SINGAPORE SEMICONDUCTOR VOICE

Volume 13

T05SS0291A



BEYOND RECOVERY:

Leadership for A More Inclusive And Resilient World

#ChooseToChallenge

Semiconductor Tradewinds

The Freedom to Disrupt

SSIA
Singapore Semiconductor Industry Association

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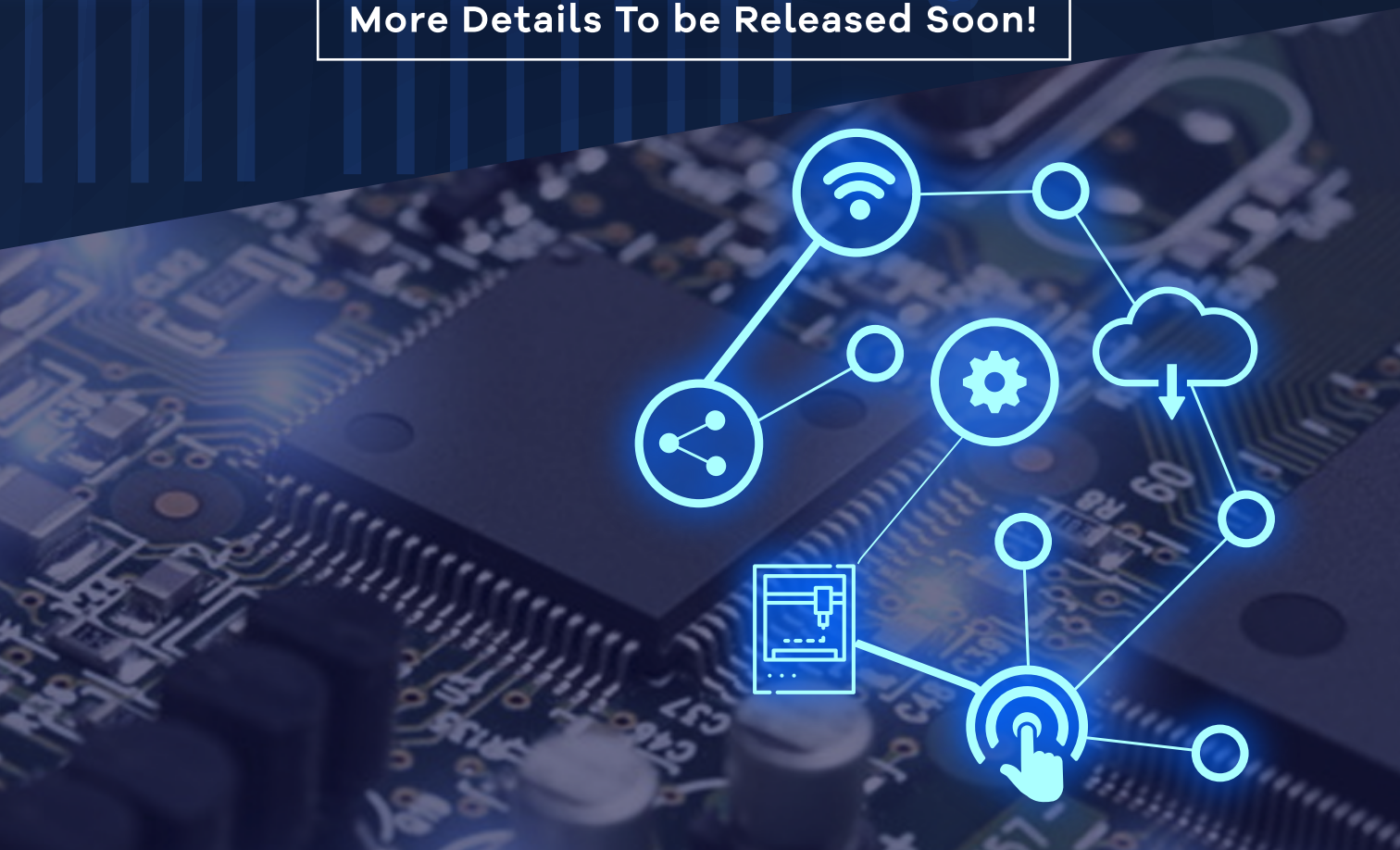
AUTOMATION SUPPLIERS DAY is now known as...

SEMICONDUCTOR BUSINESS CONNECT

HYBRID EVENT

COMING IN JULY 2021

More Details To be Released Soon!



Foreword by Executive Director



There are major shifts in the semiconductor industry triggered by the pandemic, and prior to that, the trade tension between the US and China. These events have exposed the vulnerability of our industry's ecosystem. As Brené Brown would put it, "*vulnerability is the birthplace of innovation, creativity and change*". Indeed, our industry's current situation presents a lot of opportunities not just for companies, but countries to strive in the technological space in the future.

A recent study by Boston Consulting Group, as reported by SIA, has shown that semiconductor manufacturing will grow by over 56% globally in the next decade. Recent news surrounding global semiconductor chips shortage impacting the automotive and many other industries has also shocked many industry leaders and governments. The interest level in our industry today hits one of its highest levels. It shows the significant impact a tiny semiconductor chip brings to our lives. I see today's situation as an opportunity for us to bring back the attention and vibrancy to the semiconductor industry, and if we do it right, an excellent opportunity to further grow our industry. As we start to see the light at the end of the tunnel with regards to the pandemic, we should be excited to start envisioning a new bright future for our industry. How could we play our part in shaping this future?

The Singapore Government has announced this year's budget under the theme of "Emerging Stronger Together", with a clear focus to accelerate structural adaptations and transformation with a long-term view in mind. With a similar vision, we aim to help our companies emerge stronger post-pandemic, and seize the opportunity to make Singapore a major semiconductor and electronics hub in the world. Over the coming weeks, we will be announcing a slew of initiatives and activities that will help our businesses connect both locally and internationally. To facilitate the industry to grow continually, SSIA will strive to help strengthen our local ecosystem further. SSIA has formed a committee chaired by industry leaders from MNCs to achieve this goal.

The first quarter of this year has been a busy period for the Secretariat team. We organised the Electronics Industry Day 2021 and most recently, the inaugural Semiconductor Women's Forum 2021. Both events achieved record participation. SSIA will continue to focus on developing and growing our talent pool, with additional initiatives supporting the culture of diversity and inclusivity. This will hopefully encourage more female talents to join the industry.

Finally, I would like to thank all the companies who have supported us by sponsoring our initiatives. It has helped fund our operations and grow our workforce to support the industry further. I would also encourage companies to join our network and consider signing on as a member. Do reach out to my team at secretariat@ssia.org.sg for more information about the members' network. Thank you, and as always, please stay safe and healthy!

EDITORIAL TEAM

EXECUTIVE DIRECTOR
Ang Wee Seng
weeseng@ssia.org.sg

STRATEGIC PROGRAMS DIRECTOR
Julie Koh
juliekoh@ssia.org.sg

DEPUTY DIRECTOR OF PROJECTS
Daphne Leong
daphne@ssia.org.sg

MARKETING & COMMUNICATION MANAGER
Gillian Cheng
gillian@ssia.org.sg

HR MANAGER
Patsy Tan
patsy@ssia.org.sg

SENIOR BUSINESS DEVELOPMENT EXECUTIVE
Jasmine Tai
jasmine@ssia.org.sg

SENIOR PROJECT EXECUTIVE
Rebecca Foo
rebecca@ssia.org.sg

EXECUTIVE ASSISTANT
Cindy Chong
cindy@ssia.org.sg

DESIGNED BY
Superskill Graphics Pte Ltd
www.superskill.com

SSIA BOARD

Andrew Chong	(Chairman)
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Electronics Industry Day 2021



The Electronics Industry Day 2021 closed with great success with the support from JTC and e2i. Over 1,500 participants including students from various Institutes of Higher Learning and job seekers joined the events and activities held from January to March 2021 get insights on finding their dream jobs in the sector.

THE VIRTUAL LAUNCH

The event's virtual launch was graced by Mr. Alvin Tan, Minister of State, Ministry of Trade and Industry & Ministry of Community, Culture and Youth. The presentations, plant tours at Infineon and Micron, as well as online games helped participants understand more about our industry and the career choices available.

Dialogue Session with MOS Alvin Tan

After the launch, over 120 industry leaders had an engaging session with Mr Alvin Tan discussing the semiconductor industry's challenges. Mr Ang Wee Seng, SSIA Executive Director, reported the readout of a recent SSIA industry pulse survey. He said the industry has been fortunate that it was not badly affected by the pandemic compared to other industries. Challenge in hiring local talent was one of the topics discussed during the dialogue session. SSIA will work closely with companies and government agencies to address this issue.

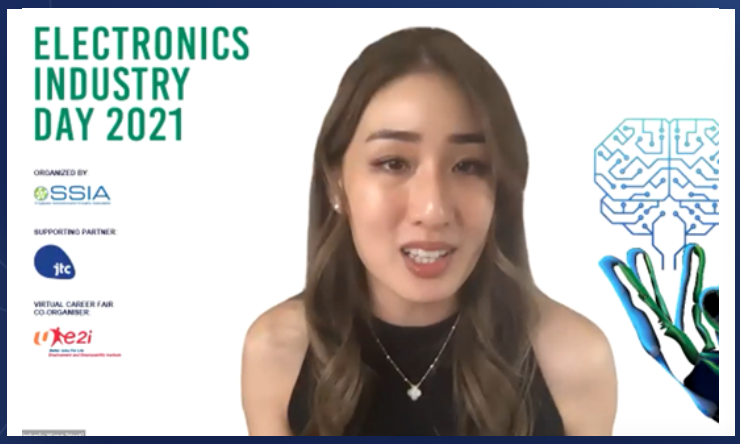
Industry and Career Talks

Another event was the Industry Talk with Sembcorp Industries Ltd, Lam Research and and Institute of Microelectronics (IME) of A*STAR. Besides, two career talks for University, Polytechnic and ITE students were conducted with the support from ams, Realtek, SSMC and Xilinx. Representatives from the companies shared their employment and internship opportunities, and answered the questions on what it took to make a real impact as an engineer in the sector. There was also a Live Chat with Jabil and their potential candidates.

SSIA secretariat will continue to create a vibrant environment for our industry. One of such events will be the Semiconductor Business Connect 2021 in July 2021. More details will be announced soon.

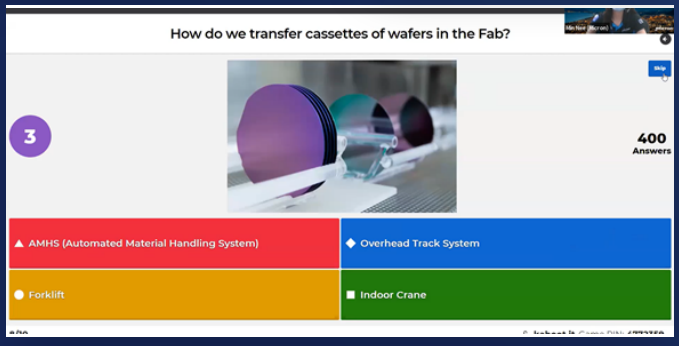
EVENT HIGHLIGHTS

Electronics Industry Day Virtual Launch





Snapshots at the Launch







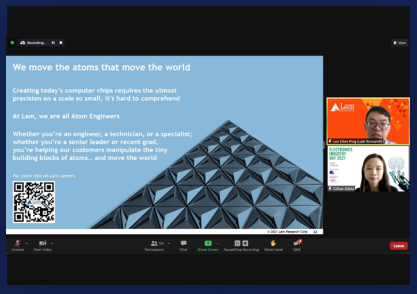
Virtual plant tours at Infineon and Micron

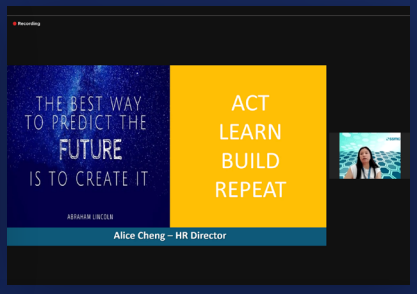
EVENT HIGHLIGHTS



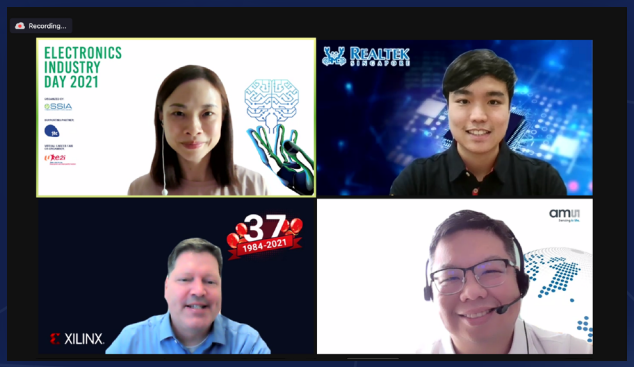
Dialogue Session with MOS Alvin Tan











Industry Talks and Career Talks



Infineon

top 10

semiconductor company

~46,700
total employees

~7,800
R&D employees

leading player

in automotive, systems for power management and drives, sensor systems, connected secure systems, wireless combos, differentiated memories

career portal



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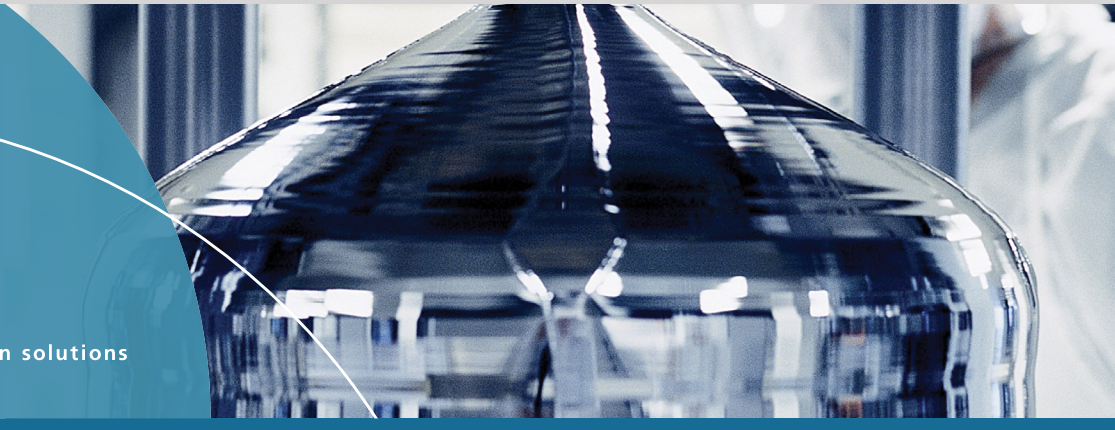

siltronic
perfect silicon solutions

RESPONSIBILITIES

- Perform semiconductor process engineering
- Coordinate troubleshooting of process issues and yield losses
- Continuous process improvement as to quality, throughput, cycle time and costs
- Perform new processes and consumables qualifications
- Statistical data analysis for process improvement

REQUIREMENTS

- Degree / Master / PhD in any Engineering field
- Knowledge of programming knowledge and Excel macro will be an advantage
- Good analytical, communication and teamwork skills

SILTRONIC AG

Siltronic is one of the world's largest manufacturers of hyperpure silicon wafers and partner of many leading semiconductor companies. The company employs around 4,000 people. The company has a network of state-of-the-art production sites in Asia, Europe and the USA. Siltronic develops and manufactures silicon wafers in diameters of up to 300mm. These are the basis for modern microelectronics and nanoelectronics.

Siltronic Singapore Pte. Ltd. | Siltronic Silicon Wafer Pte. Ltd.
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Vanguard International Semiconductor Corporation (VIS) is a leading "specialty IC foundry service" provider, jointly invested and founded by TSMC and 13 other institutional investors in Taiwan, and has been achieving continuous success in its technology development and production efficiency improvement. VIS has also been consistently offering its customers cost-effective solutions and high value-added services.

Currently, VIS has four 8-inch fabs in Taiwan and Singapore. In 2020, VIS achieved an average monthly capacity of approximately 240 thousand wafers. VIS is committed to adhering to its customer-oriented business philosophy to provide customers with continuously improved and enhanced specialty IC foundry services. To better serve its worldwide customers, VIS has established sales offices in Taiwan and sales representatives in main IC clusters around the world.

In addition to focusing on the markets of display driver IC and analog and mixed-signal ICs, VIS will continue to develop power management IC and discrete components, while also adding MEMS to its portfolio. Customers of VIS include major fabless and IDM companies. VIS will continue to ensure its leading position as a specialty IC foundry service provider by deepening its long-term partnership with customers.

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SME Local Ecosystem Improvement Committee & Singapore Semiconductor's Intelligent Manufacturing Framework

Singapore Semiconductor Industry Association (SSIA) strives to address the industry's challenges with its ongoing and new initiatives. To create a more vibrant industry landscape with more activities and outreach to companies in our local ecosystem, SSIA has set up an SME Local Ecosystem Improvement Committee headed by KC Ang, SSIA board member and SVP, Global Fab Operations of GlobalFoundries. The committee is supported by a team of industry leaders to strengthen the local semiconductor ecosystem through closer collaboration between semiconductor manufacturers and their suppliers.

The first objective of the committee was to extend the strategy for improvement to the SMEs' network. The opportunities include increasing the awareness of the semiconductor SME local ecosystem to potential talents, deploying automation to improve the repetitive manual tasks, and the digitalisation of workflow to improve planning and execution.

Kinetics, Richport and the SSIA team visited the Advanced Manufacturing Centre at Temasek Polytechnic in January 2021 to view use cases and demonstrations of autonomous transporter systems, robotic automation and metal 3D printing. The visit helped participating companies explore collaboration with the Institute of Higher Learning for their digitalization transformation, in a more practical and cost-effective way.

During the Electronics Industry Day 2021 events, SMEs were also invited to participate in the virtual career fair launched by SSIA and e2i. It helped increase awareness of the semiconductor SME local ecosystem to potential talents. Moving forward, SSIA will invite SMEs to participate in the coming Semiconductor Business Connect in July 2021 to explore business collaborations, with the theme Riding through the Waves of I4.0 – Enabling Intelligent Manufacturing.

Singapore Semiconductor's Intelligent Manufacturing Framework

To help companies, especially SMEs, implement digital solutions into their business processes, SSIA has set up another committee headed by Jonathan Chang, Assistant VP – IT & Intelligence Management of Vanguard to define Singapore Semiconductor's Intelligent Manufacturing Framework, with support from institutions, particularly Singapore Polytechnic. The committee will publish a paper on the Framework, which consists of several sections including introduction of manufacturing approach, manufacturing performance indices, required intelligent manufacturing capability to achieve semiconductor manufacturing excellence, system framework for effective development of intelligent manufacturing management system and effective transformation of semiconductor industry via fast integration of new Industry 4.0 capability into semiconductor manufacturing. More details will be updated on the SSIA website later.

List of organisations participating in the SME Local Ecosystem Improvement Committee

- Aircond Network
- Applied Materials
- Denselight
- GlobalFoundries
- Infineon
- Kinetics
- Micron
- Richport
- Singapore Semiconductor Industry Association

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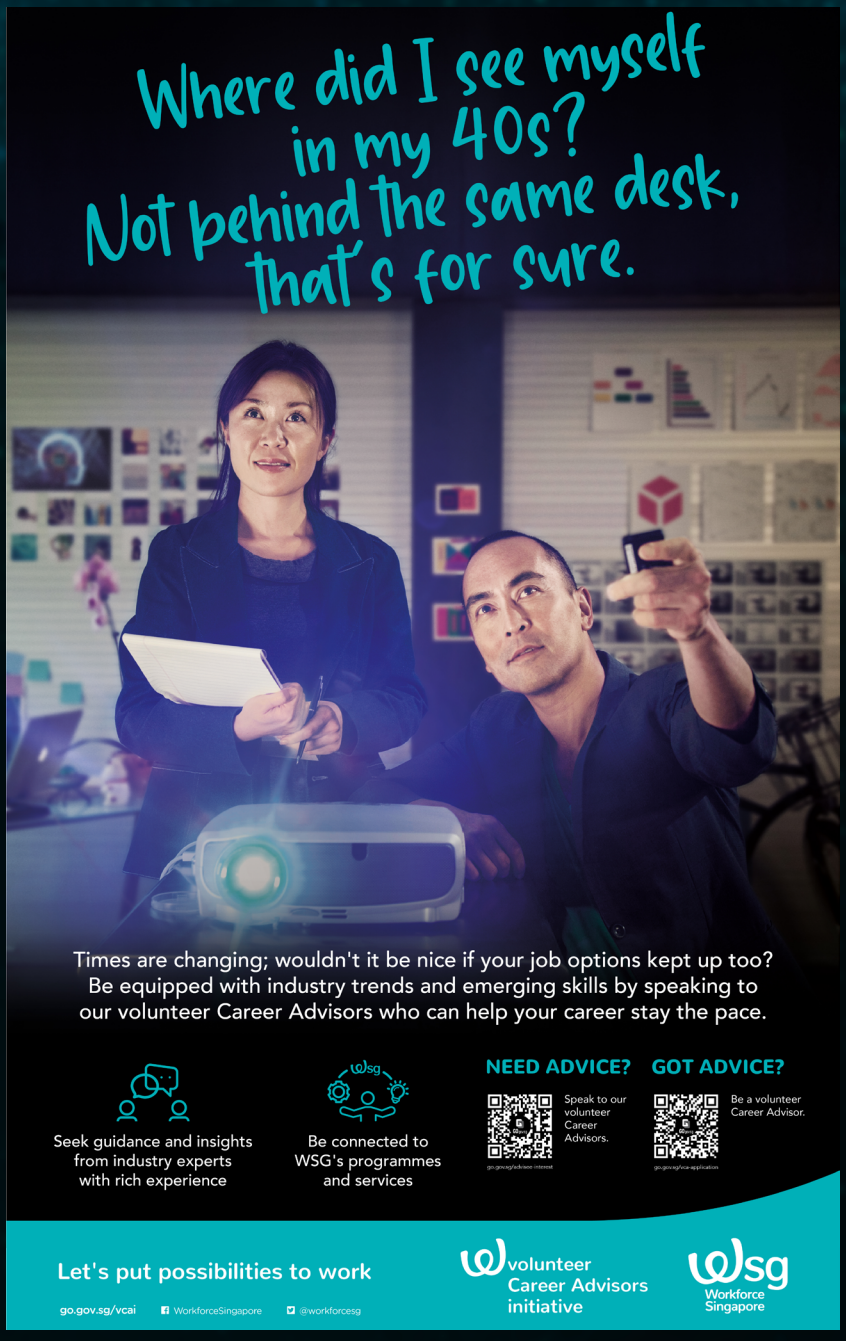
Workforce Singapore's Volunteer Career Advisors Initiative



Workforce Singapore's new volunteer Career Advisors initiative aims to provide individuals with peer-level support and career guidance as they seek to advance their careers or make transitions. Coming from diverse professional communities and possessing deep industry experience, the volunteers can provide sector and occupation-specific career advice to peers, and connect them with useful government programmes and services. Through the volunteer Career Advisors, workers can also learn about the key insights on industry trends and emerging skills, and make informed career decisions with greater confidence.

If you are uncertain about how to navigate your career pathways in the Electronics and Semiconductor sector, Workforce Singapore's volunteer Career Advisors initiative is here to help. The Singapore Semiconductor Industry Association has been working closely with Workforce Singapore to build a pool of volunteer Career Advisors to support your career journey.

Making career decisions alone can be daunting. With the guidance from our volunteer Career Advisors, it no longer needs to be. If you wish to be connected with a volunteer Career Advisor from the Electronics and Semiconductor sector, please visit https://go.gov.sg/vcai-app.

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Workforce Singapore


PUB SINGAPORE'S NATIONAL WATER AGENCY
SG GREEN PLAN
The Climate Is Changing
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Act today, learn more at
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SSIA
Singapore Semiconductor Industry Association

What are the Benefits of SSIA membership?

- Business networking opportunities
- Knowledge sharing platform with government agencies
- Extensive market outreach and branding opportunities
- Leadership and master class trainings
- Priority access to industry benchmark data and directories
- Priority in customised talent outreach programmes



To connect with us
visit https://ssia.org.sg

For more information about membership
visit https://ssia.org.sg/join-us/

#ChooseToChallenge

The theme of International Women's Day 2021 was '**Choose To Challenge.**' "We can choose to challenge and call out gender bias and inequity. We can choose to seek out and celebrate women's achievements. Collectively, we can all help create an inclusive world. From challenge comes change, so let's all choose to challenge." said the organisers of the International Women's Day global collective movement.

In Singapore, various indicators such as women's literacy rate, labour participation rate and proportion of women among Institute of Higher Learning (IHL) graduates have shown women making a lot of progress. "50% of IHL graduates are female graduates. The question is where have they gone? They don't seem to be in the semiconductor industry," said Ms Sun Xueling, Minister of State for Education and Social and Family Development, in her speech at the Semiconductor Women's Forum. She encouraged HR teams, leaders and managers to play their part to have more women in the workplaces and support women in their career. She mentioned more male staff could be invited to be part of this journey, as their involvement and support of the women around them would go a long way towards a supportive workplace culture.

Ministry of Social and Family Development has dedicated 2021 as the Year of Celebrating SG Women. It encourages all of us to come together as a community to take stock of the progress of our women, our society, and how we can continue to support these aspirations. It is also important for companies in the semiconductor industry to recognise the significance of having more women in the sector. More so, now than ever, for us to emerge stronger from COVID-19.





SSIA Launched The First Semiconductor Women's Forum

Diversity Is Key To Addressing Challenges Facing The Semiconductor Industry

The Inaugural Semiconductor Women's Forum in Singapore was launched at Conrad Centennial Singapore on 11 March 2021. in a hybrid format. Organised by the Singapore Semiconductor Industry Association (SSIA) and supported by e2i, Workforce Singapore and Global Semiconductor Alliance, the event aimed to attract more female talents to join the semiconductor sector, and inspire the current female workforce to stay and thrive in the industry. The event attracted over 700 participants (both on-site and online) from more than 100 corporations and organisations worldwide. Ms Sun Xueling, Minister of State for Education and Social and Family Development, graced the event as the Guest of Honour.

The semiconductor industry in Singapore remains a male-dominant industry even though female leadership contributes tremendously in corporate sectors worldwide, as recognised by global studies. A survey 'GSA: Women in the Semiconductor Industry' conducted by GSA and Accenture in 2019 and 2020 showed a significant under-representation of females with the highest in leadership and technical roles in the industry.

Supporting Female Employees During The Pandemic

The recent growth and consequent shortages in semiconductors have highlighted how critical the semiconductor industry is in providing the building blocks of the products and services that impact the way we live, how we work, and the way we enjoy our leisure. SSIA Chairman Andrew Chong said diversity is key to address these urgent needs in a responsible manner. "The industry strongly needs more talents to deliver the vibrancy, agility and sustainability necessary for success in this field during the pandemic. The significant investments in building a more flexible and empathetic workplace will greatly help retain and attract employees, and nurture



MOS Sun Xueling graced the Semiconductor Women's Forum

a culture in which women have equal opportunity to achieve their potential in a meaningful career," said Andrew in his welcome speech. He said companies have increased their efforts in creating diversified and inclusive working environments. Some of them have also established Women Network Chapters within their organisations to encourage and support their employees.

Insights from Women Leaders in the Industry

Five reputable female leaders who have excelled in the semiconductor industry shared their inspirational career journeys at the Semiconductor Women's Forum, including **Jennifer Zhao**, Executive Vice President and General Manager, Advanced Optical Sensors Division, *ams AG*, **Siah Soh Yun**, Technology Development Vice President, *GLOBALFOUNDRIES (GF)*, **Sim Cher Whee**, Vice President, Global Talent Acquisition and Talent Mobility, *Micron*, **Jaya Jagadish**, Corporate Vice President – Silicon Design Engineering & Country Head – India, *AMD*, and **Olivia Koentjoro**, Director of Intellectual Property Analytics Center of Excellence, Global Law Department, *Applied Materials*.

"In 2013, GF established the GLOBALWOMEN (GW) network with a mission to create a sustainable framework for the professional development of women at GF. GW is a vital part of our inclusive culture and has now evolved into an alliance that includes women and men who actively work as allies for women employees. There is a strong need for corporates to place 'balance for better' as a priority by institutionalizing support groups on mentoring and professional development of women engineers," said Soh Yun from GlobalFoundries.

"Applied Materials sponsors Women Professional Development Network (WPDN), which fosters diversity and inclusion and aims to build a progressive, fair and equitable working environment within Applied. WPDN is active in promoting engagement and



Over 700 participants joined the event on-site and online

retention of female talents and acting as a development platform for future Applied female leaders," said Olivia from Applied Materials.

"Micron is utilising new tools to promote diversity in talent acquisition and reinforce Micron's inclusive culture, such as modifying job descriptions to weed out unconscious gender bias, using AI to reduce bias in candidate applications, and ensuring interviewing teams are also diverse. The post COVID era of leadership and innovation calls for a strong sense of purpose and empathy, and we are defining our new normal," said Cher Whee from Micron.



Panel discussion at the event

How Can The Industry Be More Inclusive?

During the Semiconductor Women's Forum, we asked participants to share their views by using the padlet platform. Let's have a look at their insights and suggestions!

Observation

Within my 18+ years of experience, I am in semiconductor field since 2018. What I feel that irrespective of field, in general, trust on women for handling critical position, is not immensely strong and still need to work hard to convince others with any kind of proposal. Things are changing for sure. But still long way to go to get appreciation for Women's empowerment globally as women's are emerging everywhere! I also need to break my glass ceiling (inside and outside) to bring myself upfront :) The seminar was inspiring!!!

Make sure potential women leaders are visible to management and to nurture them.

Proud to see so many female leader in the semiconductor industry!

Build a support system in the industry especially for woman who has multiple roles (work, family, child care)

Applause to all the women of the world. We can Rock the world! We can be in safety boots and helmets at work and then back home put on apron with pots and pans preparing good meal for the family! Cheers to all the inspiring and motivation sharing!

Be more conscious of biases and voice them

Make sure women have a prominent voice both inside and outside of the company. Give them every opportunity to succeed, and in turn, help other women succeed.

Encourage industry partners to set a practical percentage to :

- recruit women into the male dominated industry
- put women in leadership position within organisation

Only with a target then the plan will be defined

More avenues to learn about career pathways from women leaders

How to encourage more Men to empower Women in this male dominant industry?

Equal opportunity but...

It's a tough industry to begin with. The long and tough working hours that seems to be a norm in this industry. Then in order to compete and be in the same par with the rest, we woman are required to do the same but our role and responsibilities as a mother and at home is no less. The roles in semiconductor are much more demanding which requires us to pay more attention to work after working hours or even during the weekends. Just a food for thought

Give women the same treatment as the man in any organisation. Women to be treated with respect and dignity.

Leaders in Semiconductor industry

Make sure women leaders are MT members and leaders in semiconductor industry

Offer trainings or guidelines on how to recognise and correct for implicit bias.

Be respectful and sensitive to others' contribution.

Celebrate Diversity, Embracing Inclusion.

Be BOLD to share your thoughts and ideas.

Have a voice and speakup. irrespective if your thoughts and ideas makes sense or not. Speakup, because by doing that we are empowering our fellow woman.

****

Kamala Harris reminding Mike Pence 'I'm speaking' is every woman in a meeting

****





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Wisdom of the Global Leadership Expert = Biggest Stumbling Block for Leaders



Payal Nanjiani

The Single Biggest Block Leaders Have & What To Do About It?

All of us aspire to do great things, and many of us achieve it. However, many did not manage to do so, but why? It is because they haven't uncovered the blocks and blind spots preventing them from achieving what they set out to do. Leadership experts have lots of advice to solve this; however, I always find them too complicated and esoteric as a leader. I like to offer a few simple suggestions to get over this. To help, I want to share insights from a global leadership expert Payal Nanjiani whom I recently interviewed on my videocast "Wisdom of Series."

Some of her insights that you can consider.

By way of introduction, Payal Nanjiani is a globally acclaimed Indian-American leadership and success mastery expert. For 21 years, her keynotes, workshops, coaching, and books have inspired millions of people to unlock their inner leadership forces and become successful, regardless of their title. She is the founder of Success Is Within Leadership; and works with Fortune 500 Companies, SME's, Management Institutions, Celebrity CEOs, Entrepreneurs, Government officials, and Universities.

I asked her, "What do you see as the single biggest stumbling block for leaders today?"

She related that the biggest stumbling block for leaders is their ability to master their inner competencies or mindset. She went on to share that exceptional leaders think, act, and behave differently than average leaders.

What Can We Learn

That is so true, but specifically, what does that mean. I believe the first step that exceptional leaders take is making the decision to be GREAT(exceptional) versus just GOOD (Average). In my experience coaching and training leaders, many have not made that decision yet. Many think they are GOOD (in their minds GREAT) and stop improving, developing, and learning. However, being GOOD or GREAT are relative terms that only work when you compare yourself to others within the organization. Exceptional leaders always strive to improve and want to be GREAT at what they do.



The second is acknowledging their blocks and knowing what is stopping them. I find many suffer from having their biggest block: their "inner voice" telling them that they are not good enough, need more experience, or believe that others are better than them? This stops many in their tracks.

The third is knowing the organization's expectations and what you may need to upskill or behave differently for that next level? There is a difference moving from grade level to the next level. In some cases, there is a significant jump; the question is, are you aware of the differences, and what else is expected by the organization?

Look and Behave Differently

So, my second question to her was, "What should leaders today focus on with regards to the future?

Payal shared, "leaders will need to look and behave differently; they need to create a culture of excellence to prepare their organization to deliver the best no matter what happens."

As we all know, the world is changing so rapidly and significantly. We need to have that foundation of excellence for ourselves, our teams, and our organisations. This will allow us to be ready to handle the next disruption that may be around the corner and be aware of the same simple three steps we outlined above;

1. Decide,
2. Acknowledge Blocks,
3. Know Expectations



Leveraging Payal's expertise and experience, I asked her if she could give leaders one piece of advice on Leadership; what would that be?

"Leadership is all about being unstoppable. We all know we will face problems, but you can overcome them by being unstoppable. Leadership starts and ends with you – so know how to be the best version of yourself for yourself."

So here are two questions you need to answer:

What are you going to do to be the best version of yourself in 2021?

How will you remind yourself, your team, or your organization to become unstoppable in the face of future challenges?

Three additional suggestions that could help you build a foundation of excellence with your team or organization:

4. Create rituals to reinforce this philosophy.
5. Share examples of those who have done it.
6. Celebrate successes to reinforce the behavior.



ABOUT THE AUTHOR

Stephen Krempl
Global Speaker, Facilitator, Best Selling Author and Business Communication Coach

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Maxim Integrated: Simplifying Compliance with UKG

Maxim Integrated, a Fortune 1000 semiconductor manufacturer with operations across 27 countries, was looking to roll out a global workforce management solution to transform their practices. De Ann Doonan, Executive Director of Global Payroll Services, and Marcia Blandford, Senior Manager – Global Timekeeping, were tasked with the challenge.

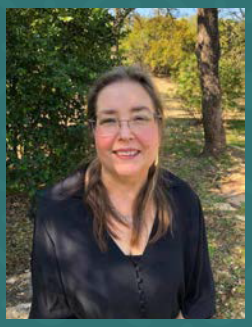
With multiple sites to consider in South East Asia, the complexities of regulatory environments and constantly evolving working conditions comprised a massive undertaking, requiring courage and persistence. With such complex requirements, how did they succeed?

De Ann and Marcia first focused on uncovering the project's core value across the region, and how it could directly support both workers and managers. Working closely with regional leaders, they confirmed that understanding and managing compliance risk was of utmost importance.

Maxim needed to ensure they operated a safe, compliant environment worldwide, especially within the ever-evolving regulatory environment of South East Asia. Deploying a workforce management system that could keep pace was critical. After evaluating their options, Maxim chose to implement a UKG solution, confident it could meet their needs.

"Our UKG solution is very flexible, and it can be configured with minimal disruption to production." says Blandford. In an environment where any disruption is costly to the business overall, reducing lost productivity is a gamechanger in a competitive market. "Being able to manage compliance risk with real-time visibility into potential violations has taken away the headache of trying to mitigate risk with little information." adds Doonan. Since implementing UKG, Maxim now runs a compliant and secure operation with a partner they can trust to deliver on their workforce requirements.

UKG (Ultimate Kronos Group) is the world's leading workforce management solutions provider. With over 4,000 manufacturing customers worldwide, UKG can help you turn your workforce into your most competitive advantage. Call 800 3002 0400 or visit *www.ukg.sg* to learn more.



De Ann Doonan
Executive Director of Global Payroll Services, Maxim Integrated



Marcia Blandford
Senior Manager - Global Timekeeping, Maxim Integrated



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changing the industry that is changing the world.

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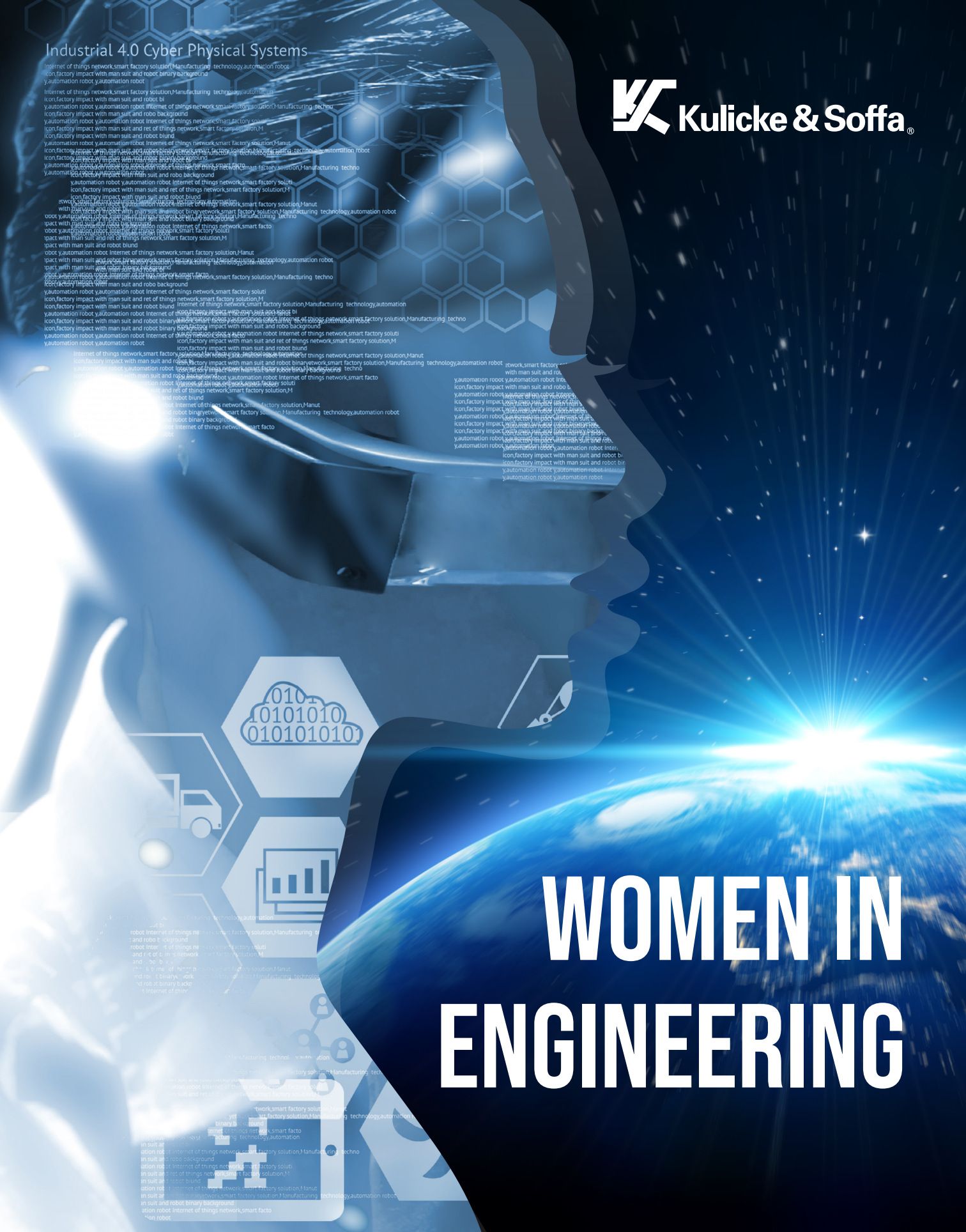
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FC-BGA substrates

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Nano Imprint Litho (NIL) Molds



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Xilinx's Women's Group

We Promote Leadership & Growth Opportunities to Realize a Meaningful Career

The women's group started as a Women in Technology (WIT) initiative in 2018 with a vision of making Xilinx a great place to work for women and increasing the representation of women in technical roles. Today, we continue to have the same focus and expand the vision to include women beyond technology.

Our women's group is comprised of 952 members globally, with 291 members in the Asia Pacific Region, of which 187 members are in Singapore. Among Xilinx Singapore employees, there is a 2:3 female/male ratio, higher than industry's average of 1:4. At managerial level, female representation stands at 33%. These are baselines for awareness as we progress as an organization (Figure 1).

XILINX CARES deeply about maintaining a diverse and talented workforce that reflects a broad range of backgrounds, perspectives, experiences, gender identities, and ethnicities. We are dedicated to providing a work environment where all individuals are treated with respect, dignity, equality, and inclusion.

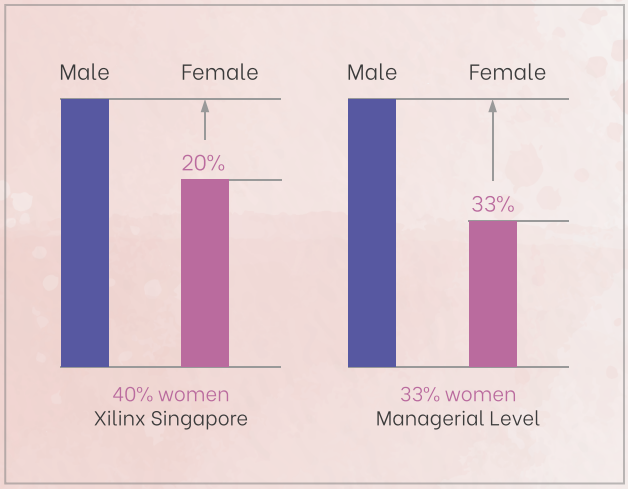


Figure 1: Employee profile in Xilinx Singapore

As a company, we promote a culture that enables employees to perform at their best, realize their professional potential, and be well, both physically and mentally by:

- Offering a range of development activities including formal training, lunch-and-learn series, and on the job experiences.
- Encouraging open dialogue between managers and employees on performance, development, and career aspirations that are foundational to our values of Excellence, Teamwork, and Accountability.

The Imperatives to Empower Women

At Xilinx, developing and promoting female leadership is a priority. We focus on initiatives to elevate, promote and develop women at all levels. In championing women empowerment, Xilinx identified four strategic focus areas – Attract, Develop, Engage and Invest (Figure 2).

These set the direction to create effective inclusion and is the backbone of ongoing activities.

ATTRACT: We partner with organisations that support the representation of women and underrepresented groups globally such as Society of Women Engineers (SWE), and Center for Women in Technology (CWIT). In Singapore, we partner Women@NTU (Nanyang Technology University), National University of Singapore (NUS) and Singapore Semiconductor Industry Association (SSIA).

DEVELOP: We offer targeted and individualized development opportunities and mentoring. In Singapore, an organic mentorship program supports our female employees' development with training, resources and conference opportunities to promote leadership skills. Talks on empowerment to Entry Level

Professionals (ELP) proved popular with our new hires. Recently, we hosted a Multi-Site Symposium where women leaders candidly discussed the topic of "challenges in times of change" and how they thrived under these trying circumstances.

ENGAGE: We organize lunch-and-learn sessions where our women employees share takeaways from related TED talks. We have platforms to showcase vast experiences of our women employees, from managing and excelling in work and personal life to fostering community spirit through physical activities e.g. marathon participations.

INVEST: Being a part of the local community, we strive to positively influence our communities via active corporate citizenship and employee giving. We actively engage with local higher education institutions through an All-Female Thematic Hackathon and TEDxNTU event sponsorship.

The Insights

It is worth noting that our leadership team is dedicated and deeply connected to the program. Our Chief Technology and Chief People Officer serve as the Women's Group Executive Sponsors. At the regional level in China, India, Ireland, Singapore and the United States, an advisory committee comprising senior female leaders work closely with champions to lead Xilinx WIT. While progress can be brought about relatively rapidly with the right set of initiatives, strengthening engagement to achieve impact will take years. We acknowledge this and as leaders, are compelled to evolve our journey for local and global relevance. The prospect excites our women community.



Figure 2: The 4 Strategic Focus Areas to Empower Women

Thriving in 2020

2020 has been unprecedented in so many ways. We found new ways to work with one another, new ways to engage our teams, new ways to deliver our products and operational goals. 2020 also saw a group of passionate individuals who rose to the occasion and led efforts to innovate and encourage our female employees to be the best of who they are so that they can contribute to the dynamic environment, and continue to be the best mother, spouse, daughter, friend and colleague that they already are every day. We acknowledge the phenomenal work that they have done in this pandemic year putting forth event after event (Figure 3), and not ceasing to lead the site with thoughts and actions to celebrate our diversity and innovative culture. We look forward to greater things in our WIT core team!



TED x NTU Sponsorship



At the first ever All-Female Thematic Hackathon

Figure 3: Xilinx WIT Organised Events

SOURCE OF CONTENTS

XILINX



Part of your life. Part of tomorrow.

At Infineon we embrace and encourage diversity and inclusion, because it is our conviction that this is not only the right thing to do, but also a business imperative that positively affects our bottom line. We are proud that over 25 percent of our leadership roles at Infineon Singapore are held by women. This diversity mindset and approach brings multiple valuable perspectives to the table.

We make life easier, safer and greener - with technologies that achieve more, consume less and are accessible to everyone.

www.infineon.com

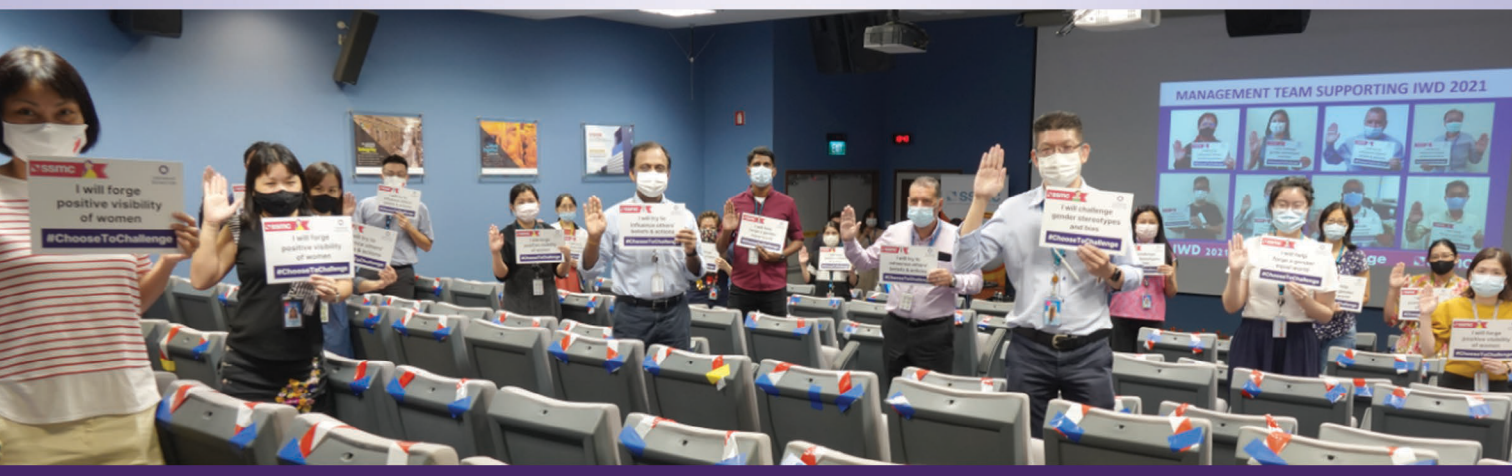
ssmc

International Women's Day



EMBRACING THE CHANGE MAKERS IN SSMC WHERE DIVERSITY & INCLUSION ARE VALUED

On 8 March, we celebrated International Women's Day and honoured 12 iconic women in SSMC for their outstanding contributions. In SSMC, we #ChooseToChallenge gender stereotypes and bias, staying committed to influence others' beliefs and actions for a gender equal world.



Systems on Silicon Manufacturing Company | #IWD2021 #ChooseToChallenge

Semiconductor Tradewinds January to February 2021

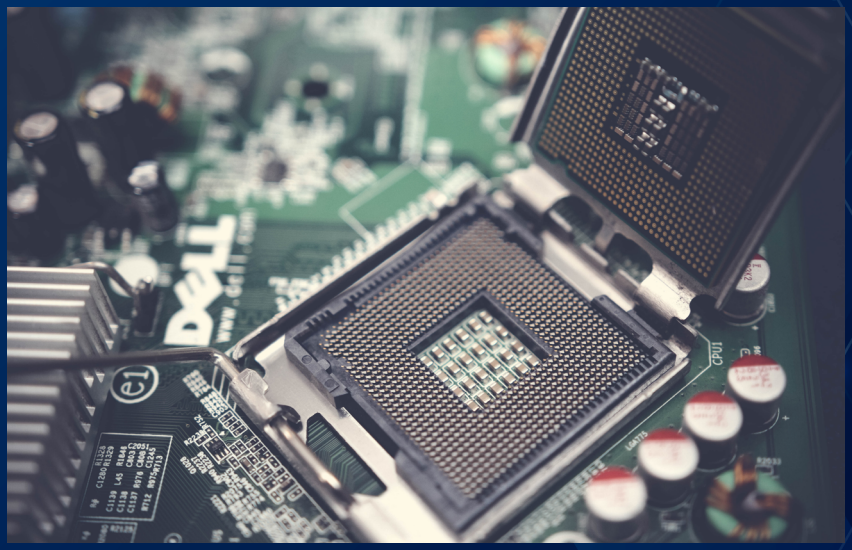


What a difference a year makes. This time last year, the COVID-19 pandemic had just struck in China and the world was struggling to keep semiconductor supply chains open. China's factories were struggling to get staff back to work and reopen after Chinese New Year, and even if goods could be produced, it was hard to ship them due to a shortage of flights.

Fast forward a year, the semiconductor industry is booming and we now have supply chain issues due to demand outstripping supply despite foundries and OSATs reporting record results. We still have COVID-19 but we are learning to live with it even whilst countries are still in lockdown and vaccination programs are being rolled out in countries worldwide. All the leading foundries and OSATs are reporting full utilization. Lead times are increasing drastically and in some cases, prices are also increasing. The problem is not just at the foundries and OSATs, but even getting semiconductor raw materials is an issue due to drastically rising material prices and increasing lead times. Prices for basic materials used in semiconductor manufacturing are rising. The gold price has risen around 15% in the last year whilst copper has almost doubled in price since March 2020.

Shortage of Semiconductor ICs for the Automotive Industry

Overall, this has led to a shortage of semiconductor devices across the market. The most publicized is the shortage of semiconductor ICs for the automotive industry causing automotive plants worldwide to have temporary shutdowns or reduce production. This reduction in output is forecast to cause up to US$60 billion loss in revenue for the global automotive industry this year. This issue started a year ago when automakers around the world closed their facilities and cancelled orders for automotive chips due to the COVID-19 outbreak. It led to semiconductor manufacturers diverting manufacturing to other sectors which were booming, like data centers and home consumer devices driven by the work and study from home culture. In the meantime, demand for automotive has come back especially driven by China, and the automotive industry didn't predict the recovery. With the sudden increase in demand, orders from automakers increased substantially. However, demand for consumer electronics, especially smartphones, continued to be strong simultaneously, leading to orders competing for the same semiconductor capacity. The issue is not only the lack of capacity, but also the lack of planning by automotive companies,



which reacted late to ordering parts, as semiconductor chips need a lead time of up to 6 months. While many automotive suppliers have been hit by shortages, Toyota, the originator of Just in Time (JIT), said it is not impacted. The company said it has stockpiled enough parts as part of its business continuity plans including regular risk assess to its inventory levels.

Even though foundries such as TSMC and UMC have offered to increase capacity to support the demand, it will take many months to bring it online and is not helped by an increase in equipment's lead times. Therefore, it looks like the strong demand for semiconductors is now expected to last, not just in the first half of 2021, but throughout the whole year.

M&A Activity

The strong merger and acquisition activities seen in the second half of 2020 led to US$118 billion being spent, making 2020 a record year and spending has continued into 2021. Lumentum agreed to acquire Coherent for US$5.7 billion before both MKS instruments and II-VI also entered into a three-way battle for Coherent which now valued up to US$6.5billion. Renesas has agreed to acquire UK chip designer Dialog in a deal worth around US$5.9 billion. Sensor manufacturer Teledyne will acquire thermal imaging sensing company, Flir Systems, for around US$8 billion. Qualcomm announced it will buy server CPU start-up developer Nuvia for US$1.4 billion, whilst Applied Materials increased its offer for Kokusai Electric to US$3.5 billion after it failed to get regulatory approval from China by its December deadline.

Capital Expenditure

With the strong semiconductor market outlook, many companies have announced or are planning to increase capacity and start building new fabs in 2021. Both TSMC & Samsung are looking to build new Fabs overseas. TSMC last year approved plans to build a 5nm Fab in the US in Arizona, which is expected to open in 2024. TSMC has also recently announced it will set up a subsidiary in Japan to expand its 3D material research. Samsung is reported to be looking to spend US$17 billion on a new US fab with Texas being the most likely site. UMC, Vanguard and ASE have also announced plans to increase capacity this year. It is a good time to invest in new manufacturing facilities with the US, Europe and Japan governments all looking at offering incentives to attract local manufacturing Fabs. The governments look to offset the current dependence on Taiwanese, South Korean and Chinese production, which the pandemic and recent semiconductor shortage have highlighted.

It is looking like the Year of the Ox should be a good year for the semiconductor industry as the world's population starts to get vaccinated. Let's hope that life can start to get back to normal and travel can resume at least by the end of the year.





ABOUT THE AUTHOR

Mark Dyson
Head of Global Subcon Manufacturing of Osram Optoelectronics



ams Digital Active Noise Cancellation (ANC) solutions deliver best-in-class leading ambient noise reduction, significantly improving sound quality for portable consumer devices.

ams Digital Active Noise Cancellation (ANC) technology tunes out ambient noise through market leading ANC performance >40dB. The technology simultaneously tunes in speech and music with its natural and boosted transparency modes.

The ams Augmented Hearing device supports feedforward, feedback, and hybrid ANC topologies as well as featuring Automatic Leakage Compensation (ALC) algorithms which – for the first time in the audio industry – enable for the very first time in the audio industry hybrid ANC functionality in loose-fit earbuds.

ams.com/active-noise-cancellation

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The widespread use of Lateral Flow Tests (LFTs) is based on their simple design, which allows these tests to be produced and used in an affordable cost-effective way and at high volumes.

ams brings innovation to this market by introducing a proprietary, small, and cost-effective spectral sensor that improves the performance of LFTs. This is achieved by increasing the optical sensitivity, allowing multi-analyte detection, and enablinge different optical measurement methodologies such as reflection and fluorescence measurements.

The ams' solution is capable of measuring, for example, antibody build-up of different virus types at high accuracy (Influenza, Covid-19, etc.). The goal: minimizing the amount number of false-negative detections.

ams.com/technology/spectral-sensing

Microsoft

Semiconductors transform the tech industry. Azure transforms the semiconductor industry.



Whether it's communications, computing, electronics, automotive and entertainment – or the new wave of emerging technologies such as 5G, Big Data, Artificial Intelligence (AI) and the Internet of Things (IoT) – semiconductors are the lifeblood of innovation. The insatiable demand for semiconductors has pushed global revenues past the $450 billion mark. Relentless competition for those revenue dollars drives schedules, productivity, and innovation.

Microsoft Azure is a next generation high-performance cloud computing platform that provides the infrastructure for electronic design automation (EDA) software. Here's how we help the semiconductor industry drive innovation, sustain growth and gain the leading edge.

Azure turns challenges into opportunities

The exponential rise in data creation, processing, transmission and storage is set to drive up demand for semiconductors over the next decade.

The industry, however, faces its own challenges. Shorter product refresh cycles, frequent evolution of standards, and the constant need for more performance are compressing the design cycle and shortening time to market. Designs are growing more complex, and organizations need better design flows and comprehensive validation at every stage of development. The new process geometries also require massive compute power to address the process variability at such tiny geometries.

This requires companies to reassess their end-to-end capabilities, from a toolchain and infrastructure perspective.

Microsoft is working to improve the complex electronic design automation (EDA) software landscape, boost productivity, optimize resources, and speed up time to market. We work closely with foundry partners and EDA vendors to develop finely tuned solutions that run on Azure high-performance computing (HPC) infrastructure.

Azure creates greater business value

Research suggests that cloud-enabled operations can unlock more than $1 trillion in shareholder value*, through both revenue growth and margin expansion.

For example, Azure frees developers from the limitations of infrastructure performance and

"The Joint Innovation Lab with Microsoft is one big step forward, elevating cross-industry partnership to the next level."

Dr. Cliff Hou
Senior Vice President of Technology Development
TSMC



availability. Development teams can focus on running the right number of iterations, simulations, and regression tests in smaller windows to deliver greater functionality, higher quality, and more customizations.

In addition, Azure supports teams across the development life cycle with agile DevOps tools and reusable best practices that ease the transition to the cloud platform and new ways of working.

Also, compared to the on-premises experience, Azure offers ways to optimize the cost of ownership of cloud resources while maintaining or enhancing the performance.

Deep understanding of the silicon industry helps us develop and deliver unique financial and ownership models that make Azure not just a viable—but a cost-optimal—solution.

In addition, with the help of our long-standing partnership with the EDA vendors, Azure teams help drive the optimization of resource use directly into the EDA tools, as well as support innovation in EDA licensing models.

*Source:
McKinsey & Company: Making the cloud pay: How industrial companies can accelerate impact from the cloud

Benefits of a global platform

Azure experts can help architect a best-fit solution for you, reimagining your experience with infrastructure and facilitating new ways of working with the cloud. Your current and emerging infrastructure needs are well served by the benefits of the Azure platform:

Scalability
Enjoy nearly unlimited scalability, run as small or as large as you need, when you need it.

Agility
Upgrade your infrastructure as often as new technology updates are available and gain more power, speed and agility.

Global presence
Enable your global teams to work together. Azure operates 54 global regions (and growing), offering your business unprecedented scale, reach and access.

Security
Ensure you have the right security and protections for your IP. Azure provides the security, privacy, and compliance protections used by 95 percent of Fortune 500 companies.

Use models
Be flexible in how cloud delivers value to your business. Azure fully supports burst, hybrid, and Azure-centric deployment, with efficient storage architectures for each scenario.

Scan to read more about Azure for the Semiconductor Industry

SSIA
Singapore Semiconductor Industry Association

Upcoming Electronics & Industry Relevant Courses



Building a Smart Urban Farm (1 day)

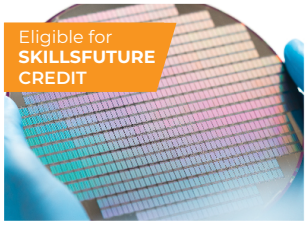
Co-organized by SSIA & SP

10 April / 24 April/ 8 May/ 22 May/ 5 June/ 19 June 2021

The objective of the course is to introduce participants on how a smart urban farm can create a sustainable and affordable food source and they will learn how technology can make farming effortless and increase yields. Basic farming knowledge, techniques and maintenance processes will be discussed. Participants will also learn hydroponics farming and enjoy hands-on session during the course.

Who should attend?

Agriculture farm manager, farm worker, farm owner, people interested in building their own urban smart farm



Wafer Fabrication in Semiconductor Industry (3 days)

Co-organized by SSIA & SP

13-15 April / 7-9 June 2021

Interactive 3-day course with classoom sessions and practical laboratory work that provides participants with the relevant knowledge and skills of the Wafer Fabrication process in the Semiconductor manufacturing industry The courses are conducted in person.

Who should attend?

Those who recently joined the semiconductor industry oindustry or engineering technical or personnel under the Eletronics Skills framework



Introduction to Industrial FMEA

Co-organized by SSIA & SP

1 June 2021

The objective of this course is to equip participants with the knowledge of Failure Mode and Effects Analysis (FMEA), a step-by-step approach for identifying all possible failures in a design, a manufacturing process, an equipment, or even a service. Participants will also have the opportunity to work on real-life case studies where they will learn how to create a proper risk assessment, prioritise the different critical levels of risk, and trigger necessary mitigation actions.

Who should attend?

Technician, Associate Engineer / Assistant Engineer, Equipment Engineer, Maintenance Engineer



Data Analytics for Electronics Industry

Co-organized by SSIA & SP

7 June 2021

The objective of this course is to equip participants with knowledge of fundamentals of data analytics. Participants will also be able to apply these analysis tools to their data when designing and developing their future intelligent systems for the electronics & semiconductor industries. There would be hands-on session with the data analysis tools such as data wrangling, visualisations, regression models and prediction. Participants can apply the knowledge and skills to help improve their operational tasks and increase work productivity.

Who should attend?

All engineering technical or personnel



IoT for Electronics Industry

Co-organized by SSIA & SP

17 June 2021

One day classroom/practical session to equip participants with knowledge of the Internet of Things (IoT), IoT applications and its eco-systems used in the semiconductor/electronics manufacturing industry. There is a hand-on session for particaipants to apply their knowledge.

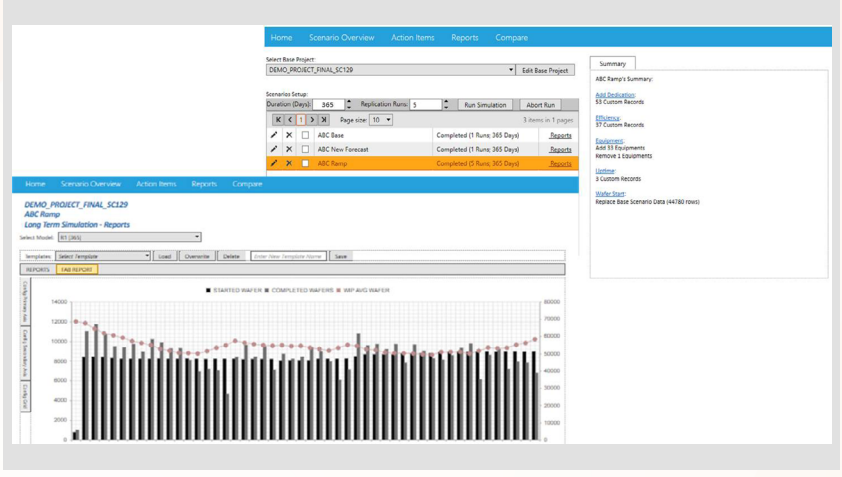
Who should attend?

If you are interested to customize an in-house course for your company, or for any other enquiries, please contact daphne@ssia.org.sg

Scan the QR code for more details

New SSIA Member D-SIMLAB TECHNOLOGIES Optimizes Capacity Planning and Material Flow Execution in Semiconductor Manufacturing

D-SIMLAB Technologies is a Singapore-headquartered software company providing solutions spanning the full spectrum of decision-support to manage, forecast and optimise the material flow in Semiconductor Manufacturing – from operational scheduling and dispatching, WIP forecasting, dynamic and static capacity planning all the way to specific optimisation tasks. These solutions are implemented in numerous wafer fabs worldwide operated by both IDMs and foundries.

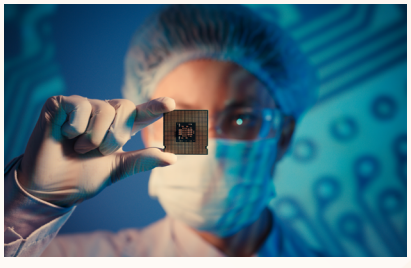


The company's success lies in deploying production-ready solutions portraying many domain-specific characteristics – essential for the generation of operationally feasible plans or schedules – and enabling customers to extract immediate value. Modules for automatic generation, calibration and maintenance of the underlying capacity model allow near real-time responses to continuously changing operations. The associated optimisation approaches focus on creating maximum possible value with as few iterations as possible and within minimum time through smart heuristics and parallel computing infrastructure.

As a result of the first implementation of the novel, multi-objective based D-SIMCON Scheduler cum Dispatcher a tool capacity gain of 8%, a transportation capacity gain of 10%, and an operator workload reduction of 25% were concurrently realised at one of the critical equipment groups in one of the D-SIMLAB customer's fab. At another set of equipment groups, a 7% increase of lots within the critical queue time limiting area was achieved.

Another powerful use case is fine-tuning of Preventive Maintenance plans: Based on a seven-day lot arrival forecast at each equipment generated with the D-SIMCON WIP Forecaster, a recommendation is made when PM would be best possible without causing too much variability in the WIP flow. This enabled a dramatic reduction of cycle times at critical equipment groups without incurring capacity losses.

In the future, enriching decision support and manufacturing execution solutions with Machine Learning techniques will be critical in reducing dependency on human experience. This path is essential to eventually make manufacturing operations fully Industry 4.0-compliant. D-SIMLAB will certainly be at the forefront of this development.



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D-SIMLAB Technologies



REDINOX is equipped with tools and talents to manage any kind of media production.

The Sky's The Limit With Redinox



Friends since secondary school, Darren (left) and Sathia (right) partnered in 2013 and established REDINOX to live up their dreams.

Located in a humble office space in Bukit Merah lies REDINOX, a full-fledged media agency that houses all of your creative needs in one place.

From pre to post-production, graphic design to photography, REDINOX has it all. Down to scriptwriting, storyboarding, and even book layouts, the range of services is a creative mess. Currently, they are venturing into social media management.

Established in 2013, founders Sathia and Darren joined forces and translated their childhood passion for media and production into a company.

REDINOX consists of a dedicated team of passionate dreamers that give their all into everything they do, resulting in quality work produced.





Ensuring safe filming standards and procedures are maintained while achieving the best for clients.

They believe that the sky's the limit when it comes to content. They're all about breaking the norm of content creation to bring the most unique ideas to life.

A One Stop Shop

So, a media agency. What makes REDINOX different from the countless agencies out there?

Well, REDINOX works unlike any other media agencies.

Firstly, with their range of services, they have the capabilities and equipment to manage productions in-house completely from pre-production to post-production This gives them creative control and gives you, the client, assurance to the quality of the product.

With the entire project handled by REDINOX, that means no third-party companies meddling with your creative direction.

Something for Everybody

Secondly, REDINOX has a strong vision of giving opportunities to all sorts of companies the media content they need.

From small companies to big companies, SMEs to MNCs, B2B companies to B2C companies, REDINOX has your back.

Being non-restrictive, this makes REDINOX a top choice as they can customise the budget based on any company's requirements, meaning their doors are open to anyone and everyone in need of creative help.

Works

Since 2013, REDINOX has worked its way up, earning a reputable amount of loyal partners and customers; SSIA being one of them.

They have worked with SSIA for a plethora of projects, namely the 50th SSIA Anniversary featurette, which also happens to be their first collaboration. This project featured the past, present, and future of the semiconductor industry in Singapore and received massive positive reception which was evident at their commemorative dinner.

REDINOX wishes to collaborate with SSIA to produce much more content to raise awareness and bring about the importance of the semiconductor industry as well as to attract younger talent into the industry.

What's in REDINOX's Future?

REDINOX aims to reach and work with as many companies as possible to help transform their brand stories and help them reach greater heights.

With a solid portfolio, range of skills and an even more solid team, REDINOX is ready to help you tell your story. If you're looking for a passionate team of content creators, look no further than REDINOX. They're ready/REDI to transform your stories and bring your media strategy to life!

SOURCE OF CONTENTS

REDINOX

www.redinoxsolutions.com



CEI Limited

(formerly known as CEI Contract Manufacturing Limited)

CEI is a valued EMS partner to many Fortune 500 corporations and leading technology companies

Our focus is on high-mix, mid-to-low-volume contract manufacturing services (PCBA, Cable Harness, Box Build, Equipment Build, Control/ Electrical Panel) and equipment integration. CEI also designs and builds wafer handling equipment as an OEM and provides custom automation solutions.

CEI Limited design and build its own brand of equipment as an OEM to meet the semiconductor manufacturing industry needs for automation, hands off production, with a focus on wafer handling using robotics - Such as Equipment Front-End Module (EFEM), Wafer Sorter/Packing and Unpacking systems, Wafer UV Eraser Systems, Wafer Macro & Micro Inspection Systems, 3rd Optical Inspection Systems and AMR – autonomous mobile robot material handler. CEI Limited also take on customized automation project, working closely with customers equipment team to realize their automation needs.

ISO9001:2015 ISO14001:2015 AS9100D ISO13485:2016 Electronics AC7120 UL508A

Contact Us

TY Heng *(PCBA)*
E: hengty@cei.com.sg
P: +65 6481 1882

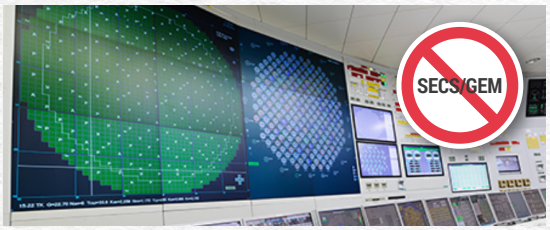
Joseph Tan
(Equipment Manufacturing and Cable Harness)
E: tansm@cei.com.sg
P: +65 6481 1882

Sabu Mohd Ayub
(CEI Proprietary Equipment)
E: ayub@cei.com.sg
P: +65 9845 8786

Low Teck Ming
(CEI Proprietary Equipment)
E: lowtm@cei.com.sg
P: +65 9618 3274

www.cei.com.sg

Industry 4.0 & The Smart Factory: Looking Beyond SECS/GEM



In the last 2 decades, the semiconductor industry has been embracing digital transformation enabled by technology applications in digital manufacturing and Industry 4.0 automation. Further, the Covid-19 pandemic has accelerated the pace of Intelligent Automation (IA) driven by IOT, Cloud, 5G and ML data insights.

SECS/GEM was considered to be the enabler for this integration, but so far it has proven to be a bottleneck as it has failed to integrate the machines and equipment across the floor to their respective MES systems for multiple reasons such as the cost of deployment and the limitation to apply for legacy machines or equipment that cannot be supported by OEMs.

Developing or upgrading a system with event-driven architecture as the foundation is the best way to get real-time data to AI systems for analysis and modelling. It requires integrated and connected IT and OT ecosystems to automate manufacturing operations, including across the supply chain.

Engineers at Brain Domain have developed tools and methodology that bypasses the need of SECS/GEM for integration. The whole suite called **EnCom** is the communication enabler that makes all the machines talk for the desired machine integration. Using Computer Vision, Robotic Process Automation (RPA) , Artificial Intelligence (AI) and Machine Learning (ML), EnCom can be deployed across all the machines, independent of their operating systems and without interfering with source codes. A solution that is a mix of hardware and software, using bots to take suitable actions, mimics the human operators by reading the information on the GUI and concurs into events that are logged in the database. Events are a mix of items such as Alarms, Recipe, Logs, and lot information. A command centre can be setup either inside or outside of the cleanroom where machines can be monitored. This minimizes machine attending thus reducing a bulk of the load from the technical staff for attending to simple alarms, eventually boosting equipment uptime and reduce downtime by 50%.

Brain Domain also offers solutions for the Post Seal Inspection for traditional and wafer level packages. **iR2R** is a Reel to Reel Inspection system that replaces the traditional human inspector with an automated solution. This helps to plug the leak of any defects from the factory. Introduction of industry first concept of **Tape Map** helps to locate the defective locations for the subsequent processes. The inspection process can be done at much higher speeds of 60k UPH upwards, and for certain packages it even reaches up to 120k. The latest image processing techniques are used to arrest the defects in tape, seal, mark, surface, and lead.



Another product offered by Brain Domain is a boon to the Die Banks. It provides IIoT based solution **NxH-902** that turns Dry-Cabinets/ Dessicators into smart equipment. Nitrogen fed in these cabinets can be regulated with a closed loop feedback of humidity levels that can reduce the usage of N_2 by as much as 80%, ensuring that the wafers are maintained in the right levels of humidity avoiding any oxidation. The health of storage can be monitored for any leakage. MQTT based devices are all connected to a central monitoring system with all logs and actions to support the engineering team.



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Brain Domain

www.braindomain.co
sandeep@braindomain.co



NONGSA D-Town's masterplan (photo credit: Nongsa D-Town)

Nongsa D-Town Launched in Singapore-Indonesia Tech Park

NONGSA D-Town, a new "digital economic area" designed by Singapore-based developer Surbana Jurong, was launched on 2 March 2021 at a virtual event officiated by Singapore and Indonesia's economic ministers. Located in Batam, Riau Islands, the development is designed to digitally bridge tech companies and talents in Indonesia and Singapore.

The Nongsa D-Town was inaugurated by Indonesia's Coordinating Ministry for Economic Affairs, Mr. Airlangga Hartanto and Singapore's Ministry of Trade and Industries, Mr. Chan Chun Sing who were also giving opening remarks during the virtual event.

Indonesia's Coordinating Ministry for Economic Affairs, Mr. Airlangga Hartanto mentioned in his opening remarks that Indonesia continued to work collaboratively with Singapore to improve competitiveness, generated more employment and investment in order to strengthen regional stability. "Batam has the geostrategic location being close to Singapore thus can serve as the digital bridge between Indonesia and Singapore, as envisioned by President Joko Widodo during his visit in 2017. I hope the launching of Nongsa D-Town will serve as an accelerator to deliver a significant impact to digital industry in Batam and further to support bilateral collaborations between the two countries,"added Airlangga Hartanto.

Singapore Minister for Trade and Industry, Mr. Chan Chun Sing, also added that Nongsa D-Town underscores what Indonesia and Singapore can achieve together when our governments and business community work together. "D-Town marks the next phase in the story of Nongsa Digital Park, which is envisioned as a vibrant location for those in the tech and digital sector to live, code, design and play," said Mr. Chan in his remarks.

Housing Additional Digital Talents

Nongsa D-Town grows out of Nongsa Digital Park, which was inaugurated in 2018 by Indonesia's

Minister of Foreign Affairs Retno Marsudi and Singapore's Minister of Foreign Affairs Dr. Vivian Balakrishnan. Nongsa Digital Park is located in an area dedicated to digital economic development in Batam. It currently houses 1,000 digital work forces from 100 multinational companies including Glints, R/GA, and WebImp that now become members of Nongsa D-Town. The launch on 2 March also inaugurated Nongsa Digital Park's expansion consisting three newly completed tech offices to house additional 750 talents. The digital economic area will be enlivened by offices, shopping centres, digital training centres, hotels, and co-working/co-living spaces. Upon completion, it will have the capacity to accommodate 8,000 tech workers. The development aims to nurture tech talent with training centers and startup offices, nurturing Indonesia's growing digital economy.

Thanks to its proximity, Nongsa D-Town allows Singapore to expand business thereby widening employment for Indonesian talents in technology and creative industries. This strategic area can be reached only 40 minutes ferry ride to/from Singapore and 15-minute-drive to/from Hang Nadim International Airport Batam.



Future Ready Pavilion & Events Courtyard (Photo credit: Nongsa D-Town)



Outlook of the office in the area (Photo credit: Nongsa D-Town)



Located in Batam, the 62-hectare Nongsa D-Town is designed to digitally bridge tech companies and talents in Indonesia and Singapore (Photo credit: Nongsa D-Town)

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Press release of NONGSA D-Town

A Chat with the SSIA Secretariat Team Member

The Story of Jasmine's Career Journey



What first got you into the semiconductor industry?

Coming into the semiconductor industry was an opportunity that I grabbed when there was an open door. When Covid-19 hit, given the increased personal time, I began to reflect and reframe my thoughts. I realised that I had become comfortable in my state and my personal growth was stagnant. At that point, I began to search for a change.

How do you know about SSIA and why do you choose to join the Association?

I have an accounting background. Before joining SSIA, I was working with an outsourced accounting firm and was allocated to handle the Association's accounts. When I decided to leave my previous role, our Executive Director, Wee Seng, reached out to me and shared that he would like to execute a project and was looking for a candidate to do business development for SSIA. As I began to understand the mission and vision of SSIA, I found that it was very meaningful to work in a neutral ground between the private and public sectors.

What were your biggest challenges and excitements as an employee in the semiconductor industry? How did you deal with these?

It has been a big learning curve for me to understand the many technical terms in the semiconductor industry. Besides, the industry's ecosystem is so extensive that it doesn't only include wafer fabs but also the ecosystem of partners like material suppliers and system integrators.

Every day is a learning journey for me. I am thankful for my senior colleagues who have shared a lot of their personal experience in the industry and given me personal coaching sessions. Bit by bit, I am changing the way I think and work.



Jasmine enjoys cooking in her spare time



A snap of the sunrise at Bedok Reservoir taken by Jasmine

What are the similarities and differences between your previous roles and the role in a semiconductor trade association?

I can say my role in SSIA is totally different from what I did in my previous roles. I used to work with numbers, but I am now working in a role that requires me to develop connections with different stakeholders. Back-to-back meetings have become a norm for me!

Can you tell us your main roles in SSIA?

My major role is to facilitate business matching between customers and solutions providers in the sector utilising the different platforms in SSIA. I also help establish relations with other associations and public sectors to drive initiatives which are beneficial for the industry. Besides, I am in charge of our customer relationship management (CRM) project – a database project which supports internal operations at the moment and will be rolled out to the SSIA community in the future.

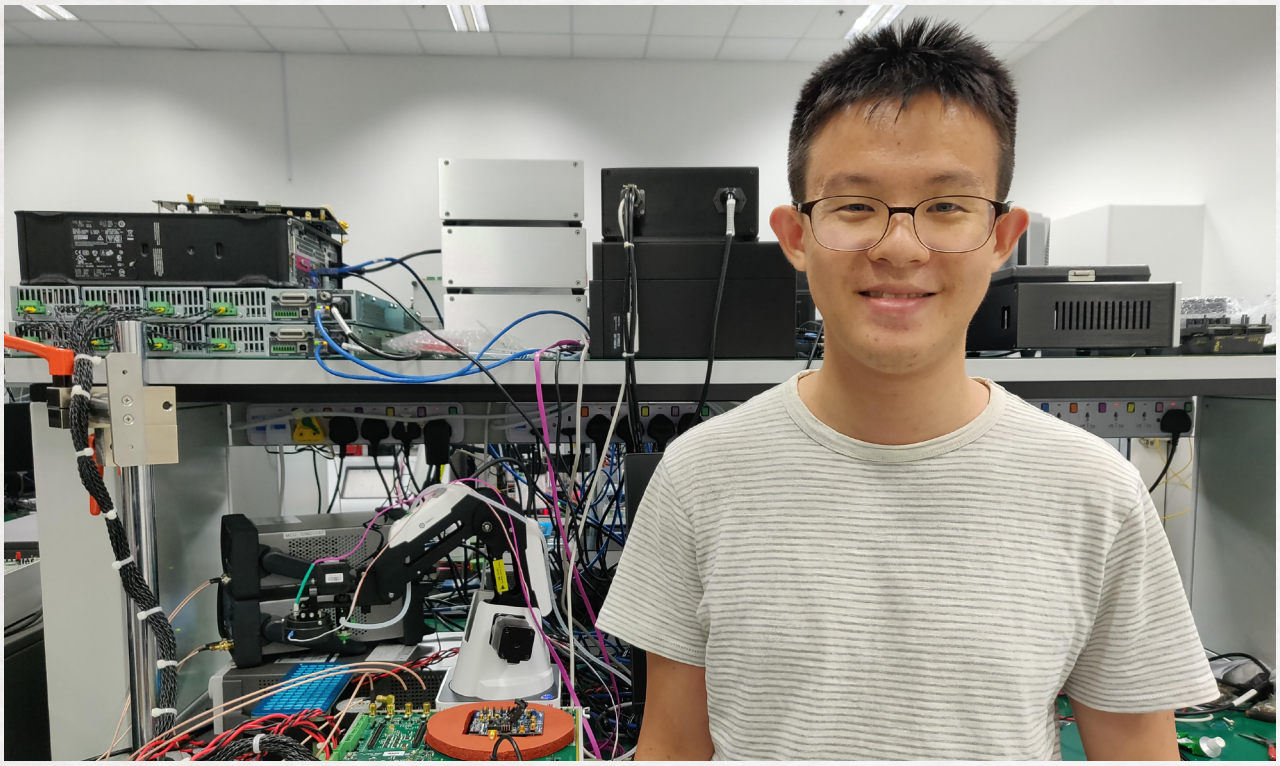
What do you enjoy most about working in SSIA?

It is probably the exposure to a larger community of people worldwide as I used to work with mainly SMEs. I find that people in MNCs and their functions have different thoughts of doing business and making decisions. It is an excellent opportunity to expand my knowledge and enrich my mind.

Let's talk about something personal. Can you share with us a bit more about your hobby?

I'm a bit extreme. I enjoy things that will make me active such as going for early morning walks to see the sunrise and doing yoga and pilates. I have also signed up for a 10-week lyrical jazz foundation course recently. On the quiet side, I enjoy spending a whole day in my house binge-watching dramas, cooking meals, or just organising my room.

"I am thankful for my senior colleagues who have shared a lot of their personal experience in the industry and given me personal coaching sessions. Bit by bit, I am changing the way I think and work."



Wee Ting Yit: The Freedom to Disrupt

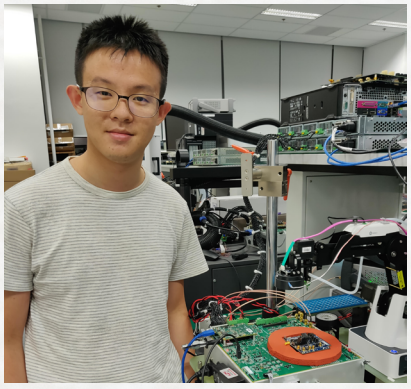
At Silicon Labs' Singapore office, a 65cm-high Integrated Circuit (IC) handler robot scans semiconductor chips to ensure they are correctly positioned. Every now and again, the Valbot – short for validation robot – stretches out to realign one that is not. Using a combination of computer vision and Artificial Intelligence, it works around the clock, freeing up engineers for more complex tasks.

Credit for this 2018 industry breakthrough goes to Wee Ting Yit, then a 24-year-old intern in his 4th year at Nanyang Technological University (NTU). He worked on the initial design during his three-month internship, and took the project to completion when he returned to the company after graduating with a B.EngSc.

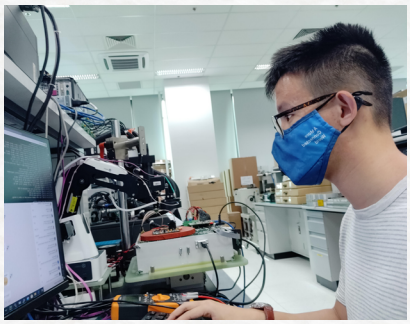
"The robotic system is low-cost and low-risk, plus it saves time and reduces manpower, so engineers can spend their time doing other, more challenging work," says the now 28-year-old, who is a Design Engineer with the company.

Silicon Labs has since filed a patent for the prototype, and today, has 10 Valbots in Singapore, with additional Valbots installed at its Oslo and Austin sites. Soon, another will be installed at the company's Hyderabad site.

The idea for a validation robot came from his supervisor, Ting Yit says, confessing that it was not an easy task, spanning complex mechanical, image recognition, machine-learning and advanced



Ting Yit poses with the Validation Robot System Setup



Disruptor at work: Ting Yit loves having the freedom to challenge the status quo at Silicon Labs Singapore

"The way you hone your craft is to keep building on your skills and knowledge, and continuously question how you can make things easier. And with new software tools always becoming available, there are rarely limits to this."

software programming domains. It took more than a year of experimenting – and plenty of guidance from his mentors – before the idea came to life.

In May 2019, the Valbot was presented at Silicon Labs' Technical Symposium in Austin, Texas, winning the Best New College Graduate (NCG) Paper Award. After a few months of trials and tweaks, it was put to work at the company's Validation Lab in June 2020. It came especially useful during the Covid-19 pandemic's lockdowns, when many were forced to work from home.

"I was happy to see it being used and proud that it was helping to solve a problem," he says.

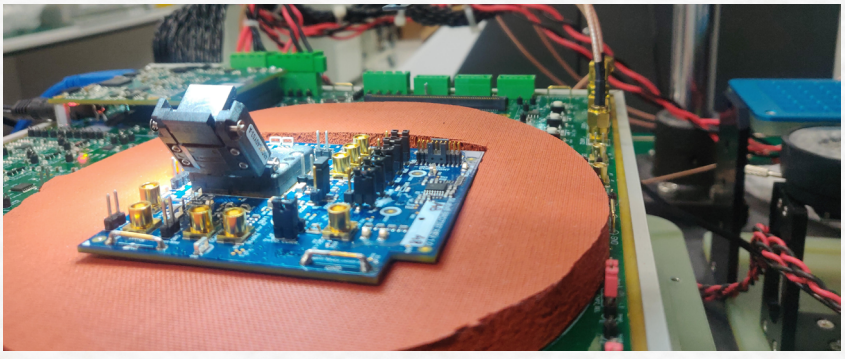
A disruptor who has always loved problem solving, Ting Yit designed a water chlorination system for an orphanage during a volunteer stint in Indonesia while in his first year at NTU. Although his design was not used, it deepened his fascination with engineering. While at NTU, Ting Yit was also part of the Maker's Movement, a collective for student designers and engineers.

His love for innovation makes him a natural fit for the ever-evolving semiconductor industry, he says, since it is one in which fresh ideas are always welcomed.

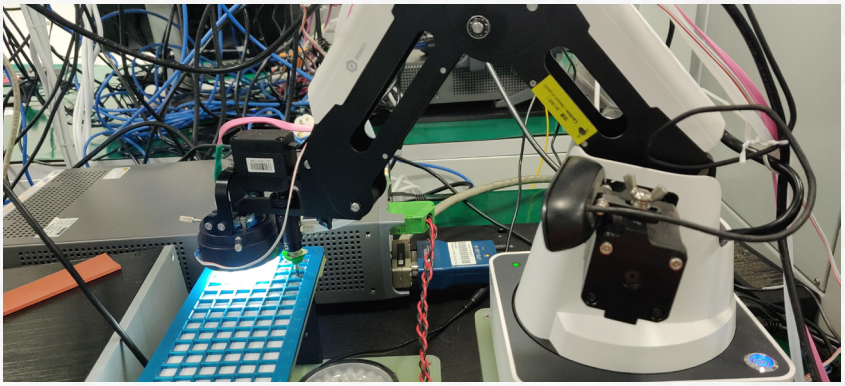
Engineering is an art," he explains. "The way you hone your craft is to keep building on your skills and knowledge, and continuously question how you can make things easier. And with new software tools always becoming available, there are rarely limits to this."

That, he says, is for him the most rewarding part about working in the semiconductor field. "You are constantly challenged to disrupt the status quo. In fact, you're given free rein to do so. And if you fail, it doesn't matter because you can always try again the next day.

"It's empowering knowing that you have the space and support to pursue new ideas."



Picture perfect: The Valbot takes a picture of a chip it holds to calibrate and check it, and will then proceed to place the chip and close the socket lid



Bot in motion: The Valbot fetches a chip from the chip tray



Seasoned mentor: Lim Chee Kien, Vice-President of External Manufacturing at ams Sensors, believes in pushing young people out of their comfort zones

Lim Chee Kien: Learning Has No Finish Line

Resilience, Lim Chee Kien believes, comes from stepping outside your comfort zone – and the Vice-President of External Manufacturing at ams Sensors is known for challenging those he mentors to do exactly that.

As a result, the mix of young engineers and managers under him are just as likely to find themselves solving a technical or business issue as they are discussing new ideas and challenges at one of the company's bimonthly meetings – in front of a 50-strong group of decision makers and overseas manufacturing partners.

"Being an engineer today is different from what it was three decades ago, when I graduated as an engineer from the National University of Singapore," he says. "Now, markets are volatile, supply chains are more vulnerable to disruption and competition is fiercer. You have to be prepared for change, and align your approach and adapt, or you'll get left behind."

While young graduates today are more knowledgeable and resourceful than ever, they often need extra guidance when it comes to "soft skills" – resilience, for one, but also self-expression and communication, self-management, teamwork and decision-making. Which is why such skills are integral to his mentorship approach. "They were nervous at first," he says of his mentees' initial attempts at presenting, "but with every new attempt their confidence grows a little."

A 30-year veteran in the optoelectronics/optical sensors industry, Chee Kien has occupied



Building bonds: Making time to hear his mentees out – whether for work or other issues – is key to Chee Kien's leadership style. He prefers casual communications over formal meetings



Work hard, play hard: Chee Kien (first from the left) hits the lanes with some of his younger team members

management positions in companies across the United States, Europe, Taiwan, China and Singapore. He has also welcomed the opportunity to train and mentor young professionals in these geographies.

He firmly believes in enabling a learning culture that encourages continuous learning and growth, with no finish line.

He also adopts an open door policy, and ensures his mentees know they can approach him at any time to discuss anything, whether issues from work or personal problems. He believes that giving them that space to

"Now, markets are volatile, supply chains are more vulnerable to disruption and competition is fiercer. You have to be prepared for change, and align your approach and adapt, or you'll get left behind."

open up, without fear of being judged or criticised, builds trust and unity.

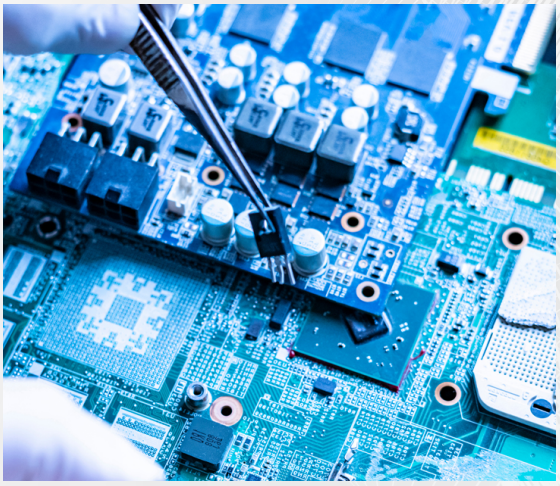
"It is what keeps a team strong. You can have superstars but even superstars run into trouble and you have to care about them," he says. "A company is nothing without its people, after all. I want my mentees to look after one another, to consider one another's thoughts and feelings, and to acknowledge one another's needs and contributions. This cultivates a shared vision and motivates everyone in the team to do their best work."

He also ensures that he always walks the talk.

"The best way to drive home any message to my mentees is to set the example myself," he explains. "I always make sure that my actions align with what I tell them."

As for failure – well, that's taken in stride and looked upon as an opportunity to improve rather than a setback. "You can always recover and do better next time," he says. "With this perspective and faith in yourself, you'll find it easier to bounce back when things don't go your way."

Training on Analog IC Layout Design



Registration Opens Now!

Starting 10 May 2021

A national objective to support local IC Design Centers in the electronics and semiconductor industry has been initiated. As a part of this initiative, Singapore Government, industry associations and industry players aim to build a sustainable talent pool to fulfill the needs in Integrated Circuits (IC) chip design. One area of the chip design where talent is needed continuously is Analog Layout Design (ALD). The first batch of 20 candidates will be selected and trained in ALD with a plan to provide them with job opportunities in the industry.



OBJECTIVE

The course's objective is to support the employability of local engineers aspiring to have a permanent career in Analog Layout. A significant part of the **course fee is subsidized by the Government** for candidates meeting the eligibility criteria. Terms and conditions apply.



WHO SHOULD ATTEND?

Job seekers or fresh Diploma/Degree holders **(ECE, EEE, Applied Electronics, Physics)** who want to start or switch to a career in electronics, or a passionate engineer from any field.

UNIQUE FEATURES:

- Course content is customized based on inputs from industry leaders
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- Job market & career progression overview for Layout Design in Singapore
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