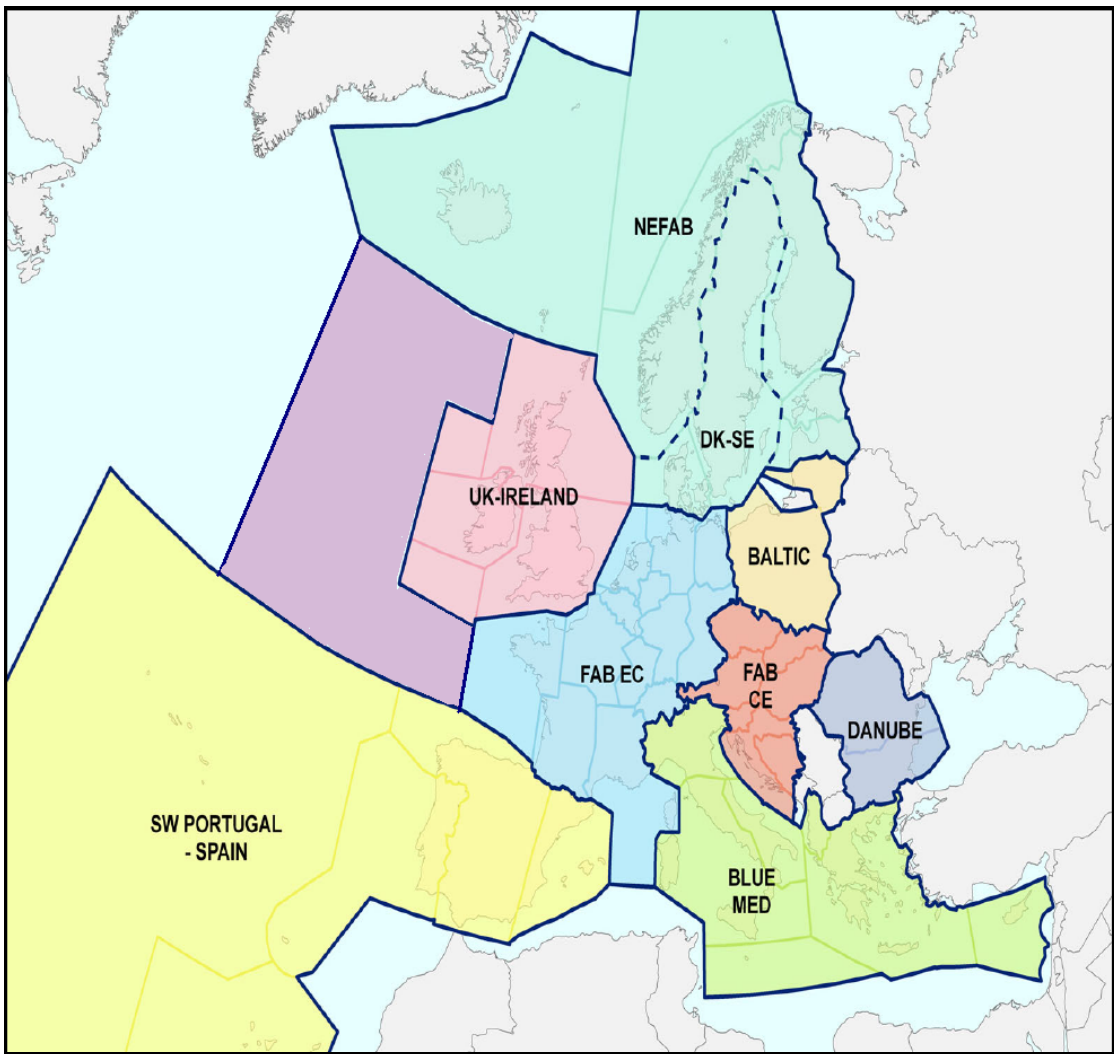
UK-Ireland – Functional Airspace Block



UK-Ireland FAB Annual Report 2010

FINAL

05.04.11

Introduction statement to the UK-Ireland FAB Annual Report 2010

It is with great pleasure that we present to you the UK-Ireland Annual Report for the year 2010. The FAB has been operating highly successfully since it was first established in June 2008. Our programme of work continues to develop to meet the objectives of the Single European Sky project.

What follows in this report is a summary of the significant achievements delivered by the FAB, validated by our customers and a reflection of our commitment. We believe we have laid a firm foundation for further integration; within this FAB and beyond it.

We have implemented virtually all of our projects in the FAB Plan 2010-13 and others are expected to become operational in the near future. These projects were developed on a partnership basis with our airspace users and deliver repeat financial and operational savings to customers in terms of reduced CO2, reduced fuel burn costs, and reduced track miles. New projects have also been planned and will feed into the lifetime of our updated FAB Plan for 2011-14 and they too will further enhance safety, improve operational efficiency, reduce combined ANSP costs, and generate customer savings. There were over 24 distinct projects derived from the FAB Plan 2010-13 and this report sets out our progress against these projects as well as achievements in various supporting areas.

We are determined to honour the SES FAB Implementing Rule and report our progress faithfully. We will submit the additional evidence required under SES2, although we achieved recognition under SES1.

We are also determined to reflect benefits accurately but we have found it impossible to fully validate the fuel and CO2 savings from the projects delivered to-date. This is because there is no clear baseline from which to measure and because tactical changes take flights off the enhanced tracks, usually to provide even better efficiency. The inconsistency between planned tracks and operated tracks has made it impossible to produce reliable data; a problem already recognised by the EUROCONTROL PRU. It will be a priority for the next FAB Plan to find a robust methodology for assessing and validating benefits of airspace management improvements.

In March 2010, NATS joined its FAB partner, IAA, as a member of the Northern European Air Navigation Providers (NEAP). This provided the impetus for a strategic review by NEAP which has resulted in the re-alignment of FAB priorities and the agreement by the ANSPs to define an alliance framework and work towards the possible integration of all three FABs within NEAP airspace.

As a result of the work we have implemented during 2010 and illustrated in this report, we are confident the UK-Ireland FAB is delivering ongoing savings to our airspace users and helps Ireland and the UK to meet the underlying objectives of the Single European Sky.

Yours sincerely,

Co-Chairmen of the UK-Ireland FAB Management Board

	
Donie Mooney Director of Operations Irish Aviation Authority	Ian Hall Director Operational Strategy and Standards NATS

Table of contents

1. Background to this document

Introduction

The UK-Ireland FAB was established in July 2008 and it has now completed over two years of operations. A substantial amount of work has been undertaken by the ANSPs, the Airlines and Military participants. As was the case in 2009, 2010 was a highly successful year for the FAB and its customers are securing repeat savings as a result of ongoing FAB Plan implementation.

Requirement

As part of the UK-Ireland FAB responsibilities, the ANSPs are required to provide the National Supervisory Authorities (NSAs) and Governments of Ireland and the UK with an annual report. The Irish Aviation Authority and NATS are therefore pleased to deliver UK-Ireland FAB Annual Report for 2010 to meet this requirement.

Overview of the document

This document gives a clear illustration of the achievements of the FAB since it was first established 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 two areas:

- Summary of project implementation to date.
- Progress against the delivery of the UK-Ireland FAB Plan 2010-13.

Summary comments

The UK-Ireland FAB Plan 2010-13 contained 24 distinct projects for implementation by the working groups. During 2010, progress was made in virtually all of these projects. As a result, customers are benefiting on a continuous basis and the original goals we set out to achieve are being delivered. Some projects have been redefined and/or transferred to the Opportunities Register where their need has been affected by traffic levels or surpassed by projects with greater priority and need. A substantial volume of supporting work also took place in relation to customer, regulatory, military, staff, inter-FAB, and European stakeholder engagement. The FAB has continued to evolve in line with the original design and build concept.

The participants of the UK-Ireland FAB are proud of the work which was successfully implemented during the first two full years of FAB operations and are confident that during 2011, significant further progress will be made including the implementation of the next FAB Plan 2011-14.

2. Summary of Project Implementation to-date

2.1. Focus on 2009 and 2010: The first years of full operation

This section of the report summarises the successes for 2009 and 2010. A number of projects were delivered during 2009, which continue to generate repeat savings to customers, amongst which were: Enroute Shannon Upper Airspace Redesign (ENSURE); the first part of Night Time Fuel Saving Routes (NTFSR); P600 airway; removal of MNPS requirements in SOTA; common En-route Safety Significant Events Scheme; Safety Culture measurement; and Common Operational Safety Methodology.

Selected UK-Ireland FAB Projects Implemented during 2009-2010	
Project Name	**Implementation date and comment**
P600 airway	May 2009: Changed the P600 airway to a dual route – this was the first major airspace development under the FAB.
Removal of MNPS requirement in SOTA	May 2009: Provided flexibility to non-MNPS equipped air carriers to utilise SOTA airspace.
Safety Culture Improvement	November 2009: Enabled joint development of common methods for managing safety culture improvement within the FAB.
ENSURE (En Route Shannon Upper Airspace Redesign)	December 2009: Substantial customer savings via the removal of ATS routes from Shannon Upper to allow direct routeing and flight planning from entry point to exit planning. • Estimated annual savings: 2.2m kms flown; 14,800 tonnes fuel; 46,800 tonnes CO2 • Over €40m in fuel savings alone over next 5 years (2009 fuel prices).
Continuous Descent Approach for Manchester Arrivals	March 2010: CDA introduced for arrivals into Manchester airport following a successful trail. The maximum level available to Manchester TMA and surrounding airport arrival traffic via LIFFY from Shannon ATC between 2300 and 0630 UTC during winter (1 hr earlier in summer) was FL330. This level restriction has now been removed to allow the traffic during these times to transfer to the Lakes sectors at cruising levels.

Selected UK-Ireland FAB Projects Implemented during 2009-2010	
Project Name	**Implementation date and comment**
Night Time Fuel Saving Routes (NTFSRs)	Various dates in 2009/10: A total of over 39 NTFSRs have been introduced into the London UIR, Scottish UIR and further NTFSRs added for London and Paris Arrivals. Substantial customer savings have been achieved from the establishment of flight plannable direct routes of over 1,000 nautical miles in length. • Estimated annual savings: 5,700 tonnes fuel; 18,100 tonnes CO2
Common En-route Safety Significant Event (SSE) scheme	December 2009: A common SSE scheme for en-route events ensures that operational safety performance and targets are assessed using a common scheme.
Oceanic Domestic Interface Concept of Operations (ODI CONOPS)	March 2010: This is a crucial activity as it identifies the high level operating concept at the North Atlantic and domestic airspace interface within the FAB to support enhancements to safety, flight efficiency, cost effectiveness and capacity through to 2020. The first full version of the ConOps was agreed in March 2010; this document is live and will be refined annually.
Daily FAB Pre-Tactical Network Brief	April 2010: A joint publication that allows airlines to identify the most efficient routes, plan for more direct routes across the airspace and therefore save on fuel burned. This network brief is also an enabler for network management.
Single FAB RAD Publication	April 2010: This project is based on making the information from the RAD in the Irish and UK airspace accessible in one area and to review the possibility to construct a single RAD Plan for the airspace as one continuum as part of the Network Management Process. The initial phase is complete and the publication is now available on the CFMU web site.
NERS reduction from 12 to 4 NERS	July 2010: The reduction in NERS airports (North Atlantic Europe Routing Scheme) improves air operator efficiency.
8-week Strategic Brief	September 2010: A joint publication which provides more effective coordination. It is also an enabler for network management.

UK-Ireland FAB Projects Implemented During 2009 and 2010

2.2. Additional Significant Achievements in 2010

Progress of the Working Groups

The Service Provision Working Group (SPWG), Airspace Design Working Group (ADWG), and Safety Working Group (SWG) continued to implement their respective projects in accordance with the FAB Plan 2010-13, many of which were "follow-through" projects from the first Plan for the period 2009-12.

Customer Engagement

During 2010, the UK-Ireland FAB enhanced its customer engagement process by hosting a workshop in October to discuss customer expectations and considerations for the UK-Ireland 2011-14 FAB Plan. This was an important development and customer proposals have been incorporated into this plan as a result of the workshop.

Technology

In line with the "design and build" principle of the UK-Ireland FAB, the scope of the operationally-driven FAB has been enhanced through direct technology domain input. During 2010, a Technology Coordination Group was established between the IAA and NATS to implement collaborative opportunities that will generate customer savings and a number of related activities have been included in this FAB Report.

ANSP and Regulator Coordination

The ANSPs and NSAs continued to work closely together in dealing with European matters, in particular, the joint Performance Advisory Group (PAG), with representatives from both NSAs and both ANSPs. PAG is ensuring that the UK-Ireland FAB performance plan will be consistent with Community-wide performance targets for safety, environment, capacity and cost efficiency. The UK-Ireland FAB is engaging fully with the EC FAB Focal Point Group.

Evolving Governance Structure

The FAB has continued to evolve, under the oversight of the FAB Management Board (FMB). The structure not only includes a newly formed Technology Coordination Group, but working group effectiveness has also been improved by a the establishment of a Co-chair Coordination Committee, which comprises the Co-chairs of each of the four working groups and senior ANSP managers.

On the NSA side and under the oversight of the FAB Supervisory Committee (FSC), resides the newly established NSA Harmonisation Working Group. The structure also includes the joint ANSP/NSA Performance Advisory Group and the UK-Ireland FAB representation on the European FAB Focal Point Group.

Promotion

The promotion of the FAB was enhanced through the publication of two newsletters in March and December 2010 by the ANSPs, entitled *FAB News*. These were widely distributed to FAB staff, external stakeholders, customers and also produced on the internet.

3. Progress against the UK-Ireland FAB Plan 2010-13

3.1. FAB Plan 2010-13: Project Delivery

The UK-Ireland FAB Plan 2010-13 referred to a substantial number of activities. Once the FAB Plan was published, a process was established to ensure that the overall objectives of FAB Plan 2010-13 would be implemented. This required the creation of a tracking process for monitoring the implementation of each specific FAB activity derived from the Plan.

The table 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 2011-13..

FAB Plan 2010-13: Project delivery	
Project Name	**Progress**
SPWG-1: **1. Single FAB RAD** **2. Single RAD Document**	Project on track and initial phase completed. Project now subsumed into SPWG-14(O) Network Management Organisation in the next FAB Plan 2011-14.
SPWG-3: Single Strategic FMP Planning Process	Project completed - Joint publication of an 8-week strategic briefing document which provides more effective coordination.
SPWG-11(O): TOMS Utilisation in FAB	Project on track: To enhance Network Management, the IAA will be installing the tool by the end of 2011. Project now subsumed into SPWG-14(O) Network Management Organisation in the next FAB Plan 2011-14.
SPWG-13: Reduced Longitudinal Separation on the NAT	Project on track for completion in March 2012.
SPWG-14(O): UK-Ireland FAB Network Management Organisation	Project on track for completion in March 2012. This project has subsumed various sub-projects relating to FAB RAD, NERS, LARA and TOMS.
SPWG-15(O): NERS Management Group and Process	Project completed with the reduction of NERS from 12 to 4 airports. However, the FAB is aiming to remove these additional airports and so the project is now subsumed into SPWG-14(O) Network Management Organisation.

FAB Plan 2010-13: Project delivery	
Project Name	**Progress**
SPWG-16(O): Tactical Management of LHR-NAT departures	Project commenced via a NATS trial with air operators in December 2010. A network management process has been developed to balance SID demand and notify tactical offloads on Pretact Plan to state that there is a risk of heavy SID loading the following day.
SPWG-17(O): NAT Management Coordination / late running NAT traffic	In line with the traffic downturn, the issue associated with late running NAT traffic is no longer a significant problem. This project has been moved to the UK-Ireland FAB Opportunities Register for reactivation in the future if deemed necessary.
SPWG-18(O): Reduced lateral separation on the NAT	The UK-Ireland FAB is participating in this process and the project will be implemented in accordance with ICAO agreement.
ADWG-5: Oceanic Domestic Interface Management System (ODIMS)	In line with the traffic downturn, the requirement for this tool has been reduced. This project has been moved to the UK-Ireland FAB Opportunities Register for reactivation in the future when deemed necessary.
ADWG-9: Development of an Oceanic Domestic Interface (ODI) CONOPS	Initial phase completed via the development of an agreed version of the Concept of Operations extending to 2020. A second iteration will be developed during 2011.
ADWG-11: Use of Operational Research Techniques to Design Fuel Efficient Organised Track Structures	Project commenced via third party support to conduct R&D into a possible change to the method of determining the Oceanic Track structure. Further testing work planned for 2011 and 2012.
ADWG-15: Deliver Plans for Long Term Operations at Dublin, Manchester and Belfast TMAs	This project has been refocused to deal with more strategic design considerations and the application of generic design principles enabling their application at multiple TMAs. The reference to specific TMAs has been removed.
ADWG-16: Dublin TMA Development	Project on track for completion in November 2012 with the introduction of Point Merge at Dublin Airport and co-incidental new early morning routes from Dublin eastbound across the NWMTA.
ADWG-17: Convergence of ESIP/LCIP	Project completed as the process for convergence of ESSIP/LSSIP is agreed and treated as an ongoing activity within the FAB.

FAB Plan 2010-13: Project delivery	
Project Name	**Progress**
ADWG-18: DUB-LTMA city pair route optimisation	Many other FAB projects are optimising routes into and out of Dublin. This project has been moved to the UK-Ireland FAB Opportunities Register for reactivation in the future if deemed necessary.
ADWG-19(O): Optimised cross-border FUA	The project is being managed and coordinated by the Irish and UK Military authorities and rephrased as "Optimised cross-FIR FUA". Work is underway to assess a proposal from the UK MoD to re-orientate and extend westwards, EGD201 Danger Area to traverse the FIR boundary. The initial deliverable is to identify enablers at the State level to establish a cross-FIR boundary Danger Area.
ADWG-21(O): FAB High level sectors	Project on track for completion in December 2012. TEN-T funding was obtained to facilitate the feasibility study; the fund awarded to the UK-Ireland FAB amounted to €1.15m. Scoping work commenced in Qtr 4 2010 and design and validation simulations are planned for Qtr 3 and Qtr 4 2011. The results of the Feasibility Study will be completed by the end of 2012 with a Final Report provided to the TEN-T Executive Agency during Qtr 1 2013.
ADWG-22(O): Enhanced NTFSR	Initial phase completed via the introduction of numerous NTSFRs during 2009/10. This project is being continued in the next FAB Plan. The prefix 'NT' will be dropped to reflect the opportunities as Fuel Saving Routes in general. Additional FSRs continue to be introduced.
ADWG-23(O): Early morning routes across NWMTA	Project on track for completion in November 2012; project is now subsumed into ADWG-16 Dublin TMA Development.
SWG-4: Standardising procedures to minimise differences from ICAO	Project on track for completion in Qtr 4 2011. The remaining actions are being subsumed into a new Safety Working Group, SWG-9 Standardising European Rules of the Air (SERA).
SWG-5: SMS Convergence	Project on track for completion in 2012. The project has been refocused to provide for collaboration within NEAP to future proof SMS convergence strategy against emerging IR's and wider integration of FABs.

FAB Plan 2010-13: Project delivery	
Project Name	**Progress**
SWG-7: Safety Culture Improvement	Project on track for completion in 2012. Initial phase has been completed via the measurement of safety culture by each organisation, work is continuing through a step by step strategy focused on delivering Safety Culture Improvement quick wins.
SWG-8: FAB Action Plan for Operational Safety Improvement 2010-11	Project on track for completion in 2013. Day-to-day operational surveys were conducted during 2009 and 2010 and further surveys are planned during 2011. These surveys provide leading indicators of risk across the FAB interface.

3.2. NAT/EUR Interface

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

For these reasons, 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.

Work commenced on all identified sub-projects during 2010, including the TEN-T funded project involving a Feasibility Study of FAB High Level Sectors. This section summarises this work.

Original ODNET Projects – Status	
Project Name	**ODNET Status**
Enhanced NTFSR **ADWG-22(O)**	Known as "Night Time Fuel Saving Routes (NTSFRs)", the FAB will continue to build upon the momentum and benefits gained through the 2009 and 2010 delivery of the NTFSRs across the FAB. The prefix 'NT' will be dropped to reflect the opportunities as 'Fuel Saving Routes' in general and seek to extend their presence and operation.
Optimised cross-FIR FUA **ADWG-19(O)**	The project is being managed and coordinated by the Irish and UK Military authorities. The UK MoD has outlined a proposal to re-orientate and extend westwards, the EGD201 Danger Area to traverse the Ireland/UK FIR boundary.
FAB High level sectors **ADWG-21(O)**	TEN-T funding was obtained to facilitate the feasibility study and the award made to the UK-Ireland FAB amounted to €1.15m. Co-financed by the European Union Trans-European Transport Network (TEN-T) The planned study has started to investigate the feasibility of a High Level Sectorisation within the FAB. This could have potential to allow more optimum routeings, both laterally and vertically for aircraft which transit IAA and NATS airspace. Scoping work commenced in Qtr 4 2010 and design and validation simulations are planned for Qtr 3 and Qtr 4 2011. The results of the Feasibility Study will be completed by the end of 2012 with a Final Report provided to the TEN-T Executive Agency during Qtr 1 2013.

Original ODNET Projects – Status	
Project Name	**ODNET Status**
Network Management in FAB **SPWG-14(O)**	Work has progressed to ensure a target date for full implementation as March 2012. This project is to provide an integrated Network Management function across the UK-Ireland FAB Airspace. The four ATC centres (Dublin, Prestwick, Swanwick, and Shannon) will participate on a daily basis proving Network Management for all FAB traffic. The project has subsumed work relating to other specific packages, including: • FAB RAD • TOMS Utilisation in FAB • LARA • North Atlantic Routing Scheme (NERS) reduction
TOMS Utilisation in FAB **SPWG-11(O)**	TOMS is a system for predicting traffic flows in use by NATS and it is capable of deployment over the internet. To enhance UK-Ireland FAB Network Management, the IAA will be installing the tool in 2011 after TOMS has been updated with the Irish Airspace traffic volumes.
NERS Management Group and Process **SPWG-15(O)**	A NERS Management Group was established in 2010, which successfully reduced the numbers of NERS airports from 12 to 4 (London Heathrow, Amsterdam, Paris and Frankfurt). To enhance UK-Ireland FAB Network Management process, the NERS Management Group will seek to eliminate the remaining NERS airports.
Tactical Management of LHR-NAT departures **SPWG-16(O)**	This project relates to the tactical management of LHR departures on the westbound NAT structure. Current Traffic Management techniques create delays for airlines and complexity and congestion issues for airfields. A 'live dashboard' trial was commenced by NATS in December 2010 which includes demand by SID to determine what balancing of SIDs is necessary. This has led to a process that facilitates the balancing of demand against planned SIDs.
NAT Management Coordination / late running NAT traffic **SPWG-17(O)**	This project is to consider how the FAB can offer opportunities to mitigate the effect of late running eastbound NAT flows, including developing improved co-ordination between the FAA, Gander, Shanwick, and the Shannon / UK interface arrangements. This project was contained in the previous FAB Plan 2010-13. However, in line with the traffic downturn, the matter is not currently perceived to be an issue and a service improvement project is not currently deemed necessary. It has been transferred to the UK-Ireland Opportunities Register The project can be reactivated in the future when deemed necessary.

Original ODNET Projects – Status	
Project Name	**ODNET Status**
Reduced lateral separation on the NAT **SPWG-18(O)**	This project involves the reduction in lateral separation from 60 to 30 miles on the NAT, with a target year of implementation in 2012. Its implementation is a mandated activity from ICAO. A number of NAT ANSPs are considering the viability and immediate necessity of the implementation of R-Lat. The FAB is participating in this process and the project will be implemented in accordance with ICAO agreement.
Early morning routes across NWMTA **ADWG-23(O)**	A new departure route is planned for introduction to complement with Point Merge at Dublin airport (November 2012). This will facilitate early morning departures out of Dublin and will provide alternative routes to the East. Coordination between NATS and the IAA will allow optimum en-route and Dublin departure routing based on destination. This project has been subsumed into ADWG-16 Dublin TMA Development.

UK-Ireland FAB – Status of ODNET Project

4. Introduction to UK-Ireland FAB Plan 2011 - 14

The UK-Ireland Annual Report 2010 should be viewed in conjunction with the UK-Ireland FAB Plan 2011-14.

Demand for air travel improved during 2010 and a number of our major customers returned to profitability but this is now threatened by increased fuel costs. Therefore, it is the intention of the UK-Ireland FAB to intensify its efforts to further reduce the cost of ATM service provision to our customers. In that context, the FAB Plan 2011-14 sets out the programme of work for the near future, which includes;

- Improvements to the processes for the assessment and measurement of FAB benefits to aid the prioritisation of FAB initiatives,
- All Working Groups will continue to implement their "follow-through" projects in accordance with the new FAB Plan, including the ODNET project which is seeking to "**O**ptimise **D**omestic, **N**orth Atlantic and **E**uropean **T**raffic" flows,
- Technology collaboration projects have been added for the first time,
- Inter-FAB Coordination will be enhanced, through the Memorandum of Understanding between the ANSPs of the UK-Ireland FAB and Danish-Swedish FAB and through the Borealis framework (of wider integration between all NEAP members aimed at greater operational and cost efficiency across the whole airspace),
- FUA will be enhanced between Ireland and the UK, supported by our Irish and UK military partners,
- All SESII FAB Implementing Rules will be met as required,
- The UK-Ireland FAB National Performance Plans will be developed for the SESII first Reference Period,
- Coordination between the ANSPs and Regulators will be enhanced,
- Work will be jointly conducted to align with emerging SESAR activities, and
- Joint IAA/NATS customer engagement will be facilitated.

We are confident that the execution of the programme of work contained in this FAB Plan will deliver repeat savings to our airspace users and helps Ireland and the UK to meet the underlying objectives of the Single European Sky.