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PROJE YÖNETİMİ VE SİSTEM MÜHENDİSLİĞİ EĞİTİMİ

28.09.2023

by
Hasan ÇİTÇİ

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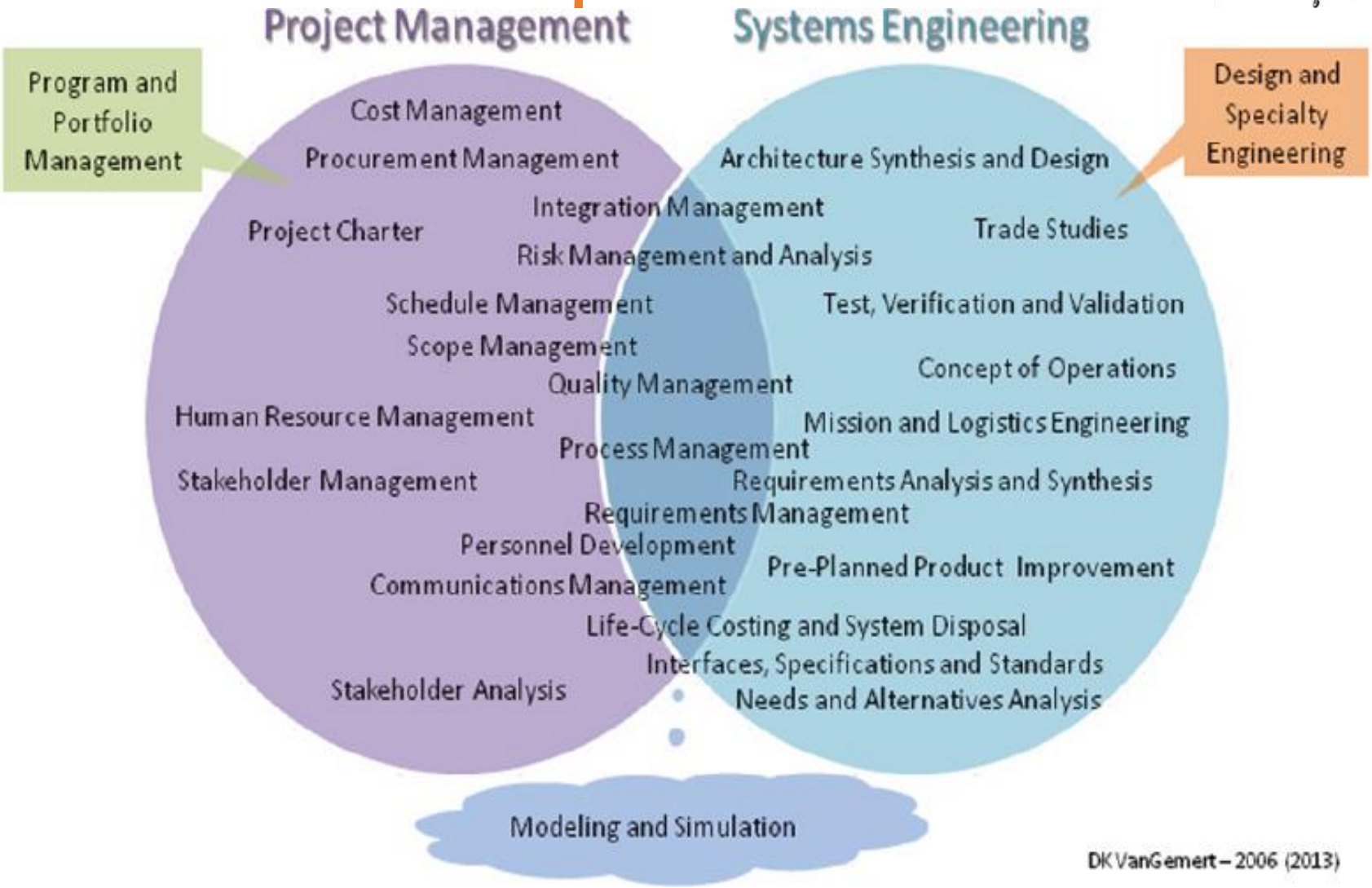
İçerik

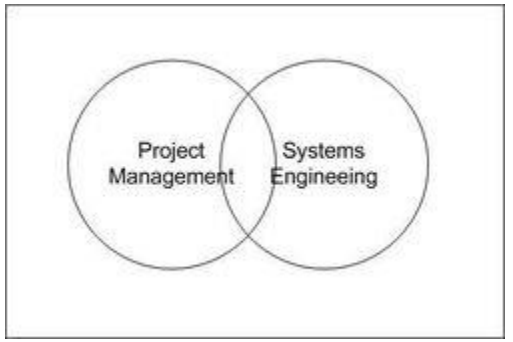
- **Project Management vs Systems Engineering**
- **PMI vs INCOSE & PMP vs CSEP**
- *Durumları*
- *Güncel Proje Takvimi*
- *Sorular*
- *Teşekkürler*

Project Management vs Systems Engineering

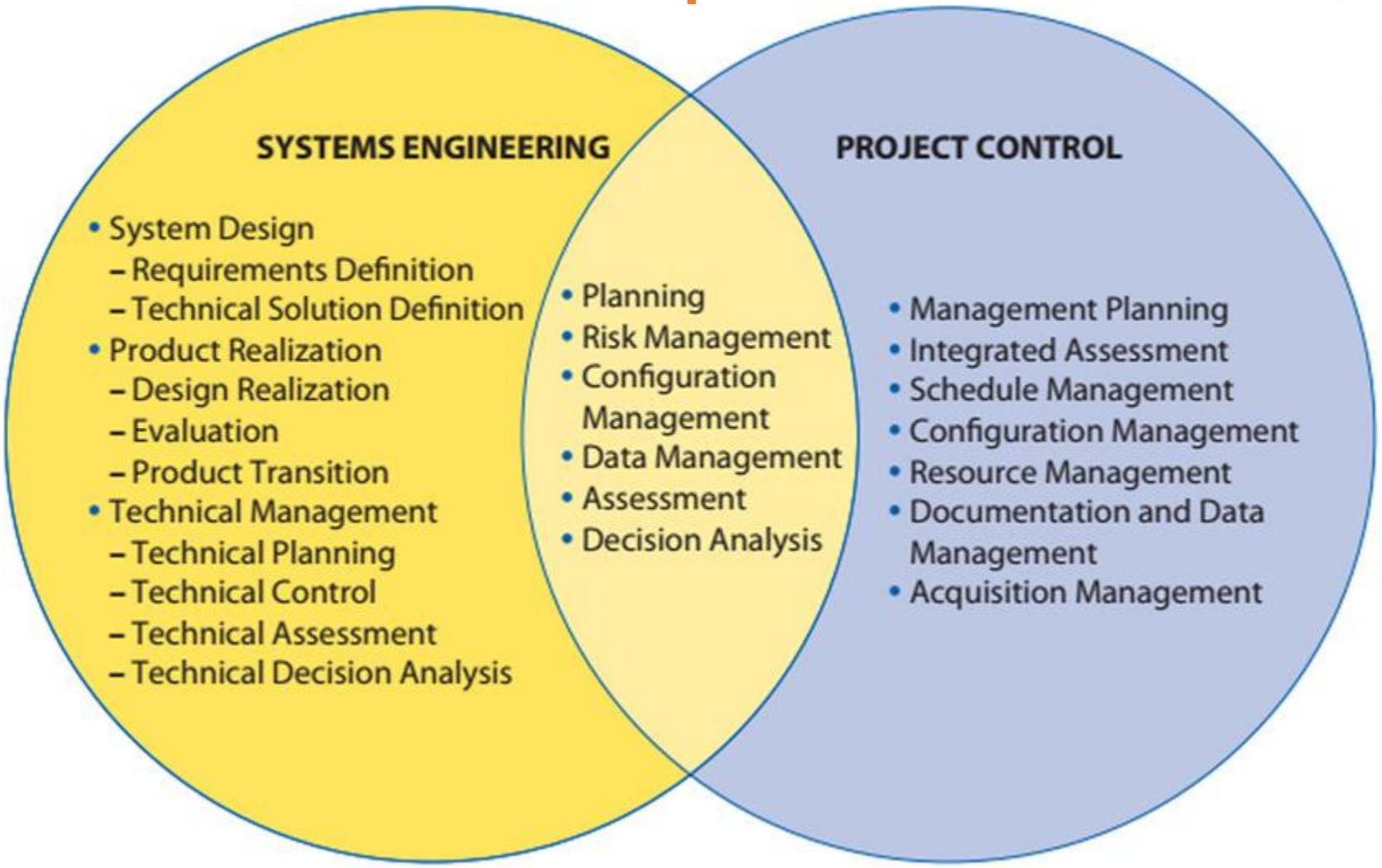


Project Management vs Systems Engineering

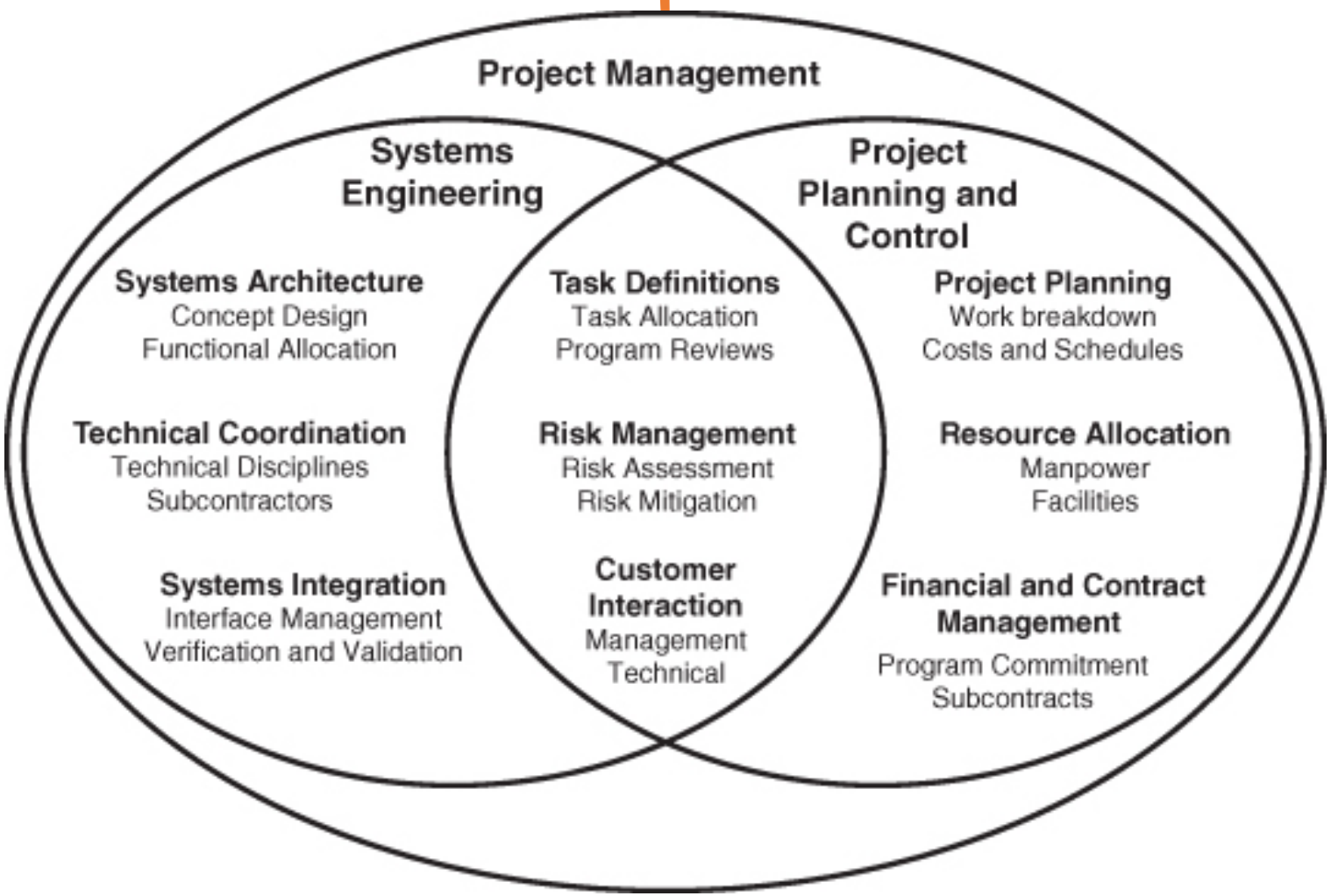
While the project manager manages the project life cycle, the systems engineer manages the technical baseline of the product under development. The project manager and systems engineer share requirements management responsibility, and by working closely together they keep the project on track.



Project Management vs Systems Engineering

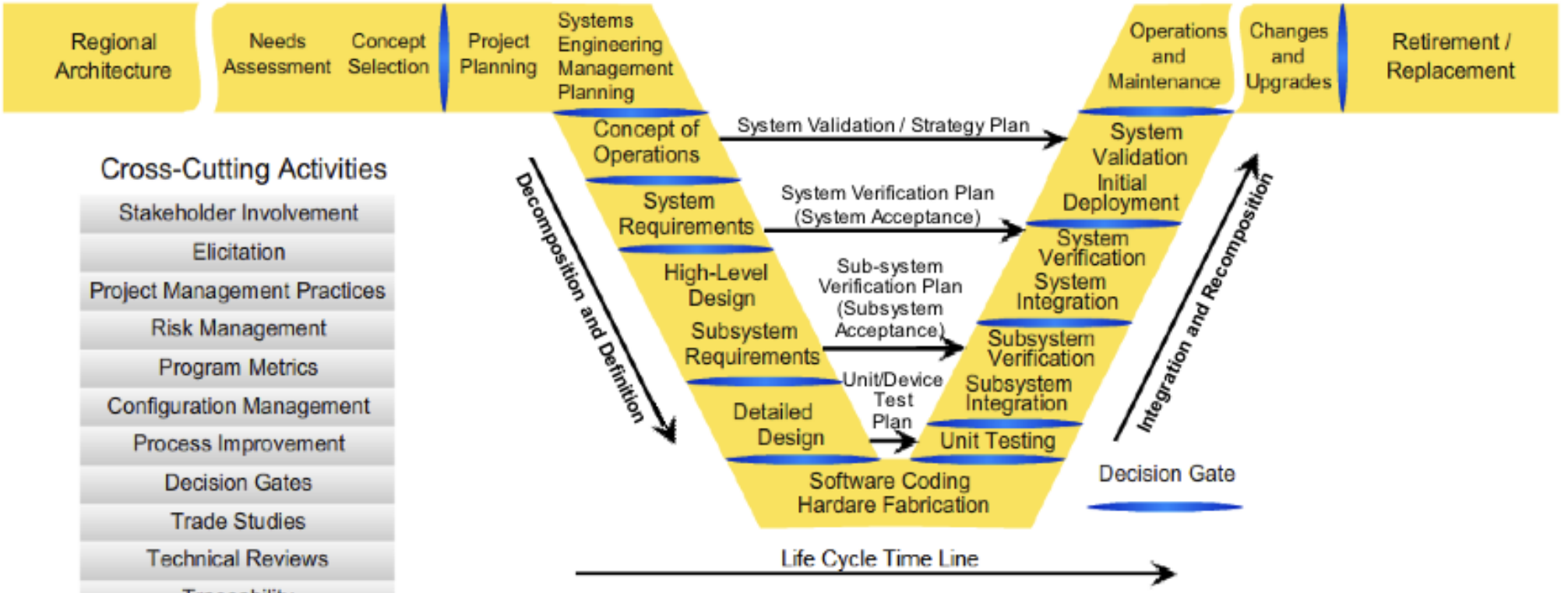


Project Management vs Systems Engineering



Project Management vs Systems Engineering – V Model

Phase -1	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Interfacing with Planning and the Regional Architecture	Concept Exploration and Benefits Analysis	Project Planning and Concept of Operations Development	System Definition and Design	System Development and Implementation	Validation, Operations and Maintenance, Changes & Upgrades	System Retirement / Replacement



V Model

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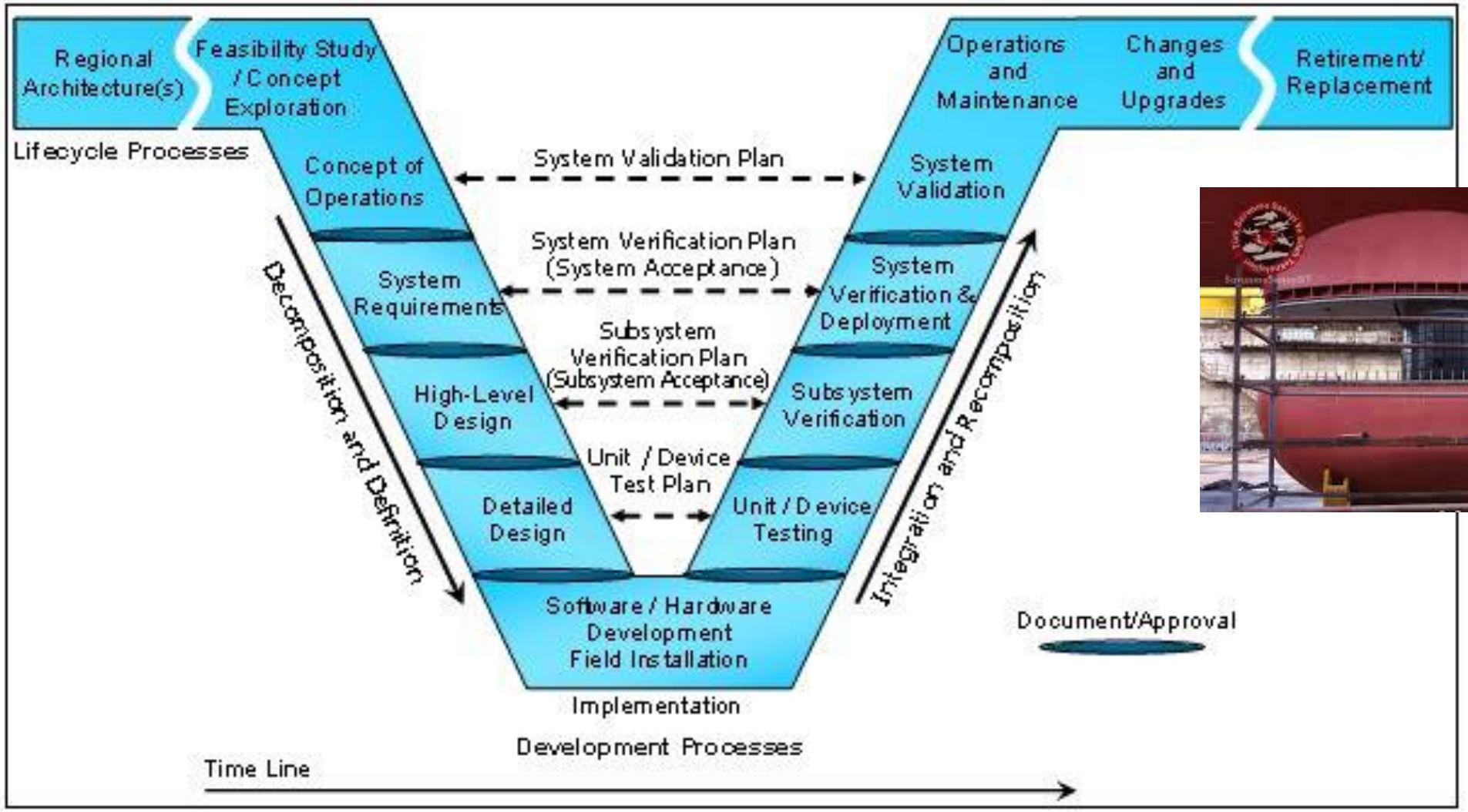

Systems Engineering – System Boundaries

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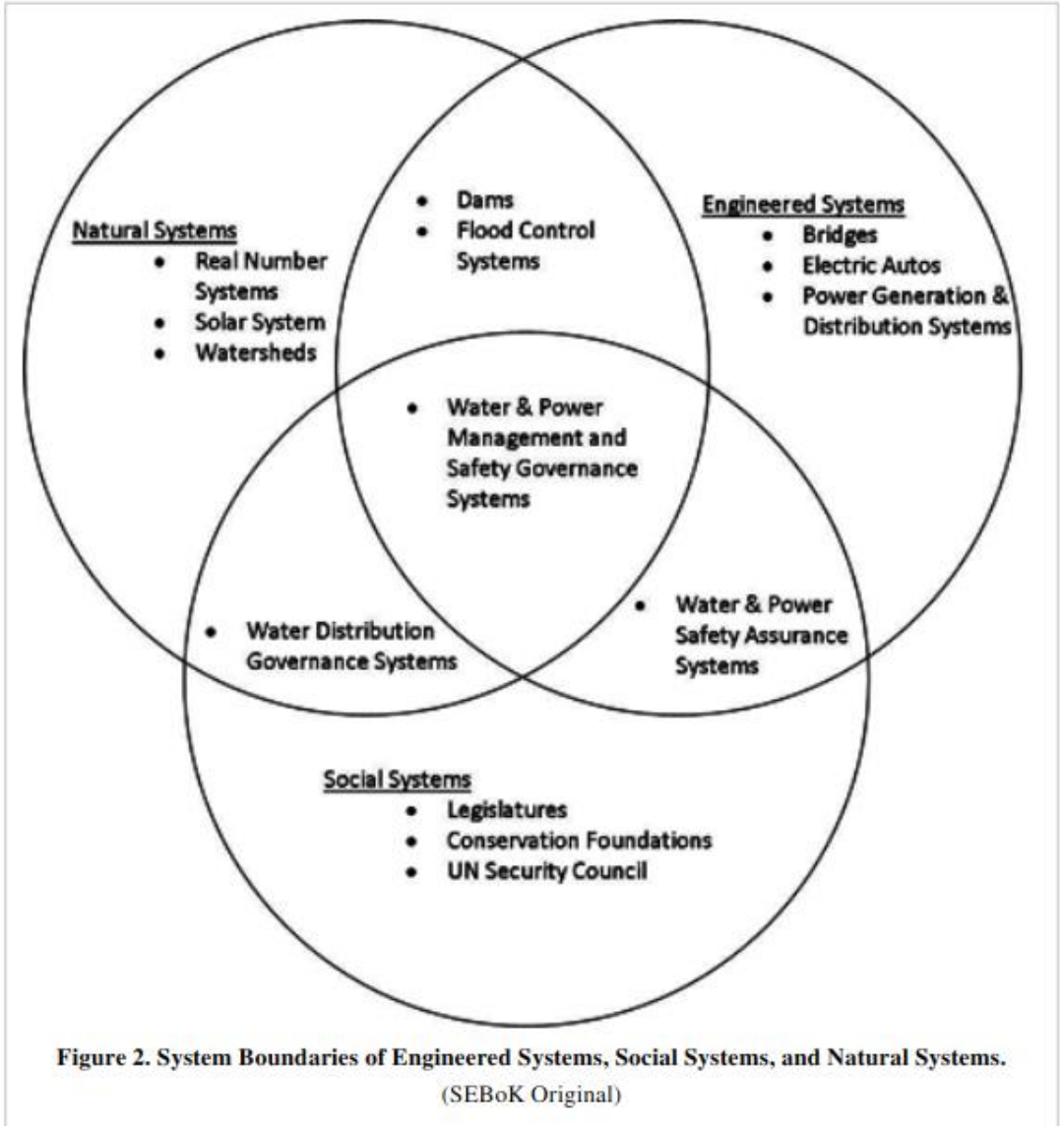
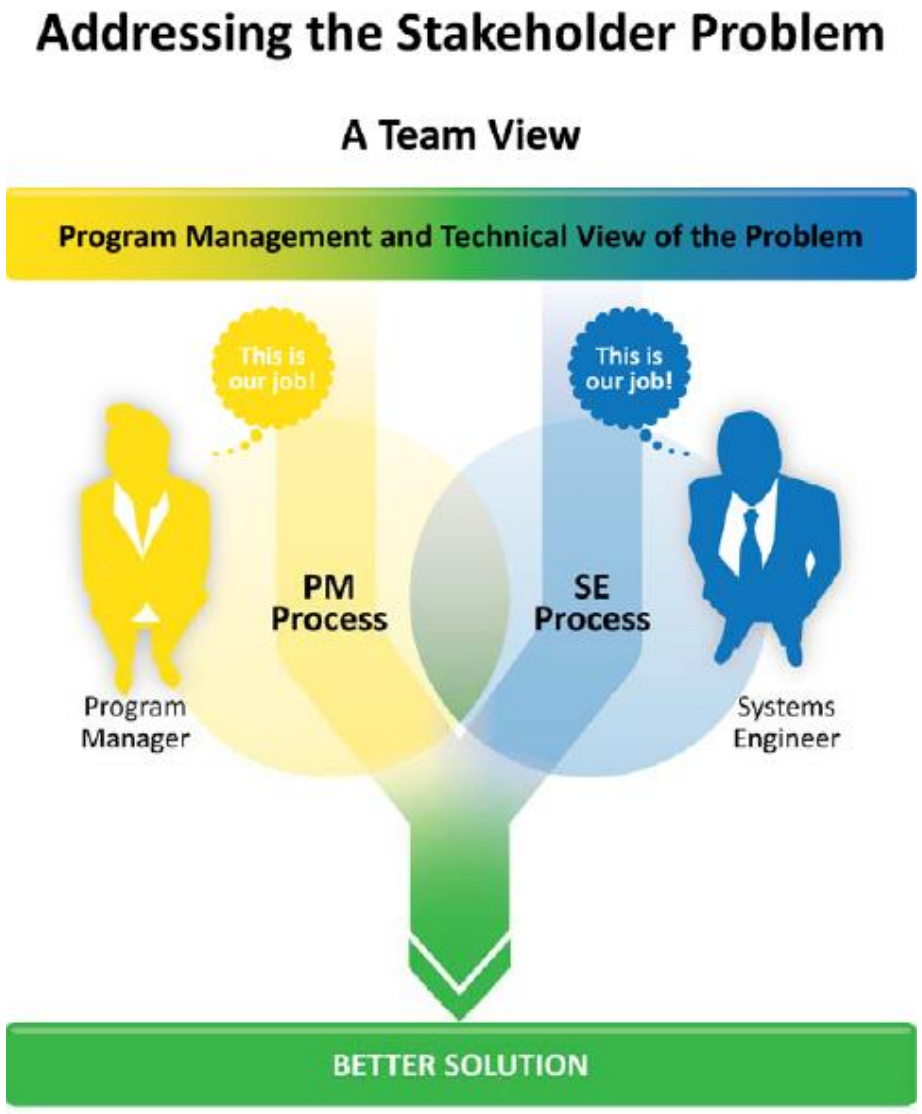


Figure 2. System Boundaries of Engineered Systems, Social Systems, and Natural Systems.
(SEBoK Original)

Project Management vs Systems Engineering



Compete vs Corporate

PMI vs INCOSE & PMP vs CSEP

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Project Management Professional®
PMP® certification is the gold standard in project management. Recognized and demanded by organizations worldwide, the PMP validates your competence to perform in the role of a project manager, leading and directing projects and teams.

What is SEP Certification?
Systems Engineering Professional (SEP) certification formally recognizes your progress through your career as you develop and apply systems engineering knowledge and practices. INCOSE offer three levels of certification ASEP, **CSEP** and ESEP.

Certification is a formal process whereby a community of knowledgeable, experienced, and skilled representatives of an organization, such as INCOSE, provides confirmation of an individual's competency (demonstrated knowledge and experience) in a specified profession. Certification differs from licensing in that licenses are permissions granted by a government entity for a person to practice within its regulatory boundaries. Certification also differs from a "certificate" that documents the successful completion of a training or education program.

SEBoK (Systems Engineering Body of Konwledge) Introduction

Systems engineering (SE) is essential to the success of many human endeavors. As systems increase in scale and complexity, SE is increasingly recognized worldwide for its importance in their development, deployment, operation, and evolution.

The purpose of the *Guide to the Systems Engineering Body of Knowledge (SEBoK)* is to provide a widely accepted,

community-based, and regularly updated baseline of SE knowledge. This baseline will strengthen the mutual understanding across the many disciplines involved in developing and operating systems. Shortfalls in such mutual understanding are a major source of system failures, which have increasingly severe impacts as systems become more global, interactive, and critical.

Systems Engineering - INCOSE Systems Engineering Handbook

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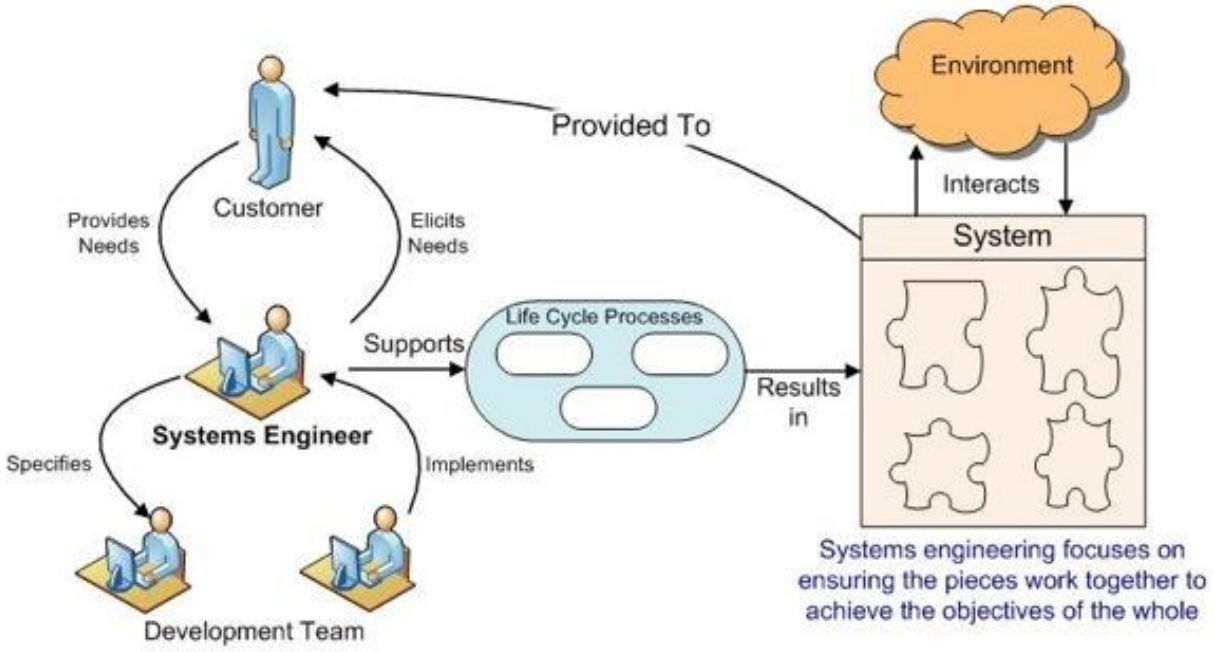
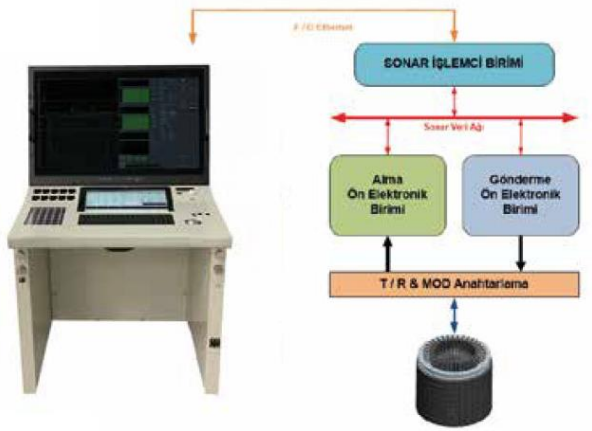
Systems Engineering (SE) is an **interdisciplinary approach** and means to **enable the realization of successful systems**.

Successful systems must satisfy the needs of their customers, users and other stakeholders.





Şekil:1 YAKAMOS 2020 Ana Blokları

INCOSE – System Life Cycle Processes

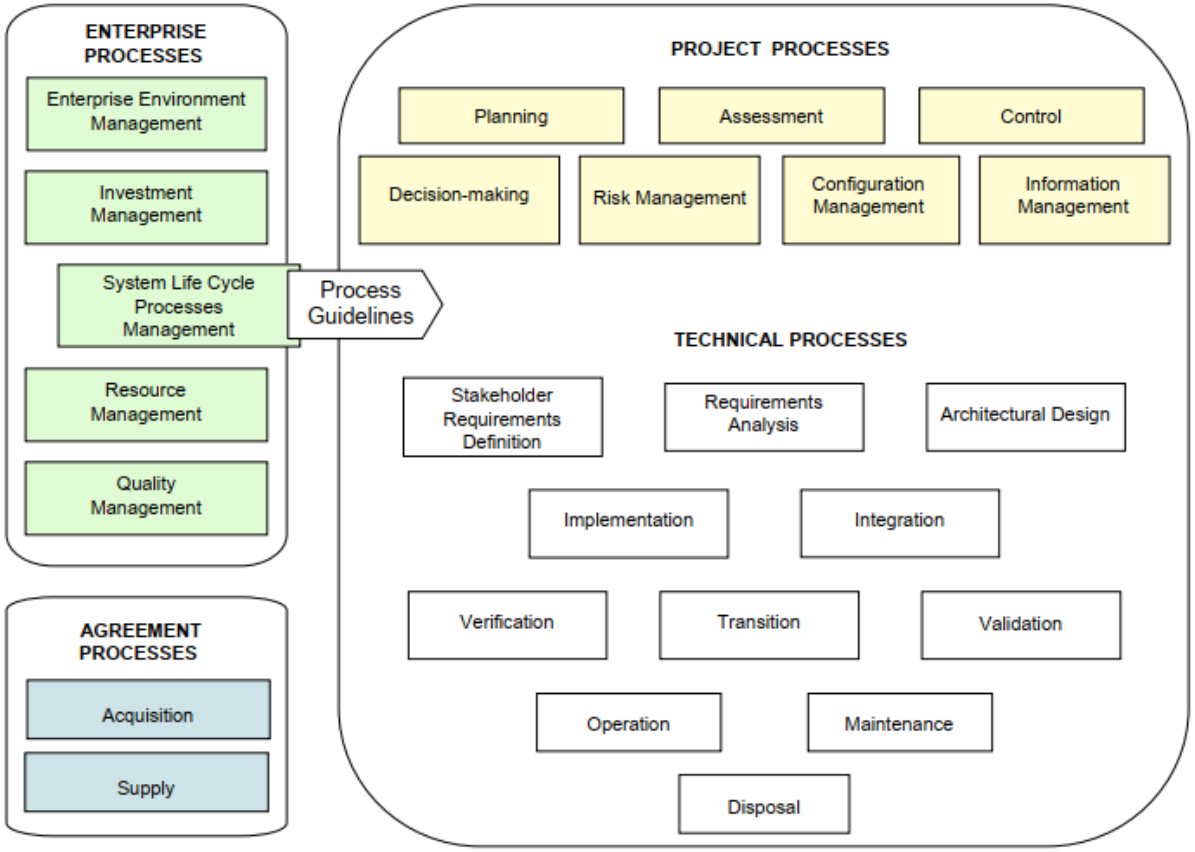


Figure 1-1 System Life Cycle Processes Overview per ISO/IEC 15288

Technical Processes include stakeholder requirements definition, requirements analysis, architectural design, implementation, integration, verification, transition, validation, operation, maintenance, and disposal.

Project Processes include planning, assessment, control, decision-making, risk management, configuration management, and information management.

Enterprise Processes include enterprise management, investment management, system life cycle processes management, resource management, and quality management**.** As Figure 1-1 illustrates, the outputs of the system life cycle processes management process directs the tailoring of the Technical and Project processes.

Agreement Processes address acquisition and supply.

In Scope vs Out Of Scope

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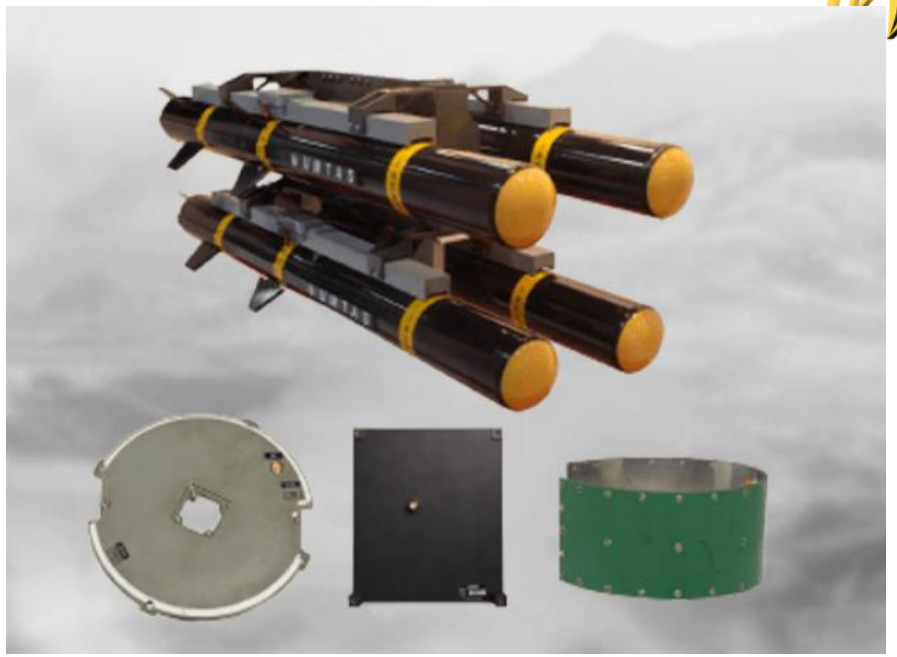

In a project environment, work necessary to accomplish project objectives is considered "**in scope**;" all other work is considered "**out of scope**." **On every project, "thinking" is always "in scope."** Thoughtful **tailoring** and **intelligent application** of the systems engineering process described in INCOSE handbook is essential to achieve the proper balance between the risk of missing project technical and business objectives on the one hand, and process paralysis on the other.

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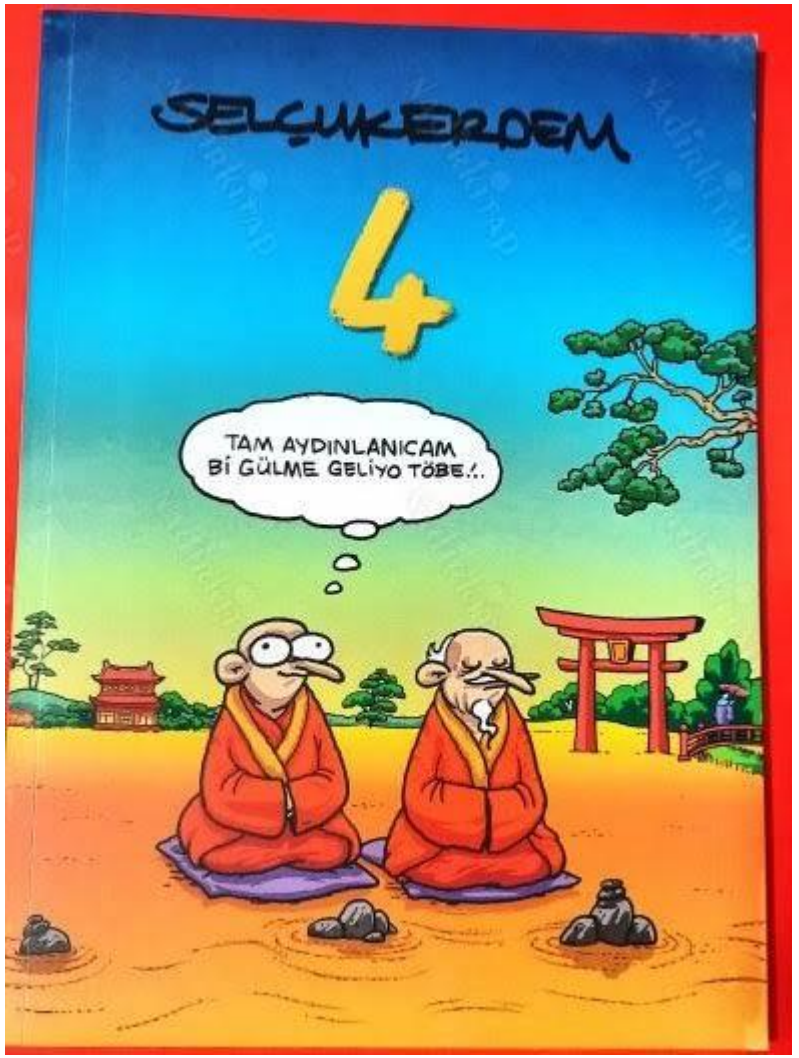
Not every process will apply universally. Careful selection from the material that follows is recommended. Reliance on process over progress will not deliver a system. If you are not familiar with tailoring concepts, please read Chapter 10 of INCOSE Systems Engineering Handbook before using it.



Project Management – Cost & Scope & Schedule + Quality

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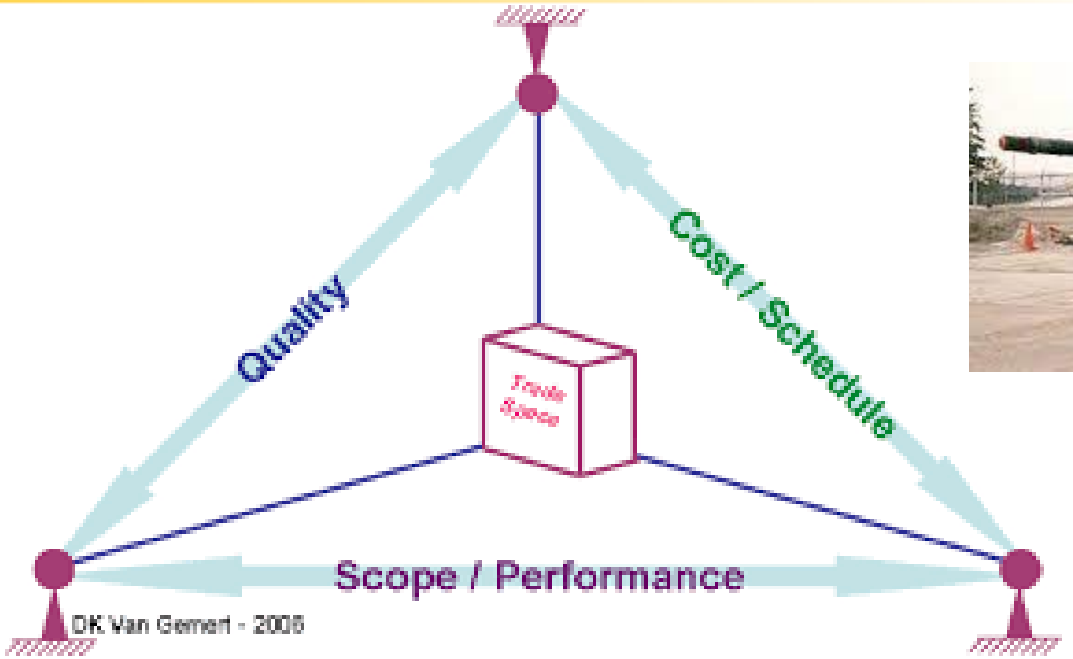

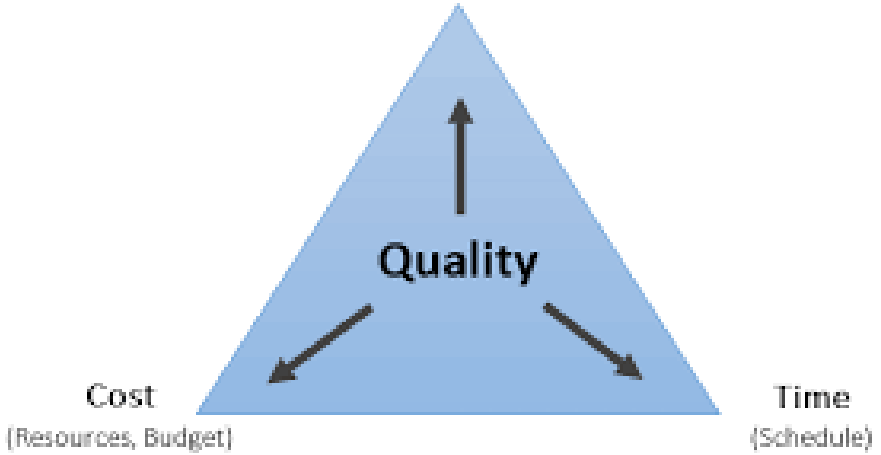

Project Management – Cost & Scope & Schedule + Quality

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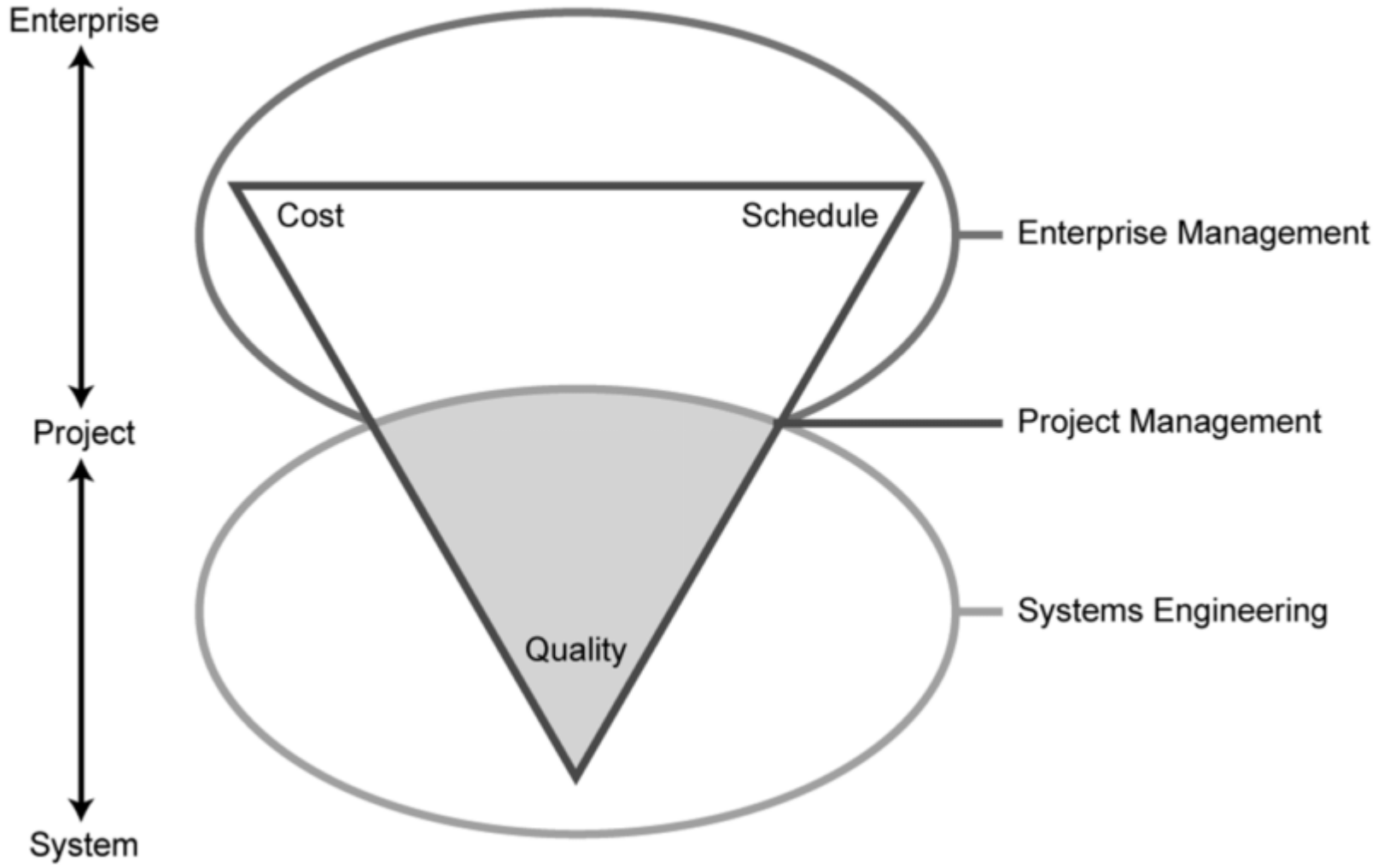

Project Management of Systems Engineering Process

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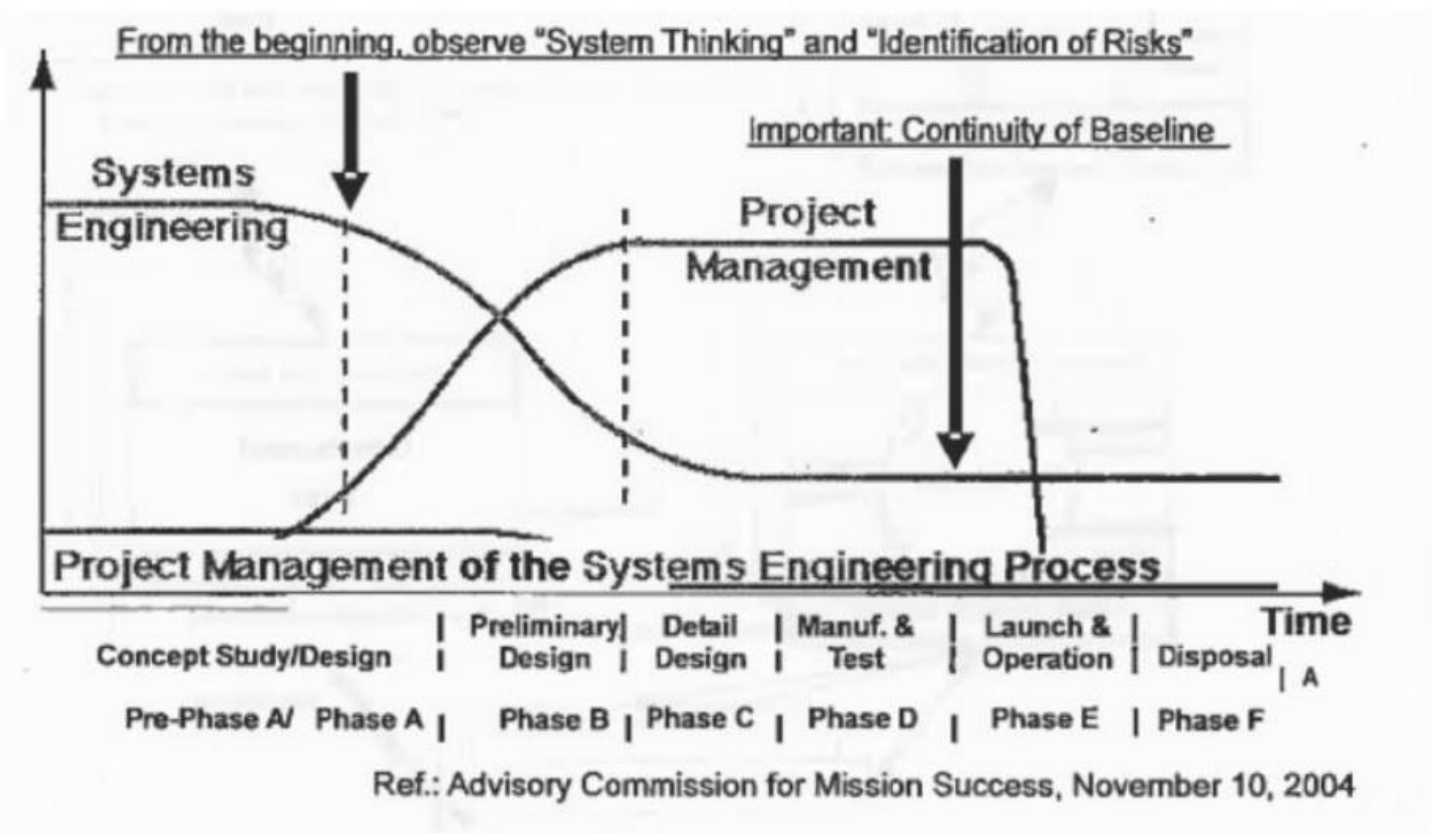


Figure 4 Project management and systems engineering in the system development process ((JAXA, 2007))

Project Management – Nominal Amount of Systems Engineering & Project Management &Engineering

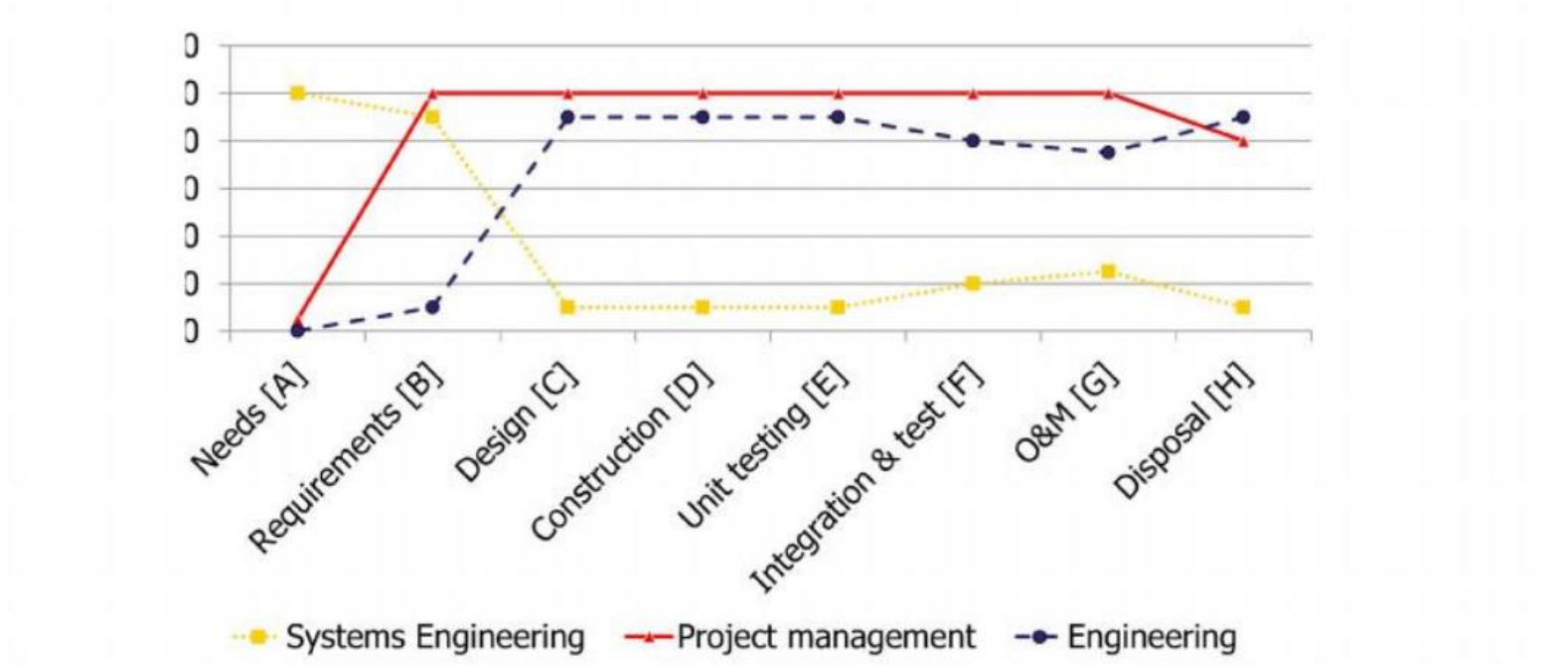
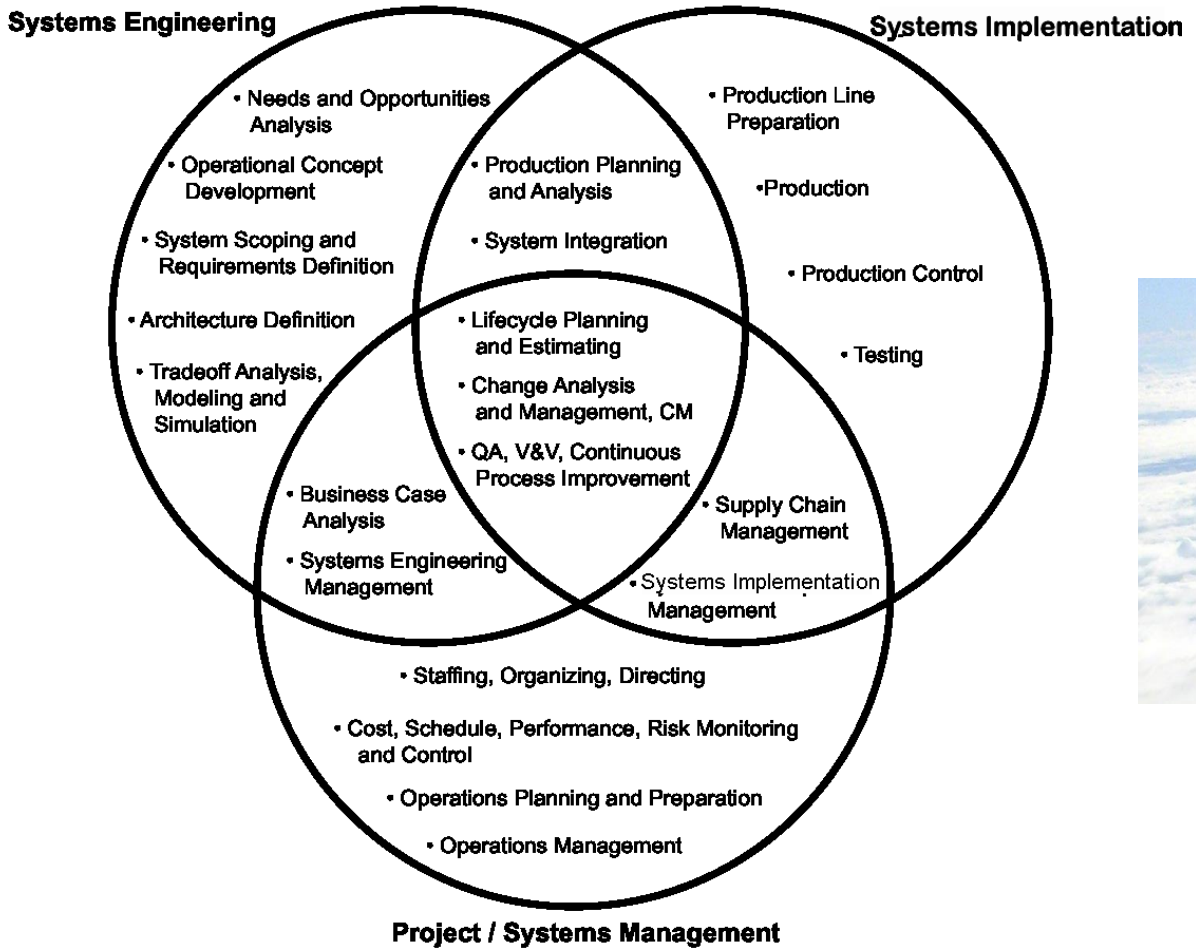


Figure 5. Representation of the nominal amount of systems engineering, project management and engineering of systems activities in the different phases of the SDP

Project Management – Nominal Amount of Systems Engineering & Project Management &Engineering



System Boundaries of Systems Engineering, Systems Implementation, and Project/Systems Management.
(SEBoK Original)

Project Management – Star Wars Analogy

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Project Management - PMO

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Supportive PMO

- Low Level of control;
- consultative role projects;
- Supplies templates, best practices, lessons learned
- Cannot enforce anything

Controlling PMO

- Moderate Control over projects
- Provides support and guidance to projects - PM training; PM tool assistance
- Enforces compliance to organizational practices

Directive PMO

- High level of control over projects
- Project managers are assigned by and report to PMO
- PMO directly manages the projects

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