

# Alexandria Knowledge vault

Enhancing Workforce Expertise through AI

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# 1. Overview

## Main goals

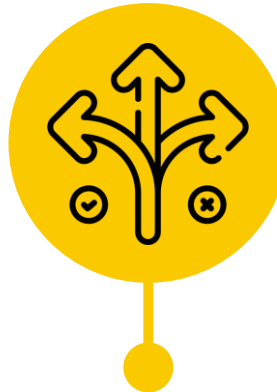
Gather the knowledge (expertise, lessons learned, informal knowledge, etc.) of an entire function in a way that is accessible and actionable through AI agents that support the development of the area, and the preservation of knowledge from the past and key people on the organization.

### KNOWLEDGE AND LESSONS LEARN PRESERVATION



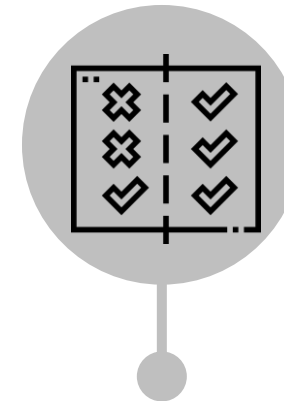
Safeguard the valuable knowledge and experiences of notable figures for the advantage of future generations & the whole organization

### INFORMED DECISION-MAKING

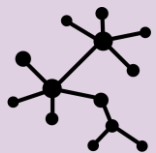


Facilitate the access to key people expertise in core procedures within the organization

### FACILITATE PROCESSES UNDERSTANDING & COMPLIANCE



Leverage specialized knowledge to streamline procedures and minimize the time stakeholders spend navigating and comprehending them.



Powered by **AGENTIC-**  
Based Business/Function  
**ONTOLOGY MAPPING**

**INFORMAL INTERNAL KNOWLEDGE**  
(key people interviews, past negotiations, etc)

**FORMAL INTERNAL KNOWLEDGE**  
(lessons learn, best practices, procedures, formal documentations, etc)

**EXTERNAL KNOWLEDGE**  
(jurisprudence, key bibliography, regulations, etc)



## 2. Program Overview

### Program goals

Company-wide enhancement of different departments with the use of AI in a continuous improvement mindset, so that Every significant decision within the company can be supported by agents leveraging internal formal & informal knowledge



### Design Phase

#### Phase 1: Initial Information Capture

- Knowledge collection
- Transcription of Interviews and Conversations
- Analysis of Internal Communications
- Data Consolidation

#### Phase 2: Structuring and Classification

- Information Classification
- Development of Function-Specific Ontology
- Classification Validation

#### Phase 3: Agentic RAG Ontology Implementation

- Preparation of Training Dataset
- Initial Model Training
- Agentic RAG Model Integration. Model Validation and Testing
- Integration of Iterative Feedback



### Scaling & Exploitation phase

#### KEY PERSON

- Capture & Preserve knowledge of key stakeholders within a department
- 1-by-1 process

#### DEPARTMENT BEST PRACTICES & LESSONS LEARNED

- Requires classification and organization of departmental methodologies, processes, best practices, etc.
- Iterative process

#### PROACTIVE RECOMMENDATIONS

- Specialized agents in specific areas of expertise can significantly enhance operations providing proactive recommendations
- AI Agents integration – key processes embedded

#### NEW DEPARTMENTS

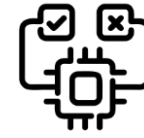
- Expansion to other functions
- Enriched knowledge
- Inter-department agent conversations



# 3.Functional architecture

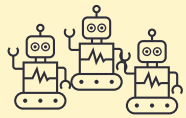


Function's expert agents are **embedded in key processes for proactive recommendations and automated decision making**

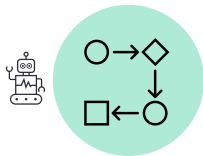


Function's expert agents can be **questioned by workers for informed decision making based on present & past / formal & informal knowledge**

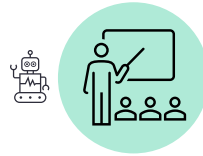
-AGENTIC ORCHESTRATION LAYER-



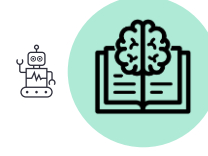
**EXPERT AGENTS**



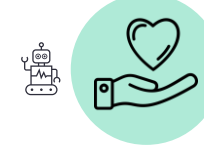
**Operations agents**



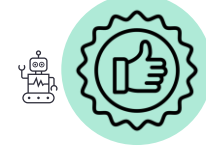
**Lessons learned agents**



**Experience retention agents**



**Value and culture agents**



**Best practices agents**

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-COMPANY FUNCTIONS' ONTOLOGY MAPPING -

-AGENTIC ORCHESTRATION LAYER-



**TOOLS & SKILLS**



**Vision**



**Prediction**



**Agentic Rag**



**Search**



**Analysis**



**Coding**



**Visualizing**

...

- INTEGRATION LAYER (MCP POWERED) -



**FUNCTIONS KNOWLEDGE DOMAINS**

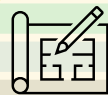
*Procurement*

*Concessions Operations*

*Technical Office*

*Legal Services*

...



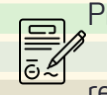
**Technical documents**



**Video & images**



**Key people interviews**



**Procedures & regulations**



**Business Apps.**



**Best practices & bibliography**

...

**Alexandria**



*Powered by...*

**AI WORKBENCH**

(Ferrovial's Agentic AI Platform)

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