SEFS Customer Context

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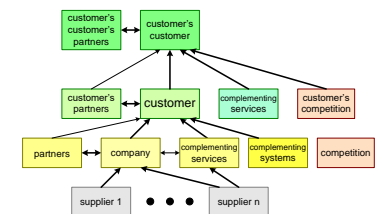e-mail: gaudisite@gmail.com

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Abstract

Systems engineers need to understand many aspects about the customer context where the system-of-interest will be operating in. This nugget introduces the CAFCR model to understand the relation between customer and system. Then it introduces a number of questions and techniques for eliciting and capturing the customer context.
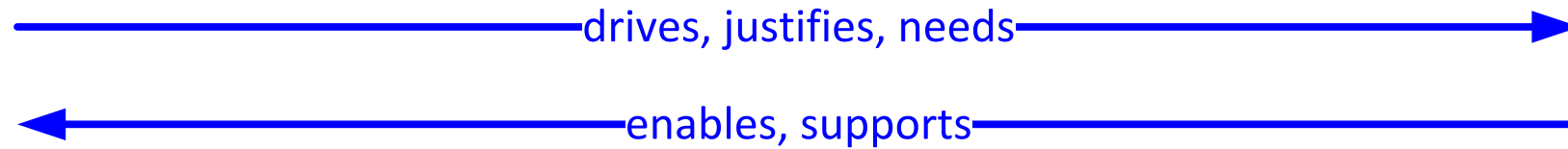
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The "CAFCR" model

drives, justifies, needs →

← enables, supports

What does Customer need in Product and **Why**?

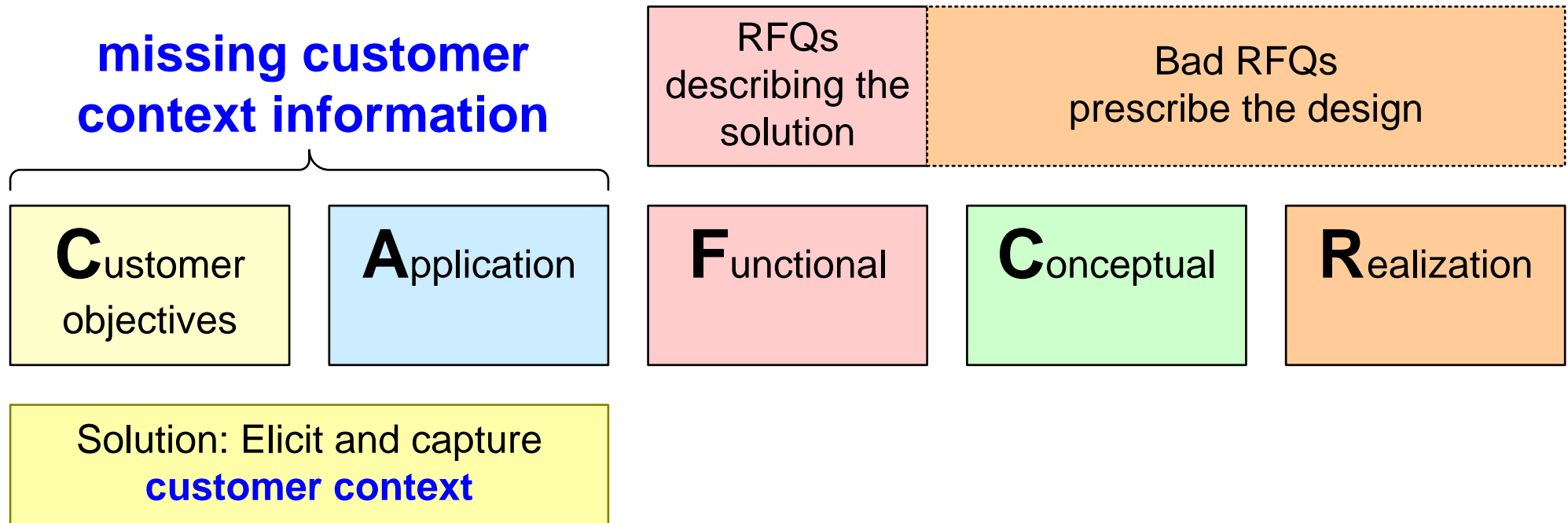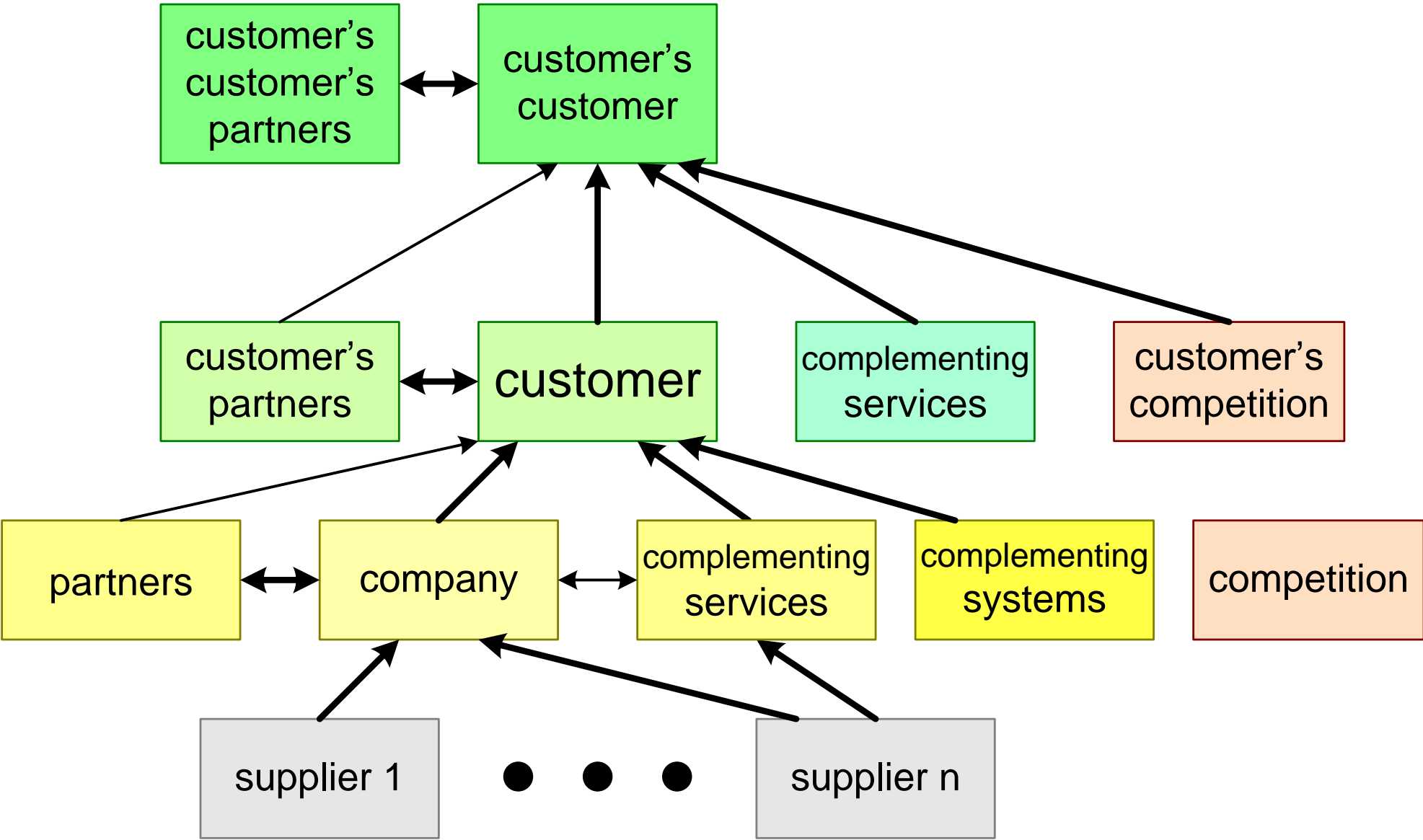| Customer **What**	Customer **How**	Product **What**	Product **How**	
Customer objectives	**A**pplication	**F**unctional	**C**onceptual	**R**ealization

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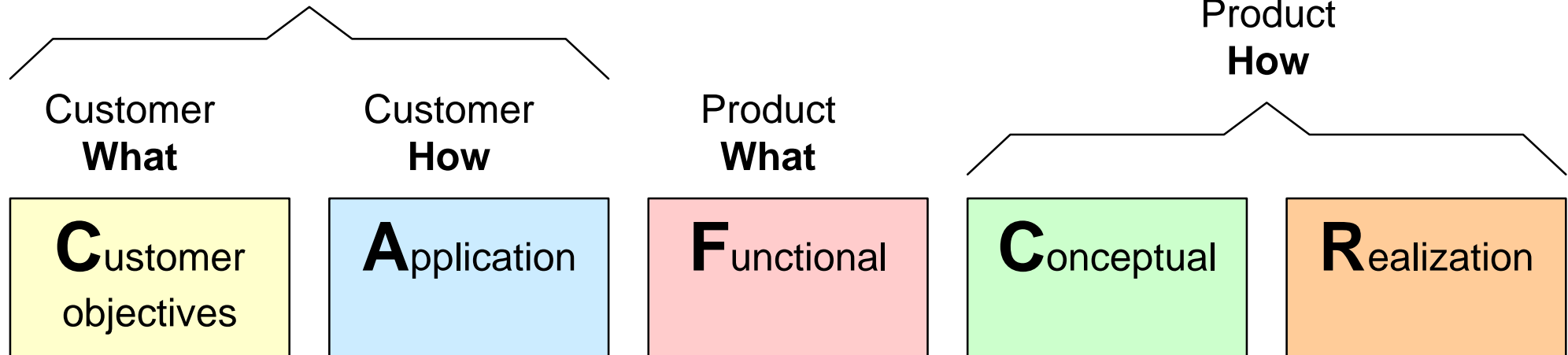
Problem Statement

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A typical Request for Quotation (the starting point of the tender) asks for a **solution**, without describing the problem and needs.

Best case it specifies **system requirements** (F-view; what must the system do with what performance), worst case it prescribes many **realization aspects**

missing customer context information

RFQs describing the solution	Bad RFQs prescribe the design

Customer objectives	**A**pplication	**F**unctional	**C**onceptual	**R**ealization

Solution: Elicit and capture **customer context**

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Context of the Context

Know your Customer

- What is the role of the customer in the value network?

- How do they earn their money, what is their business model?

- SWOT analysis; what are their Strengths, Weaknesses, Opportunities and Threats?

- VUCA analysis; what is Volatile (changing fast), what is Uncertain, what is Complex, and what is Ambiguous?
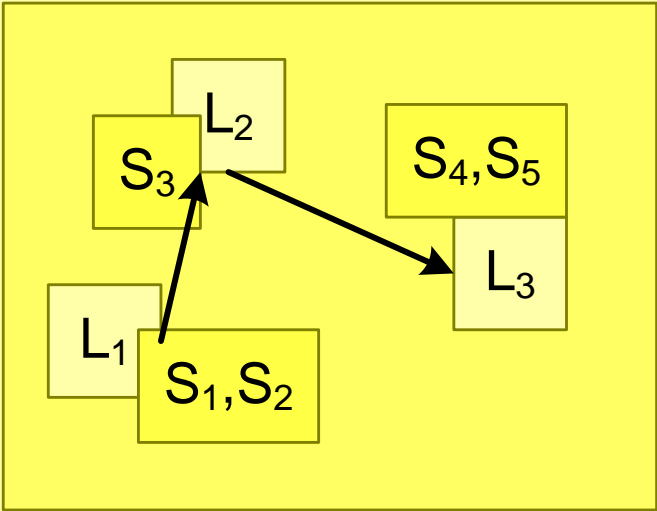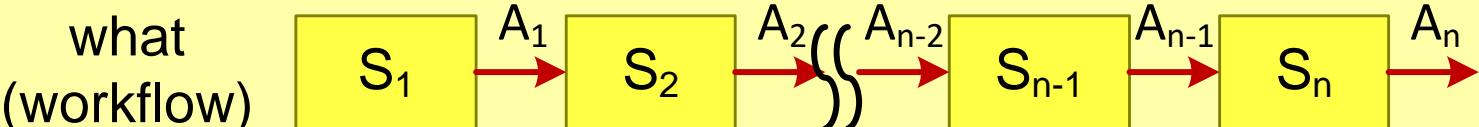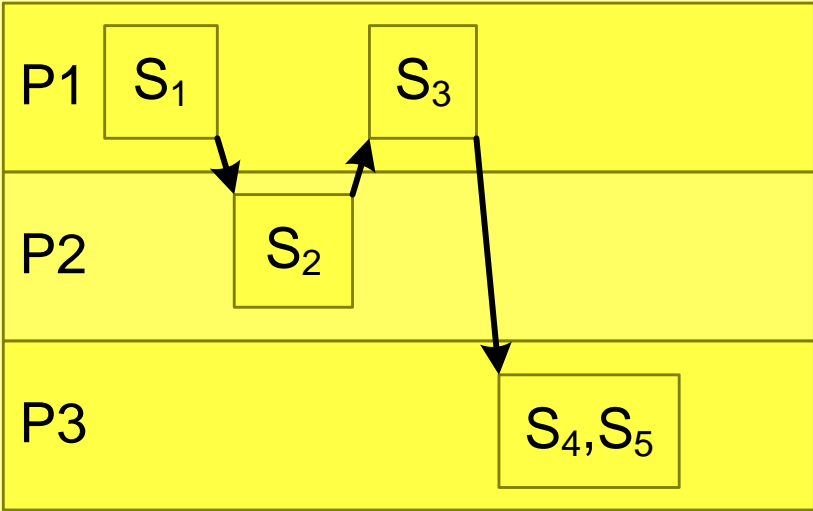
Capturing the Context

what   ConOps, story telling, scenario

who   stakeholders and concerns   *humans*
                                        organizations

how   system context diagram   *human-made artifacts*

            workflow

when

            timeline   from seconds to years

where   map   from nanometers to kilometers

why   customer key drivers, customer value proposition

financial productivity model
           cost of ownership model
           money flow
           value network

ConOps

Concept of Operations (ConOps)

An envisioning of how the stakeholders will run their operation in relation to the system.

what (workflow)

$$S_1 \xrightarrow{A_1} S_2 \xrightarrow{A_2} \quad \xrightarrow{A_{n-2}} S_{n-1} \xrightarrow{A_{n-1}} S_n \xrightarrow{A_n}$$

where (map)

L_2

S_3

S_4, S_5

L_3

L_1

S_1, S_2

who (swimming lanes)

P1	S_1	S_3
P2	S_2	
P3		S_4, S_5

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