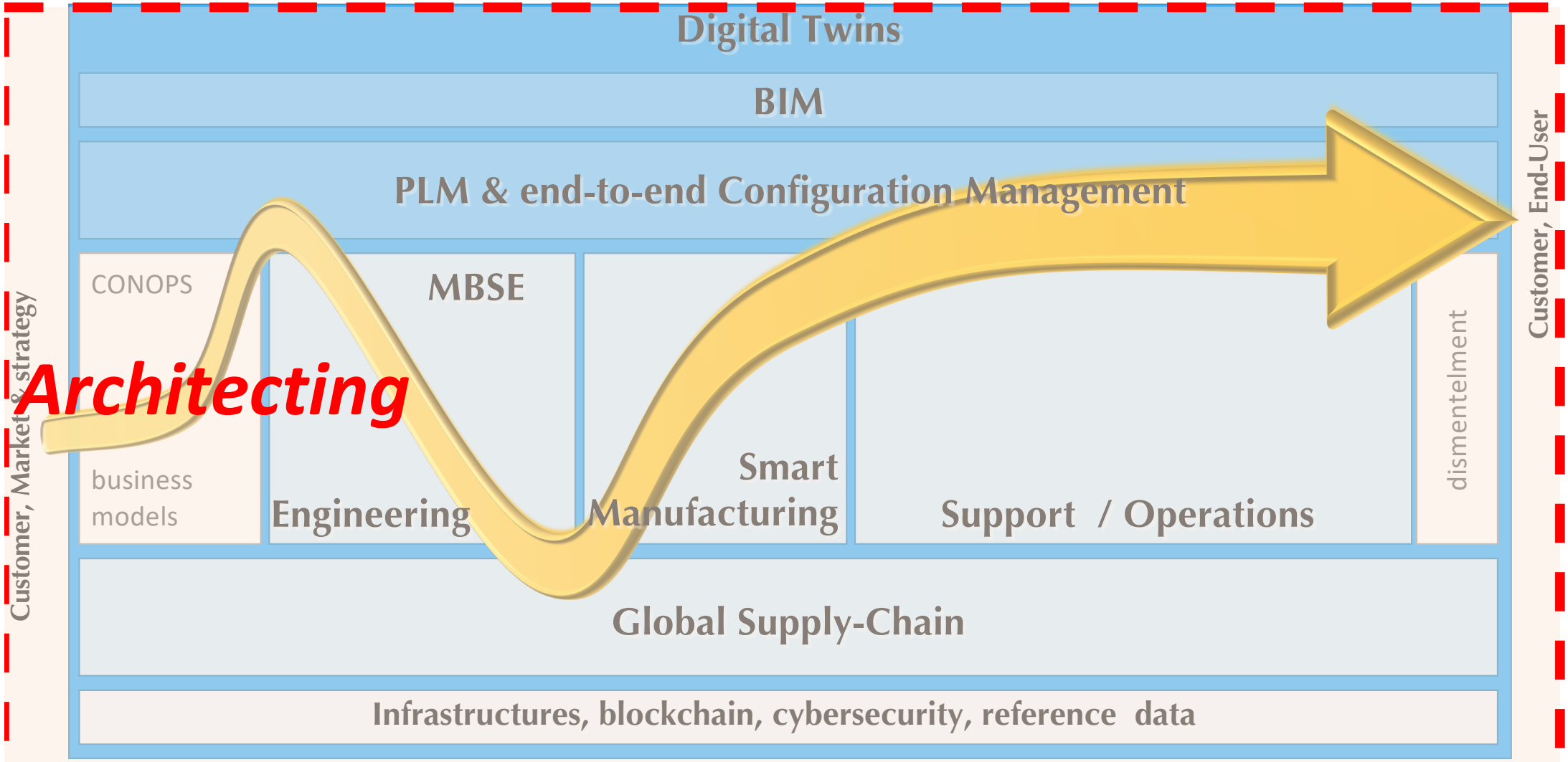
In partnership with

AFNeT Standards Days

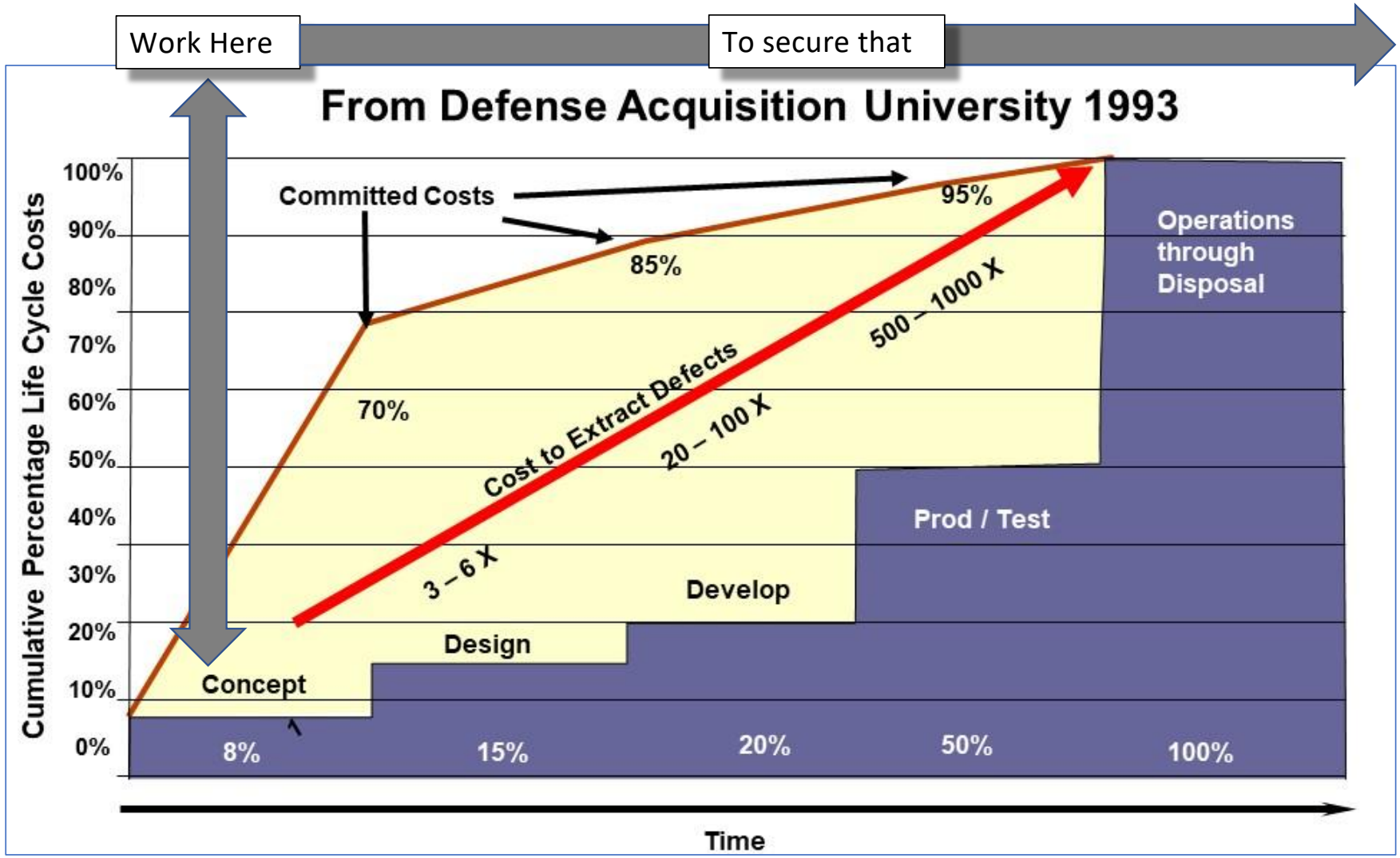
Architecting

by Jean-Luc Garnier (AFIS, Thales)

Foundations for model-based industry ecosystems



Why Architecting?



Architecting:

conceiving, defining, expressing, documenting, communicating, certifying proper implementation of, maintaining and improving an architecture throughout the life cycle for an architecture entity

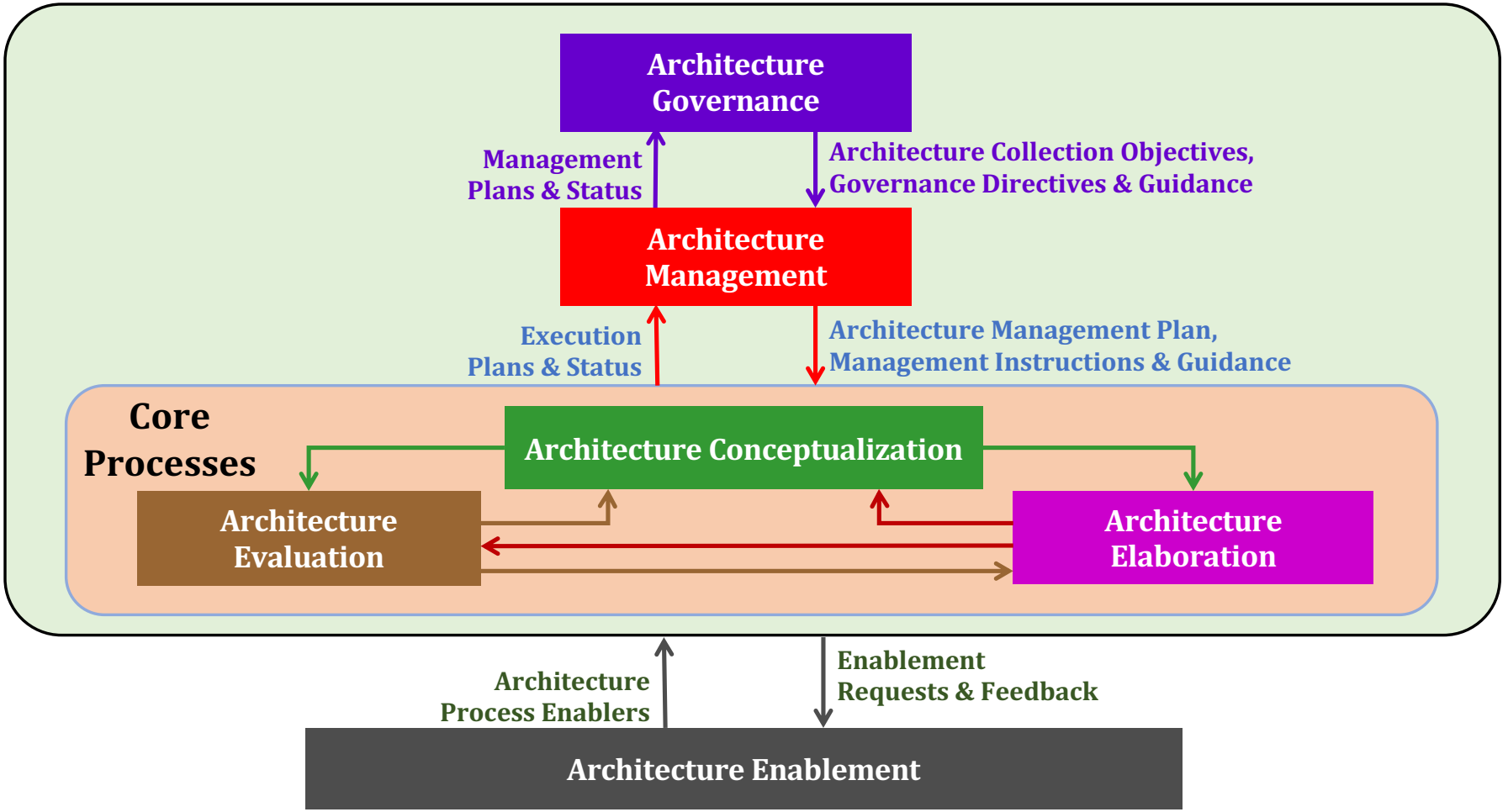
[ISO/IEC/IEEE 42020 – Architecture Processes]

Architecture:

fundamental concepts or properties of an entity in its environment and governing principles for the realization and evolution of this entity and its related life cycle processes

[ISO/IEC/IEEE 42020 – Architecture Processes]

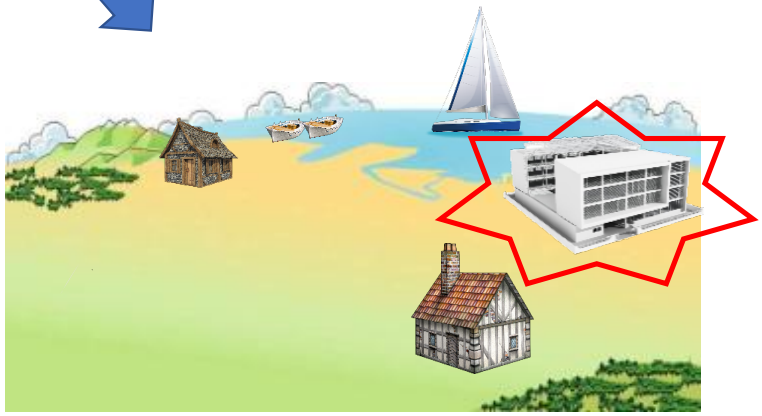
ISO/IEC/IEEE 42020 – Architecture Processes



Setting the scene

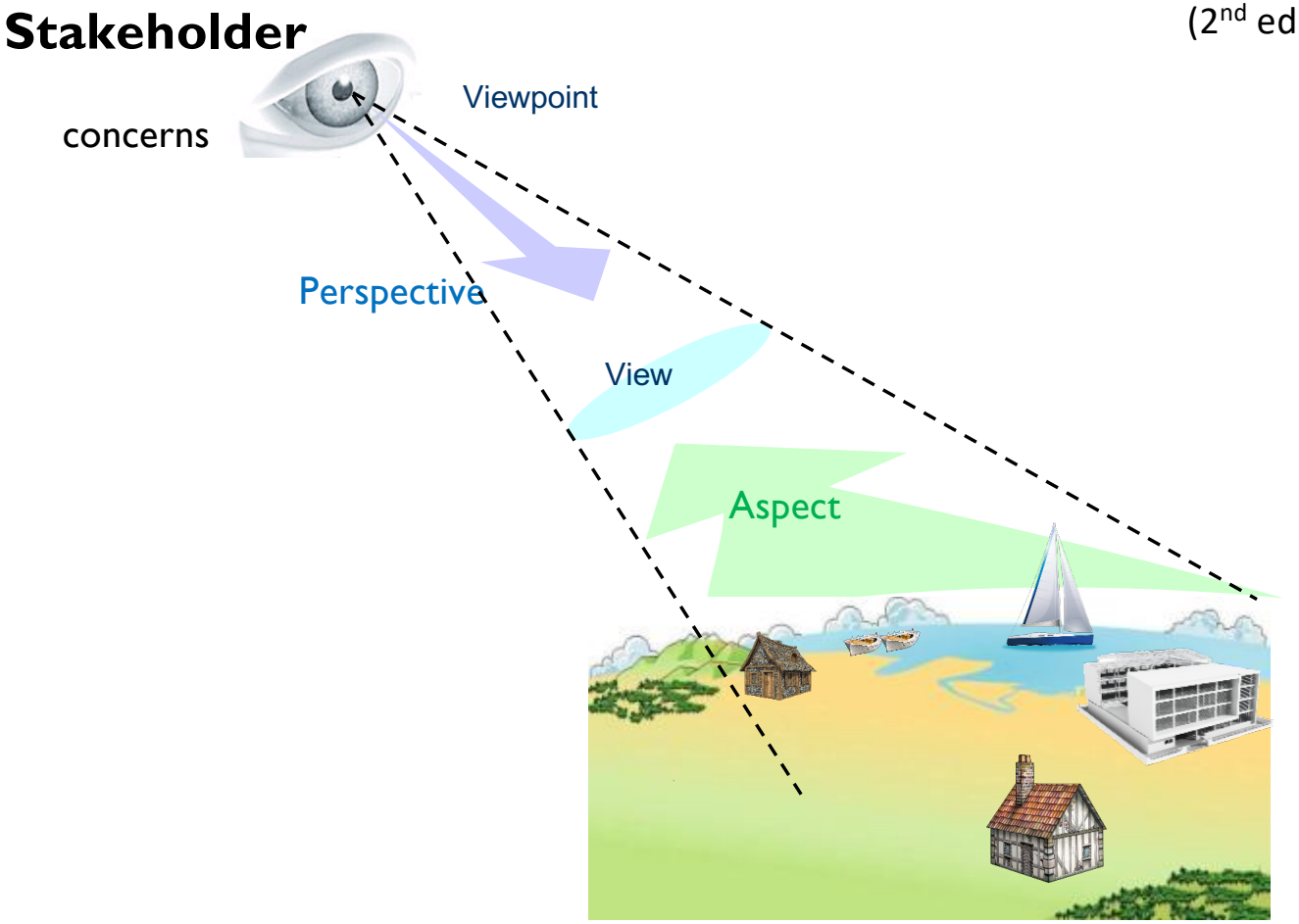
The architecting works start with the current or future reality.

Considering an entity of interest
…and a set of stakeholders.

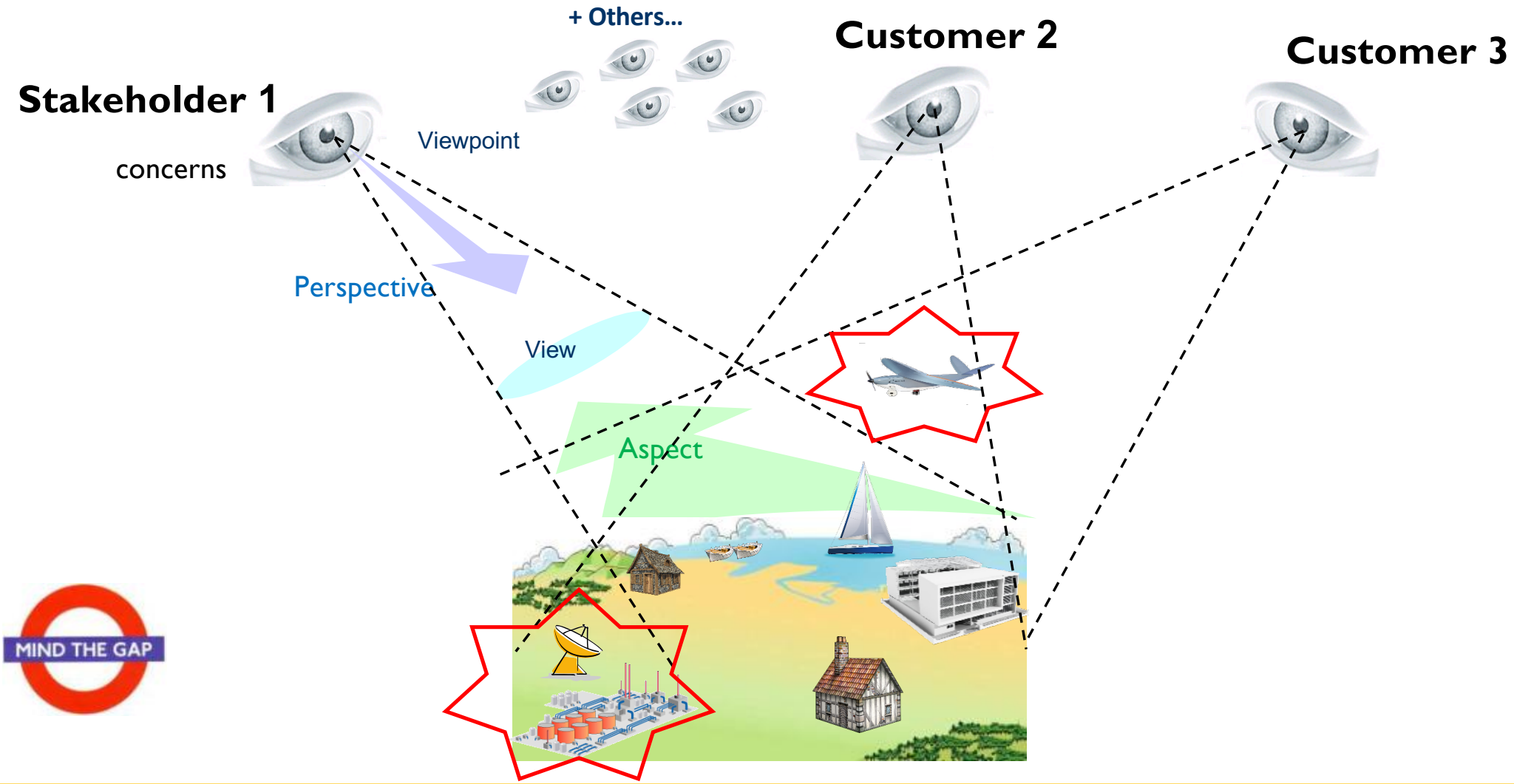


Main concepts for Architecture Description

ISO/IEC/IEEE 42010
(2nd edition under development)

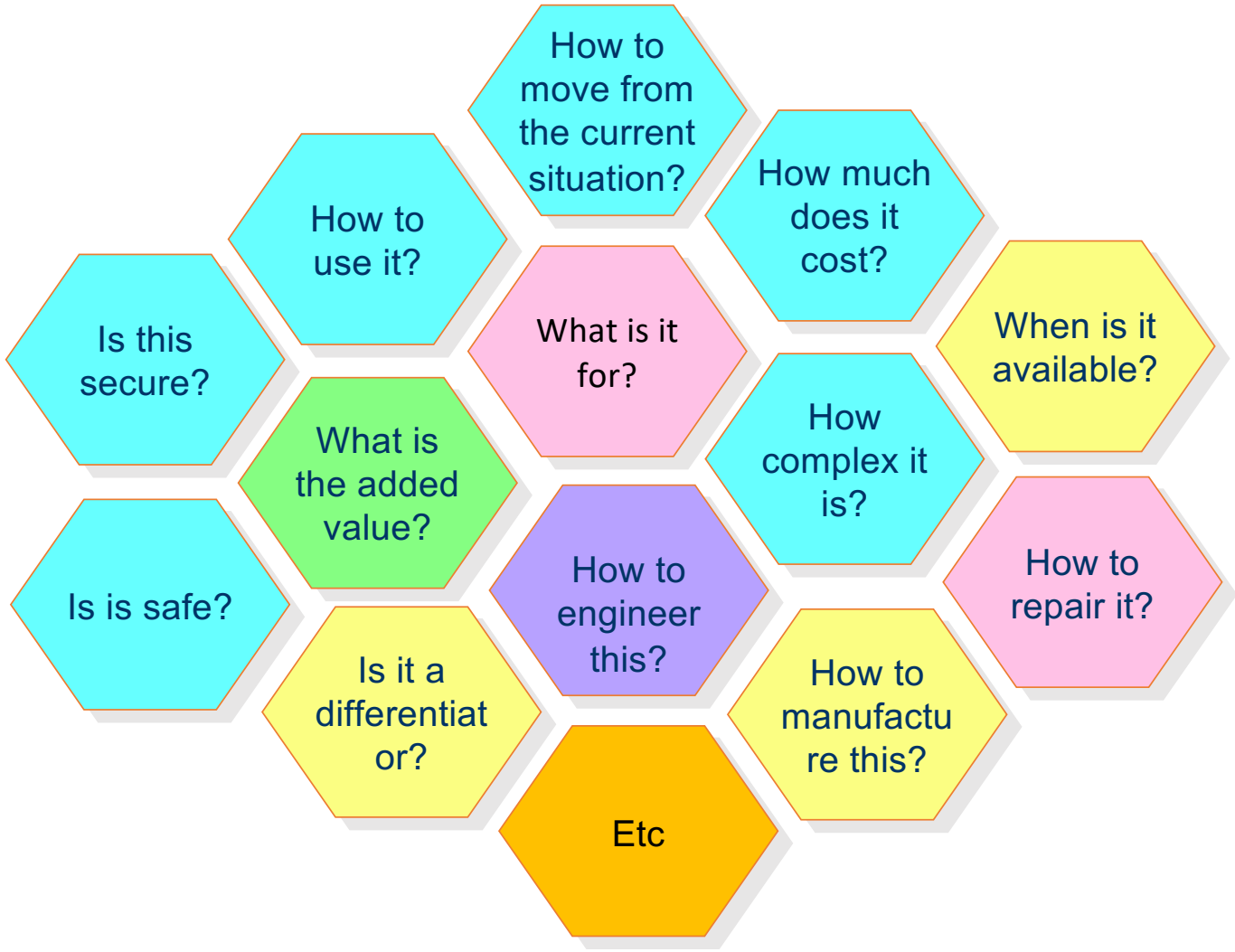


Enterprise scope: Deal with the stakeholders, their projects, etc.

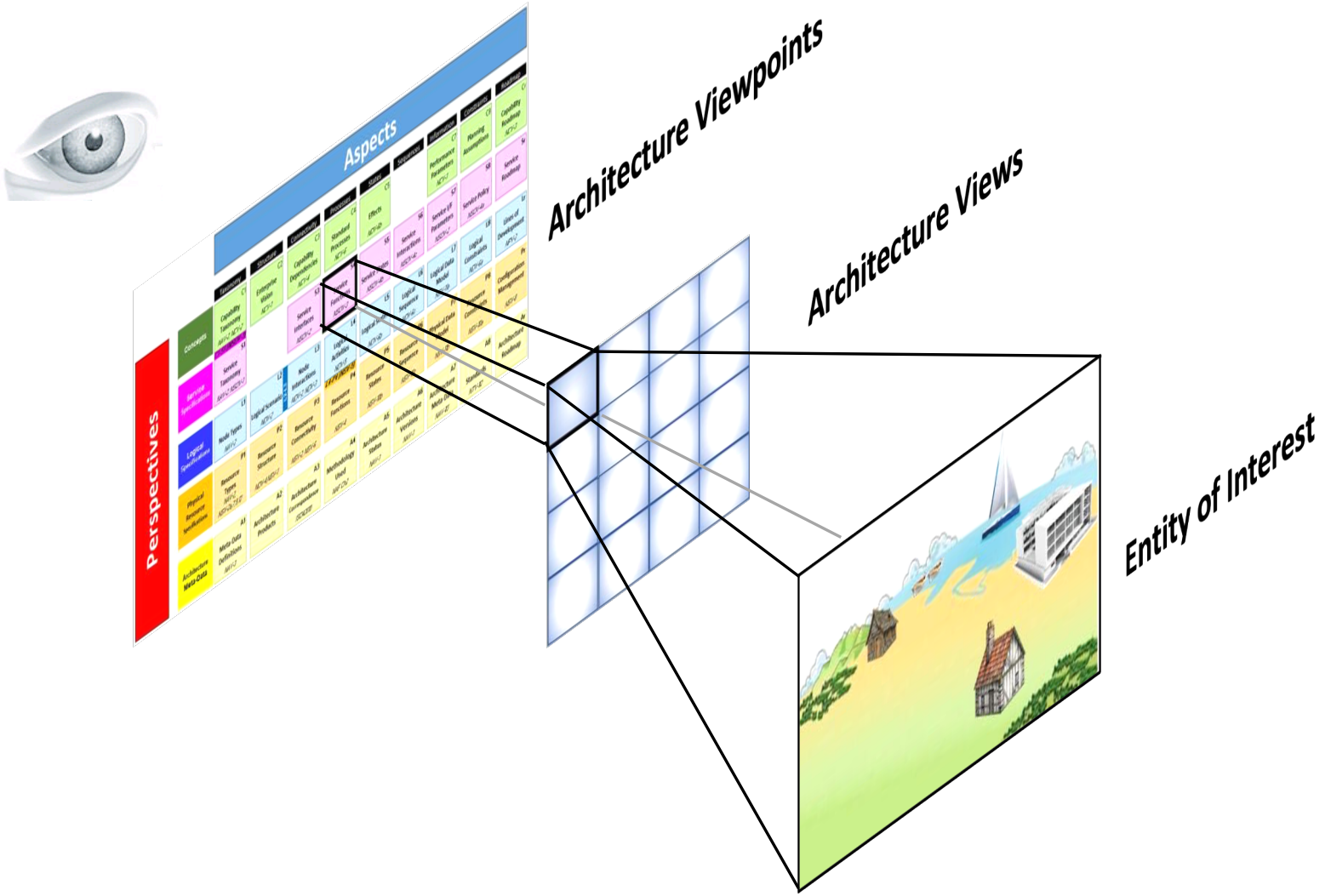


Examples of stakeholder concerns

To be thought for both Description and Evaluation of Architecture.



Architecture Description Frameworks



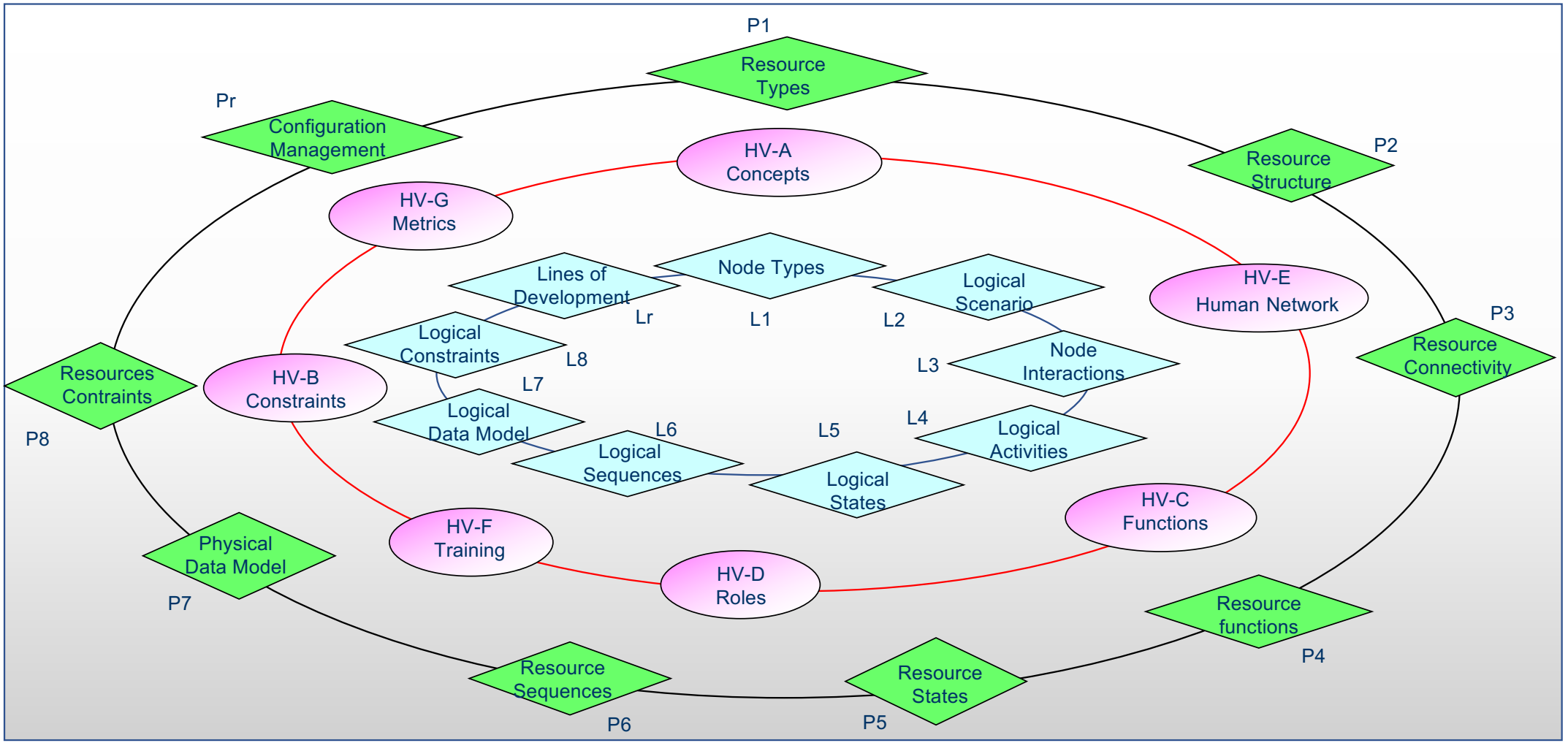
ASPECTS

PERSPECTIVES

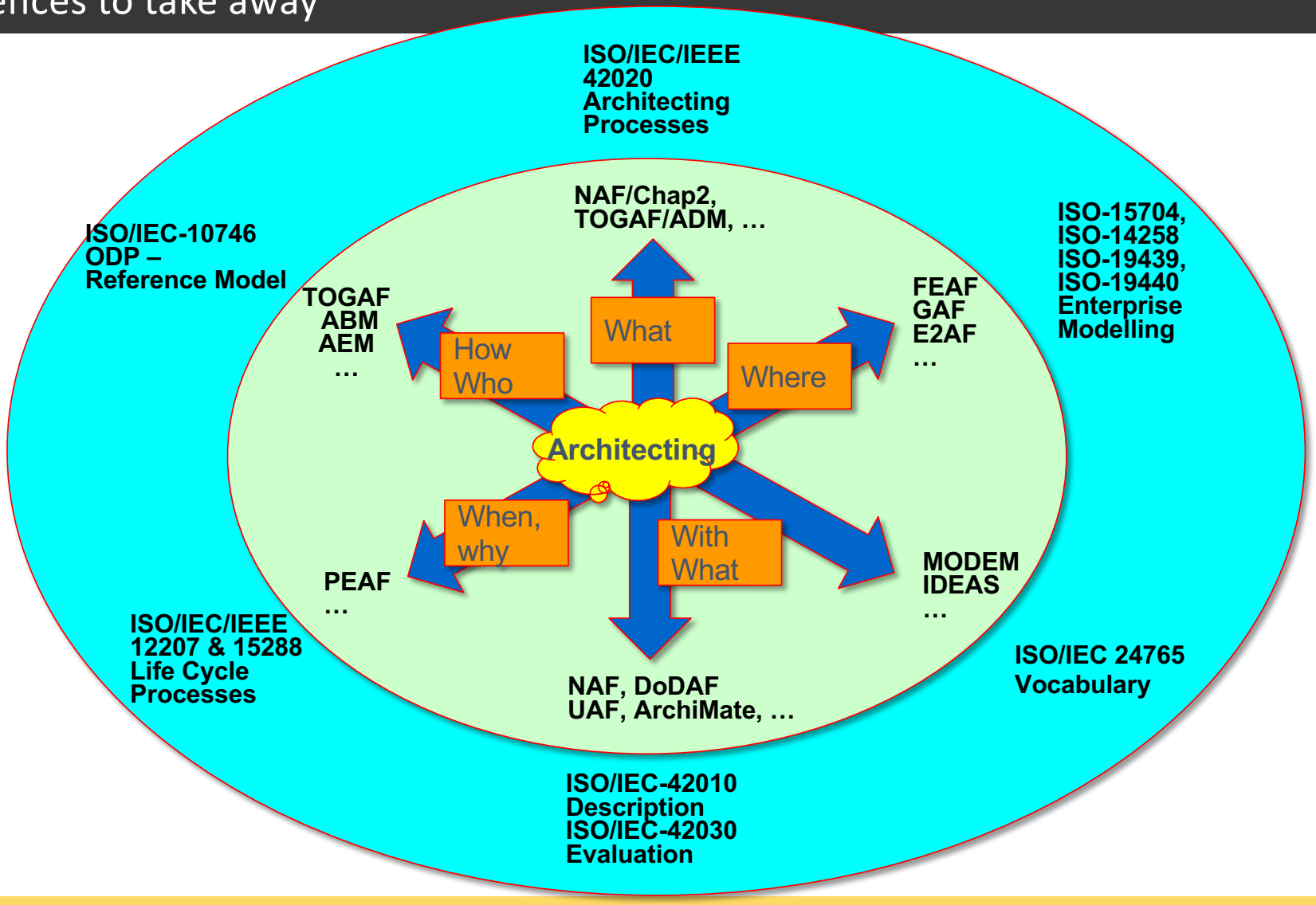
				Behaviour						
	Taxonomy	Structure		Connectivity	Processes	States	Sequences	Information	Constraints	Roadmap
Concepts	C1 Capability Taxonomy NAV-2, NCV-2	C2 Enterprise Vision NCV-1		C3 Capability Dependencies NCV-4	C4 Standard Processes NCV-6	C5 Effects NOV-6b		C7 Performance Parameters NCV-1	C8 Planning Assumptions	Cr Capability Roadmap NCV-3
	C1-S1 (NSOV-3)									
Service Specifications	S1 Service Taxonomy NAV-2, NSOV-1			S3 Service Interfaces NSOV-2	S4 Service Functions NSOV-3	S5 Service States NSOV-4b	S6 Service Interactions NSOV-4c	S7 Service I/F Parameters NSOV-2	S8 Service Policy NSOV-4a	Sr Service Roadmap
Logical Specifications	L1 Node Types NAV-2	L2 Logical Scenario NOV-2	L2-L3 (NOV-1)	L3 Node Interactions NOV-2, NOV-3	L4 Logical Activities NOV-5	L5 Logical States NOV-6b	L6 Logical Sequence NOV-6c	L7 Logical Data Model NSV-11a	L8 Logical Constraints NOV-6a	Lr Lines of Development NPV-2
					L4-P4 (NSV-5)					
Physical Resource Specifications	P1 Resource Types NAV-2, NSV-2a,7,9,12	P2 Resource Structure NOV-4,NSV-1		P3 Resource Connectivity NSV-2, NSV-6	P4 Resource Functions NSV-4	P5 Resource States NSV-10b	P6 Resource Sequence NSV-10c	P7 Physical Data Model NSV-11b	P8 Resource Constraints NSV-10a	Pr Configuration Management NSV-8
Architecture Meta-Data	A1 Meta-Data Definitions NAV-3	A2 Architecture Products		A3 Architecture Correspondence ISO42010	A4 Methodology Used NAF Ch2	A5 Architecture Status NAV-1	A6 Architecture Versions NAV-1	A7 Architecture Meta-Data NAV-1/3	A8 Standards NTV-1/2	Ar Architecture Roadmap

To get the manual ➔ https://www.nato.int/cps/en/natohq/search.htm?query=NAFv4&submitSearch=

Example of extension: NATO Human Views



More references to take away



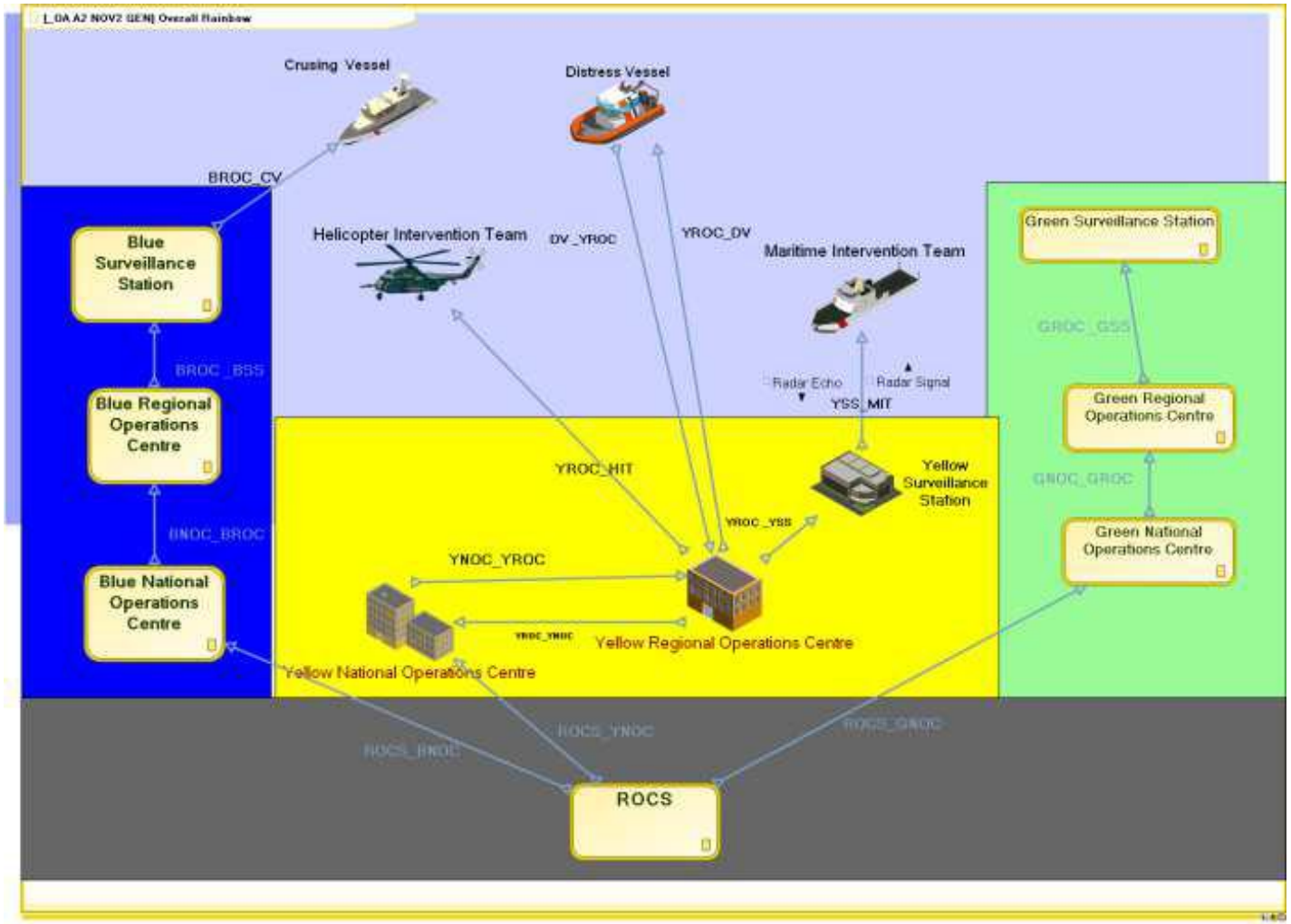
Questions
&
Answers

6th and 7th October

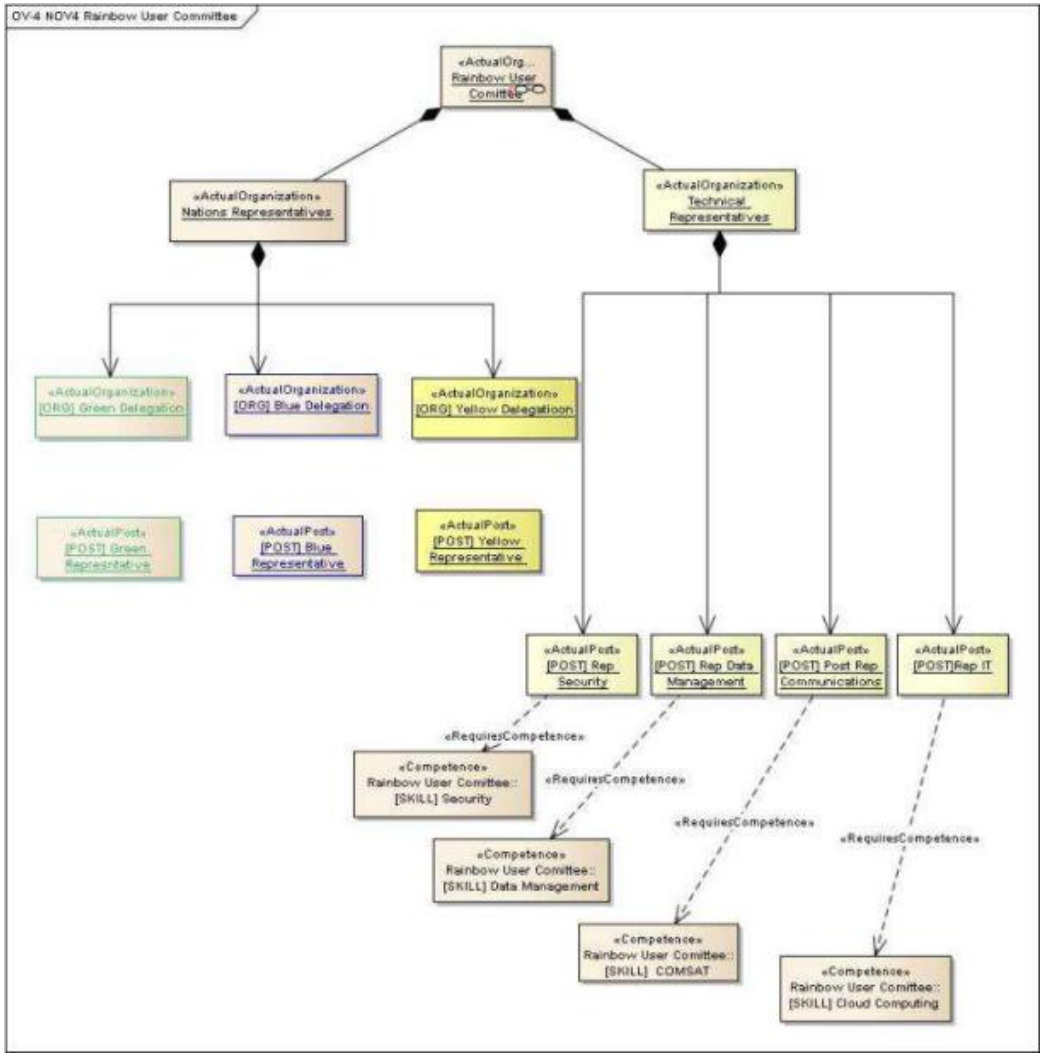
http://standardsdays.afnet.fr

Annex
Some Architecture views

Architecture View example: Operational view

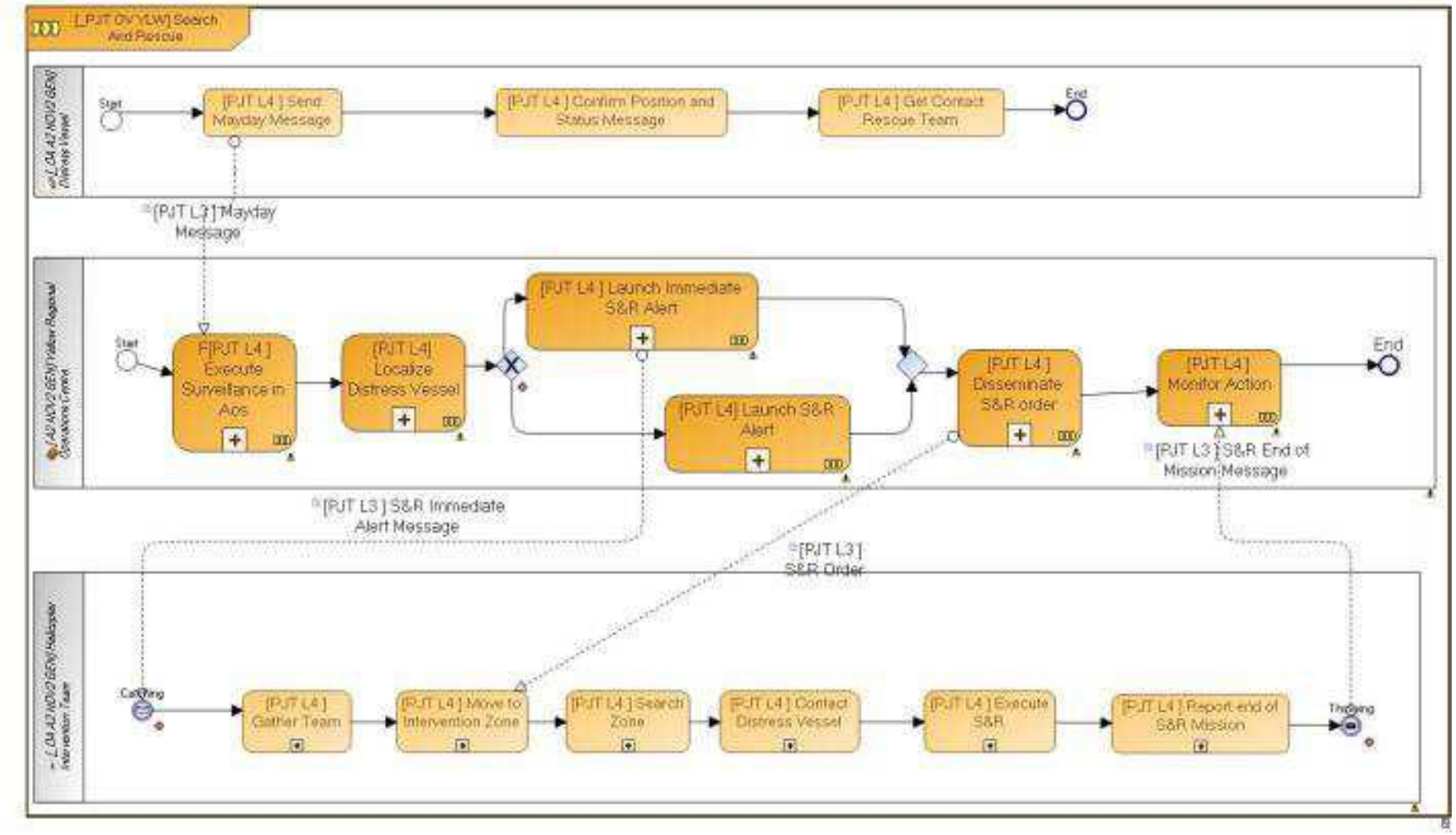


Architecture View example: Organizational view

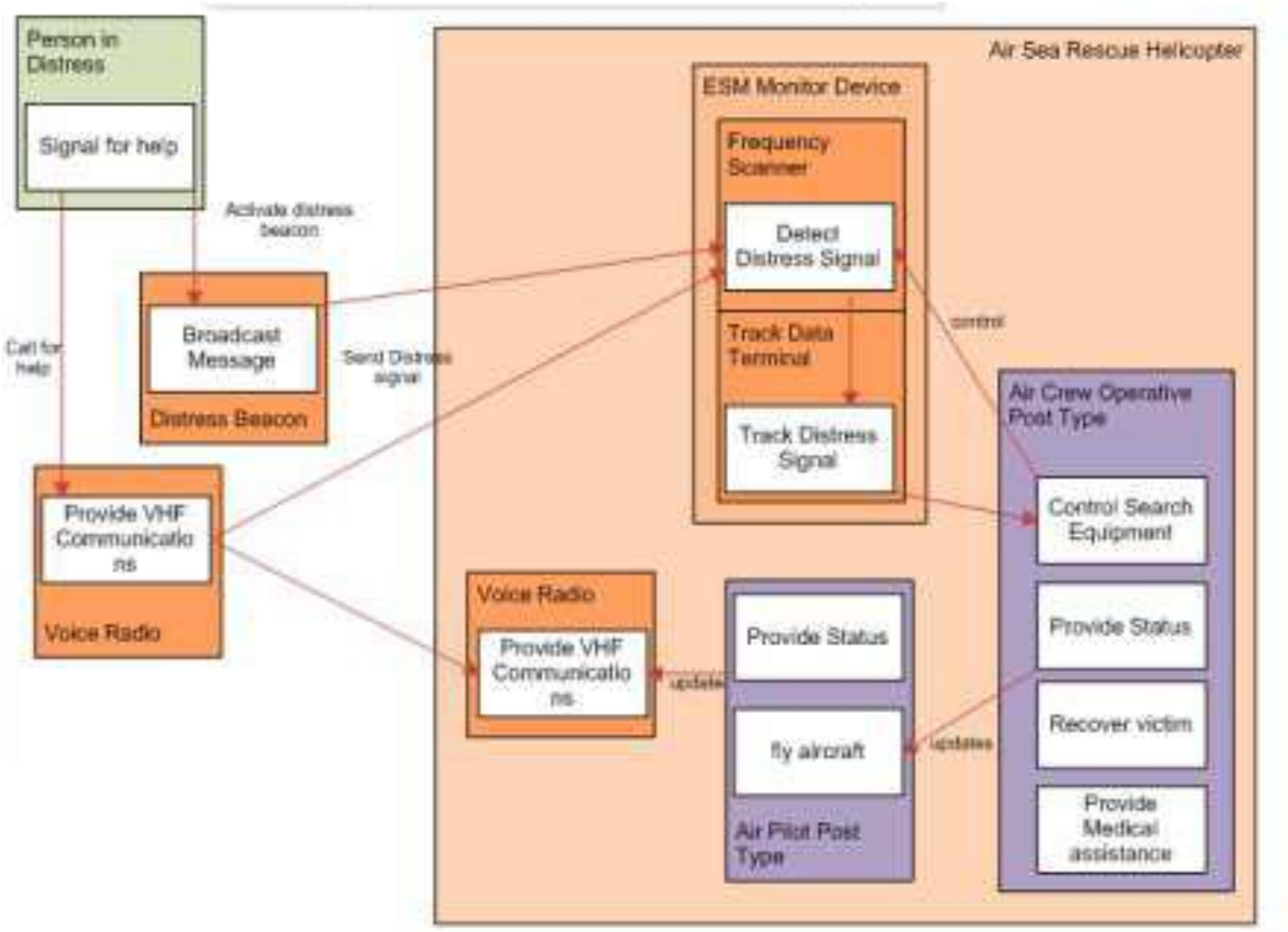


Architecture View example: Processes and interactions

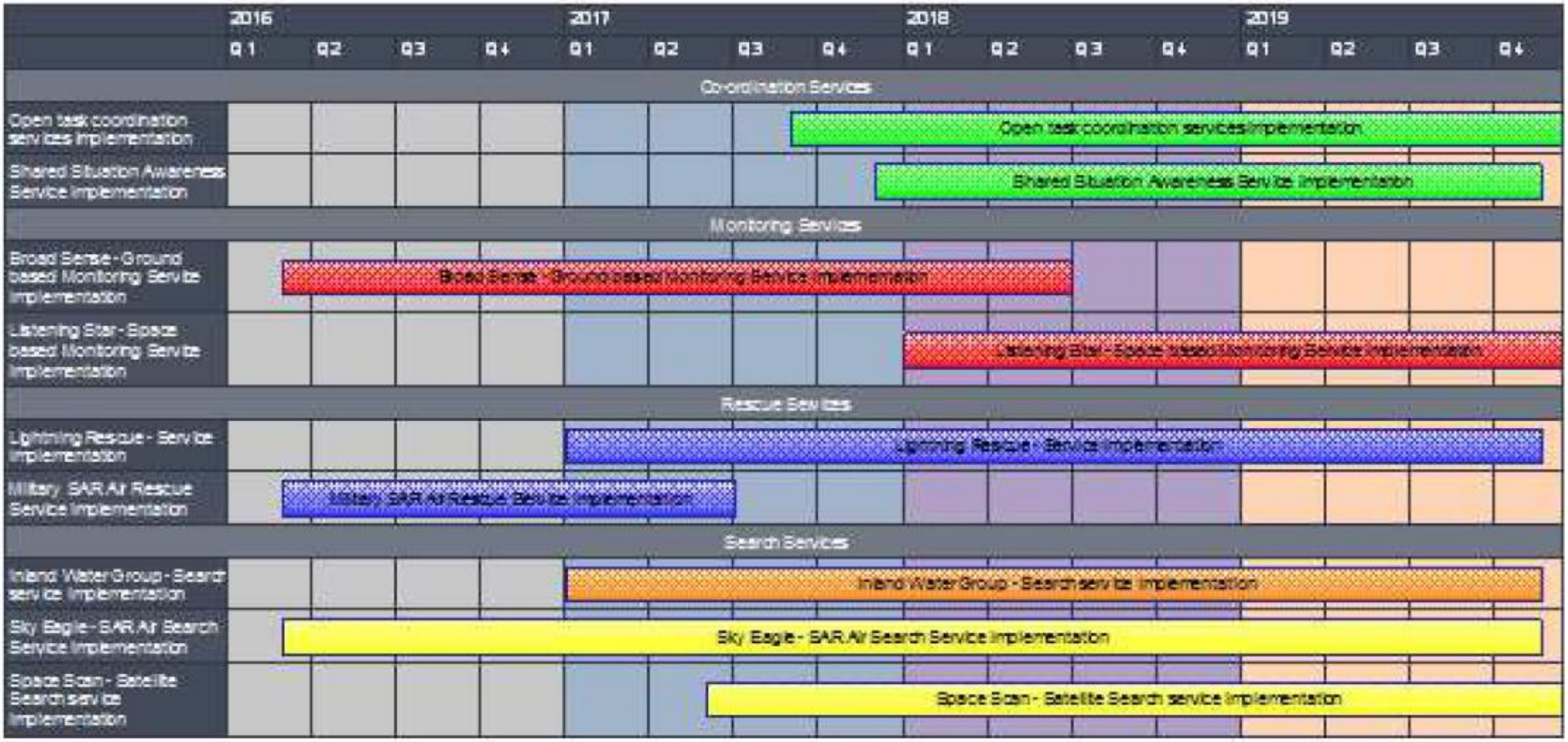
[_PJT OV YLW] Search And Rescue (NAFV4TEST) - [PLA L4] Search And Rescue (Functional Process Diagram)



Architecture View example: Functional view



Architecture View example: Programmatic view



The End