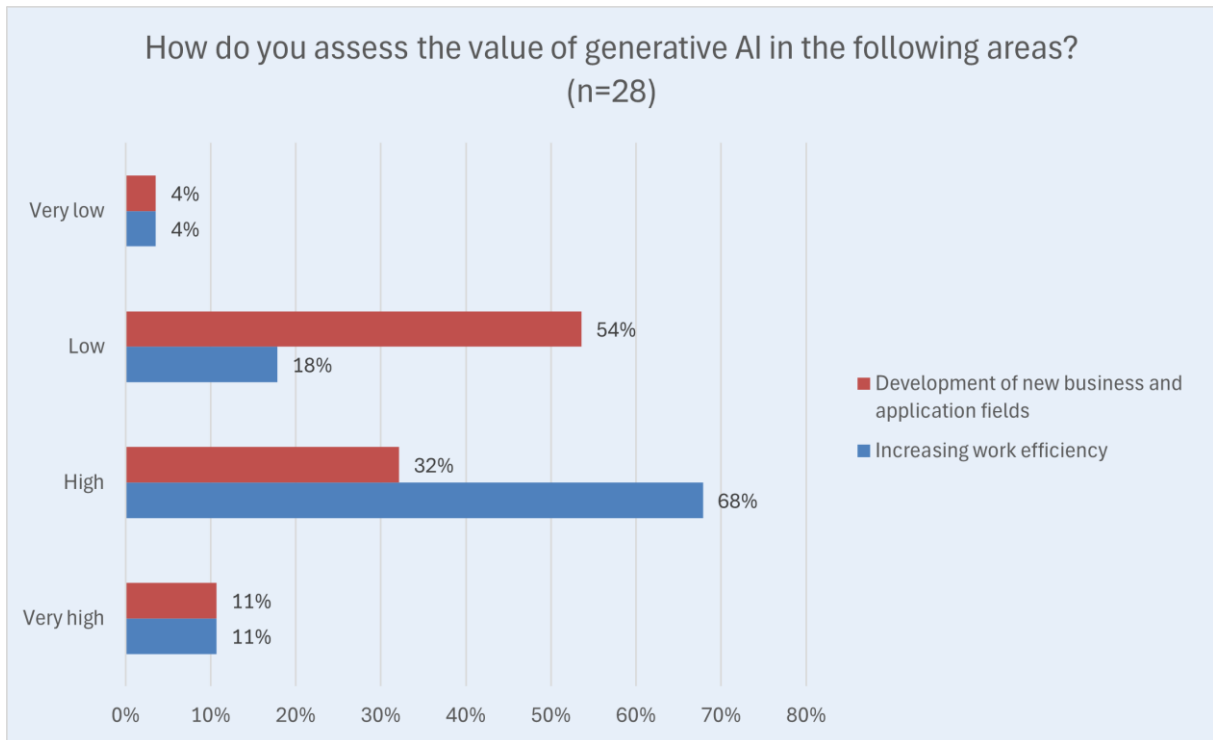
AI tools are used most frequently in the areas of Marketing & Sales (39%) and IT (25%). The figures for the optional use of AI in these areas are also high (Marketing & Sales 32% and IT 39%).

In the Customer Operations (7%) and Research & Development (11%) departments, the companies surveyed use generative AI tools less frequently. Despite the current low usage, however, these companies recognize considerable potential for future use. 43% and 36% of the companies surveyed consider use in these areas to be conceivable.

The concrete tasks that are processed in departments with generative AI are, for example, the preparation of patent applications, the revision of applications and contracts, as well as the experimental determination of reaction kinetics for self-optimizing systems.
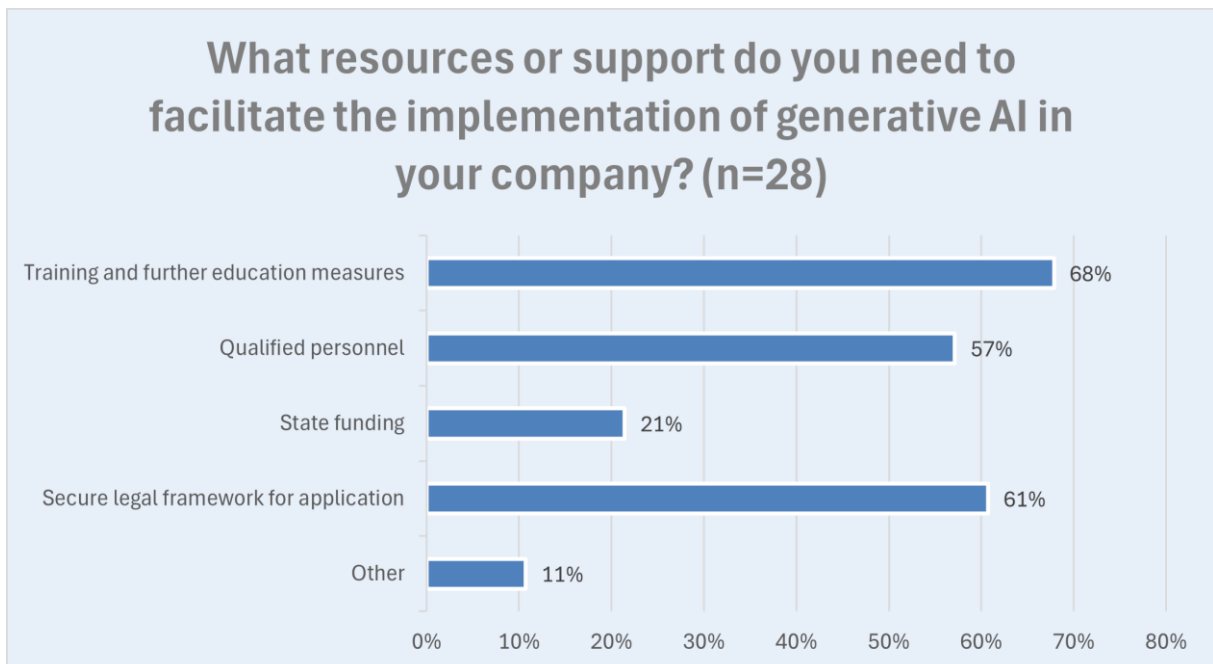
Benefit assessment - greatest agreement on increasing work efficiency

The vast majority of the companies surveyed (79%) rate the benefits of generative AI for increasing work efficiency as high or very high. A third of respondents see high or very high potential in the development of new business and application areas. Slightly more than half of the companies rate the development of new business and application fields as low or very low (58%).

How do you assess the value of generative AI in the following areas?
(n=28)

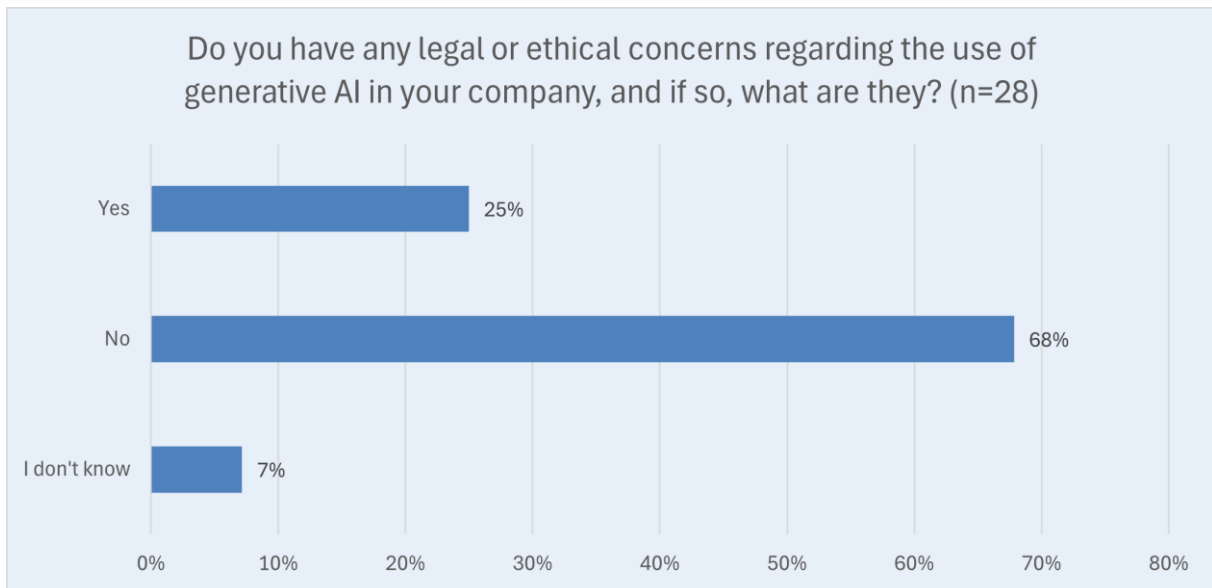|	Development of new business and application fields	Increasing work efficiency
Very low	4%	4%
Low	54%	18%
High	32%	68%
Very high	11%	11%

For implementation, companies need training and further education measures in particular

With regard to the implementation of AI in their own company, the majority of respondents state that training and further education measures are essential (68%). Furthermore, qualified personnel (57%) is an important resource. A secure legal framework is also a prerequisite for the introduction of AI (61%).

What resources or support do you need to facilitate the implementation of generative AI in your company? (n=28)

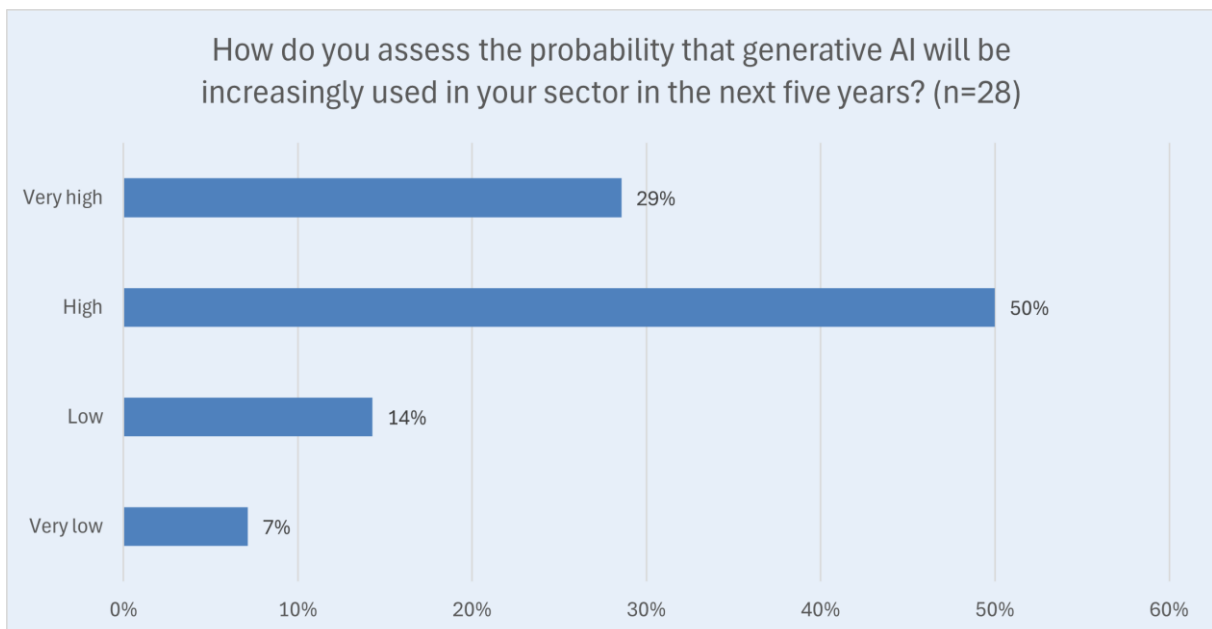|	
Training and further education measures	68%
Qualified personnel	57%
State funding	21%
Secure legal framework for application	61%
Other	11%

A quarter of the managing directors surveyed have legal and ethical concerns. These relate in particular to the infringement of property rights or the unchecked adoption of

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information generated by generative AI, the infringement of intellectual property and the quality of the results, as well as the obligation to label AI-generated content and the legal situation of the resulting intellectual property. 68% of respondents have no concerns about the use of generative AI.

Do you have any legal or ethical concerns regarding the use of generative AI in your company, and if so, what are they? (n=28)
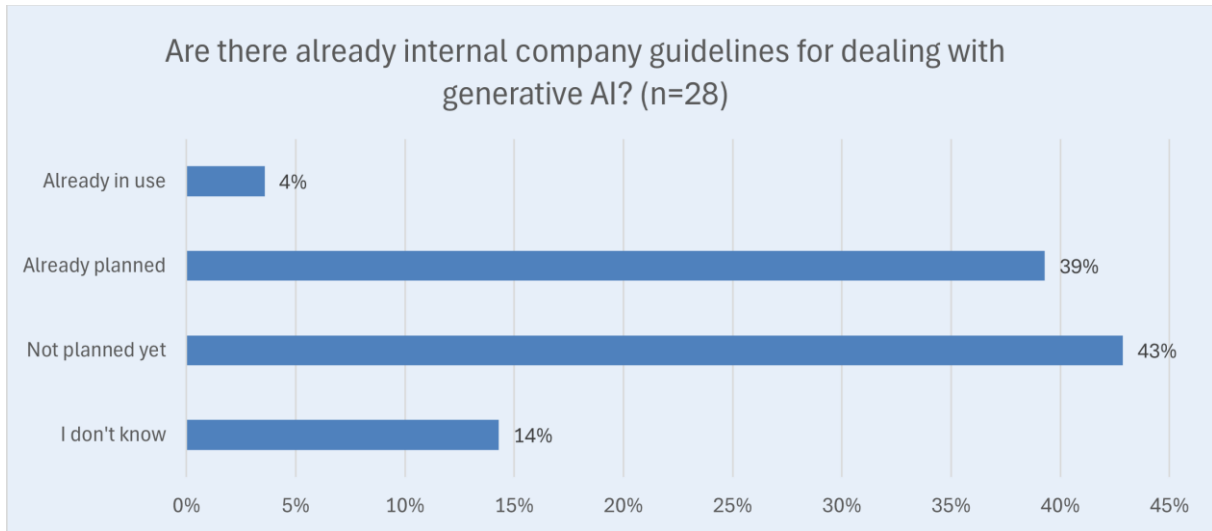
The use of generative AI in the high-tech sector will continue to increase

79% of managing directors believe that the use of generative AI in the high-tech sector will increase significantly. Only 14%, respectively 7% see the probability that generative AI will be increasingly used in the next five years as low or very low.

How do you assess the probability that generative AI will be increasingly used in your sector in the next five years? (n=28)

Internal company guidelines - no clear trend

With regard to the implementation of internal company guidelines, the group of respondents is divided into companies where guidelines have already been implemented or are planned (43%) and companies that will not introduce guidelines (43%).

Conclusion

The survey has made it clear that generative AI applications will become significantly more important in the high-tech sector - and in various fields of application. Comprehensive training and further education measures, appropriately qualified personnel and a secure legal framework for the application are essential for successful implementation and use of generative AI in everyday operations.

About the IVAM Executive Panel

The IVAM Executive Panel is the mood barometer for the microtechnology sector. Experts from business and science express their views on a current topic from the fields of business, politics or society. To this end, we conduct short surveys among selected managers in predominantly small and medium-sized companies and leading scientists in Germany and other European countries.

Survey among members of the management of IVAM member companies, conducted by Hamm-Lippstadt University of Applied Sciences.