Supertrends.
Driving forces.

The Future. Now
Investing for the long term.

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Supertrends.
Driving forces.
What do the Hollywood blockbuster film Crazy Rich Asians, the gilets jaunes protests in France, and the global climate school strikes have in common? They all are a testimony to the sweeping societal changes we picked up on two years ago when we launched our five Supertrends. Political shifts lead to change in economic policy focus, while demographic trends precipitate technological innovation, as well as evolving preferences and needs.

Investors can react to these changes or, better yet, try to stay apace with them. Our five Supertrends aim to do the latter. They cover a broad variety of timely topics: security; infrastructure; population aging; the influence of the next generation; the environment; and technology, among others. The Supertrends are focused on structural driving forces and are designed to transcend economic ups and downs. They aim to improve a portfolio’s overall risk/return profile and outperform the broader market in the long run.

Our own conviction in these trends remains strong. We have added a couple of new angles like the seemingly unexciting but nevertheless significant rise of the pet industry as people increasingly adopt animals to alleviate loneliness, and we have sharpened our focus in existing themes like infrastructure and technology.

Michael Strobaek
Global Chief Investment Officer
Credit Suisse

Nannette Hechler-Fayd’herbe
Chief Investment Officer,
International Wealth Management
Global Head of Economics & Research
Credit Suisse
Authors

**Daniel Rupli**
Head of Single Security Research, Equity & Credit

Daniel is a Swiss-Certified Banking Expert with a Federal Diploma and has 25 years of experience in the banking industry.

**Uwe Neumann**
Senior Equity Analyst, Technology & Telecom

Uwe is a CEFA charterholder and has over 30 years of experience in the securities and banking business.

**Reto Hess**
Head of Single Security Research, Equity & Industrials

Reto has 15 years of experience in the banking industry and is a CFA and CAIA charterholder.

**Lorenzo Biasio**
Senior Equity Analyst, Healthcare

Lorenzo holds a master’s degree in Biology from ETH Zurich and was a management consultant to the pharmaceutical industry before joining Credit Suisse in 2014. He is a CFA charterholder.

**Jens Zimmermann**
Senior Equity Analyst, Energy & Utilities

Jens is a CFA charterholder and has over 15 years of equity research experience, working both as a sell-side and buy-side analyst.

**Julie Saussier**
Senior Equity Analyst, Consumer Goods

Julie has over 15 years of experience as a consumer analyst and is a CFA charterholder.
Supertrends staged an impressive recovery in the first four months of 2019, after 2018 put financial markets and our Supertrends to the test. In October 2018 equities fell across the board and continued to decline through the year-end, leading to negative absolute returns. Since their launch two years ago, however, all our five Supertrends have generated positive absolute returns, underscoring the Supertrends’ long-term appeal.

Our Supertrend “Technology at the service of humans” benefited from a strong start into 2018 and robust growth in the healthtech industry, warranting our diversification effort away from pure IT stocks. In the first quarter of 2019, this Supertrend remained much stronger than global equity markets, making it the best performer among our themes since inception. Our “Silver economy” Supertrend, focused on population aging, displayed its defensive characteristics, delivering a positive outperformance of the market in 2018, while somewhat lagging in Q1 given its lower-risk approach.

The more cyclical, growth-oriented “Millennials’ values” underperformed the market quite strongly in Q4, only to rebound even more sharply in Q1 2019. Meanwhile, “Angry societies – Multipolar world,” which identifies potential in both developed and emerging market stocks from political and economic shifts, performed roughly in line with the global equity market, as emerging markets detracted from performance in 2018. That being said, the emerging market subtheme was the strongest performance contributor of that Supertrend in Q1 2019. As for our Supertrend “Infrastructure – Closing the gap,” it continued to lag behind. This prompted us to subject it to a detailed review, which reinforced our conviction in the infrastructure theme’s relevance.
Increasingly relevant

In the third edition of our publication, we again reiterate all five Supertrends, including our 20 subthemes. Numerous events in the last twelve months only served to underscore their relevance.

Take our politically oriented “Angry societies – Multipolar world” Supertrend: the last twelve months were characterized by continued populism, trade disputes and a focus on domestic economies, not only in the USA but around the globe. The political establishment continues to cede ground to political outsiders, as demonstrated by the most recent elections in Ukraine and Spain.

Over the last year, we also saw intense discussions among European Union (EU) countries about defense spending, a development we pointed to when we first launched our Supertrends. For now, EU countries have reiterated the 2024 target for their NATO defense spending increases, but they remain under pressure from the USA to eventually contribute more. We are also seeing a growing need for stricter cybersecurity as the volume of big data continues to surge. Last but not least, in its latest report on emerging market consumers, the Credit Suisse Research Institute confirmed that this topic remains in the focus of investors. We therefore believe that this Supertrend’s combined investment focus on national champions, security and EM consumers remains relevant.

Turning to our “ Millennials’ values” Supertrend, we are pleased to have brought this topic to the fore two years ago as it has become much talked about. In recent years, the Millennials have become an increasingly important focus of companies, driving product trends and development. Corporate marketing narratives and operational focus have become strongly geared to sustainability and environmental, social and governance criteria, a cause of serious concern particularly for Generation Z. Digitalization, gamification, education and entertainment are just a few of the areas that we see as providing interesting investment opportunities.

Trends evolve with technology

Population aging, which our “Silver economy” Supertrend focuses on, has also attracted continued research and coverage, with the world’s senior population expected to grow to over two billion by 2050. China, for instance, aims to establish a comprehensive elderly care system by 2022. Furthermore, biopharmaceutical companies are allocating disproportionate research and development budgets to oncology, heart disease and other age-related diseases, while merger and acquisition activity in related segments of the healthcare market has risen to USD 481 billion or almost 2,000 deals since the inception of our Supertrends, demonstrating its attractiveness for companies and, by extension, investors.

Staying with healthcare, we are seeing the industry become more and more reliant on technology in order to improve efficiency, strengthen diagnostics and move toward greater automation. “Healthtech” (healthcare and technology) has become a buzzword in the last two years, making this area an ideal candidate for our “Technology at the service of humans” Supertrend, which goes beyond pure IT.

This Supertrend also extends to augmented and virtual reality, an area that is expected to reach the size of the current smartphone market and may well eventually extend to healthcare. 5G, which we cover in our “Digitalization” subtheme, is starting to be adopted around the world.

5G is also an important topic we consider in our “Telecom infrastructure” sub trending “Infrastructure – Closing the gap.” In fact, we expect 5G to become a key driver of telecom infrastructure in the coming years. China and the USA have taken the lead in terms of spending for the build-out for the 5G radio access network (RAN) infrastructure. Another key topic is climate change, which is likely to put more public pressure on politicians to curb emissions, as climate activism has recently been on the rise. Thus, we believe that the energy transition from fossil fuels to renewables will make energy infrastructure investments a
key priority in the years to come. Affordable housing continues to be a priority that we examine in this Supertrend, as major cities like Berlin and London, faced with steep rent increases in recent years, adopt schemes to counter that development.

Something new

Even though we stand by our existing Supertrends, we constantly look for new trends and features to bring into our long-term thematic framework. With this update, we again introduce new angles that should help us achieve an even broader diversification and tap additional investment opportunities.

Within our “Silver economy” Supertrend, we have been reading more and more about the growing number of elderly living alone, but enjoying the company of pets. This has contributed to an overall increase in the adoption of pets and increasing demand for premium pet care products. After all, animals have their own dietary, veterinary care and other supply needs, making this an attractive segment of the consumer market. Given the significant potential the pet care market offers – Grand View Research expects it to grow to USD 202.6 billion globally by 2025 – we have added this angle to our senior consumer choices subtheme.

In our “Technology at the service of humans” Supertrend, we broaden the scope of our “Digitalization” subtheme further, focusing on 5G and how it impacts big data. After adding the blockchain technology last year, we are now also looking at financial technology, so-called fintech. Big data as well as blockchain technology are spreading into the financial service industry and driving innovation in areas such as payment services. These adjustments allow us to better diversify this Supertrend beyond the large IT corporations, providing investors with a wide range of investment opportunities.

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Turn to the pages ahead for more details about investing in the Supertrends that are shaping our future.
Angry societies

Around the world, there is a shift away from the political establishment toward populist leaders and outsiders who pledge to prioritize national interests. Populist parties now form part of every third European government, according to Swedish think tank Timbro. In the USA, there are signs that society’s polarization may further widen ahead of the 2020 presidential election. Relatedly, the shift towards a multipolar world is evident in the USA’s trade tensions with China as well as with neighbors and allies. We believe that security firms, national champions and brands in developed markets, and consumer companies in emerging markets (EM) are best placed to adapt to this changing socio-economic backdrop.
1.1 National champions and brands

**Buy domestic**
While populism has been on the rise over the past decade, the world began to feel the economic repercussions last year as trade conflicts intensified. Indeed, the World Trade Organization (WTO) sees trade tensions as the biggest risk to its global trade growth forecasts for this year and next. Between mid-October 2017 and mid-October 2018, WTO members imposed 137 new trade-restrictive measures including tariffs, quantitative restrictions or export duties affecting USD 588.3 billion worth of trade – seven times more than in the prior-year period.

The World Economic Forum’s Global Risks Report 2019 notes that “global risks are intensifying but the collective will to tackle them appears to be lacking. Instead, divisions are hardening.” Indeed, economic confrontation/frictions between major powers as well as the erosion of multilateral trading rules and agreements were the top short-term risks cited by respondents in the WEF report.

In 2019, trade relations will likely remain high on the global agenda. The USA and China continue to pursue trade negotiations but have yet to hammer out an agreement. Europe also appears to be rethinking its approach to trade. Earlier this year, Germany’s Economy Minister Peter Altmaier released the National Industry Strategy 2030, which calls for national and European champions to gain critical mass in order to thrive in the high-tech sector. This plan can be viewed as a response to other countries’ recent efforts to boost their domestic economies and high-tech industries, including US President Donald Trump’s America First doctrine and China’s Made in China 2025 initiative.

We believe national champions (major domestic companies with a large workforce in their home country and strong regional demand) as well as national brands (national champions with well-respected brands and a loyal global customer base) remain well placed to benefit amid the evolving international trade environment. When trade tensions heated up and equity markets came under pressure in 2018, the national champions outperformed global equities. They have also posted attractive absolute returns during the current market rally, providing an attractive risk/reward profile, in our view.

1.2 Security and defense

**Threats at home**
Safety and security remain a key concern for many people. Crime and violence were among the top worries in a monthly survey of adults in 28 countries conducted by Ipsos Public Affairs. In contrast, concerns about terrorism have abated in some developed countries including France, Germany and the USA since we launched our Supertrends in the spring of 2017, according to Ipsos survey data.

<table>
<thead>
<tr>
<th>What worries the world</th>
<th>March 2019</th>
<th>July 2018</th>
<th>July 2017</th>
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<tbody>
<tr>
<td>Financial/political corruption</td>
<td>0%</td>
<td>10%</td>
<td>20%</td>
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<tr>
<td>Poverty &amp; social inequality</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>20%</td>
<td>30%</td>
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<tr>
<td>Crime &amp; violence</td>
<td>30%</td>
<td>40%</td>
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<td>Healthcare</td>
<td>40%</td>
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<td>Education</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>Taxes</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>Moral decline</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>Immigration control</td>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Environment</td>
<td>90%</td>
<td>100%</td>
<td>110%</td>
</tr>
<tr>
<td>Terrorism</td>
<td>100%</td>
<td>110%</td>
<td>120%</td>
</tr>
</tbody>
</table>

Source
Ipsos Public Affairs, What worries the world, March 2019 (interviews conducted between 22 Feb and 8 March 2019, international sample of 20,019 adults, Ipsos Online Panel system), July 2018, July 2017; Credit Suisse
But the threat of terrorism is still on people’s minds, particularly given this year’s tragic terrorist attacks in New Zealand and Sri Lanka. Hence, we would expect continued demand for security guards and surveillance technologies, such as smart cameras, drones and access control.

**Defense technology race**

Within the defense space, the focus remains on new technologies. According to the US Department of Defense, technological advancements in fields such as advanced computing, big data analytics, artificial intelligence (AI), robotics, directed energy, biotechnology and hypersonics are key to “win wars of the future.” The USA remains by far the biggest spender on defense: US President Donald Trump has proposed a 2020 budget of USD 718.3 billion for the Department of Defense to fund efforts against China and Russia. The US defense budget includes the largest research and development request in seven decades, covering investment in new technologies and cyber security. We expect this global technology race – and investment – to continue for the foreseeable future. However, the long-term outlook for defense spending is more uncertain given the growing budget deficit in the USA.

**Urgent need for data protection**

We see data protection solutions as the most promising area for investors within security and defense. Social media applications continue to expand rapidly, with Statista forecasting some 2.8 billion users in 2019. At the same time, the number of connected devices such as smart phones, smart homes or intelligent speakers is increasing rapidly. Indeed, Gartner forecasts that more than 12.9 billion consumer Internet of Things (IoT) devices such as smart TVs will be in use by 2020, compared to 4 billion in 2016.

As a result, the amount of personal data available is increasing tremendously. According to the European Commission, the potential value of the personal data of European citizens could reach almost EUR 1 trillion annually by 2020. However, a steady stream of data breaches and the misuse of personal data have provoked outrage from consumers and politicians alike. Indeed, the scale of data breaches in the first half of 2018 already surpassed the number of breaches for all of 2017, according to Experian’s Data Breach Industry Forecast 2019. Experian’s top data breach predictions for 2019 include a cloud breach, saying “it’s a matter of when, not if, a top cloud vendor breach will occur.” Attackers could also go after vulnerabilities in touch ID sensors or facial recognition, according to Experian.

In response to these ongoing breaches and misuses, regulation has been strengthened over the last year. In particular, the European Union’s General Data Protection Regulation (GDPR), which came into force in May 2018, has set a global standard for data protection and privacy. Among the GDPR rules, personal data may not be processed unless the user has given their consent. Companies that violate the GDPR rules on record-keeping, security, breach notification or privacy could face penalties of up to EUR 20 million or 4% of their global turnover. California has also made inroads with regard to data protection. The California Consumer Privacy Act was signed into law in 2018 and takes effect in 2020. Due to the size of the California economy, the new law will likely have a large impact on businesses. In terms of US-wide data legislation, the probability appears fairly high given bipartisan support.

Interestingly, given the rising regulatory pressure and corresponding financial consequences, only 52% of companies surveyed said they had a highly effective data breach response plan in place in 2018, up from 49% in 2017, according to Ponemon Institute’s Sixth Annual Study “Is Your Company Ready for a Big Data Breach?” Further, the survey showed that only 20% said they are fully prepared for an IoT attack, a low number given the proliferation of IoT devices. These trends confirm our view that companies will need to continue investing in processes and technology such as cyber security to protect personal data.
1.3 Emerging market consumers

Travel a growth spot
In an increasingly multipolar world, the growth of emerging markets – and EM consumers – remains an important subtheme. September 2018 was a tipping point for the world, according to a Brookings Institution report. For the first time in history, just over half of the world’s population lived in households considered middle class or rich. And the middle class should continue to increase at a rapid rate: from 3.6 billion people currently to 4 billion by the end of 2020 and 5.3 billion by 2030, according to the Brookings report. Asia is the source of much of this growth: almost 9 in 10 of the next billion middle class consumers will come from this region, underscoring its huge potential.

Despite the promising outlook, the performance of EM consumer stocks in 2018 proved rather disappointing. This was due to overall weakness in EM equities, increased uncertainty stemming from trade disputes, fiscal tightening as well as country-specific reasons such as elections (e.g. in Brazil). However, considering the positive longer-term fundamentals, we see phases of weakness as possible buying opportunities for EM consumer stocks, for example the Q4 correction and subsequent rebound in Q1 2019. Indeed, the mood in EM has improved of late. The Credit Suisse Research Institute’s Emerging Consumer Survey 2019 confirmed that the average readings for survey sentiment indicators (personal finances and income expectations) increased in 2018. While India remains the most attractive country in terms of sentiment, Russia and Turkey had the weakest survey readings.

With higher disposable income, discretionary spending among EM consumers should increase, starting with cheaper goods like cosmetics, then expanding to large ticket items such as cars and travel. In recent years, car ownership has increased in many EMs. But EM Millennials, an important target group as they earn above-average wages, could prove to be a spoiler. Fewer consumers aged 18-29 in the survey in Brazil, China, India and Mexico said they intended to buy a car.

Going on vacation remains attractive for EM consumers. While the survey showed that the share of EM consumers who plan to take at least one vacation declined in five countries, levels are still high. Accordingly, air traffic remains a bright spot – the number of consumers flying to their holiday destination is steadily increasing.
The International Air Transport Association (IATA) expects the number of air travelers will soar to 8.2 billion in 2037, a compound annual growth rate of 3.5% during the next two decades. The biggest growth driver will be the Asia-Pacific region, accounting for more than half of new passengers, IATA says. The organization expects that China will surpass the USA as the largest aviation market in the mid-2020s. India will take third place, leapfrogging the UK, around 2024. And Indonesia will jump to fourth place by 2030, according to IATA. We believe that airlines, airports, duty free operators, hotels, as well as tour operators all stand to benefit from the rapid growth in EM air traffic and tourism.

### Investor takeaways

The key beneficiaries of this first Supertrend are, in our view:

- **National champions**, which should be better protected from trade tensions and protectionist government measures. National brands – national champions with strong brands – should be even better insulated against trade worries.

- **Companies that provide physical and cyber security** should benefit from higher spending. Companies offering solutions to effectively protect personal data should benefit from an increasing focus on personal data protection.

- **EM consumer companies**, especially those with a strong online offering, that are set to benefit from the growing middle class.

- **EM travel agencies**, hotel or restaurant chains or airports and airlines that benefit from increasing EM travel, especially domestically.

#### Data breach (data leak, data spill): A data breach is an intended or unintended release of private or confidential data such as medical records, financial records or credit card details – either in electronic or paper format.

#### GDPR: The General Data Protection Regulation (GDPR) is designed to harmonize data privacy laws across Europe and to protect and empower all EU citizens data privacy.

#### Middle class: Households with spending of USD 11-110 per day per person in 2011 purchasing power parity (Brookings Institution).
Infrastructure investments have been on the back burner over the past year as simmering global trade tensions and rising interest rates weighed on the sector. Underlying fundamentals remain strong, however, and this theme should again attract attention this year as headwinds weaken and new catalysts emerge. Among these, China’s Belt and Road Initiative is pushing into Europe and will likely spur more infrastructure investment in the region. Furthermore, efforts by the G20 to better enable the private sector to invest in public infrastructure should help boost investment in this sector.
Infrastructure renaissance
The collapse of Italy’s Morandi bridge in the summer of 2018 was a tragic reminder of the struggle that many developed countries face in dealing with outdated infrastructure. Developing countries face their own challenges as they seek to build new infrastructure for clean water, energy and transport. Indeed, the G20’s Global Infrastructure Hub initiative forecasts that the global \textit{infrastructure gap} will widen to USD 15 trillion by 2040.

Several catalysts should bring the infrastructure theme back into focus for investors. At the end of 2018, G20 leaders endorsed the promotion of infrastructure as an asset class to help address the above-mentioned funding gap. The G20’s roadmap aims to improve the standardization of documents for procurement and financing, among other measures, making it easier for private capital to invest in public infrastructure projects worldwide.

In addition, China’s Belt and Road Initiative – a driving force for global infrastructure development – is now on Europe’s doorstep. China signed a memorandum of understanding with Portugal in December 2018 and Italy in March 2019 covering Chinese infrastructure investments in their respective countries.

Furthermore, governments are facing greater pressure to adopt renewable energy targets as the global climate movement gains momentum. Such policies will require major infrastructure investments to ensure a smooth transition from fossil fuel-generated electricity to renewable energy.

Finally, the monetary policy of major central banks including the US Federal Reserve has turned more accommodative of late, transforming a headwind for infrastructure investment into a positive catalyst in 2019. The MSCI World Infrastructure Index’s recent rally appears to support this view.

\textbf{Keywords} see end of chapter.
2.1 Transport

Moving faster
Within our transport subtheme, we have increased our exposure to infrastructure operators (airports, toll roads and railways) and reduced our exposure to suppliers of materials and construction services for transport projects.

While rising interest rates acted as a headwind for infrastructure investments in 2018, the upside is that higher rates are linked to increasing inflation expectations. If inflation picks up in the USA and Europe, infrastructure operators with regulated business models and inflation-protected cost-plus pricing formulas could benefit as they can raise prices to pass on the cost of inflation to their customers.

The transport subtheme provides an additional benefit in that it tends to be less exposed to economic cycles. For example, transport infrastructure operators are quasi-monopolies as they manage or own assets that are almost impossible to replicate. These companies typically generate stable revenue streams from large infrastructure assets over several decades and are thus less affected by ups and downs in the overall economy.

They also offer robust growth profiles. Airports of Thailand Pcl, for instance, has benefited from strong organic growth in passenger numbers and traffic. And Spanish toll road operator Ferrovial SA has recorded robust growth from the highways it manages in Canada and the USA.

2.2 Energy and water

Mind the climate gap
Our “closing the gap” slogan also applies to the shortfall in meeting greenhouse gas emission targets. The reduction of energy-related carbon dioxide (CO₂) emissions is at the heart of the debate concerning the transition to renewable energy sources. Current government targets continue to fall short of the emission cuts that will be necessary to limit global warming to 1.5 °C above pre-industrial levels in coming decades, a target established in the 2015 Paris climate accord. The Intergovernmental Panel on Climate Change (IPCC) describes different policy pathways to net zero carbon emissions by 2050 to avoid breaching the critical 1.5 °C ceiling. One key component requires significant growth in renewable energy.

The public pressure on politicians to take action will only intensify as climate activism gains momentum. Government policy is therefore expected to become more ambitious when it comes to setting short and medium-term renewable energy targets.

Renewable energy projects will thus need to be built faster than previously planned to close the emission reduction gap. Accordingly, the International Renewable Energy Agency (IRENA) projects a strong increase in renewable energy sources (wind, solar, hydro) as a share of total electricity generation worldwide by 2030.

In the transition toward renewable energy, nuclear energy (in addition to natural gas) continues to be an important bridge fuel. However, it still suffers from a negative public image following the Fukushima nuclear disaster in 2011. In coming years, there are likely to be more nuclear plant closures than new projects: IRENA projects that the global share of nuclear energy as a fuel for power generation will decline from 10% in 2015 to about 4% by 2050.

These policy changes will have a profound impact on utility companies. Many of the large electricity generators are adding wind and solar energy to their generation mix. In our energy and water subtheme, we prefer electricity companies that have already started to adapt their business models to become leading global renewable energy operators.
Another infrastructure gap is the acute water supply shortage in the Middle East and North Africa (MENA) region, where 6% of the world’s population lives with just 1% of the world’s freshwater resources, according to the World Bank. As a result, 13 MENA countries suffer from an absolute water scarcity. To close this water gap, MENA has become the largest desalination market in the world and now accounts for nearly half the world’s desalination capacity, according to World Bank calculations.

However, desalination in the Middle East has a high carbon footprint as the region is reliant on energy-intensive thermal desalination plants. To reduce carbon emissions, the region is experimenting with less energy-intensive processes including solar-powered and reverse osmosis desalination.

Besides desalination, the region also uses wastewater treatment, groundwater recharge and the capture of rain and storm water to recharge aquifers as less energy-intensive ways to increase water supply.

The World Bank estimates that the insufficient water supply and sanitation costs MENA about USD 21 billion per year in economic losses. If the region cannot close or at least narrow its water gap, the World Bank estimates that climate-related water scarcity will cost the region 6% – 14% of its GDP by 2050.

### 2.3 Affordable housing

**Rocketing rents**

Finding affordable housing remains a concern that affects households in both developed and in emerging market cities. Germany provides a good example, where rental costs for an 80-square-meter apartment in large cities have soared over the past decade: Berlin has seen rents surge by 80%, Munich by 65%, Stuttgart by 60% and Frankfurt by 50%, according to the Spring Real Estate Industry Report 2019 from the ZIA German Property Federation.

In response, activists in Berlin have started collecting signatures for a referendum proposal that would require landlords that own more than 3,000 apartments to sell them to the city – a move that the Berlin Senate reckons could cost as much as EUR 36 billion. Another explanation for the explosion in rents, according to The German Institute for Economic Research, is rising construction costs due to more stringent building regulations as well as renewable energy standards.

In London, mayor Sadiq Khan plans to address the current housing crisis by exempting private housebuilders from revealing their project’s profitability when at least 35% of the development is earmarked for affordable housing, a move aimed at making the planning process go faster. The goal is to reverse the trend of declining share of affordable housing in London’s newly built housing stock.
With these developments in mind, we seek to invest in rental housing companies, as well as in homebuilders that construct lower-income housing in developing markets and entry-level homes in developed markets.

2.4 Telecom infrastructure

Building on the promise of 5G

Our telecom infrastructure subtheme is focused on infrastructure equipment that is required for the rollout of the new fifth-generation telecom technology. 5G will be the next major investment cycle for the mobile industry. As a result, mobile data traffic is expected to expand almost five-fold by 2024 to 24 gigabytes (GB) per user per month, according to the GSM Association (GSMA).

Mobile carriers in the USA and South Korea launched 5G services in 2018, making them the first in the world to do so. The next major wave of commercial 5G services launches are expected to take place in Japan, China and Europe. Strategy Analytics predicts that China will be the 5G market share leader with a 46% global market share in 2019 (compared with 16% for the USA). Globally, the market for 5G radio access network (RAN) infrastructure is projected to grow at a 67% compound average growth rate between 2018 and 2022, reaching a size of more than USD 7 billion.

The company selection in our telecom infrastructure subtheme is focused on 5G-related infrastructure providers such as data centers, telephone tower companies and equipment manufacturers. Telephone tower companies should generate strong growth from the upcoming 5G implementation as demand for wider bandwidth increases and the transmission distance between telecom towers must decrease to enable seamless 5G coverage. As a result, more towers will be required or mobile providers will share towers by merging them into new entities to increase their respective coverage. The recent announcement from Telecom Italia and Vodafone Italia to enter a 5G network sharing agreement and potentially combine their telecom towers in Italy into a single entity seems to confirm this view.

Investor takeaways

The key beneficiaries of this second Supertrend are, in our view:

- Operators of transport infrastructure such as airports, toll roads and railways with regulated business models and inflation-protected cost-plus-pricing formulas, which allow them to raise prices in order to pass rising inflation on to customers.
- Utility companies with a growing share of renewables in their generation mix. This energy transition requires smarter transmission lines (smart grids) and energy storage technology to keep electricity supply reliable as more power comes from renewables.
- Rental housing companies as well as homebuilders that construct lower-income housing in developing markets and entry-level homes in developed markets.
- Companies that provide infrastructure equipment for the rollout of the new 5G telecom technology (data centers, telephone tower companies, equipment providers).

- **Infrastructure gap:** The shortfall between needed infrastructure investments and the projects actually built.
- **Net zero carbon emissions:** All greenhouse gas emissions would be eliminated or offset by negative emissions, which will be necessary to limit global warming to 1.5 °C above pre-industrial levels by 2050. To reach this goal, renewable energy generation capacity in the electricity sector will need to grow significantly.
Technology investments have had a strong start to 2019, providing a positive backdrop for our Supertrend “Technology at the service of humans.” Structural growth trends such as increasing data usage and the need for greater efficiency should continue to support this Supertrend. The race between the USA and China for global leadership in artificial intelligence (AI) and automation provides an important long-term catalyst in the deployment of 5G, the adoption of AI applications and digital automation. Both areas – AI and automation – are also expected to become increasingly important in the digital health, fintech and education markets, which are expected to grow strongly in the years ahead.
3.1 Digitalization

Ones to watch: 5G and fintech
The adoption of 5G mobile networks has been much talked about in recent months. Discussions at the 2019 Mobile World Congress (MWC), for instance, showed that 5G is expected to provide myriad new use cases for virtual and augmented reality; artificial intelligence; automation, namely the Internet of Things (IoT); and healthtech.

In “The Mobile Economy 2019” report, the GSM Association says it expects the number of connected devices to triple to 25 billion between 2018 and 2025 and global IoT revenue to quadruple to USD 1.1 trillion, supporting our conviction that 5G is driving the next phase of digitalization. By 2024, 5G networks are expected to carry 25% of mobile data traffic, a nearly eight-fold increase from 2018, according to the Ericsson Mobility Report of November 2018, while global monthly data traffic per subscriber is expected to increase at a compound annual growth rate of around 30% to 24 GB by 2024. On the back of 5G deployment, we expect investments in telecom infrastructure to increase over the next 3–5 years.

As digitalization progresses, one of the areas we believe will become increasingly important is financial technology (fintech). Innovation in this area has been driven by changing customer needs, technological progress, rising adoption rates and regulatory changes – drivers we expect to further accelerate. And this innovation will likely lead to disruption: firms like Revolut, which offers low-cost credit cards, are putting pressure on established revenue streams.

At the same time, an active fintech environment forces larger incumbents to continuously innovate. JPMorgan, for example, spends over USD 11 billion annually on technology (almost 20% of its cost base), underscoring the importance of its digital offering to clients. In recent months, investor

Keywords see end of chapter.
Interest has focused on payment services, where volumes and growth rates are high and technological capabilities are quickly evolving. A prominent example is the Apple credit card, a virtual card built into the Apple Wallet app. From an investment point of view, we favor focusing on credible, technology-enabled niche fintech providers, as well as larger providers with financial firepower.

### 3.2 Virtual reality/augmented reality

**Opening up to a new world**

Over the last two years, discussions regarding virtual and augmented reality (VR/AR) have focused mainly on the applicability of VR/AR technology. Even so, only a few applications have emerged. Given high costs, adoption rates have been rather slow so far. However, we expect VR/AR to gain greater prominence in 2019, as expectations for the technology are lowered and better, cost-efficient solutions emerge. In our opinion, mobile AR will be a key driver of the VR/AR market going forward, as the development of AR applications is expected to accelerate.

In 2018, enterprises in different industries explored the AR technology extensively, recognizing its value. As enterprises increase their focus on the commercial use of VR and AR, new investment opportunities should emerge. According to VR analytics group Digi-Capital, venture capital investments in VR/AR amounted to USD 7.2 billion between Q4 2017 and Q3 2018, USD 4 billion of which were invested in computer vision/AR technology. In addition, the number of AR-compatible smartphone users is growing, reports ARtillery Intelligence, reaching 762 million as of July 2018. The gaming sector, in turn, is seeing a transition into streaming, with recent initiatives by Apple, Google and Snap to launch game streaming platforms or services a case in point. In our view, these initiatives should promote the global adoption of mobile gaming or streaming, offering significant new growth potential for publishers and content providers.

Revenue estimates for the consumer VR market for 2019/2020 (USD 6.2 billion/9.6 billion) are still higher than for AR/mixed reality (MR) (USD 4.4 billion/USD 7.2 billion), according to game research firm SuperData. However, a 2018 study by application software firm PTC reveals that industrial enterprises have started piloting AR projects, enhancing their understanding of AR’s potential in improving efficiency, productivity, safety and customer experience. Most of these companies expect to launch AR-based solutions over the next 12 months, indicating a high pace of adoption. These developments strengthen our view that 2019/2020 will witness significant AR integration into enterprises, both in terms of customer applications and internal operations.

![Bye-bye real world](chart.png)

**Source**

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3.3 Artificial intelligence

The race for global leadership
The future of AI remains promising, opening attractive new avenues for companies. We expect AI to help companies increase revenues by identifying customer needs, reducing costs and enabling efficiency gains. Furthermore, AI applications are continuously improving and increasing in range, providing opportunities for industries and investors.

In 2018, several large technology companies accelerated their efforts to develop AI applications. Alphabet-owned DeepMind, for example, further improved its computer program AlphaZero, which masters games like chess, and continued to actively develop AI technologies related to healthcare. Separately, AI programs from both Microsoft and Alibaba beat humans in a Stanford reading comprehension test and accurately translated news stories from Chinese to English.

On a larger scale, AI growth could also be significant for global economies. The McKinsey Global Institute estimates that AI could potentially boost global economic activity by around USD 13 trillion by 2030, which could mean an additional 1.2% GDP growth per year. In an effort to capture the potential that AI offers, recent years have brought to the fore an intensifying race for global AI leadership between the USA and China. In 2017, China published its Next Generation Artificial Intelligence Development Plan, establishing how it intends to become the world leader in AI by 2030 with a domestic industry worth nearly USD 150 billion. Meanwhile, the US administration’s summit on AI in May 2018 highlighted the USA’s goal to maintain American leadership in AI. To that end, US President Trump signed the American AI Initiative in February 2019, directing federal agencies to invest more in AI research and development. Efforts to boost research investments are also underway in Europe, with the EU signing the Declaration of Cooperation on AI in April 2018. These examples underscore how economies are recognizing that lagging behind in this area may become a long-term disadvantage.

3.4 Industry 4.0

Robots for hire
2018 was a subdued year for automation, as a majority of automation companies experienced decelerating revenue growth. Many of these companies are cyclical and therefore felt the slowing global economy. In Japan, for instance, robot shipments declined. In the USA, demand from the auto industry weakened, but the non-automotive segment remained strong. Nevertheless, the adoption of robots is continuing, with Amazon a case in point: in 2018 the company further increased the number of autonomous warehouse robots while reducing the number of temporary workers.
Despite cyclical headwinds, we believe that the outlook for automation remains attractive. We expect automation will not only be driven by the continued rise in factory applications, but will become increasingly important beyond the industrial sector. For instance, machines that sequence DNA have become materially cheaper in the last 20 years, which makes the work on DNA synthesis, a large bio automation market, much more viable. We identify numerous other compelling non-industrial areas of growth, for instance smart home automation, retail automation, workflow automation and transport automation, to name but a few.

### 3.5 Healthtech

**New avenues of treatment**

Healthtech, where information technology meets healthcare applications, has shown considerable growth in recent years, attracting investor interest. Four distinct areas stand out: diagnostics, therapeutics, care delivery and support functions.

In diagnostics, the most exciting health technology applications are modern imaging and genetic analysis techniques that are less invasive than previous standards of care and have scope to further reduce invasiveness. Using such techniques, physicians are able to obtain highly detailed information of a patient’s body without large doses of radiation. Similarly, using genetic analyses, physicians can gain clear-cut patient information without having to resort to other measures that often leave room for interpretation.

In therapeutic health technology, the innovative frontier currently encompasses robotic surgery and some newer genome-directed biotechnological approaches. The latter notably include areas like gene therapy – which in the past 12 months saw a flurry of merger and acquisition activity – and [RNA (ribonucleic acid) technology](#). The initial public offering (IPO) of Moderna in 2018 highlighted to what degree investors appreciate this technology – it became the biggest biotechnology IPO to date.

The care delivery aspect of healthtech currently revolves around telehealth offerings, which enable care delivery at a distance, be it kilometers or continents. One particular provider, Teladoc Health, by now administers millions of virtual physician visits (via mobile/tablet/PC) per year and continues to grow strongly. Not only does such technology reduce system-wide healthcare costs due to greater efficiency, but it also makes it possible to extend care to regions that lack a sufficient number of physical healthcare locations.
Lastly, the support function of healthtech in our view provides some lower-visibility, but highly essential services. In the global healthcare system, where the records market remains highly fragmented, the most important near-term opportunity is transforming electronic healthcare records into a more relevant, useful and transferrable tool while maintaining the confidentiality and security of records. Such tools may even integrate an ever-increasing wealth of data sources (e.g. wearable devices such as watches). It is our understanding that apart from healthcare-centric software vendors, traditional technology companies have also ventured into this field, albeit silently so far. It is a market that deserves watching.

Investor takeaways

The key beneficiaries of this third Supertrend are, in our view:

- Telecom equipment, semiconductor firms with strong exposure to the rollout of 5G networks; tower companies and construction firms that maintain and implement 5G networks.
- Software, IT services and semiconductor companies that are enablers for AI, VR & AR and industry automation processes.
- Internet platform providers benefitting from the disruption of traditional businesses, for instance in agriculture, healthcare and media.
- Companies in the healthcare sector that use technology to improve execution in the areas of diagnostics, sequencing, therapeutics and care delivery.

Fifth generation (5G): Set to greatly enhance the speed coverage and responsiveness of wireless networks. 5G is expected to be up to 100x faster than a typical cellular connection.

RNA technology: Ribonucleic acid (RNA) technology includes RNA interference approaches to silence specific genes or messenger RNA technology to mimic the presence of certain genes.
At the heart of the “Silver economy” Supertrend lies the expectation that the world’s senior population will double from just short of a billion senior citizens at present to over two billion by 2050. On a global scale, this demographic shift has accelerated in recent years and is continuing with strong momentum. What is appealing about this Supertrend is that, regardless of the state of the world economy, politics and other more medium-term drivers, the population will continue to age, creating new needs in areas such as healthcare, insurance and funding solutions, consumer and property markets.
4.1 Therapeutics & devices

Reining in healthcare costs
We continue to believe that healthcare is the sector most affected by an aging population. The incidence of many chronic diseases increases with age, which is why a larger elderly population is tied to a disproportionate rise in healthcare expenditure. Healthcare costs are expected to continue to rise at a rate significantly above the growth of countries’ gross domestic products. This raises an important debate around healthcare costs and calls for solutions to contain them despite demographic developments. Technology can and will play a critical role in providing such solutions. In this context, we refer to our “Technology at the service of humans” Supertrend, which includes healthtech and which we believe can be considered in conjunction with “Silver economy” investments.

Medical progress, too, is looking to provide more effective and affordable cures for the diseases or disorders that come with age. Heart disease, for example, is a leading cause of death among the elderly and leads to global costs of USD 500 billion, according to the American Heart Association. Yet heart disease can be managed or in some instances even avoided if risk factors are addressed. We see a tangible investment case in the area of cardiovascular medical devices, where Q minimally invasive heart valve replacements, for instance, are associated with a lower interventional burden and better therapeutic outcomes.

Cancer is also in large parts related to aging and already today carries a cumulative healthcare burden in excess of USD 1.1 trillion. Significant efforts to contain that burden are currently underway: biopharmaceutical companies are allocating a disproportionate share of their research and development budgets to oncology, and we are witnessing strong merger and acquisition activity in the segment.

Regardless of medical indication, therapeutic area or nature of intervention (drugs, disease or other forms of therapy), we believe that focusing on value-creating innovation is paramount, as it alone ensures negotiating leverage for pharmaceutical, biotech and medical technology companies in a world facing increasing healthcare costs. We thus focus on companies that have demonstrated strength in innovating.

Source
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Q Keywords see end of chapter.
4.2 Care & facilities

Changing needs
An aging population – in conjunction with age-related conditions and diseases – calls for dedicated care options and settings as well as facilities equipped to provide them. Today’s senior cohorts often live a healthier and more active life than earlier generations, which enables them to live independently for longer, a lifestyle they often seek to maintain for as long as possible. Intuitively, the one-size-fits-all retirement home option is therefore no longer going to satisfy the diverse demands of the elderly. Therefore, builders and operators of dedicated senior housing concepts spanning the full spectrum of the care continuum – from assisted living to intensive care – will play a crucial role in satisfying these requirements. Anecdotally, in Germany alone, real estate advisor CBRE estimates that EUR 55 billion in investments will be needed by 2030 to cope with future demand for senior housing, with data points across other developed as well as emerging markets trending in the same direction.

When it comes to care provisioning, managed care organizations will also play an important role. They combine their deep understanding of risk factors, the healthcare environment and a wealth of data assets on historic care episodes and claims in order to guide patients to the most effective care setting, ideally before catastrophic (and, importantly, costly) consequences and complications arise. For example, dialysis candidates can be identified early and transitioned into appropriate care, rather than crash into dialysis through a costly medical emergency.

4.3 Health & life insurance

The price of a longer life
Along with the growing senior population comes the need for funding solutions, both for living expenses as well as healthcare expenditures, which can be substantial despite efforts to rein them in. The need for health and life insurance is most substantial in regions that cannot rely on a social security safety net built over the course of decades and that are underpenetrated with respect to insurance products. That being said, we increasingly find data points suggesting that substantial focus on funding solutions is also warranted in developed markets. The Federal Reserve Bank of St. Louis, for example, pointed out that 35% of US households do not participate in a retirement plan and warned that “for many American households, the total balances of their retirement accounts may not be sufficient to ensure a solid life in retirement.” Similarly, Vanguard reported that the median 401 (k) account (a tax-deferred pension account in the USA) for investors aged 65 and older amounted to just under USD 60,000, while the non-profit Pension Rights Center reports that the median annual income from private pensions and annuities came in just marginally above USD 9,000 in 2016.

At the same time, traditional pension plans are under pressure due to low bond market yields and rising longevity. As a result, we are seeing a growing market for specialized insurance companies to take on the pension plan assets and management of large corporations in developed markets. In such an environment, private savings should be a further pillar for retirement, which is why we see an attractive opportunity for asset managers and providers of advisory services. Given similar considerations regarding health insurance – notably the underpenetration in emerging markets and the need to cover unexpected out-of-pocket healthcare costs in developed markets – we would expect a similar trajectory for health insurance solutions.
4.4 Senior consumer choices

Pets: The new grandkids
On aggregate, and despite the above-mentioned concerns, seniors today are a powerful consumer group. Euromonitor projects private spending by seniors to reach USD 15 trillion by 2020, making it the fastest-growing age group on that metric in many regions of the world. This significant spending power, combined with seniors’ considerable free time, has proven to benefit the leisure and tourism sector, congruent, for example, with the increase in cruise line bookings in recent years. Further industries expected to benefit include personal care and beauty products or home automation manufacturers. In addition, some medical equipment and devices, such as prescription glasses or hearing aids in many countries only receive patchy insurance coverage and thus usually feature high on a patient’s out-of-pocket expenditures. This makes the decision to acquire them essentially a consumer choice.

A further interesting angle is in the area of pet ownership. Baby boomers in the USA make up a disproportionate percentage of pet owners (32%) compared to their share of the overall population (23%), and there are now more pet-owning households than households with kids. This finding is a likely contributor to the high percentage of people living with a pet, which is estimated at close to 60% in a study conducted by GfK in 22 countries. Pets come with their own dietary, veterinary care and other supply needs, resulting in an attractive segment of the consumer market. Typical annual expenditures for a dog, for example, amount to about USD 1500 and just shy of two thirds that amount for a cat.
Euromonitor even went as far as to term the great care some of these pets receive as “pet parenting,” pointing to the steep rise in premium dog and cat food market share in a market that – according to estimates of the American Pet Products Association and its European counterpart – already today exceeds USD 50 billion in these regions. Given the historic trajectory of this consumer market segment, combined with rapid innovation in, for instance, smart feeders, self-cleaning litter boxes and pet health insurance, we see an attractive investor proposition in another market segment in part fueled by senior consumers.

Investor takeaways

The key beneficiaries of this fourth Supertrend are, in our view:

- Biopharmaceutical, medical technology and life sciences companies that address conditions affecting the elderly through innovative products.
- Providers and operators of senior housing, dialysis clinics and other care facilities, as well as managed care organizations that can direct patients to the most efficient care setting.
- Health and life insurance companies, private wealth advisors and asset managers with strong pricing capabilities.
- Consumer companies focusing on the basic needs as well as the more discretionary wants of senior consumers, such as tourism companies, beauty product manufacturers or prescription glass and hearing aid manufacturers.

**Minimally invasive heart valve replacements:**
Procedures like transcatheter aortic valve replacement that avoid open-heart surgery.

**Dialysis:** Procedure used to remove toxins, water and other agents from the blood of patients with worsening or loss of kidney function.

**Assisted living:** Setting for elderly people that facilitates daily life through the use of low-acuity and unobtrusive technologies and services that integrate seamlessly into daily life.
The Millennials have become a force to be reckoned with – politically and economically. Today corporations not only cater to the 20–35-year-olds, known as Generation Y, but increasingly also to Generation Z, the under 20-year-olds, which we jointly refer to as Millennials. Generation Z is at the forefront of a global climate change movement, driving a heightened focus among companies on environmental responsibility and sustainability. Their influence also extends to education, with technology becoming more and more important as a new way to deliver education and develop skills. As for leisure, they are driving the popularity of social gaming and eSports.
5.1 Sustainable business and investments

Push for real change

Generation Z’s key priorities include environmental conservation and pollution reduction. After all, it is this cohort that stands to bear the brunt of the impact from climate change. They are pushing governments and companies to cut greenhouse gas emissions, as well as reduce plastic waste. About 50% of global packaging materials today are made of plastic, but only 14%-18% of plastics are recycled at the global level, according to a 2018 paper by the Organisation for Economic Co-operation and Development (OECD).

Unless drastic change is brought about, there will be more plastic than fish in the ocean by 2050, states a report by the Ellen MacArthur Foundation. Companies in the food, beverage and cosmetics industries as well as restaurant or supermarket chains are already pledging to reduce the use of plastic and have announced targets for recyclable packaging. Producers of plastic substitutes should benefit from this development. But the plastics industry itself is not standing idle, adopting more environmentally conscious strategies, developing lightweight products or improving recycling systems.

Sustainable industrialization, in other words running factories at zero waste, reduced emissions and water pollution, is increasingly moving into the focus of companies. In response, industrial companies are launching innovative clean-tech solutions such as energy management and automation – so-called smart technologies – that can be used in energy efficient buildings, for example. Cloud computing is also seen as a solution to reduce consumers’ environmental footprint.
5.2 Clean energy and smart mobility

Not your parents’ car
According to the 2018 Global Energy & CO₂ Status Report from the International Energy Agency (IEA), global CO₂ emissions rose by 1.7% to reach a historic high of 33.1 gigatons in 2018. The 1.7% increase was the highest annual emissions growth rate since 2013 and 70% higher than the average increase since 2010. However, the IEA also showed that without any emission savings from policy measures, such as switching from coal to gas, the use of more renewable energy sources and improvements in energy efficiency, CO₂ emissions would have increased by an even stronger 3.8% in 2018.

Cars remain responsible for a large part of carbon emissions today. In a world where the majority of cars sit idle 95% of the time and, if they are used, it is mostly by one occupant, cars are likely to become increasingly autonomous and car sharing offerings more popular. To cater to tech-savvy generations like the Millennials, cars are also becoming more and more connected. Over the next decade, we are therefore likely to move from an auto-centric world to a mobility-centric world.

As concerns about the environment increase, the development of electric cars continues to move ahead, with the timeline for the adoption of electric vehicles accelerating. In 2019, numerous electric vehicles are expected to be launched, offering improved driving ranges and new features. Original equipment manufacturers (OEM) target an average electrification of powertrains of 25% by 2025. Battery costs are rapidly falling, making vehicle prices more affordable for consumers. The entire battery supply chain for electric vehicles is set to benefit from these developments, hence a rapid expansion of capacity should not be a concern. Neither should falling prices for commodities used in batteries, as expected battery demand outstrips projected supply.

The road to autonomous vehicles will develop in stages from partial automation to full automation. Increasing safety standards are going to require technology hardware such as Lidar, a type of sensor that combines light and radar, and HD map-based systems to be included in vehicles. Moreover, technological disruptors are going to create software utilizing significant advances in artificial intelligence. Credit Suisse expects 20% of cars to include level-3 and above autonomous functions, in other words conditional, high or full automation, by 2030. Premium OEMs are set to launch cars with level-3 features as early as 2020. Despite serious incidents involving autonomous vehicles in test runs last year, we expect “robotaxis” to be introduced in a limited number of areas in 2019 and further launches to accelerate in the years to come.

Ride-hailing or ride-sharing companies are expected to be early adopters of autonomous driving, as owning and managing a fleet of autonomous vehicles appears to be an attractive business model. Such fleets will require financial services for asset ownership, cleaning and charging, maintenance and repair, as well as an app provider. Monetizing time spent in autonomous vehicles by selling ads or services represents another significant opportunity. In this context, we expect current ride-on-demand platforms, hardware/software integrators and potentially social media businesses to partner up.
5.3 Digital natives

**Technology as a teacher**
In our era of digitalization, artificial intelligence and automation, Generation Z is demanding new forms of education delivery. We call it an **education technology** revolution in the making.

Technology-savvy individuals who know their way around **social gaming**, this young generation is used to simulated experiences and stimulation. Education technology caters to these preferences with an innovative game-like approach that facilitates the learning process. For instance, animated curricula provide scope for customization or augmented reality books seek to improve engagement. Automation and artificial intelligence are already leading to changes in job profiles, and the best way to respond is by developing skills that cannot be automated, such as critical thinking, problem solving, emotional intelligence and creativity. Education technology seeks to address these increasingly vital skills.

Given the rise of smart phone addiction and its impact on health, education technology may also encourage the use of technology in a beneficial way. It may also make education less expensive and accessible to more students, promoting lifelong learning. HolonIQ, a global education market intelligence platform, expects education technology expenditure to grow strongly, reaching USD 340 billion by 2025. Venture capitalists are already investing in start-up projects in the USA and Asia, and are forecast to have invested close to USD 8 billion in 2018, double the amount invested in 2017, according to HolonIQ. There have already been initial public offerings in this space, or large internet companies are looking to acquire start-up businesses.

**Keywords** see end of chapter.
5.4 Fun, health and leisure

Gaming goes social
Sociable and fun-loving, the younger generations have also fueled the popularity of social gaming. The free-to-play video game Fortnite Battle Royale is a case in point: Launched by Epic Games, which is 48%-owned by China’s Tencent, in autumn 2017 for PCs and in March 2018 for mobile devices, the game attracted 125 million users in record time and is currently the largest game in terms of user base. Or consider League of Legends from Riot Games, also majority-owned by Tencent. It is the most popular game in eSports, where professional gamers compete in tournaments. The League of Legends World Championship finals attracted almost 100 million unique viewers, which compares to just over 98 million viewers for the 2018 Super Bowl and an average 14.3 million viewers over the five games of the 2018 World Series (Baseball).

The growing popularity of eSports is testament to the fact that the gaming industry is rapidly shifting from traditional consoles and paid games to mobile and social gaming, thanks in particular to the influence of Generation Z. The mobile market targets a larger user base by distributing free games via large internet platforms. The way these games are monetized is through in-game micro transactions, advertising and the sale of licensing rights to eSports broadcasters. Furthermore, integrating social aspects in the gaming experience is becoming increasingly important.

We believe that the gaming market and eSports continue to offer attractive development potential.
Despite its growing popularity, social gaming does come with the downside of addiction and its adverse impact on health. In this context, we expect gaming companies to be increasingly scrutinized for their efforts to mitigate addiction-related risks. We are already seeing the rise of time-keeping tools, but technology companies will also face pressure to embrace ethical design, in other words limit the use of psychological persuasion technology for apps used by children.

**Investor takeaways**

The key beneficiaries of this fifth Supertrend are, in our view:

- Companies that score high in terms of environmental, social and governance (ESG) criteria and embrace sustainability as part of their strategy.
- Companies exposed to clean energy and **smart mobility** (renewable energy and electric vehicle supply chain), digital natives brands (social media sites, e-commerce leaders, technology brands, education platforms) and companies exposed to fun, health and leisure (video gaming, eSports, Millennials consumer brands).

**Education technology**: This is a new approach to delivering education using digitalization and enabling personalization, gamification and simulation to develop skills that cannot be automated.

**Social gaming** refers to online games that allow social interaction among players.

**Smart mobility**: Smart mobility refers to modes of transportation that are clean and autonomous, encompassing hardware/software providers and integrators, fleet managers and ride hailing/sharing platforms.
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