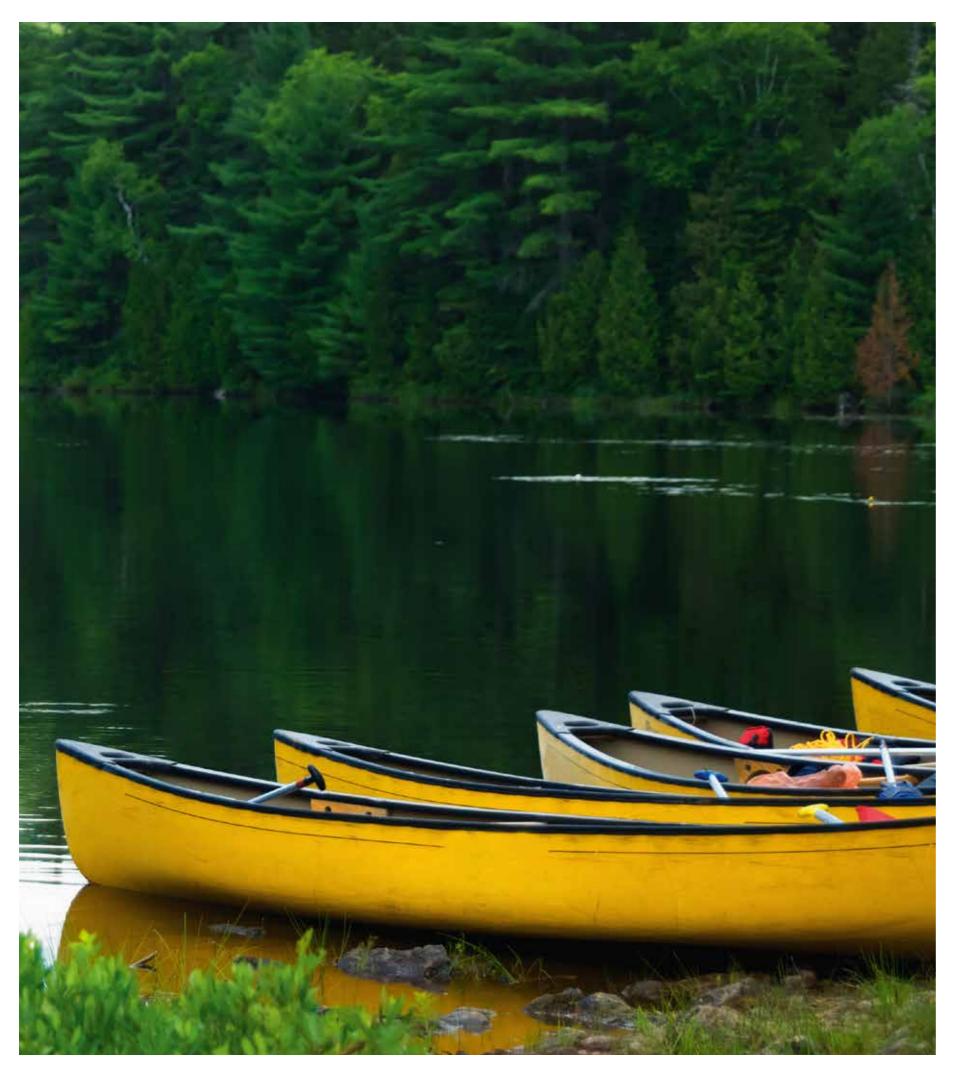
# Thematic Compass

7 Themes for the future of investing





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# Macrotrends Focus

# What are we expecting going forward?

We are increasingly convinced that a valuable investment strategy should combine a traditional selection of assets with an approach that takes into consideration long-term "real life" structural changes.

Despite the events of the last two years, there are key trends, or key themes, which are either emerging or which have been exacerbated by the pandemic or geopolitical tensions. In particular, there are seven macrotrends that we believe are paramount in our investment choices.

The first macrotrend outlined by UniCredit Investment Strategy team focuses on the **new "reflation" era** emerging through a combination of rising inflation, an increase in commodity prices, and a hawkish stance from central banks – or rather, monetary policy normalisation.

The second macrotrend, **technological innovation**, deals with the development of technologies in past decades (digitalisation and robotics above all), introducing the new key element of artificial intelligence (AI) and the Metaverse.

The **geopolitical context** sees the ongoing rise of Asian countries to the top of the world league of developed economies, with China leading the way, and the effort by European countries to push ahead with continental integration. In the last few decades, supply chains have globalised with manufacturing offshored. The disruption from the pandemic and geopolitics could bring some capacity back onshore, particularly with the conflict in Ukraine exacerbating supply chain disruption and making companies and governments even more focused on resilience, which could potentially accelerate near-shoring tendencies.

Additionally, we see growing pressures for **equality** and an increasing attention on **climate change**, two trends closely linked to a new sensitivity to environmental, social and governance (ESG) issues. In this sense, the integration of digital, green and traditional infrastructure into the so called **"Infrastructure 2.0"** is acting as a powerful booster for public and private investment by providing for smart cities and creating new ways of living and working.

Another deep change emerging is through the growing awareness of **healthy lifestyles**, which is primarily associated with a better work-life balance, higher life expectancy, and changing consumer needs.



### **KEY NUMBERS**



51% of the total length of the world's oil and gas pipelines is in the Americas.



In Europe there is about a guarter (27%) of the total length of the world's gas pipelines. Some of the key pipelines in Europe are: the Druzhba Pipeline, the longest in the world, which carries oil from the eastern part of Russia to Ukraine, Belarus, Poland, Hungary, Slovakia, the Czech Republic and Germany the Yamal-Europe pipeline which carries gas from the Russian Yamal peninsula to European consumers in Russia, Belarus, Poland and Germany and the onshore and offshore Greece-Italy interconnector gas pipeline from Greece to Puglia.

### ENERGY TRANSITION INDEX CHANGE IN COUNTRY SCORES, 2012-2021



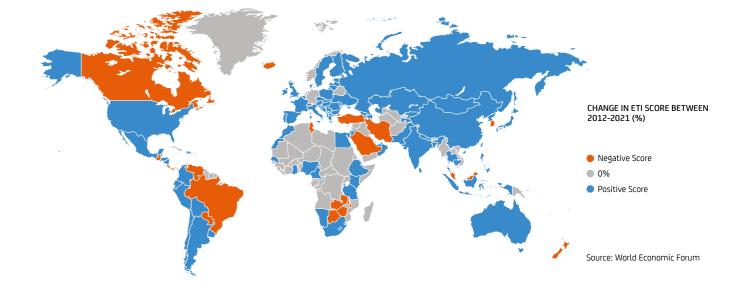
Rises in energy and commodity prices are hitting the global economy at a time when inflation concerns are already a major challenge.

This puts central banks in a difficult position. On the one hand, they would like to scale back ultra-loose monetary policy and have already signaled the corresponding steps at the beginning of the year. On the other hand, the main inflation drivers cannot be influenced by monetary policy measures in the short term.

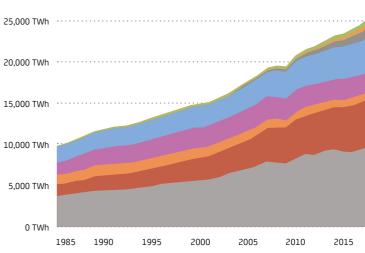
The dilemma facing central banks is that sharply rising yields as a result of excessively tight monetary policy would make it more difficult to find a structural way out of the energy crisis and the problem of the European

security architecture. However, too loose a monetary policy would trigger concerns about a solidification of price dynamics to the point of a wage-price spiral.

The prospect of large-scale disruptions to Russian oil production is threatening to create a global oil supply shock. The International Energy Agency (IEA)estimates that from April, 3 mb/d of Russian oil output could be shut in as sanctions take hold and buyers shun exports. OPEC+ is, for now, sticking to its agreement to increase supply by modest monthly amounts. Only Saudi Arabia and the United Arab Emirates hold substantial spare capacity that could immediately help to offset a Russian shortfall.



### **GLOBAL PRIMARY ENERGY CONSUMPTION BY SOURCE**









According to the Global Energy Monitor, PipeChina, aka the China Oil and Gas Pipeline Network, will soon become the largest gas pipeline builder in the world.



The European Union has updated data on its energy dependence: 41.1% of natural gas and 36.5% of oil are of Russian origin.



In 2020, 34.5% of the energy consumed in Europe came from oil, 23.7% from gas. Renewables and biofuels did not go beyond 17.4%, while nuclear power stopped at 12.7%.



other renewables (incl. Bioenergy)

- solar
- wind
- hvdropowe
- nuclear
- oil
- das
- coal

Source: Our World in data, basato su BP Statistical Review of World Energy, Ember Global Electicity Review (2022 & Ember European Electricity Review 2022 Note: Other renewables included biomass, waste, geothermal, waves and tides Ourworldindata.org/energy-CC BY



### KEY NUMBERS



The metaverse has a potential \$8.3 trillion total consumer expenditure in the U.S. depending on the level of disruption.



As a result, we see companies of all shapes and sizes entering the metaverse in different ways, including household names like Walmart, Nike, Gap, Verizon, Hulu, PWC, Adidas, Atari and others.

### THE DEVELOPMENT OF THE GAMING INDUSTRY

The row size is proportional to the turnover over the years in bln/\$

# Technological Innovation

New technologies include a variety of aspects such as digitalisation, artificial intelligence (AI), robotics, smart cities, and blockchain. Compared to the innovations of the past decades, this trend now adds a new essential element: machine intelligence.

Web 3.0 represents the next iteration of the evolution of the internet and could potentially be as disruptive and represent as big a paradigm shift as Web 2.0 did. Web 3.0 is built upon the core concepts of decentralisation (storage in multiple locations simultaneously), trustless (i.e. the network will allow participants to interact directly without going through a trusted intermediary) and permissionless (meaning that anyone can participate without authorisation from a governing body). Web 3.0 will also use machine learning, which is a branch of AI that uses data and algorithms to imitate how humans learn, gradually improving its accuracy. These capabilities will enable computers to produce faster and more relevant results in a host of areas like drug development and new materials, as opposed to merely targeted advertising, which forms the bulk of current efforts.

The concept of the "Metaverse" has received renewed attention. By essentially making the internet a virtual twin of the physical world, this digital do-over could enable novel ways of working, buying things, learning, and socialising.

MICRO THEMES #02







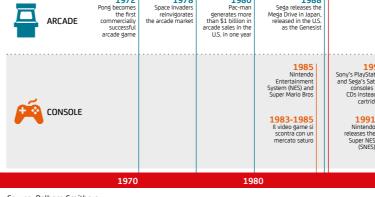




MOBILE

HANDHELD





Source: Pelham Smithers



Every year, \$54 billion is spent on virtual goods, almost double the amount spent buying music. And approximately 60 billion messages are sent daily on Roblox.



GDP for Second Life was about \$650M in 2021 with nearly \$80M USD paid to creators.

Non-fungible tokens (NFTs) currently have a market cap of \$41 billion.

# na, becom the world 2017 Nintend releases th itch, a hybri 2013 Grand Theft Auto V earns \$ 800 million in its first day

2020





China, currently the second largest economy in the world, has consolidated its position in international financial markets with the inclusion of its government bonds in the JP Morgan Government Bond Index Emerging Markets (GBI-EM) and the FTSE Russell Index. It is therefore not surprising that the RMB Globalisation Index, which tracks foreign use of the renminbi, has risen by more than 40% in total since 2018 and reached new highs.

China has been driving its global economic integration since 2013 with projects to expand its trade networks under the "New Silk Road" initiative. In addition, in 2020 China was able to conclude the world's largest free trade area, the Regional Comprehensive Economic Partnership (RCEP), with 14 other Asia-Pacific countries, covering almost a third of the world's population and accounting for around 30% of global GDP.

In the last few decades, supply chains have globalised with manufacturing offshored. The disruption from the pandemic and geopolitics could bring some capacity back onshore, particularly with the conflict in Ukraine exacerbating supply chain disruption and making companies and governments even more focused on resilience, which could potentially accelerate nearshoring tendencies.

### **KEY NUMBERS**



The Chinese economy is the second largest economy with a GDP of nearly \$17 trillion. It remains the largest producer in the world.

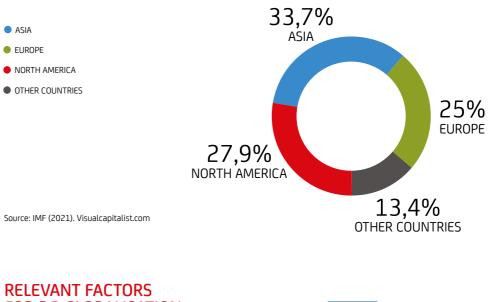


80% of sectors experienced supply chain disruption during the pandemic, prompting threequarters to widen their re-shoring plans.



According to McKinsey, starting from 2025, 25% of world exports could be affected by the phenomenon of reshoring, i.e., the re-location of productive activities previously transferred abroad. This worths a \$4.5 billion value.

### GLOBAL GDP 2021





MICRO THEMES #03

NEW CONSUMER DE-GLOBALISATION TRENDS



Forward-thinking supply chain managers are exploring using predictive analytics as a part of supply chain digitization. As a result, the Global Human Augmentation Market is expected to reach \$341 billion by 2026.



China accounts for 35% of global manufacturing output, and its factories generate more real manufacturing value added - \$3.9 trillion in 2019 - than the U.S., Germany, South Korea, and the U.K. combined.



# 🚺 Equality

When it comes to the trend towards greater equality, income inequality has increased over the past few decades, especially in developed countries. However, the individual industrial nations differ considerably in some cases. For example, income inequality in the US has risen more sharply than in Europe.

Another generation of women will have to wait for gender parity, according to the World Economic Forum's Global Gender Gap Report 2021. As the impact of the COVID-19 pandemic continues to be felt, closing the global gender gap has been delayed by a generation from 99.5 years to 135.6 years.

Progress towards gender parity is stalling in several large economies and industries. This is partly due to women being more frequently employed in sectors hardest hit by lockdowns, combined with the additional pressures of providing care at home.

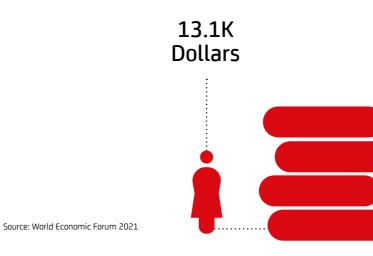
The economic gender gap has seen only a marginal improvement since the 2020 edition and is expected to take another 267.6 years to close. The slow progress is due to opposing trends - while the proportion of women among skilled professionals continues to increase, income disparities persist and few women are represented in managerial positions.



The gender pay gap remains substantial, with women's wages in America standing at 83.1% of men's earnings.

In the heart of Europe, within Germany, a man's wealth is on average 45% higher to that of a woman, in France, 15% more, and in Italy, 18%.

### INCOME GAP THE GLOBAL GENDER GAP REPORT, 2021



### MANY EMERGING JOBS ARE ALREADY DEEPLY UNEQUAL

BELOW GENDER PARITY			ABOVE GENDER PARITY		
25% and below	35% and below	45% and below	55% and below	more than 55%	
Artificial Intelligence Specialist	Agile Coach	Content Producer	Digital Marketing Manager	Content Writer/ Specialist	
Back End Developer	Analytics Consultant	Chief Marketing Officer	Business Partner	Creative Copywriter	
Big Data Developer	Business Intelligence Developer	Data Analyst	Digital Product Manager	Talent Acquisition Specialist	
Chief Commercial Officer	Chief Strategy Officer	Digital Marketing Consultant	Digital Marketing Specialist	Human Resources Partner	
Frontend Engineer	Data Consultant	Information Technology Recruiter	Ecommerce Specialist	Human Resources Business Partner	
DevOps Engineer	Data Scientist	Digital Specialist	Partnerships Specialist	Social Media Coordinator	
Commercial Sales Representative	Growth Hacker	Quality Assurance Tester	Customer Specialist	Social Media Assistant	
Full Stack Engineer	Head Of Business Development	Head Of Partnerships	Insights Analyst		
Enterprise Account Executive	Head Of Digital	Technology Analyst	Product Analyst		
Data Engineer	Python Developer	Product Owner			

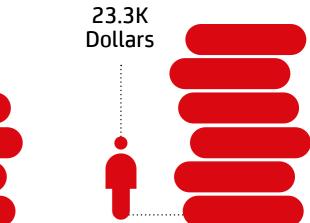




Equality also means education: the value of the online education market will reach approximately \$ 350 billion by 2025 and the engine of this growth is private sector innovation.



Learning losses due to school closures due to COVID-19 could result in an income loss of \$ 10 trillion, negatively impacting the growth and prosperity of the poorest countries.





### Climate Change

The increase in global warming poses enormous challenges for major economies. To limit the 1.5°C rise in the global temperature from pre-industrial levels, we must reduce current annual greenhouse gas emissions of around 50 billion tons to zero by 2050.

Massive public and private sector investment is therefore needed to meet the recent COP26 agreements and the Paris Climate Agreement.

Europe plays a key role in the implementation of global climate targets. This is not only because Europe contributes significantly to global CO2 emissions, and therefore a reduction of CO2 emissions in this region is imperative, but also because Europe should take a pioneering role in the production and implementation of green technologies due to its industrial competence and innovative capacity. Therefore, as part of the European Green Deal, all 27 EU member states have committed to making Europe the first climate-neutral continent by 2050.

It was also agreed to reduce emissions by at least 55% by 2030 compared to 1990 levels. Since 1990, the EU-27 have reduced their CO2 emissions by over 26%. The US and China have also recently committed themselves to improving climate protection in their countries and to achieving the goal of climate neutrality in the long term.

### **KEY NUMBERS**

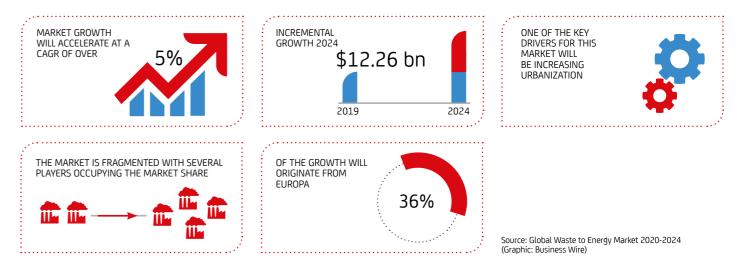
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CO2 emissions from natural gas combustion are expected to increase by more than 215 Mt CO2 in 2021 to reach an all-time high of 7.35 Gt CO2, 22% of global CO2 emissions.

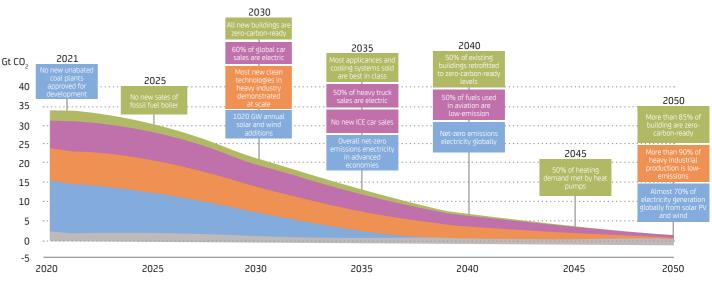


Gas use in buildings and industry accounts for much of the trend, with demand in public and commercial buildings seeing the greatest drop in demand in 2020 but the biggest anticipated recovery in 2021.

### GLOBAL WASTE TO ENERGY MARKET 2020-2024 | EVOLVING OPPORTUNITIES WITH BABCOCK & WILCOX ENTERPRISES INC. AND CHINA EVERBRIGHT INTERNATIONAL LTD. | TECHNAVIO



### NET ZERO TRANSITION TACTIC



Other Electricity and heat Industry Transport Buildings

Source: World Economic Forum, 2021





Emerging markets and developing economies now account for more than two-thirds of global CO2 emissions, while emissions in advanced economies are in a structural decline, despite an anticipated 4% rebound in 2021.



The Brussels-based think tank Bruegel estimates that Europe alone must increase its investment by around 2% of GDP per year to achieve this goal.



# Infrastructure 2.0

"Infrastructure 2.0" is the integration of smart technology into the traditional public infrastructure, mostly comprising physical assets such as roads, electricity grids or ports. For example, new roads and highways can be built that contain sensors, and track vehicles that are also equipped with sensors. The interaction of vehicle and road can then not only enable better traffic control, but also increase the operating efficiency of vehicles to reduce CO2 emissions. However, this requires the expansion of power and broadband networks and combines various aspects of the above identified trends.

A new integrated approach to investment in traditional and new infrastructure is the \$1.2 trillion bill passed by the US Congress on 5 November 2021. The Act provides for \$550 billion of investment in US infrastructure over a 5-year period. It includes funding for roads and bridges, as well as investments to improve broadband infrastructure and power grids. Investments are also planned for the development of a national network of charging stations for electric vehicles.

The challenges of climate change, a continuing growth in the global population, and efforts by governments around the world to strengthen their commitment to a carbon-free future will further reinforce this trend.

This is most recently reflected in the share of global primary energy generated only from low-carbon sources, which has increased significantly over recent years.

### **KEY NUMBERS**

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According to the City Motion Index (CIMI), which is an international index that measures the level of smartness of cities around the world, London ranked first among European and global smart cities in 2020, ahead of New York, Paris and Tokyo.

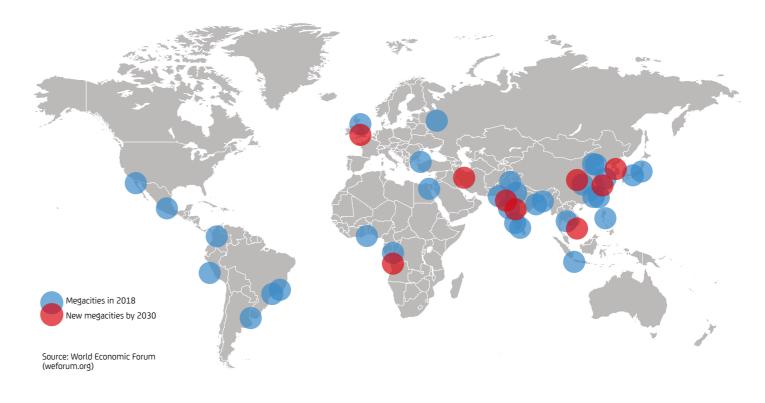


London is considered one of the most digital cities, so much so that in order to encourage the digitization of the city, the "London Office for Data Analytics" and the figure of the Chief Digital Officer were established a few years ago.



Reykjavik is characterized by three aspects of excellence: energy efficiency, based on a production of renewable energy equal to 70% of the total; cutting-edge public transport, thanks also

### MEGACITIES OF THE WORLD IN 2018 AND 2030





to the use of an app that allows greater usability and efficiency of the bus service and a system that provides for the active participation of citizens in the choices and life of the city.



In Europe, from 2035, internal combustion engines will no longer be produced. In the field of freight transport, the sale of new internal combustion commercial vans (ICE) will also end in 2035 and the sale of new heavy goods vehicles from 2040.



The transport sector emits 30% of total CO2 in Europe, of which 72% is attributable to road transport alone. Heavy commercial vehicles account for 26%, while light ones account for 12%.



# 溄 Healthy lifestyles

Another societal trend with huge implications is the growing awareness of healthy lifestyles. According to a study by Silvan et al. excluding the three risk factors of not smoking, normal weight, and low blood pressure extended the life expectancy of study participants by an average of six years compared to those participants who had all three risk factors.

Life expectancy has increased in all OECD countries over the past 50 years, but progress has slowed over the last decade. Furthermore, the COVID-19 pandemic led to life expectancy falling in most OECD countries in 2020. Even though the pandemic has slowed down the increase in life expectancy, the upward trend - supported by vaccination campaigns and better treatments for COVID-19 - is expected to remain intact, mainly due to the high interest in living a healthy lifestyle.

Higher national income is generally associated with greater longevity, particularly at lower income levels. Life expectancy is also, on average, longer in countries that invest more in health systems - although this relationship tends to be less pronounced in countries with the highest health spending per capita

An increasingly older population in the industrialised nations, which also have healthier lifestyles, will not only relieve the burden on health policy, but will also permanently change the way older people consume and work. Sectors that specialise in this area will likely have a higher growth potential in the long term.

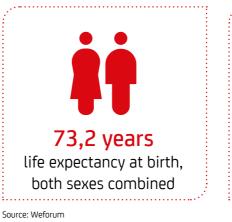
### **KEY NUMBERS**

For young women in the US, it is estimated that a sustained change from a typical Western diet to an optimal diet starting in their 20s would increase the life expectancy of more than a decade.

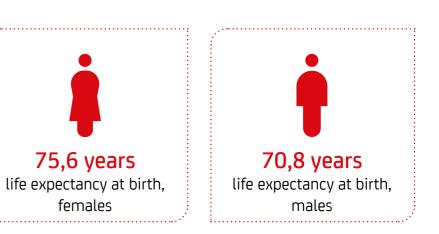
Singapore and Japan, where about 25% of the population is over 65, are already responding to this demographic change with dedicated private



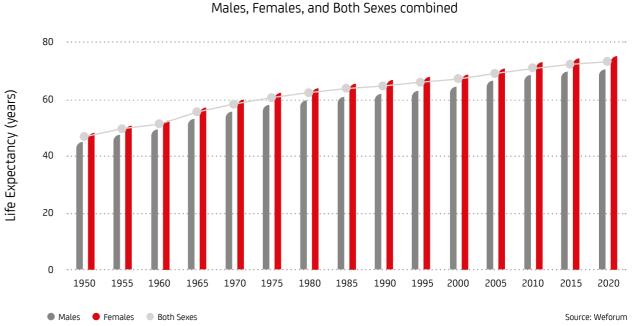
with healthier lifestyles, 80% of cardiovascular diseases and 30% of cancers can be avoided.



and public policies;



### LIFE EXPECTANCY IN THE WORLD FROM 1955 TO PRESENT



### **MICRO THEMES #06**

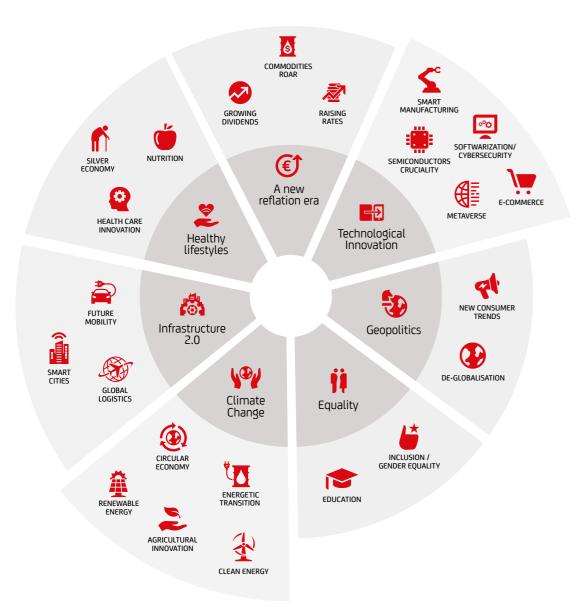




According to the International Food Information Council, 54% of all consumers and 63% of those over 50 worry more about the healthiness of their food and drink choices in 2020 than in 2010: healthiness is the most important driver, even more than taste and price.



# Overview of the single themes



### DESCRIPTION OF SINGLE THEMES/TRENDS



### **MICRO THEMES**



RAISING RATES The U-turn of central banks in Europe towards a speedy stop of loose monetary policy is provoking an increase in bond return:



### COMMODITIES ROAR

Commodities tend to overperform in the final stages of the economic cycle as they are used as protection against inflation risk



### SOFTWARIZATION/CYBERSECURITY Internet of Things (IoT) is rapidly changing the service demand: suppliers need to implement new solutions or modify existing ones: software, the virtual world and the cloud are just some of the key factors influencing the change.



METAVERSE The next version of the Internet could be a much more virtual rich and engaging experience, making it a clone of the real world. This digital phenomenon could allow a new way of working, influencing how we buy goods, how we learn, and how we socialise with each other.



E-COMMERCE The pandemic accelerated the structural growing trend favoring online over «brick & mortar» shopping, benefitting companies across several different sectors.



### DE-GLOBALISATION

Governments and companies are increasingly importing back production lines from abroad to become more resilient. This is particularly happening in the United States, in the United Kingdom, in Europe and in some Asian countries.



### EDUCATION

Alternative forms of education (i.e. distance learning) will become the new standard in the light of the high cost of traditional education.



### AGRICULTURAL INNOVATION Demographics and the need to reduce pollution and preserve water require major enhancements in crop yields though better machinery and more effective ways to raise and cure livery



### RENEWABLE ENERGY

Renewable energy is fast becoming a favorite. A powerful combination of favorable trends and demand trends is helping solar and wind to compete on par with conventional sources and win



FUTURE MOBILITY By 2030, mobility innovation could radically transform everything from power systems to the use of public space, while simultaneously introducing a new city dynamism.



### SMART CITIES

ENERGETIC TRANSITION

set in the Paris Agreement.

In the coming decades, historical levels of development will be required for the energy supply mix from fossil fuels to

renewable energy, and thus the targets

Environment monitoring, parking, safety & security, street lighting, waste management. The benefits of implementing smart cities are valued at \$ 20 trillion globally by 2026.



### NUTRITION

With more people emerging from poverty in emerging markets and higher health awareness in developed regions, nutrition is set to display a solid pace of growth in the coming years.



### SILVER ECONOMY

Population ageing is affecting not only the Western countries but will soon become a problem even for China. Healthcare spending must be more targeted and cost efficient.

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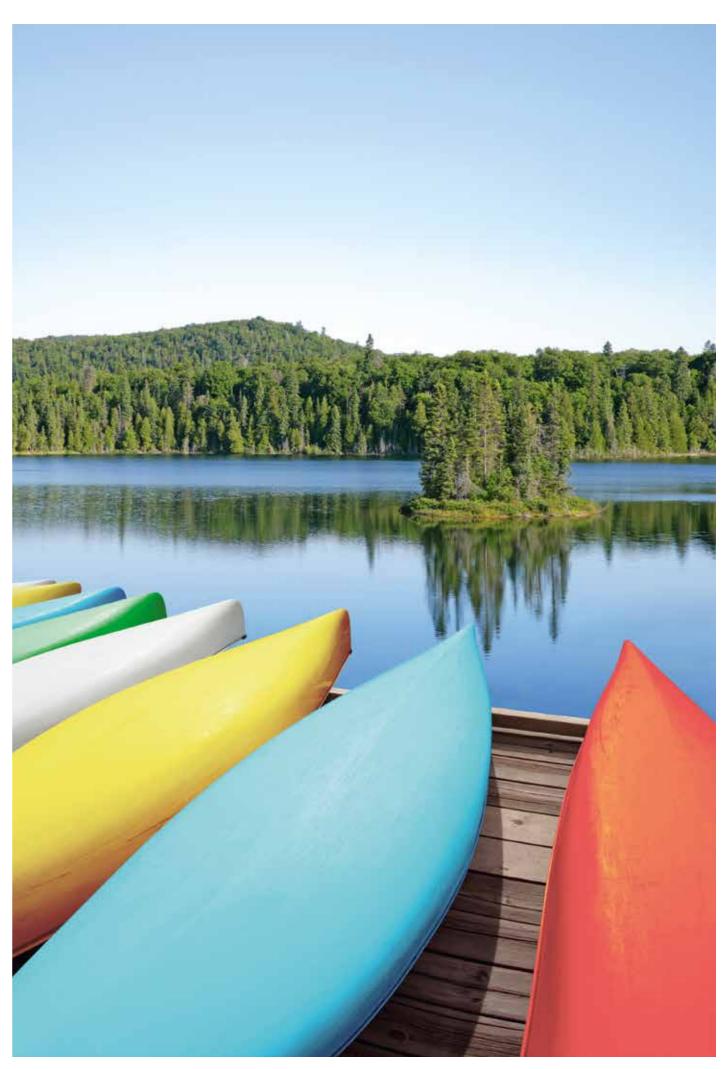
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