

## Interview with **Tektronix**<sup>®</sup>

### **What are the key factors driving investment in Vietnam's semiconductor industry, and how do you foresee this changing in the next few years?**

The key factors driving investment in Vietnam's semiconductor industry include:

- **Strategic Location and Economic Growth:** Vietnam's strategic location in Southeast Asia, coupled with its robust economic growth, makes it an attractive destination for semiconductor investment. This growth is supported by government policies that favor foreign direct investment and trade.
- **Government Support and Incentives:** The Vietnamese government is actively promoting the semiconductor industry through favorable policies, tax incentives, and initiatives such as the National Innovation Center. These efforts aim to create a conducive environment for both local and international companies to invest and expand their operations in Vietnam.
- **Growing Electronics Manufacturing Sector:** Vietnam is becoming a significant hub for electronics manufacturing, with major global companies establishing operations in the country. This growth drives demand for semiconductors, as well as test and measurement, characterization, and quality assurance services.
- **Skilled Workforce and Education Initiatives:** Vietnam is investing in education and training to develop a skilled workforce capable of supporting the semiconductor industry. Partnerships between industry and academic institutions are fostering a pipeline of talent in engineering and technology fields.
- **Supply Chain Diversification:** In response to global supply chain disruptions, companies are diversifying their supply chains by investing in alternative locations like Vietnam. This trend enhances the country's role in the global semiconductor ecosystem.

In the next few years, I foresee the following changes:

- **Increased Investment in Infrastructure and R&D:** There will likely be more investment in infrastructure, research, and development to support the expanding semiconductor industry. This includes the establishment of advanced testing and measurement facilities and laboratories for characterization and quality assurance.
- **Enhanced Collaboration between Industry and Academia:** As the industry grows, collaboration between companies and academic institutions will intensify, focusing on research, talent development, and the commercialization of innovations.

- **Expansion of Local Supply Chains:** To further strengthen Vietnam's position in the semiconductor sector, there will be efforts to develop local supply chains, reducing reliance on imports and enhancing the country's self-sufficiency in semiconductor manufacturing and testing.
- **Focus on Sustainability and Innovation:** The industry will increasingly prioritize sustainable practices and innovative solutions to address environmental concerns and improve efficiency in semiconductor production and testing processes.

Overall, Vietnam's semiconductor industry is poised for significant growth, driven by these factors and evolving trends, making it an increasingly attractive destination for investment.

### **What do you consider the biggest challenges facing the semiconductor industry in Vietnam?**

**Limited Access to Advanced Equipment and Technology:** Test and measurement tools, particularly for semiconductors, are often costly and require high technical specifications to meet industry standards. Vietnam's semiconductor sector is still developing, so access to state-of-the-art equipment like high-frequency oscilloscopes, parametric analyzers, and wafer probers may be limited, impacting its ability to meet global demands for high precision.

**Talent and Expertise Shortage:** Skilled personnel are essential for conducting complex semiconductor tests and characterization, yet Vietnam faces a shortage of trained engineers in this specialized area. Developing the required expertise demands significant investment in training and education, which may not be immediately accessible for smaller firms or new market entrants.

### **Talent is one of the most pressing challenges in the semiconductor industry. What actions does your company suggest to address this challenge?**

We have been actively collaborating with the National Innovation Center to conduct seminars aimed at sharing the latest advancements in semiconductor design, test and characterization technologies. Additionally, for many years, we have sponsored IEEE events in partnership with esteemed local universities, including Hanoi University of Science and Technology (HUST) and Ho Chi Minh City University of Technology (HCMCUT), with the shared goal of advancing knowledge in this field.

Building on these efforts, we propose expanding our collaborations to include more educational and research institutions. This will facilitate the dissemination of cutting-edge knowledge and technical skills, enabling a leap forward in electronics and semiconductor engineering education and research. To support these initiatives, we recommend that the government increase funding for facilities and equipment. Meanwhile, companies can contribute by providing essential hardware, software, and expertise. Together, these efforts will create a robust ecosystem that fosters innovation and positions Vietnam at the forefront of the semiconductor industry.

## Given Vietnam's growing role in the global semiconductor supply chain, what do you see as the key strengths and opportunities for Vietnam in the semiconductor space?

Vietnam's strategic position in the global semiconductor supply chain has opened up numerous opportunities, particularly in test and measurement. Here are some of the country's key strengths and emerging opportunities in this field:

### Key Strengths:

- **Cost-Effective Labor Force:** Vietnam potentially offers a comparatively lower-cost labour pool, which is attractive for labour-intensive testing and quality assurance processes within the semiconductor manufacturing cycle. With targeted training, this workforce could quickly adapt to testing and quality assurance roles.
- **Proximity to Major Semiconductor Hubs:** Vietnam is geographically close to established semiconductor giants like Taiwan, South Korea, and China, which enables efficient supply chain coordination and knowledge transfer. This proximity helps Vietnam leverage expertise and technology spillover from neighbouring countries, benefiting its test and measurement sector.
- **Growing Investment in Infrastructure:** Vietnam has been investing in high-tech parks and special economic zones, many of which are designed to support electronics and semiconductor manufacturing. This infrastructure development includes facilities that can house advanced test and measurement equipment, and other semiconductor equipment is a draw for foreign companies looking to expand in the region.
- **Government Support and Policy Direction:** The Vietnamese government has introduced incentives and policies to attract foreign direct investment (FDI) in high-tech industries, including semiconductors. Policies offering tax breaks, reduced tariffs, and grants for infrastructure development in high-tech zones are helping create a more favourable environment for companies focusing on semiconductor engineering and manufacturing.
- **Rapidly Growing Electronics and Tech Sector:** Vietnam's booming electronics sector, with global players setting up large-scale production facilities, provides a solid ecosystem for growth. This sector's expansion creates a ripple effect, increasing demand for high-quality product at a competitive cost.

## What are you looking most forward to at the SEMIExpo Vietnam 2024?

At SEMIExpo Vietnam 2024, I am looking forward to several key opportunities and developments:

- **New Customer Engagement:** The event provides an excellent platform to connect with potential new customers in the rapidly growing Vietnamese semiconductor market. With Vietnam's increasing role in the global electronics supply chain, establishing relationships with local manufacturers and international companies operating in the region will be crucial for expanding our customer base and increasing market penetration.
- **Brand Awareness:** Participating in SEMIExpo Vietnam allows us to enhance our brand visibility and reputation in Southeast Asia. By showcasing our latest innovations and engaging in thought leadership activities, we can position our brand as a test and measurement leader in the semiconductor industry, particularly in the context of emerging markets.
- **Showcasing Latest Semiconductor Test Technologies:** This is an opportunity to demonstrate our cutting-edge semiconductor test technologies and solutions. We can highlight how our products improve efficiency, accuracy, and cost-effectiveness for semiconductor manufacturing processes. Live demonstrations and interactive sessions can help potential customers understand the practical benefits of our technologies.
- **Industry Networking:** The event is a hub for industry professionals, allowing us to network with peers, suppliers, and partners. This networking can lead to strategic partnerships, collaborations, and insights into market trends and customer needs.
- **Understanding Market Trends:** Attending presentations and panel discussions will provide valuable insights into the latest trends and challenges in the semiconductor industry, particularly those affecting the Asian markets. Understanding these trends will help us tailor our strategies to better serve our customers and stay ahead of the competition.
- **Feedback and Innovation:** Engaging with attendees and industry experts will provide us with direct feedback on our products and services. This feedback is invaluable for driving continuous improvement and innovation in our offerings.

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