



Why Invest in Autonomous Technology and Robotics?

For Informational Purposes Only | As of September 30, 2020

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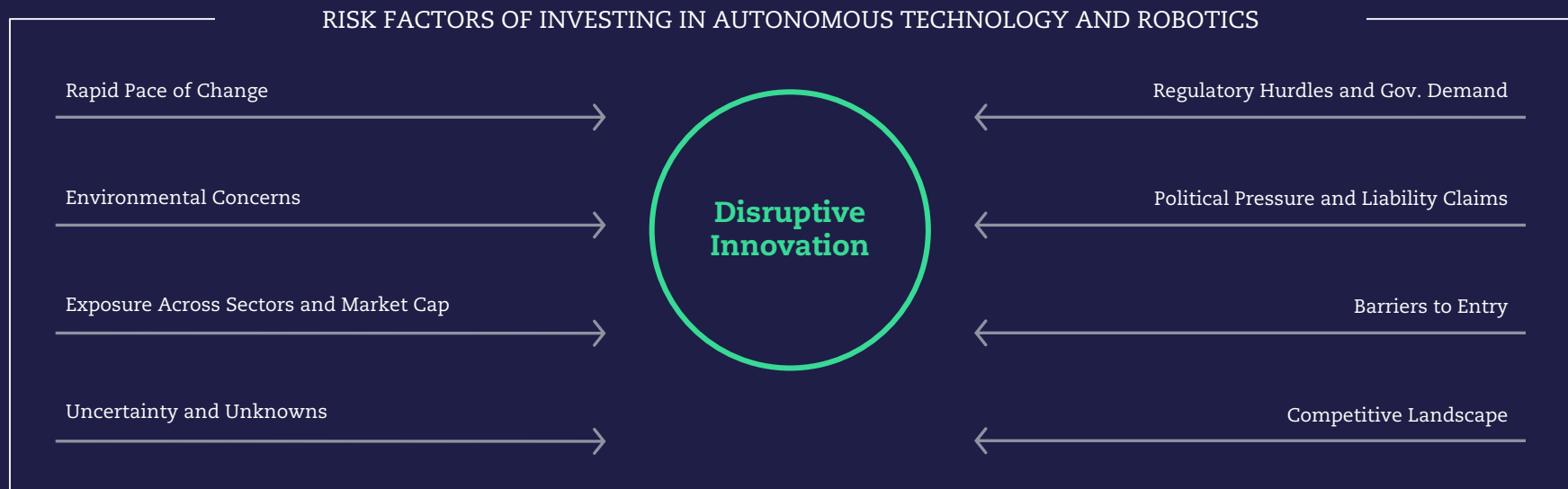
A wireframe model of a car, rendered in a glowing purple and blue color, is positioned diagonally across the lower right portion of the slide. The car is set against a dark blue background with a white grid pattern, suggesting a digital or technological environment.

ARKQ



Risks of Investing in Autonomous Technology and Robotics

Please note, companies that ARK believes are capitalizing on disruptive innovation and developing technologies to displace older technologies or create new markets may not in fact do so. ARK aims to educate investors and seeks to size the potential investment opportunity in Disruptive Innovation, noting that risks and uncertainties may impact our projections and research models. Investors should use the content presented for informational purposes only, and be aware of market risk, disruptive innovation risk, regulatory risk, and risks related to certain innovation areas. Please read risk disclosure carefully.



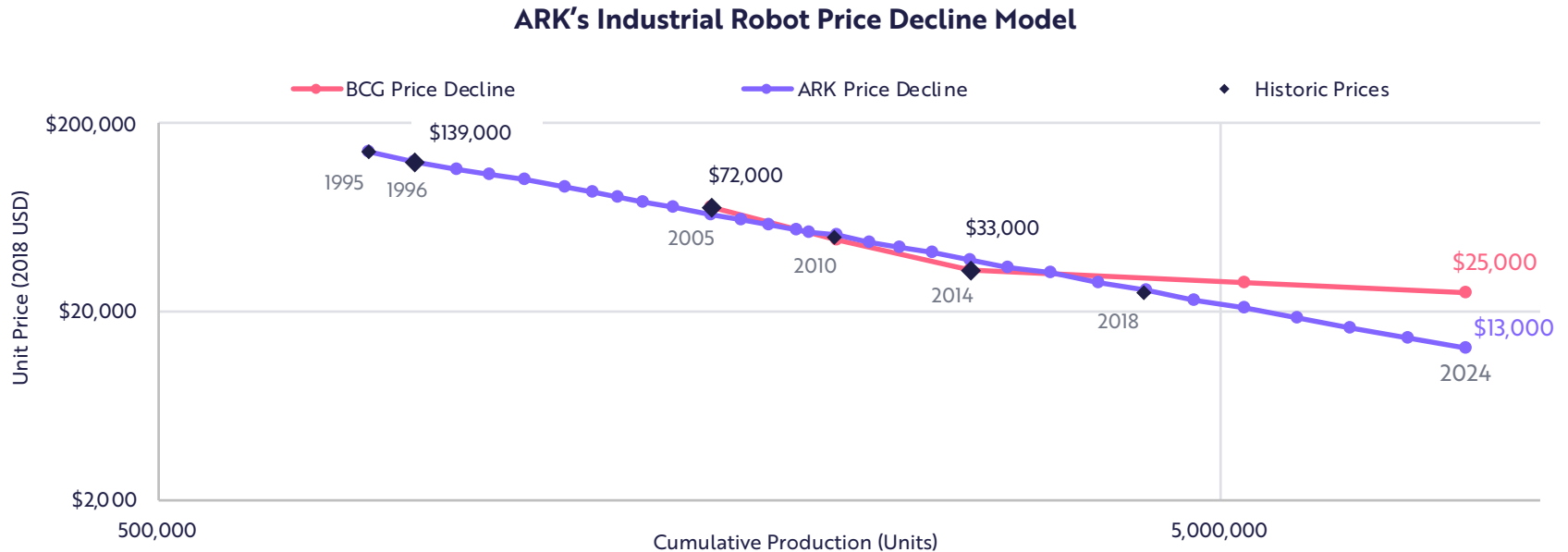
→ Aim for a cross-sector understanding of technology and combine top down and bottom up research.

→ Aim to understand the regulatory, market, sector, and company risks. (See Risk and Disclosure at the end)



Industrial Robot Prices Are Declining

Based on Wright's Law,¹ ARK estimates a more rapid cost decline in industrial robot prices during the next five years compared to a forecast by the Boston Consulting Group (BCG).

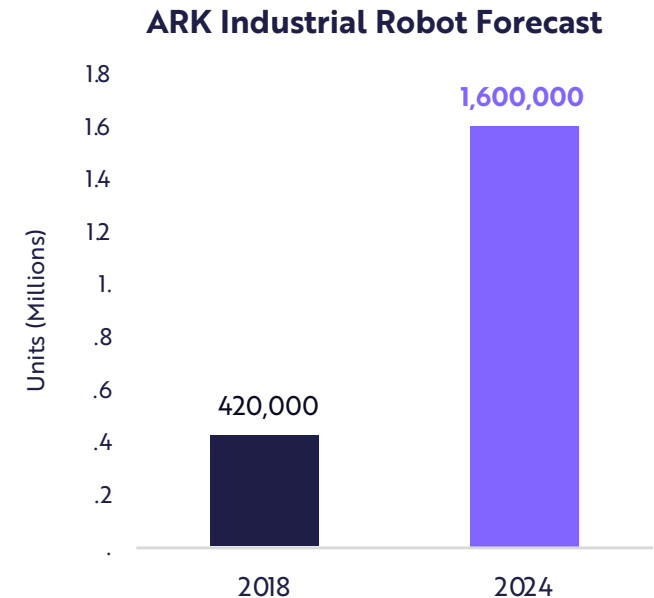
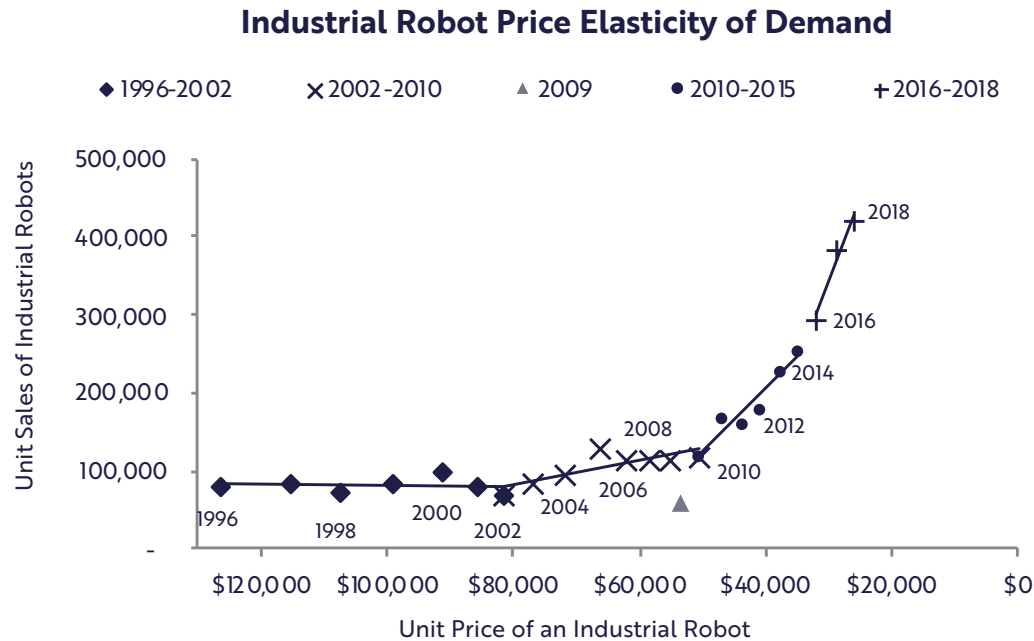


[1] Wright's Law forecasts cost as a function of production. For every cumulative doubling in units produced, costs decline in percentage terms. Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019, "World Robotics." IFR International Federation of Robotics, arkinv.st/36dFXVJ; Boston Consulting Group (BCG) "How Robots Will Redefine Competitiveness." 23 Sept. 2015, arkinv.st/2SDew3B.



Robot Demand Has Responded to Lower Prices

While they flattened in 2019 in response to the US-China trade conflict and a slowdown in the global auto industry, ARK expects robot sales to quadruple during the next five years, from roughly 420,000 in 2018 to 1.6 million in 2024.



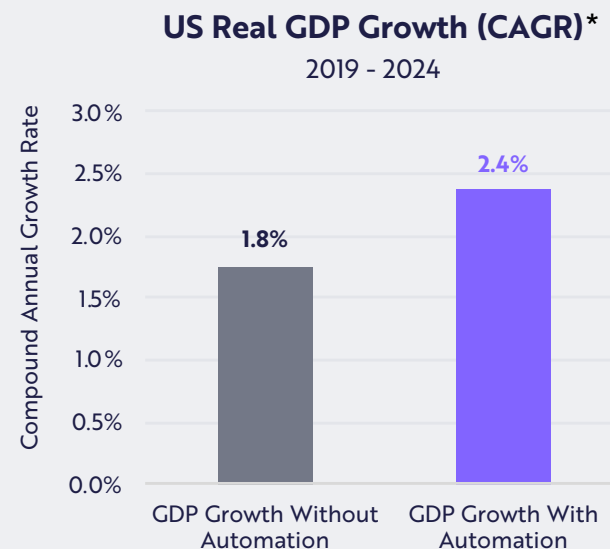
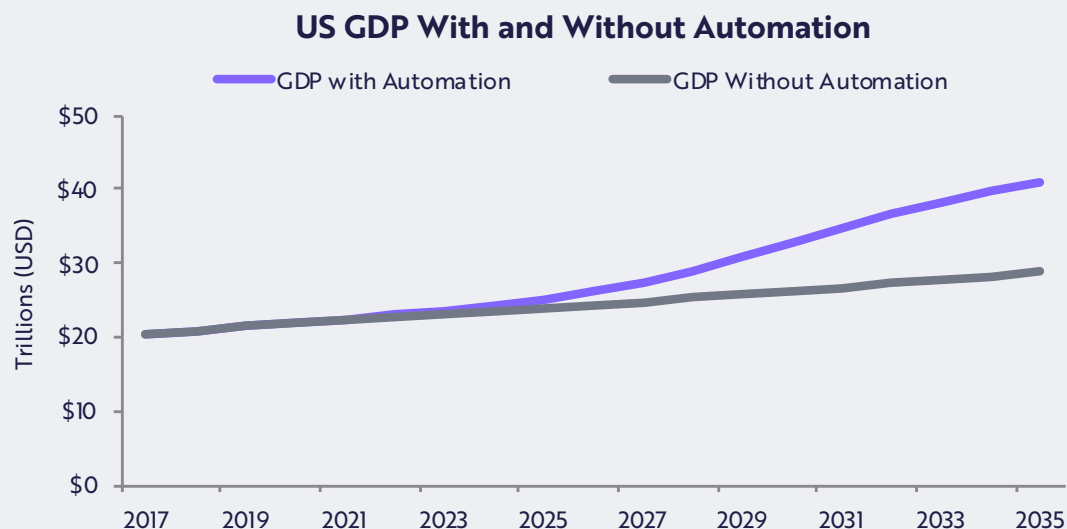
Forecasts are inherently limited and cannot be relied upon.

Source: ARK Investment Management LLC, 2019; "World Robotics." IFR International Federation of Robotics, [arkinv.st/36dFXVJ](https://www.ifr.int/).



Sizing the Opportunity

Automation could add \$800 billion to US GDP during the next five years and \$12 trillion during the next 15 years. By 2035, GDP could hit \$40 trillion, nearly 40% higher than would be the case without automation, compounding at a 2.4% growth rate instead of 1.8%.



*CAGR: Compound Annual Growth Rate

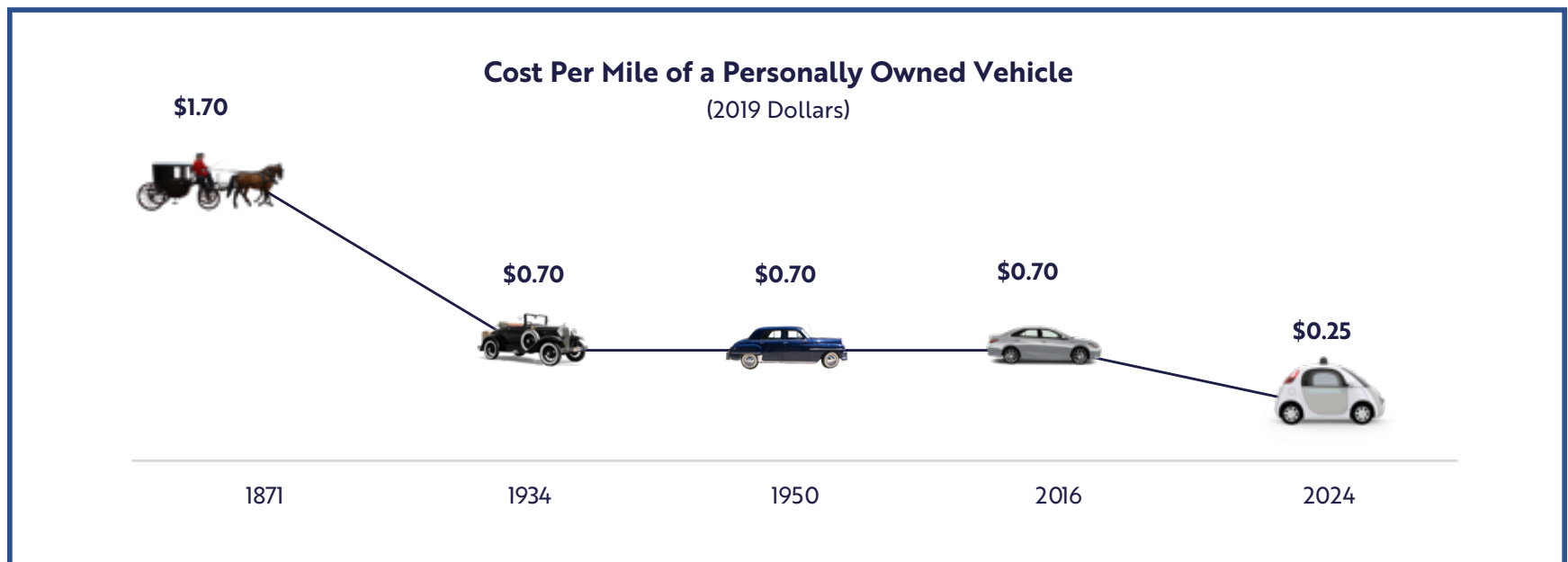
Forecasts are inherently limited and cannot be relied upon.

Source: ARK Investment Management LLC, 2019; "The Future of Employment: How Susceptible Are Jobs to Computerisation?" Oxford Martin School, [arkinv.st/2rFJJYW](https://arkinvest.com/st/2rFJJYW).



Ridehailing Is Likely to Be Affordable

Adjusted for inflation, the cost to own and operate a personal car has not changed since the Model T rolled off the first assembly line. ARK estimates that, at scale, autonomous taxis will cost consumers \$0.25 per mile, spurring widespread adoption.



Note: ARK had estimated previously that an autonomous taxi could price at \$0.35 per mile. We have refined our estimates and believe that autonomous taxis could be even cheaper, at only \$0.25 per mile. Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019; Morton Salt Company Records, American Automobile Association (AAA).

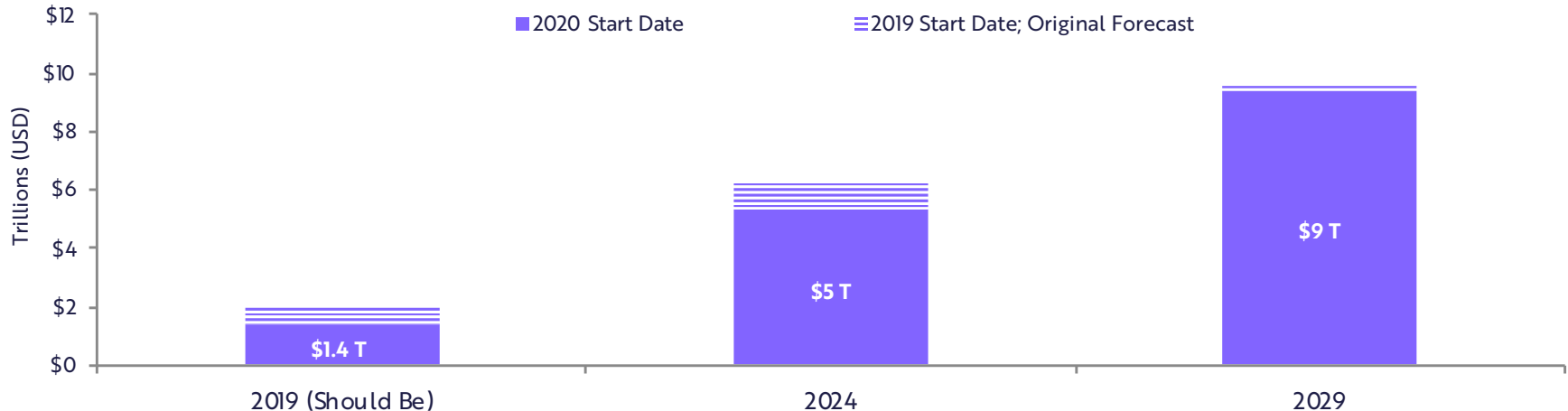


The Winning Autonomous Ridehailing Platforms Should Be Worth Roughly \$1.4 Trillion Today

Based on Waymo's and Cruise Automation's missed deadlines for driverless commercial service, ARK pushed out its autonomous adoption curve by one year. If commercialization were to take place one year later than we had anticipated, ARK believes future cashflows from autonomous ridehailing should be worth \$1 - \$2 trillion today.

Autonomous Ridehailing Cashflows During the Next 10 Years

(Estimated 10-Year Net Present Value, Cumulative)

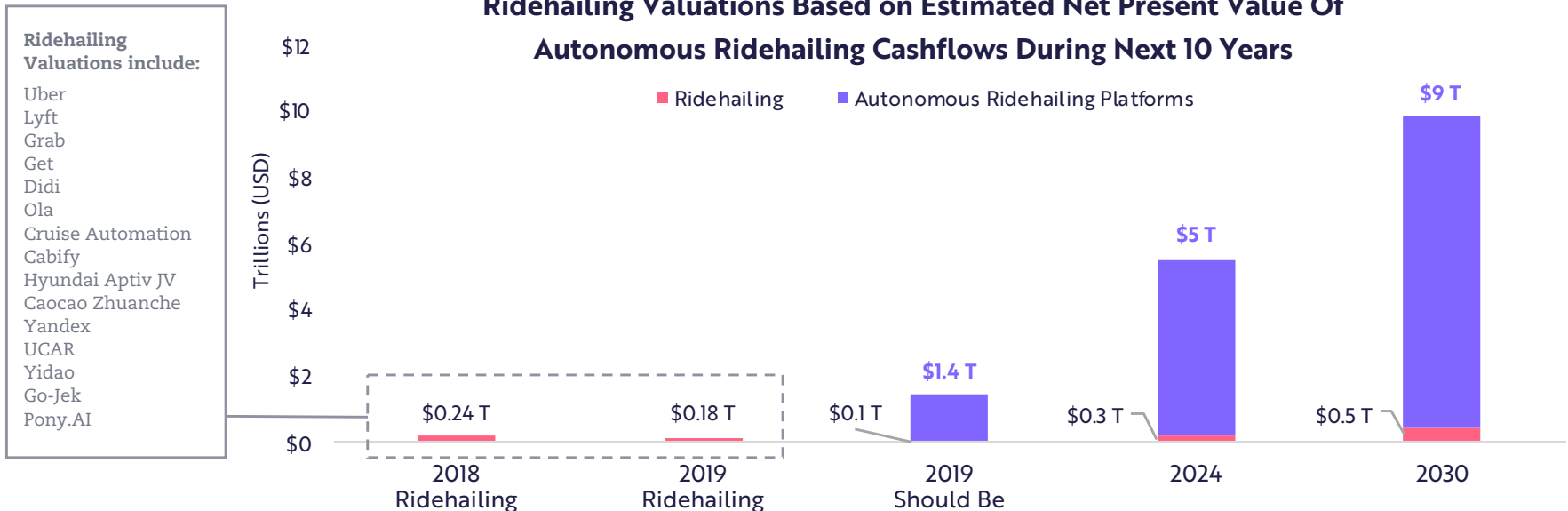




Today's Ridehailing Companies Are Unlikely to Sustain Current Valuations In The Autonomous Future

ARK believes ridehailing company take-rates¹ probably will drop from 20-30% today to 1-5% as they evolve into lead generators. The majority of fees will go to ridehailing platform providers that own and develop autonomous technology.

Ridehailing Valuations Based on Estimated Net Present Value Of Autonomous Ridehailing Cashflows During Next 10 Years



[1] Take-rate refers to the percentage of the value of the transactions companies facilitate that they get to keep as net revenue.

Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019

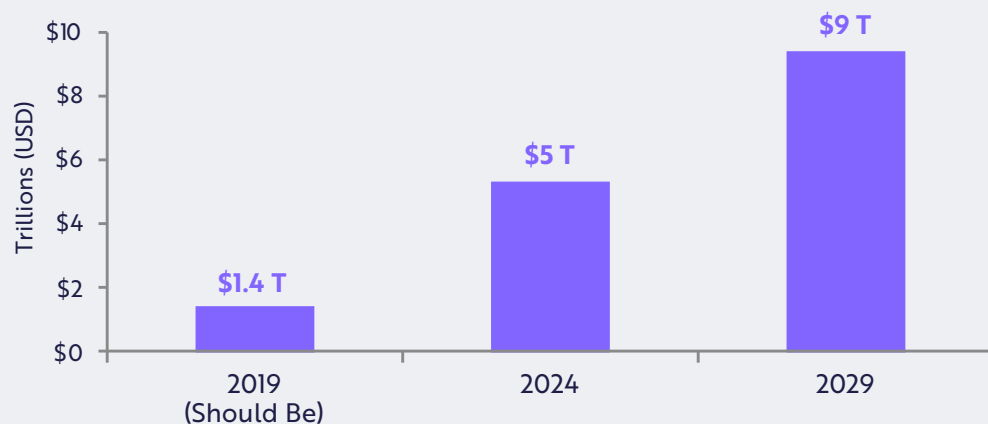
This is not a recommendation in relation to any named securities and no warranty or guarantee is provided. Any references to particular securities are for illustrative purposes only.



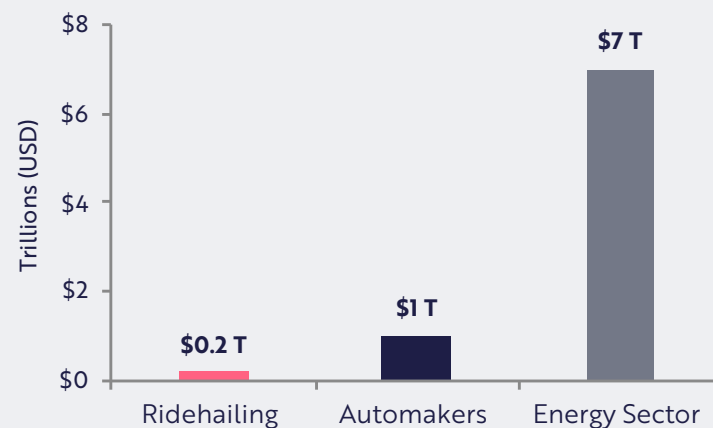
Sizing the Opportunity

ARK believes that the autonomous ridehailing opportunity should be worth more than \$1 trillion dollars today, \$5 trillion by 2024, and \$9 trillion by 2029.

**Estimated Cumulative 10-Year Net Present Value
Of Autonomous Ridehailing Cashflows**



Market Capitalization in 2019



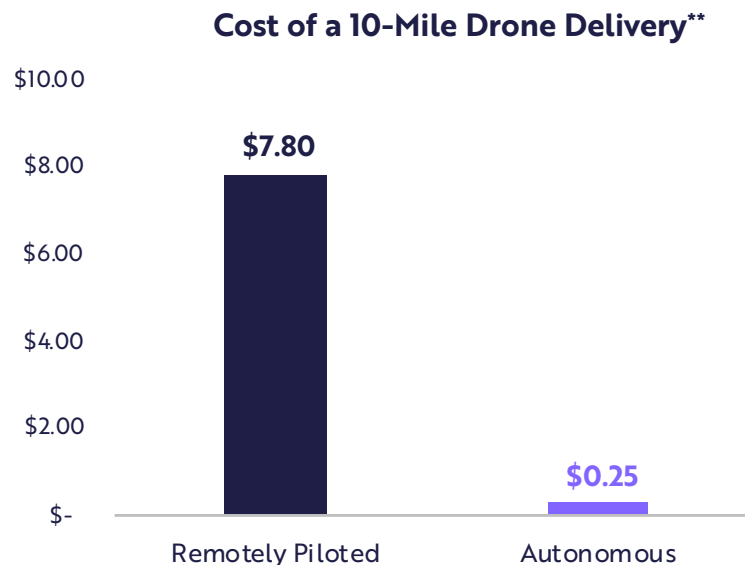
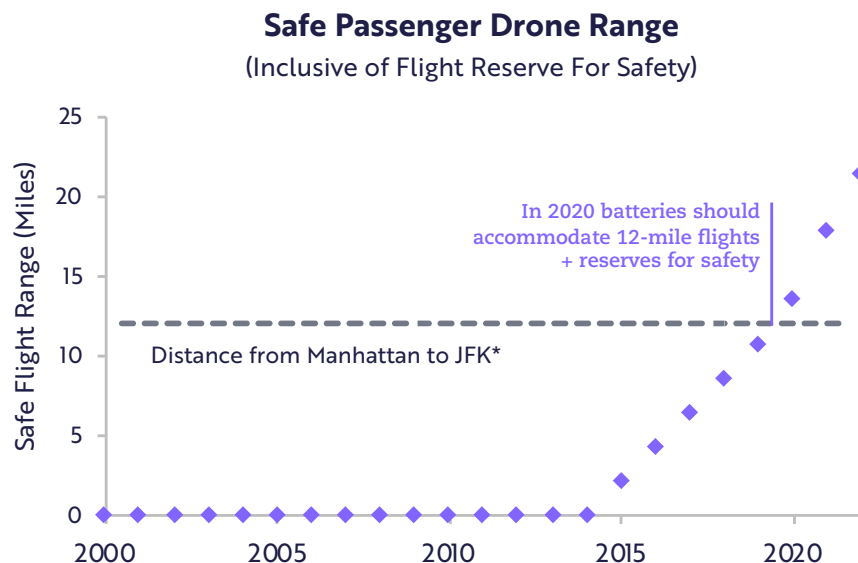
Note: ARK's estimate for market capitalization is using our global adoption curve and revenue estimates, assuming software like margins and cash flow for platform operators, and discounting cash flows from 10 years forward.

Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019



Autonomous Air Travel Has Become Both Possible and Affordable

Battery technology is improving, enough so that flight reserves meet regulations, enabling air taxis and air ambulances to take to the skies safely. In addition, machine learning improvements have enabled autonomous flight, reducing costs dramatically.



*JFK – John F. Kennedy International Airport | **Note: Prices shown for drone technology are in the future when each technology reaches scale. While ARK estimates drone delivery services will commercialize in the next 5-10 years, exact dates will be dependent on regulatory approval. Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019

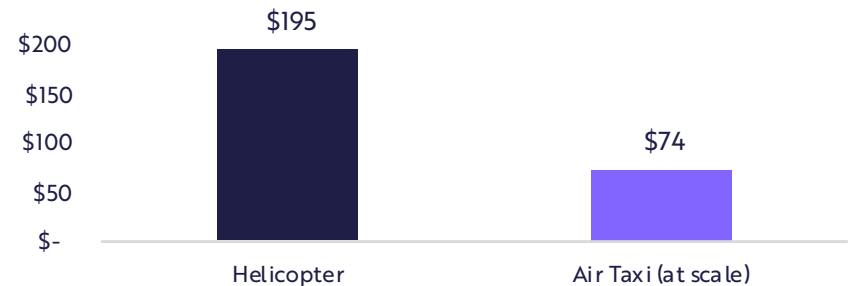


The Cost To Transport People and Things Today Should Decline Dramatically as Drones Create New Markets

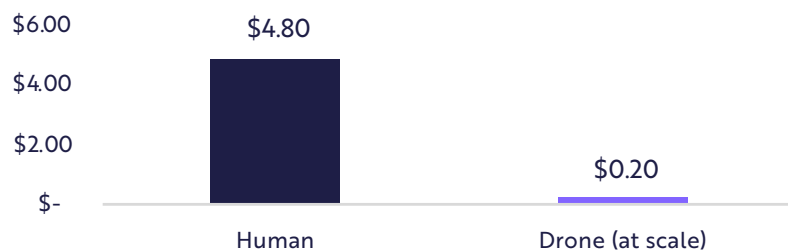
Price of a 30-Minute Parcel Delivery
(10 Miles)



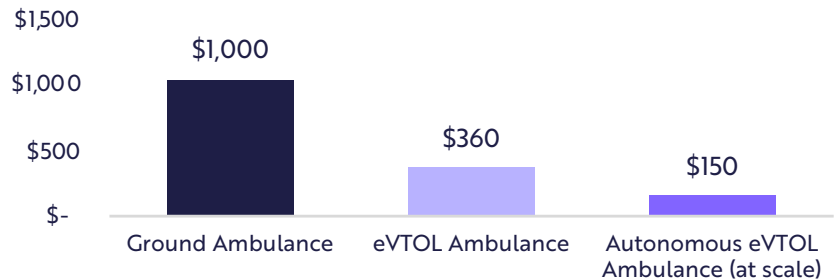
Price of Transport to Airport



Price of a 3-Mile Food Delivery



Price of Ambulance Trip*



*Ambulance transports patient to hospital and assumes eVTOL (electric vertical takeoff and landing) transports only first responder to patient. | Note: Prices shown for drone technology are in the future when each technology reaches scale. While ARK estimates drone delivery services will commercialize in the next 5-10 years, exact dates will be dependent on regulatory approval. Source: ARK Investment Management LLC, 2019; Bridges, Dash. "I Made \$10,378 in 1 Year Working for DoorDash Part Time." The Rideshare Guy Blog and Podcast, 22 Aug. 2019, arkinv.st/37osrPo.



Electric Air Taxis Should Provide Faster and Cheaper Transport, Especially Above Traffic Bottlenecks

Cost and Convenience of Travel Options From Manhattan to JFK*

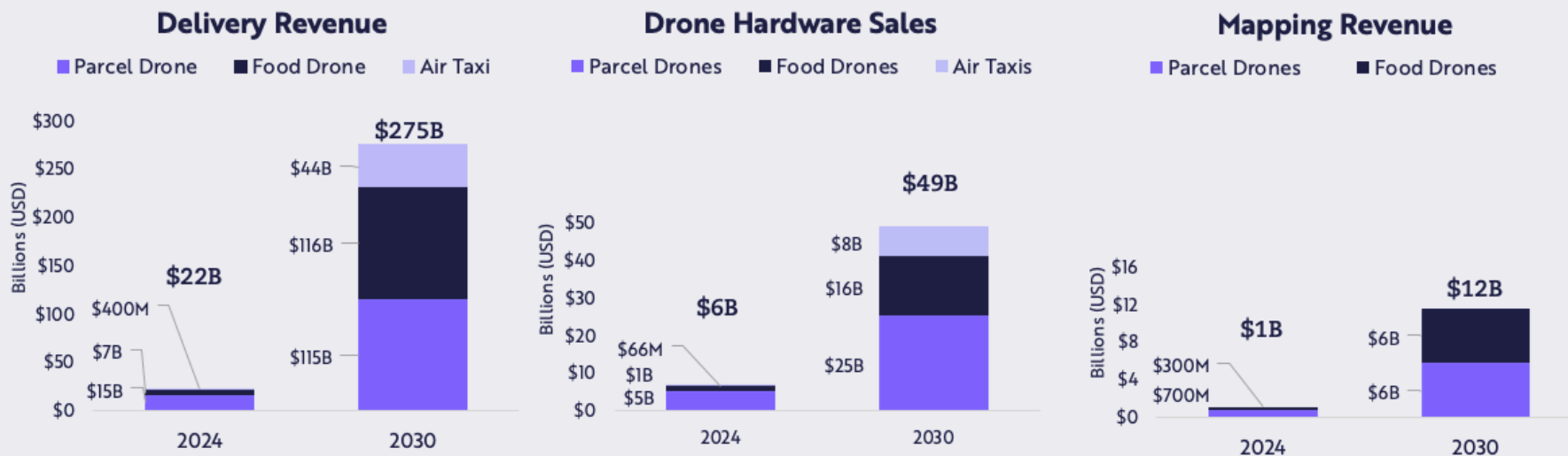


*JFK – John F. Kennedy International Airport
Forecasts are inherently limited and cannot be relied upon. | Source: ARK Investment Management LLC, 2019



Sizing the Opportunity

Drone delivery platforms could generate \$275 billion in delivery revenue, \$39 billion in hardware sales, and \$12 billion in mapping revenue by 2030.





5 REASONS INVESTORS SHOULD CONSIDER ARKQ

1. **Exposure To Innovation:** Aims for thematic multi-cap exposure to disruptive innovation elements including robotics, autonomous vehicles, energy storage, 3D printing, and space exploration.
2. **Growth Potential:** Aims to capture long-term growth with low correlation of relative returns to traditional growth strategies and negative correlation to value strategies.
3. **Tool For Diversification:** Offers a tool for diversification due to little overlap with traditional indices. It can be a complement to traditional value/growth strategies.
4. **Grounded In Research:** Combines top-down and bottom-up research in its portfolio management to identify innovative companies and convergence across markets.
5. **Cost Effective:** Seeks to provide a lower cost alternative to mutual funds with true active management in an exchange traded fund (ETF) that invests in rapidly moving themes.



ARK Autonomous Technology and Robotics ETF (ARKQ)

Advancements in robotics, 3D printing, modern infrastructure, space exploration, and energy storage technology are enhancing productivity while reducing costs. ARKQ is focused on the disruptive innovations transforming manufacturing, production, and infrastructure.

- Ticker: ARKQ
- Fund AUM: \$633 Million
- Holdings: 30-50 U.S. Equities/U.S.-listed ADRs
- Expense Ratio: 0.75%

- All cap, cross-sector exposure
- Conviction-weighted equities

TOP 10 HOLDINGS	Weight
TESLA INC	10.9%
MATERIALISE NV-ADR	6.8%
2U INC	6.5%
XILINX INC	5.1%
PROTO LABS INC	4.0%
DEERE & CO	3.8%
JD.COM INC-ADR	3.6%
ALPHABET INC-CL C	3.4%
TRIMBLE INC	3.4%
BYD CO LTD-UNSPONSORED ADR	3.4%
	50.9%

MARKET CAPITALIZATION

Mega (\$100B+)	24.8%
Large (\$10-\$100B)	35.0%
Medium (\$2-\$10B)	24.6%
Small (\$300M-\$2B)	13.1%
Micro (\$50-\$300M)	2.4%

PORTFOLIO COMPOSITION

Autonomous Vehicles	36.2%
Robotics	22.0%
3D Printing	20.3%
Energy Storage	13.7%
Space Exploration	4.8%
Development of Infrastructure	2.6%
Innovative Materials	<1%
Alternate Energy Sources	<1%

SECTORS

Information Technology	41.6%
Industrials	24.0%
Consumer Discretionary	23.5%
Communication Services	9.0%
Health Care	1.7%
Not Classified	0.2%

Holdings are subject to change and should not be considered as investment advice, or a recommendation to buy, sell or hold any particular security. The securities identified do not represent all of the securities purchased, sold or recommended for client accounts. It should not be assumed that an investment in the securities identified was or will be profitable.

Source: ARK Investment Management LLC; All data as of September 30, 2020.



Thematic Strategies Focused on Disruptive Innovation



ARKK
ARK Innovation ETF



PRNT
The 3D Printing ETF



ARKW
ARK Next Generation Internet ETF *



IZRL
Israel Innovative Technology ETF



ARKQ
ARK Autonomous Tech. & Robotics ETF *



ARKG
ARK Genomic Revolution ETF



ARKF
ARK Fintech Innovation ETF

*Effective as of November 4, 2019, the name of the ARK Web x.0 ETF changed to the "ARK Next Generation Internet ETF" and the name of the ARK Industrial Innovation ETF changed to the "ARK Autonomous Technology & Robotics ETF."



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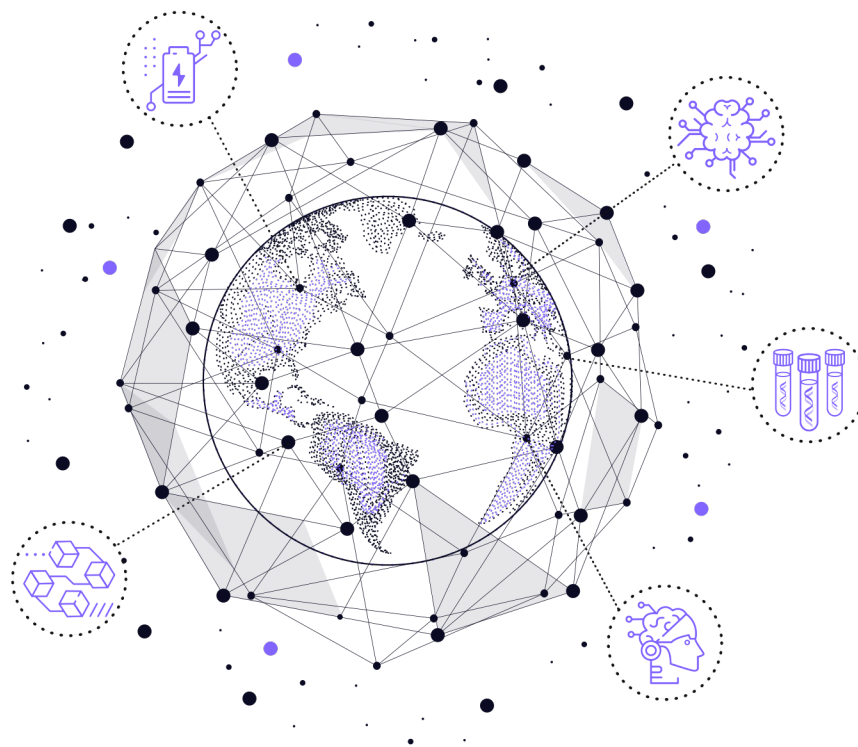
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Factsheet, prospectus, and latest performance reports are available for download on our website: ark-funds.com/investor-material

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Investors should carefully consider the investment objectives and risks as well as charges and expenses of an ARK ETF before investing. This and other information are contained in the ARK ETFs' prospectuses, which may be obtained by visiting www.ark-funds.com. The prospectus should be read carefully before investing.

Fund Risks: The principal risks of investing in ARKQ: **Equity Securities Risk.** The value of the equity securities the Fund holds may fall due to general market and economic conditions. **Foreign Securities Risk.** Investments in the securities of foreign issuers involve risks beyond those associated with investments in U.S. securities. **Consumer Discretionary Risk.** Companies in this sector may be adversely impacted by changes in domestic/international economies, exchange/interest rates, social trends and consumer preferences." Consumer Discretionary has shown up for a number of quarters in this factsheet in the Sector Weight section in the #2 position so I think it is more than appropriate to add a specific sector risk. **Information Technology Sector Risk.** Companies may face rapid product obsolescence due to technological developments and frequent new product introduction, unpredictable changes in growth rates and competition for the services of qualified personnel. Detailed information regarding the specific risks of ARKQ ETF can be found in the prospectus.

Additional risks of investing in ARKQ include market, management and non-diversification risks, as well as fluctuations in market value and NAV. Shares of ARKQ are bought and sold at market price (not NAV) and are not individually redeemed from the ETF. ETF shares may only be redeemed directly with the ETF at NAV by Authorized Participants, in very large creation units. There can be no guarantee that an active trading market for ETF shares will develop or be maintained, or that their listing will continue or remain unchanged. Buying or selling ETF shares on an exchange may require the payment of brokerage commissions and frequent trading may incur brokerage costs that detract significantly from investment returns.

The Fund's exposure to cryptocurrency may change over time and, accordingly, such exposure may not always be represented in the Fund's portfolio. Many significant aspects of the U.S. federal income tax treatment of investments in bitcoin are uncertain and an investment in bitcoin may produce income that is not treated as qualifying income for purposes of the income test applicable to regulated investment companies, such as the Fund. GBTC is expected to be treated as a grantor trust for U.S. federal income tax purposes, and therefore an investment by the Fund in GBTC will generally be treated as a direct investment in bitcoin for such purposes. See "Taxes" in the Fund's SAI for more information.

Portfolio holdings will change and should not be considered as investment advice or a recommendation to buy, sell or hold any particular security. Please visit www.ark-funds.com for the most current list of holdings for the ARK ETFs.

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