



EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

Software Assurance Systems

Setting the Scene

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ATM/ANS Certification Expert, EASA

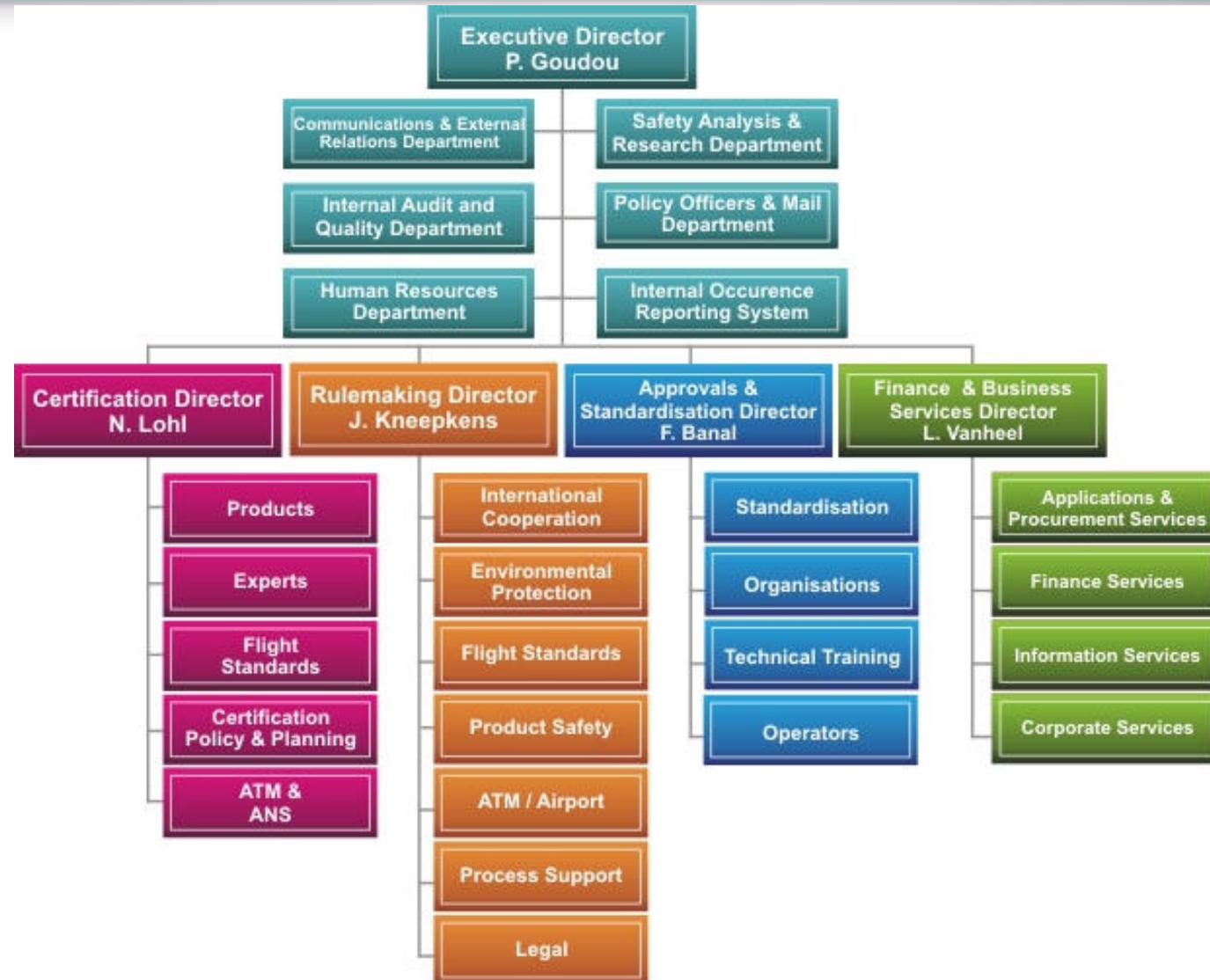
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- EASA ATM/ANS Organisation
- EASA Rulemaking process
- EASA role in the Risk/Safety Assessment context
- ATM software assurance regulation: present and future



EASA ATM/ANS Organisation (I)





EASA ATM/ANS Organisation (II)

➤ **Rulemaking Directorate:**

- Jussi Myllarniemi (Head of ATM/Airport Department)
- Laszlo Kiss (ATM Section Manager)
- Maria Algar
- Bryan Jolly
- + 7 other ATM/ANS Rulemaking Officers

➤ **Approvals and Standardisation Directorate:**

- Milen Dentchev (ATM/ANS Standardisation Section Manager)
- + 3 ATM/ANS Standardisation Team Leaders
- Manfred Dieroff (ATM/ANS Organisation Approval Section Manager)

➤ **Certification Directorate:**

- Frederic Copigneaux (Head of ATM/ANS Department and Deputy Certification Director)
- Emilio Jose Mora-Castro
- Dr. Hans Trautenberg (to join EASA in November 2011)



EASA Rulemaking process





EASA Responsibilities (I)

► **Source:**

- ▶ EU 805/2011 on ATCO Licensing ("fast track" rule recently published)
- ▶ Common Requirements EC 2096/2005 (to be replaced by "fast track" rule once published)
- ▶ Safety Oversight Rule EC 1317/2007 (to be replaced by "fast track" rule once published)

► **EASA Responsibilities (after "fast track" rules entry into force):**

- ▶ Safety Oversight of NSAs (Standarisation)
- ▶ Safety Oversight of ANSP organisations and ATOs for ATCOs (located outside the EU) (Organisations Approval)
- ▶ Safety Oversight, assisting the European Commission, of the Network Manager.



EASA Responsibilities (II)

- As part of Safety Oversight of pan-european ANSP organisations (Organisations Approval), EASA will be **Competent Authority** for:
 - Organisations providing pan-european ANS in the airspace of the territory to which the Treaty applies and having their principal place of operation and, if any, their registered office located outside the territory subject to the provisions of the Treaty;
 - Organisations providing Pan-European ANS in the airspace of the territory to which the Treaty applies
- Note: “Pan-European ANS means a service which is designed and established for users within most or all Member States and which may also extend beyond the airspace of the territory to which the Treaty applies”



EASA Responsibilities (III)

- Safety Oversight of ANSP organisations will include two main activities:
 - Organisations inspection and approval activities
 - Review and acceptance of changes to functional systems (composed of **software**, hardware, personnel and procedures)
- In summary, concerning software assurance aspects, main EASA involvement will come from two activities:
 - Rulemaking tasks, through the preparation of the implementing rules, AMCs, CS and GMs.
 - ANSP organisations approval activities.



Software Assurance: Present

- Current situation for ANS is governed by EC 2096/2005 (to be replaced by “fast track” rule).
- Software Assurance related aspects are covered by the rule 482/2008 for the following types of services:
 - Air Traffic Services (ATS)
 - Air Traffic Flow Management (ATFM)
 - Air Space Management (ASM)
 - Communication, Navigation and Surveillance services (CNS)
- Software Assurance System is considered part of the Safety Management System.

- **Similar situation will be after “fast-track” rules entry into force.**



Software Assurance: Future (I)

- ATM.001 rulemaking group is currently working on the update of the implementing rules (IR) applicable to Organisations (requirements for Organisations providing ATM/ANS).
- In support to this rulemaking group, the Safety Assessment Task Force (SATF) (a sub-group) has been allocated to consolidate the requirements applicable to the **safety assessment process** and to the **associated assurance activities** (including software).
- One of the objectives is to integrate 482/2008 aspects as part of the requirements for the Organisations providing ATM/ANS and develop associated AMCs, CS and GMs as applicable.



Software Assurance: Future (II)

Legislator	Commission	EASA
<p>Transfer of powers from MS's to EC</p> <p>Essential Requirements (ER's) to specify safety objectives</p>	<p>Implementing rules (IR's)</p> <p>= binding standards to implement BR & ER's</p>	<p>CS, AMC & GM</p> <p>= non-binding standards to implement ER's and IR's</p>

CS: Certification Specification

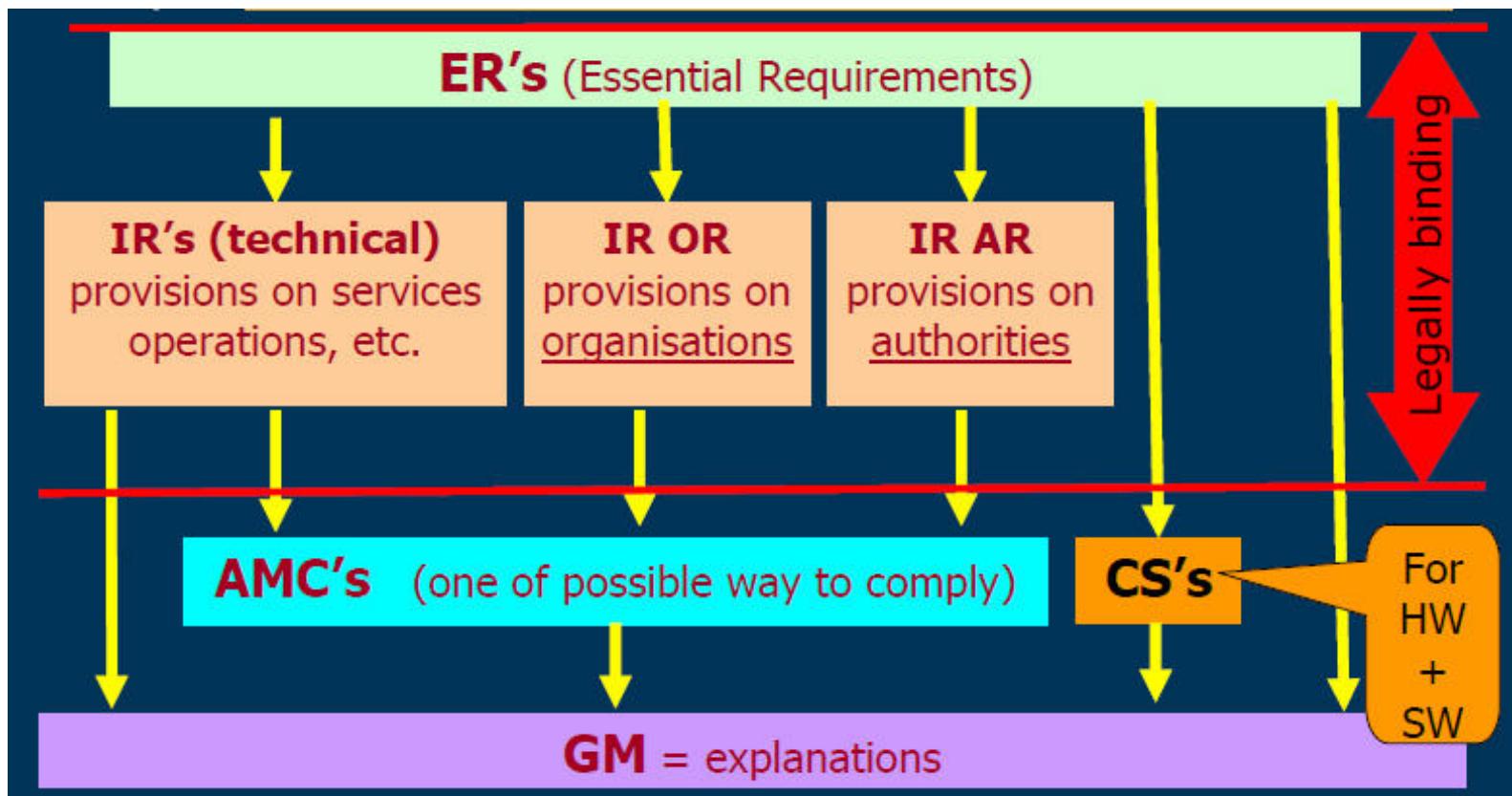
AMC: Acceptable Means of Compliance

GM: Guidance Material



Software Assurance: Future (III)

- This is to illustrate the different potential levels of legislative material and their interrelationships. However, no final decision is taken by EC about the legislative structure and number of levels.





Software Assurance: Future (IV)

- Works are already on-going and main results of this subgroup are expected in the first quarter of 2012.
- In parallel, there are other subgroups of the ATM.001 working on AMCs and GMs for the implementing rule for the Organisations providing ATM/ANS.
- The following dates are in the Rulemaking Programme (currently under discussion within the Agency and with the different Working Groups):
 - Notice of Proposed Amendment (NPA) → 2012/Q1-Q2
 - Comments Response Document (CRD) → 2012/Q4
 - EASA Opinion to EC (draft IR) → 2013/Q1
 - EASA Decision (AMCs, GMs) → 2013/Q3-Q4



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Thank you for your attention

Questions ?

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