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Technological strategic sovereignty living alongside science diplomacy

A digitised world, with manifestly increasing strategic rivalries, makes technology a new source of power and security in international affairs. It therefore comes as no surprise that concepts like European digital, technological, and data sovereignty are at the centre of current EU policy discussions.

The Covid-19 pandemic and its consequences have only added fuel to the fire of the debate. Apart from further highlighting the importance of the digital transformation in many different aspects of our daily life, the pandemic has also evidenced the need to reduce strategic dependency in key technology areas, supply chains, and critical infrastructure.

According to Josep Borrell, the EU's High Representative for Foreign Affairs and Security Policy and Vice-President of the European Commission, strategic autonomy is, for the EU, "a process of political survival", and it should be expanded to other areas than only security and defence in order to safeguard the EU's economic and strategic interests and European values. The impact of technology, digitisation and data, on sovereignty, power and strategic autonomy should therefore not be overlooked. Technological strategic autonomy is about developing European technologies and alternatives that are essential for the well-being of Europeans, and without which there can be neither autonomy nor sovereignty. It is also about being able to play a leading role on the world stage.

Digital sovereignty is based on three interrelated elements: computing power, control of our data, and secure connectivity. Moving in this direction implies that the EU must free itself from its dependencies on hardware and software, and from its dependencies both on governments and high-tech companies from third countries.

In this regard, the EU is already working on important initiatives. Take supercomputers (high performance computing [HPC]) as an example. In her state of the Union speech, European Commission President Ursula von der Leyen stressed the importance of supercomputers for the current European Digital Decade – from big data analysis and artificial intelligence to cloud computing technologies and cybersecurity. It is well known that high performance computing is today essential for developing cutting-edge research in many

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fields of knowledge – from medicine to energy, climate change, astrophysics, geology, artificial intelligence, and engineering. For this reason, supercomputers are one of the pillars of our digital autonomy, and the ability to develop them represents a major scientific, technological, and industrial challenge.

By creating the European High Performance Computing Joint Undertaking (Euro HPC-JU), the EU joins efforts and pools resources with the ambition of becoming a world leader in high-performance computing and of advancing significantly towards the achievement of its technological sovereignty.

One step forward is the announcement of a proposal in 2022 for a 'European Chips Act', to secure Europe's supply of microchips and encourage innovation in response to the EU's high dependency on a very limited number of non-EU suppliers. With initiatives like these, and in a world scenario of two technological powers – the United States and China – in strong confrontation, the EU is clearly laying the foundations of its sovereignty so that it can reap results in the shortest possible time, but not be isolated, which would be contrary to EU interests, values and culture. Instead, the EU wants to reconcile technological sovereignty with a commitment to strategic openness and international cooperation. More than ever, international cooperation is now a priority.

The EU needs to cooperate across borders to develop innovative solutions that can deliver green and digital transformations in line with the United Nations sustainable development goals. Tackling global problems such as climate change, an adequate supply of renewable energy, or pandemics requires the best talent and the most advanced knowledge in the world.

International cooperation in science and innovation also opens new business opportunities and new markets. Perhaps most importantly, it promotes innovative thinking, provides better problem-solving skills, and facilitates personal relationships between scientists and innovators from different countries, with different cultural backgrounds, and with different backgrounds and political points of view.

The language of science is universal, as are the values of science such as rationality, transparency and universality. Using the common language of science and sharing the same values can help enormously to build trust between countries. Science and innovation then become an essential tool for building and improving relations between countries, either to address common problems, or to mitigate geopolitical or social tensions (science diplomacy). An excellent example is that of the nuclear agreement with Iran, which was made possible because the talks involved two physicists who had previously worked together at the Massachusetts Institute of Technology (MIT).

Today, the EU regards science diplomacy as a highly relevant instrument for its foreign and security policy. Scientists who are connected and committed to the most relevant problems in the world can contribute significantly to promoting peace, development, multilateralism, openness, and establishing links between countries. They have done so in the past, led by Bertrand Russel and Albert Einstein, concerning nuclear energy, and they can do so today when there are so many significant challenges to be addressed. The cooperation and commitment of scientists on our present-day challenges can nevertheless pair perfectly with

the development of European alternative technologies that can free the EU from its techno-logical dependencies and lead it to greater sovereignty.

Both science diplomacy and strategic technological sovereignty are concepts that emerge in the area of international cooperation, and they will of course be a matter for future discussions. But what is important now is to highlight that they can live alongside each other perfectly.