



MARCH 2024

Exclusive International Women's Day issue

Launched in conjunction with the 4th Semiconductor Women's Forum on 26 March, this edition commemorates SSIA's commitment to hosting the largest DEI gathering in Singapore's semiconductor industry to sculpt the sector's future.

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Industry Day 2024 Uniting Over
2,000 Minds in Innovation
and Talent Development

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SSIA Welcomes New Members



FOREWORD BY Executive Director

Innovation in the semiconductor industry hinges on the vibrant fusion of diverse talents. Heeding the insights of Verna Myers, a venerated voice in diversity and inclusion, we at the Singapore Semiconductor Industry Association (SSIA) pursue a culture where diversity is not merely present but actively contributing and thriving. Myers teaches us that inclusion goes beyond inviting someone into the room—it's about encouraging them to lead the dance.

As we unveil this special edition of VOICE concurrent with the Semiconductor Women's Forum, we celebrate International Women's Day 2024 with our theme "**Inspire Inclusion**," marking a milestone in our commitment to the vital principles of equity, diversity, and inclusion. This event is a prominent platform where the celebration of achievements transitions into strategic action, ensuring the participation of women is integral to the fabric of our industry's culture and future.

April marks a significant milestone as we commemorate the final run of the Singapore Semiconductor Leadership Accelerator (SSLA) Programme. Over six years, the SSLA Programme has been pivotal in developing over 220 leaders from more than 35 companies, a vision born from the Singapore Semiconductor Vision (SSV) 2020. This journey, forged in partnership with the Human Capital Leadership Institute (HCLI) and bolstered by the Economic Development Board's (EDB) unwavering support, has been fundamental to our success. We are immensely grateful to EDB for their steadfast commitment throughout this program.

As we approach this final SSLA run this April, we are at the brink of concluding a chapter that has reshaped leadership in our industry. This is a unique and final call for companies to engage their top talent in a program distinguished for fostering diverse leadership, enriching our industry at both local and global levels. With limited availability, we encourage prompt enrolment inquiries at secretariat@ssia.org.sg to secure a place in this transformative journey.

Looking ahead, we are excited to tease the upcoming Semiconductor Business Connect 2024 in July. Poised to be our largest business event yet in 2024, it will cover topics on five mega trends – Automation/AI, Cybersecurity, Additive Manufacturing, Business Internationalization, and Sustainability. This event is set to be a vibrant business matching and networking platform, bringing together SMEs and MNCs. We invite companies to engage with us, either through sponsorship or participation, in what promises to be an event of unparalleled scope and impact.

Amid exciting developments, we are also undergoing a restructuring within the SSIA Secretariat to better support our ever-expanding industry. More details will be shared soon, but rest assured, our commitment to organizing larger platforms, like the Semiconductor Women's Forum and Semiconductor Business Connect, remains steadfast.

I would like to close this message with a call to unity, a reminder that our strength lies in collaboration. 'In unity, we find strength; in collaboration, we discover endless possibilities.' Together, let's continue to shape the future of the semiconductor industry.

ANG WEE SENG
Executive Director
Singapore Semiconductor Industry Association (SSIA)

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SSIA Mark Your EVENTS



Scan the QR code or email
secretariat@ssia.org.sg
to find out more.



Apr 2024

SSLA RUN 10



Designed for seasoned professionals poised to shape the future of their companies, the SSLA is an immersive, hands-on program that bolsters both personal and professional growth, empowering leaders to thrive in a volatile, uncertain, complex, and ambiguous (VUCA) world. With a curriculum tailored to the unique demands of the semiconductor industry, participants will delve into strategic leadership, innovation, sustainability, and talent management, gaining insights and skills to navigate and influence the global workforce landscape.

Jul 2024

BUSINESS CONNECT 2024



Dedicated to enhancing Singapore's semiconductor sector by driving business expansion and fostering collaborative innovation. The event serves as a nexus for industry players to connect, share cutting-edge solutions, and collaborate to drive success across the industry's value chain. With a focus on the latest technological advances, it aims to propel the ecosystem toward greater digitalization, automation, and sustainable practices.

Sep 2024

SUMMIT AND SEMICONDUCTOR DINNER



The Semiconductor Dinner event is a prestigious gathering that brings together industry leaders, policymakers, entrepreneurs, and investors to discuss the rapidly evolving landscape of the semiconductor industry, shaped by digitalization and emerging technologies like 5G, IoT, and AI. This event will delve into how these trends are creating vast opportunities and driving the need for innovative strategies to meet the growing demand for digital solutions. Here, key players will explore how to maintain competitiveness and productivity amid these shifts, and to address the resilience brought forth by digitalization. Over two days, hundreds of delegates will engage in rich discussions, network, and share insights on positioning for the future.

Introducing Tish Koh: Charting New Horizons in Communications at SSIA (Singapore Semiconductor Industry Association)

Tish's Journey to Foster Inclusivity and Innovation in the Tech Sphere



Tish steps into the role of Head of Communications and Marketing at the Singapore Semiconductor Industry Association (SSIA), leveraging a decade of expertise in communications. Her professional journey has traversed essential sectors like telecommunications, cloud computing, architecture, and sustainability, highlighting her talent in breaking down complex technical topics, making them relatable and engaging for diverse audiences.

As the semiconductor industry experiences substantial growth, Tish's arrival at SSIA is timely. Her ability to craft compelling narratives promises to not only refine SSIA's communication strategies but also to strengthen the semiconductor ecosystem within its

industry. This Q&A session delves into Tish's professional journey, her strategic approach to communication, and her goals for promoting a more inclusive and supportive culture in the semiconductor sector.

Q: What inspired you to join SSIA?

I was drawn to SSIA because I am motivated by challenges and recognize the tremendous opportunity to elevate the profile and dynamism of the semiconductor industry. The sector's significant growth, heading towards around US\$1 trillion by the end of the decade, illustrates its critical role across all sectors, including consumer electronics, advanced computing, and green technologies. This upward trend reinforces my conviction that semiconductors are vital for our future and underscores the critical story of this industry's impact that must be shared globally. At the heart of it all stands SSIA - truly, I've found myself in the right place.

My decision to join SSIA was also deeply influenced by the calibre of leadership that I found at the company. I have always held the belief that individuals are drawn to leaders rather than job titles or positions. This ethos guided me to follow a mentor across two different companies until he relocated to North America. The foresight and innovative ideas my current boss has for the semiconductor industry struck a chord with me,

convincing me of my potential to contribute significantly to these goals through strategic communication, meticulous planning, and a willingness to embrace risks.

Q: What principles guide your approach to effective communication?

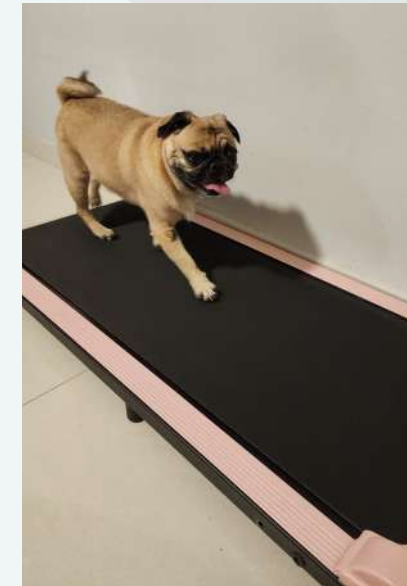
As a non-technical person who has deliberately chosen to immerse myself in technical industries, I am acutely aware that I often occupy the position of the least knowledgeable person in the room. This is a reality I have come to accept and, frankly, embrace. My journey into the realms of semiconductors and other technical fields has underscored a crucial lesson for me as a communications professional; Understanding the intricacies of how an organization operates, its core drivers, and its unique challenges is essential. Only with this deep level of comprehension can a communicator effectively articulate and share the organization's narrative with the wider world.

I believe genuine messages that connect on a personal level are the most powerful. Adaptability is also key; our messaging must evolve alongside the changing needs and preferences of our audience. Above all, I prioritise listening as the bedrock of any successful communications strategy, enabling the creation of meaningful dialogues which foster understanding and engagement.

Q: How do you unwind and destress after a long day?

I've embraced powerlifting as a significant part of my lifestyle, a journey that began a decade ago when I met my husband. My routine includes deadlifts, squats, and various chest exercises to keep my muscle mass in check. For a more laid-back pastime, I (unabashedly) turn to my Nintendo Switch. It's an excellent way for me to unwind, whether I'm on the move or cocooning myself in my room. I'm also an avid movie fan, with a particular affinity for horror films to relax - favourites include the "Insidious" series and "The Conjuring," though I occasionally switch to "Harry Potter" for a dose of nostalgia.

But I'd have to say that Chidi, my pug, is the ultimate relaxation companion. A wedding gift from my husband, she's named after our favourite character from "The Good Place." Chidi is hilariously lazy, and her fondness for lounging blends seamlessly into our chill time. The joy of returning home to her is the best part of my day, much to my husband's chagrin. Here's a funny bit - her snoring is so loud, that there are



times during calls that people often mistake it for me. Fun fact - she's treadmill trained!

Q: As we approach International Women's Day 2024, what message would you like to share about the importance of inclusion and support among women?

When I embarked on my career in marketing and communications 11 years ago, International Women's Day was barely a blip on the corporate radar, and the concept of Equity, Diversity, and Inclusion (EDI) was unknown.

As we approach International Women's Day 2024, it's a moment for reflection on how far we've come and the distance still ahead. Unfortunately, my journey has included encounters with women in leadership who, rather than lifting others, perpetuated a cycle of exclusion, reinforcing negative stereotypes about women in management positions. I'm committed to altering this narrative.

Collaboration is key, not just among women but across all individuals, to create a culture where inclusivity is not just encouraged but expected, ensuring

a safe and inclusive environment for all. Maya Angelou's poignant words, "People will forget what you said, people will forget what you did, but people will never forget how you made them feel," have profoundly influenced my approach to interactions and underscore the impact of our actions on others.

I envision a future where support and solidarity are given freely, recognizing that not everyone will express their support in the same way. Whether you're an introvert who may not outwardly celebrate others' achievements or someone who's more vocal, the essential thing is to provide support without undermining others, especially in their moments of vulnerability. The goal is to foster an environment where every individual, not just women, can thrive. By doing so, we're not just setting new standards within our industries but also paving the way for future generations to build on a foundation of inclusivity and mutual respect.



Empowering Innovation: Electronics Industry Day 2024 Unites Talent and Technology



The Singapore Semiconductor Industry Association (SSIA), in collaboration with ITE Central, proudly hosted the Electronics Industry Day 2024 on January 24th, 2024. We were honoured to have Mr. Alvin Tan, Minister of State for Trade and Industry & Ministry of Culture, Community and Youth, as our Guest of Honor.

This year's theme, "Nurturing Brilliance in the Semiconductor Universe," highlighted the industry's most crucial asset — its people. Individuals from diverse backgrounds, with their unwavering dedication and creativity, drive the semiconductor industry forward. This theme emphasized the critical role of human talent in achieving technological excellence and global impact.

The Electronics Industry Day 2024 was a tremendous success, drawing over 2,000 participants, including students from institutes of higher learning, secondary schools, junior colleges, industry professionals, and job seekers. Notably, there was an increase in participation from second-

ary school and junior college students.

Since its inception in 2019, the Electronics Industry Day has become the premier outreach platform for fostering student-industry partnerships, uniting the brightest minds to cultivate future leaders and talents in the semiconductor sector. This event highlighted the latest technologies, industry insights, and collaborative initiatives, receiving robust support from major semiconductor companies in Singapore. The success of this event is a testament to the strong partnerships and collaboration between EDB, companies, educational institutions, MOE, and various agencies, highlighting career opportunities and groundbreaking technologies in the semiconductor industry.

The event commenced with a welcome address by SSIA's Executive Director, Mr. Ang Wee Seng, followed by keynotes from Mr. KG Ang, GlobalFoundries Chief Operating Officer, and our esteemed Guest of Honor, Mr. Alvin Tan.

A highlight of the event was the recognition and graduation of the 2023 batch of SSIA's SAY (Semiconductor Active Youth) ambassadors, celebrating their remarkable achievements and contributions. Congratulations to the 52 graduates of the program.

Furthermore, the event facilitated connections between industry players, educational institutions, and students, encouraging the exchange of ideas and the formation of meaningful relationships. Networking sessions were strategically included, offering attendees the opportunity to engage with semiconductor industry leaders and experts.

As the semiconductor sector evolves, events like the Electronics Industry Day 2024 are vital for spurring innovation, driving progress, and solidifying Singapore's position as a key player in the global electronics and semiconductor industry, while also attracting young talent to the field.



Event Highlights

MOU Signings with ITE and Semiconductor Companies

ITE forged partnerships with leading semiconductor MNCs—GlobalFoundries, Micron, STMicroelectronics, and A*STAR's Institute of Microelectronics—through four separate three-year MOUs. These collaborations aim to offer student internships, ITE staff work attachments, and joint projects, with an anticipated 500 students benefiting over the next three years.

Company Booths Exhibition

A standout feature was the career booth exhibition, where over 30 top semiconductor companies, including both MNCs and SMEs, highlighted their technological advancements and company profiles. This segment promoted semiconductor awareness, featuring experiential learning activities, and highlighting career and internship opportunities. Attendees explored the latest in semiconductor devices and interactive displays, gaining firsthand insights into the industry's progress.

IHL Booths

Institutes of higher learning, including ITE, polytechnics, and universities, set up booths to display their training and work-study programs. This initiative aimed to bridge education with industry needs, highlighting pathways for students interested in the semiconductor sector.

Career Fair Collaboration

In collaboration with e2i, SSIA hosted a career fair, connecting job seekers with potential opportunities within the semiconductor industry. This fair encouraged participants to engage directly with company representatives, exploring various career paths.

Industry Insights Sharing

The event facilitated engaging panel discussions and sharing sessions by industry leaders and SAY ambassadors. These discussions offered valuable insights into the future of technology and provided students with a deeper understanding of the vast career prospects in the semiconductor industry.

Focus on Work-Study Diploma Programmes

SSIA highlighted the Work-Study programmes available at various IHLs in Singapore. These programs blend classroom learning with on-the-job experience, enabling students to apply their knowledge in real-world settings. The initiative ensures that the curriculum remains relevant and aligned with the industry's evolving needs, marking a transformative step towards a successful career by emphasizing practical skills and industry exposure.

Mentoring SG Initiative

Mentoring SG took centre stage, displaying its dedication to mentoring the next generation within the fast-paced semiconductor industry. A diverse group of volunteers from diverse backgrounds, or "flash mentors", offered career advice and life skills to assist youths in overcoming challenges. This program aims to provide immediate, effective guidance to those starting their careers, enhancing their professional growth. Our guest of honour, Mr. Alvin Tan, engaged with mentors and students, reinforcing Mentoring SG's commitment to fostering a supportive community in the semiconductor industry.

CONTRIBUTED BY

Velinda Wee
Director for Human
Capital Development



US Internationalization Seminar: Catalysing the Global Expansion of Singapore's Semiconductor Sector

On February 19, 2024, a landmark event unfolded that significantly propelled the Singapore Semiconductor Industry Association (SSIA) and its member companies towards unprecedented international expansion. In a strategic partnership with the U.S. Embassy in Singapore, SSIA orchestrated an internationalization seminar with the objective of carving out new pathways for Singaporean semiconductor enterprises, with a special focus on SMEs, to tap into the lucrative U.S. market.

This pioneering initiative took shape in December 2023, sparked by valuable insights shared by the U.S. Embassy



regarding the keen interest of various U.S. state representatives in engaging with the 2024 Singapore Airshow attendees in February. Seizing this unparalleled opportunity, SSIA moved swiftly to organize a meeting that promised to bridge connections between these U.S. delegates and the crème de la crème of Singapore's semiconductor industry.

Hosted at the Lifeline Learning Institute (LLI), the seminar brought together an impressive lineup of 20 state representatives from a broad spectrum of 10 U.S. states, including Arizona, California, Colorado, Florida, Georgia, Idaho, Missouri, North Carolina, Oregon, and Utah. This exclusive gathering offered 22 participants from 16 distinguished companies, along with three influential partners from Enterprise Singapore, a golden chance to directly interact with the state representatives. This interaction provided a deep dive into insights into the various business landscapes, and investment opportunities within the U.S. semiconductor sector.

Kicking off the event, SSIA Executive Director Ang Wee Seng, together with

U.S. Embassy Commercial Officer / Digital Attaché Christian Koschil, delivered inspiring keynote speeches that perfectly set the stage for a day of collaborative discussions and exchanges. The seminar was further enriched by insightful presentations from the state representatives, who delved into their respective states' economic development strategies, investment prospects, technological advancements, and workforce development initiatives, all meticulously designed to attract and nurture semiconductor investments.

Looking to the future, SSIA eagerly anticipates the upcoming SelectUSA Investment Summit scheduled to take place in Maryland from June 23rd to 26th, 2024. This summit is envisioned as a direct continuation of the conversations initiated during the seminar, offering Singaporean firms a deeper dive into the investment climate across the U.S. Additionally, SSIA is in the process of conceptualizing mission trips that align with the summit's goals, with further details set to be shared in subsequent communications.

This seminar is a testament to SSIA's unwavering dedication to amplifying the global reach and capabilities of Singapore's semiconductor sector. It highlights the Association's efforts to foster a dynamic ecosystem that is deeply rooted in local expertise while stretching its wings on the international stage.

For companies eager to explore the vast opportunities within the U.S. market or to participate in future SSIA-led events, we warmly invite you to get in touch with us at secretariat@ssia.org.sg. Join us in this exciting journey to ensure that your company stays at the forefront of information and opportunities that will shape the future of the semiconductor industry on a global scale.

CONTRIBUTED BY

Amy Ang
Director for Business
Development and Partnerships



Semiconductor Synergies: SSIA's Vision at SME Conference 2024



At the SME Conference 2024 in Kuala Lumpur, pivotal conversations unfolded, shaping the future of SMEs in the global semiconductor industry. Ang Wee Seng, Executive Director of the Singapore Semiconductor Industry Association (SSIA), joined a distinguished panel to explore groundbreaking strategies for SME competitiveness worldwide. This gathering, hosted by the Malaysia Semiconductor Industry Association (MSIA), brought together thought leaders to propel SMEs into the international arena.

The panel discussion, themed "Rising to the Innovation Challenge: Strategies for SMEs to Compete Globally," delved into the integral role of innovation in scaling SME operations. Wee Seng, with his in-depth experience from Singapore's semiconductor sphere, shed light on the sector's distinct prospects and the imper-

ative to cultivate a culture brimming with intellectual property and innovation.

Solomon Lorthu of Motorola Solutions moderated the dialogue, drawing out insightful contributions from panellists such as Johnson Chiang of the Industrial Technology Research Institute (ITRI), Bok Eng Cheah of the Malaysian Invention and Design Society (MINDS), and Tatiana Didlier of The World Bank. Their collective expertise set the stage for a compelling narrative on transforming SMEs from industry contributors to industry innovators. Wee Seng's advocacy for environments that not only attract but also nurture talent resonated with the aspirations of SSIA, championing a robust and competitive semiconductor industry in Singapore.

The discussion extended beyond Singapore's borders, juxtaposing the semicon-

ductor journeys of Taiwan and Malaysia with Singapore's trajectory. The conversations with fellow panellists and experts highlighted that cultivating an environment where SMEs move from compliance to creation is paramount in leading the industry's evolution.

The conference echoed a powerful refrain: The dual goals of R&D and commercialization, far from being adversarial, are essential pillars for industry growth. Ang Wee Seng's closing remarks were a rallying cry for embracing opportunities for development as keystones for innovation. The collaborative spirit evident throughout the event was a tribute to the shared dedication to ingenuity, as demonstrated by industry leaders such as Ang Wee Seng and organizations like the SSIA, signalling a steadfast commitment to pioneering and excellence within the semiconductor industry.

CONTRIBUTED BY



BUSINESS CONNECT 2024

July, 2024



In an industry characterized by rapid evolution and innovation, the Semiconductor Business Connect is your opportunity to stay ahead of the curve. This premier event is where industry leaders, emerging tech visionaries, and business strategists converge to redefine the future of semiconductors.

Join us at the Semiconductor Business Connect, where every handshake has the potential to spark a new partnership, and every exchange could lead to the next groundbreaking idea. Here, collaboration is more than a buzzword - it's the key to unlocking a world of possibilities.

Prepare to immerse yourself in a gathering that's synonymous with growth and opportunity. At Semiconductor Business Connect, we bring together the best in the business to share insights, explore cutting-edge technologies, and build a network that empowers your company to thrive in the competitive tech landscape.

Be ready to engage in thought-provoking discussions, connect with influential figures, and harness the collective expertise that drives our industry forward. Whether you're scaling up your operations, seeking out new market trends, or looking to innovate at the speed of light, this event is your platform.

Join the movement that's shaping the future of the semiconductor industry. Be part of Semiconductor Business Connect – where visionaries meet, ideas flourish, and the future of technology is in your hands.

"Individually, we are one drop. Together, we are an ocean." – Ryunosuke Satoro

Dive into the sea of opportunities at Semiconductor Business Connect.

Key Highlights:

- **Specialized Exhibition Arena:** Explore pioneering semiconductor solutions and strategic advancements aimed at forging pivotal industry alliances in our interactive exhibition space.
- **Semiconductor-Focused Conferences:** Delve into the future of semiconductor technology through presentations by esteemed industry frontrunners, discussing breakthrough trends and technological innovations at our dedicated conferences.
- **Strategic Semiconductor Networking:** Capitalize on tailored networking sessions, offering exclusive opportunities for semiconductor professionals to connect, collaborate, and catalyse business opportunities within the semiconductor ecosystem.

WHAT DO EXPECT IN SEMICONDUCTOR BUSINESS CONNECT 2024?



Onsite Exhibition

A platform for solution providers to showcase their solutions and ultimately to promote business matching.



Onsite Conference

Keynote presentations presenting industry trends and emerging technologies.



Networking

Onsite networking and exclusive business matching activities will be arranged during event day and post event.

Catalysing Semiconductor Innovation: R&D Investment and SME Growth

Introduction

In an era defined by relentless technological advancement, the semiconductor industry stands as a critical catalyst for global innovation. For Small and Medium-sized Enterprises (SMEs) in Singapore, engaging in Research and Development (R&D) and continuous innovation is not just pivotal for growth but also for their survival and relevance. The semiconductor industry, in its constant state of reinvention, poses unique challenges and presents extraordinary opportunities for SMEs. In Singapore, where R&D investment has been a cornerstone in driving innovation for over five decades, these factors are particularly salient.

Barriers to R&D for SMEs

SMEs within Singapore's semiconductor industry encounter distinct challenges in R&D investment. These barriers are multifaceted, necessitating a strategic approach to surmount them. A primary hurdle is the substantial cost associated with R&D activities. Essential for innovation, advanced equipment, and technologies often come with substantial costs.

Moreover, the semiconductor sector's reliance on skilled talent is an additional challenge, especially in the face of a global shortage. SMEs, which may lack the resources of larger firms to attract and retain top talent, feel this acutely. To address this, Singapore has implemented programs aimed at cultivating a strong talent pipeline for the semiconductor sector, emphasizing tight-knit

links between the government, industry, and academia. Initiatives like the Career Conversion Programme (CCP), which has successfully placed over 2,500 mid-career professionals into the semiconductor sector from 2016 to 2023, are testament to this effort.

To assist SMEs on their innovation journey, the government, through agencies like Enterprise Singapore, has established Centres of Innovation (COIs). These centres provide specialized equipment, laboratories, and training for product and process innovation, mitigating the challenges SMEs face in developing in-house R&D capabilities.

These efforts are integral to a broader strategy designed to attract young talent into the sector and promote the reskilling and redeployment of mid-career workers into the semiconductor industry. Such strategies align with Singapore's Manufacturing 2030 vision, which seeks to spur growth in the semiconductor sector through R&D, sustainability, and skilled talent development.

Government and Organizational Support

To navigate these challenges, support from both the government and industry organizations is crucial. In Singapore, entities like the Singapore Semiconductor Industry Association (SSIA) and government-led initiatives provide an essential lifeline. The National Semiconductor Translation and Innovation Centre (NSTIC), a national endeavor spearheaded by the Agency for Science,

Technology and Research (A*STAR), in partnership with Nanyang Technological University (NTU), the National University of Singapore (NUS), and the Singapore University of Technology and Design (SUTD) and backed by the National Research Foundation (NRF), exemplifies the government's commitment. With funding of approximately \$180 million from the Research, Innovation, and Enterprise 2025 Plan (RIE 2025), NSTIC's mission is to enhance ecosystem collaboration and amplify R&D outcomes in domains such as flat optics and silicon photonics. Scheduled to launch in April 2024 at ASTAR's Fusionopolis, NSTIC will provide a shared semiconductor manufacturing platform, access to facilities, Intellectual Properties (IPs), and support in R&D, prototyping, testing, small-volume manufacturing, and local talent development.

SSIA's flagship initiative, the Semiconductor Business Connect, is another critical support structure for SMEs. Designed to bolster R&D and innovation, this platform fosters collaboration and knowledge exchange. The event, slated for July 23, 2024, at the Singapore EXPO, will serve as a confluence point for Multinational Corporations (MNCs) and SMEs, with a focus on establishing partnerships vital for the R&D and innovation landscape. The Semiconductor Business Connect is more than a networking event; it is a catalyst for innovation, highlighting R&D-relevant themes such as Automation/AI, Cybersecurity, Additive Manufacturing, Internationalization, and Sustainability—areas of significant

importance for SMEs aiming to enhance their R&D pursuits and maintain competitiveness in the rapidly evolving semiconductor industry.

By providing a stage for SMEs to demonstrate their innovations and capabilities, the event encourages the dissemination of ideas and trends, enabling SMEs to remain current with the latest technological advances. These interactions not only promote R&D collaborations but also allow SMEs to benefit from the best practices of established industry leaders. The role of SSIA, particularly through initiatives like Semiconductor Business Connect, is crucial in fostering an ecosystem where R&D is accessible to SMEs, translating R&D investments into real-world innovations and products, and contributing to the vibrancy and dynamism of Singapore's semiconductor industry.

Conclusion

The semiconductor industry remains a foundational pillar for technological progress, and within this dynamic landscape, the importance of Research and Development (R&D) for the growth of Small and Medium-sized Enterprises (SMEs) is paramount. With appropriate support and strategic investment, SMEs stand to make substantial contributions to, as well as reap significant benefits from, the industry's expansive growth trajectory.

For SMEs in Singapore's semiconductor industry, the mandate is clear: actively engage in R&D, pursue collaborative opportunities, and utilize the platforms and resources provided by organizations such as the Singapore Semiconductor Industry Association (SSIA) to drive innovation and expansion. By

adopting this proactive approach, SMEs will not only secure their success but also bolster the collective strength and sustainability of Singapore's semiconductor industry. The future is promising for those who invest in innovation and partnerships, ensuring a competitive edge in the global market.

CONTRIBUTED BY

Ang Wee Seng
Executive Director





SEMICONDUCTOR WOMEN'S FORUM 2024

26 MARCH

MANDARIN ORIENTAL HOTEL



For those eager to be part of this transformative journey and contribute to the ongoing evolution of the semiconductor industry, the forum welcomes ongoing support and future collaborations. Reach out to us at secretariat@ssia.org.sg, and let's continue to work together to inspire a new generation of innovation and inclusion within the semiconductor industry.

The **Semiconductor Women's Forum 2024** stands as a beacon of progress and unity, aligning perfectly with the semiconductor industry's forward march into a new era. Hosted at the prestigious Mandarin Oriental Hotel, this event not only symbolizes a moment of celebration and reflection but also serves as a critical juncture for fostering inclusion, empowerment, and excellence. As we embrace the theme "Celebrating Inclusion, Empowerment, and Excellence," the forum embodies the promise of a more inclusive future, resonating deeply with the spirit of unity that the semiconductor sector so greatly values.

This year's forum is a significant milestone in our collective quest for gender equality within the semiconductor industry. By highlighting the importance of flexible work arrangements, mentorship programs, and bias-awareness training, the event underscores the industry's commitment to enriching its culture and sparking innovation at every level. These initiatives are crucial for uplifting female participation and ensuring that the semiconductor workforce is both diverse and dynamic.

At the heart of the Semiconductor Women's Forum is the acknowledgment of the unique challenges and opportunities faced by mid-career professionals. The forum aims to provide a roadmap for navigating the complexities of career transitions, emphasizing the importance of support systems and upskilling opportunities. By focusing on these areas, the event seeks to empower individuals to seamlessly integrate into the semiconductor workforce, thereby contributing to the industry's overall growth and innovation.

The forum also shines a spotlight on the contributions of female pioneers and innovators in the semiconductor field. By celebrating the achievements of women in academia and industry, the event highlights their critical role in driving technological advancements and fostering collaborations that shape the future of semiconductors. These discussions are not just theoretical but are grounded in the real-world impact that women have on the industry.

Furthermore, the event underscores the importance of bridging gaps and building bridges across diverse professional backgrounds. By sharing stories of individuals who have successfully transitioned into the semiconductor industry from non-traditional pathways, the forum illuminates the diverse talents and perspectives that contribute to innovation and excellence.

Looking ahead, the Semiconductor Women's Forum 2024 explores emerging trends such as artificial intelligence (AI), the Internet of Things (IoT), and sustainable manufacturing. These discussions aim to inspire women to engage with these burgeoning fields, emphasizing the need for adaptability and continuous learning to excel in the rapidly evolving technological landscape.

As we commemorate International Women's Day within the context of this forum, the event serves as both a celebration of achievements and a call to action. It encourages ongoing engagement with the initiatives discussed and invites participants to contribute to the journey toward empowerment and inclusion.

In essence, the Semiconductor Women's Forum 2024 is a testament to the power of collective action and the indomitable spirit of women in technology. It stands as an invitation to all who are inspired by the narratives of progress and innovation to join in shaping a more diverse and innovative future for the semiconductor industry. By fostering a dialogue on the critical issues facing the sector and highlighting the contributions of women, the forum aims to inspire, innovate, and integrate the diverse talents that will drive the semiconductor industry forward.

Unlock a World of Possibilities: STMicroelectronics' Work-Study Programs Forge New Paths in Semiconductor Careers

Embark on a transformative journey with STMicroelectronics' work-study programs, designed to bridge the gap between dynamic academic knowledge and the real-world of semiconductor industry applications. As a global semiconductor leader, STMicroelectronics recognizes that robust partnerships with academia are pivotal, laying the foundation for a steady stream of highly skilled talent, primed to meet the swiftly changing demands of this high-tech field.

With the semiconductor industry at the cusp of a new era of innovation, STMicroelectronics is at the forefront of cultivating a fertile training ground for the brightest minds. The company's collaboration with the Institute of Technical Education's Work-Study Diploma (WSDip) in Microelectronics and the Singapore Institute of Technology's Integrated Work-Study Programme is a testament to this strategic foresight. These programs are not mere internships; they are incubators for the industry's future leaders.



To date, the foray has been nothing short of remarkable. Nearly 100 young aspirants have benefited from these programs at STMicroelectronics, embarking on a vocational experience that melds academic rigor with the pulsating challenge of a real-world semiconductor behemoth.



Here, guided by seasoned mentors, students get to unravel the complexities of the semiconductor realm, emerging as astute problem-solvers and innovative thinkers. The program has seen talents like Mursyidin Asni bin OTHMAN rise through the ranks, from eager students to skilled Assistant



Engineers, thanks to the program's unique immersion into the practical side of maintenance, operations, and the art of swift adaptation to professional life.

HO Chin Yi's journey mirrors this success, demonstrating the program's robustness in creating a nurturing environment that balances the demands of work and education. For Chin Yi, it wasn't just about the projects but also about the camaraderie and the seamless integration into the STMicroelectronics family, where every team member is a crucial cog in the wheel of innovation.



As the company continues to champion the cause of hands-on learning, it beckons the next wave of talent — those poised to grasp the torch of innovation and carve the pathways of tomorrow's semiconductor landscape. In an industry where the only constant is change, STMicroelectronics stands ready, not just to adapt, but to lead the charge in sculpting the next-gen workforce.

With STMicroelectronics, you shape not just your career, but the very future of technology.

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 **Celebrating International Women's Day**

Dr. Lim Shu Fan

Lead Principal Engineer Power electronics control and firmware

I started working at Infineon more than 20 years ago after graduating with a Bachelor's Degree in Engineering (Electrical Engineering) at National University of Singapore (NUS). Throughout my career within and outside of Infineon, I am dedicated to the pursuit of excellence, challenging the status quo while keeping a curious mindset and never resting on my laurels.

PURPOSE IN EXCELLENCE

At Infineon, I was given the opportunity to pursue my academic passion with a PHD sponsorship in Power Electronics where I was able to further my ambitions



in achieving design wins with innovative products for switched mode power supplies.

Presently, I am a project lead managing and collaborating with globally diverse teams in power management applications for electric vehicles and solar conversion. To enable faster time to market, I am also developing reusable firmware to reduce development time. To see my ideas incorporated into the final product gives me purpose in life as well as immense motivation to become even better at my work.

Chin Sout Fong

Senior Staff Engineer Product Engineering

My interest in physics and mathematics began at a young age and sparked my passion for understanding how semiconductor products work. This led me to pursue engineering as a field of study. Although engineering is male dominated, my strong belief in the power of technology to make a positive

GOOD CULTURE BEGETS INNOVATION

I strongly believe that Infineon's high-performance behaviours are crucial to enabling our success. Behaviours like driving value through innovation and striving for excellence, have given us the imperative to move out of comfort zones and address challenges in bite sized portions with new and conventional methods. It also encourages myself and my team members to safely view mistakes as learning opportunities.

impact on people's lives has driven me thus far.

I'm happy to have joined Infineon in 2018, knowing that our values are aligned, which gives me a sense of belonging in the organization. Our mission to make life easier, safer, and



greener for a better tomorrow resonates with me, and I'm proud to be a part of a company that shares the same values.

NEXT GENERATION OF POWER PRODUCTS TO SOLVE ENERGY CHALLENGES AND SHAPE DIGITAL TRANSFORMATION

Semiconductors are crucial for electronic devices and their technology has advanced quickly, making devices smaller and more reliable. Infineon is dedicated to developing silicon products

for the consumer & automotive market and investing in wide-bandgap semiconductors like Silicon Carbide or Gallium Nitride to expand our leadership in power semiconductors and developing the next generation of efficient power products.

THE FUTURE OF SEMICONDUCTORS

The future of semiconductors will likely see the development of more complex products and breakthroughs in wafer

technology. At Infineon, our development and marketing teams prioritize close communication and collaboration with our customers to create new products that meet their current requirements and future roadmaps. I am particularly excited to see that our Singapore site is leading the way in automation innovation and Industry 4.0 solutions in the backend. This is crucial to maintaining our position as a leading innovator in the industry and to ensuring that we continue to meet the evolving needs of our customers.

Rodriguez Sheila Dimol

Principal Engineer Development Backend Development

Being an electronics engineer, I am captivated by the field of micro and nanotechnology, and how these minuscule dots of circuitry transform our lives. I began my career in the semiconductor industry immediately after university, and have remained in this field ever since. Semiconductor is a niche sector, dynamic at its core and constantly evolving. Every facet of it is as interesting as the other.

LEADING THE WAY IN PACKAGING INNOVATION

I am grateful to be part of Infineon's Backend Package Technology where our daily routines involve innovating, collaborating and conceptualizing of new ideas. We are at the forefront of

packaging innovation for Infineon, always seeking to anticipate emerging technological trends and market demands to position our packaging roadmap for the next wave of technological advancement.

THRIVING IN THE WORLD OF SEMICONDUCTORS

For me, there is no mundane moment being here, every day presents an opportunity to be part of semiconductors' future technological breakthrough. The semiconductor industry demands constant innovation, which also means that there is a high demand for talented professionals who are up for the challenge. For aspiring young professionals who are already in this industry,



and aiming to leave a mark, I would say just be resilient and be open to any ideas no matter how simple, as it may lead to a significant contribution to the overall technological ecosystem.

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<https://scom.ly/EjRDQO8m>

Jennifer Walls: Engineering a Future in Semiconductors

Jennifer Walls, CEO of Clas-SiC Wafer Fab in Lochgelly, Scotland, reflects on her extensive career in the semiconductor industry and shares her insights on innovation, mentorship, and global collaboration.



Jen reviewing Rapid Thermal Anneal tool recipe with engineer in Clas-SiC

from customer-specific parts, I recognized the untapped potential of our engineering team and the nascent SiC technology we'd been exploring since 2004. Convincing the Board to invest in SiC processing equipment, we positioned ourselves as a pioneer SiC processing foundry, securing contracts and setting the stage for future success.

When the company exited the semiconductor business in 2016, the groundwork we had laid paid off. An angel investor recruited our team to build a wafer fab, leading to the birth of Clas-SiC—the world's first dedicated SiC Foundry. Our early global engagements provided the expertise necessary to launch Clas-SiC, propelling us from \$2 million in revenue in 2022 to \$10.7 million in 2023, with anticipated exponential growth in the coming years.

MENTORSHIP AND GROWTH

I attribute much of my success to the 'on the job' learning and the latitude given by my mentors to learn from mistakes. This philosophy is central to my mentorship approach at Clas-SiC, where we champion both modern and graduate apprenticeship programs. Witnessing these apprentices mature into key contributors on significant projects is immensely gratifying.

The guidance I've received from Dr. Carl Johnson, a legend in the Compound Semiconductor Community and our main shareholder, has been invaluable. Our weekly sessions have shaped my strategic vision and reinforced my commitment to offering mentorship across the organization.

CROSS-CULTURAL EXPERTISE

Starting my career in a Japanese Semiconductor company, I encountered the dual challenges of cultural barriers and a male-dominated field. These experiences, coupled with subsequent roles in American corporate culture, enriched my skill set with a diverse array of people skills. These abilities are crucial in daily interactions with customers, suppliers, and investors worldwide and

are integral to Clas-SiC's operations on the global semiconductor stage.

INTERGENERATIONAL SYNERGY

At Clas-SiC, we are acutely aware of the generational knowledge gap in Scotland's semiconductor sector. Our apprenticeship programs aim to bridge this gap, blending the fresh perspectives of graduate device engineers with the seasoned expertise of our long-standing professionals. This dynamic synergy ensures that innovation, automation, and efficiency are not just buzzwords but realities that drive our daily operations. The semiconductor business is inherently about evolution, and at Clas-SiC, we are committed to embodying this principle as we shape the future of the industry.



Jennifer Walls, CEO of Clas-SiC Wafer Fab in Lochgelly, Scotland

BACKGROUND

My journey in the semiconductor realm began at NEC Semiconductors as a photo equipment engineer. It was a time of rapid advancement; I was part of the team that launched the new 200mm fab, which then stood as Europe's most sophisticated and automated facility. By the time NEC closed its doors in 2001, I had ascended to the role of senior production engineer.

A subsequent tenure at Raytheon saw me in various process engineering and management roles, all while earning an MBA. A career highlight at Raytheon

was spearheading the process development team's dive into Silicon Carbide (SiC) processing as the SiC Business Manager. A brief foray outside the industry into healthcare management underscored my passion for semiconductors — a field to which I knew I would return. In 2023, I joined Clas-SiC as COO, and as of January 2024, I serve as CEO.

INNOVATIVE LEADERSHIP

The transition to Silicon Carbide technology at a renowned American defense firm remains a career milestone. As the industry shifted away



Jen in photolithography area in Clas-SiC Lochgelly Wafer fab

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Clas-SiC
W A F E R F A B

Empowering Women Through Mentorship



Sandra: Li Hui has broadened my perspective within the semiconductor industry. She also guided me in establishing my career goals and communicating my ideas and goals confidently with my leaders. This guidance has enhanced my confidence and efficiency in tasks. The programme has also helped us build meaningful connections beyond our own departments and networks.

3. Can you share a memorable instance during your mentorship?

Li Hui: I have learned the "never give up" spirit from Sandra. While I was one of the people helping her along her journey, she was the one who empowered herself by actively seeking advice, implementing it in her daily work and committing to making improvements. I am thankful that her hard work has paid off, as she is in a better position within her team now.

Sandra: Though I have received a lot of guidance and support from my supervisor since joining the company, I lacked the confidence to speak out at work. With Li Hui's encouragement, I stepped out of my comfort zone and initiated open conversations with my supervisor. For example, I nominated myself to learn SQL as a technical skill, which enabled me to pick up new tasks in Micron. I am thankful that my supervisor supported me in learning the new skills, encouraged my professional development and broadened my job scope based on my new skill sets.

4. How do you think mentorship, especially from women leaders, is shaping the culture in our industry?

Li Hui: At Micron, we recognize the transformative influence of mentorship in empowering women to excel in their careers. Besides mentorship programs designed for our team members, we are passionate about fostering diversity and nurturing the next generation of leaders in STEM. Micron has launched the Global Women's Mentorship Program to provide a unique opportunity for STEM students to build meaningful relationships with professional technical women. The program aims to inspire girls about the vast array of possibilities available to them and to help them embrace their potential and seize opportunities, thus fostering the next generation of visionary women leaders.

Sandra: Mentorship programs provide good opportunities for female mentees like me to learn from real-life experience and feel inspired and motivated to excel professionally. They show a company's commitment to nurturing female leaders and driving diversity, equality and inclusion.



5. How do you view the evolution of women's roles in the semiconductor industry, and what changes are you most excited to see or contribute to?

Li Hui: The diversity and increasing participation of women in the semiconductor industry shed light on their importance in the workplace. The ideas and innovation they contribute will undoubtedly elevate the semiconductor industry despite its being perceived as male dominated. Micron is one of the largest

and most diverse employers in Singapore, with over 40% female representation. I am proud to be part of the team cultivating a more diverse, equal, and inclusive ecosystem.

Sandra: I do see many women excelling in leadership roles, and my department is also led by a woman. I don't believe gender determines favoritism. We should empower each other, regardless of gender and background, to thrive.



Micron's SG Mentoring event opening in 2024.

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(From the right) Li Hui Chan and Sandra Sim found that the mentorship program benefited their personal and professional growth.

In Conversation with Two Women

Engineers from GlobalFoundries

Mohd Amin, Rabeeah Al-Adawiyah



Q: Tell us about yourself

I am Rabeeah, a trainee associate engineer in GlobalFoundries GIGA+ (GF's 200mm Fab) PVD department, and the only female employee on the Equipment team. I joined GF under the ITE Work-Study Diploma (WSDiploma) Programme and will be graduating in end 2024.

Q: What challenges did you face joining this industry?

Learning about the cleanroom environment was a big step for me, as I had never been in one or seen one before. The high-tech advanced manufacturing facility comes with many robots and expensive toolsets that are highly sensitive to dust, light and many other factors. With that comes a lot of procedures and

processes to follow, which took me a while to learn and get used to. Needless to say, I was overwhelmed by the fast-paced working environment and steep learning curve.

The WSDiploma curriculum also requires us to juggle both work and school life, with practical, written and oral examinations along the way to ensure that we are on track for our learning. I had to get used to juggling both work and study at the same time, but eventually reaped the benefits of my hard work.

Q: How did the company help with your challenges?

The WSDiploma programme coordinators at GF ensured that my on-the-job training closely aligns with my academic curriculum, so that I can apply what I study in the classroom directly to the cleanroom. My mentor, Hapiz, is also extremely helpful and approachable. He



will ensure my tasks are in sync with my studies and readily answer any questions I have. On days when I need to be in school and during busier school peak periods, my team will also step up to cover for me.

I also had the opportunity to be attached to other departments, which helped me to gain greater exposure and an appreciation of the other aspects of a global semiconductor manufacturing company.

Q: Any major wins you want to share?

I am in charge of Process Kit Change, that involves heavy lifting of machinery and assembling or disassembling parts for regular cleaning, which often takes a lot of time and energy. For someone who had zero knowledge of the equipment, I am proud to say that I learnt how to complete the whole process of cleaning the tools and machinery that fall under my module. I am pleased to have accomplished this in a predominantly male environment and I feel a strong sense of personal satisfaction and achievement knowing that I was able to overcome the challenges.

Q: Tell us about your work family

My fellow WSDiploma course mates in GF provide a good support system, and my department is also very friendly and approachable. The company also organises team bonding and sports events, and I am glad to have had the opportunity to participate in some of these, such as our soccer tournament.

Q: How do you embrace Diversity and Inclusion at work?

As the only female on the PVD Equipment team, I am proud to be able to contribute to gender representation. My ideas and opinions are valued and my supervisors trust me to handle all my tasks independently.

Janice Koh



Q: Tell us about yourself

I am Janice, a process engineer in Fab 7 CleanTech. I'm the youngest engineer in the department. I've been in GF for over 2 years now, since I started my Year 3 semester internship at GF under the WSDegree Programme. I am also proud to be an SglS scholar with GF.

Q: What challenges did you face joining this industry?

This industry is fast-paced and ever-changing. When I started my internship, I was really overwhelmed with all the acronyms used. School education provided the theory and helped me understand the process flows, but the practical experience of being in a world-class Fab was so much more valuable.

Q: How did the company help with your challenges?

This learning journey is a continuous one, but it would be incomplete without the dedicated people helping us. As interns, we had the privilege of getting a full series of training, including soft-skills learning and technical training sessions which were really beneficial to me, especially for someone entering the workforce for the first time. The biggest help came from my team members who involved me in discussions. I saw different perspectives on a common issue, witnessed how ideas were created, and had a platform to ask questions.

Q: Any major wins you want to share?

Presentations are a core part of my job, though they still make me nervous. I'm really proud to have grown to be a more confident speaker, one who is better at giving technical presentations. I was even rated one of the best presenters at the End Internship Project Presentation and I have received compliments from colleagues on presentations I have given.

Q: Tell us about your work family

I enjoy a highly supportive network of colleagues at work, who give me the chance to prove myself. A shoutout to my manager Yap, my mentor Zhenjie and my FYP mentor Chris. I am also proud to be a member of the GF Graduate Excellence Model (GEM) Programme, which enables me to take on good quality projects to equip me with the necessary skills early,



giving me a head start in my professional journey.

Q: How do you embrace Diversity and Inclusion at work?

GF is the only semiconductor manufacturer with a truly global footprint with manufacturing locations in Singapore, USA and Germany. In the Singapore site alone, there are as many as 34 nationalities and people span across many different generations. I get to collaborate with people within the team, across departments and even with colleagues beyond our borders. Also, despite being the newest and youngest engineer in the department, and a female one at that, I am still able to contribute and develop my skillsets.

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Meet the Makers at Silicon Labs!

Learn more about a career in connectivity! Read the interviews of our engineers:



@Vvara
Verthika Varati
Senior Applications Engineer, Wireless (US)



@Amanda
Amanda Fu
Product Test Engineering Director, Operations (Singapore)



@Sandra Tee
Sandra Trucksis
Global Service Desk Manager, IT (Singapore)



@SophieG
Sophie Gault
Associate Staff Systems Engineer, Wireless (France)



@SIMA
Sivathmika Manda
Senior Engineer-Product & System Apps, Wireless (India)

The Silicon Labs Community brings together a huge amount of expertise and going forward we will regularly spotlight some of the masterminds we bring to the mix. Since we are celebrating International Women's Day this week, let's start by giving the floor to our talented female engineers from across the globe and tune into what excites them the most about engineering and the IoT (Internet Of Things), and hear their most memorable problem-solving situations. These engineers, together with you, push the boundaries of IoT!

Q: In your opinion, what is currently the most intriguing topic in your field?

Vvara: I would say generative AI. Whether that's to accelerate chip manufacturing or to improve efficiency in daily engineering tasks while navigating through the risks it presents, such as company Intellectual Property (IP) becoming a target for cyberattacks.

Amanda: It is the question of how to attract, hire and grow top talent in the semiconductor industry, especially here in Asian countries. Many fresh graduates and young talents are attracted to high-brand or otherwise well-known

companies. One question we always have is how to attract them to join us at Silicon Labs and how to create challenging and promising career opportunities for them.

Sandra: Recently, most striking has been the shift in focus away from SaaS (Software as a Service) and cloud technologies to conversations on cybersecurity. How will it be possible to continue toward seamless integration and an IoT-filled world while protecting ourselves and our data? What will that protection look like, how will it be structured? Who will provide it: third-party companies, internal SMEs, or governmental bodies? How do we build parameters around cybersecurity that will also balance the many advantages SaaS and cloud computing provide? These are the questions I find most interesting right now.

Veta: There is a set of open problems, but I'd say that the most crucial issue is the question on security. All technological benefits come with added technological risks and vulnerabilities that cyber attackers are always looking to exploit. If, for example, hackers get control of a connected car, they could take over the core functions like acceleration, steering and brakes, and demand a ransom from

an owner simply to start the car, or even just disable the locks and steal the vehicle. It has been demonstrated by researchers that vulnerabilities in a keyless entry system could allow an attacker to unlock and steal the car in a matter of minutes. That is why security is an important issue for all IoT products, including smart home, automotive, etc.

Cyber security investments related to IoT products are already growing, and huge effort has already been applied to this topic. Some examples of that are cyber security standards, like ISO/SAE 21434 in the automotive industry, or the ISO/IEC 27400 IoT security and privacy standard. But IoT the pursuit of cyber security is not yet completed and never will be. Organizations need to interpret and deploy the cyber security standards already released. It is certain that cyber threats will both grow and become more sophisticated as the technology develops.

SophieG: There are many, but as I like to get back to basics, I will mention the traditional issues related to embedded software development. These are increasingly more challenging nowadays, that is, producing reliable, real-time, efficient software while ensuring small footprints, low power consumption, and of course, secure systems.

Today this is achieved by numerous teams working together, and this means the code also must meet other constraints such as maintainability. At the same time, for the collaboration to deliver, projects must be well structured and communication between teams is key. So, a range of interesting questions from the very technical to methodological and people-related must be addressed to solve all the above challenges.

Sima: For me, the most interesting hot topics are Security and Interoperability. How do we make our devices to be interoperable between different platforms while also making sure the security is not compromised.

Q: In your work how do you contribute to IoT?

Vvara: As an Application Engineer, my work enables our customers to cross the finish line, that is, bring their end IoT products that use our SoCs (system on chips) (system on chip) and modules to the market. I am part of that by supporting them from the initial evaluation stage all the way through to the certification phase and beyond.

Amanda: My team works to ensure efficient, low cost, and high-quality testing of Silicon Labs products. We receive the wafers from their manufacturer and then package them into high quality Silicon Labs SoC's before shipping to customers. To be confident in their high quality, my team's testing process ensures that the SoC (system on chip) is fully tested, error free and complies with what is stated on its corresponding datasheet. This includes working with external factories to, for example, improve test throughput. We also qualify and characterize new IoT products before they are launched to the market.

Sandra: My work is entirely behind-the-scenes. We keep the company's internal systems running and spec out new solutions so that our other teams

can do their work efficiently, securely, and (in an ideal world) without frustration. While my work contribution takes place behind-the-scenes, I am still a very active user of IoT. For example, I have set my home lights to detect when I switch my laptop into 'off-work' mode, and my office fan to automatically turn itself off based on my phone's geolocation.

Veta: I am working in a direction-finding team. Our effort is mostly concentrated on algorithms for radio signals processing for precise positioning of an object in 3D space.

Sophie G: I am working on the implementation of Wi-SUN features at the PHY and MAC level. That means developing firmware in RAIL, our Radio Abstraction Interface Layer, that is provided to our customers along with all our wireless SoC families. RAIL allows them to easily develop their own stack/application as it spares them having to deal with how the underlying hardware works.

Sima: I am a part of the Applications Engineering team. We deal with customers (which includes design and software engineers from other companies) who are making IoT products that are used in home automation, the medical field, and many more. I am helping the customer to evaluate our product (in my case especially SiWx917 SoC), resolve any issues they face from the stage of evaluation to production. Thus, supporting them to make an IoT product. I feel proud and happy to be a part of this team that gets to walk that journey along our customers!

Q: What are your thoughts on how to encourage more women into tech?

Vvara: I do not think our focus should be about encouraging women into tech. I believe we should put more effort in exposing girls from a young age to STEM related games and activities to trigger their interest in tech fields. In this way as they grow into women, tech

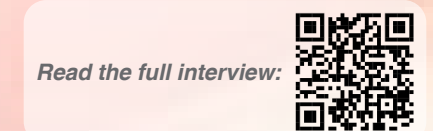
becomes as natural a choice as any other field.

Amanda: Create bonding opportunities among women, sharing personal stories in life as well as in your career. Strive for a work life balance. Create interest groups based on hobbies, training needs, different life stages/life issues faced.

Veta: I consider it is good to show examples of women who are already working in tech. One should be motivated by the interest in the topic he or she is working on, but sometimes we all feel self-doubt and the community of people who are also interested in this topic is something that could encourage you.

SophieG: By giving the women already working in tech more opportunities to take on more responsibility! This will surely attract more female engineers. And of course, by promoting diversity in general in the workplace to fight against the beetle syndrome!

Sima: Women need to be convinced that they are equally needed and as suitable in tech as men. That they are appreciated and valued equally. They need the assurance that they can integrate work and life. Some women might require taking a break to take care of their children, and we need to encourage them so that they can get back to work when the time comes.



Read the full interview:

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Skyworks Empowering Women: SSIA exclusive interview with Hoon Lian, Yap – Director, Process Engineering



Career Path & Inspiration

Can you share your journey in the Semiconductor Industry and what attracted you to this field?

My working journey started with Chartered Semiconductor Singapore after completing an education in electrical engineering, majoring in wafer fabrication. During the early career development phase, my primary focus was on learning the fundamentals of semiconductor technology and gaining hands-on manufacturing experience in the real world. It's because of that experience that I chose to specialize process engineering. From then onwards, I have spent more than half my life in this field, onward to Global-Foundries and now with Skyworks' Filter Solutions Group.

Throughout the journey, I encountered countless challenges, such as meeting tight and dynamic deadlines, technical hurdles & excursions and the well-known semiconductor cyclic market fluctuation. I am blessed to have

met supervisors all along my career path who imparted their wisdom and provided guidance through these challenges. The semiconductor industry has taught me how to adapt to changing circumstances, collaborate effectively with team members and find innovative solutions. I am truly grateful to have been given the opportunity to take on leadership roles and continue to challenge my capabilities moving forward in Skyworks.

Why Semiconductor Industry, you might ask?

The semiconductor industry is at the forefront of technology innovation – it drives advancement in electronics, computing, communication and many more. Offering endless opportunities for creativity and discovery, it gives us the passion to push the boundaries of technology. It's an industry where we never stop learning and life never stops teaching!

Needless to say, the semiconductor industry offers intellectual challenges

with its high complexity and ample opportunities to engage in cutting-edge research and development. It allows us to put the knowledge we learnt in university to good use. This dynamic and growing field continues to provide attraction of a life-long career experience.

What pivotal moments have defined your career in technology, innovation and growth?

There is not a single mundane moment in the semiconductor industry, particularly for the operations team. Overcoming waves of technical challenges allows one to demonstrate resilience, problem solving skills and the ability to work in a 'pressure cooker'. This ironically provides a great sense of achievement.

Another milestone is the amazing chance to participate in Y2023 SSLA Run 9 –The SSLA Program (Singapore Semiconductor Leadership Accelerator) came at a timely moment as Change Management and Optimal Leading Models are key to workplace transformation. During the course, not only have we covered a wide spectrum of concepts, but we also had ample application and synthesis of our learning through team discussion with our accountability partners. The program inspired us to continue the practice to internalize the concepts and provided knowledge to better lead businesses, people and self.



Innovation & Challenges

What are the biggest challenges facing the semiconductor industry today, and how is Skyworks addressing them?

The key challenge that comes into mind is supply chain disruption. The semiconductor industry has been grappling with disruption caused by factors such as geopolitical tensions, natural disasters, pandemic, and so on. These led to shortages of key materials, impacting production schedules and lead time and poses cost management difficulties. Geopolitical tensions and trade disputes also impacted market access for semiconductor companies. In such volatile environment, Skyworks management and the procurement team had placed top focus on dual sourcing and timely qualification to ensure business continuity.

Today, Semiconductor is driven by trends such as 5G, artificial intelligence, Internet of Things (IoT), and electric vehicles. The cost of operating semiconductor manufacturing facilities continue to rise with complexed manufacturing processes, the need for cutting-edge equipment and higher technology nodes requirements. Companies need to look for out-of-the-box solutions to gain more out of their investments.

For a field that requires professional skills in areas of semiconductor design and process engineering, talent shortages and skills gap is another big challenge. Companies are competing on securing and retaining the limited resource pool. Addressing the skill gap requires investment in training programs and workforce development initiatives. Skyworks technical development team is continuously focusing on how to attract and retain a newer generation with a different workstyle and perspective.

Leadership & Strategy

As a leader, how do you foster a culture of excellence within Skyworks?

Fostering a culture of excellence involves creating an environment where by high standards are upheld; continuous improvement is encouraged and employees are empowered to strive for excellence in all areas. First and foremost, we need to set, define and communicate clear expectations for performance across all levels of the organization. Employees need to understand how their individual contributions add to overall success. Following that, we have to promote collaboration and cross-functional teamwork, where employees from different backgrounds gather to share their expertise, challenge each other positively, break down silos and openly communicate so as to assimilate knowledge sharing for issue solving. As leaders, we need to provide a safe environment for constructive feedback and continuous improvement, where employees feel comfortable to provide input and challenge the status quo. These are essential to encourage a growth mindset that embrace failure as a learning opportunity. Last but not least, as leaders, we need to recognize, reward and celebrate achievement to support growth and development of individuals and teams towards excellence.

Technology & Future Outlook

In your view, what technological advancement are shaping the future of semiconductors? What future trends are you most excited about?

The future of semiconductors are largely shaped by artificial intelligence (AI), machine learning and the Internet of Things (IoT). Artificial & Machine Learning have been the talk of the town of late, increasingly integrated into semiconduc-

tor design and manufacturing processes for optimal performance, efficiency and decision making. Advancement in wireless connectivity and sensor technology are shaping the future of semiconductors for IoT applications.

Amidst the technology advancement, we cannot neglect environmental sustainability. The world is ours and our future generation depends on our efforts to adopt more sustainable practices and reduce environment footprint. "Be the change you wish to see in the world" – there is a lot more to explore and many projects we are working on to do our part for the communities where we work and live.

Advice And Insights

What advice would you give to professionals aspiring to make a mark in the semiconductor technology sectors?

Stay hungry for knowledge. Be open-minded in exploring new terrains and technologies. Push your boundaries to step out of your comfort zone as these provide opportunities to grow. Do not fear failure as every failure is a step to success. Do note that embracing challenges unlocks your potential as a Leader one day.

Last but not least, I would like to share a quote shared by one of my ex-female HOD Mentor:

"A leader is one who Knows the Way, Goes the Way and Shows the Way"
- John C. Maxwell

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Complexity excites us.
Collaboration drives us.

At Lam, we relentlessly pursue innovation that pushes the boundaries of technical limitations, creating solutions that enable chipmakers to power progress.

Let's *prove it.*[™]



Realtek Connects to a Smart Future, Enriching Lives Today

Realtek Semiconductor, as a leading global IC design house, offers comprehensive products that are both high-performance and competitive in the market. Established in 2013, Realtek Singapore Pte Ltd, a wholly-owned subsidiary of the Semiconductor Corporation, serves as the regional headquarters. Its role is to extend R&D capabilities by attracting regional talents and to deepen the company's presence and expand business in Southeast Asia.



AP Router and IoT Solutions Advance Smart Living, Realizing the Vision of a Smart Home

The AP Router solution, equipped with a dual-core ARM A55 CPU and a dedicated RISC V data packet engine, brings the high-speed internet experience to family homes. It features two Hi-SGMII interfaces supporting 2.5GE WAN/LAN speeds, and provides four 1GE interfaces to meet various home network needs. The introduction of Wi-Fi 7 technology further strengthens network interference resistance,

ensuring stability, enhancing throughput, and expanding Wi-Fi coverage.

Realtek's Ameba series IoT solutions support Wi-Fi Sensing, intelligent voice commands, and the Matter standard. Wi-Fi Sensing intelligently analyzes minor changes in home Wi-Fi signals, allowing developers to tailor their Wi-Fi products' responses without additional hardware, ensuring privacy.

The single-chip smart voice solution is a cost-effective option that supports local commands and voice activity detection for a truly interactive smart home experience. IoT Matter standard support creates a more interconnected and intelligent home environment for users.

Revolutionizing Vehicle Networks with Enhanced Security and Efficiency

Realtek's automotive-related solutions include multiple product lines such as Wi-Fi, Bluetooth, and Ethernet PHY and Switch. Among them, the latest releases in the Ethernet PHY and Switch segment are the RTL9010B and RTL9071C series. The main feature is that MACsec enhances vehicle network cybersecurity by providing a secure communication channel, ideal for the Ethernet backbone and sensors in cars. MACsec enhances vehicle network cybersecurity by providing

a secure communication channel, ideal for the Ethernet backbone and sensors in cars. The introduction of Energy Efficient Ethernet (EEE) on the 1000BASE-T1 PHY reduces power consumption by 50%, perfect for in-car networks. Additionally, the highly integrated Automotive Ethernet Switch Controller, with MACsec protection and deep packet inspection, supports crucial vehicle systems like central computers, IVI, and ADAS controllers, ensuring both security and high performance.

Realtek's communication networks have infused new vitality into the Singapore market, enriching the daily lives of local residents while bringing them more possibilities and convenience.



UTAC Partnering the Institutions for Young Students' Engagement

As a leader in assembly and test services for diverse semiconductor devices, UTAC collaborates with educational institutions to foster awareness and provide insights about the semiconductor industry. On 11 October 2023, UTAC participated in the Progression Fair 2023 organized by the Institute of Technical Education (ITE) Central. This event showcased the learning and progression opportunities beyond Nitec and Higher Nitec

Wafer Prep Engineering team who is undergoing his Work-Study Diploma, was asked to share his experience on the work-study aspects. Likewise, Mendoza Jeffer Cris Esteban (Senior Engineer) his supervisor, was also invited to share his experience from the supervisor's perspective. Besides the Panel Discussion, our career booth was visited by students studying various subjects who were interested to find out more information on

In November 2023, UTAC participated in the Semiconductor Awareness Day organized by the Singapore Semiconductor Industry Association (SSIA) to create awareness on the value-add and impact of Outsourced Semiconductor Assembly and Test (OSAT) companies such as UTAC for students at Republic Polytechnic. Some 100 students visited our booth and sought career guidance. Engaging with the students reaffirms our dedication to nurturing young talent



1. **Mendoza Jeffer Cris Esteban** shared the company overview with the audience (photo 1) and answered questions posed by students during the panel discussion (photo 2). **Anuar Bin Abdul Nasir** shared his experience working in UTAC (photo 3).

certification courses to more than 5,000 graduating students, increasing awareness for the students before they enter the job market. During the Panel Discussion, Anuar Bin Abdul Nasir (Production Technician) from the

work-study opportunities in UTAC. Since 2019, there have been 12 employees who have completed or are undergoing the Work-Study Diploma in Microelectronics, and Applied Electronics & AI courses.

and sharing the transformative potential of the semiconductor field. Looking ahead, we are excited about the ongoing journey of collaboration and knowledge-sharing, as we remain committed to contribute to the ever-evolving landscape of the semiconductor industry.



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SAY Ambassador Programme: Shaping the Next Generation of Electronics Leaders

Join the forefront of innovation with SSIA's Semiconductor Active Youth (SAY) Ambassador Programme. This strategic initiative is meticulously designed to build a future-facing pipeline of skilled professionals poised to lead the semiconductor industry. In collaboration with elite Institutes of Higher Learning and top-tier industry enterprises, we're setting the stage for breakthroughs and professional excellence.

The SAY Ambassador Programme is where theoretical knowledge meets practical application. Exclusive training and mentorship from industry titans offer a deep dive into the semiconductor sector's most pressing challenges and opportunities.

For aspiring leaders: This is your call to action. Shape the future of electronics with your unique perspective and skills. Reach out to us to be part of this industry-defining movement.

For Industry Leaders and Businesses: Your expertise and corporate vision are the bedrock of innovation. By partnering with the SAY Ambassador Programme, you contribute to mentoring and guiding a new generation of industry pioneers, while also tapping into a pool of emergent talent. These ambassadors are the prospective leaders, team members, and disruptors

who will drive your company and the semiconductor sector toward a prosperous future. We invite you to join this collaborative journey, where your knowledge meets youthful ingenuity, to unlock the tremendous potential within these bright, ambitious individuals.

Discover how the SAY Ambassador Programme serves as the nexus between ambitious talent and industry stalwarts, promoting a symbiotic ecosystem where the semiconductor industry thrives.

Connect with us and explore the possibilities by reaching out to secretariat@ssia.org.sg.



Leadership in Engineering

Transforming Potential into Excellence

Elevate Your Impact with the SSIA Leadership Programme

Unleash your leadership potential in the Semiconductor and Electronics industry with our cutting-edge programme. Designed exclusively for the industry's brightest minds, the SSIA Leadership in Engineering Programme propels you to new heights through a series of expert-led talks, in-depth veteran sharing sessions, and dynamic workshops. This programme is the launchpad for those who have proven their mettle for 3 years or more and are recognized as top-tier talent by their peers and organizations.

Who Should Attend:

Ambitious professionals with 3+ years in the industry, poised for leadership.

Our Mission:

To catalyse the rise of the next wave of leaders in the semiconductor and electronics sector, fortifying their soft skills and leadership prowess.

Core Programme Highlights:

- ▶ Cultivate self-awareness and introspection for personal growth.
- ▶ Master interpersonal and communication skills to lead effectively.
- ▶ Engage in robust workshops and case studies from the semiconductor and electronics frontline.
- ▶ Gain insights from seasoned industry leaders and pioneers.
- ▶ Build a powerful network of peers across diverse industry sectors.

Step out not just as an engineer, but as a visionary ready to shape the future of engineering leadership. For further details, reach out to us at: secretariat@ssia.org.sg

Enhance Your Market Presence with VOICE Magazine



Connect with the Heart of the Semiconductor Industry

VOICE Magazine is the go-to publication for the semiconductor sector, boasting a prestigious international readership of over 8,000 industry pioneers and key players across related fields.

Advertising Options:

Secure a prominent full page (H 255mm x W 200mm) to showcase your brand.

Opt for a strategic half-page placement (H 127mm x W 200mm) for concise impact.

Exclusive Advertising Package

Elevate your brand's narrative with our bespoke package, designed to integrate seamlessly with your marketing strategy

- **Prime Placement:** Your advertisement on a full page, with options for the inside front or inside back cover, subject to availability.
- **Storytelling Canvas:** Spread your message with 2 full inside pages, perfect for an advertisement feature or a compelling advertorial.
- **Digital Spotlight:** Gain additional exposure with a banner on the VOICE Magazine landing page.

Partner with us to amplify your voice in the semiconductor industry's most innovative circles.

Boost Your Brand with SSIA's Premier Advertising Opportunities



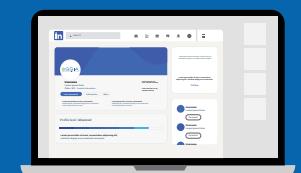
Electronic Direct Mail (EDM) Campaigns

Elevate your reach with precision targeted EDMs to a strong subscriber base. (Note: EDMs from external vendors are limited to a maximum of twice a week, curated at SSIA's discretion.)



SSIA Website Homepage Banner

Command attention with your advertisement on our homepage, prominently displayed for two full months.



LinkedIn Visibility

Expand your influence with a post on our LinkedIn, reaching an audience of over 15,000 professionals. (Note: LinkedIn posts are limited to twice a week, curated at SSIA's discretion.)

For detailed inquiries or to customize your advertising package, reach out to us at secretariat@ssia.org.sg

Stay Ahead with SSIA Subscribe Now!

Dive into the forefront of semiconductor innovation with SSIA's mailing list. Gain exclusive insights and stay informed with the latest trends, cutting-edge training courses, and vital industry updates. Don't miss out on our partner events and other exciting developments!



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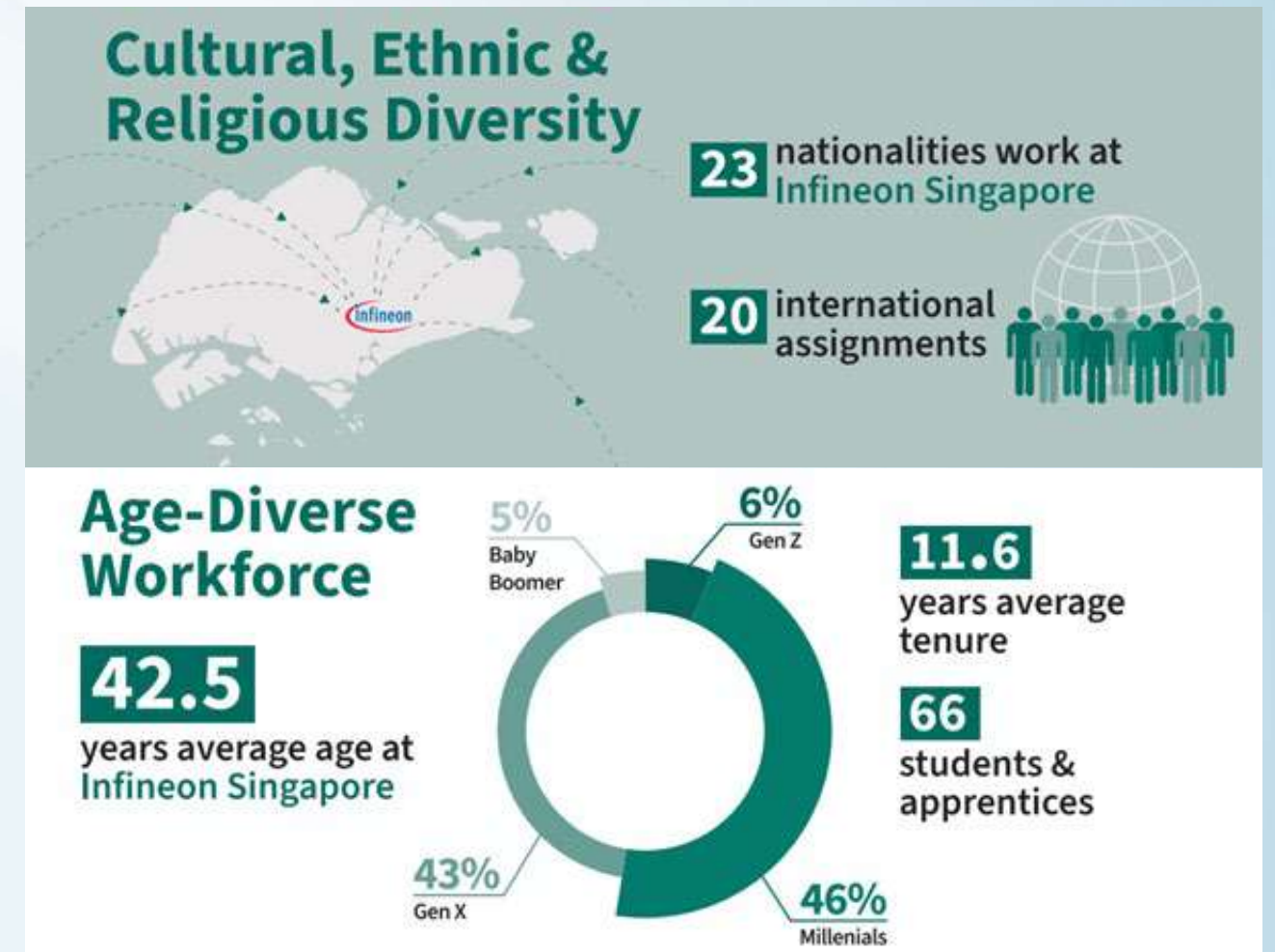
We firmly believe in diversity and inclusion (D&I) as a strength that drives discovery. We strive to offer people the best experience possible, whether that be at the workplace or through our products. People make all the difference, bringing different people with different experiences together is what sparks creativity and innovation. At Infineon, we embrace all differences, to make a difference and to solve the challenges of our time.

We aspire to empower, inspire, and equip women to lead and contribute to building an easier, safer and greener world. Infineon Singapore has 2489 employees, 46% of them being female.

To show our commitment to this aspiration, at Infineon Singapore we have reached a share of 20% female colleagues in the top management. But we want to further empower, inspire and equip women in the technology, engineering and mathematics field as

well. This is in line with SSIA's Semiconductor Women's Forum 2024 theme of inspiring inclusion of female talent, showcasing opportunities for women in the field and attracting female talents to the semiconductor industry.

We aspire to celebrate different cultures, ethnicities, nationalities, and ages. We need many diverse and bright minds if we want to drive decarbonization and digitalization together.



As of 30th September 2023

Our commitment to diversity and inclusion helps create an environment where listening sparks learning; where every voice, no matter how quiet is heard and where all perspectives can be expressed. Embracing different voices and perspectives allows all of us to BE ourselves, to feel safe and accepted in our own skin. This gives us

the confidence to take bolder risks. An environment like this, where we can thrive is exactly the type of atmosphere it takes to drive innovation. **The result of inculcating diversity and inclusion creates the best Infineon for everyone – colleagues and customers alike – and a better future for all.**

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<https://scom.ly/EjRDQO8m>



As of 30th September 2023

Technology Enabling Life

**Technology for creating
semiconductors
is technology that makes
dream products real**

Shockingly groundbreaking products –
this is what semiconductor advancements bring.
Our technology produces equipment to
manufacture semiconductors,
and it makes wonders real.

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Honoring

International Women's Day 2024

#WeAreHOYAElectronics #IWD2024 #InspireInclusion #CelebrateDiversity

HOYA

Dual Forces of Innovation: Navigating the Future with Leadership and Vision



Marisa Azman Chief Financial Officer, ENGIE South East Asia

Q: As the Regional CFO for ENGIE South East Asia, what does a typical day look like for you, and what sparked your interest in this field?

A: My CFO role, in what is a rapidly evolving fast growing business, transcends the management of numbers to help drive and execute the strategic direction of the business on a daily basis, with sustainability at its core. The days are varied and could involve everything from financial analysis, forecasting, advising on new investments, contract optimisation to implementing transformation and automation initiatives.

My inspiration stems from a strong desire to foster a greener future. I'm drawn to ENGIE being at the forefront of the energy transition and its serious commitment to diversity, with women constituting half of our board.

Q: From your perspective, what distinctive strengths do women contribute to sustainability and leadership?

A: Women have a unique way of leading, the key differentiators being inclusiveness, empathy, and emotional acuity, all of which are crucial to sustainability which is a transformative journey highly dependent on effective collabora-

tion and strong stakeholder engagement

Q: Reflecting on your career, how have the challenges for women in the workplace shifted over time?

A: There's a promising trend towards narrowing the gender pay gap, yet we haven't reached parity; women's earnings still trail men's by an average of 16%. However, the growing incorporation of DEI initiatives is paving the way for more equitable access and opportunities for women.

Q: How do you navigate the demands of leadership while fostering personal growth and maintaining well-being?

A: It's a delicate balancing act, one that I'm mastering over time. It's crucial to assert boundaries that honour both professional excellence and personal serenity—like ensuring time spent with family. It's about managing expectations and creating spaces for personal and professional enrichment.

Q: What advice would you give to the next wave of women leaders embarking on a career in the renewables industry?

A: Be your best advocate — know your worth and make it known.

Janet Tang General Counsel, ENGIE South East Asia

Q: Can you tell us about your role at ENGIE and what motivated you to pursue a career in renewable energy?

A: As General Counsel, my role is a dynamic fusion of legal stewardship and ethical governance, ensuring ENGIE's operations align with our ambitious objectives. My Malaysian heritage, where electricity is a precious commodity, fuels my mission to democratise energy access and spearhead our global journey towards carbon neutrality.

Q: As a woman shaping the future of sustainability, what unique insights do you bring to your leadership role?

A: Drawing from personal experience, female leaders often exhibit heightened levels of empathy, perseverance, and a propensity for adopting a holistic approach to problem-solving. responsible leadership style but also align with the values commonly associated with sustainable practices.

Q: How have the professional challenges for women evolved during your career?

A: The landscape is changing—gender biases and the scarcity of women in

leadership positions are still prevalent challenges, but there's an encouraging movement towards shattering the proverbial glass ceiling and achieving a more harmonious work-life integration.

Q: What strategies do you employ to balance the rigors of leadership with your personal well-being?

A: Over time, I've learned that personal well-being is non-negotiable. Setting firm boundaries, practicing self-care, and having a solid support network are vital. Defining clear goals and delegating effectively have been key to maintaining this equilibrium.

Q: What words of wisdom can you offer to aspiring young women who aim to make a mark in the energy sector?

A: It is crucial to take care of yourself (emotionally and physically), and invest in yourself (both technical skills and soft skills). Then, embrace your uniqueness, believe in your abilities and do not shy away from opportunities. If opportunity does not come your way, ask for it! Each step forward you take contributes to breaking barriers.

And, if you can, be the inspiration of the next generation.



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Artful Impact: Fostering Inclusivity Through Corporate-Community Collaboration



In today's business landscape, the integration of social good into corporate strategy is not just a noble pursuit but a vital component of sustainable success. Applied Materials Southeast Asia stands at the forefront of this transformative approach by forging a groundbreaking partnership with the North East Community Development Council (NECDC) to unveil the HeARTBeat Gallery, a pioneering initiative showcasing the remarkable talents of differently abled artists.

The HeARTBeat Gallery is a direct extension of NECDC's Shaping Hearts programme, an annual festival dedicated to elevating awareness and fostering support for Singapore's special needs community through arts. Strategically situated in the bustling reception area of Applied Materials Southeast Asia's headquarters, the gallery breaks new ground as the programme's inaugural permanent exhibition space beyond the confines of the annual festival. It proudly presents 16 exceptional pieces by five distinguished artists from the Shaping Hearts initiative - Bobby Yeo, Genine

Tham, Lim Kim Lye, Ng Siang Hoi, and Vincent Seet, each a testament to the unyielding spirit and creative prowess of individuals facing disability.

But the commitment of Applied Materials extends beyond mere exhibition. In a commendable act of support, the company is orchestrating an auction of the featured artworks. Remarkably, 100% of the auction's proceeds are pledged directly to the artists, empowering them to continue their creative journeys and further their artistic ambitions.

This collaboration is deeply rooted in Applied Materials' ethos of nurturing its workforce and contributing positively to the wider community, encapsulated in its mission to "Make Possible a Better Future." Brian Tan, Regional President of Applied Materials Southeast Asia Pte. Ltd., expressed his pride in the initiative, stating, "The HeARTBeat Gallery stands as a profound tribute to the resilience, courage, and indomitable strength of these extraordinary artists. It is a significant stride towards cultivating

a more inclusive and dynamic arts community, reflecting our commitment to not just envision but actively manifest a better future for all."

This gallery signifies a landmark achievement in the NECDC's ambition to widen the reach of the Shaping Hearts programme, seeking to draw in more corporations aligned with the vision of promoting inclusivity through art. "We are thrilled to partner with Applied Materials on this path to championing inclusivity," remarked Desmond Choo, Mayor of the North East District. "Such partnerships are pivotal for forging a sustainable ecosystem where inclusivity and shared values flourish."

Through this collaboration, Applied Materials and NECDC are not just showcasing art; they are sculpting a model of how businesses can effectively contribute to societal advancement by embracing and promoting diversity, creativity, and inclusion. This initiative stands as a beacon of hope and a call to action for corporations to weave social responsibility into the fabric of their business operations, proving that the pursuit of inclusivity and community support can indeed be an integral part of how we conduct business.

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Brushstrokes of Resilience: An Artist's Journey Through Disability and Creativity

Artist Vincent Seet's Inspiring Path from Adversity to Artistry



Personally, as an artist I feel proud and honoured that my artworks are being featured at HeARTbeat Gallery. It gives us confidence that our hard work has been recognized and encourages us to continue improving on our future artworks.

4. Creative Process: Can you describe your creative process? How do you decide what to create, and what materials do you prefer to work with?

My paintings are focused on nature, landscape scenery and wildlife. They are created based on love, care, hope, family, and any positive theme.

My paintings are created through 2 distinct categories. The first are paintings created from my photography during my regular "stroke recovering" nature walks. The second are paintings from imagination featuring places that are forbidden for stroke survivors such as high altitude or deep-sea terrain.

Majority of my paintings are acrylic on canvas with occasionally "used coffee grounds" painting on Watercolour paper.

5. Impact of Art: In what ways do you hope your art impacts or communicates with viewers?

From my maiden exhibition in 2013, I have a wish for everyone who see my artwork has their dreams come true. Besides this, I hope my art can share the awareness of our beautiful nature environment and inspire others to love and protect her.

Before my stroke I was an Economics lecturer and though I used drawings to illustrate complicated economic concepts for students, I could not fully develop my creativity and skills. My disability however given me the opportunity and courage to explore assorted styles, techniques, and way of expressions. I changed from "right-handed pencil sketching" to "left-handed acrylic painting" due to the disability. And given me more courage and freedom to create/try out new medium such as "used coffee grounds" painting. Mostly importantly it breaks the constraint and allowed me to create out of the box.

3. HeARTbeat Gallery Experience: What does it mean to you to have your artwork featured in the HeARTbeat Gallery, especially in a corporate environment like Applied Materials?

1. Personal Journey: Can you share a bit about your journey into the world of art? What inspired you to start creating?

My journey into the world of art began when I was 3 years old. I started to sketch the 12 zodiac animals after watching the first Chingay Parade on the street. Thereafter I started to develop a passion for drawing, and it continued till date. However, I did not have the opportunity to fully develop myself until my 2 stroke incidents in 2010-11.

The beauty of Nature and all wildlife are my inspiration to start creating. In painting we can create beauty of anything beyond time & space.

2. Artistic Influence: How has your experience with disability influenced your artwork and creative process?

There is always "light" illustrated through my paintings despite I am painting a daytime or nighttime scenery. This is to give hope and inspire other artists (& non artists) with disabilities to be strong and walk out of any situation they may encounter.

6. Role of Art in Inclusion: How do you see art playing a role in promoting inclusion and understanding within the community and workplaces?

Art plays the role of creating a harmonious and creative environment within workplaces and communities. This is important to ensure no one is excluded.

In state of harmony, one can be in a calmer mind to understand and appreciate things and people around them. Creativity allows us to think beyond and become more receptive to innovative ideas and perspectives.

7. Collaboration with NECDC: How has partnering with NECDC for the Shaping Hearts program influenced your art and its visibility?

I have collaborated with NECDC since the first Shaping Heart (aka Art Market) since 2019. Shaping Hearts not only gives artists with disabilities a chance to display their artworks, but it also helps to lessen the burden for many who are in pursuit of improving their skills and talents in Arts. Personally, as a self-taught artist, Shaping Hearts has given me a tranquil and comfortable environment to explore my creativity beyond the norms and opportunities to develop new styles, new mediums, and new techniques.

8. Future Projects: Are there any themes or projects you are particularly excited to explore in your future artworks?



Artist Vincent Seet, and his wife Tan Lee Lee

My artworks are based on environmental sustainability as well as peace and harmony. Example my "used coffee grounds" painting created in 2018/9 was to promote recycling and reusing purpose. Also, I am currently instructing mental challenged people from a Home to paint, and I am keen to help them to display more of their masterpieces one day.

I will continue to explore innovative ideas to bring the important message of sustainability and disability inclusion to the public.

9. Message to the Community: What message would you like to convey to both the semiconductor industry and the wider community about the importance of supporting artists with disabilities?

In general, we all understand it is not easy being an artist. The more it is for artists with disabilities. Van Gogh who painted majority of his masterpieces in the asylum has shown this to the world.

It is important support the artists with disabilities to allow their talents to be

seen by the public and the world. For artists with disabilities this support is especially essential as many does not has the mean to express themselves or even highlight their talents. This support can help many future "Van Gogh's talents" be appreciated before they were gone.

10. Advice for Aspiring Artists: What advice would you give to aspiring artists, particularly those facing their own challenges or disabilities?

Be strong, be brave and have the courage to face any challenges with faith and belief that you can made it. Take the first step to express your feelings through arts. Be free to use any medium you choose which gives you the most comfort according to your personal preferences and circumstances.

Art is a free expression of the artist inner self. Thus, there is no right or wrong. Believe in yourself and your artworks so one day others will appreciate and understand them too. What is important is not the result but the hope, joy, and valuable experience of this journey towards the destination.

Canvas of Courage: A Mother's Perspective on Her Daughter's Artistic Voyage

Brushstrokes of Resilience: How One Mother Witnessed Her Child Paint a World Beyond Words



1. Personal Journey: Can you share a bit about Genine's journey into the world of Art? What do you think inspired her to start creating?

I first realised Genine had a flair for creating when she joined the Art Psychotherapy Programme at Extra•Ordinary People in 2019. Genine was a shy and hesitant girl, unable to express herself or make eye contact with new people. She was also apprehensive about entering unfamiliar spaces and involving herself in new experiences. In the sessions, she would only choose the colour red, make repeated markings on a big sheet of paper, and have no interest in other colours, mediums, or learning new ways of painting.

The continuing sessions supported her natural interests without judgment or pressure. Her positive experiences at

her weekly sessions helped her develop a sense of openness as she explored her Art more playfully.

I have seen Genine transform from a timid child to one with a 'voice'. Painting has enabled her to choose - colours and strokes. The idea of making a choice is powerful for a child like her.

Genine is supported by the Creative Lab Programme at Extra•Ordinary People, which has been instrumental in her artistic development. The organisation has played a key role in shaping and nurturing her artistic journey. Part of the Extra•Ordinary People's Campus Programme, the Creative Lab Programme started in 2022 to provide independence and vocational skills training to children with special needs, including Genine. I am honoured to be part of an organisation that thinks out of the box and is committed to supporting



individuals with special needs in Singapore.

2. Artistic Influence: How do you think her disability has influenced her artwork and creative process?

She was born with Epilepsy, a neurological disorder that delayed her speech development, intellectual capabilities, and also physical capacities. Being unable to articulate her feelings and emotions, Art is a vehicle for her to express herself. Each painting is like an expression of the way she experiences the world around her.

3. HeARTbeat Gallery Experience: As Genine's parent, what does it mean to you to have her artwork featured in the HeARTbeat Gallery, especially in a corporate environment like Applied Materials?

I am honoured and grateful for Genine to be given this opportunity to participate in a meaningful collaboration with NECDC and Applied Materials. It is heartwarming knowing that her art pieces are displayed in a gallery and appreciated by a community in a corporate environment like Applied Materials.

4. Creative Process: Can you describe Genine's creative process? How do you think she decides what to create, and what materials has she shown an inclination to work with?

She selects each artwork's colours, tools, style, orientation and duration. She uses her body, particularly her hands and fingers, sometimes feet, as a tool of expression and discovers a new movement for each stroke in her painting. She forms them through colours, rhythm, sound, touch, or general interaction with her environment. She appears to try new styles of creativity every week in her sessions. She often integrates new movements when she is more aware of her surroundings; this can be in the form of a different tool, perhaps, or a unique colour composition. Her preferred mediums are primarily acrylic, either on wood panel or canvas.

5. Impact of Art: In what ways do you hope her art impacts or communicates with viewers?

Where words may fail, Art thrives. Genine's paintings tell a story; each colour elicits an emotion, projecting the message of possibilities, resilience and creativity. As her mother cheering her from the sidelines, I hope for her pieces to inspire hope, foster empathy and understanding, allowing viewers to see the world from a different perspective and appreciate the diversity of human experience.

6. Role of Art in Inclusion: How do you see Art playing a role in promoting inclusion and understanding within the community and workplaces?

I believe Art serves as a powerful tool for acknowledging diversity and inclusion. Each artwork communicates visually. Embracing these initiatives helps build a society that values inclusivity, understanding, and empathy.

7. Collaboration with NECDC: What are your thoughts on partnering with

NECDC for the Shaping Hearts program? Has it had an impact on the visibility of Genine's art?

Partnering with NECDC for Shaping Hearts has been a wonderful and memorable journey. The event has expanded and brought Genine's artworks to a broader audience. Collaborating with reputable and established events like Shaping Hearts creates a sense of trust and credibility in the public. In 2019, Genine took on the role of 'Featured Artist'. This was especially rewarding as her artwork was auctioned!

Shaping Hearts has also created a unique experience by offering something beyond the traditional gallery visit, helping to foster a deeper connection between the artists, the audiences, and the purchaser.

8. Future Projects: As her parent walking with her on this journey, do you think any themes or projects would help bring more of Genine's works to the forefront?

Wearable Arts perhaps – Genine's "Peace" drawing was brought to life in the Morning Dew collection. This was a clothing collaboration between Ans.Ein and Extra•Ordinary People in 2019. I love the dresses designed in her paintings. I hope there will be more opportunities for such collaboration or projects. It can be dresses, hats, handbags, etc.

Commissioning Work – She did large-scale commissioning work, and the results of the completed work were magical. It would be great if more opportunities existed to engage in challenging pieces.

9. Message to the Community: What message would you like to convey to the

semiconductor industry and the wider community about the importance of supporting artists with disabilities?

Firstly, I would like to applaud companies like Applied Materials, who started this wonderful initiative, for embracing inclusion in their workplace. It is a true testament to building a more inclusive society together. I believe all people, including those with disabilities, has equal rights to participate in the creative economy,

I hope the public can look beyond what they are creating to why and how they have made it. Their work bears the story of growth, courage and perseverance despite their challenges. Therefore, supporting artists with disabilities allows us to shape our hearts to embrace each other's uniqueness, celebrate each other's diversity and value inclusiveness in society.

10. Advice for Aspiring Artists: As the parent of a daughter with special needs developing in the art world, what advice would you give aspiring artists, particularly those facing challenges or disabilities?

Be clear about the motivation that initiates your journey or pursuit. Always stay true to your own initial aspiration. Accept yourself as a unique individual.

Your child does not need to be better than anyone; just be the best they are.

Believe what you can and not what you cannot. Always remember if you do not believe in yourself, no one will. See every event as an opportunity to learn; therefore, love yourself and give yourself time and space to grow in this journey. Lastly, the sky's the limit.

Thank you for allowing me to share.

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- Learn the intricacies of cleanroom operation and safe chemical handling.
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- Leverage Industry 4.0 innovations to overcome industry-specific challenges.

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Empowering the Future of Semiconductor Innovation: NUS Launches Multi-Disciplinary Master's Programme, Master of Science in Semiconductor Technology and Operations (MSc STO)

“Students will understand the different aspects of semiconductor business, technology, analytics, and supply chain. This way, they will graduate with strong technical and operations background to best support the industry

LIM YEOW KHENG,
NUS Professor, Programme Director



WHY THIS PROGRAMME

As many people might know, semiconductor technology is essential in the modern world. Singapore accounts for more than 10% of the global semiconductor market and 20% of semiconductor equipment worldwide.

At the recent Budget 2024 speech, Deputy Prime Minister and Minister for Finance Lawrence Wong spoke about upgrading sectors such as the semiconductor sector, where Singapore has competitive advantages. He shared that in addition to excellent connectivity and a stable business environment, there is a critical mass of leading companies based in Singapore. These key industry players have established a niche in high-demand specialty chips and NAND flash memory chips. These are critical components that enable industrial automation, 5G connectivity, and electric vehicles.

The College of Design and Engineering (CDE) at NUS, has established strong track records in research and PhD graduate education in semiconductors. Recognising that, in addition to advanced technical know-how, the new generation of semiconductor talent needs to know business, analytics, technology and supply chains, CDE has designed and launched a new multi-disciplinary master programme in semiconductor technology and operations.

SPECIFICALLY, THE PROGRAMME LEARNING OUTCOMES ARE:

- Equip graduates with the fundamentals and the latest semiconductor technologies in materials, devices, manufacturing, packaging and testing.
- Understand semiconductor technology infrastructure investments and supply chain management.

- Review key cost and benefits decision-making at the strategic, tactical and operational levels relevant to semiconductor chip design and manufacturing.

- Comprehend the complete design, technology development, manufacturing process, and technological innovation cycles.

- Understand the past and current business models of the technology development process.

PROGRAMME OVERVIEW

The Master of Science in Semiconductor Technology and Operations (MSc STO) is part of CDE's effort to cultivate a talent pipeline for the Semiconductor Industry in Singapore. This is a collaboration between the Department of Electrical and Computer Engineering,



the Department of Material Science and Engineering (MSE), the Department of Industrial Systems Engineering and Management (ISEM), and Singapore Hybrid-Integrated Next-Generation μ -Electronics Centre (SHINE). They will offer courses such as Semiconductor Yield and Failure Analysis, Integrated Circuit Technology and Design Methodology, Photonic Integrated Circuits, Semiconductor Supply Chain and Demand Management, and Evolution and Transformation of Semiconductor Industry.

These courses are organised into graduate certificates such as Graduate Certificate in Semiconductor Yield and Failure Analysis, Graduate Certificate in Semiconductor Packaging and Test Engineering, and Graduate Certificate in Semiconductor Supply Chain and Demand Operations. Such an arrangement allows students to pursue relevant courses on a need

basis and may subsequently stack them into the full Master's degree qualification.

In addition to classroom-based courses, experiential learning is available to full-time students through the optional internship arrangement, where students will be placed in an organisation for 15 weeks working on core and emerging topics related to Semiconductor Technology and Operations. They will be jointly supervised by NUS academic and experienced industry practitioners.

WHO THIS IS FOR

This MSc programme is open to Bachelor's degree holders with a STEM background. The programme may be pursued on a full-time or part-time basis. The maximum candidature for full-time study is two years whereas part-time study is four years. Students may enrol in the Master's programme directly, or

opt to take the graduate certificate pathway where they can stake multiple graduate certificates to the Master's qualification.

JOB PROSPECTS

The programme provides opportunities for working professionals, practising engineers and university graduates to upgrade their knowledge and capabilities. Graduates can take up semiconductor Manager/Engineer roles in Process, Process Integration, New Product Introduction, Manufacturing and Operations, Yield, Test, Failure Analysis, Quality and Reliability, Industrial, Supply Chain, Customer Support, and Programme Management relating to Semiconductor Industry such as Design Services; Application Drivers; Foundries; Outsourced Semiconductor Assembly and Test (OSAT); Equipment/ Material Supply Chain; Research Institutes; Government Agencies.



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College of Design
and Engineering

A Journey of Innovation: 40 Years of AMD Singapore



AMD Singapore recently commemorated its 40th anniversary with a celebration attended not only by several senior leaders from HQ such as President Victor Peng, as well as SSIA's Executive Director Ang Wee Seng, and Business Development Director Amy Ang.

A look back at 40 years of history

Since its inception in 1984, AMD Singapore has been a cornerstone of the local semiconductor industry, evolving from a high-volume manufacturing plant to a hub of innovation and research.



In the early 90s, AMD Singapore expanded its horizons with the establishment of the IC Design Center, signaling its entry into microcontroller and Ethernet controller design. After which, 2001 marked a significant milestone with the first-ever AMD Singapore campus. Around the same time, Xilinx expanded into Singapore, kickstarting an illustrious journey here developing highly flexible and adaptive processing platforms that enable rapid innovation across a variety of technologies, from the endpoint to the edge.

By 2012, AMD Singapore had transformed into a full-fledged R&D center, spearheading CPU product development and expanding its portfolio to include client, graphics, server, and console gaming products. In fact, the Singapore labs contributed to the development of AMD's recently launched Instinct™ MI300 series of AI accelerators.

AMDers: The Engine Behind AMD

AMD is powered by people which is why we strive to attract, acquire,

develop, and advance the most engaged, diverse and inclusive workforce in the semiconductor industry. Among them is **Kenneth Chia**, Senior Manager Product Development Engineering, Technology and Product Engineering, as well as **Yap Kwee Peng**, Director of Silicon Design Engineering, Singapore Design Centre.

Kenneth embarked on his journey with AMD in 2005 as a platform firmware engineer. Nearly two decades later, his trajectory within the company has been nothing short of meteoric. From taking on the global System Level Test (SLT) Architect role to pioneering new teams within AMD's expansive global framework, Kenneth's influence has been pivotal. His crowning achievements include the delivery of groundbreaking SLT solutions for the latest generation of game consoles like the Sony PlayStation 5, and Microsoft Xbox Series X and Series S.



Another shining star at AMD Singapore is Kwee Peng who has been a part of the Xilinx team since 2006. Initially starting as an IC Designer and one of the Singapore Design team founding members, she has steadily progressed into a strategic leadership position, currently leading a 30-member team across both Singapore and Ireland. Throughout her tenure, she has consistently achieved impressive results, including the remarkable feat of achieving tape out delivery a cutting-edge 7nm design in just 9 months, even within the new environment following AMD's acquisition of Xilinx.

2024 and beyond

AMD Singapore has always remained steadfast in fostering closer collaboration within the industry – including partnering with SSIA on the SAY ambassador program and IC Design annual summer camps to nurture the local talent pool.



Beyond that, our passion also extends towards serving our communities. We have long-standing partnerships with numerous organisations and institutions – including Food From The Heart, Chen Su Lan Methodist Children's Home, and Bizlink Centre. Notably, AMD Foundation recently awarded Bizlink Centre a grant to upgrade their equipment at their Data Management and Contact Centre to train the beneficiaries in digital skills and empower them towards gainful employment.

AMD's focus is multi-faceted, and we are building solutions that are energy efficient. We offer leading AI hardware, are building a unified software stack, and are positioned to power transformative AI applications based on our broad portfolio offerings. We are investing in breakthrough innovations such as advanced packaging and 3D stacking, chiplet architectures, and innovative products such as APUs. We are leveraging our AI IP across our portfolio of products as well as scaling innovation and architectures from cloud to edge to end points with our Zen, CDNA™, RDNA™, and XDNA™ architectures.

As we stand on the precipice of a Pervasive AI era, AMD – bolstered by its acquisition of Xilinx in 2022 – has grown to become the global high performance and adaptive computing leader, offering the broadest portfolio of compute engines to power the workloads of today and the future. Combining the best of architecture, packaging and software to deliver leadership performance and efficiency – from the AMD Instinct™ MI300 accelerators to AMD EPYC™ processors and from AMD Ryzen™ AI Software for client devices to the AMD ROCm™ Platform for AI developers – AMD Singapore will continue to lead the charge in the development and launch of products that help solve some of the world's most important challenges, spurred on by our culture of innovation and excellence, for the years ahead.

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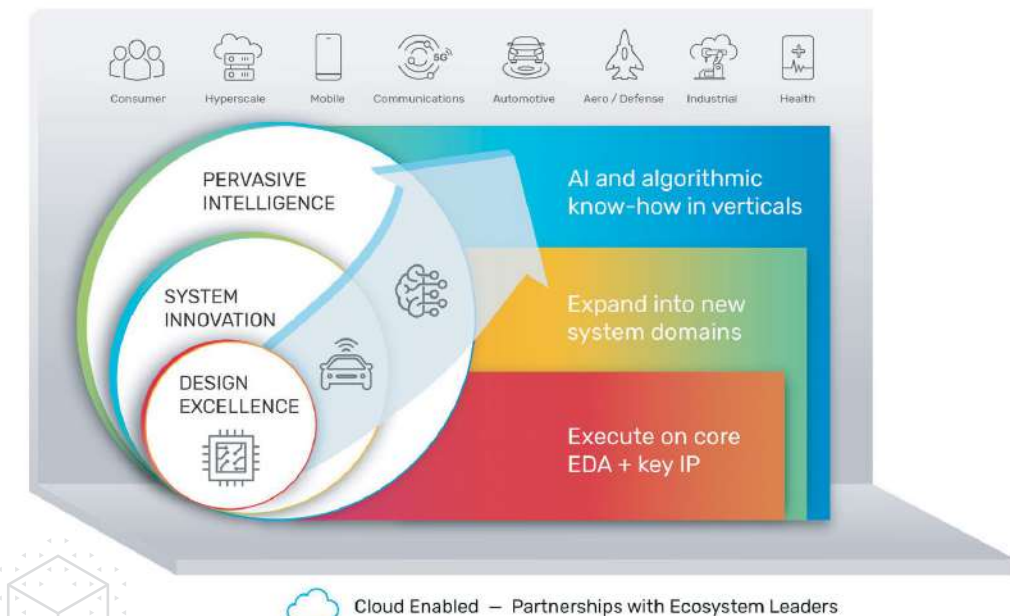
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Importance of Diversity in Generative AI: Ensuring Ethical and Inclusive Technologies

Generative AI is an exciting field that has the potential to revolutionize many industries, from entertainment to healthcare. Electronic Design Automation (EDA) plays a critical role in the development of generative AI technologies by enabling the design of high-performance electronics. We provide the necessary tools and techniques for designing and optimizing the hardware and software systems that are used to run machine learning algorithms. For example, they can be used to design, verify and optimize the hardware systems that are used to run machine learning algorithms, such as GPUs and specialized processing units. EDA tools can also help in the design and testing of the software algorithms themselves by providing mechanisms for simulation, analysis, and verification. EDA tools can analyze and help improve the performance and reduce the power of these systems. Additionally, they can help with the testing of the software algorithms themselves by running that software on a hardware emulator.

However, to ensure that generative AI is truly beneficial to society, it is essential that the teams working on these technologies are diverse and inclusive.

Why Generative AI Needs Diversity: Addressing Bias and Promoting Innovation

Diversity refers to the variety of different backgrounds, experiences, and perspectives that individuals bring to a team or organization. In the context of generative AI, diversity is particularly important because of the potential for these technologies to impact a wide range of people and communities.

One area where diversity is particularly crucial in generative AI is in the training data that is used to develop these technologies. Generative AI tools are designed to create new content or data, such as images, videos, or text, based on patterns and rules that are learned from existing data. These tools rely heavily on machine learning algorithms, which can be very computationally intensive and require specialized hardware and software to run efficiently. Machine learning algorithms are only as good as the data that they are trained on, and if the training data is biased or incomplete, the resulting AI models will also be biased and incomplete.

For example, a study by Joy Buolamwini and Timnit Gebru found that commercial facial recognition systems were less accurate at identifying darker-skinned individuals and women. This bias was likely due to the fact that the training data used to develop these systems was predominantly composed of lighter-skinned individuals and men. This is just one example of how lack of

diversity in the development of AI can lead to negative consequences.

In addition to ensuring that training data is diverse, having a diverse team working on generative AI can also help to identify potential biases and ethical concerns that may arise from the use of these technologies. For example, a team with diverse perspectives may be more likely to recognize when a generative AI tool is perpetuating harmful stereotypes or reinforcing existing power imbalances.

Furthermore, having a diverse team can also lead to more innovative and creative solutions. Research has shown that diverse teams are more effective at problem-solving and decision-making because they bring a wider range of perspectives and approaches to the table.

Unfortunately, the field of generative AI currently lacks diversity. According to a report by the AI Now Institute, women make up <20% of AI research staff at two of the larger AI companies. People of color are also significantly underrepresented in the field, with <5% of research staff identifying as either Black, Hispanic or Latinx.

To address this issue, there have been calls for more diversity and inclusion in the development of generative AI. This



includes efforts to create more inclusive workplaces where all employees feel valued and supported.

Building a Better Future with Diverse Generative AI Teams

There are several ways that the lack of diversity in generative AI can be addressed. One approach is to focus on recruiting and retaining more women, people of color, and other underrepresented groups in the field. This can be done by providing targeted outreach and support programs to improve the inclusion of many perspectives in developing AI. Cadence reaches out to global communities for this reason through The Cadence Giving Foundation. We take our wealth of innovation and technical expertise to support and increase access to STEM education among underrepresented groups.

Companies and organizations can also work to create more inclusive workplac-

es where all employees feel valued and supported regardless of their background or identity. This can include implementing diversity and inclusion training programs, establishing diversity and inclusion committees, and setting diversity goals. At Cadence, we have expanded our diversity beyond recruitment, career support, and development to include community empowerment among underrepresented groups.

In addition to inclusivity, it is important to prioritize diverse perspectives and approaches in the development of generative AI technologies by involving a wide range of stakeholders in the design and testing process. Our many Cadence inclusion groups also enrich our AI stakeholder base, which has seen us push the leading edge of AI and Machine Learning.

By taking these steps, we can work towards a more diverse and inclusive field of generative AI that better reflects

the needs and experiences of all individuals and communities.

Overall, diversity is crucial in generative AI because it helps to ensure that these technologies are developed in an ethical and inclusive way. By bringing a wide range of perspectives and experiences to the development of these technologies, we can create AI systems that are more accurate, innovative, and beneficial for everyone.

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Paul Scannell

Corporate Vice President
at Cadence Design Systems, Inc

cā dence®

ENGIE & SBS Transit Announce Plans To Drive Sustainability In Public Transit

Partnership will leverage ENGIE's expertise and SBS Transit's extensive bus and rail network to drive sustainability and digital transformation in Singapore's public transit. MOU inked in Q4 of 2023 sealing both companies' commitment, marks new milestone in SBS Transit's sustainability journey during their 50th anniversary year.



Mr YEO Kong Nee, Managing Director of ENGIE Services Singapore, Mr Jeffrey Sim, SBS Transit Group Chief Executive Officer, and Mr Thomas Baudlot, CEO of ENGIE Southeast Asia (pictured centre) with executive staff during MOU signing ceremony sealing SBS Transit and ENGIE's partnership to drive sustainability and digital transformation in Singapore's public transport system.

SBS Transit, Singapore's leading public transport operator, announces ENGIE, a global leader in low-carbon energy and services, as its sustainability partner. Together, the two companies will work to reduce the environmental impact of SBS Transit's fleet of over 3,500 buses and nearly 80 MRT and LRT stations.

Through this partnership, ENGIE will collaborate with SBS Transit to reduce their emissions and energy consumption, improving SBS Transit's energy efficiency, and overall driving higher industrial standards for environmental sustainability across their bus and railway systems.

"As a global leader in low-carbon energy and services, ENGIE is proud to support SBS Transit's sustainability journey. Our collaboration will encompass the integration of ENGIE's wide range of solutions that are designed to help our partners green their energy mix and reduce their energy consumption. The greener part of the equation will be

addressed by onsite solar systems, which come at a cost competitive advantage. To reduce the energy use of SBS sites, we will implement energy efficiency initiatives which target high energy use equipment such as cooling and lighting systems. Lastly, leveraging on digital with our proprietary Smart Operations and Maintenance (O&M) platform, we'll be able to ensure optimal levels of operation and control across SBS Transit sites," commented Mr Thomas Baudlot, CEO, ENGIE Southeast Asia.

"In fact, we have already begun implementation planning for our Smart O&M platform across seven SBS Transit sites, providing real-time data collection and analysis to maximise their efficiency. Our work on these sites will significantly reduce their energy consumption and help achieve net zero at a building-level. Our comprehensive partnership is empowering SBS Transit to achieve its sustainability goals while demonstrating our joint commitment to Singapore's net-zero ambitions."

This will be done through greening SBS Transit's energy mix with on-site renewables, implementing energy efficiency projects, and leveraging digital solutions to reduce overall resource consumption. Key among the range of solutions to be implemented by ENGIE will be its highly integrated Smart Operations & Maintenance (O&M) Platform.

With this centralised digital platform, SBS Transit will soon embrace a paradigm shift in its transport operations. ENGIE's Smart O&M will enable remote, real-time monitoring of assets and infrastructure, reducing system downtime and disruptions, improving maintenance, automating anomaly detection in equipment performance, and optimising energy performance tracking and notification and report workflows.

Fleet of SBS Transit's electric buses pictured above are part of the company's adoption of more sustainable practices.

"ENGIE is honoured to be SBS Transit's chosen sustainability partner. Together we will create a more resilient, efficient, and environmentally conscious public transport hub for Singapore. With our shared vision for sustainable development and passion for digital transformation, ENGIE looks forward to a fruitful partnership that will enhance SBS Transit's decarbonisation journey", said Mr Thomas Baudlot CEO ENGIE South East Asia.

The announcement of ENGIE as SBS Transit's sustainability partner follows the transport operator's recent win for the Bukit Merah Bus Package tender, which grants a five-year extension on SBS Transit's operation of seven bus interchanges that cover 17 of the 220 bus services it manages across Singapore.

SBS Transit Group Chief Executive Officer, Mr Jeffrey Sim, added, "SBS Transit is proud of our partnership with ENGIE to advance our commitment to sustainability. As Singapore's leading public transport operator, we are committed to creating long-term shared value for all our stakeholders through sustainable growth. We have been working with ENGIE to incorporate sustainability measures with impact into

our operations and today's announcement reaffirms our steadfast commitment to reducing our impact on the environment."

SBS Transit and ENGIE's sustainability partnership was sealed in a Memorandum of Understanding signing ceremony on 15 November 2023, marking a significant step forward for SBS Transit in its decarbonisation journey. This move also aligned SBS Transit with Singapore's National Agenda on Sustainable Development under the Green Plan 2030 – contributing towards the country's goal of reaching net-zero emissions by 2050.

About ENGIE

ENGIE is a global reference in low-carbon energy and services. With its 96,000 employees, its customers, partners and stakeholders, the Group is committed to accelerating the transition towards a carbon-neutral world, through reduced energy consumption and more environmentally-friendly solutions. Inspired by its purpose ("raison d'être"), ENGIE reconciles economic performance with a positive impact on people and the planet, building on its key businesses (gas, renewable energy, services) to offer competitive solutions to its customers.



Fleet of SBS Transit's electric buses pictured above are part of the company's adoption of more sustainable practices.

In Southeast Asia, we are a fast-growing team of nearly 2,000 employees. With a geographical focus in Singapore, Malaysia, and the Philippines, we bring efficient energy solutions spanning from integrated facilities management and low-carbon infrastructure (district cooling, EV charging, onsite solar, etc.) to large-scale renewables to our clients across the industry, real estate, and data center sectors. We act throughout the value chain to help our clients decarbonize today, for a better tomorrow.

About SBS Transit

SBS Transit is a public-listed company in Singapore and a member of the ComfortDelGro Group, which is one of the world's leading land transport companies. A multi-modal public transport operator, SBS Transit runs the North East Line, which is the world's first automated, underground heavy metro system. It also operates the Downtown Line, which is currently the longest underground MRT line in Singapore, and the Sengkang-Punggol Light Rail Transit Systems. In total, it operates 78 stations with 192 trains running on 83 track-km. It is also the biggest and most experienced public bus operator in Singapore. With a fleet of more than 3,000 buses, it operates some 220 bus routes. Every day, it carries more than three million passenger trips on its network of buses and trains. For more information, please visit www.sbstransit.com.sg.

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Phaos Technology: Spearheading Innovation and Clinching the Excellence in Innovation Award at SME Tech Day

SINGAPORE - Phaos Technology Pte Ltd, a burgeoning Singapore-based company, has been making waves in the world of optical microscopy technology. With a recent additional accolade to their name, Phaos Technology's innovative spirit and technical prowess have been officially recognized at the SME Tech Day, hosted by the Agency for Science, Technology and Research (A*STAR).

Phaos Technology was honored with the prestigious SME Day Award for Excellence in Innovation. This esteemed recognition celebrates the company's dedication to advancing the industry and its contribution to pushing the boundaries of optical microscopy.

Established as a powerhouse in microscopy technology, Phaos Technology specializes in cutting-edge Optical Microsphere Nanoscopy (OMN) technology. Their flagship product, the OptoNano 200, represents the pinnacle of their innovation. This second-generation microscopy product has been received with global acclaim, highlighting Phaos Technology's commitment to enriching the scientific and industrial communities with revolutionary tools.

The company's journey to success is underscored by significant milestones and strategic collaborations. A notable partnership with A*STAR's T-Up program saw the integration of ASTAR's research engineers into Phaos's team, enhancing their R&D capacity. This collaboration has been pivotal in the development of advanced image processing software for the OptoNano 200, which has successfully leveraged



artificial intelligence to push the frontiers of what's possible in microscopy.

Phaos Technology's expansion reflects its ascendancy in the sector. From a modest team of four, the company has seen its technical staff grow to thirty and growing, a testament to its burgeoning influence and the increasing demand for sophisticated R&D in the industry. Their commitment to growth and innovation extends beyond Singapore's borders, as they set their sights on a global scale in phases.

The T-UP Excellent Awards 2023, where Phaos Technology showcased its collaborative achievements, serves as a beacon of the company's ongoing endeavor to revolutionize the industry. By engaging with A*STAR's esteemed T-Up program, Phaos Technology not only honed its technical acumen but also expanded its product and service offerings, bolstering its position as a leader in the optical microscopy landscape.

The company's expansion and innovation efforts are driven by a clear vision: to empower industries ranging from manufacturing to biomedical research with state-of-the-art optical technology. The transformative impact of Phaos's

work is evident in their sustained R&D investment, which has led to continuous improvements in their product line, aiming for the commercial rollout of even more advanced microscope products into the market.

The accolade received at the SME Tech Day & GET-UP awards is a milestone that underscores Phaos Technology's dedication to excellence and innovation. The company stands as a shining example of how local SMEs can achieve global impact through innovation, strategic partnerships, and a relentless pursuit of excellence.

For more information on Phaos Technology and their groundbreaking work in the field of optical microscopy, visit their website and embark on a journey through the microscopic universe they continue to redefine.

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PHAOS | TECH

Singapore Semiconductor Leadership Accelerator

PROGRAMME

The Singapore Semiconductor Leadership Accelerator (SSLA) is designed to inspire emerging technical and business leaders to continue creating revolutionary possibilities with semiconductors. It was conceived as part of the Singapore Semiconductor Vision (SSV) 2020 taskforce – comprising members of private and public sectors – to increase competitiveness in Singapore's semiconductor manufacturing industry.

Delivered as two modules, the programme is an immersive hands-on learning experience designed to accelerate personal and professional growth for leaders to succeed in the increasingly volatile, uncertain, complex and ambiguous (VUCA) global environment.

Theme

Thriving Through Change and Disruption:
Building a Resilient Ecosystem

For Whom

Senior level managers and directors, with more than 15 years of experience, who are part of the company's succession plan with responsibility for strategic decision-making, and this includes heads of business units and senior functional heads

Run 10

Module 1

23rd to 26th April 2024

Module 2

20th to 24th May 2024

For find out more, please email secretariat@ssia.org.sg



Unparalleled Resistivity Accuracy

Outstanding Performance in UPW

The demanding requirements by a major semiconductor fabricator necessitated a resistivity sensor capable of surpassing the performance of anything currently available. METTLER TOLEDO Thornton worked with the fab on increasing the accuracy and stability of the UPW UniCond™ Sensor to provide a new level of performance for resistivity measurement in ultrapure water, and set a new standard for the microelectronics industry.

World-Leading Semiconductor Fab

A top semiconductor manufacturer with a significant installed base of METTLER TOLEDO resistivity measurement loops at their West Coast, USA facility was looking to maximize production yield. The customer's demanding adherence to improve production yield required a next level of stability and accuracy well beyond current industry standards for resistivity measurement. Considering the past successes of the relationship, the customer decided to partner with METTLER TOLEDO to find a solution.

Test Setup Evaluation

METTLER TOLEDO installed its new UPW UniCond Sensor on the customer's UPW system, to directly compare readings against the existing resistivity sensor installation. With a decades-long track record for UPW system stability, both systems were calibrated to 18.2 MΩ-cm, and the standard deviation was closely examined during UPW resistivity monitoring.

Expectations Surpassed

The UPW UniCond Sensor loop's transmitter output was adjusted to match the production loop's output range. The customer noticed the new sensor's signal was significantly more stable than other resistivity sensors in their production loop. Further investigations showed a significantly better standard deviation of 0.0003 MΩ-cm compared to reference sensors (Figure 1).

UPW Quality Grows in Importance

With decreasing resistor size and linewidths, UPW quality becomes increasingly important in microelectronics. The UPW UniCond's increased sensitivity keeps resistivity measurement technology ahead.

Strategy Reconsideration

The customer has switched to the UPW UniCond Sensor and requires its use in global plants for upgrades and new fabs.

Close Partnership Leads to Higher Performance

METTLER TOLEDO partnered with the semiconductor manufacturer to improve UniCond performance. The UPW UniCond sensor solidifies METTLER TOLEDO's leadership in ultrapure water analytics and sets a new industry standard in microelectronics resistivity measurement.

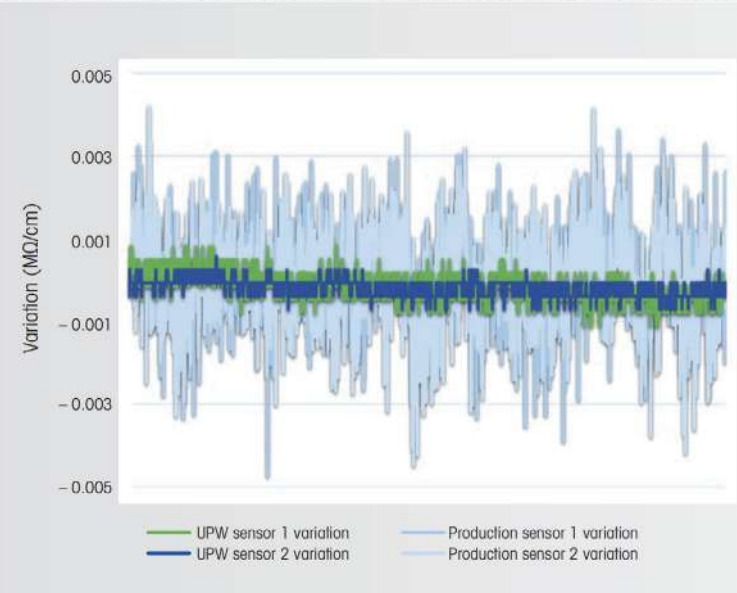


Figure 1: High stability from UPW UniCond Sensors



Unparalleled temperature-compensated resistivity accuracy
Enhanced signal stability
to differentiate noise and interference from actual changes in water quality
Environmental isolation
to eliminate cyclical changes due to environmental and process temperatures

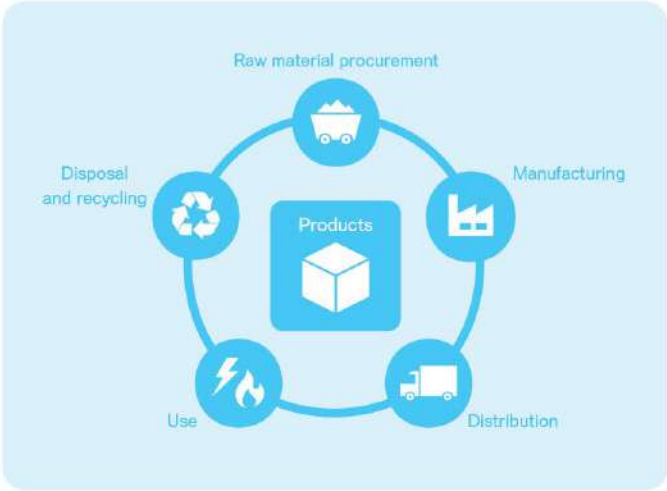
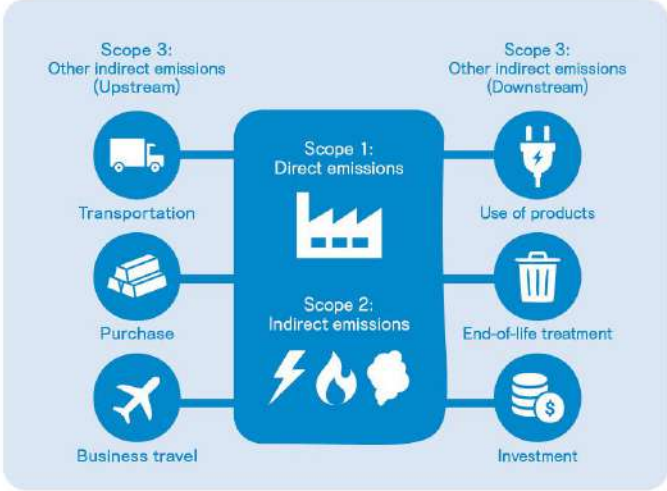


Measure, report and reduce carbon emissions,
for your sustainability and for the planet



GHG Protocol for Enterprise

Carbon Footprint of Products



Manage your Scope 1-3 emissions and product lifecycle assessment
to accelerate actions to achieve net zero.

Asuene's 3 Benefits



POINT 01 Accurate & Efficient

- AI-OCR Technology for easy data input
- Flexible data entry model (API/CSV) for all Scope 3 methodologies



POINT 02 Tailor-made Support

- Continuous assessment to refine your methodology for higher accuracy
- Emission Factor and data mapping recommendation



POINT 03 End to End Decarbonization

- Decarbonization Road-mapping
- Reduction support via Renewable Energy, Carbon Credits

EMPOWERING THE SEMICONDUCTOR WORKFORCE

INSIGHTS AND SUCCESS STORIES FROM SINGAPORE'S CAREER CONVERSION PROGRAMME (CCP)

In the dynamic and fast-paced world of semiconductors, where innovation is relentless and the demands of technology are ever-increasing, workforce development and transformation are not just advantageous — they are essential. The semiconductor industry, being at the heart of technological progress, requires a workforce that is not only skilled but also perpetually evolving to match the rapid pace of advancements in the field. This sector thrives on the cutting edge, and it is here that the development of a robust, agile, and forward-thinking talent base becomes a pivotal factor for driving growth, fostering innovation, and maintaining global competitiveness.

“



Mr. Ang Wee Seng,
Singapore Semiconductor Industry Association, Executive Director

The collaboration between SSIA and WSG plays a crucial role in developing a robust talent pool for the Singapore semiconductor industry. One of the key initiatives under this partnership is the career conversion programme or CCP for mid-career professionals, managers, engineers and technicians who are interested in a career in the semiconductor industry. We have garnered over 2,000 new hires through CCP across 65 companies since 2016. This success is a testament to the efficacy of the programme.

“



Mr. Lim Choon Han,
Micron Technology, Director, Test Engineering

We are committed to supporting our team members to adapt to emerging technological advancements, new automation tools and changing business environments through re-skilling and up-skilling programs. I am happy to work with Workforce Singapore in the CCP program to help my team prepare for the redesigned job growth.

“



Mr. Joseph Chia,
GlobalFoundries Singapore Pte. Ltd., VP & GM, Fab Operations

This investment in human capital, supported by programmes such as the CCP, allows us to diversify our workforce and assess different pools of talents. Global Foundries has been part of CCP since 2016. To date, we have brought in 128 employees who embarked on mid-career switches. We are pleased to collaborate with multiple government agencies like EDB and Workforce Singapore and the local educational institutions on developing programs aimed at growing our talent base in semiconductor conductor manufacturing.

“



Ms. Doris Tan,
ams OSRAM Asia Pacific Pte. Ltd., Senior Staff Engineer, Factory MES & Data Analytics

I feel grateful for the company's support in upscaling through the CCP. Knowing that the company has invested in my development brings me a sense of fulfillment and motivation to my working life. Through the CCP, I've gained a comprehensive understanding of the advanced skills required in data analytics field.

“



Mr. Melvin Lee,
Applied Materials SEA Pte. Ltd., Director, Operations

This program helped us to widen our pool of candidates, especially those outside of the semiconductor space. The structured on-job training accelerates their learning and equips them with the skills that we need.

“



Mr. Soh Lip Leong,
ams OSRAM Asia Pacific Pte. Ltd, SVP & GM

At AMS OSRAM, we have invested in manpower development and training of our employees in tandem with company advancements in automation. Career conversion program has also continuously been reinvented and shaped to support organizational needs.

“



Mr. Anderson Ee,
Workforce Singapore, Director, Manufacturing & Connectivity Division

WSG will continue to work closely with SSIA, the industry and EDB to identify and curate new capabilities and skills needed to build the career health of the workforce to support the electronic sector. Enterprises can leverage on this close effort and tap on programs such as the Career Conversion Program and the Capability Transfer Program to pivot them to the next productivity milestone.



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Mr. Ng Poh Lye,
Micron Technology, Test Equipment Engineer

Through this CCP program, I have gained access to targeted training and resources that have enabled me to acquire the knowledge or skills necessary for navigating and working with new technologies.

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