

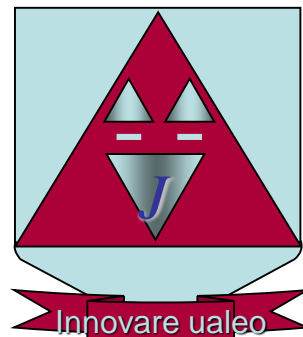
Safety Assessment Training Workshop

Safety Assessment Made Easier

[SAME but not the same !!]

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Background

- Joint DAP/SSH & EEC initiative
- To address two concerns:
 - stakeholder requests for a clearer, more complete and holistic view of the way to conduct safety assessments
 - our own realization that new concepts currently being addressed by EATM and SESAR required a broader approach to safety assessment
- Safety Assessment Working Group:
 - Alex Skonieczki, Jacques Beaufays, Barry Kirwan, Gilles Le Galo, Chris Machin, Patrick Mana, Eric Perrin, Oliver Sträter, Derek Fowler
- Outputs:
 - “Safety Assessment Made Easier”
 - Training Course

Our Response – “Safety Assessment Made Easier”

- Provides a set of FAQs to address basic safety concepts
- Explains the full rationale for the broader (S&F) approach to safety assessment
- Presents a generic Safety Argument for ATM changes, covering the S&F approach
- Presents a revised Safety Lifecycle:
 - expands “SAM” stages to incorporate the “Success” approach
 - outlines related supporting tools, techniques and processes
- Will present a detailed, rigorous, system-level safety-assurance process to underpin the generic Safety Argument

Workshop Objectives

By the end of the Workshop, delegates will:

- Have gained a clearer, more holistic understanding of how to do **safety assessments**, and of some of the tools and techniques involved
- Have understood the need for a broader (**success and failure**) approach to safety assessment and how to apply it
- Have understood the principles of **safety assurance** and how to apply it at the system level

Introductions – tour de table

- Name
- Organization
- What you would like to get out of the course

Credentials

- 15 years aircraft engineer – RAF
- 7 years – systems engineering – BAe Dynamics
- ATM, since 1990:
 - NATS Programme Manager: **Oceanic FDPS**
 - CSE Consultant: CAA-DK (**CASIMO**), EUROCONTROL (**RVSM**), UK SRG (**SW01**)
 - Praxis Consultant: EUROCONTROL (**RVSM, MUAC FHA, P-RNAV, TLS Apportionment Study**) Thales (**UAV**), UK MoD (**Future Aircraft Carrier**)
 - Independent Consultant: EUROCONTROL (**MUAC PSSA & USC, RNAV, SCDM**, 4 years **Safety Support to EATM**, editor of **SAME**)
- Also safety work in airports, rail and aero-engine sectors



One

EATM

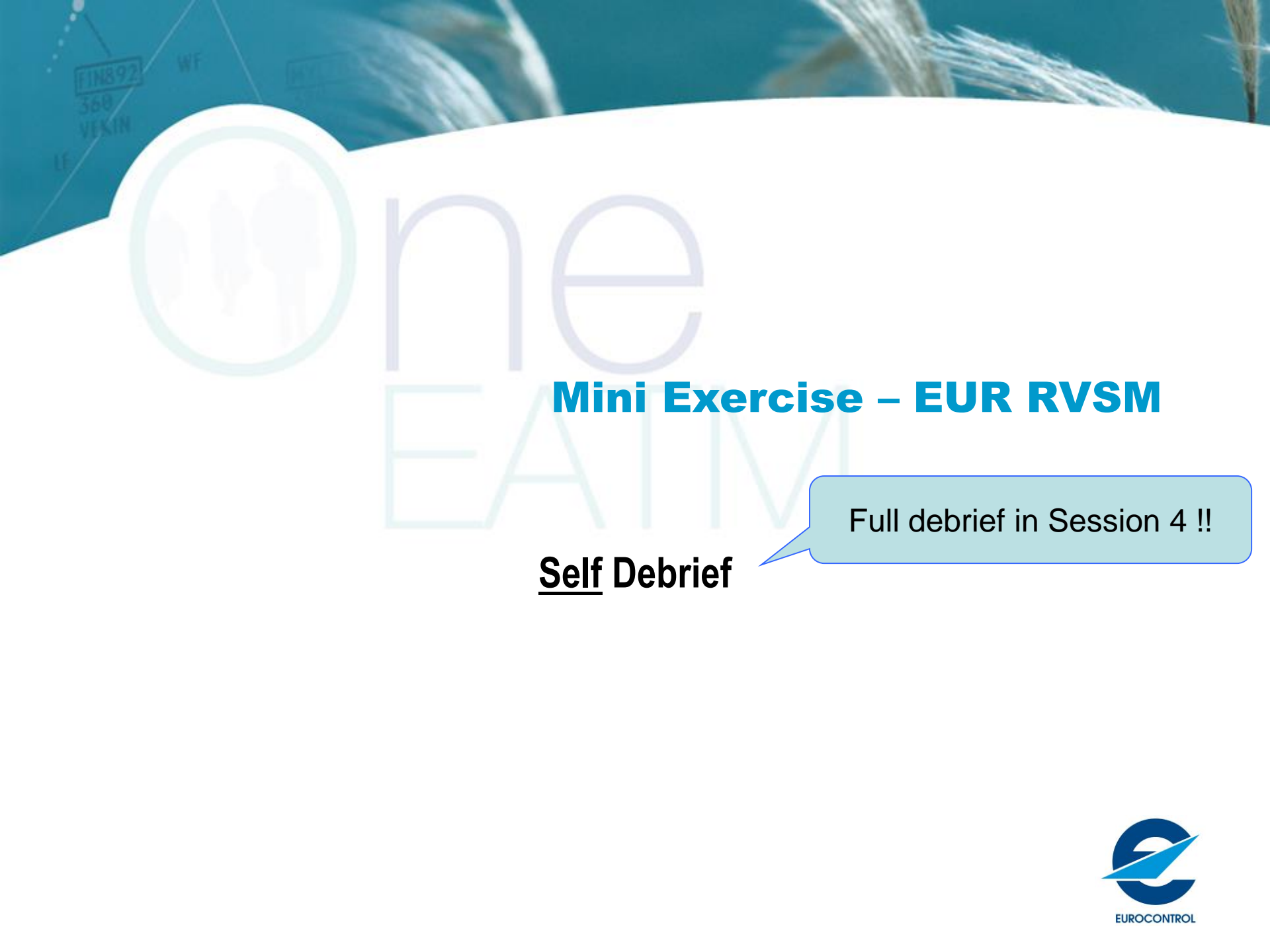
Mini Exercise – EUR RVSM

- Introduced into North Atlantic airspace in 1997
- Introduced into European airspace on 24 January 2002
- Key features:
 - applies from 29,000 ft to 41,000 ft
 - halves vertical separation (down to 1000 ft)
 - Provides 6 new FLs
 - based on improved aircraft height-keeping accuracy
- An overall ICAO TLS, of a probability of collision in the vertical dimension not exceeding 5×10^{-9} per flight hour, sub-divided into two components:
 - that allocated to the aircraft technical height-keeping **performance** – required not to exceed 2.5×10^{-9} ;
 - the residue allocated to all ‘system **failures**’ (including human operational errors).

Tasks

- Assume that it is the year 2001
- 1. Decide how you would develop a case to show that EUR RVSM will be safe
- 2. Present your findings to the group

- Suggestions:
 - Define what you mean by “safe”
 - Think about a legal case – eg prosecution for murder
 - Decide top-level **claim** [cf defendant is guilty]
 - Set **objectives** to satisfy claim (conclusive, not open-ended) – [cf show that defendant had the means, motive and opportunity to commit the crime]
 - Suggest the **processes** etc by which the objectives could be achieved [cf identity parade / witness statement placed defendant at scene of crime]



Mini Exercise – EUR RVSM

Full debrief in Session 4 !!

Self Debrief

Main Sessions

1. Background
2. Safety Concepts and FAQs
3. Safety Assessments – *Success and Failure* basics
4. Generic Safety Argument
5. Major Exercise
6. Safety Assurance in the Safety Lifecycle

Questions ??

