

Interview with **ViTroX**

What experiences or insights have shaped your approach to navigating the dynamic electronics industry?

The electronics (particularly semiconductor) industry is cyclical in nature, alternating between over and under capacity driven by new product introductions, technology innovations and evolving product life cycles. Exception was noted during the Covid-19 pandemic period (from Years 2020-2022) where there was exceptional and continuous demand for electronics hardware procurement, upgrades and replacements due to changes in mobility and lifestyle, compounded by supply chain disruptions and uncertainties.

In order to thrive and sustain business growth in this market condition, an organization needs to be adaptive and responsive to handle these changes (regardless of demand up or downturns). Ability to anticipate and plan ahead ensures optimization of resource planning, inventory management and timely delivery of solutions to customers. Besides this, diversification into adjacent and multiple industry applications will help to cushion the risk and impact of industry-specific cyclical and structural slowdown.

What are the most significant challenges currently facing semiconductor players?

As the semiconductor industry recovers and finding its equilibrium, post Covid-19 pandemic, new challenges emerged that are brought about by changes in industry dynamics, workforce demographics (including skills and behavior), geopolitics and trade disputes.

Supply chain uncertainties, albeit improving, has yet to reach an optimum level that can keep up with the changing demand dynamics in the semiconductor industry. Sporadic incidences of critical parts unavailability and/or long delivery lead time, that poses a mismatch between supply vs demand, are still being observed.

Another disruptive challenge is **talent shortage and skills gap** due to evolution of AI-applications, both for workplace productivity improvement and solutions application, are still lagging. There is a strong need for existing and new workforce to re-orientate and re-invent, to stay relevant and actively participate in this remarkable evolution. On the other hand, due to the rapid advancement and evolution of the next generation technologies, the right-talent shortage situation is further compounded by the strong demand from many competing high tech and innovative industries.

In the area of Fourth Industrial Revolution (**Industry 4.0 & Smart Manufacturing**) adoption, semiconductor companies are lagging its other (adjacent industry) counterparts, in terms of adoption and application. Challenges are brought about by legacy processes, lack of commonly adopted standards and proprietary protocols, resulted in slow implementations of machine-to-machine connectivity and automation.

In what ways do you believe semiconductor companies can contribute to sustainability and reduce their environmental footprint in the manufacturing process?

To make the manufacturing process more sustainable and environmentally friendly, the following methods could be adopted and implemented:

- Reduce wastes through Lean Production in manufacturing process to optimize resource utilization (workforce, materials and equipment).
- Increase the percentage of renewable energy utilization to reduce the carbon-footprint from Scope 2 (indirect emission).

- Reduce greenhouse gases (GHGs) emission through process and equipment improvements and optimization. Additionally, adoption of real-time monitoring and intelligent predictive maintenance, will help in reducing manufacturing defects and wastages.
- Adopt circular economy approach in recycling, reusing, and repurposing, to reduce waste and conserve resource.

In your opinion, what are the most pressing opportunities for innovation within the semiconductor industry, and how do you believe your company is positioned to seize them?

Two exciting opportunities driving the semiconductor industry's growth over the next 10 years are artificial intelligence (AI) and electrification in the automotive (EV) industry. In order to position and capitalize on this next wave of growth, companies need to have the right resource pool and offer the right solutions to respond to market needs and demands, in a timely manner.

In the AI segment, the utilization of the right tools can greatly improve workforce productivity and the accuracy of solutions offered to customers. Concurrently, developing the right AI solutions/tools will help customers improve their process reliability and performance (yield). In the automotive EV market, companies that could develop solutions that adhere with the stringent industry requirements and endure long joint-development durations (driven by product safety concerns), will continue to excel.

As an organization, we are fortunate to have an early exposure and head-start in both areas due to our early product development engagement with related customers, investing in the right talents and tools to accelerate solutions development and relentlessly evolving our solutions in both areas; responding to customers' changing requirements in a timely manner.

What are you looking forward to at SEMICON Southeast Asia 2024?

In line with this year's theme of "Boosting Agility and Resiliency in the Electronics Supply Chain in Southeast Asia", a few areas we look forward to include:

- a. Supply chain process innovations and improvements, to match/close the gap with industry's supply and demand dynamics.
- b. New product innovations, utilizing the latest tools and technologies, to enhance process reliability and yield.
- c. Innovative process solutions/applications, addressing semiconductor industry challenges (as highlighted above).
- d. Discover and engage new potential customers, sales channel and supply chain partners.
- e. Improve presence, branding and goodwill.

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