ROS industrial consortium asia pacific

ROS-INDUSTRIAL ASIA PACIFIC WORKSHOP 2022

KEYNOTE SPEAKERS

OPENING REMARKS

Prof. Quek Tong Boon

Chief Executive, National Robotics Programme (NRP)

Adj Asst Prof. Selina Seah

Assistant Chief Executive Officer, Changi General Hospital (CGH)

Prof. Giorgo Metta

Scientific Director, Instituto Italiano di Technologia (IIT)

Han Boon Siew

Chief Information Officer (APAC), Head of Advanced Research & Innovation , Schaeffler

Matthew Festo

General Manager, Open Robotics

DISTINGUISHED SPEAKERS & PANELLISTS

Darryl Lee

Consortium Manager, ROS-Industrial APAC (ARTC)

Matt Robinson

Consortium Manager, ROS-Industrial Americas (SwRI)

Christoph Hellmann Santos

Consortium Manager, ROS-Industrial Europe (Fraunhofer IPA)

Dr. Zhang Jing Bing

Technical Division Director, Smart Robotics and Automation (SRA), ARTC

Dr. Pongsak Lasang

General Manager, Panasonic R&D Centre Singapore

Dr. Carlos Acosta

Technology Leader in Robotics (Senior Lecturer), Singapore Polytechnic

Dylan Ng

CEO & Co-Founder, Lionsbot International

Leong Yong Shin

CEO & Co-Founder, Augmentus

Arthur Wee

Senior Director, Test Technology & Innovation AET Asia, Infineon

Frankie Man

Market Manager, ACaaS ACS Enterprise & SMB APAC, dormakaba

Su Lian Jye

Research Director, ABI Research

ROS-INDUSTRIAL ASIA PACIFIC WORKSHOP 2022

PROGRAMME AGENDA - DAY 1 (9 NOV)

Time	Title	Speaker
9.15AM - 9.30 AM	Opening Speech	Professor Quek Tong Boon, Chief Executive National Robotics Programme (NRP)
9.30AM - 10.00AM	The Continuing Effort on ROS2-based Technology Proliferation and Industry Adoption in Asia Pacific	Mr. Darryl Lee, Consortium Manager ROS-Industrial Asia Pacific (ARTC)
10.00AM - 10.30AM	Software Componentization for Robotics: Mixing Middleware, Architectures, and Several Robot Types	Professor Giorgio Metta, Istituito Technology Genoa
10.30AM - 11.00AM	**Morning Break - Light Refreshments Served**	
11.00AM - 11.30AM	Building Advanced Robotics for Industry 4.0 through Schaeffler Hub for Advanced Research (SHARE at NTU)	Mr. Han Boon Siew, Chief Information Officer (APAC), Head of Advanced Research & Innovation, Schaeffler
11.30AM - 12.00PM	Robotics Investment Trends: Cultivating A Sustainable Robotics Ecosystem	Mr. Su Lian Jye, Research Director, ABI Research
12.00PM - 1.00PM	**Lunch Break**	
1.00PM - 2.00PM	Booth Exhibition and Demonstrations - ARTC & ROS-I	
2.00PM - 2.10PM	Group Photo Session	
2.10PM - 2.50PM	Panellist Talk Discussion	
2.50PM - 3.30PM	**Afternoon Break**	**Closed-Door Consortium Member Appreciation Ceremony (20 Mins)**
3.30PM - 4.00PM	Taking Open Source to the Floor and to New Applications	Mr. Matt Robinson, Consortium Manager, ROS-Industrial Americas (SwRI)
4.00PM - 4.30PM	ROS-Industrial in Europe	Mr. Christoph Hellmann Santos Consortium Manager, ROS-Industrial Europe (Fraunhofer IPA)
4.30PM - 5.00PM	Democratization of Robot Programming	Mr. Leong Yong Shin, CEO, Augmentus
5.00PM	**End of Event**	
5.15PM - 6.00PM	Bus Transportation From ARTC to Networking Dinner	
6.00PM	Networking Dinner - Cali Ascott Raffles	

PROGRAMME AGENDA - DAY 2 (10 NOV)

Time	Title	Speaker
9.15AM - 9.45 AM	Interoperability to support multiple systems in high-touch dynamic complex environment	Adj Asst Prof. Selina Seah, Assistant Chief Executive Officer, Changi General Hospital
9.45AM - 10.15AM	Open Source: High Performance Energy!	Mr. Matthew Festo, General Manager, Open Robotics (Singapore)
10.15AM - 10.45AM	**Morning Break - Light Refreshments Served**	
10.45AM - 11.15AM	Towards Practical Deployment of RMF on Panasonic HOSPI robot	Dr. Pongsak Lasang, General Manager, Panasonic R&D Centre
11.15AM - 11.45AM	Adventures of a young robotics startup	Mr. Dylan Ng, CEO & Co-Founder, Lionsbot International
11.45AM - 12.45PM	**Lunch Break**	
12.45PM - 1.45PM	Booth Exhibition and Demonstrations - ARTC & ROS-I	
1.45PM - 2.15PM	Enabling Low-touch Economy with Autonomous Robotics and Automation Solutions	Dr. Zhang Jing Bing, Technical Division Director (SRA), ARTC
2.15PM - 2.45PM	Access Solutions from Planning, Design, Implementation. Operation & Maintenance	Mr. Frankie Man, Market Manager, ACaaS ACS Enterprise & SMB APAC dormakaba
2.45PM - 3.15PM	Robotic Education to Enable The Future	Dr. Carlos Acosta, Technology Leader in Robotics (Senior Lecturer) Singapore Polytechnic
3.15PM - 3.30PM	Closing Remarks	
3.30PM	**End of Event**	

TALKS

OPENING REMARKS

Prof. Quek Tong Boon - Chief Executive, National Robotics Programme (NRP)

Professor Quek Tong Boon is currently the Chief Scientific Advisor of the Ministry of Trade and Industry and the Chief Executive of the National Robotics Programme as well as Advisor to the Science and Engineering Council (SERC) at A*STAR.

Until 30 June 2016, he was the Chief Defence Scientist of Singapore's Ministry of Defence (MINDEF) and prior to that, he was MINDEF's Deputy Secretary (Technology and Transformation), Chief Research & Technology Officer and the Chief Executive Officer of the DSO National Laboratories.

He is currently a member of the Board of Directors of PUB, Singapore's water agency and a Director on the Board of Temasek Foundation Innovates, a non-profit philanthropic organisation. He is also a member of the Committee of Government Scientific Advisors of Singapore. In the higher education sector, he is Advisor to the Provost of NUS and until August 2018, a member of the Board of Trustees of the Singapore University of Technology and Design (SUTD).

He is an Adjunct Professor in the NUS Department of Industrial & Systems Engineering Management.

The Continuing Effort on ROS2-based Technology Proliferation and Industry Adoption in Asia Pacific

Darryl will present the recent highlights on the technical development of ROS2-based technologies and the upcoming technology packages the team will pursue.

Mr. Darryl Lee - Consortium Manager, ROS-Industrial APAC (ARTC)

Darryl manages the ROS-Industrial Consortium Asia Pacific, where he aims to proliferate ROS adoption and advanced robotic applications in industrial and commercial applications. In his role, Darryl drives a strong initiative in cultivating an inclusive open-source community and continuously looks for an opportunity to strengthen ROS capabilities. Darryl graduated from Nanyang Technological University, Singapore, with a Bachelor in Mechanical Engineering (BME) specializing in Mechatronics and a Masters of Science (MSc) in Systems and Project Management.

TALKS

Software Componentization for Robotics: Mixing Middleware, Architectures, and Several Robot Types

This presentation is about the development history of robotic middleware. Prof. Giorgo Metta will also be describing the design of a larger-scale software system that combines all the above to control a humanoid robot to guide visitors in a museum.

Prof. Giorgo Metta - Scientific Director, Instituto Italiano di Technologia (IIT)

Dr. Giorgio Metta is director of the iCub Facility department at the Istituto Italiano di Tecnologia (Italian Institute of Technology) where he coordinates the development of the iCub robotic platform/project. He holds an MSc cum laude (1994) and PhD (2000) in electronic engineering both from the University of Genoa. From 2001 to 2002 he was postdoctoral associate at the MIT Al-Lab. He was previously with the University of Genoa and since 2012 Professor of Cognitive Robotics at the University of Plymouth.

Building Advanced Robotics for Industry 4.0 through Schaeffler Hub for Advanced Research (SHARE at NTU)

Presentation about SHARE at NTU collaboration leverages NTU's innovative technology competence and Schaeffler's component and system expertise to develop advanced robotics applications.

Mr. Han Boon Siew - Chief Information Officer (APAC), Head of Advanced Research & Innovation, Schaeffler

Boon Siew is responsible for driving R&D in the areas of Advanced robotics, Mechatronics, and Al technology for Schaeffler. He oversees the use of Information Technology in the Asia Pacific region and devises the company's IT strategy. His interests and other activities include implementing digitalized solutions for Industrial 4.0, Robotics, IoT, and Urban Mobility.

TALKS

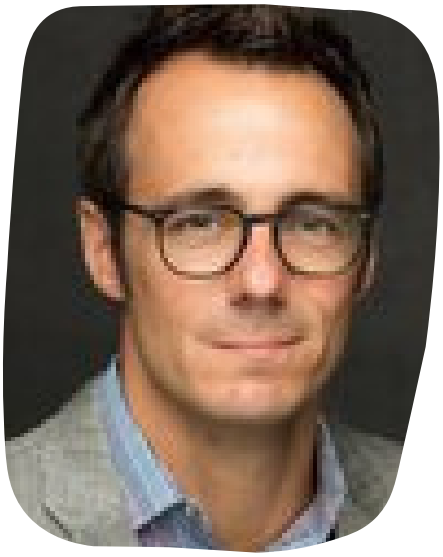
Robotics Investment Trends: Cultivating A Sustainable Robotics Ecosystem

The presentation covers key robotics investment trends in the past five years via venture capital funding, government policies, and startup scenes

Mr. Su Lian Jye - Research Director, ABI Research

Lian Jye Su, Research Director at ABI Research, is responsible for orchestrating research related to robotics, Artificial Intelligence (Al), and Machine Learning (ML). He leads research in emerging and key trends in these industries, diving deeply into advancements in key components, regional dynamics in robotics and Al adoptions, and their future impacts and implications.
Prior to joining ABI Research, Lian Jye worked in several healthcare organizations, in both the technical and business domains. He held various roles in quality management,
operation reviews, and market research analysis. Lian Jye earned a BSc in Life Sciences from the National University of Singapore. He then completed his MBA at Melbourne Business School in Australia, with a dedicated specialization in market research and business strategy.

Taking Open Source to the Floor and to New Applications



This talk will share recent activities from the region and affiliated collaboration partners to demonstrate how libraries are moving toward frameworks to provide foundations for new capability that is extensible.

Mr. Matt Robinson - Consortium Manager, ROS-Industrial Americas (SwRI)

Mr. Robinson is the Program Manager for the ROS-Industrial Consortium - Americas, in his current role he is tasked with setting the strategy and vision to align the open source development community with industry needs. Prior to his current role, Mr. Robinson was team leader for Caterpillar's Manufacturing Technology Automation Research. Here, Mr. Robinson led development and deployment of automation tools to improve the performance and productivity of Caterpillar manufacturing facilities around the globe. Mr. Robinson, during this time, also led manufacturing value stream design initiatives that led to the deployment of over 50 robotic/automated manufacturing systems around the world. Mr. Robinson has a Master's Degree in Welding Engineering from Ohio State University.

ROS-Industrial in Europe

Christoph Hellmann Santos present ROS-Industrial Europe's technology roadmap. He will also highlight currently active developments for ROS2.

Mr. Christoph Hellmann Santos - Consortium Manager, ROS-Industrial Europe (Fraunhofer IPA)

Christoph Hellmann Santos manages the ROS-Industrial Consortium Europe where he aims to foster adoption of open source software in industry. He joined Fraunhofer IPA in 2016, after finishing his studies of mechanical engineering at Karlsruhe Insititue of Technology and his diploma of engineering at Arts et Métiers ParisTech. At Fraunhofer IPA, he has been working in different research and technology transfer projects (ROBOTT-NET, ROSIN, agROBOfood and others). Since 2019, he manages the research group software engineering and system integration and in 2020 he took over the position of ROS-Industrial Consortium Europe Project Manager.

Democratization of Robot Programming

This talk will share about different techniques that have been employed to ease robot programming and make robots accessible for everyone within the factories.

Mr. Leong Yong Shin - CEO, Augmentus

Yong Shin is the co-founder of Augmentus, a robotics start-up (spin-off from ARTC) that simplifies and quickens the robot programming processes. He has been appointed an advisor to IMDA Services and Digital Economy developmental roadmap, as well as a mentor at Singapore's Infocomm Media Development Authority's PIXEL Innovation program. In 2017, he founded the Augmented Reality division at ARTC, working on projects with multinational companies as well as local enterprises. Yong Shin graduated from Nanyang Technology University with a Bachelor of Bioengineering and Biomedical engineering, and is the holder of several patents and has been published in several scientific journals.

TALKS

Interoperability to support multiple systems in high-touch dynamic complex environment

Presentation is about the need for interoperability to support multiple systems in a high-touch dynamic complex environment, and to optimise performance and operations for the technology investments in Singapore's healthcare systems.

Adj Asst Prof. Selina Seah - Assistant Chief Executive Officer, Changi General Hospital

Appointed as Assistant Chief Executive Officer CGH on 1 Sep 2012 focusing on campus development and care transformation, Asst. Prof Seah has leadership over remodelling of the hospital, looking at new models of care and developing enablers in infrastructure, technology and innovations. Prior, as Chief Operating Officer in 2010, she had led nearing a thousand staff covering strategic planning, hospital planning, services and business development, managing patient service departments, managing operational support departments, emergency planning and planning for integrated care service models/programs for chronic disease management.
When the new regional health system Eastern Health Alliance, which Changi General Hospital is a partner of, was formed in Apr 2011; she was also the Acting Chief Corporate Development Officer till 2012 for the cluster looking after cluster development, partnerships, strategy development for medium term, and forming the healthcare innovations platform.

Open Source: High Performance Energy!

Mr. Matthew Festo share some insights about the High Performance Fuel which Open Robotics provides as well as some thoughts on how Open Source solutions can thrive in such an economically diverse world and ecosystem.

Mr. Matthew Festo - General Manager, Open Robotics (Singapore)

Matthew oversees Asia Pacific business operations for Open Robotics. Before joining the team, Matthew spent nearly 20 years in leadership roles at global technology companies. Most recently, he was the Singapore Country Manager for Savioke, where he launched and led the company's fastest region for sales growth. Prior to that, Matthew was responsible for a portfolio of global customers as Business Unit Director at PCI Limited, specializing in human-machine interface products. He has been based in Singapore since 2013 and holds MBAs from National University of Singapore and UCLA Anderson as well as a B.S. in Mechanical Engineering from UCLA.

TALKS

Towards Practical Deployment of RMF on Panasonic HOSPI robot

Dr. Pongsak Lasang will share some practical challenges that they encountered and solutions to overcome them so to speeding up the practical deployment of RMF across industries.

Dr. Pongsak Lasang - General Manager, Panasonic R&D Centre

Pongsak heads the Strategy & Planning Office of Panasonic R&D Center Singapore and he focuses on defining and formulating the company's strategy and direction for future growth and sustainability. He is also actively researching on cutting-edge technologies in the areas of Al, Robotics, Autonomous Vehicles, Lightweight Deep Learning, 3D Scene Understanding, and New Sensors. He earned his Bachelor's Degree in Electronics and Telecommunication Engineering in 2005, Master's Degree in Electrical Engineering in 2006, and Ph.D. in Electrical and Computer Engineering in 2016, all of which were from King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand. In November 2006, he joined Panasonic R&D Center Singapore as an intern. Since then, he has been developing competitive image processing Al & 3D technologies and continually contributing to businesses. His co-work on Motion Blur Removal and Image Denoising with Deep Learning received the 1st Place Winner Best Paper Award from the IEEE International Conference on Consumer Electronics (ICCE), 2010, and the Best Paper Award from the 18th International Symposium on Communications and Information Technologies (ISCIT 2018), 2018, respectively. Pongsak has contributed to more than 60 patents and is a member of the IEEE and the ACM.

Adventures of a young robotics startup

Sharing of LionsBot's journey and adventures as a young robotics start-up. Going from scratch to more than 1,000 robots across the world.

Mr. Dylan Ng - CEO & Co-Founder, Lionsbot International

Dylan Ng Terntzer is the CEO and Co-Founder of LionsBot, a fast-growing, Singapore-headquartered smart robotics company that develops professional cleaning robots with personality. Founded in 2018, LionsBot has since grown to over 200-employee strong and has also developed a wide range of professional floor cleaning robots focusing on. Focused on the B2B cleaning industry, the 200 employee strong start-up has deployed smart cleaning robots to over 26 countries worldwide. The company's first series of floor cleaning robots, the "LeoBots", was awarded the prestigious Amsterdam Innovation Award in 2020, the first Asian company to win this coveted prize.

Dylan is highly passionate about the future of cleaning technology and how robotics can empower and transform the cleaning industry. Aiming to elevate the job of traditional cleaners to robot supervisors, LionsBot allows a single cleaner to control up to 10 robots via an app. Travelling to every major cleaning exhibition, Dylan stays abreast of the most advanced cleaning equipment and technology, constantly implementing the latest industry know-how into his business. Prior to founding LionsBot, Dylan started his first company, SuperSteam Asia Pacific, with his wife and business partner, Michelle Seow, in 2002. A commercial cleaning supply company, SuperSteam Asia Pacific focuses on distributing innovative cleaning technologies. The company is one of Singapore's leading distributors of professional cleaning products. With a love for invention and problem solving since young, he won the Tan Kah Kee Young Inventors' Award in 1994 and the National Serviceman of the Year for Singapore Armed Forces, Artillery Formation, in 2007.

Dylan is passionate about leadership, positive psychology and inspiring a generation of young people to achieve the impossible! Dylan holds a bachelor's degree in Marketing from Nanyang Technological University, Singapore. He is currently serving on the council of the Workforce Advancement Federation (WAF). Dylan is also an active member of Entrepreneur Organisation (EO) and Young President's Organisation (YPO).

TALKS

Enabling Low-touch Economy with Autonomous Robotics and Automation Solutions

Sharing on his experience towards leading a sustainable robotics eco-system. Furthermore, he will share insights on the latest ROS2 Native Platform Technologies Development programme as the Principal Investigator along with other collaborators such within A*STAR (I*2R and SIMTech) as well as IHLs such as Nanyang Technological University (NTU) and Singapore University of Technology and Design (SUTD).

Dr. Zhang Jing Bing - Technical Division Director (SRA), ARTC

Prior to joining ARTC, Dr Zhang was a research director at IDC Asia Pacific Singapore. He was largely instrumental in setting up IDC's worldwide robotics research program, and was responsible for leading IDC's Worldwid Robotics and Asia Pacific Manufacturing research programs. In this role, he provided research and advisory services to global technology vendors and end-user clients in the areas of robotics, drones, MES, Industry 4.0, IT-OT, and emerging technologies that are reshaping the future of manufacturing. He was a frequent invited speaker at industrial events, and has been frequently engaged by media to provide analysis and perspectives on robotics and manufacturing.
From 2008-2015, Dr Zhang worked for seven years as senior director of engineering at Kulicke & Soffa, Singapore and was responsible for leading the engineering department with 130+ engineers/managers/directors involved in technology R&D, product development, technical support for in-house production as well as field services for customers in semiconductor packaging and assembly industry.
Dr Zhang also worked for 16 years (1992-2008) at SIMTech with increasing responsibilities as senior scientist, manager of various research groups/programs, director of the research liaison office (RLO) and member of the SIMTech Management Committee. He earned his Ph.D. degree from Loughborough University, UK; his MBA (Distinction) degree from the University of Birmingham, UK; and his B.Eng. degree from Tsinghua University, China. Dr Zhang is a senior member of IEEE, and AdCom member of the IEEE Industrial Electronics Society, and currently serves as a voting member of IEEE P2805 Working Group (WG) on Edge Computing Node Standards. He previously served as an Associate Editor of IEEE Transactions on Industrial Electronics, chair/Vice-chair of IEEE Singapore IE Chapter, and general chair/ technical chair/ financial chair of multiple IEEE conferences.

Access Solutions from Planning, Design, Implementation. Operation & Maintenance

Mr. Frankie will share example of how dormakaba provides integrated offerings and ecosystems for the benefit of planners, architects, and facility managers alike when comes to door access solutions.

Mr. Frankie Man - Market Manager, ACaaS ACS Enterprise & SMB APAC dormakaba

Frankie is an electronic and communication engineer by training from the University of Queensland, Australia. He has over 20 years of international business development and large-scale project management in telecommunication and physical electronic security solutions (BMS, access control, CCTV & intrusion alarm) across APAC and Middle East. He has been with dormakaba for 5 years and responsible for the digital loT solution development and business development for APAC. Working with dormakaba regional sales and marketing offices as well as ecosystem partners to implement & deploy innovative access solutions. Also, acting as the bridge between dormakaba Global Innovation Management and regional industrial leading partners to drive for the next generation of access solutions. Including the successful deployment of ROS-I RMF and dormakaba automatic door access solution at one of the Singapore international transportation hub in 2021. Frankie is actively participating in the next generation of ROS- I development.

TALKS

Robotic Education to Enable The Future

This talk will present few Robotics projects, their implication to the students involve in those projects and how such experiences enables students to reach for bigger dreams, thus creating fearless engineers for our society.

Dr. Carlos Acosta - Technology Leader in Robotics (Senior Lecturer) Singapore Polytechnic

Dr. Carlos Acosta received the B.E degree in computer systems from Pachuca Technological Institue, Mexico in 2000, andf the M. Sc. degree in Computer Science (Robotics and Intelligent Machines) and the Ph.D. degree, both from Essex University, United Kingdom in 2001 and 2006 respectively.
Currently, he is a Technology Leader in Robotics, Automation and Control at the School of Electrical and Electronic Engineering in Singapore Polytechnic, Singapore. He engages and collaborates with industries, research centre and learning institutions for projects and research.
He has published more than 40 refereed publications including a book, book chapters, journals and conferences. He has successfully delivered and managed 18 project grants totalling more than SGD $2million as Principal Investigator, Co-PI and collaborator. He has delivered more than 20 technical talks to different audiences including 2 invited talks to non-technical audiences.

Arthur Wee - Senior Director, Test Technology & Innovation AET Asia, Infineon

Arthur Wee, as the Head of TTI AET Automation Asia is responsible for driving success through sites head of AET automation departments in Singapore & Asia, managing and overseeing strategic capital programme and projects in close collaboration with manufacturing sites and functional units.

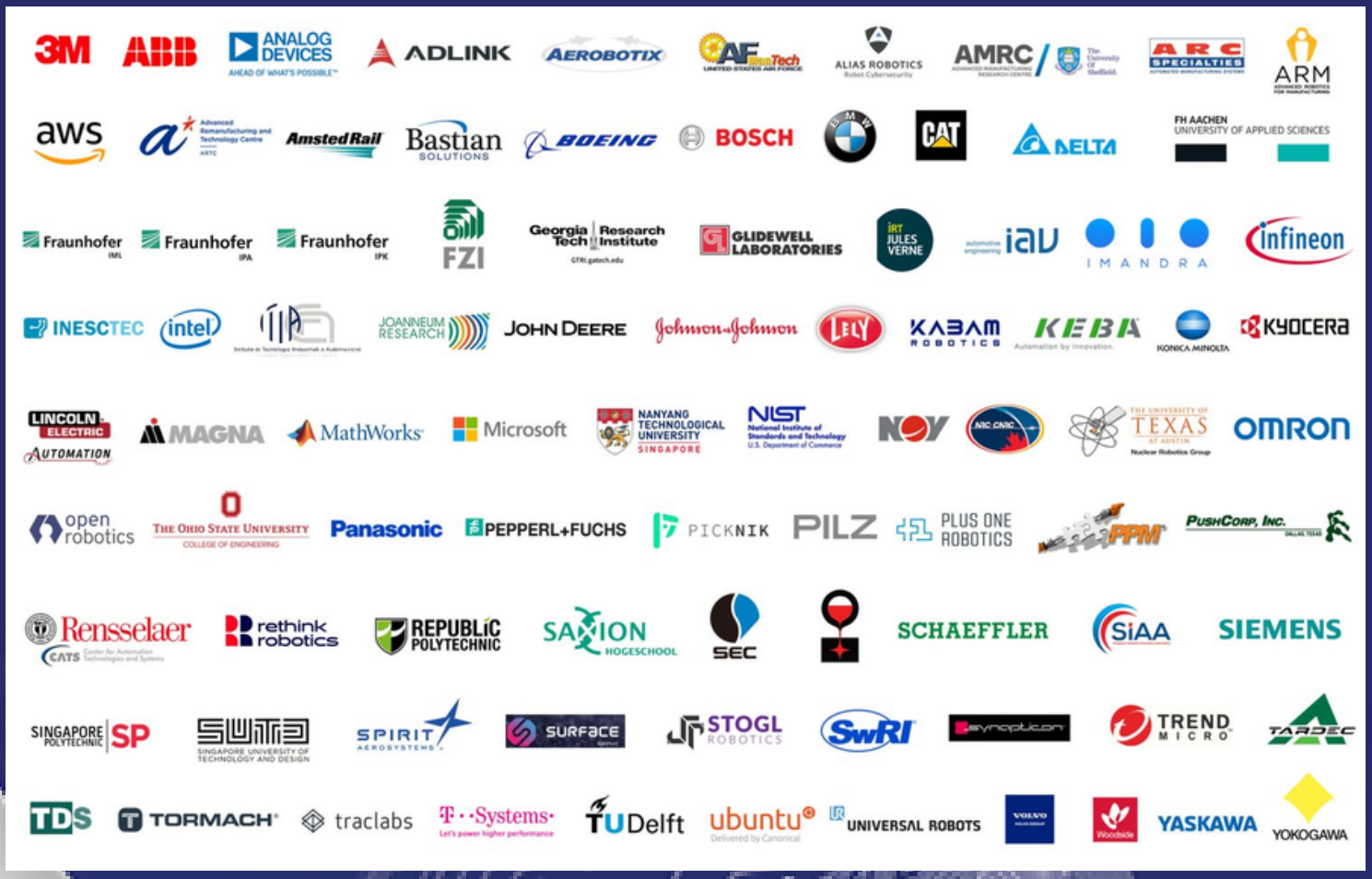
He developed and lead a high-performance team from each regional site to deliver established & scalable platform strategy and solutions implementation.

He drives innovation & solution delivery to strengthen automation capability through IIOT & digitalization, artificial intelligence & machine learning.
He also owns AET Asia business plan/strategy framework and execute with regional sites head of operations support.

ROS industrial consortium asia pacific

THANK YOU TO OUR MEMBERS

ROS-I is supported by an international Consortium of industry and research members. Thank you to all of the members for their continued support of ROSIndustrial and the open source industrial robotics community!



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