

# The Investment Opportunity Report

Invest Today In The Big Ideas Of Tomorrow



# **About ARK Invest**

ARK Invest Offices

ices 📀

Affiliate / Representative Offices





A Globally-Recognized Powerhouse For Technologically-Enabled Innovation Investing

ARK Invest is an investment management firm focused on disruptive innovation. With a research-driven approach, ARK identifies and invests in technologies that are transforming industries and shaping the future from artificial intelligence and robotics to genomic breakthroughs and blockchain. ARK has built a track record of uncovering highgrowth opportunities in the everevolving innovation landscape.

#### **Risks Of Investing In Innovation**

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, 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.



# **Table Of Contents**



 $\bigcirc$ 

# An Introduction To The Investment Opportunity Report

We are living in an era of unprecedented technological convergence, where artificial intelligence, robotics, energy storage, public blockchains, and multiomics are not just transforming industries—they are redefining the global economy. As innovation accelerates, it's imperative for investors to stay on the right side of change and seek to capitalize on the seismic shifts underway.

Enter "The Investment Opportunity Report" by ARK Invest, your definitive guide to navigating the rapidly evolving landscape of disruptive innovation. This comprehensive report distills complex technological advancements into clear, actionable insights across five pivotal investment themes: Next Generation Internet, Autonomous Technology and Robotics, Digital Assets and Fintech Innovation, Genomic Revolution, and Space Exploration and Defense.

By reading this report, you will gain a deeper understanding of how innovation is transforming daily life, disrupting legacy industries, and which companies are leading the charge. We believe the time for investment is now don't miss out on the potential exponential growth opportunities associated with disruptive innovation.

Welcome to "The Investment Opportunity Report" by ARK Invest.

# **Innovation: A Historical Perspective And The Present Opportunity**

According to ARK's research, the global economy is undergoing the largest technological transformation in history.



#### **Estimated Economic Impact Of General Purpose Technologies**

Sources: ARK Investment Management LLC, 2024. This ARK analysis is based on a range of underlying sources, which may be provided upon request.3 The chart uses GPT 4 prompting to survey a comprehensive list of general purpose technologies using the identification framework detailed therein. Where available, academic literature is also used to assess attributable economic impact. A GPT-4 scoring rubric assesses technology-by-technology impacts. The impact measured directly is matched against the scoring to tune all scores to produce technology-by-technology estimates of economic impact (even when direct measures of economic impact are unattainable) Consistent with General Purpose Technology theory, these technologies are assumed to go through a period of investment in which economic impact is negative before productivity advances begin to realize into economic data. All technologies are assumed to have the same diffusion and realization cycle. If recent technologies are assumed to diffuse more quickly, the current wave would appear steeper. Forecasts are inherently limited and cannot be relied upon. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. The historical economic impact of innovation does not guarantee a similar impact at any point in the future.

# Five Innovation Platforms Are Catalyzing Accelerated Growth

#### **Public Blockchains**

Upon large-scale adoption, we believe all money and contracts are likely to migrate to **Public Blockchains** that enable and verify digital scarcity and proof of ownership. The financial ecosystem is likely to reconfigure to accommodate the rise of **Cryptocurrencies** and **Smart Contracts**, increasing transparency, reducing the influence of capital and regulatory controls, and collapsing the costs of contract execution. If that occurs, **Digital Wallets** will become increasingly necessary as more assets become money-like and corporations and consumers adapt to the new financial infrastructure. Many corporate structures may be called into question.

#### Artificial Intelligence (AI)

Computational systems and software that evolve with data are poised to solve intractable problems, to automate knowledge work, and to accelerate technology's integration into every economic sector. The adoption of **Neural Networks**<sup>1</sup> should prove more momentous than electrification. At scale, these systems will require unprecedented computational resources, and Al-specific compute hardware should dominate the **Next Gen Cloud** datacenters that train and operate Al models. The potential for end-users is clear: a constellation of Al-driven **Intelligent Devices** that permeate people's lives, changing the way that they spend, work, and play. The adoption of artificial intelligence should transform every sector, impact every business, and catalyze every innovation platform.

#### **Multiomics**

The cost to gather, to sequence, and to understand digital biological data is falling precipitously. **Multiomic Technologies** provide research scientists, therapeutic organizations, and health platforms with unprecedented access to DNA, RNA, protein, and digital health data. Cancer care should transform with pan-cancer blood tests. Fed by rich multiomic data and powered by **Programmable Biology**, Al systems running autonomous labs could collapse the cost of drug discovery, development, and trial, transforming returns in a sector that has stagnated. Biological discoveries should power novel **Precision Therapies** that target and cure rare diseases and chronic conditions, unlocking profound economics. Over time, the design and synthesis of novel biological constructs should yield advances in agriculture, material science, and even computation.

#### **Energy Storage**

The declining costs of Advanced Battery Technology should cause an increase in form factors, enabling Autonomous Mobility systems that collapse the cost of transportation. Electric drivetrain cost declines should unlock micro-mobility and aerial systems, including flying taxis, enabling business models that transform cities. Autonomy should reduce the cost of taxi, delivery, and surveillance by an order of magnitude, enabling frictionless transport that could increase the velocity of e-commerce and make individual car ownership the exception rather than the rule. Combined with large-scale stationary batteries and Distributed Energy Generation—notably solar and small-scale fission—these innovations should cause a transformation in energy, substituting electricity for liquid fuel and increasing system-wide resilience, reliability, and production.

#### Robotics

Catalyzed by artificial intelligence, **Humanoid Robots** should operate alongside humans and navigate legacy infrastructure, changing the way products are made and sold, and eventually the way we live our lives at home. **3D Printing** should contribute to the digitization of manufacturing, increasing not only the performance and precision of end-use parts, but also the resilience of supply chains. Meanwhile, the world's fastest robots, **Reusable Rockets**, should continue to reduce the cost of launching satellite constellations and enable uninterruptible connectivity and earth observation. Presently a nascent innovation platform, robotics ultimately could collapse the cost of transporting across distance, including hypersonic travel, as well as the cost of manufacturing complexity with 3D printers and the cost of physical work with Al-guided robots.

7



[1] Neural networks are a type of artificial intelligence (AI) that uses a network of interconnected nodes to process data. They are a machine learning (ML) process called deep learning. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security.

# The Acceleration In Neural Networks Is Accelerating Every Other Disruptive Technology



#### **Catalyzing Technology**

 $(\mathcal{B})$ 

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.



# Next Generation Internet

AUTONOMOUS MOBILITY

NEURAL NETWORKS

SMART CONTRACTS

ADVANCED BATTERY TECHNOLOGY

INTELLIGENT DEVICES

NEXT GEN CLOUD

CRYPTOCURRENCIES

DIGITAL WALLETS

# **An Introduction To Next Generation Internet**

Artificial intelligence (AI) is not just a technological advancement; it is a foundational shift reshaping industries across the global economy. As AI models grow more sophisticated, they are accelerating breakthroughs in robotics, enterprise software, computational biology, and automation.

Companies are investing unprecedented amounts—potentially exceeding \$100 billion within the next three years—to build frontier models, scale infrastructure, and harness Al's transformative potential. While the Magnificent 6—Apple, Amazon, Google, Meta, Microsoft, and Nvidia—have dominated early Al adoption through data center investments, ARK believes the next wave of Al-driven growth will extend far beyond those incumbents, creating asymmetric opportunities across the Al stack.

Importantly, AI is converging with every other major innovation platform—robotics, energy storage, multiomics, and blockchain technology—amplifying their disruptive potential. From autonomous systems optimizing logistics to AI-powered drug discovery unlocking new treatments, the rapid evolution of AI is compounding opportunities across industries. This is the underlying thesis of ARK's Next Generation Internet strategy.

We believe investors need to be positioned for the next wave of Al-driven disruption, so that they can potentially benefit from a generational shift in enterprise software, automation, and deep technology. The pace of transformation is accelerating, and ARK's Next Generation Internet strategy seeks to capture its full potential.

## **Convergence Is Accelerating The Technology Revolution**

ARK measures the degree to which technologies serve as catalysts between and among innovation platforms. The convergences among them are increasing, their network density up 30% in the past year, according to our research.

Al is proving more critical to unlocking the value of Precision Therapies and Multiomic Technologies. Smart Contract ecosystems are serving as test beds in which autonomous Al agents can be renumerated for sharpening their capabilities. Next Gen Cloud energy demand is pulling forward timelines for Distributed Energy Generation.





Note: "Network density" measures the degree of interconnectedness between nodes relative to the maximum potential interconnectedness. In our research, if every technology were expected to catalyze another technology to increase in value by an order of magnitude or more, that would equate to a fully interconnected network. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

### AI Advances Should Unlock Massive Market Opportunities

As AI continues to accelerate, robotaxis should proliferate, drug development timelines and costs should collapse, and AI agents should solve software engineering challenges autonomously, monitoring and modifying systems around the clock.



 $\bigcirc$ 

\*Estimates. Note: "FSD": Full Self-Driving. SWE-bench is a dataset that tests systems' ability to solve GitHub issues automatically. The dataset collects 2,294 Issue-Pull Request pairs from 12 popular Python repositories. Evaluation is performed by unit test verification using post-PR behavior as the reference solution. See Jiminez et al. 2024. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources, including Tesla, Recursion, and SWEbench.com, and OpenAI as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

# Al Agents Are Poised To Disrupt Enterprise Customer Service And Consumer Search

Companies deploying AI agents can scale unit volume with the same workforce or shift employees to higher-value tasks. As AI advances, agents will handle more workloads and complete complex tasks autonomously. Simultaneously integrated into consumer hardware, AI agents streamline discovery and research, saving time while delivering curated insights that enhance digital advertising.



 $\bigcirc$ 

### AI Is Reshaping The Software Value Chain

The coding skills of AI agents are improving rapidly, accelerating the software development lifecycle. As the cost to create software declines, software production should accelerate and sway enterprise "build vs. buy" decisions, displacing traditional software incumbents that are slow to adapt. As customer software proliferates, growth in all layers of the software stack should accelerate, even as share shifts toward the platform layer.



Note: "CAGR": Compound Annual Growth Rate. \*SWE-Bench is a benchmark that measures AI agents' ability to write code autonomously. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. For easts are inherently limited and cannot be relied upon.

#### **Impact On Daily Lives**

 Al-powered assistants are automating complex workflows, from scheduling meetings to drafting content, increasing productivity across industries. 15

- Al models are personalizing user experiences, improving search results, financial planning, and realtime recommendations in everyday applications.
- Businesses like Salesforce are integrating AI agents into customer service, reducing response times, enhancing personalization, and streamlining operations.

# The Potential Disruptors And Disrupted

#### Digital Wallets: Robinhood (HOOD)

Robinhood is an app that enables mostly retail investors to buy and to sell securities (stocks, bonds, options, and digital assets). The company also offers high-yield savings accounts, self-directed retirement accounts, and credit card services. In our view, Robinhood's mobile-first, commission-free trading product is democratizing finance, currently serving more than 20 million funded accounts. Notwithstanding growing competition, ARK's research suggests that Robinhood's brand recognition and distinctive user interface are unique competitive advantages that should be difficult to replicate.

#### Intelligent Devices: Roku (ROKU)

Roku provides a digital platform that enables users to access an ever-growing portfolio of streaming services like Disney+ and Netflix. With more than 80 million active users, Roku's current customer base surpasses that of the six largest traditional pay-TV providers combined.<sup>2</sup> ARK's research suggests that digital advertising is going to follow the eyeballs. Roku's large active user base should position the company to benefit significantly from that trend, ultimately capturing market from the current advertising platforms.

![](_page_15_Figure_6.jpeg)

#### AI And Multiomics: Recursion (RXRX)

Recursion is a drug discovery company utilizing artificial intelligence to help discover new treatments for diseases. ARK's research suggests that companies like Recursion that take advantage of cutting-edge technology will realize materially higher returns on investments. We believe this convergence can disrupt companies like Pfizer.

#### Artificial Intelligence: Palantir (PLTR)

Palantir provides a data and application platform that empowers businesses, government organizations, and the military to aggregate and derive insights from and make decisions on the basis of complex data. In our view, Palantir is in the prime position to benefit from the next fundamental wave of Aldriven growth, which our research suggests will flow from hardware investment to software solutions that enable smooth deployment of Al.

#### Autonomous Technology: Tesla (TSLA)

Tesla designs and manufactures electric vehicles (EVs) and associated artificial intelligence (AI)-based autonomous capabilities. ARK's research suggests that the company's robotaxi offerings will transform Tesla's business model from one-off vehicle sales to a recurring revenue stream, ultimately disrupting companies like Ford.

![](_page_15_Picture_13.jpeg)

Data is as of December 31, 2024. [2] The six largest traditional pay-TV providers in the United States, by number of subscribers, are: Charter Communications (Spectrum), Comcast (Xfinity), DirecTV, Dish Network, Verizon Fios TV, and YouTube TV. The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Sector classifications are based on the Global Industry Classification Standard (GICS). S&P sorts companies into sectors based on their primary business activity. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. It should not be assumed that an investment in the companies discussed was or will be profitable. ARK's theses regarding the potential for these companies to disrupt their respective sectors may not be realized. Forecasts are inherently limited and cannot be relied upon.

Strategies Seeking To Capture The Next Generation Internet Opportunity

![](_page_16_Picture_2.jpeg)

![](_page_16_Picture_3.jpeg)

### $(\mathbb{R})$

# Autonomous Tech. And Robotics

HUMANOID ROBOTICS

NEURAL NETWORKS

**REUSABLE ROCKETS** 

NEXT GEN CLOUD **3D PRINTING** 

AUTONOMOUS MOBILITY

ADVANCED BATTERY TECHNOLOGY

INTELLIGENT DEVICES

# An Introduction To Autonomous Tech. And Robotics

Autonomous technology and robotics are revolutionizing industries and creating investment opportunities that should not be ignored. Advances in autonomous mobility are on the cusp of disrupting traditional transportation, leveraging AI-driven solutions to boost efficiency and cut costs across logistics, personal vehicles, and industrial applications. Next-generation nuclear energy solutions like small modular reactors (SMRs) are poised to meet skyrocketing global power demands, driven by AI and data centers. Innovation in energy storage is crucial for balancing renewable energy sources, stabilizing grids, and electrifying industries. Breakthroughs in solid-state and lithium-metal batteries are increasing energy density while reducing costs, accelerating adoption in electric vehicles, robotics, and grid applications. Humanoid robotics is emerging as a game-changer in labor automation, addressing workforce shortages in manufacturing, logistics, and services. As Aldriven robotics capabilities advance, companies deploying these solutions could unlock significant economic and productivity gains.

This is the underlying thesis of ARK's Autonomous Technology and Robotics strategy.

With declining cost curves, rapid adoption, and increasing market demand, the technologies are set to reshape industrial, energy, and labor markets. The transformation is starting now—ARK's Autonomous Technology and Robotics strategy seeks to capture its full potential.

# After More Than A Decade, Most Automakers Have Dropped Out Of The Autonomy Race—Tesla And Waymo Remain

In 2014, many automakers expected to debut an autonomous vehicle by 2020. Only Waymo delivered, launching its first commercial autonomous rides in 2018. Tesla plans to launch in 2025. Waymo's launch and Tesla's internal testing of robotaxis suggest that 2025 could be the standout year in which consumers and businesses agree that the future of transportation is autonomous.

![](_page_19_Figure_3.jpeg)

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

## Tesla's Cost Per Mile Is ~30-40% Lower Than Waymo's

Its higher cost structure is likely to make Waymo less competitive or less profitable than a Cybercab robotaxi service. Waymo's dependence on LIDAR and higher-cost auto manufacturers are two drags on its competitive positioning.

![](_page_20_Figure_3.jpeg)

Note: "Capex"/"Capital Expenditure" is a one-off upfront cost required to build or deploy an asset. "Early launch" assumes ten cars per remote operator with utilization rates roughly equivalent to ride-hail today. "At scale" assumes 100 cars per remote operator with an improved autonomous operation utilization rate. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

# Nuclear Energy Regulation Ended The Declines In Electricity Prices

Informed by Wright's Law,\* ARK's research indicates that, apart from WWII, US electricity prices fell consistently from the late 1800s until 1974. The U.S. Energy Reorganization Act, enacted in 1974, reversed the drop in nuclear construction costs.

![](_page_21_Figure_3.jpeg)

![](_page_21_Picture_4.jpeg)

Note: "MW": Megawatt, a unit of power equal to one million watts. "kW": Kilowatt, a unit of power equal to one thousand watts. "kWh": Kilowatt-hour, a unit of energy, representing the use or generation of 1 kilowatt of power for 1 hour. \*Wright's Law states that for every cumulative doubling of units produced, costs will fall by a constant percentage. See Winton 2019. Source: ARK Investment Management LLC, 2025, based on data from Smil 2000 and Cleveland 2023 (left chart) and Lovering et al. 2016 (right chart). For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

## Nuclear And Other Renewables Can Serve As Viable Solutions

Solar, wind, and stationary energy storage are just getting started. One solution will not meet all demands. Interestingly, Tesla accounts for ~19% of global energy storage today.

![](_page_22_Figure_3.jpeg)

![](_page_22_Picture_4.jpeg)

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results.

# The Adoption Of Humanoid Robots Should Increase As Their Costs Fall And Their Productivity Increases

A 100% productivity uplift is equivalent to replacing a human working one shift over ten years.

#### Human Labor Costs On Average In The US

Hourly	\$46, including benefits
Annually	\$92,420
10-Year Cumulative	\$924,200
Total Hours	~20,000
Net Present Value Of Costs	~\$550,000, not including turnover

Net Present Value (NPV) Of A Robot Operating The Same Number Of Hours As A Human Worker Over Ten Years

![](_page_23_Figure_6.jpeg)

![](_page_23_Picture_7.jpeg)

Note: Per hour salary based on Bureau of Labor Statistics Employer Costs For Employee Compensation press release on September 10, 2024: Average employer costs for all civilian workers = \$46.21 per hour; Wages average = \$31.80; average benefit costs = \$14.41. We assume a 40-hour work week and a 50-week work year. A positive net present value in this calculation suggests that it would be worthwhile to invest in a humanoid robot at that upfront cost and productivity uplift. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of January 10, 2025, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

### Jobs Are Bundles Of Tasks

In a restaurant with a dishwashing machine, washing dishes is one of 13 tasks required of a "dishwasher." The home is not much different. The dishwasher is one of the most common "robots" in a house. According to our research, automating activities at home like loading and unloading dishes and cleaning countertops represents a massive market in the US alone.

#### What does a professional dishwasher do?

Tasks:

- Wash dishes, glassware, flatware, pots, and pans, using dishwashers or by hand.
- Place clean dishes, utensils, and cooking equipment in storage areas.
- Sort and remove trash, placing it in designated pickup areas.
- Sweep and scrub floors.
- Maintain kitchen work areas, equipment, and utensils in clean and orderly condition.
- Clean garbage cans with water or steam.
- Receive and store supplies.

- Stock supplies like food and utensils in serving stations, cupboards, refrigerators, and salad bars.
- Transfer supplies and equipment between storage and work areas, by hand or using hand trucks.
- Clean and prepare various foods for cooking or serving.
- Prepare and package individual place settings.
- Load and unload trucks that deliver or pick up food and supplies.
- Set up banquet tables.

![](_page_24_Figure_18.jpeg)

![](_page_24_Picture_19.jpeg)

Note: For the value of unpaid time spent washing dishes, we assume, based on a study, that people value their free time at half their wage. From the Bureau of Labor Statistics, we take a median wage of ~\$35. The Bureau of Labor Statistics reports that people spend 0.65 hours per day on food prep and cleanup. We assume .22 hours is spent on cleaning. We then multiply by the working age population. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of January 10, 2025, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

#### **Impact On Daily Lives**

- Robotaxis are already on the roads today, transporting passengers and poised for rapid expansion. With low price points, we believe they can achieve meaningful scale, significantly reducing accidents and optimizing logistics.
- Robotics is transforming supply chains, with warehouses utilizing AI-powered robots to improve efficiency and reduce costs.

F.02

 Al-driven automation is reshaping industries like manufacturing, agriculture, and healthcare, enabling precision and efficiency at scale.

#### The Potential Disruptors And Disrupted

#### Energy Storage: BYD Auto (BYDDY)

BYD is a leading electric vehicle (EV) and battery manufacturer, vertically integrating its supply chain to drive cost efficiency and scalability. The company produces a full range of EVs, from passenger cars to commercial fleets, and has established itself as a global leader in lithium iron phosphate (LFP) battery technology. In this case, we believe BYD will disrupt companies like ExxonMobil.

#### Robotics: Teradyne (TER)

Teradyne provides semiconductor test equipment and has an industrial robot automation business line. ARK's research suggests that as the cost of industrial robots decreases, Teradyne will benefit as the market grows. We believe robotic automation will disrupt the industrials sector as we know it.

![](_page_26_Figure_6.jpeg)

#### Autonomous Technology: Tesla (TSLA)

Tesla designs and manufactures electric vehicles (EVs) and associated artificial intelligence (AI)-based autonomous capabilities. ARK's research suggests that the company's robotaxi offerings will transform Tesla's business model from one-off vehicle sales to a recurring revenue stream. We believe Tesla will disrupt companies like Ford.

![](_page_26_Picture_9.jpeg)

The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Sector classifications are based on the Global Industry Classification Standard (GICS). S&P sorts companies into sectors based on their primary business activity. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. It should not be assumed that an investment in the companies discussed was or will be profitable. ARK's theses regarding the potential for these companies to disrupt their respective sectors may not be realized. Forecasts are inherently limited and cannot be relied upon.

# **Strategies Seeking To Capture The Autonomous Tech. And Robotics Opportunity**

![](_page_27_Picture_2.jpeg)

![](_page_27_Picture_3.jpeg)

ARKK **ARK Innovation ETF** 

Tech and Robotics, across public and private markets.

![](_page_28_Picture_0.jpeg)

# Digital Assets And Fintech Innovation

DIGITAL WALLETS

NEURAL NETWORKS

NEXT GEN CLOUD

CRYPTOCURRENCIES

( SMART CONTRACTS

29

# **An Introduction To Digital Assets And Fintech Innovation**

Digital assets are transforming financial markets by enabling decentralized transactions that bypass traditional banking infrastructure. Built on cryptographic security and blockchain networks, these assets facilitate transparent, verifiable transactions globally, 24/7, reducing costs and settlement times. Cryptocurrencies like bitcoin, Ether, and Solana are leading the charge, serving as potential stores of value and the foundation for decentralized applications. The integration of digital assets with fintech is driving the next evolution of finance, enabling new business models and democratizing access to financial systems. Digital wallets are rapidly gaining traction, offering seamless integration with blockchain networks and removing barriers to financial inclusion. This allows individuals and businesses worldwide to transact without friction, access decentralized finance (DeFi) services, and participate in the burgeoning digital economy.

This is the underlying thesis of ARK's Digital Assets and Fintech Innovation strategies.

As blockchain technology continues to mature, digital assets have the potential to revolutionize commerce, investment, and financial infrastructure. We believe the time to capitalize on this revolution is now—ARK's Digital Assets and Fintech Innovation strategies seek to capture the full potential of this transformative shift.

Important Information: Digital assets, often referred to as cryptocurrencies, such as bitcoin and ether are relatively new investments, which have unique and substantial risks and which may be more volatile than other types of investments. Digital assets operate without central authority or banks and are not backed by any government. Even indirectly, digital assets may experience very high volatility. Digital assets are not legal tender. Federal, state or foreign governments could restrict the use and exchange of digital assets. Digital asset exchanges could stop operating or permanently shut down due to fraud, technical glitches, hackers or malware. Digital assets, like bitcoin and ether, are subject to rapid price swings, including as a result of actions and statements by influencers and the media, changes in the supply of and demand for the digital asset, and other factors. There is no assurance that a digital asset will maintain its value over the long term. ARK strongly encourages any investor considering an investment in any digital asset. Historical results are strictly beliefs and points of view held by ARK and are not recommendations by ARK to buy, sell or hold any digital asset. Historical results are not indications of future results.

# The Spot Bitcoin ETF Complex Was The Most Successful ETF Launch In History, While Bitcoin's Annual Volatility Fell To An All-Time Low

On their first day of trading, the spot bitcoin ETFs attracted over \$4 billion of inflows, a record high for ETF launches, surpassing the \$1.2 billion that flowed into the gold ETF in its first month in November 2004. Inflows into the spot bitcoin ETFs have dwarfed the first-month inflows into each of the ~6,000 ETFs launched over the past 30 years.

![](_page_30_Figure_3.jpeg)

![](_page_30_Picture_4.jpeg)

[1] GBTC and DEFI are not included. [2] "AUM": assets under management. Source: ARK Investment Management LLC, 2025, based on data from Glassnode and World Gold Council as of December 31, 2024. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.

## One Of The Fastest-Growing Segments In Digital Assets, Stablecoins Overtook Mastercard And Visa In Transaction Value In 2024

Despite a two-year bear market and a 70%+ decline in market capitalization, stablecoin growth has remained uninterrupted. In 2024, the annualized transaction value of stablecoins hit \$15.6 trillion—roughly 119% and 200% that of Visa and Mastercard, respectively. The number of transactions hit 110 million monthly, roughly 0.41% and 0.72% of those processed by Visa and Mastercard, respectively. In other words, the stablecoin value per transaction is much higher than that for Visa and Mastercard.

![](_page_31_Figure_3.jpeg)

![](_page_31_Picture_4.jpeg)

Note: In the lefthand chart, stablecoins data are for calendar year, while credit card data are for fiscal year. Source: ARK Investment Management LLC, 2025. This ARK analysis is based on a range of external data sources, including Wall Street Zen, CoinGecko, and Visa OnChain Analytics, as of December 31, 2024, which may be provided upon request, For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.

#### Tether's Financial Performance Has Been Stunning, Both Absolutely And Relatively

Tether employs fewer than 200 people compared to 300,000+ each at JP Morgan and Berkshire Hathaway. The only institutions in the S&P Financial Select Sector Index generating more net income than Tether in the first half of 2024 were Berkshire Hathaway, JP Morgan, Bank of America, and Wells Fargo.

![](_page_32_Figure_3.jpeg)

![](_page_32_Picture_4.jpeg)

\*First Half of 2024. Source: ARK Investment Management LLC, 2025. This ARK analysis is based on a range of external data, sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.

# Plummeting Transaction Costs Have Led To A Boom In Layer 2 Activity, Pulling Users Away From Ethereum's Base Layer

Of the Daily Active Addresses transacting on the Ethereum ecosystem, Layer 2s<sup>1</sup> have captured 85% share. The activity on Layer 2s enabled Ethereum to scale daily transactions by 400% from 3 million to 15 million i/n 2024.

![](_page_33_Figure_3.jpeg)

![](_page_33_Picture_4.jpeg)

[1] In networking and blockchain contexts, "Layer 2" (L2) refers to a protocol or technology built on top of a base layer (L1) to address scalability, transaction speeds, and costs, while inheriting security from the underlying Layer 1. Source: ARK Investment Management LLC, 2025, based on data from Artemis Terminal as of December 31, 2024. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.

# Thanks To Retail Adoption, Solana Has Gained Share Based On Several Metrics

After hitting bear market lows at \$8 in 2023, Solana has turned around dramatically relative to other Layer 1s.<sup>1</sup> Daily active users, revenue, transaction count, and total value locked (TVL) reached all-time highs or grew by an order of magnitude. Solana is the only Layer 1 that competes with Ethereum and Bitcoin on metrics like daily active addresses and revenue.

![](_page_34_Figure_3.jpeg)

![](_page_34_Picture_4.jpeg)

[1] A Layer 1 blockchain is the fundamental layer of a blockchain network. It's the main chain that validates and executes transactions, and maintains the network's security. Source: ARK Investment Management LLC, 2025, based or data from Artemis Terminal as of December 31, 2024. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Past performance is not indicative of future results.

 $\bigcirc$ 

#### **Impact On Daily Lives**

- Institutional adoption of Bitcoin and blockchain technology is accelerating, reshaping financial systems and enabling new investment models.
- Stablecoins and decentralized finance (DeFi) platforms are making transactions faster, more transparent, and accessible across borders.
- In 2024, stablecoins processed \$15.6 trillion, exceeding both Visa and Mastercard in total transaction value.

![](_page_35_Picture_5.jpeg)

### **The Potential Disruptors And Disrupted**

#### Digital Assets: ARK 21Shares Bitcoin ETF (ARKB)

ARK has long believed that bitcoin will transform how people use money and that it can be used as a store of value. Instead of relying on banks or governments to manage monetary policy, bitcoin is a scarce asset whose supply is mathematically-metered, anchored by the technical and governance rules of one of the most extensive decentralized digital networks in the world. The ARK Next Generation Internet ETF (ARKW) and the ARK Fintech Innovation ETF (ARKF) have indirect exposure to bitcoin through the ARK 21Shares Bitcoin ETF (ARKB).

#### Digital Wallets: Robinhood (HOOD)

Robinhood is an app that enables mostly retail investors to buy and to sell securities (stocks, bonds, options, and digital assets). The company also offers high-yield savings accounts, self-directed retirement accounts, and credit card services. In our view, Robinhood's mobile-first, commission-free trading product is democratizing finance, currently serving more than 20 million funded accounts. Notwithstanding growing competition, ARK's research suggests that Robinhood's brand recognition and distinctive user interface are unique competitive advantages that should be difficult to replicate.

#### Digital Assets: Coinbase (COIN)

Coinbase is the "picks and shovels" play on the digital asset revolution, having attracted 100+ million users to digital assets (i.e., bitcoin and ether). ARK's research suggests that Coinbase has become one of the most trusted digital asset exchanges, evidenced not least by its partnership with BlackRock for its institutional business and by its role as the primary custodian of choice for most of the US Bitcoin ETFs. ARK believes that digital assets can disrupt the financials sector as we know it today and that Coinbase is well positioned to capture digital assets growth.

![](_page_36_Figure_8.jpeg)

![](_page_36_Picture_9.jpeg)

Data is as of December 31, 2024. The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Sector classifications are based on the Global Industry Classification Standard (GICS). S&P sorts companies into sectors based on their primary business activity. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. It should not be assumed that an investment in the companies discussed was or will be profitable. ARK's theses regarding the potential for these companies to disrupt their respective sectors may not be realized. Forecasts are inherently limited and cannot be relied upon. ARKB is not a fund registered under the Investment Company Act of 1940, as amended ("1940 Act"), and is not subject to regulation under the 1940, unlike most exchange traded products or ETFs. An investment in ARKB involves significant risks, may be subject to extremely volatility and investors could lose their entire investment.

# Strategies Seeking To Capture The Digital Assets And Fintech Innovation Opportunity

![](_page_37_Picture_2.jpeg)

**ARKF** ARK Fintech Innovation ETF *Pure-play exposure to the Digital Assets and Fintech Innovation theme.* 

![](_page_37_Picture_5.jpeg)

**ARKW** ARK Next Generation Internet ETF *Targeted exposure to a subset of the Digital Assets and Fintech Innovation theme.* 

![](_page_37_Picture_8.jpeg)

ARK also has a suite of sub-advised digital asset ETFs.

38

![](_page_37_Picture_11.jpeg)

![](_page_38_Picture_0.jpeg)

# Genomic Revolution

NEURAL NETWORKS )

NEXT GEN CLOUD ) (

UD ) ( HUMANOID ROBOTICS

BOTICS ) ( INTELLIGENT DEVICES

PRECISION THERAPIES

MULTIOMIC TECHNOLOGIES

PROGRAMMABLE BIOLOGY

# **An Introduction To Genomic Revolution**

For decades, we haven't had a true healthcare system—we've had a sick care system focused on treating disease after it manifests rather than preventing it in the first place. But a revolution is underway. At its core, this is a big data science revolution: the convergence of multiomics tools, Al, and precision medicine is rewriting the playbook for healthcare, shifting the focus from reactive treatment to proactive prevention and personalized care.

Al is the engine that will unlock entirely new applications—from early diagnostics to Aldriven drug discovery to curative therapies fundamentally reshaping how we approach disease and disease management.

This is the underlying thesis of ARK's Genomic Revolution strategy.

We are investing in the technological flywheel driving the future of medicine, from data generation to diagnostics to drug development to cures. We believe the time to capitalize on this revolution is now—ARK's Genomic Revolution strategy seeks to capture the full potential of this transformative shift.

### Multiomics Performance Should Improve By Interfacing With Artificial Intelligence

![](_page_40_Figure_2.jpeg)

![](_page_40_Picture_3.jpeg)

The companies listed represent companies that are currently working toward achieving the forecasted results, but the list does not include all companies that may be pursuing the same goals, and which may do so more successfully. The companies listed may or may not be held in ARK portfolios. The information provided should not be used as the basis for any investment decision, and it should not be assumed that an investment in any of the companies listed was or will be profitable. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

# The Costs Of DNA Sequencing And Synthesis Are Falling Precipitously

DNA sequencing and synthesis costs are declining faster than Moore's Law<sup>\*</sup> predicted. The cost of reading biology through multiomics tools like DNA sequencing has plummeted by 10 billion-fold (10<sup>10</sup>) in its 35-year history. DNA synthesis costs have dropped 100,000-fold (10<sup>5</sup>) and could continue to fall 10 million-fold (10<sup>7</sup>) by 2030. Twist Bioscience's silicon-based DNA synthesis, combined with miniaturization and parallelization, has reduced costs by increasing efficiency, reducing reagent usage, and scaling production.

![](_page_41_Figure_3.jpeg)

![](_page_41_Picture_4.jpeg)

\*Moore's Law predicts that the number of transistors on a chip doubles every 18 months to two years. See Winton 2019. Note: The total price of sequencing the first human genome was estimated at ~2.7B, which included all the costs of developing and improving sequencing tools, actual sequencing, and all analysis. In the above graph, we are calculating only actual sequencing cost per base pair. Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources, including BusinessWire 2024 and Carlson 2022 as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results. Forecasts are inherently limited and cannot be relied upon.

# Al-Driven Drug Development And Cures For Disease Could Reverse A Multi-Decade Decay In Pharma/Biotech Returns

As AI and other technologies impact the drug development pipeline, industry-wide returns should turn around.

Meanwhile, many development projects in place today could become sunk costs as more nimble Al drug development platforms beat them to market with cures that eliminate disease.

A bifurcation could grow between the returns generated by AI driven, cure-seeking firms and those traditional pharma/biotech companies that do not adapt.

![](_page_42_Figure_5.jpeg)

#### **Impact On Daily Lives**

- The time required to analyze a human genome has dropped from 180 days in 2001 to under 10 minutes today. The convergence of AI and genomics is driving early disease detection, improving patient outcomes through precision diagnostics and personalized treatments.
- CRISPR-based therapies are advancing, offering curative solutions for genetic disorders previously considered untreatable.
- Multiomic research is accelerating drug discovery, allowing scientists to understand diseases at the cellular level and develop targeted therapies.
- Minimal residual disease (MRD) testing can detect the recurrence of cancer up to 20 months earlier than traditional imaging. Yet, more than eight million suitable cancer patients in the US currently are not reimbursed for MRD testing. Now, at only 10% penetration, MRD testing should become the standard of care for every cancer patient, with multiple tests per year and follow-ups for five years.

![](_page_43_Picture_6.jpeg)

#### **The Potential Disruptors And Disrupted**

![](_page_44_Figure_2.jpeg)

#### **Multiomics: CRISPR Therapeutics (CRSP)**

CRISPR Therapeutics develops CRISPR/Cas9-based gene-editing treatments for serious diseases, including CASGEVY, the world's first genome-editing therapeutic for sickle cell disease and beta thalassemia—both currently approved in the United States and several other countries. Prior to the availability of CASGEVY, doctors prescribed drugs to manage—but not to cure—the disease. Thanks to the CASGEVY precedent, ARK's research suggests that CRISPR will have a distinct market advantage in terms of receiving reimbursements, setting up treatment centers, and accessing patients across diverse geographies. We believe curative therapies will revolutionize healthcare across the board.

#### Multiomics: Tempus AI (TEM)

Tempus AI is a precision medicine company leveraging artificial intelligence to analyze multimodal healthcare data and improve patient outcomes. By integrating clinical records, genomic sequencing, and imaging data, Tempus enables physicians to make data-driven treatment decisions while accelerating drug discovery. ARK believes Tempus AI's proprietary datasets and predictive algorithms create a strong competitive advantage in the rapidly evolving healthcare landscape. As AI adoption in precision medicine expands, Tempus could play a key role in optimizing treatment selection, streamlining clinical trials, and enhancing drug development.

#### Multiomics: Recursion Pharmaceuticals (RXRX)

Recursion is a drug discovery company utilizing artificial intelligence to help discover new treatments for diseases. ARK's research suggests that companies like Recursion that take advantage of cutting-edge technology will realize materially higher returns on investments.

![](_page_44_Picture_9.jpeg)

The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Sector classifications are based on the Global Industry Classification Standard (GICS). S&P sorts companies into sectors based on their primary business activity. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. It should not be assumed that an investment in the companies discussed was or will be profitable. ARK's theses regarding the potential for these companies to disrupt their respective sectors may not be realized. Forecasts are inherently limited and cannot be relied upon.

Strategies Seeking To Capture The Genomic Revolution Opportunity

![](_page_45_Picture_2.jpeg)

# $(\mathbb{R})$

# Space Exploration And Defense

**3D PRINTING** 

REUSABLE ROCKETS

HUMANOID ROBOTICS

NEURAL NETWORKS

AUTONOMOUS MOBILITY

INTELLIGENT DEVICES

ADVANCED BATTERY TECHNOLOGY

#### An Introduction To Space Exploration And Defense

The convergence of aerospace innovation, satellite technology, and defense systems is poised to drive technological advancement and economic growth. A key catalyst for growth in this sector is the significant reduction in launch costs, thanks to reusable rocket technology pioneered by companies like SpaceX. This has democratized space access, leading to increased satellite deployments and advancements in communication, navigation, and Earth observation.

This is the underlying thesis of ARK's Space Exploration and Defense strategy.

As the technologies continue to evolve, we expect them to create new markets and disrupt traditional industries, offering compelling opportunities for investors seeking to capitalize on the next frontier of technological advancement. ARK believes the time to capitalize on this revolution is now—ARK's Space Exploration and Defense strategy seeks to capture its full potential.

## **SpaceX Is Refurbishing Rockets In Record Time**

When the Space Shuttle cost ~\$1.5 billion per launch, industry experts assumed that an economic reusable rocket would be impossible. SpaceX then flipped the script. According to ARK's research, the first stage of the Falcon 9 cost <\$1 million to refurbish. Now, rocket turnaround time should be proportional to the cost required to refurbish a rocket booster, the key metric in tracking launch cost declines.

![](_page_48_Figure_3.jpeg)

![](_page_48_Picture_4.jpeg)

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of January 10, 2025, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results.

## Lower Satellite Launch Costs Should Enable Continuous Global Coverage With Low Latency

While latency precluded geostationary orbit (GEO) satellites from offering a compelling broadband internet solution, thousands of low-cost, low earth orbit (LEO) satellites now can provide service with low latency, continuous global coverage, and direct-to-mobile device connectivity.

![](_page_49_Picture_3.jpeg)

![](_page_49_Picture_4.jpeg)

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of January 10, 2025, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. Past performance is not indicative of future results.

# The US Needs Low-Cost, Al-Powered Aircraft

![](_page_50_Figure_2.jpeg)

The current state of warfare has proven that high-cost aircraft are unsustainable against low-cost, internationally made drones. Meanwhile, AI is improving decision-making and efficiency, reducing the need for human troops.

*"If we're shooting down a \$50,000 one-way drone with a \$3 million missile, that's not a good cost equation."* 

**Bill LaPlante**, Under Secretary of Defense for Acquisition and Sustainment

#### *"Smaller And Cheaper Al-controlled Unmanned Jets Are The Way Ahead."*

**Frank Kendall**, 26<sup>th</sup> Secretary of the Air Force

# *"We need them potentially at very large scale and very quickly."*

**Doug Bush**, Army Acquisition Chief, on buying drones in large quantities "Replicator will galvanize progress in the tooslow shift of U.S. military innovation to leverage platforms that are small, smart, cheap, and many."

**Kathleen Hicks**, Deputy Secretary of Defense

# *"I want to turn the Taiwan Strait into an unmanned hellscape..."*

**Samuel Paparo,** US Indo-Pacific Command Chief Navy Admiral

*"Manned fighter jets are obsolete in the age of drones..."* 

Elon Musk

![](_page_50_Picture_16.jpeg)

Source: ARK Investment Management LLC, 2025. This ARK analysis draws on a range of external data sources as of December 31, 2024, which may be provided upon request. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security.

#### **Impact On Daily Lives**

- Low Earth Orbit (LEO) satellites are enhancing global connectivity, powering applications and providing internet access to remote areas.
- Space-based defense technologies are strengthening national security, improving real-time intelligence and surveillance capabilities.
- Reusable rocket advancements are reducing launch costs, accelerating commercial and scientific missions beyond Earth's atmosphere.

#### **The Potential Disruptors And Disrupted**

#### Aerospace Technology: Archer Aviation (ACHR)

Archer is an aerospace company aiming to revolutionize mobility with its electric vertical take-off and landing (eVTOL) products and services that enable faster, more efficient travel. ARK's research suggests that the cost of an eVTOL trip to the airport will be comparable to that of today's taxis. Through a partnership with Anduril, Archer is developing a version of its vehicle for defense applications, highlighting the company's versatility and commitment to innovation. With a strong position in this emerging industry, Archer is striving to make its "flying car" service a reality. We believe companies like Archer can disrupt legacy aerospace and defense companies like General Dynamics.

#### Space Exploration: Rocket Lab (RKLB)

Rocket Lab provides satellite services and manufactures rockets used for small satellites. The company continues to execute on its path for reusable rockets, and ARK's research suggests that as the market for reusable rockets continues to grow, Rocket Lab will be a primary beneficiary.

![](_page_52_Figure_6.jpeg)

#### Satellite Technology: Iridium Communications (IRDM)

Iridium provides mobile voice and data communications services through low-earth orbiting satellites. ARK's research suggests that as launch and satellite costs continue to decline, Iridium will be wellpositioned within the space industry. We believe space exploration leads to prominent benefits on Earth and can disrupt legacy communication services companies like AT&T.

![](_page_52_Picture_9.jpeg)

The Standard and Poor's 500, or simply the S&P 500, is a stock market index tracking the stock performance of 500 of the largest companies listed on stock exchanges in the United States. Sector classifications are based on the Global Industry Classification Standard (GICS). S&P sorts companies into sectors based on their primary business activity. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security. It should not be assumed that an investment in the companies discussed was or will be profitable. ARK's theses regarding the potential for these companies to disrupt their respective sectors may not be realized. Forecasts are inherently limited and cannot be relied upon.

# Strategies Seeking To Capture The Space Exploration And Defense Opportunity

![](_page_53_Picture_2.jpeg)

#### For more research on disruptive innovation visit www.ark-funds.com

#### ©2021-2026, ARK Investment Management LLC. No part of this material may be reproduced in any form, or referred to in any other publication, without the express written permission of ARK Investment Management LLC ("ARK").

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 and/or may face political or legal attacks from competitors, industry groups, or local and national governments.

ARK aims to educate investors and to size the potential opportunity of 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 Deep Learning, Digital Wallets, Battery Technology, Autonomous Technologies, Drones, DNA Sequencing, CRISPR, Robotics, 3D Printing, Bitcoin, Blockchain Technology, etc. Cryptocurrency Risk. Cryptocurrencies (also referred to as "virtual currencies" and "digital currencies") are digital assets designed to act as a medium of exchange. Cryptocurrency is an emerging asset class. There are thousands of cryptocurrency is not legal tender. Federal, state and/or foreign governments may restrict the use and exchange of cryptocurrency, and regulation in the U.S. is still developing. The market price of bitcoin and other cryptocurrencies have been subject to extreme fluctuations. Similar to fiat currency exchanges and other trading venues on which cryptocurrencies trade are relatively new and, in most cases, largely unregulated and may therefore be more exposed to fraud and failure than established, regulated exchanges for securities, derivatives and other currencies. Cryptocurrency exchanges may stop operating or permanently shut down due to fraud, technical glitches, hackers or malware, which may also affect the price of cryptocurrencies. Cryptocurrency Tax Risk. Many significant aspects of the U.S. federal income tax treatment of investments in bitcoin and other cryptocurrencies are uncertain and still evolving.

The content of this presentation is for informational purposes only and is subject to change without notice. This presentation does not constitute, either explicitly or implicitly, any provision of services or products by ARK and investors are encouraged to consult counsel and/or other investment professionals as to whether a particular investment management service is suitable for their investment needs. All statements made regarding companies or securities are strictly beliefs and points of view held by ARK and are not endorsements by ARK of any company or security or recommendations by ARK to buy, sell or hold any security. Historical results are not indications of future results. Certain of the statements contained in this presentation may be statements of future expectations and other forward-looking statements that are based on ARK's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. The matters discussed in this presentation may also involve risks and uncertainties described from time to time in ARK's filings with the U.S. Securities and Exchange Commission. ARK assumes no obligation to update any forward-looking information contained in this presentation was obtained from sources that ARK believes to be reliable; however, ARK does not guarantee the accuracy or completeness of any information obtained from any third party. ARK and its clients as well as its related persons may (but do not necessarily) have financial interests in securities or issuers that are discussed.

#### **ARK Investment Management LLC**

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

An investment in an ARK ETF is subject to risks and you can lose money on your investment in an ARK ETF. There can be no assurance that the ARK ETFs will achieve their investment objectives. The ARK ETFs' portfolios are more volatile than broad market averages. Additional risks of investing in ARK ETFs include equity, market, management and non-diversification risks, as well as fluctuations in market value and NAV. Shares of ARK ETFs 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 principal risks of investing in the ARK ETFs include: Equity Securities Risk. The value of the equity securities the ARK ETF 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. Disruptive Innovation Risk, 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. Companies that initially develop a novel technology may not be able to capitalize on the technology. Companies that develop disruptive technologies may face political or legal attacks from competitors, industry groups or local and national governments. These companies may also be exposed to risks applicable to sectors other than the disruptive innovation theme for which they are chosen, and the securities issued by these companies may underperform the securities of other companies (SPAC) Risk. A SPAC is a publicly traded company that raises investment capital for the purpose of acquiring or merging with an existing company. Investments in SPACs and similar entities are subject to a variety of risks beyond those associated with other equity securities. Because SPACs and similar entities do not have any operating history or ongoing business other than seeking acquisitions, the value of their securities is particularly dependent on the ability of the SPAC's management to identify a merger target and complete an acquisition. The ARK ETFs also have specific risks, which are described below. More detailed information regarding these risks can be found in the ARK ETFs' prospectuses.

For a complete list of holdings for ARKW please visit: https://www.ark-funds.com/funds/arkw. The principal risks of investing in the ARKW include: Information Technology Sector Risk. Information technology companies face intense competition, both domestically and internationally, which may have an adverse effect on profit margins. Cryptocurrency Risk. Cryptocurrency (notably, bitcoin), often referred to as "virtual currency" or "digital currency," operates as a decentralized, peer-to-peer financial exchange and value storage that is used like money. The Fund may have exposure to bitcoin, a cryptocurrency, indirectly through an investment in the ARK 2IShares Bitcoin ETF (ARKB) an exchange-traded, open-end investment vehicle. Cryptocurrency operates without central authority or banks and is not backed by any government. Even indirectly, cryptocurrency is also not legal tender. Federal, state or foreign governments may restrict the use and exchange of cryptocurrency, and regulation in the U.S. is still developing. Cryptocurrency exchanges may stop operating or permanently shut down due to fraud, technical glitches, hackers or malware.

For a complete list of holdings for ARKF please visit: https://www.ark-funds.com/funds/arkf. The principal risks of investing in the ARKF include: Financial Technology Risk. Companies that are developing financial technologies that seek to disrupt or displace established financial institutions generally face competition from much larger and more established firms. Fintech Innovation Companies may not be able to capitalize on their disruptive technologies if they face political and/or legal attacks from competitors, industry groups or local and national governments. Blockchain technology is new and many of its uses may be untested. Blockchain and Digital commodities and their associated platforms are largely unregulated, and the regulatory environment is rapidly evolving. As a result, companies engaged in such blockchain activities may be exposed to adverse regulatory action, fraudulent activity or even failure. Cryptocurrency Risk. Cryptocurrency (notably, bitcoin), often referred to as "virtual currency" or "digital currency," operates as a decentralized, peer-to-peer financial exchange and value storage that is used like money. The Fund may have exposure to bitcoin, a cryptocurrency, indirectly through an investment in the ARKB ISharee Bitcoin ETF (ARKB) and exchange-traded, open-end investment vehicle. Cryptocurrency operates without central authority or banks and is not backed by any government. Even indirectly, cryptocurrency is also not legal tender. Federal, state or foreign governments may restrict the use and exchange of cryptocurrency, and regulation in the U.S. is still developing. Cryptocurrency exchanges may stop operating or permanently shut down due to foreign governments may restrict the use and exchange of cryptocurrency, and regulation in the U.S. is still developing. Cryptocurrency exchanges may stop operating or permanently shut down due to fraud, technical glitches, hackers or malware.

![](_page_55_Picture_7.jpeg)

For a complete list of holdings for ARKG please visit: https://www.ark-funds.com/funds/arkg. The principal risks of investing in the ARKG include: Health Care Sector Risk. The health care sector may be adversely affected by government regulations and government health care programs, restrictions on government reimbursements for medical expenses, increases or decreases in the cost of medical products and services and product liability claims, among other factors. Many health care companies are heavily dependent on patent protection and intellectual property rights and the expiration of a patent may adversely affect their profitability. Biotechnology Company Risk. A biotechnology company's valuation can often be based largely on the potential or actual performance of a limited number of products and can accordingly be greatly affected if one of its products proves, among other things, unsafe, ineffective or unprofitable. Biotechnology companies are subject to regulation by, and the restrictions of, the U.S. Food and Drug Administration, the U.S. Environmental Protection Agency, state and local governments, and foreign regulatory authorities. Pharmaceutical Company Risk. Companies in the pharmaceutical industry can be significantly affected by, among other things, government regulation and reimbursement rates, product liability claims, patent expirations and protection and intense competition.

For a complete list of holdings for ARKX please visit: https://www.ark-funds.com/funds/arkx. The principal risks of investing in the ARKX include: Industrials Sector Risk. Companies in the industrials sector may be adversely affected by changes in government regulation, world events and economic conditions. In addition, companies in the industrials sector may be adversely affected by environmental damages, product liability claims and exchange rates. Information Technology Sector Risk. Information technology companies face intense competition, have limited product lines, markets, financial resources or personnel, face rapid product obsolescence, are heavily dependent on intellectual property and the loss of patent, copyright and trademark protections may adversely affect the profitability of these companies. <u>Aerospace and Defense Company</u> Risk. Companies in the aerospace and defense industry rely to a large extent on U.S. (and other) Government demand for their products and services and may be significantly affected by changes in government regulations and spending, as well as economic conditions, industry consolidation and other disasters.

For a complete list of holdings for ARKQ please visit: https://www.ark-funds.com/funds/arkq. The principal risks of investing in ARKQ include: 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." 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. Industrials Sector Risk. Companies in the industrials sector may be adversely affected by changes in government regulation, world events and economic conditions. In addition, companies in the industrials sector may be adversely affected by changes rates. Disruptive Innovation Risk. Companies that ARK believes are capitalizing on disruptive innovation and developing technologies conce due to capitalize on the technology. Companies that develop disruptive technologies may face political or legal attacks from competitors, industry groups or local and national governments. These companies may also be exposed to risks applicable to sectors other than the disruptive innovation theme for which they are chosen, and the securities issued by these companies may underperform the securities of other companies that are primarily focused on a particular theme.

For a complete list of holdings for ARKK please visit: https://www.ark-funds.com/funds/ark. The principal risks of investing in the ARKK: 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. Health Care Sector Risk. The health care sector may be adversely affected by government regulations and government health care programs. Communications Sector Risk. Companies is this sector may be adversely affected by potential obsolescence of products/services, pricing competition, research and development costs, substantial capital requirements and government regulation. Information Technology Sector Risk. Information technology companies face intense competition, both domestically and internationally, which may have an adverse effect on profit margins. Additional risks of investing in ARKK include equity, market, management and non-diversification risks, as well as fluctuations in market value and NAV. Disruptive Innovation Risk. 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. Companies that initially develop a novel technology may not be able to capitalize on the technology. Companies that develop disruptive technologies may face political or legal attacks from competitors, industry groups or local and national governments. These companies may also be exposed to risks applicable to sectors other than the disruptive innovation theme for which they are chosen, and the securities issued by these companies may underperform the securities of other companies that are primarily focused on a particular theme.

You should not expect to be able to sell your Shares in the ARK Venture Fund other than through the Fund's repurchase policy, regardless of how the Fund performs. The Fund's Shares will not be listed on any securities exchange, and the Fund does not expect a secondary market in the Shares to develop. Shares may be transferred or sold only in accordance with the Fund's prospectus. Although the Fund will offer to repurchase Shares on a quarterly basis, Shares are not redeemable and there is no guarantee that shareholders will be able to sell all of their tendered Shares during a quarterly repurchase offer. An investment in the Fund's Shares is not suitable for investors that require liquidity, other than liquidity provided through the Fund's repurchase policy. The ARK Venture Fund is a continuously-offered, non-diversified, registered closed-end fund with limited liquidity.

For a complete list of holdings for ARKVX please visit: https://www.ark-funds.com/funds/arkvx. The principal risks of investing in the ARK Venture Fund Include: Privately Held Company Risk. The strategy invests in privately held companies involve a number of significant risks, including the following: these companies may have limited financial resources and may be unable to meet their obligations, which may be accompanied by a deterioration in the value of any collateral; they typically have shorter operating histories, narrower product lines and smaller market shares than larger businesses, which tend to render them more vulnerable to competitors' actions and market conditions, as well as general economic downturns; they typically depend on the management talents and efforts of a small group of persons; there is generally little public information about these companies and these companies; they generally have less predictable operating results and may require substantial additional capital to support their operations, finance expansion or maintain their competitive position; changes in laws and regulations, as well as their interpretations, may adversely affect their business, financial additional capital needs. Valuation Risk. The strategy may have difficulty accessing the capital markets to meet future capital needs. Valuation Risk. The strategy may invest a significant portion of its assets in non-publicly traded securities. As a result, although the strategy expects that some of its equity investments will trade on public or private secondary market places, certain of the securities will be subject to legal and other restrictions on resale or will otherwise be less liquid than publicly traded securities.

Special Purpose Acquisition Companies (SPAC) Risk. A SPAC is a publicly traded company that raises investment capital for the purpose of acquiring or merging with an existing company. Investments in SPACs and similar entities are subject to a variety of risks beyond those associated with other equity securities. Because SPACs and similar entities do not have any operating history or ongoing business other than seeking acquisitions, the value of their securities is particularly dependent on the ability of the SPAC's management to identify a merger target and complete an acquisition.

The ARK Venture Fund will be distributed to RIAs, family offices, high net worth individuals and institutional investors through other distribution channels, but is available to retail investors on Titan and SoFi. Titan Global Capital Management USA LLC ("Titan") is an investment adviser registered with the Securities and Exchange Commission ("SEC"). The fund is offered through SoFi Invest. SoFi Invest refers to the three investment and trading platforms operated by Social Finance, Inc. and its affiliates, SoFi Wealth LLC, an SEC-Registered Investment Adviser ("Sofi Wealth") and SoFi Securities LLC, Member FINRA/SIPC, ("Sofi Securities). ARK is not affiliated with Titan or any SoFi entity.

ARK Investment Management has entered into an agreement with Titan, where it pays a fee to Titan for the ARK Venture Fund (the "Fund") to be made available on its platform. In addition, Foreside Fund Services, LLC, the distributor of the Fund, may pay Titan a portion of the distribution and services fee it receives from the Fund. ARK Investment Management, Foreside Fund Services, and Titan are unrelated parties.

The information herein is general in nature and should not be considered financial, legal or tax advice. An investor should consult a financial professional, an attorney or tax professional regarding the investor's specific situation.

Percentages shown for each ARK ETF's Top Ten holdings are based on the ARK ETF's total investments. Portfolio Composition categories are determined by ARK Invest. Portfolio holdings will change and should not be considered as investment advice or a recommendation to buy, sell or hold any particular security. It should not be assumed that an investment in the securities identified was or will be profitable. Please visit www.ark-funds.com for the most current list of holdings for the ARK ETFs, and for the ARK Venture Fund.

ARK Investment Management LLC is the investment adviser to the ARK ETFs and the ARK Venture Fund.

Foreside Fund Services, LLC, distributor.