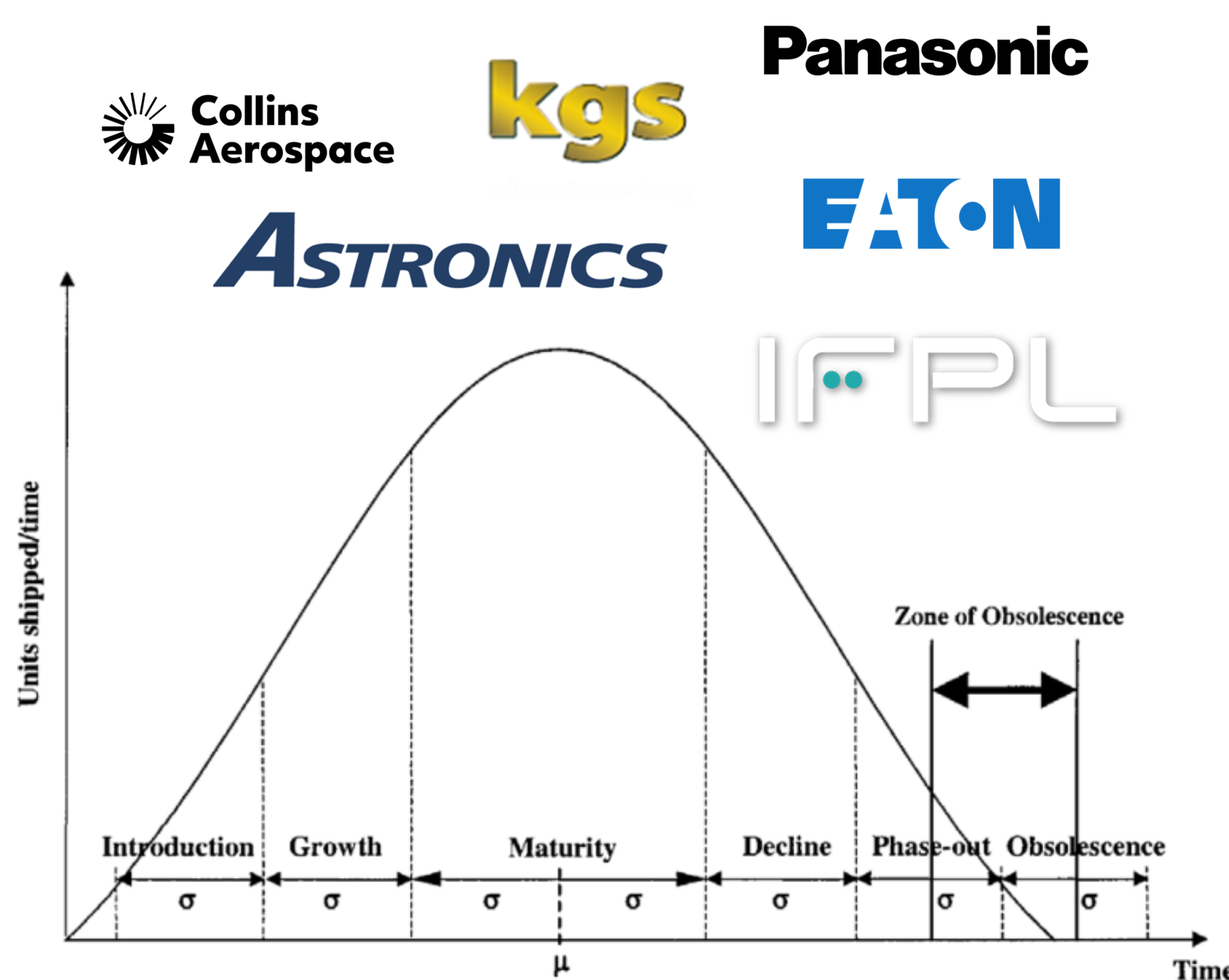
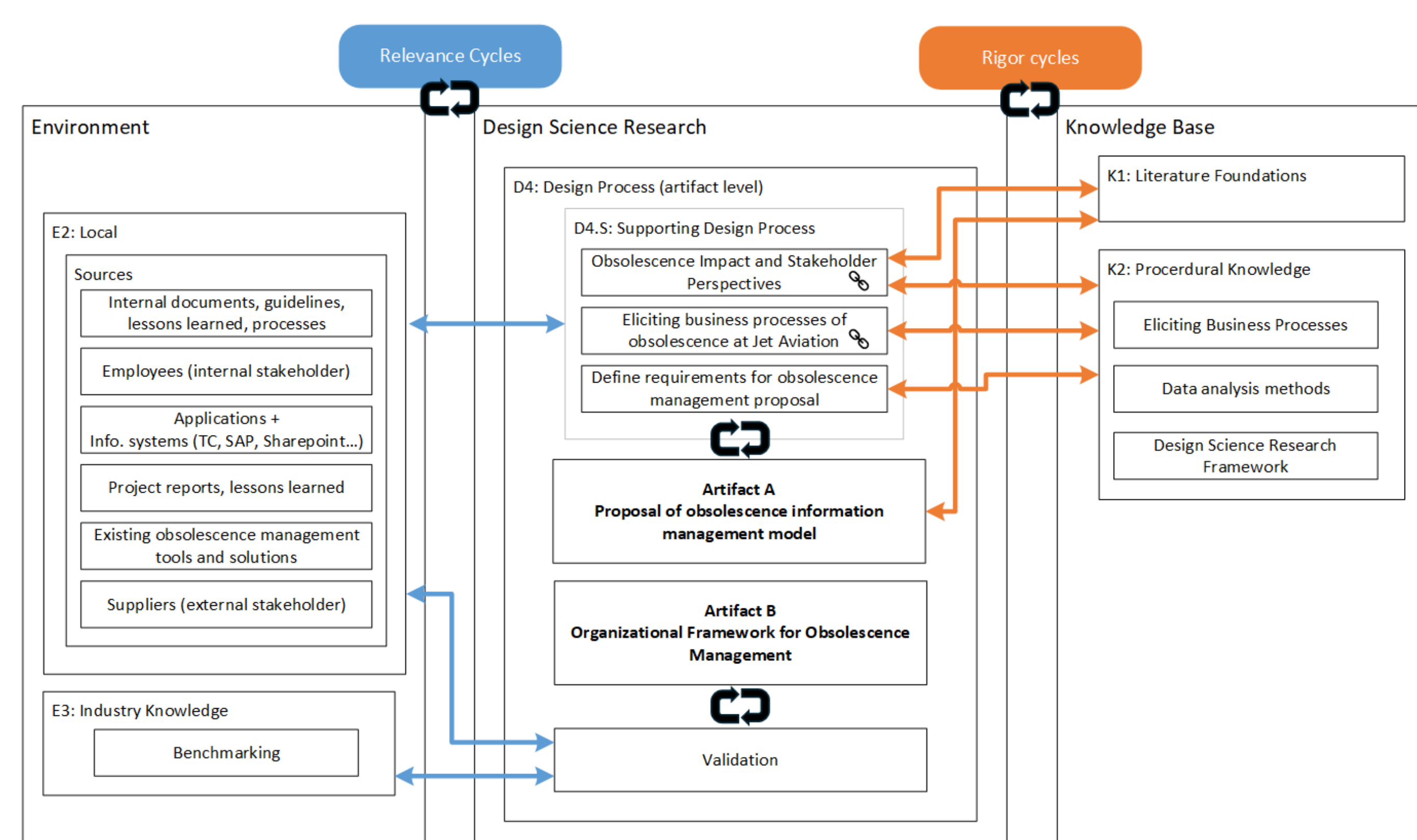


Master Thesis

# Understanding Product Obsolescence and designing a Conceptual Management Framework for a Business Aviation Services Provider



Typical electrical product life-cycle curve



Applied Design Science Research Framework for the project

## Problem statement

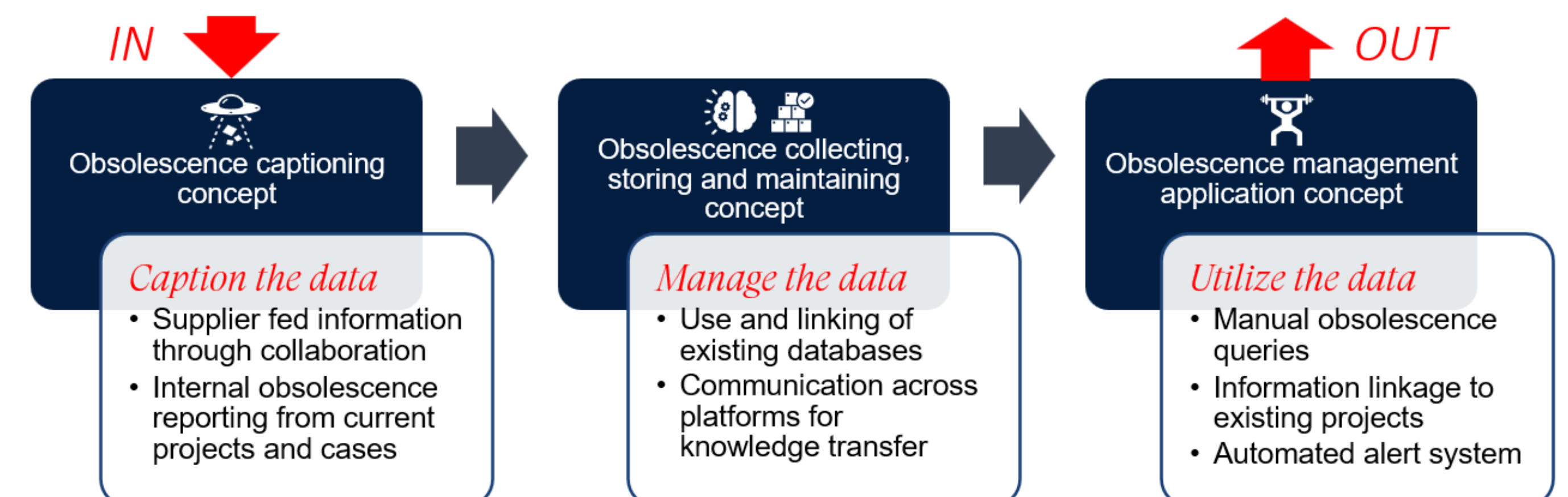
The industry partner, a global leader in business aviation services, procures many parts and components externally through suppliers for their maintenance and completion projects. This dependency creates operational issues when such parts reach the end of its production lifecycle and become obsolete, which means the unavailability of parts due to discontinuation or lack of support. The project addresses the challenge of managing obsolescence in a company operating under strict regulations, different product life-cycles, and fast technological change. Existing models in the literature often assume centralized data and clearly defined roles, which do not reflect the company's decentralized and complex environment. The core problem lies in developing both a technical and organizational solution for obsolescence management that is flexible, fulfills stakeholders' requirements, and is aligned with the company's structure, strategies and environment.

## Solution proposal

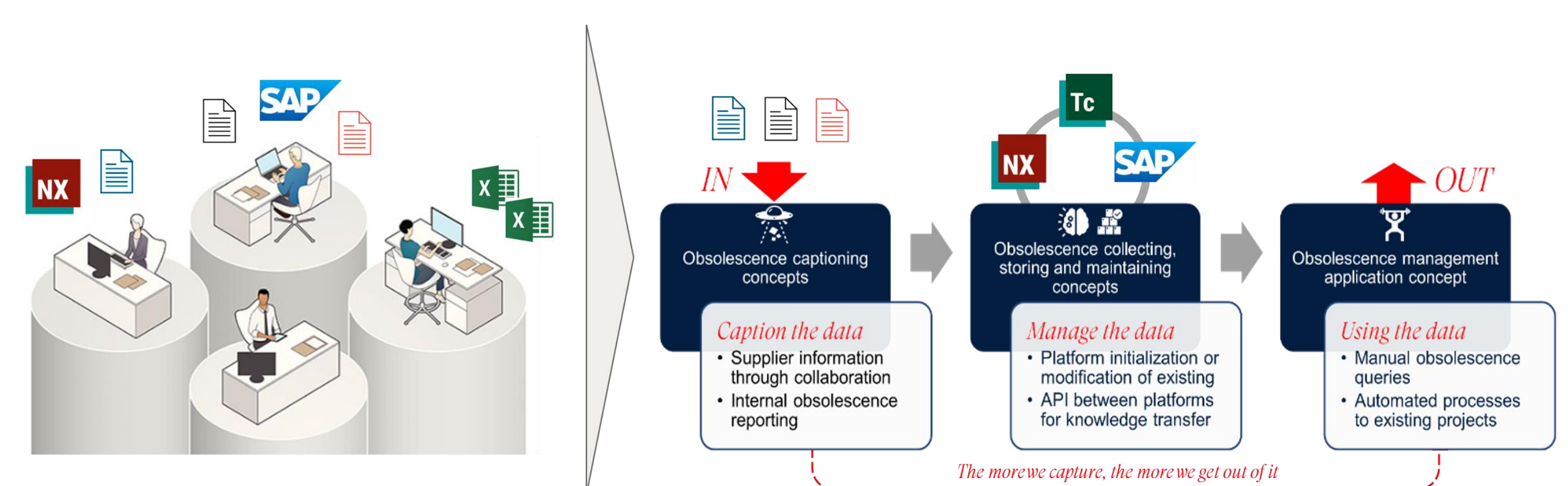
The proposed solution uses a Design Science Research (DSR) approach that combines literature insights with internal company knowledge to identify relevant processes, find constraints, bottlenecks and analyse key stakeholders. This enables the development of a suitable obsolescence management framework that helps to address stakeholders' requirements, consider bottlenecks in the system and respect current processes.

## Results

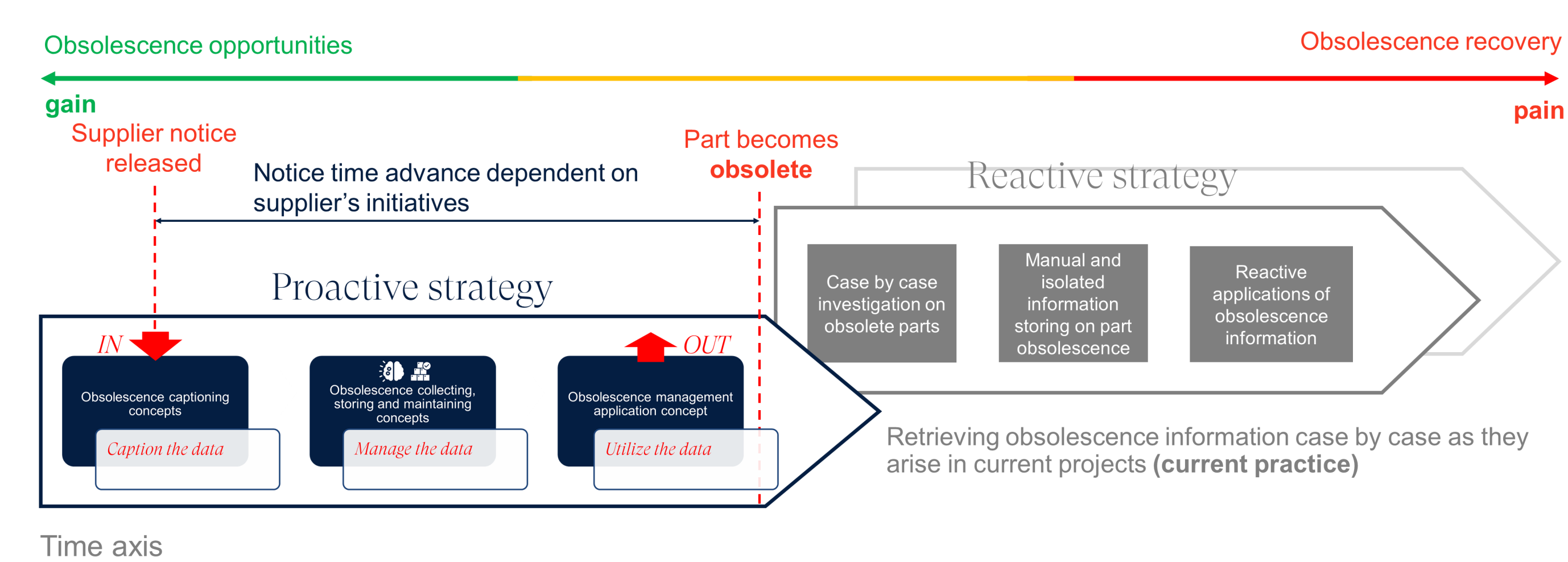
The results of the thesis show that effective obsolescence management in a highly regulated and complex industrial environment requires both a technical solution and a suitable organizational structure. The proposed information model provides a structured way to collect, store, and share obsolescence-related data across departments and stakeholders, enabling transparency, traceability, and timely access to critical information. It supports lifecycle tracking of components, links to external data sources, and enables proactive risk assessment



Proposed obsolescence information model



Model applied for effective information flow and silos avoidance



Model applied for envisioned proactive management strategy

The organizational framework defines roles, responsibilities, and workflows needed to manage obsolescence effectively within the company's decentralized setting. Together, the result is the creation of a scalable and actionable management that fits the company's operational needs, enforces supplier engagement and sets the foundation for further developments.

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