



## KM COP Knowledge Fridays Café No. 2, held online Friday 14<sup>th</sup> Nov. 2025

Topic: KM Practices and Implementation at Aeralis

Guest speaker: **Callum Watson**, Head of PLM & Digital Tools

### Introduction

AERALIS are designing a modular fast jet capable of adapting to meet a wide of range of needs of a 6th generation air force fleet – from fast jet training to uncrewed surveillance. In looking to certify the air system for operations at the beginning of the next decade and commence flight testing in 3 years, AERALIS have a challenging timeline to meet. A fail fast, learn quick approach supports AERALIS in meeting this timeline across the enterprise and interest in this application in its Digital Engineering system, AERSIDE, saw an LFE programme run in collaboration with MOD embedding the NATO OADR LFE format in a common digital platform.

Callum is leading the implementation of digital tools to support the entire product lifecycle. He kindly agreed to discuss a case study of the adoption of new KM practices in support of the modular air system project.

We very much appreciate Callum's time and insight in delivering an excellent session.

This report provides an overview of the discussion and the recommendations that emerge.

### Summary of Meeting Themes

- **Digital Transformation and Innovation.** The core discussion revolved around Aeralis's "digital transformation" journey, moving from document-heavy methods to digital approaches supported by an agile, flexible KM system.
- **Actionable Knowledge vs. Shelfware.** Callum and participants emphasised the necessity of not just capturing lessons, but making them actionable, managed (with allocated owners and budget), and monitored for implementation. The structured OADR format was highlighted as critical to achieving tangible recommendations.
- **The Content Revolution.** The group discussed the necessity of shifting the organisational mindset away from documents (like PDFs) towards accessible, high-quality content and data, which can include wikis, social media, or videos. One participant coined this approach as "collaborative content curation" or "collaborative authoring".
- **Future KM Technology (AI and Semantics).** The conversation pivoted to the future role of technology, specifically Artificial Intelligence (AI) and semantic technologies. The structured format of the wiki facilitates ingestion and decision-making for AI, making the information "AI ready". Computational ontology was discussed as a powerful technique for building knowledge graphs and enabling high-powered AI applications.

## Adoption of New KM Practices

Aeralis's approach is defined by a strategic shift away from traditional, document-heavy methods towards live, integrated digital solutions, substantiated by a single source, accessible, authoritative, and actionable digital lesson keeping database.

**1. Shift from Documents to Content/Data.** The traditional report-based deliverable model was deemed document-centric, unintegrated, and less collaborative. The new focus is on accessible content. Aeralis was aided by not having a long legacy of traditional document-based approaches.

**2. Implementation of KM Software.** Aeralis selected Confluence as their knowledge management software, configuring it as a wiki. This serves as a single source of truth that is live and commentable. It is used as a repository for engineering information, strategies, processes, and guidance for using digital tools across all organisational domains, effectively becoming Aeralis' wiki.

**3. Structured Lesson Learning.** Aeralis adopted the NATO ODCR (Observation, Discussion, Conclusion, Recommendation) format for their Learning From Experience (LFE) process. This format is templated, allowing lesson learners to draft ideas and ensuring the recorded lessons are tangible and "smarter".

**4. Integrated Toolset for Implementation.** The system is designed to allow Aeralis to monitor and efficiently implement recommendations. Aeralis tags lessons. People who are interested in certain types of lessons can search and target what they're looking at quickly in the wiki. Confluence integrates well with other tools:

- JIRA, a task management software.
- Miro, a digital whiteboarding capability for virtual solutioning.
- Slack, a quick comms/ collaboration tool.

**5. Monitoring and Closure of Lessons.** A key practice is monitoring implementation. Aeralis have a single wiki page to monitor the implementation of recommendations, ensuring lessons that haven't been closed out are reported. This monitoring capability is necessary to avoid lessons becoming useless "shelfware".

## Issues Identified in Presentation and Discussion.

Several challenges were discussed related to culture, implementation, and technology:

**1. Cultural and Digital Reticence.** A major barrier for an organisation is the culture around digital reticence and a general human resistance to change. Authors familiar with traditional reporting software (like Microsoft Word) were slightly uncomfortable with the new software's quirks and authoring methods.

**2. Proving Value.** When implementing new ways of working, there is an additional burden to prove the value to individuals. If challenges arise, people may be quick to criticise the new approach. (Afternote: Developing the value proposition is a major part of our planned work.)

**3. User Experience (UX).** The user experience is crucial for winning "hearts and minds" and overcoming digital reticence. A system must be useful from a requirements

perspective, but the user management and experience must also be prioritised.  
(Afternote: the importance of UX was identified in the first KM CIOP meeting)

**4. Quality of Lessons.** Initially, lessons could be "wishy washy," underscoring the importance of the ODCR format to guide the author toward a constrainable recommendation that can be allocated a budget and an owner. The contract stipulated the production of five lessons per month, which might have engendered a tick-box approach rather than the carefully considered and productive approach adopted.  
(Afternote: 1. Contracting for knowledge was discussed in the first KM COP meeting, so this is a theme that might be developed further, evidenced by the Aeralis approach. 2. How do we manage knowledge that currently may be seen as having little project value, but may be of value some time in the future on another project?)

**5. Avoiding Shelfware.** There is a recognised danger that LFE efforts result in "shelfware" (lessons learned for the sake of being shown to be learned). The key is ensuring resources are allocated for implementation and active monitoring.

**6. Technical Hurdles (Meta-Challenge):** Even the Teams meeting suffered from basic technical difficulties and files being too large to share via email. This ironically underscores the challenges faced when enabling IT systems and digital approaches.

**7. Software Functionality.** During the discussion, a point was raised that Confluence is a standard text-based wiki, not a semantic wiki. This limits the ability to query information and maintain linkages through computational ontology compared to a semantic engine, which is considered a powerful modern computing technique for building knowledge graphs and facilitating AI interaction.

## Challenges Identified for Aeralis client

The relationship and contract structure with the client presented specific challenges to the Aeralis KM adoption:

**1. Contractual Inertia.** The initial contract was set up requiring report-style deliverables every quarter. The commercial team prefers a PDF format to receipt payments, creating some transitional frictions to a flexible, live wiki format where payment release depends on updates to a web page.

**2. IT Access and Integration.** There were specific hurdles in enabling IT access, requiring testing over several weeks to ensure client laptops could access the new web-based wiki.

**3. Data Classification.** The software being used (Confluence) is not yet cleared for handling OS (Official Sensitive) data, which requires consideration in the defence space when dealing with such data.

## Emerging recommendations

### 1. Focus on Content, Data, and Digital Engineering

A fundamental shift in organisational thinking is required, moving away from legacy methods towards accessible digital content:

- Embrace the Content Revolution
- Move from Documents to Data
- Utilise a Single Source of Truth like a company wiki built on software that acts as a single, accessible, authoritative, and actionable repository for engineering information, strategies, and guidance.

## 2. Structure Lessons to Drive Tangible Action

The way lessons are captured is critical to ensuring they lead to measurable change.:

- **Adopt Structured LFE Formats.** Use a structured approach, such as the NATO ODCR to template every lesson.
- **Write Targeted, Constraining Lessons.** The structured format is effective in guiding authors to develop "smarter" lessons that result in tangible, constrainable recommendations and avoids wishy-washiness.

## 3. Prioritise Implementation and Avoid "Shelfware"

The highest priority must be placed on acting on the lessons learned, not just collecting them:

- Make Knowledge Actionable (Afternote: Knowledge Mobilisation?)
- Ensure recommendations are constrainable so that they can be allocated a budget and an owner
- Monitor and Report Closure. Implement a means for monitoring and identify lessons that are still open or haven't been closed out.

## 4. Manage Culture and User Experience (UX)

Overcoming resistance to change is essential for successful adoption:

- Address Digital Reticence and Win Hearts and Minds. The user experience is an "important thing in software implementation" and is key to "winning the hearts and minds" of users. The user management needs to be prioritised alongside meeting functional requirements.
- Cultivate Digital Champions. Navigate new implementations by establishing a culture of skill sharing and cultivating digital champions to hand-hold people who may be reticent about using new tools.

## 5. Integrate Tools and Plan for Future Technology

Leveraging current and future technology is vital for maximising KM efficiency:

- Build an Integrated Toolset: Select software (like Confluence) that integrates well with other tools, such as task management software (like JIRA), virtual solutioning capabilities (like Miro), and quick communication tools (like Slack), to efficiently manage the implementation of recommendations.
- Ensure AI Readiness: Documenting lessons in a structured format with discrete descriptors, specific text controls, and metadata tagging makes the content "AI ready".
- Explore Semantic Technology: Consider semantic technologies (like Computational Ontology or Semantic Media Wiki) for high-powered AI applications, as this allows for building knowledge graphs and maintaining linkages across the wiki through semantics, offering stronger querying capability than standard text-based wikis.