Post-Covid Scenarios

Economy, society and politics in 2030

CONTENT

Foreword:

In 2002, Prof. Dr. Paul Crutzen published an article called „Geology of Mankind" (Nature 415, 2002, p. 23). This short essay was at some point in time the most read, discussed and commented scientific article. Crutzen received the Nobel Prize in 1995 with two other scientists in atmospheric chemistry for the proof of an „ozone hole". He was able to prove scientifically that fluorocarbons (CFCs) trigger the hole in the ozone layer and that an effective banning policy against these substances must be made urgently successful in the short term. Otherwise, there would be a threat of massive damage to health, especially in the Southern part of the world. All in all, Crutzen, who headed the Max Planck Institute for Chemistry in Mainz and died only months ago, concludes that mankind is no longer living in a natural age, the Holocene, but already in a human age, the Anthropocene. His conclusion: unless there is a global catastrophe – he mentions a meteorite impact, a world war or a pandemic (!!) – men will be the crucial „enviromental force" for a long time to come.

The reference to a pandemic was taken only conditionally seriously – although not only the great scientist Paul Crutzen pointed it out. Now this case has occurred, a pandemic has hit humanity almost unprepared. Only in Africa we have been confronted earlier with the devastating effects of COVID19 viruses through Ebola and Sars. New „futures" have to be considered and analyzed. It is not only about fighting this sole pandemic – as important and social stability challenging as this task is. Scientific research must focus on systematic thinking about how social structures can be made adaptable and capable of coordinated action. Which structural changes have to be developed and put into action today in order to be prepared for up to now unthought and unexplored futures to the best of our abilities?

Considering and analyzing alternative futures – this is what drives the development of scenarios and reflects the value of this technique. What does humanity learn from the pandemic? The future perspective makes adaptability as well as the flexibility of structures an essential feature

of scientific research and social action. Resilience, for example in the supply chains of a global economy based on the division of labor, is moving into the center of attention, making it necessary to put an end to the claim of efficiency to be the sole economically valued factor. Regionalization takes on a new significance. COVID19 obliges us to think in terms of alternatives: The course set in medicine towards „value-based medicine", which has so far only been pursued half-heartedly (if at all) takes on massive significance. Research into biocenoses and zoonoses is proving to be more than a marginal scientific field. The central challenge to scenarios is thus the development of alternative futures. Less than ever, the Post-Covid era - however one may define its actual „end" - will be shaped by the extension of past trends. Alternatives must be formulated and shared in a way that is open to discussion: Where are the decisive turning points – what advantages lie in the decentralized organization of economic processes – what reinforcing effect does digitalization have, especially in commerce. How will infrastructural facilities change in the inner city when the mobility shifts from demands to supply.

Developing alternatives, showing scope for decision-making – that is one of the basic conditions of an open parliamentary democracy. In an essay in SPIEGEL 2012 under the headline „Die rasenden Politiker" with the subtitle „Vom absehbaren Ende der parlamentarischen Demokratie" (Der SPIEGEL 29/2012), political scientist Herfried Münkler elaborated on this importance of alternatives. „Parliamentary democracy is thus a system for avoiding alternativelessness," Münkler writes, „Alternativeless-

ness means that parliamentary democracy is in a dangerous crisis." Thinking scenarios and making them available for public discussion is thus a central necessity for democratic stability and for freedom. Rightly, Hannah Arendt elaborated, „Developing alternatives where there seem to be none is the core of freedom." A statement that defends in particular the separation of powers even in times of pandemic, a shift of powers from the legislative to the executive that does not subordinate people's freedom to the supposed or actual lack of alternatives.

Prof. Dr. Klaus Töpfer
Former Federal Minister,
Former Executive Director of the United Nations
Environment Programme (UNEP)

WHY WE SHOULD THINK IN SCENARIOS – MORE THAN EVER

The COVID19 pandemic has changed the view on so-called certainties fundamentally. More or less unprepared, we entered a phase of extremely increased uncertainty. Not only the long-term future, but also the course of the coming months and weeks could no longer be foreseen and planned. That is why „scenarios" have been on everyone's lips ever since. What is their value added in the context of strategic foresight? And what do they imply on how we evaluate the COVID19 crisis?

COVID19 might not be the first pandemic, but one with a lasting impact. Since spring 2020, not only the economy, politics and society have been under considerable pressure, but the everyday lives of billions of people around the globe changed by what it seems overnight. Several million individuals having to battle the virus and considerable economic and social damage were some of the consequences. On the other hand, societal solidarity, a surge in digitization and fascinating innovation successes such as the rapid development of vaccines can be accounted to positive developments following from the ongoing health crisis.

Yet, many supposed certainties no longer applied: stores and cultural institutions had to close, the freedom to travel was restricted and remote work replaced for many (but also not for everyone) the familiar work environment. There was no more leeway to push away uncertainty. Ironically, times of great uncertainty are also times for groundbreaking decisions. In order to

be able to meet these, however, we must develop and think through various scenarios. This is the only way to actively shape the Post-Covid na future.

At ScMI AG, we recognized this need early and, as early as March 2020, launched an open online process for developing Post-Covid scenarios. In the following months, more than 80 experts participated in this process, which was designed jointly with several partners. The eight Post-Covid scenarios presented in this study provide a tool for preparing for possible developments at an early stage and for consciously shaping one's own course after the current crisis. We have already been able to present this tool in numerous lectures and use it specifically in initial projects. We are happy to share our insights with you and hope that this study helps you for decisions to be made in the future.

Dr. Alexander Fink,
Hanna Jürgensmeier and Jens-Peter Kuhle

SUMMARY

In the spring of 2020, ScMI AG launched an online scenario process aiming at exploring possible consequences of the COVID19 pandemic for the economy and the world of work, as well as on a broad scope for society, politics and our everyday lives. Together with more than 80 participants, we have developed eight individual scenarios allowing us insights into potential realities of 2030. Afterwards, an online assessment with more than 200 participants was conducted. From these individual views on a future after COVID19, we derived seven key messages.

Eight scenarios

The eight scenarios can be divided into two scenario groups. The first group contains four scenarios with rather traditional structures, moderate innovation and digital standstill, while the four scenarios in the second group shows strongly changed structures – disruptive innovation, strong structural change and a clear virtualization of everyday life are some of the key aspects of these scenarios.

The first two scenarios belong to the first group and each are subject to a rather traditional economic development:
- **The roaring twenties** (scenario 1) describe a broad and rapid return to a state before the pandemic – including retaining familiar consumption patterns and lifestyles.
- **The pandemic decade** (scenario 2) involves repeated epidemics, with the result that communities move closer together in times of need and people change their behavior – but the economy is repeatedly plunged into new crises.

The second scenario group contains four scenarios in which epidemiological and pandemic developments are manageable and a strong transformation of the economy takes place:
- **Farewell from the familiar** (scenario 3) is characterized by de-globalization and regionalization, greater regulation and a move away from the paradigms of consumption and growth-at-all-cost.

- **New global dynamics** (scenario 4) most closely characterizes today's much-discussed „New Normal" – but combined with stronger global cooperation, a reversal of intra-societal disparities and significantly increased efforts in climate and environment protection.
- **Massive virtualization** (scenario 5) goes even further. Broad virtualization of work and private spheres changed our lifestyles and economies, combined with a strong need for security.
- **In corporate hands** (scenario 6) involves a massive acceleration of innovation dynamics, so that health incidents such as pandemics can be detected at an early stage. Global corporations take advantage of the developments and become the drivers of a highly privatized and commercialized world.

Due to their traditional structures, the last two scenarios again belong to the first scenario group. Both involve massive economic crises:
- **The ongoing crisis** (scenario 7) results if the COVID19 pandemic is a fertile ground for a recession with increased unemployment, that turns into an agitated mood democracy with a reform backlog.
- **Break-up of order** (scenario 8) includes not only an economic crisis but also constantly recurring pandemics. The result is a loss of political control and widespread disintegration.
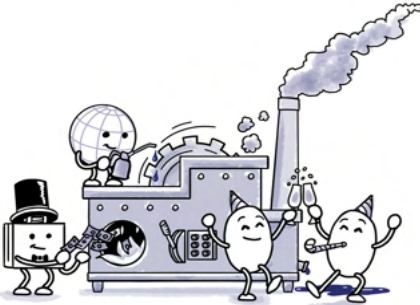
Eight Scenarios

## 1 The roaring twenties
The old normality is back

Driven by the resurgence of free trade and people's desire for life as it was, the traditional economic structures blossom. Life is back in full swing accompanied by a deceptive carefree attitude.

2 The Pandemic Decade
Resilience as a new guiding principle

While politics and the health care system are becoming drivers of resilience and sustainability, innovation is on the decline and large parts of the traditional economy are repeatedly left out in the cold.
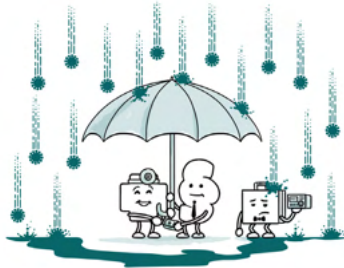
3 Farewell to the familiar
### De-globalization and cutting consumption

A change in values with a recollection of sustainability and regionality are shaping extensive structural changes. Next to a high degree of regulation, consumerism is losing its charm.

4 New global dynamics
Equal growth in cooperative structures

A sustainable transformation, open knowledge systems and new integrative global collaboration structures enable a new global growth dynamics.
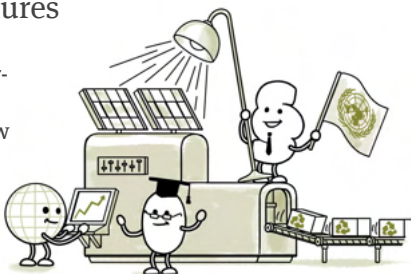
5 Massive virtualization
Security and new closeness in the network

The virtualization of large parts of everyday life is becoming the new normal and creates the framework for secure, self-determined and international forms of social proximity.
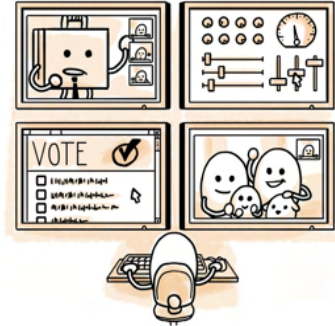
6 In Corporate Hands
Progress at the cost of participation

The crisis has triggered a surge in innovation, leading global companies to take advantage, especially in contrast to politically and financially weakened states. Social disparities are increasing across the board.
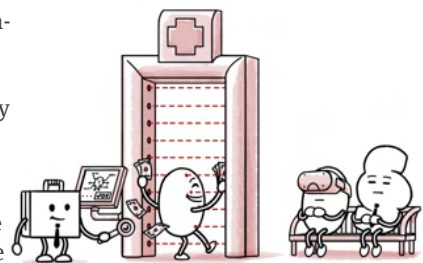
7 The ongoing crisis
Fertile ground for authoritarian ideas

A continuous crisis leads to rigidity, entrepreneurial despondency and fear of relegation, so that the influence of authoritarian forces grows in a de-globalized environment.
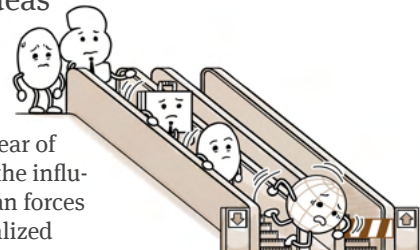
8 Break-up of order
Loss of control and desolidarization

Based on new pandemics and a global economic crisis, both states and financial systems are destabilized. The result is a widespread desolidarization and the formation of a block society.
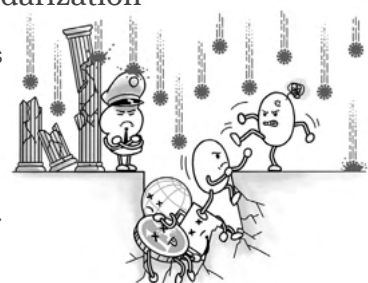
Seven key messages

Scenarios are thinking tools. To prevent us from focusing on individual developments too early in the process, probabilities are not initially assigned to the scenarios. Only after the development process has ended, a scenario assessment is carried out. A first of such expert assessment was carried out in spring 2020 and showed unusually high levels of uncertainty, as all eight scenarios had similar expectation values. With the reassessment in fall 2020, a clearer picture emerged, from which the following seven key statements could be derived:

Climate change will be the central Post-Covid issue

During the pandemic, climate issues took a back seat. In the Post-Covid era, however, massive environmental and climate problems will force politicians, companies and consumers to change their priorities. This is – taking into account all 25 key factors – the clearest statement of the entire scenario assessment.

### *After the COVID crisis, a strong structural change will take place*

In the course of the COVID19 pandemic, the conviction has prevailed that the world will look different after the crisis. Significant structural change is expected, characterized by the fight against climate change, massive innovation processes and the digitalization of the economy, work, society and everyday life. All four scenarios including strong structural change (scenario 3 to 6) were evaluated with a high expectation. However, this change could be halted or delayed by a constant recurrence of pandemics (scenario 2). The occurrence of dominant and ongoing economic and societal crises is not expected.

The reform and foresight capability of Germany and Europe as a business location is assessed positively despite the unclear outlook for globalization

Parallel to the expectation of structural change, a large majority of respondents also agree with the statement that the German (European) economy will continue to occupy a strong position on global world markets. At the same time, a geopolitical block formation is expected and the prospects for free trade and globalization are rather unclear. In this respect, the survey contains an overall positive view of the reform and foresight capability of the local business location.

Working life will become more flexible – remote work is here to stay

Questions about the flexibility of workplaces showed the clearest response: 96 percent of all respondents expect a very large number of people to organize their working lives much more flexible in the future, for example by making greater use of working from home also in the Post-Covid era. This flexibilization is accompanied by the expectation that the labor market and employment relationships will change significantly, as well.

COVID19 accelerates virtualization without reducing the intensity of social contacts

In 2030, virtual communication will be of higher importance than today. Whether this replaces physical contacts to a great extent or virtual communication should be rather seen as an extension, remains a controversial topic. The expectation that virtualization will not be associated with a decline in the intensity of social contacts is on the other hand clearly expected.

Experts take a more critical view on the future; The young generation is more optimistic

All of the participants in our survey expect long-term structural change, albeit with different emphases. Scenario 6 (*In Corporate Hands*), which is rated rather critically, is the most expected future for representatives from education and science as well as for those from consulting and futurology. Corporate experts, on the other hand, are most likely to expect scenario 3 (*Farewell from the familiar*). The greatest difference between the groups of respondents can be seen in scenario 4 (*New global dynamics*), which was rated as the desired scenario in the spring. This scenario is clearly expected by young people, while it falls short among representatives from education and science.

Four future topics will determine ongoing transformation processes: structural change, dynamic, virtualization and participation

When it comes to the desired future, all participants were largely in agreement: scenario 4 (*New global dynamics*) represents favorable future developments. The comparison with the other scenarios leads to four future questions concerning necessary transformation steps:

- How do we manage to overcome the current crisis mode, which only aims at the old normality, and the „reconstruction mentality" and instead achieve a move towards broader innovation and significant structural change?
- How much (global) dynamic or how much (regional) slowdown should accompany the desired change? This also raises the question of the future role of urban and rural areas.
- How much do we want to virtualize work and private life, and at what cost? Do we need to completely rethink openness and security in a more digital world?
- How can we prevent innovation and structural change from leading to over-commercialization and undermining of the public sector?

For us, these four future questions can and should be the starting point for a more intensive and comprehensive dialog in business, society and politics. They highlight not only controversial topics, but rather those who set the tone for an overall favorable development. Therefore, it is crucial not to wait for the next crises and conflicts, but to think ahead and act proactively at an early stage.

Seven key messages

The scenarios were evaluated based on their key factors in several rounds. This resulted in seven key statements:

1. Climate change will be the central Post-Covid issue.

2. After the COVID crisis, a strong structural change will take place.

3. The reform and foresight capability of Germany and Europe as a business location is assessed positively despite the unclear outlook for globalization.

4. Working life will become more flexible – remote work is here to stay.

5. COVID19 accelerates virtualization, without reducing the intensity of social contacts.

6. Experts take a more critical view on the future; The young generation is more optimistic.

7. Four future topics will determine ongoing transformation processes: structural change, dynamic, virtualization and participation.
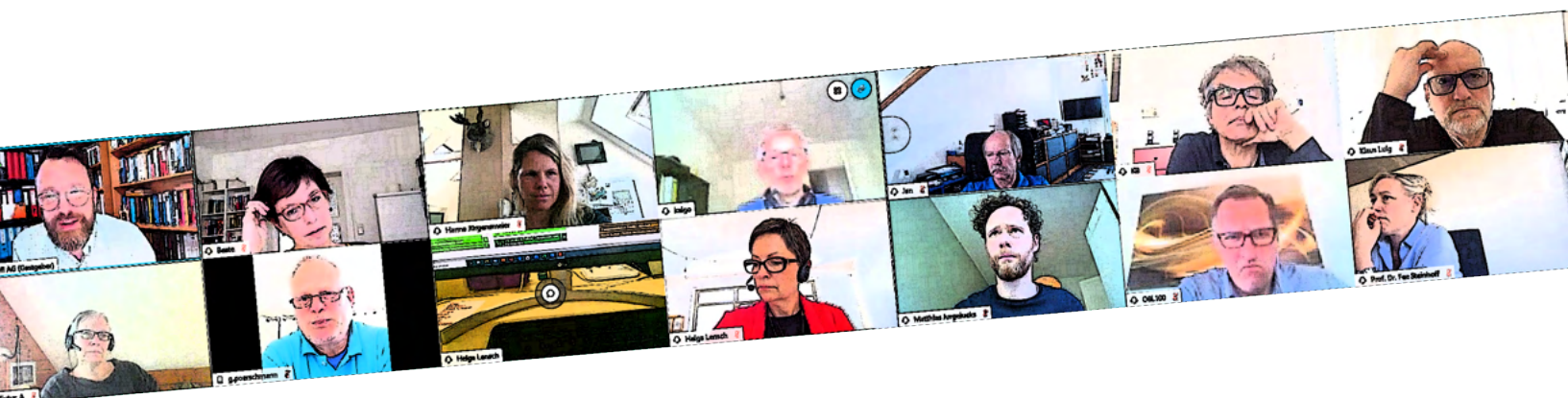
OUR SCENARIO PROCESS – ONLINE, PARTICIPATIVE AND WELL-FOUNDED

While in the first weeks of COVID19 mainly possible pandemic courses were depicted in the form of (rather short-term) scenarios, the question now arises as to which long-term and structural changes are associated with the pandemic. ScMI AG has already started an online scenario process in April 2020 in order to not only depict individual facets, but to systematically investigate the consequences of COVID19 for the economy and the working world as well as for society, politics and our everyday life.

Scenarios are a widely and successfully used tool in order to describe future developments and leverage them in the context of strategic foresight. In order to look into the Post-Covid future, we designed a compact online scenario process based on the following criteria:

- **Methodological foundation:** The scenario process was based on the well-founded methodology of Szenario-Management™.
- **Thematic bandwidth:** The consequences of the COVID19 pandemic were not narrowed down to individual consequences, but considered in a holistic approach.
- **Openness in terms of content:** Opinions about the future are naturally diverse – especially considering the broad scope of consequences a pandemic implies. In order to integrate as many opinions as possible, particular attention was paid on building a heterogeneous group of participants.
- **Linkage to alternative pandemic pathways:** Our specific approach allowed the scenarios to be linked to short-term expectations, thus systematically enabling further interpretations.

The scenario process was implemented within the framework of four online workshops in which a total of more than 80 people participated – from partners and customers of ScMI AG to experts from science, consulting and other disciplines. With this interdisciplinary team, the online process based on the Szenario Management™ approach was completed within four weeks, from mid-April to early May 2020.

Scenario field analysis:
Defining our questions about the future with the help of key factors

After the fundamental areas of interest had been visualized in a system image, a total of 79 influence factors were identified and described in detail. A network analysis then provided insights into how active or passive the individual factors were in the „Post-Covid system". In addition, a visual factor network was created, which on the one hand enabled a balanced factor selection and on the other hand was further used in the later phases. On this basis, the scenario team selected a total of 23 key factors. These key factors can be understood as „our questions to the future", which are specifically addressed in the scenarios.
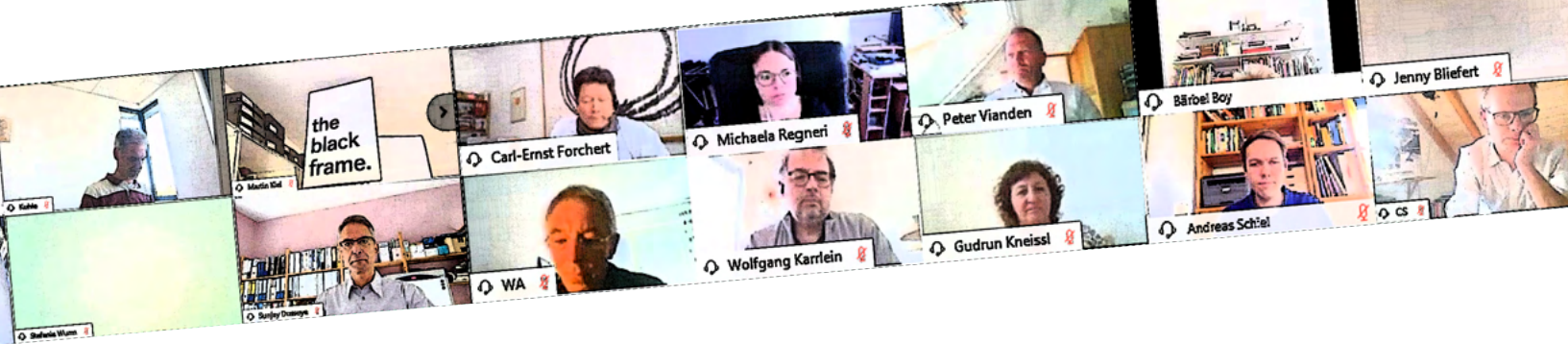
Scenario prognostics: Future projections as building blocks for the scenarios

The next step was to develop up to five possible development options for each key factor in the form of alternative future projections. In a corresponding portfolio, the developed projections were collected with the aim to integrate as much relevant information about the key factors as needed. These projections can be described as the „building blocks" from which the scenarios can be assembled during the following steps.

Scenario creation: Systematic construction of a »map of the future«

In the third step, we assessed how plausible the occurrence of two of the projections in one and the same scenario would be. The basis for scenario building is thus the compatibility (consistency) of the individual future projections – and not their probability or desirability. With the help of ScMI AG's software „Scenario Manager", eight consistent raw scenarios were built. On the one hand, each of these raw scenarios represents a coherent future itself. On the other hand, they were constructed in such a way that the raw scenarios differed from each other as much as possible. This content-wise bandwidth allowed the depiction of the entire future space in a „map of the future".

Scenario interpretation: Deriving well-founded estimates on expected changes

Immediately after the third step of scenario creation, the projections of all 23 key factors were evaluated by the scenario team in terms of their proximity to the present and to the expected and desired future. These detailed statements could then be extrapolated to the scenarios so that the proximity of the scenarios to the present as well as to the expected and desired future was derived. This made it possible to interpret the map of the future strategically. In addition, the inclusion of short-term changes in the pandemic events made it possible to analyze the extent to which these short horizon assumptions influence long-term wishes and expectations.

These statements were subsequently supplemented by a large number of direct scenario evaluations in the context of presentations and events. From August to November 2020, the assessment of future expectations was further expanded in a detailed online survey.

The resulting scenarios have been used to create an orientation framework that can be employed concerning the ongoing analysis of the years after the COVID19 pandemic. On the other hand, the scenarios also serve to make today's decisions robust for the future.

Figure 1: **Methodical approach**
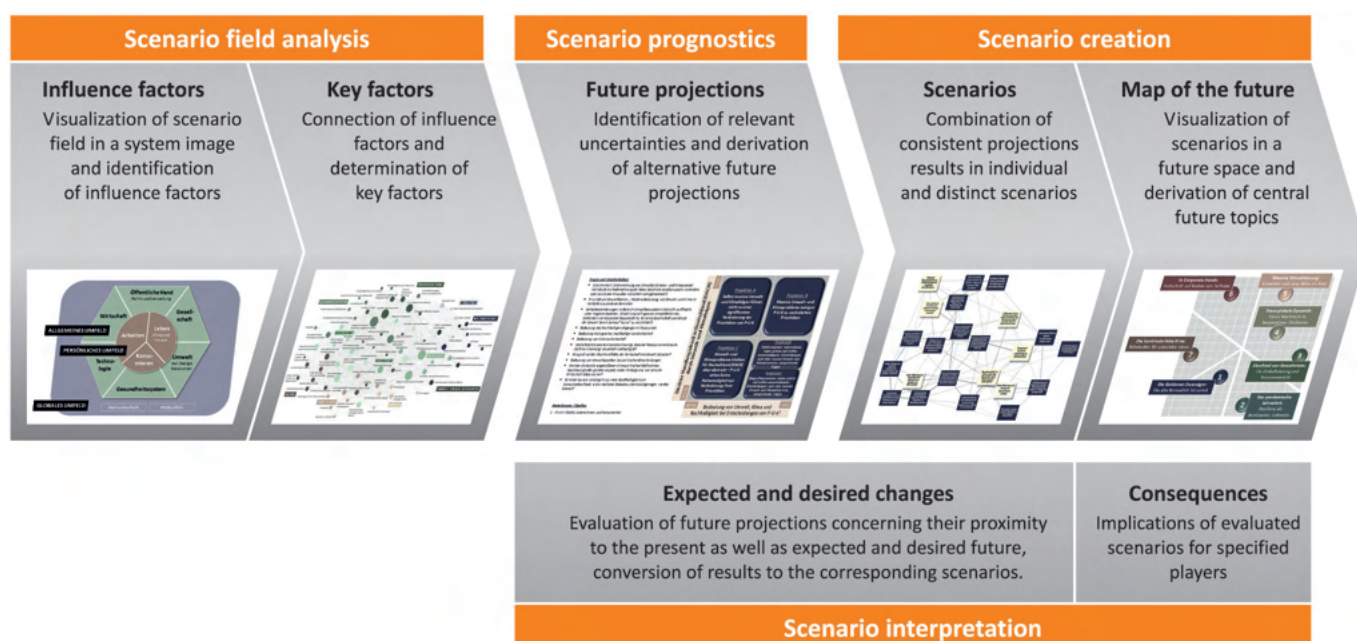
The map of the future

„To make knowledge productive, we will have to learn to see both forest and the individual tree. We will have to learn to connect.“ According to this insight by Peter Drucker, it is not enough to know and understand individual scenarios. Rather, we must consider the space of possible developments spanned by the scenarios. With the approach of Szenario-Management™, this is done by building a map of the future.

The development of a useful future map already starts with the process of scenario creation: here, the scenarios are not only to be generated according to internal plausibility and coherence, but also in a way that they are easily distinguished. This is supported in the Szenario Management™ by the use of a Future Space Mapping™. Scenarios are graphically arranged with the help of a multidimensional scaling (MDS) in such a way that similar futures are located close to each other, while very different scenarios are located far away from each other. This mapping then makes it possible to identify and interpret the main differences between the scenarios – the so-called core dimensions.

The map of the future shown in Figure 2 illustrates the central differences between the scenarios – and thus gives first hints at the most relevant future topics. Two core areas can be clearly distinguished in the map: in the lower left-hand area, scenarios 1, 2, 7 and 8 depict more traditional worlds with moderate innovation and digital standstill, while the upper right-hand area with the scenarios 3 to 6 encompass strongly changed environments – including a pronounced innovation dynamic,

a strong structural change and a clear virtualization of everyday life. Scenarios 1 and 4 each represent either traditional or new normality within their core areas and can also be understood as conceptual starting points.

Further crises dominate traditional worlds: While scenario 1 (*The roaring twenties*) describes a broad and swift return to a so-called old normality, scenarios 2 and 7 form the antipodes within the traditional worlds: In scenario 2 (*The pandemic decade*), for example, new epidemic or even pandemic outbreaks continue to dominate actions, but also bring societies closer together in times of need. In scenario 7 (*The ongoing crisis*), the COVID19 pandemic is an initial trigger, leading to economic recessions and further crises.

Finally, scenario 8 describes how the interaction of the pandemic and other crises could lead to a downward spiral with loss of control and disintegration of known orders. This „worst case scenario" can be interpreted both as a loss of solidarity from the scenario 2 as well as by additional pandemics from scenario 7.

Figure 2: **Map of the future**
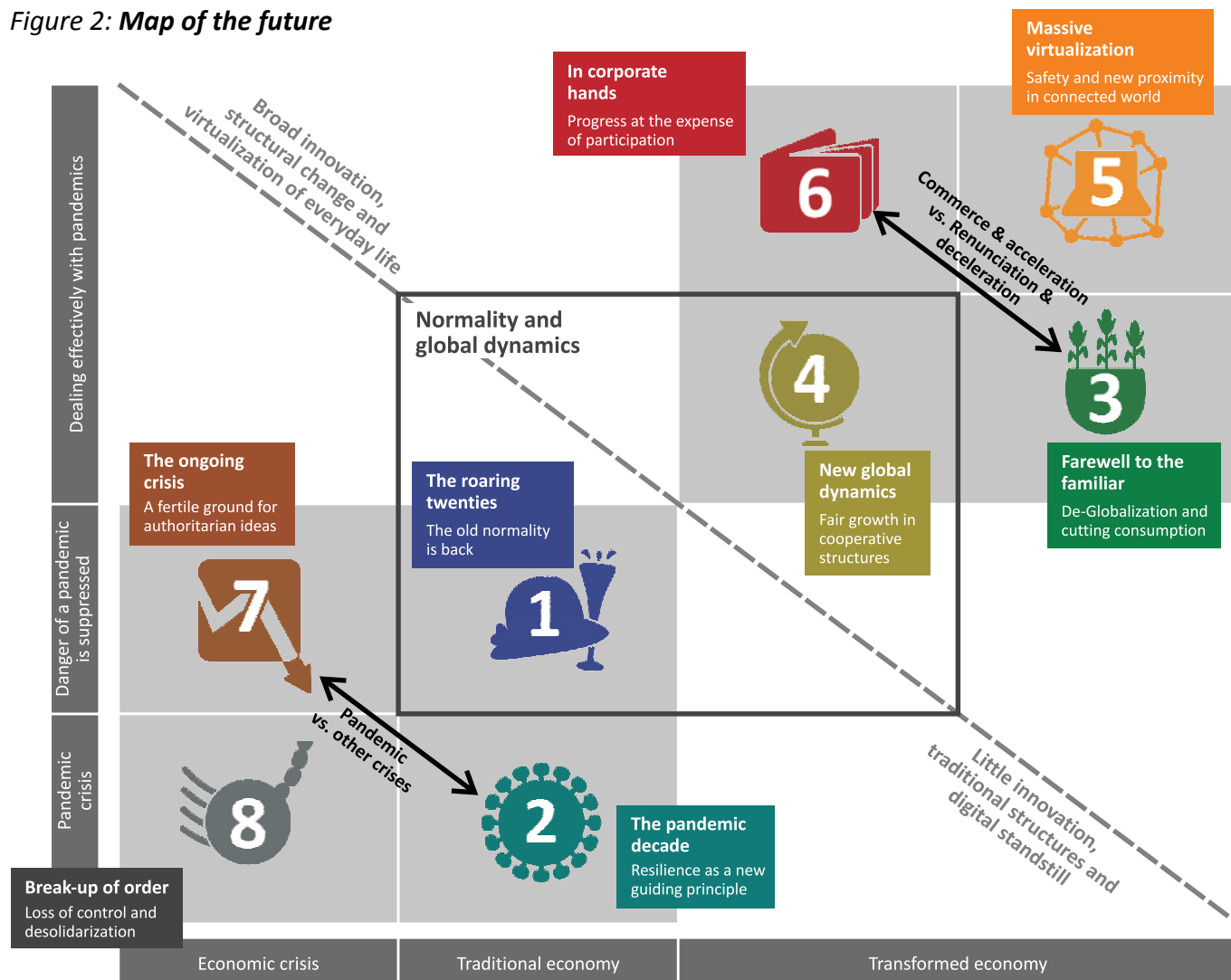
Three drivers of structural change: The scenarios in the second scenario block, which are characterized by a variety of structural changes, can be described on the basis of scenario 4 (*New global dynamics*), because it describes a world that is similar to the pre-covid era in many aspects and can certainly be understood as a „new normality". However, this structural change also requires broad transformational processes, in particular stronger global cooperation, a balancing out of disparities within society and significantly increased efforts in the areas of climate change and environmental protection.

● Scenario 3 (*Farewell to the familiar*) is characterized by the driving forces of de-globalization and regionalization and the departure from the commercialized growth society. This goes hand in hand with strong regulatory power on the part of politics and a greater orientation towards self-sufficiency in technological processes.

● Scenario 6 (*In corporate hands*) describes a completely different picture, in which companies become central problem solvers through high innovative power, while politics can hardly keep up with this speed. The central driving forces are innovation and privatization (some also say „through-commercialization").

● Added to this is scenario 5 (*Massive virtualization*), in which digitization becomes the driving force, bringing massive changes to the economy, society and politics of the Post-Covid era. This scenario is driven by a strong security orientation in society and the realization that new proximity can be created, especially in the network worlds.

Similar to the block formation on the map of the future the eight scenarios can also be divided in two other ways:

● First, **social trust** subdivides the future space orthogonally to structural change. Accordingly, scenarios 1 to 4 are characterized by high social trust and stronger social cohesion, while in scenarios 5 to 8 one's direct social environment is less involved in one's own lifestyle. This results in four quadrants: scenarios 1 and 2 show high social trust with little structural change.

Scenarios 3 and 4 combine both, and in scenarios 5 and 6 structural change is associated with a decline in social cohesion. In crisis scenarios 7 and 8, social trust even disappears within traditional structures.

- A second subdivision takes place on the basis of the sense of fairness, which is rated highest in scenarios 2 to 5. This results in two characteristic developments, namely scenario 2 (*The pandemic decade*), in which the sense of fairness results from an adequate handling of the health threat, and scenario 6 (*In corporate hands*), in which the handling of structural change is perceived by many as unfair.

Thoroughly seen as unfair are the three scenarios in which social disparities are increased due to the growth of the „new underclass" [Reckwitz] and in which the political fringes/extremes are strengthened/growing. While this occurs in scenarios 7 (*The ongoing crisis*) and 8 (*Break-up of order*) in the context of a general decline, scenario 6 (*In corporate hands*) shows a strong polarization, in which the precarious class is confronted with a likewise growing „new middle class" that benefits from the blessings of this innovative future. The „old middle class", and with it its representatives such as the established parties or the social market economy, would lose out in this process.

In addition, the intensity of consumption, the degree of globalization and the role of Germany and Europe in the digital world can be recognized as further central differences in the future space:

Intensity of consumption: It shows, regardless from sustainability of consumption, in three scenarios a decrease in its intensity. Reasons for this can include a changed awareness and acceptance of renunciation (scenario 3), a pandemic-related reduction (scenario 2) and an inevitable waiver due to economic and political crises (scenario 8).

Globalization: Three of the eight scenarios speak for a turning away from the globalization trend of the past decades. In the two crisis scenarios 7 and 8 this is mainly due to external framework conditions – mainly increasing protectionism combined with a weakened European and German national economy. In contrast, in scenario 3 a paradigm shift takes place in politics and society, which ultimately also causes companies to position themselves in a less export-oriented and more regional and resilience set up.

Digitalization: In three scenarios, local companies can improve their position in the digital world economy significantly. Thus, scenario 4 includes a successful governance of the global economy, which is very much corresponding to a European point of view. Here – similar to scenario 5 (*Massive virtualization*) – also open source approaches gain in importance. In contrast, the German and European top position in scenario 6 (*In corporate hands*) results primarily through an adjustment of the local companies to the Anglo-American or Chinese-Asian digitalization approaches.

Participation in the workshops on the development of Post-Covid scenarios was extremely interesting and valuable. The interdisciplinary exchange and the heterogeneous composition of the workshops were particularly helpful. Thus, many very different aspects and experiences come to bear.

Dr. Markus Meudt
Alte Leipziger/Hallesche Konzern
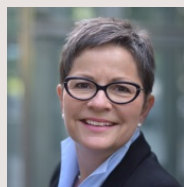
What an exciting, enlightening and positive experience! Being able to work out Post-Covid scenarios for the future together with a diverse team in several virtual online sessions under the expert guidance of ScMI was a great experience. Many thanks to all participants, but especially to the day-and-night work of ScMI! And the icing on the cake: The open source approach. The results were made open and available for free use by ScMI. For further discussion in your own context.

Helga Lensch, medienbüro babelsberg

The scenarios we have developed not only allow a fatalistic view of possible future developments after COVID19, but also sensitize us to recognize undesirable developments and thus point the way to a desirable future through active action.

Dr. Jürgen Dennersmann,
Management consultant and lecturer in the field of energy management

Figure 3: **Scenario overview**

	The roaring twenties — The old normality is back	The pandemic decade — Resilience as new guiding principle	Farewell to the familiar — De-globalization and cutting consumption	New global dynamics — Fairgrowth in cooperative structures	Massive virtualization — Safety and new proximity in connected world	In corporate hands — Progress at the expense of participation	The ongoing crisis — A fertile ground for authoritaian ideas	Break-up of order — Loss of control and desolidarization
CRISES	Moderate crisis development and low resilience orientation.	New pandemics as a central crisis topic - the state pushes forward with resilient systems.	Especially climate change is forcing new priorities and a broad orientation towards resilience.	Effective handling of a wide range of crises, including pandemics - broad resilience orientation.	Effective handling of a wide range of crises, including pandemics - broad resilience orientation.	Medical and biological progress allows partial abandonment of resilient systems.	Abundance of crises, especially beyond pandemics. State ignores the need for action; no resilience.	Abundance of new pandemics and multiple global crises. No effective counter strategies.
ECONOMY	Free world trade with global disparities. German industry relies unilaterally on traditional key technologies and expands its position as the world champion exporter	Resilience burdens households and pandemics repeatedly lead to economic crises. The German economy remains in old structures and tries to stay on course.	Reduction of global flows of goods creates opportunities. In Germany, a new paradigm concerning regionalisation and structural change gains acceptance.	Return to dynamic free trade while strengthening of the global framework. Rapid and successful structural change in the German economy.	Largely free world trade with a strong framework but large global disparities. Rapid and successful structural change in the German economy.	Overall free world trade with strong global disparities. Rapid and successful structural change in the German economy.	Protectionism slows down the economic dynamic. German economy relies on traditional yet shrinkng businesses. Economic recession.	Closed economy in prolonged recession. The German economy falls into a downward spiral and weakened companies are taken over.
INNOVATION & LABOUR	Largely constant global innovation landscape. Germany is falling behind digitally. Largely constant labour markets.	Open global innovation landscape with focus on resilience. Better renumeration for areas relevant to resilience. Data protection slows down digitalization in Germany.	Changing global innovation landscape with strong self-sufficiency. Powerful users with modern adaptation of digital solutions. Restructuring of the labour market.	Open global innovation landscape with high importance of Open Source systems. Powerful users and German digital champions. Flexibilisation of the labour market.	Opportunity-driven global innovation system. Multiple open data structures and development of German digital champions. Highly flexible labour market.	Opportunity-driven global innovation system. Users comply with the rules of global (including German) digital companies. Labor market is tailored to company needs.	Risky innovation policies focus on self-sufficiency. Dominance of global digital corporations - Germany is falling behind. Sharp rise in unemployment.	Self-sufficiency focus, critical users and other risks slow down the technological development. Germany is a digital no man's land. Sharp rise in unemployment.
POLITICS	Cooperation in case of systemic differences characterizes world politics. High confidence in continuous politics: traditional systems guarantee participation.	Cooperation in case of systemic differences characterizes world politics. High level of trust in strongly regulated politics: traditional systems guarantee participation.	Stronger concentration on geo-blocks (also within the EU). In Germany, shift to progressive forces. New systems for more participation.	Global strengthening of open democratic systems. In Germany, the middle class is strengthened. New systems for more participation.	Global strengthening of open democratic systems. In Germany, the middle class is strengthened with little regulation. New systems for more participation.	Globally oriented companies gain power and undermine the role of the state: leading to a systemic crisis. The regulation is pushing further disparities.	Agitated politics afar from facts. Dissatisfaction, but no agreement on reforms. Desire for "strong hand politics".	Strengthening of authoritarian forces in a critical state of the world (e.g. disintegration of the EU). Partial authoritarian forces determine certain political events.
SOCIETY & EVERDAY LIFE	New normality is close to the old normality: Traditional consumption and back to physical contacts.	Partially reduced consumption and a return to physical contact in the face of stagnant urbanisation.	Conscious consumer renunciation. Virtual contacts expand the social radius with a significant trend towards rural areas.	Changed consumer behaviour: Focus on sustainable and fair consumption. Virtual contacts expand social radius.	Changed consumer behaviour: Possession and stationary trade are becoming less important. Massive virtualisation in a security-oriented society.	Comsumption plays a major role. Digital services offer added value, but also lead to massive isolation.	Society is shaped by individual interests and the protection of personal interests. Traditional consumption patterns and merely superficial virtualization.	Consumption restricted by crises. Companies are no longer able to cope with risks: retreat into private speheres.

It is not the scenarios alone that are valuable for a long-term view of COVID19 impacts. Rather, it is the multifaceted analyses and understanding around interrelationships of many factors. These give us clues for strategically dealing with COVID19 effects in the economy, in the education, health and social systems, in politics, and in everyday interaction, whether regional or supraregional.

Christian Schoon - Stadt Köln and Vice-Chair of German Node of The Millennium Project

We enjoy working with ScMI, and it is hard to imagine our decision-making without scenario processes. For this reason, participation in the „Post-Covid Scenarios" project also made a lot of sense for us, as we were able to work together here in a cross-industry group that provided us with valuable insights even during the process.
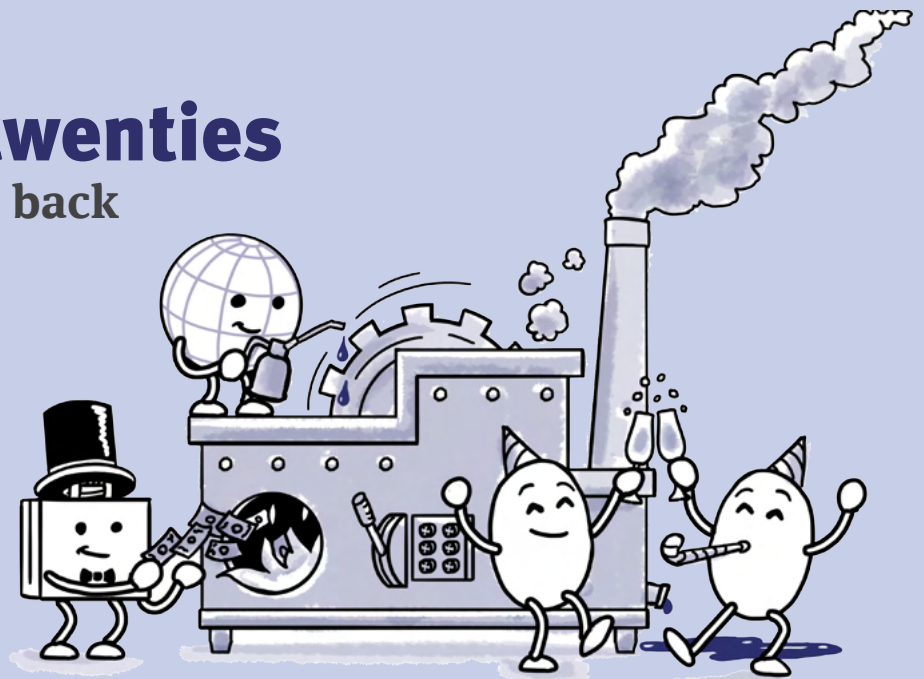
Denis Christesen, Partner Tech Europe GmbH

Thanks to ScMI for their guidance, massive background work between weekly sessions, and super preparation of the exciting scenario process in an open format!

Stefanie Wurm CONTUR, CEO

The roaring twenties
The old normality is back

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The memory of COVID19 as a short-term shock fades - the world has repressed its pandemic experience, has returned to old normality. Even the economic slump was quickly overcome in most countries - and so now they do not want to be torn from their regained routine by new, less acute crises such as climate change. The European economy has continued to focus on its key industries and has strengthened its position as the world's export champion in a reinvigorated free trade system. In return, Europe and Germany are lagging far behind others in the digital transformation. Successful crisis management has led to a sustained strengthening of the political center. Fear and insecurity have been largely forgotten and the old attitude to life with its pronounced individualism has returned. Physical contacts are once again dominating everyday life; people are following the old mobility and consumption patterns and making up for missed leisure and consumption opportunities „without distance". The new carelessness is accompanied by the renunciation of proven resilience strategies or systemic changes in the health care system.

The political center benefits from the successful crisis management – but avoids real changes

Europe's and Germany's political leadership is doing well after the crisis, because the countries have got off lightly. Not just the management during the big covid waves, but also and above all the organization of the nationwide vaccination of the population ran - compared to other countries - mostly smooth. The voters appreciated the good crisis management and support the political center. Someone who has led through the difficult periods successfully, deserves unrestricted trust from the majority of the population. Populist protest movements, who were very popular before the covid crisis, lost already gained weight and ran during the pandemic and in the following years more and more

into difficulties of explanation. The established key industries such as automotive and mechanical engineering recovered quickly and remained – supported by a policy focus on structural preservation - the economic pillars of the whole country. There is still a sufficient demand in the world for high-quality products „Made in Germany", so that Germany is still able to continue its established role as export world champion. Therefore, politicians see no reason to strive for serious structural changes. Really disruptive technologies, innovative business models and new industry clusters are therefore rather settling in other countries. Digital transformation is stagnating, as are social innovations, because after the crisis, which was overcome in exemplary fashion, hardly anyone still sees the need for uncomfortable changes. The relief of

the survived pandemic prevailed, and - apart from a few admonishers in politics - the decision-makers replied that people cannot expect further restrictions after such a hard time of crisis.

Buying, owning and traveling - private consumption and export capability support the economy

With the end of the COVID19 pandemic, companies and consumers tried to catch up the lost years of growth. On the stock exchange markets – next to traditional industries - especially the short-term losers of the crisis like tourism companies already skyrocketed shortly after the pandemic ended, and the speculators should be right: After the crisis, people intensely tried to relive their »missed lives«. People wanted to make up for the hardships of lockdowns with catch-up consumption and carefree travel experiences. Because of the diverse rescue packages hardly any jobs were lost and the purchasing power of consumers did not suffer significantly. The demand for consumption and especially for luxury goods increased immensely, so that the industrial production boomed like never before. Also tourism was booming more than ever: long-distance travel was back and absolutely hip, and terms like "flight shame" belonged to the past. The airlines, which had survived the year 2020, especially extended their tourist offers extremely. Business trips also increased considerable compared to the crisis year 2020: The cost advantages of digital communication remain undisputed, but the benefits of direct physical contacts between people were - after the first remote-work-hype - also becoming evident. Consequently, a large part of the business appointments take place in person so that the number of business trips almost raised to pre-crisis levels.

International commitment to free trade and global belief in progress stimulate the world economy

Most countries – like in Europe e.g. Germany – recovered relatively quickly from the economic consequences of the pandemic. In addition, in the following years, especially in those countries where their populist guides initially denied the COVID19 virus and played it down and later looked bad in the fight against the pandemic, the government changed. To further boost global economic growth, most nations aspired the revival of the global free trade system. Protectionist efforts have since then largely been a thing of the past and confidence in the efficiency of a global division of labor prevails. Thus, the geopolitical climate is relatively relaxed.

However, climate change is – even more than before the pandemic - only perceived as an abstract threat on the horizon. In particular, the »reconstruction mentality" negated obvious signals and short-term economic successes are prioritized. Jointly signed letters of intent are doing well to soothe troubled eco-activists, but cuts are avoided – people just don't want to slow down the reinvigorated economy. Global health threats are not expected, because the experiences with COVID19 have shown

that medical research is fast enough to be able to find answers. So, the influence of the World Health Organization (WHO) stays manageable. The WHO experts focus on early detection and a variety of other health issues beyond pandemics.

The new normality fails to appear - old lifestyles and consumption patterns return

After the crisis is before the crisis. With the return to old business habits also traditional settings dominate again. A large group of people define themselves through professional success within established roles and professional groups – substantial changes are avoided wherever possible. Neither health care workers nor other occupational groups perceived as systemically relevant during the pandemic have seen structural improvements in pay. But at least the social lines of conflict are not further exacerbated. It has also been shown that the as »old-fashioned« discredited social and educational systems in Germany and Europe are quite robust and they, especially in the international comparison, enable a high level of participation.

In everyday life, after the time of social distance, people have quickly found back to old habits. At first, they returned with power to the city centers, visited theatres, concerts and restaurants and celebrated the „victory" over the virus at folk festivals, in bars and clubs as well as at home with friends. Finally, you were able to hug your loved ones without worries, meet in larger groups and finally dispose those annoying masks. With the forced renunciation of many everyday things during the covid period, many people are not willing to further live with restrictions. Whether it comes to everyday consumption, luxury goods or air travel – no one wants to give up anymore, because who knows what tomorrow will bring?

This fixation on short-term indulgence has brought abstract threats and the main idea of sustainability moved further into the background. Also, the withdrawal to the suburbs and to the country side during the covid period was only of short duration— meanwhile, the urbanization trend is ubiquitous again. What has changed with the pandemic experience however is the perception and personal weighting of social contacts: social trust has increased in the 2020s. Your own happiness and the connection with one's own environment are goals for most people. You can still save the world later...

The pandemic decade
Resilience as a new guiding principle
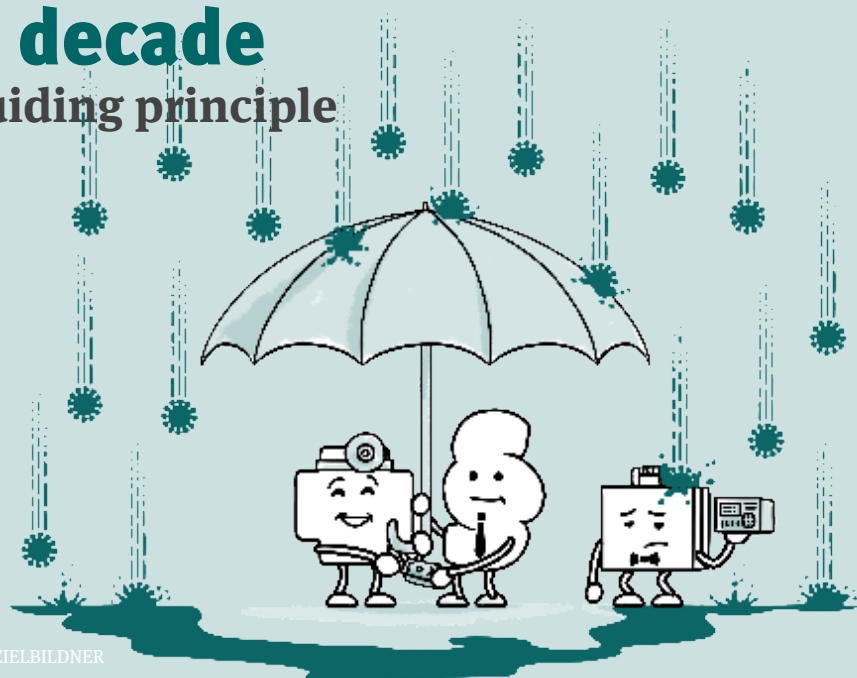
COVID19 was only the beginning: New pandemics are changing all areas of life and are reducing the perception of other crises such as climate change. The international community is working together to counter the new threat. However, not even a return to multilateral thinking and free world trade can prevent the measures from repeatedly leading to economic collapses and an overall reduction in innovation. The European and German economy is relying on its key industries and can largely maintain its position there. The focus on pandemics leads to a high need for security and ultimately to health systems and policy in general being geared in such a way that they are able to deal with possible pandemics much better than before. This also includes the adaptation of remuneration systems, i.e. improved payment for occupations relevant to resiliency. The consumer climate is suffering from the critical economic situation and the increasing tax burden. Social life is taking place in smaller units - overcrowded cities are becoming less attractive.

The defense against health hazards characterizes political actions

There is no "after the COVID19 crisis". Epidemics and pandemics will be part of everyday life in the 2020s. For this reason, policymakers in Germany and Europe have identified health threats as their key enemy and are now doing all they can to prevent current and future epidemics or at least to control them. In this context, resilience is the defining fundamental idea and it also dominates social and economic policy decisions. The threat of life - combined with difficult economic times - is an omnipresent challenge for the whole society. In order to live a rather normal life, the vast majority of people behave attentively and pay strict attention to hygiene. Protests against the „Covid dictatorship" quickly fell silent, and people's trust in politics and political actors is high, not only because of greater citizen participation.

Thus, the dialogue about the effectiveness of individual measures is open, constructive and cooperative. Independent science and fact-focused media ensure a high quality of information. In order to be prepared for threats to health, Europe and Germany are further continuing to expand their healthcare system and are strengthening all relevant areas - from basic research to the entire health and care sector to the public health service. The training and working conditions of relevant jobs in the health and care-giving sector will be significantly upgraded.

Stronger regulation slows down structural change

It had already become clear during the handling of COVID19 that countries with a strong public social security and health care systems react better in times of crisis than countries with private systems. Therefore, the strengthened political center in Germany, as in many other European countries, has pursued a course of greater regulation and state influence. In addition to the preservation and strongly controlled restructuring of the traditional European and especially German key industries, it focused in particular on system-critical industries such as biotechnology, pharmaceuticals and medical technology. Structural change going beyond these was no longer the focus. As a result, Europe and Germany lost ground in new fields of technology such as artificial intelligence or quantum computing, so that the digital transformation in the economy and the digital transformation of the economy and society increasingly faltered.

Across almost all sectors, the economy is suffering under the consequences of the ongoing pandemic response. Various restrictions on everyday life including local or nationwide lockdowns and plant closures slow down the economy each time. Above all, however, many companies are shying away from the face of the omnipresent uncertainty. They have abandoned long-term visions and ambitious growth targets and rather focus on securing their existence. Entrepreneurship is losing its prestige, and the willingness to start new businesses is declining drastically. In this environment, economic activity is often characterized by a very short-term perspective. Budget cuts for research and development are the consequence, as the market no longer accepts many conventional innovations and they therefore appear to be too risky. With each new crisis people fear to lose their jobs, and private consumption stalls. Leisure and tourism services in particular but also luxury goods, are suffering.

The main beneficiaries of the lack of structural change are the traditional European and especially German key industries in particular: the world market still demands German and European machinery, cars and high-quality consumer goods which supports the national economy.

World community in the common fight for health and growth – the environment is left behind

COVID19 has significantly shown global interdependencies to the world community. Health hazards can only be combated with combined forces. The leading nations are working together in various multilateral ways. The focus lies on the issues of health and economy. For example, the World Health Organization (WHO) is establishing itself as a key player in the early detection and effective control of dangerous infectious diseases. At the same time, the global economy is supported by new agreements on free trade, to heal the economic scars of the pre-2020 protectionist era, in order to stabilize global prosperity and, where possible, open up growth opportunities.

In the constant tug war between health restrictions and economic freedoms, sustainability issues lag behind. Environmental and climate problems still remain relatively abstract in Germany and Europe, so that the old mechanisms take effect and neither politics nor companies, nor do consumers change their priorities. Reminders that the continued overexploitation of nature is a cause of new zoonoses remain largely unheard.

Whereas global trade and business trips run without restrictions, private travel is much more strictly regulated than before the first COVID19 crisis. Cross-border travel is often only possible with extensive health papers, and global health authorities have developed strict hygiene and quarantine standards. The touristically long-distance traveling is particularly severely restricted because no one wants to risk triggering or causing new global pandemics through tourists. Nations that are strongly affected by this are supported by the international community of states.

Neo-Biedermeier – Beyond uncertainty and financial worries people retreat into the private sphere

Through the real and perceived threat to one's own physical integrity people become very careful in their everyday lives. You hardly meet anymore without appropriate precautions and hygiene measures or others whose health status is unknown. In times in which medical breakthroughs have not yet been made, most people withdraw into private life. As a result, the social radius is reduced even beyond the pandemic times, and it arises a Neo-Biedermeier, in which one faces the dangers of the outside by a new coziness and an idyllic private atmosphere. This is also linked with a return to direct, physical contact and a renaissance of privacy. Virtual communication - whether in private or working life – will focus on necessary areas and activities. Also, more and more people suspect exuberant celebrations with many people or crowds in large shopping - many leisure activities shift into smaller units and move to the private sphere: cooking instead of going to a restaurant, home training instead of the gym, hiking holidays instead of an All-Inclusive-Club.

In addition, for many people everyday life feels increasingly unsafe in overcrowded cities: in the crowd between many unknowns you don't know what dangers you are currently exposed to. This worry makes many people turn their backs on the metropolises and move to regions with lower population densities. Especially suburbs benefit from this change in attitude.

Scenario 3

Farewell to the familiar
De-Globalization and cutting consumption
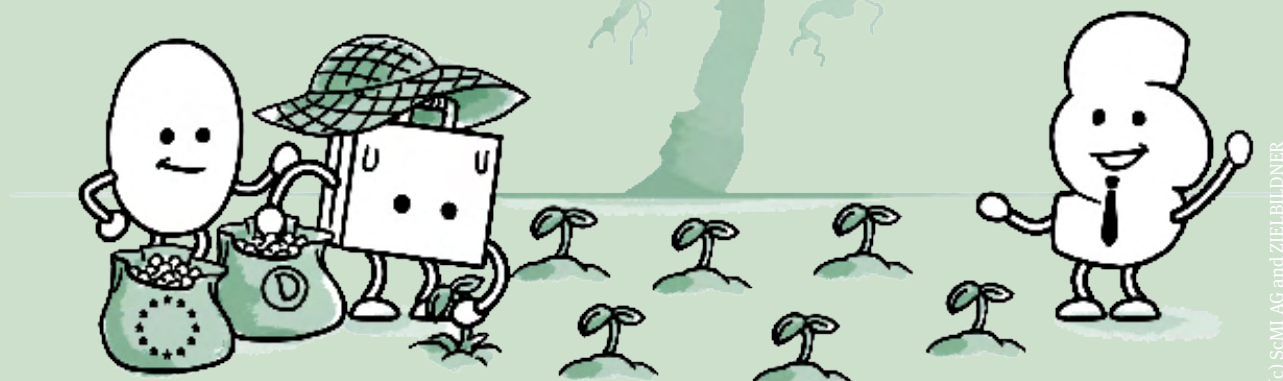
Pandemics are not everything: a variety of crises are shaking humanity. Massive environmental and climate problems are forcing politics, business and consumers to change their priorities. Globally, a system of different spheres of interest is emerging - as well as within the European Union. Within the new blocs, production is increasingly regional, so that the global flow of goods is being reduced. A paradigm shift is taking place in the European economy: growth at any price no longer exists and the former world champion exporter has to reinvent himself. Diverse innovations promote sustainable structural change, and regional approaches are also gaining ground in the digital world, and European and German companies are very successful in implementing them. In politics, the balance is shifting towards stronger regulation and greater public influence. Both the public sector and companies are strengthening their foresight and increasingly focusing on resilience strategies. The broad return to sustainable values is leading to a conscious decision to forego consumption. Virtual communication is used in many ways - but as a complement to the physical contacts that are still dominant and actively cultivated by people. Social life focuses on local units and the model of urban life is losing its lustre.

Broad consensus and stronger regulation support fundamental change

The COVID19 pandemic and the forced changes in the economy, society and everyday life in the early 2020s led people to lose their fear of change. Now the fatal consequences of climate change, which were even more evident after the pandemic, forced people to rethink. Change is being pursued at various levels – and often by consensus. The basis for this is that, after years of only limited success of voluntary commitments, politics set up a constant pricing for environmental and climate impacts. Thus, many consumer decisions are characterized by the changed price structure: travelling around the world for a few days of beach vaca-

tion is unaffordable for the majority of people as well as an overpowered SUV for city traffic. Since trust in privatization and deregulation was already shaken before the COVID19 crisis and in many cases had been exploited by populist tendencies, political players strengthened the role for the public sector consistently after the crisis. As part of a „Green New Deal" new framework conditions were set and active regulations been made – including direct bans on particularly harmful products or activities.

Welfare economy was more than a catchphrase, so that also in the entrepreneurial field excessive competitive structures were possible to overcome and new cooperation formats were established. The strict focus on climate

targets did not lead to a standstill or to gag the economy, but stimulated innovations serving the common good and ultimately also a new self-image in large parts of entrepreneurship.

Both sustainability and the protection of domestic companies is driving the De-globalization of the world economy

Even if the general need for climate protection and ecological action is accepted worldwide, the political approaches as well as the economic interests and opportunities in the global georegions differ a lot. Protectionism and the technological decoupling as well as the very diverse pricing of energy and environmental goods and the increase in the price of logistics and trade services, lead to a massive trend of de-globalization. This creates geo-regional or system blocks. Even within the European Union conflicting interests arise and become increasingly evident, so that an EU which expresses different speeds arises. For Germany and a number of other European countries there seems to be no alternative to the chosen path, because by looking for political allies you would just lose more valuable time. The broad national consensus is that resilience against external shocks is essential. In all sectors foresight and protection play an important role. In this context, the concept of sustainability is given a broader meaning, because considering social, ecological and economic aspects especially for subsequent generations resilience to crises is inherent.

Sustainability is the leitmotif of the European economy - the old growth paradigm has had its day

The consistent implementation of sustainability in politics and everyday life as well as the de-globalization of the world economy lead to a massive structural change in the European economy. The basis is the transformation from a linear economy to a closed circular economy. Sectors with a critical ecological footprint are under massive pressure to change. They often lose economic weight while in other sectors enormous business potential for development unfolded. The old paradigm of quantitative growth is consistently overcome – and „Green washing" hardly has a chance.

With the ecological transformation developing the "consumer society" transforms into a "benefit society": ideas that are as clever as possible and sustainable use at reasonable prices is the new motto instead of as much as possible for short-term use. Sharing models and other collaborative approaches are rapidly gaining ground. Even if new technologies are still important, social innovations are becoming increasingly important. The success of new products and services will ultimately depend on their impact on the society. Digital business models are often being developed by smaller companies with regional roots, namely providers who are close to their customers and their specific needs and local conditions. Since Europe and Germany and this regionalized economy plays a pioneering role, some of the local providers also become digital champions.

People pause, reflect on sustainable values and really important social contacts

In the 2020s, people have moved away from many habits: from limitless mobility, from unbridled consumption and from life dominating employment. With this deceleration everyday life has not become lonelier - rather the opposite: the social ties in the neighborhoods and the local and regional environments cultivated. And at the same time diverse virtual contacts and environment are created, which also feel much more natural overtime. Leisure and tourism are done much more mindfully. Quality of life is no longer directly linked to accessibility to hip clubs and prestigious theatres, glittering shopping miles or the concentration of jobs. Through the virtualization of work and the increased value of nature rural areas gained significant weight. Cities still play an essential role, but in their design climate neutrality and also human friendly concepts play an important role. Districts become self-sufficient quartiers that now recreate the "village style" – just like rural areas used to follow the urban ideal.

Access to cultural offerings is broad, and consumption waiver is politically controlled, but definitely also wanted. It has something liberating for many people, not to always chase latest trends, wanted to be part of it. Diversity is not neglected: uniqueness can also and perhaps even better be expressed without limitless mass consumption. The reduction of the spatial radius of people does not lead to loneliness, because social contacts, especially in neighborhoods, clubs and communities are intense and are supplemented by virtual meetings and contacts.

Scenario 4

New global dynamics
Fair growth in cooperative structures
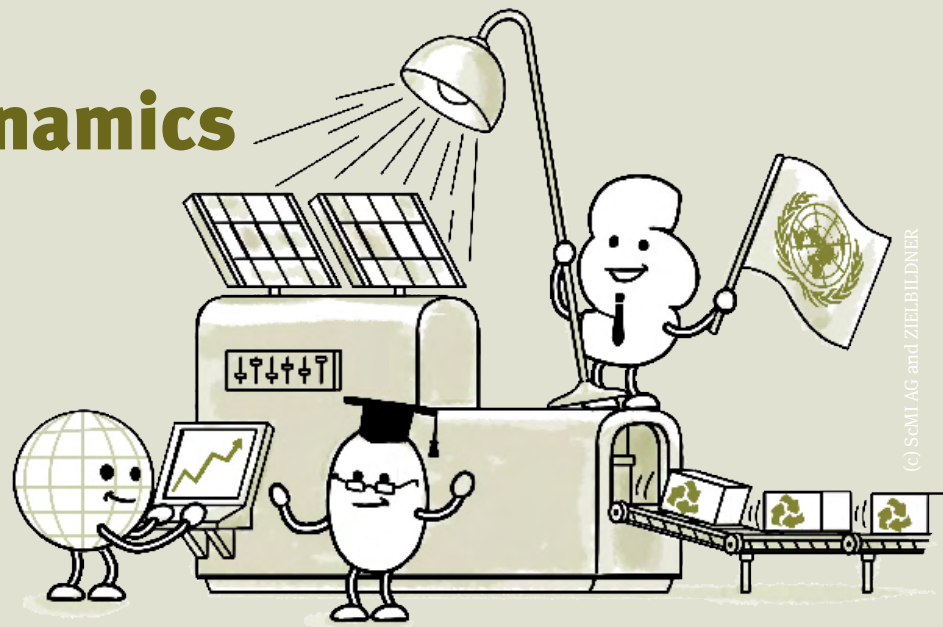
COVID19 has been perceived by all people as a decisive event and has led to a global rethink. Transnational politics has become more powerful and has created new framework conditions. Thus a fair free trade system has been created, which has enabled a return to global economic dynamics. Europe and Germany are profiting from this new dynamism and are developing into a driver of structural change. This also includes the fact that Europe, with its focus on open architectures, has become a leading digital location on a par with the USA and China. This is associated with significant changes in the labor market, employment relationships and remuneration systems. In this world, professional success is inextricably linked to the creation of meaning and personal development. The strengthened political centre is establishing sustainable resilience strategies. Although new pandemics and crises do exist, they are no longer perceived as threatening in everyday life. Challenges are met with global responsibility, but above all with openness and curiosity - the joy of innovation dominates and education is essential, as are high-quality information offerings.

Multilateral politics create framework conditions for fair and dynamic world tradel

The global COVID19 pandemic achieved what global international institutions had never managed to do in the decades leading up to 2020: after the world came together in a sustainable way to fight the virus, the lessons learned from fighting the pandemic formed the basis for a shared, global awareness of planetary problems - with focus on climate crisis. While nationalist and protectionist rules had to give up one after the other, multilateral thinking and global free trade became the guiding principles again. In the European Union, this led to steady integration in small steps. In tackling the climate crisis, the global community, again drawing on the covid experience, relied on cooperative innovation and dynamic economic development - but in a sustainable way. The principles of climate protection, resource conservation and preservation of biodiversity were translated into global frameworks with a consistency that had been almost unimaginable until then. The central driver here was the changed awareness and environmentally appropriate behavior of citizens and consumers in the most important industrialized nations. A key success factor was that this „Globalization 2.0" was no longer thought of solely from the economic perspective, primarily of the strong national economies, but that it was about fair globalization. The conviction was that humanity's problems could only be solved through fair trade and the responsible use of new technologies. Supported by a reform of international institutions, a system of fair value chains was established in which minimum social and ecological standards were implemented. Ultimately, the proactive integration of China and other emerging powers into the new global economic order meant that traditional trade conflicts or unilateral standardization efforts hardly played a role anymore.

The European and German economy rely on its strengths - with greater speed of innovation and change

When old doors close, new ones open. According to this wisdom, European companies looked optimistically to the future and significantly increased their speed of innovation and change. Supported by long-term framework conditions - first and foremost the CO2 price - previous concepts were fundamentally corrected and often thrown overboard altogether. In many cases, the industrial mass production with its massive environmental consequences was replaced by a sustainable circular economy. Entire industries had to reorient themselves, but in comparison to their earlier attempts to preserve their status quo, they did so in a curious, forward-looking and proactive manner. Germany's core mechanical engineering and automotive industries completed a transformation in this process and were able to come to terms with the new framework conditions. The key industries of the 2030s will require numerous skills that were established in Europe long before the covid crisis. Thanks to their structured approach geared to long-term goals and the advantages of decades of dual training, the conditions were excellent for being able to shape structural change positively.

In the end, however, the decisive factor for success was that curiosity, innovation and a willingness to experiment became widespread - virtually from early childhood education to the diverse everyday business life: Schools broke away from decades-old subject canons and successful start-ups emerged not only from universities, but also from the skilled crafts sector and as corporate start-ups. All this, supported by old strengths such as global networking and the ability to cooperate, promoted Europe's rise to become one of the leading digital nations 'on eye-level' with the USA and China. The new industry mix and the continuing high proportion of medium-sized and family-run companies in the European and German economy supported structural change and proved to be a driver in the attempt, unique in the history of mankind, to sustainably improve our common basis of life instead of destroying it.

Europe takes responsibility as captain for the urgently needed global course correction

In Europe, there has been a broad consensus for necessary course corrections for ten years. The political center, strengthened by its ultimately successful covid policy, had enough support among voters in the early 2020s to push through even initially unwelcomed but unavoidable decisions. Above all, this included a significantly higher and long term planned CO2 price in Germany and Europe. The following drastic structural change was now seen as an opportunity in European politics and was actively shaped. In concrete terms, this meant that changes were driven forward by means of a broad education campaign and innovation-friendly politics, while at the same time the change could be accompanied by a determined restructuring of the welfare state. At the same time, it had

also become standard practice in politics, administration and society not to spend years questioning new procedures and approaches, but to test them quickly and, if necessary, to throw them out again just as quickly. In retrospect, it was probably the volatile covid months that loosened many traditional blocks of thinking in the public sector as well. New formats for more citizen participation also helped to further strengthen trust in political decisions.

Fact-based knowledge as a basis for constructive societal dialogue

Companies no longer align themselves one-sidedly with the interests of their shareholders, but include employees and customers as well as social stakeholders in their target systems. In this way, they enable their employees to identify more strongly, which ultimately means that professional success continues to be important for most people. In this context, new work and working time models through to flexible project worlds are common practice. The upgrading of social, medical and other system-supporting professions has led to a significant change in payment systems. A central role in the „great transformation" is played by science and media. By regaining trust in facts and sound knowledge processing, as well as constructive and open social discourse, it is possible to make necessary changes transparent and to bring the population along even with unwelcome decisions. Not everyone always agrees with cuts and restrictions, but since the majority is aware of the urgency, the majority often supports even critical decisions.

Cities continue to be the starting and crystallization points of societal development. However, the focus is no longer on dazzling centers, but on people-oriented districts with manageable neighborhoods. Social life there - as in the rest of the country - focuses primarily on real physical encounters, supplemented by a multitude of virtual contacts. The challenges are enormous, but further crises and pandemics are not perceived as threats to which people are helplessly exposed. Quite the opposite: solving existing and future problems gives many people pleasure and spurs their creativity. The dynamic that can be felt everywhere is based on the deeply rooted awareness that people can achieve more together than individually. Open discourse is seen as an opportunity to develop things together and thus to make one's neighborhood, one's city, one's country and one's world a little bit better.

Scenario 5

Massive virtualization
Safety and new proximity in connected world

While the economic consequences of CO-VID19 were overcome relatively quickly, the pandemic was accompanied by a different paradigm shift: digital services are gaining ground all over the world, including in Germany, and are changing business and working life and everyday life. As a result, an increasingly global awareness is emerging; technologies and innovations are being developed in multilateral cooperation. The EU is making a name for itself as a responsible digital player and is gaining in profile and identity: even the „United States of Europe" is no longer utopia. Politics is open to a wide range of experiments and reforms - right down to an unconditional basic income. However, the digital transformation also goes hand in hand with greater openness of data - but few people talk about monitoring. The new digital world also includes new possibilities for fact-based media and leads overall to transparency and a productive social discourse. In everyday life, a lifestyle characterized by risk avoidance, but not hysteria, is developing that contains elements of social distancing and prosperity away from cities. The massive virtualization of everyday life is also associated with significantly changed purchasing behavior. Possession and the physical shopping process are losing importance in this world.
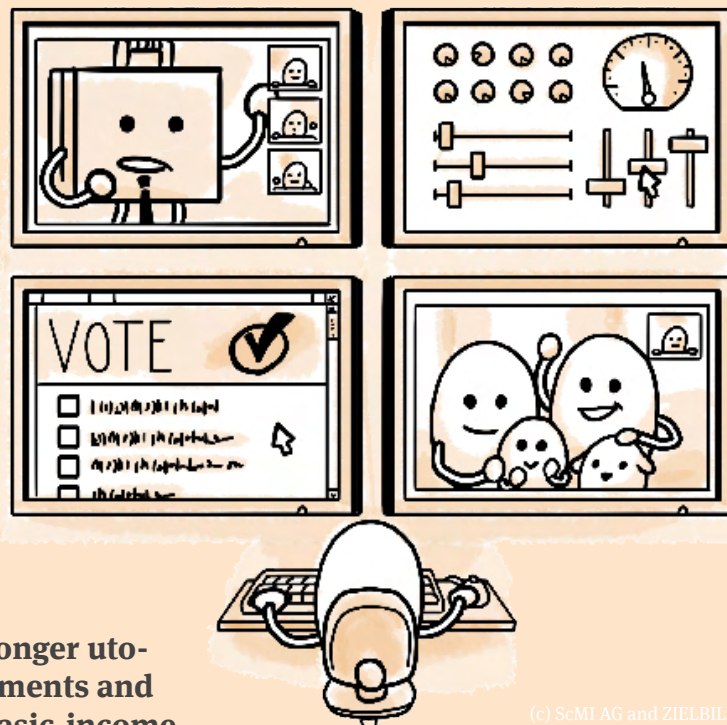
Virtualization as a game changer – safety and closeness exist primarily in the web

DiThe health crisis and also the economic consequences of the COVID19 pandemic were quickly overcome, but the virtualization during the pandemic and the following digitalization boost proved to be a real game changer. People appreciated the digital possibillities during lockdowns and many of them had fundamentally overcome their fear of new technologies and change. This had eliminated a major brake on innovation in Germany. At the same time, the experience of social distancing had burned itself deep into the general consciousness and has been having a major influence on work and leisure behavior as well as lifestyles since the early 2020s. More and more people feel real security and untroubled closeness online rather than in the „old reality." The significant reduction of physical meetings will make it possible to fight infectious diseases more effectively, because people will move more in smaller social units. The urbanization trend of past decades was also reversed: more people are choosing rural areas as their places of retreat, where they are developing a much more risk-averse lifestyle - for example, with a focus on regional trade, their own vegetable garden, and individual sports and leisure activities.

COVID19 had a fundamental impact on the work environment. In many sectors, remote work had become so widespread that a large number of people were working from home, either completely or on a daily basis. This allowed a more flexible work and more flexible working time models and also led to a significant decline in the

market for office real estate. What was much more serious, however, was that the way of working - and with it a variety of routines and processes in companies - changed fundamentally: conventional control mechanisms no longer applied, companies had to focus more on value-based leadership and a culture of trust. On the other hand, a decreasing number of employees defined themselves exclusively in terms of their professional activities, so that companies increasingly focused on the work-life balance of their employees. Since then, business trips have only taken place where physical contact makes sense or is an absolute must.

In addition to business life, virtualization was also becoming more and more established in the family and among friends. People realized that communication and exchanges could be handled just as vividly, but much more conveniently, from home. Even everyday errands, administrative procedures, and more complex processes are fully digitized and run smoothly online..

Germany is the new Estonia - Broad digitalization of politics and administration

After the end of the 2010s, politicians, administrators and even the media had seen the future of digitalization in South Korea or the Baltic States, while Germany was still behind Cambodia and the Ivory Coast in terms of 4G network coverage. The turnaround was finally achieved by the late COVID19 successes with contact tracking as well as the digitalization of public health administration. Germany started to catch up with its digital infrastructure and now has a fast and stable data network that forms the backbone of the digital economy and society. In the early 2020s, the new digital ministry had already become a driver of change by consistently setting the framework conditions for the digital transformation of the economy and society. Policymakers were open and eager to experiment, and were also quick to try out unusual solutions - such as a universal basic income. Eventually, however, digital and participatory elements also gained importance, so that politics itself changed accordingly. Ultimately, this approach also made it possible to overcome the dominance of the big American and Asian data platforms, which had been taken as given for a while..

With open source against „German Angst" - faith in progress is back

Technological development accelerated again in the 2020s: Artificial intelligence and quantum computing, and - not only driven by COVID19 - also the bio and healthcare industries brought new and often disruptive products, services and business models at ever shorter intervals. There was also a special outcome for germany And what was special was that in Germany in the manner that not only companies but also citizens, consumers and civil society groups had shed their timidity. „German Angst" had disappeared in the years of COVID19. Companies had finally understood the need for rapid digitalization and were now consequently focusing on new technologies and innovations: Budgets for research and development increased significantly and digital plat-

forms and business models were used decisively for success in many cases. The focus was then often no longer on the physical product, but on the benefit. As a consequence, broad digitalization also led to a shift in the economic structure in Germany and Europe. The new gold of the dawning digital economic era is data - and it is available in abundance, because citizens and consumers provide it in masses, since both data use by companies and government intervention in personal data sovereignty are widely accepted. The focus is instead on the benefits provided by the wide range of digital services. In contrast, the need to protect one's own data has clearly taken a back seat. In addition, misuse can be largely prevented by new security technologies. The traditional key industries are also being affected by the digitalization push and can restructure and in some cases even reinvent themselves on the basis of long-term and positive framework conditions.

Individual mobility, for example, has lost much of its importance, because in virtualized everyday life, there is much less need for personal vehicles. Instead, integrated services for passenger and freight mobility are now dominating, closely linked to various approaches such as decentralized energy production or smart city concepts.

Europe can establish itself as a key player in global digital competition

Of course, the German digitization miracle cannot be seen in isolation from European and global developments, because COVID19 also promoted virtualization there, in some cases on a massive scale - except that Germany was able to take a particularly long run-up because it lagged behind and was then able to jump out far. The development was promoted by the world's return to multilateral agreement, which began with questions of infrastructure and technical interfaces and ultimately continued with the coordinated taxation of digital services. Contrary to some expectations, Europe is assuming a key position in the new digital world. Initially, it played a mediating role between the major digital powers, the USA and China, but then increasingly stepped out of their shadows and established itself as a world leader through its own approaches and companies. Various European regions now operate on an equal level with Silicon Valley and China's Pearl River Delta. The openness and also the focus on community goods and public welfare of companies, technologies, and services are honored by users worldwide and are seen as a European strength.

In corporate hands

Progress at the expense of participation
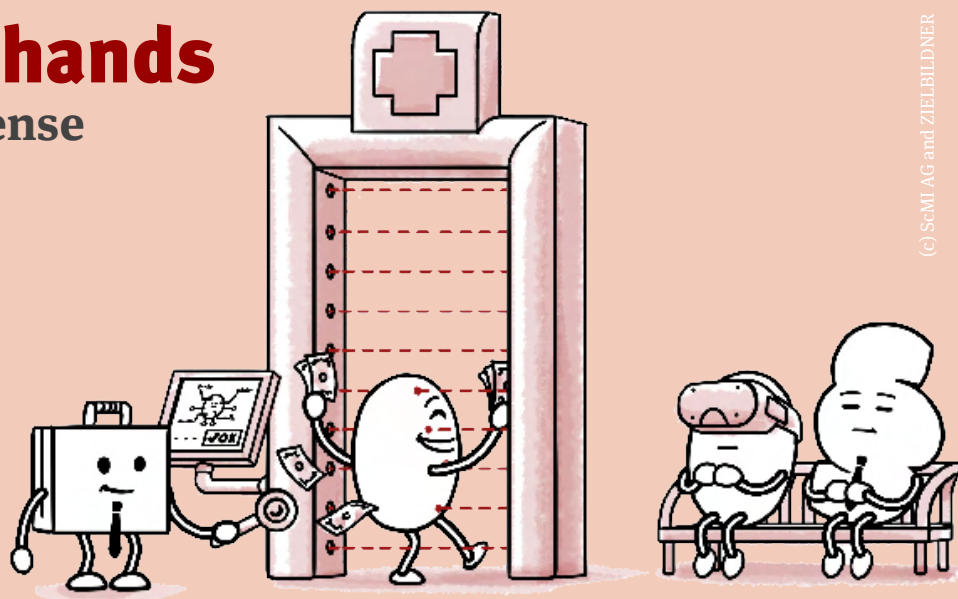
(c) ScMI AG and ZIELBILDNER

The deceleration during the COVID19 pandemic was followed by a massive acceleration of the economy and everyday life. Working life has become massively more flexible and new technologies are developed in a highly innovative and globally open system. Thus, new pandemics can be suppressed at an early stage through medical and biological progress, which makes costly resilience strategies unnecessary. World politics is increasingly being shaped by globally oriented and long-term forward-looking companies whose innovative strength makes them superior to traditional nation states and multilateral organizations. Unregulated location competition prevents global solutions to problems, and within societies the privatized education and social systems in many places increase disparities. The German economy is experiencing a surge of innovation, is changing rapidly and is building up strong world market leaders, which in turn are exerting political influence, undermining the role of the weakened state and causing a creeping systemic crisis. In everyday life, increasing virtualization offers numerous solutions to problems - but it also has the effect of immobilizing those who can no longer keep up in the accelerated digital world. The consequence is often social isolation.

Laissez-faire and deregulation accelerate innovation and the power of global corporations

The difference between the COVID19 and Post-Covid years is abundantly clear. While life slowed down during the pandemic and states gained significant influence in operating matters, these developments were subsequently reversed. Governments around the globe tried to relieve the burden on their domestic economies by means of further deregulation and tried to support them in the rapidly accelerating competition between locations. Thus, despite or precisely because of deregulation, a dynamic of innovation emerged that enabled disruptive developments in many areas. In addition to

artificial intelligence, quantum computing and digitalization, progress was also made in the medical-biological sector. For example, new pandemics can now be detected and suppressed so early that complex resilience strategies are no longer necessary. Linked to this new dynamic a shift in power from state actors to global corporations emerged, which have often evolved from platform monopolies.

These corporations play individual national states off against each other and have gained considerable influence on multilateral agreements and organizations - for example, in the context of parallel arbitration. For the

majority of politicians and the public, however, the focus is on success in innovation: Those who first defeated the virus and then the burgeoning recession are also trusted to manage the overdue mobility and energy turnaround. The social, health and education systems are also being left more and more to the free economy and are retreating to a primarily administrative role. The European Union is dominated by strong individual interests and has largely abandoned its claims to become an independent political actor. However, it continues to play an important role as an economic community with a large internal market.

Innovative strength of the European and German economy leads to rapid structural change and value growth, as well as a global leadership position

COVID19 has changed attitudes to innovation, technology and entrepreneurial thinking in Europe for the long term. Both the almost forced digitalization during the pandemic and the successes of the German biotech pioneers in vaccine development have led to a situation in which people no longer ask about the risks first, but about the opportunities. As a result, the European and German economy underwent an accelerated structural change: lead industries are no longer just automotive and mechanical engineering, but increasingly the pharmaceutical and medical sectors as well as the digital economy, which in many cases operates on an equal level with the USA and China. A particular strength of the European economy is its ability to plan ahead. European and German companies have a long-term, forward-looking outlook and act proactively, independent of political requirements. For example, they make environmentally appropriate decisions even in the absence of immediate environmental and climate crises, thereby securing both the goodwill of politicians and the acceptance of customers and citizens whose consumer behavior has changed significantly.

Strong polarization paralyzes politics in a depoliticized communityition

While traditional industries and professions - and with them the old middle class - are increasingly disappearing, structural change leads to a growing new middle class of knowledge workers, which is driving the competition for innovation. At the same time, a new underclass is growing and turning against the changes, including the „elites" driving them. This leads to a strong socio-structural, cultural and political polarization. The mainstream parties are undergoing a process of erosion, and in many places a duality has developed between globally oriented and populist backward-looking movements. Shared political convictions are eroding, the confidence in the ability to act and reform politically is declining, and a gradually developing systemic crisis is taking hold. Politics, defined as the leadership of a community, is becoming increasingly difficult in this social environment. The broad economization of public life also manifests itself in the increasingly less inclusive media, which are run according to purely economic principles and are hardly

subject to social control, and in which fact-based information plays an increasingly minor role. Instead, staging and entertainment dominate. And while the political players are engaged in a media-driven culture war, innovative companies are increasingly influencing public discourse and political decisions. In this way, they promote the privatization of the education and social systems, which further increases disparities in society and in the end also further undermine the role of the state.

In all classes, there is a strong desire for individuality - even if this often follows globally standardized consumption patterns. Thanks to increasingly specific targeting and personalized products and services, an illusory individuality is emerging that is controlled by global corporations - ideally, thanks to „predictive analytics," one knows in advance what people will want in the near future.

## Digitalization of everyday life linked to loss of proximity and interaction

Technology is shaping people's everyday lives like never before, and the pace of change is continuously increasing. This affects everyday life, but especially the world of work and business. Work life has become massively more flexible, and anyone who does not adapt to the new, knowledge-driven project world or is unable to keep up with the pace of innovation will fall through the cracks. At the very best, they will be left with poorly paid jobs and ultimately drop into a precarious service class that is entertained and „kept in a buying mood" by digital media. Extensive surveillance by digital monopolists is accepted by society, which benefits from the numerous digital services and can no longer imagine life without the often invisible „little helpers". In return, the need for security is not particularly strong - but for different reasons: While regulation and security thinking are often perceived as suppressing by the new knowledge workers, this question does not arise at all for the new underclass, since they have hardly any financial room to seek security.

The performance society continues to focus on urban spaces, but in their districts and neighborhoods, social groups are becoming increasingly segregated from one another. For many people, there is less and less room for social contact, so that the virtualization of everyday life is accompanied by a loss of interpersonal closeness and interaction, and often also by loneliness..

Scenario 7

The ongoing crisis
A fertile ground for authoritarian ideas

Although the health consequences of COVID19 were quickly overcome, a severe and prolonged recession with a sharp rise in unemployment has occurred worldwide. At the same time, the rescue measures have intensified the turn away from global trade and slowed down global economic growth. The world has disintegrated into different spheres of influence, which are striving for greater selfsufficiency in their technology and innovation policies. The European Union is stagnating and falling behind in the global competition between the georegions. In this world of diverse crises and conflicts, those responsible set other priorities than environmental and climate protection. The German economy remains despondent and unimaginative in its traditional structures and is losing importance in the global competition between locations. There is less and less scope for investment in R&D - the capacity for innovation is declining structurally. Fact-based media and independent sciences are finding less and less attention in the turbulent mood democracy. Destabilization is accompanied by a desire for a „strong hand policy". Although people perceive the ossified education, social or health systems as unjust, they are unable to reach social agreement on reforms or necessary resilience strategies in a world dominated by individual interests and the preservation of vested interests. Traditional consumption patterns are defended and the virtualization of everyday life remains superficial.
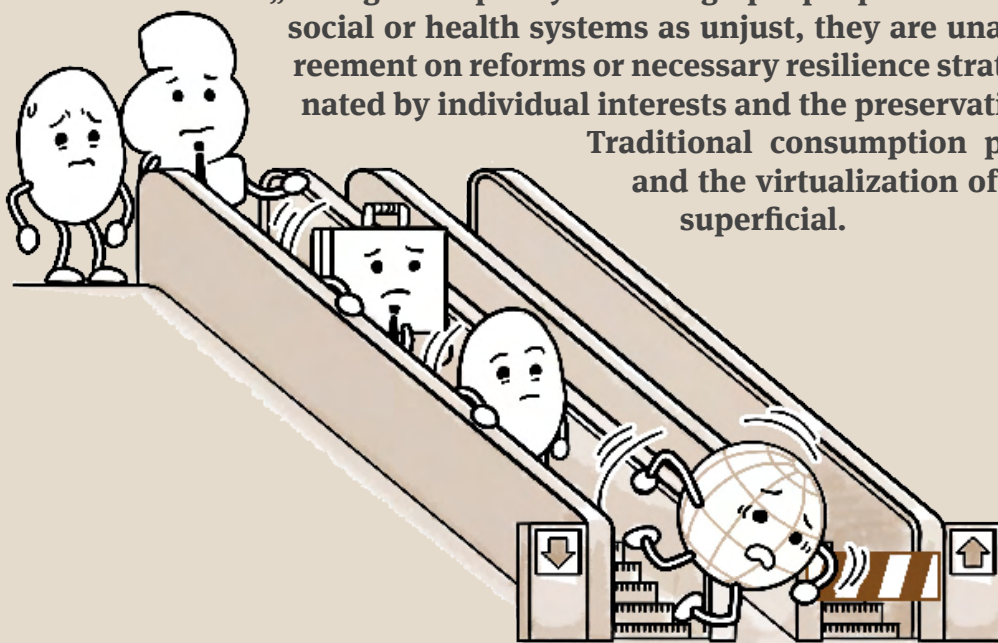
(c) ScMI AG and ZIELBILDNER

Prolonged recession, unemployment and disintegration of the world into mistrusting blocs

The global solidarity promoted during the COVID19 pandemic did not last long. Although the health consequences were quickly overcome and no further pandemics were reported - the economic collateral damage of the numerous lockdowns and rescue programs led to a domino effect in numerous national economies around the globe. In the context of a severe and prolonged recession, more and more countries turned away from global world trade, slowing the global economic dynamic and hitting especially export-oriented countries strongly. Despite the promises of the early 2020s, the world has since fragmented into different spheres of influence that are striving for greater autarky in their technology and innovation policies.

The global influence of China and other Asian economic powers is growing massively, while the European Union is sinking into the „nitty-gritty" of its individual interests and is falling further behind in the global competition among geo-regions. Increasingly large sections of European societies are focusing on isolation - from the see-

mingly overpowering rivals from the Far East as well as from the people affected by the structural crisis in Africa or the Middle East, for whom Europe, despite everything, continues to be seen as an attractive place of refuge. International development is paralyzed by the increasing formation of blocs with little unity along georegions, political values or simply economic interests. In this fragmented environment, policymakers are continually busy trying to resolve short-term crises and conflicts, while trust between the major and middle powers is declining. Environmental and climate protection, which are even more important in regard to the rather static economic structure, receive little attention despite the constant warnings of the scientific community. The global inability to act is a reminder of the early phase of the COVID19 pandemic, when there was no room for exchange and orchestrated defense against the virus.war.

Self-initiative and willingness to change have flagged - Europe lags far behind in digital transformation

After the decided initial rescue measures by politicians in Germany and Europe, the economy had fallen into a prolonged recession. Numerous industries, such as aviation, tourism and gastronomy, as well as the culture and events sector, experienced insolvencies and massive structural collapses. Traditional core industries such as automotive and logistics as well as mechanical and electrical engineering lost influence on increasingly isolated global markets. This caused unemployment to rise further and set off a downward spiral that characterized the European economy in the 2020s.

The recessionary development was accompanied by a structural loss of capacity for innovation. One influence factor was that policymakers were more concerned with slowing down or cushioning structural change than with creating dynamic framework conditions. In addition, some companies had lost their own initiative with an eye on emergency aid and rescue packages from the state. Investments in research and development were reduced, as were training and the human resources development budgets. The intention was to get through the crisis on a tight budget. The companies starved themselves without some visionary ideas and the courage to take progressive approaches. Europe and Germany increasingly lost touch with the digital transformation of the global economy and stiffened on its old strengths, which was less and less in demand in the global context.

Lack of courage and ideas of established politics opens the door to illiberal and authoritarian ideas

In addition to the economy, politics, administration and society have also failed to interact after initially successfully tackling the crisis and achieving high approval ratings. Although the most serious health consequences were managed to be averted during the pandemic, the massive cuts and the following recession pointed the way to a society of decline. In a further development, digitalization was associated with drastic job losses, which

are now also affecting knowledge work and are putting the new, urban middle class on the defense, in addition to the old. Even highly qualified education is becoming increasingly devalued. Only a small upper class of the super-rich can escape the downward trend. There is a trend towards a plutocracy.

Fueled by profit-oriented and uncontrolled media with decreasing fact orientation, social unity is being lost. A mood democracy is emerging in which the parties oriented toward the political center lack the courage to implement urgently needed reforms in education, health care and social systems. More and more people are losing trust in political institutions, and unsteady initiatives and movements are emerging whose development is difficult to calculate. The political fringes are strengthened, especially when they promise a return to traditional concepts and „old greatness" with catchy slogans and an external demonstration of strength. Even in Germany, the desire for a "policy with a strong hand" is emerging. Even if the chances of success illiberal ideas are still uncertain, it is certainly better than the old generation of politicians' lack of courage and inability to reform in the eyes of large sections of the disillusioned votersl.

Under the pressure of the economic crisis, people are pulling back to old patterns of action and consumption

People are clinging to the familiar and trying to maintain a semblance of control over their lives and futures as long as possible. This is now also the case for the new middle class, which glorifies the ubiquitous „project world" as a new freedom, even as its own economic opportunities continue to diminish. There is less and less room for work-life balance, because employees define themselves through their work - especially if they have so far escaped the pull of substitution. Overall, most people stick to established consumption patterns and ask little about climate neutrality or environmental compatibility. For some, these issues are luxuries from a previous era anyway; for others, crude „green-washing" is enough to soothe their conscience and, if possible, take a little time out of their boring daily lives while escaping the injustice felt by all groups.

Everyday life is characterized by a high degree of virtualization, with the accompanying surveillance by the state and global corporations being accepted. People cannot exert any significant influence as consumers or citizens - and the intensity of social contacts has not remained at the level of the pre-digital years. In addition, the job opportunities in urban areas still attract many people who are due to their individualized lifestyles at risk of becoming lonely in the cities.

Scenario 8

Break-up of order
Loss of control and desilidarization

Loss of control and desolidarization COVID19 has set off an undreamt-of down-ward spiral worldwide. Already the first severe and prolonged recession was accompanied by a sharp rise in unemployment and manifold social conflicts. At the same time, nation states have increasingly closed off their domestic markets, which has aggravated the global economic crisis and undermined global confidence. In global politics, authoritarian and nationalist forces are gaining ground. As a result, the global financial system has been destabilized with numerous state bankruptcies and unavoidable debt cuts. Even the EU is marked by severe disintegration. Those responsible are closing their eyes to the increasingly obvious environmental and climate consequences. The German economy, which has been deprived of its export markets, is also being dragged down, with the result that many weakened companies are being taken over by global competitors. Even in a previously stable Germany, political events are increasingly being determined by semi-authoritarian forces, which prevents the implementation of resilience strategies and reforms in the education, social and health care systems. For people, uncertainty and an obvious loss of control lead to a retreat into their cramped, private spaces and comfortable „knowledge bubbles". Social cohesion and common identity are lost. Everyone fights for their privileges (or those of their clan) in everyday life, with more and more people being left behind in this uninhibited elbow society and having to restrict their consumption, which keeps the downward spiral going.

COVID19 cleared the way for an era of instability

The global crisis triggered by the COVID19 pandemic has implied frightening extent. Prompted by the worldwide fear of the disease and its consequences, almost all countries had reacted in the early 2020s not only with considerable restrictions on public life, but also with sometimes rigorous isolation. Even if many of these self-sufficiency efforts were primarily symbolic and were intended to suggest stability and strength to the insecure people, this enable a dynamic that - together with the ever new waves of pandemics - not only slowed down the globalization process, but massively reversed it. The lack of exchange has led to a significant slow-down in the global economy - and in many regions also to a long-lasting recession. In the struggle for welfare and health, many nations are largely focusing on themselves and are trying to reduce the global interdependence of their economies: A Chinese industrial standard, a Russian vaccine, a Turkish space program - multilateral cooperation has become a distant prospect.

Moreover, the rise of Chinese-style political capitalism has not only led to the further spread of authoritarian and nationalist structures, but has also promoted illiberal and populist trends in the West. The already fragile European Union is unable to cope with this storm

of nationalism and openly displayed self-interest and is in a process of disintegration. It is becoming increasingly clear that even the domestic market and the Euro system are at stake, further weakening Europe's role in the world. With massive protectionism and the collapse of global world trade, trust among nations has also been damaged. Multilateral organizations such as the United Nations are hardly capable of acting any more - even the World Health Organization plays practically no role in combating the epidemics that flare up again and again. On the other hand, there has been a massive increase in the number and intensity of global conflicts, triggered above all by conflicting economic interests and the growing impact of climate change. The fight against climate change has moved to the bottom of the agenda, as have the issues of world food supply and global justice.

The German and European economy is losing ground in protectionist competition - innovative companies are being taken over

In their technology and innovation politics, the nations are also striving for greater autarky and are relying on increasing regulation, including science, and direct public activities - although they now have less financial freedom. As a result, there is a slowdown in technological development and even lower impulses for growth in national economies around the globe. The weaknesses of the German and European economy that already existed before the pandemic - especially the demographically induced decline in productivity, the long holding on to traditional business models and for example German engineering skills, and the reserved approach to digital opportunities - have come to light even more harshly in the Post-Covid recession. While many companies had relied heavily on public assistance during the crisis, they now find themselves in existential competition with the absence of further support. Even large corporations, but above all innovative small and medium-sized enterprises, are being targeted by financially strong global competitors and are being taken over. It is not uncommon to feel as if Germany and other European states are selling off its silverware in order to stay afloat in the short term.

This development is particularly obvious in the volatile and merging former core industries such as automotive or mechanical engineering. Here in particular, not only is global competitiveness declining, but international demand is also collapsing as powerful players such as China, India or the USA seek to impose their own industrial standards and were less and less dependent on European know-how.

Germany's democratic order and constitutional stability are in jeopardy

Germany's economic crash is eroding social unity. More and more sections of the population are experiencing massive losses in prosperity. In addition to the precarious service class, which grew strongly again after the pandemic, the middle class is now also caught in the downward

spiral. Contributing to this is the fact that more and more traditional white-collar jobs are disappearing as digitalization progresses, for example in banks and insurance companies or in the middle management of many companies. Unemployment is once again becoming a central problem - and a fertile ground for political instability. While politics in Europe still provided a sense of security and ability to act during the pandemic, this had already turned into the opposite by the early 2020s. With the crash of the export-oriented economy, not only the financial leeway vanished, but also the willingness to fundamentally face the new challenges. Instead, the traditional parties acted increasingly disorganized and allowed the media, interested in short-term ratings, to entangle them in ever more adventurous discourses.

As a result, the more radical fringes of the political spectrum came on the scene, loudly proclaiming that they knew solutions and wanted to take tough actions to restore order. The political center tried to appease, but acted discouraged and refrained from urgently needed reforms of the education, health care and social systems. A solution to the dilemma is still not in sight, so that even in Germany and Europe the democratic order and stability and the constitutional law are in jeopardy.

An elbow society emerges due to desperate and hopeless individual situations

IIn society, the omnipresent uncertainty, the fear of risks in technology and the economy, and the obvious loss of control by politicians and companies lead to a tendency to return into the private sphere. Reflexively, people try to defend their own privileges and to prevent the social crash. To do this, they settle into their narrow environments, their „home" and not least in the comfortable „knowledge bubbles" of their own community of values. This is the only place where they can feel a final bit of safety and security - and shrug their shoulders when the rescue of their own existence comes at the expense of their fellow human beings. The return to the private sphere is fueled by pandemics that flare up again and again. Since politicians and companies have not developed any resilient strategies, people have to deal with lockdowns and restrictions over and over again. Even the increasingly underfunded healthcare systems can only try to repeatedly muddle through. The civil society is characterized by de-solidarization; with their formerly secure incomes, many people have also lost their social support and sense of community. Instead, society is dissolving into small, mutually supportive subsystems. Regions and cities, social groups and movements are competing against each other. Those who do not turn to a strong community of interests run the risk of no longer being noticed, just like many who become lonely or find themselves in a situation that threatens their existence. For a growing number of people, luxury and status have not mattered for a long time; in this disconnected elbow society, they have to focus on daily survival and limit their consumption, which keeps the downward spiral in business and politics going.

Scenario assessment

The Post-Covid scenarios are initially „thinking tools" to which no probabilities are assigned. They are intended to stimulate us to go previously little-used paths of thought. And not only immediately after the COVID19 pandemic, but also in the years thereafter. To support not only thinking, but also subsequent actions, further questions arise: How much change - from today's perspective - is associated with a scenario? What development do we expect in the future? And are there scenarios that we rather wish to occur than others? These questions are explored within the scope of a scenario assessment.

We started the scenario evaluation already during the online scenario process, which was in April and May 2020. This evaluation was carried out by the scenario team in a comprehensive questionnaire from all three perspectives - closeness to the current situation, closeness to the desired future, closeness to the expected future. In addition, further assessments regarding the short and medium-term courses of the pandemic were requested in this evaluation cycle, so that the short and long-term perspectives could be linked.

Following the publication of the Post-Covid scenarios in May 2020, we were able to present and discuss the results in numerous presentations. In many of these events - initially only online and later also in person - we carried out a simple, direct assessment of the Post-Covid scenarios. Although these results only deliver an initial spotlight, they have also shown us what similarities and differences can occur in the assessment of the scenarios.

The third phase of the scenario assessment included an online assessment conducted from early August to late November 2020. In this detailed assessment with 60 questions, all facets of the 23 key factors were examined, but this time only from the perspective/question of the expected future in the year 2030. Therefore, these assessments made it possible to reassess the initial expectations from spring 2020.

Extreme uncertainty in spring 2020

The initial result of the scenario evaluation from April/May 2020 illustrated in Figure 4 showed that at the beginning of the pandemic, especially scenario 1 (*The roaring twenties*), scenario 7 (*The ongoing crisis*)and even scenario 8 (*Break-up of order*) were perceived as close to the present. The open question from spring was therefore primarily about the economic consequences of the COVID19 pandemic.

The survey for the expected future in 2030 delivered a particularly striking result, because it showed that all eight scenarios had a significant and ultimately very similar expected value. In the past twenty years of our scenario practice, we had never encountered such uncertainty regarding the long-term expectation.

Four future questions concerning the transformation process

When it came to the desired future, there was a far-reaching consensus among all the participants of the assessment: scenario 4 (*New global dynamics*) largely represented a desired future – followed by scenario 3 (*Farewell to the familiar*) and scenario 5 (*Massive virtualization*). Overall, four relevant questions for the future aroused:

1) How can we overcome the crisis mode that merely aims at the old normality and achieve a development towards broader innovation and significant structural change? *[Scenario 4]*
2) How much (global) dynamic or how much (regional) deceleration should be associated with the desired change? This is also linked to the question of the future role of rural areas. *[Scenario 3]*
3) How much virtualization are we accepting for both work and leisure activities, and at what cost? *[Scenario 5]*
4) How can we prevent an over-commercialization and undermining of the public sector due to innovation and structural change? *[Scenario 6]*
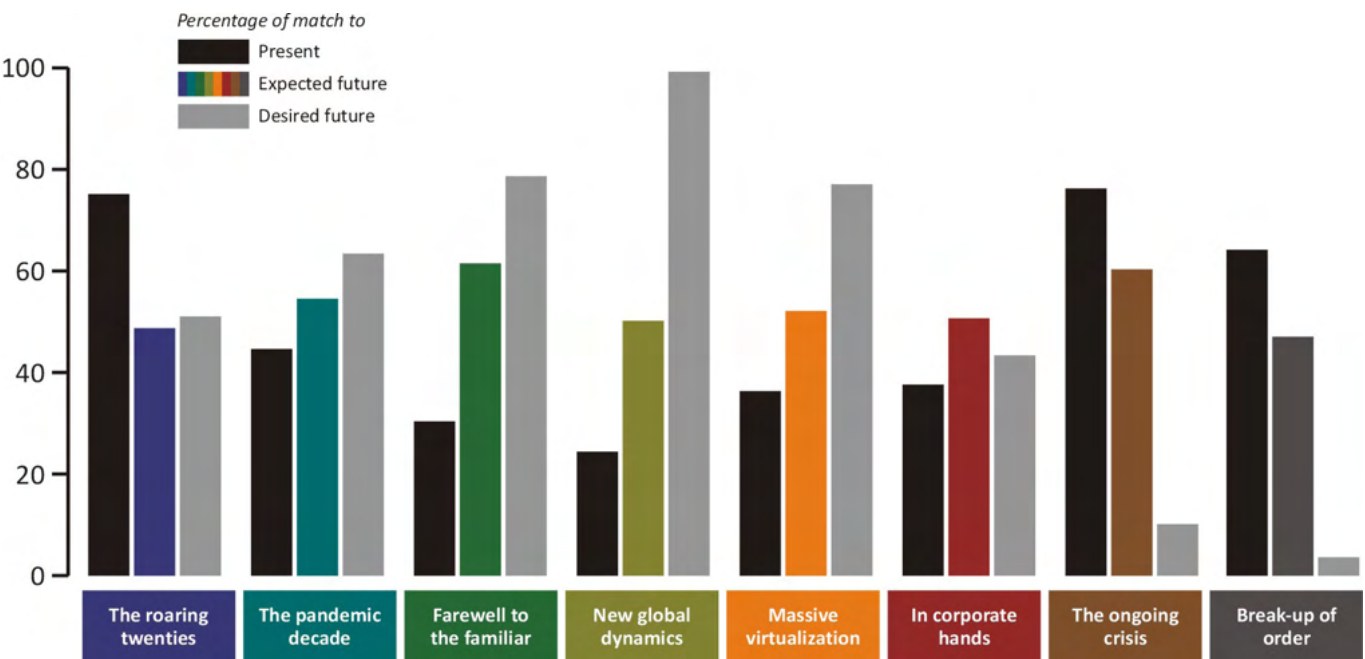
In summary, the assessment showed that in spring 2020, traditional scenarios obtained the main attention for the present (Figure 2, left), while the desired futures focused on innovative scenarios with strong structural change (Figure 2, right). Concerning the expected future, the uncertainty regarding the structural changes became clear, because here the values for the upper range of change (51%) and the lower range of constancy (49%) were roughly balance.
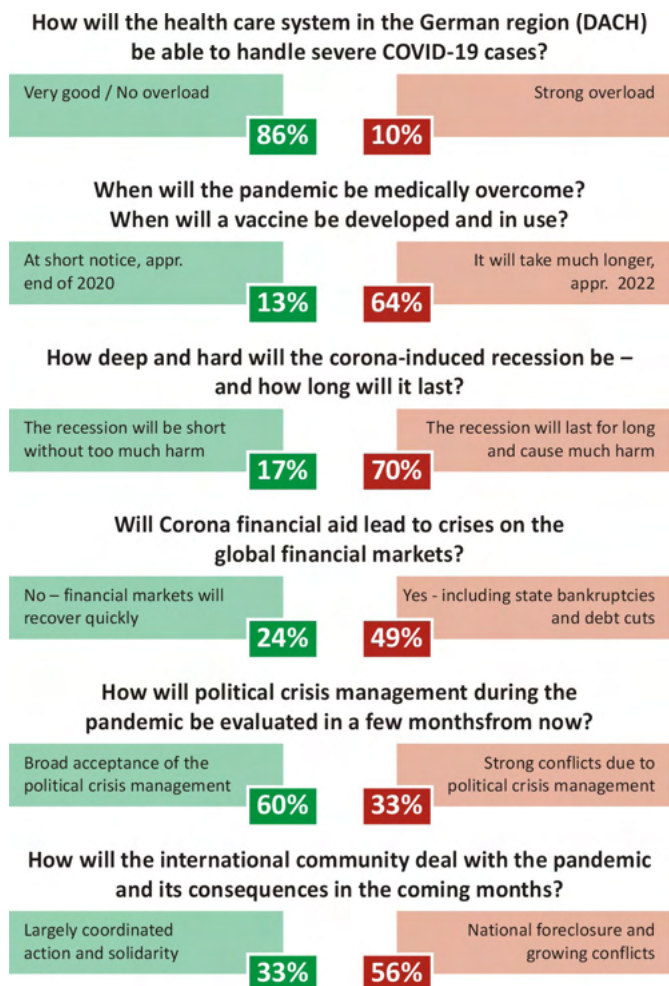
Pandemic expectation influences long-term view

In addition, we wanted to know to what extent the long-term view depended on the assessment of the current pandemic development in spring 2020. Primary, the short-term pandemic development was evaluated based on six further factors (Figure 5). The result has shown that the performance of the health care system and the crisis management politics were seen rather positively in this pandemic phase, while the economic and geopolitical consequences were assessed more critically.

According to this additional assessment, the evaluators could be divided into four groups: (1) the optimists, who assume that the pandemic will be less critical overall, (2) the pessimists, who expect critical developments in most areas, (3) the prudent policy advocates, who assume that political crisis management will have a positive effect, and (4) the policy critics, who expect that strong social conflicts will result from current political measures. While these groups hardly differ in their views of the pre-

Figure 4: **Scenario assessment (April/May 2020)**

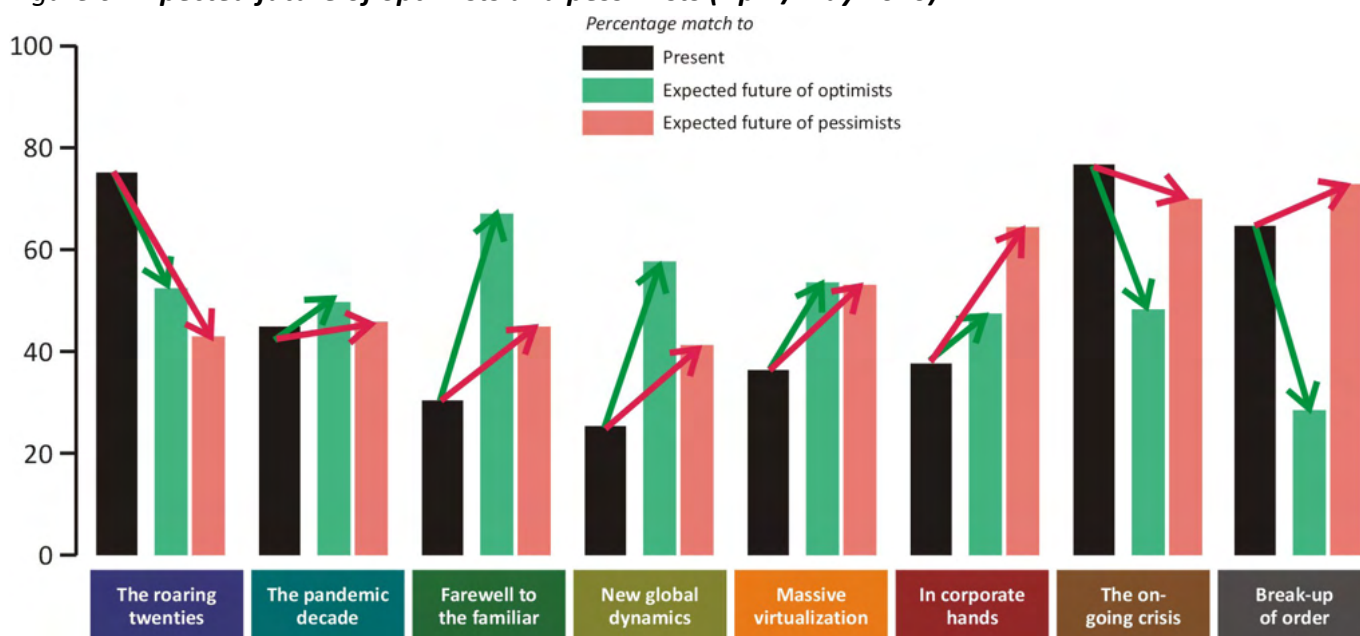## Figure 5: *Evaluation of pandemic progress*

How will the health care system in the German region (DACH) be able to handle severe COVID-19 cases?

Very good / No overload	Strong overload
86%	10%

When will the pandemic be medically overcome? When will a vaccine be developed and in use?

At short notice, appr. end of 2020	It will take much longer, appr. 2022
13%	64%

How deep and hard will the corona-induced recession be – and how long will it last?

The recession will be short without too much harm	The recession will last for long and cause much harm
17%	70%

Will Corona financial aid lead to crises on the global financial markets?

No – financial markets will recover quickly	Yes - including state bankruptcies and debt cuts
24%	49%

How will political crisis management during the pandemic be evaluated in a few monthsfrom now?

Broad acceptance of the political crisis management	Strong conflicts due to political crisis management
60%	33%

How will the international community deal with the pandemic and its consequences in the coming months?

Largely coordinated action and solidarity	National foreclosure and growing conflicts
33%	56%

sent and their wishes for the future, there are major differences when it comes to the expected future: Optimists expect scenarios 3, 4 and 5, those scenarios that they also wish for (see Figure 6). The optimists also believe that a return to the old normal (scenario 1) is possible. The pessimists, on the other hand, assume that the current crisis will continue (scenario 7), if not even worsen (scenario 8). The increase in economic power and social division (scenario 6) is also a realistic future option from the perspective of the pessimists.

Dynamic Assessments in 2020

Between May and November 2020, we presented and discussed the Post-Covid scenarios in 23 lectures. In a series of events, the scenarios were evaluated via zoom, chat, etc. The evaluations were to some extent divergent, volatile and also dependent on the respective event. The key findings were:

- The initial situation was hardly ever seen as clearly in the traditional scenario block as during the first survey in April/May. It felt as if one was already in the middle of a covid-related structural change.
- The expected future was still assessed as very uncertain, however with significant discrepancies depending on the event.
- In case of the desired future, the view from the initial assessment got largely confirmed.

Figure 6: *Expected future of optimists and pessimists (April/May 2020)*

Percentage match to
■ Present
■ Expected future of optimists
■ Expected future of pessimists

Scenarios: The roaring twenties | The pandemic decade | Farewell to the familiar | New global dynamics | Massive virtualization | In corporate hands | The on-going crisis | Break-up of order

Post-Covid Assessment
in the context of an open scenario process of ScMI AG

What comes after COVID19?

X   X

Here the scenarios with traditional structures

here the scenarios with broad innovation, structural change and virtualization

1	**The roaring twenties** The old normality is back	◯
2	**The pandemic decade** Resilience as a new guiding principle	◯
7	**The ongoing crisis** A fertile ground for authoritarian ideas	◯
8	**Break-up of order** Loss of control and desolidarization	◯

3	**Farewell to the familiar** De-globalization and cutting consumption	◯
4	**New global dynamic** Fair growth in cooperative structures	◯
5	**Massive virtualization** Safety and new proximity in connected world	◯
6	**In corporate hands** Progress at the expense of participation	◯

Reassessment of the scenarios

Between the beginning of August and the end of November 2020, we carried out a more extensive scenario assessment in a third phase. The basis for this was an online questionnaire containing a total of 60 questions about the expected future in 2030. These questions covered all facets of the 23 key factors and enabled a direct reference to the future projections - and thus also a detailed assessment of the eight Post-Covid scenarios.

A total of 201 people took part in this scenario assessment, including the evaluators of the first phase from our Post-Covid team. We also involved various evaluation groups, to also include - for example- the perspectives of young people. We also made the questionnaire available on our homepage, which allowed a total of 43 further evaluations to be included.

The evaluators could be categorized in different groups (see Figure 7): representatives from companies (the largest group with 35%), young people (27%), representatives from consulting and futures studies (21%) and representatives from education and science (8%). Other groups such as public administration or civil society were so small that we did not evaluate them separately - but of course they were included in the overall evaluation.

Overall, we want to point out that this is not a representative survey. Our goal was to get an assessment of the existing Post-Covid scenarios, on the one hand from the expert committee that had already emerged during the scenario development and on the other hand, on the basis of an extended and heterogeneous group of evaluators. The following results – both at the superordina-
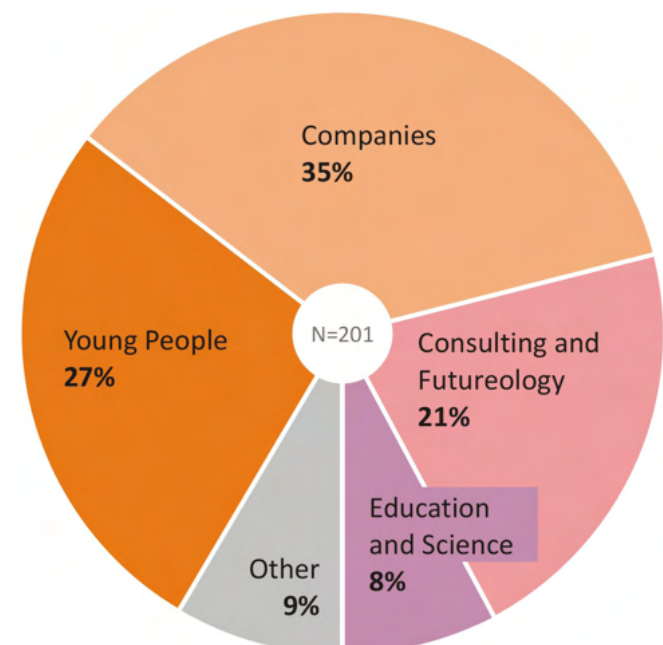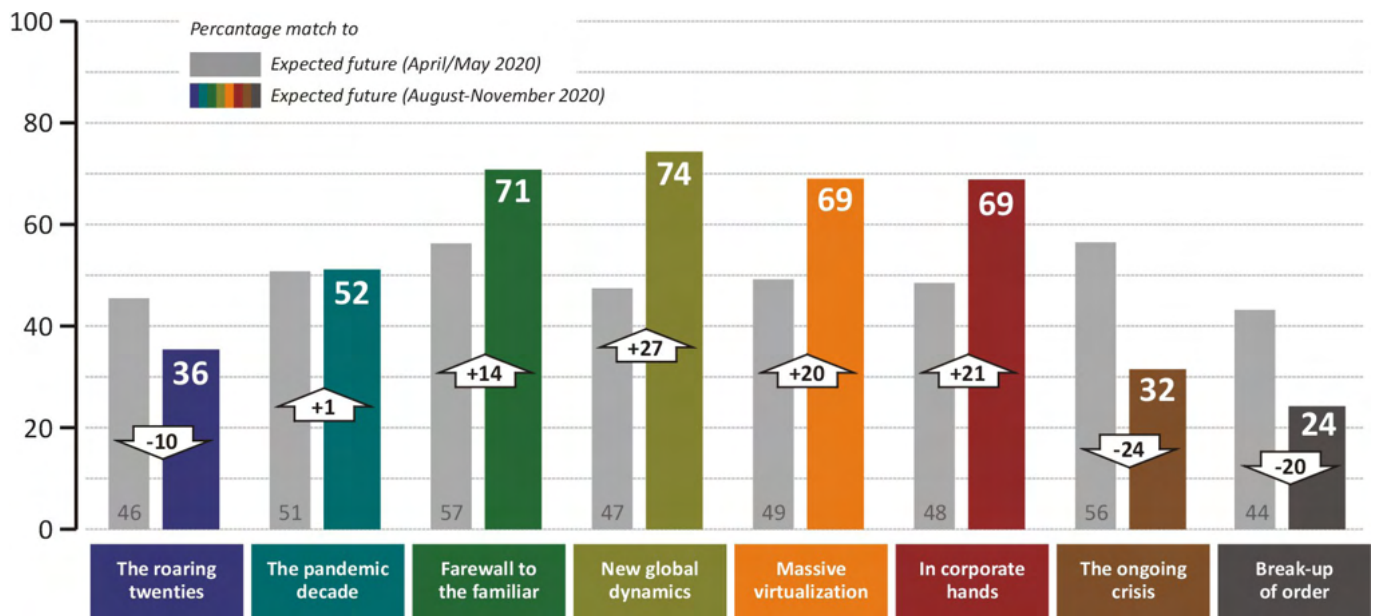
*Figure 7: **Four assessment groups***

Figure 8: **Expected future for year 2030 (Change until November 2020)**

te scenario level and through the lens of the individual key factors - should therefore be interpreted with this in mind. From the first presentations and discussions of the results, we got the impression that numerous impulses for further discussion can be derived from the evaluation.

Structural change will accelerate after the crisis

While long-term future expectations were extremely uncertain in the first months of the pandemic, the reassessment shows a clearer picture of expectation. Between spring and autumn 2020, The probability of scenarios 3 to 6 has been assessed significantly higher. It is therefore assumed that after the crisis, there will be a considerable innovation and digitization-driven structural change. In contrast, the two crisis scenarios 7 and 8 clearly fell outside of the expectation range. In particular, the „ongoing crisis", which was still one of the two most anticipated scenarios in spring, is clearly less expected. The same applies to scenario 1, because a fast return to the old normal is not expected either. Interestingly, in addition to

the "structural change scenarios", only scenario 2 "The pandemic decade", is still considered realistic.

Representatives from education and science view the future more critically - young people are more optimistic

When comparing the four evaluation groups (see Figure 9) with each other, an interesting trend can be recognized: the group of education and science, followed by consulting and futures studies, sees the future more cri-

> ## KEY MESSAGE
>
> Throughout the COVID19 pandemic, it is believed that after the crisis, the world will definitely be different than before. A considerable structural change is expected, which will be driven by innovation and digitalization.

A new time brings new questions and needs new ways. The moment to be one step ahead is NOW!!

Jens Hollann
medplus-kompetenz

I'm looking forward to my first virtual seminar to see how Germany and Europe compare to Australia and our companies in Asia.

**Vivien Dossmann**
Aurecon Australasia Pty Ltd

In short cycles, in an agile mode and with participants from different backgrounds, we created scenarios that covered a wide range of important driving factors and serve as a relevant basis to work on the strategic steps ahead.

Richard Jaimes, TurningPoint

Figure 9: **Expected future for year 2030 within the four assessment groups**
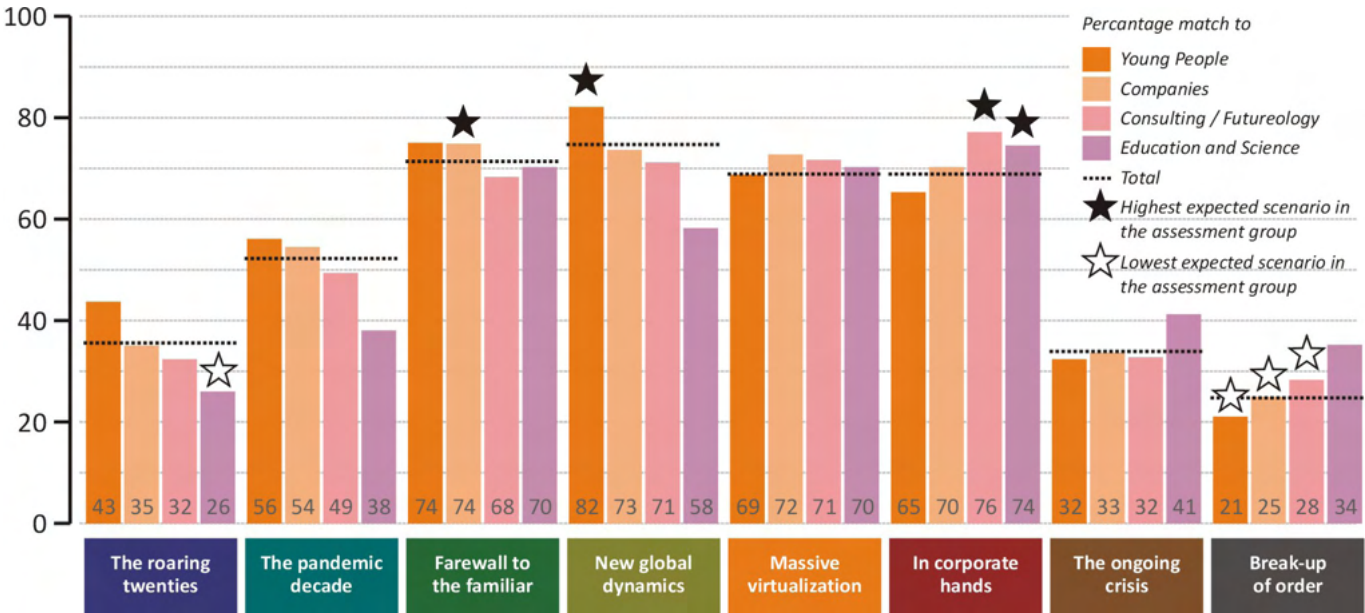
tically, while especially young people have a clearly optimistic view of the coming years.

First of all, it is obvious that all evaluation groups are expecting a structural change – scenarios 3 to 6 are expected significantly more than the other future images. However, there are significant differences within these change scenarios. The rather critically viewed Scenario 6 (*In corporate hands*) is the most anticipated future by the group of education and science as well as by the group of consulting and futures studies. Representatives from companies, on the other hand, expect scenario 3 (*Farewell to the familiar*) the most, namely the massive change in economic structure based on sustainability and climate change.

The biggest difference between the evaluation groups lies in scenario 4 (*New global dynamics*), which was rated very clearly as a desired scenario in spring. This image is clearly expected by young people, while it is significant-

ly less expected by representatives from education and science (and even falls behind the other three structural change scenarios).

This different view of the future becomes also evident in the more traditional scenarios: Scenario 1 (*The roaring twenties*) is expected much more by young people, while the two crisis scenarios 7 and 8 exhibit above-average values among representatives from education and science - i.e. a significantly smaller gap to the structural change scenarios 3 to 6. Even scenario 8 is rated higher than scenario 1 by representatives from education and science.

I found it really exciting how the virtual format made it possible to bring new people into the process who would not have joined in a physical process. Thanks for the stimulating input from everyone! I look forward to sharing more!

Céline Dillmann
LEAF Inspiring Change GmbH

Great set of potential futures for Germany after COVID19 - with many ideas for the US as well. Thanks to ScMI leading this effort. Helps all of us to ask „What if?" more qualified.

Prof. Dr. Oliver Schlake
University of Maryland

Defying the COVID19 pandemic with Co-creation. There could not have been a more fitting foresight response in terms of methodolgy and content.

Klaus Burmeister
foresightlab

HOW BOSCH THINKS ABOUT THE FUTURE OF REAL ESTATE IN THE POST-COVID TIME...

The Bosch Group is a leading international technology and service company with around 400,000 employees worldwide, 126 development locations and around 440 subsidiaries and regional firms in 60 countries. No wonder that strategic real estate management is an important cross-cutting function that has been severely impacted by COVID19: How will home office change building needs? What consequences will the pandemic have for workplace design? And what kind of changes in working life and corporate culture will emerge? Therefore, in spring 2020, Bosch took the opportunity to systematically develop its own real estate scenarios based on the Post-Covid scenarios of ScMI AG.

Already in May 2020, Manager Magazine headlined that office towers could be a „thing of the past". Similar to the assessment of our Post-Covid scenarios, in a global survey by the real estate giant Cushman & Wakefield, 89 percent of 300 companies assumed that the trend towards working from home would continue after the end of the COVID19 pandemic. For Bosch, two further questions are closely related to the strategic real estate management: What does COVID19 mean for the nature of daily cooperation, team cohesion and the corporate culture, which Bosch perceives as a strong bond that binds everyone together? And how will the work environments change in the future?

For this reason, the central „Real Estate" division started a scenario process in spring 2020. Six online workshops were held within four months, in which up to 50 people from different corporate areas of the Bosch Group took part. The preparation and follow-ups were carried out by a core team, and the moderation was conducted by ScMI AG. The results were presented in September 2020 at the global real estate forum.

Post-Covid scenarios as base

This ScMI Post-Covid scenarios provided the starting point for the company's own scenario process. They enabled fast entry into long-term thinking, in which the participants could immediately discuss initial questions: What does „*Massive virtualization*" mean for our real estate planning? What does work life look like in the scenario „*Farewell to the familiar*"? How resilient is our culture in the scenario „*The ongoing crisis*"? Parallel to the identification of numerous opportunities and risks, the evaluation of the Post-Covid scenarios was carried out internally at BOSCH to reach the company's own understanding of the expected future.

Development of workplace scenarios

After this „warm-up phase", the focus was shifting towards specific "Bosch related" topics and questions. The aim of the first three online workshops was to systematically develop the so-called „workplace scenarios". This was done in four steps:

- **Key factors:** As the open results of the Post-Covid scenario process were available, the scenario team was able to concentrate on real estate-related issues. Underlaid by numerous studies, 33 new influence factors were developed for the fields of work place, real estate and office buildings, other work environments and the corporate world. These, together with a selection of the old factors, were linked in a network (see

Figure 10). Taking this network into account, 22 key factors could be identified. They were able to address, for example, the design of workplaces, business trips and communication, decentralized work organization, social norms in work life or corporate and management culture.

- **Future projections:** The next step was to think forward all 22 key factors. Through intensive group discussions, four or five conceivable developments for each key factor, the so-called future projections, emerged.

- **Workplace scenarios:** Based on the approach used for the Post-Covid scenarios, a consistency analysis was also used here to determine a manageable number of plausible scenarios. The eight workplace scenarios developed in this way differed on the basis of several fun-

Figure 10: **Network of the specific and general influencing factors**
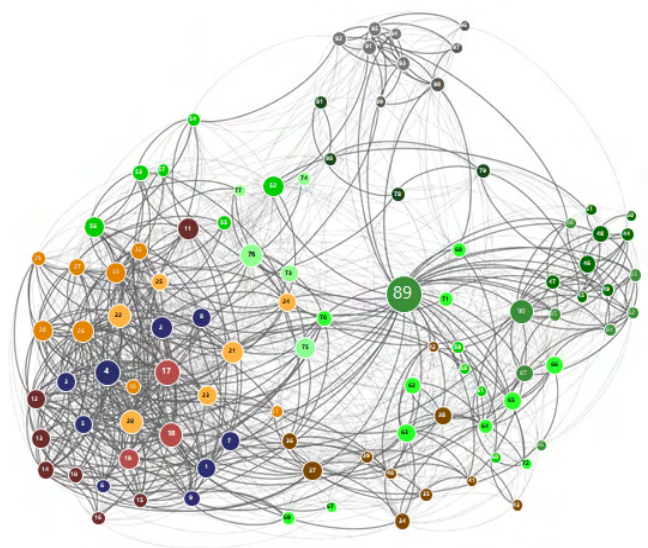
damental questions: (1) technology development and virtualization, (2) the change in the work and corporate business environment, and (3) the dynamization of the corporate culture in connection with AI-based augmentation.

- **Interpretation of the workplace scenarios:** A questionnaire-based evaluation first enabled the identification of the expected and desired workplace scenarios. For many participants, it became clear how interconnected their own topic areas are, what changes are likely - and what options for action arise for Bosch.

From workplace to real estate scenarios

After a month and a half of intensive work, two sets of scenarios with a corresponding map of the future as well as specific evaluations and first consequences were available:

- **General environment:** The Post-Covid scenarios developed by the ScMI mapped the general environments such as economy, society and politics. A separate assessment gave the organization additional confidence in this preparatory work.
- **Specific environment:** The self-developed workplace scenarios illustrated the future of the company's own topic areas – real estate, work environments and corporate cultures.

In terms of content, both sets of scenarios were connected through several key factors that are relevant for both the general and the specific environments – for example labor markets and work organization, the virtualization of jobs and the attitude towards work. Based on such content-based connection, the Post-Covid and workplace scenarios were interconnected in a future matrix (see Figure 11).

The core question within the future matrix was whether the concurrent occurrence of two scenarios is conceivable and realistic. In this way, those fields could first be identified in which general and specific environments are compatible. Through an intensive discussion process, six groups emerged, which were understood and described as real estate scenarios:

- **All Hands on Deck** (real estate scenario R1) describes a future with moderate technological development and to a large extent conventional corporate cultures. In this scenario, the COVID19 restrictions are overcome quickly and the real estate market continues to develop relatively normally.
- **Safe Harbor** (real estate scenario R2) also assumes a moderate technological development. In the course of the COVID19 pandemic, companies are recognizing the advantages of face-to-face work. With deliberately designed working environments, they offer their employees a „safe harbor«„– not only for the present, but also against potentially further pandemics.
- **Extended desk** (real estate scenario R3) is the third scenario with moderate technology development. However, this is sufficient - as we are experiencing in the course of the COVID19 pandemic - to trigger a significant shift towards remote work. Many companies are recognizing the possibilities for increasing efficiency, and home offices are becoming "digitally extended desks" without any lasting change in corporate and management cultures.

Figure 11: **Future matrices for linking the Post-Covid scenarios with the workplace scenarios**
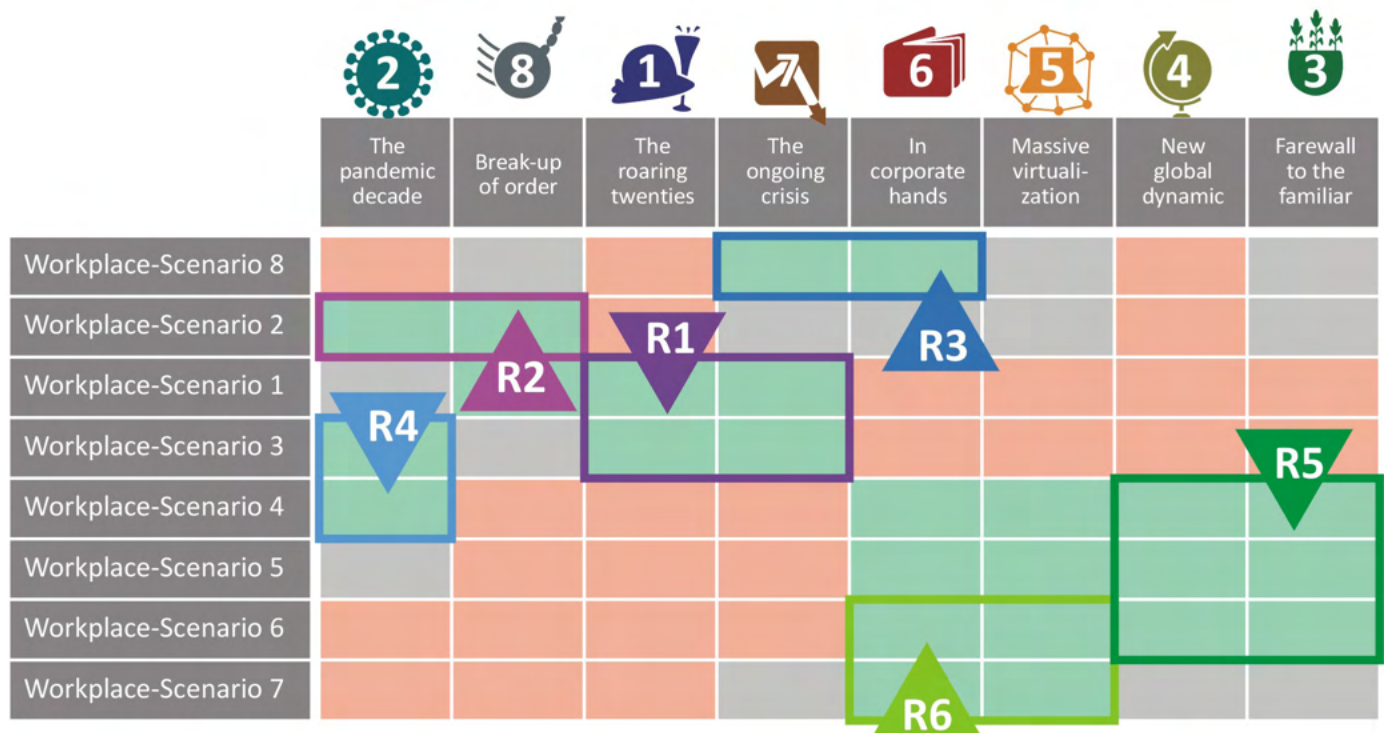
- **Technology as the Driver** (real estate scenario R4) assumes a much more dynamic technology development that enables even more extensive efficiency gains, but still does not trigger any fundamental cultural changes.
- **New Work – Dual & Decentral** (real estate scenario R5) is the first scenario, in which dynamic technological development is accompanied by significant cultural changes in companies. This future is characterized by greater openness, more self-responsibility and a change in the function of the building from representation to collaboration.
- **Virtual Worlds** (real estate scenario R6) describes an even more far-reaching change, in which social contacts and value creation processes increasingly take place online. This leads to a massive departure from traditional work environments and in some cases even to the dissolution of the well-known corporate structures that are hardly questioned today.

Figure 12: **Six real-estate-scenarios**
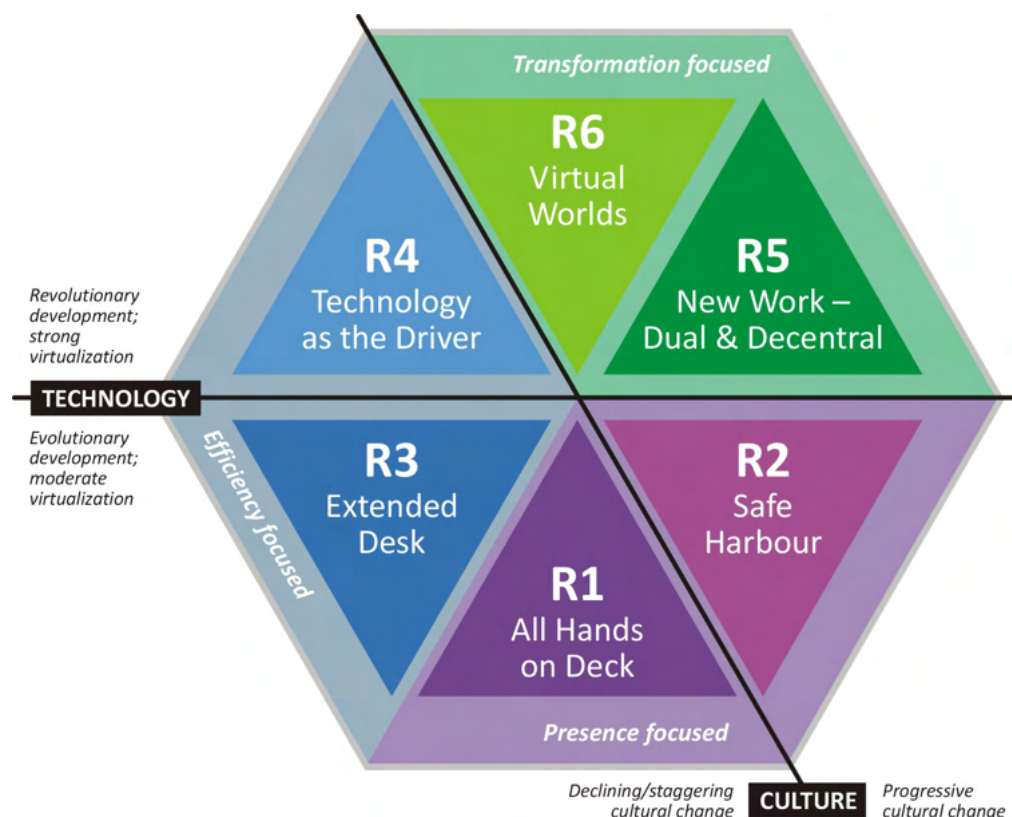
In summary, as demonstrated in Figure 12, the first two real estate scenarios are largely presence-oriented, while real estate scenarios 3 and 4 have a strong efficiency orientation. The real estate scenarios 5 and 6 contain a fundamental change in both technology and culture and can therefore be understood as transformation-oriented futures.

From scenarios to decisions

Based on the Post-Covid scenarios, Bosch was able to develop its own specific real estate scenarios within a few months, which deal with a wide range of topics, from specific work environments to society aspects. Since then those Real Estate Scenarios are the base for many different activities such as:

Comprehensive catalog of consequences: For each real estate scenario, specific opportunities and threats for Bosch in the areas of building management, design of work environments and cultural development were identified. These formed the basis for a catalog of around 80 possible consequences which can be accessed and utilized by all involved parties.

Robust options for action: Since an assessment for both the Post-Covid scenarios and the workplace scenarios was available, the current, expected and desired values could also be determined for the real estate scenarios. This made it clear which previously identified consequences can be regarded as long-term relevant. Thus, they provide a basis for a robust overall course in the strategic building management.

Regionalization: Since the real estate scenarios depict an overall view of the future, they should be evaluated separately for individual regions and locations in the near future. This shows that different consequences are meaningful for different regions, depending on their expected or desired future correspondingly..

Our conclusion

The eight Post-Covid scenarios (page 7) and the seven key messages (page 9) form the substantive results of our scenario process. In addition, we could derive six particularly insightful learnings..

Scenario processes work also online.

Scenarios are not products that are constructed in the ivory tower of an institute or a consultancy. Scenarios emerge in dialogues. That is why we have been focusing on interaction in various workshop formats for more than twenty years. In our Post-Covid process, we have showed that exchange, dialogue and interaction also work in an online format. *Our conclusion: In the future, we will be able to decide flexibly, when it is better to conduct scenario processes online or in person.*

Focus on critical scenarios.

The COVID19 pandemic has once again showed us, how important it is not to simply ignore critical futures. At least two aspects made it clear: (1) The preparation for a critical pandemic scenario was definitely not optimal. While the supply of intensive care beds in Germany can been seen as a positive example of a robust or resilient planning, vulnerable supply chains in critical areas are the opposite. (2) The long wait in the first months of the pandemic has shown, how important not only the early detection is, but also the action based on it. How useful it would have been to take advantage of those weeks and months. *Our conclusion: In case of foresight, exactly the critical scenarios should be observed. This allows you to recognize turning points earlier and make the necessary decisions timely.*

COVID19 crisis has stimulated forward thinking.

For future and scenario thinkers, crises are a »double-edged sword«. With 9/11 we have experienced that many did see the future changes on the horizon, but few were ready to draw conclusions. It was similar during the global financial crisis, when many future projects were stopped or put on hold. We have experienced something completely different during the COVID19 pandemic: companies as well as public institutions immediately realized that they need futures processes, if they don't want to be the losers after the crisis. *Our conclusion: future and scenario management are on their way to become established.*

It won't work without change.

In the first assessment immediately after our scenario process, biggest uncertainty prevailed and a return to the old normal was imaginable. In the meantime, the signs pointing to a fundamental structural change in the coming years have been increased. Of course, habits that are terribly missed during the pandemic, such as parties, concerts or travel, will return. But we will all take the experience with us that also rapid change is possible. This will influence the way we think and act. *Our conclusion: The 2020s Post-Covid decade will be characterized by structural change, which we can influence to a large extent ourselves.*

Create space for strategic dialogue.

Although the term »scenario« was pushed during the COVID19 period and numerous covid or Post-Covid scenarios emerged, the social and political dialogue is still strongly characterized by taboo topics. Departing from current lines of discussion and addressing various possibilities is still seen as a weakness, as »dodging the topic«. It is time to take thinking wide into open futures as a strength and mistrust those who pretend to know exactly what the future will look like. *Our conclusion: We should create more open spaces for strategic thinking and strategic dialogue to be able to make clearer and more robust decisions later on.*

Post-Covid continues.

The current available scenarios were developed in spring 2020. In the numerous lectures and discussions, we have discussed many assessments different from each other, but the scenarios themselves and the map of the future have proven to be very robust. Therefore, we want to continue working with these scenarios in the near future. *Our conclusion: We will update and refine the assessments of the scenarios, for example through a stronger international perspective. We will also deepen specific topics and connect them to the Post-Covid scenarios.*

PARTNER

The following partners were involved in the development and evaluation of the New Global scenarios as part of our core team, and we would like to express our sincere thanks to them for their excellent cooperation.

Blauen Solutions promotes the sustainable development of people, organizations and society through networked thinking, solution and action approaches. Since its foundation in 2014, Blauen Solutions GmbH supports decision makers with research, development and networking of relevant knowledge necessary for successful strategy implementation. Blauen Solutions GmbH is anchored in the Basel region (Switzerland), has project experience in Europe, China, India, South Africa and America. Since 2017 Blauen Solutions GmbH works as a Swiss cooperation partner of ScMI.
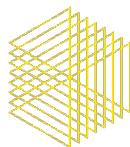
The D2030 initiative is an association of people from business, science and society who are interested in the future and have set themselves the task of anchoring networked, long-term and transformative thinking and action in social, economic and political decision-making processes. In a participatory and politically independent process, it developed eight scenarios for Germany in 2030 for this purpose between 2016 and 2018 - from »Old Frontiers« to »New Horizons«. With the scenarios, the D2030 initiative supports the transformation discourse, which is intended to show Germany ways out of a routine »business as usual« and promote sustainable structural change.

foresightlab is a transdisciplinary platform founded in 2014 by Klaus Burmeister and Beate Schulz-Montag at the interface of future-oriented research and consulting. In its scenario and foresight projects, it connects different competence partners on a task-related basis in order to jointly explore and test solution approaches for shaping a sustainable future. The main topics are the fundamental upheavals and transitions in work, production and life as a result of the digital transformation and change processes in the economy and society.

i-vector Innovationsmanagement GmbH emerged in 2008 from an innovation center of leading German automotive manufacturers, suppliers and the Berlin Senate Administration. Its services include the identification and evaluation of future innovation and market potentials of new technologies in the context of corporate objectives, their derivation into a strategy recommendation as well as project program planning. The focus of our work is on the development and implementation of innovations in the areas of mobility, production and energy. Increasingly, non-technical innovations are gaining in importance and can play an important catalytic role, particularly in digitization projects.

ZIELBILDNER is your business sparring partner for impact-oriented target image sharpening, stakeholder-specific storytelling and intuitively understandable visual communication of strategy, change and projects. With us you benefit from clarity of purpose, meaningfulness, focus, presence and relevance in communication, leadership and implementation. Our mission is to ensure that your vision arrives, is carried away, sticks and becomes reality.

TEAMS

More than 200 people were involved in the scenario development, interpretation and evaluation process during 2020. Around 80 people participated in one or more online workshops.

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