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Organization

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Международная  
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منظمة الطيران  
المدني الدولي

国际民用  
航空组织

LT 2/6B.54-SA317

Lima, 03 July 2014

To: Mr. Jean-Michel Boivin, Regional Director of Civil Aviation, West Indies and French Guiana  
Mr. Zulficar Mohamed, Director General, Civil Aviation Authority, Guyana  
Mr. Falisie Jozef Pinas, Minister of Transport, Communication and Tourism, Suriname

Subject: **Workshop on Performance Based Navigation (PBN)**  
(Lima, Peru, 27 to 29 August 2014)

Action  
required: Take note and confirm participation by **8 August 2014**

Sir/Madame,

I have the honour to address you this letter to invite your Administration to participate at the Workshop on Performance Based Navigation (PBN) in the South American region, co-hosted by AIRBUS and ICAO, which will be held at this Regional Office in Lima, Peru, from 27 to 29 August 2014.

The objective of this workshop is to discuss and share with participant experts, aspects on the development of PBN best practices from the perspective of design, aircraft capabilities, ATC, flight operations, safety assessment (FOSA), operations approval and implementation support for transnational PBN operations, among others. In such sense, the event is focused to experts in airworthiness, flight operations, air traffic control, airspace design and AIP management.

This workshop intends that participants gain more expertise and confidence in the implementation of PBN procedures and have as well the opportunity to share subjects related to PBN roadmap foreseen in the region, RNP regulatory framework and available options for airline's crossborder operational approvals, among others.

Please note that the workshop will be conducted in English language, with simultaneous interpretation into Spanish. Attached you will find the invitation to attend the workshop, as well as the tentative Agenda (**Attachment A**). Local general information as well as accommodation alternatives can be found in the “General Information”, “List of Hotels” and “Weather” sections in the ICAO SAM Regional Office website, [http://www.icao.int/SAM/Pages/ES/default\\_ES.aspx](http://www.icao.int/SAM/Pages/ES/default_ES.aspx) (left panel, under South American (SAM) Office).

In such sense, I am pleased to invite your Administration to designate expert(s) from your State to participate in this workshop, by submitting the attached registration form (**Attachment B**), duly filled out, by e-mail ([icaosam@icao.int](mailto:icaosam@icao.int)) to be received at this Regional Office no later than **8 August 2014**.

Should you need any additional information regarding this workshop, please contact:

Mr. David Zwegers  
Airbus Regional Safety Director, Latin America & Caribbean  
E-mail: [david.zwegers@airbus.com](mailto:david.zwegers@airbus.com)  
Telephone: +1 (305) 876 6704

Mr. Julio Pereira  
ATM/SAR Regional Officer, ICAO South American Office  
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Telephone: +511 611 8686 (104)

Accept, Sir, the assurances of my highest consideration.



Franklin Hoyer  
Regional Director  
ICAO South American Office  
Lima

**Enclosure**  
*As indicated*

cc: Mr. Olivier Jouans, Regional Director of ATM services, West Indies and French Guiana  
Mrs. Thelma Douglas Pinas, Permanent Secretary, Ministry of Transport, Communication and Tourism, Suriname  
Mr. Robby Venlo, acting Director of Civil Aviation Department, Suriname  
Mr. Brian De Souza, acting Director, CASAS, Suriname

## ADJUNTO A / ATTACHMENT A



23rd of June 2014

**SUBJECT:** Performance Based Navigation (PBN) Workshop - Invitation letter.

Dear Sir/Madame;

With the present letter we hereby invite you to participate in the Performance Based Navigation (PBN) Workshop that will be held from the **27<sup>th</sup> to the 29<sup>th</sup> of August 2014** at the **ICAO Regional South American offices in Lima, Perú: Av. Víctor Andrés Belaúnde 147, Centro Empresarial Real. Edificio Real 4, Piso 4. San Isidro, Lima.**

Airbus and ICAO are co-hosting this PBN workshop in relation to the development of PBN procedures in the South American region. The objective is to discuss and share with you PBN best practices from the perspective of Design, Aircraft capabilities, ATC, Flight Operations Safety Assessment (FOSA), Operations Approval and implementation support for transnational PBN operations.

The main purpose of the program is to:

- Highlight PBN and GNSS based operations concept, related benefits and advantages;
- Discuss the background and applicability FAA and EASA PBN regulations and ICAO PBN Guidelines;
- Present the Airline Operational Approval process and cross-border acceptance of such approvals;
- Introduce Flight crew and ATC training and requirements for PBN operations;
- Provide an overview and applicability of the FOSA.

The expected outcome of the workshop is for members of Civil Aviation Authorities and industry stakeholders to gain expertise and more confidence with the implementation of PBN procedures, and facilitate the approval of local and foreign qualified operators in line with the available regulatory framework and agreed processes.

Considering the continuous growth of PBN procedures implementation in the Central and South American region and envisioned best practices, the participation of local authorities and interested area experts in this workshop is fundamental. It is also a great opportunity to share and discuss the PBN roadmap foreseen in the region, and also to conclude and pass along valuable know-how on RNP regulatory framework and available options for Airline's cross-border operational approvals.

Accordingly, it would be appropriate that at least the following functional expert representatives should participate in the workshop:

- Airworthiness;
- Flight Operations,
- Air Traffic Control,
- Airspace design, and
- AIP management

Airbus and ICAO would like to emphasize on the importance of your attendance to ensure that your feedback and opinion is taken into consideration in this important milestone of PBN implementation in the South American region.

Should you need any additional information, please contact:

**David Zwegers**

david.zwegers@airbus.com

+1 (305) 876 6704

**Julio Cesar de Souza Pereira**

jpereira@icao.int

+ (511) 611-8676

We take the opportunity to wish you our best regards.

Yours sincerely,



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**David Zwegers**

Airbus Regional Safety Director

Latin America & Caribbean



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**Franklin Hoyer**

ICAO Regional Director

South American Regional Office

Lima, Peru



## Performance Based Navigation Workshop

Aug. 27<sup>th</sup> – 29<sup>th</sup>, 2014

Lima, Perú

Agenda





Wednesday 27<sup>th</sup> Aug, 2014

- 09H00 - 9H30** Welcome & Opening speeches
- 09H30 - 10H30** ICAO PBN Roadmap and Implementation for the South America Region
- 10H30 - 11H00** Airbus support to PBN Roadmap implementation / deployment
- 11H00 - 11H30** **Break**
- 11H30 - 13H00** GNSS concept and GNSS based operations
- >> GNSS signal accuracy and integrity
  - >> Augmentation Systems (ABAS, SBAS, GBAS)
  - >> Navigation sensors and position computation
  - >> Approach types and aircraft capabilities
- 13H00 - 14H00** **Lunch**
- 14H00 - 15H30** PBN regulation and approval process overview
- >> ICAO PBN Manual / EASA/ FAA Regulation Differences
  - >> The role of the operational approval process
  - >> Examples of RNP AR procedures approved under different regulations
- 15H30 - 16H00** **Break**
- 16H00 - 18H00** PBN from the ATC perspective
- >> Merging PBN and conventional traffic
  - >> ATC training requirements for PBN operations
  - >> Flight planning requirements
- End of Day 1**



Thursday 28<sup>th</sup> Aug, 2014

**09H00 - 10H00**

PBN Implementation  
>> Lessons learnt and best practices  
>> Stakeholders' responsibilities  
>> Typical PBN project methodology

**10H45 - 11H00**

Data quality  
>> ICAO requirements  
>> Aeronautical, Terrain and Obstacle Data  
>> Navigation Database coding

**11H00 - 11H30**

***Break***

**11H30 - 13H00**

RNP Procedure design, validation and approval  
>> Procedure design criteria  
>> Procedure testing and validation  
>> Design challenges, and Terrain Obstacle Data Requirements  
>> Charting

**13H00 - 14H00**

***Lunch***

**14H00 - 15H00**

Work Group Exercise – Design RNP Procedure

**15H00 - 16H00**

Work Group Exercise Presentations and Discussions

**16H00 - 16H30**

***Break***

**16H30 - 18H00**

PBN from the Pilot's perspective  
>> Safety Benefits  
>> Navigation alerts  
>> Lateral and Vertical Monitoring  
>> Aircraft function  
>> Training requirements for PBN Operations



Friday 29<sup>th</sup> Aug, 2014

- 09H00 - 10H00** Airbus Aircraft capabilities for PBN Operations  
>> Certification baseline  
>> Aircraft systems requirements
- 10H00 - 11H00** FOSA – Flight Operational Safety Assessment  
>> What is it and when is it applicable  
>> Position of FAA and EASA  
>> Role of the operators and authorities in the FOSA
- 11H00 - 11H30** *Break*
- 11H30 - 13H00** Group Discussion – Identify elements for a FOSA
- 13H00 - 14H00** *Lunch*
- 14H00 - 15H00** PBN Operations Approval Process  
>> Procedure evaluation and validation  
>> Applicability of FOSA  
>> Training requirements  
>> Navigation Database Validation  
>> RNP AR Monitoring  
>> Approval of Foreign Operators
- 16H00 - 16H30** *Break*
- 16H30 - 17H30** Workshop Closing Remarks and Conclusions

**TALLER DE NAVEGACIÓN BASADA EN PERFORMANCE  
PERFORMANCE BASED NAVIGATION WORKSHOP**

Lima, Perú, 27 al 29 de agosto de 2014 / Lima, Peru, 27 to 29 August 2014

**FORMULARIO DE REGISTRO / REGISTRATION FORM**1. Estado/*State*:Organismo/*Organization*: \_\_\_\_\_2. Nombre/*Name*: \_\_\_\_\_3. Cargo/*Position*: \_\_\_\_\_4. Participa como / *Participates as*:Miembro/  Alternó/  
*Member Deputy*  Delegado/  
*Delegate*  Observador/  
*Observer /*  Ponente/  
*Lecturer*  Instructor/  
*Instructor*  Alumno/  
*Student* 5. Dirección oficial /  
*Business address*: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Tel.: \_\_\_\_\_ E-mail: \_\_\_\_\_

7. Hotel o dirección en  
la ciudad/ *Hotel or*  
*local address*: \_\_\_\_\_8. Información de vuelo/ *Flight information*: Vuelo llegada/ fecha/ hora/  
*Arrival flight/ date/ hour*: \_\_\_\_\_Vuelo salida/ fecha/ hora/  
*Departure flight/ date/ hour*: \_\_\_\_\_Firma/  
*Signature*: \_\_\_\_\_ Fecha/  
*Date*: \_\_\_\_\_