



Discussion Report Talking ASEAN

on

Southeast Asia in the Middle of Chip War:
Identifying Opportunities and Challenges

Jakarta, October 23th 2024



Introduction

On Wednesday, 23 October 2024, The Habibie Center (THC) convened the Talking ASEAN seminar titled “**Southeast Asia in the Middle of Chip War: Identifying Opportunities and Challenges.**” The seminar featured **Joegianto** (Advisory Board, Indonesia Chip Design Collaborative Center (ICDeC)), **Nurul Ichwan** (Deputy Minister for Investment Promotion, Ministry of Investment and Downstream Industry/Investment Coordinating Board), and **Edi Prio Pambudi** (Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs and the Head of the Semiconductor Ecosystem Preparation Task Force) —and was moderated by **Patrick Kurniawan** (Researcher of ASEAN Studies Program, The Habibie Center).

The objectives of the seminar were to: (a) discuss the dynamics and development of the chip war and its impact on Southeast Asia, (b) identify the opportunities and challenges for Southeast Asia in utilizing the rivalry for developing its semiconductor industry, (c) analyze the scope of semiconductor investment for foreign businesses in Indonesia, and (d) look at future scenarios for semiconductor development and its impact on Southeast Asia.

This discussion report summarizes each speaker’s key points and the following questions-and-answer session.

PRESENTATION FROM THE PANELIST



Joegianto


Advisory Board, Indonesia Chip Design
Collaborative Center (ICDeC)



Joegianto began the session with an overview of the essential role that semiconductors play in daily life. From personal devices to automobiles, semiconductors are at the core of countless applications. He highlighted sectors where semiconductors are currently seeing rapid growth, such as renewable energy and healthcare. Amidst the rising importance and demand for semiconductors, Indonesia remains heavily dependent on chips from other countries. In addition, a global chip shortage has further underscored this dependency. These concerns prompted the establishment of the Indonesia Chip Design Collaborative Center (ICDeC), a non-profit organization dedicated to developing human capital capacity in the semiconductor industry. ICDeC

currently partners with sixteen universities across Indonesia, including Institut Teknologi Bandung (ITB), Universitas Indonesia (UI), and Universitas Gadjah Mada (UGM), with plans for further expansion. Its objective is to gather the 'brain power' from these universities to create a concentrated effort focused on semiconductors. ICDeC seeks to develop Indonesia's human resources, technology, and semiconductor ecosystem.

A significant milestone for ICDeC is the signing of a Memorandum of Understanding with IMEC (Belgium), one of the world's leading research and development hubs for nanoelectronics. IMEC has partnered with many major semiconductor companies, including ASML



(the Netherlands) and TSMC (Taiwan). ICDeC aims to serve its role as a program coordinator within Indonesia's semiconductor ecosystem, establishing networks with the industry, government, academia, and communities in the sector.

Joegianto continued by explaining that ICDeC is currently building Indonesia's System on Chip (SoC) platform, with a target completion within the next three years. He noted that they are in the process of securing operational funding and have already obtained a facility for the project at the ITB Technopark. The Ministry of Industry has supported this project by providing funds to procure essential equipment.

In addition to his role on the advisory board for ICDeC, Joegianto also works for Polytron, an Indonesian electronics company. His industry experience has given him insight into the gaps in product development strategies, particularly on the importance of including market research and establishing research clusters in the chip development process. Research clusters, in this context, refer to the specific project focus areas that each university has. Each university specializes in a particular field for the next five years and has set its objectives along with potential industry partners. For instance, UI's research cluster focuses on radio frequency, ITB specializes in consumer products, and UGM is focused on automotive microcontrollers. Moreover, Polytron has also committed to

domestically produced chips, even if they are more expensive. This ensures that these chips have a market, which is essential for fostering sustainable growth in Indonesia's developing semiconductor industry.

Joegianto further emphasized that ICDeC chose to focus on university-level education in chip design due to cost considerations. Establishing a semiconductor fabrication plant in Indonesia would require an investment of around USD 10 to 20 billion, whereas educating a skilled workforce requires only a fraction of that amount. Given Indonesia's large population, Joegianto noted that training just 1% of the population to become chip designers would be sufficient to drive growth in the country's semiconductor strategy. He argued that Indonesia's semiconductor sector should prioritize intellectual property in semiconductor design rather than physical production.


Joegianto concluded his session by discussing the broader impact of semiconductors on national development. Beyond factors such as technological innovation, economic growth, and global competitiveness, he stressed the importance of semiconductors for national security. Without the knowledge of how chips are being built, Indonesia could not identify potentially hostile chips. While many countries have established their own Chip Acts, Indonesia has yet to develop similar laws to safeguard its interests and further promote the growth of its semiconductor industry.

PRESENTATION FROM THE PANELIST



Nurul Ichwan

Deputy Minister for Investment Promotion,
Ministry of Investment and Downstream
Industry/Investment Coordinating Board



Nurul Ichwan began his presentation by laying out the current global race in the semiconductor industry. Ichwan presented the data showing that revenue in the semiconductor market has been rising in recent years, both globally and in ASEAN. This growth is also projected to continue. The ASEAN semiconductors market is expected to see a 12.1% revenue growth in 2024-2029. Ichwan also highlighted three key sectors driving this market: computing and data storage, wireless communication, and automotive electronics.

Furthermore, Ichwan emphasized that the demand for semiconductors will continue to grow in the coming years, with increasingly high standards. Although semiconductors will be costly, they will be efficient and cost-effective in the long run. Ichwan stressed the importance of building Indonesia's human capital equipped with the necessary skills and expertise, as countries with cutting-edge technologies will be hesitant to invest if Indonesia lacks a skilled workforce. He reiterated the need to support Indonesia's abundant natural resources and human capital with high capacity and technological skills to capture these opportunities. It is imperative for the workforce in Indonesia to not only increase their understanding of technology but also of innovation.

Currently, Singapore and Malaysia lead the ASEAN market share of global Integrated Circuits (IC), followed by Vietnam and Thailand. In total, ASEAN held a 23.4% share

of the global IC market in 2022. In terms of corporate market share, the semiconductors industry is dominated by three major companies: Samsung, Intel, and TSMC; which together accounted for one-third of the global market in 2022. Trends from recent years also indicate a decline in the number of global foreign direct investment (FDI) projects in semiconductors. Yet, the capital expenditure increased exponentially. This shift suggests that semiconductor technology has advanced considerably, requiring higher capital, but on the other hand, the projects have become more condensed and efficient.

ASEAN received about 12% of global FDI inflows in semiconductors, which amounted to USD 48.7 billion from 2019 to 2024, led by Malaysia and Singapore. The top three sources of global FDI in semiconductors are Taiwan, the US, and South Korea. Indonesia, however, only received a small share of semiconductor investment, amounting to USD 44 million or only 0.01% of global shares. In contrast, Indonesia ranks the second-largest FDI recipient in ASEAN across all sectors, following Singapore. The data showed that while most investments in ASEAN flow to Singapore, some of these funds are then channeled from Singapore into Indonesia. Ichwan argued that this indicates Indonesia's strong potential, as Singapore primarily serves as a hub, but investors are increasingly looking at other neighboring countries, particularly Indonesia, for investments in real sectors.



Ichwan noted that ASEAN has emerged as a global engine of growth, with a steadily increasing share of world FDI inflows. He highlighted the increase in the annual average of FDI inflows in the semiconductor sector during the ASEAN Economic Community (AEC) 2025, pointing out ASEAN's significant potential for further expansion in this industry. Ichwan also added the importance of Indonesia thinking ahead to attract more investment into the country. He emphasized that the availability of a skilled workforce is the most important factor for the semiconductor industry, followed by proximity to markets or customers, technology and innovation, industry clusters, domestic market growth, and universities and research hubs. A skilled

workforce plays a significantly more important role in the semiconductor industry compared to other sectors, as it ranks as the top investment motivator, whereas it typically ranks third in other industries. In contrast, domestic market growth is seen as less important in the semiconductor industry compared to other sectors, as the semiconductor industry primarily targets export markets.

Ichwan proceeded to discuss the competitive landscape for the semiconductor industry in ASEAN, using Malaysia as a benchmark. Malaysia's manufacturing sector is dominated by the electrical and electronic industry. The Malaysian government has introduced various incentives to advance the sector,



such as tax exemption for pioneer status, import duty exemption, and location-based incentives –incentives largely similar to those offered by Indonesia, except for location-based incentives. In addition, Malaysia, as ASEAN’s leading country for semiconductors, has built the industry over several decades by combining foreign and local industries, with strategic share allocations across the semiconductor value chain phases (research and development or IC designs; WAFER fabrication; assembly, packaging and testing; and electronic manufacturing services). This balanced approach ensures that technology, knowledge, and innovation spillovers happen and benefit local industries.


Ichwan concluded by emphasizing Indonesia’s need to develop a solid semiconductor ecosystem. He suggested that the Malaysian model could serve as a valuable example, not only for attracting FDI but also for ensuring that Indonesia’s local capacity can grow sustainably instead of becoming vulnerable and overly dependent on foreign investments.

PRESENTATION FROM THE PANELIST



Edi Prio Pambudi

Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs and the Head of the Semiconductor Ecosystem Preparation Task Force



Edi Prio Pambudi started his session by explaining what a semiconductor is, describing it as a component that manages and directs electrical currents within equipment to function according to its purpose. Pambudi noted that decades ago, Indonesia received offers for investment in capital-intensive industries, such as a proposal from Intel. Yet, at that time Indonesia prioritized labor-intensive industries, like textiles. Currently, Indonesia has started to recognize and appreciate the importance of technology-driven sectors, including semiconductors.

Pambudi proceeded to suggest reframing the seminar theme from 'chip war' to 'collaboration,' emphasizing complementary relationships among ASEAN countries rather than competition. As previously mentioned by Nurul Ichwan, Indonesia is yet to become a key player in the semiconductor industry. Currently, Indonesia has one significant investment from Infineon Technologies, Germany's largest semiconductor manufacturer. Pambudi argued that if Indonesia remains passive, it will continue to only be a user rather than a producer. He emphasized the urgency of preparing Indonesia's human capital to compete in the industry and educating them on the importance of semiconductors.

Drawing comparisons with other countries, Pambudi highlighted the need to strengthen Science, Technology, Engineering, and Mathematics (STEM) education to build the necessary skills for the semiconductor industry. He noted that Vietnam encourages its citizens to pursue STEM over social science to better align with the industry demands. For Indonesia, preparing human capital that is proficient in STEM is essential for the development of its semiconductor industry. This preparation can occur not only at the university level but also through vocational schools, widening the pathways to develop a skilled workforce.

Pambudi further noted that Indonesia has developed a task force for semiconductors, acknowledging the complexity of its functions, perspectives, and interests. This task force gathers input from various stakeholders. It aims to prepare the whole ecosystem for semiconductors, not just the industry itself. He pointed out that Indonesia has a growing domestic market, and if it were to produce chips domestically, there would be promising prospects for replacing imported chips, as every electronic device across various sectors requires a chip. Additionally, these chips do not necessarily have to be nanochips, as many electronic devices do not require such advanced technology.



Pambudi also pointed out that industrialization and the development of the semiconductor value chain are priorities for both outgoing President Joko Widodo and newly inaugurated President Prabowo. The legal and political standing is already in place, and this focus is mentioned as one of the missions under President Prabowo's "Asta Cita".

The task force has developed a comprehensive plan for Indonesia's semiconductor industry ecosystem, highlighting the country's advantages in critical minerals essential for semiconductor fabrication, such as silica

sand and potassium. This grand design does not only prepare for development in specific sectors but also outlines future industry directions, including the integration of clean energy to support the semiconductor sector. These future directions aim to ensure sustainability and leverage Indonesia's advantages in diverse clean energy sources, such as hydropower, wind, solar, and small modular reactors, to enhance the country's competitiveness in the semiconductor industry.

Indonesia is actively exploring semiconductor cooperation opportunities. One significant collaboration is with the



US through the International Technology Security and Innovation (ITSI) fund to develop Indonesia's semiconductor ecosystem, building a global semiconductor supply chain alongside the US and five other countries. Indonesia is also looking to cooperate with Taiwan, the largest producer of semiconductors, which faces challenges due to a shrinking population. This situation opens up opportunities for Indonesian engineers. Moreover, Taiwan also offers scholarships for students pursuing programs related to semiconductors.

Additionally, Indonesia is preparing to sign agreements with Purdue University and Arizona State University in the US. It has also established cooperations with several German institutions to provide scholarships for semiconductor-related programs, which is essential as Germany is recognized for its cutting-edge technology in semiconductors. Currently, a German company is developing a new and groundbreaking technology for 3D (three-dimensional) semiconductors in nano size. This company has offered Indonesia the opportunity to adopt and further develop this technology, leveraging Indonesia's abundant tin resources, a critical mineral needed for innovation. It is now crucial for Indonesia to prepare and ensure that its workforce is ready to support this technology.

Pambudi wrapped up his presentation by explaining the roadmap for the development of Indonesia's semiconductor ecosystem, envisioning the country's active participation in the global supply chain. The roadmap covers five pillars (human capital, supply chain, research and development, infrastructure, and enabling environment) that are interconnected with five different building blocks: 1) equipment, 2) materials, 3) design, 4) fabrication, and 5) assembly, test, and packaging. The roadmap sets distinct targets for varying timeframes: short-term (2-3 years), medium-term (4-5 years), and long-term (6-10 years).



QUESTION AND ANSWER SESSION





Questions

Patrick Kurniawan (The Habibie Center):

In Indonesia, one of the critical materials that we produce is called silica sand. Yet, it was only around one to two years ago that Indonesia started downstreaming silica sand. Indonesia is the twelfth largest producer of silica sand, while China is the largest. However, Indonesia sends 80% of our exports of silica sand to China, which then builds chips and sells them back to Indonesia afterward. The Indonesian government then realized that they could make money out of this and started the downstream process for silica sand instead of sending much of the silica sand to China. Edi Prio Pambudi also previously mentioned tin and nickel. Indonesia is the third-largest producer of tin and the largest nickel producer in the world. While tin and nickel are not the critical materials related to the WAFER fabrication, they are needed for assembly, testing, and packaging. This is what Vietnam and Malaysia are currently doing. Yet again, Indonesia has only recently started to downstream these materials.

A question to Nurul Ichwan, what are the other critical materials in Indonesia that are actually relevant for chips and are currently in the downstreaming process?

Responses

Nurul Ichwan (Deputy Minister for Investment Promotion, Ministry of Investment and Downstream Industry/Investment Coordinating Board):

The downstreaming of critical minerals and other materials essential in supporting the semiconductor industry begins with the mining industry. Through mining, Indonesia can obtain silica, gold, copper, bauxite, and rare earth metals. Some rare earth metals can also be byproducts of other minerals used in semiconductors. Ichwan mentioned that in general, Indonesia has around eight sectors and 28 commodities, ranging from oil and gas, minerals, forestry, and plantation, where it plans to increase its downstreaming efforts. He noted that Indonesia has learned from its policy on nickel, where exports of nickel ore were banned at the end of 2019.

Ichwan emphasized that Indonesia aims to offer global players added value through a complimentary business model. Indonesia, rich in natural resources, can leverage its comparative advantage while partnering with countries that have a competitive advantage in technology. These countries will continue to look for raw materials that can be supplied by Indonesia. However, Indonesia's goal is not only to supply raw materials but also to process (downstream) them further domestically, facilitating technology transfer and creating added value within the country.



Questions

Patrick Kurniawan (The Habibie Center):

One of the key figures for the semiconductor industry in Indonesia is talent, and ICDeC has also mentioned its work with universities all over Indonesia to support this. However, the number of students pursuing social sciences in Indonesia exceeds those in STEM –a contrast to other countries, such as Vietnam. The ratio of engineers per population in Indonesia is also very low, particularly when compared to Malaysia, Singapore, and Vietnam. What is the role of ICDeC and other private sectors to address this situation?

Responses

Joegianto (Advisory Board, Indonesia Chip Design Collaborative Center (ICDeC)):

Joegianto responded to the question by saying, “the short answer is let us show where the money is.” He further explained that students in countries he has visited, such as Germany and Taiwan, tend to focus on where they can start earning and work as soon as they graduate. However, in the semiconductor industry, this is not always as straightforward, since it requires time to develop and relies on advanced, costly equipment. Therefore, he believes that the key is to highlight the potential earnings and the value of the industry.

In Indonesia, ITB offers the first chip design course, followed by Institut Teknologi Sepuluh November (ITS) and Institut Teknologi Kalimantan (ITK). These three institutions are pioneering chip design education in Indonesia. However, the course they offer only covers a very small part of the field. To address this, ICDeC is working to educate 50 people from 16 universities at Polytron’s site in Kudus. They are taught by ICDeC members, allowing them to learn more thoroughly and earn more course credits compared to the courses offered at their universities. ICDeC plans to have more students (around 100-200) annually join this program. To attract more interest, ICDeC is showcasing the potential earnings of a chip designer. For instance, ICDeC invited a colleague from ASML, who shared that ASML employs around 100 Indonesians with a minimum monthly salary of 12,000 euros. Joegianto hoped this would encourage more students to pursue careers in the industry.

Furthermore, Joegianto also noted that Indonesia is not far behind in the industry. In a meeting with an officer from TSMC, he learned that it took TSMC 22 years to transform from an electronics manufacturing company into the world’s leading semiconductor manufacturer. With the goal of achieving ‘Golden Indonesia’ (Indonesia Emas) by 2045, Joegianto emphasized that it is not too late for Indonesia to develop its semiconductor industry.



Questions

Patrick Kurniawan (The Habibie Center):

“Referring back to the statement on the presence of several players in ASEAN and how important it is for ASEAN countries not to see each other purely as rivals, but to find harmony within ASEAN –to compete while also finding each country’s niche at the same time. There are many sectors in the semiconductor industry: research and development design, assembly, testing and packaging, and WAFER fabrication. Among these many sectors, which one Indonesia is planning to concentrate on, considering it is impossible to cover or concentrate on everything?”

Responses

Edi Prio Pambudi (Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs, and the Head of the Semiconductor Ecosystem Preparation Task Force):

Pambudi first mentioned that he had previously received a similar question regarding what should be Indonesia’s novelty in the semiconductor industry, raised by the President of the Semiconductor Industry Association (SIA). Pambudi responded with two main points: 1) Indonesia possesses critical minerals that support the industry, and 2) Indonesia has a young and productive workforce, with the average age of Indonesians being 24-25 years old. This demographic advantage presents an opportunity for the government to instill the mindset that semiconductors are vital for the nation’s future.

However, Pambudi also shared two concerning experiences. First, during a discussion with the Organisation for Economic Cooperation and Development (OECD) and the semiconductor informal networks, he noted an analysis of critical minerals needed for semiconductors. While Indonesia possesses many of these minerals, it has not effectively extracted them. There is a lack of knowledge about the extractive industry and chemistry, resulting in insufficient information about the critical minerals that would be important for semiconductors. Secondly, other nations have already established what they refer to as ‘chip diplomacy’, having clearly identified their goals in the semiconductor industry. In contrast, Indonesia is still uncertain about its own objectives. To advance its semiconductor industry, Pambudi emphasized that Indonesia needs a strong collaborative effort that includes not only the government but also the youth, civil society, and the private sector. It is essential for Indonesia to not just solely rely on the government, but also engage a wide range of stakeholders to drive the development of the industry.



Questions

Grace Putri Tesalonika, Universitas Kristen Indonesia):

“The first question for Nurul Ichwan: Indonesia has a plan to build a semiconductor factory in Batam, in collaboration with TSMC, at an estimated cost of USD 5 billion. However, the project faces challenges in terms of funding, technology transfer, and geopolitical issues. How ready is Indonesia’s technology and human resources infrastructure to develop a self-sustaining semiconductor industry?”

The second question for Joegianto: How does the regulatory framework in Southeast Asia need to be adjusted to support the development of the chip industry while protecting the national interest?”


Responses

Nurul Ichwan (Deputy Minister for Investment Promotion, Ministry of Investment and Downstream Industry/Investment Coordinating Board):

Ichwan responded to the question by referring to a statement previously made by Edi Prio Pambudi noting that the semiconductor industry involves a highly advanced technology and Indonesia has yet to develop this at the same level within its own company or institution. Currently, Indonesia is still in the ‘follower’ role in this sector. Ichwan pointed out that Indonesia could learn from the roadmaps that other countries have used to develop their semiconductor ecosystem industry. He also argued that Indonesia currently lacks the capacity to implement the triple helix model, which integrates the industry, universities, and government. He noted that Indonesia already had universities with STEM programs that could support the industry and companies that have an interest in developing this business. However, the collaboration between the industry, universities, or knowledge centers and the government in designing proper policies to support them is still lacking.

Joegianto (Advisory Board, Indonesia Chip Design Collaborative Center (ICDeC)):

Joegianto emphasized that establishing a good and supportive regulation in Indonesia must come first. While the semiconductor industry is still relatively new in Indonesia, it is already well-established in other Southeast Asian countries such as Vietnam and Malaysia, and Indonesia needs to catch up. He underlined the importance of all government bodies working together and collaborating closely to build solid standards and regulations that can support the semiconductor industry in the long term.



Joegianto also explained that ICDeC runs similarly to IMEC –a private-sector initiative that is supported by the government but does not depend on government funding. He reiterated the need for sustainable regulations and the importance of collaboration among the government, universities, and the private sector to develop a good semiconductor ecosystem. Key steps also include engaging the industry to fund young researchers through paid research and establishing research centers. For instance, a facility in Bandung has already been established that allows the government to provide support by providing equipment that can be used by individuals from different sectors or university backgrounds. This approach is more cost-effective than equipping each university individually, enabling Indonesia to advance more quickly.

Questions

Azhary (TETO Jakarta):

“The programs offered by ICDeC and LPDP (Lembaga Pengelola Dana Pendidikan or Indonesia Endowment Fund for Education Agency) support students already enrolled in engineering programs. However, looking at the next 20 years or so, we will need to focus on engaging Gen Z and Gen Alpha. How can we effectively promote the value of careers, degrees, or majors in these fields to them? Is there any campaign to promote and support that?”

Over the next 20 years, we will likely see two presidents, serving two terms each. Do the speakers believe that the “Asta Cita” and the vision of Golden Indonesia 2045 can be sustained and achieved within this timeframe?”

Responses

Nurul Ichwan (Deputy Minister for Investment Promotion, Ministry of Investment and Downstream Industry/Investment Coordinating Board):

Ichwan emphasized that the fifth point of President Prabowo’s “Asta Cita” remains a priority for this administration. The government aims to develop Indonesia’s human capital in order to increase its capacity for technological advancement. Strengthening technology and human capacity is key to catching up in this industry. This combination will drive innovation and help address Indonesia’s challenges. Having a triple helix combination cooperation will also be a key foundation for building a semiconductor ecosystem in Indonesia.



Questions

Patrick Kurniawan (The Habibie Center):

“Indonesia is currently in the accession process for OECD and that will heavily impact our regulation for investment. How will that affect the semiconductor industry in the future?”

Responses

Edi Prio Pambudi (Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs, and the Head of the Semiconductor Ecosystem Preparation Task Force):

Pambudi first clarified that the OECD team previously mentioned visiting Indonesia worked on the OECD development ecosystem assessment, and is different from the OECD accession team. The visit was related to a prior offer from the US for Indonesia to join the global semiconductor supply chain under the ITSI program.

In terms of accession, Pambudi highlighted that the crucial element in the next decade for Indonesia’s competitiveness will be standards. If Indonesia cannot improve its standards, it will risk stagnation. Achieving internationally recognized and high standards will ensure that Indonesia’s policies and their implementation align with global preferences. Indonesia is currently undergoing a self-assessment process and is preparing to submit the initial memorandum –an important document that compares Indonesia’s existing regulations and standards, along with their implementation, to those of the OECD. The government recognizes that some implementations may occasionally diverge from their intended outcomes, not due to flawed policies, but rather because of human factors. Pambudi noted that the regulations in place in Indonesia are already good.

Additionally, Pambudi also explained that Indonesia wanted to adopt the “total football” strategy for OECD accession, where all agencies work together to identify why the implementation of certain policies does not align with global preferences and inadvertently creates barriers. Pambudi added that the OECD accession process differs from trade bloc negotiations. Instead of solely focusing on negotiations to lower tariffs and remove barriers, it is more grounded in consultation, mediation, and discussion based on other countries’ best practice experiences. The accession process involves not just the government, but also the private sector and civil society, aiming for improved policy standards that align with those of existing OECD members. As a bonus and added benefit, once Indonesia achieves and meets comparable standards, it will automatically gain better market access.



Questions

Luthfy Ramiz (The Habibie Center):

“How do geopolitics elements and considerations shape the creation of an ecosystem for the semiconductor industry in Indonesia, and how do these factors also impact the development of semiconductor ecosystems in other Southeast Asia countries?”

Responses

Edi Prio Pambudi (Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs, and the Head of the Semiconductor Ecosystem Preparation Task Force):

Pambudi responded to the question by sharing his experience when the Indonesian government once sought to visit ASML. At that time, the senior Indonesian government officials reached out to the Dutch embassy, seeking assistance in establishing communication with ASML. However, the response from ASML was quite disappointing, as the company only issued a brief statement indicating a lack of interest. Consequently, the Indonesian government pivoted to initiate contact with TRUMPF, a German company that manufactures one of the critical components for ASML. Following the collaboration with TRUMPF, the Indonesian government received a notification from ASML a couple of months ago, stating that they now wished to extend an invitation to Indonesia

Pambudi added that this situation illustrates the unpredictability of geopolitics, which often hinges on the personal perspectives of global leaders. However, he emphasized the importance of translating geopolitics into a geoeconomic strategy to navigate turbulent geopolitical landscapes. If the government develops a robust geoeconomic framework, it can be effectively translated into geo-strategy, as has been done at the ASEAN level. Indonesia has been working together with ASEAN to address various issues post-2025. Once a geo-strategy is in place, it will also boost the private sector’s confidence and certainty in the industry. Furthermore, Pambudi believed that Indonesia, with its DNA as a global connector, should play its role and leverage its resources to engage in dialogue as well as foster cooperation with other countries, rather than escalating the geopolitical tension.



Questions

Patrick Kurniawan (The Habibie Center):

“What should be the focus of Indonesia’s semiconductor for the next five years under the new administration?”

Responses

Nurul Ichwan (Deputy Minister for Investment Promotion, Ministry of Investment and Downstream Industry/Investment Coordinating Board):

Ichwan argued that as Indonesia has yet to reach an advanced level of technology development, the country needs to participate by driving demand for semiconductors through its rich natural resources. In addition, Ichwan also suggested providing opportunities for the younger generation, who will shape the country’s future, to engage with the industry and understand the importance of pursuing studies in STEM, as it is crucial to the field. Without these efforts, Indonesia will remain a user rather than a producer, missing the opportunity to thrive in a rapidly growing industry.

Joegianto (Advisory Board, Indonesia Chip Design Collaborative Center (ICDeC)):

Joegianto stated that it should be a wake-up call for Indonesia and that the government, industry, and academia need to work together to integrate Indonesia into the global value chain of semiconductors.

Edi Prio Pambudi (Deputy Minister for International Economic Cooperation, Coordinating Ministry for Economic Affairs, and the Head of the Semiconductor Ecosystem Preparation Task Force):

Pambudi argued that the current generation is responsible for creating a bridge to connect the existing workforce with the future and to help prepare for the next generation. He added that Indonesia needs to bring the technology into the country, encouraging people to adopt and work with it, as this will facilitate progress today. Ultimately, the younger generation should be the main actors in achieving the country’s goals for 2045.



ABOUT ASEAN STUDIES PROGRAM

The ASEAN Studies Program was established on February 24, 2010, to become a center of excellence on ASEAN related issues, which can assist in the development of the ASEAN Community by 2015. The Habibie Center through its ASEAN Studies Program, alongside other institutions working towards the same goal, hopes to contribute to the realization of a more people-oriented ASEAN that puts a high value on democracy and human rights.

The objective of the ASEAN Studies Program is not merely only to conduct research and discussion within academic and government circles, but also to strengthen public awareness by forming a strong network of civil society in the region that will be able to help spread the ASEAN message. With the establishment of ASEAN Studies Program, The Habibie Center aims to play its part within our capabilities to the ASEAN regional development.

ABOUT TALKING ASEAN

Talking ASEAN is a monthly public dialogue held at The Habibie Center in Jakarta. Covering a wide array of issues related to ASEAN, Talking ASEAN addresses topics of: Economic Integration, Socio-cultural, & Democracy, human rights and regional peace, among others. Featuring local and visiting experts, Talking ASEAN is one of a series of twelve dialogues regularly held each month and open to a target audience consisting of ASEAN officials, foreign ambassadors & diplomats, academics, university students, businesses, and the media.

PROJECT SUPERVISOR: Mohammad Hasan Ansori (Executive Director) & Julia Novrita (Director for Program and Development) | **RESEARCHERS:** Marina Ika Sari, Luthfy Ramiz, Indira Utomo, Patrick Kurniawan | **FINANCE & ADMINISTRATION:** Dewi Isma Rikya Ikhsan, M. Sohib | **LAYOUT & DESIGN:** Firda Safhira

ASEAN Studies Program - The Habibie Center

The Habibie Center Building - Jl. Kemang Selatan No.98, Jakarta 12560
Tel: 62 21 781 7211 | Fax: 62 21 781 7212 | Email: thc@habibiecenter.or.id

 www.habibiecenter.or.id

 facebook.com/habibiecenter

  @habibiecenter