

## PERSONAL INFORMATION



## DAVID DIEZ FERNANDEZ

-  Arturo Soria 37, 28027 Madrid (Spain)  
 +34 914078294    +34 687462956     
 ddiez@movistar.es  
 [www.fanscnsatm.com](http://www.fanscnsatm.com)  
 MSN | Skype

Sex Male | Date of birth 22/08/1948 | Nationality Spanish

## JOB APPLIED FOR

## COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MANAGEMENT (CNS/ATM) SYSTEMS EXPERT

## WORK EXPERIENCE

23 Aug 2013–Present

**CNS/ATM Independent Consultant**

Freelance, Madrid (Spain)

Overall:

- Monitor CNS/ATM Global Implementation
- Provide advice and support on CNS/ATM to States, Enterprises, ICAO and other Organizations.

OTHER ACTIVITIES:

A) Attend for 4 years english advanced and proficiency courses at the Madrid Official School of Languages (EOI) and the Madrid British Council, getting the "Cambridge Certificate in Advanced English (CAE)" on 24 June 2017, and the EOI Level C1 English Certificate on 10 September 2017.

B) Take the ICAO "Universal Safety Oversight Audit Programme (USOAP) CBT course" (18 April 2017 to 10 October 2017) and get the corresponding "succesfully completed" certificate.

1 May 2009–22 Aug 2013

**Project Manager (Responsable de Actividad)/ATM Development Division/Air Navigation Directorate**

AENA (Aeropuertos Españoles y Navegación Aérea), Madrid (Spain)

Overall functions of the ATM Development Division:

- Identify needs and promote/propose ATM functional technical and operational improvements in accordance with strategic and operational Air Navigation Directorate (DNA) Plans;
- Specify, evaluate, validate and implement ATM systems functional improvements;
- Support the ATM Operations Directorate and Regional ATC Units planning and supervising ATM projects, and coordinating with external involved units or organizations; and
- Support the ATM Operations Directorate and Regional ATS Units with respect to CNS/ATM Systems.

Specific:

- Collect, file, process and analyze "incident reports" received from ATC units.
- Monitor activities and study documentation related to: EUROCONTROL CASCADE Programme, EUROCONTROL LINK2000+ Programme, ICAO Operational Data Link Panel (OPLINKP), and CNS/ATM implementation in general.

1 Sep 2004–30 Apr 2009

**Head of the ATM Projects Department /ATM Operations Directorate /Air Navigation Directorate**

AENA (Aeropuertos Españoles y Navegación Aérea), Madrid (Spain)

Overall:

- Define and propose specific projects/studies in accordance with approved Development Plans
- Direct, execute and supervise the development, validation and implementation of the ATM projects/studies
- Attend and participate in international ATM activities.

Specific:

- Continue directing, coordinating and supporting the Operational Evaluation/Implementation of SACCAN (ADS&CPDLC System for the Canary Islands). Collect, process and analyze operational evaluation data, and draft operational evaluations trials final report. Attend the FANS1/A (ADS&CPDLC) OPERATIONAL IMPLEMENTATION WORKSHOP at las Palmas, Canary Islands, 26-27 April 2005, and make several presentations on SACCAN.
- Continue supporting the ICAO Operational Data Link Panel (OPLINKP) and attending its meetings. Mainly develop SARPs, Guidance Material and monitor data link implementation.
- Support and participate in the EUROCONTROL LINK2000+ Programme (CPDLC), attending meetings of the LINK2000+ Operational Focus Group (OFG). Develop Operational Manuals, Operational Requirements, Guidance Material, etc.
- Support and participate in the EUROCONTROL CASCADE Programme (ADS-B), attending the meetings of CASCADE Programme Steering Group (PSG) and CASCADE Operational Focus Group (OFG). Develop Operational Manuals, Operational Requirements, Guidance Material, etc.
- Carry out preliminary work and hold meetings to coordinate the Aena participation in "Merging and Spacing ADS-B Trials" to be carried out by EUROCONTROL and ACSS at Palma de Mallorca, Spain.
- Direct, coordinate and supervise all tasks required to adapt the ATM Operations Directorate of Aena (Operations Manuals, ATS procedures, etc.) to Single European Sky (SES) legislation and regulations (common requirements, ICAO Annexes, etc.), so as to obtain a "certificate" and be designated in order to provide air navigation services. Oversight audit activities, draft deliverables, chair meetings and make SES presentations included. (Similar activities to those of the USOAP).

This included verifying compliance with Commission Regulation (EC) N°2096/2005 of 20 December 2005 laying down common requirements for the provision of air navigation services.

This included ensuring that the Working Methods and Operating Procedures of the ATS, ASM, ATFM, AIS and MET services, were compliant with the standards in the related annexes to the Convention on International Civil Aviation.

This also included completing a questionnaire provided by the Spanish CAA to asses Aena compliance with the Common Requirements and ICAO Annexes and identify the measures and controls that had to be implemented against each of the corresponding requirements. This enabled the CAA to asses the suitability of Aena for certification by reviewing responses, and where necessary auditing to verify compliance.

One main task that had to be done was to adapt the Operation Manuals of all Spanish Air Traffic Services Units (ACCs, TWRs, AIS, etc.) to the new requirements.

- Attend meetings at the European Commission DG-XII premises in Brussels to coordinate the implementation of COMMISSION REGULATION (EC) N. 29/2009 laying down requirements on data link services for the Single European Sky.

1 Sep 1998–1 Sep 2004

**Project Manager (Responsable de Actividad) at the Operational Requirements Department / Air Traffic Control Division/Air Traffic Directorate**

AENA, Madrid (Spain)

Overall:

- Draft systems operational requirements.
- Work on systems operational evaluation and implementation.

## Specific:

- Direct and coordinate the Operational Evaluation/Implementation of SACCAN (ADS&CPDLC System for the Canary Islands). Carry out interoperability tests with Boeing 747/777 FANS 1 simulator in Seattle and Airbus A-340 FANS A simulator in Toulouse. Collect, file, process and analyze operational evaluation data. Draft Operational Evaluation Manuals, Trials Guidance Material and Aeronautical Information Circulars (AICs). Give courses and training on SACCAN to operational evaluation participants.
- Carry out analysis to evaluate the performance of Madrid ACC "Radar Short Term Conflict Alert (STCA)".
- As the member for Spain, support and attend the meetings of the following ICAO Panels: Automatic Dependent Surveillance Panel (ADSP); and Operational Data Link Panel (OPLINKP). Mainly develop SARPs and Guidance Material for ADS, CPDLC and other data link applications, and monitor global implementation.
- As member, support and attend the meetings of the following EUROCONTROL ADS related groups: ADS Programme Management Board (PMB); ADS Programme Steering Group (PSG); ADS Strategy Drafting Group (SDG); ADS Concept and Requirements Task Force; and ADS Concept and Requirements Drafting Group.
- Support and attend meetings of EUROCAE Group 45 (Data Link Applications) at the EUROCAE premises in Paris.
- Supported/Made presentations at, the following ICAO CNS/ATM Seminars: Bogota, Colombia (10-14 September 2001) and Salt Island, Cape Verde (25-27 March 1998).
- Made presentations on CNS/ATM at "SENASA Training Center" in Madrid to the "12th COURSE OF AIR TRAFFIC CONTROLLERS (30 June 2000)" and to the "7th COURSE OF AIR TRAFFIC CONTROLLERS (15 October 1998).
- Made presentation on SACCAN at EUROCONTROL HQ, Brussels, to the ADS-C User Forum (11 October 2000).

1 Nov 1992–1 Sep 1998    **ATC Coordinator (till 01/01/95), then Project Manager (Responsable de Actividad) at the "Advanced Projects Department" of the "Air Navigation Systems Definition and Planning Area"**

AENA, Madrid (Spain)

## Overall:

- Study, analyze and file all documentation related to Advanced Systems
- Define operational requirements, draft technical and functional specifications, and evaluate bids, all related to Advanced Systems.

## Specific:

- Support and attend, as the Member for Spain, the ICAO FANS(II) Committee (Special Committee for the Monitoring and Co-ordination of Development and Transition Planning for the Future Air Navigation System).
- Proposal, planning, system specification, bids evaluation, direction and supervision of implementation of a programme for upgrading the Spanish civil aviation radar data distribution system by using satellite fixed links to connect remote radar sites to ATC units. Two remote radar sensors, one in Cancho Blanco and other in Espiñeiras were connected to Madrid ACC via the satellite HISPASAT.
- Direction, drafting of specifications, bids evaluation, and supervision of implementation of the "ADS-SSR INTEGRATION STUDY" in which AENA, CESELSA (currently INDRA) and the Polytechnic University of Madrid participated.
- Direction, development and drafting of specifications, bids evaluation, supervision of implementation and evaluation and trials of ECA (ADS-SSR Control Station).
- Participate in "ADS Europe Trials", with ECA, attending several "ADS Europe Project Board" meetings and some others to negotiate and coordinate the participation of AENA in the trials.
- Support and attend meetings of the ECAC "CATIA TASK FORCE ON CNS/ATM IMPLEMENTATION ASPECTS" (Chaired by Yves Lambert).
- From 5 to 16 September 1994 attended the "ICAO Special European Regional Air Navigation Meeting", at Vienna, presenting several working papers.

- Support and attend the meetings of the GLOBAL NAVIGATION SATELLITE PANEL (GNSSP) of ICAO. Mainly develop SARPs and Guidance Material for GNSS (GPS, EGNOS, LAAS/GBAS, etc.) and monitor implementation.
- Support and attend meetings of the following EUROCONTROL Groups: ADS COLLABORATION GROUP (ADS CG); SATCOM/ADS EXPERT SUB-GROUP; MEDITERRANEAN SUB TRIALS GROUP; SATELLITE NAVIGATION APPLICATIONS (SNA) SUB-GROUP; NAVIGATION STRATEGY DRAFTING GROUP (NSDG); and SATELLITE NAVIGATION COST/BENEFIT STUDIES TASK FORCE.
- Direction, drafting of specifications, bids evaluation, contract award, and supervision of implementation of the "CNS/ATM COST/BENEFIT ANALYSIS FOR SPAIN" in which AENA and the consultancy firm ARTHUR ANDERSEN participated.
- Supported/Made presentations at the following ICAO CNS/ATM Seminars: Montevideo, Uruguay (17-19 November 1997); Casablanca, Morocco (28-30 October 1997); Sao Jose Dos Campos, Brazil (28 October to 1 November 1996); Santiago de Chile, Chile (11-15 December 1995); Lima, Peru (13-17 June 1994); and Casablanca, Morocco (26-29 October 1993).

Jan 1987–Nov 1992	<b>Systems Analyst at the "Advanced Projects Department" of the "Air Navigation Systems Definition and Planning Area"</b>
	DGAC(Dirección General de Aviación Civil), Madrid (Spain)
	Overall:
	<ul style="list-style-type: none"><li>- Study, analyze and file all documentation related to Advanced Systems.</li><li>- Define operational requirements, drafting of technical and functional specifications, and bids evaluation, all related to Advanced Systems.</li><li>- Participate in the definition and drafting of the "Satellite Communications, Navigation and Surveillance Implementation Plan" and "SSR Mode S Implementation Plan".</li></ul>
	Specific:
	<ul style="list-style-type: none"><li>- Support and attend the meetings of the EUROCONTROL Radar Applications Specialist Panel (RASP).</li><li>- Participate in the planning, coordination, management and implementation of the European Space Agency (ESA) satellite communications project PRODAT/PROSAT, in which the Spanish DGAC, the British CAA and EUROCONTROL participated. Attend periodical meetings of the "PROSAT/PRODAT ATC EXPERIMENTERS GROUP" and "PRODAT/PROSAT STEERING GROUP". Draft specifications of an ADS/CPDLC System to be used during the PRODAT/PROSAT experiments with aircraft.</li><li>- Support and attend the meetings, first as Adviser to the Spanish Member and then as Member himself, of the ICAO Special Committee on Future Air Navigation Systems (FANS Phase I) and FANS Phase II Committee (Special Committee for the Monitoring and Co-ordination of Development and Transition Planning for the Future Air Navigation System). Mainly develop the ICAO CNS/ATM System Concept and coordinate and monitor its global implementation.</li><li>- Support and attend the meetings of the ICAO Aeronautical Mobile Satellite Service Panel (AMSSP). Mainly develop SARPs and Guidance Material related to satellite data link, and monitor implementation.</li><li>- Support and attend meetings of the EUROCONTROL "SSR Mode S Working Group".</li><li>- Prepare and attend the meeting "EXPERTS OF AIR SAFETY IN ANTARCTICA" held from 2 to 5 May 1989 at the International Conference Centre, Paris, France. A proposal on satellite CNS/ATM implementation was presented.</li><li>- Support and attend meetings of the EFP (España, Francia and Portugal) Group.</li><li>- Support and attend the meetings of the ICAO Aeronautical Mobile Communications Panel (AMCP) [former AMSSP]. Mainly develop SARPs and Guidance Material for data links and monitor global implementation.</li><li>- Attended the ICAO TENTH AIR NAVIGATION CONFERENCE (Montreal, 5-20 September 1991).</li><li>- Attended the ICAO SYSMPOSIUM ON FUTURE GLOBAL COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS) SYSTEMS (ICAO, Montreal, 4-5 September 1991). Made the presentation "THE AERONAUTICAL MOBILE SATELLITE SERVICE (AMSS)". The goal of the Symposium was to present the FANS concept (CNS/ATM system) to the attendees to the TENTH AIR NAVIGATION CONFERENCE.</li></ul>

- Visit Italian facilities for "radar data remoting via satellite" and attend related presentation (1-2 October 1990).
- Attend the tenth meeting operations group on the EUR ILS-MLS Transition (IMTEG) at ICAO, Paris, 21-24 May 1991.
- Give a series of courses, seminars and presentations on CNS/ATM at the Madrid Civil Aviation Training Center, General Directorate of Civil Aviation Headquarters, National Institute of Meteorology Headquarters and several ACCs and airports all over Spain.

**17 Jan 1985–Jan 1987 Systems Analyst at the "Systems Engineering Section" of the "SACTA Service for the Automation of Air Traffic Control"**

DGAC (Dirección General de Aviación Civil), Torrejón de Ardoz, Madrid (Spain)

Overall:

- System design, draft specifications and evaluation reports, all related to the development of SACTA (Air Traffic Control Automated System).
- Advice in the area of air traffic control
- Responsible (Manager) for the Main Frame Management Computer (Data General MV 4000) of the Torrejón Centre.
- Support and attend as "Member" the meetings of the "Radar Applications Specialist Panel (RASP)" of EUROCONTROL.

Specific:

- Responsible for the automation of the Route Charges Department, charged with the collecting, processing and transmitting to EUROCONTROL Brussels the flight information required for the calculation of the route charges. Develop the Operational Requirements and Technical and Functional Specifications, and carry out bids evaluation, for the new Route Charges Data Processing System.
- Software modification of the flight plan printing module of Madrid ACC INTERMAD/TAPLAC System to replace printers.
- During March and April 1986 was part of the Group that designed the Madrid Air Traffic Flow Management Unit (ATFMU). Visited EUROCONTROL CDB (Brussels), CORTA (Paris) and Frankfurt ATFMU, for familiarization with their operational procedures and to compile information to be used in the development of the Functional Specifications for the automation of the above Unit.

Attended the following ATFMU related meetings: FMPG/15, EUROCONTROL, Brussels (12/05/86 - 14/05/86); ICAO ATMG/ATFM, London (21/05/86 - 23/05/86); ICAO ATMG/ATFM, Frankfurt (07/07/86 - 09/07/86); 3º ADHOC ATMG (ATFM), London (21/05/86 - 23/05/86); and 4º ADHOC ATMG (ATFM), Frankfurt (07/07/86 - 09/07/86).

**Nov 1985–Dec 1985 Adviser within the International Civil Aviation Organization's Technical Assistance Programme in Caracas, Venezuela**

International Civil Aviation Organization (ICAO), Caracas (Venezuela)

- Study current situation of the Aeronautical Information Services, Flight Plan Data Processing Systems, Radar Data Processing Systems, and MET Information Services, including the operational aspects, the manpower and training needs of personnel, and the capabilities of existing equipment.
- Determine the needs in the areas of international expertise, training of personnel and equipment for the automation of the above systems.
- Provide all other inputs required for the drafting of a UNDP/ICAO project in the field of automation.
- Briefing and debriefing sessions were undertaken at the ICAO Regional Office in Lima, Peru.
- Draft mission report and a proposal for the gradual automation of the Maiquetia ACC and the Aeronautical Information Services (AIS).

**Jun 1983–17 Jan 1985 Head of Madrid ACC Data Processing Department**

DGAC (Dirección General de Aviación Civil), Paracuellos del Jarama, Madrid (Spain)

- Define structure and functions of the new Data Processing Department.
- Responsible for the data processing systems (flight plan data processing system, radar data

processing system, etc).

- Main Frame Management Computer (S140-DATA GENERAL) Manager
- Study, analyze and file all documentation related to data processing and ATC automation (ICAO ORCAM Plan, systems specifications, operations manuals, etc.)
- Draft "proposal" for the development of an Air Traffic Flow Management Automated System (SICAM).
- Installation, software integration and acceptance tests of INTERMAD.
- Maintaining and upgrading INTERMAD.
- Automating the MET/AIS Office.
- Development and programming (coding) of various applications for administrative and teaching purposes.
- Continue attending ADEG (ATS Data Exchange Group) meetings at the ICAO Regional Paris Office.
- Meet with France, ICAO and EUROCONTROL to solve problems related to the allocation of SSR codes.
- Gave several Data Processing Courses to Madrid ACC personnel.

15 May 1981–Jun 1983

#### **Systems Analyst at the EUROCONTROL Experimental Center**

EUROCONTROL, Bretigny Sur-Orge, Paris (Systems Analyst)

- Definition, programming, integration and testing of INTERMAD, an integrated Flight Plan Data Processing System (FDPS) + Radar Data Processing System (RDPS) for Madrid ACC.
- As member of the ATS Data Exchange Group (ADEG) of EANPG (European Air Navigation Planning Group), attend meetings at the Regional ICAO Paris Office to work on ATS data exchange between automatic data processing systems of adjacent ATC units. Computer to computer messages (ACT, LAM, ABI, etc.) related to the automatic activation and transfer of flight plan were defined.
- From 15th to 16th March 1982, attended a Forum on the "Automation of the Spanish Air Traffic Control" at EUROCONTROL Bretigny.

Jun 1979–14 May 1981

#### **Data Processing Specialist at Madrid ACC**

DGAC (Dirección General de Aviación Civil), Paracuellos del Jarama, Madrid (Spain)

- System analysis, design, programming (coding), testing and installation of TAPLAN and TAPLAC (two Flight Plan Data Processing Systems (FDPSs) for Madrid ACC).

27 Mar 1978–28 May 1979

#### **Student at Data Processing Specialization Course**

DGAC (Dirección General de Aviación Civil), Madrid (Spain)

Attends a 14 months long "Data Processing Specialization Course", specific for air traffic controllers and focused on ATM automation, at the Training Centre of the Spanish DGAC in Madrid. During the course practice a prototype of a Flight Plan Data Processing System was developed.

17 Jan 1973–27 Mar 1978

#### **Air traffic controller**

DGAC (Dirección General de Aviación Civil), Barcelona - Madrid (Spain)

- Air Traffic Control at Barcelona ACC, Madrid-Barajas TWR, and Madrid ACC.

### **EDUCATION AND TRAINING**

---

1965–1967

#### **"FIRST YEAR" OF SCIENCES (passed)**

Faculty of Sciences of Madrid's University, Madrid (Spain)

1967–1970

#### **"SECOND YEAR" OF HIGHER AERONAUTICAL ENGINEERING (not passed)**

Higher Technical School of Aeronautical Engineering, Madrid (Spain)

**1972–1973 AIR TRAFFIC CONTROLLER COURSE**

Training Centre of the Spanish DGAC (Dirección General de Aviación Civil), Madrid (Spain)

**1976–1977 "FIRST YEAR" OF POLITICAL SCIENCE AND SOCIOLOGY**

Faculty of Political Science and Sociology of Madrid's University, Madrid (Spain)

Subjects passed:

- Statistics applied to social sciences (passed)
- Philosophy and methodology of social sciences (passed)
- Economics (passed)

**27 Mar 1978–28 May 1979 DATA PROCESSING SPECIALIZATION COURSE**

Training Centre of the Spanish DGAC (Dirección General de Aviación Civil), Madrid (Spain)

**27 Apr 1981–30 Apr 1981 RDOS FORTRAN**

DATA GENERAL, Madrid (Spain)

Programming in FORTRAN

**16 Oct 1981–20 Oct 1981 Structured Programming Course**

EUROCONTROL Institute of Luxembourg, Bretigny Sur-Orge (France)

**15 Mar 1982–16 Mar 1982 Forum on the Automation of the Spanish ATC System in the near future**

EUROCONTROL Experimental Centre, Bretigny (France)

**30 Jan 1984–1 Feb 1984 Introduction to FORTRAN**

Madrid ACC, Madrid (Spain)

**13 Feb 1984–17 Feb 1984 Advanced Operating System (AOS) USER**

DATA GENERAL, Madrid (Spain)

**2 Apr 1984–6 Apr 1984 INFOS II Data Bases**

DATA GENERAL, Madrid (Spain)

Management and programming of Data Bases

**26 Nov 1984 Radar Supervision Room Operator**

Page Iberica, Madrid (Spain)

**3 Dec 1984–7 Dec 1984 ADA Programming**

DATA GENERAL, Madrid (Spain)

**3 Jun 1985–5 Jun 1985 Advanced Operating System (AOS) OPERATOR**

DATA GENERAL, Madrid (Spain)

24 Jun 1985–26 Jun 1985 **Advanced Operating System (AOS) MANAGER**

DATA GENERAL, Madrid (Spain)

9 Sep 1985–31 Oct 1985 **SYSTEMS MANAGEMENT COURSE**

Higher Civil Service School of the National Institute of Public Administration, Alcala de Henares, Madrid (Spain)

10 Mar 1986–14 Mar 1986 **Course ATC\_PS.4 "Short Term Conflict Detection"**

EUROCONTROL Institute of Luxembourg, Luxembourg (Luxembourg)

Radar tracking and short term conflict detection

21 Jul 1986–25 Jul 1986 **RADAR DATA ANALYSIS PRINCIPLES**

FAA (Federal Aviation Administration), Madrid (Spain)

2 Apr 1987–3 Apr 1987 **NAVSTAR GLOBAL POSITIONING SYSTEM (GPS)**

STATE OF THE ART LIMITED, Rome (Italy)

A course on GPS

22 Jun 1987–26 Jun 1987 **RADAR DATA PROCESSING COURSE**

DGAC Training Centre, Madrid (Spain)

23 Feb 1988–25 Feb 1988 **ATC 2000 Seminar**

EUROCONTROL Institute of Luxembourg, Luxembourg (Luxembourg)

A seminar on the subject of research and development leading to Advanced ATS Concepts and Systems.

Jul 1989 **International Conference on Mobile Satellite Communications**

INMARSAT, London (United Kingdom)

4 Sep 1991–5 Sep 1991 **ICAO SYMPOSIUM ON FUTURE GLOBAL COMMUNICATIONS;**

**NAVIGATION AND SURVEILLANCE (CNS) SYSTEMS**

ICAO, Montreal (Canada)

The goal of the Symposium was to present the FANS Concept (CNS/ATM system) to the attendees to the ICAO TENTH AIR NAVIGATION CONFERENCE.

D. Diez, as Member of the FANS Committee, made the presentation: "The Aeronautical Mobile Satellite Service (AMSS)"

24 Sep 1991–26 Sep 1991 **The First Annual International Satellite Surveillance and Communications Symposium**

FAA (Federal Aviation Administration) Technical Center, Atlantic City, New Jersey (United States)

20 May 1993–21 May 1993 **Industry's Perception of the Future Air Navigation System Symposium**

The International Coordinating Council of Aerospace Industry Associations, GEC Marconi Avionics, Rochester (United Kingdom)

- 26 Oct 1993–29 Oct 1993     **ICAO CASABLANCA CNS/ATM SEMINAR**  
ICAO, Casablanca (Morocco)  
D. Diez made the presentations:"The Aeronautical Mobile Satellite Service (AMSS) and "ADS/SSR Integration".
- 13 Jun 1994–17 Jun 1994     **ICAO LIMA CNS/ATM SEMINAR - THE FUTURE AIR NAVIGATION SYSTEM**  
ICAO, LIMA (Peru)  
D. Diez made the following presentations: "The Aeronautical Mobile Satellite Service (AMSS)", "Radar Remoting Via Fixed Satellite Link", and "ADS/SSR Integration"
- 11 Dec 1995–15 Dec 1995     **ICAO SANTIAGO DE CHILE CNS/ATM SEMINAR - INSTITUTIONAL AND COST BENEFIT ANALYSIS**  
ICAO, Santiago de Chile (Chile)  
D. Diez made the following presentations: 1) Radar data via satellite fixed links; a cost effective solution. 2) Overview of ADS and ADS-SSR data integration; a cost effective solution. 3) Cost benefit analysis (CBA) in Spain.
- 27 May 1996–31 May 1996     **Operation and Maintenance of a Multi Aircraft ADS Demonstration System**  
SAINCO, Madrid ACC, Torrejon de Ardoz, Madrid (Spain)
- 15 Jul 1996–17 Jul 1996     **Conference on Automatic Dependent Surveillance and Data Link**  
Singapore Aviation Academy, Singapore (Singapore)
- 28 Oct 1996–1 Nov 1996     **ICAO BRAZIL CNS/ATM IMPLEMENTATION OPTIONS SEMINAR**  
ICAO, Sao Jose dos Campos (Brazil)  
D. Diez made the following presentations:"ADS/SSR Integration" and "Results of the Cost/Benefit Analysis for Spain".
- 25 Nov 1996–29 Nov 1996     **GNSS EDUCATION WORKSHOP**  
EUROCONTROL Institute of Air Navigation Services, Luxembourg (Luxembourg)
- 28 Oct 1997–30 Oct 1997     **ICAO CASABLANCA SEMINAR ON THE ECONOMICS OF CNS/ATM**  
ICAO, Casablanca (Morocco)  
D. Diez made the following presentation: "CNS/ATM COST/BENEFIT ANALYSIS FOR SPAIN"
- 17 Nov 1997–19 Nov 1997     **ICAO MONTEVIDEO SEMINAR ON THE FUTURE SATELLITE AIR NAVIGATION SYSTEM (CNS/ATM) AND ITS IMPLEMENTATION**  
Secretaria Pro Tempore III Conferencia Espacial de las Américas, Montevideo (Uruguay)  
D. Diez made the following presentation: "CNS/ATM COST/BENEFIT ANALYSIS IN SPAIN"

25 Mar 1998–27 Mar 1998	<b>ICAO CAPE VERDE CNS/ATM IMPLEMENTATION SEMINAR</b> ICAO, SALT Island (Cape Verde) D. Diez made the following presentation: "CNS/ATM COST/BENEFIT ANALYSIS"	
8 Nov 1999–10 Nov 1999	<b>Automatic Dependent Surveillance Workshop</b> EUROCONTROL, ESTEPONA, MALAGA (Spain) .....	
10 Sep 2001–14 Sep 2001	<b>ICAO BOGOTA CNS/ATM IMPLEMENTATION SEMINAR</b> ICAO, BOGOTA (Colombia) D. Diez made the following presentations: "ADS/SSR INTEGRATION" and "SACCAN (ADS/CPDLC SYSTEM FOR THE CANARY ISLANDS)"	
12 Mar 2002–15 Mar 2002	<b>ADS-B in Europe Symposium</b> EUROCONTROL, ROME (Italy)	
26 Apr 2005–27 Apr 2005	<b>FANS 1/A (ADS&amp;CPDLC) OPERATIONAL IMPLEMENTATION WORKSHOP</b> AENA + other Countries and Organizations D. Diez made the following presentations: "SACCAN (Canary Islands ADS/CPDLC System)" and "ADS&CPDLC Operational Evaluation and Implementation Plan"	
28 Jun 2007–28 Jun 2007	<b>Advanced English Level Certificate</b> Spanish Official School of Languages, Madrid (Spain)	Common European Framework of Reference Level B2
26 Feb 2008–28 Feb 2008	<b>RISK ANALYSIS AND MITIGATION</b> Aena, Madrid (Spain)	
3 Oct 2011–4 Oct 2011	<b>Safety Management</b> Aena, Madrid (Spain) Safety management within the Air Navigation Directorate of Aena	
6 Oct 2011–6 Oct 2011	<b>Security Management</b> Aena, Madrid (Spain)	
30 May 2012–30 May 2012	<b>ICAO ENGLISH PROFICIENCY LEVEL 5 CERTIFICATE</b> Air-English, Madrid (Spain)	
25 Jul 2012–25 Jul 2012	<b>First Certificate in English</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level B2

7 Oct 2013–31 Jan 2014	<b>Business English (A)</b> Spanish Official School of Languages, Madrid (Spain)	Council of Europe Level B2
7 Oct 2013–31 Jan 2014	<b>English through Culture (A) (American Culture)</b> Spanish Official School of Languages, Madrid (Spain)	Council of Europe Level B2
3 Feb 2014–30 May 2014	<b>Business English (B)</b> Spanish Official School of Languages, Madrid (Spain)	Council of Europe Level C1
3 Feb 2014–30 May 2014	<b>English through Culture (B) (British Culture)</b> Spanish Official School of Languages, Madrid (Spain)	Council of Europe Level C1
7 Oct 2014–11 Dec 2014	<b>Cambridge CAE (Certificate in Advanced English) Preparation Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C1
12 Jan 2015–23 Mar 2015	<b>Cambridge PPA (PRE PROFICIENCY A) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
6 Apr 2015–22 Jun 2015	<b>Cambridge PPB (PRE PROFICIENCY B) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
6 Oct 2015–17 Dec 2015	<b>Cambridge PFA (PROFICIENCY A) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
12 Jan 2016–17 Mar 2016	<b>Cambridge PFB (PROFICIENCY B) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
5 Apr 2016–16 Jun 2016	<b>Cambridge PFC (PROFICIENCY C) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
4 Oct 2016–4 Dec 2016	<b>Cambridge CAE (Certificate in Advanced English) Preparation Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C1

12 Jan 2017–28 Feb 2017	<b>Cambridge CAE (Certificate in Advanced English) Preparation Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C1
4 Apr 2017–20 Jun 2017	<b>Cambridge Level 10 (PROFICIENCY) Course</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2
24 Jun 2017–24 Jun 2017	<b>Cambridge Certificate in Advanced English (CAE)</b> British Council / Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C1
18 Apr 2017–10 Oct 2017	<b>Universal Safety Oversight Audit Programme (USOAP) CBT Course</b> ICAO, Montreal (Canada)	
10 Oct 2017–10 Oct 2017	<b>Universal Safety Oversight Audit Programme CMA Activities Training in Air Navigation Services (ANS) Certificate</b> ICAO, Montreal (Canada)	
10 Sep 2017–10 Sep 2017	<b>Level C1 English Certificate</b> Official School of Languages (EOI), Madrid (Spain)	Common European Framework of Reference Level C1
6 Oct 2017–24 Nov 2017	<b>Cambridge CPE (Certificate of Proficiency in English) Preparation Course</b> British Council/Cambridge University, Madrid (Spain)	Common European Framework of Reference Level C2

**PERSONAL SKILLS**


---

Mother tongue(s)  
Spanish

Other language(s)

English	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
	C2	C2	C2	C2	
	Cambridge First Certificate in English Grade C. (Council of Europe Level B2) Advanced English Level Certificate of the Spanish Official School of Languages ICAO English Proficiency Level 5 Certificate Business English A (Council of Europe Level B2) English through Culture A (American Culture) (Council of Europe Level B2) Business English B (Council of Europe Level C1) English through Culture B (British Culture) (Council of Europe Level C1) Cambridge CAE (Certificate in Advanced English) Preparation Course (Council of Europe Level C1) Cambridge PPA (PRE PROFICIENCY A) Course (Council of Europe Level C2) Cambridge PPB (PRE PROFICIENCY B) Course (Council of Europe Level C2) Cambridge PFA (PROFICIENCY A) Course (Council of Europe Level C2) Cambridge PFB (PROFICIENCY B) Course (Council of Europe Level C2) Cambridge PFC (PROFICIENCY C) Course (Council of Europe Level C2) Cambridge CAE (Certificate in Advanced English) Preparation Course (Council of Europe Level C1) Cambridge CAE (Certificate in Advanced English) Preparation Course (Council of Europe Level C1)				

Cambridge Level 10 (PROFICIENCY) Course (Council of Europe Level C2) Cambridge Certificate in Advanced English (CAE) (Level C1 in the Council of Europe's Common European Framework of Reference) Madrid Official School of Languages (EOI) Level C1 English Certificate
--

French	A2	A2	A2	A2
--------	----	----	----	----

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
Common European Framework of Reference for Languages

#### Communication skills

Extensive teaching experience and good communication skills gained through participation in many (9) international ICAO CNS/ATM seminars, multiple courses and presentations, and through working papers presented at meetings of the ICAO FANS Committee, several ICAO Panels ( AMSSP, AMCP, ADSP, OPLINKP and GNSSP), and many EUROCONTROL Groups, etc.

Team spirit and good ability to adapt to multicultural environments, gained through work experience at the EUROCONTROL Experimental Center of Bretigny, as Head of Madrid ACC Data Processing Department, at the ICAO Technical Assistance Programme in Caracas, at the PROSAT/PRODAT Project of the European Space Agency (ESA), as Head of the ATM Projects Department, and as responsible for the SACCAN operational evaluation trials,etc.

#### Organisational / managerial skills

Good organisational and managerial skills gained through: a comprehensive Systems Management Course ( 09 September to 31 October 1985); Design, organization, management and direction of Madrid ACC Data Processing Department; Direction of a CNS/ATM Cost/Benefit Analysis in which personnel from Aena and from the firm Arthur Andersen participated; Direction of an ADS/SSR Integration Study in which personnel from Aena, CESELSA (currently INDRA) and the Polytechnic University of Madrid participated; Organization and Direction of the SACCAN Operational Evaluation Trials, where many technicians, more than 120 air traffic controllers and 80 aircraft participated.

#### Job-related skills

- Extended experience in ATM Automation gained through:
  - a) a 14 months comprehensive specialization course on data processing focused on ATM automation;
  - b) several FAA, EUROCONTROL, etc. courses on radar, conflict alert, ADS,etc.;
  - c) two years work experience at EUROCONTROL Bretigny as systems analyst developing a flight plan and radar data processing system (INTERMAD);
  - d) work experience as Head of the Madrid ACC Data Processing Department responsible for all the ATM automated systems;
  - e) work experience developing the SACTA System (Air Traffic Control Automated System); and
  - f) work experience developing and evaluating ECA (ADS-SSR Control Station) and SACCAN (Canary Islands ADS/CPDLC System); etc
  
- Good knowledge of the ICAO CNS/ATM Systems (FANS Concept) gained through courses and seminars and from work experience:
  - a) defining systems and supervising global implementation at the ICAO FANS Committee (1987-1993);
  - b) developing SARPs and Guidance Material at ICAO Panels such as the Aeronautical Mobile Satellite Service Panel (AMSSP) [1988-1991], the Aeronautical Mobile Communications Panel (AMCP) [1991-1992], the Global Navigation Satellite System Panel (GNSSP) [1994-1998], the Automatic Dependent Surveillance Panel (ADSP) [1998-1999], and the Operational Data Link Panel (OPLINKP) [2000-2005]; and
  - c) supporting the implementation of CNS/ATM systems and concepts at many EUROCONTROL Working Groups and Panels such as: the Radar Applications Specialist Panel (RASP), SSR Mode S Working Group, ADS Collaboration Group, SATCOM/ADS Expert Sub-Group, Satellite Navigation Applications Sub-Group, Navigation Strategy Drafting Group, Satellite Navigation Cost/Benefit Studies Task Force, ADS Programme Management Board, ADS Programme Steering Group, ADS Strategy Drafting Group, ADS Concept and Requirements Task Force, ADS Concept and Requirements Drafting Group, CASCADE Programme Steering Group, CASCADE Operational Focus Group, LINK2000+ Operational Focus Group, and many other ESA, ICAO, ECAC, EUROCAE, EC, etc. meetings.
  
- Experience in "bids evaluation" gained at following projects: "CNS/ATM Cost/Benefit Analysis for Spain"; "ADS/SSR Integration Study"; "ECA (ADS-CPDLC Control Station)"; "Route Charges Data

Processing System"; "Radar Data Remoting Via Satellite", "PRODAT/PROSAT ADS/CPDLC Evaluation System"; and " ICAO Mission for the procurement of a TWR simulator for CORPAC"; etc.

- Experience in "safety oversight audit activities" gained during the direction of the adaptation of the ATM Operations Directorate of Aena to Single European Sky (SES) legislation, and during a recently taken ICAO Universal Safety Oversight Programme (USOAP) CMA Course.

**Digital competence**

Good computer skills gained through: a 14 months comprehensive specialization course on data processing covering both hardware and software; several courses on programming languages (assembler, BASIC, FORTRAM, ADA), computer operating systems (user, operator, manager), structured programming, data bases, etc.; and extensive work experience as programmer (assembler, BASIC , FORTRAM, ADA and PASCAL), systems analyst, main frame computer manager and head of data processing department.

Experience with Microsoft WORD, POWER POINT, EXCEL, ACCESS and PROJECT.

**ANNEXES**

- D\_DIEZ\_TEACHING ACTIVITIES.pdf
- J:CV\_EUROD\_DIEZ\_ARTICLES & PUBLICATIONS.pdf
- J:CV\_EUROD\_DIEZ\_MAIN WORKING PAPERS.pdf

## D\_DIEZ\_TEACHING ACTIVITIES.pdf

---

### TEACHING ACTIVITIES

---

#### PRESENTATIONS MADE BY D. DIEZ AT ICAO CNS/ATM SYMPOSIA AND SEMINARS

##### **ICAO SYMPOSIUM ON FUTURE GLOBAL COMMUNICATIONS, NAVIGATION AND SURVEILLANCE (CNS) SYSTEMS**

ICAO. MONTREAL, 4-5 SEPTEMBER 1991

The goal of the Symposium was to present the FANS concept (CNS/ATM system) to the attendees to the **TENTH AIR NAVIGATION CONFERENCE**

Presentation:

- **THE AERONAUTICAL MOBILE SATELLITE SERVICE (AMSS)**

##### **ICAO CASABLANCA CNS/ATM SEMINAR**

INSTITUTE DE FORMATION EN GESTION ET EXPLOITATION  
AERONAUTIQUE (IFGA)

MOHAMMED V – NOUASSER INTERNATIONAL AIRPORT

CASABLANCA, MOROCCO, 26-29 OCTOBER 1993

Presentations:

- **THE AERONAUTICAL MOBILE SATELLITE SERVICE (AMSS)  
ARCHITECTURE**
- **ADS/SSR DATA INTEGRATION**

## **ICAO LIMA CNS/ATM SEMINAR – THE FUTURE AIR NAVIGATION SYSTEM**

ICAO SOUTH AMERICAN REGIONAL OFFICE – CORPAC S.A.

LIMA, PERÚ, 13-17 JUNE 1994

Presentations:

- **THE AERONAUTICAL MOBILE SATELLITE SERVICE (AMSS)**
- **RADAR REMOTING VIA FIXED SATELLITE LINK**
- **ADS/SSR INTEGRATION**

## **ICAO SANTIAGO DE CHILE CNS/ATM SEMINAR – INSTITUTIONAL AND COST BENEFIT ANALYSIS**

SANTIAGO, CHILE, 11-15 DECEMBER 1995

Presentations:

- **RADAR DATA VIA SATELLITE FIXED LINKS; A COST EFFECTIVE SOLUTION**
- **OVERVIEW OF ADS AND ADS-SSR DATA INTEGRATION; A COST EFFECTIVE SOLUTION**
- **COST BENEFIT ANALYSIS (CBA) IN SPAIN**

## **ICAO BRAZIL CNS/ATM IMPLEMENTATION OPTIONS SEMINAR**

SAO JOSE DOS CAMPOS, BRAZIL, 28 OCTOBER TO 1 NOVEMBER 1996

Presentations:

- **ADS/SSR INTEGRATION**
- **RESULTS OF THE COST/BENEFIT ANALYSIS FOR SPAIN**

**ICAO CASABLANCA SEMINAR ON THE ECONOMICS OF CNS/ATM**

CASABLANCA MOROCCO, 28 – 30 OCTOBER 1997

Presentations:

- **CNS/ATM COST/BENEFIT ANALYSIS FOR SPAIN**

**ICAO MONTEVIDEO SEMINAR ON THE FUTURE SATELLITE AIR NAVIGATION SYSTEM (CNS/ATM) AND ITS IMPLEMENTATION**

Secretaría Pro Tempore III Conferencia Espacial de las Américas

INSTITUTO ARTIGAS DEL SERVICIO EXTERIOR

MINISTERIO DE RELACIONES EXTERIORES

REPUBLICA ORIENTAL DEL URUGUAY

MONTEVIDEO, URUGUAY, 17-19 NOVEMBER 1997

Presentations:

- **CNS/ATM COST/BENEFIT ANALYSIS IN SPAIN**

**ICAO CABO VERDE CNS/ATM IMPLEMENTATION SEMINAR**

ISLA DE LA SAL, CABO VERDE, 25-27 MARCH 1998

Presentations:

- **CNS/ATM COST/BENEFIT ANALYSIS**

## **ICAO BOGOTA CNS/ATM IMPLEMENTATION SEMINAR**

BOGOTA, COLOMBIA, 10-14 SEPTEMBER 2001

CENTRO DE ESTUDIOS AERONAUTICOS, CEA

Presentations:

- “**ADS/SSR INTEGRATION**”
- “**SACCAN (ADS/CPDLC SYSTEM FOR THE CANARY ISLANDS)**”

The seminar was attended by more than 200 participants mainly from the CAR/SAM Region

### **————— FURTHER TEACHING ACTIVITIES —————**

Apart from the ICAO CNS/ATM Seminars featured above, D. Diez gave the following CNS/ATM Courses, Seminars and Presentations:

#### **MAY 1987**

From 4<sup>th</sup> to 8<sup>th</sup> May 1987, within a **COURSE ON INTRODUCTION TO AUTOMATION IN ATC**, given at the General Directorate of Civil Aviation Training Center in Madrid, D. Diez made the following presentations:

1. **Introduction to Data Processing;**
  2. **Flight Plan Data Processing Systems (FDPSs); and**
  3. **Advanced Aeronautical Systems:**
- **Global Positioning System (GPS); and**
  - **PRODAT/PROSAT data link communications system via satellite.**

## NOVEMBER 1989

From 15<sup>th</sup> to 16<sup>th</sup> November 1989, within a COURSE to **AERONAUTICAL ENGINEERS** (**Curso para Funcionarios en prácticas de los Cuerpos de Ingenieros Superiores e Ingenieros Técnicos**) given at the General Directorate of Civil Aviation Training Center in Madrid, D. Diez made the following presentations:

1. **Satellite Communications, Navigation and Surveillance; and**
2. **Mode S Secondary Surveillance Radar (SSR).**

## MARCH 1990

On 28<sup>th</sup> March 1990 at the National Institute of Meteorology Headquarters in Madrid, together with Mr. Eleuterio Esteban del Pozo, D. Diez made the following presentation:

### **Satellite communications, navigation and surveillance**

## JUNE 1990

On 20<sup>th</sup> June 1990 at the General Directorate of Civil Aviation Headquarters in Madrid, D. Diez made the following presentation:

### **Satellite communications between fixed stations**

The main purpose of the presentation was to explain the use of satellite fixed links to:

- a) Upgrade the radar data distribution system to connect remote radar sites to ATC units; and
- b) Provide cost efficient voice links between remote VHF stations and ATC units.

## NOVEMBER 1991

On 25<sup>th</sup> November 1991, at the General Directorate of Civil Aviation Headquarters in Madrid, and attended by the Director General, D. Diez made the following presentation:

### **Automatic Dependent Surveillance (ADS)**

## FEBRUARY – JULY 1992

On 19<sup>th</sup> February 1992 at the General Directorate of Civil Aviation Headquarters in Madrid, D. Diez made the following presentation:

### **The Global Navigation Satellite System (GNSS)**

On 28<sup>th</sup> April 1992 at the General Directorate of Civil Aviation Headquarters in Madrid, D. Diez made the following presentation:

### **The Aeronautical Mobile Satellite Service (AMSS)**

From April to July 1992, within the “Seminars on Advanced Aeronautical Systems”, and on the following dates and places:

23-24 April 1992, Canarias ACC

4-5 May 1992, Santiago de Compostela Airport

21-22 May 1992, Malaga Airport

3-4 June 1992, Barcelona ACC

11-12 June 1992, Palma de Mallorca ACC

2-3 July 1992, Bilbao Airport

D. Diez made the following presentations:

1. **Automatic Dependent Surveillance (ADS);**
2. **The Aeronautical Mobile Satellite Service (AMSS); and**
3. **Transmission of Radar Data via Satellite**

On June – July 1992, at the General Directorate of Civil Aviation Training Center in Madrid and within the FIFTH COURSE OF AERONAUTICAL ENGINEERS ( V Curso Selectivo de Acceso a los Cuerpos de Ingenieros e Ingenieros Técnicos Aeronáuticos), D. Diez gave the following seminar:

**Seminar on Advanced Aeronautical Systems**

**OCTOBER 1998**

On 15 October 1998, at SENASA Training Center in Madrid, and to the 7<sup>th</sup> COURSE OF AIR TRAFFIC CONTROLLERS, D. Diez gave the following presentations:

1. **ADS-SSR Integration;**
2. **ADS-SSR Control Station (ECA); and**
3. **CNS/ATM Cost/Benefit Analysis for Spain.**

**JUNE 2000**

On 30 June 2000, at SENASA Training Center in Madrid, and to the 12<sup>th</sup> COURSE OF AIR TRAFFIC CONTROLLERS, D. Diez gave a conference on THE ROLE OF SATELLITES IN ATC, including the following presentations:

1. **ADS-SSR Integration;**
2. **ADS-SSR Control Station (ECA);**
3. **SACCAN: ADS/CPDLC System for the Canary Islands; and**
4. **CNS/ATM Cost/Benefit Analysis for Spain.**

**OCTOBER 2000**

On 11 October 2000, at EUROCONTROL HQ, Brussel, to the ADS-C User Forum, D. Diez made the following presentation:

**SACCAN: ADS/CPDLC System for the Canary Islands**

## APRIL 2005

On 26 April 2005, at the **FANS1/A (ADS&CPDLC) OPERATIONAL IMPLEMENTATION WORKSHOP** at Las Palmas, Canary Islands, Spain, D. Diez made the following presentations:

**SACCAN (Canary Islands ADS/CPDLC System); and**

**ADS&CPDLC Operational Evaluation and Implementation Plan**

## J:CV\_EUROD\_DIEZ\_ARTICLES & PUBLICATIONS.pdf

### CNS/ATM ARTICLES AND PUBLICATIONS

PRODAT/PROSAT data links successful in controlling jet flight. - ICAO Bulletin, FEBRUARY 1989.

Improve surveillance is possible by combining data from different systems. - ICAO Journal, March 1993.

Satellite fixed link offers higher operational availability than conventional ground links. - ICAO Journal, March 1994.

Spanish study of cost and benefits shows profitable results at country-wide level. – ICAO Journal, April 1997.

Sistemas de Navegación del Futuro. – Revista de Aeronáutica y Astronáutica nº 615, August/September 1992. Vara del Rey Award.

Comienza en España la transmisión de datos radar por satélite. – ATC Magazine nº1, July/September 1994.

El Comité FANS y los futuros sistemas de navegación aérea. – ATC Magazine nº3, January/March 1995.

El Sistema Mundial de Navegación por Satélite (GNSS). – ATC Magazine nº4, April/June 1995.

El Servicio Móvil Aeronáutico por Satélite (SMAS). – ATC Magazine nº5, July/September 1995 and ATC Magazine nº6, October/December 1995.

La Vigilancia Dependiente Automática (ADS). – ATC Magazine nº7, January/March 1996; ATC Magazine nº8, April/June 1996 and ATC Magazine nº9, July/September 1996.

Surveillance Radar Navigation (SRN)/ Navegación mediante Radar de Vigilancia. – ATC Magazine nº10, October/December 1996.

CNS/ATM Systems Cost/Benefit Analysis / Análisis Coste/Beneficio de los Sistemas CNS/ATM. – ATC Magazine nº11, January/March 1997.

CNS/ATM Cost/Benefit Analysis for Spain / Análisis Coste/Beneficio de los Sistemas CNS/ATM en España. – ATC Magazine nº12, April/June 1997.

Controller-Pilot Data Link Communications (CPDLC) / Comunicaciones Controlador-Piloto por Enlace de Datos. – ATC Magazine nº13, July/September 1997.

ADS-SSR Control Station (ECA) / Estación de Control ADS-SSR. – ATC Magazine nº14, October/December 1997.

ADS Europe / ADS Europa. – ATC Magazine nº16, April/June 1998 and ATC Magazine nº17, July/September 1998.

EGNOS – WAAS – MSAS. – ATC Magazine nº19, Winter 98-99.

SACCAN: ADS/CPDLC System for the Canary Islands / SACCAN: Sistema ADS/CPDLC para las Islas Canarias. – ATC Magazine nº23, Winter 99; ATC Magazine nº24, Spring 2000; and ATC Magazine nº25, Summer 2000.

Spanish CAA launches latest stage of ADS-SSR programme. – ASN (INMARSAT Magazine) nº 52, August/September 1996.

Note: Articles can be downloaded from: [www.fanscnsatm.com](http://www.fanscnsatm.com)

## J:CV\_EUROD\_DIEZ\_MAIN WORKING PAPERS.pdf

### Main Working Papers presented

Proposal for the establishment of coded routes in the European Region. – EUROCONTROL Radar Applications Specialist Panel (RASP), RASP/71, Vienna.

First flight controlled via satellite digital communications. – Aeronautical Mobile Satellite Service Panel (AMSSP), First Meeting, Montreal, 7 to 25 November 1988.

First results on the PRODAT ATC Experiments carried out by the Spanish Civil Aviation Administration. - FANS Phase I Committee, Fourth Meeting, Montreal, 2 to 20 May 1988.

Possible use of SSR Mode S radar for navigation purposes. – FANS Phase I Committee, Fourth Meeting, Montreal, 2 to 20 May 1988.

ATS Messages Coding. – Aeronautical Mobile Satellite Service Panel (AMSSP). – Second Meeting, Montreal, 28 March to 7 April 1989.

First flight controlled via satellite based data link. – FANS Committee, Paris, 10 to 21 April 1989.

Establishment and provision of a multinational ICAO Antarctic Satellite based CNS Facility/Service. – Meeting of experts on air-safety in Antarctica, International Conference Centre, Paris, 2 to 5 May 1989.

AMSSP System Implementation Programme. – PRODAT Steering Group, Brussels, 12 January 1990.

The role of satellite data link communications in high density traffic areas. – Aeronautical Mobile Satellite Service Panel (AMSSP), Third Meeting, Montreal, 5 to 23 February 1990.

Satellite voice communications system design for ATC. - Aeronautical Mobile Satellite Service Panel (AMSSP), Third Meeting, Montreal, 5 to 23 February 1990.

Proposal for cooperation in Aeronautical Mobile Satellite Service (AMSS) evaluation and SARPs validation. – European Space Agency (ESA) PRODAT Steering Group, 10<sup>th</sup> Meeting, Bretigny, 6 April 1990.

The role of satellite data link communications in high density traffic areas including high density terminal areas. – FANS Phase II Committee, First Meeting, Montreal, 22 May to 8 June 1990.

Sharing Radar Data by Satellite. – EFP (España, Francia, Portugal) Group, Madrid, 26 June 1990.

The use of GPS for accurate site position determination. – EUROCONTROL Radar Applications Specialists Panel (RASP), 77<sup>th</sup> Meeting, London, 21 to 23 November 1990.

Radar data transmission and sharing via satellite. – Radar Applications Specialist Panel, 77<sup>th</sup> Meeting, London, 21 to 23 November 1990.

Aircraft Earth Station (AES) Requirements for simultaneous ATS/Non ATS Communications. – Aeronautical Mobile Satellite Service Panel (AMSSP), San Diego, California, 11 to 22 February 1991.

Integration of ADS and SSR Data. – FANS Phase II Committee, Second Meeting, Montreal, 29 April to 17 May 1991.

ATC data messages exchange requirements. – Aeronautical Mobile Satellite Service Panel (AMSSP), WG-A/3, London, 8 to 19 July 1991.

The need for expert systems. – ICAO Tenth Air Navigation Conference, Montreal, 4 to 20 September 1991.

The need of satellite data link in high density transit areas. - ICAO Tenth Air Navigation Conference, Montreal, 4 to 20 September 1991.

Aeronautical Mobile Satellite Service (AMSS) Overview. – FANS Phase II Committee, Second Meeting, Montreal, 29 April to 17 May 1991. Also presented at the ICAO Symposium on Future Global Communications, Navigation and Surveillance (CNS) Systems, ICAO, Montreal, 4 to 5 September 1991.

Radar data transmission and sharing via satellite fixed-lines. – FANS Phase II Committee, Third Meeting, Montreal, 30 March to 15 April 1992.

ADS/SSR Data Integration Study. – FANS Phase II Committee, Fourth Meeting, Montreal, 15 September to 1 October 1993.

Aircraft navigation using radar surveillance data. - FANS Phase II Committee, Fourth Meeting, Montreal, 15 September to 1 October 1993.

Radar Data via Satellite. - FANS Phase II Committee, Fourth Meeting, Montreal, 15 September to 1 October 1993.

Spanish Programme for GNSS Research and Testing. - FANS Phase II Committee, Fourth Meeting, Montreal, 15 September to 1 October 1993.

Spanish MLS Programme. - FANS Phase II Committee, Fourth Meeting, Montreal, 15 September to 1 October 1993.

ADS-SSR Data Integration Study.- EUROCONTROL SATCOM-ADS Sub-Group, Gothenburg, Sweden, 23 to 24 November 1993.

ADS-SSR Data Integration Study. – TASK FORCE ON CNS/ATM IMPLEMENTATION ASPECTS (CATIA), Second Meeting, Paris, 8 February 1994.

ADS-SSR Data Integration Study. – Aeronautical Mobile Communications Panel (AMCP), Third Meeting, Montreal 7 to 22 April 1994.

ADS-SSR Data Integration Study. – Automatic Dependent Surveillance Panel (ADSP), Third Meeting, Montreal, 9 to 20 May 1994.

ADS-SSR Data Integration. – Special European Regional Air Navigation Meeting, Vienna (Austria), 5 to 16 September 1994.

Homogeneous Areas for GNSS Implementation. – EUROCONTROL Satellite Navigation Applications (SNA) Sub-Group, Third Meeting, Paris, 19 to 20 April 1995.

Homogeneous Areas for GNSS planning and implementation. -Global Navigation Satellite System Panel (GNSSP), WGA&WGB combined Meeting, Sigtuna, Sweden, 8 to 21 June 1995.

ADS/SSR INTEGRATION STUDY (Executive Summary).- Global Navigation Satellite System Panel (GNSSP), Second Meeting, Montreal, 14 to 24 November 1995.

CNS/ATM Cost/Benefit Analysis for Spain. - Global Navigation Satellite System Panel (GNSSP), Second Meeting, Montreal, 14 to 24 November 1995.

CNS/ATM Cost/Benefit Analysis for Spain. – EUROCONTROL Satellite Navigation Applications Cost/Benefit Studies Task Force, Fourth Meeting, Brussels, 30 to 31 February 1996.

Expected benefits of Mid-Term Global Navigation Satellite System (GNSS). – Global Navigation Satellite System Panel (GNSSP), Atlantic City, New Jersey, USA, 16 to 27 September 1996.

CNS/ATM COST/BENEFIT ANALYSIS FOR SPAIN (EXECUTIVE SUMMARY).- EUROCONTROL Satellite Navigation Applications Sub-Group, Brussels, 7 to 8 October 1996.

CNS/ATM COST/BENEFIT ANALYSIS FOR SPAIN. – EGNOS SERVICE PROVIDERS BUSSINES CASE, London, 3 to 4 December 1996.

CNS/ATM Cost/Benefit Analysis for Spain. – EUROCONTROL Navigation Strategy Drafting Group (NSDG), Fourth Meeting, Brussels, 19 to 20 May 1998.

Surveillance Radar Navigation (SRN). - EUROCONTROL Navigation Strategy Drafting Group (NSDG), Fourth Meeting, Brussels, 19 to 20 May 1998.

ADS-SSR Control Station (ECA). – Automatic Dependent Surveillance Panel, WGA & WGB combined Meeting, Madrid, 19 to 30 October 1998.

AENA participation in ADS Europe. - Automatic Dependent Surveillance Panel, WGA & WGB combined Meeting, Madrid, 19 to 30 October 1998.

ADS/CPDLC System for the Canary Islands. - Automatic Dependent Surveillance Panel, WGA & WGB combined Meeting, Madrid, 19 to 30 October 1998.

The need for a new ADS message block: the selected flight level. - Automatic Dependent Surveillance Panel, WGA & WGB combined Meeting, Madrid, 19 to 30 October 1998.

ADS-SSR Control Station (ECA). – EUROCONTROL ADS Concept and Requirements Task Force, First Meeting, Brussels, 4 March 1999.

ADS Ground System Capabilities. – Automatic Dependent Surveillance Panel (ADSP), Ottawa, Canada, 26 April to 7 May 1999.

Presentation of ADS data. - Automatic Dependent Surveillance Panel (ADSP), Ottawa, Canada, 26 April to 7 May 1999.

ADS-C Position Accuracy Requirements. – EUROCONTROL ADS Concept and Requirements Task Force, Fourth Meeting, EUROCONTROL HQ., Brussels, 27 July 1999.

ADS-SSR Control Station (ECA). – Automatic Dependent Surveillance Panel (ADSP), Fifth Meeting, Montreal, 18 to 29 October 1999

The need for a new ADS Information Field: the selected flight level. Automatic Dependent Surveillance Panel (ADSP), Fifth Meeting, Montreal, 18 to 29 October 1999

THE EUROCONTROL ADS PROGRAMME. - Automatic Dependent Surveillance Panel (ADSP), Fifth Meeting, Montreal, 18 to 29 October 1999.

SACCAN: ADS/CPDLC System for the Canary Islands. - Automatic Dependent Surveillance Panel (ADSP), Fifth Meeting, Montreal, 18 to 29 October 1999.

ADS-B Air – to – Ground Operational Requirements. – Operational Data Link Panel (OPLINKP), Rio de Janeiro, Brazil, 13 to 27 March 2000.

Figure of Merit; Aircraft Identification; Latitude and Longitude; Pressure Altitude; Ground Vector; Time Stamp; Selected Flight Level; Minimum Set and Refresh Rate; Transit Delay; Short Term Intent; and Date Stamp.- All eleven (11) working papers presented at the Operational Data Link Panel (OPLINKP), combined WGA & WGB Meeting, Berlin, Germany, 25 September to 6 October 2000.

Figure of Merit. - Operational Data Link Panel (OPLINKP), combined WGA & WGB Meeting, Redondo Beach, California, 19 to 30 March 2001.

Latitude and Longitude. - Operational Data Link Panel (OPLINKP), combined WGA & WGB Meeting, Redondo Beach, California, 19 to 30 March 2001.

ADS-B/SSR Integration. – OPLINKP Joint Meeting WGA&WGB, Brussels, Belgium, 19 to 28 February 2003.