



# **THE GREAT ACCELERATION**

**Permanent changes unleash  
exponential growth opportunities**

**iShares<sup>®</sup>**  
by BlackRock



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# FOREWORD

## A PACE OF PROGRESS BEYOND OUR WILDEST DREAMS

Today, there may be more potential for rapid change than at any other point in history. This is in no small part because we are connected to one another through a free flow of information in the palm of our hands. A tweet in Cairo can spark innovation in Cartagena, Copenhagen, Chicago or Cape Town. And that innovation may not be “technological” in the traditional sense. This tweet could hold a link to new genomic data that helps the world’s aging population live healthier lives. It might be the image of a schematic for the use of next-generation plastics needed to accommodate the urbanization boom in emerging markets. Perhaps it will be a video announcing another nation’s commitment to exploring state-backed cryptocurrencies.

With humans pre-wired to think linearly, market participants often fail to recognize exponential growth opportunities. The future is nearly impossible to predict because innovation unfolds in an exponential manner, leading us to consistently underestimate its long-term impact. The tendency to overlook exponential trends in early and even mid-life stages presents opportunities for investors to capture associated mispricing.

There’s never been a more exciting time for thematic investing. In no small part, the category’s growth will be driven by the constant emergence of powerful new growth trends born of permanent changes in the way we live, work and – of course – the ways we invest. Thematic ETFs provide investors the ability to harness these compelling investment opportunities through access to diversified, transparent, and cost-efficient vehicles. Through thematic ETFs, investors can own the future, regardless of how fast it unfolds.



**ARMANDO SENRA**  
Head of Americas ETF and Index Investing

“  
The future will be far more surprising than most people realize, because few observers have truly internalized the implications of the fact that the rate of change itself is accelerating.”

”

**RAY KURZWEIL**  
American inventor and futurist<sup>1</sup>

1 Ray Kurzweil, Tracking the acceleration of intelligence, 2001.



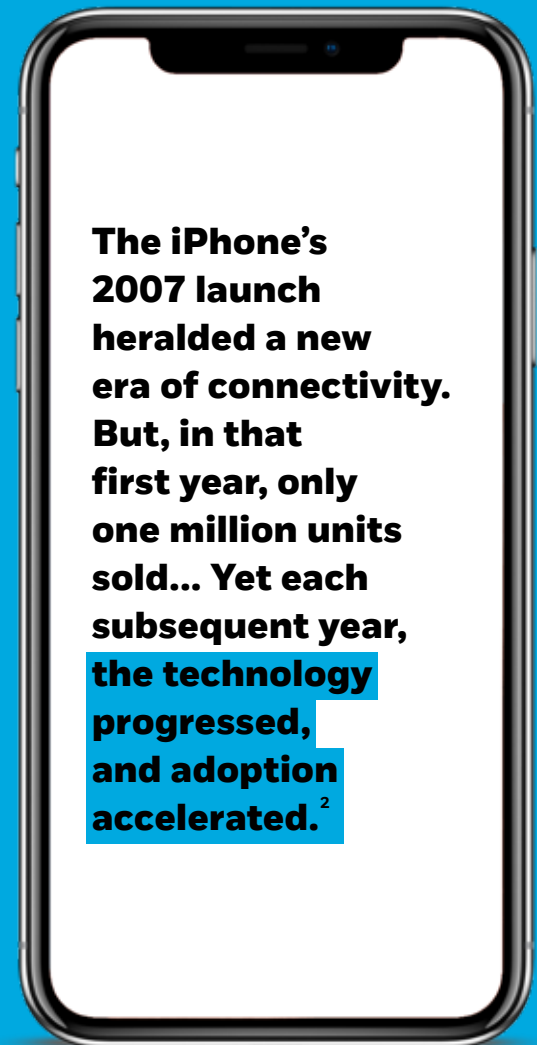
# CHANGE IS A CATALYST FOR GROWTH

## Lockdowns during the COVID-19 pandemic permanently changed the way we live.

Even as we return to theaters, workplaces, and other public venues, elements of virtualization like flexible work from home, online shopping/delivery, and heightened cyber threats, continue to play outsized roles in our lives.

Recent transformational events like the emergence from COVID's peak, geopolitical conflict and disrupted supply chains are driving similarly powerful and permanent changes across health care, industry and consumption. Much like the trajectory of virtualization and its related technologies, we believe the associated themes could enjoy years, if not decades, of outsized growth. The moment is now to embrace these forward-looking investment themes – before the market recognizes their full potential.

The iPhone's 2007 launch heralded a new era of connectivity. But, in that first year, only one million units sold, leading many to believe this “phone” was simply an incremental step forward rather than a revolutionary platform.<sup>2</sup> Yet each subsequent year the technology progressed and adoption accelerated, resulting not just in the exponential growth of handset sales but also in mobile data and over five million apps across search, social media, e-commerce and even dating.<sup>3</sup> Other disruptive products have followed similar trajectories – slow initial growth followed by years of ever-faster acceleration.



2 Statista, Unit Sales of the Apple iPhone Worldwide, from 2007-2018.

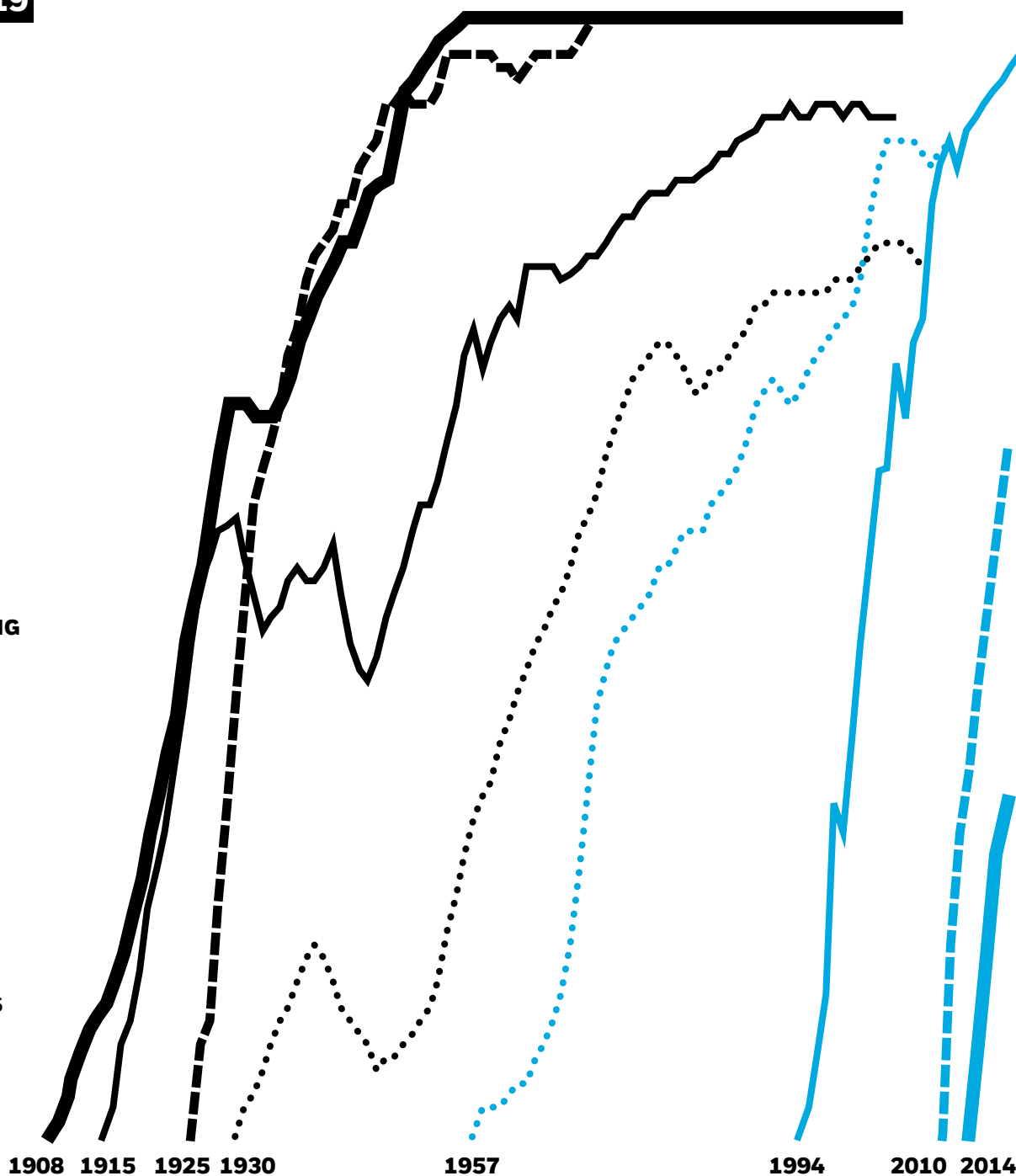
3 Statista, Number of available apps in the Apple Store, from 2008-2021.



# SHARE OF U.S. HOUSEHOLDS USING SPECIFIC TECHNOLOGIES

1860-2019

- █ ELECTRIC POWER**  
1908 10%  
2005 99%
- █ AUTOMOBILE**  
1915 10%  
2005 91%
- █ RADIO**  
1925 52%  
2005 99%
- WASHING MACHINE**  
1930 10%  
2008 79%
- HOME AIR CONDITIONING**  
1957 10%  
2010 88%
- █ CELLULAR PHONE**  
1994 10%  
2019 96%
- █ TABLET**  
2010 3%  
2017 64%
- █ AMAZON PRIME USERS**  
2014 11%  
2018 36%

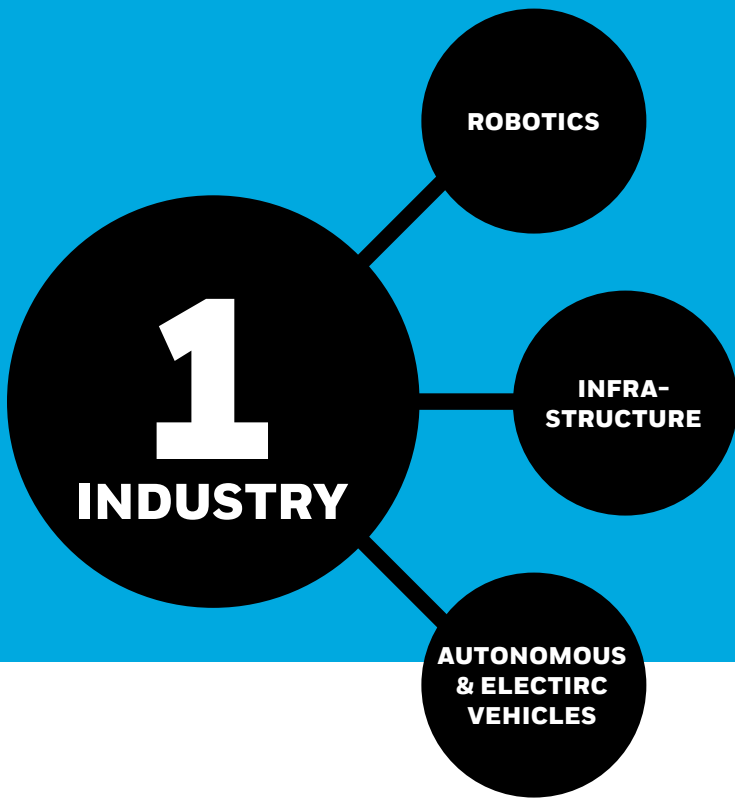


Sources: Horace Dediu, Comin and Hobijn (2004) and others, Our World in Data. Data from 1860 to 2019. Variable descriptions are as follows: Electric power: Percentage of U.S. households with electric power. Radio: Percentage of U.S. households that own a radio. Automobile: Percentage of U.S. households that own an automobile. Washing machine: Percentage of U.S. households that own a washing machine. Home air conditioning: Percentage of U.S. households with home air conditioning. Cellular phone Usage: Percentage of U.S. adults who own a cell phone. Tablet: Percentage of U.S. adults who own a tablet. Amazon Prime Users (adults aged 15+): Percentage of the U.S. population who are Amazon Prime users. Calculated as the number of Amazon Prime users divided by the U.S. population aged 15 and over.



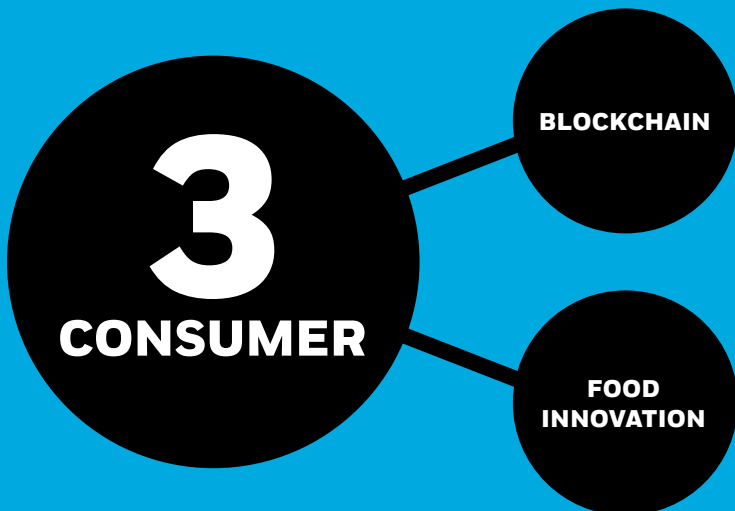
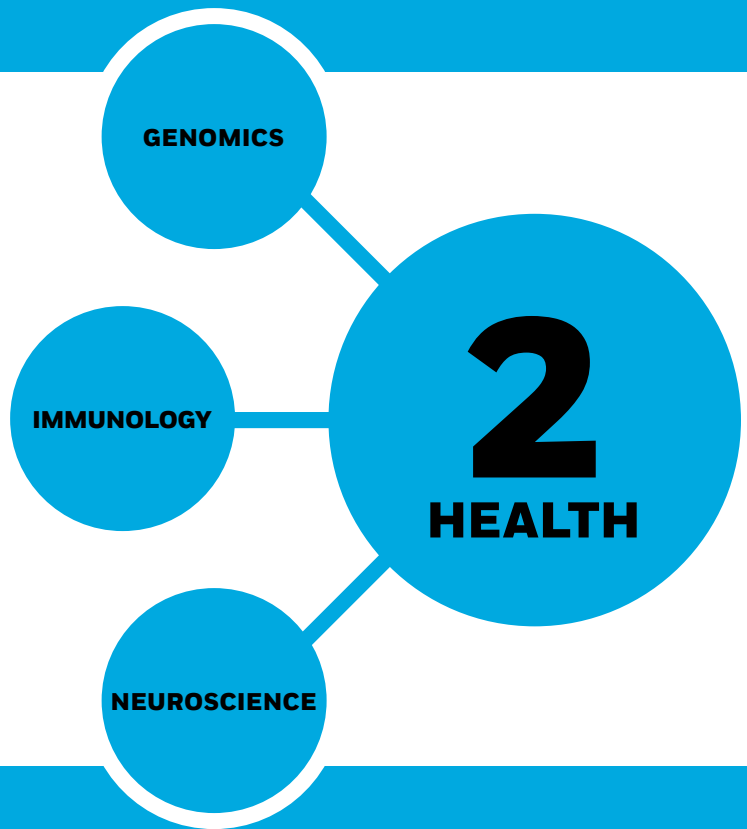
## SO WHAT'S NEXT?

We have identified three areas experiencing significant permanent changes. The market may be underestimating the impact of these changes but could soon recognize their explosive power, creating a potential window of opportunity for forward-thinking investors.



First, just as the leap to lockdowns drove virtual technologies, the leap back will likely drive physical technologies. Global inflation and supply chain disruption could make industrial investments in automation, infrastructure, and the future of transportation immediately critical.

Second, we recognize that the future of healthcare has been transformed. Pioneering mRNA vaccines used to fight COVID could be applied to diseases from influenza to HIV. The lessons learned through the speed with which COVID vaccines came to market could help accelerate precision medicine treatments fighting cancer and neurological disorders.



Third, millennials and developing market consumers are emerging from lockdowns as the major spenders driving the global economy. Their ascendance means their unique preferences for decentralized digital ecosystems and greener goods will transform commerce as we know it.



**The future of industry, healthcare and consumption have arrived in the form of Megatrends.**

**Buckle up for the exponential ride that follows.**





# AN INDUSTRIAL RENAISSANCE

**Supply chain weakness, revealed by the pandemic and exacerbated by conflict in Eastern Europe, has forced a reimagining of global supply chains.**

## **RELATED FUNDS**

- iShares Robotics and Artificial Intelligence Multisector ETF (IRBO)
- iShares Self-Driving EV and Tech ETF (IDRV)
- BlackRock Future Tech ETF (BTEK)



As a result, while virtual technology drove many investor returns by bringing us through the pandemic, real-world, physical technologies are where innovation, and therefore return potential, sit today.

Consumers seeking a new car to resume commuting or a new TV to watch the “The Big Game” likely experienced the impacts of labor shortages, inflation, supply chain issues or all three. Since the start of the pandemic, average shipping times from Asia to North America have risen by 125%.<sup>4</sup> Domestic freight costs rose by 42% in 2022 versus 2021.<sup>5</sup> And inputs such as lumber are 165%<sup>6</sup> above pre-pandemic levels. At the same time, geopolitical uncertainty and trade conflicts are leading more firms to re-shore production and diversify supply chains. All of this is occurring amidst substantial wage inflation.<sup>7</sup>

Permanent changes in the way goods are produced and transported are underway, catalyzing a modern industrial renaissance. Against this backdrop, automation, infrastructure and electric vehicles may be poised for outperformance.

**Domestic freight costs rose by**

**42%**

**in 2022 vs. 2021.<sup>5</sup>**

## **DON'T WAIT, AUTOMATE**

From 2001: A Space Odyssey to The Terminator and The Matrix – science fiction has imagined the conflict between human and machine. Thankfully, the rise of robotics is anything but a zero-sum game. Automation, from production to packaging, is combating supply chain disruption and inflation, allowing employees to move faster and focus on higher-value tasks.

In 2021, robot sales had their strongest year ever in North America, up 28% from 2020.<sup>8</sup> While the auto industry was historically the largest consumer of robots, non-automotive manufacturers now represent the majority of sales.<sup>9</sup> Hourly earnings in the U.S. are up 11% since the start of the pandemic, and labor shortages are leading to challenges for many firms in finding qualified workers at all, making the upfront investment in automation far more attractive.<sup>10</sup>

The acceleration in e-commerce has further stressed supply chains. Robotics will likely also play a significant role in logistics innovation; strained warehouse operations, due to increasing consumer demand, necessitate their use.

- 4 American Shipper, “Imports take ‘dramatically longer’ to reach U.S. as bottlenecks bite,” January 2022.
- 5 Cass Freight Index, Expenditures, February 2022.
- 6 Bloomberg, Chicago Mercantile Exchange. Price change from 12 December 2019 to 29 March 2022 of lumber futures, with the contract specifying 110,000 board feet (one 73 flat car) of random length 8-20 softwood 2 x 4s.
- 7 U.S. Bureau of Labor Statistics, average hourly earnings of all employees (total private, seasonally adjusted), March 2022.
- 8 Automate.org, “Robot Sales in North America have Strongest Year ever in 2021,” February 2022.
- 9 Automation.com, “For First Time on Record, Yearly Non-Automotive Robotic Orders Higher Than Automotive Orders,” January 2021.
- 10 US Bureau of Labor Statistics, Average Hourly Earnings of All Employees (Total Private, Seasonally Adjusted), March 2022.



# THE SHORTEST DISTANCE BETWEEN TWO POINTS

While it turns out the robots are, in fact, our friends – our own roads, bridges, ports and tunnels have become the enemy. As robotics allows the production of more goods and can help combat rising prices, the next piece of the puzzle becomes solving outdated and inefficient transport systems – where we see outsized growth potential for firms upgrading traditional infrastructure and ushering in the future of mobility.

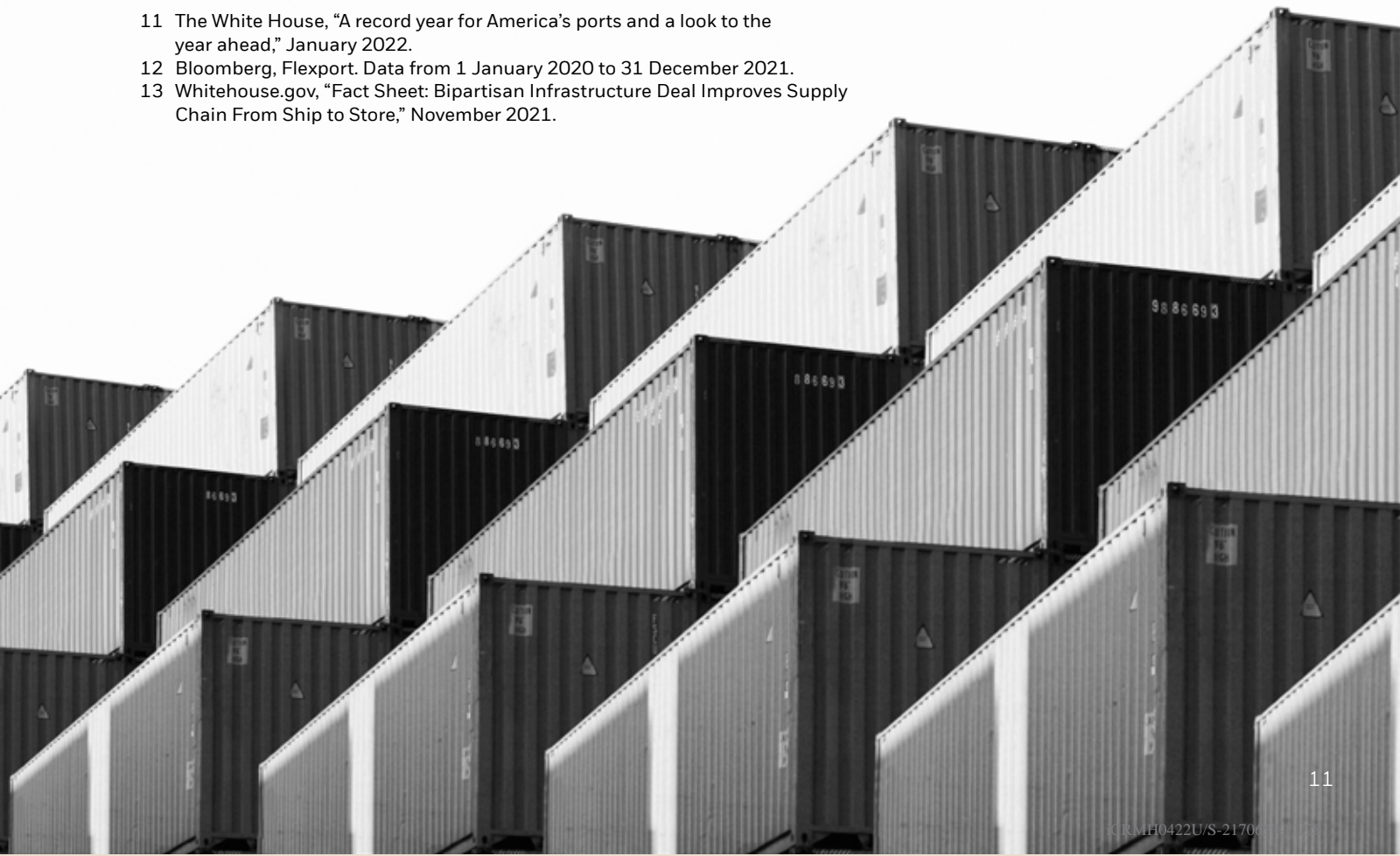
U.S. ports had a record year in 2021 – the ports of Los Angeles and Long Beach, responsible for 40% of the nation’s containerized imports, moved more goods than ever before.<sup>11</sup> As a result, transit times to ship goods from China to Los Angeles doubled.<sup>12</sup> Upgrading port infrastructure will help bring inputs to re-shored centers of manufacturing faster, and ultimately enable finished goods to be shipped to customers on time.

The \$1 trillion Infrastructure Investment and Jobs Act (IIJA), passed in 2021, includes \$17 billion for ports. The IIJA will also rehabilitate freight and intermodal rail to help move goods with \$10 billion for surface transport and rail networks.<sup>13</sup> As these projects advance, maintenance and operations will improve, making asset owners (e.g., port and rail operators) the next beneficiaries.

11 The White House, “A record year for America’s ports and a look to the year ahead,” January 2022.

12 Bloomberg, Flexport. Data from 1 January 2020 to 31 December 2021.

13 Whitehouse.gov, “Fact Sheet: Bipartisan Infrastructure Deal Improves Supply Chain From Ship to Store,” November 2021.





Linking the need for greater automation and infrastructure development, we specifically see industrial machinery, commodity chemicals, building products, and specialized REITs as key beneficiaries. These areas enable production expansion and are standing out amongst infrastructure sub-sectors in our proprietary BlackRock Systematic Active analyses that utilize natural language processing, machine learning, geolocation data, and other alternative data sets.

Autonomous vehicle technologies could also help shape the future of goods transport. Truckload volumes on busy routes such as Los Angeles to Chicago are up 130% year-over-year,<sup>14</sup> while at the same time, the truck driver shortage hit a historic high at 80,000 drivers in 2021 and is expected to double by 2030.<sup>15</sup> Autonomous vehicle technologies can reduce trucking costs and capacity constraints. Electric Vehicles (EVs) will also be a game-changer and a key beneficiary of infrastructure spending, as the IIJA funds a nationwide expansion of charging stations. A shift to electric transportation for medium and heavy-duty vehicles could not only reduce 25%-40% of energy use from trucking each year, but also significantly offset anywhere from 70-90% of spending on fuel.<sup>16</sup>

14 WSJ.com, "The U.S. Import Surge is Skipping the Train," February 2022.

15 American Trucking Associations Inc., October 2021.

16 ACEEE, Steven Nadal. "Electrifying Trucks: From Delivery Vans to Buses to 18-Wheelers," January 2020.

**In many ways,  
the rise of  
autonomous and  
electric vehicles  
encapsulates  
the opportunity  
for the future of  
industry: from  
factory floor to  
showroom to  
driveway and  
beyond.**





# THE UPSHOT OF POST- COVID MEDICINE

## RELATED FUNDS

- iShares Genomics Immunology and Healthcare ETF (IDNA)
- BlackRock Future Health ETF (BMED)

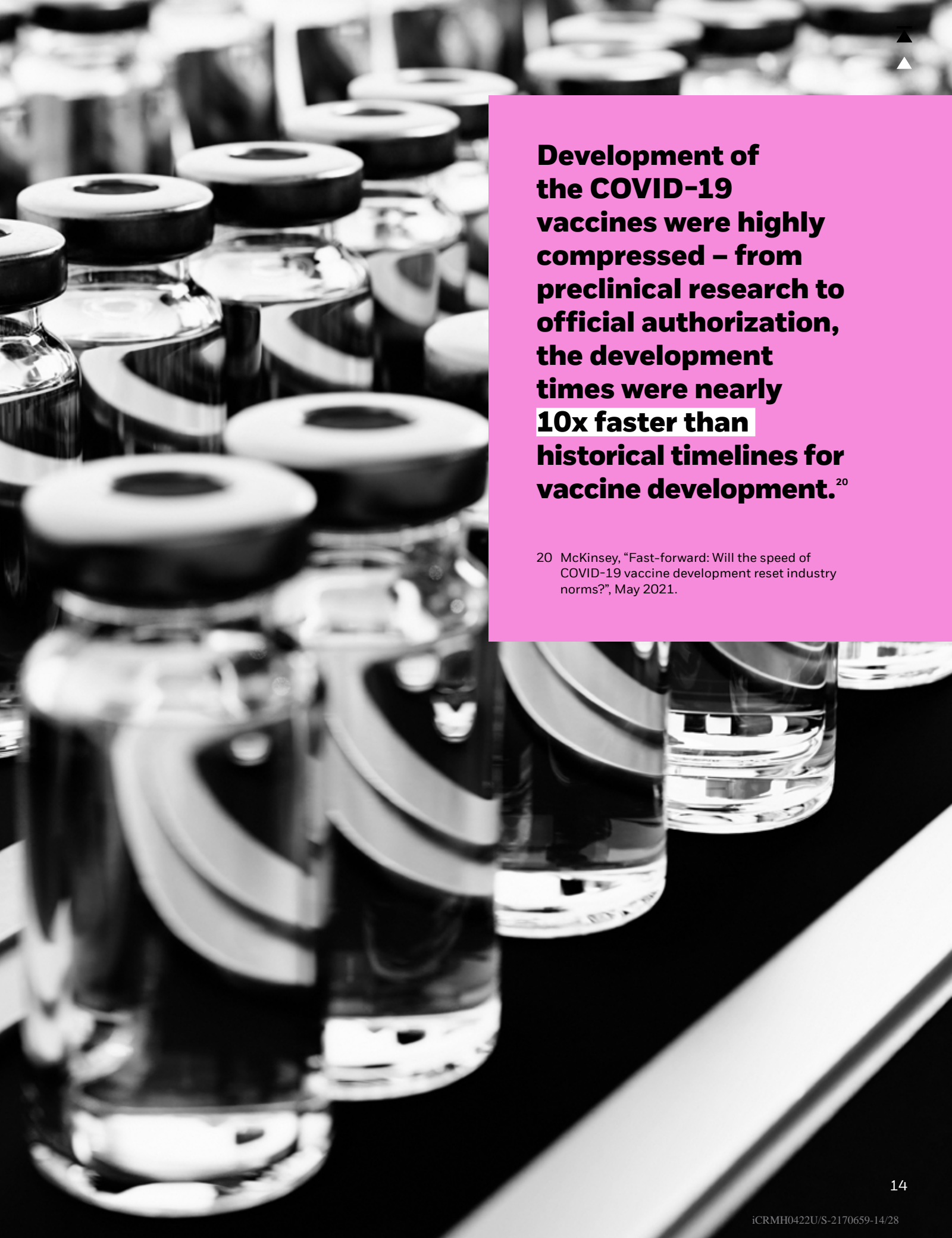
**In January 2020, researchers published the genome sequence of SARS-CoV-2, just 12 days after the announcement of the first virus cases.**

Similar efforts took more than seven months during 2003's SARS outbreak.<sup>17</sup> As a result, over two billion doses of mRNA vaccines have been ordered worldwide<sup>18</sup>, and these mRNA vaccines are over 45% more effective than their traditionally designed counterparts.<sup>19</sup>

17 EMJ Microbiol Infect Dis, "Know Thine Enemy: Viral Genome Sequencing in Outbreaks", June 2020.

18 Statista, "Drug manufacturers with the highest number of ordered COVID-19 vaccine doses," March 2021.

19 Healthdata.org, COVID-19 Vaccine Efficacy, February 2022.



**Development of the COVID-19 vaccines were highly compressed – from preclinical research to official authorization, the development times were nearly **10x faster than historical timelines for vaccine development.**<sup>20</sup>**

<sup>20</sup> McKinsey, “Fast-forward: Will the speed of COVID-19 vaccine development reset industry norms?”, May 2021.



## A REAL-LIFE CHEAT CODE

mRNA vaccines deliver virus-specific genetic code to our cells, inducing production of neutralizing antibodies. Their success combatting COVID-19 is a case study of how genome sequencing can supercharge drug development. Already, we are witnessing the emergence of a robust pipeline of mRNA vaccines designed to treat some of the world's most deadly and prevalent diseases.

Human clinical trials for an HIV mRNA vaccine kicked off in January 2022. Working similarly to COVID-19 mRNA vaccines, this immunotherapy delivers HIV-specific genetic code to human cells to produce disease-fighting antibodies.<sup>21</sup> Up to 45.1 million people are currently living with HIV.<sup>22</sup> Such a vaccine could deliver immense social good, while disrupting the \$28.8 billion market for existing interventions.<sup>23</sup>

mRNA vaccines for the flu are also underway, with three currently in clinical trials. Existing, traditional vaccines are well known to be hit-or-miss. How many of us have done our duty by getting a flu shot only to be in bed with a fever a month later? Influenza vaccine efficacy ranges from 40-60%, and the flu still causes up to 650,000 deaths a year globally.<sup>24,25</sup> mRNA-based flu vaccines could disrupt a market projected to reach \$10 billion by the end of the decade.<sup>26</sup>

Up to  
**45.1m**  
people are  
currently living  
with HIV.<sup>22</sup>

21 ClinicalTrials.gov, "A Phase 1 Study to Evaluate Safety and Immunogenicity of eOD-GT8 60mer mRNA Vaccine (mRNA-1644) and Core-g28v2 60mer mRNA Vaccine (mRNA-1644v2-Core)," March 2022.

22 UNAIDS, Global HIV & AIDS Statistics – Fact Sheet, 2021.

23 Fortune Business Insights, HIV Drugs Market Size, Share 7 COVID-10 Impact Analysis, by Drug Class and Regional Forecast (2021-2028), June 2021.

24 Nature, "mRNA Flu Shots Move Into Trials," October 2021.

25 World Health Organization, Global Influenza Programme, 2022.

26 Nature, "mRNA Flu Shots Move Into Trials," October 2021.





## GETTING PRECISE ABOUT THE PROBLEM

Most everyone has been touched by the devastation and loss caused by conditions like Alzheimer's and cancer. Thankfully, precision medicine might soon flip the script.

More than ten thousand diseases are the result of a single gene mutation and are potentially treatable by targeting just the culprit gene.<sup>27</sup> For example, 70% of Alzheimer's cases are genetic and a handful of genes are known to be responsible.<sup>28,29</sup> With sequencing systems now deployed around the world, and the lessons of the pandemic driving faster drug approvals, precision medicine presents one of the most attractive areas of medical innovation available to investors today, especially in gene silencing and chimeric antigen receptor T-cells ("CAR T-cell") therapies.

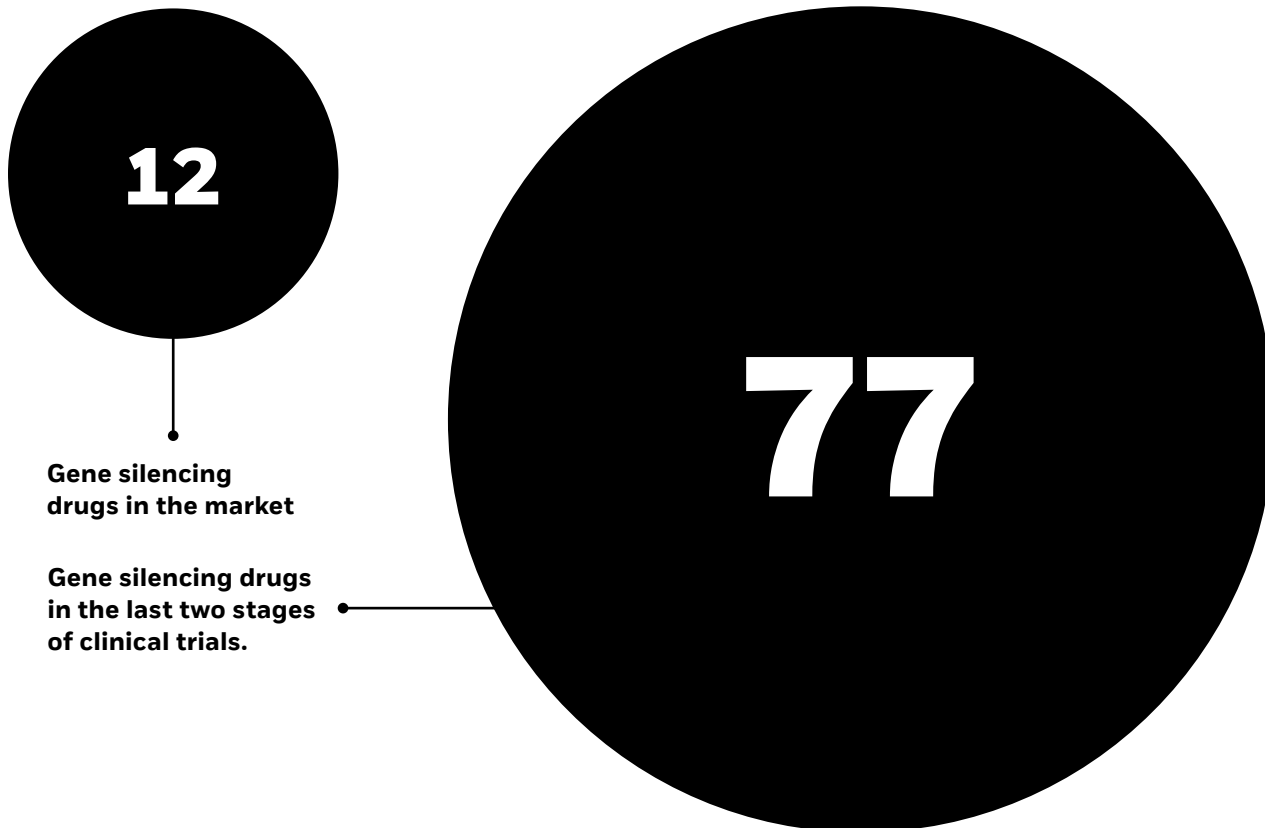
**70%**  
**of Alzheimer's  
cases are genetic.**<sup>28</sup>

27 YourGenome.org, "What Are Single Gene Disorders," July 2021.

28 NIH, 2021 Alzheimer's Disease Facts and Figures, March 2021.

29 NIH, "Genome-Wide Association Study of Brain Connectivity Changes for Alzheimer's Disease," January 2020.





Source: MDPI, "Oligonucleotide Therapeutics: From Discovery and Development to Patentability," January 2022.

Gene silencing, along with gene and cell therapies and gene editing, target our own bodies, inhibiting the expression of dangerous disease-causing genes.<sup>30</sup> Progress in gene silencing is clearly visible in neuroscience, for neurological conditions like Alzheimer's, ALS, and Huntington's Disease, but also in treating a range of cancers and cardiovascular conditions.

Outside of gene silencing, multiple FDA approvals for gene and cell therapies bode well for fighting genetic and noncommunicable diseases. CAR T-Cell therapies are demonstrating continued success in treating cancer by genetically modifying our own T-cells and reintroducing them to kill cancer. Last year, treatments targeting lymphoma and leukemia became available in the U.S.

The progress made in genomics, immunology, and precision medicine technologies is at an inflection point in which we could begin to see an acceleration of medical breakthroughs and treatments. These catalysts present attractive opportunities for investors to capture exponential growth by owning a diversified set of companies leading in these specific areas of medical breakthroughs.

**Progress in gene silencing is clearly visible in neuroscience.**

30 YourGenome.org, "What Are Single Gene Disorders," July 2021



# THE POWER OF THE PURSE

**While lockdowns slowed economic activity, they could not derail major demographic trends.**

Amid the pandemic, millions of U.S. Millennials entered peak spending years: ages 35 to 55. Similarly, emerging market consumers cemented their place as a dominant customer group, representing over 50% of global spending.<sup>31</sup> As a result of these trends, Millennials and EM consumers are now, and will be for several decades to come, essential drivers of the global economy. Consequently, these groups' unique needs and preferences, such as early adoption of decentralized finance and prioritization of sustainable products, may be set to surge.

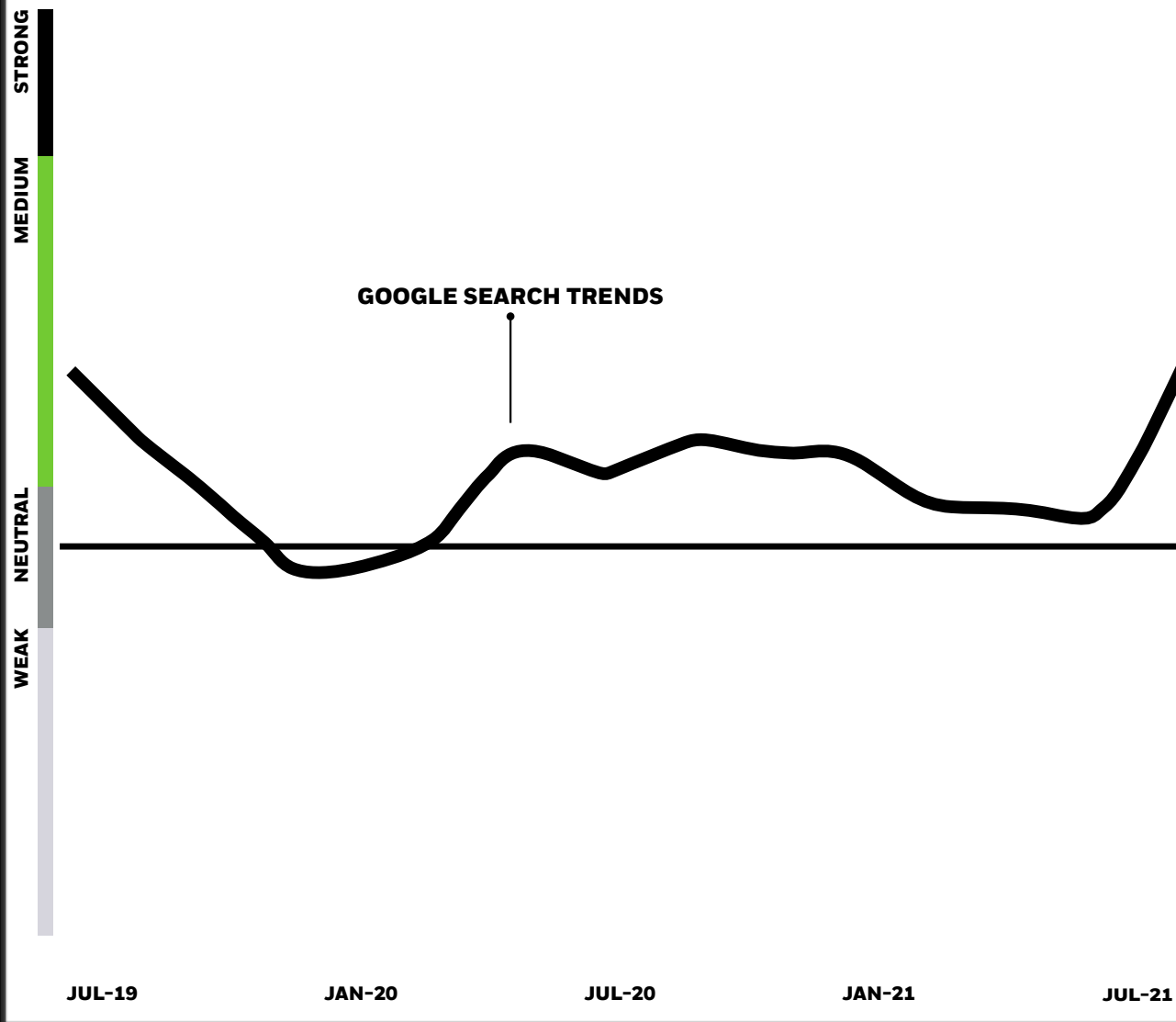
We analyzed alternative data such as search trends and brand sentiment to demonstrate substantial support for firms focused on the new consumer – particularly in recent years. Based on an identified basket of new consumer firms, google search trends indicate higher search activity for these firms versus the average global large-cap stock, which has also been increasing significantly in recent years. Similarly, brand sentiment for the average new consumer firm has been rising relative to the average global large-cap firm.

## RELATED FUNDS

- iShares Blockchain and Tech ETF (IBLC)
- iShares Emergent Food and AgTech Multisector ETF (IVEG)
- BlackRock Future Climate and Sustainable Economy ETF (BECO)

31 McKinsey, “Outperformers: High-growth emerging economies and the companies that propel them,” September 2018.

# GROWING SEARCH FOR NEW CONSUMER COMPANIES VS. GLOBAL LARGE-CAP UNIVERSE



Source: BlackRock Systematic, [www.blackrock.com/systematic-investing](http://www.blackrock.com/systematic-investing). As of March 2022. Proprietary data sets are represented over the period from July 2019 to July 2021 for illustrative purposes only. Metric strength for each data set is defined as the excess score measured in terms of standard deviations (defined as a quantity calculated to indicate the extent of deviation for the group as a whole) of the New Consumer Basket versus the overall Global Large-Cap Universe. By color, black represents greater strength in the New Consumer Basket (>0.5 standard deviations), green represents modest strength in the New Consumer Basket (0.1 to 0.5 standard deviations); gray represents relative neutrality (-0.1 to 0.1 standard deviations); light gray represents modest relative weakness in the New Consumer Basket (-0.1 to -0.5 standard deviations); and light grey represents greater weakness in the New Consumer Basket (<-0.5 standard deviations).



## THE DECENTRALIZED TIES THAT BIND

Digitization has transformed nearly every facet of consumerism. The way we watch television or decide what to eat for lunch is starkly different than pre-smartphone days. Yet, marketplaces themselves have not changed course: suppliers and platforms have steadily increased their power over personal data, economic rent, and financial access.

With blockchain technology, consumers are acquiring independence not historically afforded by marketplace dynamics: crypto assets empower users by offering financial inclusion to the unbanked and allow users to regain control over the \$150 billion annual market for their personal data.<sup>32</sup>

A blockchain is a protocol with three key concepts:

- 1 Peer-to-peer transactions
- 2 Digital scarcity
- 3 Immutable records

These features have wide-ranging implications for the protection, monetization, and verification of anything digital – which is incalculably valuable to the two billion people worldwide who are expected to buy goods and services online.<sup>33</sup>

# 2bn

**people  
worldwide  
are expected  
to buy goods  
and services  
online.**<sup>33</sup>

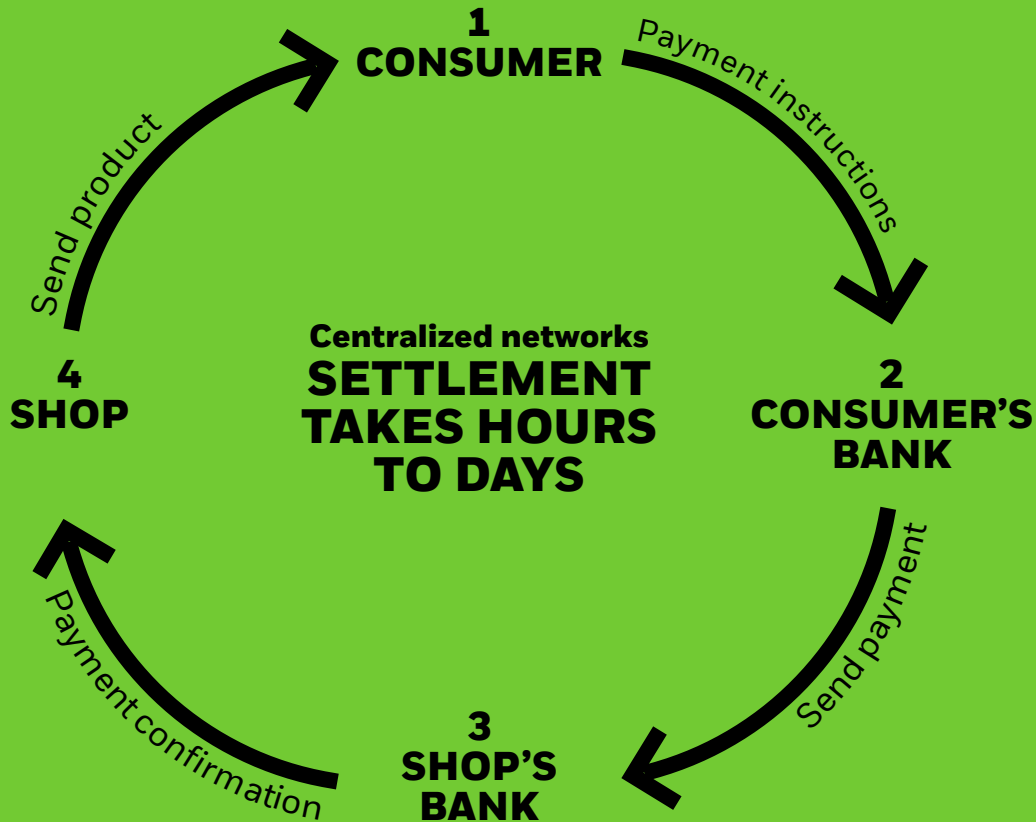
32 PWC, “Internet Advertising Revenue Report,” April 2021.

33 Statista, Number of Digital Buyers Worldwide, October 2021.



# SIMPLIFYING TRANSACTIONS

Without an intermediary to facilitate transactions, you can get your purchases faster.





Even as emerging market consumers lead global consumption, 2.5 billion people lack access to banking.<sup>34</sup> And yet, 60% of this cohort owns a smart phone.<sup>35</sup> Enter central bank digital currencies (CBDCs). A CBDC is a digital form of a nation's sovereign currency with all the operational benefits afforded by blockchain technology – now made possible by proof-of-stake protocols that are faster, less energy-intensive and more cost efficient. Currently 87 countries, representing 90% of world GDP, are exploring CBDCs, which could drastically reduce marketplace frictions, democratize access to financial markets, and optimize monetary policies.<sup>36</sup> Yet the market still appears to underappreciate how these benefits, in state-sponsored and independent cryptocurrencies, may drive faster proliferation. While most of the market attention has focused on the price and volatility of cryptocurrencies themselves, we believe the broader opportunity – leveraging blockchain technology for payments, contracts and consumption broadly – has not yet been priced in.

# 2.5bn people lack access to banking.<sup>34</sup>

34 Paymentsjournal.com, "2.5 billion people are unbanked. Can Fintech Change That?," March 2018.

35 PewTrusts.org, "What do Consumers Without Bank Accounts Think About Mobile Payments?," June 2016.

36 Atlantic Council, Central Bank Digital Currency Tracker, July 2021.





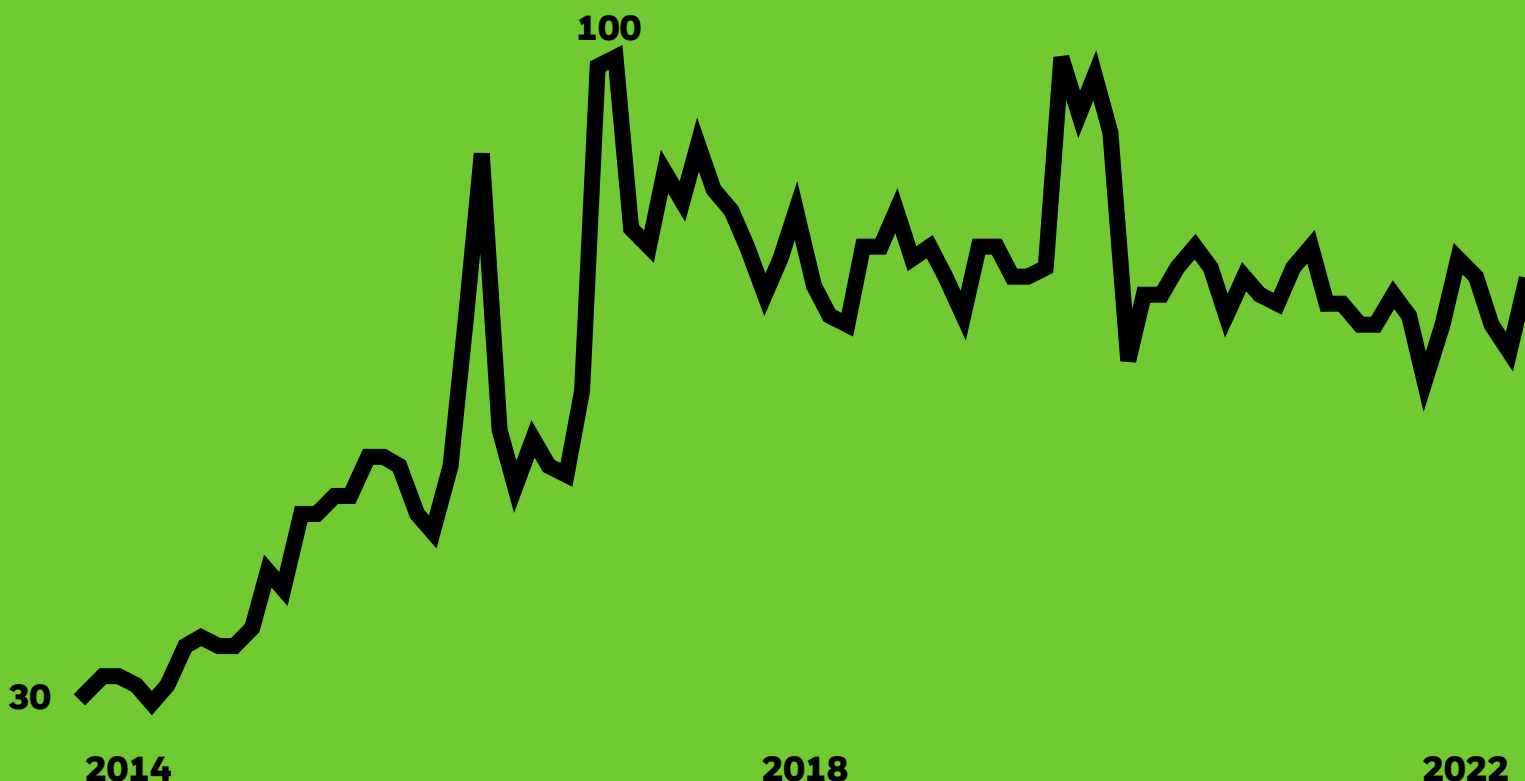
## WHERE'S THE BEEF?

Unsustainable production and consumption practices have pushed global food systems to the brink. Global food production failed to meet the nourishment needs of 811 million people in 2020, while still contributing 34% to global emissions.<sup>37,38</sup> The consumer-driven shift to innovative food alternatives can put an end to these distressing dynamics.

Plant-based and alternative proteins are promising solutions that are becoming mainstream. In 2020, plant-based food sales reached \$7 billion in the U.S., rising 27% YoY. And within the overall category, plant-based meat sales grew 45%.<sup>39</sup> Plant-based meats can reduce CO<sub>2</sub> emissions, water and land usage by 75%<sup>40</sup> over traditional animal proteins. Much of this segment's growth can be attributed to ever more sustainability-minded consumers: Over half of shoppers consider sustainability while making grocery purchases.<sup>41</sup>

- 37 United Nations, Global Issues – Food, 2021.
- 38 United Nations, “New FAO Analysis Reveals Carbon Footprint of Agri-Food Supply Chain,” November 2021
- 39 Good Food Institute, “Plant-based food retail sales grow 27 percent to reach \$7 billion in 2020,” 2021.
- 40 Earth.org, “Adopting a plant-based diet would reduce agricultural land use by 3/4,” March 2021.
- 41 TheBeet, “Survey: 55% of consumers consider sustainability when grocery shopping,” February 2022.

## SEARCH INTEREST IN ALTERNATIVE DIETS HAS INCREASED 130% SINCE 2014



Source: Google Trends as of March 29, 2022. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.



Traditional proteins offer us a fraction of the calories they take in before reaching our tables, while generating 14.5% of global emissions.<sup>42</sup> As more consumers demand healthier options, multiple benefits emerge: not just reduction in obesity and heart disease, but also additional resources that could feed four billion people and drastically reduce emissions.<sup>43</sup>

New technologies like precision agriculture and agricultural robots make it possible to grow crops more efficiently, and in almost any location, including cities and deserts. Estimates are that nearly 8.9% of the world is hungry and over 140 million children suffer from Vitamin A deficiency.<sup>44</sup> Next-gen food can alleviate this crisis. For example, Golden Rice – a genetically modified grain that produces Vitamin A – is now available for mass distribution. Golden Rice is already having a huge impact in helping achieve the UN’s Sustainable Development Goal of Zero Hunger by 2030.<sup>45</sup>

Heightened agricultural output offered by new technologies will reduce the cost of plant-based foods, driving adoption at a time of surging demand and uncertain supply. Recent advances in biotechnology will also attract new customers, with it now possible to produce a restaurant-quality 100% meat steak in a laboratory. Lab-grown meat is 30,000x cheaper than when first engineered, barely \$12 per 4 oz., and, more surprisingly still, tastes, looks and feels just like the real thing.<sup>46</sup>

42 UC Davis, “Cows and Climate Change,” June 2019

43 IOPScience, “Redefining Agricultural Yields: From Tonnes to People Nourished per Hectare,” August 2013

44 UN, Sustainable Development Goal 2: Zero Hunger

45 UN, Biotechnology – A Solution to Hunger?

46 Futurism, “Lab-Grown Meat is Healthier. It’s Cheaper. It’s the Future,” February 2017



**Solutions to wellness, carbon intensity in food production and combating hunger are coming together, driven by new consumers. The future of food is here. And it’s delicious.**



# HOLDING ALL THE CARDS

**Just as the iPhone gave rise to new products and services beyond phones themselves, themes like self-driving and electric vehicles, critical to an industrial renaissance, are doing the same this very moment.**

The future of transportation cuts across no less than six sectors of the global economy – from auto makers to self-driving software and sensors to EV batteries and charging systems.

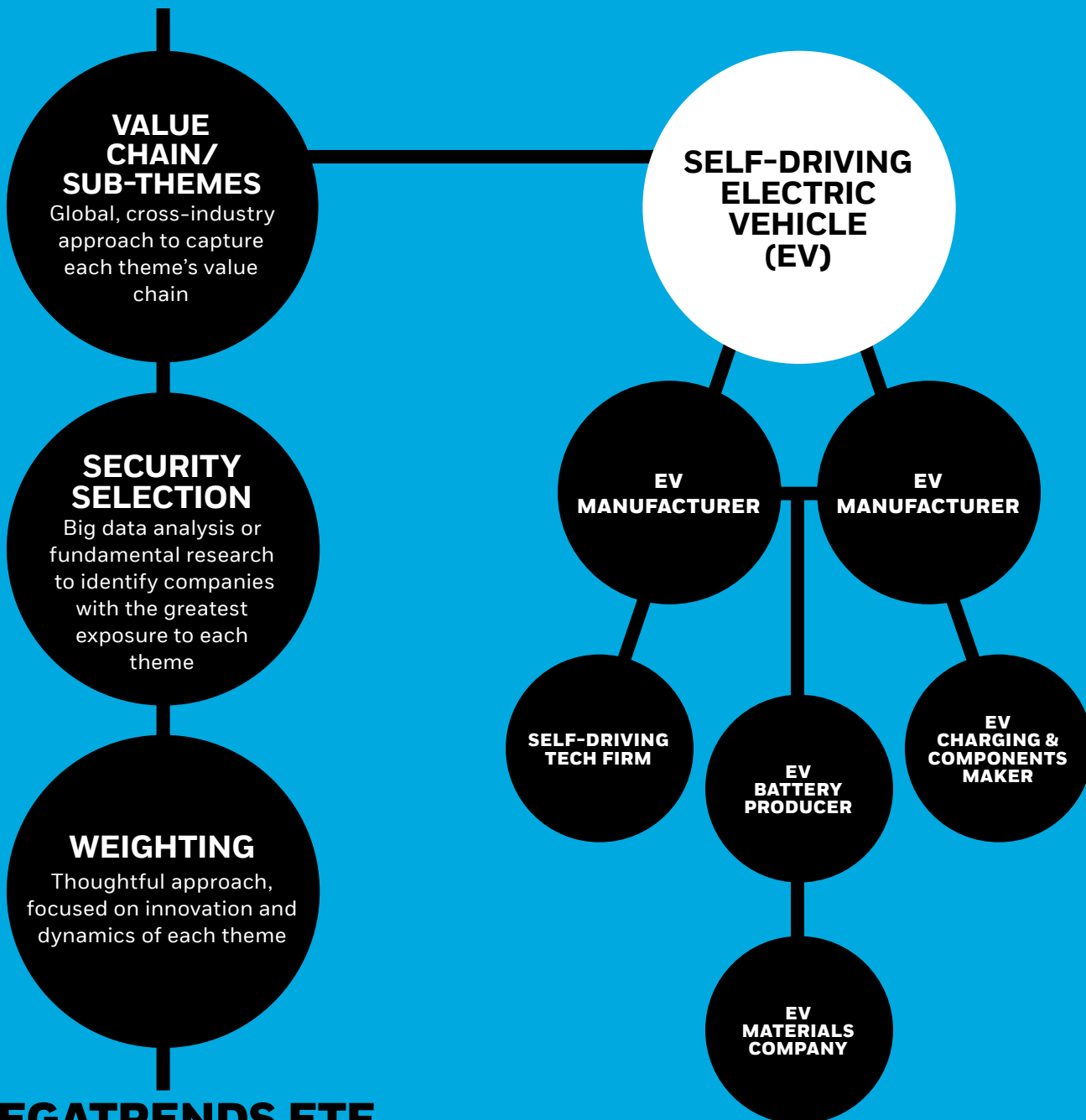
Owning one company, geography or industry – even the technology sector itself – could miss the power of exponential change available for forward-thinking investors to harness. Instead, owning a targeted basket of securities that are poised to benefit from the emergence of a theme, regardless of sector or geography, can solve this challenge and allow investors to seek outperformance. This reality of next-gen industry applies in just the same way to the themes underpinning the future of healthcare and the new consumer.



# CAPTURE A THEME'S ENTIRE VALUE CHAIN

Each megatrend strategy, active and index, is built using a tailored construction process to best capture each theme or multiple themes' value chain.

## GLOBAL UNIVERSE



## MEGATRENDS ETF

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**It may be hard to conceptualize the pace of change ahead, but BlackRock is here to help – by delivering investor choice and progress, which make it ever easier for all investors to purchase their very own share of the future.**

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## Important Information

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