

Germany needs to get a move on!

Results of the study series “Comparison of national strategies to promote Artificial Intelligence”

Sebastian Weise

AI – the defining digital technology for a better future

Artificial Intelligence (AI) is the defining technology of the 21st century, enabling a productive analysis of the volumes of data generated by the digital transformation. As a result, AI both holds enormous economic potential and is a tool that can help to address societal challenges in a range of sectors, from the combatting of diseases and climate change to internal security and public administration.

AI – an internationally hotly contested field

Following new breakthroughs, an international race to become the leader in relation to AI broke out in 2016 in which different value systems are competing with each other. The USA and China are currently leading. China seeks to consolidate its economic growth through targeted support of AI. Leadership with regard to AI would increase China's international competitiveness and thereby also support the rise in its political power. At the same time, AI is also being used in combination with modern surveillance technologies to stabilise the political system. The USA ascribes a central role to the private sector, with a view to AI's economic potential, and aims to maintain its technological dominance over China. Under the approach followed by Germany and Europe issues of responsibility and the public good feature more heavily, e.g. questions related to the protection of the private sphere play a central role. This underlines: Only the leaders in AI innovation will be able to maintain their prosperity, political influence and values in the future.

Germany must better use its AI potential

Despite significant potential, Germany ranks middle of the table in an international comparison. Its inherent advantages include a very good research landscape in the SMET subjects, a high-performing automated industry, competitive SMEs, and an established political and social model integrated into the EU and international networks. Germany is lagging behind with its AI strategy and may not rest on its laurels. It has to catch up in relation to, among others, the commercialisation of AI, the availability of necessary data pools, the retention of AI talents, and in the field of “computational power”.

Germany's AI strategy must be made more concrete and extended further

With its AI strategy, Germany's government has presented a sound concept that must now be implemented with international best practices in mind. The measures in the German strategy are multifaceted and the planned financial expenditure is high compared to other European countries, but lies well behind the immense expenditure of the USA and China. Furthermore, the strategy must be made more concrete and extended further. Structural changes should also be discussed. Specifically, that means:

1. **Better integration of the security sector** as one of the fields within which AI can be applied, with a view to questions of cyber security and the risks concerning the military application of AI.

2. **Strengthening of education and research facilities** in order to promote an informed civil society, to produce and to retain sufficient AI talents as well as to grow Germany's research landscape.
3. **Strengthening of Germany and Europe's technological sovereignty** in the area of AI through investments in the field of computational power, the expansion of cooperation in relation to the production of semi-conductors as well as stronger protection of state of the art technologies against foreign companies.
4. **Strengthening of the German and European innovation ecosystem** in order to improve the commercialisation of AI. Potential measures are, among others, implementing plans to make tax deductible the costs for R&E in the private sector, improving access to venture capital for start-ups, better networking of European innovation centres, developing the European digital single market, and a public sector that is more active in relation to the development / application of AI.
5. **Promoting the availability of sufficiently high-quality and substantive data pools**, particularly with regard to the needs of SMEs. To achieve this, commercial incentives for the pooling of data should be put in place and the establishment of protocols for the exchange of data should be encouraged.
6. **Stronger coordination and governance** of comprehensive support for AI through the creation of a Digital Ministry or a National Digital Council (NDC).
7. **Development and strengthening of an international framework** for the exploration and application of AI under a "Digital Magna Carta" in cooperation with traditional partners and emerging and developing countries.

Konrad-Adenauer-Stiftung e. V.

Sebastian Weise

Analyst for Global Innovation Policy
European and International Cooperation

sebastian.weise@kas.de



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