



MEGATRENDS

UPDATE

UNDERSTANDING THE DYNAMICS
OF GLOBAL CHANGE

 punkt

INTRO

With our megatrend update Z_punkt presents an overview of the overarching drivers of global change. Megatrends are driving paradigm shifts within areas of basic need. This leads to the emergence of new growth areas and value creation opportunities. But far-reaching conflict lines in society and politics are also recognisable against the background of the megatrends in question.

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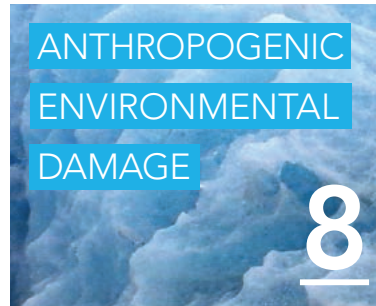
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THE DRIVERS OF GLOBAL CHANGE




1

DEMOGRAPHIC

CHANGE





By 2030, the global population will have grown by another billion to 8.5 billion people. This development is regionally asymmetrical: birth rates in Africa, for example, far exceed the population replacement level. Almost half of the world's population growth between now and 2030 will take place in Africa.

The population of Europe, by contrast, is shrinking. On the other hand, with the exception of Africa, most regions throughout the world are affected by population ageing. One of the main developments concomitant with the population explosion is the expansion of urban living space. The speed and extent of urbanisation in many Asian and African states is unprecedented. Burgeoning migration waves throughout the world are also contributing to increasing urban sprawl.

Regional development asymmetries

Global population ageing

Urban growth regions

Increasing migration waves

2

SOCIETAL DISPARITIES





The world is becoming less equitable. Whilst inequalities between states are diminishing at the global level, they are increasing within specific regions and countries. The expected future economic growth in Europe, North America and China will almost exclusively benefit the more affluent sectors of these societies. More and more families are facing poverty, social exclusion and material deprivation.

This is particularly true of rural areas that are in danger of being completely cut off from the rapid developments in urban centres. The interactions between different aspects of inequality lead to a significant potential for social conflict. This finds expression in political radicalisation, terrorist actions and politically motivated violence.

Increasingly precarious living conditions

Increase wealth concentration

Intensification of social conflicts

Increasing rural-urban disparity



3

DIFFERENTIATED

LIFEWORLDS



The divergence between people's individual lifeworlds will increase by 2030. Gender roles will no longer be accepted as being predetermined, and will increasingly be defined by individuals themselves; new forms of individuality will be established based on complex identity formation processes and modified body images; linear biographies will morph into complex, dynamic multigraphs.

Patterns of consumption, which are motivated by multiple factors such as the increasing demand for personalised products, a deeper integration of customers in product development processes, increasing sensitisation to sustainable consumption and a transition from ownership to sharing platforms in certain product categories, will also become increasingly differentiated.

[Weakening of traditional gender roles](#)

[New forms of individuality](#)

[Dynamic biographic developments](#)

[Complex identity formation](#)

["Glocal" patterns of consumption](#)

[Sophisticated consumption](#)

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THE DIGITAL

TRANSFORMATION



Digital technologies continue to dominate all areas of life, whereby the dynamics of change will continue to increase up to 2030. Driven by ever faster data connectivity, the miniaturisation of sensors and processors as well as devices that are intuitive to operate and offer novel application functionality, the networking of objects is penetrating into every corner of daily life. Within the emerging “internet of things” (IoT), physical objects are able to communicate and interact with their surroundings.

Developments in the field of artificial intelligence have made it possible to analyse enormous amounts of data in real time thus enabling powerful solutions based on automation. Robots and machines are able to discover optimised solutions to complex problems without the need for human intervention. However, internetworking involves a certain amount of risk: cybercriminals are increasingly training their sights on critical infrastructure.

Digital networking in everyday life

New opportunities through “big data”

The establishment of IoT paradigms

Breakthroughs in the fields of artificial intelligence and robotics


The vulnerability of critical infrastructure

5

BIOTECHNICAL

TRANSFORMATION





The coming decades will be heavily influenced by developments in bio and nanotechnology, the neuro and materials sciences and medical engineering. An increasing profound understanding of the laws of life is enabling man to intervene creatively in natural process in general and in the development of biological organisms in particular, both at the atomic and sub-atomic levels, but also at the scale of networked macro systems.

This is altering our understanding of life in profound ways. Intelligent designs are based on natural systems and processes. The bio-technical transformation involves a number of concomitant risks as, by artificially intervening at all levels of the system with increasing frequency, mankind is entering terra incognita.

Development of modified and synthetic organisms

Improvement of human abilities

Smart materials and new construction principles

Existential risks

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VOLATILE

ECONOMY





Throughout the world, companies and economies are experiencing increasingly volatile development dynamics. Several factors are contributing to this development. On the one hand, mutual global dependencies have increased at the same pace as the flows of international capital and goods have burgeoned in the wake of globalisation. The risk of contamination in times of crises has also increased and local events can have global consequences. In addition, the incidence rate of crises of an international character is also increasing, which deprives national economies of the ability ever to achieve full recovery.

Increasing international inequalities further complicate the situation. Increasingly, a reliable monetary, economic and fiscal policy is becoming a thing of the past. Industry structures are changing under the influence of disruptive innovations. Speculative investment activities are also destabilising the global economic system.

Global debt overload

Concentration of productivity and profits

Erratic economic and trade policy

Disruptive change in industry structures

Short-term investment patterns

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BUSINESS

ECOSYSTEMS





Businesses are increasingly being confronted with dynamically changing commercial environments. The technical transition is accompanied by cross-sectoral innovations at the business model and organisational process levels. Innovations arise at the interfaces of formerly separate sectors, whose boundaries are becoming increasingly fuzzy as a result of integrated products and services. Cross-sectoral value creation networks and structures are emerging, as exemplified by the platform economy or collaborative business operations.

At the same time, robotics, 3D printing and other production technologies are being revolutionised under the motto “Industry 4.0”. Highly flexible production processes and integrated corporate structures are being created. Business objectives are also changing and are increasingly being extended to include positive external effects on the environment and society as a whole.

New interface markets

Expansion of the platform economy

Sharing as a business model

The flexibilisation of production systems

Shared values as a new paradigm


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ANTHROPOGENIC

ENVIRONMENTAL

DAMAGE





The environment is suffering more and more from the subsequent costs of the human lifestyle. No trend reversal has yet been achieved in greenhouse gas emissions. The main emitters are power stations, industrial plant, traffic systems and agriculture.

Surface and water temperatures are increasing as a result of anthropogenic climate change, in addition to which the polar caps are starting to melt, sea level is rising and extreme weather events are becoming more frequent. Noise and light pollution are also increasing steadily, whilst rubbish piles are growing and soils are being contaminated. At the same time, a flood of laws, regulations and initiatives are attempting to prevent human beings from destroying the basis of their own continued existence.

[Anthropogenic climate change](#)

[Increasing environmental pollution](#)

[Loss of biodiversity](#)

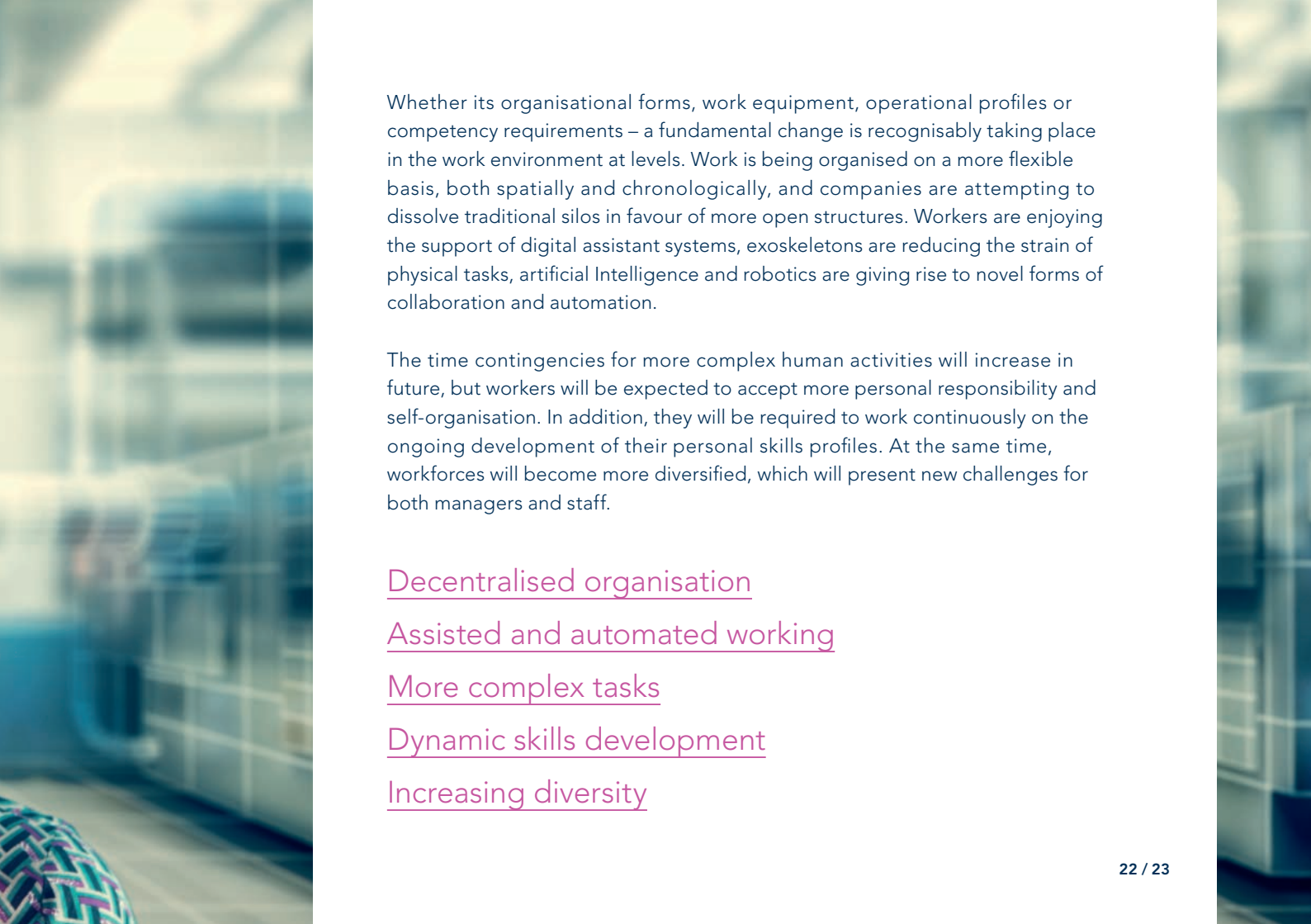
[Increasing volumes of waste products](#)

[Tightening of regulations relating to the environment](#)

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CHANGED WORK ENVIRONMENTS





Whether its organisational forms, work equipment, operational profiles or competency requirements – a fundamental change is recognisably taking place in the work environment at levels. Work is being organised on a more flexible basis, both spatially and chronologically, and companies are attempting to dissolve traditional silos in favour of more open structures. Workers are enjoying the support of digital assistant systems, exoskeletons are reducing the strain of physical tasks, artificial Intelligence and robotics are giving rise to novel forms of collaboration and automation.

The time contingencies for more complex human activities will increase in future, but workers will be expected to accept more personal responsibility and self-organisation. In addition, they will be required to work continuously on the ongoing development of their personal skills profiles. At the same time, workforces will become more diversified, which will present new challenges for both managers and staff.

Decentralised organisation

Assisted and automated working

More complex tasks

Dynamic skills development


Increasing diversity

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NEW POLITICAL WORLD

(DIS)ORDER





The political world order is currently undergoing a transition towards multipolarity and the unilateral “pax” americana is disintegrating. The geopolitical situation is currently dominated by volatility, instability and asymmetric conflicts. The influence of major emerging economies such as India and especially China, but also smaller states, regional powers and non-state actors, is increasing, resulting in new distribution struggles for power and resources.

A new system contest is on the horizon between liberal market economic democracies on the one side and authoritarian state controlled capitalist systems on the other. At the same time, calls for a strong, even authoritarian state is being countered by the slow but steady withdrawal of state-funded social safety nets on the part of many states.

Multipolar world

Asymmetrical conflict lines

Authoritarian varieties of democracy

Dismantling of welfare provision

Regional integration projects

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GLOBAL

POWER SHIFTS





The 21st century will be dominated by power shifts at different levels, initially between states and regions, mostly in a west to east direction – the resurrection of Asia in its former glory. Global welfare will also be subjected to a decentralising distribution. A global middle class will emerge, albeit characterised by strong regional variations.

In addition, political power will successively move from central control organisations to smaller organisational units — regions, municipalities, and non-state institutions. Ultimately, the training-intensive requirements of the knowledge and information society will be conducive to a progressive power transfer from men to women.

Emergence of new powers

Growth of the global middle class

Increasing influence of non-state actors

Shift from states to municipalities

Women on the rise



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URBANISATION





The proportion of the world's population living in cities will increase from the current 54% to 60% by 2030. In emerging and developing economies, in particular, rapid urbanisation is often unmanaged resulting in burgeoning urban sprawl. Meanwhile, western cities are facing the challenge of renovating their ageing, sometimes crumbling, infrastructures, a task whose accomplishment will function as an acid test for many towns and cities.

The importance of adaptive infrastructural systems, designed to react to dynamically changing challenges and requirements, is increasing in the context of urban infrastructure expansion as are digital infrastructures, designed to increase the efficiency and public accessibility of urban systems.

[Unmanaged urban growth](#)

[Modernisation crisis in municipal infrastructures](#)

[Expansion of adaptive infrastructure systems](#)

[Generative and sustainable urban development](#)



A major supplier to the automobile industry is looking for growth opportunities beyond its core business. The search field should cover value creation areas capable of being integrated into the existing corporate competencies. Based on competency mapping and a trend analysis within the prioritised value creation areas, Z_punkt identifies and describes a longlist of search field candidates and develops an evaluation criteria catalogue. The aim of all search field candidates is to address value creation areas that will be relevant in the future. The selected search fields are then subjected to an in-depth qualitative and quantitative analysis. The result of the project is an attractive search field portfolio, which will be further expanded by Z_punkt in a follow-up project in the following year.

Z_PUNKT SERVICES: Process development and facilitation, competency mapping, definition and prioritisation of future value creation areas, trend analysis, identification and quantification of search fields, evaluation of market opportunities and compatibility with existing corporate competencies

INDUSTRY: mobility and logistics

CONSULTANCY FIELD: Innovation and foresight

CONTEXT: business development





SAMPLE
PROJECT
STRATEGIC
SEARCH FIELDS
FOR AN
AUTOMOTIVE
SUPPLIER

A globally active chemical company is looking for innovation concepts in the field of performance materials, which are oriented on future value creation requirements. Z_punkt develops an overview of future value creation areas and performs a comprehensive trend analysis within selected value creation areas that, in addition to considering examples of signal innovations, also covers core challenges within the value creation areas under consideration. Future customer requirements and the innovation needs derived from these are described on the basis of the trend analysis and are grouped under overarching innovation subject categories. This is followed by a portfolio analysis of the identified innovation areas in light of the company's existing operations.

Z_PUNKT SERVICES: Process development and facilitation, definition and prioritisation of future value creation areas, trend analysis, description of central challenges, identification of innovation subjects, portfolio analysis

INDUSTRY: Chemicals

CONSULTANCY FIELD: Innovation and foresight

CONTEXT: Innovation Management





SAMPLE
PROJECT
STRATEGIC
INNOVATION
SUBJECTS
FOR A
CHEMICAL
COMPANY

The project was prompted by the customer's intention to implement a company-wide "radar", which would map the innovation dynamics resulting from those megatrends of relevance to the customer's business operations. The objective thereby was to identify fields of innovation both within the existing core business as well as in adjacent areas. Z_punkt focused its activities on this latter aspect. The project utilised the value creation area approach, which provided the means to structure the changes resulting from the megatrends in clearly delineated search fields. The strategic innovation topics were developed systematically from the megatrends, described in detail, evaluated for market readiness, novelty value and relevance, and then prioritised.

Z_PUNKT SERVICES: Process development and facilitation, trend identification and analysis, identification and development of innovation subjects, development of the radar concept

INDUSTRY: Technology and machine engineering

CONSULTANCY FIELD: Innovation and foresight

CONTEXT: Corporate technology & corporate development





SAMPLE
PROJECT

MEGATRENDS
AND GROWTH
AREAS FOR A
TECHNOLOGY
COMPANY





Z_PUNKT PROFILE

Z_punkt is a leading international firm of strategic foresight consultants. We help companies shape their futures with foresight.

As a team of experts in trend and future research, we have been developing client-specific foresight projects for multinational companies, innovative SMEs and public sector clients for almost twenty years.



SERVICES

We are your partner for the future. Our client-focused projects turn the future into something you can understand, experience and, ultimately, shape. We provide advice to companies about strategic foresight and innovation foresight, and our public foresight projects contribute towards forward-looking policymaking.



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