



FUTURE TRENDS

Report

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Future Trends Report

Future Trends Report, published in English and Arabic by TRENDS Virtual Office in Montreal, stands out as a distinctive publication dedicated to highlighting:

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Prospective research

How can we act in the face of crisis? A philosopher's point of view

Deneault, Alain. Faire que!: L'engagement politique à l'ère de l'inouï.
Lux Éditeur, 2024. <https://luxediteur.com/catalogue/faire-que/>

Faire que! L'engagement politique à l'ère de l'inouï by Alain Deneault is an essay that questions how we can act in the face of the current ecological and social crisis. Deneault, a Quebec philosopher and essayist, analyzes the tensions of our times, marked by unprecedented climatic disturbances, extreme phenomena such as fires, hurricanes and heatwaves, but also by a rise in collective anxiety about an uncertain future. Written against a backdrop of crisis, the book reflects on the political action needed to overcome the state of global decline.

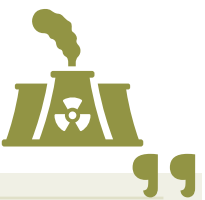


The essay begins with an alarming observation: the planet is undergoing unprecedented upheavals. Climatic phenomena are becoming increasingly violent and uncontrollable, and the resulting threats—famines, mass migrations, wars, epidemics seem to be looming on the horizon. Yet, in the face of such urgency, inaction seems to dominate. The philosopher criticizes the political class, which pretends to ignore these challenges, and deplores the powerlessness of scientists, overwhelmed by the scale of the crisis and lacking an adequate response. In his view, this situation creates a climate of “mediocrity,” where important issues are drowned out by populist rhetoric and superficial solutions, such as “sustainable development” or “green capitalism,” which are, in his view, nothing but decoys. In this context, the author calls for collective action, a radical transformation of mentalities and power structures. He questions the notion of “crisis,” which he considers too weak to describe the current reality. The term “crisis” implies a possible way out, whereas Deneault views the situation as far more serious and lasting. In his analysis, the environmental crisis is inextricably linked to the capitalist organization of the world, which benefits a small elite at the expense of the majority. The author underscores the fragility of a system that seems to be leading the world to its doom, while exacerbating inequalities. Deneault proposes a rethinking of political commitment outside the classic structures of institutional politics. He calls for a mobilization

that transcends mere opposition to current drifts, to imagine a future based on principles of solidarity, cooperation and equity. One of the solutions he suggests is the concept of the bioregion, an idea born in the 1960s, which involves thinking of territories not in terms of political boundaries but according to ecological and social limits. In a bioregion, human communities and ecosystems are interdependent and need to relearn how to work together sustainably. This means returning to local structures, strengthening social ties, and redefining work and social values.

Deneault also calls for a collective awakening: anxiety about the future is legitimate, but it must not be passively endured. The essayist sees anxiety as a sign of mental health, as long as it is assumed and used as a driving force for change. He criticizes substitute solutions that divert attention from the real emergency, such as symbolic gestures (cardboard straws, electric cars, etc.), which are not enough to solve the system's structural problems.

Finally, in this book, Deneault revisits the classic question of political engagement: what to do? For him, the answer does not lie in violent revolution or passive expectation of a miracle solution. On the contrary, it requires a reinvention of politics, based on a new way of thinking collectively and democratically. Faire que! is therefore a call to action, a manifesto for radical change, a collective project to confront contemporary crises, far from false hopes and cosmetic solutions.



“80% of terrestrial species are threatened by industrial activity. We haven't seen anything like this since the disappearance of the dinosaurs”.



Anxiety about the future is legitimate, but it must not be suffered.

What impact will AI have on geopolitics?

“Géopolitique de l’intelligence artificielle – comment la révolution numérique va bouleverser nos sociétés,” February 2021, IRIS (Institut de Relations Internationales et Stratégiques) https://www.youtube.com/watch?v=bHINSVhX_Ss

A videoconference was organized by IRIS, an independent French research institute, in February 2021, on the occasion of the publication of the book “Géopolitique de l’intelligence artificielle: comment la révolution numérique va bouleverser nos sociétés” (Eyrolles) by Pascal Boniface, Director of IRIS. The discussion, moderated by Sylvie Matelly, Deputy Director of IRIS, focuses on the geopolitical issues surrounding AI, drawing on the expertise of author Pascal Boniface, as well as Gilles Babinet, advisor to the Institut Montaigne on digital issues (France), and Rahaf Harfoush, digital anthropologist and lecturer at Sciences Po Paris.



The panelists attempt to address the impact of AI from a global perspective, discussing from the outset issues such as the replacement of certain jobs by technological innovations. The speakers refer in particular to Marx on the development of productive forces. While certain jobs may diminish or disappear due to AI, the speakers note that a kind of “cornucopia” could soon emerge. For example, research could evolve through collaboration between intellectuals and algorithms. As Boniface observes, “someone could be a bricklayer in the morning, and an architect in the evening.” AI would also drive certain developments in creative industries, such as design projects. These perspectives highlight why companies need to prepare for these challenges, notably by rethinking their value systems, and adapting to the changes brought by AI. Harfoush, an anthropologist specializing in digital issues, explains the reasons behind the lack of discussion around these challenges. In her view, thinking is often blocked by an overly binary vision of the digital future where there seem to be only two possible scenarios: utopia or dystopia. Yet, in her perspective, the scenario towards which the world is moving is rather a duality between these two extremes. AI will be both formidable and terrible, and the role of states will be to manage the balance between these opposing outcomes.

In particular, the book discusses cybersecurity issues, since AI can also be seen as creating new threats, such as situations where algorithms give greater visibility to certain political agendas, encouraging high-risk geopolitical situations. Data sharing is also discussed, as it could pose significant dangers to populations. Speakers discuss at length the role of GAFAMs, and ask: Will they kill off states or will they become vectors of democracy? An example is given of the rivalry between the U.S. and China, and the role of multinationals in these geopolitical issues. Will a digital giant necessarily follow the priorities set by the state in which it was created? According to Boniface, “companies think market, not flag.” Governments were too slow to react, and didn’t realize the power that technological innovation—and the giants leading it would eventually hold. These corporations are now providing essential services to the public, notably during the COVID-19 health crisis. However, as Babinet says, “the important thing is that they continue to be our servants, and that they don’t become our masters.” In conclusion, the priority should be to answer the question: How can innovation continue without breaking the social contract of our societies? How can we maintain equitable growth and drive innovation without compromising the well-being of our societies?



AI will be both formidable and terrible, and the role of states will be to manage the balance between these opposing outcomes.



How can innovation continue without breaking the social contract of our societies?

Prospective research

The no-harm rule and sovereignty in the advisory opinions on climate change

Foster, C. E. (2024). Due Regard for Future Generations? The No Harm Rule and Sovereignty in the Advisory Opinions on Climate Change. *Transnational Environmental Law*, 1-22.

The article explores the obligation of states not to allow their territory to be used for acts harmful to others, particularly in the context of climate change. It examines how the principles of the no harm rule which include the prohibition of irreversible damage to the environment, and the importance of international cooperation, aim to prevent devastating climatic effects.



International law recognizes the legal interests of future generations, notably through the principle of sustainable development and the theory of intergenerational equity. These principles underline the need for states to respect the needs of future generations, particularly in the management of natural resources and environmental impacts. The Rio Declaration and the International Court of Justice have argued that economic development must be balanced with environmental protection, considering the effects on future generations, although sustainable development often remains a soft-law norm. The article examines the application of the principle of "sic utere tuo" and the obligation not to harm future generations, focusing on the notion of "due regard." This principle is emerging as a global norm in international law, obliging states to respect the interests of others, including those of future generations. It is linked to obligations such as due diligence and environmental impact assessment. "Due regard" could become a standard for harmonizing sovereignty with the preservation of the rights of others, particularly in environmental and intergenerational matters. The principle of "due regard" (due consideration) is already applied in various international legal cases, particularly in relation to territorial sovereignty and

environmental obligations. It emphasizes that the sovereignty of states must be exercised in a reasonable manner, without excessively prejudicing the rights of others, including future generations. This principle is reflected in decisions by the ICJ and arbitral tribunals, as well as in requests for advisory opinions, notably on climate change, where states must consider the impacts on future generations.

Researchers and practitioners recognize humanity's responsibility towards the future. International law might give concrete expression to this responsibility, particularly through the notion of "due regard." Although already used in various international legal contexts, this concept could play a key role in protecting the interests of future generations. The article also examines how contemporary moral philosophy on climate stresses the importance of taking future generations into account.



Economic development must be balanced with environmental protection.



The principle of "due regard" emphasizes that the sovereignty of states must be exercised without excessively prejudicing the rights of others, including future generations.

A vision of global drivers that will shape the future

Global Strategy Trends - Out to 2055, Bite-size, Ministry of Defence, UK, 2024 https://assets.publishing.service.gov.uk/media/669923bda3c2a28abb50d236/GST_7_Bite_size_web.pdf

Today's world is hyperconnected, constantly changing and often chaotic. The pace of technological and social change, against a backdrop of interconnected crises, makes the future increasingly uncertain. Preparing for multiple scenarios with limited resources and shifting global power is becoming difficult. The Global Strategic Trends (GST) program aims to provide a long-term strategic context for the UK Ministry of Defence (MOD), government decision-makers, and the UK's allies. It provides analysis to minimize bias, reduce surprises and improve preparedness for alternative futures.



The GST program identifies six global drivers of change that will shape the future. These drivers are: competition for global power, demographic pressures, climate change, technological advances and connectivity, economic transformation and the energy transition, as well as inequality and pressure on governance. These factors often interact in complex ways, influencing and accelerating global dynamics in unexpected ways. At the same time, five key contradictions such as cooperation versus confrontation—are redefining international relations and societies. Uncertainty surrounds the impact of these drivers, particularly with regard to the evolution of technologies, climate change and competition for natural resources. Major issues ahead include the future of global governance, geopolitical tensions, and the adaptation of societies to ecological and technological challenges.

The future world order will be shaped by a variety of players, including states, international organizations and non-state actors. The United States, although powerful, will probably see its relative influence diminish in the face of the rise of China and other emerging powers such as India. Russia, for its part, will depend on the outcome of its war in Ukraine. Medium-sized powers such as the UK and Japan will use their diplomatic, economic and military influence. This world could evolve towards a multipolar order, but with significant uncertainties, including

possible fragmentation or increased cooperation depending on responses to global challenges.

The report goes on to present forecasts for each region of the world. For example, it states that Russia's future is uncertain, depending on the outcome of the war in Ukraine and its economic, social and political repercussions. An aging population, environmental challenges and government pressures could weaken Russia, pushing it to focus on its domestic priorities, despite tensions with China.

Finally, the report discusses thematic areas: society, economy, environment, information and technology and conflict and security. On the subject of information and technology, the report mentions in particular that in the coming decades, the amount of data and the use of technology could grow considerably. Access to data will become crucial for government and business decisions. Technological advances, such as artificial intelligence and quantum computing, will transform various sectors, but will also pose regulatory challenges. To conclude, the six drivers of global change identified in GST show that global competition for power will persist, but the balance of power will shift. Population growth, climate change, technological advances, energy transitions and growing inequality will transform societies and economies, with varying impacts.



The future world order will be shaped by a variety of players, including states, international organizations and non-state actors.



Population growth, climate change, technological advances, energy transitions and growing inequality will transform societies and economies.

2 Applied research

Inequality and immigration in the UK

Christian Dustmann, Yannis Kاستis, Ian Preston, *Inequality and immigration, Oxford Open Economics, Volume 3, Issue Supplement_1, 2024, Pages i453-i473, <https://doi.org/10.1093/oec/odad052>*

This article examines the impact of immigration on inequality, particularly in the UK. Immigration can affect income inequality by altering the wages of native-born workers, increasing competition for certain jobs, or changing the composition of the labor market. Immigrants, who are often better educated but occupy low-paid jobs, can reduce the wages of low-skilled workers while increasing those of skilled workers. The article analyzes the effects of immigration on wage distribution in the UK, and shows that the impact on inequality is small but noticeable.



Immigration to the UK has increased considerably over the last 45 years, particularly since the 2000s. The share of immigrants in the population climbed to 13.4% in 2015, with a high concentration among 1860- year-olds. The origin of immigrants has changed, with a notable rise in arrivals from EU countries after 2004. In addition, the definition of an immigrant varies depending on whether one considers birth or nationality. Immigration to the UK includes a significant proportion of temporary migrants, with a high rate of departures, particularly among EU nationals.

Immigrants to the UK, although educated, often experience a "devaluation" of their skills on arrival, as these are not always transferable, not least because of language barriers. This leads them to take up lower-paid jobs than their level of education would suggest. Over time, however, they "move up the ladder," acquiring skills suited to the local job market. The economic integration of immigrants depends on their intention to stay in the country, and their investment in specific skills. Investment in human capital is influenced by the length of their intended stay.

Immigration can influence native wages by altering the labor supply. If immigrants compete with natives in the labor market, wages may fall, especially for groups with similar skills. However, immigration can also increase the productivity of

complementary factors, such as capital or other groups of workers. Economic adjustments can occur, for example, via trade or technology, allowing the additional labor supply to be absorbed without changing wages significantly. Empirical research shows that immigration tends to widen the wage distribution of native-born workers.

Immigration can affect wage inequality in the host country in two ways: by altering the wage distribution of residents, or by changing the composition of the population. For example, the arrival of low-skilled workers can reduce the wages of low-skilled native workers, thereby increasing inequality among them. However, immigration also introduces a new category of workers, lowering the overall average wage, while increasing inequality between all workers, native and immigrant.

The authors conclude on the relationship between immigration and inequality in the UK over the last 40 years. Immigration has led to a slight increase in wage inequality, but the overall effects remain small. Well-educated immigrants often start out in lower-paid jobs, but their wages rise over time. What's more, wage inequality fell after 2000, thanks in particular to the rise in the national minimum wage. Finally, immigration has had no significant impact on the wage distribution of native-born workers, and its fiscal effects are positive.



"The share of foreign-born in the UK population increased from 5.3% in 1975 to 13.4% in 2015."



Immigration can also increase the productivity of complementary factors, such as capital.

Applied research

Radicalization to violence among the youth

Audet, G., Fleury, R., Miconi, D., Santavicca, T., Rousseau, C. & Plante Thibodeau, S. (2024). Understanding to Better Respond. Radicalization to Violence Among the Youth. Guide for School Staff. RAPS, CREDEF and SHERPA.

This guide, published in 2024, jointly by the RAPS (Research and Action on Social Polarizations) team, CREDEF (Chaire de Recherche sur les Enjeux de la Diversité en Éducation et en Formation), and the SHERPA Research Institute, all three based in Montreal, analyzes the issues surrounding radicalization and violence among young people. The researchers suggest courses of action for all those involved in education, to better respond to this increasingly present challenge.



The world is rapidly changing, demanding constant updates to our knowledge and practices. This acceleration often challenges traditional methods, making them outdated or even harmful. One area of concern is the rise of violence among youth, especially in schools. In 2023, media coverage highlighted growing aggressive behaviors, including hate crimes, gun violence, and bullying. This guide aims to spark reflection and collective action on these issues. It presents recent data, tools, and practices to assist educators, acknowledging that it is not exhaustive and should be enhanced with field-based insights.

The 2015-2018 Government Action Plan on Radicalization in Quebec emphasized the role of education in preventing violence and promoting social cohesion. It called for schools to adopt anti-bullying and anti-violence plans with prevention and reporting measures. In 2016, a training course on violent radicalization was developed, and this updated guide reflects new research, including the impact of the pandemic and the Internet on social polarization. It outlines tools for promoting "living together," provides action steps, and offers resources for further support, incorporating recent initiatives from the

RAPS team.

Radicalization is not inherently problematic, as it can bring about necessary social change. Being radical generally implies a shift from moderate to extreme views, but not necessarily violent ones. History shows examples of non-violent radicalism contributing to women's rights, minority rights and environmental protection. However, radicalization can also lead to violence, often fueled by online culture. Young people in search of an identity are particularly vulnerable, and social isolation, frustration and exclusion can increase this risk. Supporting protective factors such as a stable social network and good education is essential to counter these risks.

The role of schools and school staff in preventing violent radicalization is crucial. Schools must avoid stigmatizing students and their families, and instead promote social cohesion. Preventing radicalization involves fostering "living together," reducing vulnerability factors and strengthening protective factors. Various tools exist, such as the Educational Project, the School Code of Conduct and anti-violence plans. School integration, intercultural policy and ongoing teacher training are also essential in the fight against radicalization and its consequences.



Schools need to adopt anti-bullying and anti-violence plans with prevention and reporting measures.



The role of schools and school staff in preventing violent radicalization is crucial.

Applied educational research and thematic analysis

Peel, Karen L. (2020) "A Beginner's Guide to Applied Educational Research Using Thematic Analysis," *Practical Assessment, Research, and Evaluation: Vol. 25 , Article 2*. DOI: <https://doi.org/10.7275/ryr5-k983>

Karen L. Peel, from the University of Southern Queensland (Australia), addresses the lack of literature on the theory and application of conducting case studies in educational settings. This article first presents the theoretical and philosophical foundations behind research design suitable for educational settings, and then sets out a roadmap, or "inquiry framework," that provides the keys to effective, functional research.



The author points out that philosophical assumptions (ontology and epistemology) influence the researcher's position on ethical research. According to Peel, researchers who restrict themselves to qualitative research, particularly case studies, must understand that reality is multiple and contextual. Thematic analysis allows meanings to be constructed from participants' experiences, but the researcher, as interpreter, plays a key role in data collection and analysis. Critical reflection and consideration of personal biases are essential to guarantee the transparency and rigor of the study. This article describes a research framework adapted to the case study approach, used to explore specific educational issues. Case study is a qualitative method that enables in-depth examination of delimited systems through diversified data collection. Peel describes a rigorous six-step process for data collection and thematic analysis, influenced by renowned researchers such as Butler (2011) and Yin (2014). The six steps are: 1) identify the issue; 2) collect the data; 3) prepare and engage with the data; 4) analyze thematically; 5) interpret the data analysis; 6) compose the research paper. Each step is duly described by the author, giving the reader the keys to applying the framework effectively. For example,

Peel explains the codification stage, a tool for identifying significant extracts in transcripts by means of codes. These codes, created inductively, are used to identify patterns of meaning in the data. The researcher assigns codes based on the words and behaviors of the participants and revises them iteratively. As the analysis proceeds, new codes emerge, while old ones are refined. This flexible, structured approach is designed to guide novice researchers in the analysis of qualitative data, emphasizing reflection and rigor in the interpretation of results for transparent, ethical empirical research. Indeed, qualitative research involves a close relationship between the researcher and the participants, requiring respect and ethics, which the author highlights. Research ethics include protecting participants and minimizing risks. Research rigor and credibility are reinforced by transparent methodology, rigorous data analysis and traceability of decisions. In conclusion, although case study research is limited by its scale, it enables in-depth exploration of issues. This approach is suited to complex questions and must respect the researcher's philosophical principles, while generating transferable knowledge.



Philosophical assumptions (ontology and epistemology) influence the researcher's position on ethical research.



Qualitative research involves a close relationship between the researcher and the participants, requiring respect and ethics.

Applied research

The future of education: a philosopher's point of view

De Koninck, T. (2010). *Philosophie de l'éducation pour l'avenir*. Presses de l'Université Laval.

De Koninck, a philosopher from Québec, Canada, proposes in his book "Philosophie de l'éducation pour l'avenir" to "rethink education from the bottom up." With this book, which is almost like a class, built around thirteen parts, the philosopher addresses everyone, very directly, in an attempt to respond to the challenges facing educators today.



After a section on philosophy and its role in education, the author returns to the true *raison d'être* of education, namely "happiness itself." In his view, the purpose of education is to give meaning to life, to elevate each individual towards a fully human existence, with affectivity as its essential priority. Children begin their emotional development in a state of great indeterminacy, and the love they receive from early childhood is crucial to their self-esteem. Lack of affection is detrimental to development, as shown by the criticism of the character Thomas Gradgrind in Dickens' *Hard Times*, a symbol of the neglect of emotions and sensitivity in education. Love and recognition, based on human relationships, are vital. In the fourth part, de Koninck discusses the importance of the educational approach in relation to children. The education of children, approached as a whole, is of paramount importance from early childhood onwards. Moral and intellectual education rests on three pillars: nature, reason and habit. This vision, inherited from the ancients, was developed by thinkers such as Plutarch, Aristotle and Locke. The plasticity of the developing human brain underlines the importance of early sensory impressions in cognitive development. In particular, touch, from the embryonic stage, plays an essential role in brain development, linked to understanding and self-perception. Thus, according to the author, education, by

enriching sensory experience, shapes a child's intelligence.

De Koninck also discusses the challenges of teaching. As Paul Valéry and Simone Weil emphasize, teaching must arouse the desire to learn, because intelligence only develops in joy. The aim is to prevent ideas from becoming inert, and to stimulate active, creative thinking. The challenge is to help students connect subjects and understand their usefulness in the present. Teaching must encourage active listening and personal engagement, valuing interaction and wonder in the face of ignorance, as in the sciences.

Humanist education needs to be redefined to meet contemporary needs. In the words of Antoine de Saint-Exupéry, we need to "fill" the word "humanism" by giving it a deeper meaning. This challenge involves promoting diversity, not only in biology, but also in human talents and cultures. Biology shows that diversity is essential to survival and evolution. Finally, culture and the diversity of cultures are precious resources, in danger of being standardized by technology. Preserving this richness is vital to a full understanding of humanity. Technology, though utilitarian, must be put at the service of human beings. Education must encourage critical reflection, the awakening of the mind and the capacity for discernment, in order to prevent illusions and ensure genuine, humane progress.



The purpose of education is to give meaning to life, to elevate each individual towards a fully human existence, with affectivity as its essential priority.



Education, by enriching sensory experience, shapes a child's intelligence.

Applied research

How can geopolitics affect scientific research? The example of Russia

Zhang, L., Cao, Z., Sivertsen, G. et al. The influence of geopolitics on research activity and international collaboration in science: the case of Russia. *Scientometrics* (2024). <https://doi.org/10.1007/s1119204984--024->

In recent years, the tension between open science policies and those focused on competition and security has highlighted a paradox: global scientific collaboration is not keeping pace with defense alliances. Despite political tensions, the United States collaborates massively with China and Russia. The Russia-Ukraine war has led to sanctions affecting scientific collaboration, but scientific communities are resisting, favoring individual exchanges.



This phenomenon reflects the idea that science should be above political boundaries, although the geopolitical situation is gradually influencing these relationships.

To test the hypothesis of the relative stability of Russia's collaboration and publication patterns, we used a long-term perspective, with annual and monthly analyses. The data come from the Web of Science™ and InCites, covering 461,366 international publications from January 2022 to April 2023. Two indicators were developed: relative intensity of collaboration (RIC), measuring bilateral activity, and balance in collaboration (BIC), measuring the balance of a country's collaboration profile. These indicators make it possible to analyze the impact of geopolitics on Russia's scientific collaborations.

The results of this study show a complex evolution in Russia's scientific contribution to international journals. Between 2000 and 2014, the share of Russian publications declined, as it did for other countries, due to the increase in contributions from other regions, notably China and India. However, after 2014, Russia managed to reverse this trend for a while thanks to scientific policies, such as the 5top100 project, aimed at improving academic mobility and international cooperation. But since 2022, this dynamic

has declined sharply, partly due to sanctions and geopolitical difficulties linked to the war in Ukraine.

Analysis of international collaboration, measured by the rate of foreign co-authors, shows a relative stability in scientific cooperation despite a decline in Russian scientific output. However, collaboration with countries such as Germany and the U.S. has decreased, while with China and India it has increased. In addition, the study reveals significant variations in certain domains such as particles and fields, where Russia has seen a significant reduction in its partnerships, in contrast to fields such as astronomy, where collaborations have been maintained. These results suggest that geopolitical decisions influence scientific fields differently.

The results confirm the hypothesis that geopolitical conflicts marginally affect long-term trends in international scientific collaboration. Russian science is well integrated into global science, and the intensity of bilateral collaboration remains stable, particularly with the U.S. and China. However, collaboration with Germany is declining, while it is increasing with China and India. The decline in Russian contributions to scientific journals seems to be due to internal factors, such as the repression of academic freedom.

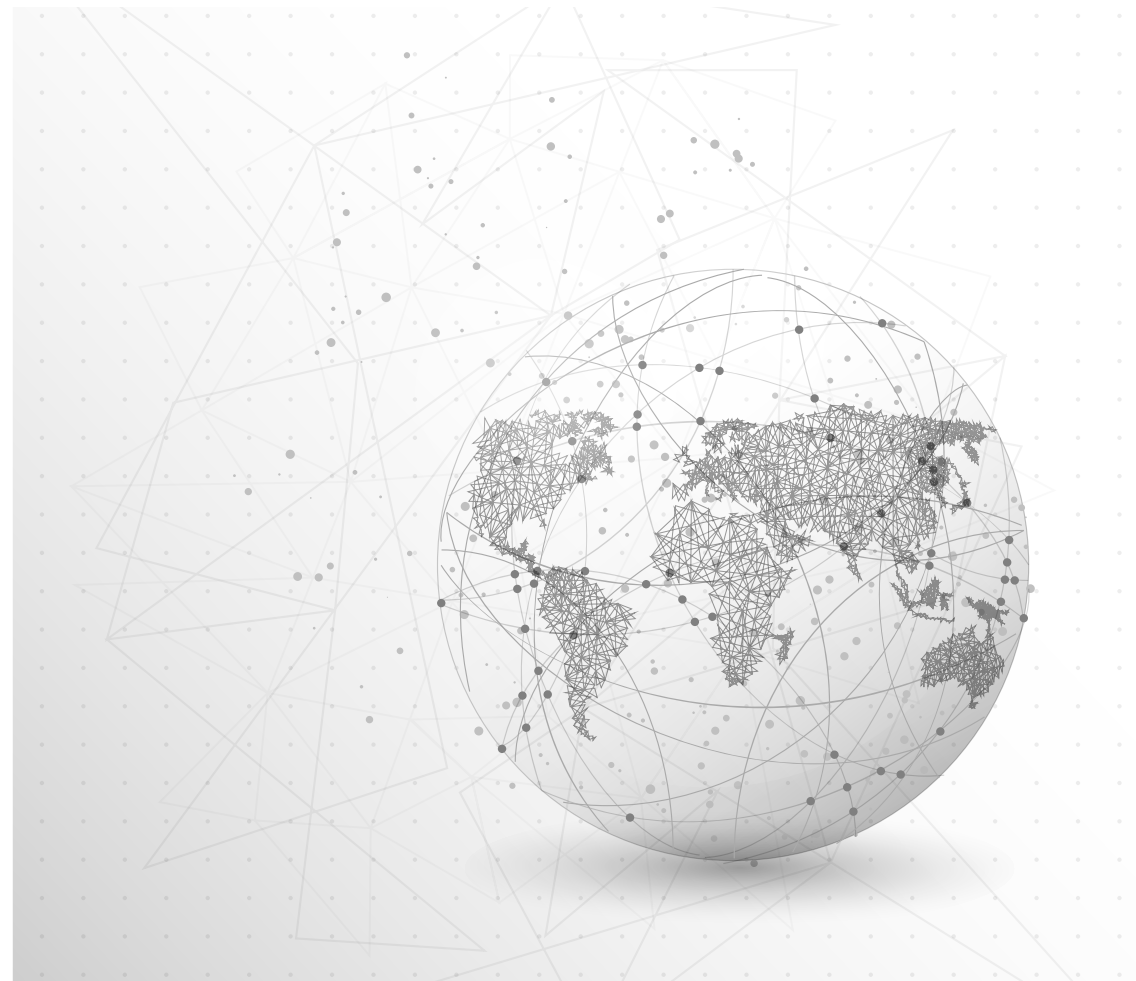


Science should be above political boundaries.



Geopolitical conflicts marginally affect long-term trends in international scientific collaboration.

3 The future in numbers



I Am optimistic 2025 Will Be Better For Me Than 2024



Top Grossing movies of 2024



Mapped Ev battery manufacturing Capacity by region

