



**Meeting of the eVTOL Safety Leadership Group (eVSLG)**  
**26 April 2024 10:00-12:00**  
**MINUTES**

**In attendance:**

Simon Meakins	Bristow Helicopters – EVSLG co-chair
Rick Newson	Civil Aviation Authority – EVSLG co-chair
Chris Booth	Civil Aviation Authority
Ray Forster	Civil Aviation Authority
Mark Cuttle	Civil Aviation Authority
Christopher Redfern	Civil Aviation Authority
Colin Russell	Flexjet
Will Fanshawe	Flexjet
Oliver Dismore	British Helicopter Association
Francesco Rabita	Flexjet
Laurence Greenhalgh	Global Aerospace
Tim Fauchon	British Helicopter Association
Akiko Hama	Global Aerospace
Andrew Strachan	Lilium
Marilyn Pearson	CAE
James Gillian	Volocopter
Ian Hayhoe	Marsh
Wg Cdr Alex Brassington	MAA
Rupert Dent	CHIRP
Robert Weaver	Eve Air Mobility
Tulki Jenkins	Civil Aviation Authority
Mark Wallis	Civil Aviation Authority
Simon Whalley	Skyports Infrastructure
Lisa Fitzsimons	Air Accidents Investigation Branch
Adrian Harvey	Civil Aviation Authority
Edward Fitzpatrick	Civil Aviation Authority
Chris Tomlinson	Civil Aviation Authority

Ian Fortune	
Simon Davies	Vertical Aerospace
Darius Mikulenas	Civil Aviation Authority
Michael Pryce	Civil Aviation Authority
Mario Ranito	Civil Aviation Authority
Abbie Harvey	Civil Aviation Authority
Claire Hibbert	Global Aerospace
Siddartha Khastgir	Warwick University
Tim Fauchon	British Helicopter Association
Sam Wright	NATS
Will Nathan	Vertical Aerospace
Brian Davey	Joby Aviation

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## TABLE OF ACTIONS

Section	Deadline	Action	Responsible
Risk Sub-Group	August 2024	eVSLG stakeholders to supply delegates to participate in workshops towards the Risk Sub-Group's STPA	Secretariat
Risk Sub-Group	Next meeting	Secretariat to make contact with appropriate stakeholders to confirm attendance at a series of in-person STPA workshops, to commence in the Summer and run until the end of Autumn.	Secretariat
AOB	May 2024	Follow up with Marsh Aviation and Vertical Aerospace, with the aim that either will host the next meeting in July.	Secretariat

## **Introductions, Updates and Matters Arising**

The co-chairs welcomed all to this online meeting of the EVSLG.

Introductions were made by all members reflecting the attendance of some new and different representatives.

Members were reminded of the antitrust and competition commitment for participants of the meeting. No objections or comments were raised.

The minutes of the last meeting were approved for publication on the CAA website.

## **UK Government and Regulatory updates**

Darius Mikulenas gave an update on behalf of Kirsten Rienzeema (absent) regarding the progress of the CAA's policymaking with respect to pilot licensing. He said that an upcoming focus of the CAA's Future Safety and Innovation team will be on battery handling, and the team is set to undertake research into the safety risks associated with lithium-ion batteries as an aviation energy source over the coming 12 months.

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Marilyn Pearson gave an update on the work of the SAE G-35 standards making group. The G-35 consists of three sub-groups looking at VTOL pilot training; modelling and simulation to assist certification of eVTOLs standards; and technical standards for VTOL-capable aircraft training devices. The G-35 will be holding their next in-person meeting in Dallas, Texas during 4-6 June, to which members of the EVSLG are invited.

EVSLG co-chair, Simon Meakins asked how optimistic Marilyn was of arriving at standards which were acceptable to different countries' civil aviation authorities. Marilyn replied that she was 'moderately optimistic', given that standards should form the basis for certification standards, which can then be tailored or built upon by countries later, as per their requirements.

Co-chair Rick Newson asked about Virtual Test Environments (VTE) and the role they had to play in the G-35's work – Marilyn responded that industry recognised that regulators are currently short of VTE data which will enable them to assure the safety of such tools. There is a will to supply this, but the means of doing so, and determining what data needs to be shared is still a point of discussion.

## ***RISK***

Chris Redfern briefed the Group on CAA's activity associated with the Onshore Helicopter Safety Leadership Group and the work directly attributable to the Derriford accident. The inquest for this tragic accident is due to be held in the Autumn. Following the release of initial findings, and in anticipation of the inquest, the Onshore Helicopter Safety Leadership Group has formed a sub-committee to determine and implement necessary improvements to practices.

The OHSLG's activity has led to the creation of revised standards for hospital landing sites, published in CAP1264 version 3 in April. Furthermore, CAA international, the UK CAA's social enterprise, has produced a course for NHS responsible persons to take, to guide them through the new standards.

The Onshore Helicopter SLG has also made clear that it wishes to work more closely with the EVSLG. Tasks that could be approached as common endeavours include looking at the risks of GPS jamming that affect airlines as they transit conflict zones, as well as the actions of nefarious actors, recognised on the National Risk Register as a threat to the oil and gas sector. Indeed, as automation becomes increasingly intrinsic to operations, this issue is potentially ever more serious, Colin Russell commented.

### ***Risk Register***

Rick Newson went through the CAA Risk Register with the group – Pentana is the CAA Regulatory Safety management tool that tracks significant and common industry risks which require regulatory activity. This is managed at each CAA Capability team level (e.g. Flight Operations/Airworthiness); risks identified as possibly influencing the total aviation system are then discussed holistically through CAA's Key Risk Area Safety Risk Panels.

### ***Risk Sub-Group***

The group were given an update into the Risk Sub-Group's main activity - a Systems Theoretic Process Analysis of eVTOL operations. The project has been temporarily paused since December 2023, due to lack of funding, but Chris Booth informed the group that there was now a possibility that the UK CAA's Future Safety and Innovation team might be able to fund the research to completion, as part of its Future of Flight Action Plan responsibilities.

To reassure the FS&I team that there is strong industry support for the project and that there is a low risk of industry not engaging with project, Secretariat asked EVSLG members to confirm that they would be willing in principle to commit staff resources to the STPA project. It was indicated that the project would require several days' commitment to attend several workshops, spread over a period of appropriately four months. This support was given by the attendees, subject to sufficient notice being given of when the meetings would be taking place.

**Action: eVSLG stakeholders to supply delegates to participate in workshops towards the Risk Sub-Group's STPA**

**Action: Secretariat to make contact with appropriate stakeholders to confirm attendance at a series of in-person STPA workshops, to commence in the Summer and run until the end of Autumn.**

## ***CHIRP***

Rupert Dent updated the group, following on from the presentation that he and Steve Forward gave into the work of CHIRP at the last meeting. He stated that CHIRP were taking on an eVTOL manager, specifically to look at eVTOL safety risks. This was well received by members, who had previously voiced concerns that having eVTOL risks dealt with by their UAS department might not have led to a full understanding of the very different risks associated with crewed and passenger carrying aviation.

As part of their preparatory work in AAM, CHIRP would be keen to visit the premises of an AAM manufacturer, which the members were happy to accommodate.

## ***Downwash research update***

Mike Pryce gave an update on the follow-on from the CAA/Sophrodyne Aerospace research investigating downwash effects for rotorcraft. He informed the group that Urban Air-Port have used the findings of their report and included it in their new vertiport modelling.

This summer, the CAA's Flight Operations department will be building on the research by undertaking a series of downwash measurement exercises. Work will also be undertaken with our Flight Simulation Training Device team to examine how the downwash effects research can be integrated into simulators.

## ***Insurance***

This was the first meeting to be attended by representatives of the insurance industry. Akiko Hama was invited to give a presentation of the work that her Global Aerospace team is undertaking. The discussions that she's observed in the EVSLG have reassured her, and by extension the insurance sector, that the right safety conversations are being had between industry and the regulator, meaning the insurance sector is better placed to make risk judgements for the Advanced Air Mobility sector. She and her colleagues look forward to continuing to participate in the group.

The co-chairs responded that they were pleased to see the insurance sector taking an interest in the EVSLG and thanked Global Aerospace and Marsh Aviation for their participation.

## ***Eve Air Mobility ATM presentation by Rob Weaver***

Rob Weaver of Eve Air Mobility was kind enough to present on the work that Eve has conducted in conjunction with NATS and other partners to develop Urban Air Traffic Management (ATM) software for Advanced Air Mobility.

Current ATM systems are unable to address the unique operating environment introduced by eVTOLs at scale. The aim of the urban ATM software is to provide collaborative traffic management in low-level airspace with increased automation & tighter integration to enable UAM at scale.

Rob shared the presenting material and other information with members of the group following the EVSLG meeting.

## AOB

It was agreed in a previous meeting that in-person meetings are preferable as they are seen as more conducive to productive discussion. **Marsh Aviation and Vertical Aerospace both indicated that they would be keen to host.**

**Action: Secretariat will follow up with both members, with the aim that either will host the next meeting in July.**

Next meeting date: 16th July 2024