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Cologne, Germany
November 27

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Senior PCM - Continuing Airworthiness VTOL, EASA

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Agile Planning and Workload Management

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Introducing Level of Service beyond SAFETY

Focus of today

Level of Service together with SAFETY

Expectations for a good Level of Service
Applicants and EASA teams have similar expectations
Release products that are as safe as practicable through compliance
Focus on what matters avoiding to generate delays in the process
Transparency on technical and resource challenges
Have clear rules of engagement to gain predictability

Technical Dimension	Processes and Procedures • LoI including performance ratings • Standardisation on implementation • Proportionality • Rulemaking and guidance material • Knowledge management • Readiness of applications
Project Management Dimension	Active engagement on: • planning • monitoring • workforce management

Vision on project management dimension

Individual project planning

Level 1: **ENGAGEMENT** and **PREDICTABILITY**

PCM, Experts and Applicants

Projects review

Level 2: **MONITORING**

Section Managers, PCM

Workload management

Level 3: **STEERING**

CT governance (Section Manager, Head of Department, CT Director)

Individual project planning

→ SEPIAC as tool for planning to support Applicants and EASA teams

→ Ensuring data is up to date through planning cycles and updates

→ Focus on mid-term deliverables for planning accuracy

→ Easy exchange of planning data from Applicant document management system

ENGAGEMENT

→ SEPIAC as single repository of planning data

→ Full visibility of upcoming tasks for EASA experts

→ Transparency on EASA review time and capacity

PREDICTABILITY

Two planning categories for IAW

Blue projects (#50)

Long Duration/high complexity
High Technical Risk (Development and Certification)
High impact on EASA resources per project
- Large teams
- Many on-site activities

Green projects (#2200)

Limited duration
Low/Medium Technical Risk
Low/medium impact on many EASA resources per projects but high volumes:
- Small teams
- Limited involvement

L1

Detailed planning in SEPIAC

Streamlined planning in SEPIAC

L2

One Project Monitoring concept with PowerBI

L3

One Workforce Management process to fulfill EASA mandate for safety, with a good level of service

Projects review

→ Regular review with PowerBI dashboard for PCMs

→ Active monitoring of projects: actual vs average values (i.e. effort) for Section Managers

→ Monitoring of actual plans vs baseline planning for PCM and Section Managers

→ Review of KPIs at the level of aggregated data for CT governance

→ Monitoring of projects per Applicants (for Section Managers and DOATL)

MONITORING

Workload management

Level 3: **STEERING**

CT governance (HoS, HoD, CT Dir)

→ Verifying *planned* workload vs assignments

→ Verifying *recorded* work vs assignments

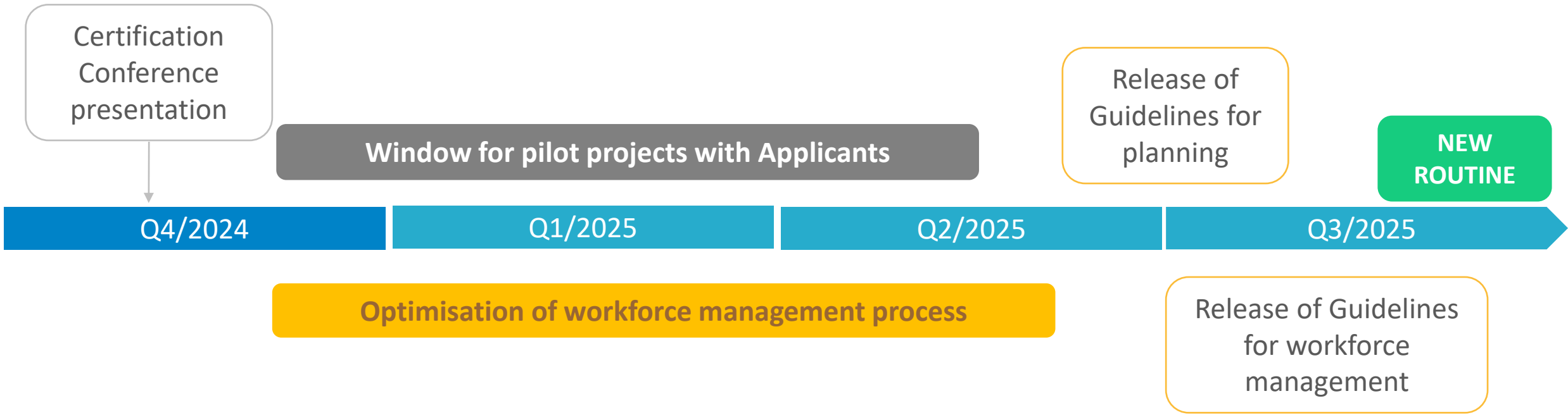
→ Feeding knowledge management plan (for individuals or groups/panels)

→ Recognizing peak of workload and capacity issues

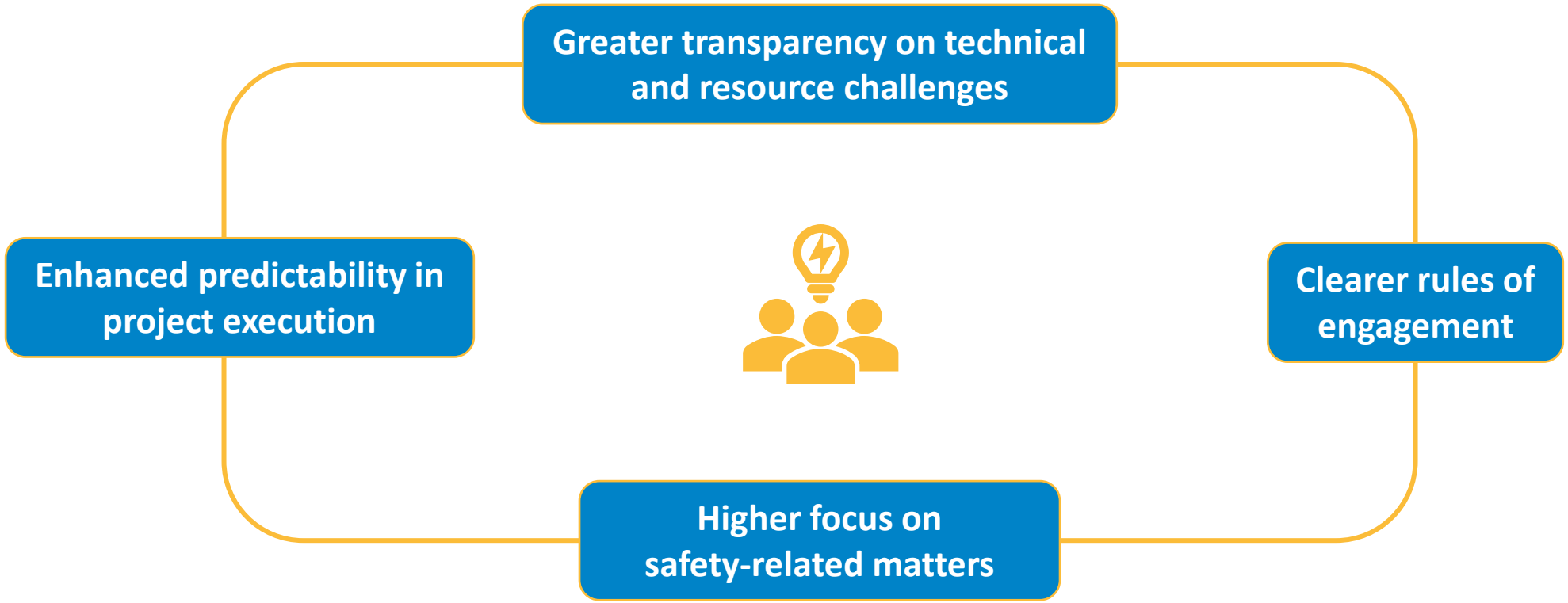
→ Defining Recovery Action Plan (e.g., priority, workshare, sequencing)

STEERING

Roadmap


Certification Conference presentation
Window for pilot projects with Applicants
Release of Guidelines for planning
NEW ROUTINE
Q4/2024
Q1/2025
Q2/2025
Q3/2025
Optimisation of workforce management process
Release of Guidelines for workforce management

Applicant’s perspective: what's in it for me



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Marcella Miano

Section Manager - IA Standards & Specifications, EASA

Alexandru Enache

Senior Regulations Officer - Initial Airworthiness, EASA

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Part 21 Regulatory Update

Marcella Miano
Alexandru Enache

What we present today

Part 21

- Recently published rules
- Upcoming amendments
- Future developments

Part 26

- Upcoming amendments

Certification Specifications

- Upcoming amendments

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Part 21

Recently published rules – the implementation phase

Safety Management Systems (SMS)

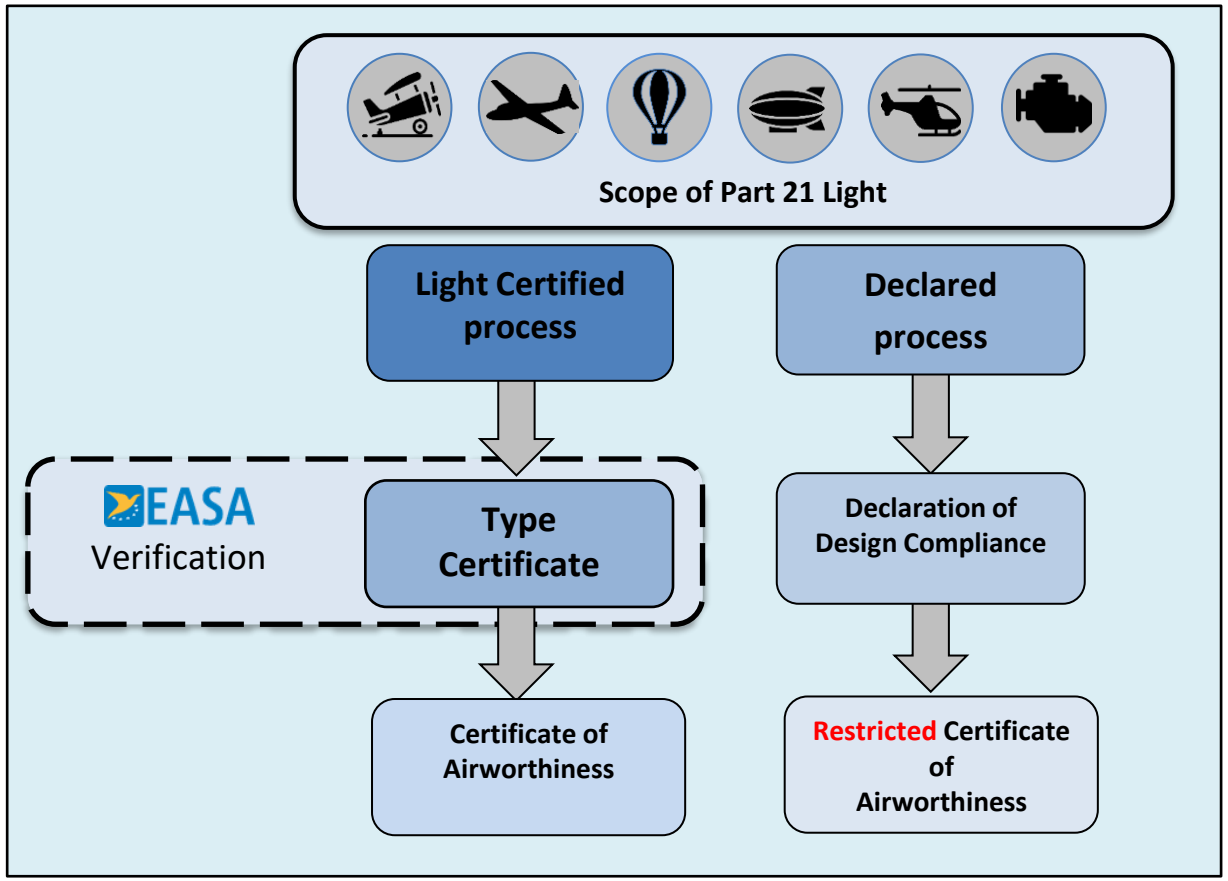
RMT.0251

- Introduced by Regulations (EU) 2022/201 and 2022/203
- Applicable since March 2023
- Design and Production Organisations have 2 years to close any findings of non-compliance related to SMS requirements

Part 21 Light

RMT.0727(1)

- Introduced by Regulations (EU) 2022/1358 and 2022/1361
- Aiming to enhance proportionality for General Aviation
- Applicable since August 2023



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Part 21

Upcoming amendments

Part-IS - Information Security

RMT.0720

Regulations
(EU) 2022/1645
and 2023/203

Supporting implementation activities

- Part-IS Task Force with Member States working on:
  - Compliance Guidelines for ISO/IEC 27001 certified organisations
  - Assessment of requests for derogation
- Hybrid Implementation Workshop on 7-8 November 2024 + in 2025

UAS and VTOL

RMT.0230

Specific category
High risk

Manned Urban Air Mobility

IAW — **initial airworthiness** of UAS subject to certification

CAW — **continuing airworthiness** of UAS subject to certification and operated in the ‘specific’ category

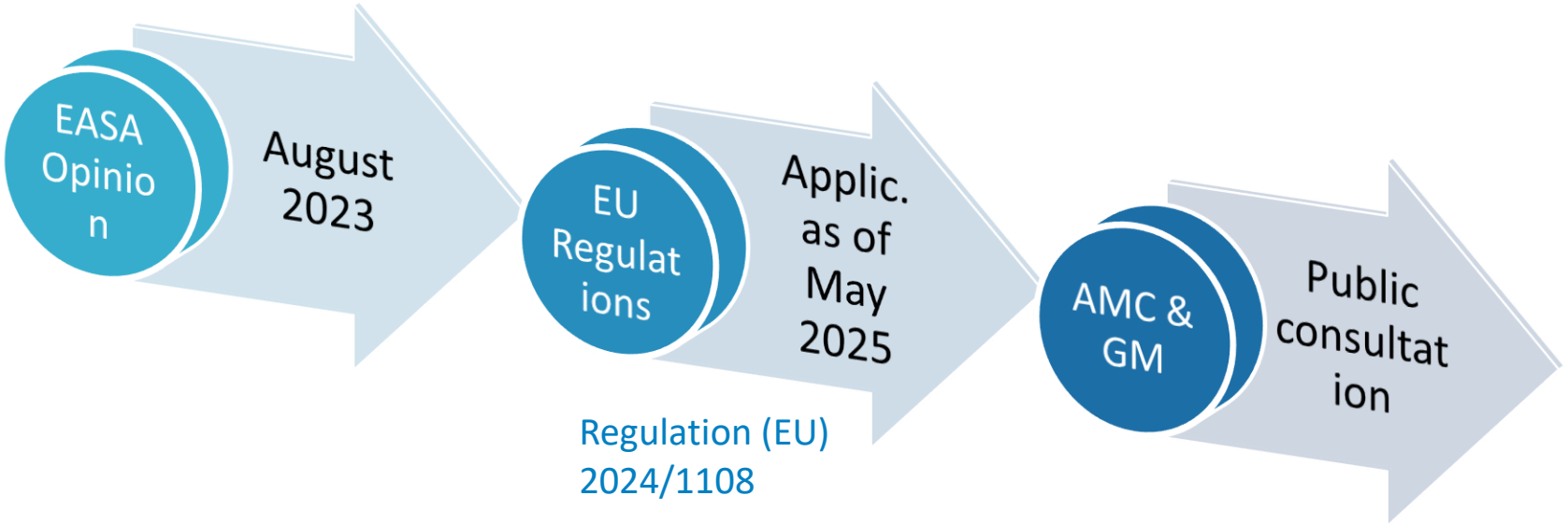
OPS — **operational requirements** applicable to manned VTOL-capable aircraft (VCA)

UAS and VTOL

RMT.0230

Specific category
High risk

Manned Urban Air Mobility



Regulation (EU) 2024/1108

NPA 2024-06 published in Sept 2024.

Public consultation ending on **4 Dec 2024**

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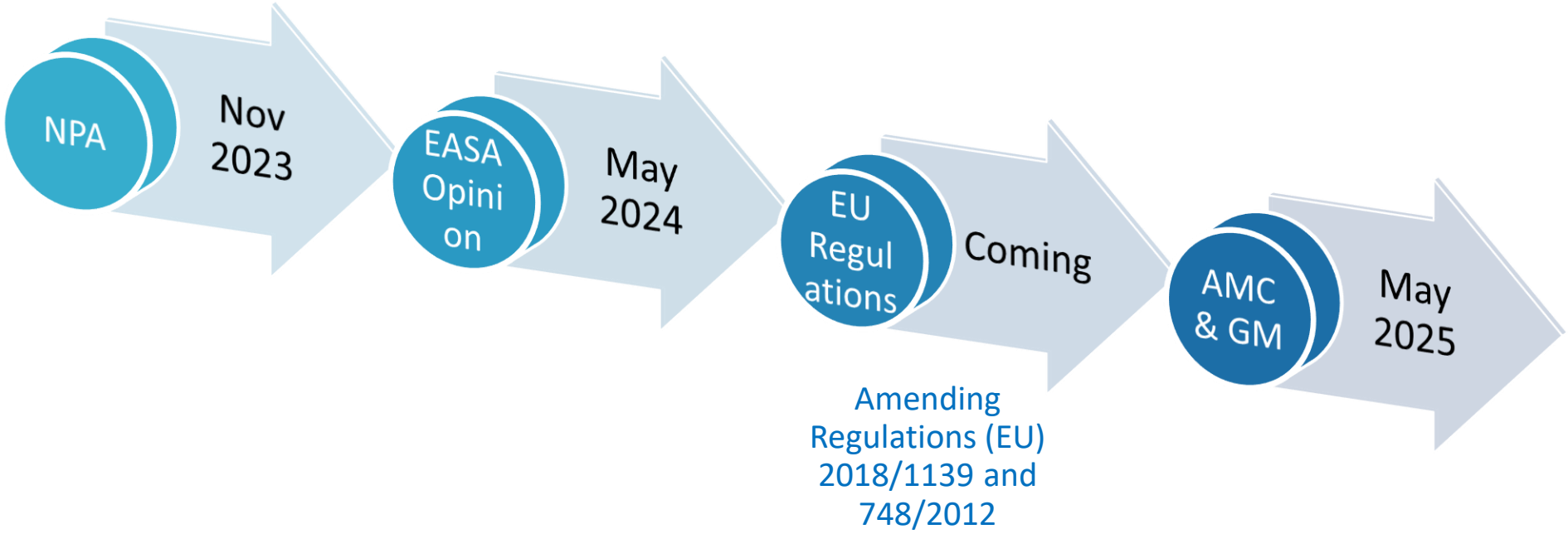
Part 21

Future developments

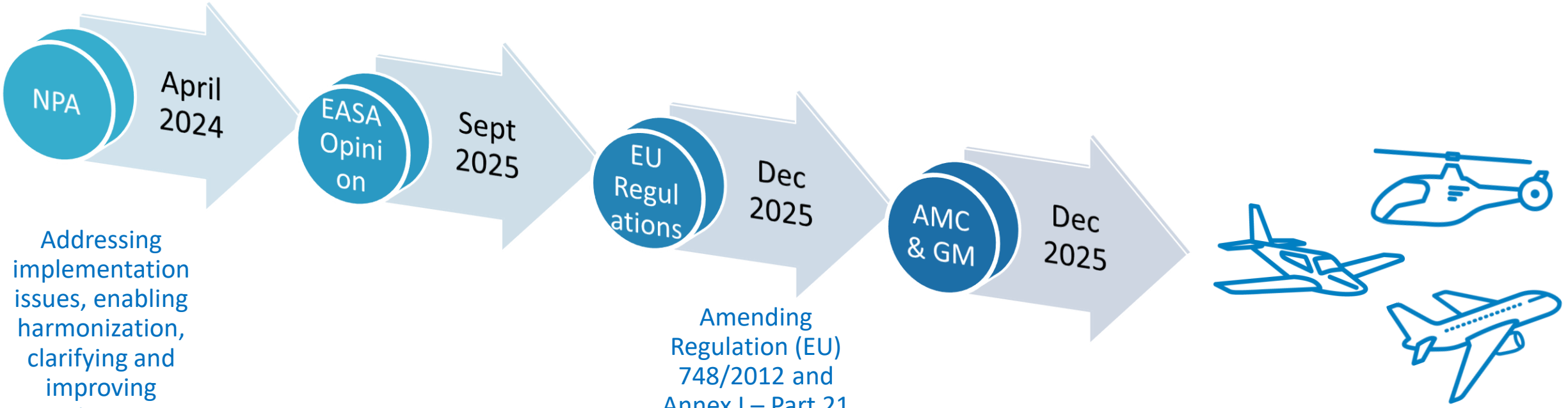
Committee on Aviation Environmental Protection (CAEP)

RMT.0514



Part 21 Regular update

RMT.0031

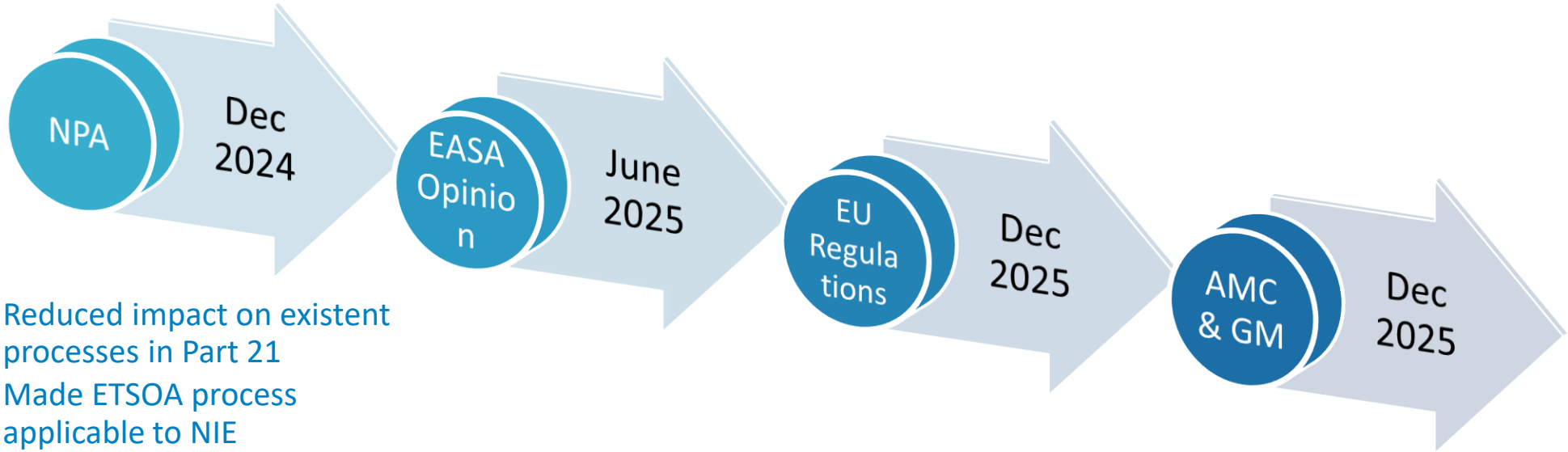


Addressing implementation issues, enabling harmonization, clarifying and improving requirements

Amending Regulation (EU) 748/2012 and Annex I – Part 21

Non-Installed Equipment

RMT.0727 Subtask 3



- Reduced impact on existent processes in Part 21
- Made ETSOA process applicable to NIE

Two applicability scenarios:

- NIE subject of an approval according to OPS rules; and
- NIE for which the equipment manufacturer voluntary certification requests

Non-Installed Equipment

RMT.0727 Subtask 3

Main changes proposed in Part 21

- change of 'article' definition in Regulation (EU) No 748/2012, Art.1(2)(f)

'(f) 'article' means any part and ~~appliance~~ non-installed equipment to be used on civil aircraft and any control and monitoring unit component'

- changes in Subpart K
  - introduction of certification scenarios point 21.A.303 'Compliance with applicable requirements' – new para. (b):

'(b) The showing of compliance of the following non-installed equipment shall be made under the ETSO authorisation procedures of Subpart O:

1. articles of non-installed equipment that are subject to an approval pursuant to Commission Regulation (EU) No 965/2012; and
2. articles of non-installed equipment that are not required to be approved but for which an applicant has requested certification in compliance with certification specifications published by the Agency.'

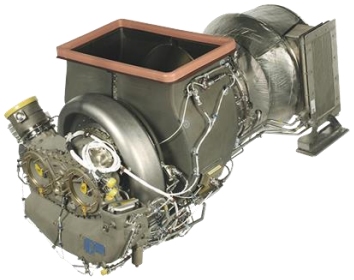
  - specifying the standards for NIE approval in 21.A.305 'Approval of parts, non-installed equipment and CMU components' – new para. (b)

'(b) Non-installed equipment shall comply with the applicable ETSO published by the Agency.'

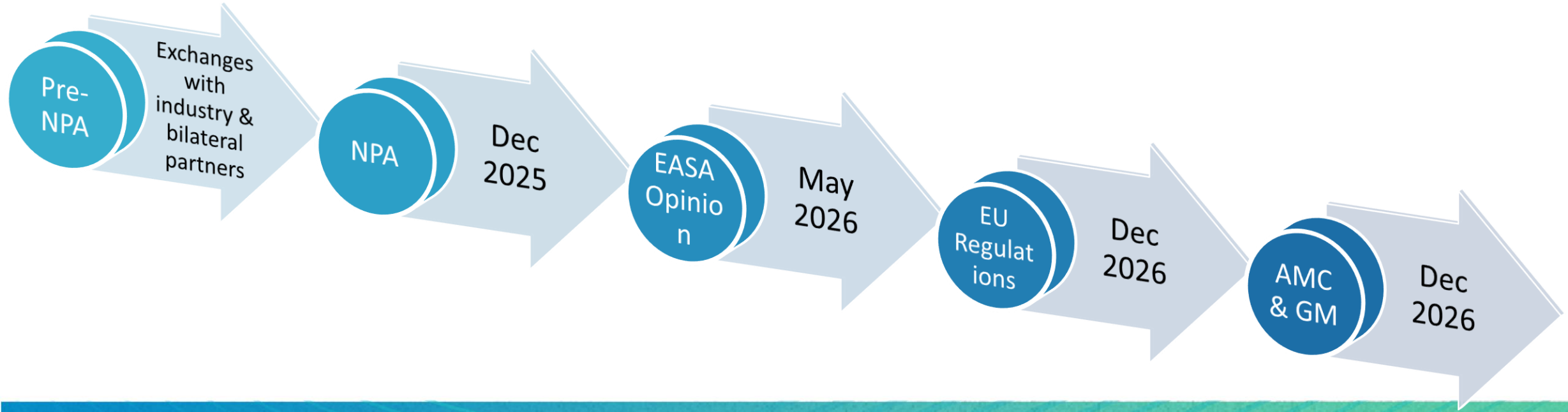
Note: No intention to imposed NIE certification beyond what is requested in the OPS Regulation

ETSOA system review

RMT.0727 Subtask 4



What we want to achieve: Making the ETSO Authorisation process more proportional to the complexity and criticality of the ETSO articles to be certified



ETSOA system review

RMT.0727 Subtask 4

‘Standard’ ETSO

Capability
Design: **Declared Design Organisations**
Production: POA

ETSO authorisation issued by EASA

‘Advanced’ ETSO

Capability
Design: **DOA**
Production: POA

ETSO authorisation issued by EASA

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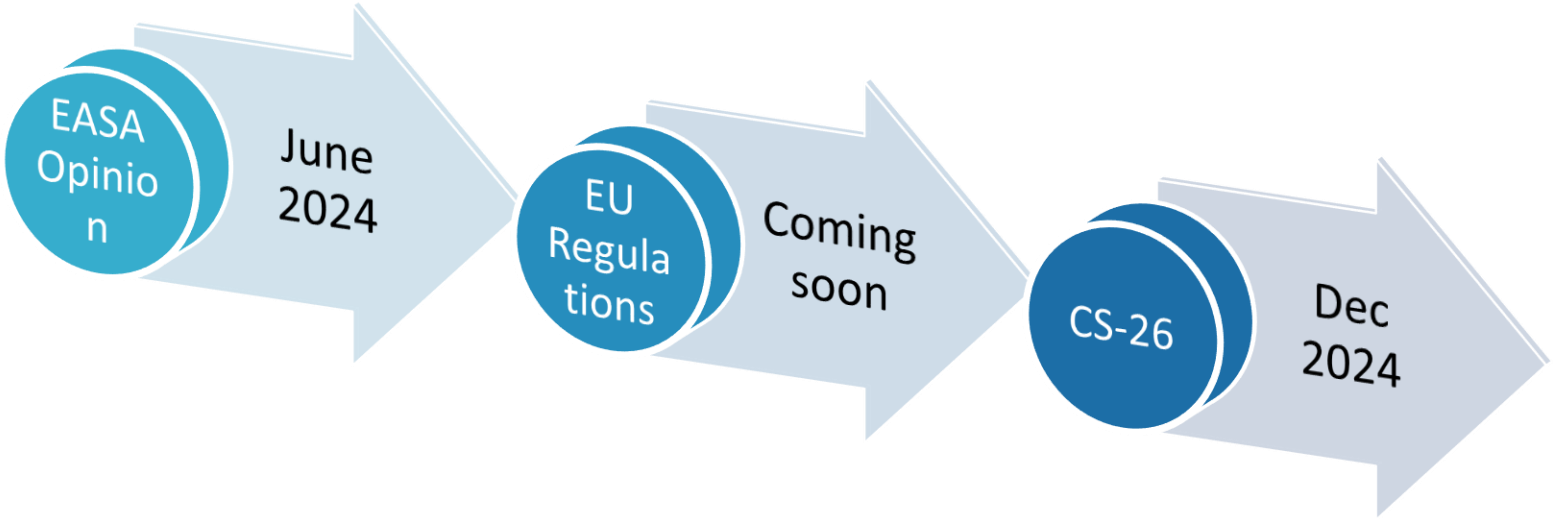
Part 26

Upcoming amendments

Part 26

RMT.0710, RMT.0740



Part 26 – EASA Opinion 05/2024

- Mandate the **installation of a crash-resistant fuel system** onto existing rotorcraft designs still in production and the retrofit of existing rotorcraft that are registered in the EASA Member States (*RMT.0710*)
- Transpose new SARPS from ICAO Annex 8 (Amendment 109): DAHs to make **available to operators of aeroplanes and helicopters**, the **information on cargo compartment fire protection capabilities**, as certified (*RMT.0740*)
- **Postpone applicability date** of the requirement for newly produced large aeroplanes used in CAT to be equipped with a **ROAAS** (new date: **1 July 2026**)
- Add further aeroplane models to the **list of models exempted** to comply with point 26.157 on **conversion of Class D compartments** [business jets]
- Clarify some existing requirements

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Certification Specifications (CSs)

Upcoming amendments

Certification Specifications

CS-25 Amdt 29 - expected in Q4 2024

To mitigate the risks of incidents and accidents caused by airframe ground icing contamination or inadequate de-icing/anti-icing operations

CS-ETSO Amdt 18 - expected in Q4 2024

Regular Update recognising latest industry standards, harmonising with the corresponding FAA TSOs, incorporating new ETSOs and amending existing one

CS-27 Amdt 10 / CS-29 Amdt 12 – expected in Q4 2024

Vibration Health Monitoring System

Certification Specifications

CS-E Amdt 8 – expected in Q2 2025

Turbine engine alternate endurance testing and IMP testing; Piston engines TBO/TBR substantiation

CS-23 Amdt 7 – expected in Q2 2026

Integrating new technologies; reflecting harmonization efforts among authorities; addressing feedbacks from implementation and safety improvements

Your feedback matters!

Feedbacks on implementation and queries on Airworthiness regulations

(Part 21, Part 21 Light, Part 26) and related guidance can be submitted to:

certification.queries@easa.europa.eu

Thank you for your attention

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Mario Colavita

Section Manager - Certification Director's Office, EASA

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Update on major international developments

Mario Colavita

Certification Director’s Office Section Manager

Main objectives

- Lower validation effort

- Higher predictability

- More innovation compatible rules

…and how to achieve them through international

- Bilateral relationships, and
- Certification Management Team – CMT (EASA, FAA, TCCA, ANAC)

The new **CMT Collaboration Strategy Rev 1** signed on 29 October focuses on:

- *Partnership Leveraging*, and
- *Certification Policy Alignment*

The CMT Collaboration Strategy

It is a living plan over 5 years span identifying 4 objectives:

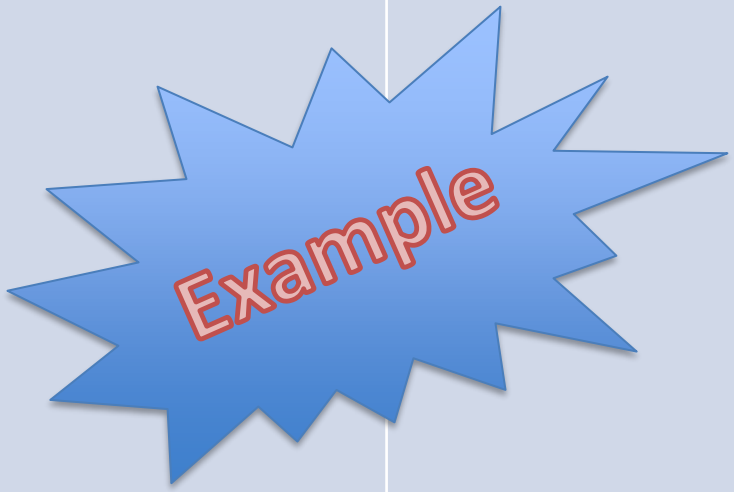
1. Improve efficiency of validation procedures
2. Increase VA recognition of operational evaluation activities performed by the CA
3. Allow transferability between CA and VA of products with new and/or emerging technologies where systems are not harmonized.
4. Coordinate rulemaking process to the maximum extent possible for harmonization of standards and policies.

Each objective associated to

- *Desired outcomes,* and
- *Key results* (3-4 per objective)

The CMT Collaboration Strategy

CMT Strategic Objective 3	Desired Outcome	Desired Key Results
Establish mechanisms between the CA and the VA to allow the transferability of products certified with new or emerging technologies, and where their respective regulatory systems may not be compatible or harmonized yet.	**A product certified with new technologies and/or in line with environmental sustainability by the CA will be able to obtain approval or recognition by the VA with equivalent level of safety to domestic products.**	**3.1 Remotely Piloted Aircraft System (RPAS)** Identify and agree on common requirements and their Means of Compliance to cover aircraft and equipment approvals in support of Advanced Air Mobility operations, including autonomous flight.
		3.2 Light Sport Aircraft (LSA) Evaluate the procedural differences among CMT Authorities and develop agreement(s) to a common approach that reduces or eliminates redundant approval activities by the Importing Authority.
		3.3 New and Emerging Technology on Sustainability of aviation transportation Develop a common or harmonized certification approach to new or emerging technologies being adopted in support of an environmentally sustainable air transportation system, such as but not limited to: a) Electric Vertical Take-off and Landing (eVTOL); b) Electric/Hybrid Propulsion System; or c) Use of Hydrogen technology in aircraft propulsion system
		3.4 Artificial Intelligence Identify and agree on common requirements and their Means of Compliance for Verification and Validation for Artificial Intelligence and Machine Learning (AI/ML) systems as part of the aircraft approved type design.



The CMT

Works through CAGs and Task-Specific Teams

- Positive closure of the TST on:
  "CME in Critical Systems in Large Aircraft" seeking:
  - harmonization on the interpretation of CS 25.1309/14 CFR 25.1309
  - role of dissimilarity in risk mitigation
- Agreed opening of a new Group on AI and Autonomy

Bilateral relationships

EASA - FAA

- Entry into force TIP Rev 7 in 2024, envisaging an amendment to be issued shortly.
- Agreed simplified Validation Process for Low-Risk aircraft (CS23 L1/L2 and CS 27 Class I/II)
- Developed common Work Plan Template and Job Aid, ready to be implemented on 1 Jan 2025.
- SEI lists:
  - Improvements achieved on CS-23, CS-27 and CS-29.
  - More effort to be given in 2025 to CS-E and CS-25
  - Dedicated WG established on HF aimed to reduce LoI in validation projects
- eVTOL TF: good advances in some areas (e.g. *Handling Qualities* and *Aircraft Performance*), but remaining differences in others (*Battery Thermal Runway*, *High Energy Fragments* and *Single Point Failures*). Target Q1-25 for simultaneous publication of FAA AC and EASA SC iss. 3 with harmonised content
- Significant steps forward on MMEL
- Hydrogen WG: initially bilateral and now moved to “International Group” (CMT + UK CAA)

Bilateral relationships

EASA - CAAC

- Intense relationship in 2024:
  - CAAC-EASA Aviation Safety Conference in Xiamen, 28-30 May
  - AIRBUS and AIRBUS Helicopters Management meeting in France on 9 and 10 Sept.
  - CAAC-EASA meeting in Cologne on 12t Sept. to review the current validation projects
  - COMAC management meeting at EASA and visit of the COMAC Chairman Sept
- Open items:
  - Remaining differences in implementation of specific points of the TIP (LoI)
  - Fuel additives
  - CAAC expected acceptance of Chinese production based on valildated EU design

Bilateral relationships

EASA - ANAC

- TIP Rev 5 signed, entry into force on 26 Jan 2025.
  - Adaptation to the structure and format of EASA/FAA TIP Rev.6 and introduction of Basic/Non-Basic classification
  - For STCs, introducing the Basic classification and streamlined validation process
  - For TCs, reciprocating engines and propellers and small aircraft could be Basic (under conditions)
  - Acceptance of major repairs without restrictions
  - No more list of accepted TSO but overall acceptance
  - Introduction of acceptance of alterations on import (except for critical components)
  - Introduction of a validation workplan
  - Information sessions for authorities and industry 28-29 January
  - Streamlined certification of CS-27 to be considered for next amendment
- ANAC OSD rule and guidance enter into force in January 2025 paving the way for enhanced OSD validation (Flight Crew and MMEL)

Bilateral relationship

EASA - TCCA

- TIP Rev.5, complete draft under preparation
  - Planned to share it with TCCA by end of Nov. and meeting in Jan
  - Mostly following language and concepts elaborated with other CMT partners
  - Introduction of Basic/Non-Basic classification
  - Plan to have it signed NLT CMT Plenary meeting in Fall 2025
- BER Roadmap, draft to be received from TCCA soon

EASA - JCAB

- Common intent to facilitate an extension of automatic acceptance
- Meeting planned in Dec. in Cologne in the margins of the H2 Workshop

Bilateral relationships

EASA – UK CAA

- Good relationship:
  - Quarterly meetings at technical level
  - Effective sharing of information
- UK CAA requesting provisions to enact UK-EU Trade and Cooperation Agreement
- COB WG tasked to start looking at Maintenance of Confidence

EASA – CAA Israel

- BASA: first negotiation started in Sept
  - Acceptable level of *asymmetry* still to be agreed
  - Existing WA extended for the time being

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Aviation thrives on cooperation, proving that distance is only a challenge, not a barrier

When nations share the skies, they share a responsibility as vast as the horizon.

Cooperation fuels aviation's progress as much as engines fuel its flight

In aviation, no altitude is unreachable when nations lift together

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Debrief from Part 21 Workshop

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Elisabetta Buscatti

Avio Aero

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PART 21 WORKSHOP CERTIFICATION CONFERENCE

SIDE MEETING HIGHLIGHTS
DOA Competence management

Elisabetta Buscatti

Chief Engineering Office - Consulting Engineer - Certification

Avio Aero – a GE Aerospace Company

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HIGHLIGHTS - DOA Competence management

Competence Management in house vs supplier

Issue: Lack of competences on subcontracted design

Outcome:

- DOA does not need to have all the competences in house but needs to have the capability to assess the deliverables and to know the applicable certification requirements. In this case emphasis should be put in the oversight activity
- Based on criticality of the subcontracted activity, a risk-based approach must be performed to mitigate all possible issues

Competence assessment

Issue: How to assess competences (Qualification, recurrent checks,...)?

Outcome:

- With respect to other regulations, Part 21 leaves the flexibility to DOAs to define the qualification requirements and the process to assess and maintain competences .
- Taking credit of the initial work performed by WG13, Industry has proposed an SAB WG on developing a standard on competences to become an AMC. Prioritization by EASA is appreciated.
- Best practices were shared across the participants: some similarity identified in the organizational training (P21, SMS, DOH processes), different approaches on technical domains

Authorization of staff

Issue: what is the minimum standard for authorization of staff (e.g for exercising privileges) ?

Outcome:

- Part 21 defines minimum requirements for key persons
- AMC 21.A.263 highlights preconditions to exercise privileges, including competence of AW function
- For each other design function, minimum standard should be defined by the DOA and oriented to the activity and to what is the deliverable for that function

New competences wrt new functions and operational suitability

Issue: Safety Manager and Operational Suitability specific competences

Outcome:

- For Safety Managers, minimum requirements are defined in Part 21
  - HF and HP are concept coming from operations and are challenging for Design Organizations
- To assess OSD, personnel with competences on operations should be involved in the DOA.
  - Specific CS concerning OSD should be considered for technical assessment

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Jary d’Auria

UK CAA

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SIDE MEETING 2 HIGHLIGHTS

Level of Involvement Implementation

Jary D'AURIA

Design and Certification Manager - Small Aeroplanes, VTOL and Innovation

UK Civil Aviation Authority

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HIGHLIGHTS – LoI implementation

Subject 1	Subject 2
Issue: DO Performance Ratings by Experts	Issue: LOI / DO performance for ETSO
Outcome: More clarity / explanation is requested as to how these are determined.	Outcome: How to improve this way of working? How to give more recognition of design organisation competence.
Subject 3	**Subject 4**
Issue: DO Performance Feedback	Issue: EASA Responsiveness
Outcome: For more active design organisations, this data could be provided more dynamically / more frequently.	Outcome: Concerns about EASA resources and working methods to support responsiveness to applications in general and LoI proposals in particular.

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Manuela Hiefinger

Air Ambulance Technology

EASA
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SIDE MEETING HIGHLIGHTS
DOA Supplier Control

Manuela HIEFINGER

Head of Design Organisation

Air Ambulance Technology

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HIGHLIGHTS – DOA Supplier Control

Requirements centric approach	Risk based approach
Part 21 requirements for subcontractors?	Level of involvement and oversight
Outcome: Design organisation is more than just the DOA holder. It includes also partners, subcontractors, suppliers, etc. DOA holder should ensure directly or indirectly that subcontracted activties within the design organisation are performed in compliance with P21 requirements, as applicable and relevant.	Outcome: Safety risk associated to the scope of subcontracted activities should drive the level of involvement of the DOA holder in the execution by the subcontractor of those activities and the level of oversight to ensure compliance with P21 requirements. If industry standards accepted as AMC to P21 are used, DOA holders shall develop procedures in compliance with those standards.
SMS flowdown	**Definitions**
Depth of SMS implementation	Use of terms to indicate various scope
Outcome: The depth of SMS requirement implementation at the subcontractors is depending on scope and risk of the subcontracted activities. Requirements centric approach still applies.	Outcome: Industry requested EASA to provide definitions of supplier, subcontractor, partner, vendor and contractor. It was already clarfied that from a DOA perspective the process for acceptance of data and tasks provided by third parties is the same.

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Céline Rougé

DAHER

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SIDE MEETING HIGHLIGHTS

Certification Memorandum about Additive Manufacturing

Céline Rougé

Head of Airworthiness

Daher

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HIGHLIGHTS - Certification Memorandum about Additive Manufacturing

Criticality	Standardization
Evaluation of criticality	Missing standards
Outcome: The criticality is the basis of the treatment of the introduction of additive manufacturing. This should be implemented and communicated between DOA/ POA organizations and others in the supply chain (certainly for higher criticality parts). Need to improve 'end to end' safety strategy communication.	Outcome: Details supporting Moc are still in development and are not standardized to help small DOA/POA to introduce additive manufacturing (classification change, industrial specification…), particularly in complex supply chains. This needs to be improved.
Communication	**Cabin Interiors**
Lack of access to information	Main interested stakeholders dealt with cabin interiors
Outcome: Availability of Additive Manufacturing Certification Memo and EASA/FAA workshop proceedings was not well known. Need to improve access/visibility at EASA – industry interface.	Outcome: Regulatory material guidance relates to structural characteristics but main interest of workshop stakeholders was cabin safety and flammability characteristics. Need for EASA FAA harmonization.

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Michael Thaller

AMES

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SIDE MEETING HIGHLIGHTS
OSD CCD impact evaluation in STC projects

Michael Thaller

AMES

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HIGHLIGHTS - OSD CCD impact evaluation in STC projects

Subject 1	Subject 2
OSD CS-CCD Changes to A/c in an operator fleet	OSD CS-CCD Change Classification
Outcome: OSD CS-CCD changes are always related to the specific MSN.	Outcome: MINOR Design Changes can not trigger an OSD change as per *GM No 1 to 21.A.93(b)(1)(iii)* *Interaction of changes to the type design and changes to operational suitability data (OSD)* *Changes to the type certificate (TC) that only include a minor change to the type design ('stand-alone' type design changes) do not have an effect on the OSD. No dedicated assessment of the effects of the minor type design change on the OSD is needed in this case.* ***Exception: If OSD constituent CS-MMEL is affected***

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Romain Mbwang Seppoh

ECLIPSE

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SIDE MEETING HIGHLIGHTS
Cybersecurity: applicability in STC projects

Romain Mbwang Seppoh

Airworthiness Director – Head of Design Organization

Eclipse

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HIGHLIGHTS - Cybersecurity: applicability in STC

Subject 1	Subject 2
Issue: STC F&C Classification	Issue: Part-IS (Information Security)
Outcome: Inclusion of Panel 6b in STC projects may elevate a Simple project to a Standard project with associated increase in charges.	Outcome: The link between Part-IS and the project level requirement of 2x.1319 and AMC 20-42 (development of ICA for Cyber Security).
Subject 3	**Subject 4**
Issue: Use of 2x.1319 for all STCs	Issue: Liaison with TCH/OEM
Outcome: EASA's general approach is such that to ensure the adequacy of appropriate standards for Cyber Security that 2x.1319 is used for all projects (including Not-Significant changes)	Outcome: Sufficient level of information, beyond a generic NTO, may be needed from TCH/OEM to establish compliance to an appropriate level. The responsibility for compliance resides with the STC Applicant.

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Kyle Martin

General Aviation Manufacturers Association

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SIDE MEETING HIGHLIGHTS

DOA Organisation objectives for Artificial Intelligence applications

Kyle Martin

Vice President – European Affairs

General Aviation Manufacturers Association (GAMA)

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HIGHLIGHTS - DOA Organisation objectives for AI

AI Roadmap 2.0 / Concept Paper Iss.02	AI Implications for DOAs

Outcome:
• Concept Paper Issue 2.0 published in April
• Scope limited to:
  • L1 and L2 Machine Learning;
  • offline only;
  • <major failure contribution
• RMT.0724 launched with expert group
• Distinction between AI tools vs AI in products
	Outcome:
	• DOA would need to apply to EASA for a significant change to its design assurance system prior to the application for the certification project
	• Concept Paper §6 outlines organizational impacts of AI → see next slide
	• Two gate approach:
	  • Dealing with AI Trustworthiness for any application
	  • Then, triggering the 3 technical building blocks based on the assessment

Design organisation case – anticipated impact of AI

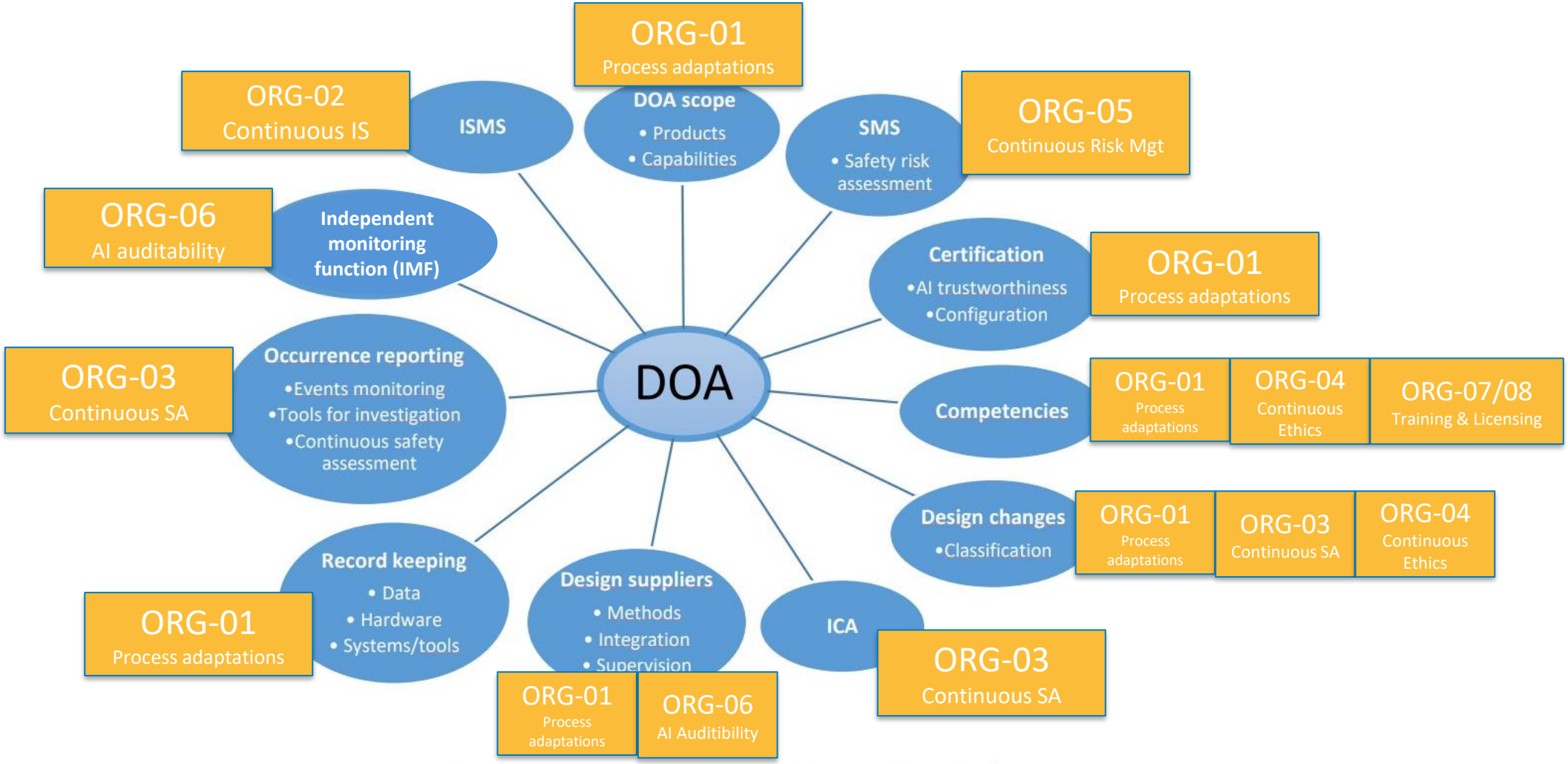

Figure 23 — DOA processes potentially affected by the introduction of AI/ML

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Romina Vassallo

System X Ceramic Coating

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SIDE MEETING HIGHLIGHTS
Composite materials handbook updates

Romina Vassallo

Co-Founder

System X Ceramic Coating

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HIGHLIGHTS - Composite materials handbook updates

Workshops driven by Fixed Wing Industry	Challenge for DOAs to define scope of works
GA and Rotorcraft are not adequately represented	High amount of information / knowledge to deal with for small DOAs
Outcome: It is planned that GA and Rotorcraft aspects are being covered and prioritized in next revision of CMH17	Outcome: Education and trainings are key – Standard practices to deal with design modification should be available
Cost of Charges to access CMH17	**Possibility of fatigue only per ASTM F3115-20**
Affordability of small companies is limited	Fatigue or DT possible in F3115-20 for level 1, 2 and 3
Outcome: Proportionality of access fees to GA / Rotorcraft? Limited access with limited subscription fees?	Outcome: It is a mistake: DT should be the approach to certify composite structures; CS23 Amdt 6 is being corrected to refer to F3115-15 as accepted means of compliance

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François Duclos

Executive Expert Certification, Rulemaking & Airworthiness, SAB AG-005

Cédric Chevrel

Airworthiness and Flight Tests Director, SAB AG-005

Aerospace, Security
and Defence Industries
Association of Europe

Working with EASA – Continued feedback

François DUCLOS
Executive eXpert Certification, Rulemaking & Airworthiness, Airbus
Cédric CHEVREL
Airworthiness Certification Director, Thales

Date 27/11/2024 issue 1

Agenda

Background on SAB AG.005

AG.005 activities

Some achievements

Way of improvement

Synthesis

Background on AG.005

- New organization of the new SAB in place since mid 2023
- AG.005 named Certification Strategy Activities Group- CSAG- covers the strategic needs of the Certification of products & organization
- In continuity of the previous C.COM
- Works to the benefit of the 6 SAB communities (transverse needs)

AG.005 activities

- Composition:
  - 10 members representing EU manufacturers (TC, STC & ETSO)
  - Industry Chairman & EASA Secretary
- Quarterly meetings
- Work package items validated by the SAB
- Decisions and actions agreed with EASA Certification Director

AG.005 some achievements

- 737 MAX accidents consequences well anticipated and worked out with EASA, through 4 Work Packages
- Fruitful cooperation EASA/ EU industry on updated ETSO framework
- International cooperation between EASA and Foreign Aviation Authority to the benefit of products validation by the manufacturers

Way of improvement

- Deployment of the EASA Platform tool to manage the WPi, the achievements & the actions
- Coordination with the other Activity Groups linked to the AG.005
- Slow progress on dimensioning topics for the industry, what ever the size of the manufacturers (Design Organisation performance measurement, SMS and ISMS compliance, ….)

Synthesis

- Robust functioning of the AG.005, with an efficient working relation based on:
  - Mutual respect of the stakeholders
  - Proper listening
  - Tangible achievements
- Invitation of the industry to better use the statutory existing bodies, such as the SAB to escalate their needs or requests
- Simplification of both processes and requirements remains a point of attention

Thank you

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Head of Department - Design Organisations & ETSO, EASA

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Philippe Leclerc

Product Security Officer, Thales Avionics

THALES
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Cybersecurity and Aviation data integrity

Philippe LECLERC
Product Security Officer
Thales Avionics (AVS)

EASA Part 21 Certification Conference
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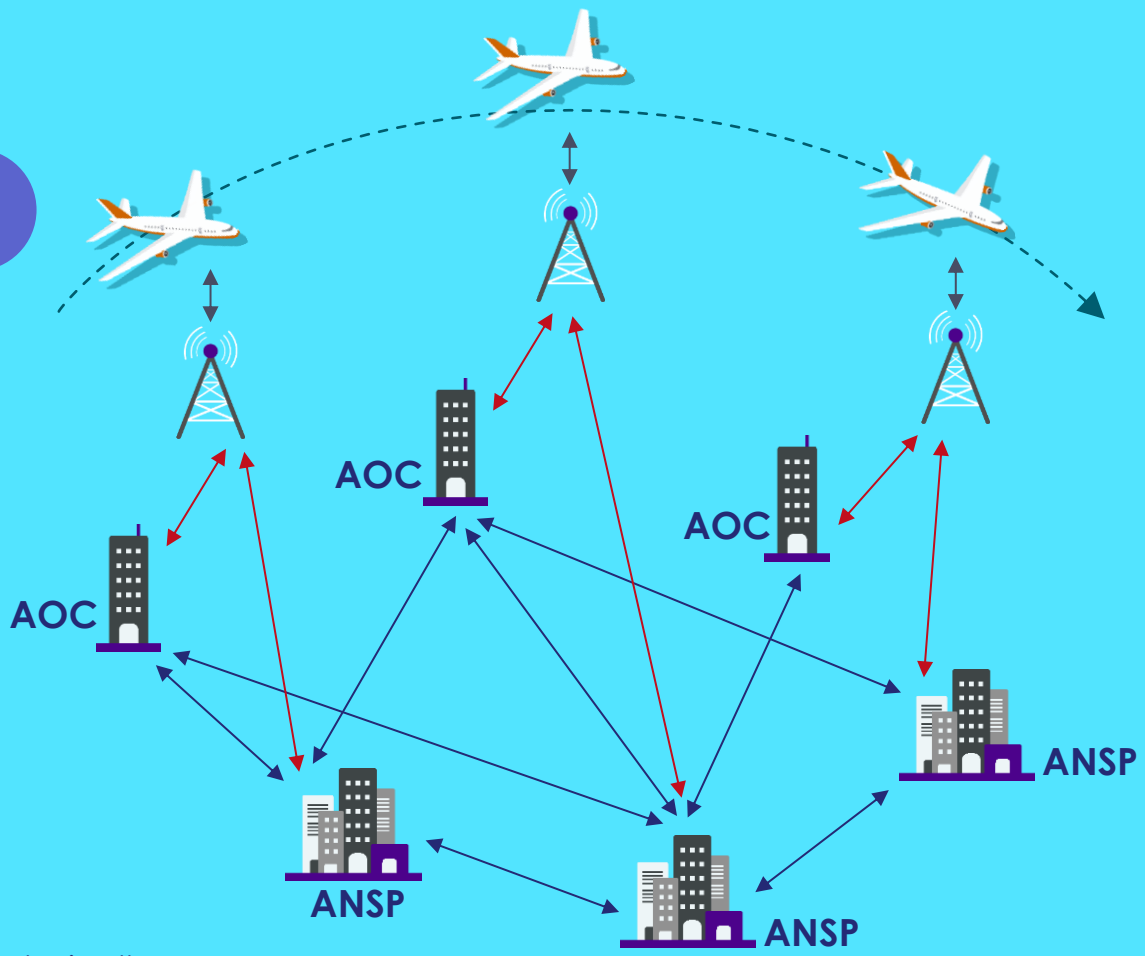
www.thalesgroup.com

The actual challenge: Securing aviation data

TrustFramework

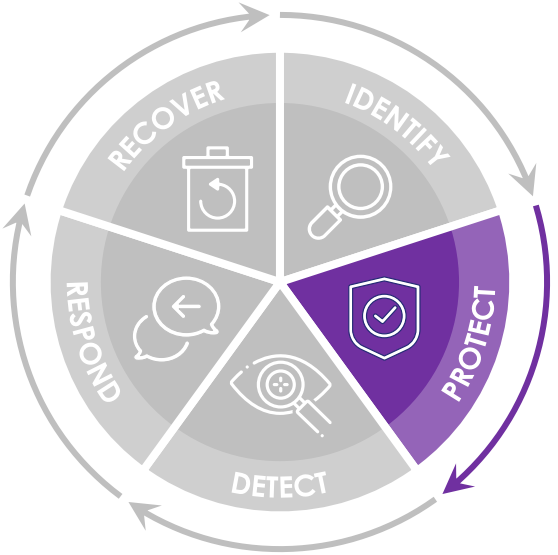
All data

- Not just safety



(extract from ICAO ATB and ANB
Progress being achieved in relation to developing the strategy on cyber safety and cybersecurity **25 of September 2017)**

AOC: Airline Operation Center/**ANSP**: Air Navigation Service Provider



First Securing aircraft: Risk Analysis & adequate measures

ED-201A – Aeronautical Information System Security Framework Guidance (2021)

ED-202A / DO-326A

Airworthiness Security Process Specification (2014)

ED-203A / DO-356A

Airworthiness Security Methods and Considerations (2018)

ED-204A / DO-355A

Information Security Guidance for Continuing Airworthiness (2020)

ED-205A

Process Standard for Security Certification ATM ANS Ground Systems (2022)

ED-206

Guidance on Security Event Management (2022)

{OPEN}

Then Securing the environment with Part-IS deployment

DESIGN & PRODUCTION Approval
PART 21

MAINTENANCE Approval
PART 145

A/C project

Thales (ETSO AP-DOA / DOID design supplier)

DESIGN

Thales : POA

PRODUCTION

A/C manufacturer

FAL

A/C delivery

Airline

OPERATION

A/C end of life

Airline
Continuous Airworthiness PART M

Thales : MOA
Maintenance PART 145

DDP
(VP CC)

Form 1
Part 21

Form 1
Part 145

Safety analysis

Safety analysis updates

Cyber for safety analysis

SMS & ISMS

Safety and Cyber for safety all along A/C life

{OPEN}

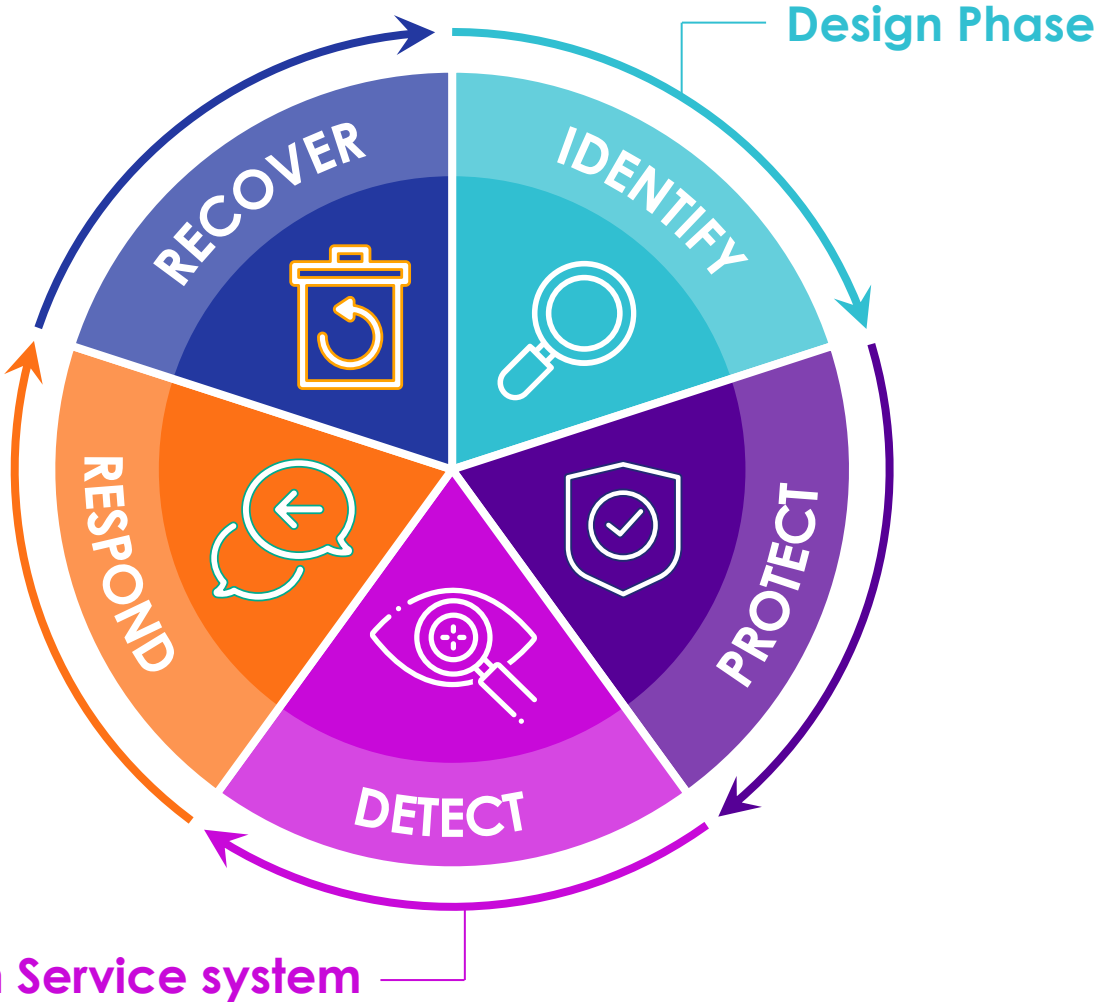
What can we add to reach cyber resilience for in service?

After identifying the risks

The challenge remains to

- Set-up tailored protections
- Conduct cyber health monitoring
- Recover & response

At design phase….
…and for in service systems



{OPEN}

The case of Aviation Navigation Database

Scenarii Impacting Data Integrity & availability

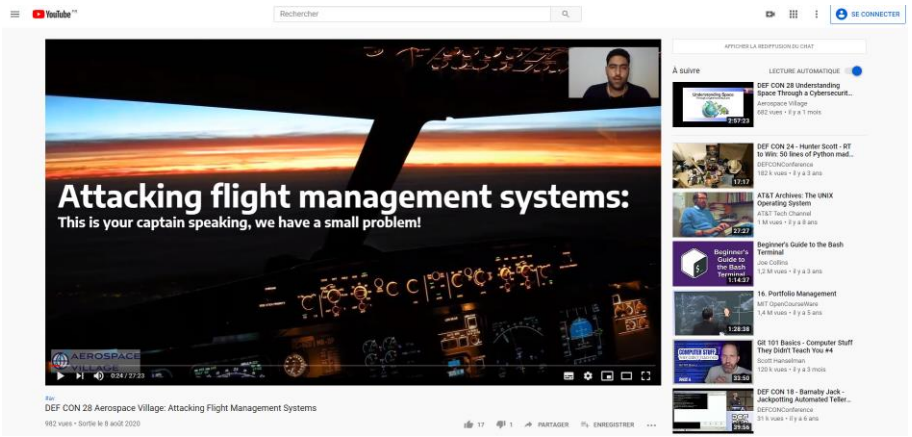
Still those are valid, already known scenario

- This is not a DB specific problem. This is a global dataloading security issue.
- Impacting Data Integrity & availability

The global solution is Secure Dataloading

- PMAT or on-board signature verification
- PMAT or on-board two-way authentication
- Secure Boot

How to propagate the related changes on the associated in-services systems….going fast in the certification management?



DEFCON 2019

https://www.youtube.com/watch?v=G4dDRXBikvA

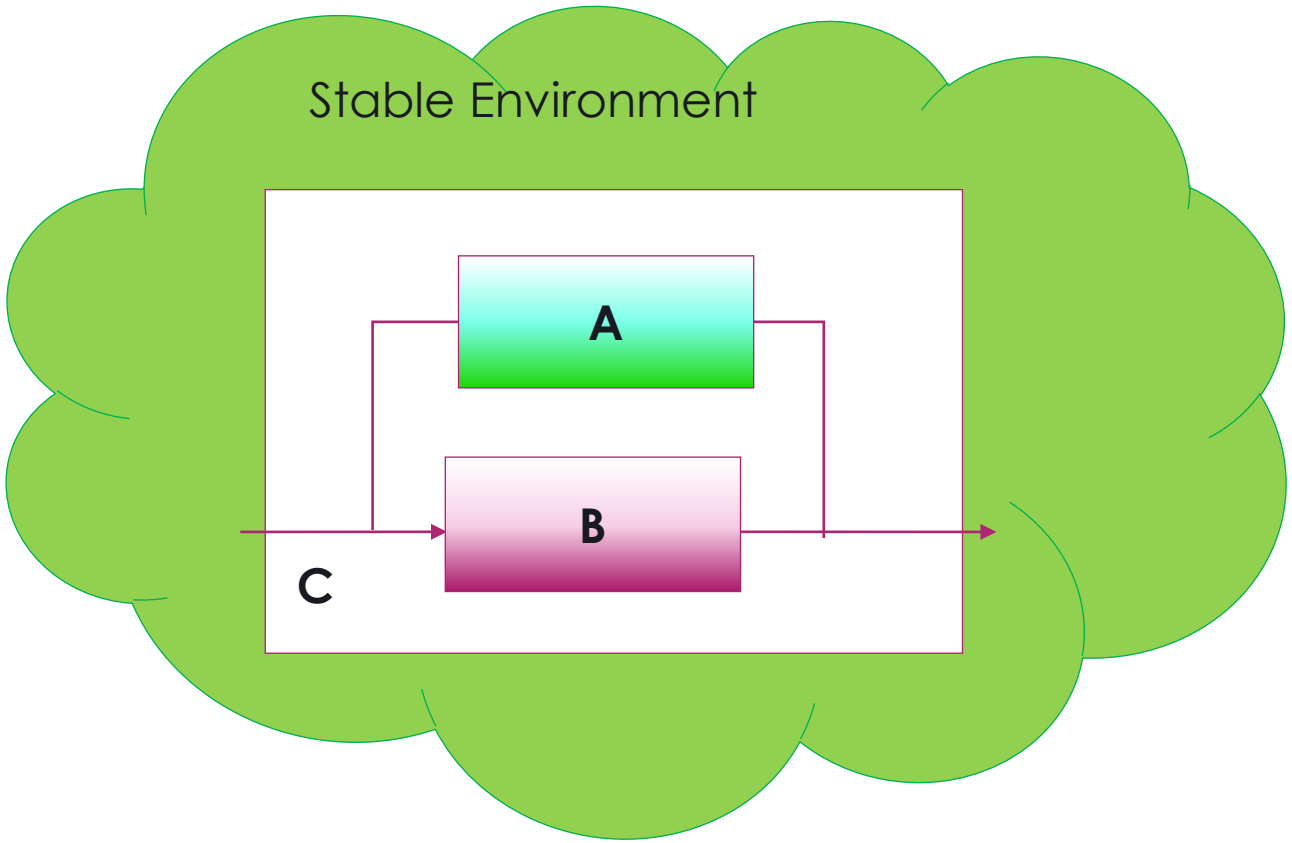
An attack scenario which can be impacting any
FMS
by means of
non authentic loaded Navigation Databases

AVIONICS INTERNATIONAL 2022

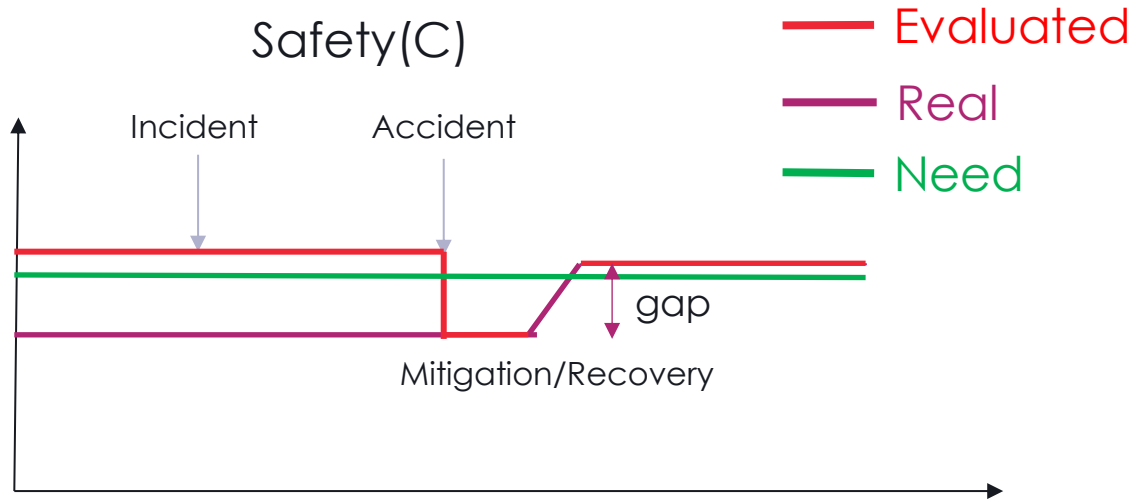
https://live-aviationtoday.pantheonsite.io/2022/11/16/cyber-incident-impacts-boeing-subsidiary-jeppesens-flight-planning-tools/

An attack scenario which can be impacting any
NavDB providers
impacting the availability of Databases

Safety point of view



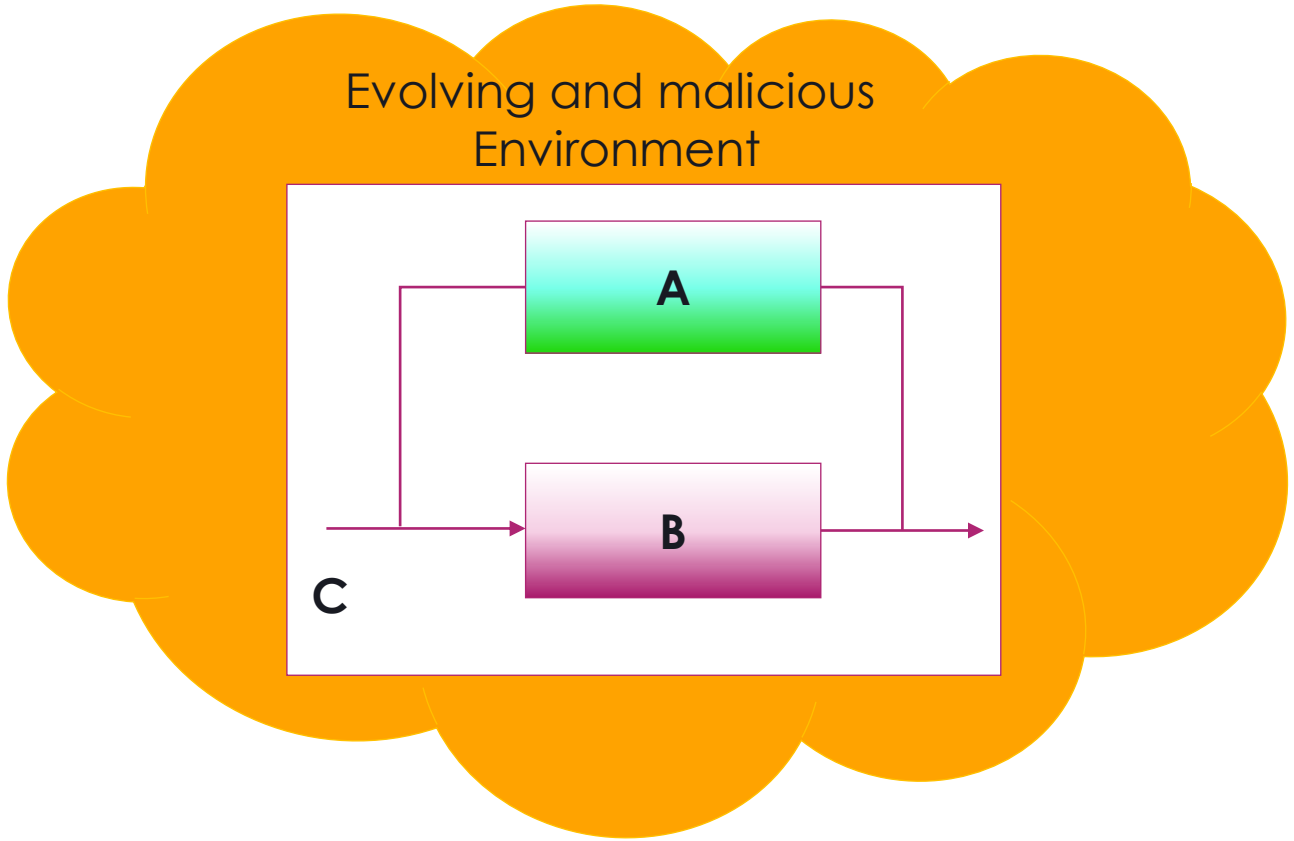
No common mode
Environment is “stable” and Stakeholders Trusted
➔ P(C) = P(A)xP(B)



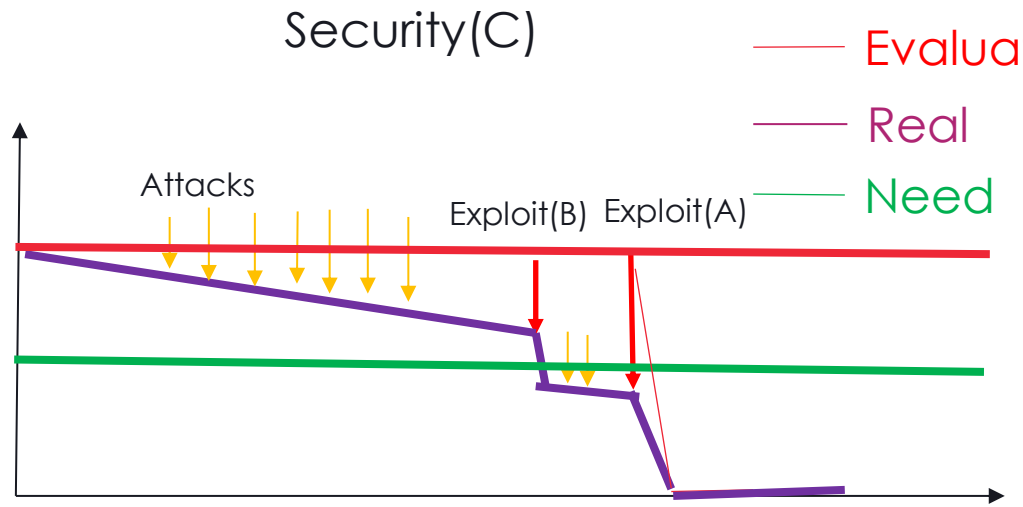
Safety assumptions

- Environment is stable and not malicious
- The probability of an accident maybe under-evaluated but is not evolving over time
- Safety is monitored and reevaluated on events
- In case of an accident/incident you need a crisis management with eventual mitigations but the actual risk does not increase from one day to the other

Security point of view



Environment is malicious and evolving
Attacker is the common mode
➔ L(C) = Max[L(A),L(B)]



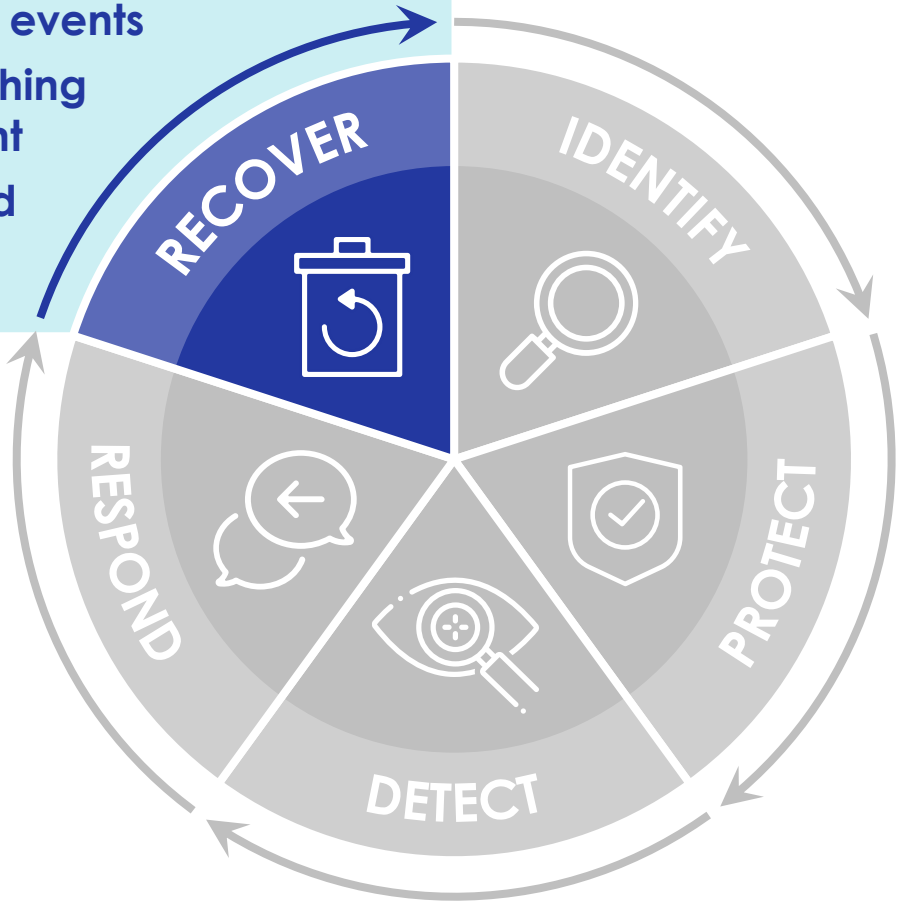
Security hypothesis

- Threat is growing over time
- Security level is inevitably decreasing
- The likelihood of a successful attacks becomes "certain" once an exploit or a security weaknesses is published

➔ Continuous Security monitoring and maintenance are needed for both product and environment

Data cyber continuity to leverage product security

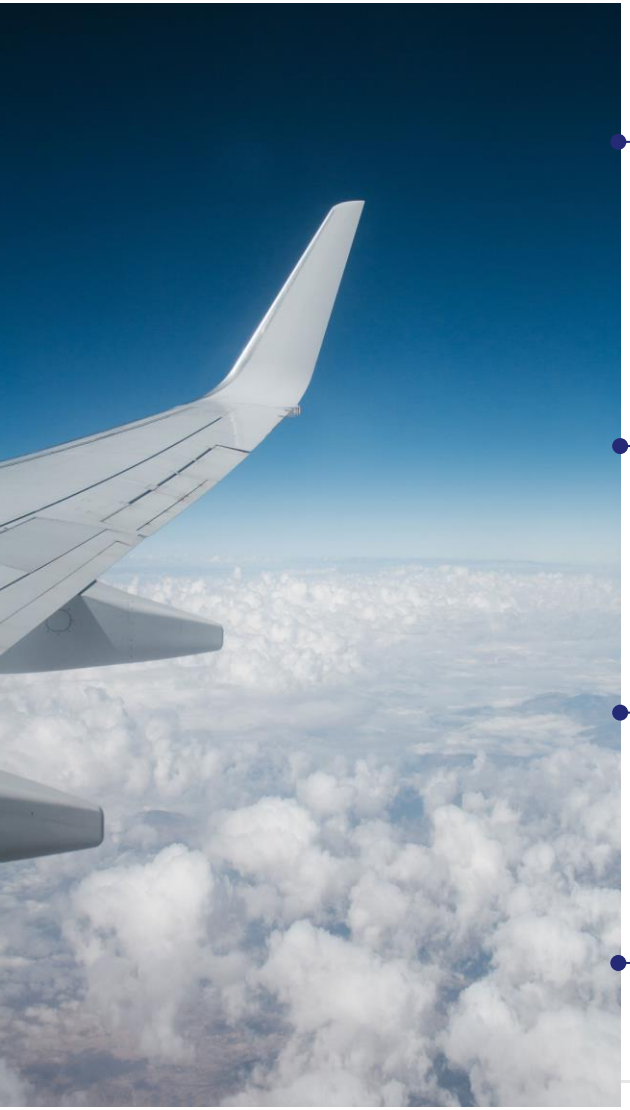
- A surveillance of incidents & events
- Quick Patching Deployment
- Data thread upward securing



Threats are constantly evolving

The challenge is the management of cybersecurity at the rhythm of cyberthreats

What can the aviation sector learn / do?



- Consider End-to-End Security for aviation data
- Adapt certification process to handle cyber threats in an effective and efficient way
- Prepare the cyberresilience of aviation operation
- Collaborate with other sectors, facing same challenges on ecosystem and data integrity & security

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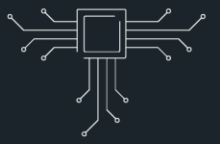
Initial Airworthiness Manager, Leonardo Helicopters

Leonardo Helicopters

USE OF DATA FOR CONDITION BASED MAINTENANCE

Cologne

November 27th , 2024


Electronics


Helicopters


Aircraft


Cyber & Security


Space


Aerostructures

SUMMARY

- Maintenance Approaches
- Condition-Based Maintenance
- Conclusions

MAINTENANCE APPROACHES

Definitions

- **Reactive maintenance (Maintenance on condition)** waits for the system to experience a functional failure before maintenance occurs.

- **Preventive (Scheduled) maintenance** performs maintenance on some fixed schedule ideally aligned to be slightly shorter than the typical probability of failure interval for a particular equipment/system.

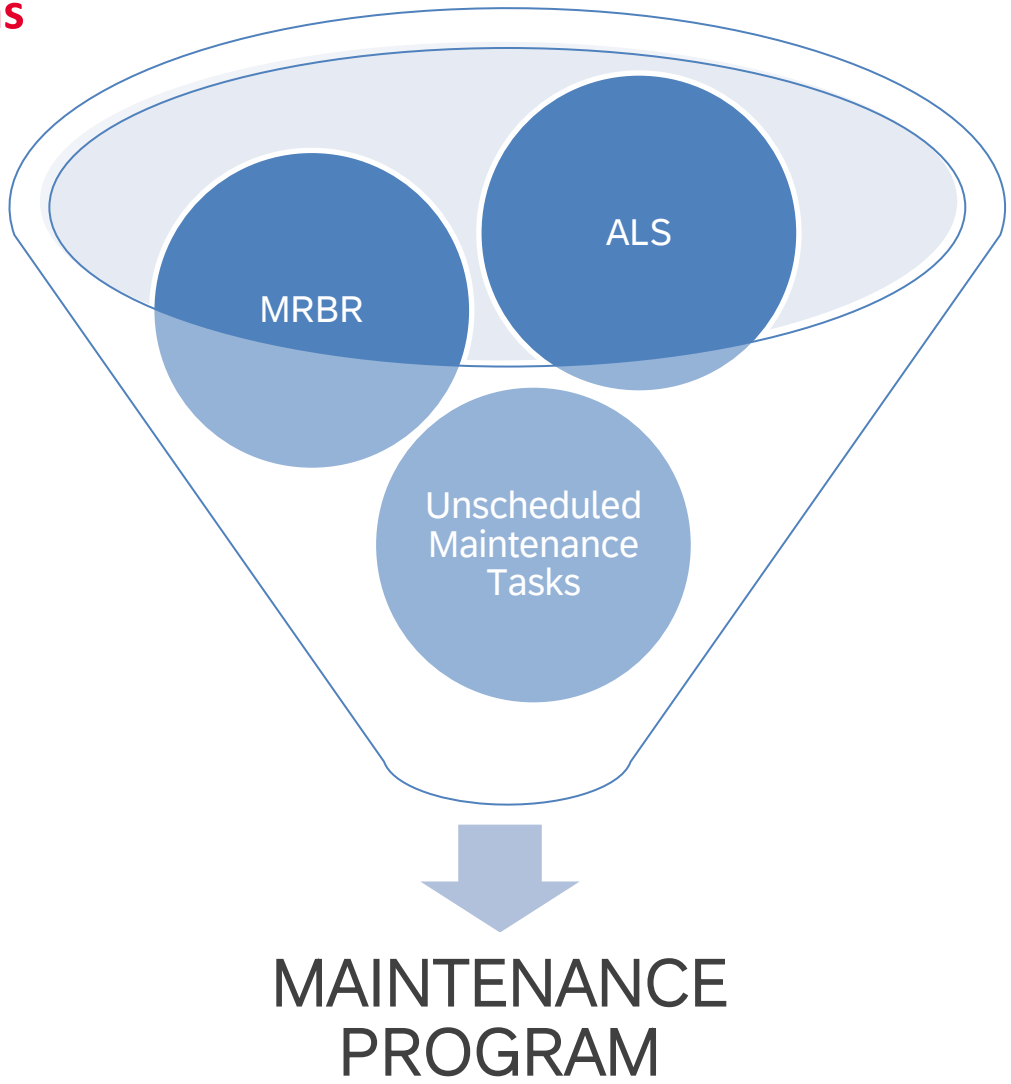
- **Condition-based maintenance** uses sensors and data with pre-set conditions or thresholds that when met will signal maintenance is needed.

- **Predictive maintenance** uses sensors and data to detect trends in the health of a system and predict when failure will occur.

MAINTENANCE APPROACHES

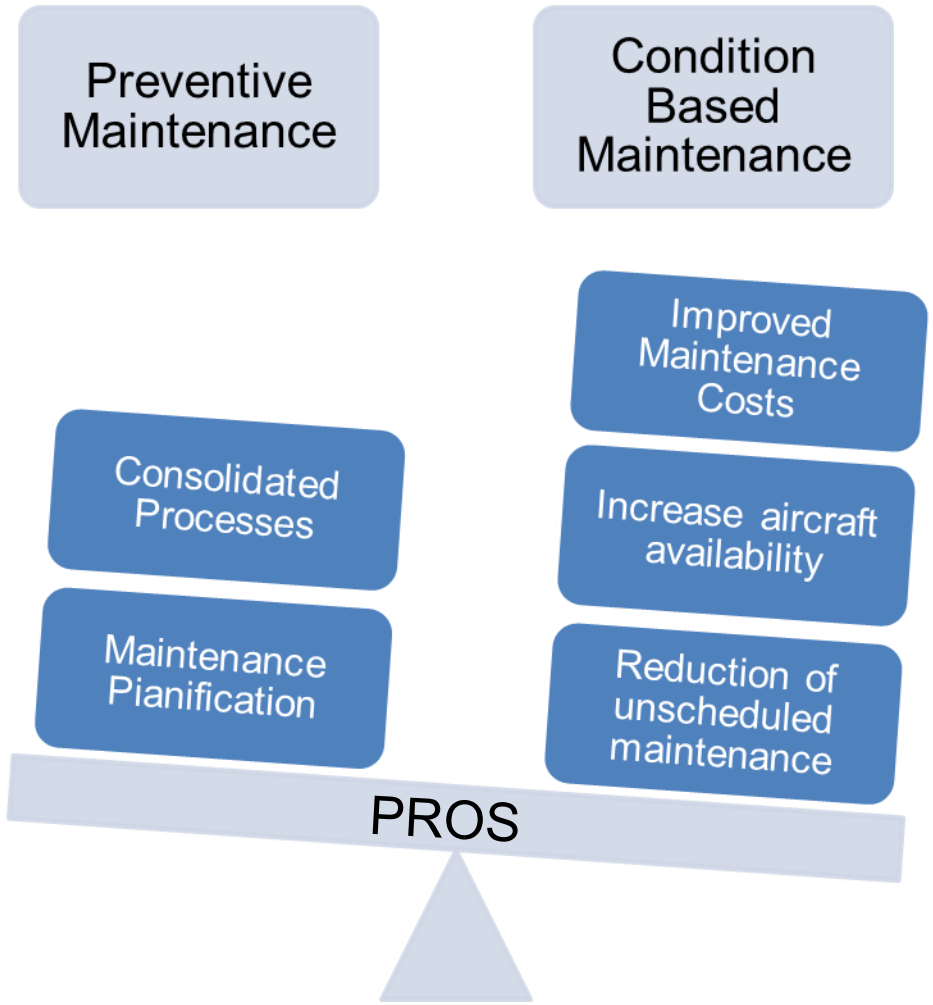
Typical Tasks identification for Preventive Maintenance Programs

- **Certification Maintenance Requirements (CMRs)** – Safety Assessments
- **Mandatory Inspections** – Fatigue Analysis
- **Retirement Lives** – Fatigue Tests
- **Scheduled Maintenance checks** – MSG3
- **Time Limits** – MSG3 /tests
- **Unscheduled Maintenance tasks** – In-service experience



CONDITION-BASED MAINTENANCE

Why?



Appreciable benefits of CBM depending on model characteristics:

- ✓ CREDIT
- ✓ FULL failure modes coverage
- ✓ Capability of data aggregation for maintenance actions

CONDITION-BASED MAINTENANCE

How?

DATA AQUISITION	DATA PROCESSING	DATA MONITORING	MAINTENANCE
			
On-board data acquired to monitor status of systems/ components	Acquired data post-processing to define reference model	Data monitoring to detect abnormal behaviour and identify impending failure	Maintenance action

CONDITION-BASED MAINTENANCE

How?

DATA AQUISITION → DATA PROCESSING → DATA MONITORING → MAINTENANCE



Effectivity linked to:

- ✓ Correct **number** of parameters to proper monitor the systems
- ✓ Sensor **selection** and **location**
- ✓ **Robustness** and **integrity** of the data transfer chain to the repository where the data are processed

CONDITION-BASED MAINTENANCE

How?

DATA AQUISITION → DATA PROCESSING → DATA MONITORING → MAINTENANCE



Acquired data are processed in order to enhance the visibility of alterations. Different processing techniques are generally used, depending on the type and amount of failure modes to be monitored:

- ✓ **model based algorithms**, based on the physical knowledge of the system behaviour
- ✓ **data driven techniques** (e.g. AI and Deep Learning), based on the availability of an increasing amount of data, although these innovative approaches raise questions for their certification, due to the potentially less deterministic nature of the algorithms.

CONDITION-BASED MAINTENANCE

How?

DATA AQUISITION → DATA PROCESSING → DATA MONITORING → MAINTENANCE



Processed data are monitored with reference to pre-defined **thresholds** in order to detect a normal VS degraded condition for **impending failure detection.**

Conventional processes involve the use of univariate models (each monitored parameter is compared to its specific threshold) while multivariate models (usually associated to Machine Learning techniques) fuse multiple parameters into a single indicator.

CONDITION-BASED MAINTENANCE

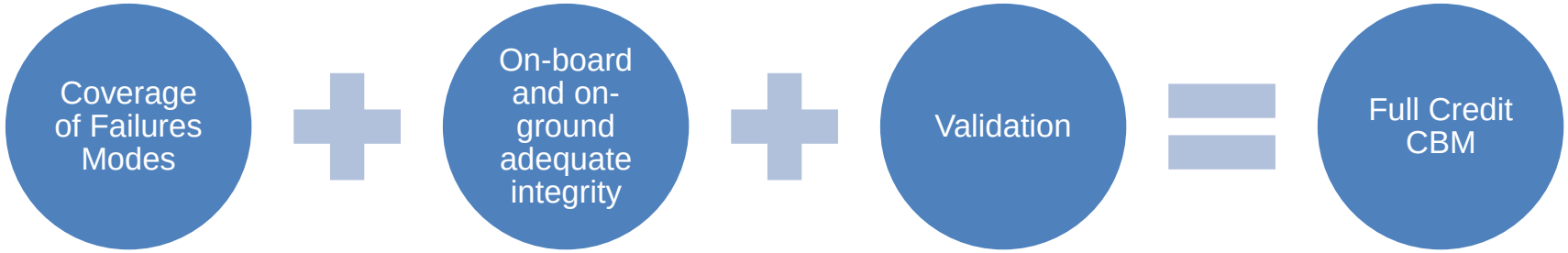
Goal

DATA AQUISITION → DATA PROCESSING → DATA MONITORING → MAINTENANCE

- ✓ Maintenance actions only performed when it is **needed**
- ✓ Ability of data aggregation shall be provided by the model to allow an effective schedule of maintenance reducing impact on operations

CONDITION-BASED MAINTENACE

Challenges



- ✓ Capability of acquiring the correct number of parameters which allow to detect failures.
- ✓ Requirements for Robustness and Integrity of the models according to the criticality of their intended use, including the data transfer chain up to the repository where the data are processed involving also the data delivery to a ground system.
- ✓ Validation of models.

CONCLUSIONS

- ✓ Today methods for predictive maintenance are typically **without credit**, always performed in addition to the standard Preventive Scheduled Maintenance Programs. A step forward with respect well consolidated approaches acceptability is needed

- ✓ Possible **hybrid** Maintenance Programs (where some preventive tasks are replaced by predictive tasks) could be a more achievable goal based on failure modes identification. Nevertheless certification rules are needed to define how give **credit** to these methods

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Yao Xuyin

Director, COMAC

COMAC MBSE Exploration and Practice

Yao XUYIN, COMAC

2024-11-28

-CONTENTS-

Background

Part 1.1 Challenge

Requirement

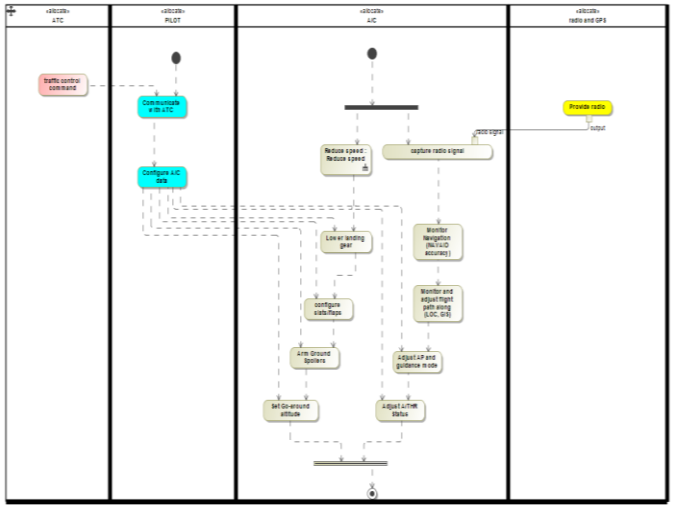
- Large in quantity
- Easy to miss
- Hard to capture

Logic

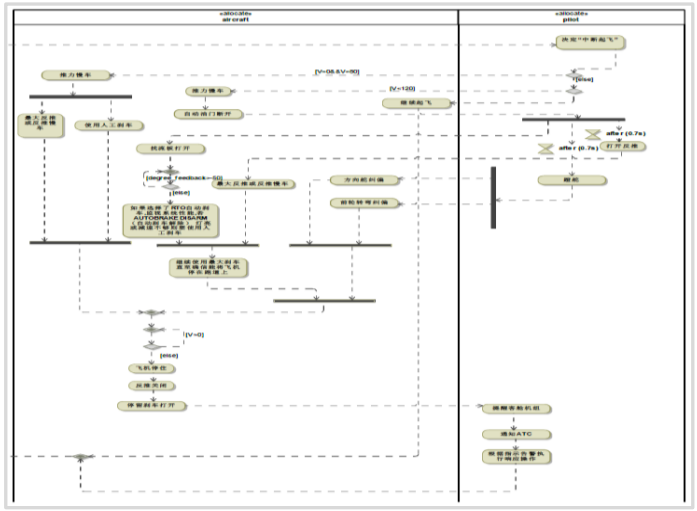
- Logical complexity
- Hard to express
- Ambiguity

Interfaces

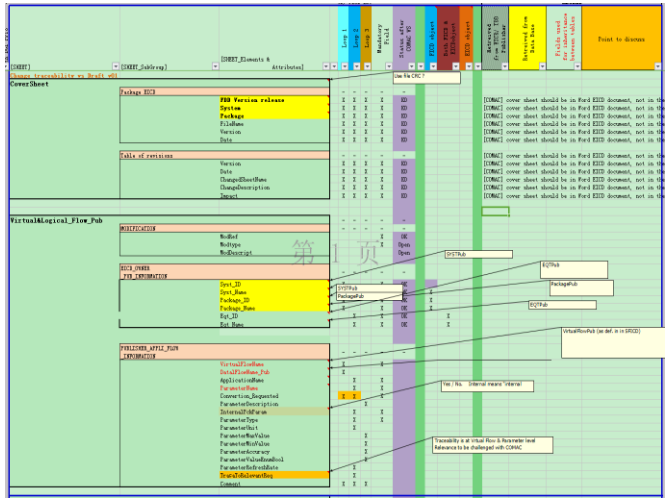
- Numerous
- Hard to match
- Hard to find mistakes



Requirements Capture

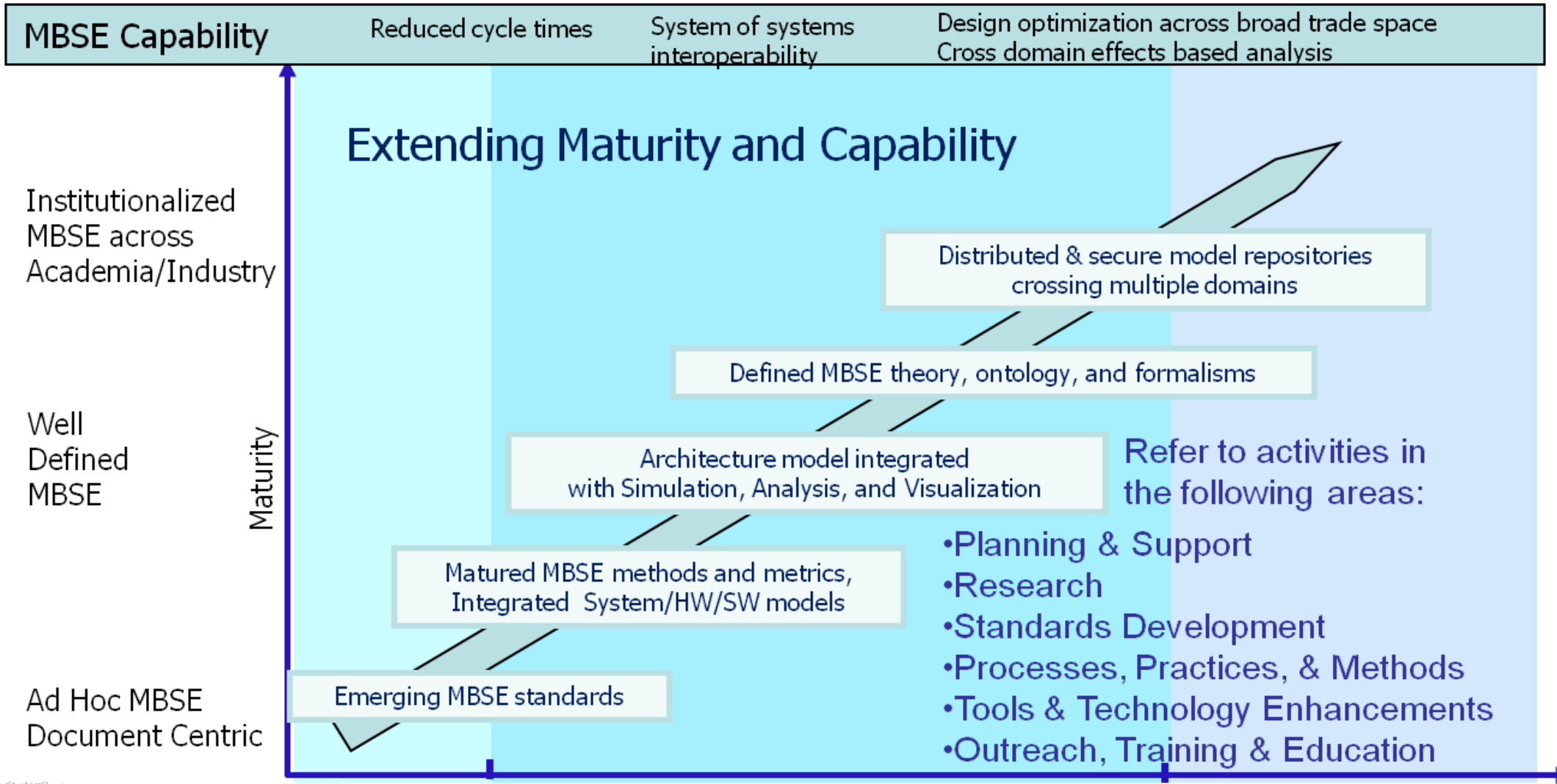


System interaction logic



Interface control document

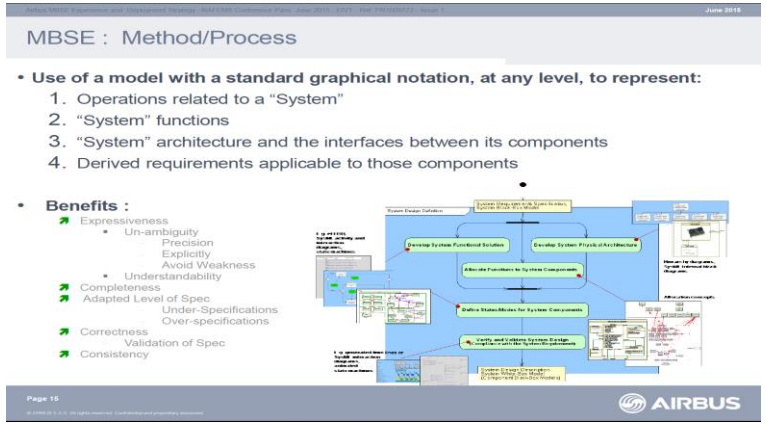
Part 1.2 INCOSE System Engineering Vision 2020

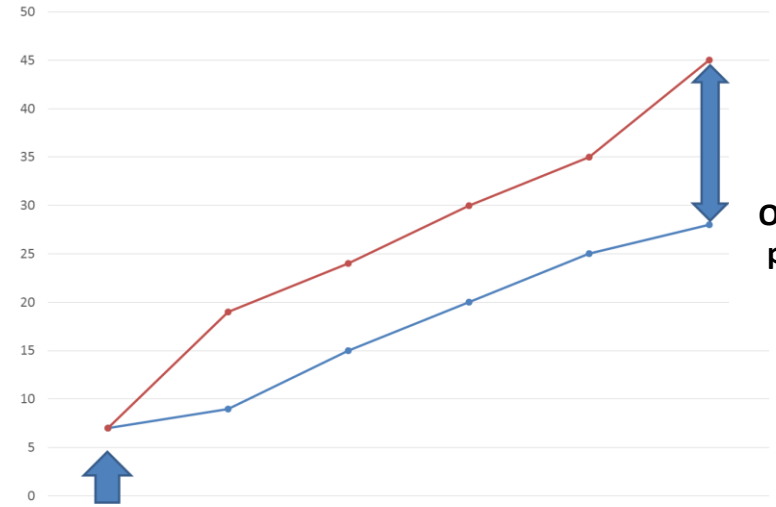


source: INCOSE Systems Engineering Vision 2020

Part 1.4 Industry Experience

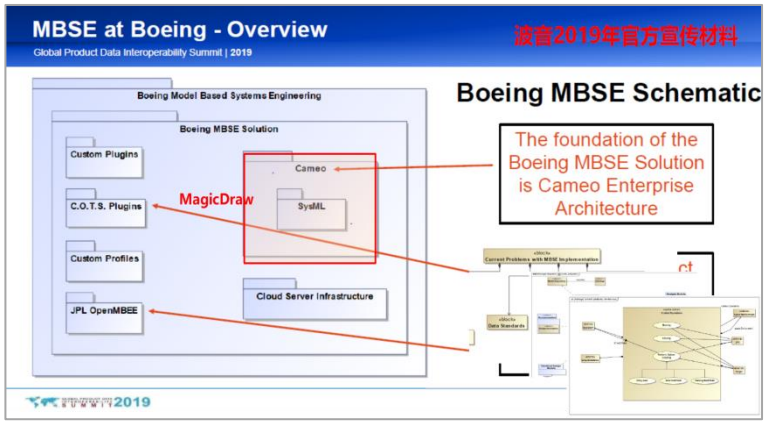
Airbus

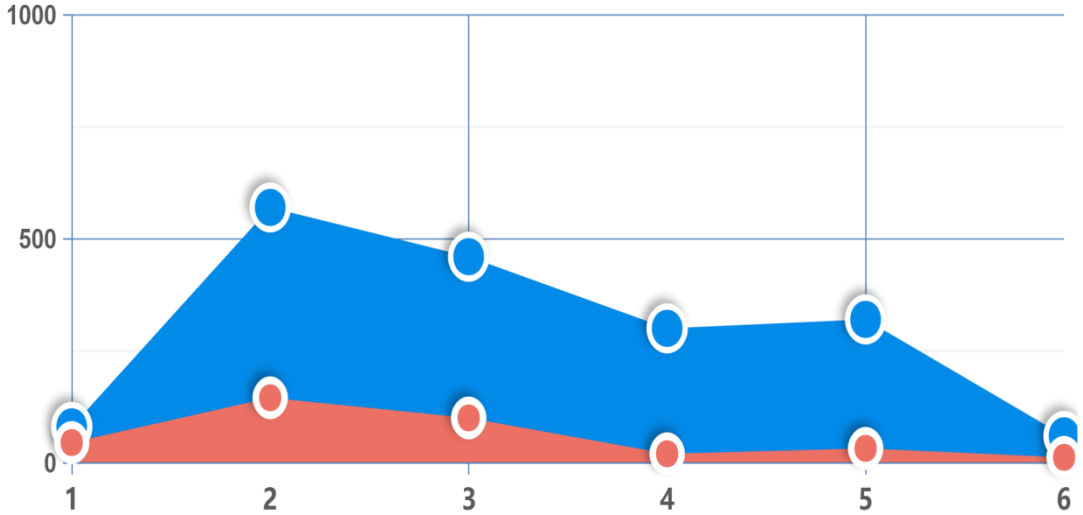




source：NAFEMS Conference 2015

Boeing





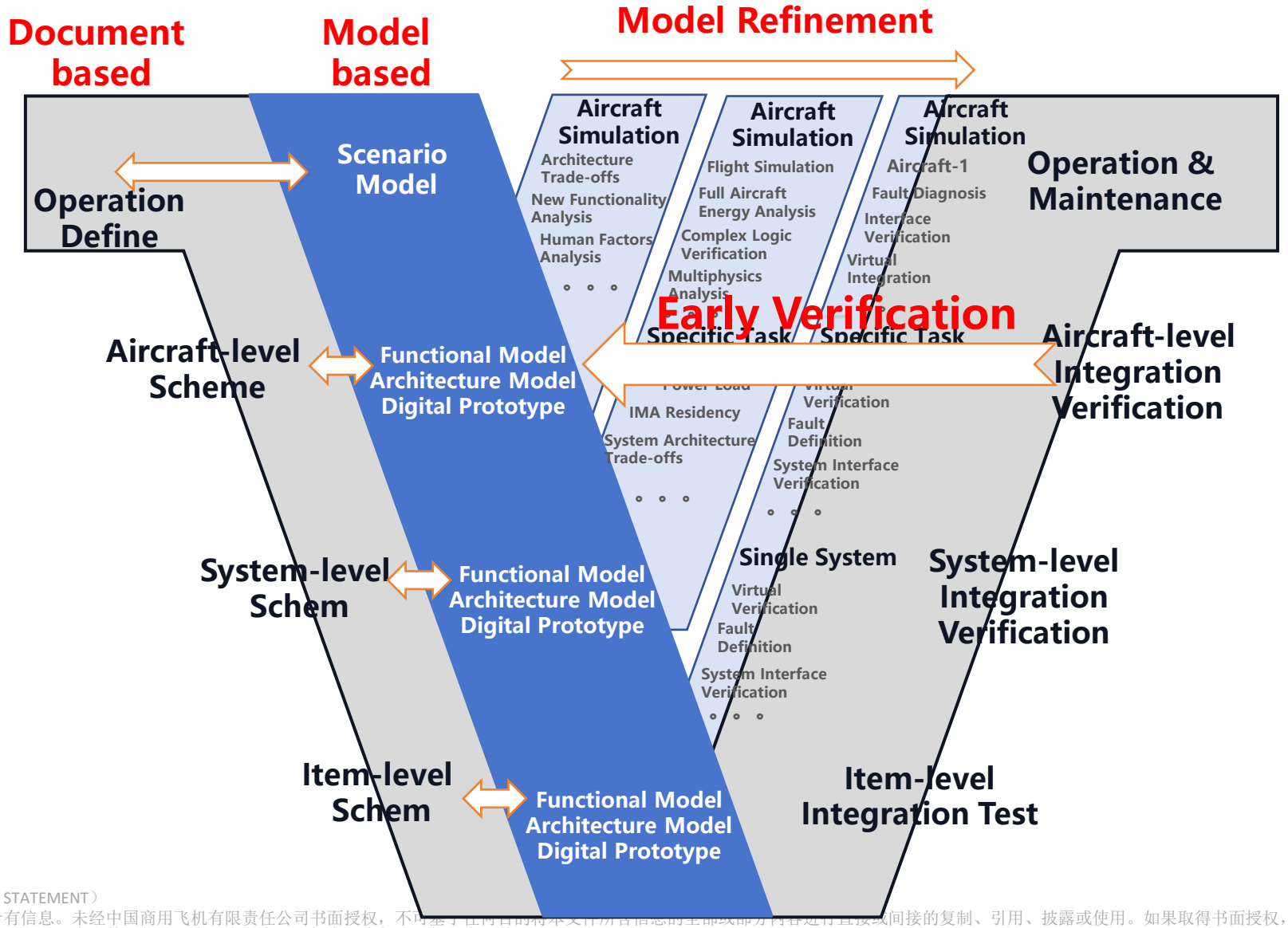
source：MCES 2019

Part 1.4 COMAC Development

- **COMAC have successfully develop the C909 and C919, there are more expectations and requirements for the next generation aircraft development**


PART 02
Planning

Part 2.1 Transition from "Document-Based" to "Model-Based"



Part 2.2 Work Strategy

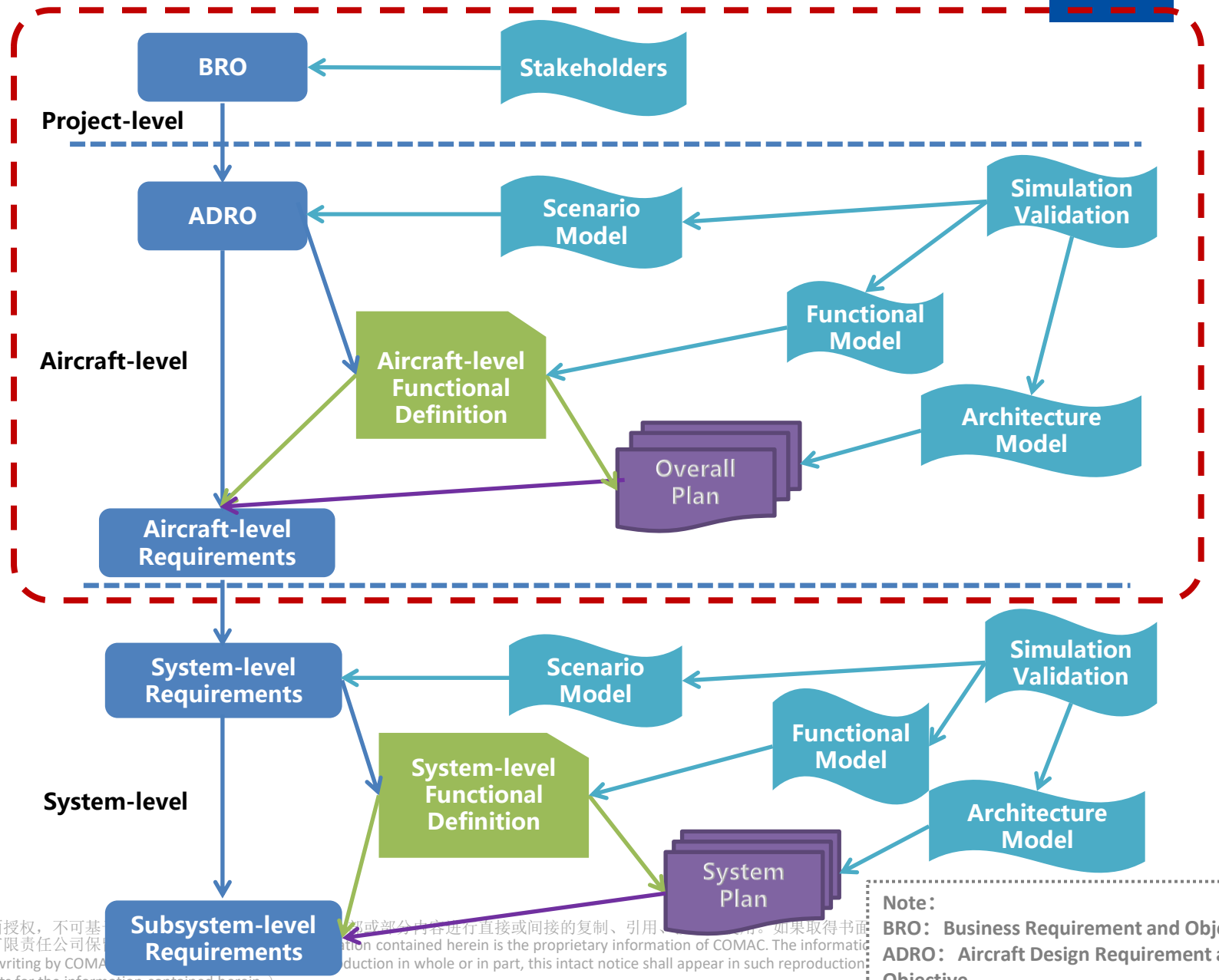
Innovative Practices

Fully Implement "MBSE"

Promote Civil Aircraft Development

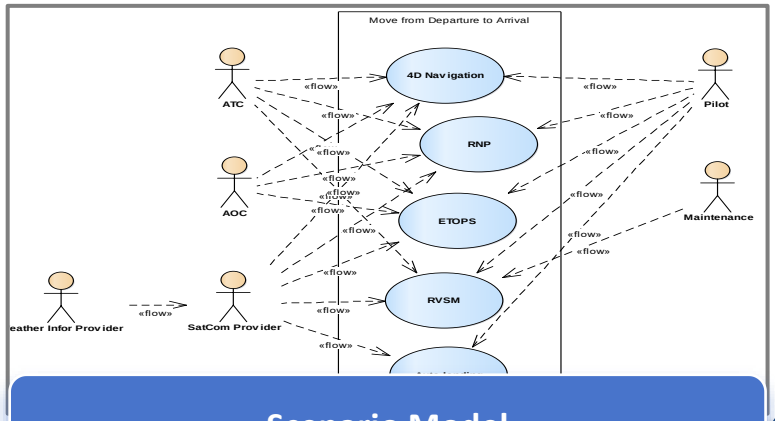
with High Quality and Efficiency

- ✓ **Capture Requirements**
- ✓ **Define Solutions**
- ✓ **Optimize Design**
- ✓ **Verifies Design**

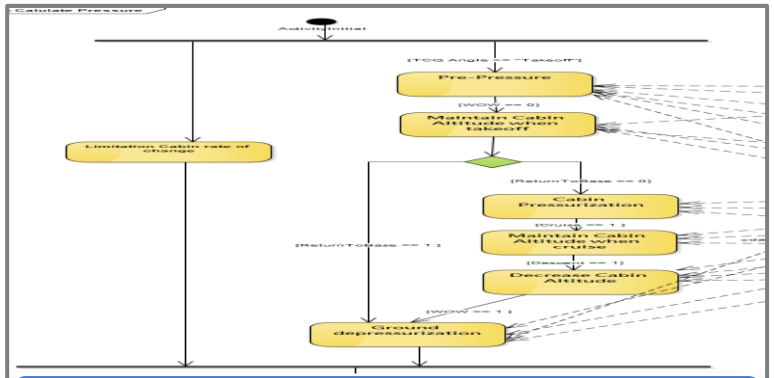


Note:
BRO: Business Requirement and Objective
ADRO: Aircraft Design Requirement and Objective

Part 2.3 Modeling and Simulation



Scenario Model



Functional Model

Activity Reuse

Define Scenario

Capture Requirements

Scenario Validation

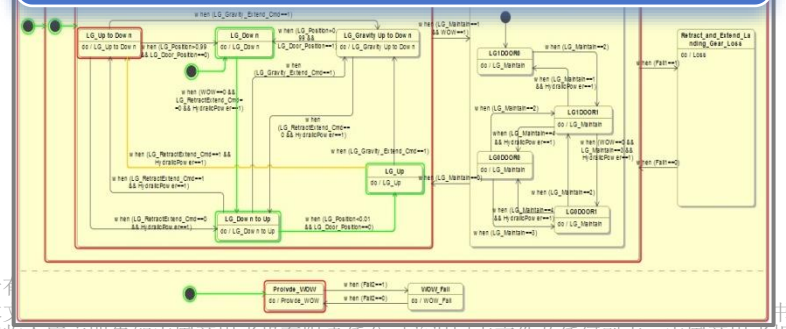
Function Reuse

Verify Design

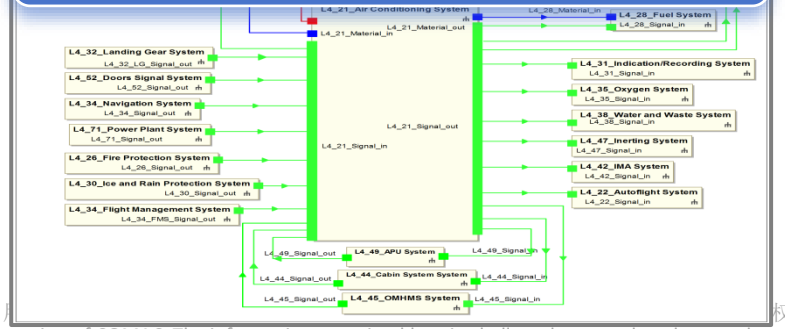
Interface Matching

Architecture Reuse

Mechanism Model

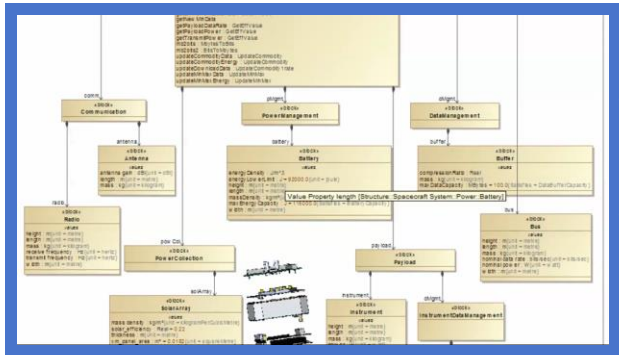


Architecture Model

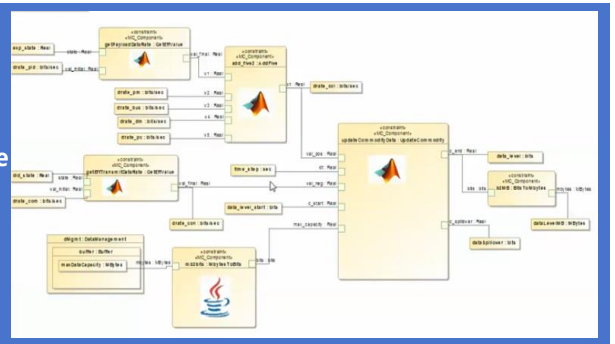


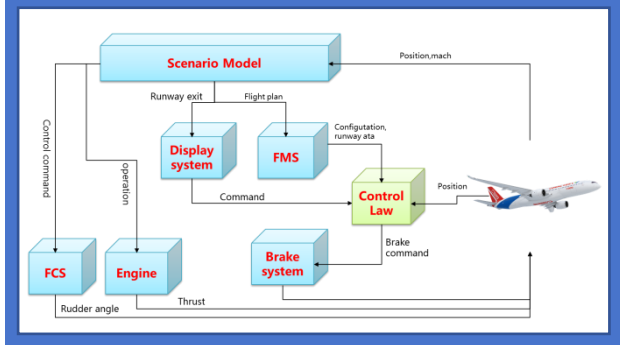
Part 2.3 Modeling and Simulation

Modeling

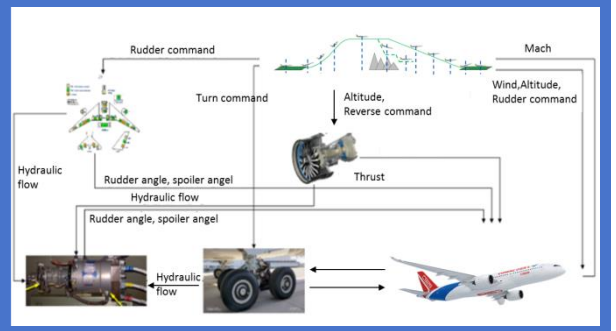


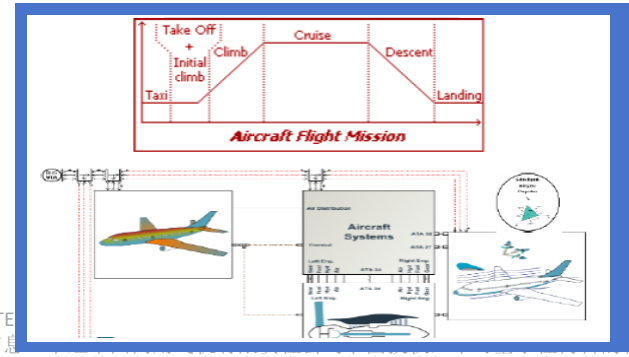
- Modeling to Generate Simulation Architecture
- Simulation Enriches Architecture Content



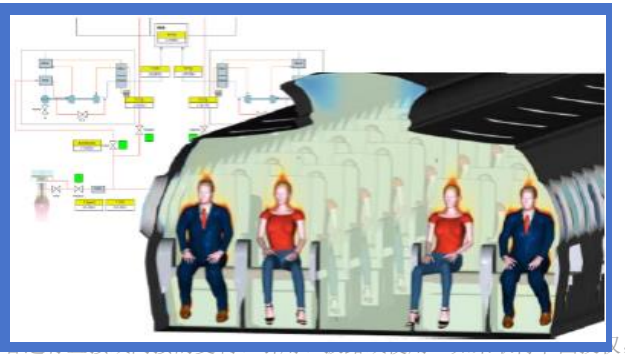


- Modeling Provides Simulation Interfaces
- Simulation Verifies Design Solutions





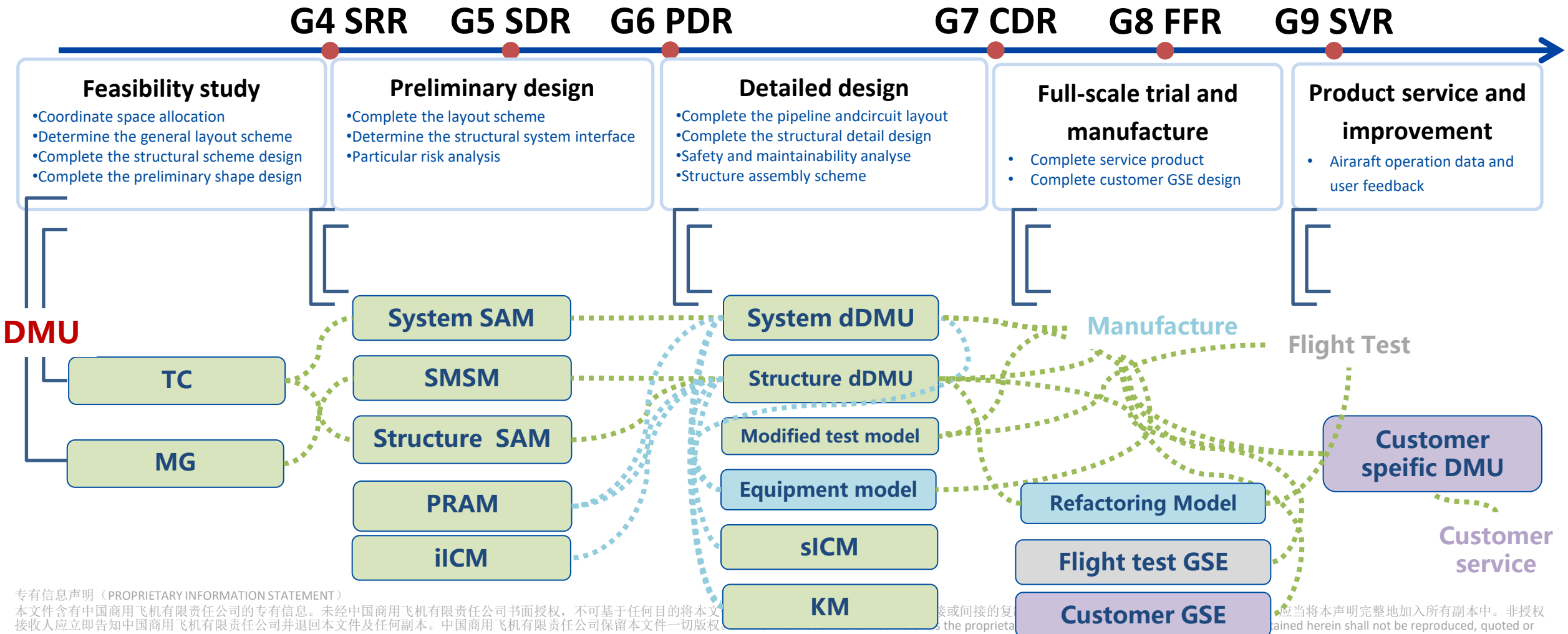
- Modeling Provides Simulation Scenarios
- Simulation Optimizes Control Logic



Simulation

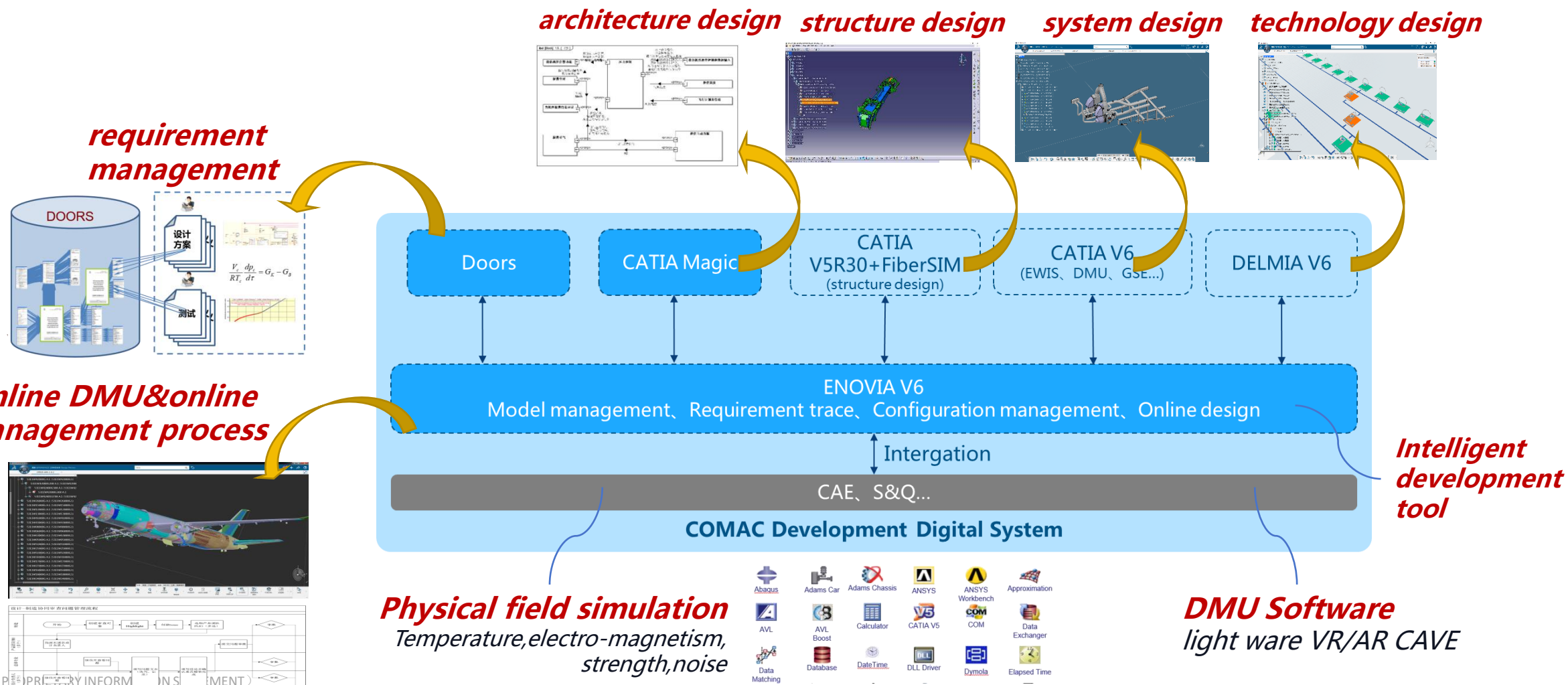
Part 2.4 Digital Mock-up

■ Digital mock-up：Cover the whole product life cycle and achieve data correlation



Part 2.5 From offline design to online design

- **Improve quality and efficiency by online product and design data**



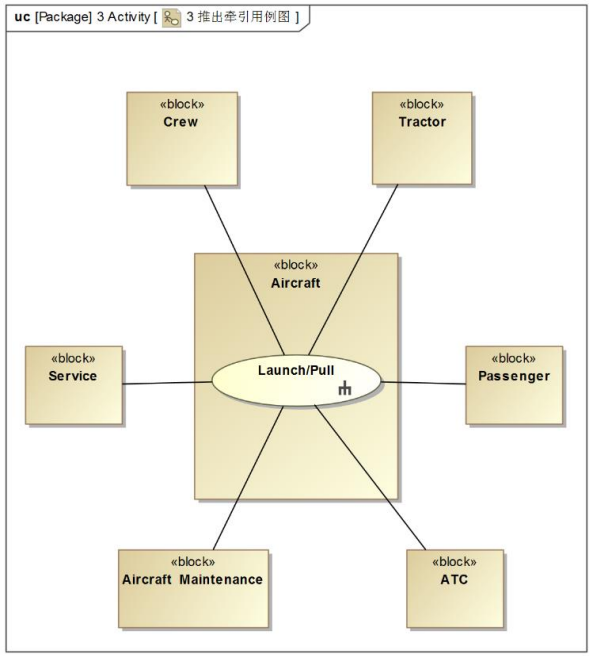
Practices

Part 3.1 Modeling and simulation - Scenario model

- **Model based scenario anlysis:** Analyze scenario logic and time sequence to get AC reaction/task, and to capture requirements

1400+ Aircraft and system level scenario

30+ Scenario Model



- The aircraft shall provide external lighting to ensure aircraft safe when take-off, landing and navigation.
- The aircraft shall provide ways to communication internal and external.
- The aircraft shall.....
- The aircraft shall.....

① Stakeholders (uc)

② Scenario interact activity analysis (act)

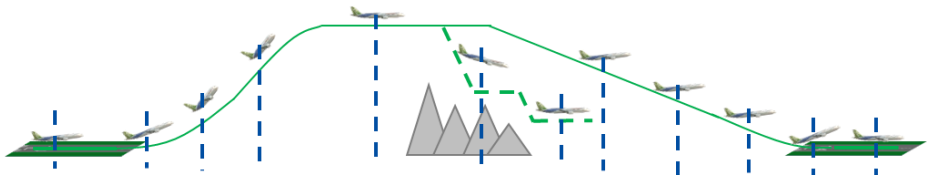
③ Capture Requirements

Part 3.1 Modeling - Function model

- **Mode based function analysis:** Analyze function operational logic, identify interaction, capture functional requirement and interface

Identify function operational scenario → **analyze function operational process** → **Identify and analyze interaction** → **capture functional requirement** → **summary functional requirement**

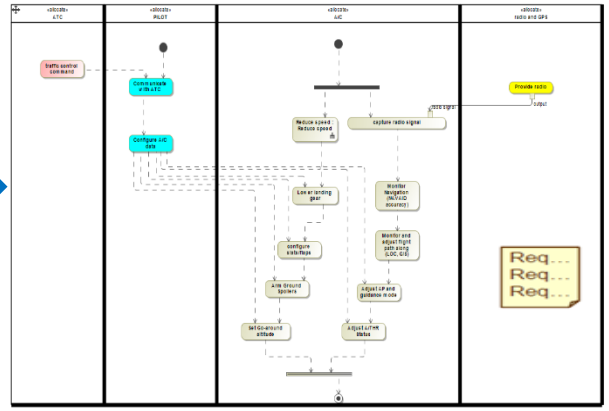
AC function



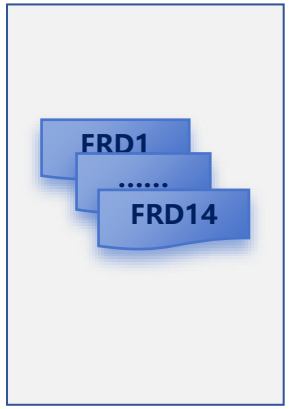
Flight phase and operational scenario

- Normal
- One engine failure
- Engine failure
- Emergency descent
- RTO
- ditch
- Heavy crosswind
- Maintainance
- depressure
- ……

Scenario



Operation



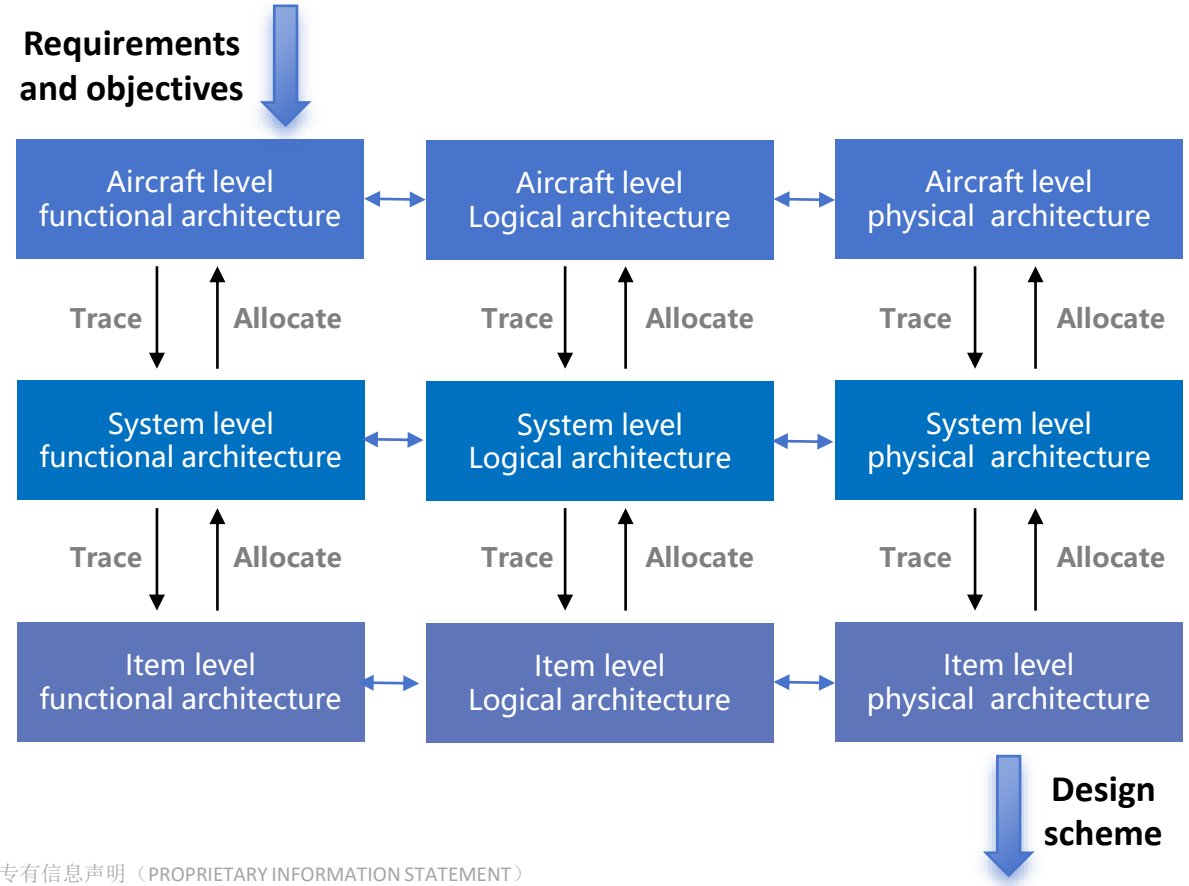
Functional requirement

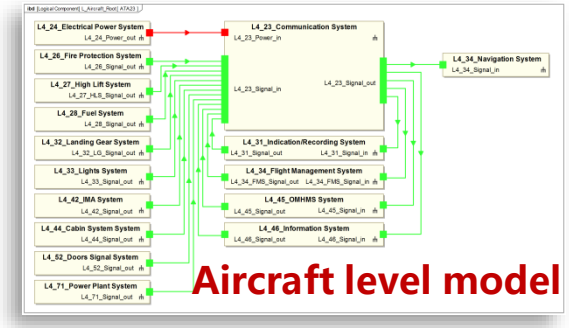
7000+ Functional requirement

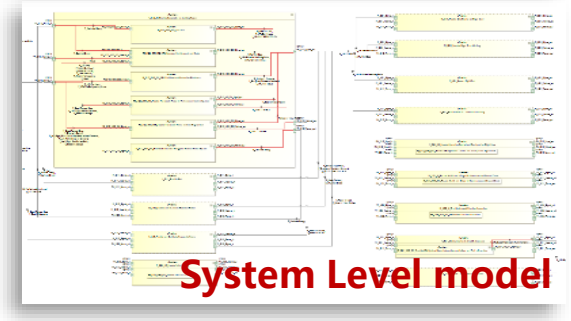
3000+ Interface requirement

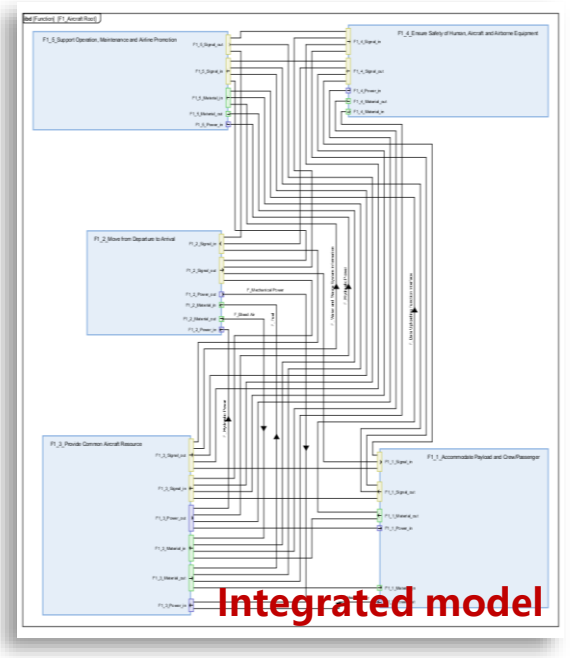
Part 3.1 Modeling - Architecture Model

- **Model based architecture design:** Define interfaces, establish the traceability between functions and solutions, and provide a unified architecture for simulation









19000+ Interfaces

420000+ Model elements

Part 3.1 Modeling - Mechanism Model

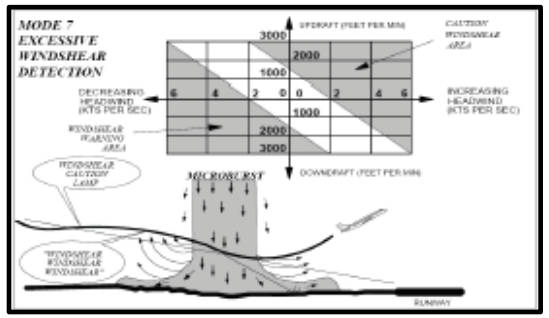
- **Model based mechanism analysis:** Analyze the working mode of functions/systems, identify unexpected errors in logic, verify the compatibility of interfaces between functions/systems, and improve the correctness of requirements and interfaces

Mechanism Logic

1800+

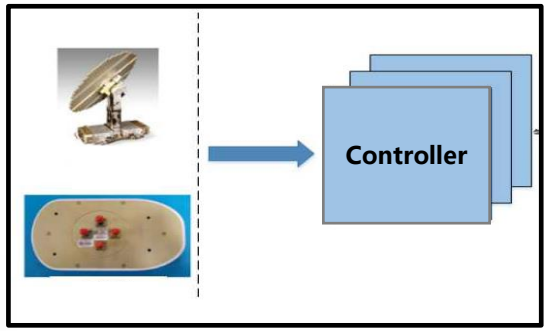
Mechanism model

140+

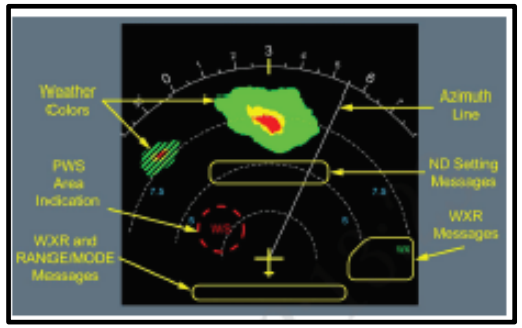


System schematic

Operation input



System composition



Display response

Environment
Aircraft/System Operation Scenarios

Operation mode
Various modes of functionality/system

Contact
Function/System Interaction Logic

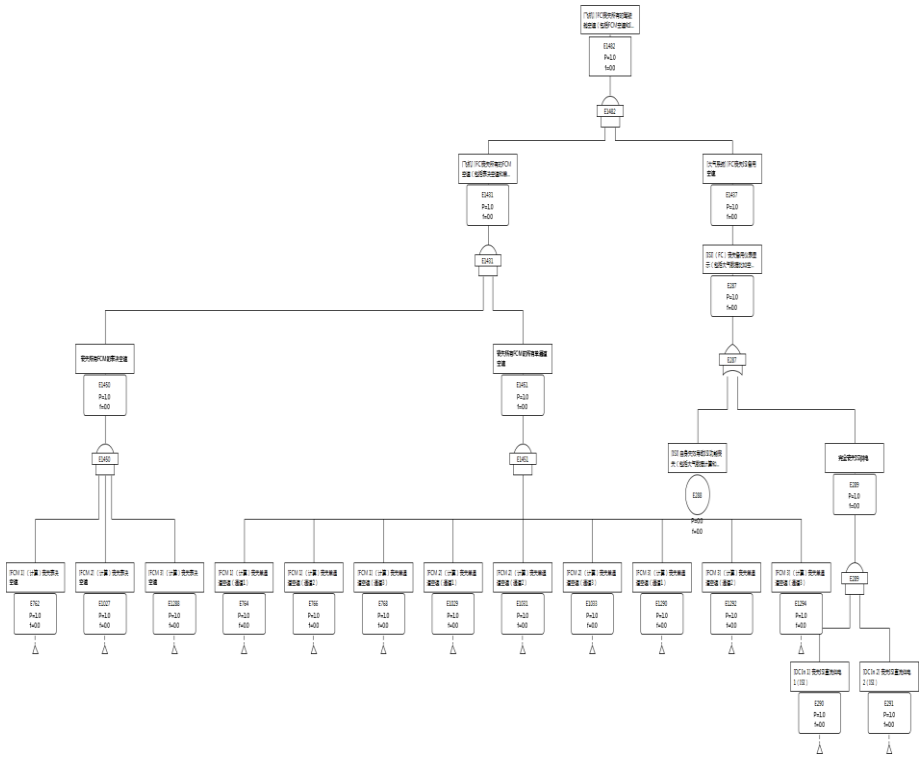
what environment

What to do

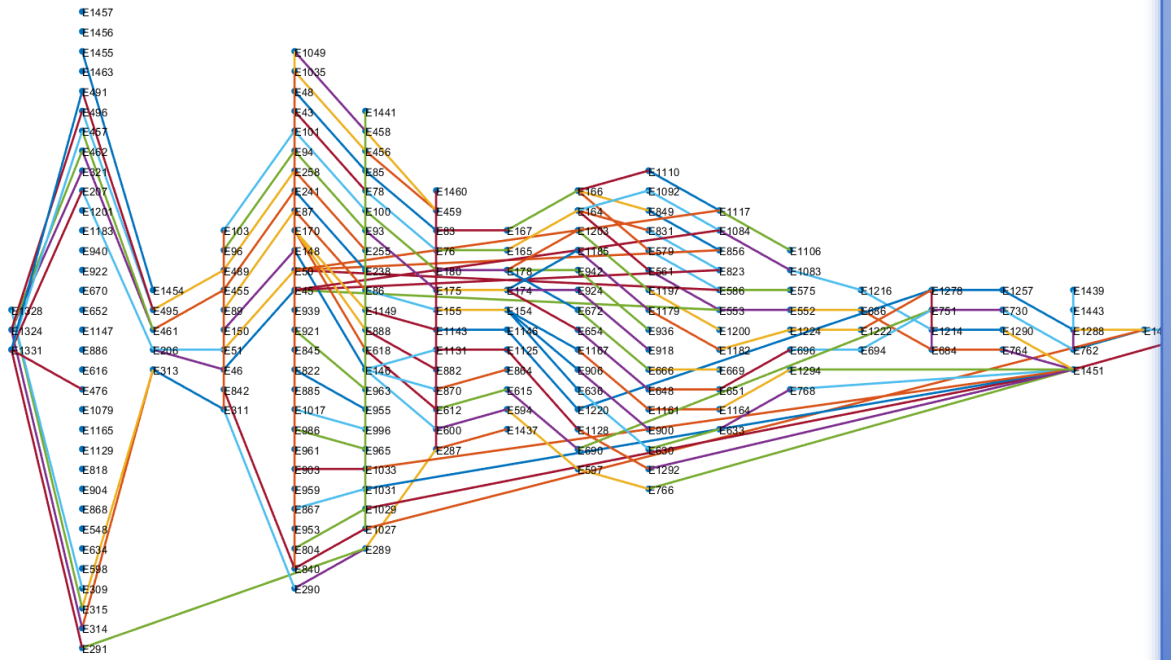
What the effect

Part 3.1 Modeling - Safety Model

- **Model based security analysis:** Based architecture and interfaces, analyze failure propagation logic, establishing fault trees, and supporting safety analysis



Fault Tree Integration



Failure propagation impact analysis

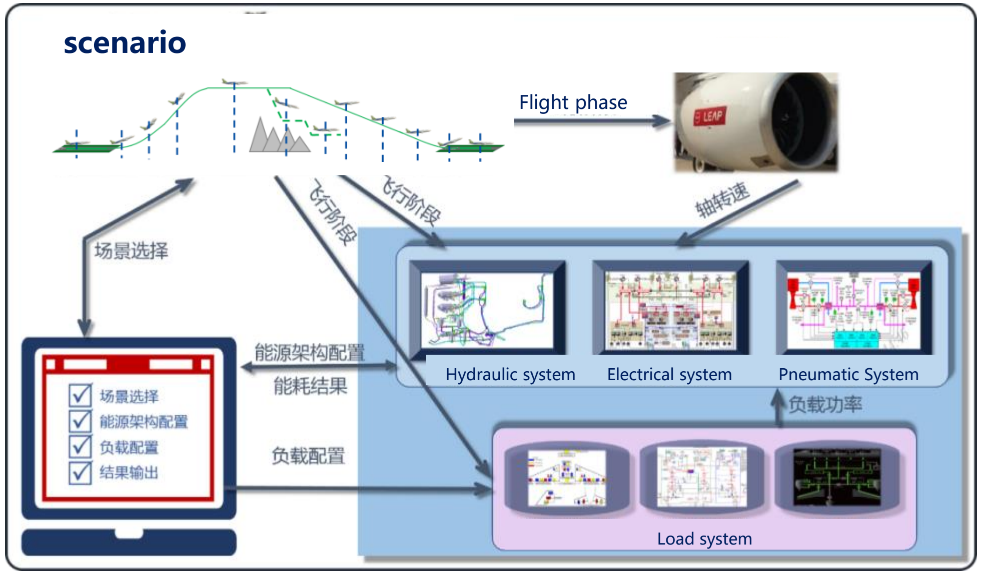
- Failure Path Analysis
- Public Resource CEA
- PRA Final Impact Analysis
- Final Impact Analysis of ZSA
- Final Impact Analysis of CMA
- Root fault identification
- Alert logic analysis

……

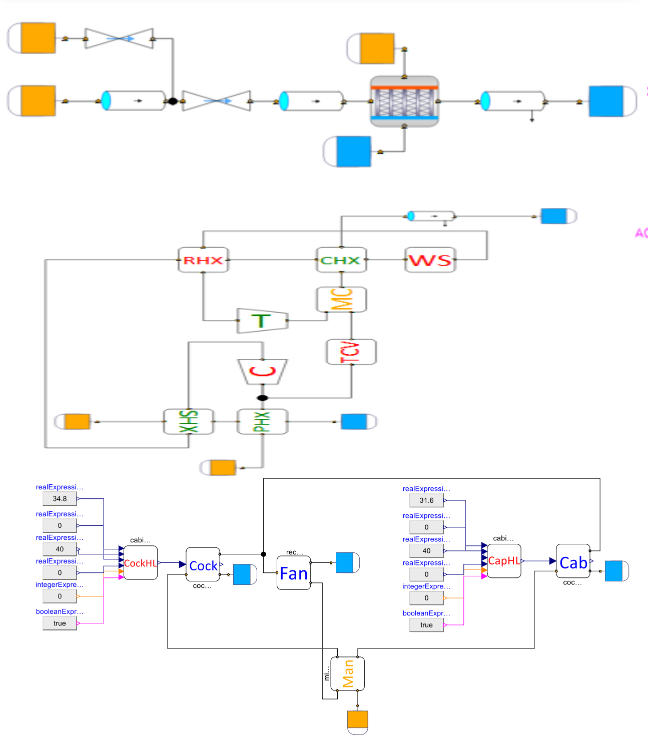
Practices

Part 3.2 Simulation

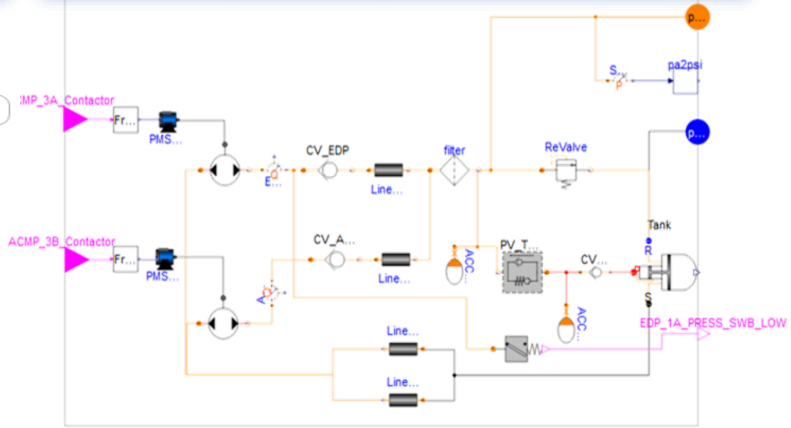
- **Aircraft power systems integrated simulation:** Built simulation models of primary energy system, secondary energy systems, and power consumption loads and completed the models integration. Complete the aircraft energy requirements and interfaces validation using the integrated simulation



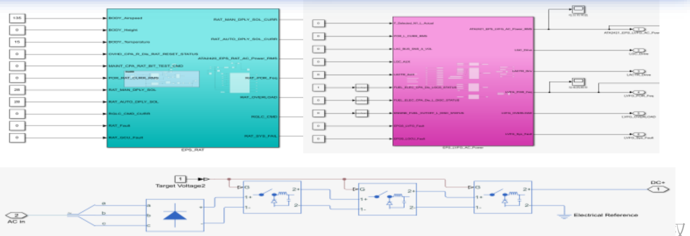
ECS System Model



Hydraulic System Model



Electrical System Model

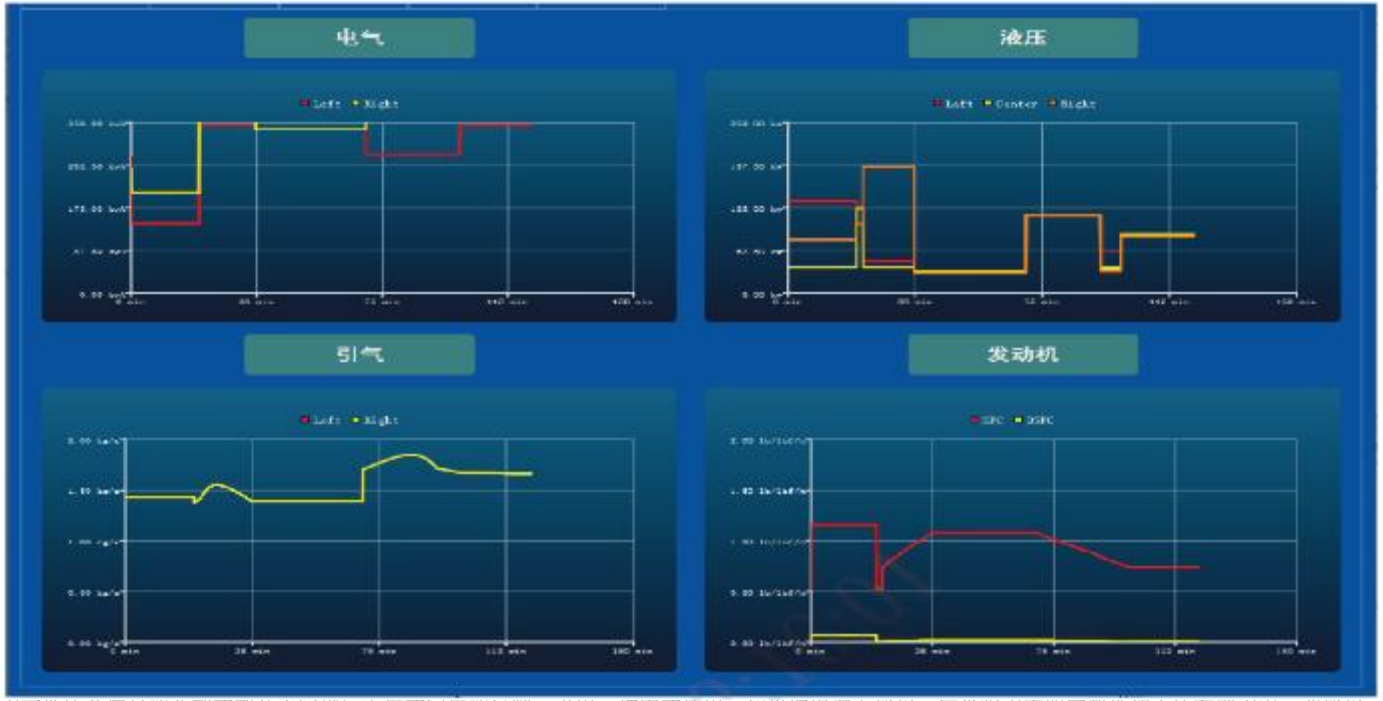


Aircraft power systems integrated simulation models

Part 3.2 Simulation

- **Combined scenario**: Operation stage ,External environment , Typical configuration
- Electrical，hydraulic and pneumatic requirements simulation calculation and optimization
- Refinement of user functions and load operation logic, the hydraulic load of the aircraft is effectively reduced, which the single-engine aborted takeoff stage is **reduced by 32.3%.**

Simulation results of full-profile electrical, hydraulic and pneumatic



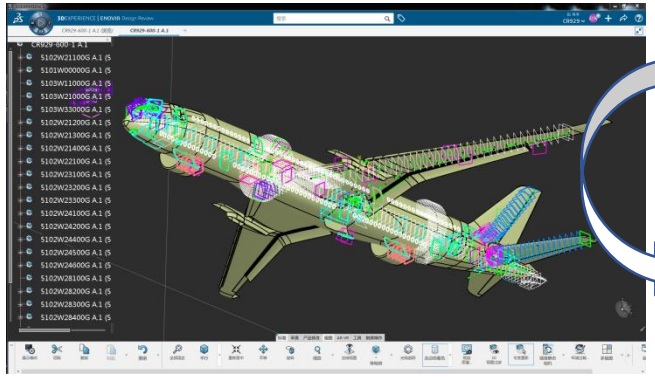
Achieve:

- ✓ Electrical、hydraulic and pneumatic requirements calculation for different scenarios
- ✓ Analysis of full-profile fuel consumption rate
- ✓ Sensitivity analysis of load on fuel consumption rate
- ✓ Matching analysis of engine with electrical, hydraulic and pneumatic systems.

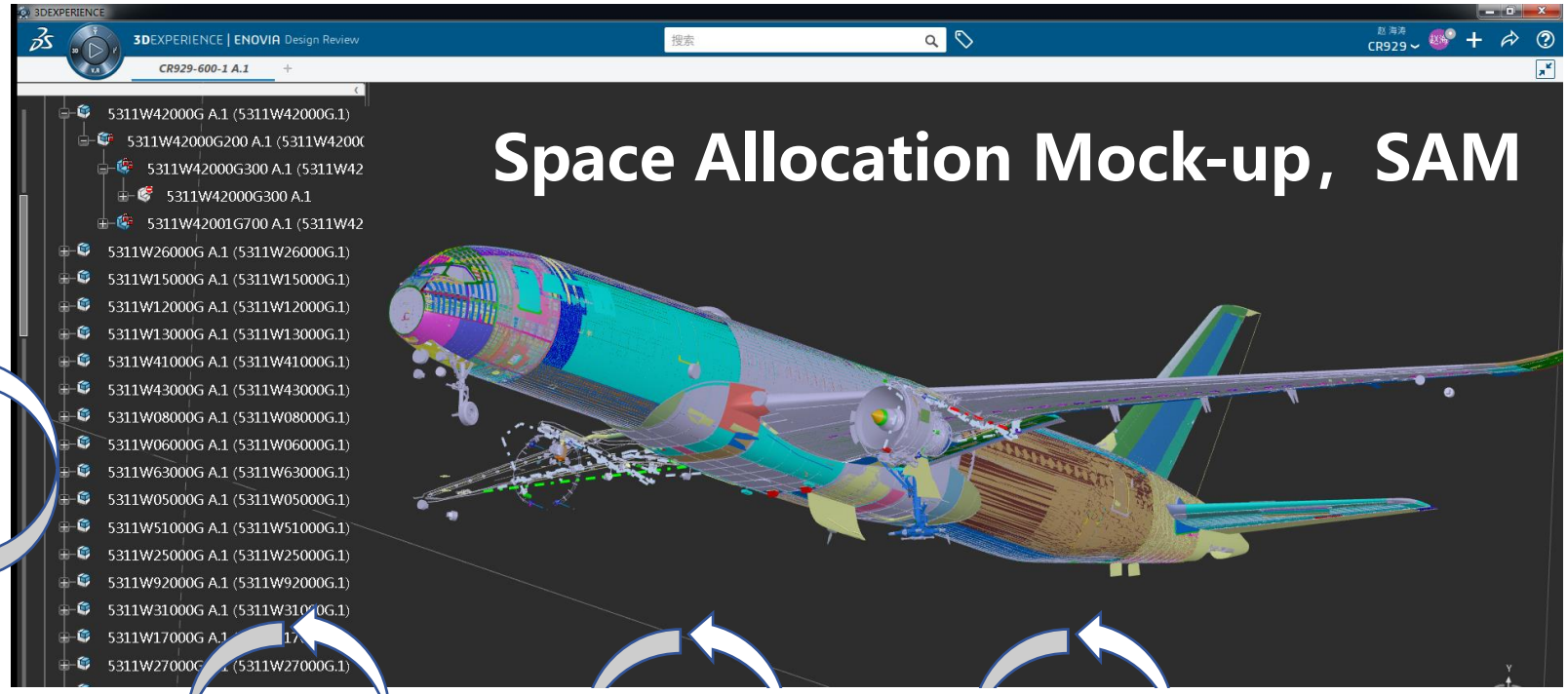
Part 3.3 Digital Mock-up

First realization:

Fully 3D、Real-time Online、Single Data Source

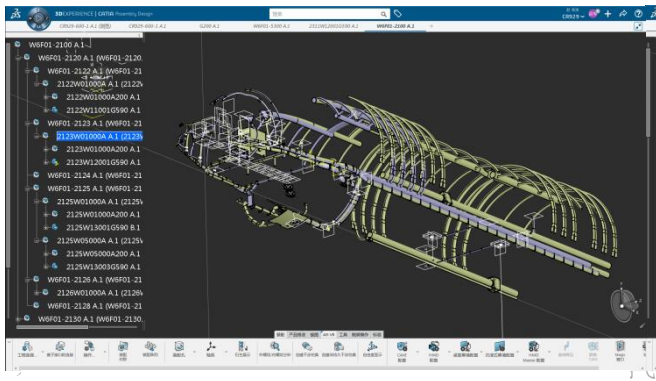


Theoretical Contours，TC&Main Skeleton Model

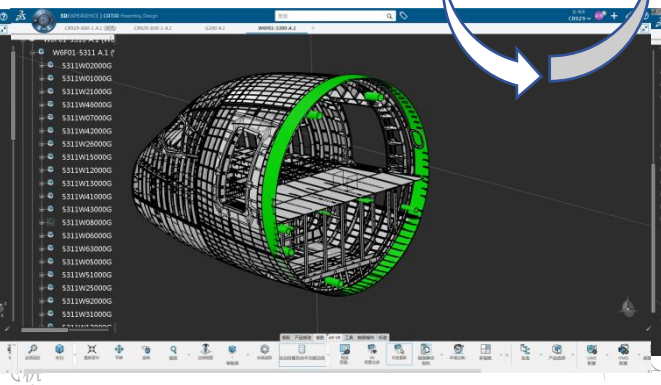


Space Allocation Mock-up，SAM

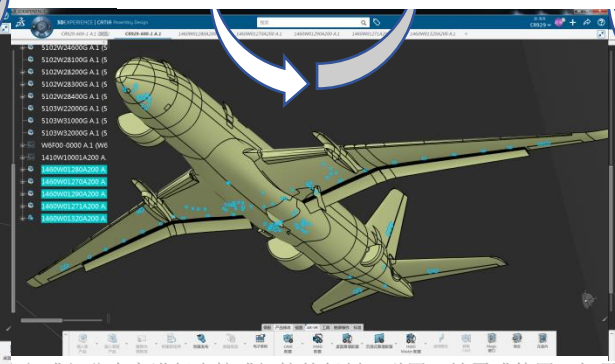
Multi-objective iterative design



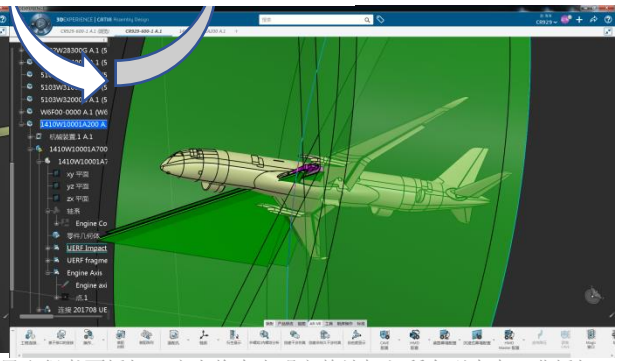
Installation Interface Control Model，iICM



Section Interface Control Model，sICM



Particular Risk Analysis Models--apocenosis



Particular Risk Analysis Models--rotor blasting

Summary

Summary

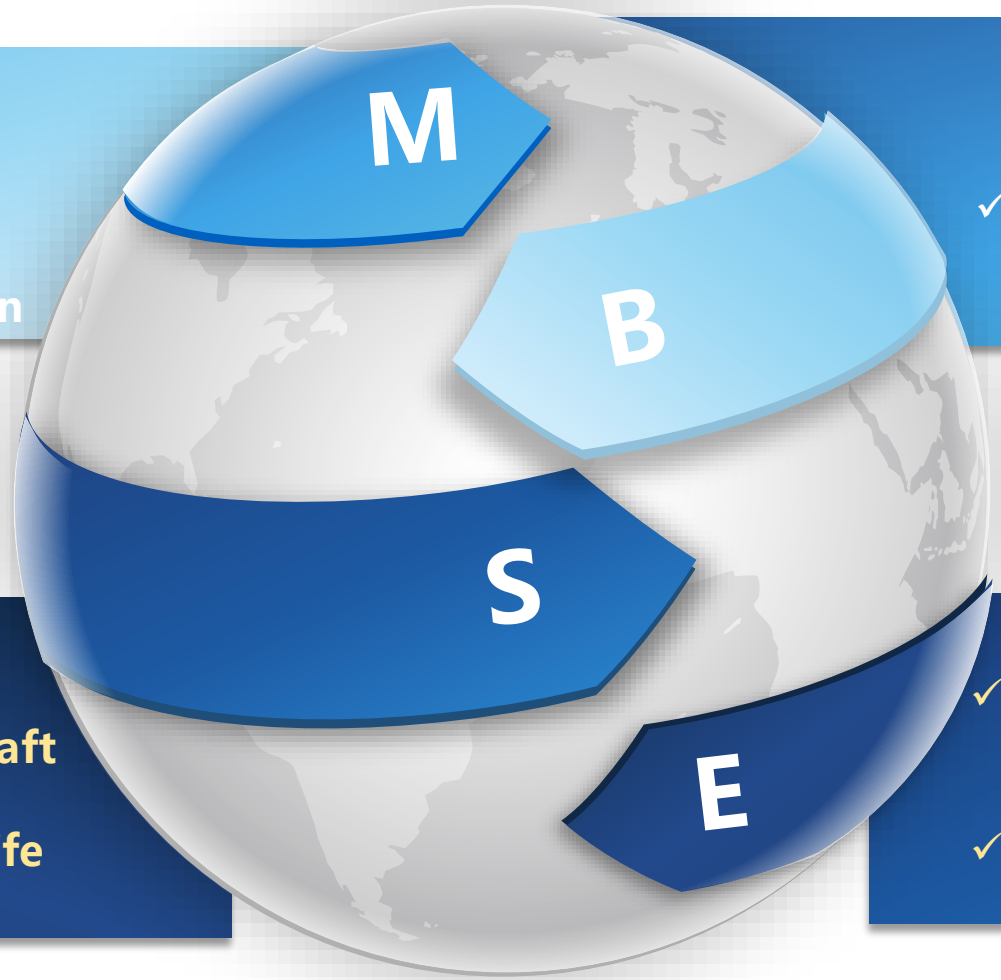
Part 4.1 Implementation effectiveness

Systematic

- ✓ Forward design process
- ✓ Scenario, Function, Architecture, Mechanism, Safety and Simulation

Automation

- ✓ Deep customizatize tools based on design processes and development requirements



Multi-level

- ✓ Complete design chain from aircraft level to item level
- ✓ Transmission and traceability of life cycle data

Online Design

- ✓ Build collaborative design process, methodology, and tool platform
- ✓ Supports online design across multiple disciplines

Part 4.2 Challenge

Mode Transition

How to make designers change their habitual design patterns, accept model-based design processes, and learn new tools，and at the project level, accepting the associated costs

Single-authoritative source of truth

The implementation of MBSE requires ensuring a single data source for all models and data, ensuring the traceability of design data, but the barriers between development toolchain lead to some uncertainties

Model Validation

How to evaluate the validation and effectiveness of model data as a product of design, and obtain recognition from the authorities, which puts more requirements on the model


COMAC
中国商飞
Thank you !
yaoxuyin@comac.cc
THANK YOU

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Head of Department - Design Organisations & ETSO, EASA

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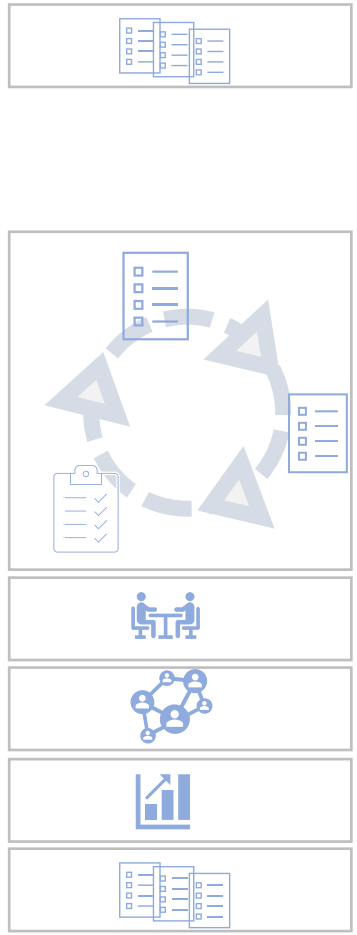
Digitalising Certification Processes

Recent developments with SEPIAC and prospects

Shared Platform for Initial Airworthiness Certification (SEPIAC)

History and status

- Started from a customized SharePoint application to exchange documents
- Evolved over time and became an essential EASA asset catering for:
  - Certification Review Item (CRI) cycle
  - Internal consultation process for ESF, Deviations, Cert Memo, Special Condition
  - A repository for all internal Procedures, Work Instructions and Documents
  - A platform for PCM and Experts to Provide Performance feedback
  - Support to task outsourcing
  - Basic projects management functionalities
  - A repository of Training Material, Guidance, Templates

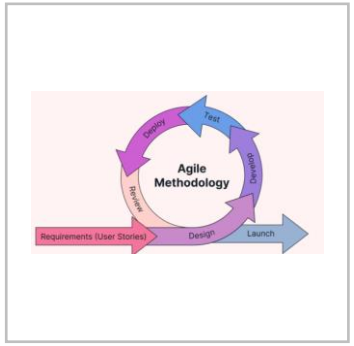


Shared Platform for Initial Airworthiness Certification (SEPIAC)

Development approach

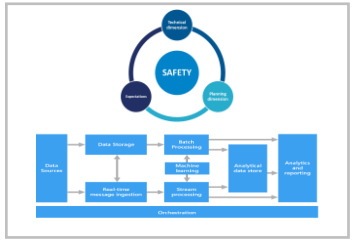
Principles of the Agile framework are used:

- The development in small iterative upgrades, introduced periodically
- Upgrades are not stand alone , but each one when combined provide higher functionalities
- Can be adjusted based on user experience.



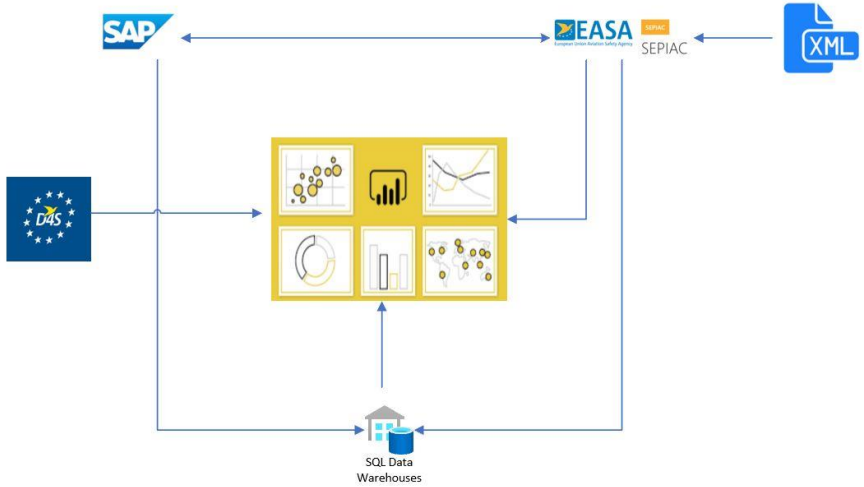
Information architecture

- Focus is not only on functionalities, also on metadata management and on processes simplification

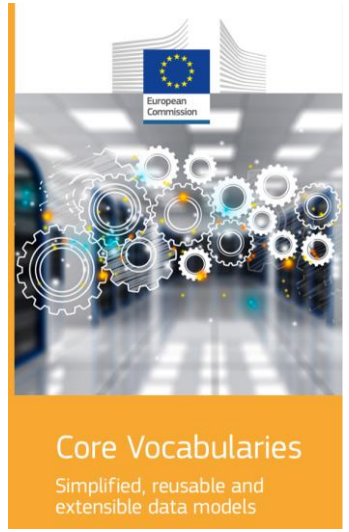


Shared Platform for Initial Airworthiness Certification (SEPIAC)

Main principles



- A tool that could satisfy all needs is difficult and expensive target, so far more an aspiration. However, the following principles are applied:
  - Information displayed at a given time that is important for the end user
  - SEPIAC is only one of the nodes that collect data/information that can be used and consumed by other tools (e.g. Power BI)
  - Off the shelf tools provides a quicker path in development
  - Defined and agreed Core Vocabulary facilitates data transfer



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November 27

Digitalising Certification Processes

OUTLOOK for SEPIAC (short term and long term)

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Shared Platform for Initial Airworthiness Certification (SEPIAC)

Outlook (mid-long term)

- ❑ From a document management system “plus” to a Project Management system
- ❑ From a repository of workload to a workforce management system
- ❑ From a stand alone application to an interoperable platform
- ❑ From document management system to data management system

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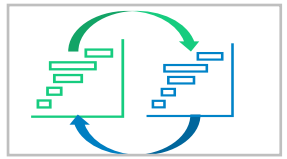
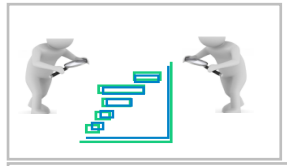
Outlook – Project Management

- ❑ Harmonised planning (EASA and Applicant)
- ❑ Collaborative monitoring of the schedule (EASA and Applicant)
- ❑ Monitor of resources (EASA and Applicant separate)
- ❑ Predictability of outcome (EASA and Applicant)





Additionally also catering for:

- ❑ Basic Service management approach (KPI)

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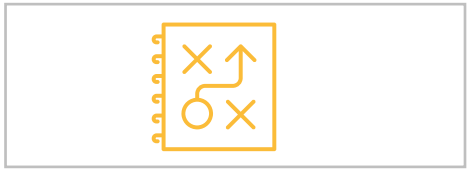
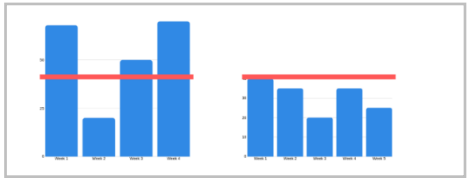
Outlook – Workforce Management

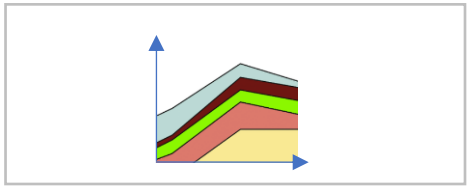
- The right expert at the right place at the right moment



- Resource levelling and control of saturation



- Tailored staffing plans

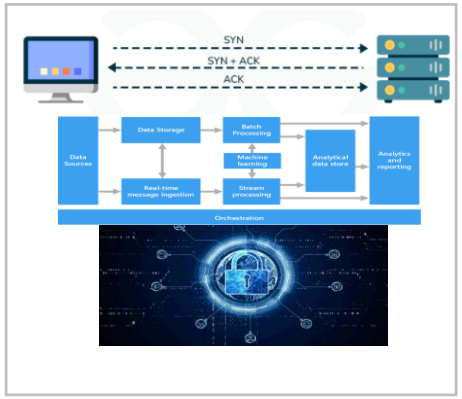


Shared Platform for Initial Airworthiness Certification (SEPIAC)

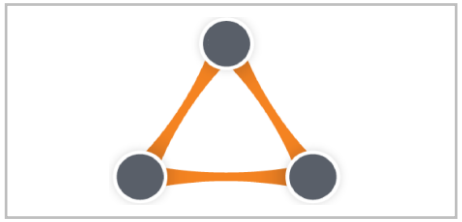
Outlook – Interoperability

- Subject to Digitalisation Strategy (EASA and Applicant)

- Subject to Feasibility
  - Budget
  - Protocols
  - Data architecture
  - Security



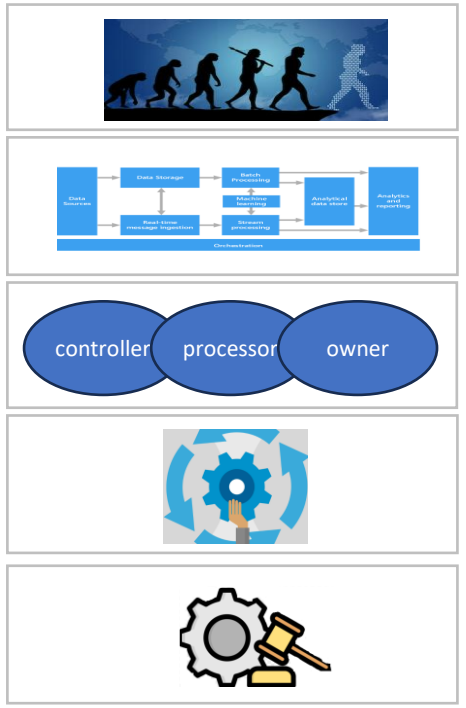
- Constraints: Proportionality, Transparency, Level Playing Field



Shared Platform for Initial Airworthiness Certification (SEPIAC)

Outlook – Data Management

- ❑ Subject Digitalisation Strategy (EASA and Applicant)
- ❑ Document architectures Vs data architecture
- ❑ Data Processor Vs Data Controller Vs Data Owner
- ❑ Impact on Certification Process
- ❑ Impact on Regulatory Framework



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EASA Certification Conference 2024

Cologne, Germany
November 27

Thank you!

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Olivier Jeunehomme

ETJI – Initial Airworthiness, Core Metier Senior Expert, SAB AG.002

EASA
European Union Aviation Safety Agency

Digitalising Certification Processes

Building tomorrow’s certification digital environment

Olivier Jeunehomme – AH / SAB AG.002

Agenda

- Challenges & Opportunities
- SAB AG.002
- Key Drivers
- Feasibility studies
- Architecture
- Demos
- Way forward

Building tomorrow's certification digital environment

Challenge

- **Global Warming Urgency**
  - Need to introduce innovative technologies by 2035 to meet Net Zero Emission by 2050

- **Increased Certification Workload**
  - Complexity of recent technologies
  - New regulatory requirements to manage this complexity and integration challenges

Define,
Experiment and
Demonstrate feasibility

of **New Certification methods and tools**

Opportunity

- **Digital Transformation on-going**
  - Aeronautical companies have started major programs to gain benefits from new IT tools

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- **SAB AG.002 on Digital Certification**
  - Support synergies in the community to prepare for the future

concerto

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SAB AG.002 Digitalisation

- **Scope**
  - Permanent group as requested by EASA to provide inputs to the EASA programs (CORAL, Aviation Digitalisation) and connect with stakeholders digitalization projects (e.g. Clean Aviation / Concerto) and with the other authorities (e.g. FAA)
- **Clusters:**
  - Advisory Bodies, **Regulation & Certification**, Cont. AW, Personnel Licensing, Protected Information
- **Membership:**
  - 60 participants from 35 companies representing all sectors
  - Main workforce provided through concerto, the Clean Aviation workpackage dealing with digitalisation of new technology certification

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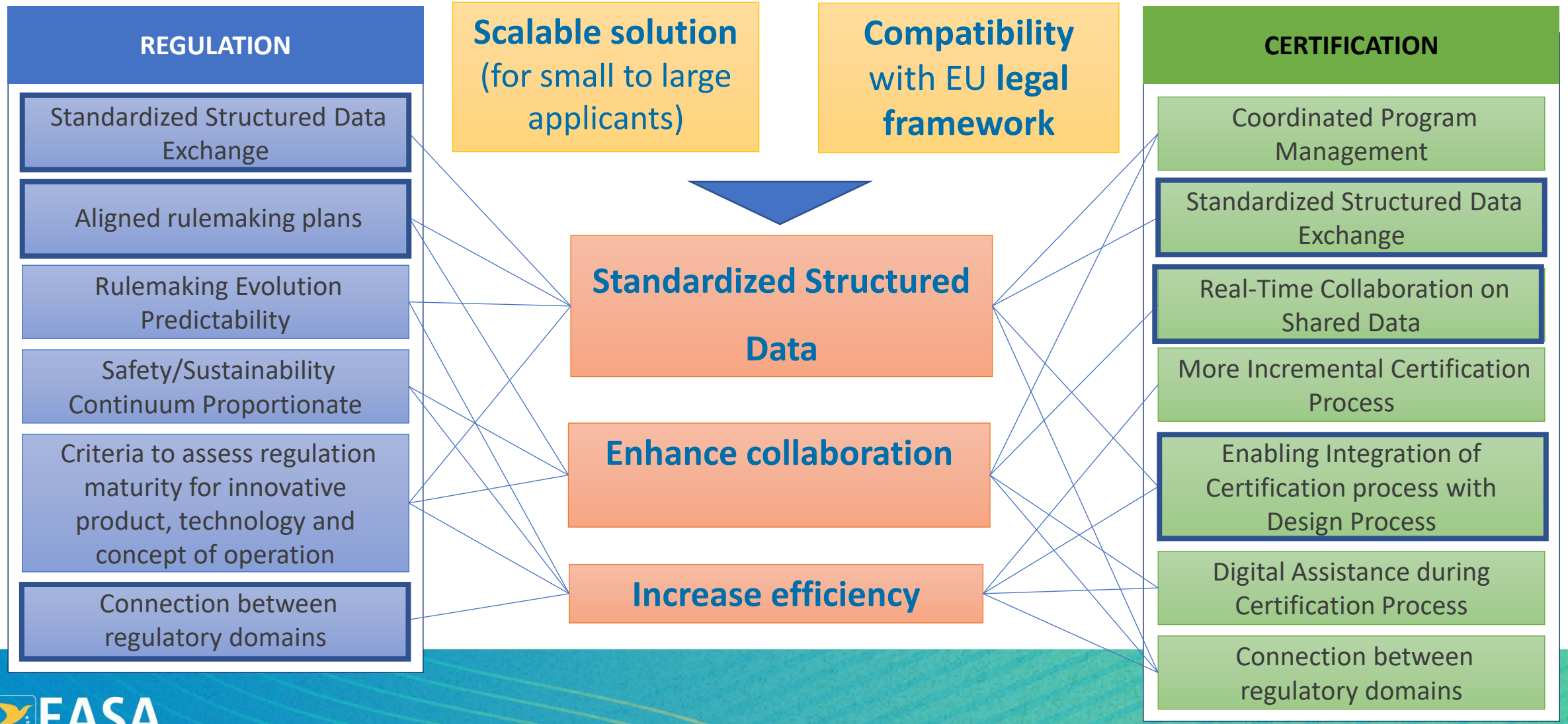
Key Transformation Objectives



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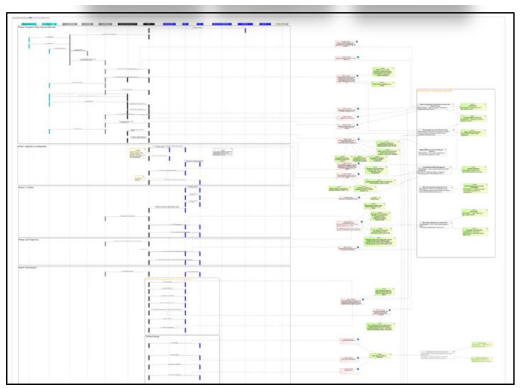
Feasibility studies

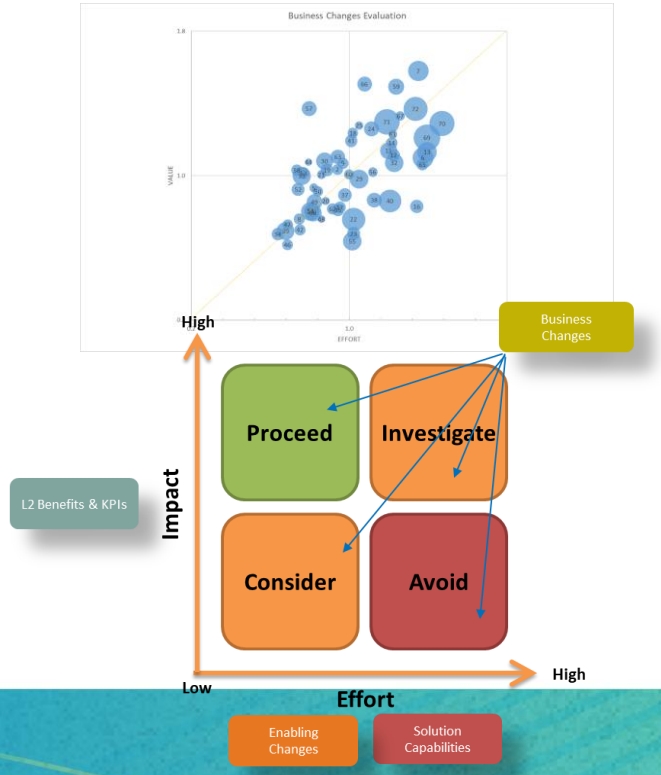
Certification & Rulemaking Processes Review

- Identification of local changes connected to key transformation objectives



Classification of 70 Proposed Changes

- Impact vs Effort



- **Risk Assessment**
  - Key challenges
- **Demonstration activities**
  - To de-risk some changes and show value

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Architecture review

Evaluation process

Objects of interest

Architecture Key drivers (High level req.)

Selected Architectures

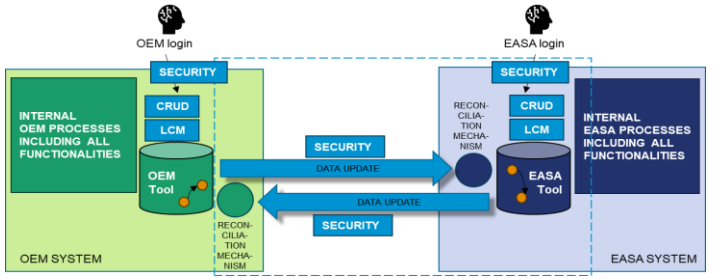
Functionalities (security, SSO…)

Domain expert evaluation

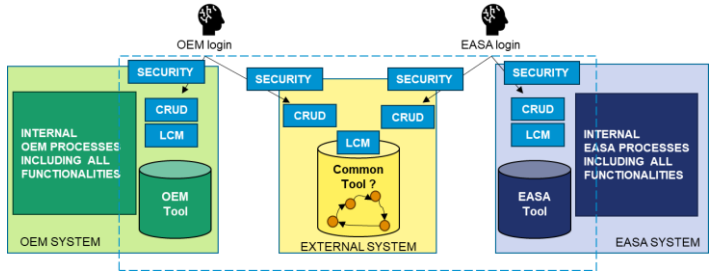
IT specialist evaluation

Recommandations for decision makers with pro and cons of a short list of architecture

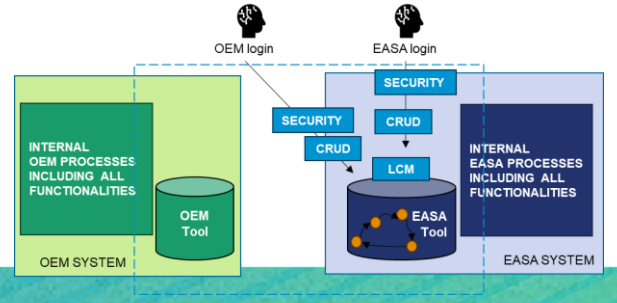
Examples of Architecture candidates



Asynchro. or synchro/linked repositories



Data sharing in neutral space



Data centralized at EASA

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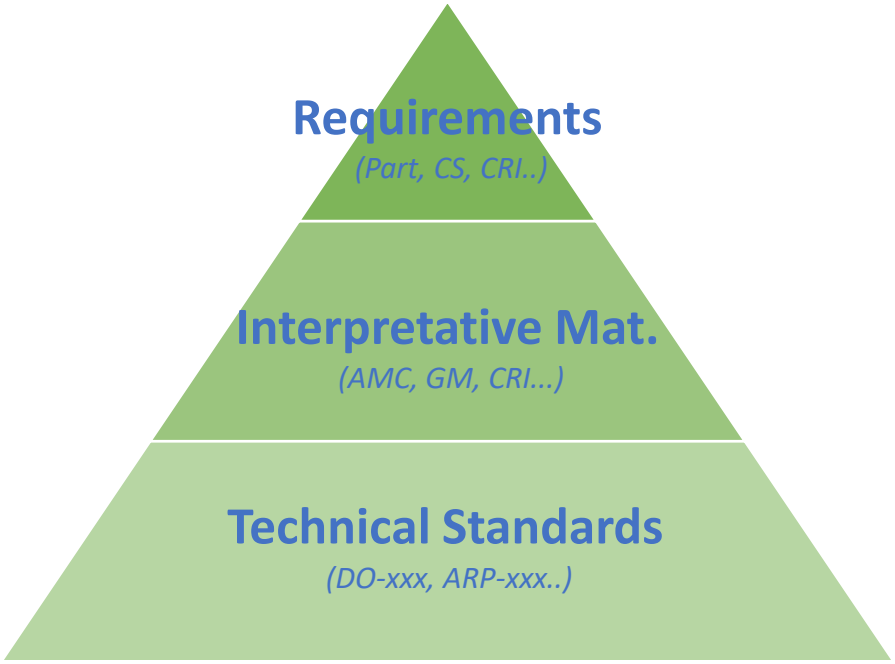
Demo – Digital Regulation / Data Exchange

SAB WPI059 objective: Define the standard of Digital Regulation content and associated data (Regulation, CS/AMC, NPA, CRD, CM, link to Standards…) exchange, navigation, query and lifecycle management



Harmonization of data model

- Between Authorities
- Across materials (CS, CRI, Tech Standards)

Navigation & Query

- Links between regulation data
- Use of metadata
- Sharing of Cert Basis

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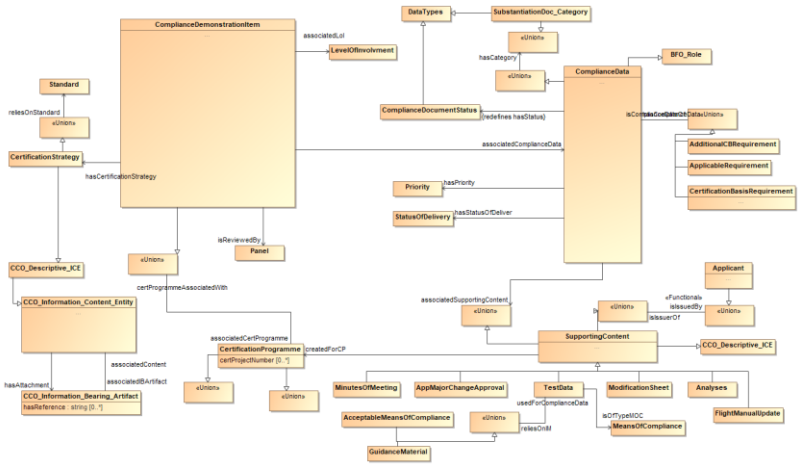
Demo – Certification Program / Data Exchange

SAB WPI058 objective: Define the standard of Digital Certification Program content and associated data (Certification Basis, Compliance Data, Manuals…) exchange, navigation, query and lifecycle management



Certification data Ontology

- Structured information
- Advanced Queries / Reasoning
- Data Exchange

Review & Lifecycle management

- Concurrent review on more granular data
- Configuration Management of Certificaition data (e.g. Cert Basis)

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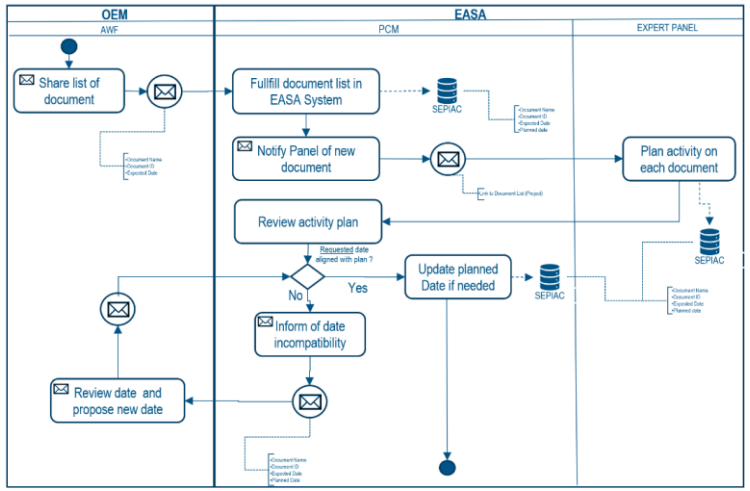
Demo – Certification Project Management

SAB WPI057 objective: Define the standard of Certification Project Management (content, workflow, collaboration, schedule and resource management, priority, multi-project management…)



Certification project management data Standardization

- Granularity
- Common set of data
- Use of existing IT standards

Certification project data management

- Single source of truth, update, synchronization of data
- Monitor through KPIs

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Conclusion

- **Finalize feasibility study (2025)**
  - Strategic and functional specification of the digital framework
  - Converge on IT solutions to standardize data exchange
  - Build a roadmap
  - Explore through the demo

- **Way forward (2026+)**
  - Prepare future IT standards
  - Commit on development of the overall digital framework between EASA and SAB
  - Implement some features identified by the feasibility study

Thank you !

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Rachel Daeschler

Certification Director, EASA

Thank you!