UK-Ireland FAB Annual Report 2011

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Joint Chief Executive Forward

We are pleased with the continued success and progress of the UK-Ireland FAB. Its underlying objective is to provide added value to our customers through operational integration. This is in response to customers' identified priority for greater operational efficiency.

The focus of our fourth annual FAB Plan for the period 2012-15, and the results outlined in our third annual FAB Report for 2011 reaffirms our commitment towards meeting these central objectives.

Work has been undertaken by the ANSPs, the airlines and military participants, which is delivering measurable, sustainable benefits. The savings are outlined in our rigorous Cost Benefit Analysis (CBA) conducted last year to support compliance with the European Commission's FAB Implementing Rule.

Importantly, the methodology of the CBA was independently reviewed and verified by KPMG.

The CBA shows that;

- The FAB has provided customers with €43.5m in enabled savings (2008-2011), including a reduction of 48,000 tonnes of fuel (152,000 tonnes of CO2 emissions)
- During 2011 alone, the enabled customer savings totalled €24.5m, including 24,000 tonnes of fuel worth €17.8m and €6.7m of non-fuel costs, such as reduced maintenance and crew costs.
- This is more than double the savings targeted when it became the first operational FAB in 2008 (the original target set in 2008 was for €12m in annual savings by 2013).
- During the lifetime of the 2012-15 FAB Plan, it is estimated that total enabled customer savings will be €120m, a reduction of 116,000 tonnes of fuel and a reduction of 370,000 tonnes of CO2.
- The FAB is very cost effective. In 2012 the costs for implementing and managing the FAB are estimated at €3.1m, compared with the enabled customer savings of €26.6m.

The results of the CBA have proved the "design and build" model, which we adopted at the outset for the FAB, to focus on short term operational improvements while working towards closer integration. Validating these results has been immensely rewarding for the whole FAB team, including our participating customers and military partners, and reflects the hard work they have all put into delivering real and meaningful benefits over the past four years.

Our customers are at the heart of the UK-Ireland FAB and they contribute to it extensively and are intrinsic to the successful implementation of the FAB. Two airline representatives Co-chair the Service Provision Working Group and are also members of the FAB Management Board.

We hosted our second joint customer Forum in Dublin last December and our new FAB Plan for 2012-15 reflects customers' continued expectation for fuel efficiency measures, and lower user costs. This highlights the benefit of conducting this type of customer engagement and the FAB's ability to deliver and fulfil customer priorities and expectations.

As well as continuing our work on more than sixteen current projects, the new FAB Plan includes nine new projects. For the first time, we have included a UK-Ireland FAB Strategic Planning section, which commits the FAB to the development of three strategic planning documents during 2012 in relation to the evolution of FAB operations, technology and network management.

We are very proud that the UK-Ireland FAB was the first FAB to become operational. FABs continue to play an important role in the Single European Sky vision and we continue to be at the forefront by making progressive improvements and delivering real benefits to our customers against the priorities which they set for us.

Eamonn Brennan
Chief Executive
Irish Aviation Authority

Richard Deakin
Chief Executive
NATS

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1. Background to this document

Introduction

The UK-Ireland FAB was established in July 2008 and it has completed over three years of continuous operations. Work has been undertaken by the ANSPs, the airlines and military participants, and has delivered measurable, sustainable benefits. Furthermore, there has been considerable engagement between the Irish and UK Governments and respective National Supervisory Authorities (NSAs).

As in previous years, 2011 was also a highly successful year for the UK-Ireland FAB. As a result of the ongoing work to create seamless airspace between Ireland and the UK, the FAB is delivering significant added value to its airline customers, who are now securing significant financial savings and operational efficiencies.

Requirement

As part of the UK-Ireland FAB responsibilities, the ANSPs are required to provide the NSAs and Governments of Ireland and the UK on an ongoing basis with an annual report. The Irish Aviation Authority and NATS are therefore pleased to deliver this UK-Ireland FAB Annual Report for 2011.

Overview of the document

This document provides a clear illustration of the achievements of the FAB since its establishment in June 2008. Each section has been developed on a stand-alone basis and therefore, there may appear to be a degree of overlap between the various sections. The document covers three areas:

- Summary of the UK-Ireland FAB Cost Benefit Analysis.
- Progress against the delivery of the UK-Ireland FAB Plan 2011-14.
- Other developments during 2011.

Summary comments

The FAB has continued to evolve in line with the original 'design and build' concept, focusing on operational integration and adding customer value.

The UK-Ireland FAB Plan 2011-14 contained 25 distinct projects for implementation. During 2011, progress was made in virtually all of these projects. Of the 25 projects identified in the previous FAB Plan;

- Six projects were successfully completed and therefore closed during 2011,
- Two technology related projects were merged to create a new project in the next FAB Plan 2012-15, 'TCG-8 Technical Convergence Plan',

- Substantial progress has been made on the remaining 17 projects, which feed into the next FAB Plan 2012-15.

In terms of the quantitative savings outlined in the FAB Cost Benefit Analysis, the UK-Ireland FAB is delivering significant added value to airline customers, which is being achieved at minimal cost.

- Specifically during 2011, it was estimated that the total enabled customer savings for customers were €24.5m, including 24,000 tonnes of fuel, equivalent to €17.8m in fuel costs. Customers saved over 77,000 tonnes of CO2. Additional non-fuel savings (reduced maintenance, crew and aircraft ownership costs) were estimated at €6.7m.
- The analysis confirmed that the costs of the FAB are comparatively very low relative to the enabled customer savings. For example, the costs during 2011 were €2.0m; whilst the enabled customer savings were €24.5m.
- Based on the existing FAB projects (as of the end of 2011), the baseline enabled annual savings projected to 2020 are estimated to reach €36.2m, which comprises 35,000 tonnes of fuel and 111,000 tonnes of CO2.
- In the baseline scenario, the total cumulative enabled savings from 2008-2020 amounts to €336.5m, including reduced fuel burn of 332,000 tonnes and reduced CO2 emissions of 1.06m tonnes.

Additionally during 2011, a substantial volume of supporting work also took place in relation to airline customer, regulatory, inter-FAB, commercial and European stakeholder engagement.

The participants of the UK-Ireland FAB are proud of the work which was successfully completed during the first three full years of FAB operations and are confident that during 2012, further achievements will be made and continued progression of the activities in the next FAB Plan 2012-15.

2. Summary of the UK-Ireland FAB Cost Benefit Analysis

2.1. Background to the FAB CBA

Meeting the FAB IR Requirement
During the latter half of 2011, the UK-Ireland FAB developed a Cost Benefit Analysis (CBA) to comply with specific CBA criteria outlined in the FAB Implementing Rule on the establishment and modification of FABs [PART II Requirements of Article 9a(2) of regulation (EC) No 550/2004, (4)]. In developing this CBA, account was also taken of the information provided by the European Commission through its published Guidance Material.

Opportunity to revalidate the positive contribution
Although the UK-Ireland FAB has been established since June 2008, a distinct advantage in conducting this CBA exercise was that it enabled the FAB to review its progress to-date, which helped to revalidate the positive and increasing net contribution to airspace users.

Objective of the CBA
Due to the operational nature of the UK-Ireland FAB, the primary objective of this analysis was to show if the enabled savings secured by customers as a result of the operational projects implemented by the FAB, exceeded the ANSP implementation and operating costs, and if this showed positive Net Present Value (NPV).

Importantly, the methodology of the CBA was independently verified by KPMG.

CBA time horizon 2008-2020
The UK-Ireland FAB was declared to the EU in June 2008, with the first formal ANSP FAB Management Board also occurring in June 2008.. Therefore, all work associated with the initial implementation phase of the FAB from that point forward was included in the CBA timescale. To coincide with the SESAR 2020 roadmap and the commencement of the third reference period for the performance regime (RP3), the UK-Ireland FAB elected to confine the CBA up to 2020.

2.2. Summary Aggregate Results

NPV Result and enabled customer savings
The resulting CBA confirmed that the FAB estimates a delivery of an overall positive NPV of €176.1m by 2020 (baseline scenario). On the basis of the CBA sensitivity analysis that was performed, the total aggregated

estimated enabled savings and NPV for the period 2008-2020 differ as follows:

2008 - 2020 Estimated Enabled Savings	Low traffic + Low Fuel	Low Traffic	*Baseline Traffic + Baseline Fuel*	High Traffic	High Traffic + High Fuel
Fuel Burn t ('000)	322	322	***332***	346	346
Fuel cost € ('000)	€202.9	€233.4	***€241.2***	€251.7	€284.9
CO2 (t)	1,023	1,023	***1,056***	1,101	1,101
CO2 € ('000)	€14.9	€14.9	***€15.4***	€16.3	€16.3
Non-fuel € ('000) [1]	€77.4	€77.4	***€79.9***	€83.3	€83.3
Total Saved € ('000)	€295.2	€325.7	***€336.5***	€351.2	€384.4
Total Costs € ('000)	€20.3	€20.3	***€20.3***	€20.3	€20.3
NPV €m	**€154.4**	**€170.7**	***€176.1***	**€183.4**	**€201.0**

Savings 2008 – 2020

The total estimated 'baseline' enabled savings for specific periods are displayed in the table below. Between 2008 and 2011, it is estimated that total enabled customer savings for customers were €43.4m, including 48,000 tonnes of fuel, equivalent to €30.2m in fuel costs. Customers saved over 152,000 tonnes of CO2. Additional non-fuel savings (reduced maintenance, crew and aircraft ownership costs) are estimated at €13.2m.

As it presently stands, it is estimated that in 2012 alone, total enabled customer savings will be €26.6m, including 25,000 tonnes of fuel, equivalent to €18.7m in fuel costs. Customers will also save over 80,000 tonnes of CO2, and €1.0m in reduced CO2 emissions (ETS) charges. Additional non-fuel savings (reduced maintenance, crew and aircraft ownership costs) are estimated at €6.8m.

Baseline – Total Enabled Savings	2008-11	In 2012	By 2020	2008-20
Fuel Burn (t '000)	48	25	35	332
Fuel cost €m	€30.2m	€18.7m	€25.9m	€241.2m
CO2 (t '000)	152	80	111	1,056
CO2 €m	-	€1.0	€2.2	€15.4
Non-Fuel € ('000)	€13.2m	€6.8m	€8.0m	€79.9m
Total €m	€43.4m	€26.6m	€36.2m	€336.5m

Based on the existing FAB projects (as of the end of 2011), the baseline enabled annual savings by 2020 are estimated to reach €36.2m, including 35,000 tonnes of fuel and 111,000 tonnes of CO2. In the baseline scenario, the total cumulative enabled savings from 2008-2020 amounts

[1] Non-fuel costs savings - Delay Costs Per Minute (Source: Standard Inputs for EUROCONTROL Cost Benefit Analyses, Edition Number: 4.0, October 2009). A value of €35 per minute is utilised to calculate the estimated savings in reduced Delay Costs Per Minute, derived from the reduced distance 'strategic airborne savings'. The figure of €35 comprises of maintenance costs, crew costs and aircraft ownership costs.

to €336.5m, including reduced fuel burn of 332,000 tonnes and reduced CO2 emissions of 1.06m tonnes.

Focus on 2011 FAB savings

Specifically during 2011, it is estimated that total enabled customer savings for customers were €24.5m, including 24,000 tonnes of fuel, equivalent to €17.8m in fuel costs. Customers saved over 77,000 tonnes of CO2. Additional non-fuel savings (reduced maintenance, crew and aircraft ownership costs) were estimated at €6.7m.

These savings were derived from a number of projects which have been implemented since 2009, including;

- ADWG-7 P600 airway: From May 2009 – Changed the P600 airway into a dual route.
- ADWG-8 ENSURE Project: From December 2009 – Near 'free route' airspace within the Shannon FIR; removal of ATS routes from Shannon Upper to allow direct routing and flight planning from entry point to exit planning (Note: Planned introduction in conjunction with NATS on a FAB basis in order to maximise the operational efficiencies).
- ADWG-10 (Night Time) Fuel Saving Routes [(NT)FSRs]: Various routes introduced from December 2009 – Flight plannable direct routes across Irish/UK airspace.
- ADWG-13 CDAs into Manchester: From March 2010 – Continuous Descent Approaches for early morning arrivals from the North Atlantic into Manchester TMA.
- SPWG-13 Reduced Longitudinal Separation on the NAT: From March 2011 – Longitudinal Separation on the North Atlantic Track structure for traffic exiting the NAT from 10 to 5 minutes (trial commenced in March 2011, and extended to March 2014)

Qualitative benefits

Further to the above, the UK-Ireland FAB has also implemented a number of projects, which have or will deliver substantial qualitative benefits. These benefits are absolutely critical in terms of their positive contribution to the FAB and benefits to all stakeholders (to the ANSPs and to the MIL and Civil airspace users). It is essential to take these qualitative benefits into consideration as part of the consolidated CBA assessment process. For the most part, the primary qualitative benefits relate to;

- Enhanced safety and safety harmonisation,
- More effective tactical and strategic planning between the ANSPs,
- More efficient network management,
- Enhanced coordination on airspace design and cross-FIR airspace management, and
- Collaborative Technical opportunities and SESAR alignment.

2.3. FAB Costs

The CBA assessed the ANSP investment and operating costs for the FAB, which comprises two main headings:

- Labour unit costs: operating costs associated with the day-to-day implementation of the FAB (general FAB project management / governance costs) or operating costs for the implementation of a specific project, and
- Investment costs: for the implementation of a specific project.

The analysis confirmed that the costs of the FAB are extremely low relative to the enabled customer savings. For example, the costs during 2011 were €2.0m; whilst the enabled customer savings were €24.5m. Furthermore, from 2008 to 2020 the total estimated ANSP costs associated with the FAB are estimated as €20.3m, compared with the total enabled savings of €336.5m.

2.4. CBA analysis on the FAB impact on 'dependencies'

The FAB CBA also analysed the impact of the FAB on a number of 'dependences', which relates to areas that FABs are expected to support. The table below provides a high level description about how the UK-Ireland FAB is supporting these dependencies.

Dependency	UK-Ireland FAB Support (Highlights only)
Consistency with the European route network	▪ FAB network management will be fully consistent with the new European network management function. ▪ FAB is working closely with the Network Manager to consider feasible options in relation to flow management, airspace management and capacity management. ▪ FAB is jointly represented on the Network Management Board by the NATS Managing Director of Operations. ▪ Coordinating our input and attendance at the Eurocontrol expert teams that will support NMF consultation.
Optimum airspace utilisation	*Procedures / Process:* ▪ Regional FAB network management (by the beginning of April 2012) ▪ 8-week strategic brief (since September 2010) ▪ Daily FAB Pre-tactical network brief (since April

Dependency	UK-Ireland FAB Support (Highlights only)
	2010): ▪ Civil/Military coordination: LARA tool *Projects delivering direct enabled savings:* ▪ ENSURE – near 'free route' within the Shannon FIR ▪ (Night Time) Fuel Saving Routes – Flight plannable direct routings across the whole of the FAB airspace. ▪ High Level Sectors (HLS) Concept - feasibility study to secure an agreed concept for FAB High Level Sectors.
Smooth and flexible transfer of responsibility for ATC	▪ Letters of Agreement provided for cross border provision of air traffic services. ▪ New procedures are planned for FAB network management. ▪ Civil/Military arrangements will be enhanced through LARA. ▪ The Irish and UK LSSIPs make full reference to all coordination procedures.
Compatibility of airspace configurations and optimisation of airspace structures	▪ FAB Common Transition Altitude: by Winter 2013/14. ▪ Performance Based Navigation: joint policy agreed in Oct 2011. ▪ Standardised European Rules of the Air (SERA): Fully engaged with the Commission, EASA and EUROCONTROL.
Setting national or FAB level performance plans and targets consistent with the EU-wide performance targets	▪ Separate national performance plans for RP1 but with a significant level of cooperation, including coordination of stakeholder consultation activities. ▪ Joint ANSP/NSA "Performance Advisory Group" ▪ Plans to produce a common FAB Performance Plan for RP2 (2015-2018). Work has commenced to scope the options and identify what is required to deliver this.

Optimising the use of technical resources	▪ Technology collaboration is actively being pursued through the FAB.
	▪ Technical systems are also being put in place to support FAB network management.
	▪ ATM system cost savings secured through inter-ANSP cooperation with other ANSPs in European, as follows;
	  ▪ IAA: COOPANS, supporting the DK-SE FAB.
	  ▪ NATS: iTEC, supporting FABEC and the South West FAB.

Dependency	UK-Ireland FAB Support (Highlights only)
Optimising the use of human resources	▪ Duplicated activities have/will have been rationalised in a number of support services, e.g. operational planning publications. ▪ Network management could assist in terms of minimising the potential impact of staff shortages. ▪ FAB High Level Sector feasibility study could also assist in optimising the use of human resources across FAB Upper airspace sectors.

3. Progress against the UK-Ireland FAB Plan 2011-14.

3.1. Background

The objective of this section of the UK-Ireland FAB Annual Report is to outline the progress made by the FAB in its delivery of the UK-Ireland FAB Plan for 2011-14.

Substantial progress was made during 2011 towards successful implementation of the projects contained in the FAB Plan 2011-14. This was achieved in a cost efficient manner utilising existing ANSP budgets and resources.

Section 1 of the UK-Ireland FAB Plan 2011-14 referred to 25 distinct projects which would be implemented by the FAB via the four Working Groups. Some projects were due for completion during 2011 whilst others have fed into the next iteration of the FAB Plan for 2012-15.

Once the FAB Plan was published, the status of each project was monitored by the FAB Management Board (through a tracking document) to help ensure the successful implementation of the Plan.

3.2. Progress Report

Of the 25 projects identified in the previous FAB Plan;

- 6 projects were successfully completed during 2011,
- 2 Technology related projects have been merged to create a new project in the next FAB Plan 2011-15, 'TCG-8 Technical Convergence Plan',
- Substantial progress has been made on the remaining 17 projects, which will be carried forward into the next FAB Plan 2012-15.

The table on the next page displays the name of each specific project and a brief statement upon progress - the objective of this table is to verify that each of the projects derived from the FAB Plan have been implemented and/or progressed into the next FAB Plan 2012-15.

Project Name[2]	Progress
SPWG-13: Reduced Longitudinal Separation on the NAT	In March 2011, the UK-Ireland FAB commenced a 12-month trial of RLongSM on the NAT, which has been extended to March 2014 in order to align with global standards. The trial is also meeting all of the success criteria required for full implementation and it is the intention to engage ICAO to have RLongSM accepted as a global separation standard. Within the next FAB Plan 2012-15, the FAB will continue to monitor "usage" by Air Operators during the trial.
SPWG-14: UK-Ireland FAB Network Management Organisation	At the end of March 2012, the UK-Ireland FAB successfully introduced an integrated Network Management Function within the UK-Ireland FAB. Although it has been implemented, the project is still retained in the next FAB Plan 2012-15 as there are a number of sub-projects / activities which will be progressed during the early months of implementation. The four ATC centres (Dublin, Prestwick, Shannon and Swanwick) now coordinate on a daily basis providing Network Management for all UK-Ireland FAB traffic. The planning functions are also integrated. Information will be promulgated from a central website for ease of use (this will become operational later in 2012). Airspace management, Standard Routing Document, Strategic traffic planning and Pre-tactical traffic planning have already been introduced. The UK-Ireland integrated Network Management function will link with the wider European Network Manager. The governance of the integrated Network Management function is provided by a newly created "FAB Operations Board." Sub-projects of SPWG-14 relate to the FAB RAD, Network System Tools and LARA.
SPWG-16: Tactical Management of LHR-NAT departures	This activity was closed during 2011, as the activity is being successfully progressed at a local LHR level. The primary issue relates to runway departures and activities to mitigate the problem

[2] Projects / Working Group references:
SPWG: Service Provision Working Group
ADWG: Airspace Design Working Group
SWG: Safety Working Group
TCG: Technology Coordination Group

Project Name[2]	Progress
	are now being facilitated through a NATS "live dashboard" (which is on trial with Virgin, Aer Lingus, British Airways, BAA, and BMI), combined with A-CDM will help resolve the issue in due course.
SPWG-18: Reduced lateral separation on the NAT	R-LAT had been originally been scheduled for implementation in 2012 but a number of NAT ANSPs had raised concerns. ICAO IMG Meeting#38 agreed that implementation should be postponed and instead be coordinated with the introduction of Performance Based Navigation (PBN) after 2015. Therefore, the activity is not being progressed in the next FAB Plan until further clarity is available and planning can recommence, and a business case can be developed to justify the investment.
SPWG-19: CPDLC ConOps alignment	During 2011, the IAA and NATS commenced work on the alignment of CPDLC implementation to meet the full requirements of the February 2013 mandate. Following the initial deployment of CPDLC the FAB will seek to identify where additional value can be achieved through the use of datalink beyond the mandated provision.
SPWG-20: Enhanced Customer Communications	During 2011 and 2012 a number of developments took place to enhance the FABs airline customer communications and consultation activities, including: ▪ UK-Ireland FAB Customer secure access website. ▪ IAA 'Observer' participation in the NATS OPA (Operational Partnership Agreement). ▪ Joint CEO/Customer Forum. During the lifetime of the next FAB Plan 2012-15, it is the intention of the FAB to further enhance our customer consultation and engagement processes and procedures, by moving towards the introduction of a FAB OPA facility to complement existing IAA and NATS customer consultation processes.
ADWG-9: Update to the Oceanic Domestic Interface Concept of	The Oceanic / Domestic Interface Concept of Operations has been delivered by the IAA and NATS as a referral document which set the foundation for our aspirations in this area. The scope of this activity area has been broadened in

Project Name[2]	Progress
Operations	the next FAB Plan 2012-15 to encompass an oceanic strategy, complementing the UK-Ireland FAB's unique position of a European interface to the east and an oceanic interface to the north, south and west. This will be achieved through the UK-Ireland FAB's effective engagement with neighbouring partners and seek to align these interfaces with the respective ANSPs.
ADWG-11: Use of Operational Research Techniques to Design Fuel Efficient Organised Track Structures	This project was completed during 2011 following the finalisation of an independent report on the potential airline savings from the use of a future optimisation tool, with a view to engaging customers for support for the investment in the future tool.
ADWG-15: Deliver Plans for Long Term Operations at TMAs within the FAB maximising of efficiency of design	During 2011, TMA development work continued across the FAB, specifically in the Dublin TMA with Point Merge procedures and also early developmental work in the London and Northern TMAs in London, namely LAMP and NTCA. The UK-Ireland FAB is committed to ensure that the design of all TMAs within the UK-Ireland FAB is achieved in a consistent manner. Consequently, this activity will overarch TMA development projects and capitalise upon the current experience of emerging policies, such as PBN, Point Merge, CCOs/CDOs and add them into a 'tool box' and apply them to TMA designs consistent and commensurate to the need.
ADWG-16 Dublin TMA Development	Work continued throughout 2011 to support the planned implementation by December 2012. This included the commencement of a UK Airspace Change Proposal, and approval by the UK military to facilitate the implementation of Point Merge outer arcs across UK Danger Area (EG D201B).
ADWG-19: Optimised cross-FIR FUA	During 2011, the UK MoD outlined a proposal to re-orientate and extend EG D201 Danger Area to traverse the FIR boundary. Ireland and the UK continue their work on the possible establishment of cross-border areas in accordance with the FUA Regulations.

Project Name[2]	Progress
ADWG-21: Feasibility study for High Level Sectors within FAB	 Co-financed by the European Union Trans-European Transport Network (TEN-T) A number of joint Swanwick, Prestwick and Shannon airspace design workshops took place during 2011. A number of proposals have been developed and reviewed by the Project Review Board. The project endeavours to create airspace designs that can be implemented in the near future whilst still being cognisant to the future 2020+ concept of High Level Sectors. As a result of these workshops, the ambition of the airspace design and its associated complexity has increased since the proposal was first made in 2010. Concept and evaluation simulations are planned for Qtr 4 2012. The results of the Feasibility Study will be completed by the end of 2012, which will conclude with an "Airspace Concept Proposal", approved by the UK-Ireland FAB Management Board, upon which appropriate consultation has taken place. As far as it is feasible, this approved Airspace Concept Proposal will form the basis of a future formal Airspace Change Proposal.
ADWG-22: Fuel saving Routes	A total of eleven new Fuel Saving Routes (FSRs) were implemented in March 2011. These routes are available as flight plannable direct routes between existing reporting points. Furthermore, a number of activities were completed during 2011 to enhance previously existing FSRs, e.g. increased operating periods for some. The activity is now treated as day-to-day operational business and is no longer being pursued as a stand-alone project in the next FAB Plan.
ADWG-24: Integration of AIS/AIM	Work is underway regarding NOTAMs, Data Management and Flight Planning, leading to the integration of AIS/AIM during the lifetime of the next FAB Plan. This activity has been initiated to include NOTAM Contingency, Flight Plans and Charts.
SWG-5: SMS Harmonisation	Referred to in the previous FAB Plan as SMS Convergence, in 2011 it was agreed to redefine this activity as SMS Harmonisation. FAB Safety Case (to support the FAB Implementing Rule on the establishment and modification of FABs) was agreed between the ANSPs and

Project Name[2]	Progress
	Regulators in December 2011, and was subsequently accepted by the FAB Supervisory Committee and FMB Co-Chairs. During 2011, work also commenced on the development of a FAB Safety Management Manual, which will contain common safety policy and accompanying high level safety principles within the scope of the FAB SMS.
SWG-7: Safety Culture Improvement	During 2011, work continued on developing a safety culture improvement strategy that supports and prepares for joint assessment of safety performance in RP2 as measured by the Performance Scheme Safety KPIs. Furthermore, IAA and NATS are collaborating on the development of a FAB joint statement on 'just culture' in consultation with the professional associations.
SWG-8 FAB: Action Plan for Operational Safety Improvement 2011-14	During 2011, work continued on Operational Safety Surveys across the FAB interfaces, to assure that safety risks can be minimised by identifying vulnerabilities before they fail and taking the necessary corrective measures.
SWG-9: Standardised European Rules of the Air (SERA) Integration	During 2011, work continued on minimising the differences from ICAO by standardising procedures based on the SERA initiative. This involves close coordination between the ANSPs and NSAs. Until the status becomes clear, this activity has been transferred to the UK-Ireland FAB Opportunities Register.
TCG-1: Line connectivity project	This project was successfully completed in early 2012, following the installation of a connectivity line between Ireland and the UK. This joint procurement project which has generated a savings of approach €200,000.
TCG-2: Datalink infrastructure (ARINC/SITA)	During 2011 joint IAA/NATS discussions commenced with the Datalink suppliers providers in relation to the implementation of VDL Mode 2 infrastructure to support the Data linking Mandate planned for 2013.
TCG-3: 8.33Khz spacing below FL195	During 2011, joint IAA/NATS planning for the implementation of 8.33MHz channel spacing below FL195 commenced.

Project Name[2]	Progress
TCG-4: Surveillance / Radar data sharing	During 2011, initial discussions focused on the cooperation on radar sharing. This activity (along with TCG-6) has been merged with a new project in the next FAB Plan 2012-15, 'TCG-8 Technical Convergence Plan', which will produce a long-term strategy for technology in the FAB.
TCG-5: CCAMS	To lower testing and validation costs, a joint CCAMS testing strategy commenced during 2011, ahead of CCAMS implementation by IAA and by NATS during 2012.
TCG-6: Potential for FAB wide infrastructure services	No activities were conducted for this project during 2011, as it was agreed that the initial work would commence during 2012. However, this activity (along with TCG-4) has been merged within a new project in the next FAB Plan 2011-15, 'TCG-8 Technical Convergence Plan', which will produce a long-term strategy for technology in the FAB.
TCG-7: Navigation Rationalisation Study (SESAR 15.3.2)	From a UK-Ireland FAB perspective, this project was successfully completed in early 2011 NATS has completed a detailed VOR/DME coverage report for the UK-Ireland FAB in the agreed SESAR template.

3.3. ODNET Closure

ODNET Background

The UK-Ireland FAB is uniquely located. One of the core functions of the UK-Ireland FAB is centred on the integration of North Atlantic (NAT) with domestic Ireland-UK and a gateway to European core area traffic. No other FAB has a role in traffic integration of this scale. NAT Eastbound traffic affects the management of FAB domestic and core European operations on a daily basis. The nature of NAT traffic integration is pivotal in ensuring that the FAB efficiently manages domestic and European networks, thereby providing benefit to all stakeholders.

ODNET Projects and status

During 2010, the projects associated with the NAT/European interface were grouped into a programme known as "ODNET" (Optimisation of the Domestic, North Atlantic and European Traffic). ODNET encompasses many work stream elements, each designed to address NAT interface traffic flow issues. The original ODNET projects, stemming from the 2010-13 FAB Plan were;

- ADWG-22 Enhanced (Night Time) Fuel Saving Routes: This project is now closed and the activity is now treated as day-to-day operational business.
- ADWG-19 Optimised cross-FIR FUA: This is now being progressed at Member State level.
- ADWG-21 FAB High Level Sectors [TEN-T funded]: This will be completed by the end of 2012, when the results of the Feasibility Study will be completed, which will conclude with an "Airspace Concept Proposal", approved by the UK-Ireland FAB Management Board, upon which appropriate consultation has taken place.
- SPWG-14 Network Management in FAB: The single integrated Network Management Function for the FAB was introduced by the FAB at the end of March 2012, including planning and tactical functions. [This project subsumed other projects including SPWG-11 TOMS Utilisation in FAB and SPWG-15 NERS Management Group and Process]
- SPWG-16 Tactical Management of LHR-NAT departures: This project is now closed as the activity is being successfully progressed at a local level at Heathrow.
- SPWG-17 NAT Management Coordination / late running NAT traffic: In 2011, in line with the traffic downturn, a decision was made to transfer the project to the UK-Ireland FAB Opportunities Register (for reactivation in the future if demand deems it necessary).
- SPWG-18 Reduced lateral separation on the NAT: During 2011, ICAO agreed that implementation of R-LAT during 2012 should be postponed and instead be coordinated with the introduction of Performance Based Navigation (PBN) after 2015. Therefore, the activity has been transferred to the UK-Ireland FAB Opportunities Register until further clarity is available and planning can recommence.

- ADWG-23 Early morning routes across NWMTA: This project was subsumed into ADWG-16 Dublin TMA Development. As part of the Point Merge implementation, a new SID will be introduced from Dublin to the London TMA during the busy early morning period. Additionally, the hours of operation of the L18 conditional route from Dublin, have been extended in the early hours through the cooperation from the UK MoD

Closure of ODNET

Several of the ODNET projects are now successfully closed. Others are either subsumed by other wider reaching projects or held in abeyance awaiting either State level resolution (e.g. ADWG-19 or SPWG-18), or improved traffic forecasts (e.g. SPWG-17).

ODNET has proved useful by integrating individual projects under a single programme since 2010 but it is no longer being pursued by the FAB as a programme in its own right. Instead, the FAB will during the lifetime of the next UK-Ireland FAB Plan 2012-15, develop strategic plans in relation to the evolution of FAB operations towards SESAR concepts, the technical convergence of the FAB and evolution of network management.

Collectively, these new strategic plans will drive the development of the UK-Ireland FAB in the years ahead and will encompass the original aspiration of the ODNET concept to optimise the Oceanic, Domestic and European interfaces.

4. Other developments during 2011

In addition to the specific UK-Ireland FAB "project work", a substantial amount of additional work was carried out during 2011 to support the ongoing maintenance and development of the FAB.

This section of the UK-Ireland FAB Annual Report 2011 provides a high level description of this progress.

4.1. FAB IR development work

During 2011, the Irish and UK ANSPs and NSAs fully collaborated on the development of a Compliance Matrix document to support the requirements to comply with Article 6 (for FABs already established) of Regulation (EU) No. 176/2011 on the information to be provided before the establishment and modification of FABs.

Although the UK-Ireland FAB has been established since June 2008, a distinct advantage in having conducted this work, including the CBA exercise (see section 2 of this document) is that it enabled the FAB to review its progress to-date, which helped to revalidate the positive and increasing net contribution to airspace users.

The Compliance Matrix and supporting Annexes were finalised in early 2011 and submitted by the Member States to the European Commission in March 2012.

4.2. Inter-FAB Cooperation

The UK-Ireland FAB recognises that FABs cannot be developed in isolation and that inter-FAB cooperation and coordination is necessary in order to maximise the operational efficiency of European airspace.

The UK-Ireland FAB has a number of activities underway which were progressed during 2011 and which will be further progressed during the lifetime of the next FAB Plan 2012-15, including:

1. *FAB-4:* In March 2011, the Air Navigation Service Providers of the UK-Ireland FAB and Danish-Swedish FAB signed a Memorandum of Understanding to investigate the benefits of a closer, more integrated working relationship, including the potential to merge the two FABs. Initial feasibility work was conducted between the ANSPs and discussions remain ongoing about the best means to enable the realisation of the potential benefits of closer cooperation.

2. *FABEC:* The UK-Ireland FAB is the key North Atlantic interface for FABEC, and the London TMA is crucial for the successful development of FABEC. During 2011, NATS continued to provide its

support to FABEC. Furthermore, engagement between the two FABs was enhanced during 2011 through the attendance of FABEC representation at the December 2011 FAB Management Board meeting. Discussions between the FABs have identified possibilities for collaboration and cooperation, including: common airspace design principles, e.g. free route airspace or queue management; common FAB views on SESAR concept of operations; common views on the performance scheme; and a common approach on the Network Management Function.

3. *Borealis:* In March 2011, the air navigation service providers of Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Norway, Sweden and UK agreed to set up a temporary organisation with the job of defining a permanent alliance structure for the ANSPs. This temporary organisation, named Borealis, is tasked with creating the commercial, financial and regulatory terms under which its members can improve performance across the airspace of all countries involved. These arrangements may reach across the boundaries of FABs and States, but will only be binding between the ANSPs directly involved.

4.3. Commercial framework

The aim of the FAB is to execute initiatives in as cost efficient and effective a manner as possible. During 2011, the UK-Ireland commenced the development of a FAB commercial framework, for use by the FAB Management Board in enabling the basis of future commercial development..

The commercial framework will set out the general guiding principles in formalising commercial arrangements for FAB initiatives. It helps to ensure the commitment of both ANSPs. At the same time, the commercial framework ensures that FAB proposals are tied into the existing governance processes in both organisations, to help guarantee proper oversight.

4.4. SES Activities

During 2011, the UK-Ireland FAB continued to ensure that activities relating to the successful implementation of the SES were fully supported.

1. *European FAB coordination:* The FAB continued to engage with the administrative domains, including the EC FAB Focal Points Group (FFPG); the FAB Coordinator and the TEN-T Executive Agency.

2. S*ESAR:* The UK-Ireland FAB continued to ensure that FAB developments were aligned with emerging SESAR activities. Coordination between the IAA and NATS was managed effectively.

Joint UK-Ireland FAB representation was established to support the SESAR IP1 Steering Group and SESAR IP1 Expert Group.

3. *Performance Scheme:* Separate National Performance Plans for Ireland and the UK were provided by the UK-Ireland FAB for the first reference period 2012-2014. In addition, both NSAs produce a document showing aggregated performance targets at a FAB level for the first reference period. The States and ANSPs will be working together to look at metrics for a common FAB Performance Plan for RP2 (2015-2018) – although this is not yet a requirement.

4. *Network Management Function:* At an ANSP operational level, engagement took place between the FAB and the new Network Management Directorate during 2011. The UK-Ireland FAB is committed to supporting the Network Manager in delivering benefits from increased European-wide coordination. The introduction of an integrated network management function for the UK-Ireland FAB by the end of March 2012 was a crucial first step in developing that relationship. Joint UK-Ireland FAB representation was established to support the current forums, including the Network Management Board.

4.5. Customer engagement

Airline customers contribute to the UK-Ireland FAB extensively and are intrinsic to the successful implementation of the FAB. During 2011 and 2012 several developments took place to enhance the customer communications and consultation activities, including:

- **FAB Customer website:** Since October 2011, customers have been able to access a secure UK-Ireland FAB website via the existing IAA and NATS customer websites, which provide access to all relevant UK-Ireland FAB documentation.

- **IAA 'Observer' participation in the NATS OPA (Operational Partnership Agreement):** The IAA now participates in this NATS customer driven forum as an Observer.

- **Joint CEO/Customer Forum:** On the 6th December 2011, the IAA and NATS held their second annual Joint CEO/Customer Forum in Dublin. This was used as an opportunity to engage directly with our customers and secure an understanding of their priorities and expectations.

Many new projects contained in the FAB Plan 2012-15 are as a direct result of the suggestions provided by airline customers. This highlights the benefit of conducting this type of customer engagement, as well as the FAB's ability to deliver and fulfil customer priorities and expectations.

5. Closing Comment

Throughout 2011 both the IAA and NATS continued to display a strong commitment to the FAB in delivering tangible benefits to our customers and enable us to move forward in taking steps towards deploying SESAR concepts of operation.

2012 sees many founder members of the UK-Ireland FAB move on, and as we lay plans to deliver more benefits to our future customers, this report should recognise the commitment and foresight of those founder members that have established a foundation of cooperation that we can now build upon.