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TASP begrüßt die Gelegenheit, einen Beitrag zur Konsultation zur nationalen Datenzentrumsstrategie Deutschlands zu leisten. Unser Zentrum für Technologie- und Sicherheitspolitik (TASP) und unser Bereich „Frontier of Tech“ haben umfangreiche Forschungsarbeiten im Bereich der künstlichen Intelligenz (KI) durchgeführt, darunter zu den Themen Rechenleistung, Energie und Geopolitik, welche für die Herausforderungen und Chancen beim Aufbau einer souveränen und widerstandsfähigen Recheninfrastruktur in Deutschland von großer Bedeutung sind.

Dieses Dokument stellt keine formelle Antwort auf die Konsultationsfragen dar. Vielmehr verweist es auf unsere bestehende Forschungsbasis und hebt Bereiche hervor, in denen weitere, maßgeschneiderte Analysen von TASP die Entwicklung und Umsetzung der Strategie direkt unterstützen könnten.

Wir würden uns freuen, die hier genannten Forschungsarbeiten näher zu erörtern und Möglichkeiten für eine Zusammenarbeit oder gezielte Studien zu prüfen, um das Bundesministerium bei der Weiterentwicklung dieser wichtigen Initiative zu unterstützen.

[1] RAND Europe is a research organisation that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND Europe is nonprofit, nonpartisan, and committed to the public interest. RAND's mission is enabled through its core values of quality and objectivity and its commitment to integrity and ethical behaviour. RAND Europe subjects its research publications to a robust and exacting quality-assurance process; avoids financial and other conflicts of interest through staff training, project screening, and a policy of mandatory disclosure; and pursues transparency through the open publication of research findings and recommendations, disclosure of the source of funding of published research, and policies to ensure intellectual independence. This testimony is not a research publication, but witnesses affiliated with RAND Europe routinely draw on relevant research conducted in the organisation.

Relevant Research

- **Estimating global AI data centre power demand:** Research report extrapolating global power need, assuming further exponential growth in AI chip production.
- **Ensuring AI data centres are secure against theft and misuse:** Research report examining how governments and AI companies should defend data centres against a range of attacker capabilities, up to and including the most sophisticated attacks.
- **Exploring how AI adoption will affect power grids:** Research report evaluating the impact of AI adoption in power grids, with an application to the European power grid.
- **Determining Germany's share of global compute:** Dataset and paper presenting trends in AI supercomputers, with highly relevant figures and plots, giving context on Germany's compute share in comparison to other parts of the world.
- **Understanding the geopolitics behind energy and AI**: Working paper discussing the AI-energy geopolitical nexus, which could be of use in refining Germany's geopolitical strategy on AI.
- **Selecting data centre sites:** Working paper designating criteria to select locations for data centres, some of the information could be of use for Germany's strategy.
- **Estimating AI power capacity by 2030 in the US:** Research report estimating how much power the US requires for AI and summarising key challenges, some of which may be transferable to Germany.
- **Measuring global investment in data centres:** Dataset of non-US data centres, showing Germany with a slightly higher than average national rate of running into setbacks when building data centres (16% from this sample), and investing fewer resources than its neighbours in this sample.
- **Identifying policy options for unlocking energy for AI production in the US:** Working paper identifying the highest priority policy actions that the US government can take to improve energy capacity for AI, some of which could similarly be taken in Germany.

Building on our expertise, RAND Europe would be happy to provide targeted analysis to directly inform Germany's strategy. We see particular value in the following areas:

- **A framework to evaluate Germany's power grid constraints:** A detailed analysis to identify specific bottlenecks and opportunities within Germany's power supply and grid connection as they relate to building AI data centres in Germany.

- **A rubric for optimal AI data centre site selection in Germany:** A tailored assessment to support the development of current and potential data centre locations by identifying and prioritising sites for data centres within Germany.