Deep Dive:
The EU in a volatile new World: the challenge of global leadership

Draft Report

"FORESIGHT TOWARDS THE 2nd STRATEGIC PLAN FOR HORIZON EUROPE"

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1 Introduction

Background

An increasingly volatile global geopolitical context is emerging with growing threats not only to global security and governance but also to the EU and neighbourhood countries. Developments in the world and NATO point to Europe's vulnerability – one that has long been explained, but had yet to be taken seriously. The Russian invasion of Ukraine brought home the realization that the world system is at a crossroads. Talk of multi-polarity, turbulence and possible configurations of the global system has combined with the concern about the future actorness of the EU, or as the 2021 Strategic Foresight Report of the European Commission puts it: "the EU's capacity and freedom to act".

If new international blocks and confrontations emerge, this disruption might even go beyond Europe, threatening traditional values, as well as lives and material prosperity of many. While the sudden changes are pushing the EU to reassess its defense capabilities and take a military stance by providing weapons to Ukraine, they must also be seen against the backdrop of an accelerating climate crisis. Impacts of climate change are a direct threat to many regions in the EU, but they also put indirect pressure on migration and the economy. As the war is fueling climate change drivers, many Europeans are torn between contradictory moods: indifference and solidarity, fragmentation and cohesion, empowerment and desperation.

A important driver affecting the EU's capacity to act is the US foreign policy. Will the US maintain its military influence in Europe, delivering weapons, personnel, and intelligence, as well as pursuing its interests in Eastern Europe or will it take a post-hegemonic position, withdrawing from the continent and leaving conflict resolution up to the EU and the rest of NATO? Such geopolitical reconfigurations are closely entangled with the domestic developments in the US. The EU's dependence on the trans-atlantic partnership and NATO is both a source of strength and weakness. As the recent period has shown, an un-cooperative US President and an ambivalent US-China relationship might put the US in a position of dictating terms to the EU in the context of major geopolitical upheaval and reconfigurations, where the rise of new regional powers and the emergence of new actors create uncertainty about future coalitions

However, the EU is vulnerable along several further dimensions: from access to resources to insufficient capabilities in key technologies including military technologies and dependence on the US for military deterrence, as well as on China for some basic communication technologies. The EU is faced with the urgency of reducing its economic and technological dependencies but the situation remains delicate in the view of possible shifts in the US government policies and continued dependence on natural resources from other parts of the world. In taking on a more ethical global stance, the EU opens itself up to criticism about double standards and inconsistencies in its policy narratives.

There are already efforts underway to improve the preparedness and make the EU more 'future-proof', for instance by anticipating consequences of, and testing responses to, possible shocks and crises. While the EU is frequently assumed to be in a position to claim technological leadership, the arising key question is whether it will rethink its investment focus towards specific dual-use technologies, thus creating capabilities and becoming competitive in the domain of military technologies and industry.

These (and other) uncertainties feed the fear of the future and gives rise to the new geo-political realism: weaponization of everything, increased budgets for deterrence and budget cuts on socio-political matters. Accompanying energy shortages and reversing climate neutral energy policies are contributing to the looming economic crisis and societal fragmentation. A central question of the near and long-term future is: what will the geopolitical power distribution look like?

This report sketches some alternative scenarios of how the geopolitical reconfiguration might evolve in the coming 15 to 20 years. It is based on the work of a team of experts, covering different aspects of geopolitical reconfigurations and future challenges for the EU's positioning. Next to individual papers as inputs to this report, several virtual and one in-person workshop were organised for further developing and consolidation of the main drivers as well es for developing diverging scenarios on the future of geopolitics and the role of the EU. Additional experts were included in the work as well and consulted to give feedback. Some results of the group's work are also presented as blog posts on the website www.futures4europe.eu. A dedicated workshop with EU foresight experts from the Commission services and the member states, helped to provide important insights to complete the scenario development and outline some key policy options.

Framework and methodology

The different scenarios were developed using three-horizon-approach dividing the time span between today and 2040 in three phases equaling three consecutive time horizons. The first one describes the present situation along some distinguished factors that were defined by the team in an expert workshop. It describes the present situation, that is in 2022. The third time horizon is a projection to the far future, in 2040 and is a very rough sketch on the bipolarity of powers, dominated by the US on the one hand and China on the other. The second time horizon gives room for more variations and asks: how did we get from the present situation in 2022 to the one depicted in the bipolarity sketch of 2040? It allows more creative space for the mid-range of a horizon from 5 to 10 years from now.
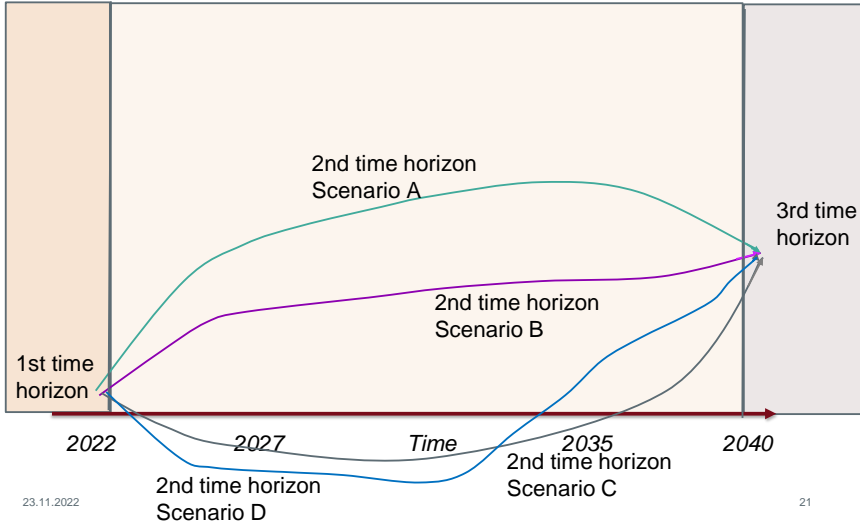

Figure 1: Three-Time-Horizons Approach

To have a frame for variations, the team decided to use the two-by-two scenario matrix along the two factors and their extremes: the first one is where the US foreign engagement is on the range of low to high and the second one is where the EU agency is on the range of low to high.

Out of the four quadrants, the team chose 3 which were considered the most interesting ones to prepare the scenario sketches for the 2nd time horizon, and later sketched the 4th one:

1. **Home Alone:** US foreign engagement: low / EU agency: high
   In the New Hope scenario a close "cooperation out of choice" rests on the reciprocal openness of societies, economies, information ecosystems and polities.
2. **New Hope:** US foreign engagement: high / EU agency: high
   In the Home Alone scenario, in a post-U.S.-hegemonic world, the EU becomes a pragmatic world player who calls for a global approach to the climate crisis and does not shy away from negotiations and agreements with autocratic states. In its global role as arbiter and balancer, the EU builds on its internal balance and acts as a role model by deepening Member State integration in parallel to a multi-speed EU.
3. **Mad Max:** US foreign engagement: low / EU agency: low
   In the Mad Max scenario the EU suffers from a globally disengaging USA and internal divisions that reduce its global agency. Across Europe economic and social decline accompany the lack of progress in integration and the continuing signs of economic and political disintegration.
4. **The Backyard:** US foreign engagement: high / EU agency: low
   In the Backyard scenario- the EUs dependence on the US and its following of American social and cultural ideals lead to economic and political decline but a re-emergence of European civil society movements.

Scenario Framework for the 2nd Time Horizon
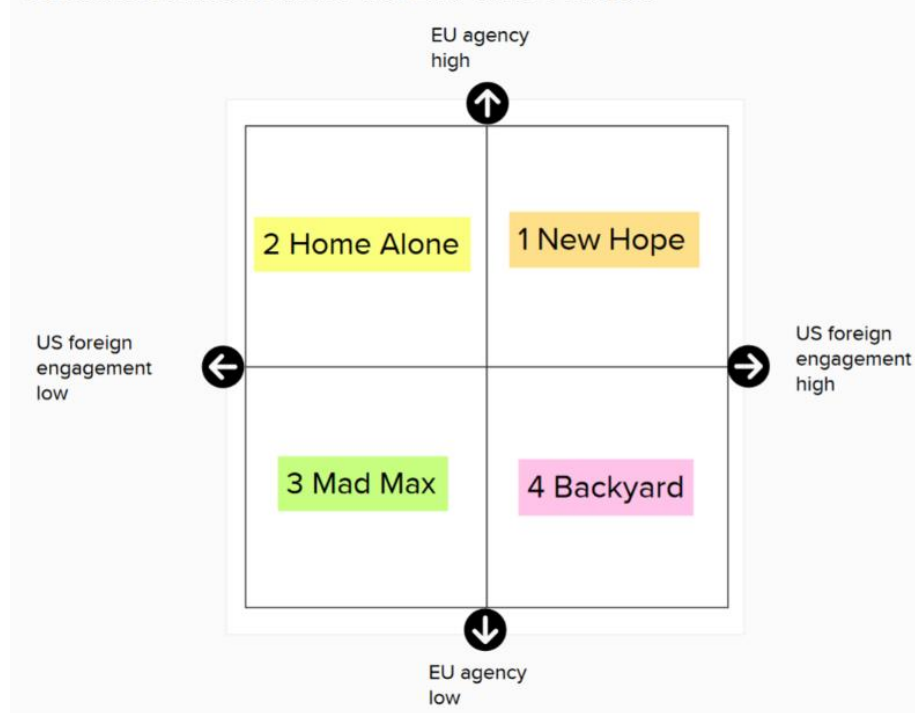
2 Scenario: "A New Hope"

Time horizon: from 2027 to 2035
Definition: high EU agency / high US engagement

World Map
Scenario 1: "New Hope"

Europe

In addition to participation in military missions with NATO outside Europe and hosting US military platforms on their territories, the EU is also building on its strengths such as regulations and greening, thus gaining more economic & political influence on its neighborhood

Asia & Eurasia

New coalitions and threats of block building such as that of China & Russia against neoliberal capitalist and free market values

North America

For the EU, the US engagement can be either cooperative or obstructive: the US can wage wars to expand sphere of its influence and markets, while the US miliary industry also plays a major role in Europe's re-armament

Latin America

The EU will take part in joint climate resilience programmes for regions most affected by climate change even beyond Europe, such as those in Asia and Latin America. At the same time, there is a chance of new coalitions and block–building against neoliberal capitalist and free market values

Africa

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Oceania

???

Scenario Framework for the 2nd horizon

2x2 Grid

EU agency high

US foreign engagement low

US foreign engagement high

EU agency low

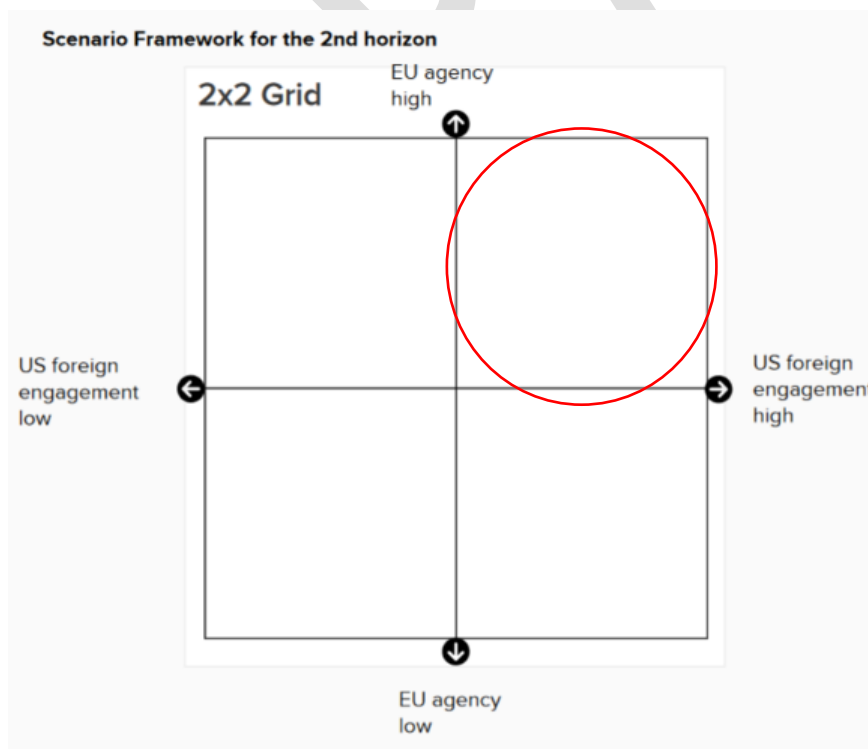**Open questions:**

- What are the wider implications of a persistently high U.S engagement in geopolitical matters? Under what circumstances could this engagement be solidified and sustained?
- What does high U.S. engagement in geopolitical matters imply for the EU? 1) capacity, 2) willingness, 3) acceptance?

Short Summary:

The scenario "A New Hope" explores opportunities and challenges for the EU that develops a strong transatlantic partnership with a generally benign and globally committed U.S., thereby significantly contributing to assertive policies that are designed to protect global public goods and modernise international institutions.

After the defeat of Trumpism in the American 2024 presidential elections, the new Responsible Republicans movement manages to reconcile the internationalist wing of the GOP with the more nativist impulses of the MAGA followers. As a result, American politics stabilise again. The EU and the U.S. develop a strong partnership based on the principles of common interests, reciprocity and burden-sharing. To that effect, the EU succeeds in transforming itself into a more unified actor in foreign and security policy by establishing, for instance, majoritarian decision-making that contributes significantly to more effective transatlantic standard-setting in various issue areas such as trade, technology, migration and foreign policy. The push towards internal reform is a result of the "double shock" of the COVID-19 pandemic in conjunction with Russia's aggression against Ukraine. Brussels and Washington both realize that their future cooperation has to be based on reciprocity and political reliability. On both sides of the Atlantic, the lessons drawn from this double shock are strikingly similar: co-investing in strategic partnerships can only be justified and sustained as long as all partners can be sure about the mutual honouring of commitments to collective deliberations, inclusive decision-making and effective policy implementation. Intensified (re-)coupling and friend-shoring become conceptual terms that describe this kind of close "cooperation out of choice" that rests on a reciprocal openness of societies, economies, information ecosystems and polities. In line with the EU vision of open strategic autonomy, like-minded partners that can be trusted and share the global concerns and outlook of the EU and the U.S. are invited to participate in selective multilateral networks such as the G7, which transforms itself into the G7+. Policy and institutional convergence are among the most important indicators for identifying these partners. On issues that require lose "cooperation out of necessity" to protect global public goods such as climate, biodiversity or basic economic stability tactical/transactional agreements with important yet unlike-minded third countries such as China or Saudi-Arabia are admissible.

Scenario Description

Military empowerment:

Asymmetrical, but complementary burden-sharing is the decription most frequently used when analysing the cooperation between EU and U.S. in military affairs. The bond of an effective nuclear umbrella that Washington provides for EU members states and the crucial investments Brussels contributes to the modernisation of this nuclear arsenal proves to be weather-resistant. even after Germany quickly develops an impressive conventional military force – or because of it, as some observers argue. The divion of labor between the transatlantic pillars of Nato finally follows the prescriptions that have been repeated time and again since the 1990s: the EU takes care of its neighbourhood to the East and South, while the U.S. with a more geopolitical outlook projects (military) power globally. Again, the double shock of COVID-19 and Russia's invasion of Ukraine

contribute to growing cohesion inside the EU, but also across the Atlantic. EU member states cooperate ever more closely with respect to pooling & sharing, military R,D&I, procurement, strategy development and missions. The hitherto ubiquitous criticisms of free-riding are met by extra efforts by countries such as Germany that continues to invest heavily in rearming and by-and-large refrains from reverse finger-pointing. In addition, to deflect any concerns its neighbours might harbour given the fast pace of its military ascend, Berlin proactively offers to integrate its forces with any EU member state willing to reciprocate. The Netherlands, Belgium and Austria are among the first nations to positively respond to this offer. The integration of German and Austrian forces is a deliberate move designed to signal the EU – and not Nato – character of this merger. The EU military-civilian command specialises in hybrid missions in the conflict-ridden Southern neighbourhood that are primarily designed to provide basic stability within the framework of governance-building that succeeds the old dogma of state-building.

Migration:

The inauguration of a transatlantic Open Migratory Area in 2033 is preceeded by long and complicated negotations between Brussels, Washington and the EU member states. Finally, Washington agrees to open up its borders to countries such as Poland that have for decades longed for Visa-free travel to the U.S. in exchange for the EU acceptance of American border control and immigration standards and procedures at the Schengen borders. The American fears that OMA would create a new opening for illegal migration to the U.S. from the East and South shores of the Meditaranean can only be met by tightly securing the EU frontiers – a goal that many European governments covertly share. The resistance of the more progressive parts of European societies is mitigated by a separate, but complementary programme for development and transformation in the neighbourhood that includes massive incentives for economic modernisation, political reform and civil society empowerment. That the U.S. and EU act concertedly and strategically leaves the targeted regimes little wiggle room, most of them accept the programme's conditions in exchange for debt restructuring, joint research projects to promote sustainable development, vocational training and assistance for regulated circular migration.

Science Diplomacy:

The close transatlantic cooperation also bears fruit with respect to scientific research and diplomacy. In contrast to the non-reciprocal and sometimes predatory research practices of China and like-minded autocratic regimes the ingenuity and creativity of European and American academies, enterprises and administrations unleashes the full potential of open access Particularly with respect to developments in AI, health research and applications, and sustainable production the attractiveness of the most mature markets in the world remains unsurpassed. Supported by concerted diplomatic efforts led by the G7+, the EU and U.S. manage to agree on best scientific practices that produce unexpected returns in terms of societies well-being and resilience. To the horror of more and more autocratic regimes, the insistence on transparent standards for investments in market development and inclusion in supply chains opens up shrinking spaces for civil society participation that is supported by smart, yet intransigent science diplomacy.

Climate Crisis Governance:

After the unexpected outcome of Russia's war of aggression, the international community focusses on the protection of global public goods. More and more countries are confronted with the devastating effects of climate change, and less and less governments prove capable of managing the necessary transition to sustainable forms of consumption and production in a manner that is accepted by socities. Many regimes point to the historic responsibility of the heavy polluters of the

past for the dire state of affairs in vast parts of Africa, Asia and Latin America, a claim that is met by a combination disciplining and supportive measures from the EU and U.S.: Loss and damage, just energy transition partnerships, compensations and climate mitigation assistance on the one hand, carefully exposed practices of endemic state corruption and capture by local and regional special interests on the other. This dual strategy of robust science and climate diplomacy puts a fair share of the blame on perverse governance developments in many of the most affected countries. That the collusion of special interests in the EU and U.S., for instance of legal and financial actors, has for decades contributed to this situation is not denied but rather exposed and corrected enhances the credibility of the strategy. The same effect have technological developments that result in cost-effective and sustainable consumption and production practices such as climate neutral transport by solar energy powered ships crossing the Atlantic. Breathing life into the maxim of putting your own house in order before preaching to others effectively deflects criticism by regimes unwilling to reform and emboldens societal actors thirsting for innovation and transformation. Governments of countries such as Brazil, India, Indonesia, Mexico or South Africa that are faced with growing internal unrest because of the effects of climate change are joining the governance clubs that advocate for deceive global action to meet the goals of the Paris agreement.

Local-Regional-Supranational Governance:

In terms of governance, the transatlantic partnership manages to globally project the advantages of responsible and responsive democratic governance for both their citizens and the international community. Brussels' idea of an open strategic autonomy complements Washington's intention to decrease asymmetric dependencies and vulnerabilities. Using the principle of reciprocity as a yardstick for quality of governance, both polities champion cooperation with partners that share their characteristics (independent branches of government that encourage basic political stability, distribution of power that limit individual's options for egotistical decision-making and policy-enforcement). Thus, diversified and transparent governance as opposed to the concentrated exercise of power is the transatlantic role model for governing on all political levels, top-down as well as bottom-up. However, in terms of institutional reform, it appears unlikely that the long-standing blockades of international organisations such as the UN, the WTO, or the WHO will disappear. The emergence of virtual global networks of citizens that are angry and frustrated because of policy-makers' apparent impotence to secure the ecosphere for future generations is an important additional factor for global governance. But of course the creation of parallel institutions such as a World Federation of Concerned Citizens would create massive problems of legitimacy and acceptance. More and more judiciary systems push for effective global rule making. Thus, traditional policymaking institutions such as governments and parliaments are threatened by a coalition from above (the judiciaries) and below (civil societies) that presses for assertive policy implementation. Some observers even go so far as to interpret the strategic partnership between the EU and U.S. as a kind of pre-emptive move by both polities to maintain their governance authority.

Role of other Powers (China, Russia, …):

The economic downturn of the 2020s contributes to exposing the internal contradictions in formerly more or less successful developmental dictatorships. In China, the informal social contract between the CCP and the country's professional class that is based on the exchange of political loyalty by the latter against continuously growing consumption options – and possibilities for social distinction – offered by the former unravels because of the global turn to economic decoupling and the burst of the housing bubble that accompanies it. As in Russia, traditional and modern repression techniques are employed to make up for the increasing lack of output legitimacy. The global recession hits emerging markets and rising economies such as India, Indonesia, Mexico and Brazil disproportionally

hard: legal and illegal capital exports increase rapidly, remittances inflows ebb and the relocation of high value-creating industries to the Global North because of strategic concerns for resilience and self-reliance reveals the structural weaknesses of political and economic institutions. Most of these countries turn inward, while some try to direct citizens' grievances at "outside powers" by invoking historical injustices as well as foreign subversion. Again, it is the social fabric of rural communities that proves to be essential for the provision of basic commodities and services. But because of environmental stress factors and the exposure to social media, even these self-help networks become increasingly fragile. Given these developments, the American and European fears of a counter-block formed by China and Russia or even a powerful Global South coalition appear to be unfounded. However, non-conventional and hybrid attacks increase.

Technologies & Resource Dependence:

The "double shock" of the pandemic and the war only accelerates a development that started with the end of the Trump presidency. Increased transatlantic cooperation particularly in the technological domain is of major interest to both the EU and U.S. By creating institutions such as the TTC, Brussels and Washington underlined their commitment to common standard development and reciprocal market opening. The exposure of asymmetric dependencies in civilian sectors such as the production of PPE, but also in strategic sectors such as energy, and the detrimental effects of these dependencies on social stability urges governments to reassess their options and policies: the sustainability of investments and supply chains is stress-tested against the risk of major disruptions, particularly regarding strategic commodities. As a consequence, technological co-creation is re-shored to trustworthy strategic partners rather than to more profitable, but higher-risk manufacturers – a move that is only consequential when factoring in the costs and frequency of unexpected disruptions that have shaken the global community in the 21st century.

Deepening EU integration:

More transatlantic cooperation will not automatically lead to more cohesion of the EU. Rather, increased cohesion is a prerequisite for meaningful transatlantic cooperation. The more unified and therefore predictable the EU appears, the more the U.S. should be willing to engage in close "cooperation out of choice" – provided a succesion of benign governments in Washington. That will require structural reforms such as qualified majority voting or giving up on the principle of degressive proportionality in the EP. The most important unknown remains, of course, the willingness of national governments to cede power to Brussels.

R&I implications

- Research compatibility/non-compatibility of EU and U.S. standards and processes for technology development
- Invest in generic transatlantic research cooperation
- Fund research activities that focus on compatibility/incompatibility of EU and U.S. ideas of multi-level governance, selective multilateralism, (un-)acceptable social inequalities etc.
- Identify and research best governance practices, explore scaling-up possibilities across all levels of policy-making
- Fund a transatlantic prediction platform to identify the best forecasters
- In parallel, research the requirements for future analysis to influence policymaking
- Comparative research on science-policy interfaces, different cultures of research uptake and STS in general

3 Scenario: "Home Alone"

Time horizon: from 2027 to 2035
Definition: high EU agency / low US engagement

World Map
Scenario 2: "Home Alone"

Europe

The EU emerges as a global power in climate crisis governance through regulatory and standard-setting capacities in STI and innovative diplomacy

Asia & Eurasia

China, India, Taiwan, Indonesia are securing their economic and political power by technology transfer and participation in global climate crisis governance efforts

North America

The U.S. loses its economic power to newly emerging players, it remains uncertain if U.S. influence will increase again
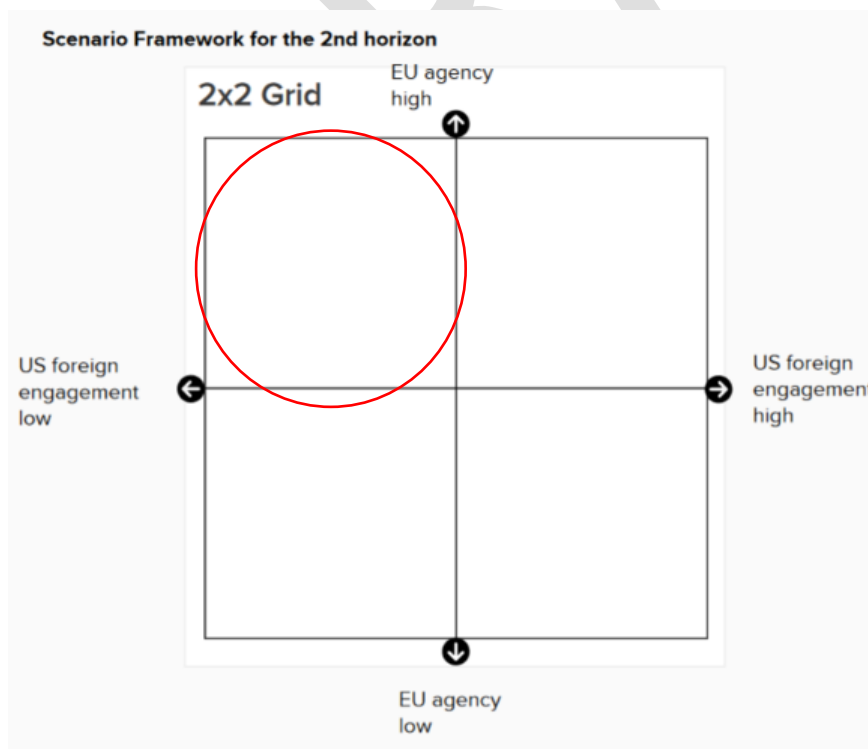
Latin America

Brazil and Mexico are gaining economic power and act as trustful partners in climate crisis governance

Africa
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Oceania
???

Scenario Framework for the 2nd horizon

2x2 Grid

EU agency high

US foreign engagement low

US foreign engagement high

EU agency low

Open questions:

- What are the wider implications of low U.S engagement? Under what circumstances would there be low U.S. engagement?
- What does agency imply? 1) capacity, 2) willingness, 3) acceptance?
- What is the role of NATO in this scenario?
- Who will the EU engage with in new coalitions? Would the EU join a military research alliance with China? Would the EU rather join a small league (e.g., with Korea, Saudi Arabia) or rather a large league (e.g., with China)? Or would the EU more likely engage with "like-minded" countries (US, G7)? And would this then limit the number of partners the EU could engage with, especially when it comes to sensitive R&I?

Short Summary:

The "Home Alone" scenario explores opportunities and challenges for the EU in a post-U.S.-hegemonic world under the assumption that the EU will not be a world leader by 2040.

The EU has its own armed forces in terms of budget, technology and personnel and pursues a pragmatic common foreign and security policy. This enables a more holistic approach to migration and pragmatic cooperation with countries of origin and transit that focuses on climate resilience. Showcases for trustworthy and privacy-respecting use of health data set precedents across Europe. Vaccines and health diplomacy emerge as strategic capacities. The EU follows the call for a global approach to the climate crisis and does not shy away from negotiations and agreements with autocratic states. Actors such as China, India, Brazil, Taiwan, Indonesia, and Mexico are reshaping the power balance in the global fight against climate change and attracting immigrants. The danger of a new Cold War lurks in the shadows of emerging constellations in climate change cooperation. The EU is taking steps to actively counter the brain drain on a global scale and creates an EU "Silicon Valley", ensuring EU strategic autonomy and the security of supply of necessary goods and key technologies. Relevant scientific and research areas include intelligence and security developments, circular economy issues such as zero-waste policies, as well as the search for an alternative, climate-neutral energy system. In its global role as arbiter and balancer, the EU builds on its internal balance and acts as a role model by deepening EU integration (qualified majority voting and a multi-speed EU, i.e., a core EU with the most powerful and strongest member states from each region). An essential question for future EU decision-making is: "Can the EU find a strategic consensus?

Scenario Description

Military empowerment:

As EU agency is high and the influence of the U.S. in geopolitics is low, a major objective for the EU is the establishment of an EU armed forces of its own, in terms of budget, technology, and human resources. Apart from geopolitical weakening of the U.S., the buildup of EU armed forces is also driven by rationalization of defense spending to avoid duplication of defense equipment. Open strategic autonomy of the EU is strenghtened, as EU armed forces are supporting EU MS with military and planning capabilities, implementing crisis management missions in the EU neighbourhood, and providing significant development assistance. This holds especially true for the newer EU members, such as Ukraine, who gave up their politics of multivectoralism and started anchoring to the west after the dreadful experience of the Russian invasion in 2030. Since then, the EU is supporting crisis shaken candidate countries with Marshall plan like investments, thereby bringing EU foreign policy in harmony with EU core values and trends of state and society in the EU. In general the EU today pursues a more pragmatic common foreign and security policy, evident in ad hoc military coalitions

for stabilisation, but also in more 'securitised' research and development approaches e.g., aimed at intelligence gathering or consideration of technology export-import limitations. The question of Europe's nuclear armament remains open in light of newly emerging strategic cooperations among established military powers and new actors.

Migration:

Migration is no longer primarily understood as emigration from conflict regions, but increasingly includes different types of population movements, such as migration from the U.S. to Mexico-so-called "gentrification"-which affects the middle class attracted by favorable living standards. The EU is developing innovative and effective migration approaches to harness migration for its goals. The EU strategy to migration is pro-active engagement and covers a divers bundle of measures. This includes pragmatic cooperation with the source and transit countries and the support of stable governments and job creation in migration emitting states. But it also includes measures to strengthen the climate resilience of areas and regions that are particularly affected by climate change.

Science Diplomacy:

The EU Open Science strategy follows the principle 'As open as possible, as closed as necessary'. Open Science together with the strong guidance of the European General Data Protection Regulation has produced showcase examples of trustworthy and privacy-respecting use of health data in member states that have set a precedent across Europe. Vaccines and health diplomacy emerged as two strategic capacities in the competition for global leadership. Nevertheless, certain types of scientific research, especially in dual-use and defense research, have been outsourced from the EU due to strict regulations. The limits of (science) diplomacy (especially in terms of the speed of technology development and limits to research) drive the search for alternative global governance mechanisms and highlight the importance of coalitions and alliances in sustainability approaches.

Climate Crisis Governance:

In terms of climate crisis governance the EU supports the call for a global approach. At the same time, climate crisis governance is a top priority for EU member states. Specific measures in climate crisis governance include technology investments and mechanisms to raise awareness at the right spot (e.g. that highlight the consequences of arctic melting in a graspable way). But also issues, such as long term food and nutrition security, resilience, and understanding global risks and existential threats, give new impetus to research, e.g. exploring new types of food, analysing resilience mechanisms, or developing shared understandings of global threats. We are seeing a slight shift in the discourse on addressing the climate crisis to non-economic terms. Also the shift in economic power from the U.S. and the EU to China, India, Brazil, Taiwan, Indonesia, and Mexico, is reshaping the map of actors in the global climate crisis governance effort. It is even possible, that migration will shift to these new locations. But there remain open questions: How far is diplomacy truly constrained by other developments? What if previously underestimated countries – underestimated in terms of climate crisis governance efforts – start thinking of climate change in terms of relative gains (e.g., unfreezing Siberian areas for agricultural production)? Where is the governmental power to be found that is necessary to implement environmental regulations against the force of MNOs? How the EU will allocate funds for R&D also remains an open question and highlights the importance of multilevel approaches and alliances.

Governance:

The EU is increasingly focusing its attention on its enlargement and EU membership prospects. Several measures are aimed at strengthening resilient and accessible (infra-)structures and promoting innovative global governance approaches. The EU invests in building its global 'rule-making' and 'standard-setting' role, while using innovative diplomacy to ensure broad acceptance. The EU promotes cooperation (targeted S&T, …) with 'trusted' parties to strengthen its strategic autonomy and security. With the transatlantic ties weakening, more and more European countries turn towards non-democratic countries for technological solutions and therefore, without the U.S. support, become more vulnerable to blackmailing efforts from authoritarian countries. Moreover, the EU plays a more prominent role in protecting global commons working with like-minded global actors.

Role of other Powers (China, Russia, …):

The danger of a new Cold War lurks in the shadows of the newly emerging constellations in climate change collaboration, which do not shy away from negotiations and agreements with autocratic states. A key question concerns competition with East Asia, the Arabian Peninsula and the BRIC countries, especially in the field of science and technology: how can the EU promote its position through innovation and new alliances while ensuring the autonomy of food and supply chains? And what if all the middle powers or unexpected coalitions, play a more strategic role globally? In this uncertain situation, one assumption remains constant: if U.S. influence increases again, there will be less room for manoeuvre for Europe and vice versa. Also, the threat of a rising new power block could foster investment for defense, building on the classic "rising enemy narrative".

Role of other Actors (Non-State Actors, such as civil society, MNOs, NGOs, …):

Cooperation between different actors is flourishing, especially apart from governmental agendas and activities. In many areas we see non-state actors in the scene, e.g. civil society organising as an association of world citizens promoting alternative future pathways, but also private companies and actors (philantropists) collaborating in research and development. The constraints of European research sometimes lead to outsourcing of relevant development tasks to other world regions, creating tensions or fostering relations in new global partnerships. Trustworthiness is a central issue, especially when it comes to investment decisions made on strategic criteria (Who can guarantee that corporate players on the international scene are also sticking to these criteria?), and to choices for strategic autonomy.

Technologies & Resource Dependence:

Technology poses a major opportunity for the EU as a standard setting and enforcing power – from 'regulatory superpower' to assertive governor. The vast experience in orchestrating diverse levels of interests in developing standards could contribute to filling the gap for global policy making. The EU sets measures to actively counter gobal-scale 'brain drain' and to establish a EU 'Silicon Valley'. This trend of (dis)integration of science and technology gives the EU a head start, providing new developments, especially in the area of combating disinformation through technological (and regulatory) means, but also more autonomy in intelligence and security-related research and development. Still, availability of certain high-tech components is crucial and requires strategic alliances with new partners. The EU is learning from China on restrictive climate change policies (surveillance and monitoring) and shared digital infrastructure (provision and controlling). Technology research is driven by the search for a climte neutral alternative energy system and seeks to develop viable non-fossil energy carrier systems including concepts such as energy frugality. Climate change and its effects are included in the process of technology development from the very

beginning. The role of nuclear fusion can be described with a parable: "Fusion is the future of energy and always will be."

Deepening EU integration:

In its global role as arbiter and balancer, the EU builds on its internal balance and acts as a role model by deepening EU integration. With the deepening of EU integration come certain qualities, including qualified majority voting and a multi-speed EU, i.e., a core EU with the most powerful and strongest member states from each region. An essential question for future EU decision-making is: "Can the EU find a strategic consensus?

R&I implications

- A central issue for research is emerging, namely the "weaponization of everything" (food, medicine, information, electronics and technology, patents, research, lead on standardisation processes) and the question of how to countermeasure it?
- Militarisation as a boost to research: focus on a more structured approach to defense research towards open strategic EU autonomy, especially bearing in mind the umbrella of "dual use" (digital technologies as "soft power resources")
- A new measurement regime based on GDPR and technology standards, as well as increased qualitative indicators, is changing the European research landscape
- Migration becoming a much broader and global issue (and also an instrument of destabilization): emerging interdisciplinary research needs
- Increased military involvement of the EU is accompanied by a high demand for legitimacy, which brings peace research and social sciences in the context of social protest movements to the fore; social science addressing the question of how society evolves
- Research is driven by civil research – at least in military and defence technology, which raises central questions in the management of IPR regimes (government vs. private research funding)
- Focus on technologies to combat climate change and establish a sustainable energy system takes European research to a new qualitative level, therefore, the fields of higher education and science education are also experiencing an upswing
- To expand science diplomacy, research on EU values and science ethics is in greater demand, especially when private brands representing "values" are bringing up potential cultural/economic clashes (i.e. Apple vs. Huawai)
- What skills will be needed in 2040?
- The integration of scientific knowledge into governance mechanisms is also taking place widely and requires systematic reflection and anticipation, as well as accompanying research
- With new coalitions emerging – also with authoritarian states – the understanding of co-dependency gets a main item on the research agenda of EU MS

4 Scenario: "Mad Max"

Time horizon: from 2027 to 2035

Definition: low level of EU agency / low level of U.S. engagement

World Map
Scenario 3: "Mad Max"

North America

There might be a semi-civil war in the U.S.; this means less financing for the UN, which could lead to humanitarian disasters

Europe

EU enlargement stops; bilateral cooperation between member states; polarization of EU increases; more armed conflicts in the EU neighborhood

Asia & Eurasia

Russia and China gain military and economic influence at the global level; Russia ignores climate mitigation while China might export climate engineering technologies
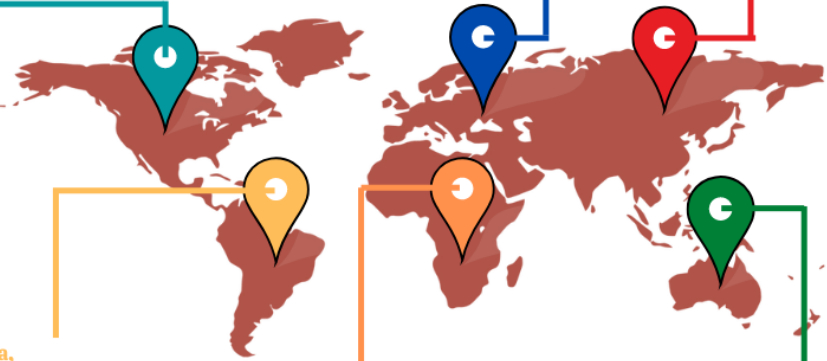
Latin America

Climate change hits Amazonia, biodiversity and CO2 accumulation capacity of tropical forests are destroyed
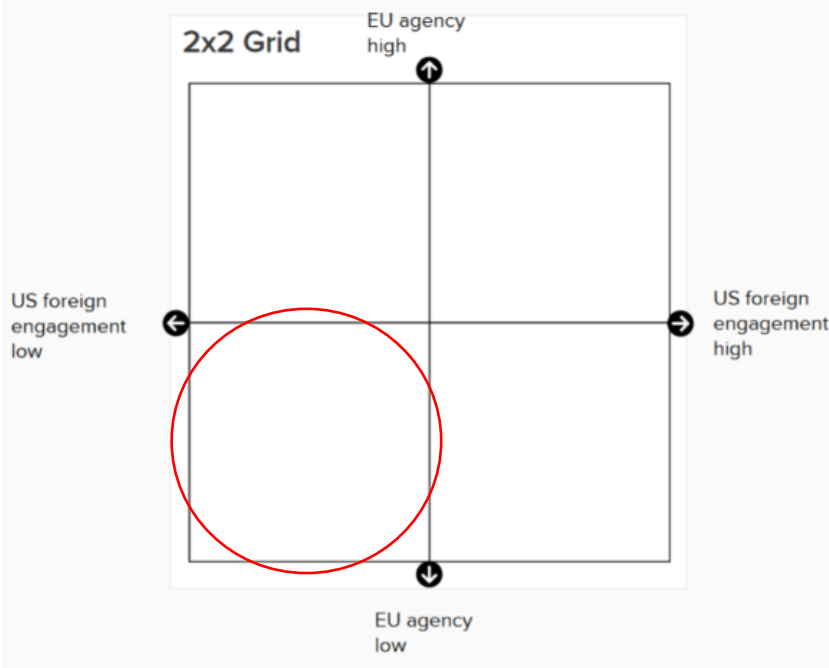
Africa

Russia and China influence African countries

Oceania

Australia and New Zealand might be evacuation places for the rich after climate change seriously hits the world

Scenario Framework for the 2nd horizon

2x2 Grid

EU agency high

US foreign engagement low

US foreign engagement high

EU agency low

Open questions:

- What are the wider implications of a steadily low U.S engagement? Under what circumstances would it be possible to intensify the U.S. engagement?
- What does the low U.S. engagement imply? 1) retreat, 2) selective engagement 3) Internal weakening of the EU?
- What is the role of NATO in this scenario?

Short Summary:

The „Mad max" scenario examines the possibilities of the EU and the challenges it is going to face, when the trans-Atlantic partnership gets weakened, the United States becomes increasingly isolationist and engaged only along certain, selective U.S. interests (for example, vis-a-vis China) and the core EU becomes weak and divided due to internal political crises. Hence, in this scenario neither the EU, nor the U.S. are able to contribute to protecting the global order, securing access to the global commons and to the modernization of international institutions. Consequently, initiative is increasingly taken by other powers, who are ready and willing to question the existing global order.

The EU-U.S. partnership becomes weaker. The principles of burden-sharing and cooperation along shared values and mutual interests do not work anymore. Moreover, Washington is unable to even force Europe to stand for U.S. and Trans-Atlantic interests. Due to her internal problems and also to the rise of China, the U.S. is paying less and less strategic attention to Europe. Meanwhile, due to the failure of reforming her decision-making processes and the lack of transition to qualified majority voting in matters of foreign and security policy, the EU fails to develop into a more influential foreign policy actor. Internal divisions of the EU keep growing about matters of foreign policy (including about relations towards Ukraine, Russia and China). Another reason of growing intra-EU drifts is that more and more member states have populist governments, which violate democratic rules and start heading towards a technological authoritarianism. Consequently, the regulatory power of the Trans-Atlantic partnership also becomes weaker, particularly in issues of trade, technology, migration and foreign policy.

Due to the "double shock" of a renewed COVID-pandemic and the Russia-Ukraine war both Washington and Brussels become weaker and increasingly inward-looking. Their future co-operation is burdened by the constant debates, conflicting interests and the general lack of trust. Both sides of the Atlantic conclude that investing into maintaining the strategic Trans-Atlantic partnership is neither justified, nor sustainable, as they cannot trust each other. The lack of trust affects particularly the commitments for joint consultations, coordinated decision-making and joint actions.

The U.S. perceives that the EU is not really helping prevent the emergence of a post-American hegemony world order. Moreover, in certain fields (economy, science, technology) the EU increasingly acts as a challenger to the US. Washington regularly accuses the EU that it is unable/unwilling to maintain security even on her own periphery (the Baltic States, Poland and Romania) or in her direct neighborhood (the Mediterranean region and Eastern Europe). Hence, even though the Trans-Atlantic cooperation formally pertains, in reality, it becomes limited to the U.S. bilaterally cooperating with like-minded European countries.

Meanwhile, the EU thinks that the U.S. would be ready to sacrifice Europe for the sake of its own interests. This applies particularly to the economic and energy-related consequences of supporting Ukraine in the war and isolating Russia, because most of the burden has been on Europe. Besides, the EU is frequently blackmailed into important concessions by authoritarian systems (Russia, China)

All in all, inside the EU it increasingly becomes a dividing factor, whether member states favor Trans-Atlantic cooperation or European strategic autonomy.

As a result, Trans-Atlantic cooperation gets weakened and remains limited only to such questions, which are of key importance for both sides, or in which third countries are also ready to cooperate. However, due to the inherent lack of trust, cooperation with third countries is not necessarily coordinated on the Trans-Atlantic level even in prioritized issues.

Scenario Description

Military empowerment:

Military cooperation between the U.S. and the EU can be characterized in this scenario as the „besieged fortress". While Washington keeps providing the nuclear umbrella for EU member states, it engages only in those conflicts in the EU's neighborhood, which directly concern vital American interests. Meanwhile, defense reforms in most EU countries get stalled due to the economic crisis caused by both the COVID-19 pandemic and the Russia-Ukraine war, as well as due to the growing social expenditures. The U.S. supports the defense reforms of only those EU countries, which are either firmly Atlanticists, or are ready to spend 3% of their GDP on defense..

Due to the weakening of the EU, both Russian and Chinese influence is growing in the EU's direct neighborhood. By claiming the need to protect the "Belt and Road" initiative, Beijing establishes military presence in the vicinity of the EU (in North-Africa and in the Balkans). As the U.S. is increasingly focusing on Asia in order to counter China, Russia uses the low level of U.S. engagement in Europe for another military onslaught on Ukraine. Due to the U.S. re-positioning to Asia, NATO gets weaker and is able to guarantee only the minimum necessary level of territorial defense, but not much more.

In the Middle East the transition towards a post-hegemonic world order becomes faster, manifested in dynamic geopolitical transformation of the region, resulting in the breakout of new armed conflicts. Some EU countries (France, Italy) try to stabilize the crisis regions by ad hoc coalitions, but due to the internal division of the EU they are unable to set up similarly strong sanctions, like the ones of 2022 were. The EU tries to focus on defending herself from hybrid threats; however, as the societies of some member states have fundamentally differing perceptions of Russia and China, it cannot be strengthened significantly. As a reaction to the multi-level crisis, core EU member states officially suggest the need for a multi-speed European Union.

The EU's activities towards the Global South, including development aid, keep shrinking. The EU maintains closer relations only with those authoritarian regimes, which are of crucial importance for Europe's security and which act as regional leaders in their own neighbourhood. This relative inaction significantly decreases the EU's political influence among the societies of the Global South.

Migration:

Migration flows towards Europe remain strong due to a lasting food crisis originating from the Russia-Ukraine war, and also due to the growing number of armed conflicts in migration source countries. As the EU is unable to project power into its own direct neighborhood and the U.S. is concentrating on Asia, the transit countries in Europe's vicinity are influenced mostly by Russia and China, as well as by other regional powers neighboring them (Iran, Turkey, etc.). This empowers transit countries to influence (including its scale and direction) migration, sometimes even weaponize it, according to their own foreign and security policy interests.

From autumn 2029 the EU is conducting regular negotiations with the neighboring countries about the financial costs of containing next year's migrations wave. From 2033 Poland and Finland initiates the invitation of Belarus and Russia to these talks, because Minsk and Mos-cow have created a whole chain of massive refugee camps close to the Polish-Russian and Finnish-Russian borders. Moreover, Russian oligarchs even constructed an airfield, to where they can fly in migrants from the Middle East, Asia and the sub-Saharan Africa in order to send them directly towards the EU border. Hence, the EU needs to make concessions to them in order to mitigate its vulnerability to weaponized migration.

Besides, as the reconstruction of Ukraine after the war got stalled, most Ukrainian refugees could not return home. As a result, millions of Ukrainians stay in those European countries, which host them, particularly in Poland, Czechia and Germany. In the 2031 Polish election campaign it becomes one of the key questions, whether citizenship requirements for Ukraini-ans should be eased. The ones opposed to the idea argue that they do not want a bilingual Poland.

Science Diplomacy:

The weakening of Trans-Atlantic cooperation and the slowing, increasingly fragmented globalization affect also science diplomacy. The general lack of trust within the EU bring individual, national-level solutions to the forefront. Underfunding science and technology on a state level also elevates the importance of private investors who are not easy to lure. European research activities are increasingly thematized by various crises and challenges, for example, food security and energy security, concerning particularly the security of supplies. Certain fossil energy companies are eager to support large-scale climate history research projects, on which also well-known climate-skeptical figures can participate.

Due to the loss of trust, international research cooperation is becoming weaker, while industrial and technological spying between states is becoming increasingly important. R&D is getting increasingly securitized. The influence of security organizations on R&D is growing, certain research fields are getting militarized. As a reaction to the decreasing role of state in science diplomacy, scientists and researchers try to establish international networks in order to shape the R&D agendas, but this is only enough for damage control. In some EU member states, so-called scientific oligarchs emerge as the core financers of R&D.

Due to the profit-oriented approach of private companies, the most attractive fields of R&D (artificial intelligence and healthcare-related projects) are concentrating on the needs to the most lucrative markets. This field is dominated by the richest U.S. companies. Meanwhile, needs of poorer markets become of secondary importance. These lesser developed markets become increasingly dependent on philanthropists and on the individual interests of scien-tists. As a result of these changes in Europe, the R&D&I practices of authoritarian countries are increasingly gaining ground.

Climate Crisis Governance:

The post-hegemonial world order results in a slower globalization and the fragmentation of various fields of globalization (such as the break-up of production chains, the "nationaliza-tion" of the global internet by Russia, China and other powers, the crisis of the United Na-tions). Hence, any joint action to tackle global threats and challenges also becomes increas-ingly cumbersome, if not impossible. While more and more societies get confronted with the devastating effects of climate change, less and less governments are able to lead the transi-tion to a more sustainable economy in a way acceptable to their own societies.

While globally more attention is getting paid to pollution and actions harming the climate, mitigation and adaptation measures are getting increasingly localized; global climate crisis is met only with individual, national responses. Differences between the perceptions of so-cieties and their political elites keep growing. The younger generations, which will be af-fected by the climate crisis for a longer time, are becoming increasingly active both on the national and international levels. Sharing economy and community financing are becoming increasingly popular as climate protection measures, together with technological solutions for the transition to more sustainable economic models. However, combating climate change is so massively harmed by national populist political forces that these constructive initiatives are able to only marginally mitigate the damage.

Local-Regional-Supranational Governance:

The weakening of state actors and their growing differences result in the slow-down and fragmenta-tion of globalization. This also hampers the efforts to establish functioning structures of global gov-ernance and weakens the already achieved results. Problems in the functioning of the United Na-tional and other international organizations (such as the WHO, the WTO) are becoming permanent due to three main reasons. First, they do not reflect to the changing power relations. Second, they are under the constant attacks of those powers, which are questioning the status quo. Third, their dysfunctionalities result in the shortage of financing or politicized financing. Reform efforts are un-successful, and under the circumstances of the fragmented globalization key international actors do not have enough power for creating new, truly global organizations.

Parallel to the weakening of state actors, non-state actors (communities, groups, etc.) are emerging. Particularly those ones are becoming powerful, which are parts of transnational networks. In certain fields they may even take over functions of global governance.

Still, the weakening of state actors result in anarchistic organizational developments both on the na-tional and international levels. The increasingly chaotic and unregulated social and economic life lead to growing inequalities and social unrest. Besides, the emergence of non-state actors inevitably comes together with stronger (globally) organized crime and terrorist networks. Governments and local authorities try to mitigate these threats and contain the growing anarchy by using AI-supported governance and policing tools.

Role of other Powers (China, Russia, …):

In this scenario following a settlement in the Russia-Ukraine war (meaning the defeat of the U.S. and Europe and Russia's de facto victory) the world returns to the traditional great power diplomacy and the policies of zones of interests. The failure in Ukraine results in growing polarization in the U.S. Democrats suffer a number of staggering defeats in the elections, while the new, neo-Trumpist Re-publicans perceive only China as a rival to be contained, while in Europe they limit their activities to the bilateral support of Atlanticist EU countries.

Due to the combined lack of military capabilities and political will the EU is unable to create its own sphere of influence. Hence, its neighborhood (the Balkans, Eastern Europe, North-Africa and the Mid-dle East) becomes a fighting ground of other great powers (Russia, China) able and/or willing to cre-ate spheres of influence. From then on, stability of the EU's neighborhood becomes dependent on the will and actions of these non-EU countries.

While Russia got considerably weakened by the war in Ukraine, with the support of China it is still able to expand its sphere of influence in Europe's neighborhood. This is particularly so, because dur-ing and after the war in Ukraine, China managed to dominate the Central-Asian post-Soviet republics, and Turkey became a defining great power of the whole Caucasus, so Russia needs to concentrate on

Eastern Europe and the Balkans, and, to a smaller extent, on Africa. China support mostly Russia's Eastern European and African ambitions, in order to curtail Europe's access to key raw materials and energy resources. Beijing and Moscow often coordinate their actions (for example, Russia threatens Ukraine, while China does to with Taiwan) in order to divide the attention of the United States thus to weaken Washington's ability to react.

Technologies & Resource Dependence:

The „double shock" of the Russia-Ukraine war and the COVID-19 pandemic pushes back the Trans-Atlantic technological cooperation to the level of the Trump-era. Though closer cooperation in the field of technology would be of mutual interest for both the EU and the U.S., growing distrust and diverging interests make joint actions practically impossible. The EU loses its technological leadership and the U.S. technological advantage is also decreasing. The key role of the U.S. in providing Europe's energy security is increasingly perceived as a dependency by non-Atlanticist member states ("Washington is the new Moscow"). The loss of technological leadership pushes member states towards individual solutions, including the need to turn towards non-EU technological powers, such as India and China. This applies particularly to those less developed member states, which were already dissatisfied by the perceived selfishness of the technologically more developed ones.

The weakening of political institutions enables large business companies and other non-state actors to influence technological research agendas, thus prioritize their own interests also in questions of research and development. The most important / most lucrative fields of research get increasingly dominated by scientific oligarchs.

Deepening EU integration:

This scenario assumes he weakening of intra-EU cohesion, manifesting in intensify-ing competition and rivalry between member states, as well as in growing polarization. These factors may result in two different outcomes. The less likely one is the dis-integration of the EU along the numerous functional lines. The other, most likely result is the emergence of a multi-speed Europe, where the core-EU becomes a lot more integrated than the rest. The key factor in this choice is whether the EU manages to transform its Council into a qualified majority system. Although majority voting had an important legitimacy problem and furthers the democratic deficit, it is a far more efficient form of decision-making. If this transformation is pursued, a multi-speed, but still functional integration is likely to emerge. If not, the various blocking countries and minorities may easily render the integration to be completely dysfunctional. A multi-speed Europe would be characterized both by polarization between the member states (outside the core-EU) and by a growing co-herence (within the core). Regarding EU enlargement, in the first case it would stop com-pletely, while in a multi-speed Europe enlargement may even become faster, as long as the new member states join not the core, but the less integrated periphery.

R&I implications

- Weakening Trans-Atlantic R&D cooperation due to political distrust and shortages of state financing; individual, national solutions are emerging.
- Growing international insecurity lead to increasing defense spendings
- The availability of state-level R&D financing is decreasing due to both political and economic factors (lasting economic crisis, etc.)
- The growing involvement of private investors in R&D results in the influencing of research agendas according to business needs.
- The West is gradually losing its technological superiority

- Some European countries disillusioned or dissatisfied of the traditional, Trans-Atlantic R&D cooperation frameworks increasingly pursue other paths, ceasing their active discouragment of cooperating on innovative solutions with China, India and other powers .
- More attention is paid to developing AI-supported governance and policing tools to tackle the growing international disorder.

5 Scenario: "The Backyard"

Time horizon: from 2027 to 2035

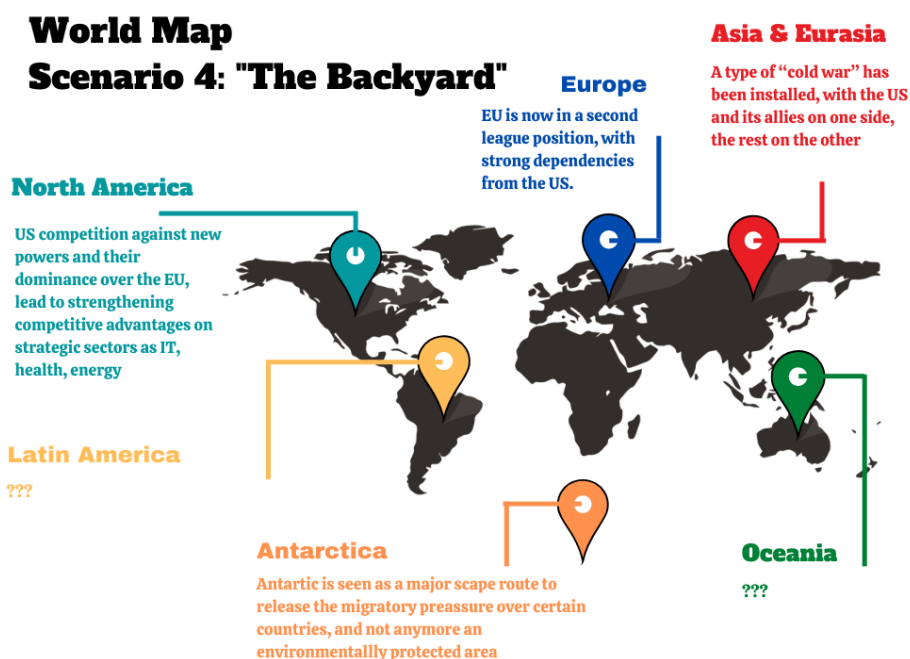**Definition:** low EU agency / high US engagement
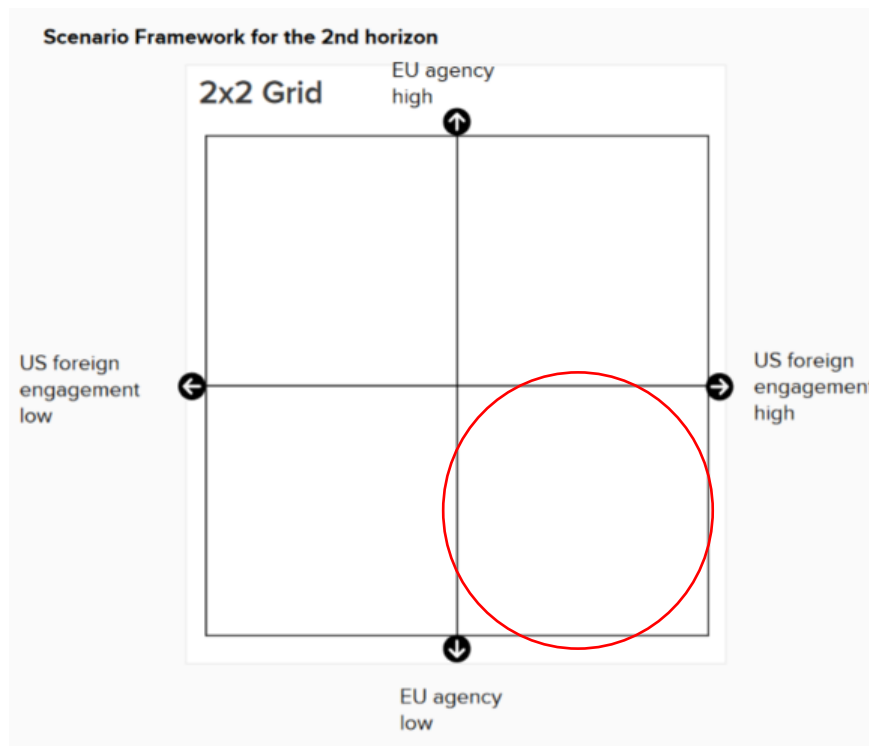
Open questions:

- What are the wider implications of high U.S engagement? Under what circumstances would there be high U.S. engagement, whereas there is a low EU agency?
- What does agency imply? 1) capacity, 2) willingness, 3) acceptance?

World Map
Scenario 4: "The Backyard"

Europe
EU is now in a second league position, with strong dependencies from the US.

Asia & Eurasia
A type of "cold war" has been installed, with the US and its allies on one side, the rest on the other

North America
US competition against new powers and their dominance over the EU, lead to strengthening competitive advantages on strategic sectors as IT, health, energy

Latin America
???

Antarctica
Antartic is seen as a major scape route to release the migratory preassure over certain countries, and not anymore an environmentallly protected area

Oceania
???

Short Summary:

"The Backyard" scenario explores opportunities and challenges for the EU in world with high US dominance but low EU presence.

Due to internal developments in the EU, such as the economic decline of leading countries as France or Germany or the increase of nations led by populist governments, the EU is now in a second league position, with strong dependencies from the US.

The EU has failed in getting its own armed forces, neither to achieve a real strategic autonomy. The lack of agreements on key areas among its Member States and the recurrent economic crises, left the EU in an extremely weak position. Therefore, a great dependency on US on defence capabilities and diplomatic projection has developed over time.

Being under US umbrella put EU forced the EU to adapt to US requirements on trade, environmental or health issues, which deteriorated the quality of living for EU population. Demonstrations and even riots take place all around EU countries, especially on those where the climate change or migratory pressure hit was heavier.

Pushed by the raised of populisms all around the globe, US competition against new powers and their dominance over the EU, lead them to strengthen their competitive advantage on strategic sectors as IT, health, energy, etc. To maintain their advantageous position, US relaxed the climate change measures, the regulations to introduce genetically modified food or the liberalization of personal data treatment. This led to the increase of climate crisis, made the Artic navigable, raising the security and commercial issues for EU northern countries.

The EU lost the scientific and technological power at the front edge, focusing on the development and production of basic, yet critical, goods and equipment. The dependency also made the EU loss its leading role against the climate change, leaving behind green policies. It also lost the soft-diplomacy power, due to the internal struggles.

Scenario Description

Military empowerment:

Due to the lack of agency of EU, it has failed in its objectives to develop full EU defence capabilites or to create the EU Armed Forces. Now, EU Member States rely mainly on US equipment, specially for the high-tech, which increased the cost to update or adquire certain pieces of equipment. A new solution was the renting of the most expensive defence equipment, wich led the EU in a even weaker position in terms of self-defence.

Although basic deterrence capabilities are maintained in EU borders, the EU MS are reliant on the protection of the US in case of conflict. The EU no longer has the power to maintain its former peace keeping missions abroad either. These developments along the decrease of the diplomatic power of the Union, due to its low agency, provoked the deterioration of the relations with neighbouring countries and the raise of small and recurrent traditional and also unconventional armed conflicts all over EU borders.

Although some MS-exits, following Brexit example, occured and a number of EU MS tried to maintain their politics of multivectoralism, the dominance of US over the EU and the dreadful experience of (another potential) Russian invasion in 2030, have forced them to support the common EU defence and security policy. New canditates to the EU have been discuraged to join the Union, while it remains the bets option for some of them in terms of US protection.

Migration:

The inestability of the EU made the economic migration towards its MS less prominent. In addition, the aging of EU population is now dramatic, needing more and more inmigrants to cover the workforce needs of the european industry.

As the climate change worsens, the number of climate refugees increases even within the EU. All over the globe, populations from coastal areas and southern regions are forced to leave their homes and move to higher and northen lands. The migratory preassure is faced all over the world forcing a reshape of UN to ensure the protection of climate refugees. This includes the creation of vast areas to reallocate masive amounts of people, under the control of the UN, in regions uninhabited before, such as the Antartic.

Science Diplomacy:

The EU Open Science strategy is maintained, although the lack of edge research has made this policy less relevant. In addition, due to the pressure on the release of data for comercial use, the European General Data Protection Regulation was abandoned, and a market on personal and health data was created, raising the concerns of EU citizens. Science diplomacy focus now in maintaining strategic relations with key players all around the globe, trying to promote the exchange of key scientists, as the only way to keep EU in the loop of scientific and technological advances.

Climate Crisis Governance:

Even the EU remains strong in its convictions to call for a global aproach towards climate change, the lack of agency has relegated the Union to a secondary role in the international negotiations on this regard. The general assumption of an inevitable climate change has limited the climate crisis governance to the management of urgent population crisis.

The movement towards a greener EU still remains within the Union, but not as a fight against climate change, but to secure an habitable environment, to secure water and food production within EU borders. To this end, policies to reforest rural areas or to reallocate population from massive megacities to the countryside were put in place, reducing the EU energetic and water supply needs.

At international level, the economic preassure to make the Artic navigable has also reduced the specific meassures to protect this area, which also shift the economic powers and influence regions. Same aplies to the Antartic, which is seen as a major scape route to release the migratory preassure over certain countries, and not anymore an environmentallly protected area.

Local-Regional-Supranational Governance:

The EU has put all its efforts to reduce the exit of Member States, and carefully consider the welcome of new members. Due to the loss of economic power, there is a general deterioration of the institutions, which were struggling with the challenges posed by this new position of the EU. Therefore, the institutions focused in providing a credible trustworthy framework for its Member States, ensuring certain level of stability for its citizens.

The EU now relies on the US for the building of global 'rule-making' and 'standard-setting', while using innovative diplomacy to ensure broad acceptance. The EU acepts the cooperation proposed mainly by the US, limiting its exchanges with other regions of the world.

Role of other Powers (China, Russia, …):

A type of "cold war" has been installed, with the US and its allies in one side, the rest on the other. The climate change effects have reshaped the alliances, but the world is again bipolar. The increase of US influence provoked the reduction of room for manoeuvre for Europe and allied countries, which in any case remains as the only side to take.

Technologies & Resource Dependence:

EU has been surpassed by big players in terms of technological leadership. Therefore, it has lost its regulatory and standards setting position, and has now to accept the given ones mainly by the US. However, the vast EU experience on developing standards and on research and development, along with the brain capacity, has moved the EU to focus on soft sciences and the recovery of ancient techniques and technologies, not requiring vast levels of investments in infrastructures and equipment/hardware. Research on climate change has now focused on how to cope with the new weather conditions, to build resilience on the EU water and food supply chain, and to better adapt the living conditions to it. Due to the impoverishment of EU society, the research focuses on low cost and highly efficient solutions for the citizens.

To maintain their superiority, US boost the research on dual-use technologies, funding emerging disruptive technologies (EDTs) development, as digital technologies not only military, but keep them in mind as soft power/resources. Up to certain TRLs, US provided support to EU researchers to further develop and test new technologies of interest of US industry. As consideration, EU gave up to its IPRs legislations for the benefit of private interest and left the higher TRLs development and technology production to US companies.

In the decline of EU research environment, some European countries turned towards non-democratic regimes for technological solutions, without the U.S. support. This approach made them more vulnerable and dependent on these authoritarian regimes, leading to the exit of the aforementioned countries from the Union.

Deepening EU integration:

Due to the loss of EU role as an international arbitrer and the internal struggles, the EU integration was stopped, and even reversed. The Union exists with a lower number of Member States, as some of the former members followed the UK path in Brexit, hoping for a better and less dependable future for their populations. The risk of a complete dismanteling forced the EU to reduce the level of integration, easing the pressure on compliance with EU regulation. Nevertheless, the Union was seen by its population as the only way to maintain certain level of power towards trade or security negotiations.

R&I implications

- The European research landscape has been reshaped to focus the scarce budget to key areas as health, energy/water/food production, or IT, to ensure security and population minimal conditions of living in the EU.
- Migration becoming pressure continued despite the loss of EU competitiveness, requiring social research on new models to increase resilience.
- Reduction of the use of raw materials and basic technologies dependencies is a key priority, focusing the efforts in recycling and reusing policies, urban mining, and materials reduction research, based on the assumption that the best energy or material is the one not used.
- Research on traditional and ancient ways of production, to reduce the technology dependencies.