



Jointly Organised by:



Singapore Institute of Aerospace Engineers

In Conjunction with:



Special rates for IES members and Chartered Engineers:

Physical attendance: SGD 350 for morning and afternoon sessions.

Virtual attendance: SGD 150 for morning and afternoon sessions.

PDU Points for IES Chartered Engineers

IES Chartered Engineers qualify for 7 points for attending the full morning and afternoon sessions.

Registration

For registration at these special rates and other clarifications, please email your Name, IES membership, phone contact, and whether physical or virtual attendance to Ms Ximin. Her contact: ximin@siae.org.sg

The Event

In conjunction with the 2022 Singapore Airshow, the 10th edition of the Singapore Aerospace Technology and Engineering Conference (SATEC) will be jointly organised by the Republic of Singapore Air Force (RSAF) Air Engineering and Logistic Department (AELD) and the Singapore Institute of Aerospace Engineers (SIAE) on Wednesday, 16 February 2022. The biennial conference provides a platform for researchers and engineers from both academia and industry to present and discuss key developments and advancements in aerospace technology and engineering.

SATEC 2018 saw 424 participants with 38 presentations from militaries, defence partners, commercial industries and academia, including distinguished speakers from Airbus Defence and Space, Pratt & Whitney and the RSAF who shared their perspectives and their organisation's approach towards digital transformation. SATEC 2020 was cancelled due to the COVID-19 pandemic.

SATEC 2022 promises to be yet another exciting conference with the theme, "Innovate Beyond the Horizon." The increasing focus on the sustainability of air travel presents new opportunities for innovation, while the ongoing fight against COVID-19 continues to spur the adoption of Industry 4.0 technologies. SATEC 2022 will focus on the innovative use of technology and concepts to overcome the constantly evolving challenges faced by the aerospace industry. The conference will feature a plenary session in the morning and breakout sessions in the afternoon by speakers from different backgrounds presenting on their research findings. These sessions aim to provide an overview of current trends and a glimpse of future opportunities in the aerospace industry.

SATEC 2022 will not only serve as an excellent platform for researches, academics and aerospace engineers to present their research and discuss new advances in the areas of aerospace technology, but will also offer opportunities for the establishment of networks among influential aerospace industry professionals.

Objectives

- a. Connect with engineers and researchers from the aerospace and defense industry, as well as academia.
- b. Discuss the latest advancements in aerospace technology, engineering and maintenance practices from leading aerospace companies and R&D institutions
- c. Exchange knowledge and establish networks to help raise the engineering competency and further develop relevant ideas among local and regional companies and institutions

Conference Programme

(Tentative programme subject to change without notice)

Time (H)	Programme
0730	Registration
0830	Welcome Address ME8 Timothy Yap <i>Head Air Engineering and Logistic (HAEL), Republic of Singapore Air Force (RSAF)</i> Prof Lim Yeow Khee <i>President, Singapore Institute of Aerospace Engineers (SIAE)</i>
0840	Keynote Address by GOH Mr Heng Chee How <i>Senior Minister of State for Defence, Ministry of Defence</i> <i>Deputy Secretary-General of the National Trades Union Congress</i>
0910	Speech by Distinguished Guest, Lieutenant General (Armement) Thierry Carlier <i>Director, International Development Directorate, Direction générale de l'armement (DGA)</i>
0930	Speech by Distinguished Guest, Ms. Leanne G. Caret <i>President & CEO, Boeing Defense, Space and Security (BDS)</i>
0950	Tea Break
1020	Speech by Distinguished Guest, Mr. Howard Nye <i>President of Royal Aeronautical Society</i>
1040	Speech by Distinguished Guest, Mr. Bruno Sainjon <i>Chairman, Office National d'Etudes et de Recherches Aéropatiales (ONERA)</i>
1100	Plenary Session and Q&A ME7 Tay Gek Peng <i>Head RSAF Agility, Innovation and Digital, RSAF</i> Ms. Lirio Liu <i>Executive Director of the Office of International Affairs, Federal Aviation Administration (FAA)</i>

	<p>Ms. Sheila Remes <i>Vice President, Environment Sustainability, Boeing</i></p> <p>Dr. Francis R. Preli, Jr. <i>Vice President, Propulsion & Materials Technologies, Pratt & Whitney</i></p>
1220	<p>Closing Remarks</p> <p>Dr. Victoria Coleman <i>Chief Scientist, United States Air Force (USAF)</i></p>
1230	Lunch Break
1330 to 1730	<p>Afternoon Breakout Sessions (4 tracks)</p> <ul style="list-style-type: none"> • Maintenance of the Future • Green Technologies • 4th IR in Aerospace • Advanced Aerospace Topics

TRACK: MAINTENANCE OF THE FUTURE

Timing	Topic	Speaker
1330	Predicting the Maintenance Future and Trends	Ms. Sarit Assaraf, <i>Israeli Aerospace Industries</i>
1355	Aircraft Engine and Maintenance of the Future	Ms. Koh Liang Ying, <i>Singapore Airlines Engineering Company</i>
1420	Revolutionising MRO by Leveraging AR, VR and Digital Twinning Technologies	Mr. Gilad Tzori, <i>L.L Studio Software Ltd</i> Mr. Itzhak Pichadze, <i>L.L Studio Software Ltd</i>
1445	Towards the Automated Inspection of Aircraft: Challenges and Solutions	Mr. Sito Kenwyn, <i>Defence Science and Technology Agency</i> Dr. Mark Rice, <i>Institute for Infocomm Research, A*STAR</i>
1510	Break	
1540	Application of Cold Spray as a Repair Method for Aircraft Structures	ME4 Kelvin Bi, <i>Republic of Singapore Air Force</i> Dr. Koh Pak Keng, <i>ECK Pte Ltd</i> Dr. Kelvin Loke Zhi Cheng, <i>ECK Pte Ltd</i>
1605	Airplane-Centric Filtering for Robust and Accurate 3D Localisation for Robotic Inspection and Maintenance	Dr. Saurab Verma, <i>Institute for Infocomm Research, A*STAR</i>
1630	Revolutionizing Aircraft Spare Parts Supply Chain using Additive Manufacturing	Dr. Zheng Guo Ying, <i>Singapore Technologies Engineering</i> Dr. Zhang Yongjie, <i>Singapore Technologies Engineering Aerospace</i>

TRACK: GREEN TECHNOLOGIES

Timing	Topic	Speaker
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1330	Data Driven Approaches to Drive Sustainability	Mr. Shannon Parker, <i>Boeing Global Services</i>
1355	Vision of CETIM about the Sustainable Aircraft of New Generation, Several Applications of Thermoplastics Composites Technologies	Mr Vincent Caulet, <i>Centre Technique des Industries Mécaniques</i> [Virtual] Dr. Jérémy Viale, <i>Centre Technique des Industries Mécaniques</i>
1420	A Green Hangar for the A330 Multi-Role Tanker Transport	Mr. Soh Tian Boon, <i>Defence Science and Technology Agency</i>
1445	Sustainable Composites: Opportunities & Challenges	[Virtual] Mr. Alireza Yaghoubi, <i>AirGo Design Pte Ltd</i>
1510	TEA BREAK	
1540	Why Sustainable Aviation Fuels will be a Major Pillar of the Decarbonisation of the Helicopter Industry?	Mr. See Kah Meng, <i>Safran Helicopter Engines</i>
1605	Sustainable Propulsion: Fast Forward to a Greener Future	Dr. Sean Bradshaw, <i>Pratt & Whitney</i>
1630	Producing Sustainable Aviation Fuel from Carbon Dioxide	Dr. Chen Luwei, <i>Institute of Chemical and Engineering Sciences, A*STAR</i>

TRACK: FOURTH IR IN AEROSPACE

Timing	Topic	Speaker
1330	Model Based and Big Data Enabled Predictive Maintenance	[Virtual] Mr. Darren Macer, <i>Boeing</i>

1355	Innovations Towards a More Sustainable and Smart Airside	Mr. Julien Valette, <i>CW Aero Services Pte Ltd</i>
1420	Practical Uses of LiDAR and other Robotic Sensors/Software to Enable Smart Airport and Maintenance Operations	[Virtual] Mr. Alexander Kasinec, <i>Evitado Technologies</i>
1445	Use of Predictive Maintenance for the Heron 1 UAV Engine	ME5 Adrian Tan, <i>Republic of Singapore Air Force</i> ME4 Desmond Tan, <i>Republic of Singapore Air Force</i>
1510	Break	
1540	Automating Unmanned Aviation	[Virtual] Mr. Christoph Selig, <i>Unisphere GmbH</i>
1605	Expanding the Full Potential of Drone Operation through Beyond Visual Line of Sight (BVLOS)	Mr. Chok Ng Yong, <i>Singapore Technologies Engineering Aerospace</i>
1630	DSO VELOCE 15 (V15), a sustainable and reliable UAV for the SAF	Mr. Yong Zhaoyuan Jonathan, <i>Defence Science Organisation National Laboratories</i> Mr. Chua Yong Chun, <i>Defence Science Organisation National Laboratories</i>
1655	Multi-camera Multi-Target Tracking Systems with Trajectory-Based Aerial Target Matching and Re-Identification	Dr. Sutthiphong Srigrarom, <i>National University of Singapore</i>

TRACK: ADVANCED TOPICS IN AEROSPACE

Timing	Topic	Speaker
1330	Testing Deep Learning Modules in Mission-Critical Systems	[Virtual] Mr. Ziv Freund, <i>Elbit Systems</i>
1355	Design and Development of Laser Textured Icephobic and Super-	Dr. Jeremy Yune, <i>Singapore</i>

	Hydrophobic Surfaces for Aircraft Exterior Application	<i>Institute of Manufacturing Technology, A*STAR</i>
1420	On the Modelling of the Injection of Fire Extinguishing Agents into an Engine Bay	Dr. Ng Bing Feng, <i>Nanyang Technological University</i>
1445	Improving Surface Integrity of Aerospace Components using Laser Shock Peening	Ms. Thivyaa Ramesh, <i>Advanced Remanufacturing and Technology Centre, A*STAR</i> [Virtual] Dr. Niroj Maharjan, <i>Advanced Remanufacturing and Technology Centre, A*STAR</i>
1510	Break	
1540	eVTOL as an urban air mobility workhorse	[Virtual] Dr. Armen Baronian, <i>Eaton</i>
1605	Enhancing Combat Survivability of Fighter using Self-Protect High Energy Laser Demonstrator (SHIELD)	ME5 Ong Wen Xiang, <i>Republic of Singapore Air Force</i>
1630	Structure Health Monitoring for Drone	Dr. Paw Yew Chai, <i>Singapore Institute of Technology</i> Mr. Adrian Lee, <i>Textile Solutions</i>
1655	Sustainment, a Combat Capability	Mr. Steve Sheehy, <i>Lockheed Martin</i>