

ASSESSING THE INVESTMENT POTENTIAL OF THE U.S.-VIETNAM COMPREHENSIVE STRATEGIC PARTNERSHIP

The Comprehensive Strategic Partnership (CSP) between Vietnam and the United States announced on September 10, 2023, marks a historic milestone in the bilateral relationship between the two countries. The CSP creates a framework for further cooperation and collaboration between Vietnam and the U.S. across a wide range of areas, including economic, trade, investment, science, technology, digital, education, energy, health care, and national security. While it will take some time to see how the newly enhanced relationship plays out, we believe there will be numerous benefits for businesses and investors.

Production of semiconductors as a priority. The U.S. has committed to supporting the development of Vietnam's semiconductor ecosystem, essentially from the ground-up, including regulatory framework, workforce, and infrastructure needs. Executives of the top U.S. semiconductor and technology companies including Google, Intel, Amkor, Marvell, and GlobalFoundries were all in attendance during President Biden's visit to Vietnam.

Vietnam's semiconductor industry is still in its nascent stage, with a primary focus on low-value tasks such as chip assembly, packaging, and testing.

In 2006, Intel was one of the first major U.S. companies to establish operations in Vietnam, and in 2021, it became the first U.S. company to open a chip testing and assembly factory in the country, with an initial investment of USD1bn. This is the company's largest testing and assembly facility in the world.

In 2021, Intel announced that it would increase its Vietnam chip investment by nearly 50% to approximately USD1.5 billion to manufacture 5G products and core processors, which use more complex technologies.

Currently, Intel Vietnam's facility is working on 13th Gen Raptor Lake and the next generation Meteor Lake, accounting for more than 50% of its global **production for assembly and testing**. This is a significant figure and Intel has plans to expand its assembly and testing capacity in Vietnam further. However, Intel may still turn to Taiwan's TSMC for more advanced design and manufacturing.

It's not just American semiconductor companies turning to Vietnam. Another major chip maker, Samsung, has also expanded its packaging facility in Vietnam. Samsung inaugurated a USD220 million R&D Center in Hanoi in December 2022. It is now testing ball grid array products (a type of surface-mount packaging) and intends to mass produce them at the Samsung Electro-Mechanics Vietnam factory in Thai Nguyen this year.

The recently announced USD1.6bn Amkor Technology factory near Hanoi is another major assembling, packaging, and testing chip factory in Vietnam, and the first phase is due to start

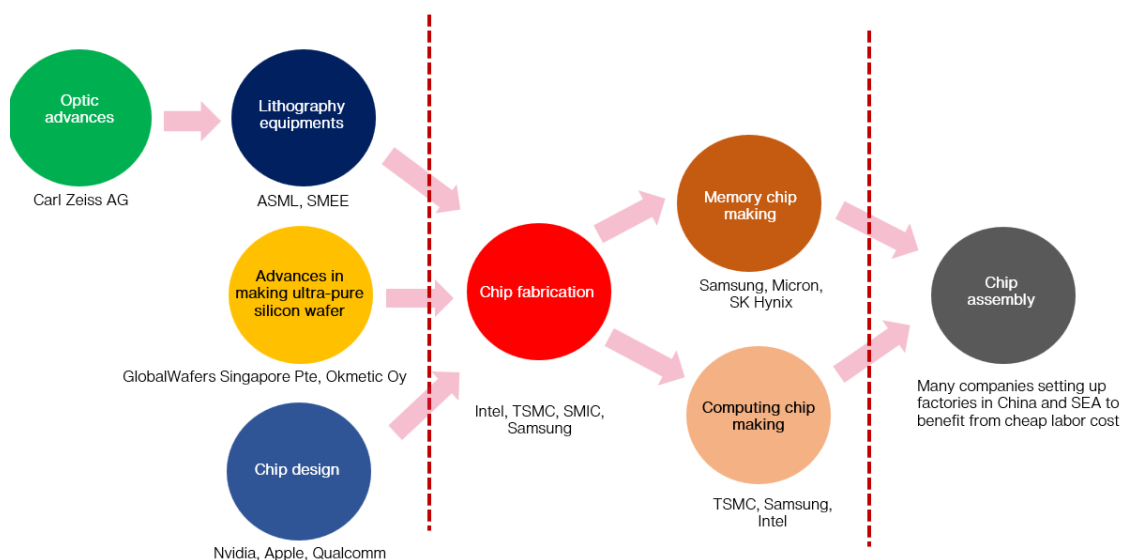
operation in October. Amkor Technology will invest USD1.6 billion between now and 2035 to build another plant in Bac Ninh Province. Amkor Technology Inc., founded in 1968, is a semiconductor product packaging and test services provider. As of 2022, it had approximately 31,000 employees worldwide and a reported US\$7.1bn in sales. Amkor is listed on Nasdaq with a market cap of USD5.4bn.

In terms of higher value tasks related to chip production, Synopsys, a U.S. chip design software maker that is among the largest in the world, is training electrical engineers in Vietnam and will donate software licenses for a chip design center to Vietnam. Marvell, a leader in data infrastructure semiconductor solutions, will open a new facility in Vietnam by the end of 2024. Marvell's work in Vietnam is primarily focused on high-speed data center optical connectivity, storage, and analog mixed signal semiconductor technology.

What are the ingredients for successfully building the semiconductor supply chain?

Taiwan was one of Asia's leaders in assembling semiconductor devices (testing chips and attaching them to plastic or ceramic packages) before it moved up the value chain to chip fabrication. Plenty of semiconductor industry jobs were created, but the country captured only small share of the profits, since most of the money to be made in the chip industry is by companies that design and produce the most advanced chips.

Figure 1: Global semiconductor supply chain



Source: VinaCapital, "Chip War" by Chris Miller (2022)

If we look at other East Asian powerhouses in semiconductors, such as Japan, Taiwan, Korea, and China, to build a chip fabrication plant requires the following ingredients: (1) abundant skilled workers at low cost, (2) strong leadership, typically from an expert in fab operation from industry-leading companies, and (3) substantial government support and financial subsidies.

A shortage of engineers is the first challenge Vietnam will need to address if it is to become a chip powerhouse. The expansion of the chip supply chain could continue bringing billions of dollars of new private and public investment to Vietnam's semiconductor industry. Vietnam, with 100-million-population, has only 5,000 to 6,000 trained hardware engineers for the chip sector, which falls significantly short of the expected demand of 20,000 in five years and 50,000 in a decade, citing estimates from companies and engineers.

Domestic companies are riding the wave of opportunity. FPT, a major player in Vietnam's IT sector, appears poised to capitalize on these recent developments. In September 2022, FPT launched its first designed chip, tailored for use in medical devices ([Link](#)). While its current semiconductor revenue is relatively modest, it is important to note that FPT also owns FPT Education, one of Vietnam's largest private universities, with around 100,000 students.

Based on our recent conversation with company executives, FPT is set to inaugurate a semiconductor department within FPT University. This endeavor will create a comprehensive curriculum and the recruitment of a proficient teaching team from international sources. FPT Education is well-positioned to facilitate the substantial expansion of and play a pivotal role in nurturing the next generation of talent in Vietnam's semiconductor industry.

Uncovering the potential of rare earths. Rare earths are important raw materials for chip production as well as batteries, and Vietnam has the world's second-largest reserves of rare earths, an estimated 22 million tons, second only to China, according to the United States Geological Survey (USGS). Vietnam has so far been unable to fully tap into its potential despite years of exploration. The CSP fact sheet issued by the White House specifically references opportunities for the U.S. to provide support to Vietnam to exploit these natural resources.

Beyond semiconductors, there are a range of newly announced initiatives in logistics and energy, education, science, healthcare, agriculture, and finance. Some specific partnerships/collaborations announced include:

- Vietnam Airlines announced that it will purchase 50 Boeing 737 MAX jets, in a transaction valued as high as USD10 billion.
- SSA Marine, a U.S.-based port operator, and Gemadept will collaborate on strategic port projects in southern Vietnam, including their joint interest in developing the proposed USD6.7 billion Cai Mep Ha Logistics Center.
- Vietnam Prosperity Bank (VP Bank) and Tien Phong Commercial Bank (TP Bank) secured loans of USD300mn and USD100mn, respectively, from the U.S. International Development Finance Corporation (DFC) to expand lending to SMEs.
- NVIDIA will partner with FPT, Vingroup and Viettel on AI development.

- Microsoft will make a generative AI-based solution tailored for Vietnam.
- A new pilot project in which Honeywell will work with a Vietnamese partner to develop Vietnam's first event battery energy storage system in Khanh Hoa Province.

INVESTMENT OPPORTUNITIES

As always with high level announcements of this nature, it may take some time to fully understand the benefits for Vietnamese companies, which could come in the form of increased market access, lower tariffs, and new opportunities to partner with U.S. corporates. We are currently evaluating the scope of the partnership to determine how we might be able to leverage this very positive and beneficial announcement into a compelling investment theme.

Our initial analysis suggests that the benefits will become clearer in the medium- and longer-terms. While some of the stocks held in the portfolios of our listed equities funds (e.g., those in IT, logistics, industrial parks) may benefit in the short term, we believe the expansive nature of this enhanced partnership will become more obvious in the years ahead. Increasing investment from U.S. companies would certainly be welcome, and as with other FDI, would bring new jobs at good wages, which further drives our longtime theme of investing in companies that are participating in and benefitting from increasing domestic consumption and economic growth. The focus on IT, semiconductors, AI, and other technologies could encourage Vietnamese startups in these fields; our venture capital team would certainly be interested in those that are developing solutions that play to this theme.

The CSP should not be viewed as an escalation of U.S.-China tensions

On a final note, some of the media analysis frames the elevated relationship in the context of U.S. versus China; we believe that is a somewhat simplistic view. The new relationship status – the highest of Vietnam's hierarchy – puts the U.S. on the same level as China as well as South Korea, India, and Russia, and we believe it should be viewed as a reflection that these countries have longstanding ties with Vietnam and are playing important roles in the country's growth. Vietnam has a long history of seeking good relations with countries that can assist and support its continued development.

CONCLUSION

The CSP is an important milestone for Vietnam and the U.S., and it holds a great deal of potential for further strengthening the relationship over the longer term. From an investment standpoint, we believe the benefits will become clearer and more compelling over time. Nevertheless, we believe this is a win-win situation for the people and businesses in both countries, and we are looking forward to seeing how it develops.

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