

Asia tech opportunities abound

The region is the nucleus of the global semiconductor supply chain, and innovations in the region promise to transform economies in multiple sectors

ROUNDTABLE PANELLISTS

■ **Yash Patodia**, partner and portfolio manager, Wellington Management

■ **Julie Koo**, managing director and head of Citi Investment Management sales, Asia-Pacific, Citi Private Bank

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ASIA serves as a fertile hunting ground for promising technology investments. The region is the nucleus of the global semiconductor supply chain, and innovations in the region promise to transform economies in multiple sectors. We ask our panellists what they see as the most promising investment opportunities in Asia technology now and for the foreseeable future.

Question: What themes are most investable in the Asia technology space in 2022?

Yash Patodia: We are most excited about 3 themes:

1) Electric vehicles (EVs): The penetration of EVs is accelerating – these cars are not only more environmentally friendly, but also pack in more innovation than we have seen in the prior several decades. This opportunity has made the market very competitive – China alone has 300 EV makers. We believe there are investment opportunities beyond high-profile brands – in the infrastructure providers.

2) Metaverse: The metaverse is a persistent, real-time virtual world with immersive experiences that will represent a step change in technological innovation. However, we caution that despite the hype, it is still very early (most do not even agree on the definition). Only 10 million virtual reality devices, a key mode of access to the metaverse, were shipped in 2021, compared to 1.4 billion smartphones.

The building blocks for the metaverse are yet to be put in place, that is why we believe the opportunity lies in infrastructure and content. Delivering a compelling metaverse experience requires a step change in processing power, connectivity speed, graphics capabilities, and many core infrastructure elements. These areas are investable today. On the content side, companies with strong and recognisable entertainment franchises and game development know-how, can develop metaverse-like experiences today to deepen engagement with their fans.

3) Automation and industrial digitisation: Globally, an aging population has led to a structural labour shortage exacerbated by the pandemic as many people choose alternate careers. The resulting rise in labour costs makes automation an attractive long-term solution by acting as a deflationary force. We believe that advances in robotics such as collaborative robots (cobots), enhanced machine vision, navigation, and artificial intelligence (AI) have broadened the use case and brought us to an inflection point for adoption.

Julie Koo: We are positive on the growth outlook for the Asia technology sector despite volatilities ahead. It will be important for investors to take a medium to long-term view, but also look for diversified exposures to quality companies with demonstrable moats. Against this macro backdrop, we are focusing on the following 3 key categories which are expected to deliver sustainable growth and double the intrinsic value of the Asian tech sector in the coming 3 to 5-year horizon:

1) Internet: The sector has been hit hard by China's regulations last year, but we believe leading companies are making necessary business adjustments and will continue to grow their dominance. Considering the business opportunities in cloud and AI, Internet companies will remain an important innovative force in driving China's digitalisation.

2) Hard technology: There are sizable industrial technology companies around clean energy value chains and component suppliers, such as EV batteries, energy transmission and storage system. For example, the top 2 Chinese EV battery companies – CATL and BYD – account for 40 to 50 per cent of global supply, and Chinese solar companies supply 70 to 80 per cent of global demand.

3) Technology supply chain re-positioning in Asia: This is a trend we are not only seeing regionally but also from the large US tech giants. Asia's large digital consumer base, the low cost of labour, availability of skilled talent pool, robust infrastructure, and investor-friendly regulations all support this trend.

We are also asking clients to add more technology exposure via alternatives as a

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diversification. While any sustained declines in public market valuations will filter into the private markets over time, this allows the opportunity to invest in quality and innovative companies at attractive prices.

Akihisa Sekiguchi: Well, that is a very broad question but everything in this field is exciting these days. Semiconductor devices can be divided roughly into logic and memory devices. Historically in semiconductors, miniaturisation, also known as scaling, has driven the performance, energy usage, area needed, and cost per device, favourably. These days however, dimensions are so small for logic (nm in size) that one needs to choose a trade-off between PPAC (power performance area cost). If you do not want this trade-off, you need to innovate, and the industry has been doing just that. The industry has come up with major structural, material and layout changes in our devices in order to overcome this trade-off issue. Today's devices are more three-dimensional in structure, use many more materials, while we still pursue scaling. We have implemented new process technologies and a combination of these processes called integrations.

In the case of scaling, lithography, etch, cleaning and deposition are 4 consecutive key processes that need to be co-optimised for best performance. Fortunately, Tokyo Electron is the only supplier in the world that has equipment involved in all 4 processes.

On the memory side, NAND has already migrated from being a 2D to a 3D structure device. NAND memory capacity is increased by stacking more and more layers of memory cells vertically, around 200 layers or so for the current state-of-the-art devices. These are challenging processes for the etch and deposition tools. In DRAM, the 3D version of the device is expected in the market in about 5 years. We have been working with our customers very closely in order to make these things happen.

In terms of system integration, the kinds of heterogeneous device combination seem to be endless, thus driving hybridisation of devices for better system efficiencies. And we seem to have just as many ways to build them. It is just that we are a bit resource-constrained these days, given the surge in demand for semiconductor technology products worldwide.

We are also excited about the advances in AI hardware. We see both performance enhancement, as well as efficiencies in energy usage per operations.

The other paradigm shifter that we are keeping a close eye on is quantum technology. The recent advancements in the quantum computing road map is remarkable, and is bound to change the way the world evolves in a macroscopic way. Here, we may even need to manipulate the materials with atomic level engineering, which is beyond the requirement we will see on semiconductor devices.

Question: Technology investments have generated outsized returns, raising valuation concerns. What opportunities, if any, still lie in underappreciated slices of the tech space?

Patodia: Over the past few years, we have

observed a rise in “concept” stocks that are often unsustainable businesses with weak moats and high cash-flow burn. These have grabbed headlines but have been unattractive to us as valuations ran meaningfully ahead of fundamentals.

Specialty material is an underappreciated area – these complex materials are critical for the next generation of semi manufacturing. Another area is software-as-a-service companies benefiting from the digitisation of Japan. Many would be surprised to learn that Asia has 2,000 tech stocks versus 1,000 in the West, which presents a fertile fishing pond for well-resourced active managers. Moreover, Asia tech is at a meaningful discount to the West. On a forward-earnings multiple, Asia is close to the lowest relative multiple compared to the West in a decade.

Koo: Thematically, our CIO office remains overweight in sectors like cybersecurity, fintech and payment platforms where we expect stronger and more secure returns during this transitional market environment. The profit and revenue outlook, as well as the secular tailwinds support these sectors within the technology market.

Geographically, our CIO office believes there is relative value in China tech. Although investors are unsettled by the recent sizeable falls of Chinese technology stocks, fearing there could be a repeat of last year's regulatory crackdown, the “news” is actually not new and should be interpreted as a part of regulatory measures put in place in 2021.

Given the relatively attractive valuation, the current price drops could be viewed as potential buying opportunities. Looking at the forward price-to-earnings (PE) ratios for Stoxx Asia Technology versus the Nasdaq index, Asia is now trading at forward PE of 10x versus 25x for Nasdaq, or only 4 per cent of US tech, the largest discount since 2014.

The People's Bank of China is expected to further ease monetary policies, with both interest rate and RRR cuts expected ahead. This will be an important supporting factor for Chinese technology stocks this year.

Question: What is Asia's role in powering the ongoing growth in technology?

Patodia: Asia is at the heart of the global semiconductor supply chain, which is the supply chain for our phones, PCs, laptops, Internet of Things (IoT) devices, autos, and wearables. Some of the most critical steps in the semi manufacturing process take place in Asia. For example, one company in Asia is the only player globally that can develop critical inspection equipment for advanced chips. Asia is home to many such leaders that develop critical technologies, processes, and materials for cutting-edge products.

Asia has an opportunity to leapfrog the West in several industries because many emerging economies here are building infrastructure solutions on the latest technology, rather than being held back by decades-old infrastructure. For example, payment processing in China, India, and South-east Asia is substantially cheaper and more efficient than in the West, because the infrastructure was built with newer technologies.

Similarly, innovations in Asia are fueling the transformation of nearly every segment of the economy – from banking to utilities through sensors and software – and this disruption will continue, driving opportunities for the sector. Digitisation of users and companies is a multi-year trend.

One of the major benefits of active investing in Asia tech is having the ability to invest in smaller companies that can be leaders in long-term secular technology trends like 5G, electric vehicles, software and more. An active pan-Asian approach is necessary to access the full scale of the opportunity and participate in significant growth opportunities, which may be missing from regional and thematic strategies.

Koo: The depth and breadth of Asia's influence over the technology landscape has developed considerably over the past decade. There are 3 key roles that Asia plays in powering the ongoing technological growth:

1) Growing consumer demand: Asia's consumer markets continue to expand and digitise at a very fast pace. It is expected that Asia will account for more than half of the growth in global demand over the next 10 years. Many high-tech markets – including EVs, battery storage, and advanced displays – depend on Asia's market growth to achieve global scale.

2) Innovation: Asia plays an important role on the innovation front with global patent filings and in creating new startups. Areas where Asia already has strong foothold are mobile services, AI, IoT, and manufacturing equipment.

3) Providing manufacturing technology solutions across regionally and globally, as well as broadening their role in technology services. As demand for data grows in the race to 5G, IoT and the metaverse, the growth of data service needs is expected to show healthy year-on-year growth, where we expect the region to play a major role.

Sekiguchi: Asia is a huge market. According to sources, 4.5 billion people live in Asia as of 2018, and Worldometer lists that the top 8 countries by population are in Asia. It produces a large proportion of the world's information and communications technology (ICT) hardware, and is also an increasingly large user of the product. It has become evident in the past years that we need more semiconductor and integrated semiconductor production to meet the world's demand. Therefore, Asia needs to be the backbone of semiconductor manufacturing, in order to sustain the market growth.

However, there are challenges. We are increasingly aware of the need for “sustainable everything” in order to protect our environment. In other words, Asia needs to be the most efficient place to produce technology hardware. Our operation needs to be streamlined for efficiency; our wastes recycled for both cost and environmental concerns. We need to become the high-tech manufacturing hub that offers the best COO (cost of ownership) for the world.

Question: Please share with us the broad, long-term outlook for Asia, and technology in particular.

Patodia: Technology has revolutionised traditional industries and economies, posi-

tioning the sector for a long runway of secular growth. I think about Asia's role in tech as follows – growth, leadership, and localisation. Asia is one of the fastest-growing regions globally. It is home to most of the world's population, and the middle class will grow materially over the next few decades.

The leadership of Asian companies is underestimated – Asian companies are becoming more important not just in semiconductor design and manufacturing, but also in areas of entertainment (gaming), e-commerce (livestreaming), fintech (payments), et cetera. The growth in entrepreneurship is palpable in the number of unicorns and early-stage companies growing multi-fold over the past decade. This represents a rich pipeline of investment opportunities in the coming years.

We expect localisation in the Internet space as geopolitical tensions act as a catalyst for countries to store and process consumer data locally. This trend will create meaningful opportunity for domestic companies to serve Asia's large and dynamic consumer base. We expect a similar trend for software, where domestic companies that understand local nuances and develop tailored solutions will be poised to win longer term.

Koo: Asia is well poised to be the centre of gravity, if not already, when it comes to the future of technology. Factors contributing to this include the diversity of the region and the strong demographics. Today, Asia accounts for more than 50 per cent of the world's population who are younger and more digital.

We also increasingly see Asia building competitors to the US giants like Amazon and Google, with companies like Flipkart (India), Rakuten (Japan), and Kakao (Korea). While one can argue that some Asian technology companies still lack globality, they are catching up quickly and finding ways to expand their presence. However, the region's ability to sustain growth will depend on their ability to cooperate and form partnerships. For example, we see Asian companies building out their supply chains and making commitments to invest significantly in the region.

Conversely, in order for US tech giants to participate in the Asian growth opportunity, it will not only depend on their ability to invest adequately in the region and form meaningful local partnerships – they will also need to gain better understanding of local market factors.

Companies like Uber learnt the hard way that they needed to adapt their US model by considering local conditions like road congestion in a market like Indonesia. This left Uber struggling against local competitors like Gojek and Grab. Even streaming platforms like Netflix have to invest significantly to be relevant in the region by considering their pricing model, as well as ensuring they have sufficient local content.

Sekiguchi: Asia has been at the centre of semiconductor device production, from substrate to packaged products, for many years now, such as advanced foundries in Taiwan and South Korea, NAND and DRAM in South Korea and Japan, silicon substrate in Japan, advanced packaging in South Korea, Taiwan and China.

That position of Asian manufacturing leadership is not likely to change, although the current geopolitically-driven actions for ICT security is leading towards more localised self-sufficiency worldwide. I addressed the need for Asia to maintain that core competence in semiconductor manufacturing in the previous question.

But as we look to the future, the key is to distinguish self-sufficiency in leading-edge advanced semiconductor technology, versus what one may call the mature nodes. Mature nodes are relatively easier to produce, but also hard to compete with from a price point of view unless one produces in large quantities (simple economies of scale). Leading-edge nodes are very capital intensive and require many years of accumulated know-how and intellectual property. Asia has the incumbent advantage in advanced node development and manufacturing, and the expectation is that this is not likely to change anytime soon.

In order to ensure future growth for Asia, it needs to focus more on device design and application design. As Asia becomes more innovative in terms of proposing new devices and applications, we believe that Asia will have a better chance of sustaining and growing its leadership position in technology.

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