

# BUSINESS AVIATION MEP QUARTERLY

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# Boosting European Regional Connectivity

An interview with Carlo des Dorides  
Executive Director,  
European GNSS Agency (GSA)

## Boosting European Regional Connectivity Executive Director, European GNSS Agency (GSA)

As Executive Director of the GSA, Mr des Dorides has almost three decades of experience managing space service focused teams. Most recently, he had key management responsibilities at the European Commission and was responsible for the definition of the Galileo/EGNOS exploitation phase and the EGNOS operational phase.

Before joining the Commission, Mr des Dorides led the Concession Department at the European GNSS Supervisory Authority and served as Chief Negotiator of the Galileo Public-Private-Partnership/Concession contract at the Galileo Joint Undertaking.

Mr des Dorides' career has focused on programme management and operations of advanced satellite systems. As Director of Programme and Engineering at ENAV, the Italian air navigation service provider, he was responsible for updating the technology of Italian airports and Area Control Centres. Prior to that he held several management positions in the aerospace private sector including Head of advanced telecommunication programmes and Programme Manager for major satellite telecommunication projects at Alenia Spazio. Within these organisations he managed a significant number of projects in the areas of contracts, procurement and service engineering. Mr. des Dorides holds a degree in engineering from the University of Rome and an M.B.A. from CUOA, Vicenza, Italy.

**2017 was a year marked by key milestones for Galileo and the GSA. 2018 has also been a year of great success for EGNOS with the recent publication of the Performance Based Navigation Implementing Rule. The new rule opens the door to a large deployment of EGNOS-based procedures and offers safer and easier access to secondary airports. What are your plans to support its smooth implementation?**

2018 has been a good year for the European GNSS programmes. In terms of Galileo, we had another successful launch of 4 Galileo satellites, bringing the constellation to a total of 26 satellites. This is another step towards full operational capability that we expect in 2020.

Aviation users will have to wait a bit longer before using Galileo for navigation, augmented by SBAS, ABAS or GBAS, due to the standardisation and certification processes. Nevertheless, aviation users can already benefit from the Galileo Search and Rescue service with Galileo ready Emergency



Locator Transmitters (ELTs) available on the market. In 2018, EGNOS-based approach procedures in Europe grew to more than 550 procedures published in over 300 European airports, 148 of those are LPV200 procedures, merely 3 years after the declaration of this service.

The PBN Regulation mandates the use of PBN approaches, including EGNOS-based ones, to all instrument runway ends, replacing conventional procedures. The rationalisation of ground-based nav-aids will lead to economic and operational benefits for both the providers and airspace users. France, for example, was a pioneer on PBN implementation and ILS rationalisation for about 50 small/medium airports which, according to DGAC (Direction General de l'Aviation Civil), targets 5 M EUR savings each year, supporting a landing tax reduction programme.

The GSA offers technical and operational support to users implementing EGNOS-based PBN operations, e.g. feasibility analysis, traffic assessments and training. We also support the development of national PBN plans, identifying airports where EGNOS can deliver most benefits based on traffic levels. GSA also offers financial support with the 'EGNOS for aviation' grants programme to users who wish to develop suitable avionics and operational procedures (i.e. 22 M EUR). We also foster the development of innovative aviation applications via the H2020 R&D programme: the 4th call for proposals opens on 16th October 2018 with a total budget of 20 M EUR and ideas from the aviation community are very welcome.

**The ATM Master Plan paves the way to a new generation of technologies and procedures which will improve access to airports and airspace. What are your recommendations to further emphasize the use of EGNOS-based procedures in the ATM Master Plan?** Global and European air navigation strategies are moving towards GNSS-based solutions. SBAS is already identified in the current ATM Master Plan as one of the key technologies to support various navigation applications. We would like to recommend further emphasis on 'advanced' operations such as continuous descents, steeper glide slopes and radius to fix (RF) legs where EGNOS can already play an important role today. In particular, curved segments bring significant benefits in terms of accessibility and noise

abatement in airports, mountainous or populated areas, or those where straight approaches are not feasible. EGNOS is not impacted by temperature deviation and delivers integrity information in cases where few GPS satellites are in view. In addition, the use of geometric guidance for RNP-AR is already included in the latest EASA airworthiness material.

As requested by airspace users, the hybridisation of EGNOS with other sensors and technologies, such as Enhanced Vision System (EVS) and Synthetic Vision System (SVS), will be crucial to keep improving accessibility to airports. We would also like to see a relevant role for European GNSS in the domain of surveillance, such as ADS-B, as a key component of a European Communication Navigation and Surveillance roadmap, supporting more demanding operations and rationalisation of the redundant ground-based Secondary Surveillance Radar infrastructure. SBAS is the only solution that delivers equivalent availability as radar, unlocks capacity improvements and enhanced surveillance operations, as is already happening in the US.

We are also working on Galileo to serve the aviation community. Galileo is a global multimodal infrastructure to be used with augmentations in aviation, as happens with GPS. The European Commission DG GROW and MOVE, the GSA and EASA are working together to monitor the performance of Galileo for "Safety-of-Life" applications. This could rely on existing independent performance monitoring means developed in the context of the Galileo Reference Center. The use of Galileo is already identified and scheduled in the current ATM Master Plan. In fact, EGNOS V3 augmenting Galileo and GBAS multi-constellation multi-frequency (MCMF) are already in the pipeline. We are also prototyping the first Advanced RAIM (ARAIM) receivers, to enable global LPV200 operations from 2030 onwards.

**Tackling the airspace and airport capacity crunch is one of the key challenges for European aviation. Will GSA cooperate with Eurocontrol to pursue the objective of a global growth with technology used to mitigate sustainability challenges (European Aviation in 2040, Challenges of Growth)?**

The GSA has a long lasting and good cooperation with Eurocontrol. They published a forecast of aviation traffic growth in Europe: in all scenarios traffic is increasing and showing a capacity challenge, both in the aerial routes and at the airports. EGNOS can play a crucial role in helping to tackle the capacity crunch. As mentioned in the report, around 16% of the capacity gap could be mitigated by further developing local airports' alternatives. In fact, with EGNOS it is possible for smaller regional airports – usually with less budget than large hubs – to implement EGNOS-based approaches, allowing for an almost all-

weather access without the need for expensive ground infrastructure. EGNOS can enable a growing network, particularly important for business aviation, bringing clients as close as possible to the final destinations in the shortest possible time. In addition, the implementation of EGNOS-based procedures at airports with existing ILS Cat II/III enables continuous operations in period of ILS downtime (e.g. during maintenance).

Currently the GSA and Eurocontrol are working together to deliver safety guidance material for helicopter operations based on SBAS. These operations improve emergency operations and enable 'non simultaneous interfering operations', which maximise airport capacity by allowing helicopters to operate in airports without interfering with regular airport traffic.

GSA and Eurocontrol are also working together to tackle Unmanned Aerial Vehicle traffic that will grow to outstrip any other user base in aviation. European GNSS improves the robustness of navigation solutions for drones with increased accuracy and availability of the position, key in operations in urban areas.

**What are the next priorities of the EGNOS programme that will ease airspace users' flight operations?**

There are several priorities for the EGNOS programme and aviation market development in the coming years. GSA is working closely together with EASA on the possibility to extend EGNOS approaches to non-instrument runways to support decongestion of big hubs and increase safety for general and business aviation operating at these airfields. This work is focused on identifying proportionate solutions to enable EGNOS-based approaches at airports with limited air traffic control and ground infrastructure.

We are developing EGNOS V3, the next generation of Europe's Satellite Based Augmentation System (SBAS), where Europe is leading the way versus WAAS in the US. EGNOS V3 will continue to offer this legacy service of EGNOS augmentation of GPS L1, but with more resilient performance, and a new SBAS service, transmitting on the GPS L5 and Galileo E5a frequency band, which will augment Galileo L1/E1 – L5/E5 along with GPS. The use of a second frequency will increase the robustness of the service mitigating delays due to the ionosphere and reducing impact of interferences. The GSA has the challenge to keep the current and efficient operation of EGNOS, while working in parallel on the modernisation programme.

For more information, visit [www.gsa.europa.eu](http://www.gsa.europa.eu)



## EASA Basic Regulation

The EBAA recognizes the Council of the European Union's recent approval of the European Aviation Safety Agency (EASA) new Basic Regulation.

The Basic Regulation establishes a standard of safety across all EU member states. The new regulation is intended to modernize the agency, establish guidelines for its interactions with other regulators and mandate a risk-based approach to regulating. The new Basic Regulation is expected to reduce costs and administrative burdens for both the agency and industry.

## Towards a full EGNOS capacity deployment in aviation: EBAA welcomes new Performance-Based Navigation Implementing Rule (PBN-IR)

The business aviation sector is now in a position to optimise access at more regional airports as this technical innovation is a way to allow more precise navigation and ensure safe operations in all weather conditions. It thereby improves European airport capacity and safety.

EGNOS enables precision approaches with vertical and lateral guidance, based on the so-called 'Localizer Performance with Vertical Guidance' (LPV). LPV approaches guarantee similar performances to ILS cat I (200 feet/800 meters visibility) approaches but do so without the costly ground infrastructure necessary for the implementation of the latter.

The European Commission has published the regulation laying down airspace usage requirements and operating procedures concerning performance-based navigation. The regulation opens the door to the large deployment of EGNOS-based procedures at secondary and tertiary airports.

The EBAA, having actively provided views on the drafts of the implementing rule, and closely collaborated with many stakeholders and the European institutions such as the European Commission the European GNSS Agency and European Aviation Safety Agency (EASA), considers the regulation as an exceptional step forward in easing the access to European regional airports.



Once in place, the Basic Regulation will ensure that EASA receives the resources needed to implement related mandates and establish a more efficient and effective framework in which to regulate. The EBAA closely follows the implementation of the EASA Basic Regulation and is in close contact with the European Institutions to provide continuous feedback in light of proportionate regulation for the European business aviation community.

The business aviation segment is a pioneer in the use of EGNOS and most new business aircraft are already equipped. Operators can start using published LPV procedures immediately, without making any upgrades, just by obtaining the operational approval from the authority where the aircraft is registered.

The increasing EGNOS penetration will bring real benefits to regional, business, rotorcraft and general aviation, and hence to the European connectivity and economy. For more information, please visit [EBAA.org](http://EBAA.org).

*Ensuring all-weather access at secondary and tertiary airports is very important for the business aviation community.*



## Our BizAv Senior Environment Manager Bruce Parry



In today's policy landscape - and that of the future - one thing is for certain: Sustainability is the way forward. Having contributed to the development of the original Business Aviation Commitment on Climate Change (BACCC) in 2009, an expert in Corporate Social Responsibility and former Head of Sustainability in the business aviation industry, Bruce Parry is EBAA's Senior Environment Manager and the perfect person to ask the real questions on sustainability. Following the launch of Sustainable Alternative Jet Fuels (SAJF\*) at the European Business Aviation Convention & Exhibition (EBACE) this year, we want to know more: What are they? What else is our industry doing? Let's find out:

### What are Sustainable Alternative Jet Fuels?

SAJF is a general term used to describe the class of non-petroleum based jet fuels (or blended components) that are being pursued by the industry to:

- Reduce net life cycle carbon dioxide (CO<sub>2</sub>) emissions from aviation operations
- Enhance the sustainability of aviation by being superior to petrol-based jet fuel in environmental, social, and economic aspects
- Enable drop-in jet fuel production from multiple feedstocks and conversion processes, so no changes are required in aircraft or engine fuel systems, distribution infrastructure or storage facilities.

SAJF must have the same qualities and characteristics as conventional jet fuel in order to substitute it. This is important to ensure that manufacturers do not have to redesign engines or aircraft, and that fuel suppliers and airports do not have to build new fuel delivery systems and safety is not compromised.

SAJF is non-conventional fuel and may be derived from many sources whose chemical constituents can be converted to the set of pure hydrocarbons that comprise jet fuel. These substances are also processed to jet fuel in an alternative manner (via thermochemical, biochemical, and catalytic production processes). Feedstocks for SAJF are varied, ranging from cooking oil, plant oils, solid municipal waste (trash), waste gases, sugars,

purpose-grown biomass, and agricultural residues, among others.

### When can we start using them?

Progress on developing sustainable fuels has been moderate (ongoing for the last decade), but is accelerating. Technical barriers to the production of SAJF have been overcome and there are now five different "pathways" approved by the aviation industry and available to producers to convert different feedstocks into jet fuel. Up to this point, there has been a lack of commercial-scale investment that would make the deployment and commercialization of SAJF a mainstream occurrence in the near term.

Currently, the ability for general and business aviation to use SAJF is limited due to limited production, lack of infrastructure, lack of understanding, and economics. Despite this, the use of SAJF by aviation worldwide is growing, with more than 100,000 flights already flown on a blend of sustainable and conventional jet fuel, and with OEMs, airlines and others undertaking numerous demonstration flights. SAJF is today supplied to, and routinely used at, several major global airports, including Los Angeles, US; Oslo and Bergen, Norway; and Stockholm, Sweden. Its use is expected to expand to Brisbane, Australia in 2018.

### How 'sustainable' are these fuels?

Relative to fossil fuels, sustainably-produced, unconventional jet fuel results in a net reduction in carbon dioxide (CO<sub>2</sub>) emissions across its lifecycle. This means that even when you take into consideration the CO<sub>2</sub> emissions generated during the production of SAJF, from the equipment needed to grow crops, transport the raw material, refine the fuel, and distribute it, the use of SAJF has been shown to provide significant reductions in overall CO<sub>2</sub> lifecycle emissions compared to fossil fuels. The industry has been predominantly focused on fuels that provide more than 50% reductions, but it is not uncommon to see approaches that deliver up to 80%. >>



### Besides SAFJ, what other sustainability initiatives are there in business aviation?

In November 2009, the business aviation community comprised of the General Aviation Manufacturers Association (GAMA), representing the manufacturers, and the International Business Aviation Council (IBAC), representing the operator community, announced three aspirational goals to mitigate the industry's effect on climate change through the Business Aviation Commitment on Climate Change (BACCC).

These goals are:

1. To achieve carbon-neutral growth by 2020;
2. To improve fuel efficiency by 2% per year from 2010 until 2020, and;
3. To reduce CO<sub>2</sub> emissions by 50% by 2050 relative to 2005.

Our industry also made clear that achievement of these goals would depend on improvements across four pillars through improvements in operations, infrastructure, technology (including sustainable aviation jet fuels) and

market-based measures (better known as the EU ETS and CORSIA for international operations). The BACCC is the foundation for everything we do from a sustainability perspective in business aviation.

Business aviation has put together a consortium of trade associations, aircraft manufacturers and other key stakeholders to drive forward the understanding and wider use of SAJF and has produced a guide for operators to assist this process and is now working of the next stage of implementation. Copies of this guide\* can be obtained from the following website:

<https://www.futureofsustainablefuel.com>

\* This guide has been produced by a coalition of international business aviation organizations, including:

The European Business Aviation Association (EBAA)  
The General Aviation Manufacturers Association (GAMA)  
The International Business Aviation Council (IBAC)  
The National Air Transportation Association (NATA)  
The National Business Aviation Association (NBAA)

## EBAA THROUGHOUT EUROPE

### EBACE 2018

The European Business Aviation Convention & Exhibition (EBACE) is a premier event and the annual meeting place for the European business aviation community. The exhibition brings together business leaders, government officials, manufacturers, flight department personnel, avionics firms, fractional providers, charter/lease companies and all manner of people involved in nearly every aspect of business aviation.

As the 2018 edition of the European Business Aviation Convention & Exhibition (EBACE) concluded, organizers reported that by every measure, the event once again served as a powerful and forward-looking showcase for the European business aviation industry. EBACE is jointly organized each year by the European Business Aviation Association (EBAA) and National Business Aviation Association (NBAA).

"This was a decidedly upbeat, optimistic EBACE week, which highlighted the passion and enthusiasm at the heart of the business aviation community," said EBAA Chairman Juergen Wiese. "The show reflected a reverence for the industry's history, as well as an embrace of its future."

Dates for EBACE2019 have already been set! Join us at EBACE2019 to build relationships and explore the European business aviation community. Get connected and move forward faster by submitting your application by the 8th November 2018 deadline to be included in the priority placement process here: [www.ebace.aero/2019](http://www.ebace.aero/2019)



## EBAA Joint Roundtable at Shannon Airport with MEP Deirdre Clune

On 22nd June, the EBAA, in association with MEP Deirdre Clune (Ireland South) and Shannon Airport, held its 'Meet Your MEP' event at the airport in the company of key stakeholders from the region and beyond. Meet Your MEP is an opportunity for members of the European Parliament to meet with leading business aviation operators in their region in order to discuss the contributions of, and issues particular to Europe's EUR87 billion and almost 400,000-person strong business aviation industry.

*"Connectivity is the cornerstone for so many of Ireland's businesses or for business based here and has never been more important than in the current political climate. Business aviation connects regions, spurring investment and the growth of business, acting as an enabler for regional and national economic development, improving job prospects. We need to implement suitable policies that will help the industry safely grow to its full potential."*  
– MEP Deirdre Clune



## EBAA Annual Conference at the European Parliament

Following the successful Meet your MEP at Shannon Airport, the EBAA, in collaboration with MEP Marian-Jean Marinescu, organised the Annual Business Aviation Conference at the European Parliament on 27 June.

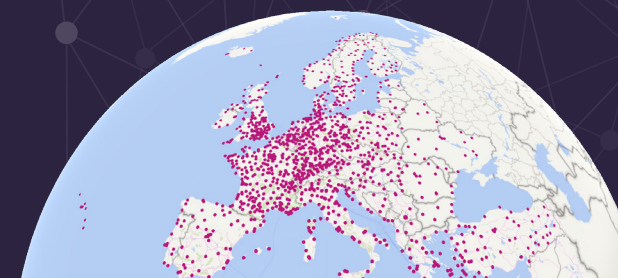
The event addressed the socio-economic output of business aviation for Europe and its citizens, and focused on three topics: the key role of business aviation in connecting European regions, the use of single-engine turbine aircraft, and the importance of medical flights as a service that supports communities all over Europe and beyond. In addition to that current and future challenges were brought to the debate: Brexit, ATM, SES and drones.

## Visualizing Connectivity and Business Aviation

Did you know, business aviation connects Europe? Business aviation seamlessly connects distant and remote regions, spurring investment and the growth of business and communities in these regions. For instance, business aviation connects 1300 European Airports as opposed to 516 by regular airlines.

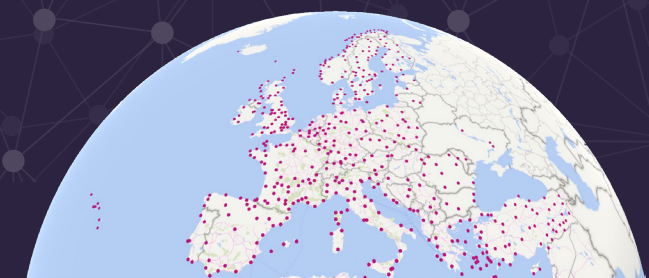
European airports connected by business aviation in 2017:

1300



European airports connected by airlines in 2017:

516



## EBAA Back To Business Cocktail Reception - Come fly with us!



*EBAA Back To Business Cocktail Reception  
Come fly with us!*

On behalf of the European Business Aviation Association (EBAA) and its Members, we're delighted to invite you to a cocktail reception on Thursday 20th September from 18:00 at the EBAA Offices (probably the coolest offices in Brussels...), in the company of Athar Husain Khan, our newly appointed Secretary-General, EBAA's Chairman Juergen Wiese, the Members of our Board of Governors and the entire EBAA team.

For more information, please visit [www.ebaa.events.idloom.com/backtobusiness2018](http://www.ebaa.events.idloom.com/backtobusiness2018)

## Introducing: Athar Husain Khan as Secretary-General

***The EBAA is pleased to introduce its new Secretary-General Athar Husain Khan. The long-standing aviation professional assumed responsibilities for leading the EBAA as of 2nd July, 2018. Having spent the last 25 years as a leader, aero-political negotiator, lawyer, advocacy specialist and CEO in various aviation organisations and companies, in both the public and private arena, Athar is not new to the Brussels Arena.***

"The EBAA represents more than 700 aircraft operators, ground services and business airports. Our industry acts as an enabler for regional and national economic development representing €87 billion in output, with a total workforce of some 374,000 direct and indirect jobs. Business aviation serves 25,280 city or area pairs not connected by nonstop commercial flights and in 2017 saw more than 30 ambulance flights a day.

In order to continuously provide value to Europe, proportional regulation is required for our industry as one size does not fit all. Despite its value for the European economy, business aviation often does not benefit from aviation legislation that considers our members' specificities. Especially on issues such as access to airports we see many disparities at the EU-level - most of the time to the detriment of our sector. This needs to change and we are determined to make that happen.

Sustainability stands proudly as one of the core values of the EBAA. 2019 will mark the 10-year anniversary

of the Business Aviation Commitment on Climate Change. It is the foundation for all environment and wider sustainability activity within our sector. I look forward to demonstrating our future efforts to you which includes subsequent activity following the launch of the Sustainable Alternative Jet Fuel (SAJF) project at EBACE 2018.

Furthermore we are actively working on the implementation of the EASA Basic Regulation, contributing to the SESAR programme, strongly advocating for increasing European aviation safety standards and widening the scope of our efforts on sustainability and innovation.

Equally important to note are the EBAA's activities on the new Flight Time Limitations for air taxi operations. This type of legislation has a considerable impact on our members as their operating model is vastly different to that of regular airlines."

I very much look forward to working with you to improve the environment for business aviation in Europe."



**Athar Husain Khan**  
EBAA Secretary-General