



# Megatrends Update Summer 2023

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A good year ago, we published our book *Global Perspectives on Megatrends. The Future as Seen by Analysts and Researchers from Different World Regions* (Ibidem and Columbia University Press, 2022). The book is an output of an ongoing research, dialogue and teaching project which involves cooperation and exchanges with researchers, analysts and practitioners from various institutions, countries, and world regions. We held several dialogue events last year, including at the renowned *Berlin Science Week* in November 2022 and contributed to numerous conferences, including the 12, Future Forum of the German Institute for Defense and Security Studies (March 2023) and the University: Future Festival 2023 with more than 5000 participants (April 2023). We also organized or contributed to high-level events on megatrends in other countries, including to one in Cambodia supported by the Ministry of Education.

One year after the publication of the book, we believe that our analysis remains relevant. In particular, we were able to foresee developments in climate action, in geo-economics and geo-politics, inequality and migration. We are clearly seeing how climate action has moved to the center of political agendas across the world, how the climate imperative fuels political contestations, how migration has once more picked up after the COVID-19 pandemic, and how a multipolar world order is playing out in the context of the Russian invasion in Ukraine.

Megatrends have a perspective of at least 10 to 15 years. It is therefore still too early for a detailed assessment. However, we would like to use this opportunity of our Megatrends Summer 2023 update to share some information and reflections on recent developments, structured along the chapters of the book, beginning with definitions and discourses on megatrends.

### **How to Identify Global Megatrends?**

Global megatrends discourses gained further traction. Like the United Nations 2030 Agenda for Sustainable Development detailing the 17 SDGs, global megatrends refer to key challenges for humanity. What makes the megatrends framework different is that it relates challenges and risks to actions, including opportunities for investments and business. Megatrends are different than short-lived product or consumer trends. Rather, megatrends form the context of challenges and opportunities facing the world in seeking to realize the SDGs.

Our Pentagon model which defines megatrends along five criteria resonated well with academics and practitioners. Indeed, we believe our approach to megatrends to be comprehensive, incorporating social and political trends into its framework. Our book and our follow-up analysis highlight relevant economic, political, and social developments across different world regions.

### **Who Shapes the Future?**

In our book, we paid special attention to the interconnection between megatrends analysis, futures research, and the work of think tanks. Policymakers, business leaders, and asset managers have shown a growing interest in megatrends analysis and futures research which is leading to increased visibility for some think tanks, including in the Global South. The trend towards a growing diversity of think tanks, especially the emergence of a think tank landscape in emerging economies, is continuing. We are witnessing more

specialized and advocacy-oriented start-up think tanks in metropolitan areas in the United States and Europe, some of them supported by big money, others relying more on grassroots activism. At the same time, well-established think tanks, e.g., the Club of Rome and the World Economic Forum, continue their work and shape discourses and political debates. Doomsday scenarios flourish, but many researchers and experts keep the hope alive that more accumulation of wisdom and better policymaking will help us navigate the time of the polycrisis. Instead, we should aim at urgently transforming economies and societies towards sustainable futures to avert worst-case outcomes.

Germany witnessed its first “think tank scandal” in April/May 2023. It revealed the influence and lobby power of think tanks, their intellectual and technical capacity but also some questionable practices of the interaction between political leaders and think tankers. The German Minister of Economic Affairs and Climate Action, Vice-Chancellor Robert Habeck, was accused of having too close relationships to various think tanks, relying too much on the work of an “old boy group” of think tankers, especially Agora Energiewende connected to the network of the US philanthropist and climate activist Hal Harvey. Vice-Minister Patrick Graichen, former Executive Director of Agora and the architect of many of Germany’s progressive energy shift policies, was forced to resign after favoritism allegations. Another think tank that is receiving more media attention and public support in Germany is Finanzwende.de, founded by the former Member of Parliament of the Green Party, Gerhard Schick. The organization is targeting greenwashing of investors and banks.

### **Climate Action and Sustainability**

In our book, we spoke of growing investments in renewables. The world’s largest solar and wind power project is currently under construction in the Kubuji desert in Inner Mongolia, China. We also highlighted investments in carbon capture and storage technologies. Octavia Carbon is building the world’s second largest Direct Air Capture Plant in Kenya’s rift valley under very favorable conditions for electricity generation and storage. We also emphasized the expansion of emission trading across industries and sectors. Currently, the European Union’s Emission Trading Schemes (EU ETS) includes greenhouse gas emissions from power plants, large industrial installations, and inner-European aviation traffic. It will soon expand to other sectors. Germany’s revenues from auctions under the EU ETS totaled more than 6.8 billion euros in 2022, marking a significant increase over 2021 (5.3 billion euros) (Umweltbundesamt, Jan. 23, 2023).

We predicted that the climate issue would put international relations under stress. Political leaders called for global action to mitigate climate change and to preserve the global commons, but perspectives of countries and political leaders greatly diverge on responsibilities and actions. We forecasted that “compensation” would become a big issue at forthcoming United Nations’ Conferences of the Parties (COP), put on the table by countries of the Global South. This scenario has already become reality at COP 27 in Egypt in December 2022. But in June 2023, the Bonn Climate Change Conference SB58 in preparation for COP recorded only minimal progress on the way to COP 28. Debt-for-conservation deals are another big issue. In May 2023, Ecuador finalized a

\$1.6 billion deal to convert existing commercial loans to a new US Dollar 656 million loan tied to investments in conservation and other climate action priorities.

The world is witnessing a further proliferation of carbon-neutrality policies of countries, provinces, cities, and all kinds of institutions. Investments in decentralized energy production and storage will continue. Megacities in the Global South have raised climate ambitions. Mumbai aims to be South Asia's first Carbon-Neutral City by 2050.

In the field of electromobility, we are expecting technology leaps. Capitalizing on the Inflation Reduction Act (IRA) in the U.S., the future of EVs is now accelerating faster than ever before. Large automotive companies like Ford, GM, and Volkswagen are committed to building huge numbers of EVs, but their progress has been slow while Tesla and China's BYD have become the global EV leaders. A new generation of sodium-ion batteries offers a big potential. Bidirectional charging is becoming a major topic in electromobility. The new ISO 15118-20 can transfer all the information required for the variety of bidirectional charging use cases. However, we do not expect a huge scaling up this or next year. In the field of solar energy, the Chinese researchers Lin, Wang and Lu published an article in the leading science journal *Nature* in June 2023 concluding that all-perovskite tandem solar cells promise higher power-conversion efficiency while maintaining a low fabrication cost.

ESG (Environment, Social and Governance) investments will also continue their growth story and require action at different levels. The EU is expected to pass a supply-chain law which will be more ambitious than the German law that has been in force since the beginning of January 2023.

One of the most exciting climate action system model tools is [Enroads of ClimateInteractive](#) which just got an update in June 2023 in cooperation with the MIT Sloan Sustainability Initiative, and Ventana Systems.

## **Digitalization**

It is not often that a technology evolves to become an existential threat within the span of less than 6 months, and yet Artificial Intelligence (AI) is rapidly evolving into one such case. ChatGPT, a generative Artificial Intelligence tool, received utmost attention since end of last year. Based on analysis of text, images, and sounds, it is able to create humanlike content. Many contemporary philosophers and industry insiders are worried about a future where AI is making decisions that are not aligned with human ethics. Yuval Noah Harari, Israeli historian, philosopher and bestselling author, argues that AI has hacked the operating system of human civilization. Nevertheless, a bizarrely choreographed performance of interchangeable warnings and further investments is currently taking place. The very same doomsayers at night, enter their labs in the morning to help materialize the very capabilities they so want to avoid. Other AI experts dismiss the doomsday scenarios of an AI existential threat and focus on near-term concerns like disinformation and deep fakes. Some experts, like conference speaker Isabella Hermann and Lajla Fetic of Bertelsmann Foundation, are talking about focus on doomsday scenarios diverting attention away from responsible

action to deal with more immediate AI threats to society. International organizations and other actors are calling for demystifying AI and for swiftly developing a regulatory regime for guardrails on AI development and use. In our book, we have pointed to the need for regulatory initiatives, especially in the field of ethics.

A lot of political attention and research capacity is flowing into possible designs of an emerging global AI governance architecture. The United Nations proposes a Global Digital Compact to be agreed at the Summit of the Future in September 2024 through a technology track involving all stakeholders: governments, the United Nations system, the private sector (including tech companies), civil society, grass-roots organizations, academia, and individuals, including youth.

## **Inequality**

In our book we forecasted that inequality will be exacerbated in the context of asset inflation and greenflation and will hit many middle-class people, in rich countries and emerging economies alike. This environment sparks strikes and protest movements. At the time of this writing, France has been in turmoil for three months. Masses demonstrate, railway workers block tracks, set up barricades, and buildings are on fire, while demonstrators fight street battles with the police. In Germany and elsewhere, the climate activists of the “last generation” have new goals in their sights: actions against the rich as they regard them as primarily responsible for the climate catastrophe.

In our book we also talked about how the old guard of economics is slowly giving way (involuntarily for the most part) to new ideas, which is precisely how we went from talking about wage-price spirals and asking people not to negotiate their wages, to a slow admission that corporate price gouging, or at least inflation expectations on the side of corporations, were in fact contributing to inflation *at least* equally as much as wages. What once was thought to be a bout of transitory inflation amounted to a cost-of-living crisis and a shift in economic thought, facilitated by new approaches in academia by the likes of economist Isabella Weber.

Talking about North–South relations, we also reiterate the scenarios we developed in the summary part of book. Developing countries affected by climate change will become more assertive when it comes to demanding compensation for the extraction of natural resources and losses from climate change. The inequality issue also will become a major political challenge for authoritarian regimes as well as liberal democracies and will not be confined to poorer countries. Poorer countries will have shown pragmatic approaches in forging political and economic alliances and Western donors. We have seen this in many developing countries rejecting treaties to join sanction regimes, especially against Russia for its invasion of Ukraine.

## **Demography**

As we have outlined in our book, demography trends will remain diverse. Africa is the fastest growing and youngest region in the world. It could account for 40 percent of the world's population by the end of the century.

Aging societies will be the dominant trend in richer countries while population growth will flatten in some developing countries. India has overtaken China as the world's most populous country, according to UN population estimates. India now has a population of 1,425,775,850. China's population has begun shrinking and aging like in other countries in East Asia. Chinese demographers have warned that China's population could shrink to less than half by the end of the century. Population decline and aging will impact prospects for economic growth, including in Europe. According to [an analysis of Europop](#), the coronavirus (COVID-19) pandemic and the influx of migrants, however, have modestly mitigated aging and population decline, at least in the short term.

## Urbanization and Smart Cities

Urbanization will continue, especially in Africa. By 2050, almost a billion more people will be living in cities and urban regions on the African continent. In the course of the century, a metropolitan region with half a billion inhabitants could grow on the west coast of Africa. The world could add two billion more people to cities by mid-century as global urban population increases from about 55% to nearly 70% and total world population increases by another billion people or more.

Across continents, development of smart cities continue to be a strong trend and receive support and funding by public authorities. With the Smart City Model Projects Program, the German Federal Government supports municipalities to shape urban digital transformation with a focus on public welfare and citizen participation. The International Smart Cities Network (ISCN) promotes the integration of digital solutions into citizen-centered urban development processes.

Mobility and construction remain the hottest topic in urbanization debates. Competition over space is at the heart of political debates in most big cities in Europe. It is challenging to reverse car-oriented city planning which undermines municipalities' efforts to provide more sustainable urban mobility. The construction sector is suffering from the rise of interest rates and is under pressure to meet high energy efficiency and decarbonization standards. Modular building systems will play an important role in the future of urban construction. They are an effective way to reduce waste because the manufacturing occurs offsite in a controlled environment. It is crucial to designing buildings for circularity from the beginning. The EU's Circular Economy Action Plan is a core element of the European Green Deal and of high relevance for the construction sector. Heating and cooling are also important areas to reduce emissions. In many countries, phasing out oil and gas heating is on the agenda but provokes controversies. Germany is currently experiencing such political conflicts. Homeowners worry about the costs for installing heat pumps (but wasn't the proposal only for new construction of housing rather than requiring retrofitting?). Governments need to design smart incentives and address financial and social implications to accelerate greening of the built environment.

## Health & Nutrition

In many countries, the health sector is going through structural and technological transformation. [According to McKinsey](#), The COVID-19 pandemic has accelerated the movement of care from high-cost acute and post-acute sites to lower-cost freestanding and non-acute sites, including increased demand for home-based services and virtual care. The impact of the Covid-19 pandemic is still being felt, with estimates of long COVID prevalence above 10 percent in many countries and highest rates among older, female, hospitalized, and unvaccinated patients.

In nutrition, we see a lot of innovations focusing on health and sustainability. The [Kerry Health and Nutrition Institute](#) is working on nutrition as a megatrend and promotes sustainable nutrition, which is delivering food that is mindful for the health of people, the planet, and society. The potential field of use of wild mushrooms offers enormous potential. Edible fungi have recorded a significant rise in prominence on a global scale over the past year.

## Green Economy

Concepts of green economy are driven by demands to accelerate the net-zero transition, to prevent the accelerated loss of biodiversity, and to address the social dimension of transformations. We have predicted many more high-level events addressing green growth and degrowth concepts. In May 2023, the Beyond Growth 2023 Conference, an initiative of 20 Members of the European Parliament (MEPs) from different political parties, and co-organized by 60 partner organizations, discussed policies for sustainable prosperity in Europe.

Our follow-up talks with the Green Economic Coalition, the world's largest movement for green and fair economies, reaffirmed the relevance of multi-stakeholder dialogues and citizens initiatives for promoting the green economy. According to the Nature Economy Reports, a new nature economy could generate up to \$10.1 trillion in annual business value and create 395 million jobs by 2030.

The conflicts between environmental and socio-economic interests and impacts have become obvious in various contexts. The EU is realizing that some of its Green Deal policies do not resonate well with African leaders as they fear deterioration of trade relations if the EU raises its environmental standards. India is stepping up efforts to increase its green electricity output. While authorities have earmarked land to be seized for solar plants, small farmers are afraid to lose their land.

Research on sustainable economic development and well-being are flourishing and efforts to establish alternative welfare indicators to GDP are gaining traction. The German Think Tank ZOE Institute for Future-fit Economies is partnering with other organizations and alliances, such as the Wellbeing Economy Alliance to support policymakers to pilot a Policy Design Guide which enables them to deal with systemic interlinkages and trade-offs to create synergies. The ZOE Institute also maintains that citizen involvement in the policymaking process is critical

## Sustainable Finance

Ethical finance is going global. Key topics which are discussed in the community, include the growing impact of conflict and geopolitics in ESG, financing climate adaptation and mitigation, restoring nature and biodiversity, and the stronger emergence of the S in ESG and impact investment.

The [International Sustainability Standards Board](#), founded on 3 November 2021 at COP26 in Glasgow, is currently working on more harmonized ESG and disclosure standards. Sustainable Finance in the Emerging Markets has become a hot topic. Islamic finance has also discovered ethical finance in a big way promoted by the IFN Islamic Sustainable Finance & Investment Dialogues and other stakeholders.

At the company level, ESG awareness and reporting is reaching new heights of attention while it seems to become more difficult for investors and companies to get away with greenwashing their assets and investments. The lobby power of nonprofits targeting investment funds is becoming more visible and has spurred efforts to agree on more universal standards for ESG investments.

## Democracy and Governance Innovations

In our book chapter on democracy and governance innovations, we have paid much attention to citizen councils. Germany is introducing its first 'citizens' assembly' on the topic of food and nutrition. Lawmakers considered the proposition backed by Germany's three governing parties. But opposition parties are hostile to the idea, warning that such citizens' assemblies risk undermining the primacy of parliament in Germany's political system. But many Government and international organizations, including [experts at the Organisation for Economic Cooperation and Development \(OECD\)](#) recognized that "around the world, public authorities from all levels of government increasingly turn to Citizens' Assemblies, Juries, Panels and other representative deliberative processes to tackle complex policy problems".

The work of the two experts we consulted in our book chapter on democracy innovations, Prof. Thamy Pogrebinshi and the Chair of Democracy Now! has gained attention in the past months. Pogrebinschi published and presented her new book *Innovating Democracy?* in June 2023: "the first large-N cross-country study of democratic innovations to date, which provides a comprehensive account of democratic experimentation with citizen participation in Latin America. She argues that citizen participation is a means to achieve an end, namely the enhancement of democracy.

Marie Jünemann, board member of Democracy e.V., the largest professional association for direct democracy with 10,000 members across Germany, independent and non-profit, played a key role in drafting a bill for a federal transparency law and promoting citizen councils in Germany and Berlin.

## Multipolar world-order and the Future of Multilateralism

As proposed in our book, a multipolar world-order is becoming reality even though the term "multipolar world order" is still challenged by some proponents of a world order led by the US and its transatlantic allies. The Group of 20 (G20)



will remain an important international forum for key global leaders to meet outside the United Nations.

As we thought during the writing of the book, NATO has indeed made a remarkable comeback. The U.S. and the EU have forged close ties in condemning Russia's war in Ukraine. However, Russia's war in Ukraine has made division lines between different regional powers more obvious. Russia will pay a high political and economic price for continuing attacks in Ukraine and may lose territories in the context of Ukraine's counteroffensive in summer 2023. Russia will become an even more authoritarian and repressive regime unable to make necessary investments in economic, social, and technological developments. We have predicted a cruel, long-lasting war with many civil casualties and a more visible emergence of a multipolar world order, as China and India face increasing pressures to help the Western allies and establish peace in the region.

Western countries established a comprehensive regime on sanctions against Russia which has not been very effective, partly because it did not find the support of many regional powers and countries in the Global South, including the BRICS countries. On April 3, 2023 the United Nations Human Rights Council (UNHRC) adopted a resolution condemning the "negative impact of unilateral coercive measures on the enjoyment of human rights" which could be seen as a criticism of Western efforts to extent sanction regimes on Russia and other authoritarian regimes.

The Arab-China Business Conference in mid-June has demonstrated China's closer economic ties and rising influence in the Middle East. A list of flagship projects includes a new factory for electric vehicles in Saudi Arabia.

Competition in production of semiconductors has intensified. The U.S. held talks with Japan and the Netherlands and expanded export controls targeting China's access to high-end chip manufacturing equipment. Competition for international influence is also highly visible as demonstrated by the overlap of the China-Central Asia Summit in Xian with the G7 summit in Hiroshima in May 2023.

## Civilizational Development

Diversity, identity politics, gender shift, loneliness remain important features of affluent societies. We are observing many initiatives on loneliness at all levels, including at personal and grassroots level, to address new civilizational trends. A former student of Berthold Kuhn, Holger Thiel who holds a Ph.D. degree in Philosophy started to offer philosophical counseling on loneliness in Berlin: "Loneliness as Friend or Foe?" Attitudes on religious diversity seem to have turned more negative in some places, as the Bertelsmann Foundation's religion monitor reported is the case of Germany.

Wokeness, a term derived from the African American Vernacular English (AAVE) expression "stay woke", continues to be a hot topic in political and social debates, especially in the United States, as it is associated with identity politics and affirmative action. In March 2023, a [USA Today/Ipsos poll](#) finds "that Americans are divided on whether "woke" is a compliment or an insult. Two in five (40%) say they consider "woke" to be an insult, but about a third (32%) consider it a compliment. While a majority of Republicans (60%) and a plurality

of independents (42%) consider “woke” to be an insult, nearly half of Democrats (46%) say they take it as a compliment.”

Geopolitical and geoeconomic conflicts will translate into more sharpened cultural affirmations. The rise of the *civilisational state* continues to haunt the liberal West. The re-election of Erdogan in Turkey has proved that authoritarian regimes may enjoy relatively large public support even in times of economic difficulties and foreign policy conflicts.

In a way, the rise of China and India and their growing cultural affirmation is challenging classical modernization theories. Cultural affirmations translate into political affirmations. China proposed the Chinese Global Civilisation Initiative (gci) in March 2023. President Xi Jinping called for promoting international people-to-people exchanges and cooperation. The initiative is likely to resound very well in many countries, including in the Global South, but to fall on deaf ears in the US and Europe.

## Migration

Migrants make significant contributions to societies across the world. India tops the list of countries of origin for international migration by far, followed by Mexico. As we predicted in our book, migration would pick up again after the COVID-19 restrictions were lifted and remain a topic of heated political and economic debates, especially regarding issues of immigration. The Dutch Government collapsed in July 2023 after the coalition government failed to reach an agreement on how to deal with the immigration issue.

While many countries have relaxed regulations for professionals and people working in certain industries, especially in health care, migration tragedies continue to be reported. Nearly one hundred people died and hundreds more were still missing in mid-June 2023 after the refugee boat disaster in Greece.

The Council of Europe established a new asylum procedure regulation (APR) across the EU aiming to distributed refugees more fairly across the EU. Authorities are given green light to deport refugees more swiftly. Critics say that the EU is shirking responsibility in the context of the securitization of migration and asylum policies. They also point to the risk that the new rulebook could lead to the detention of minors.

According to the [International Center for Migration Policy Development](#), we could see high migration pressures in times of global polycrisis with a focus on the Western Balkans and Central Mediterranean migratory routes.

## Visions for the World in 2030 and beyond

The forecasting industry is receiving much attention. Many governments have established special units working on forecasts and scenario development, not limited to economic development or analysis of financial markets. We emphasized in our book that global megatrends are much more than business or investment opportunities. We wanted to provide a comprehensive yet concise overview of the most important trends and their interconnections, alongside insightful analysis of how megatrends are shaped by international organizations,

think tanks and influential political and social leaders in different parts of the world.

The World Economic Forum (WEF), one of the most influential global think tanks, remains on our radar as it continues its insightful analysis on global risks. In the beginning of this year, the WEF spelled out the polycrisis which many countries and people are facing: "The war in Ukraine sent energy and food prices soaring. The resulting inflationary pressures ignited a global cost-of-living crisis which has led to social unrest. On top of all that, carbon emissions continued to rise as economies reopened after the pandemic." In the light of the polycrisis, unity around shared principles and common goals is both crucial and urgent, as the United Nations puts it.

2023 marks the midpoint of the UN's 2030 Agenda for Sustainable Development. We are glad to see that the United Nations, along with many think tanks, experts, and activists across the world, are deeply engaged in finding alternatives to dystopian futures and to promoting future literacy. It would be great to make debates on future challenges for humanity even more inclusive, however. More expertise, data, analysis, and the commitment of people with diverse backgrounds and orientations are needed to successfully address the climate change and sustainability challenges.

The United Nations is already preparing for the Summit of the Future which will take place in September 2024 in New York. It will be a great opportunity to enhance cooperation on critical challenges, analyze intersections of megatrends, address gaps in global governance, and reaffirm existing commitments including to the Sustainable Development Goals (SDGs) and climate action.



Dr. habil. Berthold M. Kuhn at the 75. anniversary party of Freie Universität Berlin on June 1, 2023.

Assistant author Dimitrios L. Margellos, now working at the ZOE Institute for Future-fit Economies.



## Extra: Inputs of associated megatrends experts

**Banning Garrett, U.S. -based strategic thinker, global trends experts and speaker on the climate imperative in times of mounting geopolitical and geoeconomic tensions.**

There is no silver bullet for “solving” climate change. On the contrary, global warming poses a myriad of challenges and require a similarly broad set of responses, from mitigation and adaptation to resilience and consequence management. As of now, the world is not on track to prevent catastrophic climate change that threatens the very fabric of human civilization. While there have been many climate agreements and trillions of dollars has been invested globally in green energy and other steps aimed at slowing and ultimately reversing the growth of carbon emissions, these efforts so far fail to set a pace to meet the global goal of zero net emissions by 2050.

The critical importance of these and other approaches to addressing the climate challenge is widely understood. The question is how to significantly and rapidly enhance these and other efforts?

Worsening climate crises are creating increasing “push” for climate action among the public and political leaders, but the “pull” of government policies and concrete efforts is sharply constrained by political and economic obstacles.

Global cooperation is especially hindered by conflicting national interest, extremist nationalism, climate denialism, special interests, widespread public distrust of governments, financial constraints, and strategic mistrust among nations – all of which have been greatly exacerbated by the increasing impact of disinformation spread by social media. These factors have hindered international cooperation, especially between China and the United States. Washington and Beijing are seeking to isolate climate cooperation from heightened bilateral tensions, however, and to build on their four decades of quiet bilateral cooperation and collaboration on climate and energy. They also see “healthy competition” in national green technology development and commercialization.

Better US-China and international cooperation is critical, but successfully meeting the climate change challenge will require efforts and “all hands on deck” approach at all levels of societies and governments that gain momentum and reinforce each other. Rather than depending solely on “top down” international and national policy breakthroughs such as the Paris Accord and the US “Inflation Reduction Act”, the solution also involves initiating and supporting thousands – possibly millions – of “bottom up” projects across the globe. These include initiatives by city governments and citizens groups, “greening” efforts by households and businesses, new products and services at every level of society that aim to build toward a circular economy, and a myriad of other initiatives to reduce emissions and to put pressure on governments, businesses, financial institutions, and international organizations, to move beyond just “talking” about change to accelerating implementation of “climate friendly” policies, products, and ways of operating.

**Janna Lipenkova, Founder and Chief Executive of the Berlin-based company Anacode, on AI-based analysis and monitoring of megatrends and its relevance for companies.**

Amidst a dynamic market environment, companies who want to be leading in their space need a very good understanding of the global megatrends and how they affect their own business. However, many companies don't exactly understand how to break down megatrends, understand their implications for their industry and crystallize opportunities for innovation. For example, many of us are excited by the AI trend, but what does it mean exactly for my company? For a bank, it might open up opportunities for a more personalized and streamlined customer service supported by conversational AI. For a renewable energy company, it might open up opportunities for more efficient predictive maintenance of its installations, and so on. Additionally, especially small and middle-sized companies are "lost in operations" - they don't have the resources to engage in systematic research and strategic thinking. Thus, they are constantly playing catch-up with the market and their competitors, instead of proactively acting on new opportunities and differentiating themselves from their competition.

AI can help companies uncover new opportunities and innovate in a more strategic way. Specifically, AI offers the following benefits:

- Data analysis and processing: our algorithms collect, analyze, and process vast amounts of data from various sources, including social media, market research reports, customer feedback, and industry news. This enables companies to extract meaningful insights and identify relevant trends efficiently.
- Pattern recognition: with its ability to connect the dots in huge datasets, AI detects patterns and correlations that may not be apparent to human analysts. Companies can thus uncover hidden trends, understand complex relationships, and make data-driven decisions.
- Real-time monitoring: with the fast pace of change in today's business environment, time is money - those who are first to act on a specific information capitalize on their first-mover advantage. With daily data updates, we continuously monitor and track trends in real-time, allowing companies to stay on top of the latest developments. Thus, companies can respond quickly to emerging trends and capitalize on opportunities before their competitors.
- Individual recommendations: based on historical data and the vast knowledge of Large Language Models, our system generates recommendations for action. For example, it can suggest new product features, communication strategies and customer segments. This benefit closes the infamous insight-action gap, thus allowing companies to directly act based on data and insights.

An innovation strategy that aligns with global megatrends is a must for companies who want to get ahead and create a sustainable competitive advantage. Those who are able to translate megatrends into concrete insights and action recommendations for their business can lay a strong foundation on which to strive in a challenging environment."