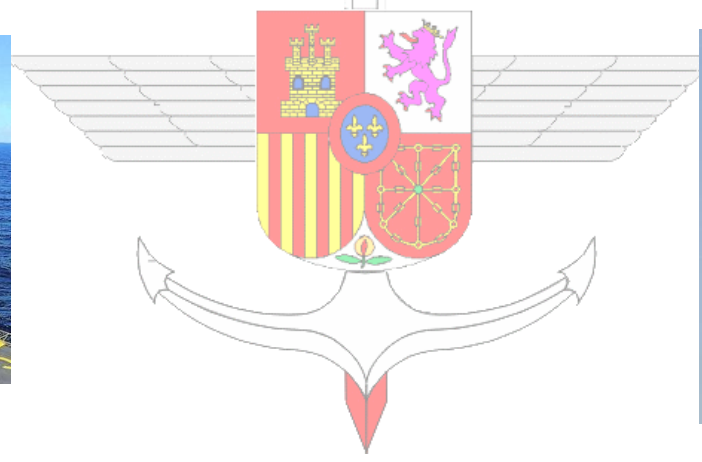




THE AIRWORTHINESS MODEL IN THE SPANISH MOD

A VISION FOR THE FUTURE





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Objectives of the presentation:

- Briefly discuss the Spanish model for Military Airworthiness
- Description of the needs
- Proposed way ahead

CONTENTS:

- Background
- Main principles
- Present
- Future vision



First regulation (Royal Decree) dealing with Military Airworthiness was published in 2004. First time when DIGAM is declared as AAD. Three years of adaptation from the old model were needed. Previously, responsibility was allocated in the Spanish AF. Product certification of CASA aircrafts was based in FAR (C212 in the 70's and CN-235 in 80's) was the first challenge.

The EF2000 program was a milestone in Spain and represented a great advance both for the industry and for the technical certification bodies of the MINISDEF.

After that, programs like TIGRE, NH90 and A400M represented a profound transformation in the organization of the Authority and the operators. Participation in EDA MAWA Forum and implementation of EMAR was also a challenge.

The need to comply with the obligations in front of the participating nations in international collaboration programs and contractual agreements, together with participation in agencies such as NETMA or OCCAR, represented also a great transformation for the Spanish Military Airworthiness Community.

Need of mutual recognitions, generic and specific for programs, are required. Big effort as the first step is a self evaluation of the organization, regulations, procedures, etc.



Airworthiness is a State function that has a great industrial, economic, international and operational impact, affecting the entire life cycle of the aircrafts.

Assigned to the DGAM by RD 372/2020, of February 18th, being the responsible governing body the SDGINREID.

Airworthiness has a great strategic value because Spain is one of the few countries in the world that has a full-cycle aeronautical industry.

The recognition processes following EMAD-R and MARQ was a hard exercise of self evaluation, which also impacts in future strategy. First recognitions achieved in 2012, lessons learned from then. More than 20 recognitions all around the world.



The Airworthiness Authority in Defense (AAD) is the DiGAM

- Main regulation is RD 866/2015, 2nd October
- Not implementing EMAR 100% but closer than previous regulation
- 680 operative aircrafts + industry aircrafts + RPAS
- Four operators (Army, Navy, air Force and Guardia Civil)
- 50 Type Certificates or equivalent evidences

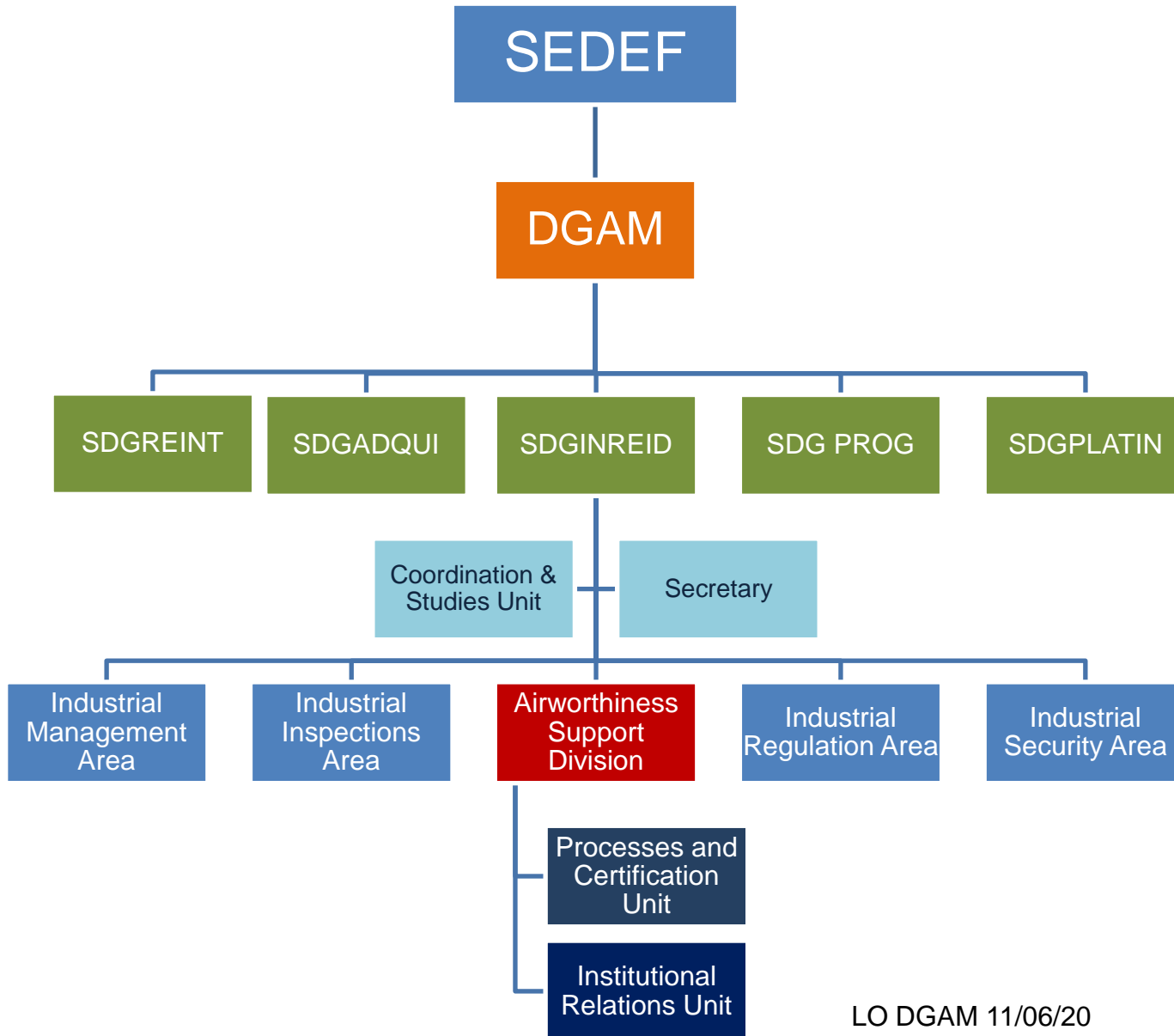
The Spanish defense airworthiness model is complex with dependencies.

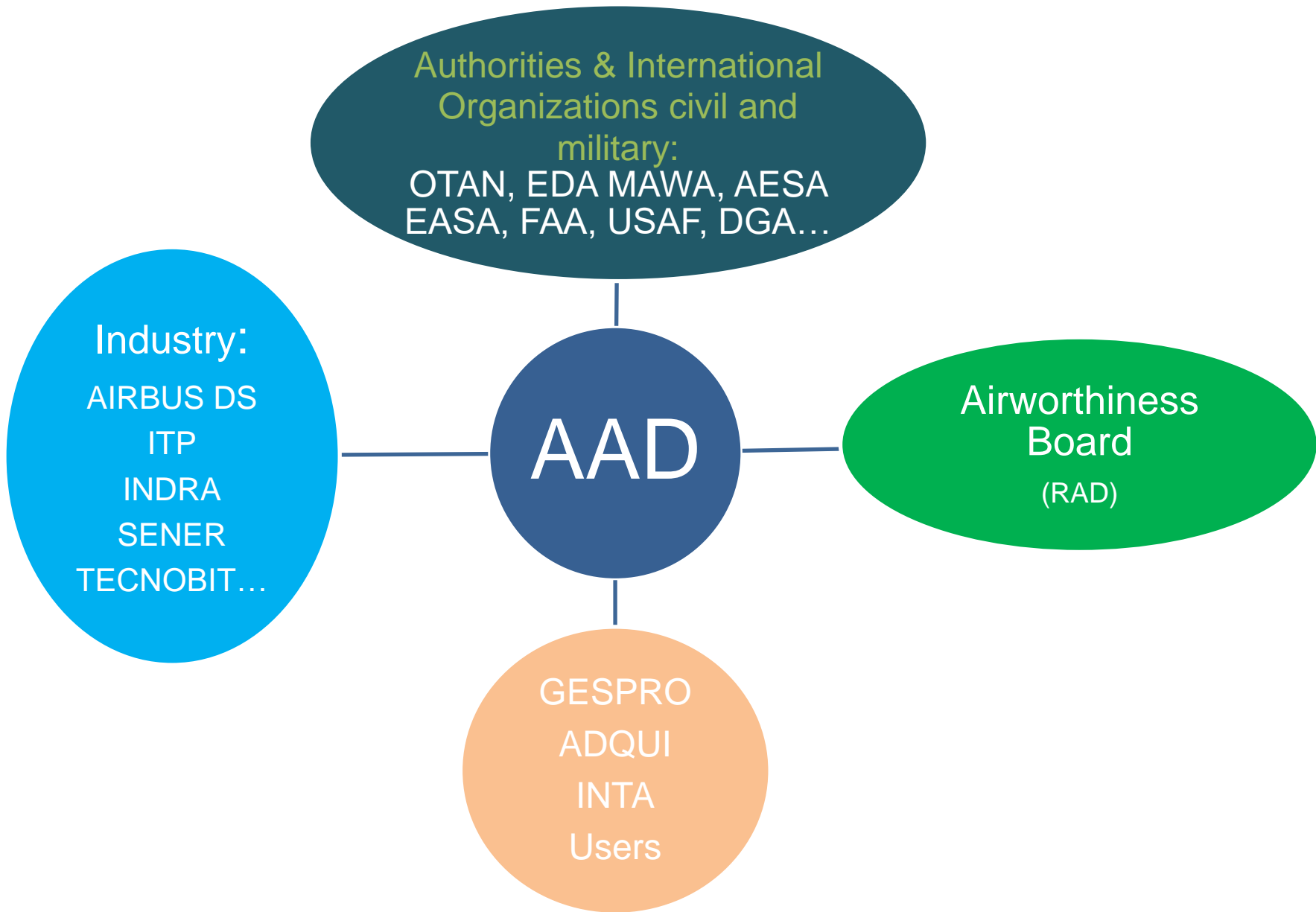
From 2015 we use Technical Competent Body (OTC in spanish) which are organizations recognized by the AAD to issue technical certificates. The RAD recognizes SGSA/INTA and SDGINREID/DGAM as OTCs. The AAD has recognized other OTCs, such as USAF TAA for Predator B or Army SRD for CH47F.

The DGAM Airworthiness Support Division (ASD, DAA in Spanish) is the governing body entrusted by the AAD with exercising the Authority's powers in the application of rules and regulations. Also represent the AAD in international airworthiness forums, lead the recognition processes with other Authorities and establish the necessary relationships with the operators and the Defense industry.



- **Air Navigation Law 48/1960, of 21st of July (LNA).** Aplicable to civil & military aviation.
 - **Royal Decree 866/2015 of 2nd October,** Defense Airworthiness Regulation (RAD)
 - **Royal Decree 1399/2018, of 23rd of November,** Basic Structure of the Ministry of Defense (article 5, 2.i).
- **DiGAM Resolution 320/14251/12** Stablishing PERAM as AW requirements (EMAR translations).
 - **DIGAM Resolution 320/14294/2013** Defining AW Essential Requirements
- **AW Board procedures**
 - **Internal procedures:** Army, Navy, Air Force, Guardia Civil, DGAM and INTA/SDG Aeron. Systems
- **PERAM 21, 66, 145, 147 & M** are translations into Spanish of EMAR:
 - Only Section A (adaptations for compatibility with RAD)
 - Section B compliant, for mutual recognitions
 - EMAR AMC & GM used
- **Spanish AF is responsible of other aviation functions (Aircraft registry/ATC/Crew Licensing...)**







The need to redefine the model is due to:

- a) Obsolescence of Aeronautical Systems, AAR capacity, replacement of F18 in Canary Islands with EF2000, the C101 trainer of General Academy with Pilatus PC21 & others.
- b) New projects: FCAS, EMALE, CH47 F, SIRTAP
- c) Collaboration with other countries and authorities: C295 Canada, MMF, MRTT, NH90, TIGRE, EF2000, A400M
- d) PESCO



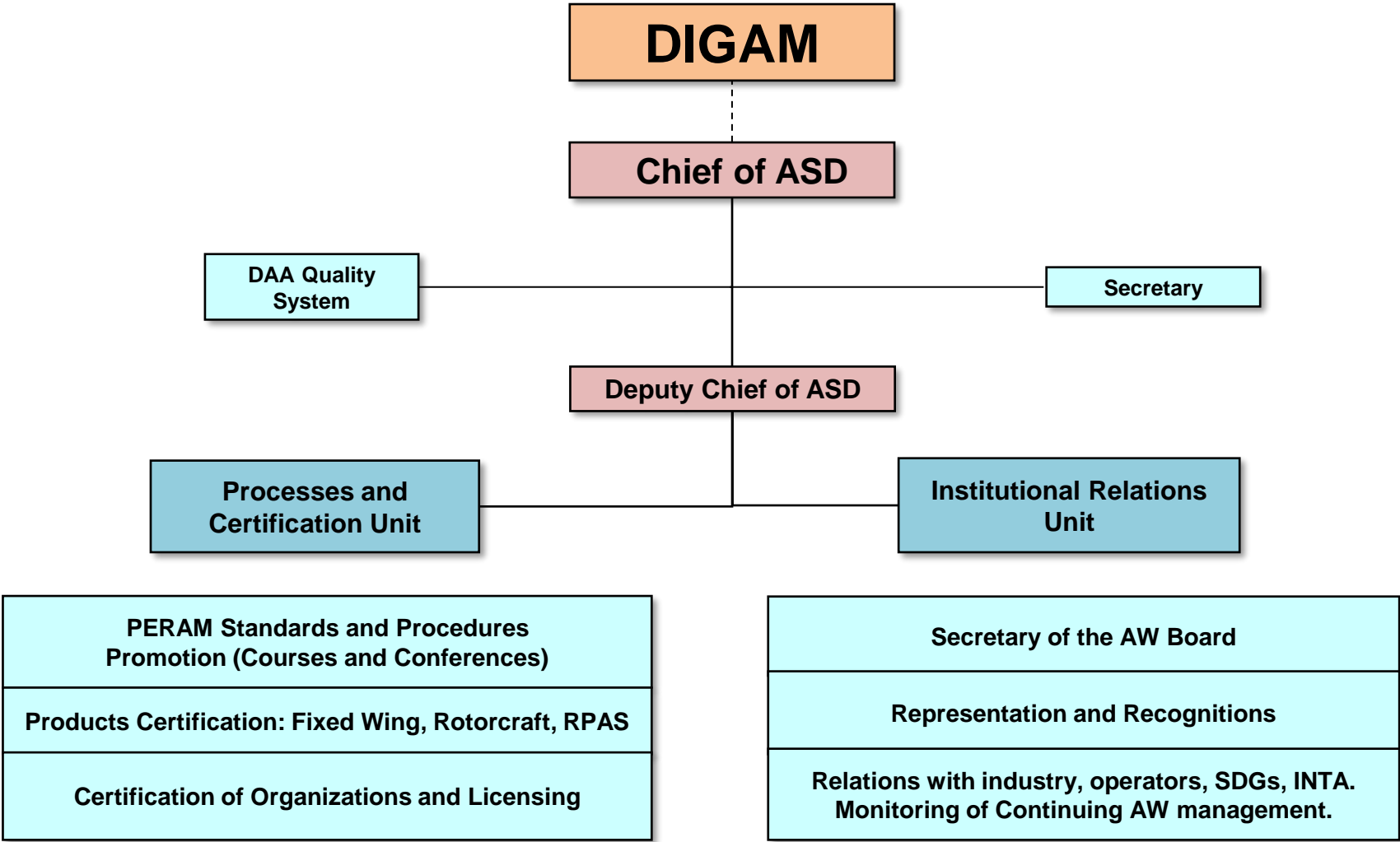
By Ministerial ORDER:

1.- The competencies of the DIGAM as AAD are:

- a) Certification of aeronautical products, parts and appliances
- b) Approval of design, production, maintenance, training and continuing airworthiness management organizations, and issuance of licences for aircraft maintenance personnel.
- c) Establish the strategy, regulations and procedures in the field of his competence.
- d) Establish the necessary collaboration and recognition relationships with other civil and military airworthiness authorities.
- e) The training, promotion and communication of Defense airworthiness.

2.- Scope:

- a) All aircraft, RPAS, engines and propellers used by the armies, institutes, agencies or services dependent or associated to the MoD or the Guardia Civil, or that may be of their interest or the Spanish Defence industry interest.
- b) Aircraft or military RPAS of foreign property, provided that there is a delegation from the Airworthiness Authority of the aircraft owner's state to the DIGAM, when they are in the Spanish Defence industry for:
 - i. maintenance or modification works, or
 - ii. testing





REGULATION:

- New RAD for a full implementation of EMAR.
- New RD of MOD structure to establish direct dependency of ASD to DIGAM/AAD.
- Ministerial Order to refine competencies and scope of the AAD and ASD functions and organization.

INTERNAL:

- ToR of the AW Board, composition and functions (if necessary).
- Improve situation of EMAR auditors and certification experts.
- Revisit the AW Quality System to be fully compliant with EMAR Section B.

RELATIONS WITH THIRD PARTIES:

- Enhance recognition agreements with other authorities in programs of mutual interest.
- Regulate delegations for Organizations belonging to the MoD.
- Promotion of Flight Safety culture: courses, conferences, attendance at events...



Questions?

