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**UBS Evidence Lab**

# Global Thematics

## Advance your thinking on 10 critical themes

**Equity Strategy**  
Global

### One place to find thematic research on the trends shaping our world today

This report updates our views on 10 critical themes that have the potential to shift the competitive landscape, and impact markets and returns in the long-term. It brings together work from our flagship Q-Series™ notes, which have shown thought leadership for almost two decades as UBS analysts work together across sectors and regions to answer your biggest investment questions with deep, thematic research. A year into a pandemic, we highlight how the challenges and opportunities we face have evolved, and hope to advance your thinking on these debates with our data, analyses, and forecasts.

### How has the pandemic impacted the 10 themes likely to transform key sectors

Early in 2020, we identified critical themes that could shape 'Industry 4.0', and we now track how the pandemic has accelerated the velocity of change across: 1) exponential computing, 2) new means of transport, 3) wellness tech, 4) robotics, 5) A.I., 6) climate change & repair, 7) new materials, 8) digital finance, and 9) eCommerce. Given disruption from the pandemic, we shift focus in this note to look at 10) rising regulatory risk; we will revisit our original theme of the 'sharing economy' megatrend in future. For all, our global analyst teams update their views and highlight key research.

### Built around your questions, we lay out the themes, timelines, and datasets

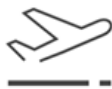
The UBS Question Bank has over 100,000 questions from investors, highlighting the key debates and uncertainties markets face today. We asked our analysts to consider the far reaching impact of Covid disruption to make predictions well into the future and lay out the signposts to watch for. Our insights reflect deep industry expertise with the added power of data from UBS Evidence Lab. In this note, [Deep Theme Explorer](#), tracks how these 10 themes have evolved and even accelerated since Covid.

### Stocks associated with the themes

We want to help connect the top down with the bottom-up, and have identified the stocks that are most frequently associated with these 10 themes from the library of work referenced here. We include the top 30 most impacted stocks on p3 (and in more detail on p49, along with our Q-series™ reports for the wider lists).



Exponential growth in Compute & Networking



Transport goes sustainable



Health & wellness tech proliferates



Robots go mainstream



AI adoption is broadening



Climate Damage & Repair



Rise of non-traditional materials



Tech disrupts big banking



Data-driven ecommerce



Rising regulatory risk

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# Top Stocks Associated with the Themes

## Our list of 30 stocks most mentioned across the themes

From our library of reports featured in each Thematic section of this report, we have identified the stocks that are most-frequently associated with these 10 themes. Below we show the stocks with exposure to more than 2 themes each, which results in a list of 30 names.

**Figure 1: Stocks most-frequently associated with all themes**

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Alphabet Inc.	GOOG.O	John Hodulik, CFA	1,626.4	5	✓	✓	✓	-	✓	-	-	-	-	✓
Amazon.com	AMZN.O	Michael Lasser	1,696.2	5	✓	-	✓	-	✓	-	-	-	✓	✓
Eaton Corporation PLC	ETN.N	Markus Mittermaier	60.9	5	✓	✓	-	✓	-	✓	-	-	-	✓
Microsoft Corp.	MSFT.O	Karl Keirstead	1,897.2	5	✓	-	✓	-	✓	-	-	✓	-	✓
Volkswagen	VOWG_p.DE	Patrick Hummel, CFA	145.8	5	✓	✓	-	✓	-	✓	✓	-	-	-
Airbus	AIR.PA	Celine Fornaro	91.6	4	✓	✓	-	-	✓	✓	-	-	-	-
Alibaba Group	BABA.N	Jerry Liu	588.5	4	✓	-	-	-	✓	-	-	-	✓	✓
Enel	ENEL.MI	Sam Arie	101.4	4	✓	✓	-	-	✓	✓	-	-	-	-
General Electric Co	GE.N	Markus Mittermaier	114.9	4	-	✓	-	✓	-	✓	-	-	-	✓
General Motors Company	GM.N	Patrick Hummel, CFA	84.1	4	-	✓	-	-	✓	✓	✓	-	-	-
Hyundai Motor	005380.KS	Eugene Jung	40.7	4	✓	✓	-	-	-	✓	✓	-	-	-
Infineon Technologies AG	IFXGn.DE	David Mulholland, CFA	49.2	4	✓	✓	✓	-	-	-	✓	-	-	-
LG Chemical	051910.KS	Tim Bush	59.0	4	✓	✓	-	-	-	✓	✓	-	-	-
Schneider Electric	SCHN.PA	Guillermo Peigneux Lojo	89.8	4	-	-	-	✓	✓	✓	-	-	-	✓
Siemens	SIEGn.DE	Guillermo Peigneux Lojo	136.7	4	-	✓	-	✓	✓	-	-	-	-	✓
Tencent Holdings	0700.HK	Jerry Liu	733.1	4	✓	-	-	-	✓	-	-	✓	-	✓
ABB Ltd	ABBN.S	Guillermo Peigneux Lojo	71.7	3	✓	-	-	✓	-	-	-	-	-	✓
Albemarle Corp	ALB.N	John Roberts	17.3	3	-	✓	-	-	-	✓	✓	-	-	-
Alstom	ALSO.PA	Guillermo Peigneux Lojo	16.3	3	✓	✓	-	-	-	✓	-	-	-	-
Aptiv PLC	APT.V.N	David Lesne	36.4	3	-	✓	-	-	✓	-	✓	-	-	-
Atlas Copco A	ATCOa.ST	Guillermo Peigneux Lojo	72.7	3	✓	-	-	-	✓	-	-	-	-	✓
Baidu, Inc.	BIDU.O	Jerry Liu	66.3	3	✓	✓	-	-	✓	-	-	-	-	-
Carrefour SA	CARR.PA	Sreedhar Mahamkali	16.1	3	✓	-	-	-	✓	-	-	-	✓	-
China Mobile (HK) Ltd	0941.HK	James Wang	131.9	3	✓	✓	-	-	-	-	-	-	-	✓
Cognex Corp	CGNX.O	Markus Mittermaier	13.5	3	✓	-	-	✓	-	-	-	-	-	✓
Contemporary Amperex Technology	300750.SZ	Paul Gong	138.3	3	-	✓	-	-	-	✓	✓	-	-	-
Delivery Hero	DEHER.DE	Sreedhar Mahamkali	29.0	3	✓	-	✓	-	-	-	-	-	✓	-
Deutsche Post-DHL	DPWGn.DE	Cristian Nedelcu, CFA	76.8	3	✓	✓	-	-	✓	-	-	-	-	-
DuPont de Nemours Inc	DD.N	John Roberts	49.2	3	✓	-	✓	-	-	-	✓	-	-	-
EVE Energy	300014.SZ	Wei Shen	25.2	3	✓	✓	-	-	-	-	✓	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

# Theme 1: Exponential growth in Compute and Networking



## Theme: Compute and networking goes exponential with quantum, 5G

A combination of Moore's Law (compute) and Metcalfe's Law (networking) have enabled many of the technologies that pervade our everyday lives and have brought significant economic growth over the past ten years in what some have classed as the start of the "fourth" industrial revolution. From here we see the development of the next generation of high speed ubiquitous wireless networks (5G) and the emergence of quantum computing as having significant ramifications across numerous industry sectors. Offering 20x the speed and 10x lower latency versus 4G we expect 5G to reach 50-60% of the global population in 5 years (see [Link](#)) and bring long promised new markets such as IoT and connected cars to life. The COVID-19 disruption has emphasized the importance of compute devices for remote working and learning which likely accelerate many of the digitisation trends across many industries. Quantum computing, which resurfaced as a theme in late 2019 with Google's claim to quantum supremacy (calculating a result not possible with classical computing) with its Sycamore processor, is potentially extremely disruptive across multiple industries particularly in the chemical, medical and AI domains (see [Link](#)).

## Implication: Genome decoding in seconds and chemical science to new level

With super-compute power within reach of mass adoption, the ability to sequence DNA and the human genome rapidly could present significant steps towards curing illnesses rapidly with almost immediate pharmaceutical R&D. Combined with ubiquitous high speed mobile networks the ability to analyse complex situations and compute correct decisions on the move will be significant. One positive side benefit also is the dramatic reduction in power requirements possible with quantum compute.

## Concern: Big Data collection and singularity, Gap haves vs have nots

There are many concerns around governance of big data but one of the most tangible concerns is the ability – in the wrong hands – for quantum computing to be able to hack traditional encryption techniques and moreover disrupt business based on algorithms requiring compute. Interestingly, a quick Google search reveals much about the mixed views of the technology currently.



## Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some [Questions submitted to the UBS Question Bank](#), as well as [unique datasets from UBS Evidence Lab](#).

## Assets for Theme 1: Exponential growth in Compute and Networking

### Related Research

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Q-Series "Diving into the hype: is 5G really accretive to smartphone demand?" ([Link](#)), Nicolas Gaudois, Jan-2021

---

Q-Series "Future Reimagined: Propelled to The Thinking Economy" ([Link](#)), Bhanu Baweja, Jun-2020

---

Q-Series "Evolution or revolution: what's next for mobile messengers?" ([Link](#)), Taewon Kim, Feb-2020

---

UBS Evidence Lab inside: Cloud Computing "Framing the Forecast for the..." ([Link](#)), Eric Sheridan, Dec-2020

---

Dr. Roy's Tech Talks "What is Quantum Computing?" ([Link](#)), John Roy, Ph.D., May-2019

---

5G Expert Call Series: "Key takeaways from call with former CTO at AT&T" ([Link](#)), Navin Killa, Nov-2019

---

Q-Series" Global Telecom and Technology "5G: Technology evolution, business model revolution?" ([Link](#)), Navin Killa, Sep-2019

---

US Semiconductors "Chip Chats: Highlights from Expert Call on Networking &..." ([Link](#)), Timothy Arcuri, Mar-2021

---

Juniper Networks "Tech Talk: Mist and 128 Technology deep dive adds some..." ([Link](#)), David Vogt, Mar-2021

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### Top Questions submitted to the UBS Question Bank

How far away are we from **quantum computing commercialisation**?

?

What are the implications for **network security** and **blockchain of quantum computing**?

?

In China, which verticals could **monetise 5G and IoT** the earliest? When would you expect **B2B verticals** to become significant (>5% of sales)?

?

What are the most relevant **5G use cases**? Will the rollout of **5G**, expand the **gap** between leaders and laggards in the telecoms market? What is your view on the duration of the **5G** capex cycle?

Would **quantum singularity** pose a significant challenge to the current IDC (**Internet data center**) model? If so how soon?

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Source: UBS Question Bank

## Unique datasets from UBS Evidence Lab

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### Mobile Operator Capital Spending Intentions B2B Survey ([Click here to access the data](#))

This survey of 100 mobile operators provides a view on companies' spending intentions, and their perceptions of the macro environment in which they operate

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### US All IOT Categories Adoption Monitor ([Click here to access the data](#))

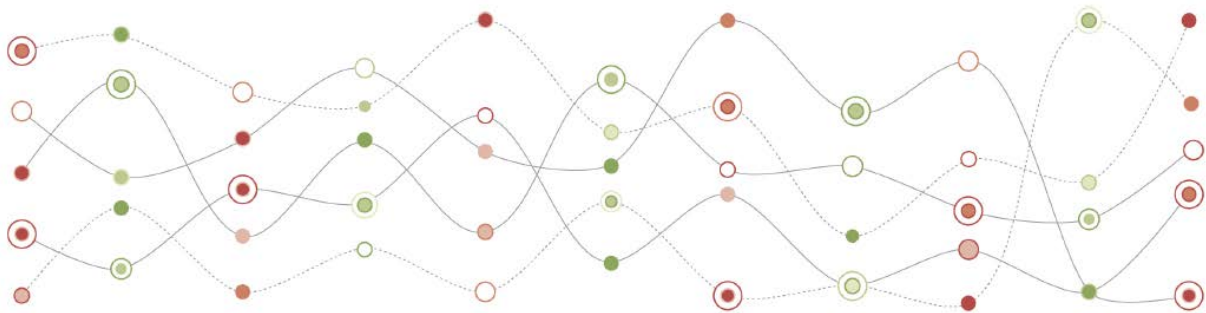
Understand the adoption of Internet of Things (IoT) devices across various markets in the US. Assess broader adoption of these products by key demographic segments. Products include smart home technologies (Nest, Amazon), gaming systems (Nintendo, Sony), connected appliances (washers, ovens), etc. This asset focuses on multiple types of devices.

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### US Computer, Cell Phones and Tablet Devices Monitor ([Click here to access the data](#))

Understand the adoption of Internet of Things (IoT) devices across various markets in the US. Assess broader adoption of these products by key demographic segments. Products include smart home technologies (Nest, Amazon), gaming systems (Nintendo, Sony), connected appliances (washers, ovens), etc. This asset focuses on PCs, Cell Phones and Tablet devices.

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Source: UBS Evidence Lab

## What to watch for Theme 1: Exponential growth in Compute and Networking

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
Ongoing ● <b>Operator launches and capex</b>	<p><b>Progressive 5G launches and particularly capacity</b></p> <p>In 2019 we saw a number of 5G network launches although given limited device availability and network investment the real 5G network capacity is still very limited. We will be watching for further network announcements but more importantly capex investment announcements from telecom operators.</p>
Oct '20 ● <b>5G iPhone launch</b>	<p><b>iPhone launch to drive broader use</b></p> <p>2019 already saw a number of Android-based handset launches but given its mindshare we expect the 5G iPhone launch due in Oct'20 to be a significant catalyst driving much broader consumer expectations around 5G. We expect this has the potential to drive both broader application development and also stronger capacity investment from telcos.</p>
2020-2021 ● <b>Consumer use cases / telco monetisation</b>	<p><b>Consumer use cases for 5G develop and we see if telcos can monetise</b></p> <p>With consumer devices now more broadly available we expect to see more innovation in consumer applications that make use of ubiquitous connectivity enabled by 5G. We watch for innovation around numerous application areas with more data capture enabling smarter artificial intelligence and augmented reality applications targeted at consumers. It will also be key in this stage to see whether telcos are able to monetise 5G better than prior generations.</p>
2021 and on ● <b>Industrial use cases</b>	<p><b>Smart factories become a reality</b></p> <p>One key area of opportunity with advances in 5G and compute is in enabling smarter manufacturing with more automation and intelligence that can drive economic productivity higher. There can potentially be more willingness to invest to build the network for industrial use cases compared to consumer (with a much stronger payback potentially).</p>
Late 2020s ● <b>Moore's Law continues enabled by litho innovation</b>	<p><b>Continued advances in computing capability</b></p> <p>2019 saw new technology for semiconductor manufacturing move into high volume production (extreme ultraviolet lithography). We now have a roadmap that will continue to drive further improvements in this technology for the next decade that should help to keep us on Moore's Law and driving further compute capacity.</p>
2030s? ● <b>Quantum computing goes mainstream</b>	<p><b>Quantum supremacy broadens out and move into the mainstream</b></p> <p>Today quantum computing is just at the stage of proving out its theoretical capabilities (such as the Google Quantum supremacy claim). We expect it will take much more research into the technology before it will start moving into real world applications and commercial applications. We will look to track more claims of Quantum supremacy and maturing of quantum computing platforms.</p>



## Theme 2: Transport goes sustainable

### Theme: Current travel disrupted – and not green enough

Progress in zero carbon enabling technologies – green hydrogen, advanced material, cryogenic technologies (low temperature materials), fuel cells, autonomous systems, A.I., secure communications, electric applications, re-usable technologies have opened up opportunities in ground, air and space travel. Consumer demand could change in a post pandemic world with passengers asking for touchless, seamless and faster travel point-to-point, from daily commutes to supersonic trips all in the name of sustainability and zero emissions mobility. The Aviation and Transport industries are experiencing a strong influx of capital to explore new ventures in electrical Vertical Take-Off and Landing (eVTOL) vehicles for 30min air taxi journeys or cargo (Lilium, Joby, Firefly), commercial space transport (Virgin Galactic), reusable rockets (SpaceX, Blue Origin), Hyperloop, supersonic jets (Boom, Aerion). The exponential growth of SPACs in space and air mobility is proof. Traditional aircraft, helicopters and bizjets manufacturers have ramped up their decarbonisation initiatives, with roadmaps for the next 5-15 years. The risk of disruption and new players remains high (particularly in the under 20 passengers segment where safety standards are less demanding).

### Implication: Personalised mass transport, autonomous flights and cars, space

UBS analysts estimate i) the commercial space market to be worth \$805bn by 2030, ii) commercial single-pilot operations profit opportunity of c.\$15bn p.a. for commercial airlines, iii) Green Aviation to be a \$178bn market up for grabs in 2028-2040, iv) supersonic jets market at a \$340bn 2020-2040. Green mobility disruption means further incremental investments to develop and improve High Speed Trains in Europe (\$150bn) and China, and to fund a green hydrogen grid (EU €180-470bn by 2050).

### Concern: Space travel aligned with climate change?

Increased access to travel, on earth or in space, needs to work along-side a growing public environmental consciousness, underpinning use of cleaner energies e.g. bio-fuels, electricity, and hydrogen. Global air travel is braced to react to movements such as Flight Shaming: regulation in Europe. Soon the US will accelerate use of cleaner fuels in Aviation, requiring accelerated long-term investments for new zero emissions platforms. Flight Shaming movements paused during Covid, but could return as travel normalises (2023-24 UBS est). UBS Evidence Lab surveys show consumer environmental concerns stable, but need for seamless, touchless travel increased.

### Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some [Questions submitted to the UBS Question Bank](#), as well as [unique datasets from UBS Evidence Lab](#).





## Assets for Theme 2: Transport goes sustainable

### Related Research

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Q-Series "Green Power: Will climate change propel the sector towards Hybrid Electric Aviation by 2028?" ([Link](#)), Celine Fornaro, Jun-2019

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Q-Series "And then there was one...could single-pilot planes be a reality by 2023?" ([Link](#)), Celine Fornaro, Jul-2018

---

Global Travel "Takeaways from UBS Conference: Future of Travel" ([Link](#)), Robin Farley, Jan-2020

---

Q-Series "UBS Evidence Lab Electric Car Teardown: Will EV and ADAS add..." ([Link](#)), David Mulholland, Jun-2017

---

Q-Series: Who will win the billionaires' space race? "The space travel and tourism..." ([Link](#)), Jarrod Castle, Mar-2019

---

Q-Series "Flying solo - how far are we down the path towards pilotless planes?" ([Link](#)), Jarrod Castle, Aug-2017

---

Q-Series: Auto's Future Technology "Coding Cars – is the autos value chain ready?" ([Link](#)), Kenji Yasui, Mar-2019

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Q-Series "UBS Evidence Lab Electric Car Teardown – Disruption Ahead?" ([Link](#)), Patrick Hummel, May-2017

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Q-Series "Who will win the race to autonomous cars?" ([Link](#)), Patrick Hummel, May-2018

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Q-Series "How much will electric commercial vehicles disrupt the truck market?" ([Link](#)), Steven Fisher, Dec-2017

---

Q-Series "Air and train: An accelerated path to carbon neutrality?" ([Link](#)), Celine Fornaro, Feb-2021

---

Q-Series "EVs Shifting into Overdrive: VW ID.3 teardown –How will electric..." ([Link](#)), Patrick Hummel, Mar-2021

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Q-Series "Is China in the driver's seat for the EV revolution?" ([Link](#)), Paul Gong, Dec-2020

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Q-Series "The Need for Speed: How will Supersonic Jets Transform the Travel..." ([Link](#)), Myles Walton, Dec-2020

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Q-Series "Tearing Down the Heart of an Electric Car Lap 2: Cost Parity a..." ([Link](#)), Patrick Hummel, Oct-2020

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Q-Series "By train or by plane?" The traveller's dilemma after Covid-19 and..." ([Link](#)), Celine Fornaro, Apr-2020

---

Q-Series "How will robotaxis re-shape the urban world?" ([Link](#)), David Lesne, May-2019

---

Global Aerospace "Expert call takeaways on Green Aviation with Mrs Grazia..." ([Link](#)), Celine Fornaro, May-2021

---

Q-Series "EVs Shifting Into Overdrive: How could zero emission trucks disrupt..." ([Link](#)), Steven Fisher, Mar-2021

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## Top Questions submitted to the UBS Question Bank

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How fast could **EV**  
**penetrate** in emerging  
markets ?

?

Can the large **Tech/Internet**  
companies compete with car  
companies in the **race** for  
**autonomous vehicles** ?

Will the prevalence of **supersonic travel**  
stimulate demand? Would this allow the **global**  
**airline sector** to charge higher prices?

?

What are your thoughts on investment in  
**Electric** versus **Hydrogen** and **fuel cells** ?

?

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Source: UBS Question Bank

## Unique datasets from UBS Evidence Lab

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### Europe & US Travel Consumer Survey ([Click here to access the data](#))

This survey of 6,097 consumers aged 18+ provides an insight into many factors which affect consumers' decision of which cruise line to select for leisure travel or which airline to select for leisure or business travel and future intention. It also covers sources used for trip research and booking, satisfaction with various websites, drivers for website selection etc.

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### US: Electric Trucks - CLAM Amazon Distribution Centers ([Click here to access the data](#))

This framework assesses potential of penetration of electric trucks in operations of Amazon distribution center network in the US.

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### Global Electric Planes Patent Tracker ([Click here to access the data](#))

UBS Evidence Lab analysed electric planes patents to identify trends in the total volume and classification of electric planes patent applications filed by company.

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### Global Electric Planes Consumer PulseCheck Survey ([Click here to access the data](#))

This survey was fielded among a representative sample of 9,486 respondents worldwide. The respondents answered questions around environmental concerns as well as interest in flying on electric powered airplanes.

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### US Autonomous Cars - Network Simulation ([Click here to access the data](#))

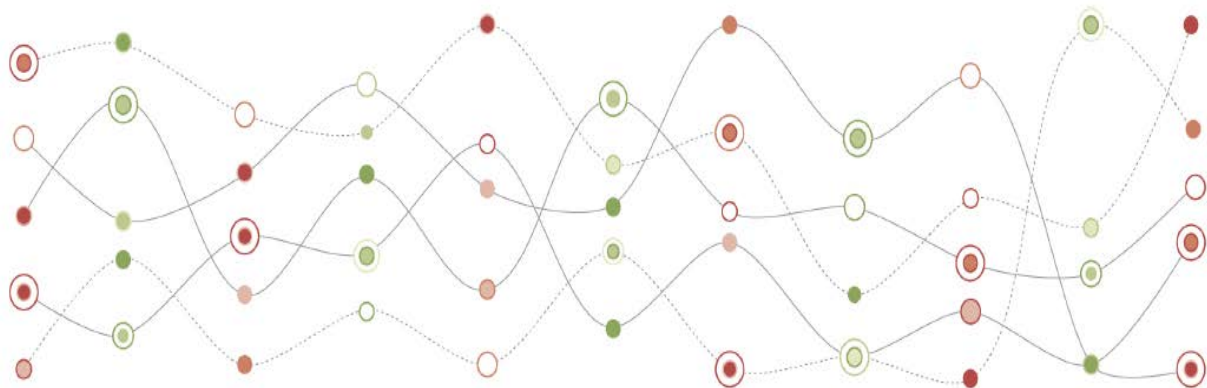
This framework provides visual evidence by applying cartographic techniques to complex spatial data sets. It combines science and design techniques to enhance the communication of data in forms of map images, animations, interactive mapping and more.

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### Global Autonomous Cars ([Click here to access the data](#))

This map shows the relationship between autonomous cars and region by using Q-series technique.

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Source: UBS Evidence Lab

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## What to watch for Theme 2: Transport goes sustainable

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2020/21 ● <b>French &amp; Spanish HSR Liberalisation</b>	SNCF loses domestic monopoly summer of 2020. Public transport services to be liberalised by YE 2023. Spanish HSR was liberalised YE 2020.
2021 ● <b>Corsia Scheme</b>	ICAO plan for carbon emissions reduction in aviation from 2021 for countries joining on voluntary basis: US, Europe, Canada, Australia. CORSIA aims to stabilise carbon emissions at 2020 level (Covid adjusted)
2021 ● <b>Rollout Deutschland Talet</b>	Deutschland Talet to start in 2021 with aim to shorten travel and change over times for trains from Germany's main train stations every 30 minutes
2021/24 ● <b>US rejoins Paris Agreement</b>	Biden signs executive order to rejoin Paris agreement after inauguration.
Nov 2021 ● <b>UN COP26 (Glasgow)</b>	The UN COP26 summit to state latest climate change targets
2021/2022 ● <b>Testing and design enhancements Supersonic</b>	<b>Boom begins XB-1 tests while they and others further enhance and fine tune designs for others in development aircraft</b> Boom ground testing the XB-1 in late 2020-2021 before first flight from Mojave, CA and more flight testing late 2021. Boom design of Overture to continue. Other manufacturers to further fine tune designs.
2021/2022 ● <b>X-59 roll-out and tests</b>	<b>X-59 Quest flight tests ramp up, which should help data-driven policy relaxation take place</b> Partnering with NASA, Lockheed Martin to design and build an aircraft to collect community response data on acceptability of aircraft's conic boom The goal: facilitate relaxation of current restrictions for supersonic flights.
Mid 2020 to 2023/25 ● <b>Production &amp; flight test</b>	<b>Starting in 2023 we should see production &amp; flight testing begin</b> By 2023/2024, expect to see the production of commercial aircraft begin, implies >2 years for flights tests can begin 2024/25 for further 2-3 years.
2022 ● <b>Single Pilot Operations Single Pilot in Cruise</b>	<b>Commercial flight adoption of Single Pilot Operations / Single Pilot in Cruise</b> Single Pilot in Cruise and Single Pilot Operations will be available to new commercial airplane operations, enabling reduction of crews on board and rostering. SPO also applies to regional and business jet operations.
2022-2025 ● <b>SAF Production upgrade</b>	Increase in sustainable aviation fuel (SAF) production capabilities with upgrade/completion of various SAF projects to include Neste and Total.
2025 ● <b>Airbus Zero update</b>	Expect Airbus to highlight the viable green technologies to power a zero emission mid-sized plane around 2035.
2030 ● <b>EV Adoption moves up the curve</b>	EV penetration to reach 20% by 2025e and 50% in 2030e
2035+ ● <b>Net Zero boost as Hydrogen (H1, H2, full) aircraft</b>	For Short haul: H2 as direct fuel & fuel cells for auxillary powers (improved wing and aerodynamics). Medium haul: H1 fuel. Commuter: Full Hydrogen aircraft. Long Haul flights: SAF with carbon offset schemes and more electric systems.

## Theme 3: Health and wellness tech proliferates



### Theme: Health and wellness tech accelerates

As wearable trackers and remote patient monitoring technologies move to collecting valuable medical insights (e.g. atrial fibrillation, blood oxygen saturation, blood pressure, respiratory rate, cancer patient well-being), we could see dramatic change in how healthcare is consumed and how patients at risk are managed. First-mover manufacturers that find novel ways to adapt to these technologies could be clear beneficiaries (e.g. Philips' wearable biosensor, Omron's HeartGuide, Apple's Series 6 watch), care providers (e.g. hospitals) and payers (e.g. insurers) will also be forced to adjust business models as adoption amongst consumers increases (c25% in the US as per eMarketer). Artificial intelligence could have significant implications for healthcare access, diagnosis and disease management. The COVID-19 pandemic has likely accelerated trends (e.g. collaboration between Google and Apple on contact tracing) and increased the pace of innovation.

### Implication: Shifting patients home, population health management, and customised nutrition

With increased adoption of these technologies, the model for healthcare provision will change. Insurers can stem rising costs per patients as wearables incentivise behaviour, reduce hospital visits and readmission. Elderly patients demonstrating the heart rate, breathing patterns, and blood glucose levels of someone about to go in to cardiac arrest could be alerted, cancer patients partly monitored at home. The wealth of patient level data collected could fuel the rise of population health management (e.g. [applications of IBM's Watson in healthcare](#)) and patients empowered to make better lifestyle choices (e.g. customised nutrition based on an individual's unique microbiome and genetic profiles).

### Concern: Longer lifespans = larger, ageing population globally

Payers are struggling to manage global healthcare inflation, currently running at 6% p.a., as populations continue to age (% of >65 year olds expected to increase ~2x to 16% by 2050). The proliferation of health and wellness technology could add further strain on economies as patients live healthier and longer lives.

### Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some [Questions submitted to the UBS Question Bank](#), as well as [unique datasets from UBS Evidence Lab](#).



## Assets for Theme 3: Health and wellness tech proliferates

### Related Research

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Q-Series "Incentives for healthcare providers are changing globally: who will benefit?" ([Link](#)), Sebastian Walker, Sep-2017

---

Q-Series "Future Reimagined: Consumerization of Healthcare - What's in Store?" ([Link](#)), Michael Lasser, June-2020

---

China Healthcare "Expert call takeaways: Gene sequencing methodology and..." ([Link](#)), Stella Xing, Jan-2021

---

Telemedicine: "Will telemedicine take hold in Japan? Koike" ([Link](#)), Yukihiro Koike, May-2020

---

M3 Telemedicine: "Free for both patients and physicians Koike" ([Link](#)), Yukihiro Koike, Sep-2020

---

LatAm Healthcare "UBS Evidence Lab inside: Who Gained from Telemedicine..." ([Link](#)), Vinicius Ribeiro, Feb-2021

---

Q-Series "Future of Food Redux: Has COVID-19 stunted plant-based protein adoption?" ([Link](#)), Charles Eden, Apr-2021

---

Q-Series "Future of Food III: Is personalised nutrition the next big disruptor?" ([Link](#)), Charles Eden, Jan-2020

---

Q-Series "Future of Food I & II + Sector Read-Throughs" ([Link](#)), Steven Strycula, Nov-2019

---

Q-Series "Food of the Future II: What will the coming revolution mean for Global Chems & Machinery?" ([Link](#)), Andrew Stott, Nov-2019

---

Q Series "Where are incumbents under greatest threat from AI" ([Link](#)), Michael Briest, Dec-2018

---

Q-Series "Future of Food I: Is Plant-Based Meat Poised to Rebalance Global Protein Consumption?" ([Link](#)), Steven Strycula, Nov-2019

---

### Top Questions submitted to the UBS Question Bank

In the context of **healthcare**, how will COVID impact the **adoption** of **new technologies** (**telemedicine** and **data analytics**)?

?

In **Biotech** what are the likely extensions for the use of **MRNA technology** with day-to-day in the next 2-5 years?

?

Could **telehealth**, wider **data science** utilisation to keep track of **patients' journey**, and **Artificial intelligence** in **healthcare platforms** be relevant in increasing efficiency?

?

How can **machine learning** accelerate the **engineering** of **new drugs**?

?

What are the most promising **gene therapies** in **development**? With a winner takes all outcome (treatments curative), who wins and who loses in the **pharma** industry?

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Source: UBS Question Bank

## Unique datasets from UBS Evidence Lab

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### Global Plant-Based Meat Substitute Consumer Survey ([Click here to access the data](#))

This survey of 3,178 consumers in the US, UK, and Germany provides a view on consumer awareness, usage and attitude towards substitutes to traditional meat/animal products.

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### US Meat Substitute Adoption Monitor ([Click here to access the data](#))

See early stage adoption of Beyond Meat and Impossible Foods meat substitutes by location.

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### US Physical and Mental Health Consumer Survey ([Click here to access the data](#))

This asset tracks physical and mental behavior trends among a nationally representative population of US consumers. Questions relate to health, diet, exercise, recreational/leisure activities/hobbies and mental health/outlook.

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### Global Health & Fitness (Peloton) App Monitor ([Click here to access the data](#))

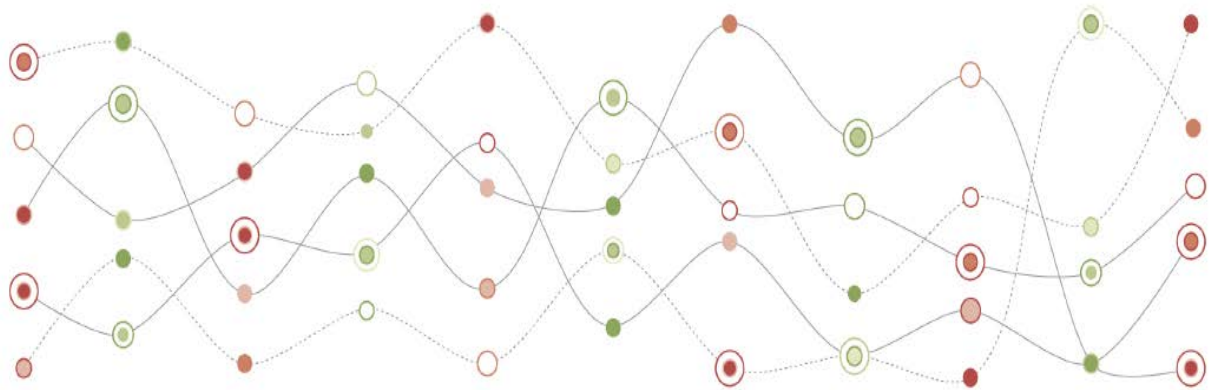
What are the Health & Fitness (Peloton) app trends globally? UBS Evidence Lab tracks daily rankings for thousands of mobile applications in the iOS and Google Play store across more than 50 geographies to help answer this question.

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### US Farmers Future B2B Industry Outlook ([Click here to access the data](#))

This survey of 116 Farmers provides a view on companies' industry outlooks, and their perceptions of the macro environment in which they operate.

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Source: UBS Evidence Lab

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## What to watch for Theme 3: Health and wellness tech proliferates

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
Ongoing ● <b>Acceptance of wearables</b>	<p><b>Wearing a smart watch becomes mainstream</b></p> <p>Consumers are increasingly demanding tools which allow them to monitor their own health, spurred by the launch of FitBit and the Apple Watch. Surveys today suggest as many as 80% of people are willing to wear some form of HealthTech device, significantly higher than a decade ago.</p>
2021/22 ● <b>Refining the technology</b>	<p><b>Increasing the accuracy and breadth of what can be measured</b></p> <p>Much of the current generation of sensors are only able to reliably measure heartrates, but specialist manufacturers are seeking to expand this in to other metrics. AMS is developing optical and blood oxygenation sensors, Philips continues to develop their <a href="#">wearable biosensor</a>, the next wave of hearing aid product launches are likely integrate patient monitoring, and <a href="#">"smart" knees</a> could soon track the wear and tear on implants.</p>
Early 2020s ● <b>Home dialysis: a case study</b>	<p><b>Demonstrating that monitoring makes a patient comfortable at home</b></p> <p>Dialysis providers, including Fresenius Medical Care, are increasingly <a href="#">shifting patients from the clinic to the home setting</a>, which requires significant remote patient monitoring capabilities to ensure patient safety. If, as we expect, penetration continues to increase in the US over the coming years, we believe the industry could provide a valuable case study on the potential of wearables/remote monitoring amongst a high risk patient sub-group.</p>
2020-25 ● <b>Improved reimbursement and Telemedicine</b>	<p><b>More attractive reimbursement to drive further adoption</b></p> <p>Whilst reimbursement systems in telemedicine and remote monitoring are limited, explicit reimbursement for wearables are only just emerging. As the benefits of both become more apparent, we will look for the implementation of new payment models and reimbursement structures that incentivise care providers to embrace the shift.</p>
2020/30s ● <b>Fundamental shift in how healthcare is paid for</b>	<p><b>Introduction of value based care will disrupt the care model</b></p> <p>The long-term solution of paying care providers for the value, rather than the volume, of care they give to patients is clear, however the political and technological hurdles are significant. If further progress is made with ongoing pilots, and value based care is introduced in key geographies such as the US, care providers will be forced to collect a mass of data in order to be able to make better health economic decisions and generate savings for the system.</p>



## Theme 4: Robots go mainstream



### Theme: Robots and automation go mainstream

The way we think about robots is going to radically change in the next several years as machines evolve to become autonomous (AI with ability to learn on their own). After lowering costs and expanding market size in the automotive and smartphone industries (1980s and 2010s respectively). As we move into the next decade, a new wave of automation is becoming visible in all broad non-traditional markets and general purpose (GP) applications. The total addressable market (TAM) for automation could potentially expand to US\$2trn in 2025 (~US\$0.5trn in 2020), with a value shift from function-specific automation hardware to software and with GP applications growing 2x within the next 5 years.

### Implication: Global economic efficiency across sectors

More automation has been accompanied by virtuous economic growth cycles in the past, with gains in productivity leading to consumption, higher wages and wealth creation. We expect the market for non-traditional automation applications to grow twice as fast as traditional applications with retail, consumer goods, pharmaceuticals, medical supplies and equipment at the epicentre of the automation reborn cycle, which will help these industries to become more efficient and flexible in their manufacturing and logistical processes, to lower the impact from labour shortages (and ageing population), to improve working environment, to reduce greenhouse emissions or even to mitigate increasing regulatory risks.

### Concern: Governance, ethics, job loss

Much concern has been raised about the broader social aspects and potential economic impact from an imbalanced (expeditious) adoption of robots. In most cases, robots come to replace humans and its careless adoption by corporates to maximise profits could be inhibiting the virtuous cycle between innovation and prosperity (significantly increasing productivity but creating too much job displacement and no prompt regeneration, boosting inequality and breaking the virtuous link between productivity, higher wages and consumption). Interestingly some of the most "automated" (higher robotics p.c. penetration like Japan, Germany and Sweden) are also managing this transition with high levels of social equality and wealth creation thanks to the introduction of social policies mitigating short and medium term disruptions.

### Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some [Questions submitted to the UBS Question Bank](#), as well as [unique datasets from UBS Evidence Lab](#).



## Assets for Theme 4: Robots go mainstream

### Related Research

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Q-Series "Is it dawn or dusk for the Rise of China industrials?" ([Link](#)), Guillermo Peigneux Lojo, Dec-2020

---

Initiation of Coverage: Cognex Corp "Machine vision leader with strong..." ([Link](#)) Mittermaier, Dec-2019

---

Q-Series: Factory Automation "How will widespread industrial IoT change the automation value chain?" ([Link](#)), Hikaru Mizuno, Nov-2019

---

ABB Ltd "A deep look into Robotics and Discrete Automation unveils growth and margin upside potential" ([Link](#)), Guillermo Peigneux Lojo, Feb-2020

---

Global warehouse automation "UBS Evidence Lab inside: Survey suggests higher growth" ([Link](#)), Sven Weier, Jun-2019

---

Q-Series "Is VR becoming an Investment Reality?" ([Link](#)), Kenji Yasui, Jan-2017

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Initiation of Coverage: Rockwell Automation Inc "Premier Automation play... not quite ROKin' and rollin' into 2020. Initiate with Neutral: \$206 PT" ([Link](#)), Markus Mittermaier, Dec-2019

---

UBS Evidence Lab: Robotic Surgery Survey "Robotic Surgery Set to Transform US Knee Market: MAKO to Drive Unprecedented Share Gains to SYK" ([Link](#)), Matt Miksic, Dec-2016

---

UBS Evidence Lab: Global IT Services "Automation's impact on outsourcing and BPO" ([Link](#)), Michael Briest, Oct-2016

---

Q-Series "The Rise of the Chinese Multinational: Can Corporate Wealth Last Beyond 3 Generations?" ([Link](#)), Yankun Hou, Jun-2016

---

Q-Series "Is global construction facing a synchronised slowdown? – a supply-chain analysis" ([Link](#)), Guillermo Peigneux Lojo, Jul-2019

---

### Top Questions submitted to the UBS Question Bank

To what extent has COVID **accelerated** the shift towards greater or even complete **automation** and **robotization** for Industrials?

?

What are the main **robotics advances** in the last 18 months related to **factory operations and supply chains** that could see an uptick?

?

For Industrials, what is the **ROI** math that CFOs are using when deciding on **IoT and robotics projects**?

?

How do you see the **industrial applications** of **robots**? How far ahead is China versus Europe and North America?

What are the **consequences** for the **asset manager** (less jobs, more **robotic process automation**..)?

?

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Source: UBS Question Bank

## Unique datasets from UBS Evidence Lab

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### Global Automation Products Patent Tracker ([Click here to access the data](#))

UBS Evidence Lab analysed automation products patents to identify trends in the total volume and classification of automation products patent applications filed by company. Patents from China, France, Germany, Japan, Switzerland, and United States appear in this report.

---

### European CFO Capital Spending Outlook – Company ([Click here to access the data](#))

This survey of 900 senior executives provides a view on companies' spending intentions, and their perceptions of the macro environment in which they operate.

### US Corporate Purchase interest in IoT Business survey ([Click here to access the data](#))

This survey of 200 Senior IT Executives in the US provides a view on companies' investment priorities and spending intentions, as well as their perceptions of the macro environment in which they operate.

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### Global Warehouse Automation B2B Spending (Usage & Attitude) Survey ([Click here to access the data](#))

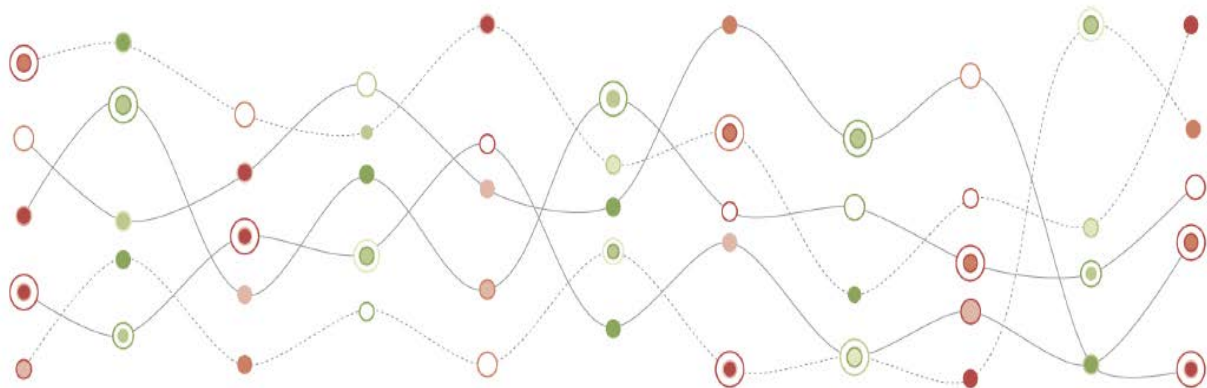
This survey of 130 respondents provides a view on companies' spending intentions, and their perceptions of the macro environment in which they operate.

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### Surgical Robot Patent Tracker ([Click here to access the data](#))

UBS Evidence Lab analysed surgical robot patents to identify trends in the total volume and classification of surgical robot patent applications filed by company. Patents from the United States and Japan appear in this report.

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Source: UBS Evidence Lab

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## What to watch for Theme #4: Robots go Mainstream

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
Ongoing ● <b>After stabilizing in 2020, industrial capex recovers in 2021</b>	<p><b>Traditional manufacturing segments dents automation growth</b></p> <p>During 2019 and early 2020 we witnessed how weakness in traditional manufacturing have dented overall discrete automation whereas a soft macroeconomic outlook and volatile commodity prices have put pressure in process automation as well. Driven by a meaningful industrial recovery, ample fiscal policy help (led by the "green" economy) and recently by the global supply chain shortfalls (Suez, semiconductor shortages...) we see industrial capex recovering strongly in industries with structural growth tailwinds .</p>
2021 ● <b>China robotics market recovers strongly enters into sustainable growth trajectory</b>	<p><b>Non-traditional markets and general purpose applications lead</b></p> <p>Over the past ~10 years, 35-40% of shipments from the robot sector have gone to autos, declining below 30% by 2019 and 2020). The weighting for electronic applications rose from 20-25% to 30%, starting to come into line with autos-use demand, but is no longer growing in contribution. Going forward, even if automotive demand recovers, the growing robotics penetration will come from general purpose (assembly, materials handling...) and non-conventional industries (Chems, F&amp;B, Healthcare amongst others...)</p>
2021-2022 ● <b>Next drivers of Automation start to emerge</b>	<p><b>New wave of digitalisation: Automation goes multipurpose</b></p> <p>A big wave of IoT / digitalization is coming to the automation framework. Corporates invest more to automate processes (vertical) and start to link this processes, not only with each other but also to the changing environment. A variety of data has been accumulated in the production facilities (in low value and repetitive activities) but knowledge is now gathered by systems (not manually) and processes together with people try to provide new added value by utilizing the data.</p>
2022-2025 ● <b>Smart factories become a reality</b>	<p><b>Industry automation goes smart</b></p> <p>With the convergence of 5G and higher speeds of computation, the transition to autonomous manufacturing starts with horizontal (cross asset / cross regional) automation and vertical (single purpose and process driven automation) coming together. Faster reactions, increased efficiency and process intelligence should bring broader global productivity higher. Larger and more complex process starts to become more difficult to compute...</p>
2025-2030 ● <b>Smart factories are also learning</b>	<p><b>Smart factories go autonomous</b></p> <p>Self-learning processes start to emerge and develop processing capabilities to improve decision making processes. Not only processes and industries link, creating network effects, but they learn from each other and are able to generate knowledge. Industrial computing capability becomes the bottleneck as it meets with larger, faster; more accurate and complex processes ...</p>
2030s? ● <b>Industrial goes quantum?</b>	<p><b>Quantum computing reaches Industrial processes</b></p> <p>As highlighted before, today, quantum computing is just at the stage of proving out its theoretical capabilities. As industrial automation processes become larger, faster, more accurate, complex they will require the emergence of quantum computing.</p>

# Theme 5: AI adoption is broadening



## Theme: Artificial Intelligence Scales

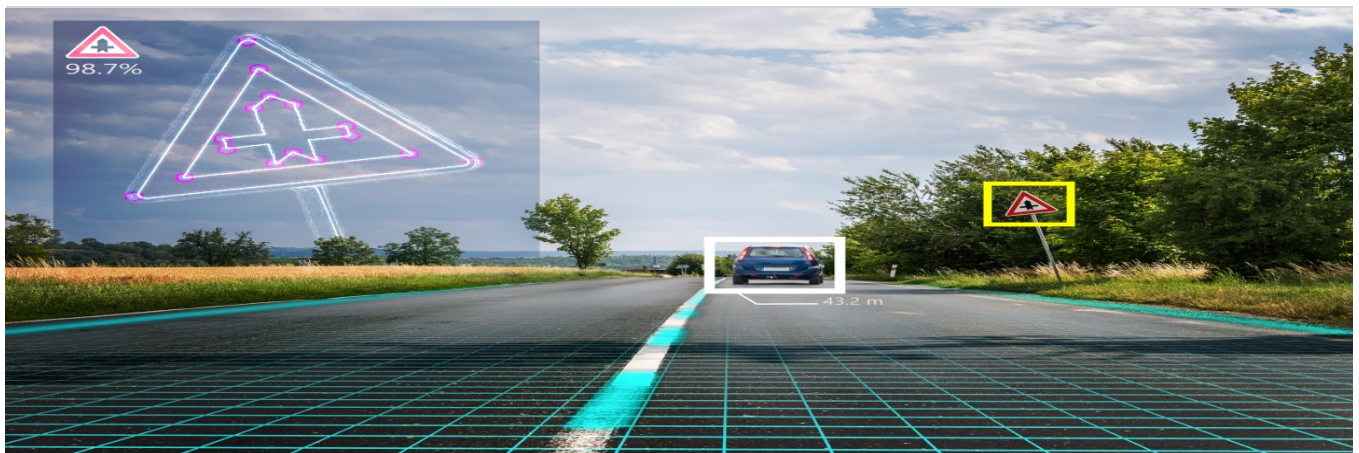
COVID and the related lockdowns understandably took the emphasis away from AI on company results commentary that UBS Evidence Lab Data Science analysis had previously highlighted was strong [\(link\)](#). However, COVID-19 has arguably accelerated the adoption of new technologies, notably cloud [\(link\)](#), which will create potentially deeper data pools on which AI can be deployed. Supervisors such as the US Federal Trade Commission and the European Commission have both proposed greater oversight of AI to ensure fairness and equity in the application of the technology, affirming its broadening use.

## Implication: Another wave of creative destruction?

Between 1963 and 2019 the S&P 500 saw 1,303 component stock changes; an average of 23 a year. Turnover is greatest in years where there are bigger increases in labour productivity. With automation and AI promising to transform industries, a new wave of creative destruction may be set to be unleashed. Triangulating information on sectors based on (1) the level of data-intensity; (2) the proportion of employees working in highly automatable roles such as back office and transportation roles; and (3) high levels of capital intensity (which may be improved by predictive maintenance and higher asset utilisation rates), UBS analysts have reviewed how they see their sectors being affected across a prism of revenue and cost opportunities, and the threat from increased competition. While 27 of 29 sectors saw cost reduction opportunities, 18 saw increased competition [\(link\)](#).

## Concern: Governance, ethics, job losses

A seminal 2013 paper by Frey and Osborne<sup>1</sup> estimated that as much of 47% of jobs could be impacted by automation, and while many predict AI will create great economic value, the potential for income inequality to grow is clear. The often "black box" nature of AI-based decisions, meanwhile, creates concerns that the algorithms will inherit bias from the data that it is fed-on, be hard to audit and perpetuate biased decisions. Fears that general purpose AI may create the rise of superintelligence in machines that do not behave in humans' best interest is also frequently seen as a long-term risk.



## Related Assets

See the next page for a selection of **research** related to the theme.

We also include some **Questions submitted to the UBS Question Bank**, as well as **unique datasets from UBS Evidence Lab**.

<sup>1</sup> "The Future of Employment: How susceptible are jobs to computerization?" Carl Benedikt Frey and Michael A Osborne, 17 September 2013)

## Assets for Theme 5: AI Scales

### Related Research

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**Coursera Inc. Training for tomorrow's jobs. Initiate at Buy** ([Link](#)), Jennifer Lowe, Apr-2021

---

**European Technology "Disruptive Technology Day – 2021"** ([Link](#)), Michael Briest, Mar 2021

---

**Global Software: ESG Radar** ([Link](#)), Michael Briest, Dec-2020

---

**Q Series: How will the COVID-19 disruption shape enterprise usage of Software & Services?** ([Link](#)), Diviya Nagarjan, Oct-2020

---

**Q-Series: Future Reimagined Propelled to the thinking economy** ([Link](#)) Bhanu Baweja, Jun-2020

---

**Asia Software & Services "China and India – on two different paths to AI dominance"** ([Link](#)), Diviya Nagarajan, Feb-2020

---

**UBS Evidence Lab Inside: How is management commentary on AI changing?** ([Link](#)), Michael Briest, Dec-2019

---

**US Software "UBS Evidence Lab inside: AI making the Move from Hype to Reality"** ([Link](#)), Jennifer Lowe, Feb-2019

---

**Q-Series "Where are incumbents under the greatest threat from AI?"** ([Link](#)), Michael Briest, Dec-2018

---

**Q-Series "AI arms race: Is data China's sleeping dragon?"** ([Link](#)), Bill Lu, Oct-2018

---

**Q-Series: "If "Data is the New Oil", is AI the New Internal Combustion Engine?"** ([Link](#)), Timothy Arcuri, Apr-2018

---

**Artificial Intelligence "Trends and Impacts 2018"** ([Link](#)), John M.A. Roy, Jan-2018

---

**Q-Series: Global Banks "Is AI the next revolution in retail banking?"** ([Link](#)), Philip Finch, Nov-2017

---

**Q-Series "Personal assistant, shopper, travel agent, device controller, friend: will AI assistants deliver?"** ([Link](#)), Nicolas Gaudois, Sep-2017

---

**Video: Imperial College Autumn series Artificial Intelligence** ([Link](#)), Michele de Souza. Oct-2020

---

**Q-series Video: Debating Megatrends (#3): The Rise of Automation** ([link](#)), Bhanu Baweja, Aug-2020

---

**Alphabet Inc. "Presenting a Future Driven by AI & Machine Learning"** ([Link](#)), Eric J. Sheridan, May-2017

---

## Top Questions submitted to the UBS Question Bank

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Will the **breakthrough** in technology and **AI** allow industry to **replace jobs** lost due to the **pandemic**?

?

How will **future machine learning applications** continue to require human training data sets?

?

How will **AI** impact **economic decision making**?

?

What are AI's implications for **cybersecurity** in today's world?

What are the **odds** that **AI** and **Quant** lead to a **major market dislocation**?

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Source: UBS Question Bank

## Unique datasets from UBS Evidence Lab

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### Adoption of Artificial Intelligence by Corporates [\(Click here to access the data\)](#)

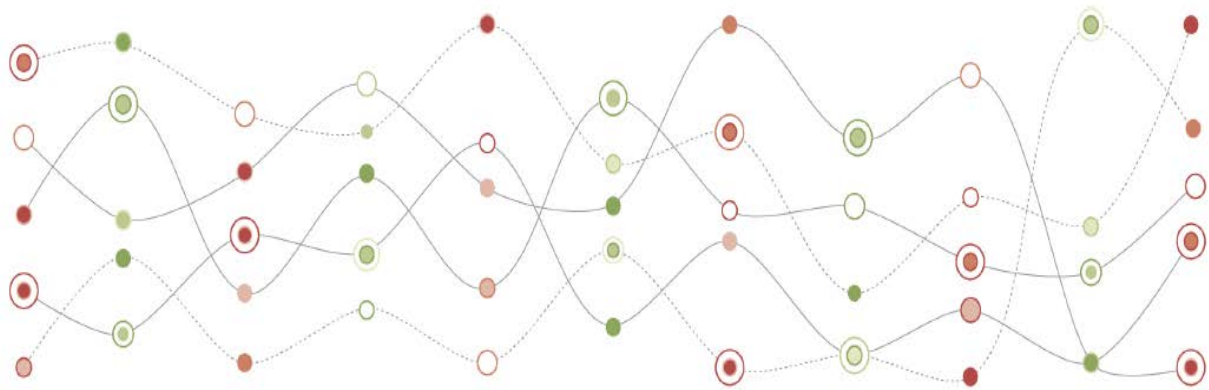
Annual view of corporate adoption of artificial intelligence technologies. For this report, UBS Evidence Lab conducted 450 interviews with senior-level technology executives engaged in AI activities at large enterprises.

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### Global Automation Products Patent Tracker [\(Click here to access the data\)](#)

UBS Evidence Lab analysed automation products patents to identify trends in the total volume and classification of automation products patent applications filed by company. Patents from China, France, Germany, Japan, Switzerland, and United States appear in this report.

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Source: UBS Evidence Lab



## What to watch for Theme 5: AI adoption is broadening

### DATA RELEASE / EVENT DATE

### WHAT WE EXPECT / WHAT WE WILL LOOK FOR

2018 ● **Narrow AI excellence demonstrated**

#### **Go AI! Narrow AI progresses by leaps and bounds**

In 2016, DeepMind's AlphaGo beat world champion Lee Sedol in four out of five games of Go, but only after training on 160,000 historical games. In 2018, AlphaGo Zero surpassed the abilities of AlphaGo in just three days after just being given the rules of the game and playing against itself.

2019 ● **Regulatory moves start to be formed**

#### **First steps to regulate the development of AI**

In May 2019 the OECD approved principles for promoting AI that is innovative but respects human rights and democratic values. The G20 adopted similar human-centred AI principles last year too. Microsoft and Facebook have also indicated their willingness to see some degree of regulation of AI's development take place.

2022+ ● **AI accelerates its impact on the workplace**

#### **Reskilling to adapt to AI's growing role in the workplace is needed**

The World Economic Forum predicts that 133m new jobs will be created by 2022 as a result of the application of AI, compared to 75m that will be displaced. By 2030, it expects AI and the fourth industrial revolution to require the reskilling of more than 1 billion people.

2025+ ● **Fully autonomous vehicles**

#### **Fully autonomous vehicles become a reality**

Level 5 automation in vehicles is expected to become a reality with fully autonomous driving enabled systems being run completely autonomously.

2030+ ● **Will robot taxes become a reality?**

#### **Will robot taxes become real and lead to a universal basic income?**

In 2017 South Korea introduced the first robot tax. Others, including Microsoft founder Bill Gates, are calling for robot taxes to counteract the potential social impact of automation on jobs.

2030? ● **Quantum Computing boosts AI's powers**

#### **Quantum Computing - boosting AI's impact**

With Google claiming that it has a quantum computer that is millions of times faster at processing than any of today's classical systems, quantum computing has the potential to supercharge the learning time for AI algorithms and accelerate the development of AI.

2040? ● **Achieving the singularity... perhaps**

#### **Achieving the singularity - limitless self-improvement in AI**

Artificial general intelligence is achieved with algorithms that can replicate human thought processes and apply knowledge gained in one domain to others. Training times will dramatically reduce and multiple areas of competency can be mastered by the machine at the same time. To some the concept of uncontrollable technological growth becomes irreversible.

Source: UBS



## Theme 6: Climate Damage and Repair

### Theme: Climate Damage, and Climate Repair

It is over 60 years since Charles Keeling started monitoring CO<sub>2</sub> concentrations at the Mauna Loa Observatory in Hawaii; over half a century since marine biologist Rachel Carson wrote *Silent Spring*; 46 years since humans were first observed to be living on environmental credit, borrowing renewable resources from future generations according to the Global Footprint Network; 28 years since the first Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR1); 25 years since the UNFCCC COP1. What will stop the inexorable trend of environmental damage for which climate change is the bellwether issue and CO<sub>2</sub> data the means by which to monitor the balance between damage and repair?

### Implication: Water levels, renewable energy costs to zero

In November 2019 scientist Timothy Lenton and colleagues described climate-change related tipping points, feeding into each other to produce a disastrous cascade of events. ([Climate tipping points: too risky to bet against](#)). In our view, one of the answers must be a [cascade of tipping points](#) moving in the opposite direction, in the form of multiple, market-driven cross-sectoral innovations moving society towards lower carbon economic systems globally. Agriculture, food, energy, transport, consumer goods, buildings and infrastructure need to change.

### Concern: Population replanting, insurance

Population growth and the drive to raise economic output are key factors behind the increase in CO<sub>2</sub> emissions – in our most recent report on Energy Transition, we introduced a framework ([link](#)) which looks at how investments in key sectors could cut CO<sub>2</sub> emissions. With an eco-redesign of food, energy, transport and infrastructure, climate (and ecosystem) repair would be possible. People are starting to fly less, eat less meat, plant trees, avoid natural resource wastage and pollution. Will this happen fast enough to reduce the social and financial costs of climate-related ecosystem volatility? Will physical risks and transition costs be fairly distributed?

### Related Assets

See the next page for a selection of **research** related to the theme.

We also include some **Questions** submitted to the **UBS Question Bank**, as well as **unique datasets** from **UBS Evidence Lab**.



## Assets for Theme 6: Climate Damage and Repair

### Related Research

---

**Q-Series "Future of Food I: Is Plant-Based Meat Poised to Rebalance Protein Consumption?"** ([Link](#)), Steven Strycula, Nov-2019

---

**Q-Series "Energy Transition: How will \$140tn of investment be allocated across the Energy supply chain..."** ([Link](#)), Amy Wong, Mar-2021

---

**Q-Series "10b tons to zero: how can China achieve its carbon neutral goal?"** ([Link](#)), Ken Liu, Jan-2021

---

**Q-Series Redux "Is the ESG Data and Services TAM Expanding? Who is..."** ([Link](#)), Alex Kramm, Feb-2021

---

**European Wind Turbine Manufacturers: market outlook - wind continues to gain** ([Link](#)), Supriya Subramanian, Feb-2021

---

**Transition Topics "North Sea Transition Deal provides insight into..."** ([Link](#)), Amy Wong, Mar-2021

---

**Q-Series "A \$2.5trn industry at risk? What if consumers stop buying..."** ([Link](#)), Vicki Kalb, Apr-2021

---

**Q-Series "How do we Unwrap the Plastic problem?"** ([Link](#)), Vicki Kalb, Oct-2019

---

**Global Sustainability: ESG & Sustainability Symposium 2019.** ([Link](#)), Julie Hudson, Sep-2019

---

**European Utilities: Global Energy and Climate Change: Ten Data Points to Support our Convergence hypothesis, and a cautionary tale...** ([Link](#)), Sam Arie, Jan-2020

---

**Q-Series "Global Power and Renewable Energy storage: Are we at the tipping point?"** ([Link](#)), Alex Liu, Oct-2019

---

**Q-Series "Power generation: slow boil or red alert?"** ([Link](#)), Ken Liu, Jul-2019

---

**Global Airlines "Climate awareness on the rise; assessing impact on traffic and planes demand"** ([Link](#)), Celine Fornaro, Sep-2019

---

**Q-series "Greening China—what is the impact from the planned emissions trading schemes?"** ([Link](#)), Ken Liu, Sep-2018

---

**Global Energy & Climate Change "Outlook 2020s: How fossil capex restrictions could lead to convergence of the energy & utility sectors"** ([Link](#)), Sam Arie, Jan-2020

---

**Global Energy & Climate Change "Outlook 2021: Rising pressure on fossil finance to bring a strong new leg to the climate theme"** ([Link](#)), Sam Arie, Jan-2021

---

**Global Energy & Climate Change Study "Aurora research commissioned by UBS"** ([Link](#)), Sam Arie, Sep-2019

---

**European Utilities "Outlook 2019: Rising climate pressure makes wind & solar the new core business. Buy the adaptors."** ([Link](#)), Sam Arie, Jan-2019

---

**Climate change through the lens of energy and mobility transitions** ([Link](#)), Julie Hudson, Jul 2018

---

**Q-Series "Greening the waterways - Who will be the winners and losers?"** ([Link](#)), Yong-Suk Son, Aug-2018

---

## Top Questions submitted to the UBS Question Bank

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How should we expect advances in **hydrogen** and what is the best way to play it?

?

Do you see the **politics of fossil fuels** being replaced by the politics of **rare earth metals** and **renewable energy** IP?

How will **China's clean drive** impact **Methanol**? Will demand increase as it is considered a cleaner fuel?

?

What is the **greatest impediment** to the **US transitioning** to **renewable power generation**?

What is the **environmental impact** of spent **EV battery packs**?

?

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## Unique datasets from UBS Evidence Lab

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### Earnings Call Theme Explorer: Global Climate Change ([Click here to access the data](#))

Earnings Call Theme Explorers provide an in-depth view of the level of discussion around a specific theme across the earnings call transcript database. The analysis is conducted using search algorithms to identify the presence of various keywords pertaining to the respective theme. Comparison tools offer the ability to visualize and inspect keyword mentions at multiple levels of sector aggregation as well as at the company-level. This Earnings Call Theme Explorer illustrates trends in discussion on climate change within earnings call transcripts globally.

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### Global Air Pollution City Ranking Analysis ([Click here to access the data](#))

The Air Quality Index reports hourly air quality and the implication for the health of the exposed population. Most collection systems are controlled and operated by local governmental agencies and aggregated by the World Air Quality Index project.

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### US PFAS Water Contamination Tracker ([Click here to access the data](#))

This framework provides figures on affected people by known PFAS contamination locations, additionally provides metrics on the probable risk on population caused by potential PFAS contamination sites.

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### North Sea Route & Refineries - Ice measurement ([Click here to access the data](#))

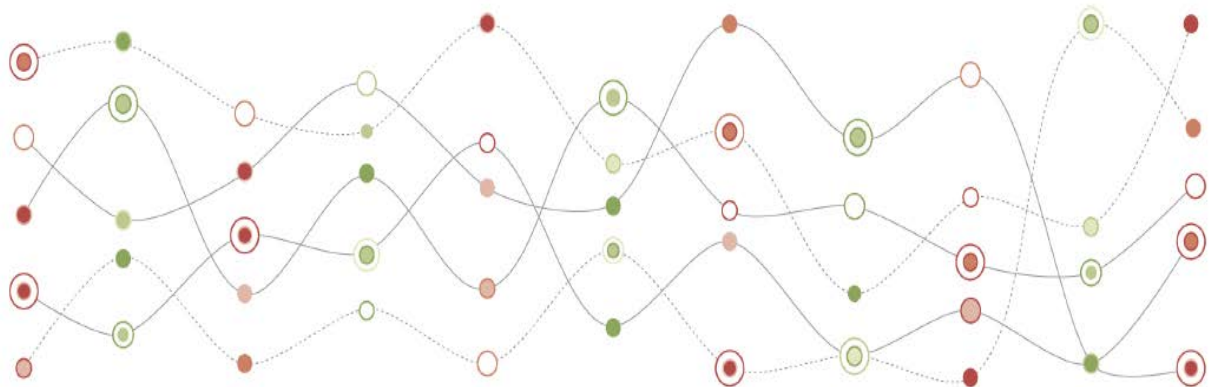
Remote sensing provides a measured view of the dynamic nature of Arctic Sea Ice. Remotely sensed data can provide an information-driven understanding of fluctuations in sea ice and how it relates to the ability of nautical navigation for shipping. Two useful forms of Arctic Sea Ice data are the geographic extent of the sea ice - its boundary - and the ice thickness. Both extent and thickness vary over time and from season to season. Sea ice formation is both a result of climate dynamics, in its formation, and an influencer on global climate, as sea ice reflects solar energy away from earth back towards space.

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### Global Coal Plant Capacity ([Click here to access the data](#))

When will coal-fired power plant capacity peak? This asset is based on a bottom up analysis of global coal plants, considering status, useful life and capacity of each plant, modeled from 1995 to 2080, including 5 scenarios.

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## What to watch for Theme 6: Climate Damage and Repair

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2Q 2021 ● <b>Carbon Border Adjustment Mechanism</b>	<p><b>EU creates a level playing field for carbon?</b></p> <p>EU Commission to publish implementation plans for a Carbon Border Adjustment Mechanism. With the appropriate calculation of carbon intensities, this could create a level playing field for European markets</p>
2Q to 3Q 2021 ● <b>United Nations 6th Assessment report (AR6)</b>	<p><b>Intergovernmental Panel on Climate Change AR6 Meetings</b></p> <p>We expect the upcoming cycle of IPCC reports to drive further media coverage, policy ambition, interest in and focus on climate themes.</p>
Nov 2021 ● <b>Global climate conference (COP 26) to take place in Glasgow, UK</b>	<p><b>COP 26</b></p> <p>A Key expectation is for governments to update their Nationally Determined Contributions (NDCs)</p>
2030 ● <b>Carbon tax increases</b>	<p><b>Norway and Netherlands lead</b></p> <p>Norway has plans to triple its carbon tax to Nkr2000 (US\$237)/ton</p> <p>Netherlands proposes to increase its carbon tax to €125/ton.</p>
2040 ● <b>Decarbonisation of Transportation</b>	<p><b>New technologies</b></p> <p>We believe the transportation sector can be almost entirely decarbonised by 2040 thanks to new technologies and consumer behaviour changes.</p>
2045 ● <b>Sweden net zero target in 2045</b>	<p>Can other counties accelerate and reach net zero earlier?</p>
2050 and beyond ● <b>Paris Agreement goals</b>	<p>Limit warming below 2 degrees Celsius, together with increasing economic and social ability to adapt to extreme climate change</p>
	<p><b>Net Zero by 2050 countries</b></p> <p>UK, France and Denmark, New Zealand and Hungary have already legislated for net zero by 2050. EU, Canada, South Korea, Spain, Chile and Fiji have proposed legislation</p>
	<p><b>China pledges to be Carbon Neutral before 2060</b></p> <p>China announced in September 2020 its ambition to become carbon neutral before 2060, the first time China has publicly committed to a long-term goal for net zero emissions</p>

## Theme 7: Rise of non-traditional materials



### Theme: 3D printing and non-traditional materials rise

Whilst this has been a constant from the point of view of chemicals, and more specifically specialty materials companies, we are entering a decade where the onset of new products is threatening to transform business models and supply chains. 3D printing already has significant traction, as does graphene, but battery materials and biodegradable plastics will also have a long 'runway' of growth in the 2020's. The broad aims of a reduction of CO2 emissions and of clearing the planet's waste will continue to pose opportunities and challenges to both management teams and investors.

### Implication: reinventing plastics' production, exploring new chemistries on auto powertrains

Globally the larger petrochemicals companies will increasingly need to address the opportunity for biodegradable plastics whilst also managing the risks to lower packaging demand. Increasingly regulation will impact volumes especially for single use packaging, as we have seen in the example of China's policy initiatives (end January). On the automotive side of the equation the speed of the death of diesel will be key to a number of business models (e.g. Fuchs Petrolub, Johnson Matthey) but equally the transition to electric vehicles rather than hybrids, will dictate the content growth for the chemicals industry over the medium term of battery materials, lubricants, catalysts and specialty polymers.

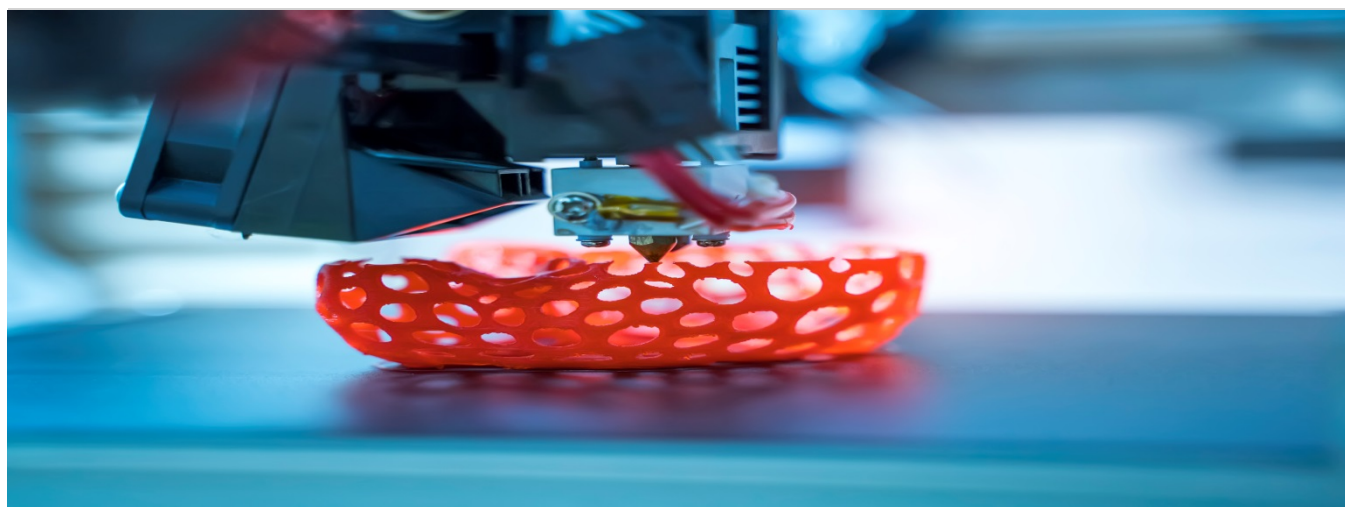
### Concern: ROCE risk in pivot away from 'old' to 'new'

Threats to medium-term ROCE trends will always exist in a period of transition, even if longer-term growth can be secured through a realignment of production. This is certainly the case for the battery materials where selecting the winners and losers will not be straightforward, either by market share analysis or due to the lack of visibility of the winning technology: already the race is on amongst producers for solid state batteries as opposed to the current NMC/NCA/LFP chemistries.

### Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some [Questions submitted to the UBS Question Bank](#), as well as unique datasets from [UBS Evidence Lab](#).



## Assets for Theme 7: Rise of non-traditional materials

### Related Research

- 
- UBS Evidence Lab: The UBS VW ID.3 "tear-down" and what it means for EU Chemicals " ([Link](#)), Andrew Stott, May-2021
- 
- Q-Series 'Tearing Down the Heart of an Electric Car Lap 2: Cost Parity a Closer Reality?' ([Link](#)), Tim Bush, Oct-2020
- 
- Chemicals Sector "Outlook 2020: milestones for the next decade's key themes" ([Link](#)), Andrew Stott, Dec-2019
- 
- Umicore: Tesla Battery Day – potential implications ([Link](#)), Geoff Haire, Sept 2020
- 
- Johnson Matthey: Tesla Battery Day – potential implications " ([Link](#)), Andrew Stott, Sept 2020
- 
- Chemicals Sector "ESG and the SX4P: 10 stocks to follow in the 2020s ([Link](#)), Andrew Stott, Sept 2020
- 
- UBS Global I/O: Battery Commodities "What does EV Battery Tear-Down imply for battery raw materials?" ([Link](#)), Lachlan Shaw, Nov-2018
- 
- Global Commodities "Lithium & Graphite: Driving Disruption" ([Link](#)), Lachlan Shaw, Jun-2017
- 
- Tobacco "UBS Evidence Lab: Next gen products could change terminal growth" ([Link](#)), Nik Oliver, Nov-2018
- 
- Tobacco "Disruption comes to a 130 year old, \$600bn industry" ([Link](#)), Nik Oliver, Apr-2019
- 
- HP Inc "A 3D Printing Primer for HP Inc Investors" ([Link](#)), Steven Milunovich, Dec-2016
- 
- HP Inc "Better PCs, More Printers, and Eventually 3D Printing" ([Link](#)), John Roy, Sep-2018
- 
- Q-Series Global Sustainability "How do we unwrap the plastic problem?" ([Link](#)), Victoria Kalb, Oct-2019

### Top Questions submitted to the UBS Question Bank

How impactful has **3D printing** been to various sectors so far and is it likely to have a bigger impact going forward?

?

What does increased **EV penetration** mean for **raw materials** demand ?

?

Given the current market environment and **uncertainties** on pace of recovery, is there a reluctance to put **additional capital** to work in the **chemicals sector** without first **understanding** what the **new normal** means?

?

What will **plastics demand** look like in **2030** –when **will the decline start?**

?

What is the **revenue opportunity** from **plastics to paper substitution?**



## Unique datasets from UBS Evidence Lab

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### Earnings Call Theme Explorer: Global Recyclable Plastics ([Click here to access the data](#))

Earnings Call Theme Explorers provide an in-depth view of the level of discussion around a specific theme across the earnings call transcript database. The analysis is conducted using search algorithms to identify the presence of various keywords pertaining to the respective theme. Comparison tools offer the ability to visualize and inspect keyword mentions at multiple levels of sector aggregation as well as at the company-level. This Earnings Call Theme Explorer illustrates trends in discussion on recycling and plastics within earnings call transcripts globally.

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### Global Plastic Packaging Consumer PulseCheck Survey ([Click here to access the data](#))

This survey was fielded among a representative sample of 4,718 respondents in the US, UK, Germany, and Australia. The respondents answered questions about their recycling habits and awareness / willingness to go greener.

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### Earnings Call Analyzer: Plastics and Rubber Products Manufacturing ([Click here to access the data](#))

This Earnings Call Analyzer provides a sub-industry-level view of the characteristics and content of earnings call discussion measured using proprietary natural language processing algorithms. Comparison tools offer the ability to contrast the sentiment, emotion, stability, and confidence of language used and the topics discussed against competitors and the sector-at-large.

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### Lithium Ion Battery Separator Patent Tracker ([Click here to access the data](#))

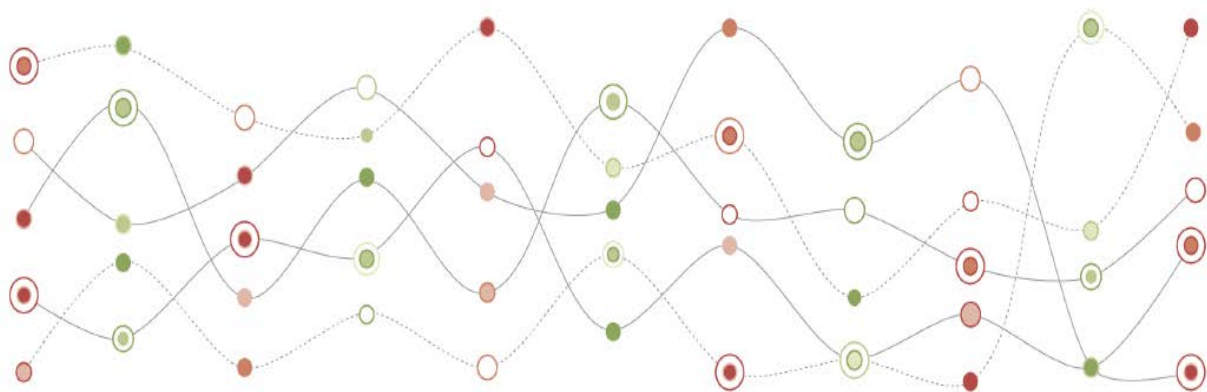
UBS Evidence Lab analysed battery separator patents to identify trends in the total volume and classification of battery separator patent applications filed by company. Patents from China, Japan, Korea, and Taiwan appear in this report.

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### Earnings Call Analyzer: Resin Synthetic Rubber and Artificial Synthetic Fibers and Filaments Manufacturing ([Click here to access the data](#))

This Earnings Call Analyzer provides a sub-industry-level view of the characteristics and content of earnings call discussion measured using proprietary natural language processing algorithms. Comparison tools offer the ability to contrast the sentiment, emotion, stability, and confidence of language used and the topics discussed against competitors and the sector-at-large.

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## What to watch for Theme 7: Rise of non-traditional materials

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2021/22 ● <b>Roll-out of EV models across autos</b>	<b>A big year for OEM launches for EVs</b> <p>Tesla is already showing the way on production growth but this year and next will be a major year for judging the success of Chinese and European OEMs with regards to the ramp-up of electric vehicles. Volkswagen and several others have models set for launch in the coming 12 months and it has established a new production platform for batteries in Europe. Nio Inc is also progressing in China at an impressive pace of growth.</p>
2021/22 ● <b>China's legislation on single use packaging and its impact on demand</b>	<b>New policy initiative in China will be a test for demand impact</b> <p>China announced at the end of January 2020 restrictions on plastic use specifically targeting a reduction in low value, high volume plastics in a phased approach 2020-25. Non-degradable shopping bags and plastic utensils are prohibited from a number of retail channels, municipalities and provincial capitals in 2020 and it will extend to additional cities and coastal areas by 2022. We estimate that the plastics packaging market accounts for 42% of global plastic production, and China accounts for c35% of global demand. European stocks in Chemicals will see limited effect but there are exposures in our global coverage to consider: polyolefin (PE, PP), PVC, PET and PS will be the most impacted by these regulatory challenges (see <a href="#">How do we unwrap the plastic problem?</a>)</p>
2021 onwards ● <b>Biodegradable plastics</b>	<b>The Corbion/Total JV – a test case for demand</b> <p>Companies such as Corbion and Total (a JV for the production of polylactic acid, a natural alternative to polystyrene) will this year continue to educate the market on the scale of demand growth achievable for alternatives to petrochemicals. Others will also be worth tracking such as BASF's recycling project with Quantafuels, Bio Amber, Genomatica and Myriant. Our US Chemicals team has also hosted recently Origin Materials and Danimer Scientific.</p>
2025 onwards ● <b>Solid state batteries</b>	<b>Mid-decade commercial viability for solid state batteries</b> <p>Battery material companies continue to seek a long-term competitor or even successor material to current NMC, NCA battery materials, partly driven by a desire to improve both safety and energy density. As yet solid state batteries are in the R &amp; D phase but companies such as Ganfeng Lithium in China are working towards being one of the first to commercially develop the technology. US-listed QuantumScape in the US also has claims on this area.</p>

## Theme 8: Tech disrupts big banking



### Theme: Changing tech, regulation and customer habits drive significantly higher customer churn and competition

We're all users of vastly improved bank apps which allow us to better manage our finances at no cost to ourselves. Most developed markets are seeing increased numbers of new, simple digital challenger banks but so far these players have had little impact on banking sector market shares or profit pools.

How sure are you that this is permanent? [Research](#) covering 18 key disruptors around the world showed how customer inertia and higher funding costs of new players are what has protected incumbent banks so far. Subsequent focus pieces showed how these moats are being eroded and are at fundamental risk of a big tech entrant in banking and increased cross border competition from existing players from other markets (research [here](#), [here](#), [here](#) and particularly [here](#)).

### Implication: Lower product margins, pressure on high return customer groups, emphasis on cost cutting, M&A

Significant proportions of bank profit depend on customer inertia and are derived from single products and customer groups delivering outsized ROEs. Regulatory change around data sharing (open banking), account switching (digital identity, industry utilities) and pricing transparency, all combine with improved tech to allow new players to target high ROE products like retail FX (Revolut, Wise etc) and higher return customers (fintech banks favour SME and unsecured lending).

We expect automated switching of financial service providers in the near term and focussed product-level competitors to continue to pressure industry profit margins.

### Concern: Structural challenges in profitability

Developed market banks are exposed to a combination of income pressures from low rates, a backlog of tech investment in their own businesses, higher demands for regulatory capital and regulatory mechanisms. A tough outlook for one of the biggest Value sectors in equities.

### Related Assets

See the next page for a selection of [research](#) related to the theme.

We also include some Questions submitted to the [UBS Question Bank](#), as well as unique datasets from [UBS Evidence Lab](#).



## Assets for Theme 8: Tech disrupts big banking

### Related Research

Q-Series "Big banks and the bigtech, fintech & digibank incursion. What is at stake?" ([Link](#)), Jason Napier, Jun-2019

Banktech Bulletin #1: Here's how big banks lose part of their funding competitive advantage ([Link](#)), Jason Napier, Jan-2020

Banktech Bulletin #2: Barbarians at the gate? What new digital banks in Hong Kong, Singapore and Australia mean for incumbents ([Link](#)), Jason Napier, Mar-2020

Banktech Bulletin #3: JPMorgan changes its mind on international retail. What the UK launch means ([Link](#)), Jason Napier, Feb-2021

Banktech Bulletin #4: Paying customers for loyalty and good behaviour: The killer app in customer acquisition and profitability? ([Link](#)), Michael Christelis, Apr-2021

Emerging Fintech #1 ([Link](#)), Stephan Potgieter, Feb-2021

Emerging Fintech #2 ([Link](#)), Stephan Potgieter, Jan-2021

European Financial Technology "UBS expert on "Cloud banking IT #3: The... ([Link](#)), Hannes Leitner, Mar-2021

European Financial Technology "UBS expert talks on "Bank's Cloud Migration... ([Link](#)), Hannes Leitner, Dec-2020

European Financial Technology "Feedback from UBS Expert Call: "How Banking..." ([Link](#)), Hannes Leitner, Dec-2020

FinTech Series "Global perspectives on Blockchain: what is the impact for Financial and Tech companies?" ([Link](#)), Frederic De Mariz, Sep-2017

Global Payments "Expert call: "Comparing Adyen's and Stripe's value... ([Link](#)), Hannes Leitner, Apr-2021

China Banks "Takeaways from GCC Financial and Fintech tour (1)..." ([Link](#)), May Yan, Jan-2021

### Top Questions submitted to the UBS Question Bank

Will **crypto go more mainstream**? What is the risk of **financial transactions** migrating to a new **ecosystem**?

?

Can major banks retain their market share in the face of **new fin-tech** via **strategic acquisitions**?

How should **financial services** firms **better position** themselves to prepare for a **future driven** increasingly by technology (ie **digital transformation**, FinTech and **increasing role of AI** and **robotics**)?

?

Will Fintech **challengers** be able to **monetise** significantly from **open banking** and **personal data regulation**?

?

Do **digital coins, digital wallet** and **Blockchain** and **decentralised finance** spell the end for traditional banks?

## Unique datasets from UBS Evidence Lab

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### Global App Monitor -Financials ([Click here to access the data](#))

What are the Financial apps rankings & download trends globally? UBS Evidence Lab tracks rankings and downloads (including revenues where applicable) for thousands of mobile applications in the iOS and Google Play store across more than 90 geographies to help answer this question.

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### China Mobile Payment Consumer Survey ([Click here to access the data](#))

This survey of 1,978 Chinese respondents provides a view on consumer awareness, usage and attitude on mobile payment.

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### Global Mobile Banking Consumer Survey ([Click here to access the data](#))

This survey of 24,295 consumers provides a view on consumer awareness, usage and attitudes towards banks and non-traditional banking providers.

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### Japan Cashless Payments Consumer Survey ([Click here to access the data](#))

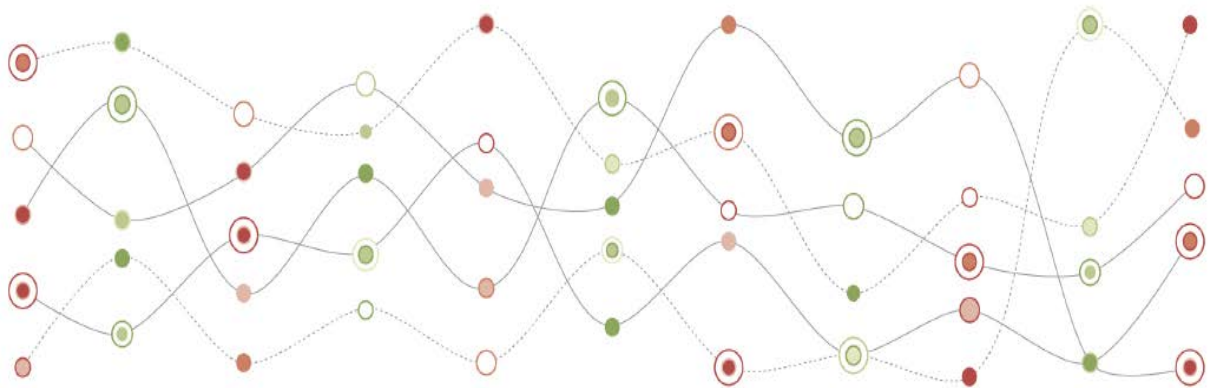
This survey of 1000 Japanese consumers aged 18-69 years old, provides a comprehensive look at the awareness, usage and attitudes towards cash vs. various non-cash payment methods and brands in the cashless segment, payment occasions and payment behavior in key channels.

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### US Banking IT Spend Survey ([Click here to access the data](#))

This survey of 185 IT decision makers provides a view on banks' spending intentions, and their perceptions of the macro environment in which they operate.

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## What to watch for Theme 8: Tech disrupts big banking

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2020 ● <b>Hong Kong digital banks launch</b>	<p><b>Newly licenced digital challengers hit the ground</b></p> <p>Hong Kong's eight new digital banks, all backed by well-funded joint venture partners, begin operating. We expect take up to be slow in the short term but significant in the long term as simpler, more efficient operating platforms and JV backers fund attractive switching propositions. Similar trends will be evident in Singapore and other markets in due course.</p>
Ongoing ● <b>Opening Banking goes international</b>	<p><b>The data belongs to the customer, doesn't it?</b></p> <p>Open Banking and Payment Services Directive in the UK and EU respectively established the customers' right to share her data with other service providers. We expect this type of legislation to be introduced elsewhere, increasing ease of switching and price discovery, reducing customer inertia.</p>
Ongoing ● <b>Peer to peer payments increase</b>	<p><b>Customers gain rights to transfer funds between themselves</b></p> <p>Open Banking will facilitate a second wave of products where customers sanction payments directly between themselves and service providers and contacts. Makes way for disintermediation of banks and the payment rails which have dominated digital commerce to date. Watch evolution of VISA's acquisition of Plaid, ING's implementation of Yolt as examples.</p>
Ongoing ● <b>Broadened product offerings by existing players</b>	<p><b>How else can we be of service today, madam?</b></p> <p>Many fintech players' technology is relatively easy to replicate. Acquiring large numbers of customers at reasonable cost is the real challenge. Watch for broadening product ranges from providers adjacent to banking with scale customer bases introducing higher customer churn and price-lead competition</p>
Ongoing ● <b>The Empire strikes back</b>	<p><b>In a business where a large proportion of costs are fixed...</b></p> <p>Pressure on revenues from low rates, increased customer churn and new competition, big players will react by cutting costs, reducing return ambitions in high ROE products like resi mortgages, retail FX, credit cards and elsewhere and by launching new businesses – backed by lower cost tech – in new markets (as JP Morgan announced for the UK in 2020). Markets with high price discipline will be highly prized</p>
20?? ● <b>A big tech entrant</b>	<p><b>It's worked before, it can work again</b></p> <p>Kakao Bank – launched by Korea's leading search engine and messenger company has funding costs in line with the country's big banks. The success of Alibaba and Tencent in integrating financial services in e-commerce offerings may be partially driven by local market considerations but not entirely so: highly networked big tech firms can take share and compete. First we expect customer referrals, then whitelabelled products, then own manufacture. The bigger the big tech firm involved, the bigger the impact. Read our Amazon and Kakao Bank case studies <a href="#">here</a>.</p>

## Theme 9: Data-driven ecommerce



### Related Assets

See the next page for a selection of **research** related to the theme.

We also include some **Questions submitted to the UBS Question Bank**, as well as **unique datasets from UBS Evidence Lab**.

### Theme: Data-driven ecommerce

COVID accelerated online penetration from fashion to food delivery, even doubling in grocery retail. Growth in active customers online means more consumer data, and for Retailers, can drive incremental sales (e.g. conversion, order frequency, basket values), reduce waste and cut supply chain costs (e.g. demand forecasting), and more informed customer acquisition with lifetime value modelling. With the shift to an online, comes greater suppliers' participation. Online growth is not easy for omni-channel retailers given the costs, but scope to improve economics and data monetisation is significant, and in our view only just begun.

### Implication: Rising tech investments, data monetisation opportunities as well as likely continued store closures

Retailers that can convert data into real customer insights will win. Leveraging huge volumes of 1st party data: Personalising of price at scale is step 1 in data monetisation, driving sales, via a customised, seamless experience online and off. Note Tesco's Clubcard Prices ([here](#)), Amazon's Go store ([here](#)), Farfetch's Store of the Future. Shared insights with suppliers drives product innovation and speed to market. The final, most valuable step is ad income from suppliers – via sponsored search - turning retailers into media providers, [Selling Ads alongside Apples](#) and Zalando Marketing Services ([here](#)). In Food delivery, data monetisation is in its infancy. Only the tech savvy, with advanced data capture and sufficient data maturity will access this profitable revenue stream. Funding the needed tech investments to adapt remains a challenge for traditional retail, where store numbers with undifferentiated brands will continue to decline.

### Concern: Governance of consumer data, customer experience issues and centralisation of shops

**Data privacy** is paramount (managed via regulation, e.g. GDPR, data security), but consumer trust will be tested (breaches and cyber-attacks). Indiscriminate use of data could undermine **customer experience**. Retailers must tread carefully with data. **Next** does not expect to sell ad space / permit sponsored product listings on its 3rd party brand platform, or risk consumers seeing less relevant items, impacting satisfaction and conversion.

**Sustainability** is a key debate. While data may drive more eco-friendly supply chains, tools to encourage consumption run counter and any backlash to consumerism is an added risk for traditional retail. Scale in distribution and seamless integration of online/offline will be key to who emerges stronger.



## Assets for Theme 9: Data-driven ecommerce

### Related Research

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**Global Online Food Delivery "UBS Evidence Lab inside: Looking beyond stay at home – delivering growth and profits"** ([Link](#)), Sreedhar Mahamkali, Mar-2021

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**UK Food Retailers "UBS Evidence Lab inside: Covid-19 consumer survey #4 -> online grocery demand to remain high"** ([Link](#)), Sreedhar Mahamkali, Aug-2020

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**UK Food Retailers "UBS Evidence Lab inside: Grocery online: high demand -> the new normal"** ([Link](#)), Sreedhar Mahamkali, July-2020

---

**Global Food Retailers "Selling ads alongside apples: Who is best positioned for the Retail Media opportunity?"** ([Link](#)), Sreedhar Mahamkali, June-2020

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**Pan Euro Food Retailers "UBS Evidence Lab inside: Discounters, Digital and Data – a fresh look at the sector"** ([Link](#)), Sreedhar Mahamkali, May-2020

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**Q-Series "The next two billion in India and ASEAN are going digital: Who wins?"** ([Link](#)), Navin Killa, Feb-2021

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**Q-Series "Future of supermarkets: Diving, surviving or thriving?"** ([Link](#)), Ben Gilbert, Nov-2019

---

**Q-Series Global Retail "Dissecting Amazon's new market playbook: Have share prices overreacted to its Australian entry?"** ([Link](#)), Ben Gilbert, Jul-2017

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**Q-Series "Is The Kitchen Dead?"** ([Link](#)), Chris Grundberg, Jun-2018

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**China Clicks 'n Bricks "UBS Evidence Lab inside: will online migration continue & what are the growth opportunities?"** ([Link](#)), Christine Peng, Jan-2019

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**UBS Evidence Lab inside: Global Luxury "Is digital the next leg of growth for the sector?"** ([Link](#)), Julie Zhuang, Mar-2019

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**Brazil eCommerce "UBS Evidence Lab: How is the Brazilian shopper evolving?"** ([Link](#)), Gustavo Piras Oliveira, Jun-2019

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**China360 "New decade, new drivers, new disruptions: Theme 1 – New retail"** ([Link](#)), Natalie Cade, Jul-2020

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**Q Series "eCommerce Migration: How Much More Online Disruption Post COVID-19?"** ([Link](#)), Jay Sole, Dec-2020

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**China Internet "UBS Evidence Lab inside: Clicks 'n Bricks: online adoption takes a pause"** ([Link](#)), Jerry Liu, Jan-2019

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**Q-Series "How is the clicks 'n bricks revolution re-shaping shopping malls?"** ([Link](#)), Wright, May-2017

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**Q Series "Clicks vs. Bricks: How is the US online shopper evolving?"** ([Link](#)), Michael Lasser, Nov-2016

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**European Online Retailers "No more free lunch: taking a long view on a sector promising future value creation"** ([Link](#)), Olivia Townsend, Oct-2019

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**UK Shopping Malls "UBS Evidence Lab inside: Assessing dominance over the competition. Which portfolio shines?"** ([Link](#)), Osmaan Malik, Jul-2019

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## Top Questions submitted to the UBS Question Bank

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Which **China internet platform** has the most to gain from **community group buying**?

?

Have the **content** and **social media platforms** changed the **distribution of gaming** ?

?

How big is the danger that **social media giants** control the political world? How can their **growing influence** on the **world political scene** be countered?

?

What is the **future of shopping malls** as **ecommerce penetration** increases?

How can **food delivery** improve the **profitability** of **logistics** ?

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## Unique datasets from UBS Evidence Lab

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### Global Food Delivery App Monitor [\(Click here to access the data\)](#)

What are the Food Delivery app trends globally? UBS Evidence Lab tracks daily rankings for thousands of mobile applications in the iOS and Google Play store across more than 50 geographies to help answer this question.

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### Global Markets Takeaway Consumer Survey [\(Click here to access the data\)](#)

This survey of 13,264 consumers provides a view on consumer awareness, usage and attitude on the selection of food delivery companies.

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### Global Luxury Ecommerce Mobile App Monitor [\(Click here to access the dataset\)](#)

What are the Luxury Ecommerce app trends globally? UBS Evidence Lab tracks daily rankings for thousands of mobile applications in the iOS and Google Play store across more than 50 geographies to help answer this question.

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### US Online Retail Migration Consumer Survey [\(Click here to access the data\)](#)

This survey of 2,500 shoppers in the US provides a view on consumer awareness, usage and attitude towards online purchase across various categories and retailers.

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### China eCommerce Survey [\(Click here to access the data\)](#)

A survey of 1,433 respondents to gauge China consumers' usage on several new ecommerce websites.

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### China Ecommerce & Logistics Local Addressable Market Proximity Analysis [\(Click here to access the data\)](#)

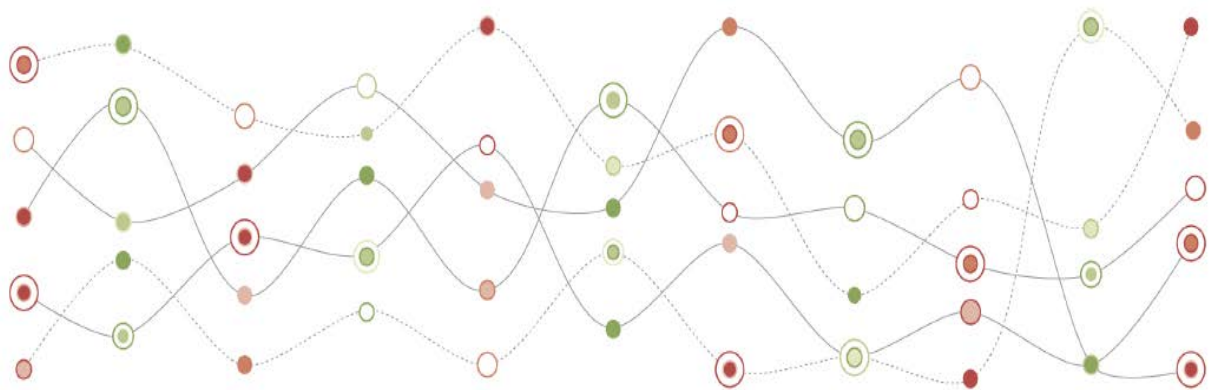
This framework presents set of metrics measuring the proximity between addressable market defined by chosen demographics (e.g. Total Population) and current location footprint of given company.

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### UK Mall Foot Traffic Monitor [\(Click here to access the data\)](#)

See foot traffic (footfall) at UK Malls. This framework presents foot traffic patterns at target locations. Traffic patterns include measures of current usage, time spent waiting to utilize the resource, and measures of congestion, among others, to identify inflections in usage patterns.

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## What to watch for Theme 9: Data-driven ecommerce

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2021 ● <b>Reporting from major online players like Amazon and Alibaba</b>	<b>Sustainability of online demand on re-opening</b> We view Amazon not only as an online retail leader but as a proxy for online retail sales growth that corroborates the US government data and other sources of data. Similar can be said of Alibaba which remains the dominant platform in China.
2021 ● <b>Reporting from major omni-channel players like Walmart, Inditex etc</b>	<b>Online growth trends and changes in offline supply</b> It is likely to be clearer from omni-channel brands (where there is the option to shop offline too) just how sticky online spend is post COVID. These retailers are also likely to give further insight into offline supply (e.g. store closure plans / slowing space growth) and how that may affect online demand.
2021 ● <b>Government retail sales data</b>	<b>US online sales, ONS and BRC data in the UK</b> We can use government data across regions as a way to check our thesis in between UBS Evidence Lab surveys/company reporting.
2021 onwards ● <b>UBS Evidence Lab ecommerce surveys</b>	<b>Online share gains and more granularity to consumer views</b> UBS Evidence Lab carries out e-commerce surveys across a number of regions with online purchasing questions also carried out in other consumer surveys. This data also gives more granularity into consumer views of preferred online shopping channels (e.g. 3rd party aggregator vs brand.com) and what is driving online purchasing (e.g. safety considerations vs convenience).
2021 onwards ● <b>Information from new company listings and listed company investor days</b>	<b>Update on new data driven technology</b> Both company investor days as well as the listing of new (sometimes disruptive companies) give insights into new technology initiatives and strategies.
2022 onwards ● <b>EBIT margin and ROIC trends</b>	<b>Retail sector margins and returns</b> Margins and cashflow are key aspects of the dynamics impacting retail. It is likely that we will only start to see the benefits from some of these new data uses in the longer term (e.g. beyond 2021) as there are many other dynamics impacting margins and ROIC (e.g. decline in the proportion of online orders that are returned in apparel) at the moment. We expect margin contraction to slow and returns to improve as retailers begin to see the benefit of data driven ecommerce investments.

## Theme 10: Rising regulatory risk



### Theme: The pendulum swings back

After a long period of globalisation and increasing connectivity both digital and physical across the world, an emerging trend is that of stasis. The pandemic has reinforced an undercurrent of rising protectionism and geopolitics from vaccines to semiconductors. With the Cloud and increasing influence of tech giants, digital sovereignty and anti-trust come to the fore. Inequalities worsened by successive lockdowns have led to a greater focus on the **S** in **ESG** with consequences socially and risk of tax rises to pay for the costs.

### Implication: Digital and new models of collaboration disrupt traditional business models

Despite all the uncertainties around technology and regulation, digital adoption accelerated during the pandemic, forcing change even on sectors less exposed to its disruptive forces. **EdTech** looks set to broaden and grow after COVID led to fully online schooling. The **supply chain** becomes **strategic** as both the C-suite and countries focus squarely on critical resources and the geopolitical risk of disruption, with far-reaching implications across many industries, and potentially a shift in the competitive landscape with **onshoring**. While Zoom and similar applications facilitated collaboration in lockdown, on re-opening, airlines and the corporate travel sector may not recover fully. The changes present challenges but also long term opportunities.

### Concern: De-globalisation, Regulation

One of the biggest challenges facing the Tech and internet giants is a collection of regulatory and policy risks. Digital Sovereignty becomes the next battleground. Other notable risks include elevated concerns of consumer and data protection, privacy & security, and impact to environment as awareness rises on climate change.

### Related Assets

See the next page for a selection of **research** related to the theme.

We also include some **Questions submitted to the UBS Question Bank**, as well as **unique datasets from UBS Evidence Lab**.



## Assets for Theme 10: Rising regulatory risk

### Related Research

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Q-series: Reshoring the supply chain: where, what and how much? ([Link](#)), MacLeod, Jul-2021

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Q-series: Future reimagined: what opportunities will online bring to the \$5trn Global Education market ([Link](#)), Liu, Dec-2021

---

US Internet & Interactive Entertainment: Revisiting the Regulatory Landscape ([Link](#)), Sheridan, Jan-2021

---

Q-Series Redux 'Accelerating digitalisation – still on the highway to cloud heaven?' ([Link](#)), Diviya Nagarajan, Jan-2021

---

Online Food Delivery: Gig economy regulation - a growing risk in Europe ([Link](#)), Mahamakali, Mar-2021

---

Q-series: Future reimagines: Propelled to the Thinking Economy ([Link](#)), Baweja, Jun-2020

---

Q-series video: Debating Megatrends (#2): From Hyper-Globalisation to Stasis ([Link](#)), Baweja, Aug-2020

---

Healthcare in the crosshairs, assessing the themes, ([Link](#)), Keith Parker, Oct-2020

---

First Read: Tencent Holdings "Confirmation of SAMR investigation could..." ([Link](#)), Jerry Liu, Apr-2021

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First Read: Taiwan Semiconductor Manufacturing "TSMC building a fab in the US" ([Link](#)), Bill Liu, May-2020

---

China Internet Finance " Expert call takeaways: Ant's outlook post..." ([Link](#)), May Yan, Apr-2021

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Alibaba Group "Anti-Monopoly fine lifts key overhangs..." ([Link](#)), Jerry Liu, Apr-2021

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Q-Series "What Is the Scope of the Sharing Economy?" ([Link](#)), Sheridan, Jul-2016

---

Asia Internet Sector "Evolution of the sharing economy in Asia" ([Link](#)), Wallace Cheung, CFA, Jan-2016

---

China360 "New decade, new drivers, new disruptions: Theme 4 – Smart education" ([Link](#)), Sharon Ding, Jul-2020

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### Top Questions submitted to the UBS Question Bank

What is the impact on **Tech** valuations with **rising rates** and **proposed corporate tax reform** ?

?

Can you share how **AI integrates** further into **online education** in the **future**? With and without additional hardware?

?

What will happen with **tech giants** in relation to **antitrust policies** that are already taking place in **China** and **Europe**? How will it impact stocks?

?

For **global consumer and retail**, what will be the pace of recovery and the **main supply chain challenges** going forward (China, Brexit)?

The **power** of **big IT firms (Google & YouTube, Twitter)** and their politics of  **censorship** – will this not **hurt** their business in the long term (**trust**)?

## Unique datasets from UBS Evidence Lab

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### US C-Suite Business Survey ([Access dataset here](#))

A survey of 450 senior executives that provides investors with a comprehensive look biannually at the many macro and micro factors which affect US corporations.

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### US Reshoring Monitor ([Access dataset here](#))

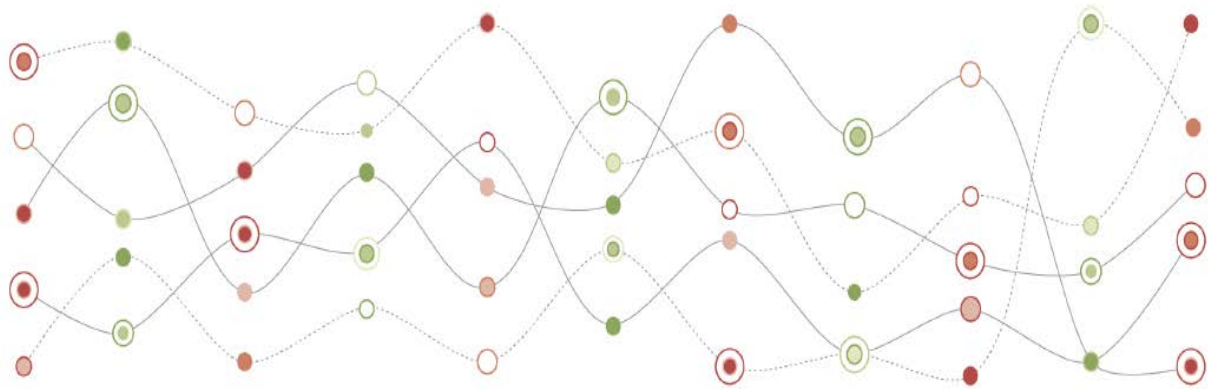
This asset tracks announcements of US supply chain/business process reshoring, expansion and foreign direct investment. It covers over 3,000 entities across over 70 countries/regions

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### China Education App Usage Monitor ([Access dataset here](#))

What are the Education app trends in China? UBS Evidence Lab tracks weekly and monthly usage metrics for thousands of mobile applications in the iOS and Android stores in China to help answer this question.

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## What to watch for Theme 10: Rising regulatory risk

DATA RELEASE / EVENT DATE	WHAT WE EXPECT / WHAT WE WILL LOOK FOR
2020 onward ● <b>De-globalisation trends reinforced by Covid</b>	<p><b>Will vaccine protectionism lead to a rethink of strategic resources?</b></p> <p>Posturing by US, EU-UK and India on securing vaccine supply underline the tensions heightened by the pandemic. Potential longer term implications: onshoring of key resources such as pharma and healthcare becomes strategic politically and economically.</p>
2020/21 ● <b>Big Tech under scrutiny</b>	<p><b>US, China and Europe move to counter the rising power of Tech</b></p> <p>The growing global influence of Google, FB, Twitter and Amazon is under increased scrutiny from the US and EU (<a href="#">US Internet &amp; Interactive Entertainment: Revisiting the Regulatory Landscape</a>)</p> <p>Postponed Ant IPO and recent investigations from China's State Administration of Market Regulation (SAMR) and fines for Tencent and Ali Baba allude to tighter regulation going forward.</p>
2020 onward ● <b>Cloud and Digital sovereignty</b>	<p><b>GAIA-X and the public cloud</b></p> <p>Given growing dominance of hyperscalers Amazon, Microsoft and Google in Cloud and data hosting, France and Germany initiated the GAIA-X project to develop next generation data infrastructure for European users of the cloud and to promote data sovereignty. It highlights growing concerns in the face of rising power of both Chinese and US internet giants.</p>
2020 onwards ● <b>Supply chain onshoring...</b>	<p><b>TSMC's new US Fab sign of rising geopolitical risk</b></p> <p>In early 2020 TSMC announced plans for a \$12bn semiconductor wafer fab in the US. The move highlights the rising risk of geopolitics for the sector and highlights concerns on security of supply chain. The growth in digital and exponential demand for chips (and shortages) is likely to give room for thought on resources currently concentrated in Asia. How the onshoring plays out and resulting shifts in competitive landscape are key to watch.</p>
2025 + ● <b>Regulatory scrutiny AI, Facial recognition and AV</b>	<p><b>AI broadening raises concerns</b></p> <p>As AI becomes integrated into systems across the globe and facial recognition widely used in China, so has regulatory scrutiny. The technology advances raise questions on security, ethics, fairness and privacy grounds and garnered attention from the FTC and EU. Regulatory bodies will look to ensure companies AI algorithms are transparent, unbiased and comply with standards.</p>

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# Full list of stocks

## Every stock mentioned across the themes

Figure 2: Full list of stocks associated with the themes, sorted by the number of themes they are tied to

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Alphabet Inc.	GOOG.O	John Hodulik, CFA	1,626.4	5	✓	✓	✓	-	✓	-	-	-	-	✓
Amazon.com	AMZN.O	Michael Lasser	1,696.2	5	✓	-	✓	-	✓	-	-	-	✓	✓
Eaton Corporation PLC	ETN.N	Markus Mittermaier	60.9	5	✓	✓	-	✓	-	✓	-	-	-	✓
Microsoft Corp.	MSFT.O	Karl Keirstead	1,897.2	5	✓	-	✓	-	✓	-	-	✓	-	✓
Volkswagen	VOWG_p.DE	Patrick Hummel, CFA	145.8	5	✓	✓	-	✓	-	✓	✓	-	-	-
Airbus	AIR.PA	Celine Fornaro	91.6	4	✓	✓	-	-	✓	✓	-	-	-	-
Alibaba Group	BABA.N	Jerry Liu	588.5	4	✓	-	-	-	✓	-	-	-	✓	✓
Enel	ENEL.MI	Sam Arie	101.4	4	✓	✓	-	-	✓	✓	-	-	-	-
General Electric Co	GE.N	Markus Mittermaier	114.9	4	-	✓	-	✓	-	✓	-	-	-	✓
General Motors Company	GM.N	Patrick Hummel, CFA	84.1	4	-	✓	-	-	✓	✓	✓	-	-	-
Hyundai Motor	005380.KS	Eugene Jung	40.7	4	✓	✓	-	-	-	✓	✓	-	-	-
Infineon Technologies AG	IFXGn.DE	David Mulholland, CFA	49.2	4	✓	✓	✓	-	-	-	✓	-	-	-
LG Chemical	051910.KS	Tim Bush	59.0	4	✓	✓	-	-	-	✓	✓	-	-	-
Schneider Electric	SCHN.PA	Guillermo Peigneux Lojo	89.8	4	-	-	-	✓	✓	✓	-	-	-	✓
Siemens	SIEGn.DE	Guillermo Peigneux Lojo	136.7	4	-	✓	-	✓	✓	-	-	-	-	✓
Tencent Holdings	0700.HK	Jerry Liu	733.1	4	✓	-	-	-	✓	-	-	✓	-	✓
ABB Ltd	ABB.N.S	Guillermo Peigneux Lojo	71.7	3	✓	-	-	✓	-	-	-	-	-	✓
Albemarle Corp	ALB.N	John Roberts	17.3	3	-	✓	-	-	-	✓	✓	-	-	-
Alstom	ALSO.PA	Guillermo Peigneux Lojo	16.3	3	✓	✓	-	-	-	✓	-	-	-	-
Aptiv PLC	APT.V.N	David Lesne	36.4	3	-	✓	-	-	✓	-	✓	-	-	-
Atlas Copco A	ATCOa.ST	Guillermo Peigneux Lojo	72.7	3	✓	-	-	-	✓	-	-	-	-	✓
Baidu, Inc.	BIDU.O	Jerry Liu	66.3	3	✓	✓	-	-	✓	-	-	-	-	-
Carrefour SA	CARR.PA	Sreedhar Mahamkali	16.1	3	✓	-	-	-	✓	-	-	-	✓	-
China Mobile (HK) Ltd	0941.HK	James Wang	131.9	3	✓	✓	-	-	-	-	-	-	-	✓
Cognex Corp	CGNX.O	Markus Mittermaier	13.5	3	✓	-	-	✓	-	-	-	-	-	✓
Contemporary Amperex Technology	300750.SZ	Paul Gong	138.3	3	-	✓	-	-	-	✓	✓	-	-	-
Delivery Hero	DFER.DE	Sreedhar Mahamkali	29.0	3	✓	-	✓	-	-	-	-	-	✓	-
Deutsche Post-DHL	DPWGn.DE	Cristian Nedelcu, CFA	76.8	3	✓	✓	-	-	✓	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 3: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
DuPont de Nemours Inc	DD.N	John Roberts	49.2	3	✓	-	✓	-	-	-	✓	-	-	-
EVE Energy	300014.SZ	Wei Shen	25.2	3	✓	✓	-	-	-	-	✓	-	-	-
Experian Group	EXPN.L	Rory McKenzie	34.7	3	✓	-	✓	-	✓	-	-	-	-	-
Hong Kong Exchanges & Clearing	0388.HK	Kelvin Chu, CFA	74.2	3	✓	-	-	-	-	✓	-	✓	-	-
Intel Corp.	INTC.O	Timothy Arcuri	239.5	3	✓	-	-	-	✓	-	-	-	-	✓
International Business Machines Corp.	IBM.N	David Vogt	133.8	3	✓	-	-	-	✓	-	-	✓	-	-
International Flavors & Fragrances Inc	IFF.N	John Roberts	16.6	3	✓	-	✓	-	-	-	✓	-	-	-
Kering	P RTP.PA	Zuzanna Pusz, CFA	104.1	3	✓	-	-	-	✓	-	-	-	✓	-
Keyence	6861.T	Hikaru Mizuno	118.4	3	✓	-	-	✓	-	-	-	-	-	✓
Koninklijke Philips N.V	PHG.AS	Matthew Taylor, CFA	52.2	3	✓	-	✓	-	✓	-	-	-	-	-
Li Auto	LI.O	Paul Gong	16.3	3	-	✓	-	-	-	✓	✓	-	-	-
Next	NXT.L	Olivia Townsend, CFA	15.9	3	✓	-	-	-	-	✓	-	-	✓	-
NextEra Energy Inc	NEE.N	Daniel Ford, CFA	145.7	3	✓	✓	-	-	-	✓	-	-	-	-
Nike Inc.	NKE.N	Jay Sole	210.6	3	✓	-	-	-	-	✓	-	-	✓	-
NVIDIA Corp	NVDA.O	Timothy Arcuri	358.3	3	✓	✓	-	-	✓	-	-	-	-	-
PepsiCo Inc	PEP.O	Sean King	206.4	3	✓	✓	✓	-	-	-	-	-	-	-
Ping An Insurance (Group)	2318.HK	Kelvin Chu, CFA	192.1	3	✓	-	-	-	✓	-	-	✓	-	-
Quanta Services	PWR.N	Steven Fisher, CFA	13.6	3	✓	✓	-	-	-	✓	-	-	-	-
Raytheon Technologies Corp	RTX.N	Myles Walton, PhD, CFA	128.3	3	✓	✓	-	-	-	✓	-	-	-	-
Royal Dutch Shell	RDSA.L	Jon Rigby	150.8	3	-	✓	-	-	✓	✓	-	-	-	-
Salesforce Inc	CRM.N	Karl Keirstead	199.7	3	✓	-	✓	-	✓	-	-	-	-	-
Samsung Electronics	005930.KS	Nicolas Gaudois	438.0	3	✓	-	✓	-	-	-	-	-	-	✓
Samsung SDI	006400.KS	Taewoo Lee	37.4	3	✓	✓	-	-	-	✓	-	-	-	-
Sany Heavy Industry	600031.SS	Phyllis Wang	39.6	3	✓	-	-	✓	✓	-	-	-	-	-
SMC	6273.T	Hikaru Mizuno	38.8	3	✓	-	-	✓	-	-	-	-	-	✓
Stanley Black & Decker Inc	SWK.N	Markus Mittermaier	34.3	3	-	✓	-	✓	-	-	-	-	-	✓
STMicroelectronics	STM.PA	David Mulholland, CFA	32.9	3	-	✓	✓	-	-	-	✓	-	-	-
Taiwan Semiconductor Manufacturing	2330.TW	Sunny Lin	544.5	3	✓	✓	-	-	✓	-	-	-	-	-
Tesco PLC	TSCO.L	Sreedhar Mahamkali	24.3	3	✓	-	-	-	✓	-	-	-	✓	-
Thales	TCFP.PA	Celine Fornaro	21.8	3	-	✓	-	-	✓	✓	-	-	-	-
Valeo	VLOF.PA	David Lesne	7.9	3	✓	✓	-	-	-	-	✓	-	-	-
Wacker Chemie	WCHG.DE	Geoff Haire	7.3	3	-	✓	-	-	-	✓	✓	-	-	-
Williams Cos Inc.	WMB.N	Shneur Gershuni, CFA	30.3	3	✓	✓	-	-	-	✓	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 4: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Yum China	YUMC.N	Christine Peng, CFA	26.0	3	✓	-	-	-	✓	-	-	-	✓	-
Yum! Brands	YUM.N	Dennis Geiger, CFA	37.2	3	✓	-	✓	-	-	-	-	-	✓	-
Adyen	ADYEN.AS	Hannes Leitner	69.2	2	✓	-	-	-	-	-	-	✓	-	-
Aena SME SA	AENA.MC	Cristian Nedelcu, CFA	26.8	2	✓	✓	-	-	-	-	-	-	-	-
Ahold Delhaize	AD.AS	Sreedhar Mahamkali	30.5	2	✓	-	-	-	-	-	-	-	✓	-
Air Liquide	AIRP.PA	Andrew Stott	81.5	2	✓	-	-	-	-	✓	-	-	-	-
American Tower Corporation	AMT.N	Batya Levi	108.9	2	✓	✓	-	-	-	-	-	-	-	-
Anheuser-Busch InBev	ABI.BR	Nik Oliver, ACA	126.1	2	-	-	-	-	✓	✓	-	-	-	-
Anthem Inc	ANTM.N	Kevin Caliendo	100.3	2	✓	-	✓	-	-	-	-	-	-	-
Apple Inc.	AAPL.O	David Vogt	2,196.4	2	✓	-	✓	-	-	-	-	-	-	-
Arco Platform	ARCE.O	Vinicius Ribeiro	1.3	2	✓	-	-	-	-	-	-	-	-	✓
ASML	ASML.AS	David Mulholland, CFA	265.8	2	✓	-	-	-	✓	-	-	-	-	-
BASF SE	BASFn.DE	Andrew Stott	77.8	2	-	-	-	-	✓	-	✓	-	-	-
Best Buy Co. Inc.	BBY.N	Michael Lasser	31.6	2	-	-	✓	-	-	-	-	-	✓	-
Boeing Co.	BA.N	Myles Walton, PhD, CFA	134.3	2	-	✓	-	-	-	✓	-	-	-	-
Burberry	BRBY.L	Zuzanna Pusz, CFA	12.5	2	✓	-	-	-	✓	-	-	-	-	-
China Railway Group	0390.HK	Robin Xu	13.2	2	-	✓	-	✓	-	-	-	-	-	-
Compass Group	CPG.L	Bilal Aziz, CFA	39.0	2	✓	-	-	-	✓	-	-	-	-	-
DBS Group Holdings	DBSM.SI	Aakash Rawat, CFA	57.1	2	-	-	-	-	✓	-	-	✓	-	-
Deckers Outdoor Corp	DECK.N	Jay Sole	9.5	2	-	-	-	-	-	✓	-	-	✓	-
Discovery Ltd	DSYJ.J	Michael Christelis, FIA CFA	5.9	2	✓	-	-	-	✓	-	-	-	-	-
Dollar Tree	DLTR.O	Michael Lasser	27.3	2	✓	-	-	-	-	-	-	-	✓	-
DS Smith Plc	SMDS.L	Mikael Doepel	8.1	2	✓	-	-	-	-	✓	-	-	-	-
DSM	DSMN.AS	Andrew Stott	32.0	2	✓	-	✓	-	-	-	-	-	-	-
E.ON	EONGn.DE	Sam Arie	28.9	2	-	✓	-	-	-	✓	-	-	-	-
easyJet	EZJ.L	Jarrod Castle, CFA	6.6	2	-	✓	-	-	-	✓	-	-	-	-
Edison International	EIX.N	Daniel Ford, CFA	22.1	2	✓	✓	-	-	-	-	-	-	-	-
Enbridge Inc	ENB.TO	Shneur Gershuni, CFA	80.5	2	-	✓	-	-	-	✓	-	-	-	-
Facebook	FB.O	John Hodulik, CFA	922.3	2	✓	-	-	-	-	-	-	-	-	✓
Fanuc	6954.T	Hikaru Mizuno	46.0	2	-	-	-	✓	-	-	-	-	-	✓
Fast Retailing	9983.T	Nozomi Moriya	86.8	2	✓	-	-	-	-	✓	-	-	-	-
First Republic Bank	FRC.N	Brock Vandervliet	31.4	2	✓	-	-	-	-	-	-	✓	-	-
Givaudan	GIVN.S	Charles Eden, ACA	39.5	2	-	-	✓	-	-	-	✓	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 5: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
H & M	HMB.ST	Olivia Townsend, CFA	41.3	2	-	-	-	-	✓	✓	-	-	-	-
HDFC Bank	HDBK.BO	Vishal Goyal	104.3	2	-	-	-	-	✓	-	-	✓	-	-
Hella	HLE.DE	Patrick Hummel, CFA	6.9	2	-	✓	-	✓	-	-	-	-	-	-
Hengli Petrochemical	600346.SS	Amily Guo	32.8	2	-	-	-	-	-	✓	-	-	-	✓
Hexagon AB	HEXAb.ST	Magnus Kruber, CFA	34.9	2	-	-	-	-	✓	-	-	-	-	✓
Hindustan Unilever	HLL.BO	Sunita Sachdev	70.2	2	✓	-	-	-	-	✓	-	-	-	-
Hitachi	6501.T	Kenji Yasui	47.7	2	-	-	-	✓	-	✓	-	-	-	-
Home Depot Inc.	HD.N	Michael Lasser	362.2	2	✓	-	-	-	-	-	-	-	✓	-
Iberdrola	IBE.MC	Gonzalo Sanchez-Bordona	86.9	2	-	✓	-	-	✓	-	-	-	-	-
Illumina Inc	ILMN.O	Dan Brennan, CFA	55.8	2	-	-	✓	-	✓	-	-	-	-	-
Inditex SA	ITX.MC	Olivia Townsend, CFA	116.9	2	-	-	-	-	-	✓	-	-	✓	-
Industrial & Commercial Bank of China	1398.HK	May Yan	229.4	2	-	-	-	-	✓	-	-	✓	-	-
ING	INGA.AS	Johan Ekblom, CFA	50.8	2	✓	-	-	-	-	-	-	✓	-	-
Intercontinental Exchange, Inc.	ICE.N	Alex Kramm, CFA	64.1	2	✓	-	-	-	-	✓	-	-	-	-
International Airlines Group	ICAG.L	Jarrold Castle, CFA	14.3	2	-	✓	-	-	-	✓	-	-	-	-
IQVIA Holdings Inc	IQV.N	Dan Brennan, CFA	45.1	2	✓	-	-	-	✓	-	-	-	-	-
J Sainsbury PLC	SBRY.L	Sreedhar Mahamkali	7.6	2	✓	-	-	-	-	-	-	-	✓	-
JD.com	JD.O	Jerry Liu	110.6	2	✓	-	-	-	-	-	-	-	✓	-
JPMorgan Chase & Co.	JPM.N	Saul Martinez	486.4	2	-	-	-	-	✓	-	-	✓	-	-
Just Eat Takeaway.com NV	JETJ.L	Sreedhar Mahamkali	13.6	2	✓	-	-	-	-	-	-	-	✓	-
Kerry Group	KYGa.I	Charles Eden, ACA	23.5	2	-	-	✓	-	-	-	✓	-	-	-
Keurig Dr Pepper Inc	KDP.O	Sean King	50.5	2	-	✓	-	-	-	-	-	-	✓	-
Kinder Morgan Inc	KML.N	Shneur Gershuni, CFA	39.9	2	-	✓	-	-	-	✓	-	-	-	-
Knorr-Bremse AG	KBX.DE	Sven Weier	20.2	2	✓	✓	-	-	-	-	-	-	-	-
Koolearn Technology	1797.HK	Felix Liu	1.6	2	✓	-	-	-	-	-	-	-	-	✓
Lloyds Banking Group	LLOY.L	Jason Napier, CFA	45.4	2	✓	-	-	-	-	-	-	✓	-	-
Longi Green Energy Technology	601012.SS	Yishu Yan	58.3	2	✓	-	-	-	-	✓	-	-	-	-
LVMH Moet Hennessy Louis Vuitton SA	LVMH.PA	Zuzanna Pusz, CFA	380.4	2	-	-	-	-	✓	-	-	-	✓	-
Mail.Ru Group	MAILRq.L	John Kim	5.0	2	✓	-	-	-	-	-	-	-	✓	-
McDonald's	MCD.N	Dennis Geiger, CFA	176.4	2	-	-	✓	-	-	-	-	-	✓	-
Meituan	3690.HK	Jerry Liu	212.2	2	✓	-	-	-	-	-	-	-	✓	-
MercadoLibre Inc.	MELI.O	Gustavo Oliveira, CFA	71.9	2	✓	-	-	-	-	-	-	-	✓	-
NARI Technology	600406.SS	Ken Liu	22.1	2	✓	-	-	-	-	✓	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 6: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Naspers	NPNJ.N	John Kim	99.9	2	✓	-	-	-	-	-	-	-	✓	-
Neste	NESTE.HE	Henri Patricot, CFA	46.8	2	-	✓	-	-	-	✓	-	-	-	-
Nomad Foods Ltd	NOMD.N	Andrew Olsen	5.1	2	✓	-	✓	-	-	-	-	-	-	-
Nordstrom Inc	JWN.N	Jay Sole	6.1	2	✓	-	-	-	-	-	-	-	✓	-
Novolipetsk Steel	NLMKQ.L	Andrew Jones	21.6	2	-	-	-	-	✓	✓	-	-	-	-
Omron	6645.T	Hikaru Mizuno	15.6	2	-	-	-	✓	-	-	-	-	-	✓
Oracle Corporation	ORCL.N	Karl Keirstead	238.7	2	-	-	-	-	✓	-	-	✓	-	-
Pearson Plc	PSON.L	Adam Berlin	8.7	2	✓	-	-	-	-	-	-	-	-	✓
Prologis Inc	PLD.N	Brent Dilts	87.7	2	-	-	-	-	-	✓	-	-	✓	-
Prosus NV	PRX.AS	John Kim	172.7	2	✓	-	-	-	-	-	-	-	✓	-
Restaurant Brands International	QSR.N	Dennis Geiger, CFA	32.2	2	✓	-	✓	-	-	-	-	-	-	-
Roche	ROG.S	Michael Leuchten	284.8	2	✓	-	-	-	✓	-	-	-	-	-
Rockwell Automation Inc	ROK.N	Markus Mittermaier	31.4	2	-	✓	-	-	-	-	-	-	-	✓
Rohm	6963.T	Shingo Hirata, CFA	9.6	2	-	✓	-	-	-	-	✓	-	-	-
Rolls-Royce	RR.L	Celine Fornaro	12.0	2	✓	✓	-	-	-	-	-	-	-	-
S&P Global	SPGI.N	Alex Kramm, CFA	94.2	2	✓	-	-	-	-	✓	-	-	-	-
Safran SA	SAF.PA	Celine Fornaro	63.0	2	-	✓	-	-	-	✓	-	-	-	-
SEGRO	SGRO.L	Osmaan Malik, CFA	16.6	2	-	-	-	-	-	✓	-	-	✓	-
SGS	SGSN.S	Rory McKenzie	23.0	2	-	-	-	-	✓	✓	-	-	-	-
Shanghai International Airport	600009.SS	Xin Chen	13.9	2	✓	✓	-	-	-	-	-	-	-	-
Shanghai Putailai New Energy Technology	603659.SS	David Wei	8.7	2	-	✓	-	-	-	-	✓	-	-	-
Sika	SIKA.S	Patrick Rafaisz, CFA, FRM	43.7	2	✓	✓	-	-	-	-	-	-	-	-
SK Innovation	096770.KS	Tim Bush	22.9	2	-	✓	-	-	-	-	✓	-	-	-
Smurfit Kappa Group Plc	SKG.I	Mikael Doepel	13.7	2	✓	-	-	-	-	✓	-	-	-	-
Spirit AeroSystems Holdings Inc	SPR.N	Myles Walton, PhD, CFA	4.7	2	✓	✓	-	-	-	-	-	-	-	-
Subsea 7	SUBC.OL	Amy Wong	3.0	2	-	-	-	-	✓	✓	-	-	-	-
Sun Art Retail	6808.HK	Christine Peng, CFA	8.5	2	✓	-	-	-	-	-	-	-	✓	-
Symrise	SY1G.DE	Charles Eden, ACA	17.5	2	-	-	✓	-	-	-	✓	-	-	-
TAL Education Group	TAL.N	Felix Liu	33.2	2	✓	-	-	-	-	-	-	-	-	✓
TechnipFMC	FTL.PA	Amy Wong	3.6	2	✓	-	-	-	✓	-	-	-	-	-
Teladoc Health Inc	TDOC.N	Kevin Caliendo	10.9	2	✓	-	✓	-	-	-	-	-	-	-
Tesla, Inc.	TSLA.O	Patrick Hummel, CFA	586.1	2	-	✓	-	-	-	✓	-	-	-	-
The Estée Lauder Companies Inc	EL.N	Pending Initiation	112.1	2	✓	-	-	-	-	-	-	-	✓	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 7: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Tongkun Group	601233.SS	Amily Guo	8.2	2	-	-	-	-	-	✓	-	-	-	✓
Tongwei	600438.SS	Yishu Yan	24.2	2	✓	-	-	-	-	✓	-	-	-	-
TOTAL	TOTF.PA	Jon Rigby	124.9	2	✓	✓	-	-	-	-	-	-	-	-
TransDigm Group Inc	TDG.N	Myles Walton, PhD, CFA	32.8	2	✓	✓	-	-	-	-	-	-	-	-
Uber Technologies Inc	UBER.N	Benjamin Miller	86.7	2	✓	-	-	-	-	-	-	-	✓	-
Umicore	UMI.BR	Geoff Haire	14.7	2	✓	✓	-	-	-	-	-	-	-	-
Walmart Inc.	WMT.N	Michael Lasser	398.6	2	-	-	✓	-	-	-	-	-	✓	-
Wartsila	WRT1V.HE	Sven Weier	7.6	2	-	-	-	-	✓	✓	-	-	-	-
Wood	WG.L	Amy Wong	2.6	2	✓	-	-	-	-	✓	-	-	-	-
Xpeng	XPEV.N	Paul Gong	20.8	2	-	-	-	-	-	✓	✓	-	-	-
Yandex N.V.	YNDX.O	John Kim	23.0	2	-	✓	-	-	-	-	-	-	✓	-
Yunnan Energy New Material	002812.SZ	David Wei	18.2	2	-	✓	-	-	-	-	✓	-	-	-
Zalando SE	ZALG.DE	Olivia Townsend, CFA	25.3	2	-	-	-	-	-	✓	-	-	✓	-
Zurich Insurance Group	ZURN.S	Will Hardcastle, CFA	63.1	2	✓	✓	-	-	-	-	-	-	-	-
ABB India	ABB.BO	Gopal Ritolia	4.0	1	-	-	-	-	-	-	-	-	-	✓
Accenture	ACN.N	David Vogt	185.2	1	-	-	-	-	-	-	-	✓	-	-
Accor	ACCP.PA	Bilal Aziz, CFA	10.4	1	-	-	-	-	✓	-	-	-	-	-
Activision Blizzard	ATVLO	John Hodulik, CFA	72.8	1	✓	-	-	-	-	-	-	-	-	-
adidas AG	ADSGn.DE	Zuzanna Pusz, CFA	60.9	1	-	-	-	-	-	✓	-	-	-	-
Advanced Info Service	ADVANC.BK	Navin Killa	16.1	1	✓	-	-	-	-	-	-	-	-	-
Advanced Micro Devices Inc	AMD.O	Timothy Arcuri	92.2	1	✓	-	-	-	-	-	-	-	-	-
Aegon	AEGN.AS	Colm Kelly, FIA, FSAI	9.7	1	✓	-	-	-	-	-	-	-	-	-
AES Corp	AES.N	Daniel Ford, CFA	16.9	1	-	-	-	-	-	✓	-	-	-	-
Aggreko	AGGK.L	Rory McKenzie	3.0	1	✓	-	-	-	-	-	-	-	-	-
Aier Eye Hospital	300015.SZ	Stella Xing, CFA	46.1	1	✓	-	-	-	-	-	-	-	-	-
Air China	0753.HK	Xin Chen	11.4	1	-	✓	-	-	-	-	-	-	-	-
Air Products and Chemicals	APD.N	John Roberts	65.4	1	-	-	-	-	-	✓	-	-	-	-
Airtac International	1590.TW	Ally Chen	7.3	1	-	-	-	✓	-	-	-	-	-	-
Aker BP	AKERBP.OL	Thomas Sedgwick	10.5	1	-	-	-	-	✓	-	-	-	-	-
Alaska Air Group Inc	ALK.N	Myles Walton, PhD, CFA	8.3	1	-	-	-	-	-	✓	-	-	-	-
Alfa Laval	ALFA.ST	Sven Weier	14.7	1	-	-	-	-	-	✓	-	-	-	-
Allianz S.E	ALVG.DE	Will Hardcastle, CFA	105.8	1	-	-	-	-	✓	-	-	-	-	-
Alphabet Inc. - Class A	GOOGL.O	John Hodulik, CFA	1,596.3	1	-	-	-	-	-	-	-	-	-	✓

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 8: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Alsea	ALSEA.MX	Rodrigo Alcantara	1.4	1	✓	-	-	-	-	-	-	-	-	-
Aluminum Corporation of China	2600.HK	James Kan	10.3	1	-	-	-	-	-	-	-	-	-	✓
Ambev	ABEV3.SA	Sean King	48.2	1	✓	-	-	-	-	-	-	-	-	-
AMC Networks Inc	AMCX.O	John Hodulik, CFA	2.4	1	✓	-	-	-	-	-	-	-	-	-
America Movil	AMXL.MX	Leonardo Olmos, CFA	47.5	1	✓	-	-	-	-	-	-	-	-	-
American Airlines Group	AAL.O	Myles Walton, PhD, CFA	13.8	1	✓	-	-	-	-	-	-	-	-	-
American Eagle Outfitters Inc	AEO.N	Jay Sole	6.4	1	-	-	-	-	-	-	-	-	✓	-
American States Water Co	AWR.N	Daniel Ford, CFA	3.0	1	✓	-	-	-	-	-	-	-	-	-
Amundi SA	AMUN.PA	Michael Werner	18.5	1	-	-	-	-	-	✓	-	-	-	-
Anglo American	AAL.L	Myles Allsop	60.3	1	-	-	-	-	✓	-	-	-	-	-
Anhui Conch Cement	0914.HK	Wenzhuo Du	32.4	1	-	-	-	-	-	-	-	-	-	✓
Anta Sports Products	2020.HK	Samuel Wang	50.5	1	-	-	-	-	-	✓	-	-	-	-
Apollo Tyres	APLO.BO	Sonal Gupta	1.7	1	-	-	-	-	-	-	-	-	-	✓
Asahi Kasei	3407.T	Shunta Omura	15.1	1	-	✓	-	-	-	-	-	-	-	-
ASE Industrial	3711.TW	Sunny Lin	16.4	1	✓	-	-	-	-	-	-	-	-	-
Asian Paints Ltd.	ASPN.BO	Sunita Sachdev	33.2	1	-	-	-	-	-	-	-	-	-	✓
Asos	ASOS.L	Olivia Townsend, CFA	5.8	1	-	-	-	-	✓	-	-	-	-	-
AT&T Inc.	T.N	John Hodulik, CFA	231.4	1	-	✓	-	-	-	-	-	-	-	-
Atos	ATOS.PA	Michael Briest	7.3	1	✓	-	-	-	-	-	-	-	-	-
Atresmedia Corporacion de Medios	A3M.MC	Richard Eary	1.1	1	✓	-	-	-	-	-	-	-	-	-
Avast plc	AVST.L	Michael Briest	6.5	1	-	-	✓	-	-	-	-	-	-	-
Aveva Group	AVV.L	Michael Briest	13.2	1	✓	-	-	-	-	-	-	-	-	-
AXA	AXAF.PA	Colm Kelly, FIA, FSAI	69.4	1	-	✓	-	-	-	-	-	-	-	-
Ayala Land	ALI.PS	RJ Aguirre	9.9	1	-	-	-	-	-	-	-	✓	-	-
Azrieli Group	AZRG.TA	Charles Boissier, CFA	8.9	1	-	-	-	-	✓	-	-	-	-	-
BAE SYSTEMS	BAES.L	Celine Fornaro	22.1	1	-	-	-	-	✓	-	-	-	-	-
Bajaj Auto	BAJA.BO	Sonal Gupta	15.5	1	-	-	-	-	-	-	-	-	-	✓
Baker Hughes	BKR.N	Amy Wong	22.7	1	✓	-	-	-	-	-	-	-	-	-
Bank Mandiri	BMRI.JK	Joshua Tanja, CFA	19.9	1	-	-	-	-	✓	-	-	-	-	-
Bank of America Corp.	BAC.N	Saul Martinez	360.9	1	-	-	-	-	-	-	-	✓	-	-
Bank of China (Hong Kong)	2388.HK	Alex Zhou	39.1	1	-	-	-	-	-	-	-	✓	-	-
Banorte	GFNORTEO.MX	Thiago Batista, CFA	17.1	1	-	-	-	-	✓	-	-	-	-	-
Bapcor	BAP.AX	Tim Plumble	1.9	1	-	-	-	-	-	-	-	-	✓	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 9: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Baxter International Inc	BAX.N	Matthew Taylor, CFA	46.9	1	✓	-	-	-	-	-	-	-	-	-
Bayer	BAYGn.DE	Michael Leuchten	63.9	1	-	-	-	-	✓	-	-	-	-	-
BB Seguridade	BBSE3.SA	Mariana Taddeo	8.6	1	✓	-	-	-	-	-	-	-	-	-
BBVA	BBVA.MC	Ignacio Cerezo	38.7	1	-	-	-	-	✓	-	-	-	-	-
Beazley PLC	BEZG.L	Will Hardcastle, CFA	2.8	1	-	-	-	-	✓	-	-	-	-	-
Beijing-Shanghai High Speed Railway	601816.SS	Robin Xu	37.7	1	-	✓	-	-	-	-	-	-	-	-
Bharat Forge	BFRG.BO	Sonal Gupta	4.1	1	-	-	-	-	-	-	-	-	-	✓
Bharti Airtel Ltd	BRTI.BO	Navin Killa	41.3	1	✓	-	-	-	-	-	-	-	-	-
BHP Group Plc	BHPB.L	Myles Allsop	162.5	1	-	-	-	-	✓	-	-	-	-	-
BJ's Wholesale Club Holdings, Inc.	BJ.N	Mark Carden	6.5	1	-	-	-	-	-	-	-	-	✓	-
BNP Paribas	BNPP.PA	Lorraine Quoirez	82.8	1	-	-	-	-	-	✓	-	-	-	-
Bombardier	BBDb.TO	Myles Walton, PhD, CFA	1.8	1	-	✓	-	-	-	-	-	-	-	-
Booking Holdings Inc	BKNG.O	Benjamin Miller	93.4	1	✓	-	-	-	-	-	-	-	-	-
BP	BP.L	Jon Rigby	88.6	1	-	✓	-	-	-	-	-	-	-	-
Bradesco	BBDC4.SA	Thiago Batista, CFA	44.1	1	✓	-	-	-	-	-	-	-	-	-
Broadcom Limited	AVGO.O	Timothy Arcuri	180.2	1	✓	-	-	-	-	-	-	-	-	-
Brown-Forman Corp	Bfb.N	Sean King	36.2	1	✓	-	-	-	-	-	-	-	-	-
BTS Group	BTS.BK	Jian Bo Gan, CFA	3.3	1	-	-	-	-	-	-	-	-	-	✓
Bunzl	BNZLL	Kate Somerville	10.8	1	✓	-	-	-	-	-	-	-	-	-
Burckhardt Compression	BCHN.S	Alessandro Taiana	1.2	1	-	-	-	-	-	✓	-	-	-	-
Bureau Veritas	BVI.PA	Rory McKenzie	13.1	1	-	-	-	-	-	✓	-	-	-	-
Bursa Malaysia	BMYS.KL	Nicole Goh	1.7	1	✓	-	-	-	-	-	-	-	-	-
Capgemini	CAPP.PA	Michael Briest	31.0	1	✓	-	-	-	-	-	-	-	-	-
Capitec Bank Holdings Ltd	CPIJ.J	Stephan Potgieter, CFA	12.5	1	-	-	-	-	-	-	-	✓	-	-
Caterpillar Inc.	CAT.N	Steven Fisher, CFA	128.8	1	✓	-	-	-	-	-	-	-	-	-
Central Pattana	CPN.BK	Alex Manoonpol	7.4	1	-	-	-	-	-	-	-	-	✓	-
Centrica	CNA.L	Alex Leng	4.6	1	✓	-	-	-	-	-	-	-	-	-
Check Point Software Technologies Ltd	CHKP.O	Fatima Boolani	16.3	1	✓	-	-	-	-	-	-	-	-	-
Chevron	CVX.N	Jon Rigby	208.9	1	-	✓	-	-	-	-	-	-	-	-
China Eastern Airlines	0670.HK	Xin Chen	7.2	1	-	✓	-	-	-	-	-	-	-	-
China Education Group	0839.HK	Felix Liu	5.4	1	-	-	-	-	-	-	-	-	-	✓
China Hongqiao Group	1378.HK	James Kan	15.7	1	-	-	-	-	-	-	-	-	-	✓
China Longyuan Power	0916.HK	Ken Liu	11.5	1	-	-	-	-	-	✓	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.



Figure 10: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
China Merchants Bank	3968.HK	May Yan	209.1	1	-	-	-	-	-	-	-	✓	-	-
China Oilfield Services	2883.HK	Peter Gastreich	4.7	1	-	-	-	-	-	✓	-	-	-	-
China Railway Construction	1186.HK	Robin Xu	9.2	1	-	-	-	✓	-	-	-	-	-	-
China Railway Signal & Communication	3969.HK	Phyllis Wang	4.2	1	-	✓	-	-	-	-	-	-	-	-
China Railway Tielong Container Logistic	600125.SS	Robin Xu	1.0	1	-	✓	-	-	-	-	-	-	-	-
China Southern Airlines	1055.HK	Xin Chen	10.3	1	-	✓	-	-	-	-	-	-	-	-
China Southern Airlines - A	600029.SS	Xin Chen	14.6	1	-	✓	-	-	-	-	-	-	-	-
Choice Hotels International, Inc.	CHH.N	Robin Farley	6.3	1	✓	-	-	-	-	-	-	-	-	-
Chr Hansen AS	CHRH.CO	Charles Eden, ACA	12.0	1	-	-	✓	-	-	-	-	-	-	-
Chubb Limited	CB.N	Brian Meredith	77.9	1	✓	-	-	-	-	-	-	-	-	-
Cia. Hering	HGTX3.SA	Gustavo Oliveira, CFA	0.8	1	✓	-	-	-	-	-	-	-	-	-
Cielo	CEL3.SA	Mariana Taddeo	1.8	1	✓	-	-	-	-	-	-	-	-	-
Cigna Corp	CI.N	Kevin Caliendo	96.2	1	-	-	✓	-	-	-	-	-	-	-
CIMC Enric	3899.HK	Alex Xu	1.7	1	-	-	-	-	-	✓	-	-	-	-
Ciputra Development	CTRA.JK	Igor Putra	1.5	1	-	-	-	-	-	-	-	-	-	✓
Cisco Systems Inc.	CSCO.O	David Vogt	222.6	1	✓	-	-	-	-	-	-	-	-	-
Citigroup Inc	C.N	Saul Martinez	154.6	1	✓	-	-	-	-	-	-	-	-	-
Coca-Cola European Partners plc	CCEP.N	Sean King	27.6	1	-	✓	-	-	-	-	-	-	-	-
Cognizant Technology Solutions	CTSH.O	Diviya Nagarajan	41.4	1	✓	-	-	-	-	-	-	-	-	-
Colgate-Palmolive	CL.N	Sean King	70.1	1	-	-	-	-	-	-	-	-	✓	-
Comcast Corporation	CMCSA.O	John Hodulik, CFA	265.8	1	✓	-	-	-	-	-	-	-	-	-
ConocoPhillips	COP.N	Lloyd Byrne	59.8	1	✓	-	-	-	-	-	-	-	-	-
Continental	CONG.DE	David Lesne	27.1	1	-	✓	-	-	-	-	-	-	-	-
Copa Holdings	CPA.N	Rogério Araujo	3.7	1	✓	-	-	-	-	-	-	-	-	-
Costco Wholesale Corp	COST.O	Michael Lasser	170.1	1	-	-	-	-	-	-	-	-	✓	-
Credicorp	BAP.N	Thiago Batista, CFA	9.3	1	✓	-	-	-	-	-	-	-	-	-
Crédit Agricole SA	CAGR.PA	Lorraine Quoirez	45.5	1	-	-	-	-	-	✓	-	-	-	-
CRRC Corp - A	601766.SS	Phyllis Wang	26.5	1	-	✓	-	-	-	-	-	-	-	-
CRRC Corp - H	1766.HK	Phyllis Wang	12.5	1	-	✓	-	-	-	-	-	-	-	-
CSX Corporation	CSX.O	Thomas Wadewitz	91.5	1	-	✓	-	-	-	-	-	-	-	-
Cummins Inc.	CMI.N	Steven Fisher, CFA	39.4	1	-	-	-	✓	-	-	-	-	-	-
Cummins India	CUMM.BO	Gopal Ritolia	3.2	1	-	-	-	-	-	-	-	-	-	✓
Cushman & Wakefield plc	CWK.N	Alex Kramm, CFA	4.0	1	-	✓	-	-	-	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 11: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
CVS Health Corp	CVS.N	Kevin Caliendo	85.2	1	-	-	✓	-	-	-	-	-	-	-
Dabur India Ltd.	DABU.BO	Sunita Sachdev	13.1	1	-	-	-	-	-	✓	-	-	-	-
Daimler	DAIGn.DE	Patrick Hummel, CFA	93.9	1	-	-	-	-	✓	-	-	-	-	-
Danaher Corp	DHR.N	Dan Brennan, CFA	183.3	1	-	-	✓	-	-	-	-	-	-	-
Daqin Railway	601006.SS	Robin Xu	15.9	1	-	✓	-	-	-	-	-	-	-	-
Delta Air Lines Inc	DAL.N	Myles Walton, PhD, CFA	28.6	1	-	✓	-	-	-	-	-	-	-	-
Denso	6902.T	Kohei Takahashi	50.8	1	-	✓	-	-	-	-	-	-	-	-
Dentsply Sirona Inc	XRAY.O	Kevin Caliendo	15.0	1	✓	-	-	-	-	-	-	-	-	-
Deutsche Boerse	DB1Gn.DE	Michael Werner	31.2	1	-	-	-	-	-	✓	-	-	-	-
Deutsche Telekom	DTEGn.DE	Polo Tang	91.9	1	✓	-	-	-	-	-	-	-	-	-
Deutsche Wohnen SE	DWNG.DE	Charles Boissier, CFA	18.6	1	✓	-	-	-	-	-	-	-	-	-
Diageo	DGE.L	Nik Oliver, ACA	113.7	1	✓	-	-	-	-	-	-	-	-	-
Dick's Sporting Goods, Inc.	DKS.N	Michael Lasser	7.4	1	-	-	-	-	-	-	-	-	✓	-
Dollar General Corp	DG.N	Michael Lasser	53.6	1	-	-	-	-	-	-	-	-	✓	-
Dominion Energy Inc	D.N	Daniel Ford, CFA	51.9	1	✓	-	-	-	-	-	-	-	-	-
DTAC	DTAC.BK	Navin Killa	2.4	1	✓	-	-	-	-	-	-	-	-	-
Duke Realty Corporation	DRE.N	Brent Dilts	17.3	1	-	-	-	-	-	-	-	-	✓	-
DWS Group	DWSG.DE	Michael Werner	8.7	1	-	-	-	-	-	✓	-	-	-	-
East Money Information	300059.SZ	Haifeng Cao	41.7	1	-	-	-	-	✓	-	-	-	-	-
Eclat Textile	1476.TW	Ally Chen	5.6	1	-	-	-	-	-	✓	-	-	-	-
Eicher Motors	EICH.BO	Sonal Gupta	9.0	1	-	-	-	-	-	-	-	-	-	✓
Eiffage SA	FOUG.PA	Gregor Kuglitsch	11.0	1	-	✓	-	-	-	-	-	-	-	-
Electrocomponents	ECML	Rory McKenzie	6.5	1	✓	-	-	-	-	-	-	-	-	-
Electronic Arts	EA.O	John Hodulik, CFA	41.3	1	✓	-	-	-	-	-	-	-	-	-
Embraer S.A.	ERJ.N	Myles Walton, PhD, CFA	2.2	1	-	✓	-	-	-	-	-	-	-	-
Emerson Electric Co	EMR.N	Markus Mittermaier	57.6	1	-	-	-	-	-	-	-	-	-	✓
Ems-Chemie	EMSN.S	Patrick Rafaisz, CFA, FRM	22.0	1	-	-	-	-	-	-	✓	-	-	-
Endesa	ELE.MC	Gonzalo Sanchez-Bordona	28.1	1	-	-	-	-	-	✓	-	-	-	-
Energizer Holdings Inc	ENR.N	Erika Jackson	3.0	1	-	-	-	-	-	-	-	-	✓	-
Engie	ENGIE.PA	Sam Arie	36.8	1	-	-	-	-	-	✓	-	-	-	-
Eni	ENI.MI	Jon Rigby	44.6	1	-	-	-	-	-	✓	-	-	-	-
EQT AB Group	EQTAB.ST	Michael Werner	31.1	1	-	-	-	-	-	✓	-	-	-	-
EssilorLuxottica	ESLX.PA	Susy Tibaldi, CFA	73.8	1	-	-	-	-	-	-	-	-	✓	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 12: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Estun Automation	002747.SZ	Phyllis Wang	4.1	1	✓	-	-	-	-	-	-	-	-	-
Evonik Industries	EVKn.DE	Geoff Haire	16.7	1	-	-	-	-	-	-	✓	-	-	-
Exact Sciences Corp	EXAS.O	Dan Brennan, CFA	14.0	1	-	-	✓	-	-	-	-	-	-	-
Expedia Group, Inc.	EXPE.O	Benjamin Miller	23.9	1	✓	-	-	-	-	-	-	-	-	-
Expeditors International of Washington	EXPD.O	Thomas Wadewitz	19.8	1	✓	-	-	-	-	-	-	-	-	-
FactSet Research Systems	FDS.N	Alex Kramm, CFA	13.1	1	✓	-	-	-	-	-	-	-	-	-
Fand	4921.T	Hisae Kawamoto	3.9	1	✓	-	-	-	-	-	-	-	-	-
Farfetch Limited	FTCH.N	Alexandra Steiger	15.7	1	✓	-	-	-	-	-	-	-	-	-
FAW Jiefang	000800.SZ	Wei Shen	7.9	1	-	✓	-	-	-	-	-	-	-	-
FedEx Corporation	FDX.N	Thomas Wadewitz	84.0	1	-	✓	-	-	-	-	-	-	-	-
Ferrari NV	RACE.N	Susy Tibaldi, CFA	37.0	1	✓	-	-	-	-	-	-	-	-	-
FinecoBank S.P.A	FBK.MI	Michael Werner	10.3	1	✓	-	-	-	-	-	-	-	-	-
FirstRand Ltd	FSRJ.J	Stephan Potgieter, CFA	20.8	1	-	-	-	-	-	-	-	✓	-	-
Focus Media Information Technology	002027.SZ	Zhijing Liu	24.3	1	-	-	-	-	-	-	-	-	-	✓
Fortinet Inc	FTNT.O	Fatima Boolani	33.7	1	✓	-	-	-	-	-	-	-	-	-
Fraport AG	FRAG.DE	Cristian Nedelcu, CFA	6.4	1	-	✓	-	-	-	-	-	-	-	-
Fresenius Medical Care	FMEG.DE	Michael Leuchten	23.3	1	-	-	✓	-	-	-	-	-	-	-
Fujitsu	6702.T	Kenji Yasui	31.3	1	-	-	-	✓	-	-	-	-	-	-
Fuyao Glass - A	600660.SS	Nora Min	19.2	1	-	✓	-	-	-	-	-	-	-	-
Galaxy Entertainment	0027.HK	Angus Chan	37.1	1	✓	-	-	-	-	-	-	-	-	-
Galaxy Resources	GXY.AX	Dim Ariyasinghe	1.6	1	-	✓	-	-	-	-	-	-	-	-
Ganfeng Lithium	1772.HK	James Kan	16.9	1	-	-	-	-	-	✓	-	-	-	-
Ganfeng Lithium - A	002460.SZ	David Wei	22.4	1	-	-	-	-	-	✓	-	-	-	-
GAP	GAPB.MX	Rogério Araujo	6.1	1	✓	-	-	-	-	-	-	-	-	-
Gap Inc	GPS.N	Jay Sole	13.0	1	-	-	-	-	-	✓	-	-	-	-
Gates Corporation	GTES.N	Damian Karas, CFA	5.1	1	-	✓	-	-	-	-	-	-	-	-
GDS	GDS.O	James Wang	11.2	1	-	-	-	-	-	-	-	-	-	✓
Geely Automobile	0175.HK	Paul Gong	25.0	1	-	✓	-	-	-	-	-	-	-	-
GlaxoSmithKline	GSK.L	Laura Sutcliffe, PhD	93.0	1	✓	-	-	-	-	-	-	-	-	-
Glencore Plc	GLEN.L	Myles Allsop	57.3	1	-	-	-	-	-	✓	-	-	-	-
Globe Telecom	GLO.PS	Jody Santiago	5.0	1	✓	-	-	-	-	-	-	-	-	-
Godrej Properties Ltd	GODR.BO	Sourabh Taparria	4.7	1	-	-	-	-	-	-	-	-	-	✓
Goldman Sachs Group Inc.	GS.N	Brennan Hawken, CPA	129.1	1	-	-	-	-	-	-	-	✓	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 13: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Goodman Group	GMG.AX	Grant McCasker, CFA	27.6	1	-	-	-	-	-	✓	-	-	-	-
Goodman Property Trust	GMT.NZ	Jeremy Kincaid	2.3	1	-	-	-	-	-	-	-	-	✓	-
Gotion High-tech	002074.SZ	Wei Shen	5.9	1	-	-	-	-	-	✓	-	-	-	-
GPT Group	GPT.AX	Grant McCasker, CFA	7.0	1	-	-	-	-	-	-	-	-	✓	-
Great Wall Motor	2333.HK	Paul Gong	24.0	1	-	✓	-	-	-	-	-	-	-	-
Grocery Outlet Holding Corp	GO.O	Michael Lasser	4.2	1	-	-	-	-	-	-	-	-	✓	-
GS Engineering & Construction	006360.KS	Yong-Suk Son, CFA	3.2	1	-	-	-	-	-	-	-	-	-	✓
GS Retail	007070.KS	Jennifer Han	2.4	1	-	-	-	-	-	-	-	-	✓	-
Guangdong Kinlong Hardware Products	002791.SZ	Wenzhuo Du	9.2	1	-	-	-	-	✓	-	-	-	-	-
Guangshen Railway - A	601333.SS	Robin Xu	2.4	1	-	✓	-	-	-	-	-	-	-	-
Gulf Energy Development	GULF.BK	Bob Setiadi	12.6	1	-	-	-	-	-	-	-	-	-	✓
Halliburton	HAL.N	Amy Wong	19.7	1	✓	-	-	-	-	-	-	-	-	-
Hammerson	HMSO.L	Charles Boissier, CFA	2.1	1	✓	-	-	-	-	-	-	-	-	-
Hanesbrands Inc	HBI.N	Jay Sole	7.7	1	-	-	-	-	-	-	-	-	✓	-
Hangzhou Hikvision Digital Technology	002415.SZ	Thompson Wu	89.4	1	-	-	-	-	✓	-	-	-	-	-
Han's Laser Technology Industry	002008.SZ	Jimmy Yu	6.1	1	-	-	-	-	-	-	-	-	-	✓
Hasbro Inc	HAS.O	Arpine Kocharyan	13.7	1	-	-	-	-	-	-	-	-	✓	-
Havells India	HVEL.BO	Abhisek Banerjee	8.5	1	-	-	-	-	-	-	-	-	-	✓
Hawaiian Electric Industries Inc	HE.N	Daniel Ford, CFA	4.7	1	✓	-	-	-	-	-	-	-	-	-
HCL Technologies	HCLT.BO	Diviya Nagarajan	33.7	1	-	-	-	-	-	-	-	✓	-	-
Henkel	HNKG_p.DE	Guillaume Delmas	45.4	1	✓	-	-	-	-	-	-	-	-	-
Henry Schein Inc	HSIC.O	Kevin Caliendo	12.3	1	✓	-	-	-	-	-	-	-	-	-
Hermès International SCA	HRMS.PA	Zuzanna Pusz, CFA	135.2	1	✓	-	-	-	-	-	-	-	-	-
Hexcel Corporation	HXL.N	Myles Walton, PhD, CFA	4.5	1	-	✓	-	-	-	-	-	-	-	-
Hon Hai Precision	2317.TW	Grace Chen	55.8	1	✓	-	-	-	-	-	-	-	-	-
Honeywell International Inc	HON.N	Markus Mittermaier	166.2	1	-	-	-	-	-	-	-	-	-	✓
Host Hotels & Resorts Inc.	HST.O	Robin Farley	12.1	1	-	✓	-	-	-	-	-	-	-	-
HP Inc	HPQ.N	David Vogt	45.2	1	-	-	-	-	-	-	-	-	-	✓
HSBC plc	HSBA.L	Jason Napier, CFA	127.6	1	✓	-	-	-	-	-	-	-	-	-
Hub Group Inc	HUBG.O	Thomas Wadewitz	2.3	1	-	✓	-	-	-	-	-	-	-	-
Humana Inc	HUM.N	Kevin Caliendo	62.1	1	✓	-	-	-	-	-	-	-	-	-
Hysan Development	0014.HK	Mark Leung	3.9	1	-	-	-	-	-	-	-	-	✓	-
Hyundai E&C	000720.KS	Yong-Suk Son, CFA	5.2	1	-	-	-	-	-	-	-	-	-	✓
Ignitis Grupe AB	IGN1L.VL	Michal Potyra, CFA	1.8	1	-	-	-	-	-	✓	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 14: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Indosat	ISAT.JK	Navin Killa	2.4	1	✓	-	-	-	-	-	-	-	-	-
Info Edge (India)	INED.BO	Shaleen Kumar	8.3	1	-	-	-	-	-	-	-	-	✓	-
Ingersoll Rand Inc	IR.N	Markus Mittermaier	20.0	1	-	-	-	-	-	-	-	-	-	✓
InterContinental Hotels Group	IHG.L	Bilal Aziz, CFA	12.7	1	✓	-	-	-	-	-	-	-	-	-
Intertek Group plc	ITRK.L	Rory McKenzie	13.6	1	-	-	-	-	-	✓	-	-	-	-
Invesco Ltd.	IVZ.N	Brennan Hawken, CPA	13.2	1	-	-	-	-	-	✓	-	-	-	-
iQIYI	IQ.O	Zhijing Liu	10.3	1	✓	-	-	-	-	-	-	-	-	-
ISS AS	ISS.CO	Bilal Aziz, CFA	4.1	1	-	-	-	-	✓	-	-	-	-	-
ITT Inc.	ITT.N	Damian Karas, CFA	8.7	1	-	✓	-	-	-	-	-	-	-	-
Jardine Matheson	JARD.SI	Cheryl Lee, CFA	24.3	1	-	-	-	-	-	-	-	✓	-	-
JCDecaux	JCDX.PA	Richard Eary	6.0	1	✓	-	-	-	-	-	-	-	-	-
Jiangsu Hengrui Medicine	600276.SS	Stella Xing, CFA	67.4	1	✓	-	-	-	-	-	-	-	-	-
Jollibee Foods Corp	JFC.PS	Jody Santiago	4.0	1	-	-	-	-	-	-	-	-	✓	-
Julius Baer Group	BAER.S	Daniele Brupbacher	13.8	1	✓	-	-	-	-	-	-	-	-	-
Juniper Networks	JNPR.N	David Vogt	8.8	1	✓	-	-	-	-	-	-	-	-	-
Kajaria Ceramics	KAJR.BO	Shaleen Kumar	2.0	1	-	-	-	-	-	-	-	-	-	✓
Kakao Corp	035720.KS	Jennifer Han	44.2	1	✓	-	-	-	-	-	-	-	-	-
Kansas City Southern	KSU.N	Thomas Wadewitz	30.5	1	✓	-	-	-	-	-	-	-	-	-
KDDI	9433.T	Kei Takahashi	70.2	1	✓	-	-	-	-	-	-	-	-	-
Kia	000270.KS	Eugene Jung	28.7	1	✓	-	-	-	-	-	-	-	-	-
Kikkoman	2801.T	Satsuki Kawasaki	12.1	1	-	-	✓	-	-	-	-	-	-	-
KION	KGX.DE	Sven Weier	13.1	1	✓	-	-	-	-	-	-	-	-	-
KLA Corporation	KLAC.O	Timothy Arcuri	49.1	1	-	-	-	-	✓	-	-	-	-	-
Klabin	KLBN11.SA	Cadu Schmidt	5.7	1	✓	-	-	-	-	-	-	-	-	-
Kone	KNEBV.HE	Guillermo Peigneux Lojo	43.1	1	-	-	-	-	-	-	-	-	-	✓
Kubota	6326.T	Hikaru Mizuno	29.6	1	-	-	-	✓	-	-	-	-	-	-
Kuehne + Nagel	KNIN.S	Sebastian Vogel, CFA	36.7	1	-	-	-	-	✓	-	-	-	-	-
Laboratory Corp. of America Holdings	LH.N	Kevin Caliendo	28.4	1	✓	-	-	-	-	-	-	-	-	-
LafargeHolcim Ltd	LHN.S	Gregor Kuglitsch	38.7	1	-	-	-	-	-	✓	-	-	-	-
Lancashire Holdings	LRE.L	Will Hardcastle, CFA	2.4	1	✓	-	-	-	-	-	-	-	-	-
Largan Precision	3008.TW	Alice Chen	14.3	1	✓	-	-	-	-	-	-	-	-	-
Legal & General Group PLC	LGEN.L	Colm Kelly, FIA, FSAI	23.2	1	✓	-	-	-	-	-	-	-	-	-
Lenovo Group	0992.HK	Grace Chen	14.8	1	-	-	-	-	-	-	-	-	-	✓

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 15: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
LG Electronics	066570.KS	Nicolas Gaudois	24.3	1	-	-	-	-	-	-	-	-	-	✓
LG Innotek	011070.KS	Taewoo Lee	4.1	1	✓	-	-	-	-	-	-	-	-	-
LHC Group Inc	LHCG.O	Kevin Caliendo	6.3	1	✓	-	-	-	-	-	-	-	-	-
Li Ning	2331.HK	Samuel Wang	22.3	1	-	-	-	-	-	✓	-	-	-	-
Linde plc	LINI.DE	Geoff Haire	157.3	1	-	-	-	-	-	✓	-	-	-	-
Lojas Americanas	LAME4.SA	Gustavo Oliveira, CFA	6.3	1	✓	-	-	-	-	-	-	-	-	-
Lomon Billions	002601.SZ	Amily Guo	11.9	1	-	-	-	-	-	-	-	-	-	✓
Longfor Group	0960.HK	John Lam, CFA	37.7	1	-	-	-	-	✓	-	-	-	-	-
L'Oréal	OREP.PA	Guillaume Delmas	235.6	1	-	-	-	-	✓	-	-	-	-	-
Lotte Chemical	011170.KS	Tim Bush	9.3	1	✓	-	-	-	-	-	-	-	-	-
Lowe's Companies, Inc.	LOW.N	Michael Lasser	151.4	1	-	-	-	-	-	-	-	-	✓	-
LSE Group	LSEG.L	Michael Werner	54.8	1	-	-	-	-	-	✓	-	-	-	-
Lundin Mining	LUMIN.ST	Daniel Major	9.1	1	-	-	-	-	-	✓	-	-	-	-
Lyft Inc	LYFT.O	Benjamin Miller	16.4	1	-	✓	-	-	-	-	-	-	-	-
M3	2413.T	Yukihiko Koike	46.9	1	-	-	✓	-	-	-	-	-	-	-
Makalot Industrial	1477.TW	Ally Chen	2.0	1	-	-	-	-	-	✓	-	-	-	-
Man Group Plc	EMG.L	Michael Werner	3.3	1	-	-	-	-	✓	-	-	-	-	-
Mapletree Logistics Trust	MAPL.SI	Wai Fai Kok, CFA	6.4	1	✓	-	-	-	-	-	-	-	-	-
Marks & Spencer	MKS.L	Sreedhar Mahamkali	4.1	1	-	-	-	-	-	✓	-	-	-	-
Marvell Technology Group	MRVL.O	Timothy Arcuri	30.5	1	✓	-	-	-	-	-	-	-	-	-
MediaTek Inc.	2454.TW	Sunny Lin	59.3	1	✓	-	-	-	-	-	-	-	-	-
Meggitt	MGGT.L	Celine Fornaro	4.9	1	✓	-	-	-	-	-	-	-	-	-
Merck & Co.	MRK.N	Navin Jacob	197.6	1	✓	-	-	-	-	-	-	-	-	-
Merck KGaA	MRCG.DE	Michael Leuchten	74.1	1	✓	-	-	-	-	-	-	-	-	-
Michelin	MICP.PA	David Lesne	26.8	1	-	✓	-	-	-	-	-	-	-	-
Micron Technology Inc	MU.O	Timothy Arcuri	94.7	1	✓	-	-	-	-	-	-	-	-	-
Mineral Resources Ltd	MIN.AX	Dim Ariyasinghe	7.0	1	-	✓	-	-	-	-	-	-	-	-
Minor International	MINT.BK	Alex Manoonpol	4.6	1	-	-	-	-	-	-	-	-	✓	-
Minth Group	0425.HK	Nora Min	4.6	1	-	✓	-	-	-	-	-	-	-	-
Mirvac Group	MGR.AX	Tom Bodor	8.5	1	-	-	-	-	-	-	-	-	✓	-
Mitra Keluarga Karyasehat	MIKA.JK	Nicole Goh	2.7	1	✓	-	-	-	-	-	-	-	-	-
Mitsubishi Electric	6503.T	Kenji Yasui	32.7	1	-	-	-	✓	-	-	-	-	-	-
Mobile World Investment	MWG.HM	Permada Darmono	2.9	1	-	-	-	-	-	-	-	-	-	✓

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 16: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Moncler Spa	MONC.MI	Susy Tibaldi, CFA	15.7	1	-	-	-	-	-	-	-	-	✓	-
Mondi	MNDL.L	Mikael Doepel	13.2	1	-	-	-	-	-	✓	-	-	-	-
Morgan Stanley	MS.N	Brennan Hawken, CPA	162.3	1	✓	-	-	-	-	-	-	-	-	-
MSCI Inc.	MSCI.N	Alex Kramm, CFA	39.8	1	-	-	-	-	-	✓	-	-	-	-
MTN Group Ltd	MTNJ.J	John Kim	12.3	1	✓	-	-	-	-	-	-	-	-	-
MTS	MBT.N	Ondrej Cabejek	8.6	1	✓	-	-	-	-	-	-	-	-	-
MTU Aero Engines AG	MTXGn.DE	Celine Fornaro	13.2	1	-	✓	-	-	-	-	-	-	-	-
Murata Manufacturing	6981.T	Shingo Hirata, CFA	51.3	1	✓	-	-	-	-	-	-	-	-	-
Nasdaq, Inc.	NDAQ.O	Alex Kramm, CFA	26.9	1	-	-	-	-	-	✓	-	-	-	-
Natura &Co	NTCO3.SA	Gustavo Oliveira, CFA	7.8	1	✓	-	-	-	-	-	-	-	-	-
Nestlé	NESN.S	Guillaume Delmas	341.4	1	-	-	✓	-	-	-	-	-	-	-
Nestlé India Ltd.	NEST.BO	Sunita Sachdev	21.9	1	-	-	-	-	-	✓	-	-	-	-
NetEase	NTES.O	Angela Xu, CFA	72.0	1	✓	-	-	-	-	-	-	-	-	-
Netflix Inc	NFLX.O	John Hodulik, CFA	220.9	1	✓	-	-	-	-	-	-	-	-	-
New Oriental Education & Technology	EDU.N	Felix Liu	25.2	1	-	-	-	-	-	-	-	-	-	✓
Nidec	6594.T	Shingo Hirata, CFA	67.9	1	-	✓	-	-	-	-	-	-	-	-
Nihon Kohden	6849.T	Yukihiko Koike	2.6	1	✓	-	-	-	-	-	-	-	-	-
NIO Inc	NIO.N	Paul Gong	56.0	1	-	-	-	-	-	✓	-	-	-	-
Nokia	NOKIA.HE	David Mulholland, CFA	27.5	1	✓	-	-	-	-	-	-	-	-	-
Norfolk Southern Corporation	NSC.N	Thomas Wadewitz	77.3	1	-	✓	-	-	-	-	-	-	-	-
Northern Trust Corporation	NTRS.O	Brennan Hawken, CPA	24.7	1	✓	-	-	-	-	-	-	-	-	-
Novatek	NVTKq.L	Henri Patricot, CFA	56.9	1	✓	-	-	-	-	-	-	-	-	-
NW Natural	NWN.N	Aga Zmigrodzka, CFA	1.7	1	-	✓	-	-	-	-	-	-	-	-
Ocado Group PLC	OCDO.L	Sreedhar Mahamkali	19.1	1	-	-	-	-	✓	-	-	-	-	-
Offshore Oil Engineering	600583.SS	Alex Xu	3.0	1	-	-	-	-	-	✓	-	-	-	-
Oi	OIBR3.SA	Leonardo Olmos, CFA	1.9	1	✓	-	-	-	-	-	-	-	-	-
Olympus	7733.T	Yukihiko Koike	27.2	1	-	-	-	-	✓	-	-	-	-	-
Orkla	ORK.OL	Charles Eden, ACA	10.1	1	-	-	✓	-	-	-	-	-	-	-
Orocobre	ORE.AX	Dim Ariyasinghe	1.9	1	-	✓	-	-	-	-	-	-	-	-
Orora	ORA.AX	Nathan Reilly	2.3	1	-	-	-	-	-	✓	-	-	-	-
Orsted AS	ORSTED.CO	Sam Arie	58.3	1	-	-	-	-	✓	-	-	-	-	-
PagSeguro Digital	PAGS.N	Mariana Taddeo	13.8	1	✓	-	-	-	-	-	-	-	-	-
Pão de Açúcar (CBD)	PCAR3.SA	Gustavo Oliveira, CFA	1.9	1	-	-	-	-	-	-	-	-	✓	-
Park Hotels and Resorts	PK.N	Robin Farley	5.1	1	-	✓	-	-	-	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 17: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Partners Group Holding AG	PGHN.S	Mate Nemes, CFA	38.7	1	-	-	-	-	-	✓	-	-	-	-
Patterson Companies Inc	PDCO.O	Kevin Caliendo	3.5	1	✓	-	-	-	-	-	-	-	-	-
PCCW	0008.HK	James Wang	4.6	1	-	-	-	-	-	-	-	✓	-	-
Pegatron	4938.TW	Grace Chen	6.5	1	✓	-	-	-	-	-	-	-	-	-
Peloton Interactive Inc	PTON.O	Arpine Kocharyan	24.8	1	-	-	✓	-	-	-	-	-	-	-
Pfizer Inc.	PFE.N	Navin Jacob	218.0	1	✓	-	-	-	-	-	-	-	-	-
Pidlite Industries	PIDL.BO	Sunita Sachdev	12.4	1	-	-	-	-	-	-	-	-	-	✓
Pinduoduo Inc	PDD.O	Jerry Liu	155.9	1	✓	-	-	-	-	-	-	-	-	-
Ping An Healthcare and Technology	1833.HK	Yawen Tan	12.1	1	✓	-	-	-	-	-	-	-	-	-
Pirelli	PIRC.MI	David Lesne	5.6	1	-	✓	-	-	-	-	-	-	-	-
POSCO	005490.KS	Yong-Suk Son, CFA	26.8	1	-	-	-	-	✓	-	-	-	-	-
POSCO Chemical	003670.KS	Tim Bush	10.4	1	-	-	-	-	-	✓	-	-	-	-
Postal Savings Bank of China	1658.HK	May Yan	57.7	1	✓	-	-	-	-	-	-	-	-	-
Premier Investments	PMV.AX	Apoorv Sehgal	3.2	1	-	-	-	-	-	-	-	-	✓	-
Procter & Gamble	PG.N	Sean King	330.8	1	-	-	-	-	-	-	-	-	✓	-
Progressive Corporation	PGR.N	Brian Meredith	61.0	1	✓	-	-	-	-	-	-	-	-	-
Puma SE	PUMG.DE	Zuzanna Pusz, CFA	15.6	1	-	-	-	-	-	✓	-	-	-	-
Purple Innovation Inc	PRPL.O	Atul Maheswari, CFA	1.9	1	-	-	-	-	-	-	-	-	✓	-
Qantas Airways	QAN.AX	Simon Mitchell	7.0	1	✓	-	-	-	-	-	-	-	-	-
Qorvo Inc	QRVO.O	Timothy Arcuri	21.6	1	✓	-	-	-	-	-	-	-	-	-
Qualcomm Inc.	QCOM.O	Timothy Arcuri	153.7	1	✓	-	-	-	-	-	-	-	-	-
Quess Corp	QUEC.BO	Shaleen Kumar	1.3	1	-	-	-	-	-	-	-	-	-	✓
Quest Diagnostics Inc	DGX.N	Kevin Caliendo	18.9	1	✓	-	-	-	-	-	-	-	-	-
Randstad Holding NV	RAND.AS	Rory McKenzie	13.7	1	✓	-	-	-	-	-	-	-	-	-
Reliance Industries	RELI.BO	Amit Rustagi	166.0	1	✓	-	-	-	-	-	-	-	-	-
Renault	RENA.PA	David Lesne	11.3	1	✓	-	-	-	-	-	-	-	-	-
Renishaw	RSW.L	Xingzhou Lu, CFA	6.2	1	✓	-	-	-	-	-	-	-	-	-
Rio Tinto Plc	RIO.L	Myles Allsop	146.7	1	-	-	-	-	✓	-	-	-	-	-
Rongsheng Petrochemical	002493.SZ	Amily Guo	30.0	1	-	-	-	-	✓	-	-	-	-	-
Royal Dutch Shell B	RDSb.L	Jon Rigby	150.8	1	-	-	-	-	-	✓	-	-	-	-
RWE	RWEG.DE	Sam Arie	23.2	1	-	-	-	-	-	✓	-	-	-	-
Ryanair	RYA.I	Jarrod Castle, CFA	22.4	1	✓	-	-	-	-	-	-	-	-	-
S.F. Holding	002352.SZ	Qian Yu	43.1	1	-	-	-	-	✓	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.



Figure 18: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Sage Group	SGE.L	Michael Briest	9.6	1	✓	-	-	-	-	-	-	-	-	-
Saint Gobain	SGOB.PA	Gregor Kuglitsch	35.9	1	-	-	-	-	-	✓	-	-	-	-
Samsung Electro-Mechanics	009150.KS	Taewoo Lee	11.5	1	✓	-	-	-	-	-	-	-	-	-
Samsung Engineering	028050.KS	Yong-Suk Son, CFA	3.1	1	-	-	-	-	-	-	-	-	-	✓
Sanofi	SASY.PA	Laura Sutcliffe, PhD	128.0	1	✓	-	-	-	-	-	-	-	-	-
Santam	SNTJ.J	Michael Christelis, FIA CFA	2.2	1	✓	-	-	-	-	-	-	-	-	-
Santander	SAN.MC	Ignacio Cerezo	62.3	1	-	-	-	-	-	-	✓	-	-	-
SAP	SAPG.DE	Michael Briest	166.0	1	-	-	-	-	✓	-	-	-	-	-
Scentre Group	SCG.AX	Grant McCasker, CFA	10.9	1	-	-	-	-	-	-	-	-	✓	-
Schroders plc	SDR.L	Michael Werner	14.2	1	-	-	-	-	✓	-	-	-	-	-
Securitas	SECUB.ST	Kate Somerville	6.1	1	✓	-	-	-	-	-	-	-	-	-
Semen Indonesia	SMGR.JK	Bob Setiadi	4.2	1	-	-	-	-	-	-	-	-	-	✓
Ser Educaional	SEER3.SA	Vinicius Ribeiro	0.3	1	-	-	-	-	-	-	-	-	-	✓
ServiceNow Inc	NOW.N	Karl Keirstead	97.7	1	✓	-	-	-	-	-	-	-	-	-
Severstal	SVSTq.L	Andrew Jones	19.5	1	-	-	-	-	✓	-	-	-	-	-
Shandong Sinocera Functional Material	300285.SZ	Amily Guo	7.6	1	-	-	-	-	-	✓	-	-	-	-
Shanghai Oriental Pearl Media	600637.SS	Corrine Hu, CFA	4.7	1	✓	-	-	-	-	-	-	-	-	-
Shenzhou International	2313.HK	Ally Chen	34.8	1	-	-	-	-	-	✓	-	-	-	-
Shinhan Financial Group	055550.KS	Gil Kim	17.3	1	-	-	-	-	-	-	-	✓	-	-
Shinsegae	004170.KS	Jennifer Han	2.7	1	✓	-	-	-	-	-	-	-	-	-
Siemens Energy AG	ENR1n.DE	Supriya Subramanian	22.8	1	-	-	-	-	-	✓	-	-	-	-
Siemens Healthineers AG	SHLG.DE	Thando Skosana	58.4	1	-	-	-	-	✓	-	-	-	-	-
Simon Property Group Inc	SPG.N	Pending Initiation	38.9	1	-	-	-	-	-	-	-	-	✓	-
Singtel	STEL.SI	Navin Killa	30.0	1	-	-	-	-	-	-	-	✓	-	-
Sino-Thai Engineering & Construction	STEC.BK	Jian Bo Gan, CFA	0.7	1	-	-	-	-	-	-	-	-	-	✓
Sinotruk Jinan Truck	000951.SZ	Wei Shen	3.4	1	-	✓	-	-	-	-	-	-	-	-
SK Hynix	000660.KS	Nicolas Gaudois	83.7	1	✓	-	-	-	-	-	-	-	-	-
SKF B	SKFb.ST	Guillermo Peigneux Lojo	12.3	1	✓	-	-	-	-	-	-	-	-	-
Skyworks Solutions Inc	SWKS.O	Timothy Arcuri	29.3	1	✓	-	-	-	-	-	-	-	-	-
Sleep Number Corp	SNBR.O	Atul Maheswari, CFA	5.2	1	✓	-	-	-	-	-	-	-	-	-
Snap Inc	SNAP.N	John Hodulik, CFA	77.1	1	✓	-	-	-	-	-	-	-	-	-
SoftBank Corp.	9434.T	Kei Takahashi	61.6	1	✓	-	-	-	-	-	-	-	-	-
Spotify Technology S.A.	SPOT.N	John Hodulik, CFA	45.5	1	✓	-	-	-	-	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 19: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Spring Airlines	601021.SS	Xin Chen	8.9	1	✓	-	-	-	-	-	-	-	-	-
SRF Limited	SRFL.BO	Shaleen Kumar	5.3	1	-	-	-	-	-	-	-	-	-	✓
Stadler Rail AG	SRAIL.S	Patrick Rafaisz, CFA, FRM	4.9	1	-	✓	-	-	-	-	-	-	-	-
Standard Chartered plc	STAN.L	Jason Napier, CFA	22.7	1	-	-	-	-	-	-	-	✓	-	-
Star Entertainment Group	SGR.AX	Suthesh Jeyakandan	2.9	1	✓	-	-	-	-	-	-	-	-	-
Starbucks	SBUX.O	Dennis Geiger, CFA	135.5	1	-	-	✓	-	-	-	-	-	-	-
Steel Dynamics Inc	STLD.O	Andreas Bokkenheuser	13.2	1	-	-	-	-	-	✓	-	-	-	-
Stora Enso	STERV.HE	Mikael Doepel	15.3	1	✓	-	-	-	-	-	-	-	-	-
Straumann	STMN.S	Kevin Caliendo	23.7	1	✓	-	-	-	-	-	-	-	-	-
Sulzer	SUN.S	Patrick Rafaisz, CFA, FRM	4.0	1	-	-	-	✓	-	-	-	-	-	-
Sunny Optical Technology	2382.HK	Alice Chen	25.6	1	✓	-	-	-	-	-	-	-	-	-
Super Retail Group	SUL.AX	Apoorv Sehgal	2.1	1	-	-	-	-	-	-	-	-	✓	-
Swatch Group AG	UHR.S	Zuzanna Pus, CFA	16.4	1	✓	-	-	-	-	-	-	-	-	-
Swedbank	SWEDa.ST	Johan Ekblom, CFA	19.9	1	-	-	-	-	-	-	-	✓	-	-
Syrah Resources	SYR.AX	Dim Ariyasinghe	0.4	1	-	✓	-	-	-	-	-	-	-	-
Sysmex	6869.T	Yukihiko Koike	21.4	1	-	-	-	-	✓	-	-	-	-	-
Taiyo Yuden	6976.T	Shingo Hirata, CFA	5.7	1	✓	-	-	-	-	-	-	-	-	-
Talgo	TLGO.MC	Bosco Ojeda	0.7	1	-	✓	-	-	-	-	-	-	-	-
Targa Resources Corp.	TRGP.N	Shneur Gershuni, CFA	8.5	1	-	✓	-	-	-	-	-	-	-	-
Target Corporation	TGT.N	Michael Lasser	107.8	1	-	-	-	-	-	-	-	-	✓	-
Tata Consultancy Services	TCS.BO	Diviya Nagarajan	158.4	1	✓	-	-	-	-	-	-	-	-	-
TCS Group	TCSq.L	Stephan Potgieter, CFA	11.8	1	-	-	-	-	-	-	-	✓	-	-
TDK	6762.T	Shingo Hirata, CFA	17.0	1	✓	-	-	-	-	-	-	-	-	-
Tech Mahindra	TEML.BO	Diviya Nagarajan	11.7	1	✓	-	-	-	-	-	-	-	-	-
Telkom Indonesia	TLKM.JK	Navin Killa	21.9	1	✓	-	-	-	-	-	-	-	-	-
Temenos	TEMN.S	Hannes Leitner	10.3	1	-	-	-	-	-	-	-	✓	-	-
Teradata Corporation	TDC.N	Jennifer Swanson Lowe	5.3	1	✓	-	-	-	-	-	-	-	-	-
Texas Instruments Inc	TXN.O	Timothy Arcuri	169.0	1	✓	-	-	-	-	-	-	-	-	-
Thai Beverage	TBEV.SI	Permada Darmono	13.4	1	-	-	-	-	-	-	-	-	✓	-
The a2 Milk Company	ATM.NZ	Marcus Curley	4.1	1	✓	-	-	-	-	-	-	-	-	-
The Cheesecake Factory Inc	CAKE.O	Dennis Geiger, CFA	3.3	1	✓	-	-	-	-	-	-	-	-	-
The Kroger Co	KR.N	Michael Lasser	29.4	1	-	-	-	-	-	-	-	-	✓	-
The RealReal Inc	REAL.O	Alexandra Steiger	2.0	1	✓	-	-	-	-	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 20: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
The Wendy's Co	WEN.O	Dennis Geiger, CFA	5.2	1	-	-	✓	-	-	-	-	-	-	-
Thermax	THMX.BO	Gopal Ritolia	2.5	1	-	-	-	-	-	-	-	-	-	✓
Thermo Fisher Scientific Inc	TMO.N	Dan Brennan, CFA	186.6	1	✓	-	-	-	-	-	-	-	-	-
T-Mobile US	TMUS.O	John Hodulik, CFA	174.0	1	✓	-	-	-	-	-	-	-	-	-
Tod's	TOD.MI	Susy Tibaldi, CFA	1.6	1	✓	-	-	-	-	-	-	-	-	-
Topsports International	6110.HK	Samuel Wang	8.6	1	-	-	-	-	-	✓	-	-	-	-
Toray Industries	3402.T	Pending Initiation	10.4	1	-	✓	-	-	-	-	-	-	-	-
Toyota Industries Corporation	6201.T	Kohei Takahashi	25.9	1	-	✓	-	-	-	-	-	-	-	-
Toyota Motor	7203.T	Kohei Takahashi	214.9	1	-	✓	-	-	-	-	-	-	-	-
Tradeweb Markets Inc.	TW.O	Alex Kramm, CFA	19.4	1	✓	-	-	-	-	-	-	-	-	-
TripAdvisor	TRIP.O	Benjamin Miller	6.0	1	✓	-	-	-	-	-	-	-	-	-
Triumph Group Inc	TGI.N	Myles Walton, PhD, CFA	0.9	1	-	✓	-	-	-	-	-	-	-	-
True Corporation	TRUE.BK	Navin Killa	3.4	1	✓	-	-	-	-	-	-	-	-	-
TUI AG (UK)	TUIT.L	Cristian Nedelcu, CFA	6.6	1	-	-	-	-	✓	-	-	-	-	-
Tupras	TUPRS.IS	Henri Patricot, CFA	2.8	1	✓	-	-	-	-	-	-	-	-	-
Turkcell İletişim Hizmetleri AS	TCELL.IS	Ondrej Cabešek	3.9	1	✓	-	-	-	-	-	-	-	-	-
UGI Corp	UGI.N	Shneur Gershuni, CFA	9.4	1	-	✓	-	-	-	-	-	-	-	-
United Parcel Service, Inc.	UPS.N	Thomas Wadewitz	188.1	1	-	✓	-	-	-	-	-	-	-	-
United Rentals, Inc	URI.N	Steven Fisher, CFA	24.7	1	✓	-	-	-	-	-	-	-	-	-
Universal Entertainment	6425.T	Ian Wong	1.9	1	✓	-	-	-	-	-	-	-	-	-
Universal Scientific Industrial	601231.SS	Jimmy Yu	5.5	1	✓	-	-	-	-	-	-	-	-	-
URW	URW.AS	Osmaan Malik, CFA	11.8	1	✓	-	-	-	-	-	-	-	-	-
Vale	VALE.N	Andreas Bokkenheuser	116.7	1	-	-	-	-	-	✓	-	-	-	-
Vallourec	VLLP.PA	Amy Wong	0.4	1	✓	-	-	-	-	-	-	-	-	-
Valmet	VALMT.HE	Sven Weier	6.2	1	-	-	-	-	-	✓	-	-	-	-
Vasta Platform Limited	VSTA.O	Vinicius Ribeiro	0.8	1	-	-	-	-	-	-	-	-	-	✓
VEON	VEON.O	Ondrej Cabešek	3.2	1	✓	-	-	-	-	-	-	-	-	-
Veoneer	VNE.N	David Lesne	2.6	1	✓	-	-	-	-	-	-	-	-	-
Verizon Communications	VZ.N	John Hodulik, CFA	245.6	1	-	✓	-	-	-	-	-	-	-	-
Vestas Wind Systems AS	VWS.CO	Supriya Subramanian	38.7	1	-	-	-	-	-	✓	-	-	-	-
Vicinity Centres	VCX.AX	Grant McCasker, CFA	5.5	1	-	-	-	-	-	-	-	✓	-	-
Vietnam Dairy Products	VNM.HM	Permada Darmono	7.0	1	-	-	-	-	-	-	-	-	-	✓
Vifor Pharma	VIFN.S	Laura Sutcliffe, PhD	9.0	1	-	-	-	-	✓	-	-	-	-	-

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 21: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Vinci	SGEF.PA	Gregor Kuglitsch	64.8	1	-	✓	-	-	-	-	-	-	-	-
Vipshop	VIPS.N	Jerry Liu	19.2	1	-	-	-	-	-	-	-	-	✓	-
Virgin Galactic Holdings Inc	SPCE.N	Myles Walton, PhD, CFA	4.5	1	-	✓	-	-	-	-	-	-	-	-
Vivendi	VIV.PA	Richard Eary	40.8	1	✓	-	-	-	-	-	-	-	-	-
Vodafone Group	VOD.L	Polo Tang	54.0	1	✓	-	-	-	-	-	-	-	-	-
Vodafone Idea Ltd	VODA.BO	Navin Killa	3.2	1	✓	-	-	-	-	-	-	-	-	-
Volta Ltd	VOLT.BO	Abhisek Banerjee	4.4	1	-	-	-	-	-	-	-	-	-	✓
Wal-Mart de Mexico	WALMEX.MX	Gustavo Oliveira, CFA	56.5	1	-	-	-	-	-	-	-	-	✓	-
Wanhua Chemical Group	600309.SS	Amily Guo	50.9	1	-	-	-	-	-	-	-	-	-	✓
Weichai Power - A	000338.SZ	Wei Shen	21.7	1	-	✓	-	-	-	-	-	-	-	-
Wells Fargo & Company	WFC.N	Saul Martinez	192.3	1	✓	-	-	-	-	-	-	-	-	-
Westlake Chemical Corp	WLK.N	John Roberts	12.8	1	✓	-	-	-	-	-	-	-	-	-
WH Group	0288.HK	Christine Peng, CFA	13.0	1	✓	-	-	-	-	-	-	-	-	-
Wharf Holdings	0004.HK	John Lam, CFA	9.4	1	-	-	-	-	-	-	-	-	✓	-
Whitbread	WTB.L	Bilal Aziz, CFA	9.1	1	✓	-	-	-	-	-	-	-	-	-
WIN Semiconductors	3105.TWO	Sunny Lin	4.9	1	✓	-	-	-	-	-	-	-	-	-
Wistron	3231.TW	Grace Chen	3.1	1	✓	-	-	-	-	-	-	-	-	-
Woolworths Holdings	WHLJ.J	Charne Adams	3.4	1	-	-	-	-	-	✓	-	-	-	-
Workday	WDAY.O	Karl Keirstead	59.7	1	-	-	-	-	✓	-	-	-	-	-
Worley	WOR.AX	Nathan Reilly	4.0	1	-	-	-	-	-	✓	-	-	-	-
Wuxi Lead Intelligent Equipment	300450.SZ	Kunlun Li	12.0	1	-	✓	-	-	-	-	-	-	-	-
WW International Inc	WW.O	Michael Lasser	2.4	1	-	-	✓	-	-	-	-	-	-	-
X5 Retail Group	PJPq.L	Michal Potyra, CFA	8.7	1	-	-	-	-	-	-	-	-	✓	-
XCMG Construction Machinery	000425.SZ	Phyllis Wang	9.3	1	✓	-	-	-	-	-	-	-	-	-
Xiaomi	1810.HK	Thompson Wu	81.9	1	-	-	-	-	-	-	-	✓	-	-
Xinyi Energy	3868.HK	Ken Liu	3.3	1	-	-	-	-	-	✓	-	-	-	-
Xinyi Solar	0968.HK	Yishu Yan	10.6	1	-	-	-	-	-	✓	-	-	-	-
XL Axiata	EXCL.JK	Navin Killa	1.5	1	✓	-	-	-	-	-	-	-	-	-
Yaskawa Electric	6506.T	Hikaru Mizuno	12.4	1	-	-	-	-	-	-	-	-	-	✓
YDUQS Part	YDUQ3.SA	Vinicius Ribeiro	1.7	1	-	-	-	-	-	-	-	-	-	✓
Yonghui Superstores	601933.SS	Christine Peng, CFA	7.8	1	-	-	-	-	-	-	-	-	✓	-
Yonyou Network Technology	600588.SS	Wendy Zhang	16.5	1	✓	-	-	-	-	-	-	-	-	-
Zebra Technologies Corp	ZBRA.O	Damian Karas, CFA	25.1	1	-	-	-	-	-	-	-	-	-	✓

Source: UBS Research. Market Cap as of 6th May 2021.

Figure 22: Full list of stocks associated with the themes, sorted by the number of themes they are tied to (continued)

Company Name	Ticker	Analyst	Mcap (US\$ bn)	#Associated themes	Compute and Networking	Transport goes sustainable	Health and wellness tech	Robots go mainstream	AI scales	Climate Damage and Repair	Non-traditional materials	Tech disrupts banking	Data-driven ecommerce	Rising regulatory risk
Zhejiang Dingli Machinery	603338.SS	Phyllis Wang	5.5	1	-	-	-	✓	-	-	-	-	-	-
Zhejiang Huace Film & TV	300133.SZ	Zhijing Liu	1.7	1	✓	-	-	-	-	-	-	-	-	-
Zhejiang NHU	002001.SZ	Amily Guo	12.8	1	✓	-	-	-	-	-	-	-	-	-
Zoomlion Heavy Industry Science & Tech H	1157.HK	Phyllis Wang	10.5	1	-	-	-	✓	-	-	-	-	-	-
ZTO Express	ZTO.N	Qian Yu	26.3	1	✓	-	-	-	-	-	-	-	-	-
Zynga	ZNGA.O	John Hodulik, CFA	11.6	1	✓	-	-	-	-	-	-	-	-	-

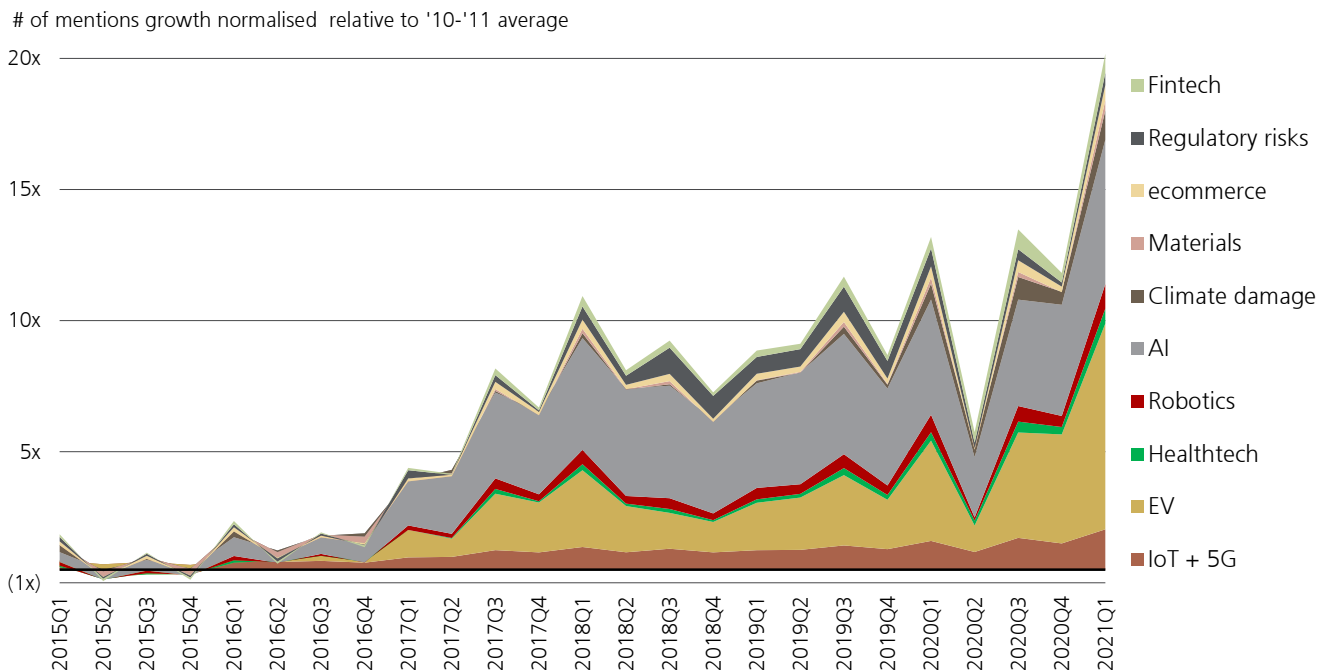
Source: UBS Research. Market Cap as of 6th May 2021.

# Deep Theme Explorer

UBS Evidence Lab's Deep Theme Explorer bolsters thematic research by expanding a search term into a theme by statistically identifying other terms or phrases that frequently occur together with the original search term. The resulting set of related terms/phrases are then used to search across a wide range of publications (news, earnings calls, UBS Research, blogs, industry journals, company filings) measuring positive, negative, and net sentiment as well as total mentions of the theme on tens of thousands of public and private companies and organizations. UBS Evidence Lab has a patent pending on the approach.

In the graph below we show how our 10 critical themes have tracked in recent years in earnings releases and calls, and accelerated since the pandemic.

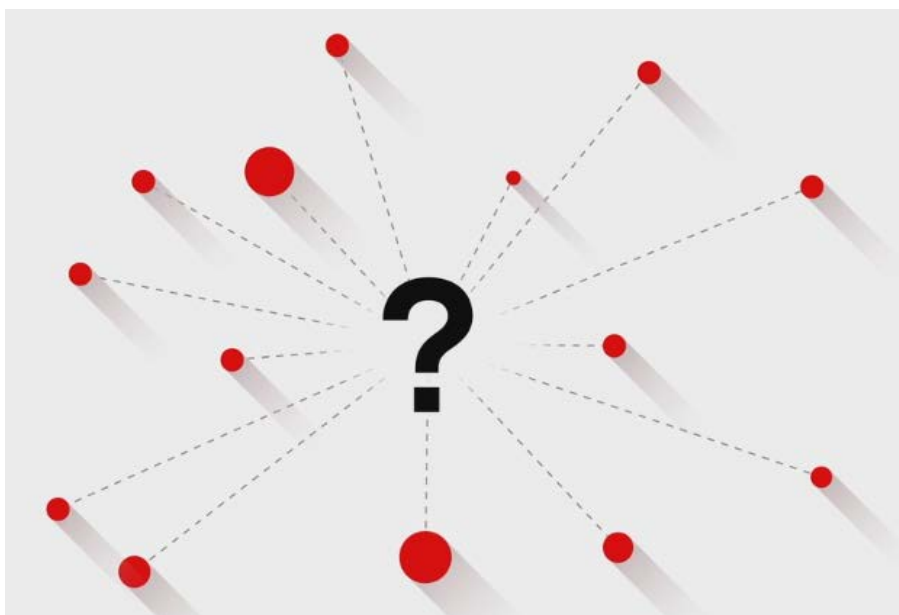
## Tracking our 10 critical themes with Deep Theme Explorer



Source: UBS Evidence Lab Deep Theme Explorer

## About the UBS Question Bank

[The UBS Question Bank](#) is the largest global database of market-related questions asked by professional investors - over 200k questions across different asset classes, sectors and geographies. The UBS Question Bank is a separate unit to UBS Research and is not subject to all of the independence disclosure standards applicable to material prepared by UBS Research. It does not provide research, investment recommendations or advice. It helps professionals in different parts of UBS to identify the most important debates in a more timely, client-centric and scientific way, and to deploy our resources accordingly. The UBS Question Bank also facilitates rapid and relevant connections across themes with the help of Artificial Intelligence tools and various data analytics techniques.



## About UBS Evidence Lab

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<b>Buy</b>	FSR is > 6% above the MRA.	52%	31%
<b>Neutral</b>	FSR is between -6% and 6% of the MRA.	36%	28%
<b>Sell</b>	FSR is > 6% below the MRA.	12%	22%
Short-Term Rating	Definition	Coverage <sup>3</sup>	IB Services <sup>4</sup>
<b>Buy</b>	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
<b>Sell</b>	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 31 March 2021.

1: Percentage of companies under coverage globally within the 12-month rating category.

2: Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

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