7th Florence Air Forum

EUROCAE standards for RPAS

Christian Schleifer-Heingärtner

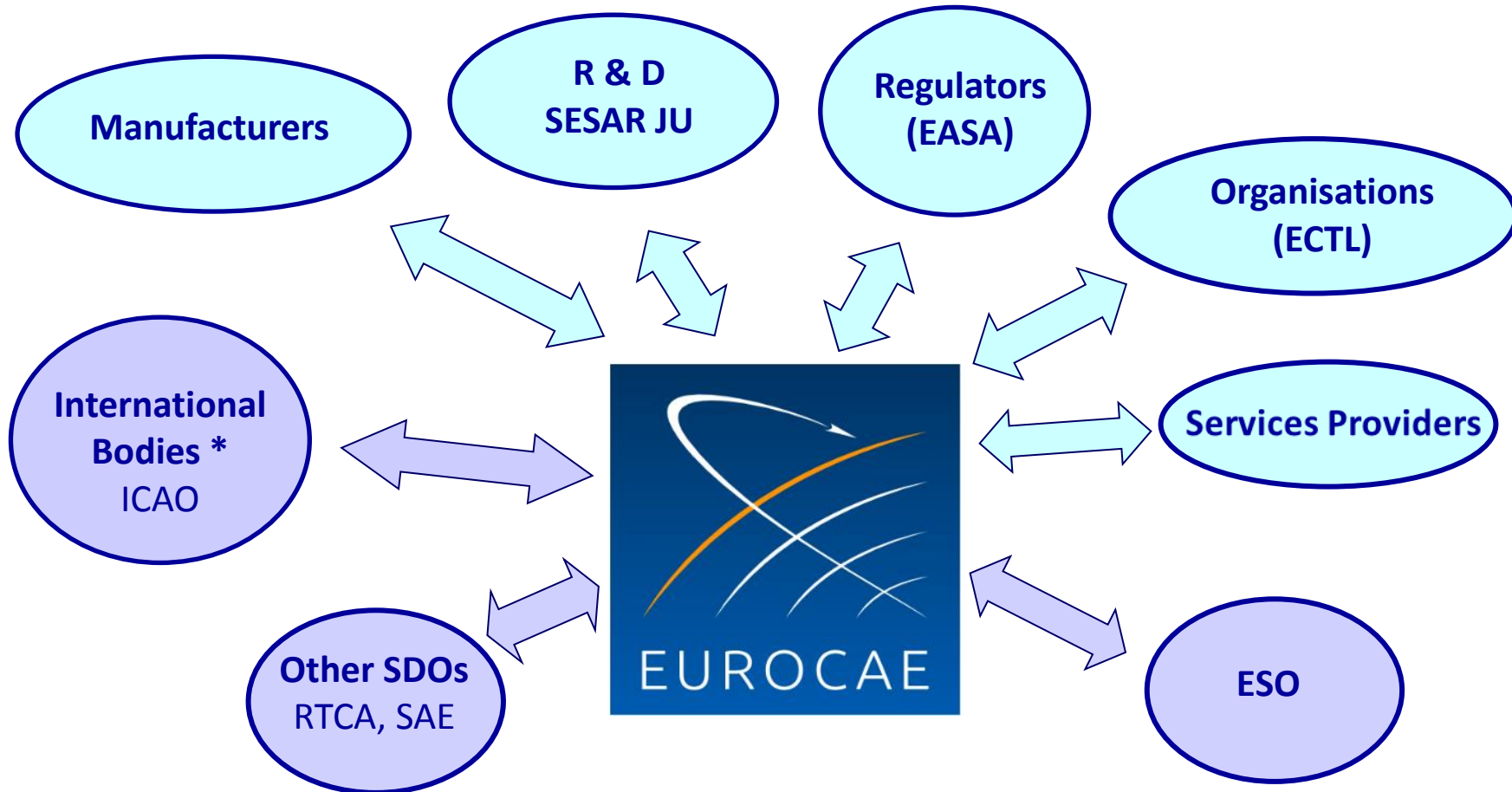Florence 18.09.2015

EUROCAE Governing Bodies

- President and General Assembly
  - Strategic decisions through "Full Members" votes

- Council
  - Final decision-making body

- Technical Advisory Committee (TAC)
  - Technical and operational advisor to the Council and the General Secretariat

- General Secretariat
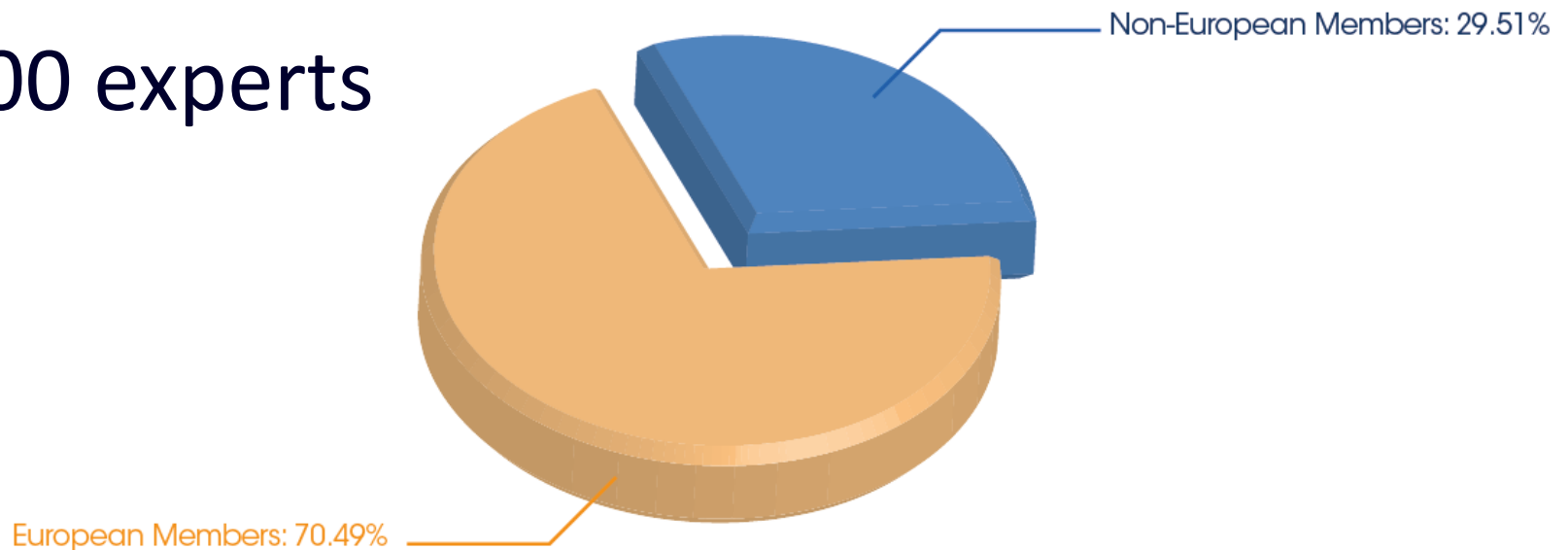 - Day to day management and further development of the Association

Inputs for Standardisation

EUROCAE facts and figures

- 170 Members

- 33 active working groups

- 1400 experts

Non-European Members: 29.51%

European Members: 70.49%

EUROCAE Domains of activities

- Avionics
- Communication
- Navigation
- Surveillance
- ATM Systems
- Airports
- SWIM

- Security
- AIS / MET
- **RPAS**
- Miscellaneous
  - Fuel Cells
- Possible future activities:
  - space

EUROPEAN Coordination

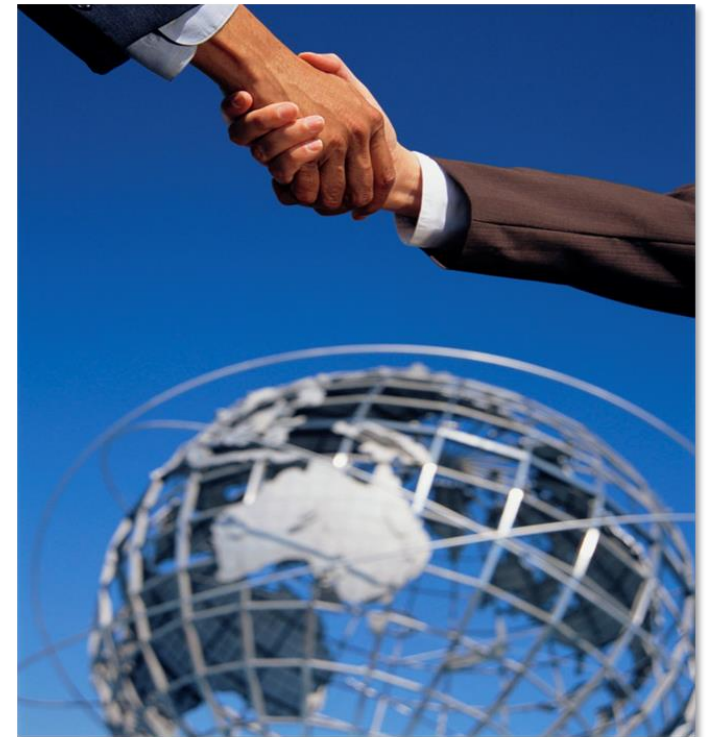**EASCG**

SESAR JOINT UNDERTAKING

MoC

EUROCAE

EUROPEAN DEFENCE AGENCY

Global Coordination

EUROCAE Activities

- EUROCAE Technical Work Programme

  Strategic vision of the activities in the context of the current environment (e.g. ICAO, EASA, SES and SESAR, FAA and NextGen, Industry, …)

- Work programme

Published EDs	190
EDs under development	60
Active WG	33

- About 50% carried out jointly with RTCA, 10% with SAE

Regulations

- **ICAO performance based SARPs**
  - Global framework
  - Standardization roadmap

- **EASA performance based regulations**
  - Regional regulator
  - Standards

- **EC SES regulations**
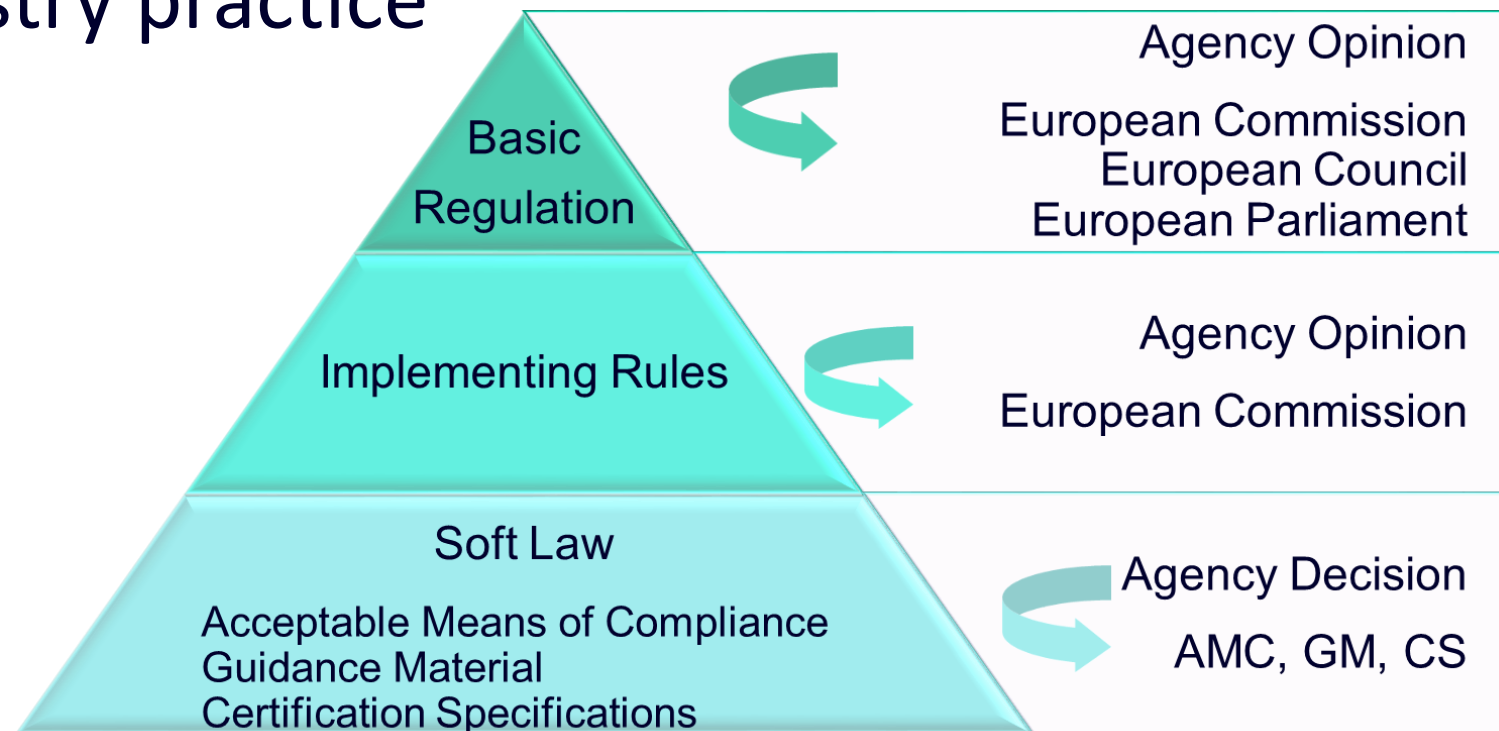 - Indicative roadmap
    - EASCG

EUROCAE Standards EDs

- How to comply with the regulation
- Acceptable means of compliance
- Best industry practice
- Soft law

    - MASPS
    - OSED
    - MOPS
    - SPR
    - INTEROP
    - PS

Basic Regulation — Agency Opinion, European Commission, European Council, European Parliament

Implementing Rules — Agency Opinion, European Commission

Soft Law
Acceptable Means of Compliance
Guidance Material
Certification Specifications — Agency Decision, AMC, GM, CS

EUROCAE Working Groups

- Active working groups on RPAS:

  - WG-73 Unmanned Aircraft Systems (UAS)   RTCA SC-228

  - WG-93 Light RPAS Operations   RTCA SC-228

- Interfaces with

  - WG-75 ACAS   ACAS XU   RTCA SC-147

- Publications:

  - ER-004 concept for UAS Airworthiness Cert and OPS approval

  - ER-010 "1309" System Safety Objectives and Assessment Criteria

  - ER-012 Command, control and ATC comm ops concept (C3 CONOS)

RPAS activities

- WG 73
  - Airworthiness
  - Certification
  - C3 (command, control, communication)
  - DAA (detect and avoid)
- WG 93
  - VLOS OPS
  - Light weight
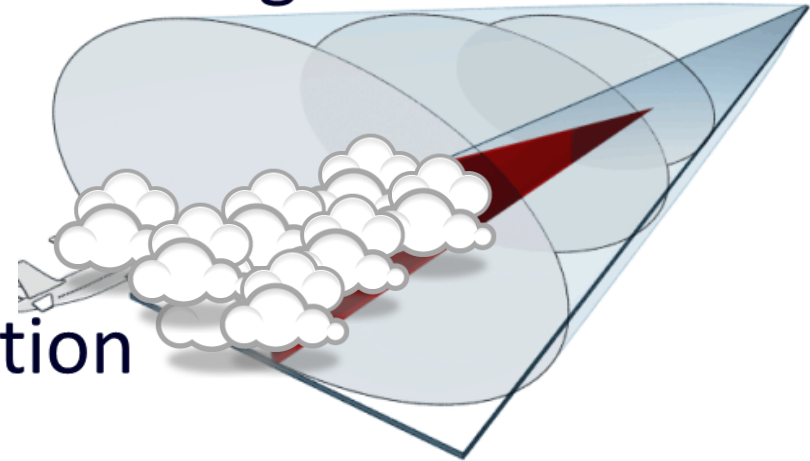 - Open category

EUROCAE RPAS activities

- ICAO RASP member

- European RPAS steering group

- Cooperation agreement with JARUS

- Leadership strategy meeting

  - New categories

    - open - specified - certified

- Other activities

  - ISO via ASD-Stan and ESOs

Lessons learned

- Not isolated from the rest of aviation e.g.:

  - Helicopter

  - Jet introduction

- Software qualification / certification

  - starting in the early 1980s

    - ED-12 (1982), ED-12A (1985), ED-12B (1992) & and accompanying documents

Thank you!

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