Skyway magazine

EUROCONTROL

No. 52, Summer & Autumn 2009

Single European Sky second package

Interviews

Daniel Calleja, Director of Air Transport, European Commission

Olivier Jankovec, Director General of ACI EUROPE

Also in this issue: the views of AEA, CANSO, EASA and the SESAR JU

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Dear readers,

I am pleased to bring to you a restyled Skyway, which aims to bring you fresh, new information about the key issues and challenges confronting our industry.

Each issue of the magazine will continue to focus on a specific topic which will be tackled in depth and from various perspectives, with the aim of providing a platform for a constructive dialogue.

This time our attention is turned to the Single European Sky second package, which was endorsed by the EU Transport Ministers in March and has just been formally adopted by the Council. In this issue a number of leading figures bring us up to speed on their organisation's priorities, sharing with us their views on what is at stake at this critical time and the need to turn commitment into action.

The Single European Sky second package represents a significant step forward in improving the performance of European aviation by providing binding targets in the key areas of safety, network capacity, flight efficiency, cost-effectiveness and environmental sustainability. It also places renewed emphasis on functional airspace blocks for a more rational organisation of airspace across national borders.

EUROCONTROL is set to reinforce its role by providing experience and expertise to the regulatory, operational and technical dimension of the Single European Sky, in close coordination with the European Commission and the SESAR JU.

These critical times for the aviation industry underscore the importance of maximising efficiency across the value chain and the Single European Sky will make a crucial contribution to this goal – so our focus now must be on working together to deliver results as quickly as possible.

For our part we have begun an ambitious modernisation project to fully align our organisation with the objectives of the Single European Sky. The establishment of the Air Navigation Services Board (ANSB) marks a new era of partnership with our stakeholders. Airspace users, air navigation service providers, airports, and the military are now fully involved in steering the Agency's work in support of the Single European Sky.

David McMillan,
Director General

Chers lecteurs

Je suis heureux de vous présenter cette nouvelle édition de Skyway qui adopte un style nouveau pour vous donner des informations nouvelles et récentes sur les grandes questions et les défis majeurs qui se posent au secteur du transport aérien.

Chaque numéro continuera d'être centré sur un thème spécifique, qui sera traité en profondeur et sous différents angles, notre objectif étant d'offrir une plateforme pour un dialogue constructif.

La présente édition est consacrée au deuxième paquet du Ciel unique européen, approuvé en mars dernier par les ministres des Transports de l'UE et qui vient d'être formellement adopté par le Conseil. Dans les pages qui suivent, plusieurs personnalités de premier plan nous exposent les priorités de leurs organisations respectives ainsi que leurs points de vue sur les enjeux de cette période critique et la nécessité de traduire les engagements en actions concrètes.

Le deuxième paquet du Ciel unique européen constitue une avancée importante pour l'amélioration des performances de l'aviation européenne en ce qu'il fixe des objectifs contraignants dans les domaines clés que sont la sécurité, la capacité du réseau, l'efficacité des vols, l'efficience économique et la viabilité environnementale. Il continue également de mettre l'accent sur les blocs d'espace aérien fonctionnels comme moyen de parvenir à une organisation plus rationnelle de l'espace aérien par-delà les frontières nationales.

EUROCONTROL verra son rôle renforcé puisqu'elle fournira expérience et expertise aux volets règlementaire, opérationnel et technique du Ciel unique européen, en coordination étroite avec la Commission européenne et l'Entreprise Commune SESAR.

La crise que traverse le transport aérien met en évidence la nécessité de maximiser les niveaux d'efficacité sur l'ensemble de la chaîne de valeur et le Ciel unique européen contribuera de manière cruciale à cet objectif. Notre priorité sera donc d'œuvrer tous ensemble à l'obtention de résultats dans les plus brefs délais.

Dans cette perspective, nous avons engagé un ambitieux projet de modernisation visant à aligner complètement notre organisation sur les objectifs du Ciel unique européen. La mise en place du Conseil des services de navigation aérienne (ANSB) marque l'avènement d'une ère nouvelle sur le plan du partenariat avec nos partenaires : usagers de l'espace aérien, prestataires de services de navigation aérienne, aéroports et militaires sont désormais pleinement associés à la conduite des travaux menés par l'Agence à l'appui du Ciel unique européen.

David McMillan,
Directeur général

Single European Sky II EUROCONTROL's regulatory support role

Jean-Luc Garnier,
Deputy Director Single European Sky Implementation,
sheds light on the actions that EUROCONTROL is going to perform to support the implementation of the regulatory dimension of the Single European Sky second package (SES II) and its four pillars: performance, safety, technology and airport capacity.

PERFORMANCE PILLAR

REGULATING PERFORMANCE

The first measure introduces a system of performance regulation through the setting of targets. A two-tier system will be introduced. Community-wide targets will be defined (through quantified objectives in the areas of delay, cost reduction and flight efficiency). They will be proposed by a Performance Review Body (PRB) and then approved by the Commission (after they have sought the formal opinion of the Single Sky Committee).

These Community targets will then be passed to the national supervisory authorities that will have to define, after proper consultation with stakeholders (notably airspace users), national or regional targets (at the level of functional airspace blocks, FABs) consistent with the network-wide targets. These national/regional targets will also be agreed at Community level. It is important to realise that these targets will be binding.

Detailed implementing rules have to be prepared to define the mechanisms which will be used to develop and agree the targets. The Commission has already started preparing these rules with the active support of the Performance Review Commission (PRC) and the Performance Review Unit (PRU).

The intention of EUROCONTROL is to propose that the PRC acts as the PRB on request of the Commission.

INTEGRATION OF SERVICE PROVISION

SES I already included provisions requesting Member States to establish FABs, with a view to achieving the maximum capacity and efficiency of the European ATM network. A bottom-up approach had been retained and no clear target date was set to implement the provisions. It is well accepted that this approach has not met the expectations.

SES II keeps the bottom-up approach but now extends the scope of FABs to the lower airspace and sets firm obligations to implement them no later than three years after the entry into force of the regulation, i.e. appromixately by the end of 2012.

EUROCONTROL is willing to continue offering strong support to the Commission and Member States in order to facilitate the integration of service provision, notably through:

- the development of draft implementing rules regarding the information to be provided by Member States before establishing and modifying FABs;
- the development of guidance material;
- the support to specific FABs initiatives, on request of the Member States concerned;
- support actions aimed at improving the coordination between FABs.

NETWORK MANAGEMENT FUNCTIONS

Network management function is another key new feature of SES II. It aims to achieve optimal gate-to-gate solutions through full integration of the overall network perspective. SES II identifies an initial list of specific areas where actions need to be performed at European network level to support optimal performance. This includes the design of a European route network and the coordination of scarce resources (frequency bands, radar transponder codes). Implementing rules will be prepared to this effect, which EUROCONTROL will offer to draft in support of the Commission. These rules should, notably, define the framework in which the functions will have to be performed. The Agency would then be willing to undertake the tasks necessary for the execution of these functions, on request of the Commission.

SES II also puts obligations on Member States to entrust "EUROCONTROL or another impartial and competent body with the performance of air traffic flow management". The Agency has a long-standing experience in this field through the CFMU and is of course more than willing to respond to further requests from Member States.

Further network management functions might be added at a later stage to support the implementation of SESAR, such as the management of the deployment of SESAR technologies and the procurement of Europe-wide infrastructure elements. Their implementation will also have to be supported by regulatory measures.

SAFETY PILLAR

EASA was created in 2002 to ensure that Europe takes a common approach towards a harmonised development and an effective implementation of safety regulations. The SES II package includes a revision of the basic EASA regulation (which had already been amended in 2008 to address aircraft operations and crew licensing), further extending the competencies of this Agency to air traffic management/air navigation services (ATM/ANS) safety.

In the context of the SES, EUROCONTROL and EASA rule-making activities have, for several years, already been coordinated through ad-hoc

Single European Sky II
EUROCONTROL's regulatory support role

arrangements with the participation of the Commission. Cooperation is expected to develop further in the SES II context to ensure the consistency of the developments in the SES and EASA regulatory systems. A first example will concern the Standard European Rules of the Air (SERA), for which EUROCONTROL is expecting a mandate from the Commission to support it and EASA in developing an appropriate set of regulatory provisions and means of compliance.

A common roadmap is also being prepared between the two Agencies to identify cooperation mechanisms which could be put in place during the transition phase and beyond, as appropriate.

TECHNOLOGY PILLAR

The regulation governing the SESAR Programme and establishing the SESAR Joint Undertaking (SJU) has been recently amended. EUROCONTROL is, together with the Commission, one of the two founding members of the SJU and a major contributor to the work programme which recently has been officially launched.

On the regulatory side, EUROCONTROL, as part of the activities performed on behalf of the SESAR Joint Undertaking for the maintenance of the ATM Master Plan, will develop proposals for standardisation and the regulatory roadmaps. The former will identify the various categories of standards which will be necessary to meet the requirements of the SESAR implementation packages. The latter will identify the interoperability implementing rules which could support the harmonised and coordinated deployment of new technologies validated by the SESAR work packages. Those standards described in the roadmap which could serve as means of compliance (recognised as Community specifications) will also be clearly identified.

Relying upon the experience acquired throughout SES I (where a significant number of draft implementing rules were developed to support the coordinated deployment of technologies – such as data-link services or reduced voice channel spacing), EUROCONTROL will put its expertise at the disposal of the Commission to develop the additional rules required to ensure that SESAR targets can be achieved on time.

AIRPORT CAPACITY PILLAR

The European Parliament and the Council have endorsed the 'action plan for airport capacity, efficiency and safety in Europe'. The objective of this action plan is to offer appropriate responses to the potential lack of capacity on the ground. It will include a number of complementary facets.

On the regulatory side, various types of measures will be considered, which EUROCONTROL has already supported or might support in the future, e.g.:

- consistency between airport slots and ATFM slots;
- strengthening of noise-abatement rules around airports, for which the availability of noise models is a key asset.

Environmental issues extend of course largely beyond the airport area. One dimension of particular importance is the Emission Trading Scheme (ETS), for the applicability of which EUROCONTROL has started providing well appreciated support to the Commission.

An Airport Observatory has also been set up by the Commission, composed of Member States and relevant authorities and stakeholders, which facilitates the exchange and monitoring of data and information on airport capacity as a whole. EUROCONTROL is chairing one of the working groups of this Observatory.

CONCLUSION

Thanks to its expertise in all ATM technical areas and the experience acquired throughout SES I, EUROCONTROL is uniquely positioned to support the Commission and Member States in the further development of the regulatory aspects of the Single European Sky. This will strongly contribute to the definition of the required provisions (notably implementing rules and Community specifications) which will allow the new features of SES II (performance regime, network management functions, SESAR targets, etc.) to be implemented in an harmonised and coordinated manner. ■

Single European Sky II

A new mechanism for setting performance targets

Xavier Fron, Head of the Performance Review Unit, explains how the target-setting mechanisms introduced in the Single European Sky second package (SES II) will work and how they will be a powerful driver for optimising ATM performance in Europe.

A NEW COMMUNITY REGULATORY REGIME

In March 2009, the second legislative package of the Single European Sky (SES II) was adopted by the European Parliament and politically endorsed by the Transport Ministers. And it has been recently formally adopted by the Council.

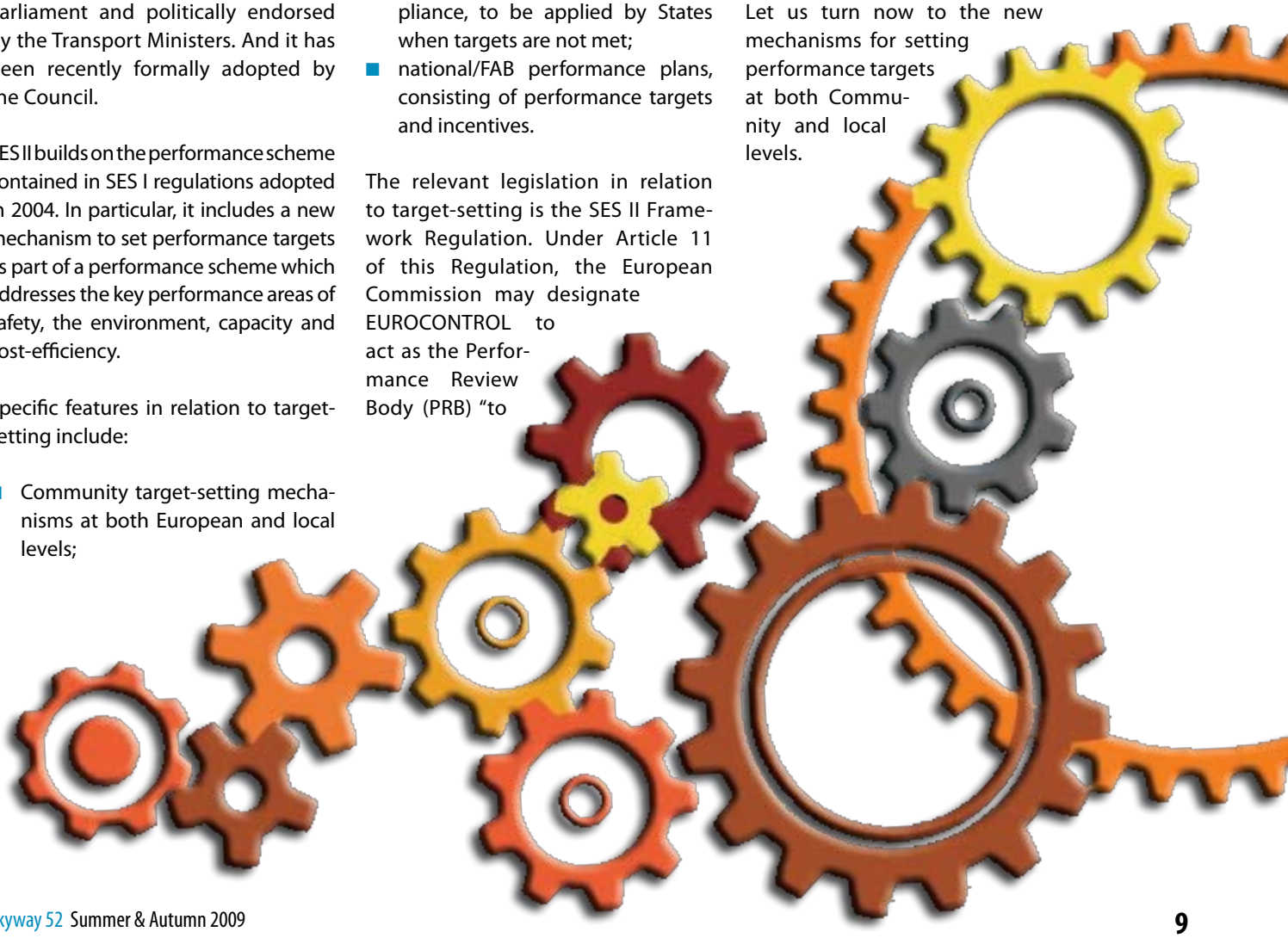
SES II builds on the performance scheme contained in SES I regulations adopted in 2004. In particular, it includes a new mechanism to set performance targets as part of a performance scheme which addresses the key performance areas of safety, the environment, capacity and cost-efficiency.

Specific features in relation to target-setting include:

- Community target-setting mechanisms at both European and local levels;
- European performance targets, adopted under European Commission authority;
- a common framework for corrective measures, including alert mechanisms, incentives and compliance, to be applied by States when targets are not met;
- national/FAB performance plans, consisting of performance targets and incentives.

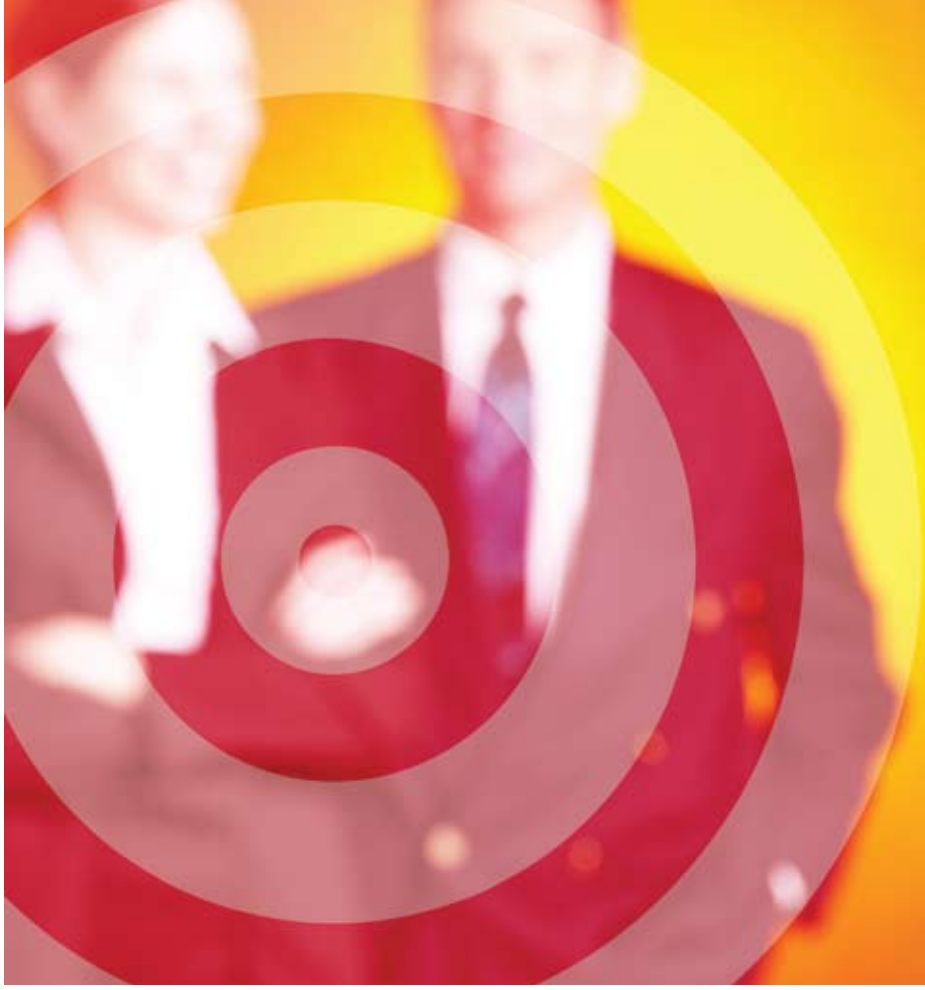
The relevant legislation in relation to target-setting is the SES II Framework Regulation. Under Article 11 of this Regulation, the European Commission may designate EUROCONTROL to act as the Performance Review Body (PRB) "to assist the Commission, in association with National Supervisory Authorities (NSAs), and to assist the NSAs on request, in the implementation of the performance scheme".

Let us turn now to the new mechanisms for setting performance targets at both Community and local levels.



Single European Sky II

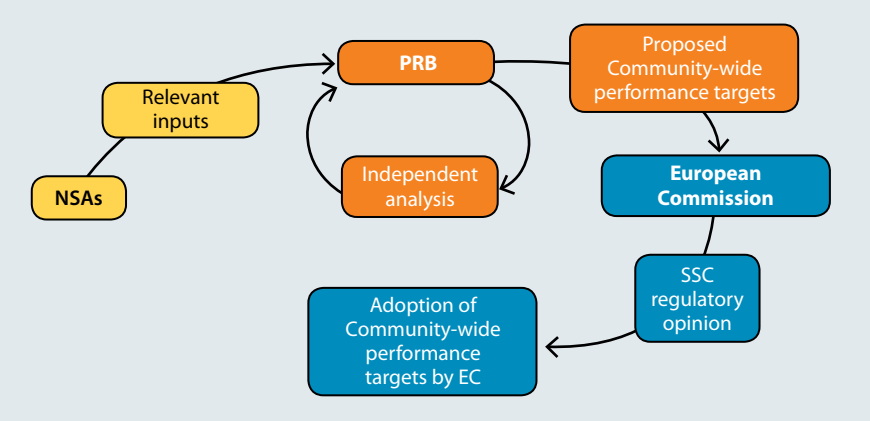
A new mechanism for setting performance targets



COMMUNITY-WIDE TARGETS

In accordance with Article 11.3 (a) of the SES II Framework Regulation, Community-wide performance targets for the air traffic management network are to be adopted by the European Commission, after taking into account the relevant inputs from NSAs at national level or at the level of functional airspace blocks (FABs).

When the European Commission has adopted the Community-wide targets, they will be used by the NSAs to develop local targets.



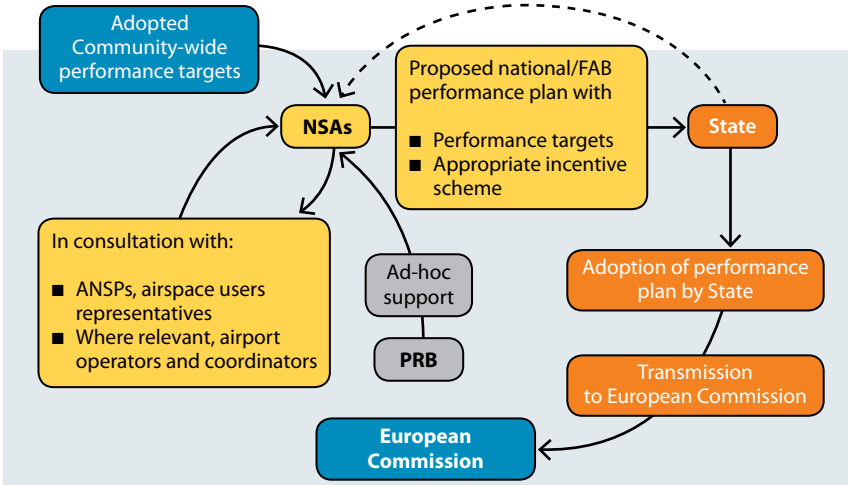
Community-wide targets

When the European Commission has adopted the Community-wide targets, they will be used by the NSAs to develop local targets

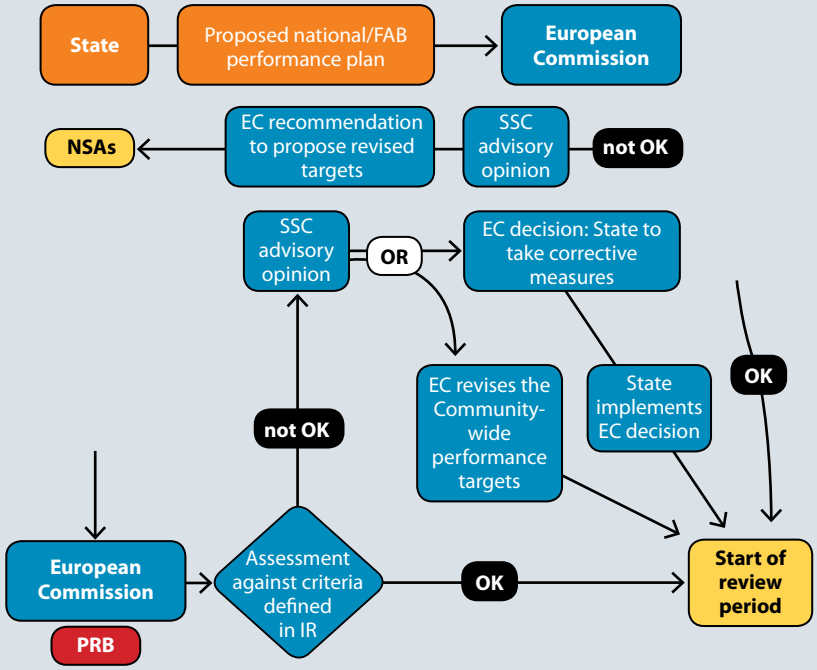
LOCAL TARGETS

Local, in this context, means "national" or "functional airspace block" targets. As already stated, these will be developed by NSAs, in consultation with air navigation service providers (ANSPs), airspace users' representatives and, where relevant, airport operators and airport coordinators.

The local targets are to be adopted by the Member State(s) and sent to the European Commission for assessment, to ensure that they are consistent with the Community-wide performance targets.



Local targets



Assessment of targets

ASSESSMENT OF TARGETS

The implementing rules for the Framework Regulation will contain criteria for assessing whether the national or functional airspace block targets are consistent with the Community-wide performance targets.

If they are not consistent, the European Commission may ask the NSA(s) to propose revised performance targets. If these revised targets also prove to be inconsistent, then the European Commission has the power to require the Member State(s) concerned to take corrective measures.

Alternatively, if there is adequate supporting evidence, the European Commission may decide to change the Community-wide performance targets.

IMPLEMENTING RULES

Implementing rules need to be developed for the detailed functioning of the performance scheme. They have to be adopted by the European Commission no later than two years following the entry into force of the Framework Regulation (i.e. 2011).

The implementing rules will include the following:

1. Content and timetable for:
   - collection, validation, examination, evaluation and dissemination of relevant data related to performance of ANS and network functions;
   - selection of appropriate key performance indicators (KPIs) on the basis of ICAO and ATM Master Plan frameworks, adapted where necessary, as well as relevant objectives for these areas and definition of a limited set of KPIs for measuring performance;
   - establishment of Communty-wide performance targets taking into consideration inputs identified at national/FAB level;
   - assessment of the national/FAB performance targets;
   - monitoring of the national/FAB performance plans, including appropriate alert mechanisms.
2. Reference period and intervals for assessing the achievement of performance targets and the setting of new targets.
3. Criteria for the setting-up by the NSAs of the national/FAB performance plans, containing the national/FAB performance targets and the incentive scheme.

   The criteria will be based on the business plans of the ANSPs; they will address all cost components of the national/FAB cost base and will include binding performance targets consistent with the Community-wide performance targets.
4. Criteria to assess whether the national/FAB targets are consistent with the Community-wide performance targets during the reference period and to support alert mechanisms.
5. General principles for the setting-up by Member State(s) of the incentive scheme.
6. Principles for the application of a transitional mechanism not exceeding twelve months following the adoption of the implementing rules.

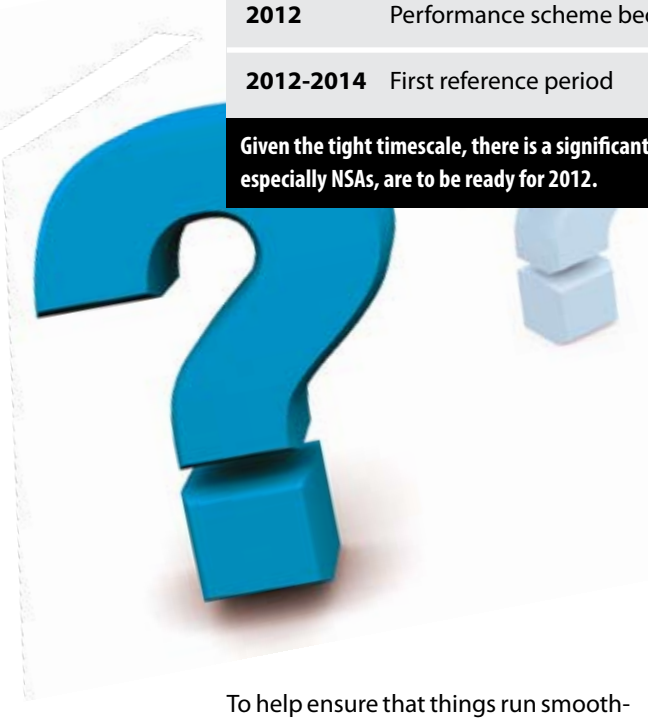
Single European Sky II

A new mechanism for setting performance targets

WHAT HAPPENS WHEN?

End 2009	The SES II legislative package enters in force
End 2011	Implementing rules adopted by the European Commission. European targets and national/FAB performance plans adopted for the first reference period
2012	Performance scheme becomes operational
2012-2014	First reference period

Given the tight timescale, there is a significant amount of work to be done if the stakeholders, especially NSAs, are to be ready for 2012.



To help ensure that things run smoothly, the European Commission has invited the Performance Review Commission (PRC) to review local and regional performance planning, consultation and management processes. The PRC is carrying out this task in ongoing and open-forum consultation with all stakeholders. The PRC's report will be published in October 2009.

In addition, the European Commission has indicated that it intends to request the PRC's support to prepare for the implementation of the performance scheme.

LINK WITH SESAR

The SES II performance scheme will contain performance targets at Community-wide and at local level for the medium term (2012-14 initially).

These targets should dovetail with the long-term performance objectives for 2020 contained in the Master Plan prepared under SESAR – the technological pillar of the Single European Sky.

CONCLUSION

The target-setting mechanisms of SES II, when implemented, will be a powerful driver for optimising ATM performance in the European Union and associated States.

The PRC is committed to helping to ensure the success of the performance scheme, in the interests of the European ATM system.

These mechanisms could be extended to all EUROCONTROL States by decision of its governing bodies. ■

More details on SES II are available from the European Commission's website, http://ec.europa.eu/transport/air/single_european_sky/ses_2_en.htm

Single European Sky II

Renewed focus on safety

The SES II regulatory package identifies the need to maintain and further improve safety levels within European airspace, in the face of capacity concerns, congestion and the introduction of new technologies.

Martine Blaize, Head of Performance and Methods, Centre of Expertise, CND, and **Juan Vazquez Sanz,** Head of the Safety Regulation Unit, explain how.

The safety pillar of SES II provides for the extension of the role of the European Aviation Safety Agency (EASA) to encompass safety in all aviation sectors, including airports and ATM/ANS safety in a "total aviation system" approach.

EASA will become as a result the body responsible for all aviation-safety-regulatory aspects within the EU (and other "EASA States"). As per the Community institutional system (subsidiarity principle), implementation of Community law will primarily be the responsibility of the Member States.

TYPICAL SAFETY REGULATORY ROLES

EASA's new responsibilities in the field of ATM/ANS will comprise the following areas:

- preparation of the common safety rules, in the form of Draft Implementing Rules submitted as "Opinions" to the Commission;
- issuance of certification specifications, acceptable means of compliance and guidance material, albeit not as an exclusive competency;
- standardisation inspections of national competent authorities to monitor the application of the amended EC Regulation 216/2008 and of its Implementing Rules;
- oversight of compliance and certification of pan-European ATM/ANS providers as well as third-country ANS providers operating in the EC;
- safety aspects related to the implementation of the SES regulations by the Commission and by the Member States;

Single European Sky II
Renewed focus on safety

- in its fields of competency, conducting functions and tasks ascribed to EU Member States by application of international Conventions (such as the Chicago Convention).

EASA may also develop and finance research in so far as it is strictly related to improving activities in its field of competences. When doing so, EASA is required to coordinate with the European Commission and Member States.

Member States and more specifically National Safety Authorities[1] will continue to play an essential role in ensuring effective execution at national level of the common safety rules established under the EC/EASA regulatory system, mainly through certification and oversight tasks.

EASA'S KEY MILESTONES

Following the European legislative resolution agreed by the Parliament in March 2009, key milestones have been announced relating to EASA's new competencies in the field of ATM/ANS and aerodromes. These are as follows (see Figure 1):

- the publication of the extended EASA Basic Regulation, expected to take place after summer 2009 (following Council approval);
- the delivery of the EASA Opinion on the initial set of Implementing Rules (IRs) for ATM/ANS, currently planned for 2011;
- the publication of the above IRs, required to take place by December 2012;
- the entry into force of the provisions of the above IRs to follow publication or to be defined on a case-by-case basis.

INTERFACES WITH THE OTHER SES II PILLARS

As with all new legislative material, there will be a need to clarify and interpret the intent of the law when developing implementing measures. The extension of the EASA system into the safety regulation of aerodromes and ATM/ANS will call for the progressive establishment of effective interfaces with some other areas of the SES II package as well as with current EUROCONTROL safety activities.

Ongoing discussions have indeed already identified a need to ensure a smooth, progressive and safe transition from existing ATM safety regulatory requirements and a well articulated interface with the SES performance scheme, the SES II technical pillar, the SESAR ATM Master Plan, and the SES airspace and interoperability regulations.

SAFETY RULE-MAKING AND ASSOCIATED MEANS OF COMPLIANCE

Safety regulation is currently achieved through the application of a range of ICAO, EUROCONTROL and national requirements, and in the case of those Member States where European Community law applies, also by means of the EC Regulations included in the first SES package. The SES framework addresses the regulation of all ATM/ANS aspects beyond safety and it is anticipated that its safety-related rules and provisions will be progressively replaced by Implementing Rules prepared by EASA.

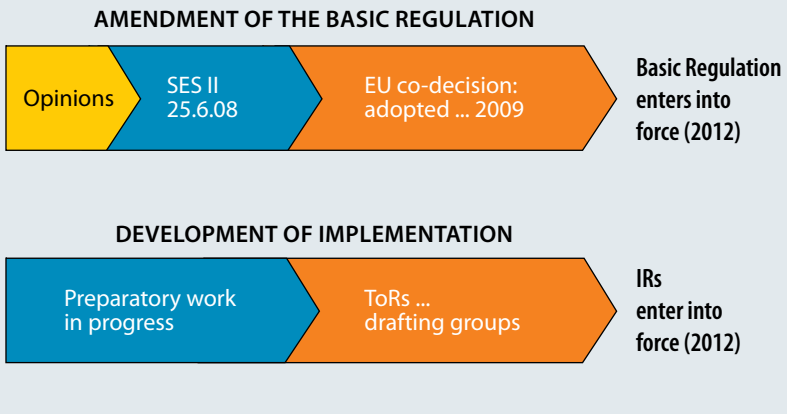


Figure 1: SES safety pillar – Key milestones

EUROCONTROL ESARRs[2] were developed as the means of harmonisation for all 44 ECAC Member States. In the EC context, ESARRs have now been transposed through SES IRs. No new ESARRs will be developed, although revision of existing ESARRs continues to ensure their full alignment with existing EC law. EASA, if and when developing new IRs in the area of ATM safety, will need to account for relevant safety-related provisions of SES rules and transposed ESARRs, such as:

- Commission Regulation (EC) 2096/2005 (Common Requirements) which establishes a certification scheme for the provision of ANS services and includes provisions transposing ESARR 3, 4 and parts of ESARR 5 into EC law;
- Commission Regulation (EC) 1315/2007 transposing ESARR 1 into EC law;
- Commission Regulation (EC) 482/2008 transposing ESARR 6 into EC law;
- EC Directives on accident investigation, safety occurrence reporting and ATCO licensing which address the transposition of ESARR 2 and part of ESARR 5.

1- National Aviation Authorities in EASA terminology; National Supervisory Authority in SES terminology.
2- EUROCONTROL Safety Regulatory Requirements

The extension of EASA's safety regulatory role not only includes the preparation of IRs but also the issuing of the necessary acceptable means of compliance, certification specifications and guidance material in the field of ATM/ANS safety.

EUROCONTROL ESARRs were developed as the means of harmonisation for all 44 ECAC Member States

Organisations such as EUROCONTROL and EUROCAE have produced and are producing specifications and guidance material in the area of ATM safety which can have a recognised status (such as Community Specifications in SES and Acceptable Means of Compliance) in the EC context, both in the SES and EASA regulatory frameworks. It is therefore expected that existing safety methods and guidance material as well as those under development will be used to facilitate the application of safety rules within the EC SES and EASA systems.

SAFETY PILLAR AND THE SES PERFORMANCE SCHEME

Following the adoption of the SES II legislative package, a performance scheme will be established. It will include EC-wide performance targets and national plans or plans for functional airspace blocks.

The performance scheme is a key enhancement of the original Regulation (EC) No. 549/2004 (Framework Regulation) and will become a core part of the SES framework, while EASA, governed by Regulation (EC) No. 216/2008 (EASA Basic Regulation), will deal with safety regulatory matters following the extension of its competencies to ATM/ANS. Interfaces will need consideration, particularly as regards:

- the development of Implementing Rules for the setting of safety performance targets;
- interdependencies between key performance areas/targets/indicators, including evaluation of safety impact of non-safety-related targets;
- criteria to ensure the consistency of national safety targets with European safety targets.

When describing the performance scheme, the SES II provisions make clear that safety performance forms part of it. A number of aspects will therefore have to be considered as regards the implementation of the scheme as regards safety, with EASA and National Supervisory Authorities

Single European Sky II

Renewed focus on safety

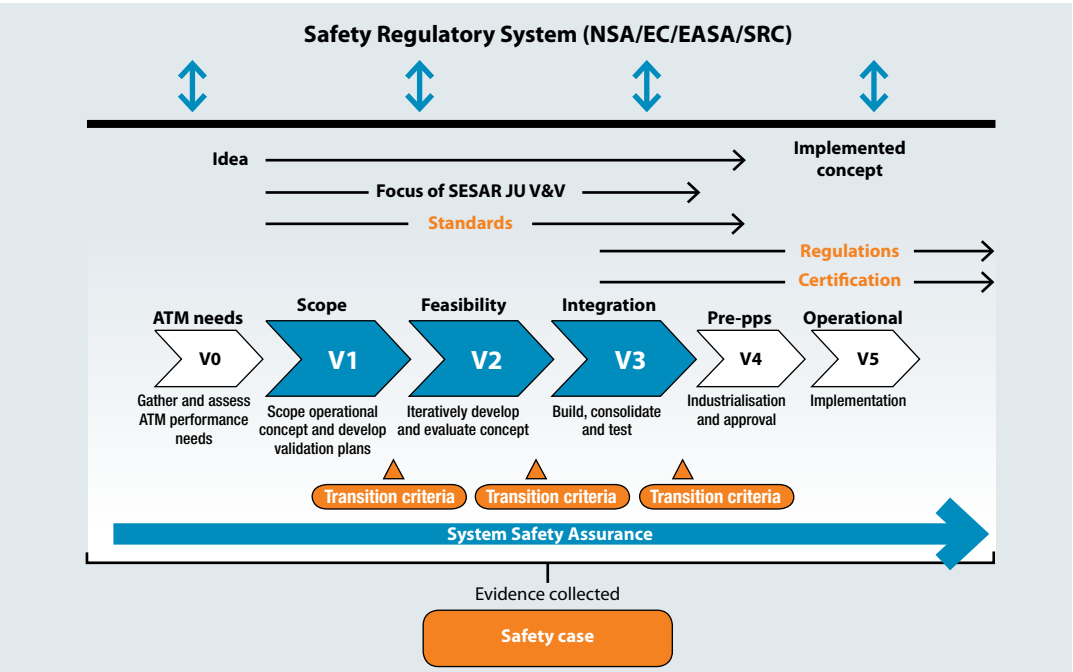


Figure 2: Safety and ATM lifecycle

(NSAs) being associated with all the relevant safety activities.

The results of the work conducted so far on key performance indicators in the context of SAFREP are expected to be presented at the next EUROCONTROL Provisional Council meeting in December 2009. This work may provide a relevant input to the development of safety performance targets within SES II.

The safety part of the performance scheme could also provide an independent check that achieved safety levels are maintained and where possible increased, i.e. that the overall safety outcome from the set of safety rules, oversight and certification, ANS provision, aerodromes and air operation arrangements does not decrease, and if possible improves.

SAFETY PILLAR AND THE SESAR ATM MASTER PLAN

Over recent years, there has been a growing awareness within the aviation community at large that the results of research and development could be more effectively used, notably to steer industrial improvements, to support decision-making and to contribute validated inputs to the development of specifications, international and European standards and even rules such as SES Implementing Rules. Clearly, the SESAR Definition Phase helped a lot in further raising such awareness.

To be able to meet these more explicit expectations, R&D must be structured in a way which not only delivers mature specifications for technical and operational improvements, but also provides robust justifications and evidence that such technical and operational improvements have been designed and specified as "fit-for-purpose".

One of the roles of the SESAR ATM Master Plan is to strengthen and where necessary introduce a performance-driven approach to the future European ATM system, both at system development and operations level. Fitness-for-purpose is therefore often further qualified in that context in terms of performance criteria. Since safety is one of the performance drivers of the SESAR ATM concept, the operational and technical specifications[3] which will result from the SESAR Development Phase will need to have been assessed as "safe in principle", or "safe by design" by the SESAR JU.

The performance management scheme adopted in SESAR relies on the application of a lifecycle-based approach for the development and application of ATM changes. (see Figure 2), adopting an approach based on E-OCVM[4]. The E-OCVM provides a lifecycle model that maps development and

One of the roles of the SESAR ATM Master Plan is to strengthen and introduce a performance-driven approach to the future European ATM system

3- Often in the form of OSED, SPR and INTEROP documents as per the terminology used in EUROCAE ED78A.

4- The European Operational Concept Validation Methodology provides a framework for validation, endorsed by the European Commission and EUROCONTROL and mandatory for all European collaborative ATM R&D projects.

evidence-gathering onto a set of lifecycle stages from design onwards (V0 to V6) with, in particular, clear criteria for safety maturity. Mapping safety-assurance activities, driven by a safety argument based on the system lifecycle, to the phases of the E-OCVM provides a means to justify the safety of the SESAR concept of operations and implementation packages with a level of rigour commensurate with each stage of the lifecycle. It is anticipated that the early stages will concentrate on the safety implications of the concept based on the operational services and environment definition (OSED). As work progresses towards deployment and operation, work will refocus on system development issues, while taking account of safety questions arising during the concept work.

SES II does not require any explicit safety regulatory involvement in overseeing the early stages of the ATM lifecycle, such as the R&D activities conducted under the umbrella of the SESAR ATM Master Plan. However, no-one now questions the need for an early safety regulatory involvement in the SESAR activities. The main objectives are to allow the relevant safety authorities, which will have the ultimate responsibility of approving the implementation of new ANS/ATM developments, to be aware of ongoing developments, to confirm that the validation and safety activities being conducted during the ATM lifecycle will be sufficient from a safety regulatory perspective, and to anticipate potential safety regulatory issues early enough.

Discussions are ongoing to establish such a safety regulatory interface, involving EASA and NSAs coordinating their views, at least to start with, through the EUROCONTROL Safety Regulation Commission (SRC).

Overall, the establishment of an effective safety regulatory interface is essential to maximise the chances of R&D results being given some credit when safety authorities exercise their approval and certification responsibilities at the time of implementation.

SES AIRSPACE AND INTEROPERABILITY REGULATIONS

The specifications produced by the SESAR JU to support the deployment of the SESAR ATM concept and implementation packages will represent an essential contribution and foundation to the subsequent production of international and European Standards, as well as SES Community Specifications and Implementing Rules, when deemed necessary.

More generally, the SES II includes several ATM regulatory functions such as (although not exclusively) interoperability and the management of air traffic flows and airspace. All these areas contain safety aspects which need to be properly addressed. Therefore, when regulating on these subjects, Member States and the Commission, technically supported by EUROCONTROL, will need to ensure proper coverage of such safety aspects by means of appropriate coordination with national safety authorities, the military and EASA.

In some cases, a need for some form of operational monitoring, often in real time and independent from service provision will also be required to monitor continuous compliance with required equipage and agreed interoperability specifications, and to detect anomalies which have the potential to affect the performance of the European ATM network. Since this data will primarily meet operational needs, it is expected that this activity would be conducted independently of the safety authorities but that the data collected would contribute useful inputs to the safety regulatory system.

THE WAY AHEAD

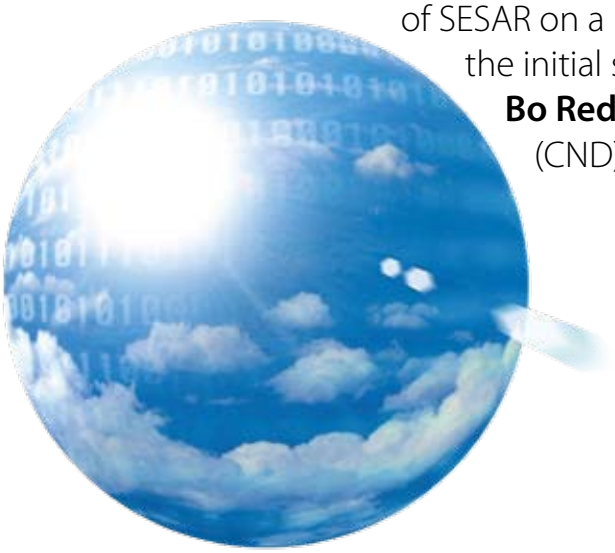
The implementation of the safety pillar of SES II will need cooperative work with all relevant parties over the coming period, so as to ensure a smooth and safe transition from existing ATM safety regulatory requirements, a well articulated interface with the SES performance scheme, the airspace and interoperability regulations, as well as with the technical pillar of SES II, the SESAR ATM Master Plan.

EUROCONTROL has, over recent years, gained experience in ATM safety regulation and management and in performance reviews, as well as providing technical support to the implementation of the Single European Sky. EUROCONTROL will therefore contribute its expertise and experience in order to respond to the needs of the European Commission, EASA, States, including the military, and National Safety Authorities.

Last but not least, the NSAs will have an essential part to play in this, considering the evolution of their role under SES II. In that sense, the recent decision by the Single Sky Committee to establish an NSA platform to coordinate and contribute to SES implementation is a significant step forward. ■

SESAR: the future ATM system

The readers of Skyway have been able to follow the genesis and progress of SESAR on a regular basis, in particular during the Definition Phase and the initial steps of the SESAR Joint Undertaking (SJU). **Bo Redeborn,** Principal Director Cooperative Network Design (CND), takes a wider look at SESAR in the context of SES II.



SESAR – AN HISTORIC PILLAR OF SES

On 22 July 2004, Ms Loyola de Palacio, Commissioner for Transport, launched the SESAM initiative (as it was called at the time) and presented it as the technological arm of the Single European Sky (SES) legislative framework package which had just been approved. Following the successful completion of the Definition Phase of SESAR in May 2008 and the evolution of SES into the second package, it is important to notice the continuous political support sought and successfully obtained by the European Commission for the establishment of a Single European Sky. European Commissioner Barrot and Transport Commissioner Tajani have each moved the initiative along further, notably by allowing the establishment of the SESAR Joint Undertaking and by making SESAR one of the four pillars of SES II.

The recognition of the importance of SESAR is also visible through the continuous support of the aviation industry as a whole, in particular through their work during the Definition Phase and their commitment to the Development Phase, the latter in spite of the challenges brought by the current economic crisis for longer-term investments.

It is also worth observing that SES II brings under the same roof, and in addition to a clear European regulatory framework, the various ingredients recognised during the SESAR Definition Phase as essential for enabling the success of the initiative and the achievements of the long-term performance goals for the European ATM system, notably a single legal framework, a common performance framework that also addresses the business aspects, the consideration of the airport infrastructure capacity as an integral part of the ATM problem, and the efficiency of service provision through FABs.

SESAR IS ALIVE

Milestone events recently occurred on the political scene.

The first of these is the endorsement of the European ATM Master Plan by the EU Transport Council. This is both an achievement and the start of a new era: it represents the formal recognition of the ATM Master Plan work carried out during the Definition Phase, and a new configuration of European planning; the SJU Administrative Board will now be the body that approves changes to the Master Plan. In order to do so, it will, through its founding members (the European Community and EUROCONTROL) consult the States of the EU as well as the additional member States of EUROCONTROL, ensuring a full pan-European perspective. It will also consider the views of the other members of the Board, in particular the airspace users who have direct voting rights, and, as a specific construction, the community of the stakeholders who operate the system (airspace users, airports, ANSPs, staff associations), who collectively can veto proposed changes.

The second event was the signature of the agreements linking the SJU and its members, thereby launching the cooperative technical activities. Two of these agreements relate to the EUROCONTROL contribution. They were signed by the Director General who was given the mandate to do so following the unanimous decision of the EUROCONTROL Provisional Council and Permanent Commission, giving concrete form to the commitment of the Organisation to SESAR.

The agreement describes the contribution to the Development Phase and SJU Work Programme. The contribution, an integral part of the Agency budget with no additional cost to the airspace users, will amount to around

STRATEGIC GUIDANCE IN SUPPORT OF THE EXECUTION OF THE EUROPEAN ATM MASTER PLAN

In order to support the air navigation community in executing the European ATM Master Plan, EUROCONTROL published in May of this year strategic guidance describing how the Agency, through its activities, will reach the targets set out in the Master Plan.

The single common reference for the future of ATM in Europe is now the European ATM Master Plan. The Strategic Guidance in Support of the Execution of the European ATM Master Plan was developed in order to provide a consistent baseline and ensure that all EUROCONTROL activities are aligned and consistent with the Plan. The document also replaces the EUROCONTROL ATM strategies that had been developed in the past for various subjects. It provides the rationale behind the European ATM Master Plan information and is described from four complementary perspectives of the ATM system: performance, network, information management and infrastructure, and guidance on deployment.

In particular, it describes how the phased delivery of operational improvements seen from the network perspective will exploit the evolving capabilities described in the areas of infrastructure and information management in order to deliver ATM operational services in line with the performance requirements. It is a living document and will be updated to reflect any future agreed changes to the European ATM Master Plan.

€700 million during the lifetime of the SJU, i.e. until the end of 2016.

EUROCONTROL's contribution is broken down as follows:

The majority of the contribution is in-kind (€535 million), mainly taking into account the efforts of the Agency staff who will intervene as team members or project managers in the various technical work packages and projects of the SJU Work Programme, working in partnership with the teams of the other SJU members. The in-kind contribution also includes resources to sub-contract additional studies, and/or specific developments of R&D tools and instruments requiring specialised skills not available to the other members. It also includes a significant contribution to the overall Programme management through a dedicated team supporting the SJU on the SJU premises.

The other part of the contribution (€165 million) is a cash contribution and will be used for several purposes: to allow the direct co-financing by the SJU of the contribution of its members to several work packages, in particular those dealing with network operations and a number of topics transversal to the ATM system; for the Agency to place contracts on behalf of SJU to ensure the active participation of airspace users, staff associations and the military in the SJU projects and to co-finance the work packages related to airline operations systems and long-term and innovative research. The latter will be through research projects and networks that will facilitate the involvement of academia and SMEs in the programme. The Agency will also contribute to SJU running costs.

SESAR IMPACT ON AGENCY ACTIVITIES

SESAR has already had a major impact on the Agency, starting right from the early days of the Definition Phase. The impact of SES and SESAR on work organisation culminated in the recent reorganisation, resulting in the establishment of CND – Cooperative Network Design – specifically designed to provide the most transparent and direct support to SES and SESAR activities through two of its programme pillars.

In addition, the participation in the SJU projects will result in significant changes in working practices, in particular an increased partnership with the members of the SJU.

In this evolving context, EUROCONTROL has taken a significant step towards full alignment of its activities with the European ATM Master Plan. This has required a general increased focus on partnership and transparency in handling activities, rather than a change in technical orientation. The aim is overall consistency and synchronisation of information, capitalising on the efforts deployed during the Definition Phase, which are quite simply needed even more now in the Development Phase.

With the Air Navigation Services Board, the Stakeholder Consultation Group (SCG) and the newly created CND Supervisory Board, tools are now available to the entire ATM community to ensure that they are fully involved in helping the Agency to deliver its best possible contribution to SES and SESAR.

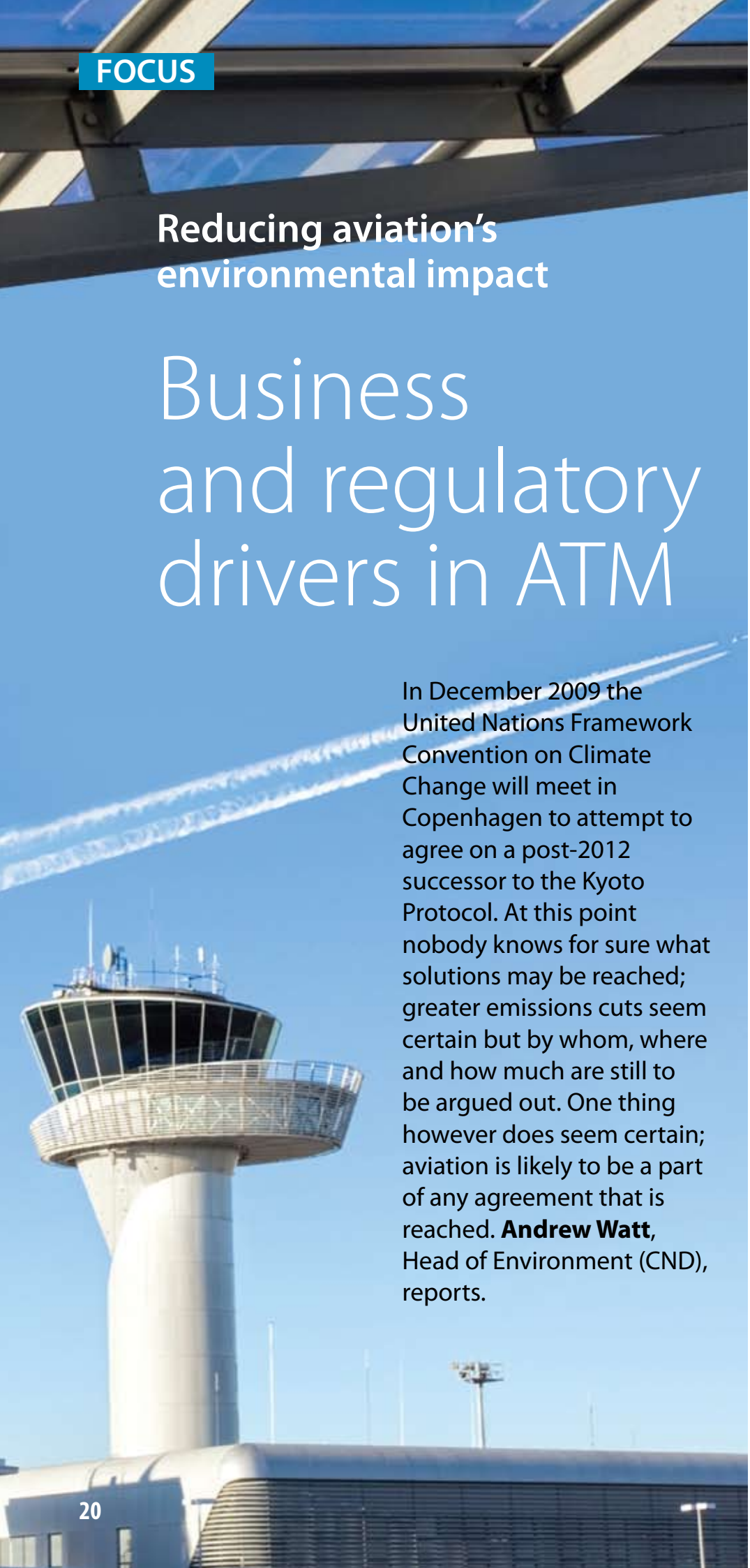
CONCLUSION

EUROCONTROL is fully united behind the delivery of the European ATM Master Plan and our aim is to help our members and stakeholders to be likewise united.

With the agreements now signed and the projects being initiated, the SESAR Development Phase is now entering its productive phase. The signs are there – all partners are keen to deliver the studies, validation and experiments which will enable the decisions to be made on the next implementation steps and improve the performance of the European ATM system. ■

Reducing aviation's environmental impact

Business and regulatory drivers in ATM



In December 2009 the United Nations Framework Convention on Climate Change will meet in Copenhagen to attempt to agree on a post-2012 successor to the Kyoto Protocol. At this point nobody knows for sure what solutions may be reached; greater emissions cuts seem certain but by whom, where and how much are still to be argued out. One thing however does seem certain; aviation is likely to be a part of any agreement that is reached. **Andrew Watt**, Head of Environment (CND), reports.

Producing 'just' 2-3% of global CO_2 emissions up until now, aviation has been relatively free from climate change regulation. However, that is certainly changing. 2012 will mark aviation's inclusion in the European Emissions Trading Scheme (EU ETS), following the entry into force of the relevant directive this year. This means that the CO_2 emissions which aviation is allowed to produce will be capped at the average of 2004-2006 levels, and airlines will be issued permits for their share within it. Any aircraft operator unable to meet its target will have to buy an unused permit from another operator or another industry. The emissions cap will then be lowered over time to decrease emissions further.

Market-based policies such as the ETS are likely to become increasingly common on a global scale. However, another essential tool for mitigating aviation's environmental impacts is the Single European Sky (SES). It was originally conceived in 1999 to deal with growing delay and congestion (though concerns about the environmental impacts of increased demand were already being voiced at this time). This led to the SES I package, which was adopted in 2004, with its key objectives of addressing en-route congestion and delay, as well as safety issues. The successor to this, the SES II package, was adopted by the European Parliament and the Council at the end of 2008.

SES II is based on four pillars, covering performance, safety, technology and ground capacity, and is expected to place greater emphasis on environmental issues and efficiency, bringing new focus on the sustainability of aviation; a goal that involves not just tech-

nological advances towards 'cleaner' airframes and sustainable fuels but also ATC, airport and aircraft operators working together to improve the efficiency and minimise the environmental impact of operations by providing safe, economically efficient and environmentally friendly routes, approaches and departures.

So, how can this be done? SES II sets out some clear ideas. A key recommendation is to fly more efficient routes – a measure that SES II estimates could save nearly 5 million tonnes of CO_2 per year. It is obvious that the most efficient route to fly would be 'as the crow' directly from airport A to airport B with no deviation or detours. Unfortunately, at present, this is rarely possible. Complex airspace arrangements, international boundaries and the necessity for military zones all mean that aircraft fly, on average, 49 km longer than the shortest direct route[1]. Several measures are foreseen to tackle this.

A key recommendation is to fly more efficient routes – a measure that SES II estimates could save nearly 5 million tonnes of CO_2 per year

An early step in this direction was EUROCONTROL, CANSO and IATA's joint launch of the Flight Efficiency Plan at the end of 2008. Aimed at cutting fuel consumption by 470,000 tonnes a year, the measures proposed by the plan address airspace design and utilisation in an effort to decrease route length and use the available airspace more efficiently. One of the proposed tools for achieving this is flexible use of airspace (FUA), a proven concept which opens up military airspace for civilian use, and whose uptake will be improved under this plan. The move towards functional airspace blocks (FABs) will further facilitate efficiency gains, with the SES II roadmap making a strong call for commitment to the initiative from both Member States and air navigation service providers (ANSPs). This could also have associated economic benefits, reducing duplication of systems and promoting interoperability. However, issues such as how to fly the most direct routes when crossing multiple FABs will need to be addressed.

Crucial to the implementation of many of the operational and collaborative measures proposed for environmental mitigation is awareness and training of operational staff at ANSPs and airports. A Community Air Traffic Controller License was introduced as a complement to the SES I package in 2004, based on common core content developed by EUROCONTROL. It is now becoming important to ensure that its content is updated to reflect growing environmental concerns.

SES II calls for the introduction of a network manager function, presumably looking at what is best for the network as a whole. This will necessarily mean addressing environmental impacts, though without compromising performance. This is where the SESAR 'business trajectory' concept becomes crucial, ensuring that all aspects of a mission are optimised prior to and during a flight. However, as well as operational improvements, enhanced engine and airframe technology that reduces impact is also essential. The Clean Sky Joint Technology Initiative, one of the largest ever European research projects, aims to hasten such technological breakthroughs and decrease the timescales for their implementation. And of course, the fast-growing potential of aviation biofuels is worth monitoring closely as a technological solution.

SES II's fourth pillar concentrates on ground operations, specifically increasing capacity at airports without compromising environmental performance. Some current inefficiencies in the network result from lack of coordination of airport slots and flight plans. This can lead to aircraft holding, therefore burning fuel and releasing emissions, if they arrive too early or too late for their designated slot. Optimisation of operations at and in the

1- EUROCONTROL Performance Review Report 2008

Reducing aviation's environmental impact

Business and regulatory drivers in ATM

vicinity of airports to tackle these inefficiencies is another aim of the Flight Efficiency Plan. Greater coordination, or flexibility, could lead to big reductions in emissions and noise. The formation of the EU Airport Observatory, although not specifically tasked with addressing environmental issues, will provide a pan-European forum for tackling the associated trade-offs.

The recent adoption of the ACI EUROPE Airport Carbon Accreditation (ACA) scheme shows the commitment of airport operators to voluntarily drive down emissions. At least 30 European airport groups and individual airports are already participating. However, with up to 75% of an airport's emissions outside its direct control, emissions reductions will necessarily involve multiple aviation partners working in partnership through strategic processes such as Collaborative Environmental Management and Collaborative Decision-Making.

Ironically, as aircraft become quieter, many airports are reporting increases in noise complaints. There are many reasons behind this trend, such as increases in traffic at an airport, attitudes of local communities, or sub-optimal track-keeping. Inefficiencies in the network not only produce additional emissions, they can also lead to unnecessary noise, and particularly at airports, reduced local air quality. The efficiency measures proposed by SES II should have a beneficial impact on noise and air pollution, though in general issues such as these are often regulated locally as situations and circumstances can vary significantly from airport to airport. However, mainly owing to the implications of increased traffic and delays in new infrastructure, mention is made by SES II of strengthening rules on noise at European Union airports.

As well as the regulatory measures proposed by SES II, it is likely that market-based measures will become increasingly important on a European and eventually a global scale. As previously mentioned, 2012 will mark aviation's inclusion in the European Emissions Trading Scheme (EU ETS). It is estimated that this will reduce demand by around 1 million departures per year – or 5% – by 2030. Some States in the USA operate a similar scheme for the energy sector and judging by President Obama's stance on environmental issues so far, it is likely that a cap and trade scheme could be rolled out across the entire US in the not-too-distant future. It should not be overlooked that the US Environmental Protection Agency (EPA) recently declared CO_2 a major hazard to human health. This now gives it the power to regulate it, possibly by using the Clean Air Act to enforce the reduction of emissions from the use of fossil fuels.

2012 will mark aviation's inclusion in the European Emissions Trading Scheme. It is estimated that this will reduce demand by around 1 million departures per year – or 5% – by 2030

However, the biggest potential regulatory shake-up for the industry is undoubtedly the successor to the Kyoto Protocol. So, what is that likely to imply for aviation? Well, with even some industry members themselves pushing for aviation's inclusion in any deal, it is a pretty safe bet that new regulation will be developed to ensure that the States' commitments are met. The Group on International Aviation and Climate Change's recent report points the way for the position to be taken by ICAO at Copenhagen, to be agreed at a High-Level Meeting of Contracting States in October. Whatever the outcome, ANSPs, airspace users and airport operators must work together to plan the best possible route that meets the mission – and emission – requirements.

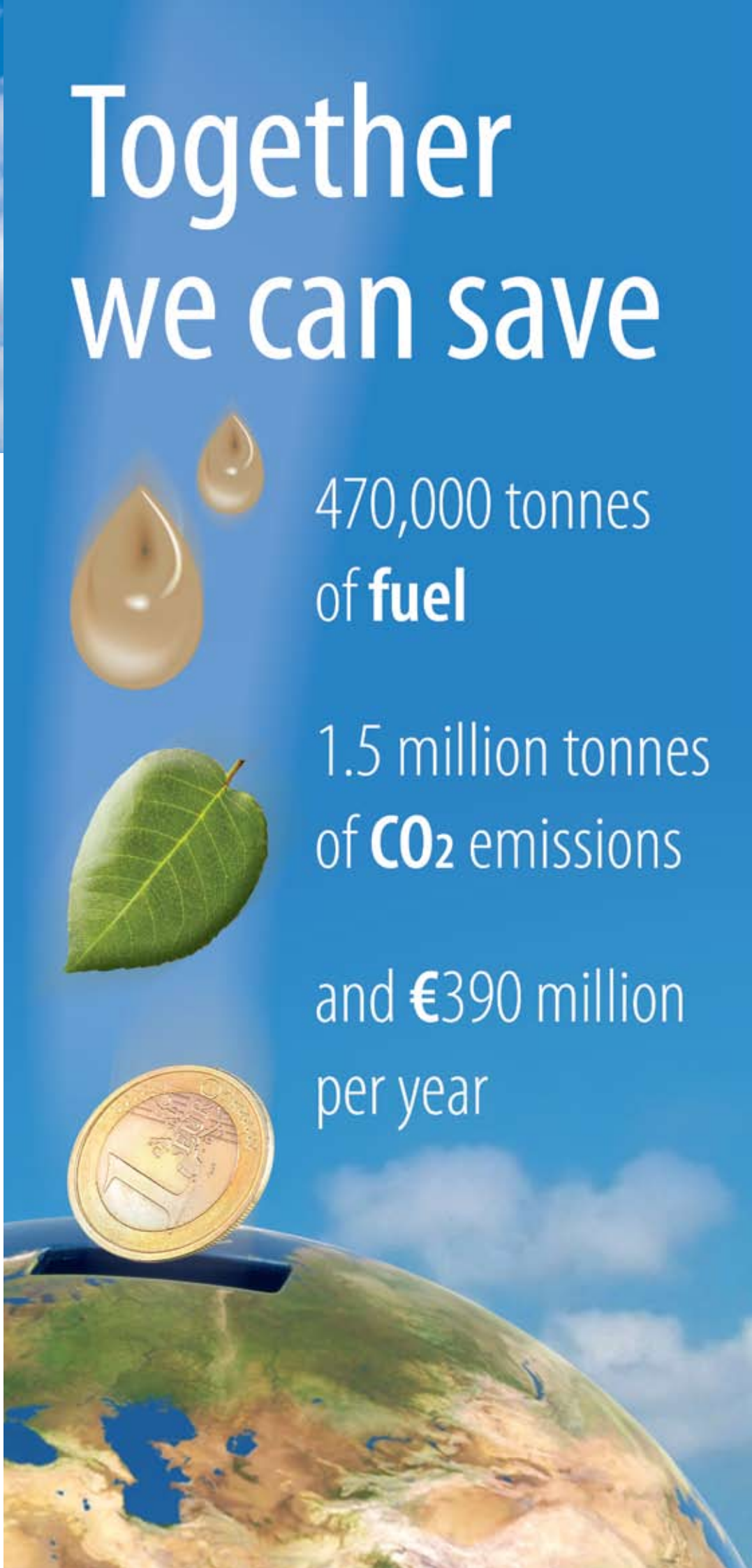
But of course, CO_2 is not the only pollutant caused by aircraft and there is increasing pressure on regulators to deal with nitrous oxide (NOx) emissions if a sound scientific basis for this can be established. Some European airports are already regulated for NOx and a legislative proposal thereon is shortly expected from the European Commission although it is unlikely that cruise NOx would be considered at this stage. Perhaps the most controversial environmental impact of aviation is contrails and the cirrus clouds they can produce, which the scientific community is increasingly convinced have a similar warming effect to CO_2. This may lead to growing pressure for

action under the precautionary principle. If so, ATM is in the front line.

The issues of NOx and contrails demonstrate that the industry cannot afford to sit back and assume that CO_2, local air quality and noise are its 'only' environmental problems. It seems certain that the way the environmental impact of our industry is regulated is set to change significantly in the coming years. Measures such as the ETS, which already encompasses a range of industries, or NOx regulations may not be directly targeted at ATM but nevertheless have an impact on it. However, SES II is a body of legislation on ATM alone and now contains more extensive environmental measures. This reflects the shift in public attitude to environmental protection in general, acknowledged in the EU's push for a sustainable transport policy.

Despite the economic downturn, the environmental issue has not disappeared. We can expect, therefore, to experience continued regulatory pressure to drive down our industry's environmental impact. As far as ATM is concerned, SES II may be only the start.

SES II will introduce new efficiencies into the network, designed, amongst other things, to shorten route lengths and improve slot coordination. However, who is to say that, as a result of decisions taken at Copenhagen in December, further environmental regulation on ATM can be excluded. ■



Harmonised efforts for Single European Sky implementation

The European Commission and EUROCONTROL are working together to achieve the Single European Sky (SES) targets of restructuring airspace as a function of air traffic flows, creating additional capacity and increasing the efficiency of the European air traffic management (ATM) system.

EUROCONTROL's expertise is a key contributor to both the regulatory and the operational/technological dimensions of the SES.

The European Commission has asked the Agency to provide technical support, draft implementing rules and assist in the implementation of the Single European Sky. The Agency's CND (Cooperative Network Design) SES Implementation Pillar, in close cooperation with other CND pillars, has been responsible for activities in this area since January 2009.

Dimitris Apsouris, Principal Manager SES Implementation Support (CND), explains.

NEW APPROACHES TO MATCH THE CHANGING ATM CONTEXT

For over a decade, EUROCONTROL has contributed to the development and harmonisation of European ATM infrastructure and the integration of ATM systems through a consistent and well-coordinated implementation planning and monitoring process.

BUILDING ON SES I

But now, the changing context of European ATM, most notably the second Single European Sky package (SES II) and the Single European Sky ATM Research Programme (SESAR), is creating a new framework for harmonising efforts on Single European Sky implementation. Building on the performance scheme in SES I, the second package includes a new mechanism for setting targets in the key performance areas of safety, capacity, cost-effectiveness and environmental efficiency.

Another dimension which is becoming increasingly important is the planning of implementation actions which need to be agreed on a pan-European level as opposed to regional/local levels. Figure 1 shows the interactive processes needed to deliver a harmonised implementation of the ATM Master Plan which, as produced by the SESAR Definition Phase and now endorsed by the European Council, has become the common reference for all European ATM stakeholders.

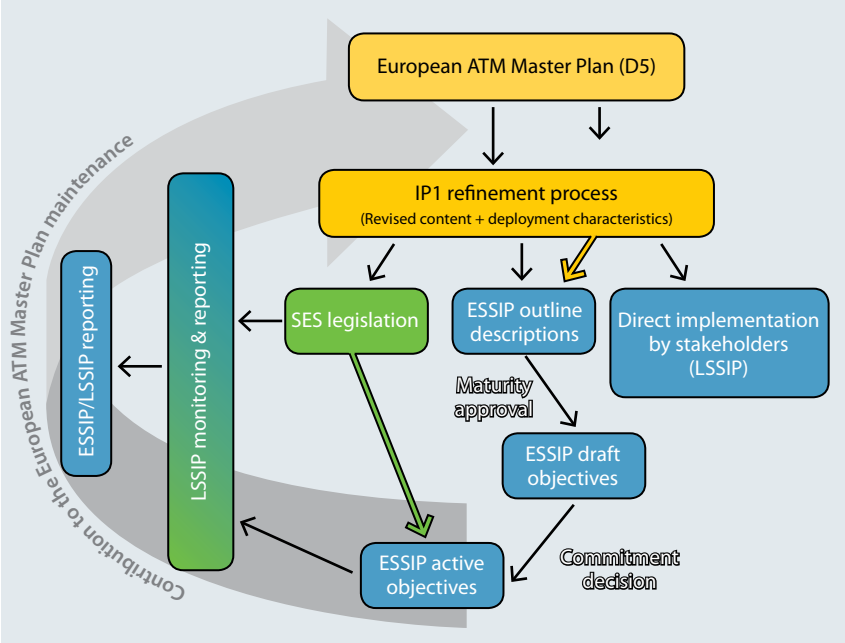


Figure 1

Intense consultation with stakeholders suggested that a performance-based implementation could be delivered via a renewed European Single Sky Implementation Plan (ESSIP) mechanism – mirrored at national level by the Local Single European Sky Implementation Plans (LSSIPs). This would play a large part in assisting individual States in their efforts to meet their objectives and national performance targets. This renewed mechanism specifically meets the need to:

- link the European implementation plan with the ATM Master Plan and decide which elements are mature for actual implementation by stakeholders;
- better integrate all aspects of European planning, monitoring and reporting in one single process that addresses both the timely implementation of the ATM Master Plan and compliance with SES legislation;
- clarify commitment procedures for all stakeholders to ensure effective implementation of the first SESAR Implementation Package (IP1);
- promote links between European implementation decisions and individual stakeholders' business plans;
- close the loop between implementation reporting and implementation planning by building on lessons learnt and agreeing with stakeholders on corrective actions where relevant;
- develop an adequate interface with the planning process, including the maintenance of the ATM Master Plan.

Harmonised efforts for Single European Sky implementation

The ESSIP explicitly sets out operational, technical and institutional improvements that have to be applied to the European ATM network to meet clearly defined performance targets. Individual implementation objectives describe the type of change to be applied and each objective is then divided into a number of Stakeholder Lines of Action (SLoAs) detailing the work which must be completed by each stakeholder group involved.

PROVIDING THE MEANS FOR REGIONAL PLANNING

It is these SLoAs that define local implementation plans, LSSIPs, and therefore enable effective regional/local planning, monitoring and reporting on the progress of local actions. There is one for each State, containing the detailed national plans and local implementation actions required to achieve the objectives and national performance targets. In 2008, LSSIP documents covering all ECAC States (44 in total) were produced for the 2009-2013 planning period. Moreover, for the first time ever, an SES Annual Report 'EUROCONTROL report on the SES Legislation Implementation covering the period July 2007 – December 2008' was produced for the European Commission through the LSSIP mechanism.

The LSSIP plans are now successfully providing the core element of the stakeholders' business plans, associating stakeholders' investment plans with SES/SESAR implementation. The ESSIP and LSSIPs are updated and re-issued each year as part of a continuous performance planning process, reflecting the evolution of air traffic demand and the actual performance gains made in the previous year.

EUROCONTROL SUPPORTING THE IMPLEMENTATION PROCESS

EUROCONTROL is not only involved in managing the ESSIP/LSSIP planning, monitoring and reporting process, but also in supporting stakeholders in meeting their E/LSSIP objectives by identifying weak areas, issuing and maintaining guidance material, holding workshops, training courses and supporting stakeholders with implementation. The hands-on support activity is addressing the needs of individual stakeholders and/or groups of stakeholders and is working with them to implement specific domains. The number of these implementation support agreements (between a Member State and the Agency) increased by 13% in 2008 compared to a year earlier.

ASSISTING STATES AND OTHER ACTORS

EUROCONTROL's Assistance for Single European Sky Implementation to Stakeholders (ASSIST) programme supports States in streamlining and restructuring civil aviation policy. National Supervisory Authorities (NSAs) have become an important institutional element of the Single European Sky by looking after the supervision of the regulatory framework in all Member States. NSAs will gain new tasks following the entry into force of SES II, most notably drafting national performance targets and preparing for the formal establishment of functional airspace blocks (FABs).

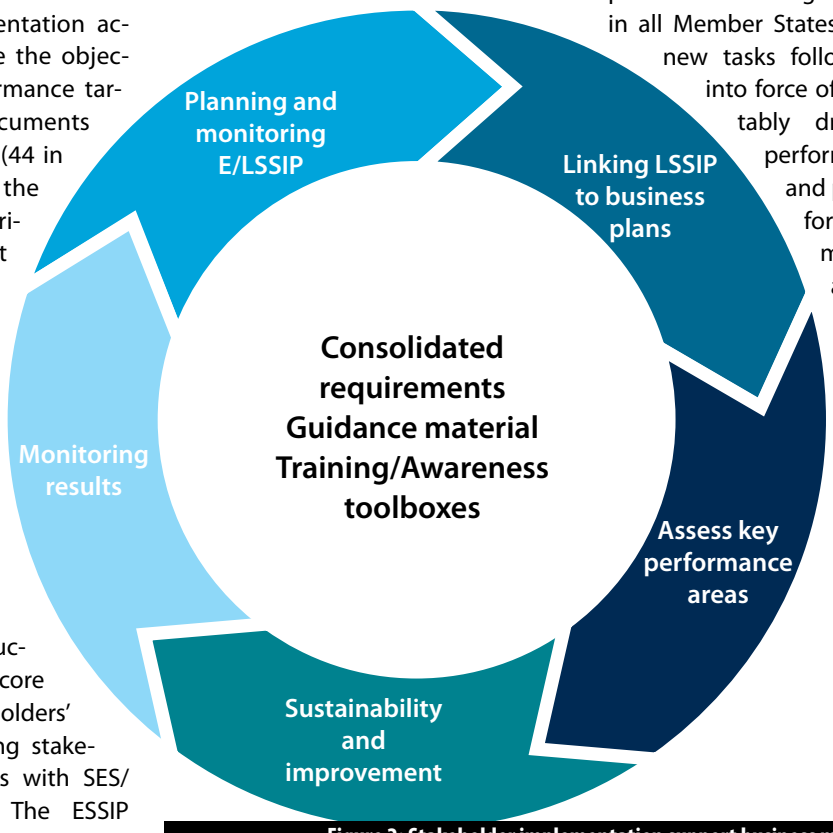


Figure 2: Stakeholder implementation support business model

An LSSIP workshop took place at EUROCONTROL Headquarters in Brussels on 3-4 June 2009. Bringing together over 80 participants from stakeholder groups including air navigation service providers and National Supervisory Authorities, it provided a review of the 2008 LSSIP process and discussion on how to improve it going forward. Breakout sessions were organised around four key themes: linking the LSSIP and the stakeholders' business plans, enhancing web access to the LSSIP tools, empowering the LSSIP focal points and improving the quality of the LSSIP information collected. Conclusions were overwhelmingly positive, both about reporting on the ESSIP/LSSIP process and the workshop itself, with a strong desire to see another workshop in 2010.

NSAs will gain new tasks following the entry into force of SES II, most notably drafting national performance targets and preparing for the formal establishment of functional airspace blocks

This enhanced role will represent a challenge for some NSAs already short on resources. Therefore, EUROCONTROL's work, notably in the sharing of best practice and delivery of guidance material on NSA issues, training, and pooling of resources is set to become more important than ever.

Meanwhile, service providers are being supported through EUROCONTROL Implementation Support (EIS) activities. The Agency is working with providers on the implementation of their E/LSSIP objectives in a number of diverse areas, as per the required operational improvements associated with SESAR deployment. EUROCONTROL's approach to implementation support is consistent with the LSSIP implementation plans and is always provided in a proactive way to maximise synergies across all the Agency's implementation activities and programmes.

A SUCCESSFUL WORKING RELATIONSHIP

SES implementation stands out as an important example of the close working relationship between EUROCONTROL and the European Community, one with the common goal of building a single, safe, efficient and environmentally friendly European sky. The European ATM regulatory environment has undergone important changes in recent years and this is set to accelerate with SES II due to come into force this autumn. The new regulations, performance targets and institutional arrangements make it crucial for all stakeholders to actively engage at every stage of the implementation process.

The E/LSSIP mechanisms are part of this change and are now the main means available to the European aviation community to enable consensus decisions which result in synchronised implementation actions. These mechanisms not only facilitate the tasks of stakeholders by avoiding double reporting, but also provide a clear tangible link between short-term implementation actions and long-term SES and SESAR objectives. Close cooperation with the European Commission is also enabling the efficient utilisation of the Agency's expertise in the provision of hands-on support to facilitate SES/SESAR implementation for stakeholders. ■

Daniel Calleja

Director of Air Transport, European Commission

Can you please outline the key threads of the Single European Sky second package?

The new Single European Sky proposals constitute a genuine package, with four pillars to drive the performance of the air traffic management system.

The first pillar strengthens the existing **Single European Sky legislation** to deliver performance and effectively tackle environmental challenges. Three key measures will deliver the performance of the Single Sky.

Firstly, a performance regulatory scheme will establish concrete and binding targets for air navigation service providers and for the network manager's operational activities. The scheme will set targets for safety, the environment, capacity and cost-efficiency. Before the end of the year, the Commission will propose an implementing rule elaborating this performance regulatory scheme.

Secondly, functional airspace blocks, for enhanced cooperation or integration at regional level, are the vehicle for achieving the performance targets. The deadline for the implementation of functional airspace blocks is set at three years after the publication of the Regulation, hence mid-2012. This coincides with the start of the first performance cycle. You now see why we view performance and functional airspace blocks as two sides of the same coin.

The third measure is network management. Since performance will require even stronger coordination of central functions to assist regional providers, the European Single Sky will strengthen the network management functions.

This brings us to the second pillar of the aviation package: **safety**. We need to bring together all the links in the aviation safety chain under a single logical and uniform approach. That is why the competence of the European Aviation Safety Agency (EASA) will be extended to aerodrome operations and air traffic management. The value added of such a total system approach is also that EASA will be able to focus on the weakest links and the interfaces of the safety chain, or on systemic risks.

The third pillar is future **technology**, which will enable the service providers and airspace users to take the technological leap. The SESAR (Single European Sky ATM Research) programme is to provide future technology in a coordinated manner by pooling the hitherto fragmented research efforts and ensuring synchronised deployment. Only such a coordinated approach can maximise benefits at minimal cost.

Finally, the fourth pillar is the **'action plan for airport capacity, efficiency and safety'.** Airports are entry and exit points of the air traffic management system and need to be an integral part of our approach.

We are very aware that progress within the four pillars will rely on the expertise of aviation sector professionals. That is why there is an overarching principle common to the four pillars: the human factor. Staff will be closely involved in every step we take. Their competences should be guaranteed in order to allow them to continue working at the highest professional standards, and also on the basis of sound and reliable reporting systems.

What is the main focus with respect to the original SES legislation?

SES II updates the first package. Many events have taken place since the adoption of the original legislation. We have seen the European Community enlarged

to 27 Member States. The environment has been put high on the political agenda. In addition, we have had four years' experience of the Single Sky. This has taught us that performance cannot be delivered if left to the discretion of individual Member States.

But SES II is also about strengthening the Community method in line with the conclusions of the High-Level Group. The national level alone is no longer the most appropriate level for dealing with network issues. After all, air traffic management is, together with airports, the infrastructure for aviation, which requires strong coordination amongst all actors if it is to perform.

That is why the focus of Single Sky II is more on partnership with Member States and applying the Community method: systematic consultation of stakeholders and more effective enforcement of rules.

What is priority number one in terms of timing?

We have to make progress within all of the pillars, as a package, since they are interrelated. Performance regulation depends on strong safety regulation to ensure that safety is an absolute priority. Investment in SESAR depends on success in performance regulation, guaranteeing that the cost of the investment is kept to a minimum.

If I had to single out particular issues, I would mention the implementing rule on performance regulation and SESAR Implementation Phase I. The first sets in motion a process of performance regulation, in which each actor needs to know exactly what is expected by when. The second determines the credibility of the SESAR programme. It is a test case for governance structures and will lay the foundation for seven years of research and development.

Of course, in these times of severe economic downturn, our priority is to look for measures which can alleviate the financial burden on the aviation industry. We have to look urgently for quick implementation of operational and cost-saving measures which are under preparation in the Single Sky framework. That is why my services are working with airspace users, service providers and EUROCONTROL to make a list of such alleviation measures and speed up implementation.

What are the consequences for EUROCONTROL?

EUROCONTROL's role will be significantly reinforced within SES II, provided it swiftly adapts to the new framework. As previously mentioned, Single Sky II strengthens network functions to achieve performance.

EUROCONTROL has acquired unique expertise in this domain, and this should be used for the benefit of all. This is best done by consistently applying the basic Single Sky principles: separate service provision from oversight; make industry responsible for operational tasks; strengthen government tasks by organising oversight and applying performance criteria; ensure transparent financing mechanisms for these operational tasks. A reformed EUROCONTROL should be a key player in this new regulatory landscape.

Furthermore, SESAR will mean that all research efforts are managed as a single programme under the aegis of the SESAR Joint Undertaking. EUROCONTROL, as a founding member of the Joint Undertaking, will play a vital role.

Finally, EUROCONTROL can also play an exceptional role in ensuring a pan-European approach to SES II beyond the European Union.

We are of course fully aware of this challenge. However, building on sound Single Sky principles is what is expected and badly needed. Only this will lead to the performance leap our air traffic management system urgently needs.

What are the main challenges to the achievement of a true Single Sky by 2012? And how can these challenges be successfully addressed?

A true Single Sky is an air traffic system which delivers performance for all airspace users, including military and general aviation: safer, greener flights, and adequate capacity at moments when aircraft want to fly at a lower cost. In fact, the whole system will become based on airspace users' requirements while at the same time ensuring the highest safety levels. Thus, air traffic management will be in a position to underpin the economic and cohesive role that aviation plays in our modern society.

Governance is the key to success. Put airspace users in the driver's seat to express their requirements, be it in terms of SESAR deliverables or in terms of performance plans. Then, let the air traffic industry professionals do their job to deliver. I am a strong believer in their professionalism.

I have no doubt that through enhanced cooperation and true partnership between all actors the Single European Sky initiative put forward by Loyola de Palacio in 2000 will finally become a reality.

Let's do it! ■

Olivier Jankovec

Director General of ACI EUROPE

Following the recent launch of *Airport Carbon Accreditation*, Skyway caught up with Olivier Jankovec, to find out more about the programme and hear the latest update on ACI EUROPE's collaborative work with EUROCONTROL.

So, tell us about *Airport Carbon Accreditation?*

Airport Carbon Accreditation provides a common framework for reporting and reducing carbon emissions from airport operations. For the first time, it sets standards for the reporting of carbon emissions that are specifically adapted to the unique complexity of the airport site. And it is worth noting that these standards are fully compatible with the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) "Greenhouse Gas Protocol" Corporate Accounting and Reporting Standards.

How does it work?

Airports' efforts to manage and reduce their CO_2 emissions are externally assessed and independently recognised through four levels of accreditation – mapping, reduction, optimisation and neutrality. Detailed guidance documentation sets out the requirements for each level and assists the airports in meeting them. Although the programme is primarily focused on emissions that are within the full control of airport operators, it also extends to other emissions on the ground. The optimisation and neutrality levels can only be achieved if airport operators engage other stakeholders on the ground – such as airlines and ground handlers – and implement engagement plans, which in turn reduce their emissions.

This also allows the programme to take into account the participation of airports in both of our recently announced collaborations with EUROCONTROL, including the implementation of Airport-Collaborative Decision Making (A-CDM) and Continuous Descent Approach (CDA).

Even so, is there not a risk of people just seeing this as ACI EUROPE accrediting its own members?

This has been a concern from the very beginning of the project. For this reason, ACI EUROPE is not administering the scheme and as such is not awarding accreditation levels to its members. This is done by a leading and recognised consultancy, WSP Environment & Energy, on our behalf and is subject to strict adherence to the programme's rules. On top of that, the administrator and the entire programme are overseen by an independent Advisory Board made up of representatives of ECAC, EUROCONTROL, the European Commission, UNEP (United Nations Environmental Programme) and WWF Europe. *Airport Carbon Accreditation* has also received the official patronage of EUROCONTROL and ECAC and I would like to take this opportunity to thank them for their unwavering support of the scheme.

It took us two years to come up with all the design elements and governance arrangements for *Airport Carbon Accreditation*. It has been quite an intensive and challenging task, resulting in a genuinely demanding, scientifically robust and institutionally-endorsed programme – turning our industry commitment to reduce carbon emissions into concrete action.

Speaking of timing, has the financial crisis impacted on the number of airports applying to the scheme?

Launching *Airport Carbon Accreditation* in the midst of an unprecedented economic crisis was never going to be easy. Although the design of the programme was led by our members and critical steps were systematically approved by the ACI EUROPE Board, we had no certainty that the membership buy-in would materialise from the start. So, the fact that more than 30 airports – accounting for 26% of European air traffic – joined the programme at the launch ceremony in order to become Airport Carbon Accredited speaks volumes both about its relevance and about the willingness of European airports to act.

What's the reaction been like so far?

Reaction has been very positive so far. Actually, the fact that *Airport Carbon Accreditation* is happening right now is something that is appreciated and that has helped us reinforce the green credentials of European airports. In the midst of ambitious long-term aviation industry goals and the persistent efforts of aircraft manufacturers, the airlines and the ATM stakeholders, it's a bonus that we can do something immediate that can include them too.

A prominent Brussels-based journalist paid it a very nice compliment by pointing out that it has not been compromised by 'lowest common denominator' thinking solely in order to give broader and immediate access. But while it is all about engaging a very diverse membership comprising more than 400 airports across 46 European countries, it is nonetheless ambitious and calls for real and meaningful effort.

For the airport operators applying to the scheme, *Airport Carbon Accreditation* is the first real opportunity to demonstrate at European level the extent of their environmental activities and get recognition for them. For us at ACI EUROPE, it is about concretely engaging the airport sector to play its part in addressing the impact of aviation on climate change, alongside airlines and other industry stakeholders. For the travelling public and communities across Europe, it is their first opportunity to see how the airport community is responding to the issue of climate change.

How does this connect with the collaborations underway as a result of the re-launch of the Single European Sky last year?

Well, the looming airport capacity crunch remains a serious concern in the long term, even with the present crisis. Optimising airport capacity is something that cannot afford to be left on the backburner. *Airport Carbon Accreditation* will help further incentivise innovative activities and collaborative efficiencies at European airports. In the long term, we are hopeful that the EU Observatory on Airport Capacity, established as a result of SES II, will help give greater visibility to the issue of airport capacity – an issue which is very much linked with the environmental debate on aviation and climate change.

Airport Carbon Accreditation and the collaborative activities that we are engaged in with EUROCONTROL will introduce efficiencies into the aviation network and help us as an industry demonstrate that we have responded responsibly and are earning our licence to operate and grow.

airport carbon accreditation
MAPPING | REDUCTION | OPTIMISATION | NEUTRALITY

What is the latest update on the work of the Observatory?

As you know, there are three working groups dedicated to capacity, gate-to-gate and intermodality respectively, so each of these subject areas is moving at different speeds. It is still early days, but I'm optimistic that the Observatory will make a positive difference in the long term. ■

More information, including the full list of participants, is available at: www.airportcarbonaccreditation.org

The SESAR programme takes off

12 June 2009 was a historic day for the SESAR Joint Undertaking as it marked the official start of the SESAR programme. After months of efforts devoted to creating the Joint Undertaking and to liaising with the prospective members, all parties are now fully ready to start working together to deliver the new Single European Sky. The SESAR Master Plan will steer the work and the Project Support Office of the SESAR Joint Undertaking will manage and coordinate the various work packages to ensure smooth and rapid progress. **Eric Platteau**, Chief of Communications at the SESAR JU, tells us how.

ONE NEW SESAR PROJECT PER DAY

Since the signature of the contracts on 12 June, 30 projects have already started, equalling one new SESAR project per day. The following three projects are examples of these:

- **Project "GBAS Cat II/III" for the development of satellite aircraft precision landing systems.**
- **Project "SWIM Air-Ground Capability" for the design of the future aviation Intranet.**
- **Project "Airport Surface Datalink" on Wi-Fi standards for communication between all actors on the ground at the airport.**

In total, 124 projects are due to be launched in 2009.

New SESAR components and operational procedures will be gradually implemented between 2012 and 2020.

THE SELECTION PROCESS: A STRICT PROCEDURE AND INTENSE REVIEW

The last few months have been particularly intense for all parties involved. In accordance with the procedure, all offers from the 16 prospective members had to be delivered in February. This preparatory work represented a significant effort on behalf of the prospective members to detail and explain their best offer. All offers were received in good time and validated. The SJU team members and 16 independent experts analysed all the offers, totalling more than 1,500 pages. Several juries were established to review the offers relating to each work package. The jury members were ensconced in a European Commission building in Brussels specially designed for evaluation processes. The conclusions of these juries allowed the Executive Director to propose to the SJU Administrative Board that agreements be concluded with 16 members. Board approval was obtained on 26 March. Agreements committing to total spending of €1.9 billion were signed on 12 June with the following companies: AENA, Airbus, Alenia Aeronautica, the DFS, the DSNA, ENAV, EUROCONTROL, Frequentis, Honeywell, INDRA, NATMIG, NATS (En Route) Limited, NORACON, SEAC, SELEX Sistemi Integrati and Thales.

16 WORK PACKAGES AND 295 PROJECTS IN TOTAL

Based on the ATM Master Plan developed during the Definition Phase of the SESAR Programme, the Work Programme defines all projects and activities to be undertaken in the period 2008 to 2016 timeframe under the supervision of the SESAR JU. The Work Programme, executed in cooperation with the 16 members, comprises

16 work packages aimed at providing tangible results from the ATM Network R&D Programme.

These packages will develop and deliver the necessary operational and technical material (specifications, procedures, prototypes, validation reports, etc.) for the gradual industrialisation, deployment and operation of the new ATM system.

The Programme is split into four different areas:

- operational activities are handled by WPs 4, 5, 6 and 7;
- system development activities are handled by WPs 9, 10, 11, 12, 13 and 15;
- system-wide information management is handled by WPs 8 and 14;
- "transverse activities", such as the validation infrastructure, development of safety, security, environment and human performance guidance and cases, ATM Master Plan maintenance, the target concept and architecture maintenance, are handled by various WPs (e.g. B, C, 3, 16).

The work packages are presented on www.sesarju.eu.

The work programme will be supported by the Industrial Support Team (IS) of Airbus. IS is responsible for the technical coherence of all tasks, and will provide support for 'system-of-systems' engineering methods so that all the members can progressively build up, under the leadership of the SESAR JU, the highly complex shared data model of this programme.

MAIN CONCEPTUAL CHANGE IN A MODERNISED SKY: THE BUSINESS TRAJECTORY

Taking full advantage of existing and newly developed technologies, SESAR's target concept relies on a number of key features:

- the notion of "trajectory-based operations", which will dramatically improve the predictability and precision of operations;
- a rolling network operation plan, taking into account real-time situations including weather and traffic trends;
- the introduction of an air traffic management intranet, including aircraft, which will enable all actors to have full access to the right information at the right time;
- the full integration of airport ground activities into the air traffic management processes;
- increased automation support for air traffic controllers and pilots, enabling them to concentrate on high-added-value activities;
- increased environmentally friendly operations at airports, allowing greener trajectories whilst maximising the use of existing runways. ■

THE NEW "SESAR TEAM"

There is now a new "SESAR team" comprising all staff working on SESAR all over Europe and located at our members' premises. Patrick Ky, Executive Director of the SESAR Joint Undertaking says "This new community of SESAR workers has the future of European air traffic management in their hands. Bear in mind that we need to achieve a paradigm shift from the way air traffic management is organised today. An open mind, operational excellence and dedication should guide their day-to-day work. We count on their commitment to make this innovative adventure a historic European success story." The SJU will be the guardian of the smooth execution of the work packages and will do its utmost to liaise all the teams involved.

SESAR's new components and operational procedures will be gradually implemented from 2012 to 2020.

"However, it is essential that we also identify and develop quick wins for implementation as from 2010" says Patrick Ky.

Regular updates available at www.sesarju.eu.

Single European Sky

The role of EASA

After a positive vote in the European Parliament on 25 March 2009, the EU Transport Ministers confirmed the far-reaching Single European Sky aviation package on 30 March. **Patrick Goudou,** Executive Director of the European Aviation Safety Agency (EASA), explains how this package, which has been formally adopted by the Council, strengthens the Single European Sky and boosts the implementation of new technologies, making EASA responsible for all safety links of the aviation chain.

Establishing and maintaining a high and uniform level of aviation safety has been one of the European Union's top priorities over the past decade. This objective has been pursued by common action at Community level, based on the concept that the protection of citizens will be ensured by adopting common aviation safety rules and by guaranteeing their uniform implementation. The European Aviation Safety Agency (EASA) is at the centre of this strategy. Its tasks currently include drafting aviation safety regulation, conducting inspections to ensure their uniform implementation and the type-certification of aircraft, engines and parts.

When drafting new rules, the Agency is required to avoid the duplication of regulatory processes, to promote Community views throughout the world and to provide a level playing field for all actors in the internal aviation market. The achievement of these objectives was initiated by the adoption of EASA's first "Basic Regulation" in 2002 (Regulation (EC) No. 1592/2002), which focused essentially on the airworthiness and environmental compatibility of aeronautical products.

TOTAL SYSTEM APPROACH

However, concentrating on aeronautical products in isolation from the regulatory environment in which they operate is not sufficient. My vision for the future role of the Agency is based on the conviction that aviation safety has to be coherent in all its safety elements; it is in fact a single safety system with interrelated and interdependent actors, ranging from aircraft manufacturers, their operators, air traffic controllers, airports, pilots, cabin crew, etc. The extension of the EASA system to all aspects of aviation safety under a "total system approach" is therefore logical and technically consistent.

Indeed, this "total system approach" was acknowledged by the European Parliament and Member States when they invited the Commission to make proposals as soon as possible to extend the Agency's scope to air operations and flight-crew licensing. This first step has already been taken with the adoption of the new Basic Regulation (Regulation (EC) No. 216/2008).

In June 2008, in line with the "total system approach", the European Commission proposed the far-reaching Single European Sky aviation package. This package has now been formally adopted by the EU Council. It strengthens the Single European Sky, boosts the implementation of new technologies and makes the European Aviation Safety Agency responsible for the safety regulation of aerodromes, air navigation services (ANS) and air traffic management (ATM). The Agency had already started preparing to take up these new competences and had issued its opinion on the safety of ATM/ANS in March 2008. According to the European Parliament and the Council, the corresponding implementing rules in the area of ATM/ANS have to be in place by 2012.

In practice, the "total system approach" means that industry, operators and service providers will finally have a single body of law to consult, organised according to coherent principles and semantics and thus simplifying their interface with the competent authorities, especially when they are involved in more than one aviation domain. This, for instance, would be the case for an aerodrome operator also providing tower ATC services. The safety requirements across the EU currently vary and although there may not be major safety concerns, harmonisation should ensure that the highest levels are achieved everywhere. The causal factors of most aviation safety occurrences are multimodal in nature. The aim of the "total system approach" is to reduce the risks coming from gaps, overlaps or confused responsibilities between different aviation domains. We at EASA believe that more can be done in the area of safety and that this would allow the industry to develop businesses and extend market shares, provided that common rules are established, equally adhered to and enforced.

EASA'S ROLE IN THE SINGLE EUROPEAN SKY

The new competences will give the Agency an important role in the development of the Single European Sky (SES). It will be responsible for ensuring that any technical solution, concept, equipment, personnel or organisation involved in civil aviation works safely. The Agency already works in close partnership with EUROCONTROL to achieve the most efficient regulatory system, building on its vast knowledge and experience in ATM as well as aiming to ensure continuity and legal certainty for all regulated actors in the field.

It was the wish of the political decision-makers to have separate safety and economic regulators to guarantee that these different aspects are evaluated and treated appropriately. EASA is and will remain the safety regulator.

Our future Implementing Rules in ATM/ANS will be built on the basis of the provisions of the SES, in particular the transposed EUROCONTROL Safety Regulatory Requirements (ESARRs). In this respect, transitional mechanisms will be designed in order to provide for the continuity and subsequent conversion of approvals already granted under the SES rules. At the same time, consistency between the EASA and SES systems will have to be provided for. It is indeed possible to devise processes that provide for harmonised requirements and certification procedures in order to avoid multiple compliance assessments.

EASA will be responsible for ensuring that any technical solution, concept, equipment, personnel or organisation involved in civil aviation works safely

The Agency is currently working on streamlining the organisation approvals in the context of the extension of the EASA system to air operations and the implementation of the ICAO SMS Standards and Recommended Practices (SARPs). This work will also be used when the future implementing rules are developed.

SPECIFIC COMPETENCES IN ATM/ANS

While the details of EASA's competences in the area of ATM/ANS will be defined in the implementing rules following common drafting groups and public consultation, the basic principles of the Agency's responsibilities will be as follows:

Regarding ATM/ANS service providers, common implementing rules will be issued, requiring the implementation of a safety management system and the provision of ATM/ANS services in accordance with common standards. The verification of compliance will be achieved through safety certification, by competent bodies designated by Member States. EASA will not be doing the certifying except in cases where centralised action is beneficial. This was regarded by the EU legislators to be the case for pan-European service providers and third-country organisations providing services within the EU.

Specific EASA implementing rules will address the safety and ground/air interoperability requirements relating to ATM/ANS systems. Also, common rules will be established to specify training and proficiency requirements for all personnel involved in safety-related

Single European Sky
the role of EASA

ATM/ANS tasks. This means that in the future the existing European ATCO Directive will be replaced by common rules and acceptable means of compliance. Such rules will naturally be fully based on existing material and be complemented only where necessary for safety reasons. Common safety rules must also ensure that all the necessary safety requirements for other ATM professions are covered.

The new SES package also plays the role of safety adviser to EASA. This means for instance that when implementing SES regulations in the field of air space management, the Member States and the European Commission will consult with EASA in order to ensure that all safety aspects are properly addressed.

AVOIDING OVERREGULATION

One of the rationales for a single European safety regulator is increased effectiveness through simplification of rules and streamlined procedures. The Agency acts upon the maxim that new rules should not disrupt or create difficulty for the existing system. EASA's new competences will create no overlaps in the regulatory system and no extra layer for the industry. Finally, it is also our goal to be a "light regulator" when and where possible, to avoid overregulation and undue burden on regulated persons, by making use of what is already in place. When transposing existing rules, the Agency will also make sure it adapts them to the needs of medium- and small-sized organisations.

CONSULTATION

As a safety regulator, it is our job to assist the political decision-makers by providing them with the necessary elements to make the most appropriate choices. When EASA develops various types of rules, it is obliged to follow an open and transparent process allowing the involvement without discrimination of all stakeholders. Recently the Agency has reviewed its rule-making process and we have built in more moments of discussion and reflection with our stakeholders before we publish our "notice of proposed amendment" (NPA). This allows us to reach a consensus on a preferred solution in a reasonable period of time for an efficient decision-making process.

CONCLUSION

Aiming for global harmonisation and in line with the requirements of the common law, EASA rules will be compatible with the related ICAO SARPs. Aviation is global in nature and therefore needs global rules. However, such rules can also be developed and harmonised at regional level, thereby avoiding discretionary transposition by each and every one of the 31 EASA Member States.

EASA is also ready to do its utmost to progressively convince the international aviation community of the merits of the European approach to safety regulation. If they wish, non-EU countries can be associated to the EU system through bilateral agreements under which they are assimilated to Member States. This is already the case for Norway, Iceland, Switzerland and Liechtenstein. The Agency is also signing working arrangements with neighbouring States and by doing so we are introducing the pan-European approach to all the domains where EASA has competence. ■

For the airlines, the Single Sky cannot come a moment too soon

Ulrich Schulte-Strathaus, Secretary General of the Association of European Airlines (AEA), highlights what is at stake for the airspace users and the need for the Single European Sky to materialise as soon as possible.

When the legendary Liverpool manager, Bill Shankly, was asked if football was a matter of life and death, he replied 'I assure you, it's much more serious than that'.

For the airlines which have to navigate Europe's antiquated airway network, the Single European Sky falls into the same category. It cannot have escaped notice that 2009 is becoming an annus horribilis for the industry. The magnitude of passenger traffic losses has only ever been seen once before, in the aftermath of 9/11, and the revenue situation is even worse, as high-yielding business markets have been particularly hard hit. As if that were not bad enough, the airfreight market has suffered unimaginable decreases, with many airlines carrying little over half their tonnage of last year.

Meanwhile, costs are still rising, and that includes en-route navigation fees and airport charges.

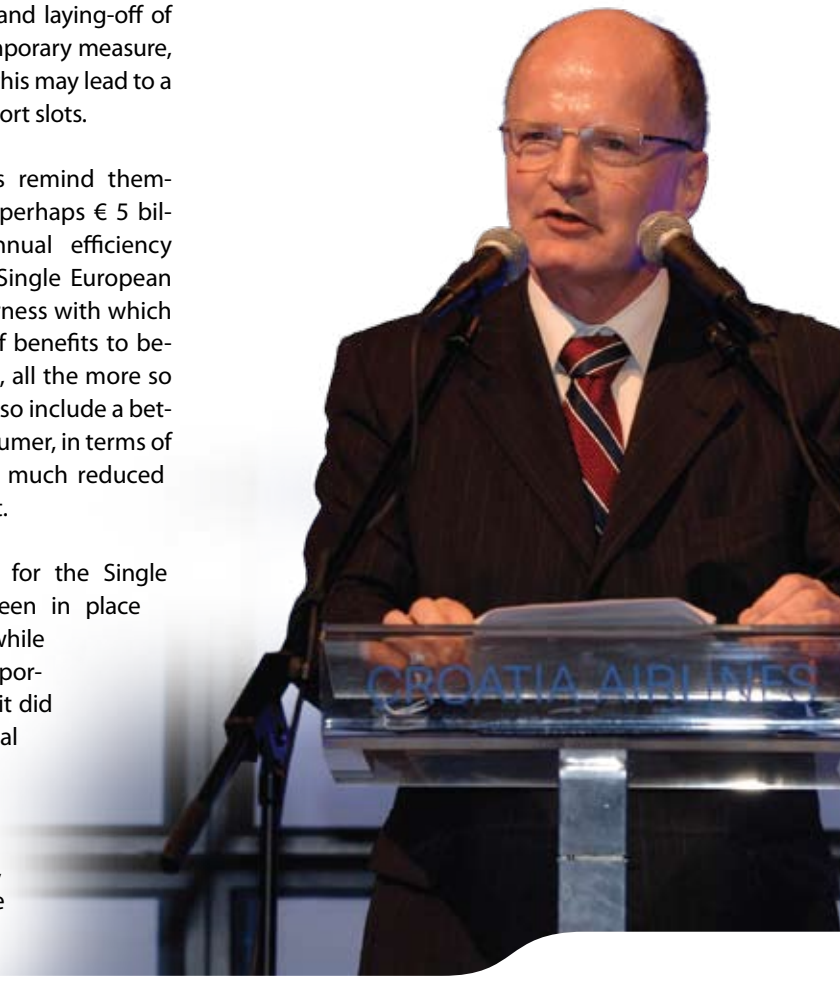
It is arguable whether, at the time of writing, there are any profitable airlines in Europe. Many carriers who would normally expect a surplus in a typical year are facing life-threatening losses.

Against this backdrop, the range of remedies available to the airlines is limited. Those costs which remain within their control have been pared back over years of competition in a liberalised market place. Most of the major airlines in Europe are taking the only course available to them – reduction in service on a significant scale, with consequent grounding of aircraft and laying-off of staff. Whilst only a temporary measure, there is a danger that this may lead to a permanent loss of airport slots.

So when the airlines remind themselves that there are perhaps € 5 billion of potential annual efficiency gains tied up in the Single European Sky project, the eagerness with which they await the flow of benefits to begin is understandable, all the more so since those benefits also include a better service to the consumer, in terms of reduced delay, and a much reduced environmental impact.

The legal framework for the Single European Sky has been in place since April 2004, and while this signalled an important shift in attitudes, it did not deliver substantial benefits. Without a detailed action plan, it was too easy to ignore. Consequently, European airlines are pinning great hopes on the second phase

AEA Association of European Airlines



For the airlines,
the Single Sky cannot come a moment too soon

of Single Sky legislation, launched in early 2009, to bring a new impetus to the programme.

In essence, the Single European Sky project involves a transition from a 20th-century structure of air traffic control based on national boundaries to one which takes account of actual patterns of demand and traffic flows and is more suited to the realities and needs of the 21st century.

A key element of the Single European Sky is the move from a network of imperfectly-interconnected individually controlled airspaces, which currently number 67, to nine functional airspace blocks. In theory these should not be defined or constrained by national frontiers, although for the time being at least, expediency requires that their boundaries do follow the national frontiers below.

The Single Sky programme is simply too important to be allowed not to materialise, and too urgent to be left to suffer further delay

Clearly, the effectiveness and pace of this transition requires cross-border cooperation and a strong element of political will. Whilst this should not be an insurmountable hurdle, nevertheless it is already being put forward as a source of – or shall we say justification for – delay. Yet it need not be so. Very recently a joint initiative by AEA, the Montenegrin Government and the regional service provider unlocked direct routes into Kosovo, saving time, money and CO_2 emissions. Such local and regional cooperation, replicated across Europe, typifies what needs to be happening within the FABs.

As part of the redesign of European airspace, priority must be given to civil/military cooperation in air traffic management (ATM) in order to make available for civil use significant portions of airspace that are currently blocked, but not intensively used, for military purposes. This requires a strong and shared commitment between national Ministries of Transport and of Defence throughout Europe. Once again, a successful cooperative venture between the German and Dutch authorities, to set up a shared cross-border training zone, will not only lift constraints on routes into Amsterdam Schiphol, but will demonstrate to the rest of Europe that such things are achievable.

With the new airspace map in place, it still needs to function efficiently. ATM service provision is inherently monopolistic in nature, and the Single Sky needs a strong independent economic regulator to ensure that it delivers its promised benefits. There must also be a clear political commitment to address any institutional and labour-related issues.

A key institutional challenge is how to adapt the role of EUROCONTROL to the Single European Sky and its associated technological programme, SESAR. EUROCONTROL needs to reduce its costs, and the industry's stakeholders who provide the Agency's funding should be involved in the process to significantly reduce its annual budget.

When it comes to the crucial issue of safety regulation for the Single Sky, there is an organisation already in place which can and should perform this role: EASA, the European Aviation Safety Agency. This extension of EASA's role will evidently necessitate a commitment to the Agency's funding.

2008 saw the unveiling of the work plan for the next five years of the SESAR programme. This is an admirable project but must not be allowed to develop into 'technology for its own sake'. It has the potential to deliver important cost and efficiency improvements and its stakeholders should be able to anticipate that these will start to materialise sooner rather than later.

Delays in Europe attributable to air traffic flow management (take-off clearances) – although by no means all caused by ATM deficiencies – amounted to almost 1,000 hours each day. The price tag for the airlines of ATM inefficiency was estimated in 2006 at €3.3 billion per year. However, that figure included the cost of some 5 million tonnes of kerosene unnecessarily burned through route inefficiencies; the subsequent spiralling of fuel prices could add €1.7 billion per year to that total.

Meanwhile, the amount of carbon dioxide needlessly emitted into the atmosphere each year due to circuitous routings, sub-optimal flight profiles and congestion-related holding patterns adds up to about 16 million tonnes. This is indefensible today, but from 2012 onwards the airlines will be paying twice for this wastefulness, not only in unnecessary fuel bills, but also in the form of CO_2 allowances under the EU Emissions Trading Scheme.

For European airlines, their customers and indeed the environment, the Single Sky programme is simply too important to be allowed not to materialise, and too urgent to be left to suffer further delay. ■

Single European Sky II

CANSO's viewpoint

From its conception, the European air navigation service providers (ANSPs) in CANSO have welcomed the Single European Sky second package (SES II). It is considered to be a good balance between the different interests, and CANSO is looking forward to its implementation. The ANSPs have also noted with satisfaction that the second package strengthens the performance framework while keeping the overall concept sufficiently stable.

canso
civil air navigation services organisation

The European CANSO CEO Committee has discussed the SES II roadmap and fixed a number of priorities for CANSO work. The main issues to be tackled are the performance scheme, network management functions, SESAR IP1 implementation, FAB coordination, Airport Observatory and EASA.

PERFORMANCE SCHEME

CANSO believes this item is the most important SES II issue for the coming months and has set up a special 'Performance Group' to prepare a CANSO position on the performance scheme. This group has already had various meetings and is preparing joint input for the discussions to come. The proposed CANSO position will then be endorsed by the ANSPs at the highest level.

CANSO fully supports the present selection of the key performance areas (safety, environment, capacity and

Single European Sky II
CANSO's viewpoint

cost-efficiency) as a focus for ANSP performance. We believe that target setting in these key areas should be founded on four key principles:

- **Appropriate accountability**
  Targets established under the SES II performance scheme should be set based on key performance indicators (KPIs) for which stakeholders are accountable. The national performance plans should be developed by the Member States and should take into account local conditions, such as airspace complexity, investment cycles, previous cost efficiency plans, local constraints and policies.

- **Driving the right behaviour**
  Targets that incentivise the right ANSP behaviour will drive good performance. This means that the links between the different performance areas will need to be recognised and targets set in a way that ensure they meet customer requirements in a safe and cost-effective manner. Performance targets will have to recognise trade-offs between sometimes conflicting objectives.

- **Focus on outcomes**
  Targets and processes should be devised to generate desired performance outcomes and allow for national differences in how the outcomes are achieved.

- **Maturity of metrics**
  Targets should be based on mature key performance indictors where there is a history of performance data and should be binding only when the KPIs are mature enough. Additional work is required to adopt commonly agreed metrics for safety and the environment. Potential unintended consequences need to be identified and to the greatest extent possible eliminated prior to implementation.

NETWORK MANAGEMENT

CANSO supports the network management concept and acknowledges the benefits to be gained from Europe-wide coordination. However, we believe that there are some key points to consider in the effective application of the network management concept. Firstly there are some basic governance principles which should be applied for network functions:

- The separation between regulatory functions and service provision has to be ensured at all phases and for all tasks, including pan-European activities and network functions.
- The ANSPs are accountable in a performance framework and therefore they have to be part of the decision-making for service provision functions. This is also valid for the concerned parties in network management.
- Network functions in the operational field require collaborative decision-making involving organisations at local, regional/FAB and pan-European level.
- The basic principles of Common Requirements and Performance Review should be applied also to the network services.

Secondly, the operational needs should determine the scope and content of network functions. ANSPs are strongly of the opinion that the network functions are directly linked to the services they provide. The scope and content of those services determine the specification of the supporting network functions. For example, the ANSPs calculate the need for the network services from their operational requirements, and from traffic demand perspectives. The network functions have to take into consideration that the ANSPs deal with capacity, safety and environmental issues, coordinate with their HR and training plans, make and adapt the business plans, cost-benefit analyses and unit cost corrections, and carry out coordination with the customers, adjacent service providers and the military. Therefore the governance should be adapted to ensure that network functions and services are specified, steered and, where necessary, run by industry. They should be supported by a proper regulatory framework established by the corresponding ATM regulator and supervised by the appropriate supervisory authority.

Thirdly, network improvements need collaborative decision-making. The planned improvements at the pan-European network level can only be addressed by a partnership approach by all aviation players. The airlines have an important role to play when future capacity is proposed by ANSPs. Correct forecasts are a fundamental element of cost-effective capacity planning, and appropriate consultation is necessary.

The airlines also have an important role to play in ensuring the best use of

available capacity by corresponding flight plans and slots, contributing to a better predictability for the whole system. To enable this, ANSPs and airlines have established efficient "customer-service provider" relationships.

The positive evolution of EUROCONTROL's governance is based on the industry steering requested for network management. Further developments in EUROCONTROL will probably strengthen this industry steering. CANSO certainly intends to contribute to this debate.

Finally, clarification is needed on network management functions. For all the reasons described previously it is important to clarify the concept of network management and, more specifically:

- to describe all the functions, tasks and activities concerned and to define whether these activities are regulatory, supervisory or service provision activities;
- to define where the action is taken: at local/national level, at regional/FAB level or at pan-European level;
- to agree who should undertake these actions: where the pan-European activities concern service provision, they should be industry governed and steered, as suggested by the Commission's SES II proposals for the new governance at EUROCONTROL.

SESAR IP1 IMPLEMENTATION

CANSO is very active in various groups discussing this topic, because the main impact will be on the ANSPs. The main efforts are currently focussed on two topics: IP1 refinement and IP1 governance. The detailed definition of exactly what the ANSPs have to implement, at what time and where, is one of the concerns for the moment. The cost information on various IP1 elements is also of great importance, but ANSPs recognise the sensitivity of the cost information. Another concern is to ensure implementation by all actors and to have the appropriate governance arrangements at all layers – political, strategic and tactical industry implementation.

FAB DEVELOPMENTS AND COORDINATION

CANSO is satisfied with the outcome of the discussions on this important topic. We support the date of 2012 that has been agreed for implementation. Indeed, the establishment of an FAB requires a formal agreement by States, which takes time. Also the operational achievements need time to be achieved and some of them can only start once the legal and institutional arrangements are in place.

We support the broader definition that has been given to SES II whereby the emphasis is no longer exclusively on operational requirements but also on performance and cooperation.

CANSO supports the broader definition that has been given to SES II whereby the emphasis is no longer exclusively on operational requirements but also on performance and cooperation

In addition, CANSO has always supported the nomination of one or several FAB coordinators, as agreed by the political decision-makers.

AIRPORT OBSERVATORY

CANSO has applied for the membership of EU Observatory for airport capacity to DG TREN. Indeed airport capacity issues and gate-to-gate perspectives can best be discussed with the ANSPs as partners at the table.

EASA

CANSO is actively following the new developments regarding the extension of ATM safety competence to EASA. We have supported this extension of competence but at the same time would like to avoid other areas being touched in depth, such as certification, training, and the competence scheme for new categories of personnel. We will of course also have to check the coherence of these different regulatory initiatives.

In conclusion, the Single European Sky framework has created the basis for a restructuring of the ATM sector and has contributed to a cultural change, which is recognised as a positive evolution by all aviation sectors and stakeholders.

CANSO members are in favour of the measures taken in connection with the SES second package to accelerate the implementation of SES. We intend to contribute to its development in order to carry out corrections and consolidation where necessary, and to lead the ATM sector towards a more performance-based and less fragmented framework. ■

Blue Med

Launch of the definition phase of a performance-driven FAB

In November 2008, in the presence of the European Commission Vice-President Antonio Tajani, eight Transport Ministers of the Mediterranean area signed a Declaration, launching the definition phase of the Blue Med FAB, following the 2007-2008 feasibility study.

This ambitious project, comprising nine working areas and 150 experts, is intended to reduce regional fragmentation in the Mediterranean region. **Cristiano Cantoni**, Blue Med Project Manager, and **Nicola Amendola**[1], International Relations Manager, ENAV, explain how.

Blue Med is a project involving four European States (Cyprus, Greece, Italy and Malta), with the participation of Tunisia, Egypt and Albania as associated partners and the Kingdom of Jordan and Lebanon as observers.

European air traffic management (ATM) is approaching one of its most important crossroads, whereby different initiatives are all converging towards a common goal – that of providing European citizens with more efficient and cleaner ATM services, at lower costs and with gate-to-gate integrated operations. This target is set against a worldwide economic crisis. And the Mediterranean countries are poised to address this challenge together, on a regional basis.

THE BLUE MED ROAD-MAP AND DEFINITION PHASE

Blue Med is a project involving four European States (Cyprus, Greece, Italy and Malta), with the participation of Tunisia, Egypt and Albania as associated partners and the Kingdom of Jordan and Lebanon as observers. It aims to prove how the establishment of an efficient Mediterranean FAB can be

1- Currently Senior Advisor to the Office of the EUROCONTROL Director of Resources

beneficial to reducing the overall fragmentation of ATS provision in the area, and to extend SES benefits beyond EU borders.

Blue Med is a three-phase project. In the course of 2007 and the first half of 2008, Blue Med developed its feasibility study, which assessed the potential operational, technical, economic and environmental benefits resulting from the establishment of a Mediterranean FAB.

The 2008 Blue Med Transport Ministers Conference launched the definition phase of Blue Med during which 150 project experts will be working together up until August 2011

The feasibility study has shown that the implementation of the Blue Med FAB over the Mediterranean would be highly beneficial for users, air navigation service providers and the European Community as a whole. In fact, users would benefit from improved air traffic flow management and shorter routes. Service providers would see their existing safety levels increase and would be able to provide greater capacity; while the European Community would be able to build a bridge towards the south shore of the Mediterranean.

The feasibility study also addressed the need for a performance-driven approach and the issue of performance target-setting.

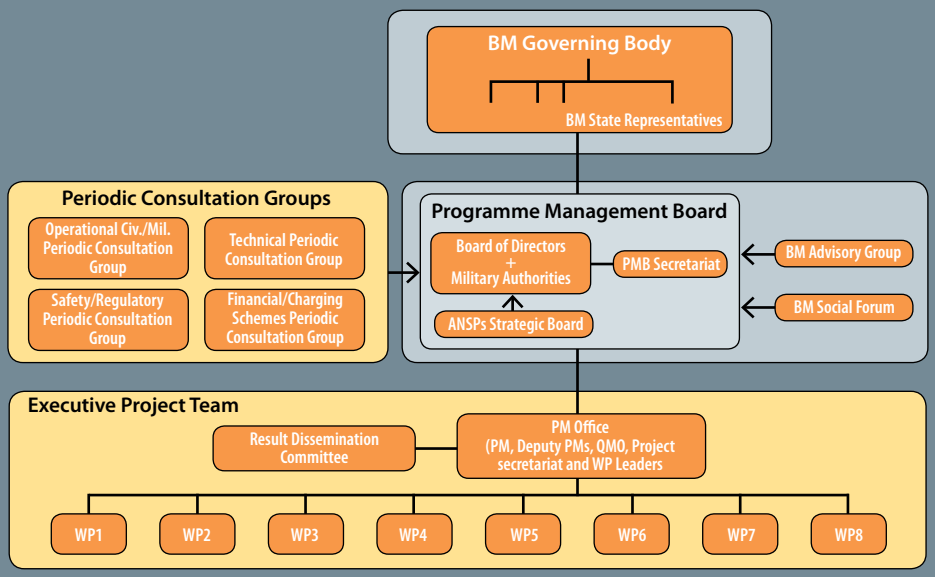
The 2008 Blue Med Transport Ministers Conference launched the definition phase of Blue Med during which 150 project experts will be working together up until August 2011.

The Blue Med working groups span four main sectors – airspace design, technical, safety and economic improvements, regulation and human resources.

Agreements will be made on airspace design and the new airspace structures "regardless of existing boundaries". Additionally enhanced civil-military cooperation mechanism and long-term FAB development plans (beyond 2020) will benefit from fast-time and real-time simulations.

Blue Med project structure and consultation process

As a result of the 2008 Ministerial Conference, the involvement of State authorities throughout the ongoing definition phase is continuous and effective within the project's Governing Body, where State representatives provide the project's high-level policy to the implementing bodies concerned and to the Members of the Programme Management Board (PMB).



The PMB is responsible for FAB implementation and is composed of ANSPs CEOs, CAAs Directors and military authorities at the highest level (thus confirming the importance of the civil-military cooperation within the project) and for providing strategies to be implemented by the Executive Project Team, composed of the PM Office and the Working Groups.

As highlighted during the feasibility study, implementation of Blue Med will not take place without the involvement of staff, professional and user associations across the project's process. In order to capture requirements and remarks from all stakeholders involved, Blue Med has identified specific forums, where all project actors concerned will be able to contribute to the implementation of the Mediterranean FAB.

The Blue Med Social Forum will discuss, as it did during the feasibility study, specific requirements of the staff and professional associations, identifying the best deployment mechanism and scheduling of all remarks, while the Advisory Group will allow users to work with Blue Med experts and State authorities. The Advisory Group will be open to all external stakeholders such as the SESAR JU, whose participation will be strongly beneficial to ensure FAB developments are aligned with SESAR activities and to ensure that existing SESAR JU Blue Med members bring the FAB perspective within SESAR.

Blue Med

Launch of the definition phase of a performance-driven FAB

The technical and safety working groups will validate and implement technical improvements, assess safety and plan further integration towards a regional safety management system. The FAB economic assessment will measure all FAB improvements and assess the most appropriate charging regime, evaluating all aspects of a single unit rate. Moreover, an assessment of the FAB's environmental impact will be carried out.

Additionally, a legal working group will deal with regulation and the drafting of a State Agreement for the FAB. Finally, a working group will be dedicated to dealing with all the human-resource aspects.

These working groups will comprise experts from the ANSPs, CAAs, military authorities and ministries of the States concerned.

BLUE MED AND THE AIRSPACE USERS

The Blue Med feasibility study greatly benefited from user input. The project takes into account their needs and the Blue Med partners will do their best to deliver improvements prior to the FAB implementation deadline (2012) and identify "quick-wins", which will allow aircraft operators to see initial benefits as early as 2010.

POTENTIAL ECONOMIC BENEFITS

The economic assessment of Blue Med FAB improvements is one of the most important project pillars, especially taking into consideration the effects resulting from the wide regional integration and monitoring of the evolutionary performance-driven path.

The Blue Med economic benefits are wide-ranging. The new FAB airspace organisation will put in place shorter routes, resulting in reduced emissions and fuel consumption. Similarly, the expansion of scope and number of the 16 FAB improvement areas identified in the feasibility study will be facilitated by the common FAB integration processes already underway. All these processes will contribute to reducing fragmentation.

All the economic benefits from Blue Med will be deployed step by step, with specific check-points for monitoring performances and fixing targets.

SES EXTENSION BEYOND EU BORDERS

Blue Med is expanding the SES from Europe to include North-African and Middle-Eastern countries. This clearly implies additional effort for the EU Member States. The proactive participation of Egypt and Tunisia – confirmed within the ongoing definition phase with a wide set of experts offered to the working groups – as well as the recent involvement of Albania as full member, support the feasibility study results and the operational need of their engagement in Blue Med. Moreover, the participation of the Kingdom of Jordan and Lebanon as observers shows that Blue Med is a catalyst for regional efforts towards an efficient development of ATM in the region.

INTERVIEW WITH BLUE MED CHAIRMAN, DR LEONIDAS LEONIDOU, DIRECTOR GENERAL, DEPT. OF CIVIL AVIATION OF CYPRUS

WHAT IS YOUR LONG-TERM VISION OF THE BLUE MED FAB?

My vision is shared among all the Blue Med partners. It is to build a regulation-compliant FAB which will bring about real operational benefits to the airspace users and ultimately to the EU citizens. Our FAB should be a model of regional cooperation – innovative and pioneering – with solutions that will truly reflect the Commission's vision of the Single European Sky.

DO YOU BELIEVE THAT THE SINGLE EUROPEAN SKY (SES) IS A PRAGMATIC SOLUTION TO THE EUROPEAN ATM SYSTEM SHORTCOMINGS?

The SES is above all a new operational concept rather than simply a legislative package. It is a vision that we endorse and strive to implement in order to realise the substantial benefits it brings with it. However, it would be unrealistic to expect that all the requirements foreseen by the regulations will be met fully from one day to the next.

HOW HAS THE COOPERATION BETWEEN THE BLUE MED PARTNERS BEEN SO FAR?

Blue Med partners are geographically adjacent and have strong historical links of cooperation. They are also of very similar temperament and therefore they are able to communicate easily. Above all though, and despite large differences, all States have been showing a deep respect for each other, making decisions based on consensus.

WHAT IS THE ROLE OF NON-EU STATES IN BLUE MED?

Non-EU States are associated partners committed to following and contributing to all the work, without however the obligation to fully implement the FAB. They are, however, expected to choose specific harmonisation solutions and implement these. This way the FAB concept is extended beyond the European borders, something that is encouraged by the EU.

WHAT ARE THE MAIN STRENGTHS AND WEAKNESSES OF YOUR INITIATIVE?

Our foremost strength is the political support given to the project. This support has been officially endorsed by the signing of a Ministerial Declaration last November. Secondly, all partners believe the common vision of realising the FAB, and this strategic goal has been communicated from the top. Finally, the working teams comprise professional ATM personnel with significant operational experience.

Our weakness is common to all FAB initiatives: trying to meet the project objectives with limited resources, within very tight deadlines. This is especially true for some of our partners who have very small ATM organisations. We are committed to involving the right resources. Therefore, there is little else to do but try even harder.

DO YOU CONSIDER THE COOPERATION WITH OTHER ADJACENT FABS TO BE NECESSARY?

Absolutely. After all, FABs are the essential building blocks of the true Single Sky and therefore it is important to ensure consistency and harmonisation especially with adjacent FABs.

HOW DO YOU SEE BLUE MED COPING WITH THE OBJECTIVE OF THE SES II PACKAGE?

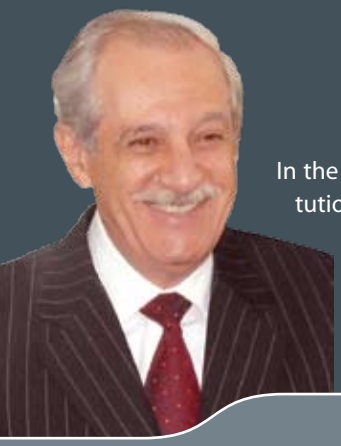
Blue Med has been closely monitoring the development of SES II. Therefore, its project plan is strongly driven by SES II, focusing on ATM performance improvement in the areas of safety, capacity, flight efficiency and the environment.

WHAT IS EUROCONTROL'S ROLE IN THE PROJECT?

EUROCONTROL is an organisation with a high level of competence in ATM, able to provide support to FABs on key issues, such as network design and safety. In this respect, EUROCONTROL has a key role in supporting Blue Med at a technical level, so as to offer its expertise in specific activities and facilitate consistency and compatibility between the various FAB activities. ■

VISITS

Keen to offer its partners and the aviation community at large the opportunity to learn more about what it is and what it does, EUROCONTROL welcomes visitors, both individual and in organised groups, to its premises. These are just a few recent visits:



In the framework of his mission to the European institutions, **Mr Roberto Kobeh, President of the ICAO Council,** was received by the Director General, Mr McMillan, at EUROCONTROL Headquarters on 9 July.

▲ **Some 30 representatives of the Norwegian aviation community** visited EUROCONTROL Headquarters on 25 May. They were briefed on the role of the Agency in the implementation of the Single European Sky and SESAR. The visit included a tour of the CFMU operations room.

On 15 June, the Director General received **Dr Rachel Aron, British Ambassador to Belgium**.

On 12 June, the Director General received at Headquarters the newly appointed **Director Airspace Policy and Board Member of the UK Civil Aviation Authority, Mr Mark Swan.** In the picture from left: Rob Peters, Head of Civil-Military Central Management Functions Unit, Mr McMillan and Mr Swan. ▼

NATS

▲ On 6 May, **the NATS Partnership Directors and Members of the Parliamentry Aviation Group** visited EUROCONTROL. Presentations on the challenges facing aviation in general and EUROCONTROL in particular, and the Agency's role in the implementation of the Single European Sky and SESAR were all part of the programme, together with a tour of the CFMU operations room.

Forthcoming events at EUROCONTROL Brussels Headquarters

22 September 2009
DMEAN Implementation Support Group (DISG/6)

22 September 2009
Airspace Management Workshop

23-24 September 2009
Aeronautical Information Team (AIT/31)

29 September 2009
CFMU Supervisory Board (CFMU-SB/3)

29 - 30 September 2009
Military Harmonisation Group (MILHAG/27)

30 September - 1 October 2009
Performance Review Commission (PRC/58)

30 September - 1 October 2009
Safety Regulation Commission (SRC/36)

6 - 7 October 2009
Wide Area Multilateration – Ready for Use

12 - 13 October 2009
Civil & Military Interface Standing Committee (CMIC/34)

14 - 15 October 2009
Stakeholder Consultation Group (SCG/12)

15 October 2009
Provisional Council Coordinating Committee/9 (PCC/12)

20 - 21 October 2009
Operations Coordination Group (OCG/9)

28 October 2009
Air Navigation Services Board (ANSB/11)

3 November 2009
Military ATM Board (MAB/5)

3 - 5 November 2009
Airspace Navigation Team (ANT/50)

6 November 2009
Standing Committee on Finance (SCF/13)

11 November 2009
Audit Board (AB/70)

12 November 2009
Civil-Military Standardisation Workshop

17 - 18 November 2009
Airport Operations Team Meeting (AOT/26)

25 - 26 November 2009
Enlarged Committee for Route Charges (CE-R/88)

30 November 2009
Provisional Council Coordinating Committee/9 (PCC/13)

30 November 2009
Seminar on Requirements for European Class 3 - Medical Certification of Air Traffic Controllers

7 - 8 December 2009
Performance Review Commission (PRC/59)

8 - 9 December 2009
Low Visibility Operations (LVO) Workshop

11 December 2009
Audit Board (AB/71)

More on: www.eurocontrol.int

ATC Global 2010 Conference Preview

9-11 March 2010 - Amsterdam RAI
"Reducing Costs and Improving Services"

The theme of the conference will be "Reducing costs, improving services". The debates and speeches will focus on whether ANSPs can only reduce their costs and their charges to airline customers by reducing services – or whether new technology, procedures and blue-sky thinking can deliver better ATM performance at a lower cost.

More information at: www.atcevents.com/sky

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