



GALT & TAGGART
CREATING OPPORTUNITIES

GLOBAL ROBOTICS & AI INDUSTRY

JUNE 2023

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Global Robotics & AI Industry

Industry ETF

ARKQ Autonomous Technology & Robotics ETF
by ARK Invest

\$53.0	\$59.9	13.1%
Price as of 08.06.23	1Y Price target	Implied 1Y upside
30.8%	1.4	28.7
YTD return	Market beta	LTM P/E

Industry revenue and profit

\$849bn	\$1,156bn	+36.2%
Revenue 2022	Forecast 2025	Implied 3Y % growth
\$119bn	\$187bn	+57.5%
Net Income 2022	Forecast 2025	Implied 3Y % growth
-0.1%	13.6%	+13.7 pp
Weighted avg. net margin 2022	Forecast 2025	Implied 3Y % point growth

*weighted average figures use ETF weights; revenue and net income are given in total of all ETF companies

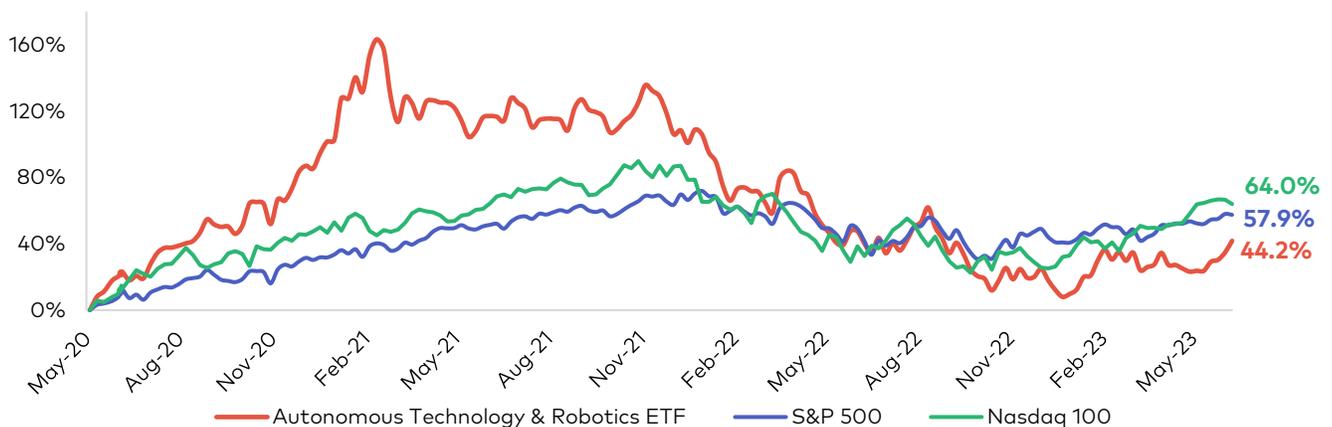
Industry overview

2023 has been a remarkable year for artificial intelligence (AI). After years of intense R&D, multiple tech giants launched AI-based products that have added billions to their market capitalizations. Some of the most prominent examples include ChatGPT from OpenAI, Google Bard chatbot from Alphabet, Azure bot from Microsoft, and DGX GH200 supercomputer from NVIDIA. AI technologies are not limited to any one sector, but rather serve as an engine for innovation for a wide range of fields, including medicine, agriculture, consumer electronics, aerospace & defense, and others.

Numerous fundamental improvements have been made in AI over the last two years. Firstly, advanced language models have created generative AI tools that produce complex textual, visual, and audio content. Secondly, AI has expanded to science and education, with the new AI models now aiding hydrogen fusion, improving efficiency of matrix manipulation, and generating new antibodies. Lastly, AI has become self-improving, with NVIDIA, Google, and others using their AI models to improve their own AI-based products.

AI revolution has tremendous implication for investors. Companies that embrace AI will create superior new products and processes, which in turn will boost their profitability. Naturally, this will be reflected in the company stock prices as well. Given the scale and effectiveness of AI technologies, the upside potential for relevant equities in medium to long-term is huge. This report aims to present the relevant industry ETF (ARKQ), as well as selected ETF companies that are expected to benefit significantly from further AI innovation.

ETF return vs benchmarks indexes



Source: Bloomberg, S&P Capital IQ

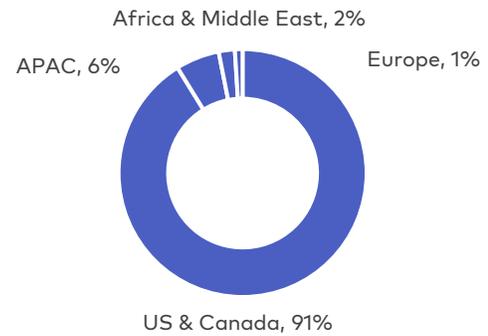
ETF Information

Top 10 holdings

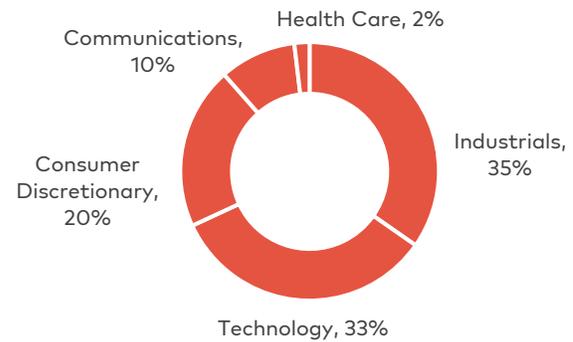
Ticker	Company	Price, \$	3Y return
NVDA	NVIDIA Corporation	374.8	430.1%
TSLA	Tesla	224.6	380.4%
IRDM	Iridium Communications	64.1	190.1%
DE	Deere & Company	381.8	176.3%
GOOG	Alphabet	122.9	86.2%
TER	Teradyne	104.2	80.2%
AVAV	AeroVironment	98.2	65.8%
TRMB	Trimble	51.2	55.7%
KTOS	Kratos Defense & Security Solutions	14.4	-2.2%
PATH	UiPath	17.9	-76.1%

Sorted by 3Y returns

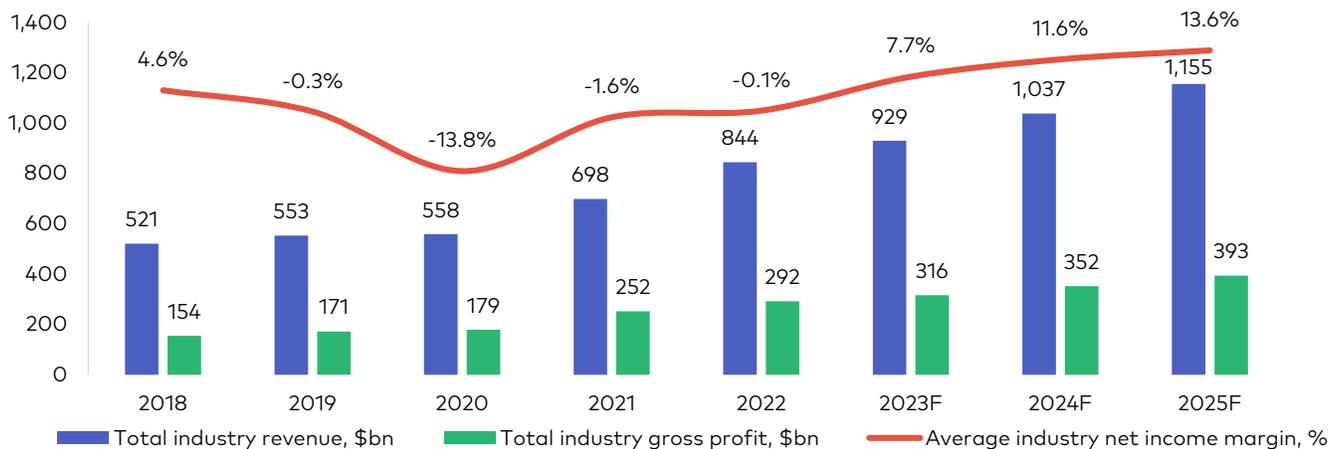
Geographic exposure



Sector exposure



Financial performance of ETF holding companies



Source: Bloomberg, S&P Capital IQ

ETF single stocks

NVDA			Overview	Performance	Valuation	Financials
Nvidia Semiconductors manufacturing			USA Country	161.8% YTD return	36.0 Fwd. P/E	0.04% Dividend yield
\$374.8 Current price	\$456.2 1Y Price target	21.7% Implied 1Y upside	\$984bn Market cap	\$112-\$401 52-week range	9.2 PEG	1.92 TTM EPS
*All data is given as of 8 June 2023. All forecasts used in this report belong to the third parties.			26,196 Nmb. of employees	471.5% 5Y return	36.2 P/S	20.9% ROE
			1993 Year founded	1.75 Beta	37.7 P/B	0.45 D/E

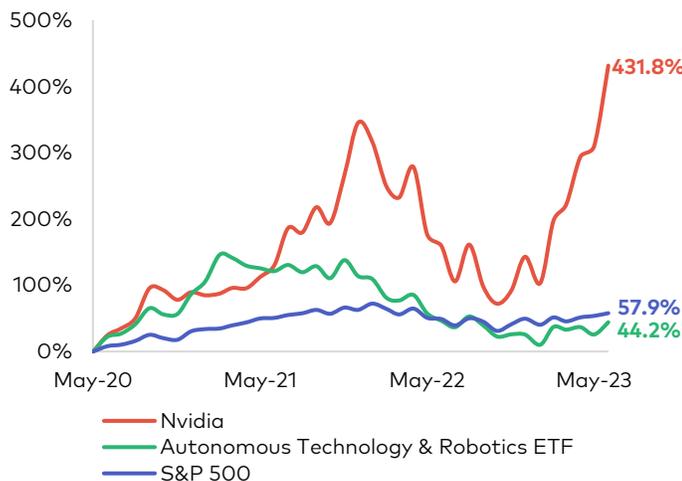
Company description

NVIDIA is the leading chipmaker company based in the US, specialized in design and manufacturing of graphics processing units (GPUs), central processing units (CPUs), and system-on-a-chip technologies. Company's products target numerous industries, including automotive, consumer electronics, gaming, and datacenters. Major geographic markets for NVIDIA are the US, China, and Taiwan. Over the past five years, company revenue has grown by CAGR of 22% and is expected to grow by CAGR of 24% in the next three years. Net income margin, although roughly unchanged since 2018, are expected to increase from 36% in 2022 to 48% in 2025. On a general note, NVIDIA has shown significant success in its traditional segments (i.e. non-AI) as well. The company beat both top and bottom line expectations in 1Q23, delivering the quarterly EPS of \$1.1 vs \$0.9 forecast.

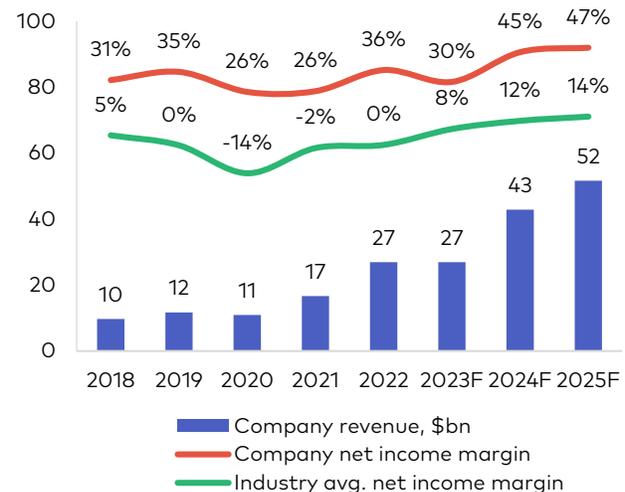
Company involvement in AI

The latest quarterly results from NVIDIA demonstrate company's positioning as a leading chip supplier for AI systems. For instance, the AI highlight of 2023 - ChatGPT - was trained on NVIDIA GPUs. In addition to chip manufacturing, NVIDIA has also introduced a new supercomputer platform, DGX GH200, which aims to build generative AI models (generative AI is a technology that produces visual, textual, or audio content). DGX is effectively a programming tool that enables programmers to communicate with computers in plain English. As the company CEO noted, the sophisticated language model used in DGX will allow 'everyone' to program apps or other digital products.

Stock 3-year performance



Company revenue and profit margin



Source: Bloomberg, S&P Capital IQ

ETF single stocks

DE			Deere & Company	Overview	Performance	Valuation	Financials
			Farm & Heavy Machinery	USA Country	-10.0% YTD	11.8 Fwd. P/E	1.3% Dividend yield
\$381.8 Current price	\$441.8 1Y Price Target	15.7% Implied 1Y upside		\$111bn Market cap	\$287-\$443 52-week range	0.9 PEG	\$29.8 TTM EPS
				82,200 Nmb. of employees	143.0% 5Y return	1.8 P/S	43.1% ROE
				1837 Year founded	1.03 Beta	5.0 P/B	2.6 D/E

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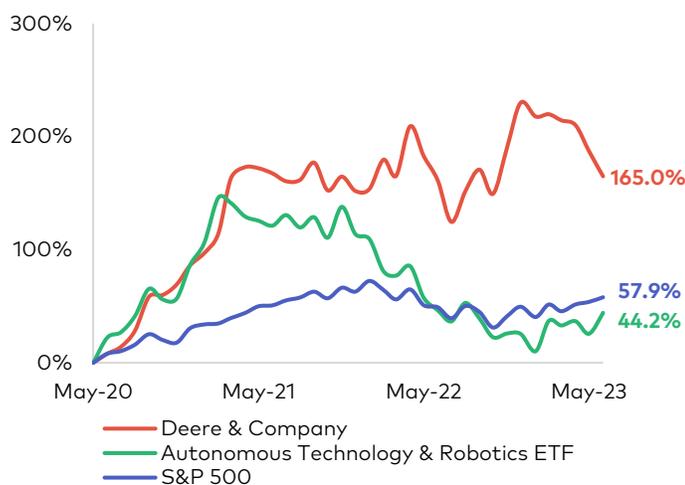
Company description

Deere & Company is a leading manufacturer and distributor of heavy machinery and general equipment for agriculture, construction, and forestry industries. Some of the company's most notable products include tractors, combines, seeding and harvesting technologies, and sports turf care equipment. The company also has financial services segment, which sells and leases products to customers, while also providing wholesale financing solutions to dealers. Company revenue has grown by CAGR of 7.5% from 2018 to 2022 and is expected to grow by CAGR of 1.9% in next three years. Outlook for company's net income margin is also positive, with expected 2.9 percentage point increase to 16.5% by 2025.

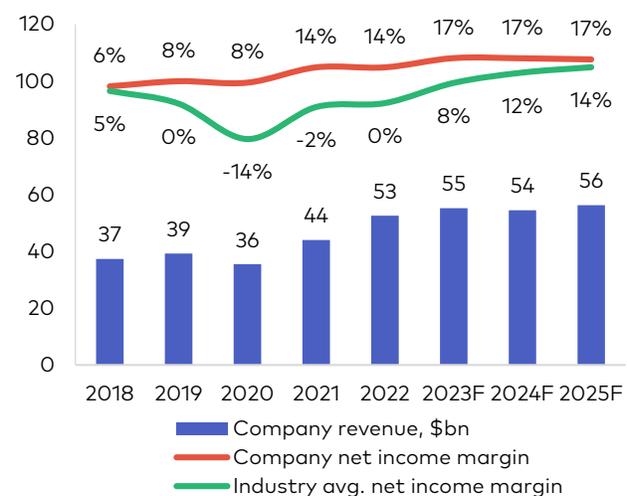
Company involvement in AI

Deere & Company has successfully integrated AI systems in farming machinery and farming management applications. The high precision AI-based equipment can autonomously complete core farming operations, such as seeding, harvesting, irrigation, etc. These technologies can detect and analyze different grain types, as well as external conditions, such as wind speed and direction and slope of the harvested ground. Sales of such equipment have been catalyzed by the rising prices of corn, wheat and other soft commodities, which boosted profits for farmers and allowed them to replace the old equipment with the new ones.

Stock 3-year performance



Company revenue and profit margin



ETF single stocks

AVAV			AeroVironment		Aerospace & Defense		Overview	Performance	Valuation	Financials
\$98.2	\$113.3	15.4%	USA	17.1%	47.6	0.0%	Country	YTD	Fwd. P/E	Dividend yield
Current price	12M Price Target	Implied 1Y Upside	\$2.5bn	\$76-\$109	N/A	-\$0.3	Market cap	52-week range	PEG	TTM EPS
			1,219	60.9%	5.0	-1.4%	Nmb. of employees	5Y return	P/S	ROE
			1971	0.6	4.0	0.3	Year founded	Beta	P/B	D/E

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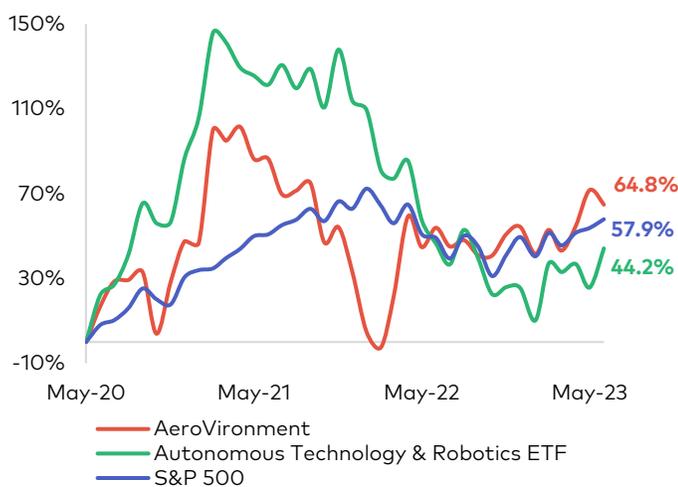
Company description

AeroVironment designs and manufactures a wide range of military robotic systems for government agencies and businesses (primarily for the US Department of Defense and to the international allied governments). The company has four segments, including Unmanned Aircraft Systems (UAS), Tactical Missile Systems (TMS), Medium Unmanned Aircraft Systems (MUAS), and High Attitude Pseudo-Satellite Systems (HAPS). AeroVironment also provides support and maintenance services for customers. Company revenue has grown by CAGR of 11% from 2018 to 2022. Expected CAGR for the next three years is 16%. Net income margin, although negative in 2022, is expected to reach 10% in 2025.

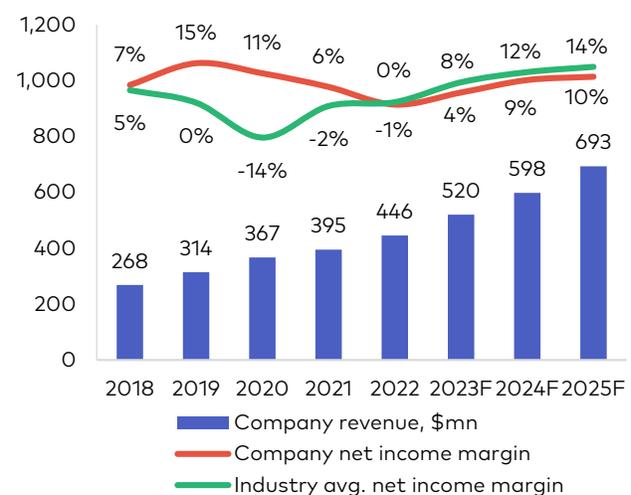
Company involvement in AI

Aerospace and defense stocks have rallied in past two years in the face of Russia-Ukraine war. Heightened geopolitical tensions imply greater potential demand for modern war technologies, suppliers of which are very few and enjoy strong competitive advantages. Similarly to Lockheed Martin (LMT) and Textron (TXT), AeroVironment produces such military technologies. Moreover, the company specializes in manufacturing of AI-based drones and general unmanned equipment, which have become one of the most highly used pieces of technology in modern day combat.

Stock 3-year performance



Company revenue and profit margin



ETF single stocks

IRDM Iridium Communications Telecom Services			Overview	Performance	Valuation	Financials
\$64.1 Current price	\$73.5 12M Price Target	14.7% Implied 12M Upside	USA Country	21.4% YTD	157.5 Fwd. P/E	0.8% Dividend yield
			\$8.0bn Market cap	\$35-\$67 52-week range	53.0 PEG	\$0.12 TTM EPS
			1,219 Nmb. of employees	304.5% 5Y return	10.4 P/S	1.4% ROE
			1971 Year founded	1.08 Beta	7.5 P/B	1.4 D/E

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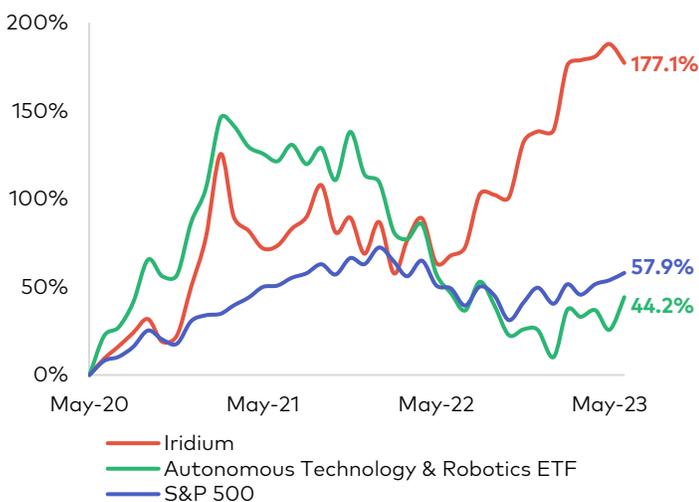
Company description

Iridium Communications is a global provider of mobile voice and data communication services and products. Its clientele includes businesses, governments (both in the US and internationally), non-governmental organizations, and consumers. The company offers various services, including postpaid and prepaid mobile voice and data satellite communications, push-to-talk, broadband data, and Internet of Things (IoT) services. Additionally, Iridium Communications provides hosted payload and data services, such as satellite time and location services, connections to the public switched telephone network, short messaging services, and subscriber identity module services.

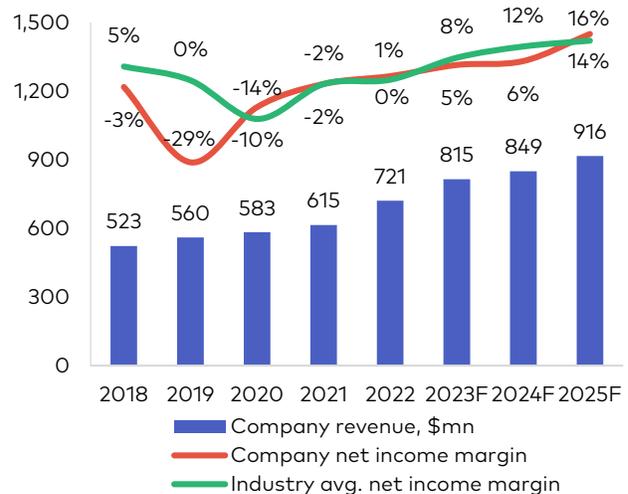
Company involvement in AI

In December 2022, company announced the launch of Iridium Messaging TransportSM, which is an AI-based, cloud-native networked data service aimed at simplifying the incorporation of satellite connections into new or existing Internet of Things solutions. IMT offers a specialized IP data transport service tailored to the unique capabilities of the Iridium network, specifically catering to small and medium-sized messages necessary for satellite-based IoT applications. By leveraging integration with Iridium CloudConnect and Amazon Web Services, this innovative service enables cost reduction and faster time-to-market for new IoT devices that are part of the Iridium Connected ecosystem.

Stock 3-year performance



Company revenue and profit margin



ETF single stocks

TRMB Trimble Scientific & Technical Instruments			Overview	Performance	Valuation	Financials
\$51.2 Current price	\$55.4 12M Price Target	8.3% Implied 12M Upside	USA Country	1.1% YTD	17.5 Fwd. P/E	0.0% Dividend yield
			\$12.3bn Market cap	\$46-\$72 52-week range	2.7 PEG	\$1.9 TTM EPS
			11,825 Nmb. of employees	48.2% 5Y return	3.4 P/S	11.7% ROE
			1978 Year founded	1.20 Beta	3.0 P/B	0.5 D/E

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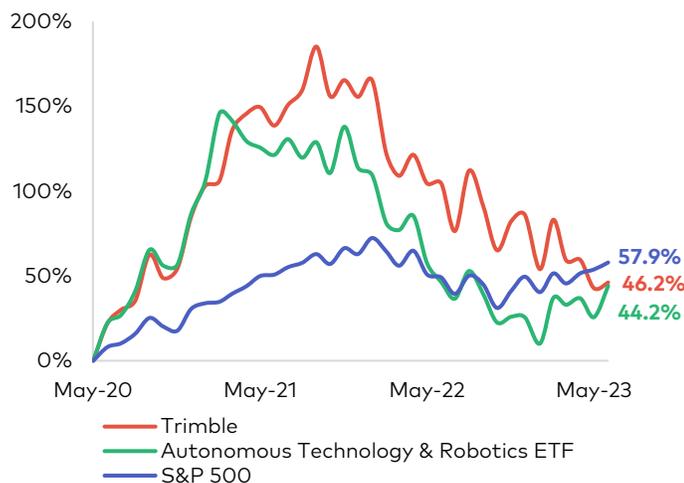
Company description

Trimble delivers technology solutions on a global scale, empowering professionals and mobile workers in various industries to enhance and revolutionize their work processes. Trimble's Geospatial segment specializes in surveying and geospatial products, as well as geographic information systems, catering to diverse needs in these domains. Meanwhile, the Resources and Utilities segment focuses on precision agriculture products and services. In Transportation segment, Trimble provides a comprehensive suite of solutions for the long haul trucking and freight shipper markets. This includes mobility solutions encompassing route management, safety and compliance, end-to-end vehicle management, video intelligence, and supply chain communications.

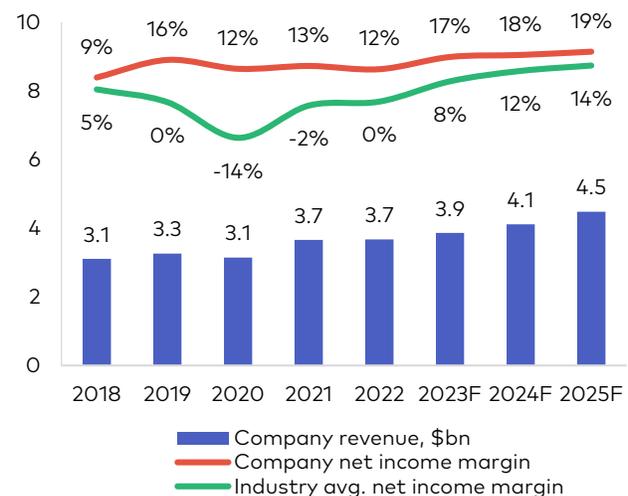
Company involvement in AI

Trimble's recent involvement in AI field features Dispatch Advisor, which aims to facilitate the decision-making process in asset allocation. By examining a vast quantity of loads and equipment, this tool evaluates all potential matches and provides the optimal ones based on various data points such as location, time windows, driver Hours of Service (HOS), and more, along with the rationale behind the recommendation. In addition to streamlining the process of assigning matches based on readily available information and intuition, these algorithms enhance load planning accuracy compared to manual methods. Consequently, dispatchers and load planners can save time while making more precise decisions.

Stock 3-year performance



Company revenue and profit margin



Source: Bloomberg, S&P Capital IQ

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