



HAPS Alliance

HIGH ALTITUDE PLATFORM STATION

SUMMIT

Aviation Working Group

Co-Chair: Andy Thurling, SoftBank/HAPSMobile (Thurling Aero Consulting, LLC)

Co-Chair: Tim Down, Airbus

Mission

- ***Given - the regulatory framework, air traffic management, and general aviation rules and concepts have not been designed for specific and novel needs of HAPS platforms***
- Advance aviation regulations, concept of operations, technologies, and standards to foster the HAPS industry
- Communicate on the HAPS ecosystem vision and educate aviation players and regulators on HAPS needs
- Focus on four general categories:
 - Development of a new traffic management paradigm for the stratosphere
 - Develop risk-based safety frameworks adapted to HAPS
 - Evolve the regulatory framework for approval (certification, performance based) of HAPS vehicle – design, and crew
 - Develop and promote concepts for scalable operations (automation certification, human-automation teaming)
- Deliverables
 - White Papers
 - Contribution and attendance at conferences
 - Recommendations and input to standard institutions and regulatory work groups

2021 Achievements

- In 2020 we spent time finding our purpose – looking first for a destination, then creating a map and finding our compass
- **Thanks to Leo for getting us started!** Now we are arguably in run-mode
- With growing membership, we continue sharing the HAPS vision with the world and working with global regulators to put HAPS in the sky
- World ATM Congress Presentation, 27 October 2021
 - *“From the Stratosphere and Beyond – the HAPS Alliance is Connecting the Unconnected”*
 - Introduced HAPS Alliance and Presented HAPS Alliance vision for operations at scale in the stratosphere
 - Follow on from 2020 ATCA Journal paper with discussion of risk assessment techniques more appropriate for HAPS
 - Introduction of the industry vision for Cooperative Traffic Management (CTM) philosophy and work in progress
- HAPS Terminology White Paper (“P1”) – Approved
- Operations at Scale White Paper (“P2”) – In AWG review and comment now
 - P2 is a vision paper that paints how we envision HAPS operations being managed at scale in the future, but not a near future
 - We share the vision with Regulators in order to help steer the shorter-term regulatory decisions and positions
 - And start changing the pilot in command paradigm to one more like “management by exception”
- HAPSMobile Flight Communication Test White Paper – In Approval Cycle

Looking Ahead: 2022 Initiatives

- Participation in Global Bodies
 - World Meteorological Organization Aircraft Based Observation (ABO) Program
 - Demonstrate current capabilities of a range of UAS and measure their capacity for contributing to upper-air observations
 - JARUS Working Group on Airworthiness – High Altitude Operations Task Force and Multi-Aircraft Operations
 - Regulators from 63 countries and the European Aviation Safety Agency (EASA) and EUROCONTROL
 - Stakeholder Consultation Body (SCB), representing all industry communities of interest provides subject matter expertise
 - NASA Multi-Aircraft (“m:N”) HAPS focus group
 - European concept for higher airspace operation (ECHO) participation to be discussed with the HAPS Alliance Executive Board
- Continue HAPS Alliance AWG engagement strategy with ATM community
 - Journal of Air Traffic Control article for Spring journal
 - More discussion of the Collective Risk Analysis being conducted by AirServices Australia
 - More technical look at the Cooperative Traffic Management in the Stratosphere concept
 - Presentation at the ATCA Technical Symposium in May
 - Technical briefing derived from the Journal paper which will be published at about the same time
- Risk Framework White Paper (“P3”) – AirServices Australia developing
- New Means of Compliance to Performance Based Requirements White Paper (“P4”) – In development
 - Technical focus groups topic in the members-only discussion tomorrow