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Panel 2: AI as a game changer in global geopolitics: Common challenges and cooperation.

AI as a game changer in global geopolitics: Common challenges and cooperation

"Artificial intelligence" (AI) is the buzzwords of the decade. It has become commonplace to note that the use of AI will have immensurable consequences for economic development, with impact on social and democratic life, labour markets, industry development, and more. An often-cited McKinsey study notes that AI has the potential to deliver additional global economic activity of around $13 trillion by 2030. It is believed that AI will have an important part to play in finding the answers to humanity's biggest challenges, from addressing climate change to fighting cancer and even halting the ageing process. At the same time, warnings that AI could lead to widespread unemployment, rising inequality, the development of surveillance dystopias, or even the end of humanity are worryingly convincing.

What is AI? A short explainer

AI refers to efforts to build computers and machines that can perform actions one would expect to require human intelligence, such as reasoning and decision-making. Currently, the most important advances in AI are being made through machine learning techniques, particularly "deep learning" and neural networks. Machine learning systems use computing power to execute algorithms that learn from data. Given this, one way to understand AI is as a shift from *humans telling computers* what to do to *computers learning* what to do.

Despite discussion of the possible emergence of "general artificial intelligence" ("superintelligence"), today's AI applications are "narrow", meaning that they focus on a specific task. In fact, today's AI tends to be both narrow as well as "brittle", as it fails to complete tasks that slightly differ from its training.

AI is a general-purpose technology like the steam engine, electricity, the computer, or the internet. These technologies have in common that their adoption has consequences well beyond the economy, as they can influence social cohesion, impact human wellbeing, change geopolitical balances and more. In fact, it is not even advisable to think of AI as a technology – given the many possible applications of AI, it is more accurate

The geopolitical consequences of AI may be equally, if not more, important than the economic effects

With most attention being focused on economic prospects, the geopolitical implications of AI were initially overlooked. More recently, however, international technology competition has drawn the limelight,

namely in the context of the 5G debate.[1] Three scenarios are imaginable as to how AI may impact the global strategic balance, with a fourth development potentially being caused by concerns over the first three scenarios.

1. The economic impact of AI leads to changes in economic and thereby geopolitical power

The invention of the steam engine was an economic advancement – but beyond that, it had important repercussions on international stability as it gave England an edge over its continental European rivals. In a similar vein, AI-enabled technological advances may give a country a considerable economic boost which may catapult it ahead of all others.

2. The first to develop "General Artificial Intelligence" will rule the world

The idea that a lead in AI may translate into global leadership is particularly convincing in the context of the development of "General Artificial Intelligence". General AI can learn different tasks, and do so by itself. It may be able to understand and learn any intellectual task that a human being can, and potentially go beyond it and reach "Superintelligence".[2] There is discussion among experts on when, if at all, superintelligence might happen. But if it were to emerge, whichever state controls such a machine would get a power boost that is likely to be uncatchable.

3. AI-enabled military capabilities change the (military) balance of power

AI is increasingly used in the military realm, with armed forces around the world investing considerable funds into research, development and testing. The US defence budget for 2021 allocates $1.7 billion to autonomy and the development of "human/machine teaming," as well as $800 million to other AI-related programmes.[3] There are a multitude of AI applications for security and defence:

Select military AI applications

- Intelligence, surveillance, and reconnaissance (ISR)
- Logistics (predictive maintenance, efficient shipping, autonomous transport systems)
- Cyber operations (defensive and offensive)
- Command and control (centralised planning that combine various flows of information, from different sensors, into a single source of intelligence)
- Semi-autonomous and autonomous vehicles and weapons (including lethal autonomous weapons systems (LAWS)
- Swarming, i.e. the coordination of many units working together
- Forecasting

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[1] https://ecfr.eu/article/commentary_europe_5g_and_munich_the_china_challenge_and_american_mission/

[2] For more on the debate on superintelligence, see Nick Bostrom, *Superintelligence: Paths, dangers, strategies,* Oxford University Press, 2014.

[3] https://cset.georgetown.edu/wp-content/uploads/U.S.-Military-Investments-in-Autonomy-and-AI_Strategic-Assessment.pdf

- Training (using methods such as war games and simulations)

If any of these AI-enabled military capabilities were to give one actor a decisive military advantage (like the introduction of nuclear weapons did), this could fundamentally change the strategic balance.

4. The race for AI itself may create conflict

There is a danger that geopolitical conflict may arise from concerns over these three scenarios. Geopolitical conflict due to AI may thus become a self-fulfilling prophecy. One can already observe this effect today, as discussions about an "AI arms race" abound, a term liked and loathed by experts in equal measure.[4] The United States and China are accusing each other of AI nationalism, while at the same time imposing export controls and aiming to create supply chains without the other's involvement.

Finally, it is worth noting that private companies are gaining importance over states, as a lot of cutting-edge AI research is taking place in private research labs.

German and European interests

Europeans have understood AI's importance. As of November 2020, 21 of the EU's 27 member states have published national AI strategies in which they identify areas of focus, develop recommendations, and decide funding priorities. Many of these strategies are ambitious; Czechia, for example, has set the goal to become "a model European country for AI", and Denmark wants to be "a front-runner in responsible development and use of artificial intelligence". But the strategies reveal that in Europe, AI is primarily seen through economic lenses. Almost all strategies are written by, or under the leadership of economy ministries. With very few exceptions, most notably France, no EU country engages with the challenges posed by the way AI development might impact geopolitics, the international balance of power, or the future of military conflict.[5]

This is also the case for Germany, whose 2018 AI strategy focuses primarily on economic challenges (and, to a lesser extent, opportunities) to the *Mittelstand*, Germany's small to medium-sized companies. Germany also supports the responsible development and use of AI, guaranteeing social and individual rights – efforts known as "ethical AI" development. The EU early on defined the ethical implications of AI as a primary area of interest and work, and has developed several regulation proposals for ethical and trustworthy AI.[6]

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[4] https://www.cnet.com/news/the-us-china-and-the-ai-arms-race-cutting-through-the-hype/

[5] For more on this see https://ecfr.eu/publication/not_smart_enough_poverty_european_military_thinking_artificial_intelligence/

[6] https://www.politico.eu/article/europe-silver-bullet-global-ai-battle-ethics/ and https://www.politico.eu/article/europe-commission-andrus-ansip-hopes-ethical-approach-will-be-its-edge-in-global-ai-artificial-intelligence-race/

International cooperation

There is a growing interest in international cooperation on AI. In particular the United States have begun reaching out to allies, in an effort to counter China's attempts at dominating international technology standardisation bodies.[7] Several new fora have been proposed by different actors;

- The British government wants to create the **D-10**, a technology partnership (initially primarily focused on 5G) of ten democracies: Australia, Canada, France, Germany, India, Italy, Japan, South Korea, the UK, and the US.[8]
- The **Global Partnership on Artificial Intelligence** was founded in June 2020, and is based at the OECD in Paris. It supports the "responsible and human-centric development and use of AI, in a manner consistent with human rights, fundamental freedoms and our shared democratic values." Its member states are Australia, Canada, France, Germany, India, Italy, Japan, Mexico, New Zealand, the Republic of Korea, Singapore, Slovenia, the UK, the Us, and the EU.
- The United States has launched a forum focused on military AI, the **AI partnership for defence,** whose member states are Australia, Canada, Denmark, Estonia, Finland, France, Israel, Japan, Norway, Republic of Korea, Sweden, the US, and the UK.[9]

These proposals – which so far have primarily been promoted by democratic and western countries – are often explicitly or implicitly directed against China. How to work together to advance AI research, support its ethical development and use, while safeguard national interests will be a challenge, democratic states will need to work out together.

[7] https://www.technologyreview.com/2018/03/16/144630/china-wants-to-shape-the-global-future-of-artificial-intelligence/
[8] https://www.thetimes.co.uk/article/downing-street-plans-new-5g-club-of-democracies-bfnd5wj57
[9] https://www.ai.mil/docs/AI_PfD_Joint_Statement_09_16_20.pdf