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SUMMARY

ICAO Navigation System Panel (NSP)
AATO General Assembly
Africa – Europe Alliance for Sustainable Investment and Jobs
APIRG 22 meeting
Makerere University Advances in Geomatics Research Conference
EAC, COMESA and SADC Tripartite meeting
ESSP Workshop
ASECNA SBAS phase B Demonstrations
ASECNA 60th Anniversary Celebrations A
FRICA at the Satellite Navigation regime
Rockwell Collins symposium for aviation
JPO organises High Level workshop in Accra Ghana
Procedures and Design Process for PBN Airspace training

JPO NEWS

N°003 – Oct-2020

EGNOS in AFRICA Support Programme

Satellite Navigation Services for African Region

Editorial

Welcome to the fourth edition of the Newsletter of the 2nd Phase of the Programme “Support to EGNOS in Africa”. This fourth edition of our Newsletter covers the various events and activities that JPO participated in from March to October 2020. These include the 7th Steering Committee Meeting of the Programme, the activities carried out by JPO in support of regional initiatives such as ASECNA SBAS Programme Phase B studies, various internal capacity building activities and the provision of training on GNSS applications to Space Science and Technology Masters’ students at the C.R.A.S.T.E.-L.F (Le Centre Régional Africain des sciences et technologies de l’espace en langue française) institution, located in Morocco.

As you all have experienced, this year was impacted by the COVID-19 pandemic which compelled organisations including JPO to revise their operations from in-person to virtual and online activities. Hence all of the above events and activities were carried out remotely. In line with the COVID-19 theme, JPO is proud to announce that it authored an article on the role of GNSS and SBAS in fighting COVID-19 which was published on the Space in Africa Website. More details of this and much.

JPO Director

JPO COVID-19 recovery plan



Like many organisations, JPO had to take swift actions to ensure continuity of its activities in the context of the COVID-19 pandemic which impacted all Sectors in the World and Africa. As a result, the implementation of the activities planned in the current Baseline was impacted due to sudden confinement constraints both for JPO and the Programme key stakeholders, the travel bans and the organisation of face-to-face meetings. As a result, JPO needed to adapt its way of working remotely, prioritizing the work and ensuring all staff continue to work including by anticipating longer-term activities. Thanks to a good understanding of the Programme Stakeholders, the Work programme

The baseline was able to be reviewed accordingly. Online Meetings were regularly organised weekly to ensure all staff remains on the job and work together while supporting each other. During the confinement period of 3 months in Senegal, all Health measures including keeping strict social distancing and masks were fully adhered to through regular notifications from ASECNA by National Ministry of Health directives and office closure/openings.

While looking forward to the end of the Pandemic, we at JPO try to adapt to the ‘new normal’

Steering Committee Meeting in virtual mode

JPO participated in the 7th Steering Committee (SC7) meeting held on the 23rd September 2020.



The 7th Session of the Steering Committee (SC7) of the Programme's Support to EGNOS in Africa initially planned in Addis Ababa was agreed by co-chairs to be held on the 23rd September 2020 in a virtual mode. The

meeting was chaired by EC (Fabio Di Stefano, Strategic Partnerships EU-ACP DEVCO) and AUC (Cheick Bedda, Director of Infrastructure and Energy DIE and Dr Mahama Ouedraogo, Director AUC HRST). It gathered a high level and record participation of 35 senior representatives from EC, AUC,

AFCAC, ACAO, ICAO, COMESA, IGAD, EAC, ECOWAS, UEMOA, GSA, ASECNA and AFRAA.

JPO Director, Mr Semou Diouf who participated in this meeting, provided a Progress Update of the Programme which was impacted by the COVID 19 pandemic, however, a recovery plan was adopted earlier to ensure continuity of the JPO work plan with priority given to activities that could be achieved remotely and autonomously.

Eastern Africa Regional Economic Communities (RECs) COMESA, EAC and IGAD greatly contributed to the SC7 meeting by providing strategic guidance in their respective regions while underlying the progress made in capacity building, studies and awareness despite challenges encountered.

Navigation System Panel Meetings

JPO attended the Navigation System Panel meetings held in April and June 2020.

The ICAO Navigation System Panel (NSP) JWG/6 meeting originally intended to be held in Dakar, Senegal, was held virtually from 8th to 19th June 2020. The Navigation System Panel meets regularly to handle subjects related to its specific working groups that include: GNSS SARP's Working Group (GSWG), Spectrum Working Group (SWG), DFMC SBAS SARP's Sub-Group (DS2SG) and Validation Working Group (VWG). The outcomes of these meetings constitute the proposed amendments of annexe 10 as regard to the evolution of GNSS core constellations given that there is a major GNSS SARP's update ongoing.

JPO attended the meetings as advisors to ASECNA as well as to build capacity and obtain inputs for support to modules creation.

Key discussion points of the meetings included, among others:

- The provisions in Annex 10, Volume I on GNSS to improve clarity on the applicability of the interference protection masks to SBAS receivers
- Discussions on the initial analysis of the interference environment for the BeiDou Navigation Satellite System (BDS) B1C and B2a signals
- SARP's provisions for signal quality monitoring characteristics for the four core constellations
- Proposed DFMC GNSS airborne multipath and antenna error models
- Identified discrepancies between ICAO SARP's Annex 10 and RTCA DO-229E Appendix A. SBAS L1 SARP's

Satellite Navigation applications in support of the fight against COVID-19



In line with Coronavirus Disease 2019 (COVID-19), which has spread all over the world, JPO developed an article exploring how Global Navigation Satellite Systems (GNSS) and Space-Based Augmentation Systems (SBAS) are playing a valuable role globally in mitigating the COVID-19 impact by analysing solutions for Emergency Responses, Contact tracing, Queue management and Drone-based applications. The article highlighted related activities being implemented specifically in Africa like contact-tracing and tracker applications in South Africa and Ghana, drone applications for transportation of protective gear and medical products in Rwanda, to name a few.

The article, which was published on the Space in Africa website on 3rd September 2020 can be found here: <https://africanews.space/the-role-of-gnss-satellite-based-augmentation-systems-sbas-in-fighting-the-spread-of-covid-19/>

JPO attended various training and webinars as part of its internal capacity building activities (May–October 2020).

JPO's baseline activities and operations required the implementation of JPO's internal capacity building through different means mainly through webinars and workshops on various topics related to its core domain, namely the GNSS/SBAS.

The webinars were organised by various institutions in the field of the GNSS and its applications in the following areas: Space weather, Aviation, Geomatics, Timing and synchronization, Agriculture, Emergency Response, Maritime and Rail. Other webinars on the EGNSS adoption activities carried out by Europe, regulatory and economic aspects of the GNSS and applications were attended as well as general updates on the status of the space sectors.

The Sessions attended to name a few included, Geospatial information and its impact on the Covid-19 crisis by Royal Institution of Chartered Surveyors (RICS) in May 2020; Protecting Critical Infrastructure with Resilient Timing & Synchronization by GPS World in June 2020; Parlons Sciences spatiales by GEOMATICA in July 2020; The new possible: Building a better future for aviation, airports and Air Traffic Management (ATM) by EGIS/HELIOS in August 2020; The 75th United Nation General Assembly sessions on Sustainable Development Goals (SDGs), Security Council; Human Right Committees by the United Nations Organization in September 2020; The African Workshop on GNSS and Space Weather by UNOOSA, International Committee on GNSS, Boston College, USA, ICTP and CRASTE-LF (Morocco) in October 2020.

JPO provision of GNSS training under the CRASTE LF Space Science and Technology Masters

JPO conducted training of Masters of Space Science and Technology students in the CRASTE LF Masters Programme (7th- 10th October 2020).

JPO conducted an online training on GNSS applications to second-year Masters students of Space Science and Technology at the African Regional Centre for Space Science and Technology Education - in French Language (CRASTE-LF) in Morocco. The training, which took place from 7th to 10th October 2020, was conducted under the framework of the Memorandum of Understanding (MoU) between CRASTE- LF and JPO. The overall goal of the training was to provide participants with the appropriate skills and knowledge of the different applications of Global Navigation Satellite Systems in both aviation and non-aviation sectors.

The participants who attended the course had experience from different professional and/or Educational backgrounds including Research and Development, Meteorology, **Computer Sciences**, Geomatics, Instrumentation, Geo-tech Engineering, Mechanics,



Mathematics as well as Electronics and Telecommunication. Six countries were represented in the session among which Morocco, Senegal, Gabon, Togo, Cameroun and Niger. Overall, the training was a success. The participants took an active part in all the sessions and provided both

positive and constructive feedback on the delivery of the course.

JPO is committed to continuing its objective of building capacity and raising awareness on GNSS and SBAS solutions among various stakeholders in Africa, in line with its portfolio of services (Offer 4).

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Support to the ASECNA Programme Phase B studies

JPO participates and contributes to ASECNA Programme Phase B activities

Under its work programme, JPO has been providing support to the ASECNA SBAS Programme Phase-B studies. From January to October 2020, JPO contributed to the review of deliverables proposed by the contractor implementing the studies (Thales Alenia Space (TAS), to verify that the solution proposed by TAS was in line with ASECNA's expectations. Leveraging the experience JPO gained from among others, the development of the Preliminary Programme Proposal for SBAS implementation in Africa, JPO participated in and contributed to the various capacity building workshops tailored for specific subjects in line with the studies. Such workshops included the System maintenance and logistics, ASECNA SBAS phase B studies demonstrations, ASECNA Phase-B Cost and Benefit Analysis for airlines, Phase-B Certification/Verification.

The Review Meetings included various milestones within the study process at key Project Management steps such as Mission (PKM), Systems Requirements Review (SSR), System Requirements Document (SRD) and Architecture (PKA).

Other assessments included the proposed Network Reference Station (NRS) site scenarios and the consolidation of requirements.

Following successful completion of the Phase B studies, ASECNA started broadcasting a test Signal-in-Space, from a pre-operational infrastructure deployed with the support of the Thales Alenia Space company and of its Nigerian partner Nigcomsat LTD.



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