Australian Government
Department of Defence
Capability Acquisition and Sustainment Group

ACSPO
F-35A LIGHTNING II

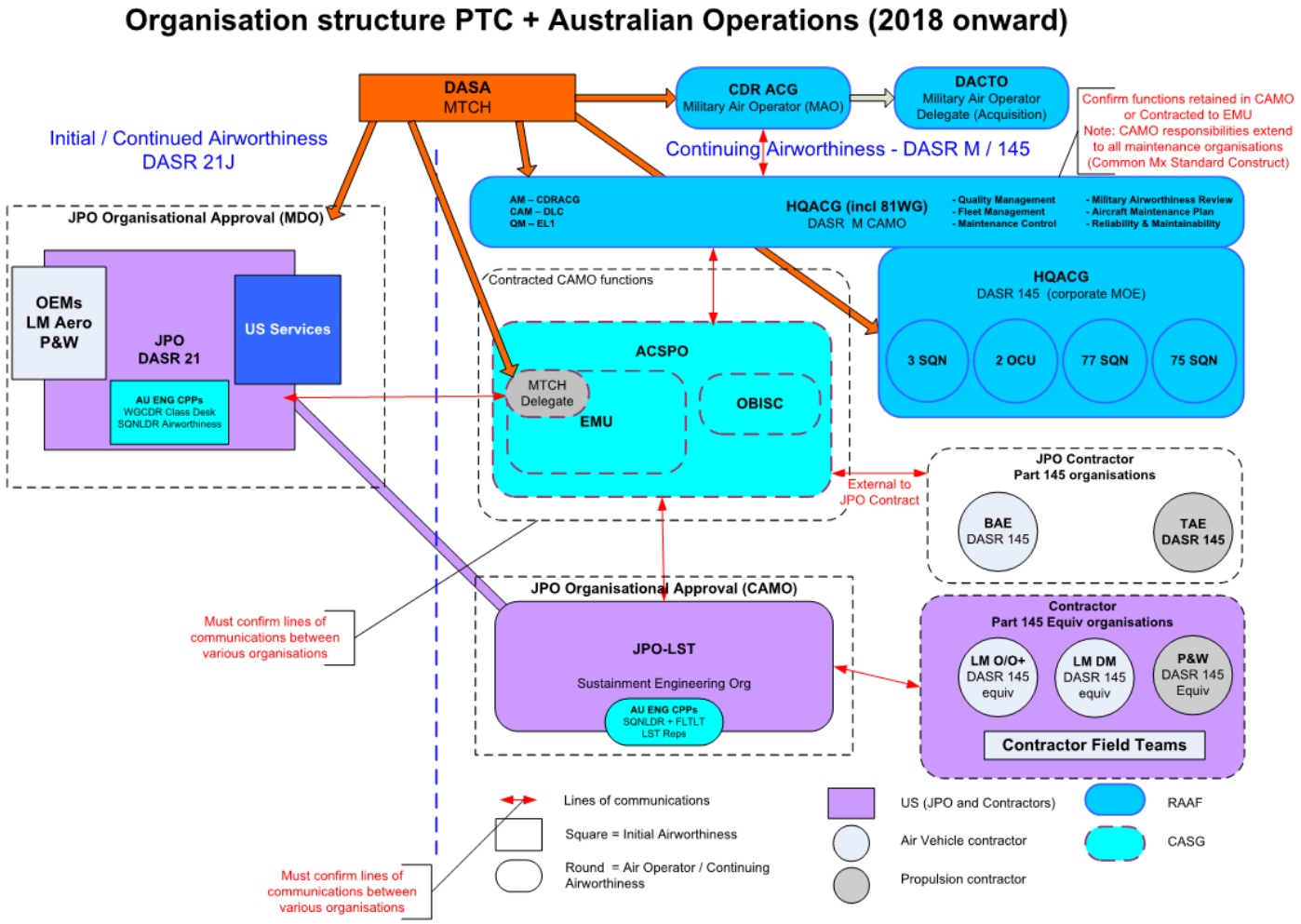
Military Sustainment Engineering with Defence Aviation Safety Regulation

Squadron Leader Stephen Bell
CPEng, MBA, BE, BSc
F-35A Deputy Chief Engineer
Air Combat System Program Office

Scope

- ACSPO Context
- First Principles Review (FPR) & DASR
- F-35A Implementation of DASR
  - Technical Services Framework
- System-of-Systems Management
- Exploitation of Design Organisation Approval
- DASR Flexibility

ACSPO Context



- F-35A similar to other aviation platforms, however ACSPO does not have an in-country engineering service provider

First Principles Review (FPR) & DASR

FPR

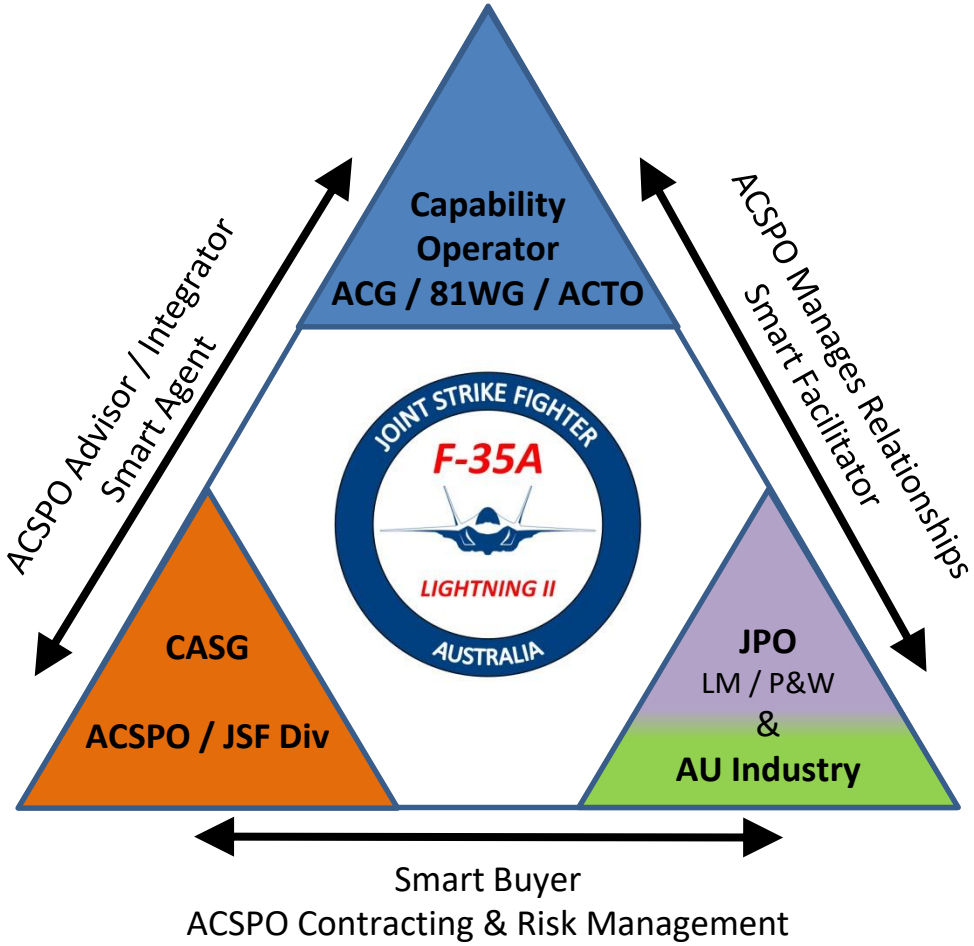
- CASG becomes responsible for almost all support aspects of the capability
- CASG SPO reform program lacked examples of how to use DASR to achieve the efficiencies promised

DASR

- Air Operator (as CAMO) gains accountability for previous AEO functions excluding design
- Phase 1 was to “lock in safety” of existing system, Phase 2 was to use the flexibility of DASR to improve efficiency

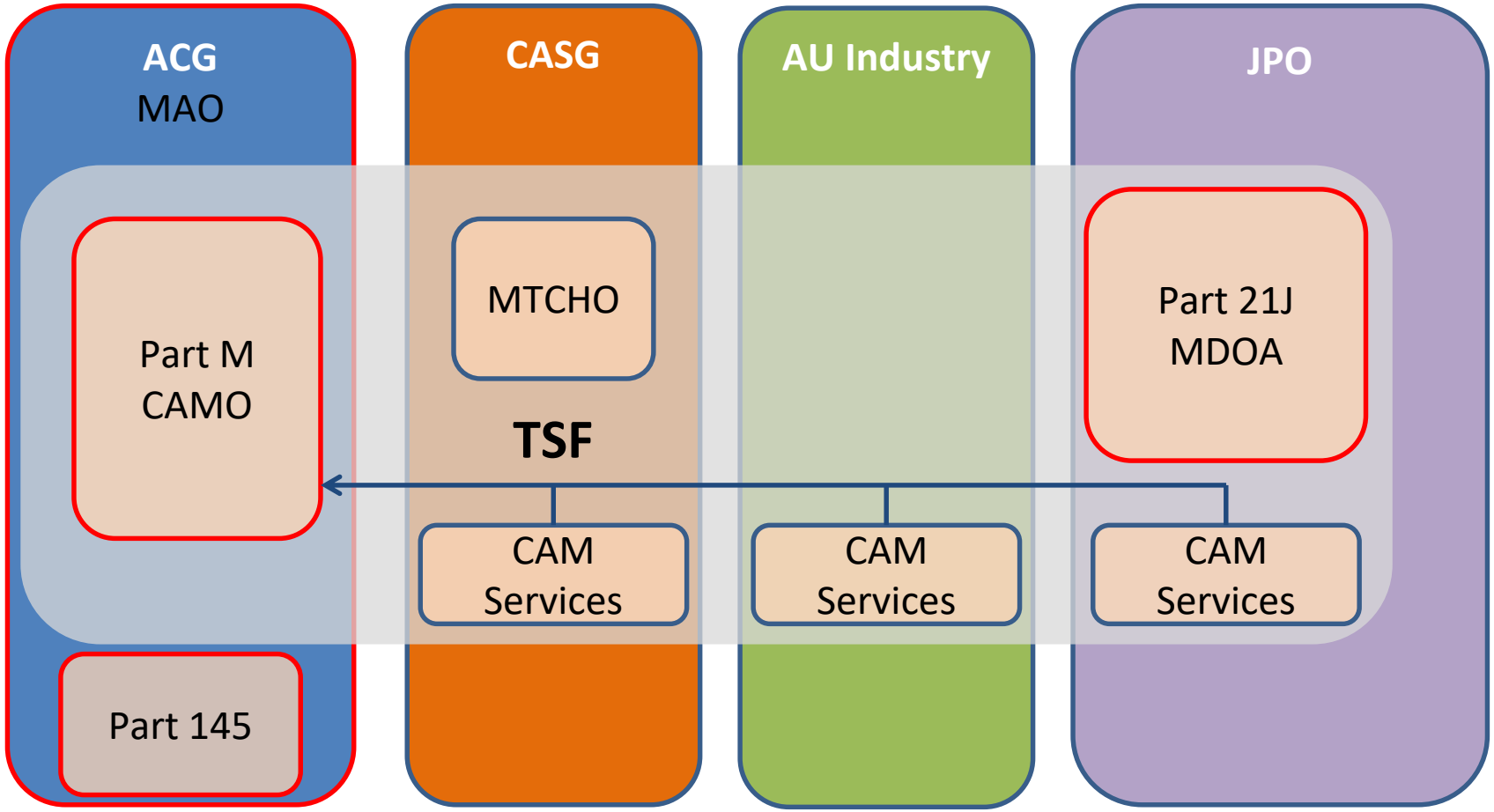
- ACSPO has capitalised on the last two years of discovery post FPR Reform and DASR implementation

Single Management Framework



- SMF emphasises a direct relationship between the operator and the industry service providers

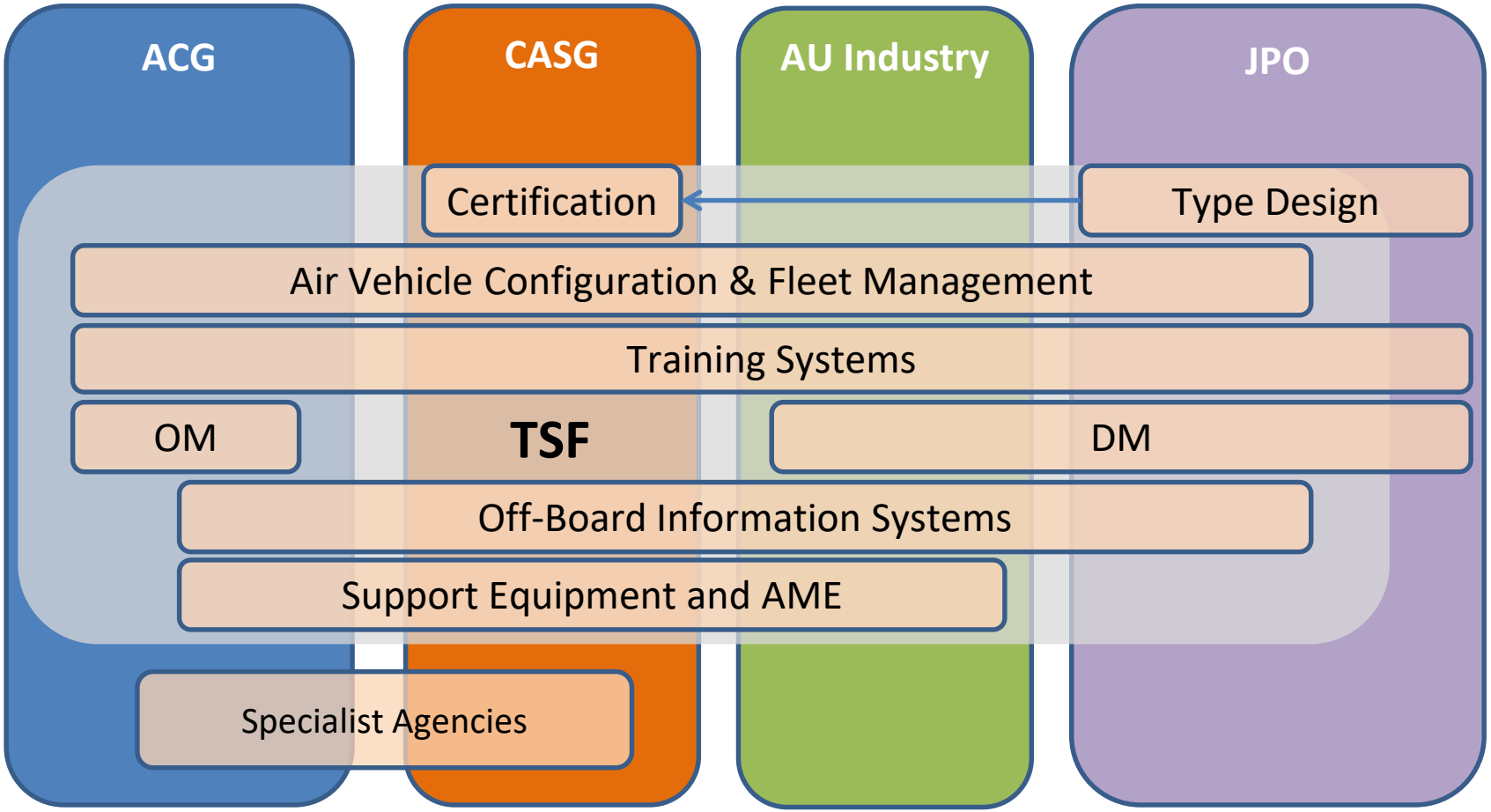
Technical Services Framework (TSF) - Airworthiness



Red outline signifies a DASR Organisational Approval

- TSF groups all airworthiness activities required across all organisations into a single “virtual organisation”

TSF – More than just Airworthiness

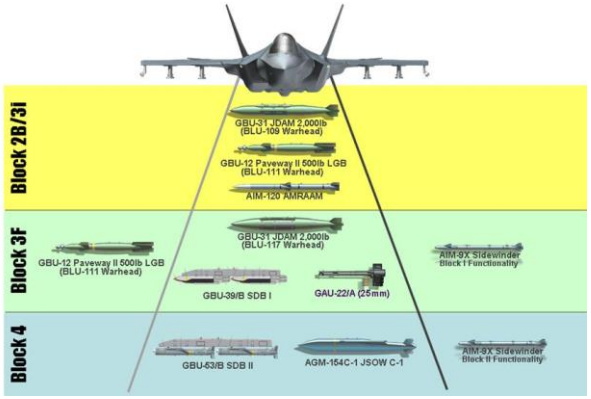


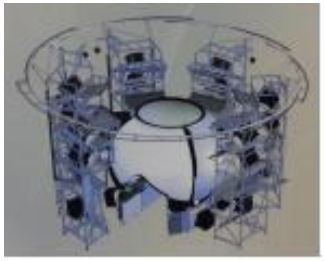
- TSF includes all elements of the Air System and interfaces with other specialist service providers.

Enterprise Wide Configuration Management

System of Systems Config Management

- Post FPR - CASG Scope of responsibility extends beyond Airworthiness.
- Multiple Systems – Multiple Requirements
  - DASR
  - WHS Act
  - IT Requirements
  - Supply Chain Req's
  - QMS
  - Etc..





Exploitation of Design Organisation Approval

- DASA has approved the US Joint Program Office as a Military Design Organisation
  - ACSPO has exploited this approval to allow consumption of technical product with only minimal delta assessment

- Delta Assessment:
  - WHS
  - CRE
  - Major Changes
  - Safety of Flight

- Level of exploitation will vary for different aircraft types due to NMAA & OEM differences

DASR Flexibility

- Understanding what is and what is not type design is critical
  - DASR Airworthiness Regulation only applies to the type design
  - Different for each aircraft type & certification method
- Flexibility to allow
  - "Non-Design" changes to aircraft without Design Organisation approval
  - Alternate Support Equipment
- Balanced with GSS Considerations

Summary

Key Observations

- Airworthines requirements are only one of the constraints on the business & DASR doesn't tell you "how"
- Exploitation of DASR Approvals and Recognition can allow for much more streamlined processes

Consequences

1. Each SPO must understand and tailor its business around the opportunities and constraints unique to that platform's commercial arrangements, certification strategies, integration requirements etc…

2. "One Size Fits All" model to SPO & Sustainment Enterprise design will undermine the efficiencies promised by DASR & FPR