

→ HAPS₄ESA

NH Conference Centre Leeuwenhorst
Noordwijkerhout, The Netherlands

Final Programme 06 October 2017

Monday, 09 October 2017

Workshop Opening (Room: Sorbonne 2)

9:30 - 9:40	ESA - Welcome	Philippe Goudy	On behalf of the Earth Observation, Telecommunication and Integrated Application, and Galileo Programme and Navigation-Related Activities Directorates
9:40 - 9:55	Aim of the HAPS4ESA Workshop	Malcolm Davidson	ESA
9:55 - 10:00	Logistics	Thorsten Fehr	ESA

HAPS Applications (Room: Sorbonne 2), Session Chair: Rita Rinaldo and Malcom Davidson

10:00 - 10:20	Copernicus Emergency Service	Peter Spruyt	JRC
10:20 - 10:40	HAPS services and applications for telecommunications	Antonio Abad	Hispasat
10:40 - 11:00	European Maritime Safety Agency	Olaf Trieschmann	EMSA
11:00 - 11:20	Coffee Break		
11:20 - 11:40	Copernicus Atmospheric Service	Vincent Henri Peuch	ECMWF
11:40 - 12:00	HAPS for security applications: preliminary considerations for evolving EO-based services	Alvaro Rodriguez	EU SatCen
12:00 - 12:20	Capitalising High Altitude Pseudo Satellites for Urban Applications - First Results from the TEP Urban Project	Thomas Esch	German Aerospace Center (DLR), German Remote Sensing Data Center DFD
12:20 - 12:40	HAPS Regulations ISO/DIN (From take-off to landing)	Frank Fuchs	Frank Fuchs Consulting
12:40 - 13:00	Discussion		

Posters (presented during the Poster Session)

P.01	Regulation for HAPS access to airspace	Filippo Tomasello	EUROUSC ITALIA
P.02	Unmanned HAPS and The normative framework	Gabriella Gigante	CIRA - Centro Italiano Ricerche Aerospaziali
13:00 - 14:00	Lunch		

HAPS Platforms and Systems (Room: Sorbonne 2), Session Chair: Jörg Callies and Juan Lizarraga Cubillos

14:00 - 14:20	An overview of the Airbus Zephyr High Altitude Pseudo Satellite	Roger Tidswell	Airbus DS
14:20 - 14:40	StratobusTM a complement to Satellites and Unmanned Aerial Systems (UAS) fostering defense and security, telecommunication applications & services	Jean-Philippe CHESSEL	THALES ALENIA SPACE
14:40 - 15:00	Stratospheric ballooning by CNES with highlight on the Strateole-2 project	Philippe Cocquerez	CNES
15:00 - 15:20	Advantages in the employment of hybrid airships as HAPS	Vincenzo Baraniello	Italian Aerospace Research Center
15:20 - 15:40	Strengths and challenges of high altitude airships	Gustavo Rodríguez	ALTRAN
15:40 - 16:00	DLR ELAHA – Current development state of an unconventional stratospheric UAV	Sven Wlach	Deutsches Zentrum für Luft- und Raumfahrt (DLR)
16:00 - 16:20	Discussion		
16:20 - 16:40	The Copernicus Security Service	Rui Meneses	European Commission
Posters (presented during the Poster Session)			
P.03	Lighter-Than-Air High Altitude Platforms - A European Approach	Reimund Kueke	Airobotics GmbH
P.04	Airbus High Altitude Pseudo Satellite Zephyr Services and Payloads	Andre Grabs	Airbus Defence and Space
P.05	CubeHAP - Light Free Balloons as High Altitude Platforms	Ivano Musso	ALTEC
P.06	Hybrid Tethered Platform with Aerostatic and Aerodynamic Lift for Long Endurance Missions	Pedro Silva	Omnidea
P.07	Scale-up of mid-troposphere commercially viable pseudo satellite platforms to HAPS	Dejan Vinkovic	Hipersfera d.o.o.
P.08	Demonstration of ORCA Constellation Services	Emmanuel Rammos	SkyfloX B.V.
P.09	UNISPHERE: HAPS Flight Simulation, Planning and Execution Software	Christoph Schlettig	Unisphere GmbH
P.10	Flight and mission performance of a platform for perpetual endurance	Peer FRANK	Skytec
P.11	Regenerative Fuel Cell Systems for Stratobus® - Development of an energy storage system for long duration HAPS flights	Jarle Farnes	Prototech
P.12	Emergency landing and payload retrieval systems for HAPS stratospheric platforms	Andrea Messidoro	Arescosmo
P.13	PEGASUS: experiences of a HAPS EO programme that was 15 years too early	Nicolas Lewyckj	VITO
Poster Session (Room: Gaudi Lounge)			
16:40 - 19:00	Poster Session (including Coffee and Ice Breaker)		
Tuesday, 10 October 2017			
HAPS for Earth Observation (Room: Sorbonne 2), Session Chair: Thorsten Fehr and Giuseppe Ottavianielli			
9:00 - 9:20	Earth Observation Instrumentation Concepts for HAPS	Daniel Gerber	STFC RAL Space
9:20 - 9:40	Multirole modular payload for maritime situational awareness	Stefano Turso	Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR
9:40 - 10:00	HAPPIEST: EARTH OBSERVATION SERVICES FROM LIGHTER-THAN-AIR HAPS	Jesús Gonzalo	University of León
10:00 - 10:20	TELEO Presentation	Steffen Kuntz	Airbus Defence and Space GmbH
10:20 - 10:40	High Resolution Optical Remote Sensing Payloads on HAPS: Requirements and Applications	Joerg Brauchle	DLR Institute of Optical Sensor Systems
10:40 - 11:00	Hyperspectral Imaging Earth Observing Sensor for HAPS	Mathieu Maisonneuve	ABB
11:00 - 11:20	Coffee Break		
11:20 - 11:40	Use cases for High Altitude Pseudo-Satellites in high-latitude Earth observation	Aku Riihelä	Finnish Meteorological Institute
11:40 - 12:00	Continuous Earth observation based on GNSS reflectometry	Stefano Turso	Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR

12:00 - 12:20	Opportunities for atmospheric composition observations from HAPS	Pepijn Veefkind	KNMI / TU-Delft
12:20 - 12:40	HAPS Potential for Urban Greenhouse Gas Emission Surveillance	Mathieu Maisonneuve	ABB
12:40 - 13:00	Discussion		
Posters (presented during the Poster Session)			
P.14	Heliospheric imaging from HAPS	Will Grainger	RAL Space
P.15	HAPSAR-X: Preliminary study for a SAR Payload on HAPS	Christian Trampuz	MetaSensing
P.16	HAPS: Potentials, Applications and Requirements for Radar Remote Sensing	Stefan Baumgartner	German Aerospace Center (DLR)
P.17	A Maritime Radar Payload for Zephyr-S	Yvonne Munro	Airbus Defence and Space
P.18	A Multi-Mode Radar System for Zephyr-T	Jens Balke	Airbus Defence and Space
P.19	Cirrus clouds monitoring using a V-band radar for HAPS: a feasibility analysis	Silvano Bertoldo	Politecnico di Torino
P.20	Software Defined Multifunction LIDAR for HAPS	Peter Kightley	QinetiQ
P.21	The SWAMM project: implementation of a system for estimating the tropospheric water vapor content along a transmitter-receiver link	Luca Facheris	CNIT-RaSS Laboratory
P.22	Concept of a regional real-time ocean monitoring instaOcean Service hosted on HAPS and based on GNSS reflectometry	Achim Helm	Airbus DS GmbH
P.23	High resolution hyperspectral imaging from HAPS	Bavo Delauré	VITO
P.24	Hyperspectral imaging of urban NO2 pollution from high altitude aircraft	Frederik Tack	Royal Belgian Institute for Space Aeronomy
P.25	Spectrolite, a compact hyperspectral imager for earth observation from high-altitude pseudo satellites	Len Van Der Wal	TNO
P.26	HAPS: an opportunity for atmospheric composition limb sounding?	Michael Hoepfner	Karlsruhe Institute of Technology
P.27	Measurements of shortwave and longwave radiation fluxes on HAPS	Ping Wang	Royal Netherlands Meteorological Institute
P.28	EO and EOIR payload concepts for HAPS	Mario Muenzberg	Hensoldt Optronics GmbH
P.29	Stratospheric High Altitude Pseudo-Satellites and their role in advancing understanding of the Earth's thermal emission	Ugo Cortesi	Istituto di Fisica Applicata "Nello Carrara" (IFAC-CNR)
P.30	ASHI: an All Sky Heliospheric Imager used for viewing the high aurora	William Grainger	University of California, San Diego
P.31	Meeting the Challenges of designing Payloads for Earth Observation from HAPS	Richard Hazelwood	Glyndwr Innovations Ltd
HAPS for Telecommunication and Navigation (Room: Sorbonne4), Session Chair: Roberto Prieto Cerdeira and Juan Lizarraga Cubillos			
9:00 - 9:20	High Altitude Platforms – A concept whose time has come?	David Grace	University of York
9:20 - 9:40	Exploring the usage of High Altitude Pseudo-Satellites to augment GNSS-based Position and Timing	Gustavo Lopez-Risueño	ESA
9:40 - 10:00	Potential benefits of the integration of HAPS within Satellite Navigation Systems	Fabio Dovis	Politecnico di Torino
10:00 - 10:20	The HAPS opportunities and capabilities to improve the integrated application development in Italy	Mario Musmeci	Hypatia Research Consortium
10:20 - 10:40	Wireless laser communication terminals for stratospheric high altitude pseudo-satellites	Ahmed Al-Mudhafar	ViaLight Communications GmbH
10:40 - 11:00	Communication Links in Remote Areas for Tactical and Strategic Employment supported by HAPS	Tiago Giglio Rodrigues	JETWIND BRAZIL
11:00 - 11:20	Coffee Break		
11:20 - 11:40	COMMUNICATION SERVICES USING LIGHTER-THAN-AIR HAPS	Adolfo Del Barrio Salas	Thales Alenia Space Spain
11:40 - 12:00	4G mobile services using satellites and HAPS	Didier Verhulst	Cell & Sat
12:00 - 12:20	Hybrid HAPS/satellites systems	Nathalie Metzger	AIRBUS DEFENCE AND SPACE

12:20 - 12:40	Complementing and Enhancing Satellite Infrastructure by HAPS and Optical Communication	DC Truyens	TNO
12:40 - 13:00	Discussion		
Posters (presented during the Poster Session)			
P.32	HAPPIEST: TECHNOLOGY AND PROGRAMMATIC ROADMAP FOR SERVICES BASED ON LIGHTER-THAN-AIR HIGH ALTITUDE PLATFORMS	Jesús Gonzalo	University of León
P.33	HAPS for military missions: a future of flexibility and speed of action	Sebastian Catolfi-Salvoni	Hisdesat Servicios Estrategicos S.A.
P.34	Smallsat technologies for efficient data downlink in HAPS EO missions	Ian Spence	Spacemetric
P.35	Modular and lightweight SDR-Transceiver for HAPS	Andreas Salomon	Hensoldt Sensors GmbH
P.36	Payload for Comms Relay, RF Spectrum Analysis and SIGINT	Rainer Perthold	IZT GmbH
P.37	SIGINT Payload for Airbus HAPS Zephyr	Christoph Burkhard	Airbus Defence & Space
P.38	High Altitude Pseudo-Satellites support to railroad communication systems: ERTMS and beyond	Jose A. Delgado-Peñín	Universitat Politecnica de Catalunya
P.39	Strengths and challenges of high altitude airships	Gustavo Rodríguez	ALTRAN
13:00 - 14:00	Lunch		
Plenary Discussion (Room: Sorbonne 2), Moderators: Malcolm Davidson, Fabrice Joly, Rafael Lucas			
14:00 - 16:45	Plenary Discussion with following poduim members:		
	European Defense Agency	Christopher Stace	EDA
	FRONTEX	Alexander Fuchs	FRONTEX
	Copernicus Emergency Service	Peter Spruyt	JRC
	European Maritime Safety Agency	Leendert Bal	EMSA
	European Union Satellite Center	Álvaro Rodriguez	SatCen
	DLR	Boubeker Belabbas	DLR
	Regulation for HAPS access to airspace	Filippo Tomasello	EUROUSC Italia
	Hispasat	Antonio Abad	Hispasat
	Thales Alenia Space	Guy Boullenger	Thales Alenia Space
	Airbus Defence & Space	Sarah Bassett	Airbus Defence & Space
16:45 - 17:00	Workshop Summary and Conclusion		ESA