

# NEWSLETTER



**SEMOU DIOUF**  
SATNAV AFRICA JPO DIRECTOR

## EDITORIAL

At this end of the First Quarter 2023, it is a pleasure for SatNav Africa JPO to share with you this 2nd Edition of its Newsletter.

Indeed, in the past 9 months, the JPO was involved in various continental events happening in Africa covering all Sectors from Aviation to precision Agriculture.

JPO worked hand in hand with various regional and continental institutions such as AUC, AFCAC, ICAO, AFRAA or CANSO while supporting programmes such as EU Global Action on space for Africa.

We cannot but appreciate the support given by ANGA and NigCOMSat/NAMA during the outreach event recently in Abuja.

Let's continue to work together to shape the future of Satellite Navigation in Africa for the benefit of its citizen and for the successful implementation of the continental Flagship Programmes such as SAATM.



### ***Canso Conférence at King Fahd Palace, Dakar.***

CANSO which stands for Civil Air Navigation Services Organisation is the global voice of the Air Traffic Management industry bringing the world's Air Navigation Service Providers, leading industry innovators and Air Traffic Management specialists together to share knowledge, develop best practices and shape the future for secure and seamless airspace. The central theme of the CANSO Africa Conference 2022, which took place from 5th - 7th September 2022 in Dakar, Senegal, was "Recalibrating for Resilient and Sustainable Operations" a path towards a Seamless African Sky. The conference entailed discussions on how the African region can ensure seamless airspace which is safe and efficient in future, and the benefits the continent can realize in a sustainable and efficient way. SatNav Africa JPO's aim of participation at the meeting was to contribute to the continental policies and planning on SBAS Services deployment with regard to ANSPs through advocacy towards key stakeholders. SatNav JPO also purposed to keep track of progress in the technological advancements domiciled in the Air Navigation Services domain in the region.

The meeting was organized by CANSO and hosted by the Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA). It was attended by around approximately 200 senior Air Traffic Management delegates from Africa and beyond. During four days, ANSPs, aviation industry including Aerovav, Jotron, Frequentis, AIREON, METRON Aviation, Airspace World, NavBlue, SITA, African Civil Aviation Commission (AFCAC), and SATNAV Africa JPO networked, debated, analysed and gained insight on recalibrating ATM for resilient and sustainable operations. The meeting was a great platform for SatNav JPO to champion for the adoption of GNSS/SBAS services among ANSPs and to keep abreast with the Air Navigational Services developments and plans in the region.

# JPO Participation to the EU Global Action on Space in Pretoria, South Africa.



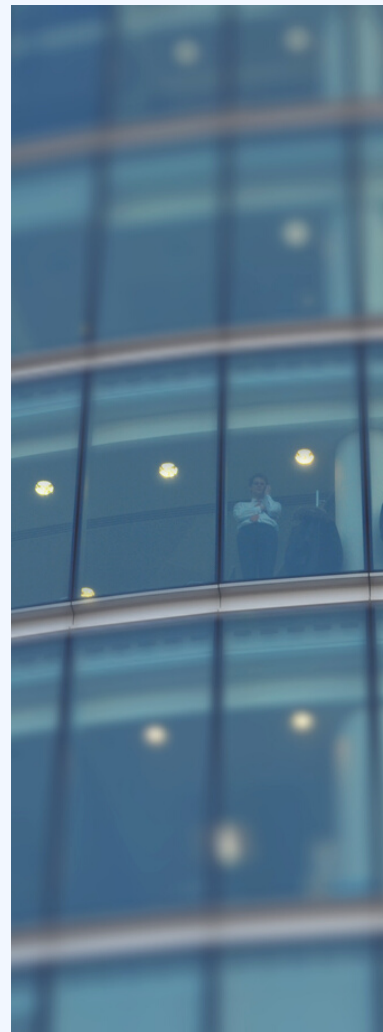
EU GLOBAL ACTION  
ON SPACE



The EU Global Action on Space was a hybrid event dedicated to the African region, that took place in Pretoria South Africa from 6th to 7th September 2022. The event provided JPO with the opportunity for the first time to contribute to this EU Space dedicated forum specifically through raising awareness on the progress made by Africa on GNSS/SBAS implementation while championing for a concerted and accelerated implementation and adoption of these technologies in Africa.

During the event, JPO delivered a presentation highlighting the achievements and the progress made on SBAS implementation plans for all the AU Regions. This was complemented by ASECNA who presented the ANGA Programme which is so far the most advanced SBAS programme in Africa. JPO also obtained a better understanding of the EU engagement model for Africa for further collaboration in the domain of Satellite Navigation including the concept of Business coaching services. As the event was held in South Africa, it especially provided an opportunity for potential collaboration with South Africa for a comment event in 2023 with the South Africa National Space Agency (SANSA) among other organisations.

Overall, the event confirms that the EU and Africa are set to share an important history of successful collaboration in the field of space which shall be continued in order to further foster synergies and collaboration between the EU and the African space ecosystems.



# ESSP visits JPO



## JPO's staff and ESSP delegation at Dakar office.

JPO was honoured to receive a delegation from ESSP (the European SBAS Service Provider) at JPO Offices in Dakar Yoff on 8th of Sept, 2022. The delegation, which comprised the ESSP CEO, Mrs Charlotte Neyret and the Chief Strategy and Development Officer, Mr Pierre Lahourcade held fruitful discussions with the JPO team on common goals for the development of SBAS/EGNOS in both Europe and Africa. Other discussions focused on aspects such as the PBN Simulator development status, Support for GNSS/SBAS adoption as well as potential new mutual prospects and events for the future. JPO is looking forward to continued collaboration with ESSP in supporting the development and implementation of GNSS SBAS in Africa.

## JPO at the 6th Aviation Africa Summit & Exhibition in Kigali, Rwanda



## SatNav Africa JPO Director at the 6th Aviation Africa Summit & Exhibition in Kigali

The 6th Aviation Africa Summit & Exhibition was held at Radisson Blu Hotel & Convention Centre in Kigali, Rwanda from 12th to 13th September 2022. This was a two-day annual trade event featuring aerospace and defence industries which played host to hundreds of participants pooled from African airlines, Airports, Aviation Authorities, Industry and Aviation professionals from Africa and the rest of the world. The event is said to have hosted more than 1400 visitors, 52 airlines, 84 country delegates and 23 Director Generals from CAAs.

JPO participated in this event in order to contribute to the promotion of GNSS services and conduct aviation user adoption activities. The participation was in view of promoting the benefits of GNSS and SBAS in the achievement of the Single African Air Transport Market (SAATM), interaction with various aviation stakeholders to obtain feedback on adoption mechanisms and obtaining contacts for future professional engagements.

JPO participation specifically entailed being a panellist on the ‘Technology and modernization to change our skies’ panel with four other speakers among them were Captain Musa, DG CAA, Nigeria ICAO Steven Musa, DG CAA South Sudan, and moderated by Frederic Legrand of Foxlima Consult.

JPO also had an exhibition booth which attracted over 500 visitors familiarizing themselves with the organisation and its operations thus creating awareness of SBAS and its associated benefits.

Overall, the event was a great platform to build JPO networks, raise awareness and champion for accelerated implementation and adoption of GNSS/SBAS technologies in Africa.

## JPO holds an awareness session for the Kenya Airways community



Under the framework of its work programme, Satnav Africa JPO conducted an awareness session on GNSS/SBAS Applications and use in Aviation to members of the Kenya Airways community on 16th September 2022 at the Pride Centre, Kenya Airways headquarters in Nairobi, Kenya and virtually via zoom platform. Kenya Airways is the national Airline/carrier for Kenya and one of the largest operators in Africa. It enjoys a fleet of about 37 aircraft and operates more than 20 routes globally. The awareness session also served to promote the JPO as a specialized institution on GNSS in Africa with a portfolio enabling it to provide support in SBAS implementation, training and studies. This is on top of sharing GNSS/SBAS knowledge within the region to enlighten stakeholders on its immense benefits.

JPO, therefore, fulfilled its mandate to support the development of satellite navigation in key sectors in Africa with aviation as the main driver. Participants’ feedback included appreciation to JPO for raising awareness on SBAS as an emerging technology.

# JPO Participation at the ION GNSS+ 2022 in Colorado, United States



From 19th - 23rd September 2022, JPO participated in the The Institute of Navigation (ION) GNSS 2022 conference which took place at the Hyatt Regency Hotel in Denver, Colorado, USA. The institute is a not-for-profit organization advancing Positioning, Navigation and Timing (PNT). Every year, the institute holds the ION GNSS+ conference which is the world's largest technical meeting showcasing GNSS technology, products and services. In this year's conference a number of international leaders in GNSS and related positioning, navigation and timing fields gathered to present new research, introduce new technologies, discuss current policy, demonstrate products and exchange ideas.

The conference was jointly held together with the 62nd Meeting of the Civil GPS Service Interface Committee. The Civil GPS Service Interface Committee (CGSIC) is part of the US Department of Transportation's program to respond to the needs of civil GPS users, and to integrate GPS into civil sector applications. JPO especially contributed to this meeting by delivering a presentation updating participants of the status of PNT matters in Africa. JPO also attended the ION GNSS+ pre-conference tutorials that were organized to provide in-depth learning of specific GNSS-related disciplines. JPO is looking forward to contributing to forthcoming conferences of similar nature.

## JPO attends EU Space Week



The EU Space week was a hybrid event that took place from the 3rd to the 6th of October 2022. The event, which comprised plenaries, panel discussions, award ceremonies and high-level keynote addresses was organised to raise awareness among stakeholders about the current status and future trends of the EU's Space Programmes and initiatives. It was jointly organised by the European Commission and the EU Agency for the Space Programme (EUSPA) in collaboration with the Czech Presidency of the Council and the City of Prague.

Attending virtually, the discussions and presentations from the event provided JPO with extensive information on the latest developments and status of the EU Space Programmes and initiatives. JPO was also able to draw inspiration from European adoption strategies which can be considered for application in Africa in the future.

As a follow-up to the event, JPO will integrate the knowledge and information acquired during the event into its Programme. It will also continue following up on ongoing developments regarding GNSS (Galileo and EGNOS) in Europe.

## **JPO at the ICAO AFI ATM Master Plan Project Management Team Meeting in Nairobi, Kenya**



***JPO staff & ICAO AFI ATM team at Nairobi, Kenya.***

The history of the AFI Seamless ATM system is a result of APIRG 22 Conclusion 22/35 which called for the establishment of an AFI ATM regional Vision Document, Concept of Operations and Master ATM Plan in order to improve the flow of air traffic in the AFI region, with enabling Infrastructure Strategy for Africa.

The objective of the ATM Master Plan is to facilitate AFI Seamless ATM operations, by developing and deploying ATM solutions capable of ensuring the safety and efficiency of air transport throughout the AFI region. The Plan provides a framework for a transition to a Seamless ATM environment, in order to meet future performance requirements. The Plan also provides the opportunity for the AFI region to adopt the benefits from research and development conducted by various States including the NextGen programme (United States of America), the European Single European Sky ATM Research (SESAR), and Japanese Collaborative Actions for Renovation of Air Traffic Systems (CARATS). ICAO Doc 9854 contains a vision of an integrated, harmonized, and globally interoperable ATM System, with a planning horizon up to and beyond 2025. In this context, the Plan is expected to encourage more partnering relationships among States within sub-regions.

In this spirit, SatNav Africa JPO participated in the continental planning through membership to the ICAO AFI ATM project management team. This was to promote and afford a platform to enable the GNSS/SBAS technological applications inclusivity on the continental strategic guidance documents and roadmaps so that the region can benefit in the Short, Medium and Long Term. SatNav Africa JPO was among the only two international organisations, with IATA, to attend the AFI ATM Masterplan PMT meeting which took place from 10th to 14th October 2022 in Nairobi Kenya.

During the meeting, JPO advocated for the inclusion of SBAS applications on the AFI ATM Masterplan, therefore, categorizing the following aspects of SBAS-supported technology as essential with the highest priority: Optimization of Approach Procedures including vertical guidance, Improved Operations through Enhanced En-Route Trajectories, Improved Flexibility and Efficiency in Descent Profiles (CDO), and Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO).



**JPO attends the AARSE Conference in Kigali, Rwanda.**

The African Association of Remote Sensing of the Environment (AARSE) conference is a major event in the African and international community of Earth observation and geo-spatial information science. This event is organized every two years and aims to bring together this community to share their thought on earth observation. The primary objective of AARSE is to increase the awareness of African governments and their institutions, the private sector and society at large, about the empowering and enhancing benefits of developing, applying and responsibly utilizing the products and services of Earth Observation Systems and Geo-Information Technology. The 13th conference under the theme “Space and geospatial technologies for the Africa we want” was held in Kigali at the Institut d’Enseignement Supérieur de Ruhengeri (Ines-Ruhengeri) from 24th to 28th of October 2022.



During the conference, SatNav Africa JPO held a side event training session on “Coupling Earth observation and GNSS to address Africa’s challenges.” In addition to promoting GNSS service towards survey and mapping communities, SatNav Africa JPO took the opportunity to undertake networking activities with GNSS user communities for the purpose of developing and enhancing user community support towards SatNav Africa JPO activities.

## JPO at the 37th Interoperability Working Group meeting in Antananarivo, Madagascar



The Thirty-seventh Meeting of the SBAS Interoperability Working Group (IWG/37) was held at Novotel Convention & Spa Hotel, Antananarivo, Madagascar from 2nd to 4th November 2022. The SBAS Interoperability Working Group (IWG) is a forum that brings together SBAS providers to assure a common understanding and implementation of the Standards and Recommended Practices (SARPs) and to address issues related to the interoperability of SBAS systems with the goal of providing seamless operations for users. In recent years, SBAS popularity has flourished and the IWG has enjoyed a considerable increase in the number of its members. Implementation of new SBAS plans has led to the expansion of SBAS services provision globally, reinforcing the need for increased coordination on the adoption and use of SBAS services.

The meeting’s proceedings were divided into Operations and Technical subgroups. At the operations forum, JPO shared presentations on business cases and market analysis studies that the Programme has conducted in the last months. At the technical forum, JPO made a presentation on SBAS and related infrastructure to expand Precise Point Positioning (PPP) technology in Africa.

Overall, JPO was able to share more on its activities regarding the development of SBAS in Africa, contribute to the discussion on harmonization and standards to put in place on technical and operational aspects and learn from SBAS systems R&D worldwide focused on aviation-related capabilities and extended to other communities. The next IWG meeting will be held in 2023 with South Korea being proposed to host the event.

# JPO Participation at the AU-EU Innovation Agenda Stakeholder Event



SatNav Africa JPO attended the Mt. Kenya Industrial Innovation and Investment Week which took place in Nairobi Kenya from 25th to 28th November 2022. The objective of JPO's participation was to leverage the identification of national innovation systems and their dedicated frameworks as well as the organization of potential sectoral communities of GNSS users in Africa. This event served as a platform for the visibility of the JPO Programme in the continental agenda and promotion of the action. Intended to contribute to the promotion of GNSS services and also create awareness activities within national innovation ecosystems in Kenya, the event was a great platform for mapping national value chains and local challenges and enhancing cooperation with public and private organizations to create GNSS and SBAS users' communities. The event witnessed enormous interest with over 100 people and more than 50 innovation exhibitions and ideas.

The Mt. Kenya Industrial Innovation week created extensive networks and connections within the Kenya innovation ecosystem, a significant foundation for cooperation framework with incubators and innovation hubs. SatNav Africa JPO identified innovations and incubation hubs that would be utilized in the advancement of GNSS applications through research and acquisition of user adoption needs.

The event was utilized to identify and create ecosystems to support the development of GNSS applications in various domains in line with continental priorities on inclusive value chains, environmental sustainability, as well as women and youth empowerment. Ultimately, there was extensive promotion of GNSS, raising awareness of GNSS benefits and GNSS applications in order to develop local expertise in using satellite navigation services.

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# JPO Participation at the Mt. Kenya Industrial Innovation and Investment Week



**Conference on the Precision Agriculture Scientist from 7th to 9th December, 2022**

The African Plant Nutrition Institute (APNI) in partnership with the Mohammed VI Polytechnic University (UM6P), the International Society of Precision Agriculture (ISPA), and the African Association for Precision Agriculture (AAPA) organised the 2nd African Conference on Precision Agriculture from 7th to 9th December 2022. The conference was designed to bring together experts in precision agriculture (PA) from across Africa and around the world to discuss the PA discipline within the African context, and how best it can be applied for the benefit of African farmers. The ongoing mission of AfCPA is to build a forum dedicated to “connecting the science and practice needed to put precision agriculture in action for Africa.”

The conference was structured as a hybrid event with the main conference site in Nairobi, Kenya, and 10 other in-person satellite sites distributed across North, West, East and Southern Africa. The sessions were also available globally via live stream. At the close of the conference, this 2nd edition featured over 140 presenters speaking to an audience of 700+ registrants representing 34 countries (18 in Africa).

JPO was able to continue its work of raising awareness about GNSS and SBAS technologies. It delivered a presentation highlighting the various applications in the Agriculture sectors, their performance requirements, and the relevant GNSS that can meet these requirements. It focused specifically on SBAS and Europe’s Galileo High Accuracy Service as upcoming technologies in Africa that the Agriculture user communities were encouraged to leverage. JPO is looking forward to developing collaborations to foster Precision Agriculture advancement in Africa using GNSS and SBAS technologies.

# JPO contribution to the eTakara Hackathon competition, in Niamey, Niger.



**Mr. Maman KOABO Director of CIPMEN & JPO's staff**

The Senior E-Takara competition was held from 12th to 14th December 2022, in Niamey, Niger. The objective of the competition was to identify and promote Nigeri talent with the aim of making digital technology accessible to every Nigerien and thus contribute to the development of the country. The event is an international platform where talented innovators with digital development projects are recognised and rewarded for their outstanding innovations. It is also an opportunity to create and strengthen ICT ecosystems in all regions using channels such as Hackathons. In accordance with its work programme, and through sponsorship of and participation in the event, SatNav Africa JPO was able to raise awareness about the benefits of SBAS and GNSS in Africa and to promote the development of applications and a thriving GNSS market in Africa that will contribute to the creation of jobs for African youth.



JPO also took this opportunity to liase with space and innovation ecosystems in Niger to promote the use of GNSS in solving various challenges in different domain. In order toadvocate for the creation of GNSS users community in Niger. JPO visited some incubators (Cipmen, iLab, FabLab) some private sectors enterprises (Drone Aviation Service, GPS Serveur Niger), public organisations monitoring agriculture (and hold guest session for universities and training centres (African Development University, CodeLoccol).

## JPO participates in the Collins Aerospace African Airline & Operator Avionics Symposium in Dakar Senegal.



The Collins Aerospace African Airline & Operator Avionics Symposium took place at the Terrou-BI Hotel in Dakar Senegal on 14th December 2022. The event provided an opportunity for Collins Aerospace to share the importance of airlines safeguarding their operations using Collins Aerospace All-Weather Operations solutions. The pertinent topics for the event included Airspace Modernization, Space-Based Navigation and Surveillance in Africa, All-Weather Operations Avionics Solutions and Connected Aviation Solutions. The symposium was held directly after the African Airline Association (AFRAA) General Assembly 2022 which had taken place in Diamdiadio, Senegal. JPO participated in this event to raise the visibility of its programme as well as GNSS and SBAS implementation in Africa. In addition, JPO participated to get acquainted with the latest solutions being provided by Collins airspace. The event was attended by various airline representatives including Kenya Airways, Air Senegal, Air Core D'Ivoire and Ethiopian Airways. ASECNA and AFRAA representatives were also in attendance.

## JPO organises the 2nd Outreach on SBAS Adoption in Aviation in Africa in Abuja Nigeria



***H.E. Prof Isa Ali Ibrahim Pantami, Minister of Communications and Digital Economy of Nigeria who receives a token of appreciation from the Director of SatNav Africa JPO in the presence of ASECNA Director General.***

SatNav Africa Joint Programme Office (JPO) in collaboration with the ANGA (Augmented Navigation for Africa) Programme, Nigerian Communications Satellite Limited (NIGCOMSAT) and Nigeria Airspace Management Agency (NAMA) organized the SBAS Demonstration Flights and the 2nd Regional Outreach Event on Satellite-Based Augmentation System (SBAS) in aviation in Africa. The EU Global action on Space from European Commission also supported the event.

The objective of the outreach event was to provide a forum for discussions, through engagements and presentations on various topics related to SBAS implementation and use, creating an understanding of SBAS technology and its benefits. SatNav Africa JPO did support the ANGA phases C/D/E1 preparation through the demonstration flights as well as accomplished the dissemination of awareness information to various airlines.

In attendance were stakeholders from AUC, EU, RECs (EAC, ECOWAS, BAGASOO), AFCAC, NAMA, NIGCOMSAT, NCAA, ASECNA as well as officials and experts' representatives of Ghana and Kenya CAA, DSN France, Rwanda Space Agency, RwandAir, Renegade Air, Air France, Skyward Express, Delta Airlines, Kenya Airways and Industry players; Collins Aerospace, ATR, IWG, and CMC Electronics.

Ultimately, the event reached a large audience through physical and virtual attendance, leading to increased visibility of the SatNav Africa JPO Programme and the ANGA Programme. In addition, there was a raised level of understanding of SBAS and the advancement of the ANGA Programme in Africa.

Image 15

# JPO organises the SBAS workshop in Africa in Praia, Cabo Verde.



***The delegation of SatNav Africa JPO received in audience by His Excellency, Dr. Carlos Jorge Duarte Santos, Minister Tourism and Transport***

SatNav Africa Joint Programme Office (JPO) in collaboration with Cabo Verde Civil Aviation Agency (AAC) organized a high-level workshop on "The Implementation and use of Satellite Based Augmentation System (SBAS) Services in Africa". The central theme of the workshop was "Building Satellite Based Augmentation Services for the Western and Central Africa (WACA) Region - Creating synergies towards the harnessing of SBAS Benefits in the region". The workshop took place in Praia Cabo Verde from the 16th to 17th of February and involved thirty high-level officials from the Cabo Verde Civil Aviation Agency (AAC), Cabo Verde Air Navigation Service Provider, key ministries, and other institutions in Cabo Verde whose user sectors benefit from GNSS and SBAS (Transport, Maritime, etc.), the Banjul Accord Group Aviation Safety Oversight Organization (BAGASOO) as well as representatives from the secretariats of AUC, AFCAC, ICAO WACAF Regional Office, ECOWAS, and ASECNA among others.

On the second day, we had the honor of being received by His Excellency Dr Carlos Jorge, the Cape Verde Minister of Tourism and Transport where productive discussions about GNSS and SBAS were held.