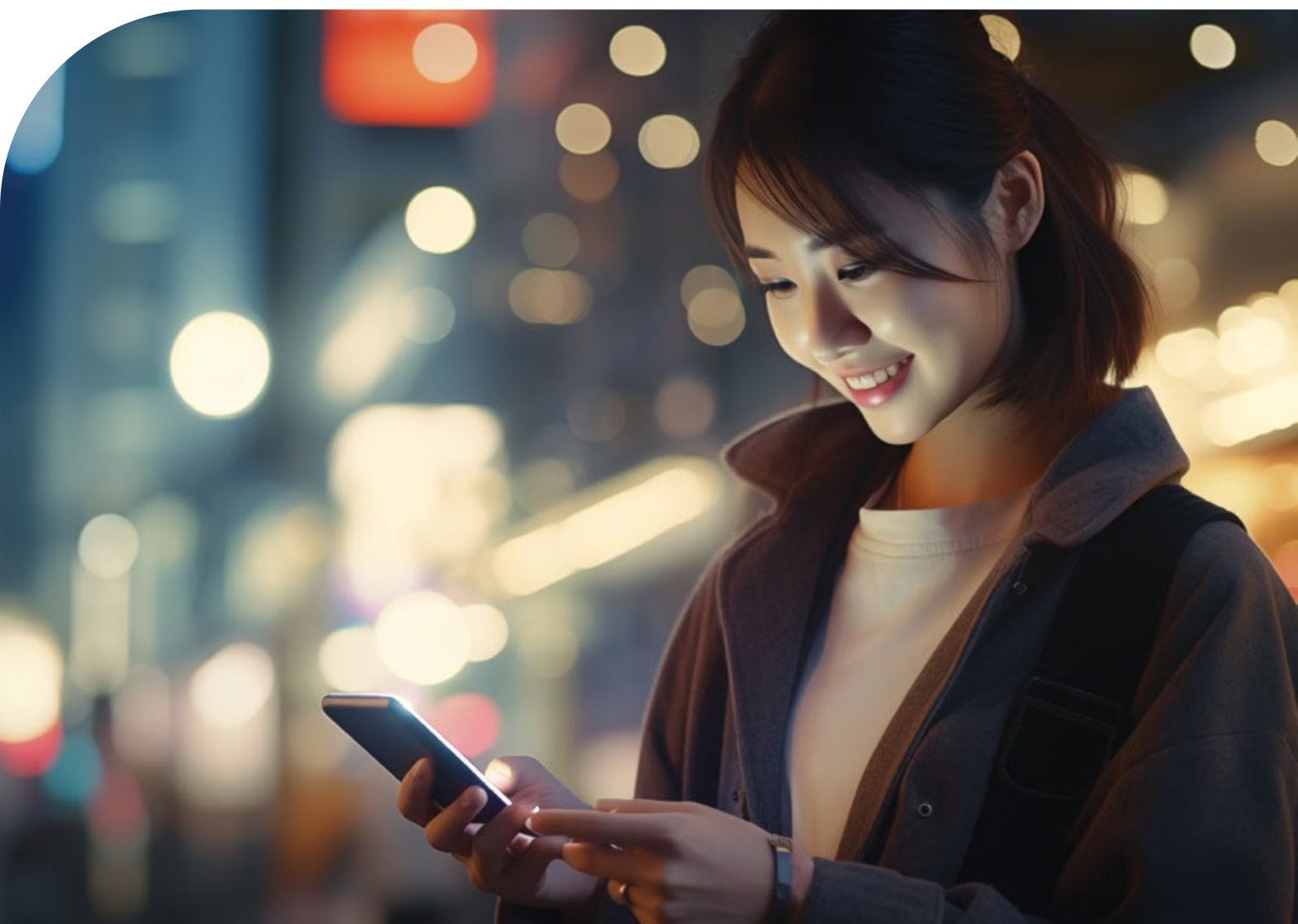


FEBRUARY 2024

For institutional, professional and wholesale investors only

## ARTIFICIAL INTELLIGENCE – EVERYBODY’S TALKING ABOUT IT



During a recent trip to Taiwan, companies across the technology spectrum spoke out about artificial intelligence (AI). Divya Mathur, Emerging Markets Portfolio Manager, met many firms operating throughout the technology supply chain and it is clear that AI is here to stay. If companies want to succeed, they need to adopt or enable. Within the technology sector in Taiwan, most companies are firmly in the 'hardware' camp which gives firms the building blocks to embrace AI.

Taiwanese companies are global leaders in technology, spanning several industry subgroups including semiconductors, hardware, electrical components, packaging/testing, and communications to name a few.

January's presidential election did not bring any major surprises to Taiwan's technology - like his predecessor, Lai Ching-te is supportive of cutting-edge industries, such as semiconductors and other AI enablers, but also has grand ambitions in the green/renewable energy space. The main influence on the technology industry will be from the business cycle and when there are technology shifts. Currently we're experiencing a cyclical recovery and new drivers of supply and demand, which will be important in determining future growth. The shift we're seeing includes AI, the metaverse, and blockchain, which are all being increasingly embraced by companies.

### With companies highlighting that AI was a regular feature, what were they saying about its inclusion?

There has been a lot of buzz around the rise of AI and specifically Chat GPT. This has had a direct impact on some companies through the increased need for accelerated computing capacity in cloud data centres. However, the impact has been narrowly felt and companies outside of cloud data servicing have yet to feel any lift.

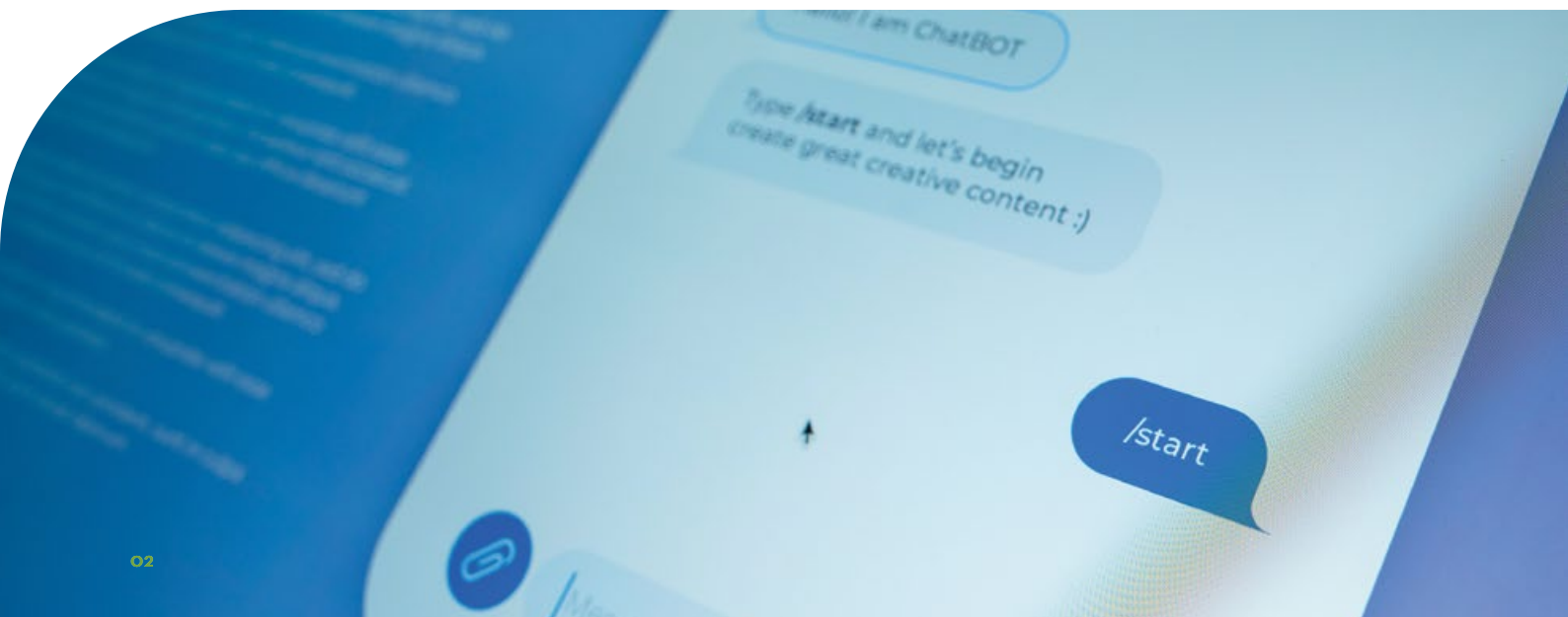
“ There has been a lot of buzz around the rise of AI and specifically Chat GPT. This has had a direct impact on some companies through the increased need for accelerated computing capacity in cloud data centres. ”



**Divya Mathur**  
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On the other hand, there is optimism and tangibility in generative AI to end user devices, such as smartphones and personal computers (PCs). This is likely to stimulate an increase semiconductor content per device. The impact is not limited to semiconductors. It will also lead to positive changes throughout the hardware ecosystem. Including increased processing and storage capabilities, and upgrades to peripheral computing hardware devices. It may also lead more quickly to replacement cycles for improved functionality, usefulness or productivity. An example of one such item is AI-enabled PCs. These were highly talked about during my trip, as companies highlighted that they are anticipating over 100 million AI-enabled PCs to be produced in 2025. They expect this to be supported by productivity enhancements and new applications.

Generative AI is expected to be increasingly on the edge (end user devices), supporting mobile dynamic random-access memory (DRAM) demand which is a positive for the memory market. Initially they expect this to impact high-end smartphones, then to filter through to more mid-range devices.

### How does this play out in the context of the technology cycle? When should we expect to see a change in market dynamics which captures this?

Typically, you can expect that around 18-24 months after the catalyst emerges. That hardware will emerge capable of handling this evolution. In the current case, we are already riding the wave of AI and technology companies are hard at work trying to innovate and capitalise on it.

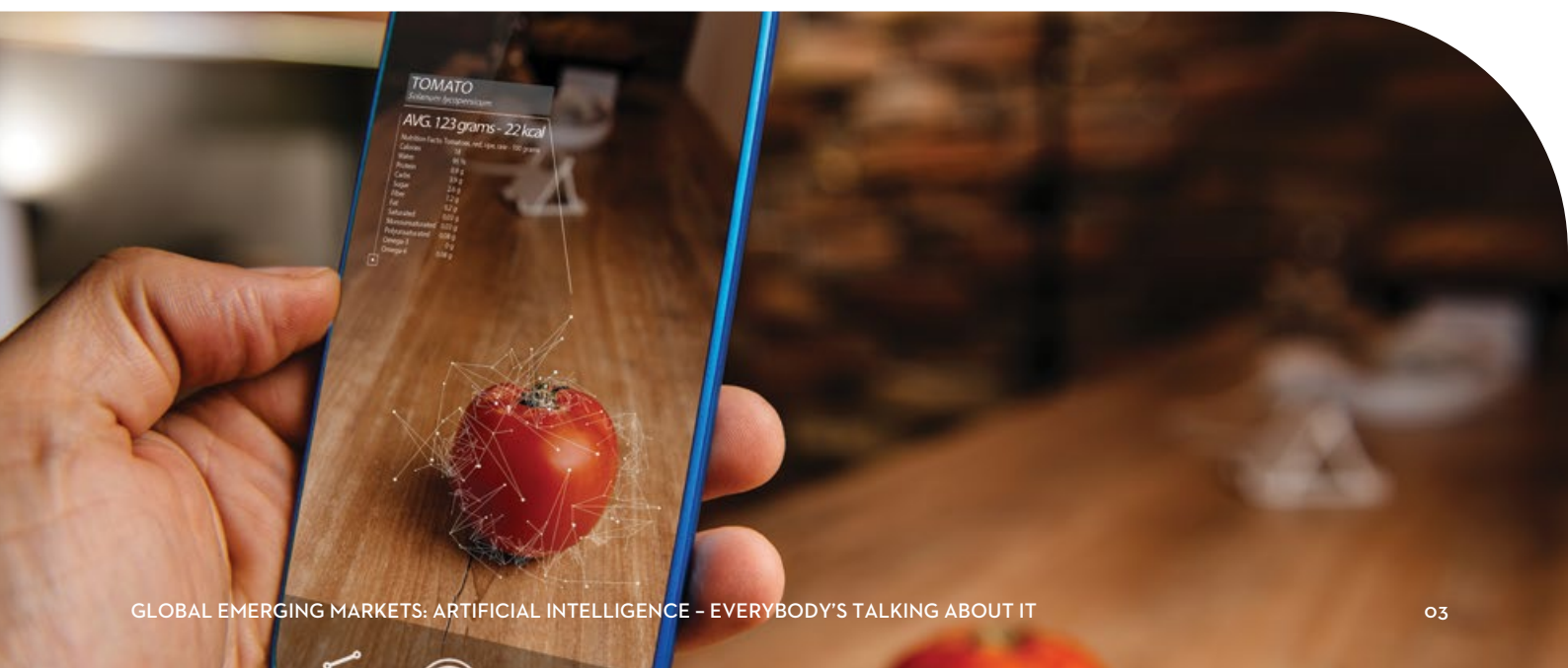
### So how long will it take to see the benefits of this filter down to end markets? How will the user experience change?

That depends on which end market, but broadly speaking, companies anticipate this being as early as the first half of this year for smartphones, and ranging to later this year or 2025 for some premium smartphones and PCs.

The use-cases for AI are wide ranging and in smartphones you might expect the impact to be in areas such as multimedia content creation, fast photo/video editing, speech to text technology, or language translation.

Recent smartphone launches highlight that AI-enablement of devices is already taking place. Features such as smart searching (e.g. images), live language translation, other natural language processing, and advanced photo editing showcase the developments in AI technology which are making their way into our pockets. In the coming years, these types of devices will become more widespread and will be the 'go to' during a replacement cycle. This is already driving shifts in the technology sector, creating opportunities for investors but change will not happen overnight.

Our focus on high quality companies with sustainable growth characteristics allows us to identify the long-term beneficiaries of this structural change. We are encouraged by the progress we see in this area and from the meetings we've had on the ground in Taiwan. We are excited for what the future holds.



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