

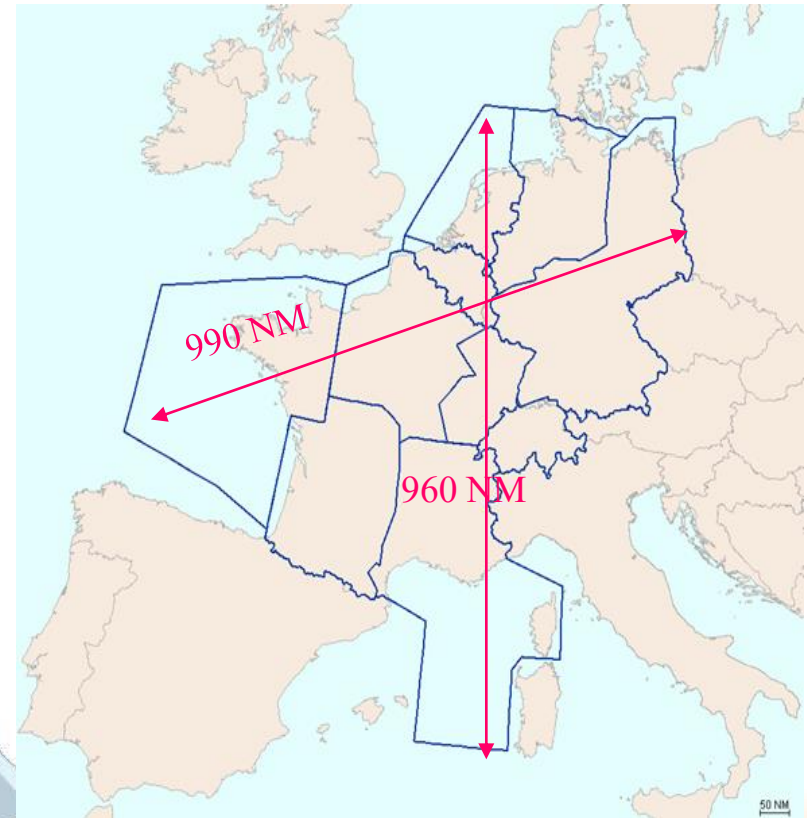
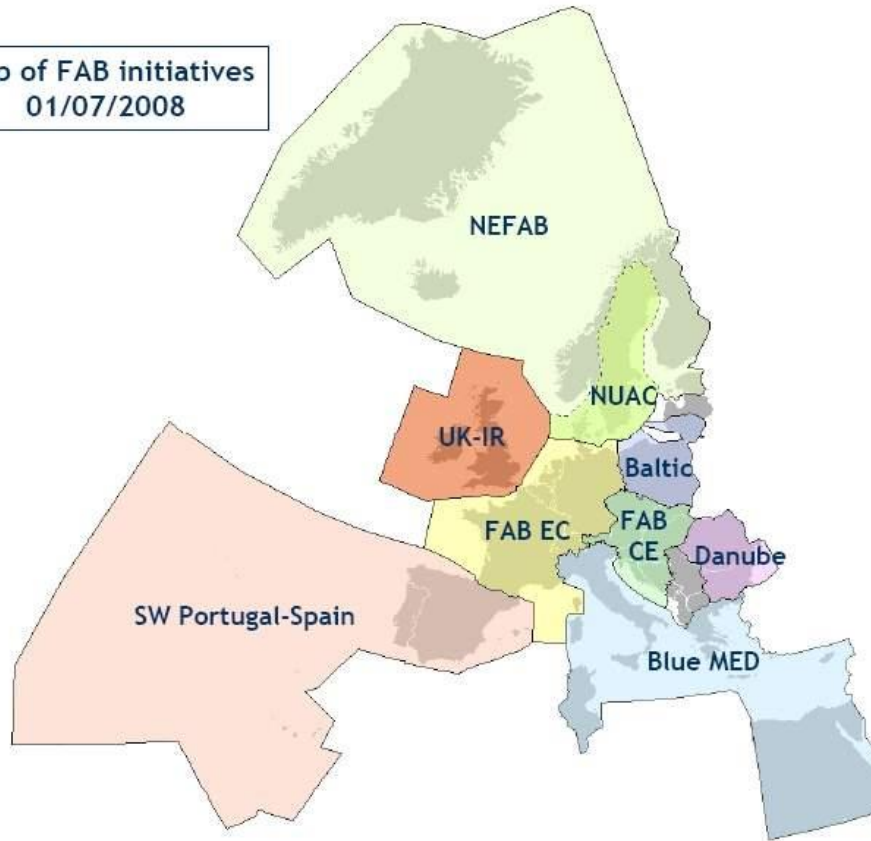
FAB Europe Central FABEC Safety Roadmap & Safety Case

**Job Brüggen
Keith Cartmale**

18 May 2011

FABEC Description

Map of FAB initiatives
01/07/2008

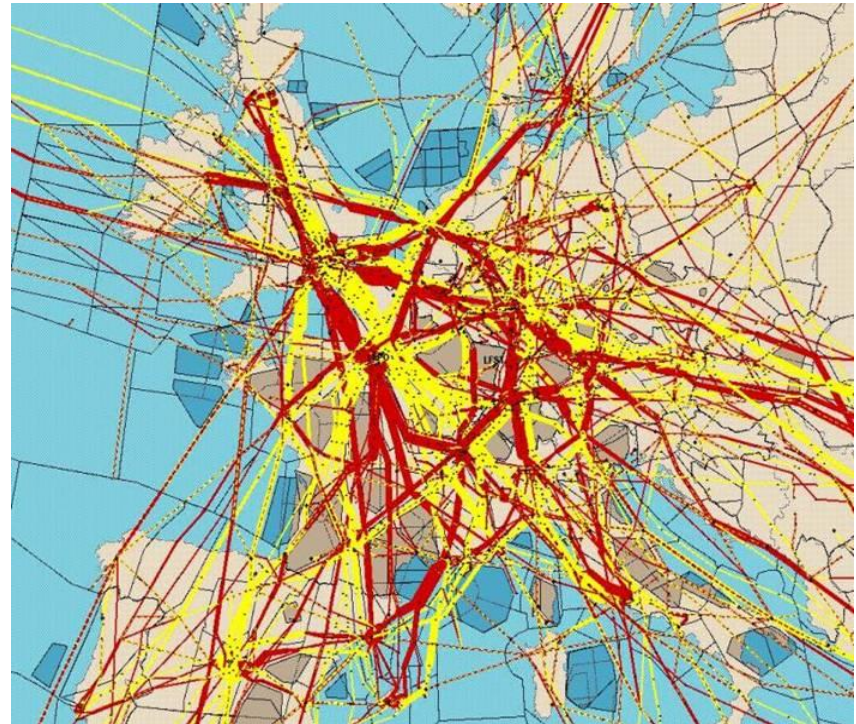


FABEC Description

- Dimension of **1.7 million km²**
- **6 million flights** per year, equating to **55%** of all European air traffic
- a forecast **traffic growth of 50%** between 2006 and 2018, resulting in **close to 8 million flights by 2018**
- about **410 military/special areas**
- some **370 control sectors**
- **14 air traffic control centres**
- **some 240 airports** operating instrument flight rules (IFR)
- **3 major intercontinental hub airports** (Paris, Amsterdam, Frankfurt) and **proximity to the London airports**

FABEC Description

The core area of Europe has one of the highest air traffic densities in the world and is characterised by closely interlaced civil and military routes.



FABEC Description

FIRS and UIRs

FIRs of Bremen, Langen, Munich, Amsterdam, Brussels, Paris, Reims, Marseille, Bordeaux, Brest, the upper information regions (UIRs) of Hannover, Rhein, Brussels, France and the FIR/UIR of Switzerland



FABEC Description

- The FABEC air navigation services include:
 - Air Traffic Services
 - Communications, Navigation and surveillance services
 - Aeronautical Information Services
 - Meteorological services

FABEC Partners

Belgocontrol, Belgium

Direction des services de la
Navigations aérienne (DSNA),

France

DFS Deutsche Flugsicherung,

Germany

Administration de la Navigation
aérienne (ANA), **Luxembourg**

Luchtverkeersleiding Nederland
(LVNL), the **Netherlands**

EUROCONTROL Maastricht

Upper Area Control Centre
(MUAC)

Skyguide, **Switzerland.**

Luxembourg: *Direction de
l'Aviation Civile*

Germany: *Bundesaufsichtsamts für
Flugsicherung*

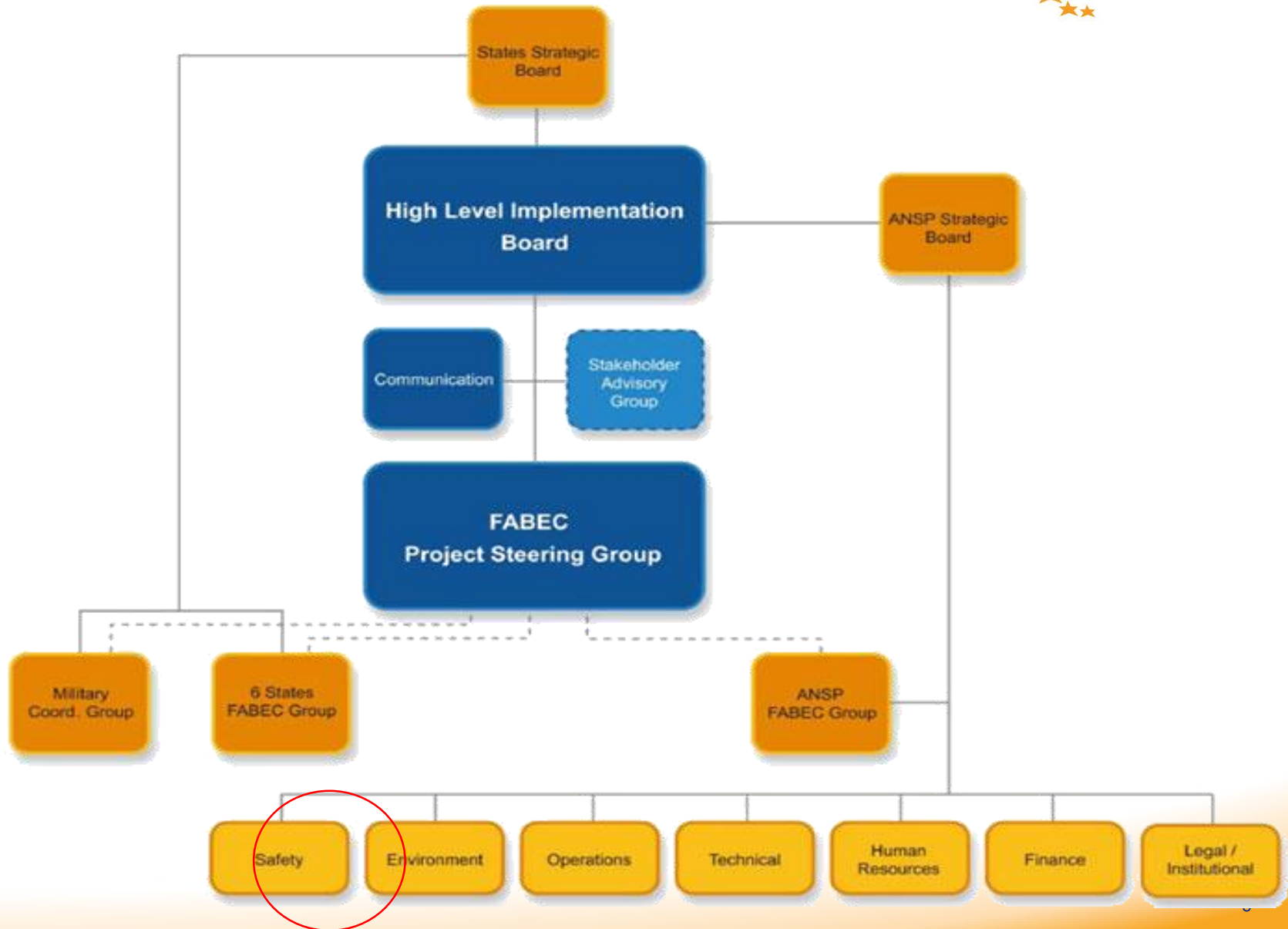
Belgium: *Belgium Civil Aviation
Authority*

The Netherlands: *National
Supervisory Authority the
Netherlands*

Switzerland: *Federal Office Of
Civil Aviation (FOCA)*

France: *Direction de la Sécurité de
l'Aviation Civile (DSAC) Direction
du Transport Aérien (DTA)*

FABEC Organisation



FABEC Safety Organisation



- Standing Committee of Safety
 - Membership provided by Safety Managers/Directors from each ANSP
 - Meets Monthly
 - Reports to ANSP Strategic Board
 - Highly intellectual, cooperative group of people.
 - Cooperating since 2008.

FABEC Safety Organisation

Standing Committee for Safety

- Drive the safety objectives for FABEC 2012 and beyond
- Establish Minimum “FABEC SMS for 2012” and strategy after 2012
- Provide FAB Overall Safety Case.
- Ensure FABEC Safety Management Functions
- Assist the FABEC project(s) with operational or system changes

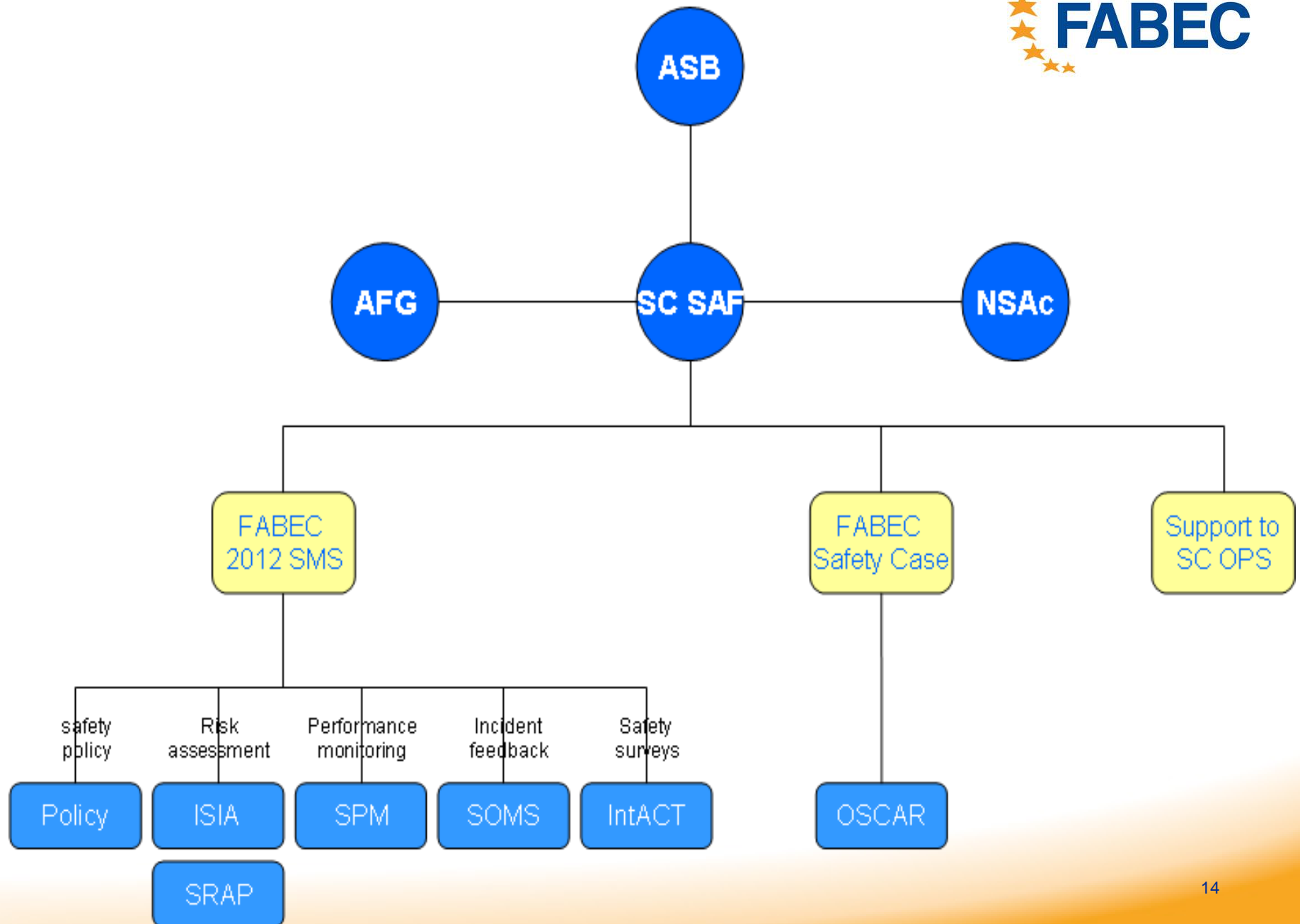


ANSP Certification

- Each ANSP within FABEC is certified under 2096 to provide Air Traffic Services
- By 2012, FABEC will not be a certified Air Traffic Services Provider
- The legal institutional arrangements for FABEC are under development
- At 2012, FABEC will consist of a cooperative arrangement between the ANSPs and likewise between the NSAs

Safety Roadmap

- To 2012
 - Establish FABEC Safety Policy
 - Establish risk assessment methods for FABEC changes
 - Establish common NSA review of FABEC changes
 - Establish common handbook for occurrence reporting
 - Establish FABEC safety reporting scheme (inc Performance Indicators)



Safety Roadmap

- Beyond 2012
 - Proposals for organisation of safety dependent on FABEC institution
 - Harmonisation/integration of safety management processes
 - Common safety management training
 - Safety improvement established at FABEC level with sharing of information and improvement methods and activities

FABEC Overall Safety Case

- OSCAR Sub-Group established in in 2010
- Consists of members from each ANSP, plus NSAs & AFG
- Terms of Reference Developed

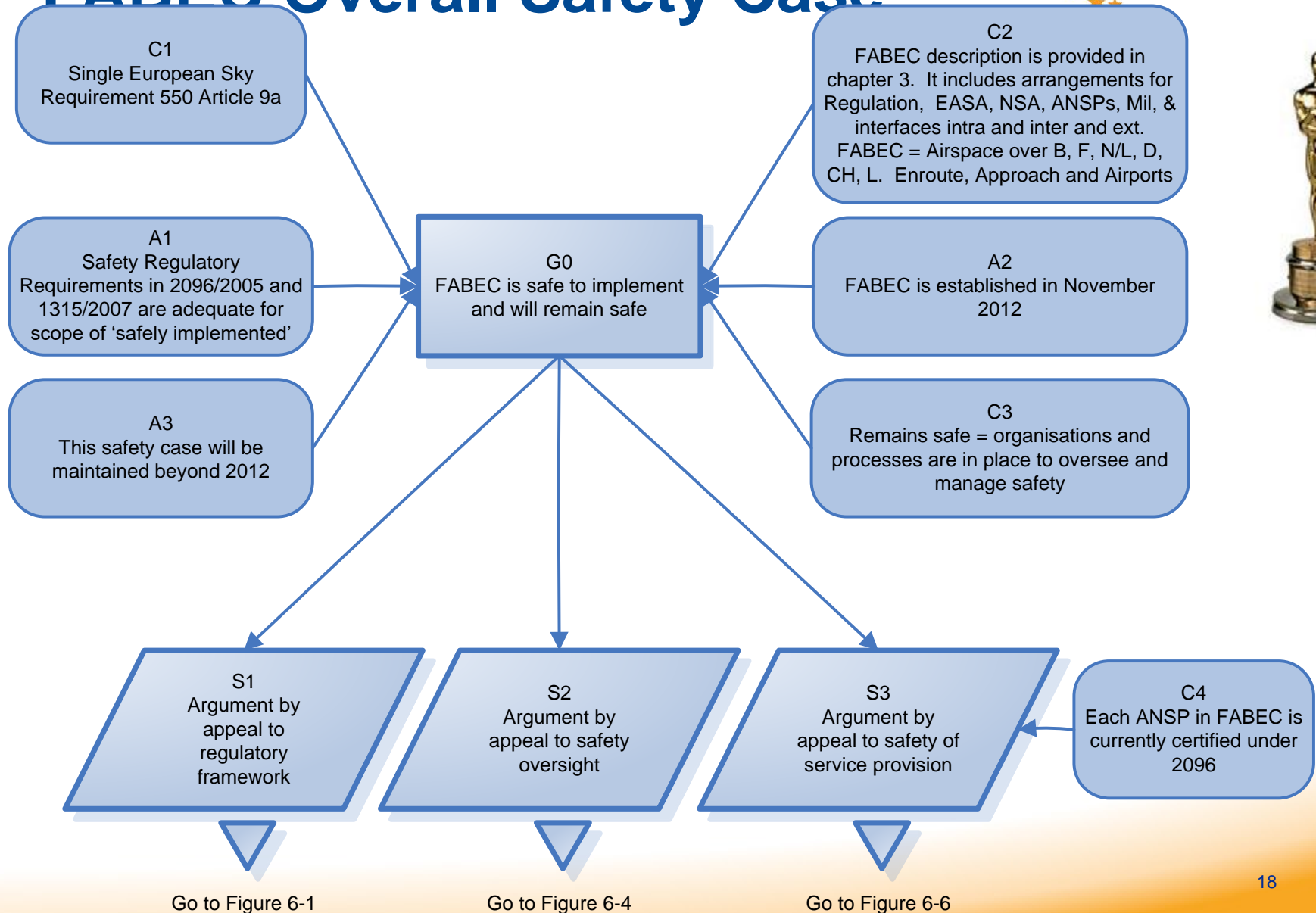




FABEC Overall Safety Case

- FABEC is not a change to the ATM Functional System
- Provisions of 2096 safety risk assessment do not apply
- 176/2011 does apply, but needs interpretation

FABEC Overall Safety Case



FABEC Overall Safety Case

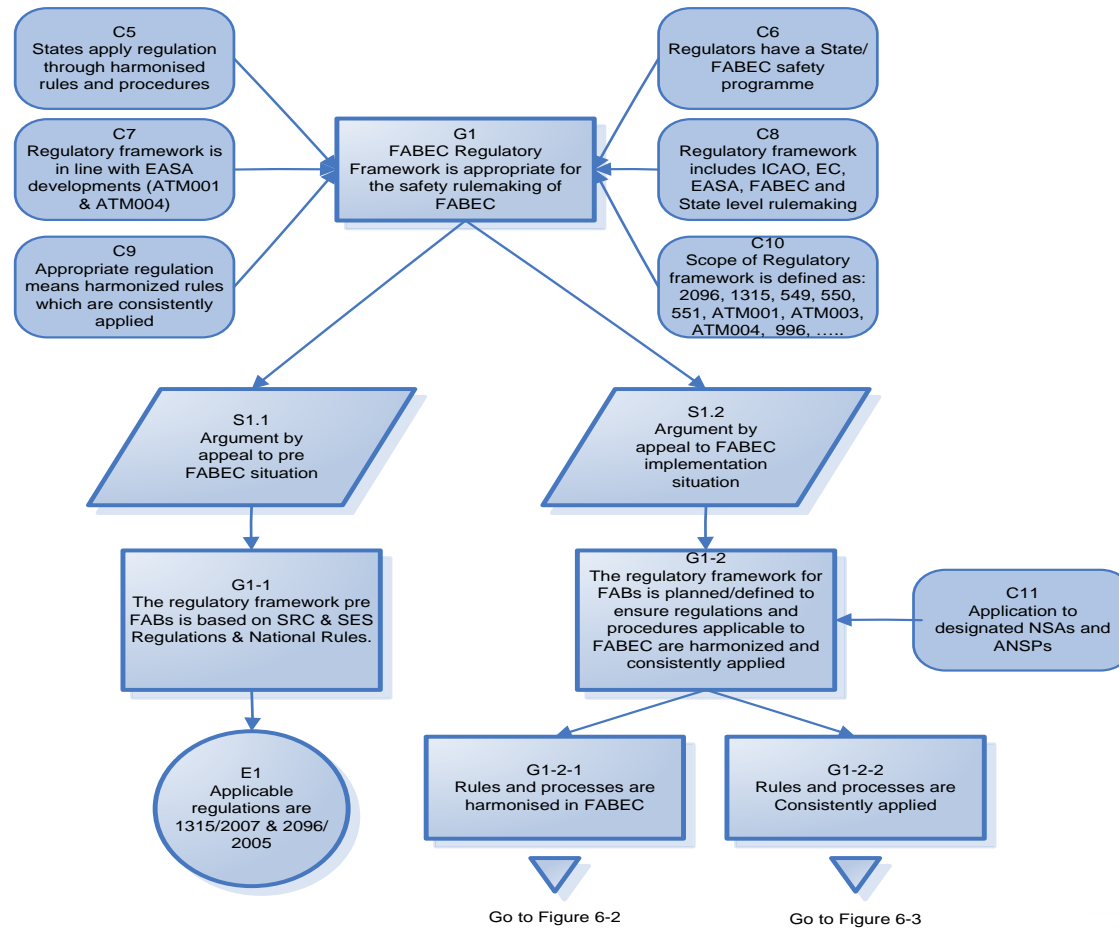


Figure 6-1

FABEC Overall Safety Case

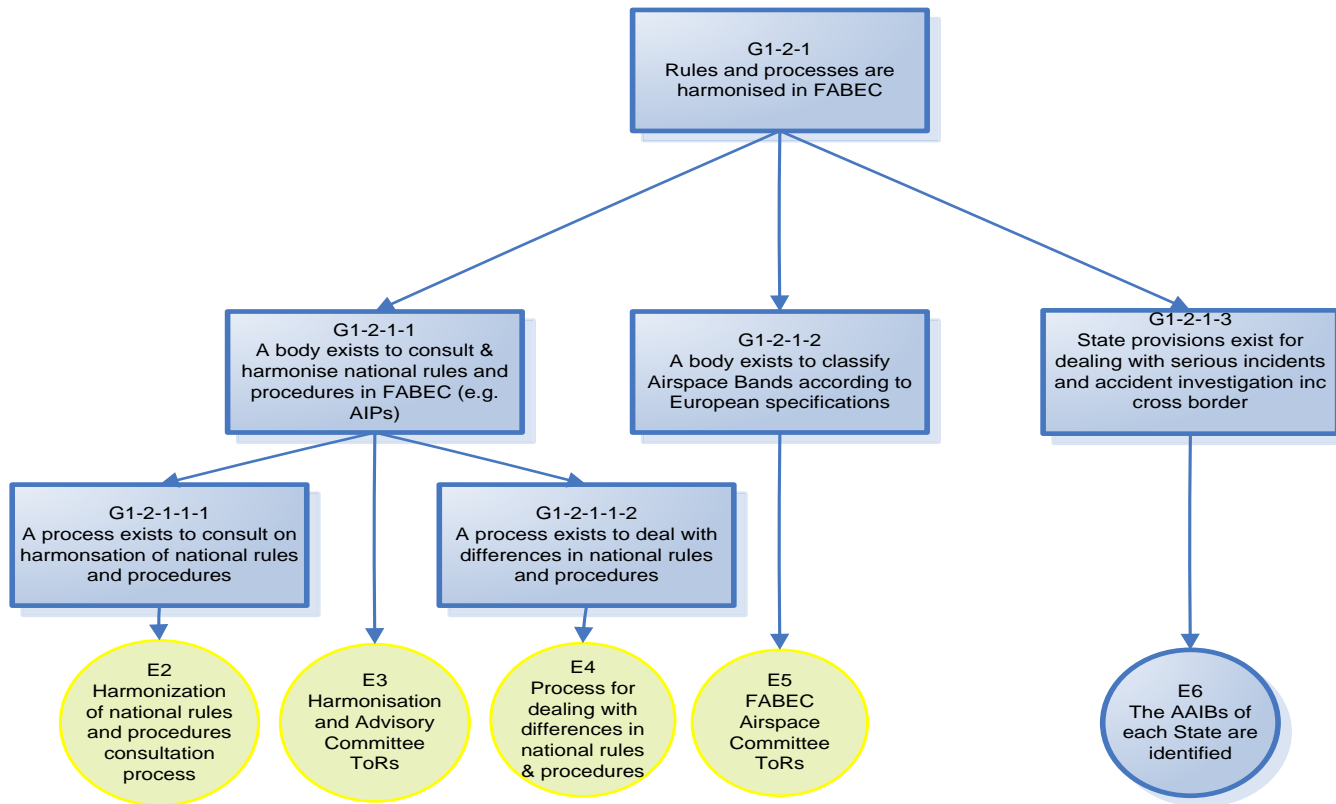


Figure 6-2

FABEC Overall Safety Case

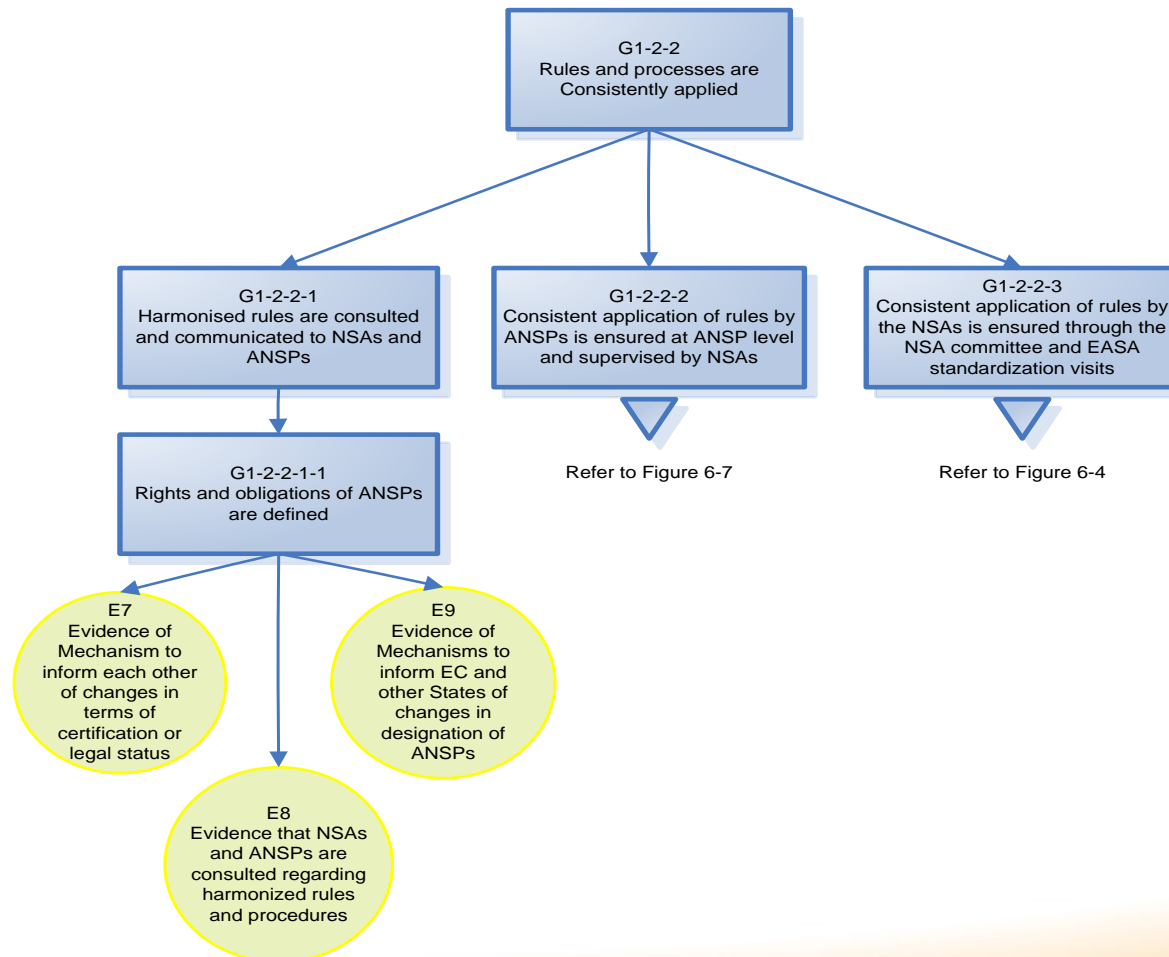


Figure 6-3

FABEC Overall Safety Case

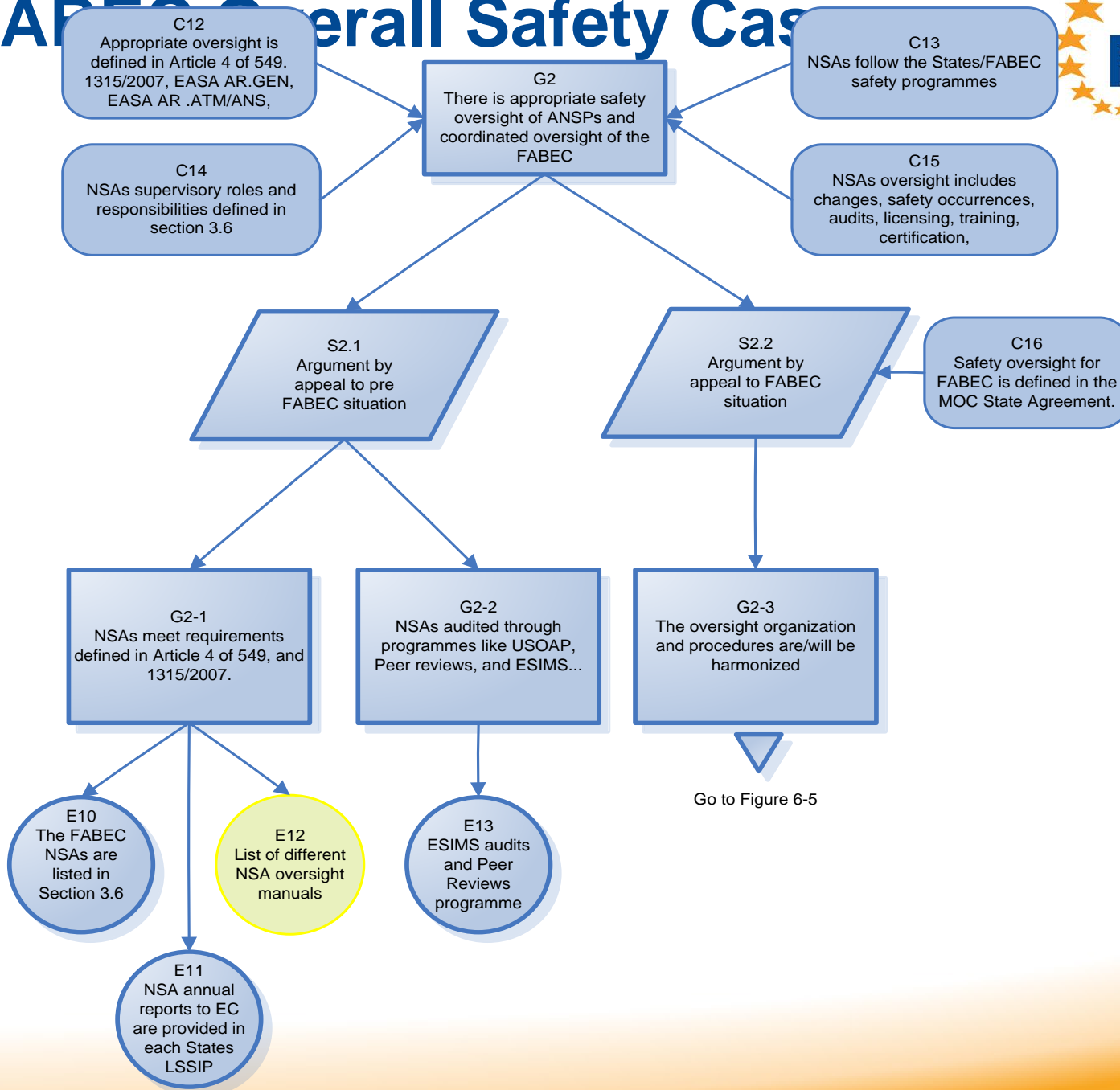


Figure 6-4

FABEC Overall Safety Case

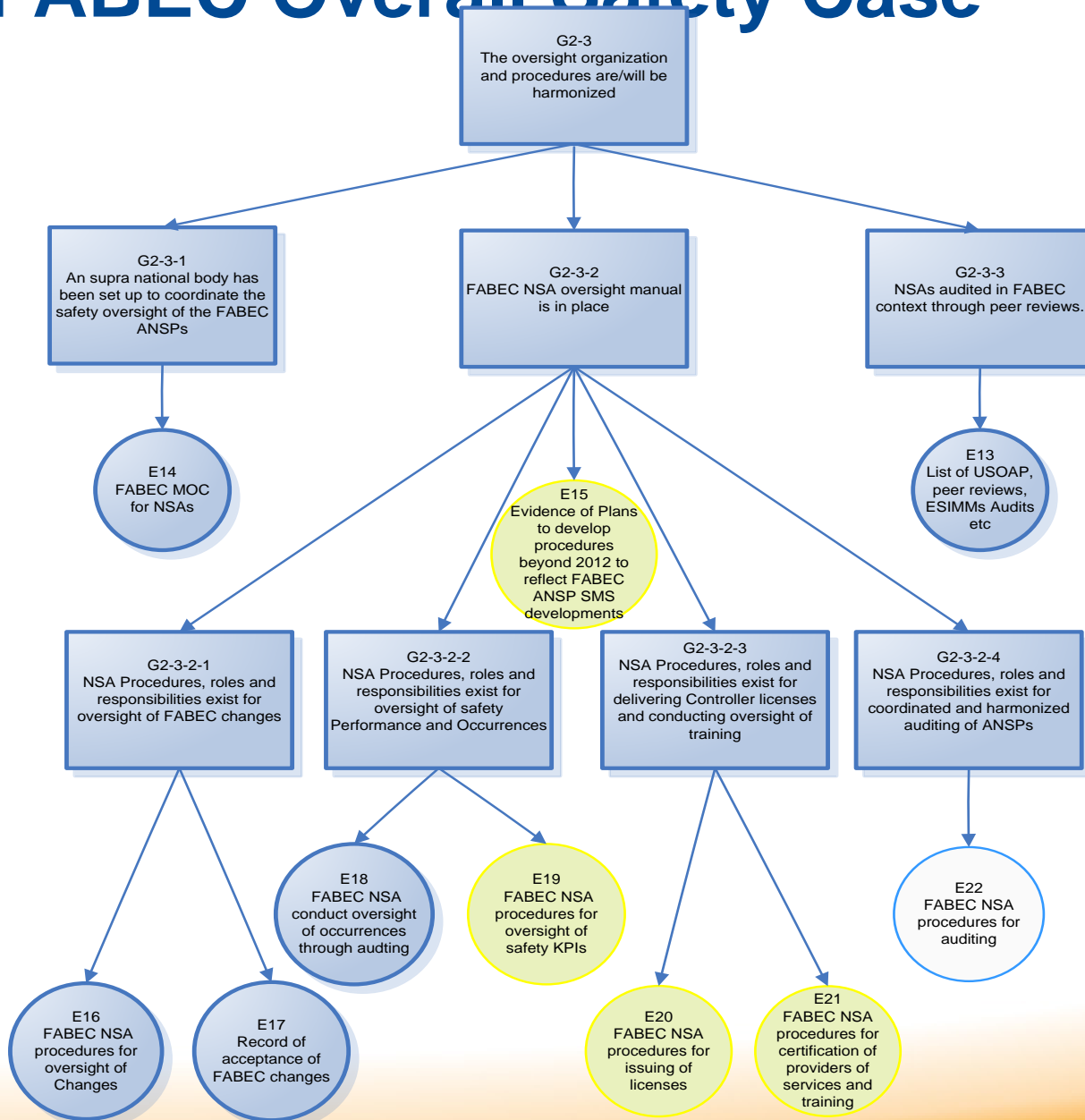


Figure 6-5

FABEC Overall Safety Case

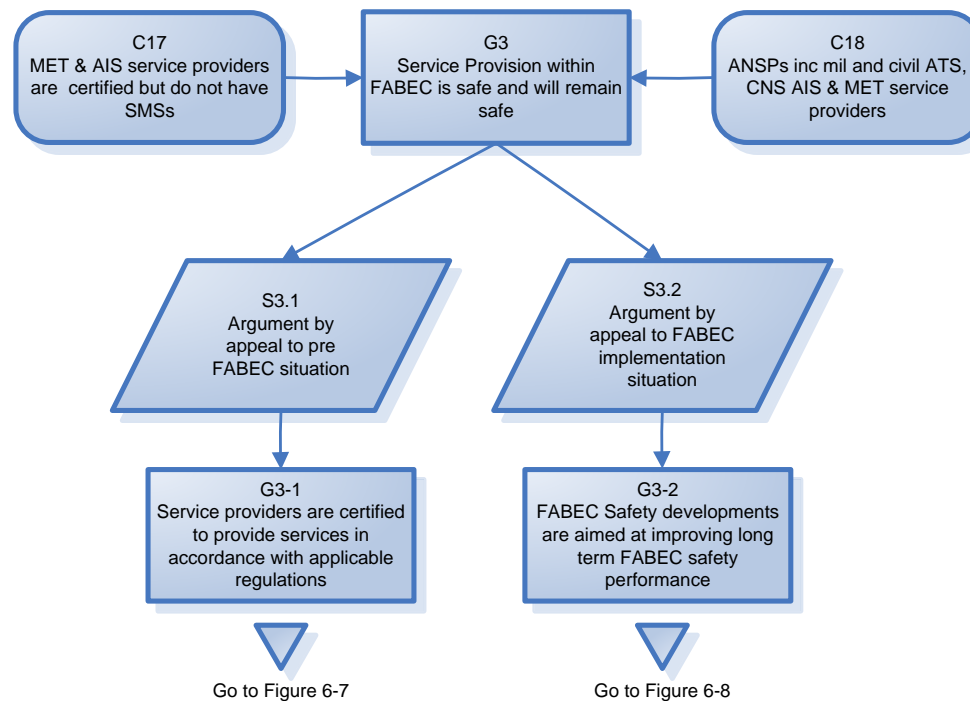


Figure 6-6

FABEC Overall Safety Case

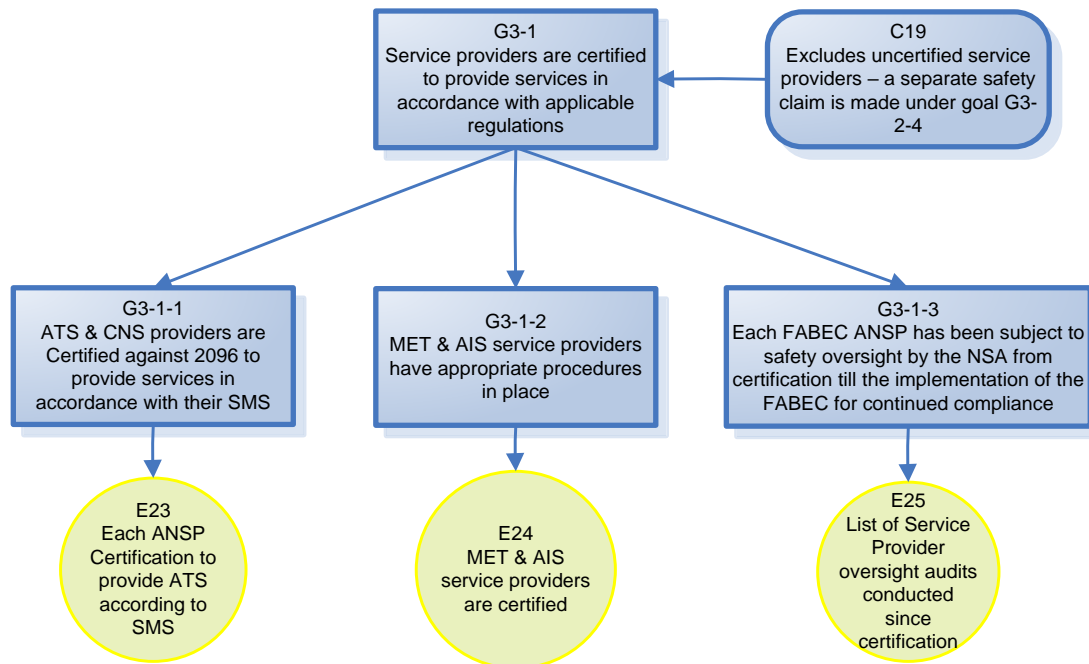


Figure 6-7

FABEC Overall Safety Case

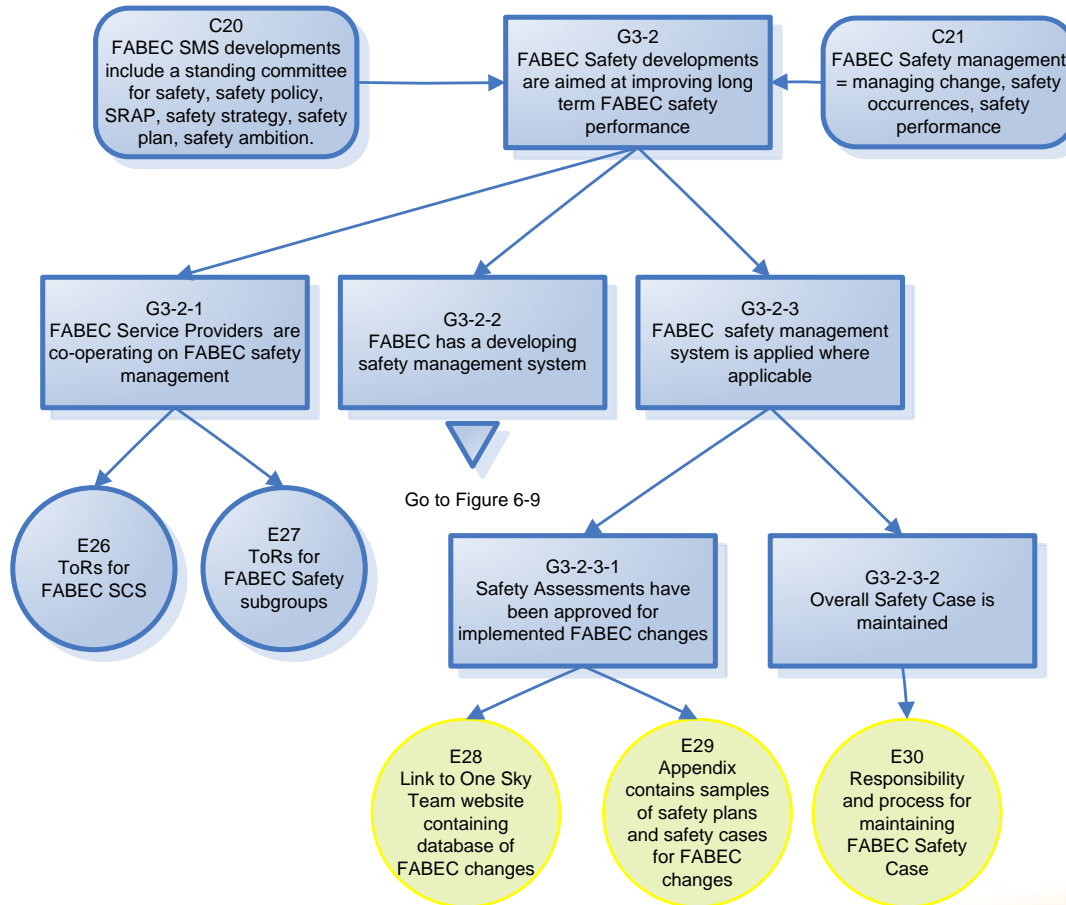


Figure 6-8

FABEC Overall Safety Case

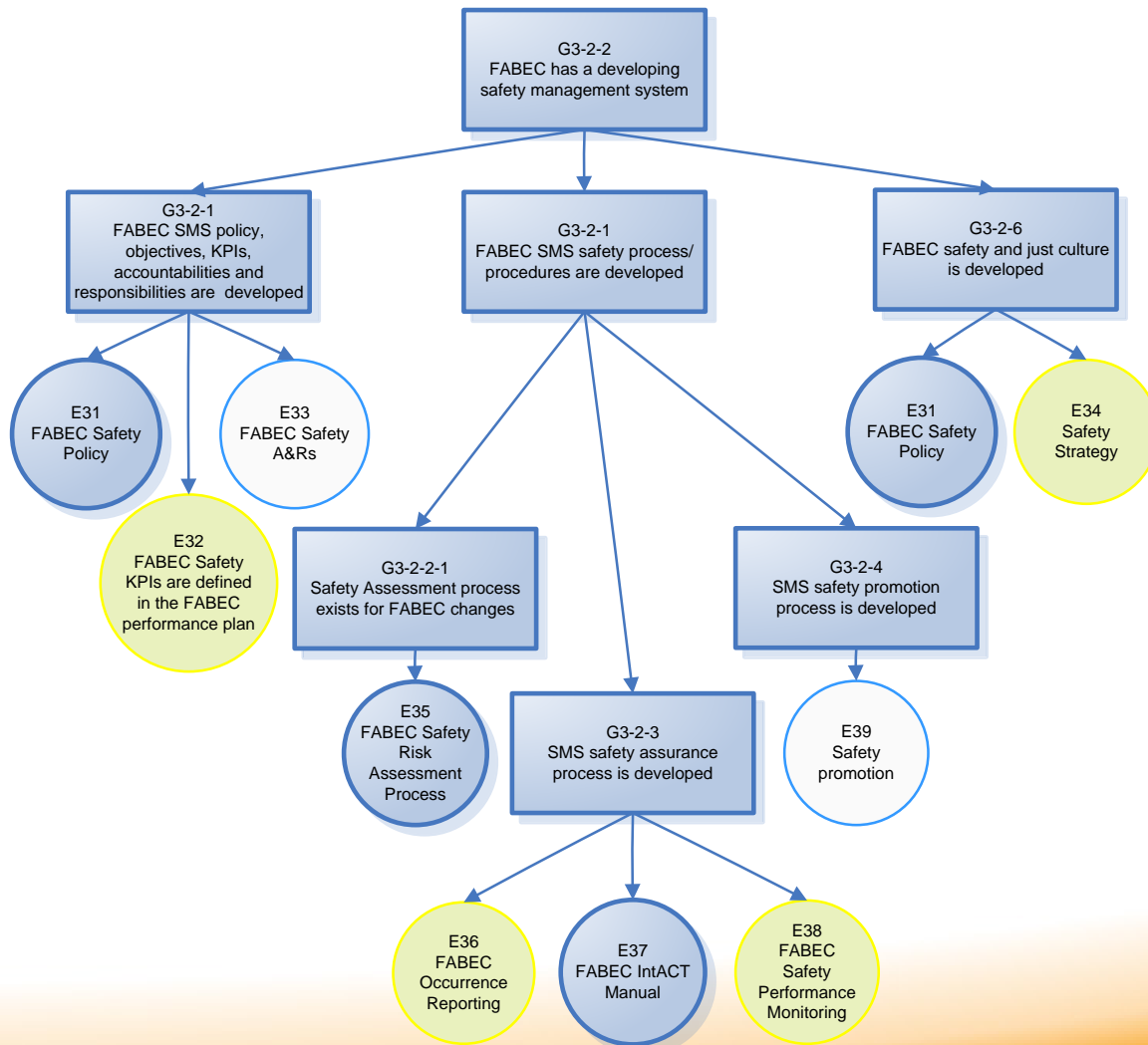


Figure 6-9

FABEC Overall Safety Case

- Summary:
 - Safety case argument structure based on 3 pillars – Regulation, Supervision, Service Provision
 - All evidence items have been identified & Planned
 - Traceability from evidence to 176/2011 requirements provided
- Stakeholder reviews underway
- Schedule of incremental up-issues of safety case agreed



Overall Summary

- Safety Roadmap to 2012 established
- Safety organisation to 2012 established
- Beyond 2012 safety roadmap and organisation still being worked on – dependent on FABEC Institution
- Overall Safety case evidence identified and planned
- Sarajevo issue is available for you to take away

Questions to you

- Safety Case consistency across FABs
 - What is EU expecting?
- Acceptance criteria for safety case
 - Who approves/endorses/accepts?
- Which FABs will be ANSP per 2012 (and cf 2096)
- Ohutusjuhtimissysteem
 - Which character is misspelled
 - Ohutusjuhtimissüsteem