

# Artificial Intelligence, 5G, and Geopolitics

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Artificial Intelligence (AI) is the term generally applied to the process whereby computer algorithms analyze and apply huge amounts of data to the point where machines can “learn” on their own. AI is clearly becoming one of the most significant and defining technological developments of the twenty-first century. The next industrial revolution triggered by AI and enabled by 5G will profoundly change our human interactions. 5G will enable exponentially faster download and upload speeds, as well as providing significantly reduced latency for numerous devices, while allowing wireless networks to communicate with each other.

Whether through changes in global supply chains and transportation systems (autonomous cars), medical technology breakthroughs (remote surgeries), social control mechanisms, or the way modern-day warfare is conducted, 5G will become the basis of a new global communications architecture upon which AI will be applied and through which the Internet of Everything (IoE) will become the backbone of our societies. This change in technological modernization will not come without challenges and consequences for the U.S.-led world order that has endured for the last seventy-five years.

Indeed, artificial Intelligence, 5G and quantum computing will profoundly change our global politics. These technologies will become the most important emerging advancements in the next ten to twenty years. Our current world order is already challenged by rising powers that possess these technologies, and it is crucial for Germany and the EU to improve their global competitiveness and tap into the vast potential of AI, 5G, and big data. Geopolitical and economic supremacy will be determined by those powers who successfully implement and utilize manage AI and 5G.

China has explicitly documented that by 2049 it plans to become the world’s premier global superpower, surpassing the United States. Through China’s enthusiasm for some aspects of markets and profits, its implementation of a prolific and systemic theft of intellectual property (IP) worldwide, a decades-long forced transfer of knowledge from outsourcing, and their own extraordinary hard work, hundreds of millions of Chinese citizens have achieved middle-class status or better. This transformation appears to many as a counter-model to the U.S.-guaranteed liberal democratic western world order. China’s Hundred-Year Marathon is aimed at replacing the U.S.-led world

order with alternative economic and digital networks, while simultaneously building up a military presence in places such as the South China Sea and the Indo-Pacific. Essentially, China is combining the geopolitical theories of Alfred Thayer Mahan and Halford Mackinder into one national global strategy: sea power vs. land power.

The Russian approach, in contrast to the Chinese, is more focused on the military applications of AI. Russia has not only announced the development and production of the Avangard (a hypersonic glide vehicle), capable of actively avoiding radar and point defense system detection and delivering nuclear and conventional payloads, but it has also developed a nuclear-powered cruise missile called 9M730 Burevestnik, capable of carrying thermonuclear warheads. The Russian Federation is working on AI to create swarms of drones ready to be used on future battlefields.

The most advanced cyber and AI players today are the United States, Russia, China, and to a lesser extent, the European Union. Large tech companies, however, are mainly located in the United States and China, while Russia is primarily focused on military and government efforts.

The small number of companies capable of producing and implementing 5G technologies suggests a highly-competitive international market with significant barriers to entry. National and regional players, such as Germany and the EU, could start forming a more independent industry and build up AI capabilities at home to protect their societies' open character, but there is also the critical question of maintaining national security. The application of AI and other key emerging information and communications technologies will be a critical defining factor for the success of nation states and alliances in the future.

All in all, AI and 5G will become the most important emerging technologies within the next ten to twenty years, with the potential to fundamentally alter the global balance of power. Moreover, geopolitical and economic supremacy will be determined by those powers who manage AI and 5G to their advantage. Russia and China are already challenging the U.S.-led world order by providing new technological competition. Lastly, Germany and the EU are lagging behind in both 5G and AI adaptation. Their global competitiveness will continue to decline unless they invest in EU-based technology-capable companies that can manage big data and exploit the seemingly limitless opportunities such data offers.

