

# ICB

Industry Consultation Body

## A high level vision for achieving the Single European Sky

January 2015



## Foreword from the ICB Chairman



When I was selected Chairman of the ICB, I set out to transform the working practises of the ICB to provide proactive advice to the European Commission on topics of interest to ICB members. The objective was to ensure that the industry's voice is heard, so that regulatory proposals are built on the strength of consensus and commitment that only a partnership approach can bring.



This long term industry vision for the Single European Sky was developed in order to reflect the views of the diverse groups within the ICB and is intended to shape the formation of the annual ICB Work Programme, and inform the ICB's response to future initiatives including the future legislative and institutional frameworks.

The vision will lead the work of the ICB, and we will continue to build on, and act upon, the vision via our work programme over the coming years.

In particular over the next 12 months the ICB will consider the following topics:

- The role of EUROCONTROL
- The evolution of the Performance Scheme
- Measures to achieve a competitive market
- Role of standards in supporting deployment

**The Industry Consultation Body (ICB)** was established by legislation to advise the Commission on the implementation of the Single European Sky.

The ICB is a platform for the definition of the future strategy and its implementation, and provides all major stakeholders in the European air traffic management industry (ATM) with an opportunity to express their views directly to the Commission. The principal task of the ICB is to provide strategic, planning and technical advice to the European Commission.

For further information please visit our website at <http://www.icb-portal.eu/>

# The ICB Vision for SES

“A modern, resilient, globally interoperable and sustainable ATM system for Europe delivering high performance for passengers and all airspace users”

## *Delivered via*

A modern, efficient and harmonised network of services and infrastructure

## *Based on*

Flexible, cost-efficient service provision responding to competition and customer needs

## *Driven by*

Performance-based ATM with independent economic and safety regulation

## **Technical framework**

- Industry-led deployment activities based on a common architecture and operational concept
- Overall design and deployment roadmap agreed by industry
- Global interoperability
- European leadership in ATM

## **Service provision framework**

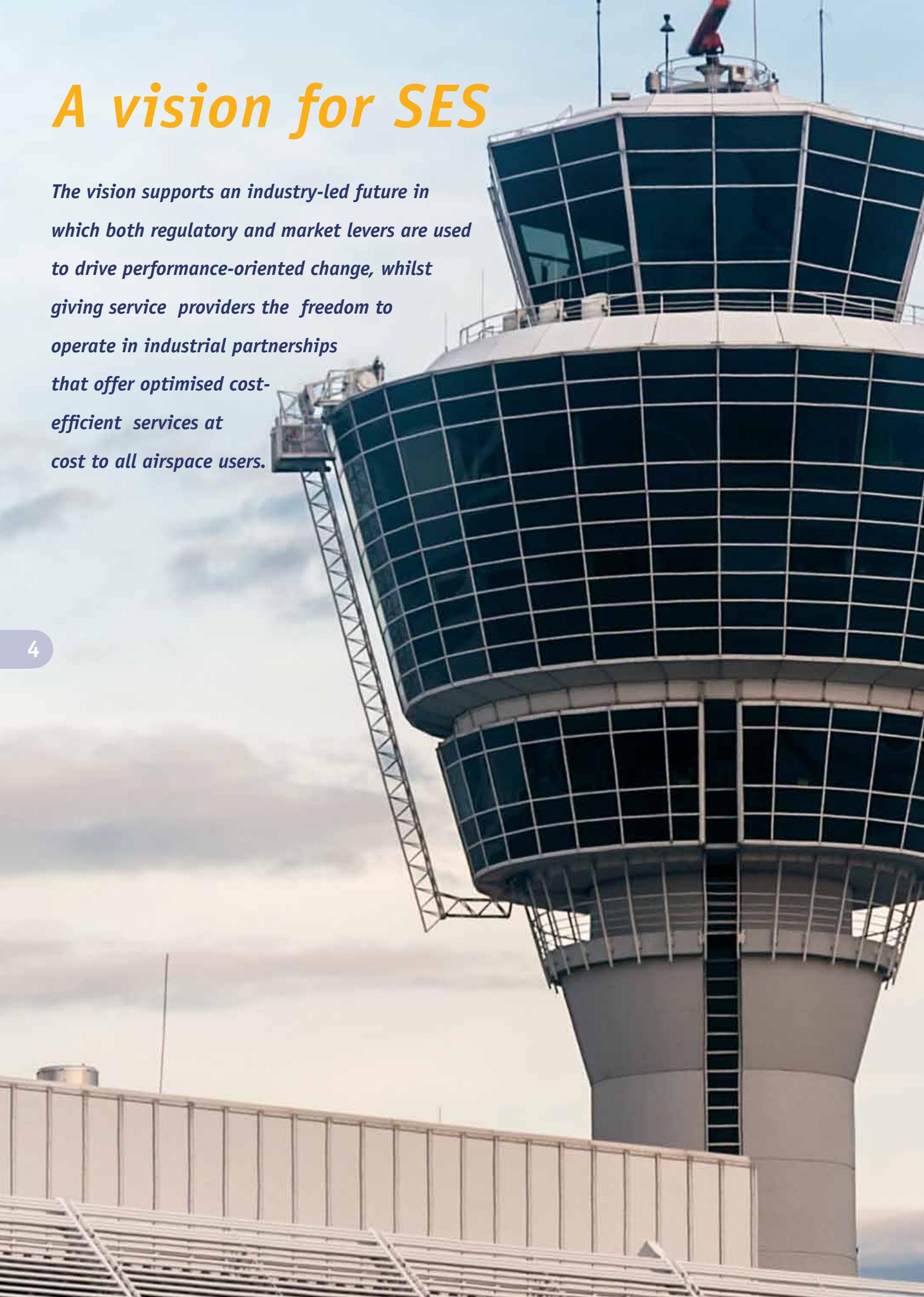
- Freedom of service providers to operate, innovate and deliver performance improvement, regardless of ownership
- Collaborative coordination functions: R&D Manager, Deployment Manager and Network Function Coordination

## **Regulatory framework**

- Functional separation between service providers and regulators
- Smart, proportionate and risk based regulation, and better oversight, uniformly applied
- Independent economic regulator applying a balanced set of KPIs including safety
- Application of market principles where possible

# *A vision for SES*

*The vision supports an industry-led future in which both regulatory and market levers are used to drive performance-oriented change, whilst giving service providers the freedom to operate in industrial partnerships that offer optimised cost-efficient services at cost to all airspace users.*



**Aviation is a vital sector for our society and economy; a catalyst for economic growth and skilled employment in support of the EUROPE 2020 strategy.** Aviation's economic and societal contribution is substantial; generating around €340 billion per annum and providing 7 million jobs. The importance of aviation in Europe is highlighted by the fact that it is among the busiest airspace in the world. In 2012 there were over 9 million flights and nearly 800 million passengers using

European airports; these figures are expected to increase by 50% by 2035, but with significant regional variation.

Reform of the sector is required to accommodate this additional traffic in a safe, expeditious, cost-effective and sustainable manner. The Commission's Single European Sky (SES) initiative provides the legal framework to achieve this goal. The industry fully supports the SES.

In setting out a high level vision for the SES, the ICB is establishing a framework for future policy direction at EU and State level towards achieving the SES High Level Goals.

The vision needs to be considered within the

wider context of EU policy and in particular transport policy which simply stated is "to enable mobility of persons, goods and services in Europe in a safe, expeditious, cost-efficient and sustainable manner, so as to ensure competitiveness and attractiveness of the European economy and industry". The ICB vision for the SES is to ensure that a modern ATM system supporting all airspace users (scheduled, charter, business, regional, general and military) is available as a catalyst for European economic growth.

The vision supports an industry led future in which both regulatory and market levers are used to drive performance-oriented change, whilst giving service providers the freedom to operate in industrial partnerships that offer optimised cost-efficient

and safe services at cost to all airspace users.

A new framework encompassing technical, service provision and regulatory elements is required to support optimisation whilst maintaining high levels of safety, performance and interoperability. This framework must be developed and maintained through consensus of the industry. The ICB's role is to support the consensus building process and advise the Commission on necessary actions in line with the framework.

***"A modern, resilient, globally interoperable and sustainable ATM system for Europe delivering high performance for passengers and all airspace users"***

**Service provision  
framework**  
PAGE 8

**Technical  
framework**  
PAGE 10

**Regulatory  
framework**  
PAGE 11

# Achieving the vision

*“Ready to respond to the challenge”*

*ATM is an essential global infrastructure that can no longer be viewed at a purely national level. Sustainable continuity of service is of paramount importance and in order to achieve the necessary performance improvement, action from all stakeholders and a further shift to SES-wide solutions is required.*

*The investing operational stakeholders are ready to respond to the challenge, working with staff and suppliers to effect significant change. This change however needs political will. Member States must support the Commission to initiate changes to the regulatory system to ensure that all of Europe is able to benefit from harmonised ATM.*

## Principles for the transition

6

- Operational stakeholders must work together in response to both regulatory and market pressures to deliver performance improvements
- Improved change management processes are required to ensure that technological and organisational changes are achieved in a safe and cost-effective manner
- Strong coordination and consultation activity is required to develop and maintain consensus during the deployment process to achieve agreed performance
- Change management processes must recognise the importance of staff in delivering change whilst transforming ATM service delivery to a genuinely customer focused approach
- Public funding to support deployment is important where synchronised deployment leads to unbalanced CBAs
- All changes must be supported by detailed regulatory impact assessment and public consultation
- Consultation and engagement processes must be streamlined



## Moving in the right direction

The extension of EASA competence, the coordination of network functions through the NM, the concentration of ATM R&D through the SJU, and more recently, legislation to create an industry-led Deployment Manager are all steps in the right direction. Important additional reforms are required in the short term to accelerate the transition:

- Creation of an independent **SES-wide economic and performance regulator** and subsequent revision of the Performance Scheme to improve target setting and monitoring processes.
- A detailed study to support a clear understanding of the opportunities, risks and required actions to create a **competitive market** for Air Navigation Services.
- Development of the **Best Equipped/Best Served** concept and other methods of incentivising performance-led deployment of new technology and procedures.
- **Continued reform and overall improvement of EASA** to support the creation of a single European Aviation Agency responsible for all aspects of safety and interoperability regulation in aviation. This will require appropriate resources and revised governance arrangements.
- **Regulatory reforms** to ensure ANSPs have sufficient freedom to operate commercially and establish trans-national industrial partnerships. This will require:
  - Clear functional separation between service providers and both the State and National Supervisory Authority.
  - Obligations on Member States to support achievement of a competitive market.
  - Governance models that ensure transparency of cost-charges with ANSPs able to access capital independent of government.
- **Reform of EUROCONTROL** is essential. Service provision by EUROCONTROL must be subject to the same safety, economic and performance regulatory framework as other service providers, and where possible apply the user pays principle. A new Convention, governance, and financing arrangements should be established to support the transition to an industry governed service provider.



## Service provision framework

**Service providers (of services such as ATFM, ATC, CNS, AIS, MET) need freedom to operate and innovate in response**

**to customer, regulatory, and standardisation challenges.** Regulators and Service Providers should be separate. Service providers should be enabled to operate independently of political interference or direct operational control by State Ministers. This does not preclude State regulatory oversight. The issue is to ensure that day-to-day management responds to customer needs. Governance arrangements must ensure service providers seek continuous performance and cost efficiency improvement.

In particular, service providers should be able to form industrial partnerships that can offer specific services at the most optimum and cost-efficient level. Service providers should be able to join the industrial partnerships appropriate to their business model. This process is likely to lead to a mixture of different business models with increased collaboration and horizontal integration to enable service providers to achieve wider geographical scope and economies of scale. The emergence of new specialised service providers, for example SES wide communications, AIS, providers or indeed regional infrastructure providers is a possible outcome. The vision does not dictate the number, shape or size of future service providers – the key is that service providers are able to organise themselves to achieve performance objectives based on operational harmonisation whilst avoiding new levels of fragmentation.

A number of SES wide coordination functions will need to exist to provide a framework for achieving harmonisation, namely: R&D management, deployment management and

network management. These functions require coordination and collaboration with strong industry involvement in the governance arrangements.

**R&D Management:** R&D is necessary to ensure availability of innovative, cost-effective future operational and technical solutions. The SESAR programme and the current PPP arrangements managed by the SESAR Joint

Undertaking (SJU) are appropriate to ensure both strong coordination and the channelling of public and private funds. The work programme of the SJU should be derived top down from the Master Plan and take account of operational issues, performance

shortfalls, and in particular the Network plans, lessons learnt from deployment, as well as suggestions from a large base of stakeholders, the operational ones, the industry, the military and the regulators. Innovations should be matured through the SESAR programme to ensure wide applicability. The European ATM Master Plan is a key product of the SESAR programme. Through the active involvement of all operational stakeholders in its development and approval, it describes consensus on the future system, services and procedures in line with the industry vision.

**Deployment Management:** All deployment actions will be industry-led and enable operational harmonisation and performance improvement at SES level. A clear distinction is required between harmonised and synchronised deployment (see table on page 10).

Synchronised deployment will be co-ordinated by a Deployment Manager consisting of operational stakeholders in accordance with an agreed Deployment Programme. The role of the Deployment Manager includes delivering the

***“Flexible cost-efficient service provision responding to competition and customer needs.”***

Deployment Programme and supporting the regulator to determine the correct balance between harmonised and synchronised deployment for solutions identified in the European ATM Master Plan, and hence in future Common Projects.

**Network Management:** A number of network functions are required at coordinated SES level to ensure optimised use of resources. It is anticipated that a number of additional network management functions will be identified through development of the European ATM Master Plan.

The industry supports the current Network Manager arrangements to deliver network functions. However, in the future the Network Manager should transition to an industrial partnership, under the governance of the operational stakeholders.

In the interim a number of the network functions should be outsourced by the Network Manager to industrial partnerships subject to the same regulatory framework as all other service providers. In this way they will be subject to

competition and industry best practice.

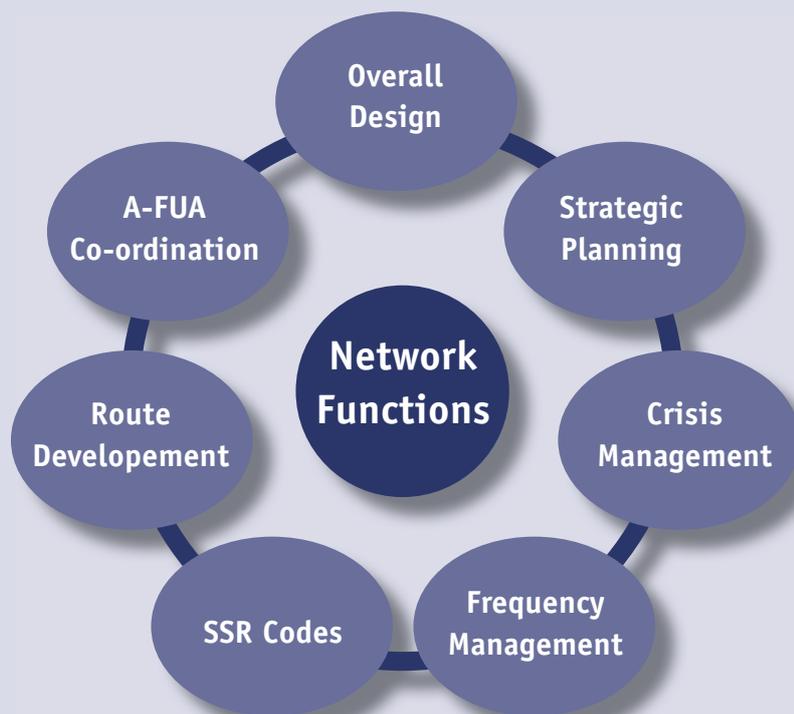
The Network Manager has a key role in identifying performance issues at network level that need to be addressed either by the operational stakeholders or through R&D.

The Network Manager will also be responsible for the overall definition and design of the network, based on the European ATM Master Plan, ICAO GANP, SESAR solutions as well as inputs from the Deployment Manager, and operational stakeholders.

The overall network design will be developed by consensus to enable optimisation by service providers, within a single technical framework, that ensures harmonisation and interoperability and hence supports achievement of performance targets.

**Evolution of coordination functions:**

The responsible entities (SJU, DM, NM) will evolve over time, learning from experience and adjusting to the changing requirements, including streamlining of their institutional arrangements for their specific role.



# Technical framework

Central to achievement of the vision is the progressive deployment of a harmonised ATM infrastructure, with

a clear timeline, agreed by all actors. The infrastructure will support a network of services that increase the resilience of the European ATM Network, leading to improved safety and operational performance. It will lead to full integration of airports and airspace users within the ATM network, based on interoperable data and utilising new technologies such as SWIM, whilst ensuring that associated challenges such as cyber security and data privacy are addressed.

To achieve harmonisation, the future system will be based on common architecture, services, and procedures that support regional and global interoperability at lower cost. The ground system will be configurable and flexible so that local implementations reflect local traffic conditions and adjust to changing requirements. New ground functionality will be deployed at the most appropriate level – SES-wide, regional (for example at FAB level), national or local (for example at one or more airports) – to improve cost-effectiveness and operational performance, whilst ensuring safety. Similarly, a common level of airborne functionality will be established and the possibility of airspace users investing in additional functionalities to support their business model through the “Best Equipped/ Best Served” principle.

*“A modern, efficient and harmonised network of services and infrastructure”*



New solutions will be developed by all industry stakeholders working in collaboration through the SESAR programme. These new solutions will demonstrate European leadership

in ATM whilst ensuring global interoperability. The link between R&D and deployment will be provided by the European ATM Master Plan. All operational stakeholders

will be involved in and drive the regular updates to the European ATM Master Plan such that it reflects industry wide consensus, operational need and the reality of existing deployment programmes. The R&D programme will be driven by performance needs with the transition of solutions from R&D to deployment based on clear and compelling CBAs endorsed by the airspace users, airports and ANSPs for synchronised deployments. This will ensure a performance oriented approach to the ATM infrastructure lifecycle. Strong coordination with ICAO and regional programmes (including NextGen and CARATS) will ensure alignment with the Global Air Navigation Plan (GANP) and global interoperability.

## Harmonised deployment

Allows the industry to deploy new solutions as and when necessary to meet customer expectations and performance targets whilst maintaining interoperability.

Local CBA demonstrating the need for the proposed solution within the local context.

Regulations supporting harmonised deployment should only specify performance levels and interoperability requirements.

## Synchronised deployment

Necessary where the efficient accrual of benefits from a new function requires deployment by a large number of actors at the same time and in particular when changes are required in both airborne and ground segments.

SES-level CBA demonstrating network benefits and identifying the need for public funds to support the transition.

Regulations supporting synchronised deployment should set out timelines for deployment along with incentives, penalties and reporting processes for all involved actors.

Interoperability and safety requirements should be based on validated solutions and need to be established in standards documents recognised as a means of compliance. Relevant standards should be developed early in the industrialisation process in order to de-risk timely deployment.

**Achieving the SES vision requires the uniform application of ATM regulations within the overall ICAO framework.**

**Progress to date suggests that the regulatory tools to drive performance improvements require strengthening, as do the rulemaking, oversight and enforcement processes.**

The industry requires an efficient European ATM regulatory system without overlaps or duplications. The industry therefore reconfirms its commitment to the EU as the sole regulator for ATM and the use of aviation agreements to extend the benefits of SES across Europe.

The Commission should, however, work to strengthen consultation processes to ensure widespread support for regulatory measures from Member States and buy in from all industry stakeholders.

## **Creation of a European Aviation**

**Agency:** The emergence of a single SES-level aviation regulator covering safety and interoperability, that is adequately resourced

and financed, is essential. For industrial partnerships to work at the appropriate level for a specific service, they must be subject to a harmonised certification and oversight process. Therefore the SES-level agency should have responsibility for establishing both technical rule making and oversight of service providers. The emergence of a European Aviation Agency will therefore require a rebalancing of roles and responsibilities with National Supervisory Authorities to ensure both local presence and cost-effective solutions for the established framework, including potential regional consolidation of NSAs. It also raises a question on the need to define if and how the military aviation authorities could liaise with the European Aviation Agency.

If, over time, EASA is to become such an

agency then further reform is required to ensure it is competent and efficiently resourced for the tasks entrusted to it. EASA governance and decision making bodies need to fully reflect the involved stakeholders.

## **Economic and Performance Regulation:**

The vision is based on industrial partnerships providing necessary ATM services. Where a competitive market is established for a specific service it should not be subject to economic regulation but must be subject to performance monitoring and target setting. Where a competitive market is not established, economic regulation should also be applied.

Performance regulation must be based on the principles of performance based ATM and a balanced set of high level KPIs and targets drawn from the ICAO performance framework. Performance monitoring and target setting must be transparent and independent. Safety must be proactively monitored and improved using the latest standardised methods.

Economic and performance regulation must apply directly to the regulated bodies – namely

the service providers and industrial partnerships and where appropriate the NSAs. Performance targets should be set at the appropriate level: local, national, regional/FAB,

transnational or SES wide. An independent SES level economic and performance regulator should be established to provide an overall framework and working with NSAs to set binding performance targets directly on trans-national, regional/FAB, and SES level bodies. Where service providers work together to provide a harmonised service, they should have freedom to proportion the local target between themselves.

*“Performance based ATM with independent economic and safety regulation”*

Produced by the Industry Consultation Body, December 2014  
For further information please visit <http://www.icb-portal.eu/>

**ICB**

Industry Consultation Body