



JM FINN

Investment | Wealth

JM Finn Special Report: The Rise of the US Tech Titans

Contents

- 5 The Rise of the US Tech Titans
- 6 Key Takeaways
- 8 Report
- 18 Glossary



The rise of the US tech titans: harnessing the power of AI

At JM Finn, the backbone of our investment approach is robust and thorough company research – and we believe there is no substitute for meeting companies in person.

Senior Research Analyst Michael Bray recently visited 16 major US firms based on the West Coast – including many of those pioneering the world's adoption of artificial intelligence (AI). This special report explores the ways in which these companies are simultaneously changing the face of our everyday lives through AI, and striving to achieve a competitive advantage at the same time.

This report highlights some of the companies that were visited during the trip in September 2023. The trip and subsequent company visits were arranged by R W Baird who provide JM Finn with third party research. These reviews are designed to introduce the company: their inclusion in this report does not indicate an investment recommendation of any kind and simply serves to highlight JM Finn's focus on meeting the companies in which we invest our clients' assets.

Key Takeaways

Many companies we engaged with expressed genuine enthusiasm for the potential of generative AI (GenAI): artificial intelligence that can generate new content, like text and imagery, from a range of inputs. Most businesses view GenAI as a promising revenue driver rather than a cost-cutting measure.

Companies like NVIDIA are currently experiencing strong demand, because their graphics processing units (GPUs) provide the essential building blocks for AI application development. However, businesses that are integrating GenAI into their applications, like Microsoft with Copilot, are still in the early stages of deployment. It is therefore unclear how material GenAI will be to their near-term profits.

Skilled labour shortages

The tech industry's increasing complexity is outpacing the supply of skilled labour. This shortage presents an opportunity for AI to fill the gap, but is also likely to add further upward pressure on employee remuneration packages which remain a significant portion ¹ of company costs.

Integral role of hyperscalers in driving growth

The hyperscalers – Amazon, Microsoft and Google – play a pivotal role in the growth of tech companies. They own and operate large cloud data centres which enable companies to scale up their operations quickly and access computing power, like AI, which they wouldn't be able to via smaller on premise servers. Virtually every tech company we spoke to emphasised how important the hyperscalers were to enabling their businesses to grow.

Gartner widely used to benchmark quality in tech industry

Another interesting observation was that Gartner, an insights provider, holds significant sway in the tech industry with its ratings. Most tech companies we met referred to Gartner's ratings as evidence of their perceived product quality.

Overall these meetings provided valuable perspectives on AI, the tech industry, autonomous driving, cloud computing, logistics, and various other sectors, each poised for unique growth and transformation.

¹ Technology and the Skills Shortage (ft.com)

Tesla

Tesla considers its Full Self-Driving (FSD) and Autonomy technologies as its most significant value creators over the long-term. Tesla holds a unique position in the market: no other automotive company is pursuing its end-to-end AI approach that requires amongst many things a huge fleet of cars that collect vast troves of data which can be used to train its proprietary AI models. Whilst Tesla currently charges US\$15,000 upfront for FSD, the technology isn't fully up to spec yet and the timeline for it becoming a significant revenue generator remains uncertain.

Tesla's Dojo supercomputer utilises AI technology to train its driverless cars. It uses some custom chips to do this, but does need NVIDIA's GPUs as well.

Tesla's ambition is to precipitously reduce production costs to go after a wider cohort of drivers and target markets like India and Brazil. They believe they can do this if they get the cost of production per vehicle down to US\$20,000 from the current US\$37,000 and are optimistic on their prospects. Their electric motors remain efficient in terms of performance and cost, giving them an advantage versus legacy automotive names.



Furthermore, Tesla's market share in the global electric vehicle (EV) market is around 20%, which represents a 4% penetration of total global auto sales, providing the business with plenty of runway to grow.

NVIDIA

NVIDIA are currently the dominant player in providing the infrastructure which enables AI applications to be developed and used. Their GPU hardware enables AI training and inferencing to be conducted, whilst their software platform CUDA provides a toolkit for developers to create AI applications. CUDA is the de facto platform of choice for over 4M developers; NVIDIA's decision not to monetise CUDA directly has led to its widespread adoption by developers and makes it difficult for rivals to compete as CUDA can only be used on NVIDIA's GPUs.

NVIDIA's AI-related sales are primarily captured within their Data Centre segment, in which they sell GPUs to the hyperscaler cloud providers. Moreover, NVIDIA's focus extends beyond data centres. Their GPUs are now embedded in 'edge devices' which collect or communicate information – like drones and autonomous cars. The demand for AI continues to grow, driven in part by innovations like GenAI language tool ChatGPT, which has proven valuable for various applications.

The company believe we are still in the early stages of GenAI and expects the size of AI models to grow exponentially. NVIDIA has played a pivotal role in increasing the performance of GPUs each year over the past decade and believe it can continue doing so moving forward. This pace of innovation has surpassed 'Moore's Law',



the theory that the number of transistors on a microchip doubles every two years, thus increasing their computational power.

NVIDIA's long-term strategy has been to create new markets rather than displace existing ones. This has given the company a first mover advantage and has enabled the business to enjoy commanding market shares. They have the patience and resources to invest in areas like autonomous vehicles and healthcare AI, which could offer large growth opportunities if they are successful, but currently are not profitable.

Cadence Design Systems

Cadence is a major player in the Electronic Design Automation (EDA) software market for semiconductor chips, with a 30% market share². Their suite of software is used in the development of the whole lifecycle of a chip including its design and verification, with the latter involving simulations to assess its performance in various real world settings. The company employs a substantial amount of technologists, with 9,000 out of 11,000 employees engineer trained.

Several factors are driving the expansion of Cadence's total addressable market. These include:

1. The growing size of the semiconductor industry as more chips are demanded due to the proliferation of technology such as AI, 5G and Internet of Things;
2. The increasing complexity of chip design as Moore's law slows and performance requirements increase, which also opens up opportunities for higher margin AI products; and
3. Growing demand from non-traditional semiconductor companies, like Apple, to design their own application-specific integrated circuits (ASICs) in order to optimise hardware performance.



As a result, Cadence see a pathway to the industry doubling its spend on EDA software as a percentage of revenue. The business does not see a near-term ceiling to operating margin expansion and is focused on achieving incremental margin on revenue growth.

Microsoft

Microsoft are well placed to capitalise on AI in two ways: by providing the cloud infrastructure which supports AI applications and by integrating AI into their own applications, like its Office365 suite, with a product known as Copilot. Copilot can be used in a number of different use cases such as creating slides from a Word document or drafting an email response to a customer based upon an individual's writing style. It is however being priced at a premium, 50% above the highest-tier M365 package (E5). This price point means uptake may take time but feedback from customers on the beta trial has been very positive and has informed Microsoft's pricing decision. The install base of 160 million Microsoft365 users does also provide an ample runway for Copilot growth, but there is still uncertainty on its uptake potential.

On the infrastructure side, Microsoft continues to see strong demand for their Azure cloud platform, with growth rates currently nearly double that of Amazon Web Services, although this is from a lower base. AI forms part of Azure's sales, and the company believe they have worked hard over the past decade to offer a comprehensive solution to enterprises.



² Cadence: Leading Electronic Design Automation Software For Semiconductors (NASDAQ:CDNS) | Seeking Alpha

Salesforce

Salesforce, an enterprise software company, is exploring the potential of GenAI but did admit it is still early days for the technology. They see the most obvious use case in autonomous agents in their Service Cloud business, which could reduce the need for businesses to employ customer service agents.

A significant shift in Salesforce's strategy is a newfound emphasis on profitability. Historically, the business was geared towards driving revenue growth in a 'land grab' strategy at the expense of profitability. However, with the changing interest rate environment, the company has changed tack and is focusing on profitable growth. Salesforce were keen to highlight that this has involved a significant cultural shift across all levels of the business and has involved significant cost cutting, but management are confident that they can achieve further operating margin expansion. The risk of cost cutting is that this could impact business investment and in turn revenue growth. Salesforce believe that recent cost cuts have streamlined the business following corporate bloat from the pandemic period and has not been to the detriment of business growth.



Prologis

E-commerce and grocery represent long-term secular drivers for the logistics industry, as online shopping continues to grow. Logistics providers like Prologis benefit from increased demand for warehousing and distribution space.

Prologis expects market rent growth to normalise after a surge in 2021 and 2022. This normalisation, or slowdown in rental growth rates, has been stronger than expected but occupancy rates do remain high. They have pricing power due to limited options for customers and anticipate negotiations to evolve by customer type.

The company believe revenue management will evolve toward negotiating with customers based on their unique needs and demographics. Automation may not significantly reduce the demand for logistics facilities, as uniformity is essential for effective automation.

Interestingly, Prologis is also seeing good demand for its essential businesses, where it is fitting solar panels to the roofs of its warehouses and also running collective buying schemes on behalf of tenants, for items such as forklifts. Management believe this model positions the business as more of a partner than commodity provider for customers.



Fortinet

Fortinet is among leading vendors in cyber security, and one of the major players within firewall security, taking significant market share in recent years. It ranks as the top firewall choice in over 100 countries³. Its growth has primarily been organic, avoiding costly acquisitions and has been focused on in-house product development. Although time consuming, this allows their appliances to be governed by a unified operating system, allowing for a more integrated end-to-end solution.

Fortinet's footprint is much different to rival Palo Alto – 60% of revenue comes from markets outside the US, and customers are primarily small and medium sized businesses. Brand perception in the US lags behind Palo Alto Networks, primarily due to its later inclusion in Gartner's Magic Quadrants competitive analysis tool which enterprise customers often consult for guidance. Fortinet's graphical user interface (GUI) also has a steeper learning curve, but customer loyalty is high once proficiency is achieved and firewall performance, in terms of throughput, is said to be 3-10x better than rival products. This is underpinned by what Fortinet see as their key differentiator, their application specific integrated circuits (ASICs) which are designed in-house.

Investor misconceptions about computer firewall markets, driven by the remote work shift, have led to the mistaken belief that hardware firewalls are declining as corporate networks transition to the cloud. In reality, every company still relies on headquarters and branch offices, necessitating firewall protection. Furthermore, the demand for firewall processing has surged due to continued data consumption growth and the shift towards heavier encrypted data and Secure Sockets Layers, which secure links between devices. This demand extends to diverse use cases such as Internet of Things (IoT), and 5G devices.

It is estimated that there will be a significant increase in ransomware-related costs, which could reach a staggering US\$265 billion by 2031, indicating a 30% compound annual growth rate over the next decade. The evolving sophistication of malware attacks and extortion activities by perpetrators contributes to this alarming trend.

Another tailwind is vendor consolidation. Chief Technology Officers (CTOs) at all enterprise sizes are grappling with increased IT costs and the increasing complexity of managing various systems from different vendors. With their range of cybersecurity solutions, Fortinet are well positioned to benefit from this trend.

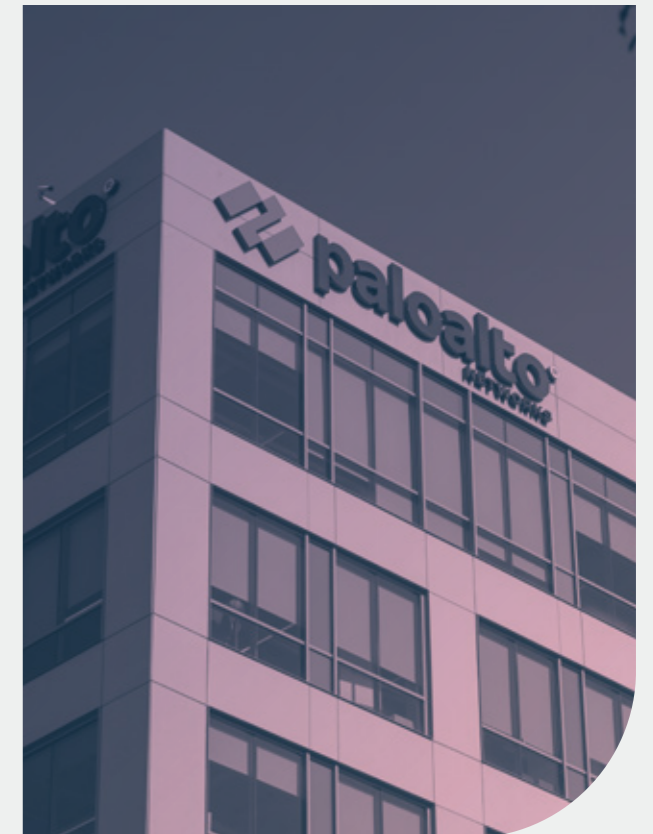
³ Redburn Atlantic

Palo Alto Networks

Palo Alto Networks is the largest and most diversified pure play cyber security company. It comes at a premium price point which can be more than double that of Fortinet but stands out with a user-friendly interface, excellent customer support, and a strong brand image.

Palo Alto has however pursued a growth at all costs strategy, making many expensive acquisitions to ensure it has a foothold in every fast growing market within cybersecurity. The business also remunerates employees heavily with stock-based compensation (SBC) which has a significant impact on its operation margin. When looking at Palo's operating margin excluding SBC, it is 24%, including SBC it is 6%, this a huge difference in profitability!

Although other companies on the trip were more positive on GenAI, Palo Alto sees limited use cases in cybersecurity where a security response needs to be instantaneous like with 'precision' AI.



AMD

Advanced Micro Devices (AMD), by their own admission, are a distant #2 to NVIDIA in the AI GPU market. The hyperscalers, who are the primary customers for GPU AI related sales, are well aware however of their dependency on NVIDIA. As a result, AMD say they have never in their history had their customers want them to do so well. This is to the extent that hyperscalers are willing to take the burden of GPU software development, allowing AMD to focus on hardware, in contrast to NVIDIA which offers off-the-shelf integrated hardware and software solutions.

AMD acknowledge that NVIDIA have a ten year start on them in the AI GPU market, but believe they can become a strong #2, which in a market expected to be worth US\$150 billion by 2027, could still account for a meaningful amount.

The company also believe their core central processing units (CPUs) business will continue to grow, even given the growing importance of GPUs, a view which has also been voiced by Microsoft and NVIDIA. AMD's CPU value proposition remains strong through a combination of high performance



and cost efficiency. The company believe they have comprehensively beaten Intel in the faster growing cloud CPU market, but acknowledge that displacing Intel CPUs in the on premise enterprise CPU market is more challenging.

ServiceNow

ServiceNow ('NOW') operates in a unique space within enterprise software. Rather than competing directly, against 'system of record' software companies like Workday and Salesforce, NOW sits above them and serves as a unifying platform. This allows data to be shared between what have historically been siloed software platforms, allowing processes to be automated. For example if an employee at a multinational company was moving from London to New York, around 30 different systems of records would normally need to be utilised to facilitate the move, including facilities, finance, IT and security. With ServiceNow this whole process can be automated with a simple input into its platform.

NOW can therefore bring productivity benefits to organisations, demonstrated by its high retention rates and strong organic growth profile, which has primarily been driven by upselling to existing customers. The downside of NOW is its premium pricing. The company says that this is an issue for some customers, but with 90% of enterprise IT budget people costs, they point to numerous use cases which show they save businesses money within a fairly short time frame.



NOW view their differentiator as having a single platform code, unlike some competitors like Salesforce, who say they are a platform company but have stitched disparate systems. The benefits of this include better user interface, more efficient product maintenance and reduced development costs.

Glossary

Application specific integrated circuits (ASICs): a circuit integrated into an electronic device.

Artificial intelligence: computer science used to complete tasks and solve problems that have previously required human intelligence.

Cloud computing: on-demand computing services such as storage over the internet.

Cloud storage: data that is hosted on a network of remote storage systems.

Data centre: a building or a space within a building where computer or telecommunications systems are stored.

Electronic Design Automation: software or hardware used across the entire design and manufacturing process of making semiconductor chips.

Firewall: a system to protect devices from viruses and hackers.

Full Self-Driving (FSD): autonomous driving

tools and technologies such as self-parking and self-driving.

Graphics processing unit (GPU): an electronic circuit used to process computer graphics and images.

Graphical user interface (GUI): the user interface of a device such as a computer or smartphone.

Semiconductor chips: tiny microchips that conduct electricity which are used in electronic devices.

Internet of Things: devices containing technology that enables them to communicate and exchange data with other devices through the internet.

Please note that the value of securities may go down as well as up and you may not receive back all the money you invest. Past performance is not a reliable indicator of future results. Any views expressed are those of the author. You should contact the person at JM Finn with whom you usually deal if you wish to discuss the suitability of any securities mentioned.

This is a JM Finn marketing communication which constitutes non-independent research as defined by the FCA. It has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to the regulatory prohibition on dealing ahead of the dissemination of investment research. However it is covered by JM Finn's own research conflicts of interest policy which is available on the JM Finn website at www.jmfinn.com. JM Finn and JM Finn & Co are a trading names of J. M. Finn & Co. Ltd which is registered in England with number 05772581. Authorised and regulated by the Financial Conduct Authority.

