

## Multi-Domain Case Study MSAT Oversight of Mature Applicants

Sofema Aviation Services (SAS) Considers Challenges & Practical Solutions to Deliver an Effective MSAT oversight of Multi EASA Domain Approval Holders.

This case study considers the application of the EASA Management System Assessment Tool (MSAT, Edition 2.0, September 2023) in the oversight of mature applicants—organisations with established management systems already in place.

Note - While such organisations typically demonstrate compliance with baseline requirements, experience shows that latent weaknesses, systemic gaps, and cultural barriers continue to emerge even within well-developed management systems. Identifying and addressing these issues requires auditors to move beyond traditional compliance verification and instead apply a performance-based oversight (PBO) mindset.

This discussion document focuses on four domains:

- Air Operator (AOC Holder)
- Approved Maintenance Organisation (Part-145)
- Continuing Airworthiness Management Organisation (CAMO)
- Airport Operator

For each domain, a realistic scenario is presented to reflect a mature applicant subject to MSAT oversight. The document then highlights the top 10 issues most likely to be encountered, together with proposed mitigation strategies.

The exercise has three objectives:

1. **Sharpen analytical skills** – to help auditors recognise not only the “Present” and “Suitable” aspects of a system, but also whether processes are genuinely “Operating” and “Effective” as defined in the PSOE maturity model.
2. **Strengthen judgement and consistency** – by examining how similar issues may present differently across domains, auditors will develop consistency in evaluation and reporting.
3. **Promote cross-domain learning** – highlighting common challenges such as safety culture, hazard identification, compliance monitoring, and contractor oversight, while recognizing domain-specific nuances.

## Objectives

- As subject matter experts, your role is to engage critically with each scenario, assess whether the highlighted issues align with your oversight experience, and identify additional improvement opportunities.
- The ultimate aim is to refine your ability to differentiate between compliance-based observations and performance-driven findings, ensuring that oversight activities support continuous safety improvement across the aviation system.

## 1. Air Operator (AOC Holder)

### Scenario:

A European Air Operator with a 15-year history, operating medium-haul fleet, holds a mature MS with SMS integrated since 2014. Despite robust documentation, external audit identified cultural and reporting gaps.

### Top 10 Likely Issues & Mitigations:

1. **Safety Policy not consistently communicated** → Regular leadership briefings, updated safety roadmaps.
2. **Inconsistent hazard identification across departments** → Strengthen cross-functional reporting workshops.
3. **Weak link between ERP and operational practice** → Scenario-based ERP drills with crews and ground staff.
4. **Reactive safety risk assessments** → Introduce predictive risk modelling & trend analysis.
5. **Compliance monitoring audits seen as “tick-box”** → Shift to risk/performance-based auditing focus.
6. **Underutilisation of safety performance indicators (SPIs)** → Revise SPIs to match EPAS priorities.
7. **Insufficient feedback loops after incidents** → Mandatory management review with staff communication.
8. **Variable safety promotion across bases** → Align campaigns with group-wide culture surveys.
9. **Fatigue and human factors under-reported** → Embed confidential reporting & fatigue management training.
10. **Documentation control gaps** → Strengthen digital MS manual tracking & change control.

## 2. Approved Maintenance Organisation (Part-145)

## Scenario:

An established MRO with multiple line and base stations. Systems are well documented, but competence of front-line staff and human factor integration into SMS show weaknesses.

## Top 10 Likely Issues & Mitigations:

1. **Incomplete integration of SMS with Part-145 processes** → Link MOE procedures directly to SMS outputs.
2. **Limited human factors training updates** → Refresh HF modules annually, with maintenance error case studies.
3. **Procedures diverging between sites** → Strengthen central compliance oversight with local adaptation.
4. **Weak link between reliability data & risk management** → Use reliability reports for proactive safety actions.
5. **Shift handover weaknesses** → Implement mandatory electronic log/handover procedures.
6. **Competence assessment inconsistent** → Annual technical competence review tied to task authorisation.
7. **Subcontractor oversight limited** → Include contracted maintenance providers in compliance audits.
8. **Occurrence reports not always linked to root cause analysis** → Introduce MEDA-based RCA methodology.
9. **Calibration/Tooling gaps in remote stations** → Centralised calibration tracking system.
10. **Safety performance monitoring shallow** → Develop KPIs covering maintenance error rates & rework.

## 3. CAMO Organisation

### Scenario:

A CAMO managing a mixed Airbus and Boeing fleet for a regional airline. While experienced, the organisation's risk assessment approach is outdated and record-keeping fragmented.

## Top 10 Likely Issues & Mitigations:

1. **Weak SMS integration into Continuing Airworthiness Management** → Embed SMS risk outputs into AMP changes.
2. **Poor linkage between reliability data & hazard identification** → Use reliability trends to feed hazard log.

3. **Compliance monitoring not covering all Part-M/Part-CAMO requirements** → Expand compliance scope annually.
4. **Airworthiness review staff competence not regularly refreshed** → Regular ARS recurrent training.
5. **Inadequate change management processes** → Formalise evaluation before introducing AMP/ALS changes.
6. **Data quality issues in reliability reporting** → Improve digital interfaces & validation controls.
7. **Communication gaps with contracted Part-145** → Joint safety review meetings & shared hazard reporting.
8. **Ineffective management of deferred defects** → Strengthen MEL deferral risk assessment tracking.
9. **Safety promotion limited to CAMO staff** → Extend safety campaigns to pilots & maintenance partners.
10. **Inconsistent oversight of contracted CAMO functions** → Audits and SPIs applied equally to subcontracted activities.

#### 4. Airport Organisation

##### Scenario:

A large European airport with ISAGO-aligned SMS. Mature documentation exists but operational integration and contractor oversight remain weak points.

##### Top 10 Likely Issues & Mitigations:

1. **Safety policy diluted across stakeholders** → Joint airport operator–stakeholder safety council.
2. **Ground handling and ATC SMS not fully harmonised** → Conduct integrated safety exercises.
3. **Runway incursion/excursion hazard data under-analysed** → Advanced data analytics on RIM/RI events.
4. **Emergency planning not stress-tested for multi-agency coordination** → Full-scale ERP exercises.
5. **Contractor oversight limited (ground handlers, fuel providers)** → Airport-wide compliance monitoring.

6. **Bird/wildlife hazard management inconsistent** → Continuous wildlife hazard monitoring programme.
7. **Occurrence reports not systematically shared with tenants** → Airport-wide reporting & feedback portal.
8. **Fatigue risks for ground operations staff** → Implement FRM across key service providers.
9. **Change management not applied to infrastructure upgrades** → SMS review integrated into project planning.
10. **Limited safety promotion to third parties** → Airport-wide safety awareness days and training.

## Discussion & Debrief

Discuss each of the following points

1. Across the four domains, which issues appeared most frequently, and why do they persist even in mature organisations?
2. How did the scenarios highlight the difference between compliance-based findings and performance-based assessments?
3. What indicators help us distinguish whether a process is only “Operating” versus truly “Effective” under the PSOE maturity model?
4. Which mitigation strategies are most transferable across domains, and which require domain-specific tailoring?
5. As auditors, how can we adapt our oversight approach to encourage continuous improvement rather than reinforcing a “tick-box” culture?

## Next Steps

Sofema Aviation Services (SAS) provides the following training as Classroom or Webinar - Using The EASA Management System Assessment Tool (EASA MSAT) – 2 Days

<https://sassofia.com/course/using-the-easa-management-system-assessment-tool-easa-msat-2-days/>