EU-ASIA SYMPOSIUM ON UNMANNED AIRCRAFT SYSTEMS AND URBAN AIR MOBILITY
7 – 10 November 2023
Goodwood Park Hotel, Singapore

DAY 1: TUESDAY, 7 NOVEMBER 2023 *[Regulators-Only]*		
0815 – 0900	**Registration & Coffee**	
0900 – 0910	**Opening Remarks by CAAS**	Mr Han Kok Juan, Director-General, CAAS
0910 – 0920	**Opening Remarks by EASA**	Ms Maria N. Rueda, Strategy and Safety Management Director, EASA
0920 – 1010	**Panel: Capability and Capacity Building for UAS and UAM Regulatory Development** Aviation technology is evolving rapidly, and the potential benefits of UAS and UAM are undeniable. We are already seeing UAS carrying out dull, dirty, and dangerous jobs. UAM could also increase connectivity to previously underserved nodes, and be used for emergency medical services, cargo delivery, and many other applications. Innovators are, naturally, eager for their innovations to take flight and scale. Meanwhile, regulators and regulation need to keep pace with technology, while ensuring public and aviation safety. This panel seeks to explore how civil aviation authorities are preparing for the future of aviation.	**Moderator** Mr Anand Stanley, Airbus **Panellists** EASA, India, New Zealand, Singapore
1010 – 1040	**Coffee**	
1040 – 1130	**Panel: Drones Regulations** Given the rapid pace of technological development and the growing use cases for drones, regulations must evolve to address the safety risks involved and facilitate these operations. Regulators face many challenges in safely regulating drones and facilitating their operations. These include the increasing operational complexity, having to engage different a different set of stakeholders than traditional aviation, and having to build regulatory capabilities and capacity. This panel seeks to solicit thoughts on challenges faced by regulators, and ideas and recommendations on how regulators can address these challenges moving forward.	**Moderator** Mr Maran Paramanathan, CAAS **Panellists** Cambodia, EASA, France, Pakistan
1130 – 1220	**Panel: Approaches to Unmanned Aircraft Systems Traffic Management (UTM)** This panel will address topics such as Minimum Viable Product for UTM Services, public- versus private-sector UTM services, addressing cyber-security concerns, and technical solutions for obtaining Position and Identification Data (P&I-D).	**Moderator** Dr Terry Martin, Revolution Aerospace **Panellists** EASA, Malaysia, Singapore, Thailand

1220 – 1330	**Lunch**
1330 – 1500	**Workshop (Part 1): Regulating UAS – Urban and Rural Beyond Visual Line of Sight (BVLOS) Use Cases** The applications of BVLOS drone operations are vast. This workshop aims to discuss the risk of BVLOS operations in both urban and rural areas; consider the regulations and applicable requirements which commensurate with the risk of operations, in areas of aircraft, pilot competency, operations, and organisation; and explore the means to implement and ensure compliance to UAS regulations.
1500 – 1530	**Coffee**
1530 – 1700	**Workshop (Part 2)**
1700 – 1730	**Key Takeaways and Wrap-Up**
1830	**Informal Poolside Dinner @ Poolside Terrace, Goodwood Park Hotel**

For the Workshop (Part 1) row: **Facilitator** Ms Teo Shiqi, CAAS **Speakers** Austria, France, Sri Lanka, Thailand

For the Key Takeaways and Wrap-Up row: CAAS

DAY 2: WEDNESDAY, 8 NOVEMBER 2023 *[Regulators-Only]*		
0900 – 1015	**Panel: Approaches to Vertical Take-Off and Landing (VTOL)-Capable Aircraft Certification** This panel will discuss on the certification approaches of VTOL platforms and the current progress and associated challenges encountered by the State of Design in the various stages of certification process.	**Moderator** Mr Tan Kah Han, CAAS **Panellists** China, Indonesia, EASA
1015 – 1045	**Coffee**	
1045 – 1200	**Panel: Approaches to Validation and Acceptance of Type-Certified Platforms** Different approaches may be followed by an Importing State to approve a type design and accept the corresponding aircraft in its Registry. They range from the direct acceptance of the State of Design's Type Certificate to a validation with technical involvement. This panel will discuss regulatory, technical and practical challenges of this process for VTOL-capable aircraft. Where possible, it will identify opportunities to streamline the approach reducing the burden on the stakeholders.	**Moderator** Mr Oswaldo Lopez Blas, EASA **Panellists** India, New Zealand, Singapore, Republic of Korea
1200 – 1330	**Lunch**	
1330 – 1430	**Panel: Entry into Service** This panel will discuss on the approach towards bringing VTOL aircraft into service in the immediate term, while developing the framework for the longer term. Specifically, the panel will look into the considerations for air operations, pilot licensing, maintenance, aerodrome, and airspace.	**Moderator** Mr Tan Kah Han, CAAS **Panellists** Austria, Indonesia, Maldives, New Zealand
1430 – 1530	**Flash Talks: Readiness of States to Enable UAM Operations in 2024/2025** As first VTOL aircraft are being scrutinised for type certification, States are gearing up to accommodate initial UAM operations. Hear about how this is being tackled from flash talk speakers in two different world regions: Oceania and Europe.	**Speakers** France, Italy, New Zealand
1530 – 1545	**Coffee**	
1545 – 1600	**Flash Talk: Building a Sustainable Innovative Air Mobility (IAM) Hub** UAS operations and IAM offer many potential benefits. However, citizens have legitimate concerns regarding environmental impacts and ensuring safety and security. To address these issues, all actors in the emerging UAS/IAM ecosystems must work together at the global, European, national, and local levels. This flash talk will present the Sustainable IAM Hub, an online platform funded by the European Commission and developed by EASA, that will provide support to authorities, cities, industry, and other stakeholders for IAM implementation. The platform will enable engagement, alignment, and coordination between different stakeholders and will also contribute to increasing public knowledge of the environmental impact of drones	**Speaker** EASA
1600 – 1630	**Key Takeaways and Wrap-Up**	EASA

DAY 3: THURSDAY, 8 NOVEMBER 2023 *[Regulators, Industry, Institutes, Academia]*	
0815 – 0900	**Registration (New Participants) & Coffee**
0900 – 0945	**Presentation: Summaries of Regulator Discussions from Days 1 and 2** • UAS • UAM • UTM	CAAS, EASA
0945 – 1015	**Coffee**
1015 – 1115	**Panel: Industry's Perspectives – UAS Operators** The panel will explore the perspectives of UAS operators and their vision for the future of drones. The panellists will discuss how they see UAS operations advancing, what they would put on their wish list for regulators, and what the current stumbling blocks preventing the technology from doing more are. Panellists will give insights into how they address societal acceptance as well as market demand. The discussion will provide valuable insights into current realities and the future of unmanned aircraft systems.	**Moderator** Mr Kai Bauer, EASA **Panellists** Garuda Robotics, Skyports Drone Services, United Nations World Food Programme, Zipline
1115 – 1145	**Flash Talks: Outlook of UAS/UAM Market Development** **Flash Talk 1** In the various roles we play in our environments, our perspectives shape our acceptance of new technology into society. While UAM has the potential to transform the way we live, it is important to consider whether we will be able to accept the novel vehicle technology and the contemplated operating models that are being developed by UAM sector participants. This presentation will provide some insights into the state of play of the UAM sector, the dimensions that are important for public acceptance, and the road ahead towards commercialisation. **Flash Talk 2** This presentation will provide insights on how the Cape Town Convention Aircraft Protocol has helped the commercial aviation sector grow and retain value, and whether expanding its application to UAM would create support for investments and financing into the sector for it to scale.	**Speakers** Alton Aviation Consultancy, Reed Smith
1145 – 1200	**Wrap-Up and Admin Instructions**	CAAS
1200 – 1330	**Lunch**
1400 – 1800	**Technical Site Visit**
1915 – 2100	**Networking Dinner @ Timbre+ Eastside**

Time	Session	Moderator / Panellists
0900 – 0945	**Panel: Industry's Perspectives – UTM Service Providers** UAS are seen throughout the world as having the potential for significant social and economic benefits. UTM services and systems are considered a key enabler by providing the means to ensure safe UAS flight in shared and segregated airspace. UTM arguably started as a concept in 2013 and despite its key role, several proof-of-concepts, and live demonstrations, commercialisation has yet to take off. This panel will discuss gaps, challenges, and enablers for the UTM industry to move into commercialisation and grow.	**Moderator** Mr Leo Jeoh, State Aviation **Panellists** Airways New Zealand, ANRA Technologies, OneSky Systems, Revolution Aerospace
0945 – 1045	**Panel: Industry's Perspectives – VTOL Original Equipment Manufacturers (OEMs)** UAM holds great potential for social and economic benefits, but VTOL aircraft and UAM pose complex multidisciplinary challenges. Scalability of UAM operations is vital for the business case, but growing experiences reveal hurdles that require the collaboration of a wide range of stakeholders to surmount. This panel brings four VTOL OEMs to share their views of these hurdles, with an aim to provide insights on how progress in VTOL development may be accelerated.	**Moderator** Mr Leo Jeoh, State Aviation **Panellists** Eve Air Mobility, SkyDrive, Vertical Aerospace
1045 – 1100	**Coffee**	
1100 – 1145	**Panel: Industry's Perspectives – VTOL Leasing Companies and Operators** In this panel, industry players discuss the key role of regulators in coordinating cross-functional engagement between public and private sector, in enabling an addressable market for UAM and in supporting the development of a manufacturing supply chain for the sector. The panel also explores the differences in ambition and geography between different players in the region.	**Moderator** Ms Teo Hui Ling, Reed Smith **Panellists** AirAsia, Avolon-e, BLADE India, Solyu
1145 – 1230	**Panel: Industry's Perspectives – Vertiport and Airport Operators** One of the expected benefits of UAM is the reduction of traffic in cities by enlarging the range of possibilities in a multi-modal transportation system. Vertiports constitute one of the fundamental elements of the overall UAM ecosystem and play a critical role for the successful implementation of the new concept of transport by air in cities. Their integration in existing aerodrome infrastructures or in the city landscape requires a thorough analysis of requirements to grant the safety of passengers and of the citizens on ground. This panel presents the insights of the activities that aerodrome and future vertiport operators are developing to ensure the safe and secure integration of VTOL aircraft operations on ground and in the air.	**Moderator** Mr Giuseppe Scannapieco, EASA **Panellists** Skyports Infrastructure, UrbanV
1230 – 1345	**Lunch**	

1345 – 1430	**Flash Talks: Insights from Institutes and Academia – Output of Research Projects** In these two flash talks, you will hear the latest from Singaporean and European researchers. **Flash Talk 1** Autonomous mobility, as a concept, is not new to cities. Following the automation of rail, and more recently, road mobility, air mobility would be next. However, are our cities and citizens ready for this development? This talk will share findings from studies of public acceptance of autonomous mobility and their service models that will pave the way introducing UAM. **Flash Talk 2** This flash talk will provide insights on the results of the last Single European Sky ATM Research (SESAR) 2020 programme, the SESAR innovation pipeline, U-space implementation as per the latest edition of the European Concept of Operations for EuRopean UTM Systems (CORUS), and the European conflict management model.	**Speakers** Singapore University of Technology and Design, Universitat Politècnica de València
1430 – 1500	**Fireside Chat: The Role of Standards Development Organisations in Bringing UAM to Life** This fireside chat will address the following key topics: How can we address the potential contradiction of developing standards for an industry that is not yet consolidated while still leaving space for innovation? How can we attract industry experts from small companies that have little resources to support standardisation efforts? How can we address the need to have good/fit-for-purpose/high quality standards in a short period of time and at the same time have dynamic and flexible processes to quickly adapt them?	**Moderator** Ms Maria Algar Ruiz, EASA **Speakers** EUROCAE, Singapore Manufacturing Federation
1500 – 1530	**Coffee**	
1530 – 1615	**Key Takeaways and Moving Forward** *[Regulators-Only]*	CAAS, EASA