

EUROCAE



EUROCAE

The European Organisation for Civil Aviation Equipment

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Presentation Overview

- **Background to EUROCAE**
- **A complex worldwide regulatory and standardization context**
 - The need for Standards
 - Global vision
- **Single European Sky – Standards and the New Legislative Framework**
 - Single European Sky and the Standardization framework
 - The SESAR Programme and the SESAR Joint Undertaking
- **Some matters for brainstorming**



Background to EUROCAE



What is EUROCAE ?

EUROCAE:

- is the only European organisation exclusively dedicated to the development of technical standards in support of the aviation community.
- is producing since more than 45 years standards used in the certification of avionics and approval of CNS and ATM equipment and applications
- provides all aviation stakeholders with a forum to work together to achieve an effective standardisation framework in Europe.
- Experiences since years a proven mechanism for the development of required aviation technical standards and other associated documents.



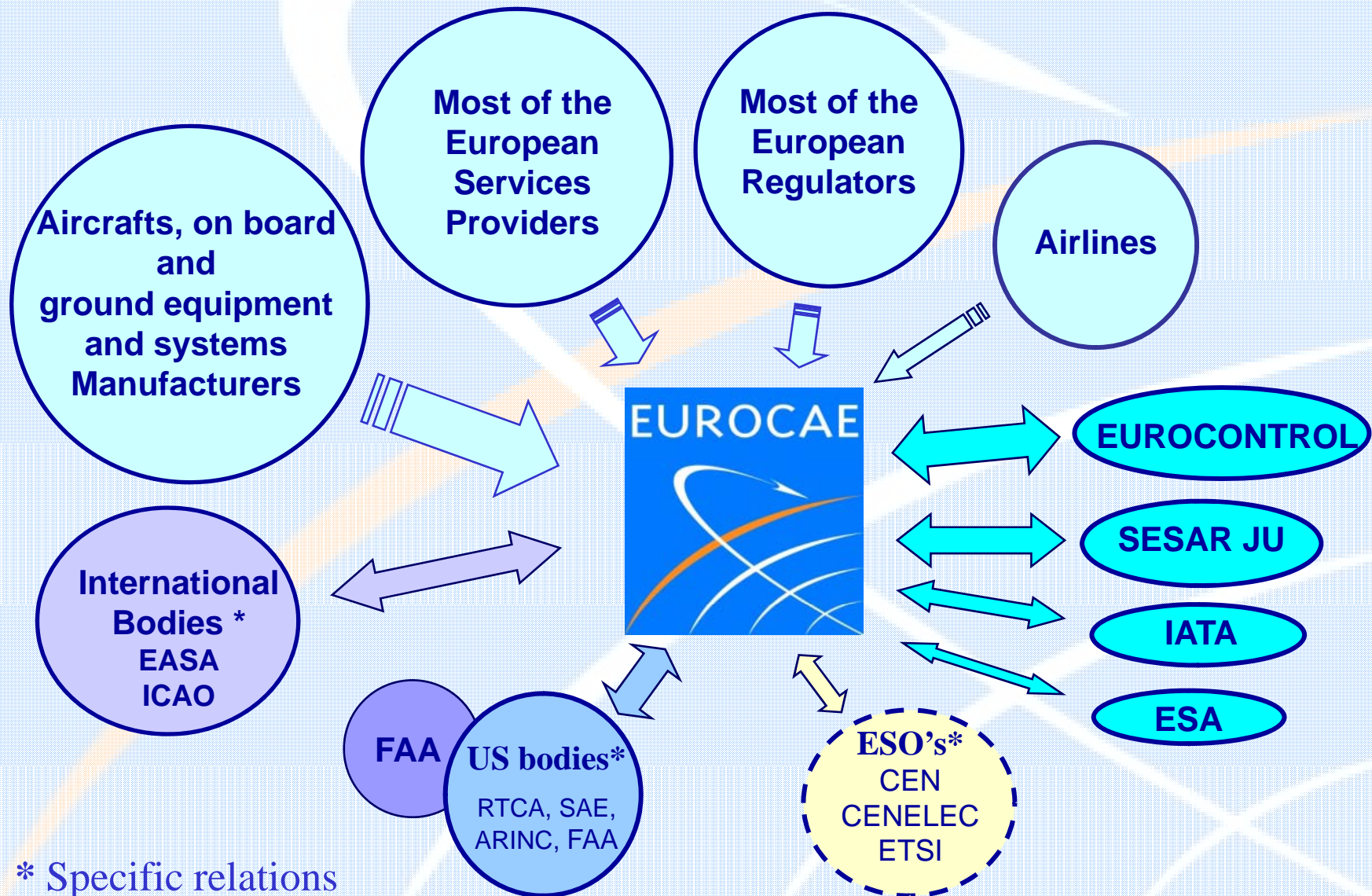
EUROCAE is recognized by

- the **European Commission** as the competent body to collaborate with the European Standardisation Organisations (ESOs) in the preparation of European Norms
→ *Article 4.1.a) of the Interoperability Regulation (CE) 552/2004.*
- the **European Aviation Safety Agency (EASA)** as a major European stakeholder in the development of Technical documents regarding Aviation safety (i.e. ETSO “European Technical Standard Order”)
- the **FAA** as having the right expertise to collaborate, when appropriate, with US organizations (RTCA, SAE, ARINC) in the development of specific standards related to Aviation
- the **ICAO** which does not only references its documents (EDs) but which also invites EUROCAE to participate in number of its Study Groups and also in the recent Informal Standardization Bodies Group (including also ARINC, RTCA, SAE and required authorities from Europe and the USA)



EUROCAE Membership and Partners

120 MEMBERS FROM 28 COUNTRIES



* Specific relations



A complex worldwide regulatory and standardization context

The need for Standards: *From Concept to Equipment*

*A Process which
crosses the boundary
of responsibility of
various development
stages/organisations
which must cooperate
throughout the entire
development lifecycle*

High Level CNS/ATM Concept

Specific Domain Principles

Operational Requirements

Operational Application Descriptions

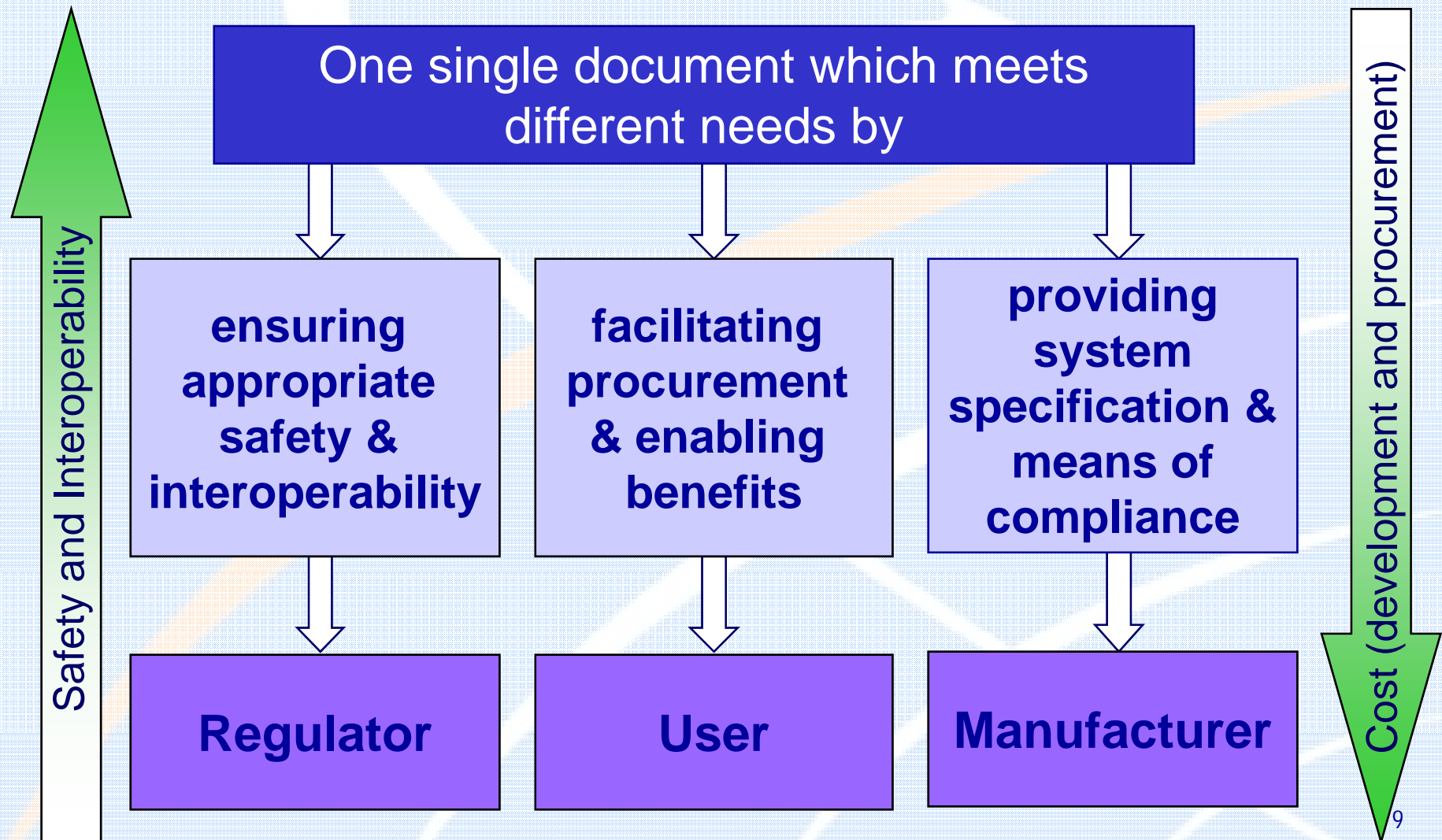
Safety and Performance Requirements

System Requirements (Interop)

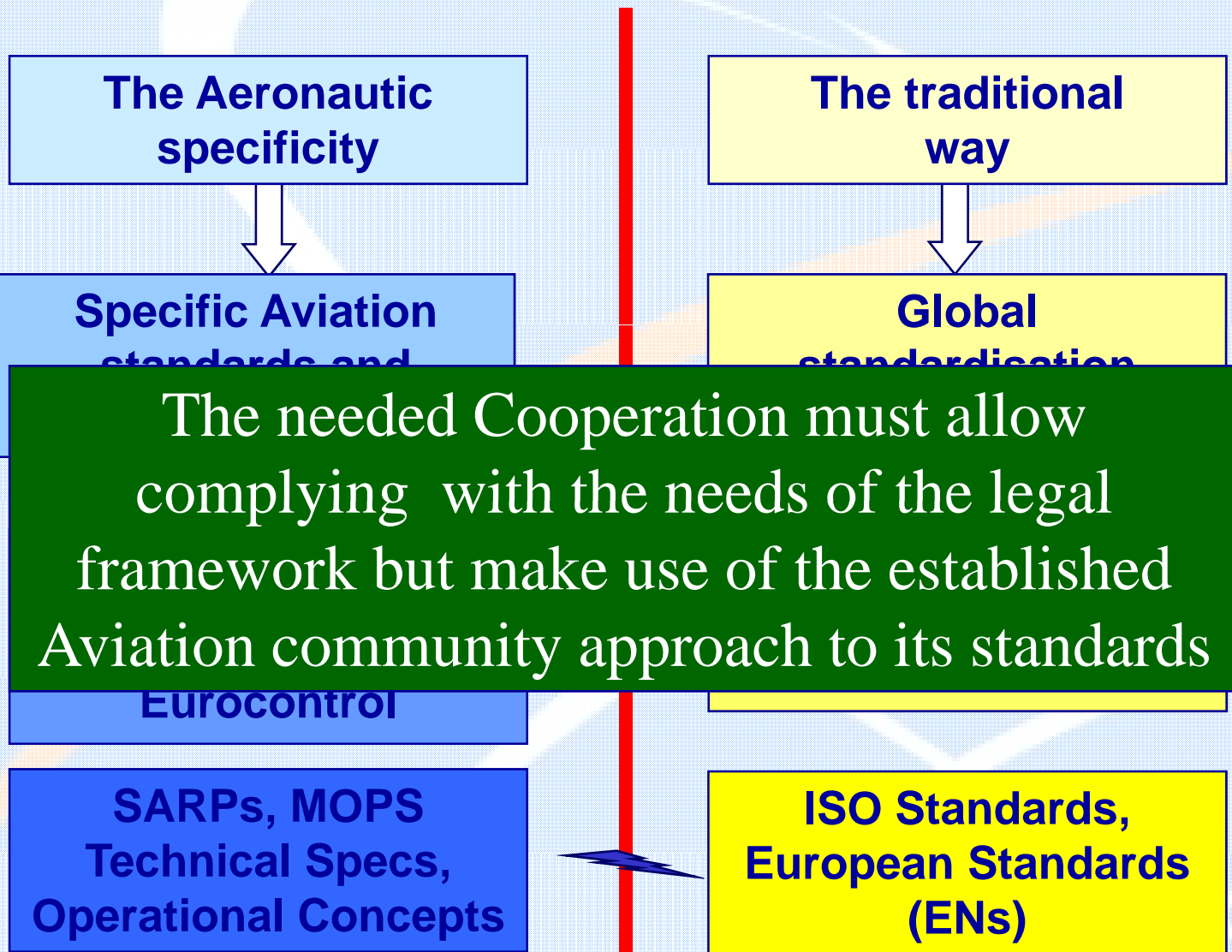
System Description (Architecture)

Equipment Specifications

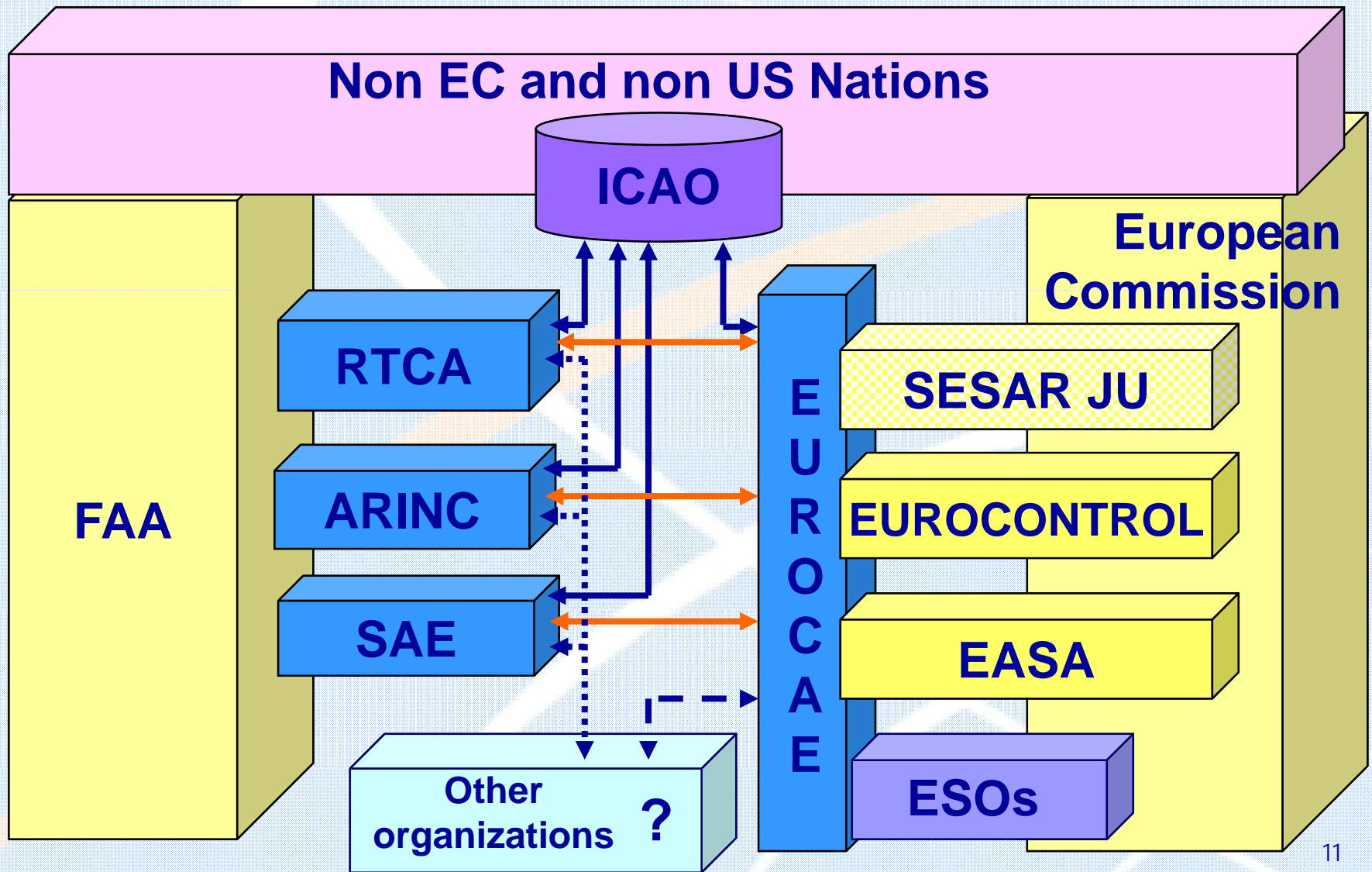
The need for Standards: *Technical Specifications – The “Raison d’être”*



The need for Standards: *A Different View of Standards ...*

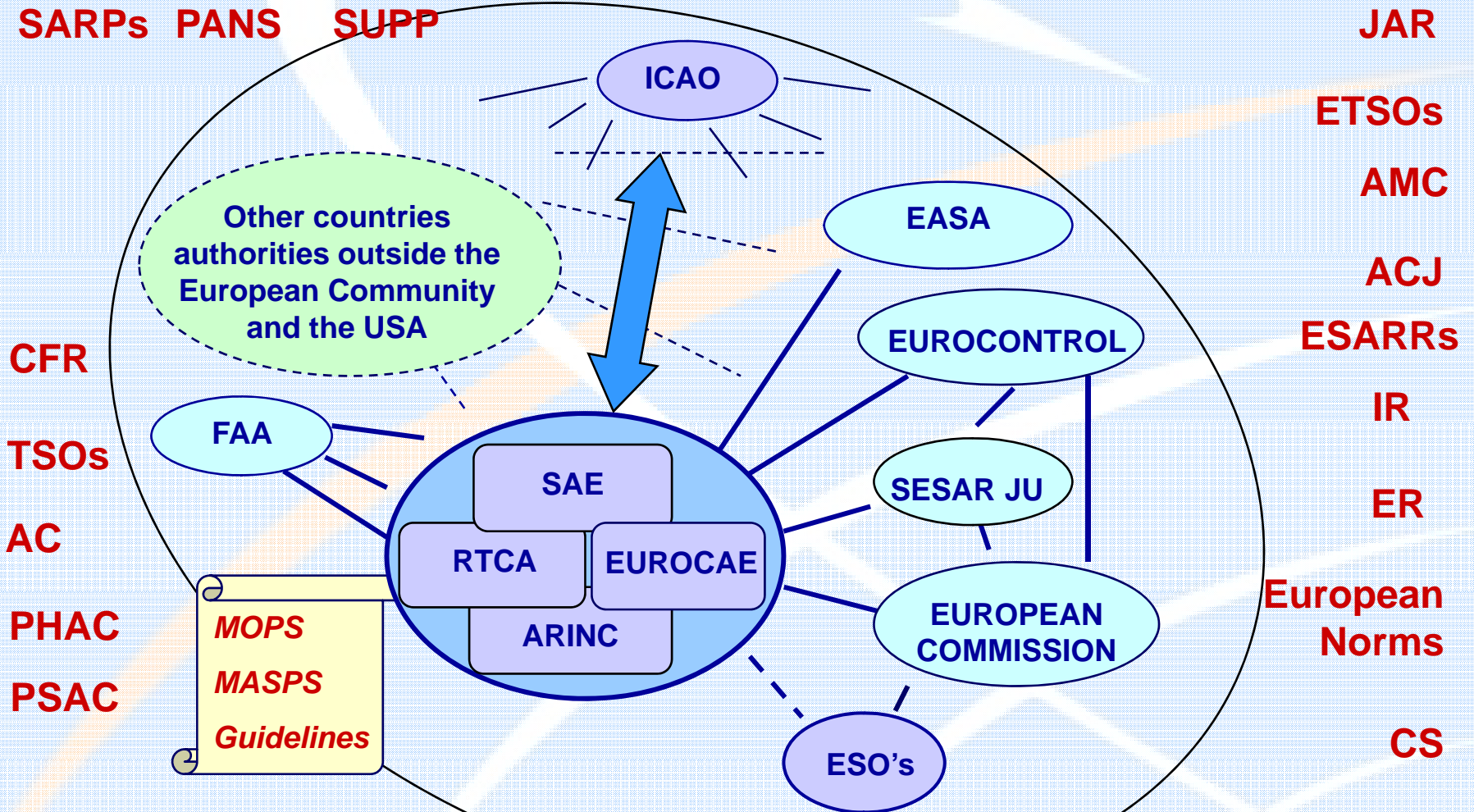


Global vision: The standardization environment





Global vision: *The Worldwide Airworthiness Documentary System*





Single European Sky: Standards and the European Legislative Framework



Single European Sky, a European Challenge

The Single European Sky (SES) is an initiative launched by the European Commission in 2004 to overcome the existing fragmentation and capacity crunch by restructuring the airspace and air navigation services at a pan-European level to better manage the air traffic.

The Single European Sky includes also required legislative approach.

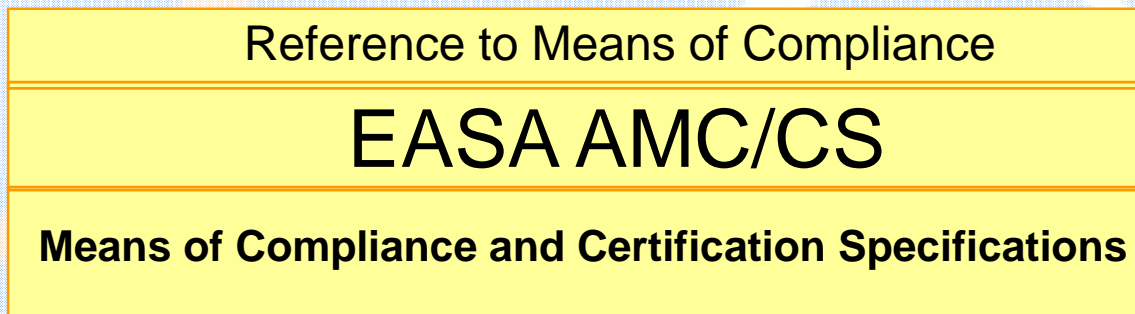
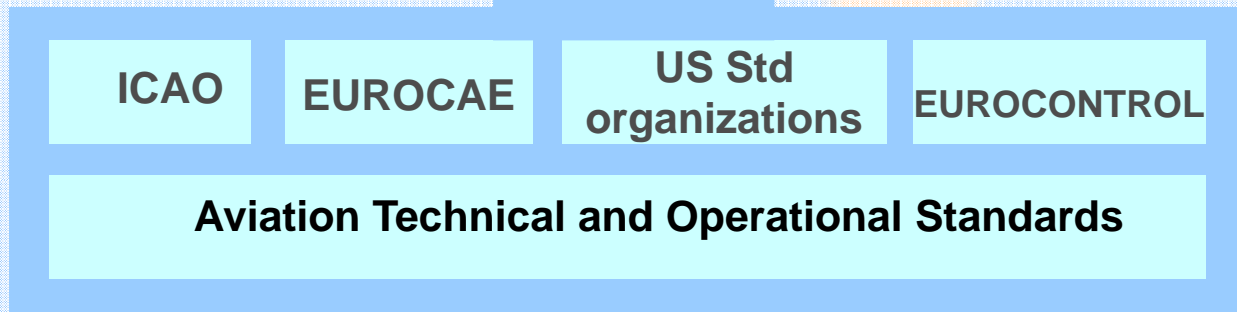
This will allow meeting the following objectives:

- ↳ **Capacity:** Air Traffic to double by 2030
- ↳ **Safety:** Improvements linked to growth
- ↳ **Environment:** Growth must be 'green'
- ↳ **Economics:** Cost efficiency
- ↳ **Operations:** Eliminate fragmentation
- ↳ **Technology:** All above the existing & mandatory Interoperability

As key part of the Single European Sky initiative, the SESAR (Single European Sky ATM Research) programme represents its technological dimension.



Standard making organizations supporting the European Regulation



The SES Interoperability Legislation

Essential Requirements

ERs

Implementing Rules

IRs

Community
Specifications

The European standardization components

Essential requirements (ER)

- **Seamless operation,**
- **Safety,**
- **Environmental constraints,**
- **Support of new concepts of operation,**
- **Principles governing the logical architecture,**
- **Principles governing the construction of systems,**
- **Civil-military coordination.**



The European standardization components

Implementing rules (IR)

Can be developed by Eurocontrol in conformity with mandates issued by the EC.

- Shall determine any specific requirement that complements or refine the Essential Requirements,
- Shall describe the coordinated introduction of new, agreed and validated concepts of operation or technology,
- Shall specify the conditions of implementation (including schedules),
- Shall be:
 - adopted by the Single Sky Committee (SSC),
 - published in the EC Official Journal

IR are for interoperability compulsory.



The European standardization components

Community Specifications (CS)

CSs are possible means of compliance and are mandated by the EC.

CSs can be:

↳ European standards drawn up by European Standardisation Organizations (ESO) CEN/CENELEC/ETSI in cooperation with EUROCAE

OR

↳ Eurocontrol specifications for operational coordination purposes)

Systems, procedures and constituents which meet Community Specifications are presumed to be compliant with mandatory rules (ERs and IRs)

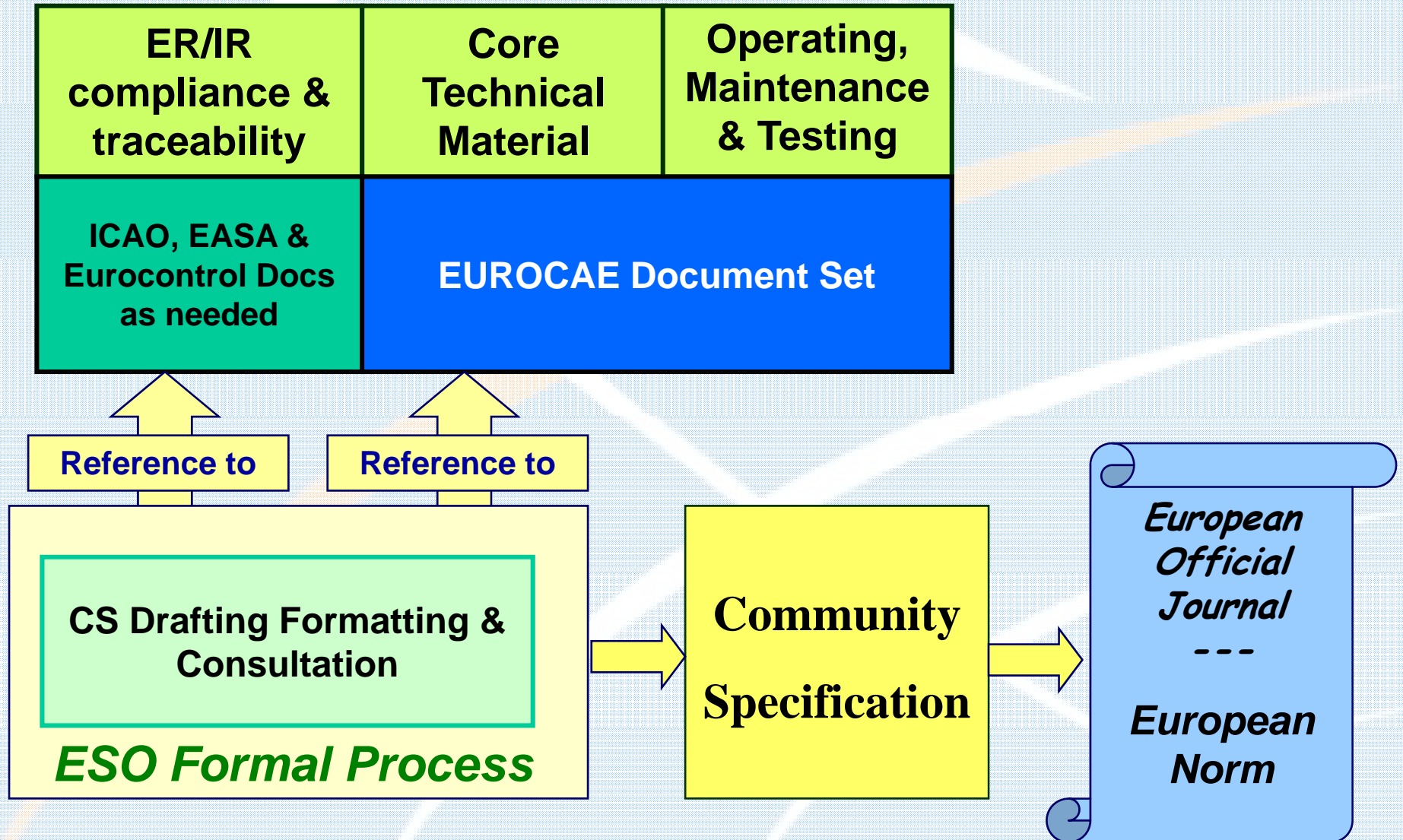


CS Development Outputs and Responsibilities

Community Specification				
CS Elements	Core Technical Material	Operating, Maintenance & Testing aspects	ER/(IR) compliance traceability	Formatting and Consultation
Material	EUROCAE Document Set (by reference)	ICAO, EASA & Eurocontrol Docs as needed	ER/(IR) Compliance Annex	CS Publication
Responsibility	EUROCAE WG (involving relevant aviation stakeholders)	ESO specific group (with EUROCAE involvement and other stakeholder coordination)		ESO Secretariat



CS Elements and Process





SESAR: The European Challenges

SESAR is organized in three phases

⇒ **Definition phase (2006-2008)**

These Phase resulted in the European ATM Master Plan

⇒ **Development phase (2008 – 2014)**

Based on the Master Plan, will result in new technologies and pre-industrial components, new operational procedures and new Standards.

This Phase is managed by the SESAR Joint Undertaking

⇒ **Deployment phase (2015 – 2025)**

Implementation of the Development Phase delivering performances increase foreseen in the ATM Master Plan.



SESAR Joint Undertaking

The mission:

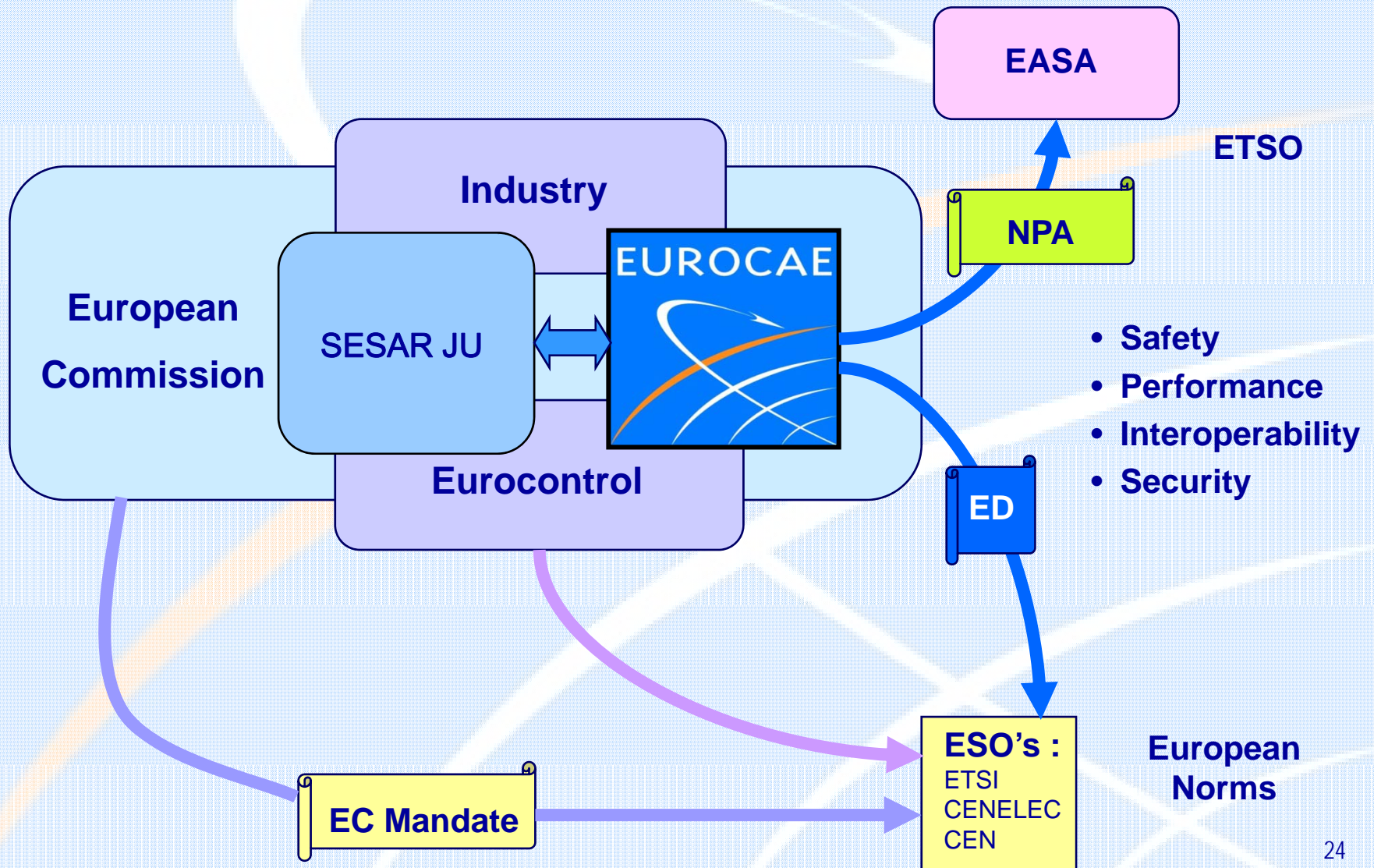
“To develop a modernized air traffic management system for Europe, which will prevent crippling congestion of the European sky and reduce the environmental impact of air transport.”

The SJU coordinates and concentrates all relevant research and development efforts undertaken by its members.

The SJU is responsible for the implementation of the ATM Master Plan



EUROCAE in the Context of the New European Framework





What is already working?

Considering ARINC, EUROCAE, RTCA and SAE:

- **As far as EUROCAE is concerned, existing communication with those three US organizations**
- **The technical working bodies (e.g. EUROCAE WGs) are well structured and controlled**
- **The development process**
- **The document structure**
- **The Open Consultation approach**



What could be improved ?

- **Coordination in the preparation of new activities (e.g. cross-communication of Technical Work Programme)**
- **TORs definition and harmonization**
 - need for anticipated coordination between the concerned Standardization organizations
- **Open Consultation**
 - need for harmonization (e.g. schedule)
- **Meeting organization**
 - reducing travel expenses is a must



What is needed and which does not exist?

- **Coordination regarding**
 - the selection of topics to be addressed
 - the setting up of priorities
- **Harmonization of the publication (in terms of date)**
- **Organized and coordinated follow-up of published documents**
- **Clarification regarding standards validation**
 - “ Open consultation” for ARINC, EUROCAE, RTCA, SAE
and
 - “ Nation inquiries” (ballot) for ESO, EUROCONTROL, ICAO,
ISO
- **Coordination and harmonization regarding our position with respects to newcomers from other countries (China, India, Japan, Russia...)**



Thank you for your attention

EUROCAE

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