# Submethods in the CAF Views

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## Abstract

The customer context and the external characteristics of a system are described in the *Customer Objectives*, *Application* and *Functional* views. This chapter describes submethods to support these views: key drivers, positioning the business of the customer, modelling, use cases and system specification.



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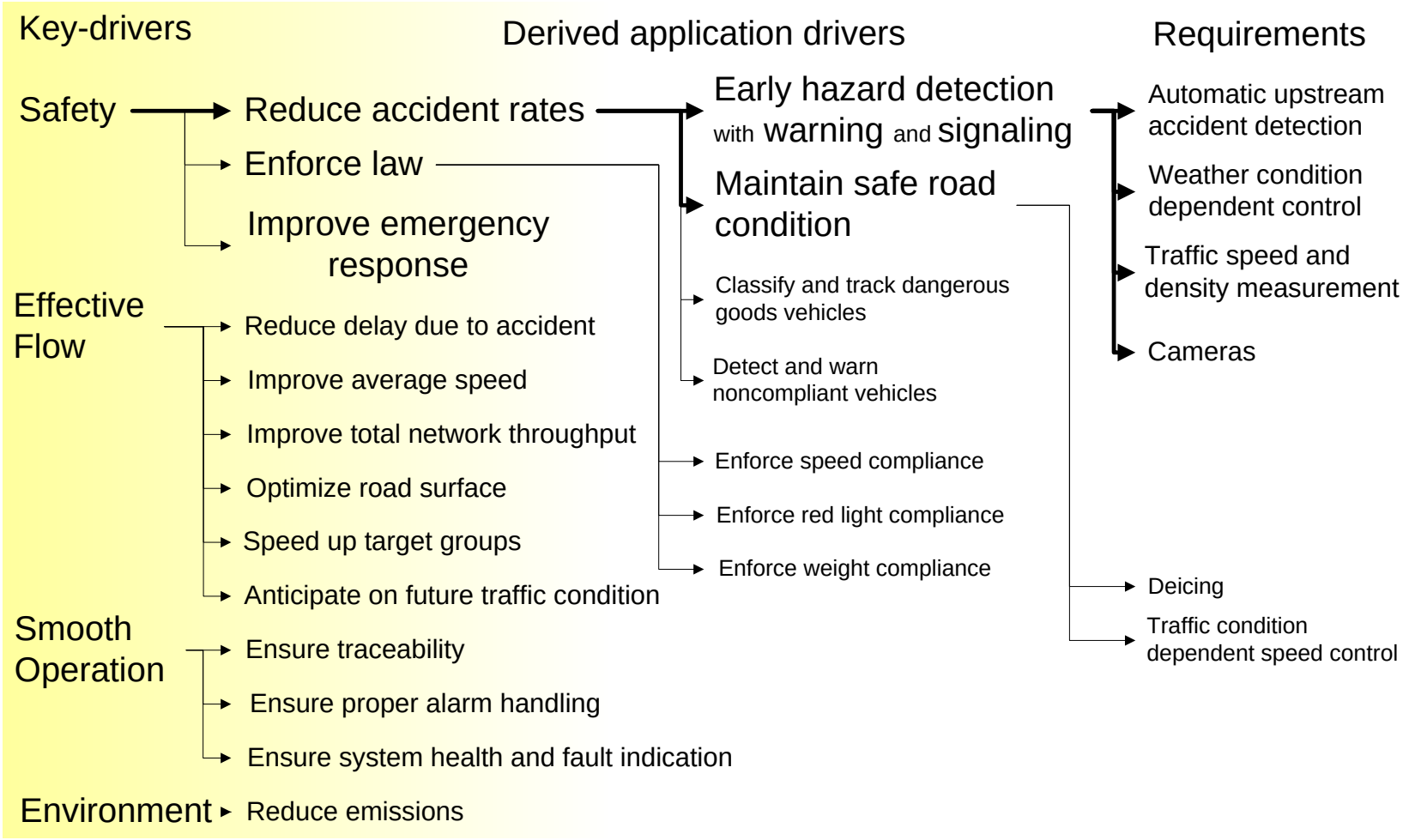
logo
TBD

# Example of the four Key Drivers in a Motorway Management Sys




*Note: the graph is only partially elaborated for application drivers and requirements*

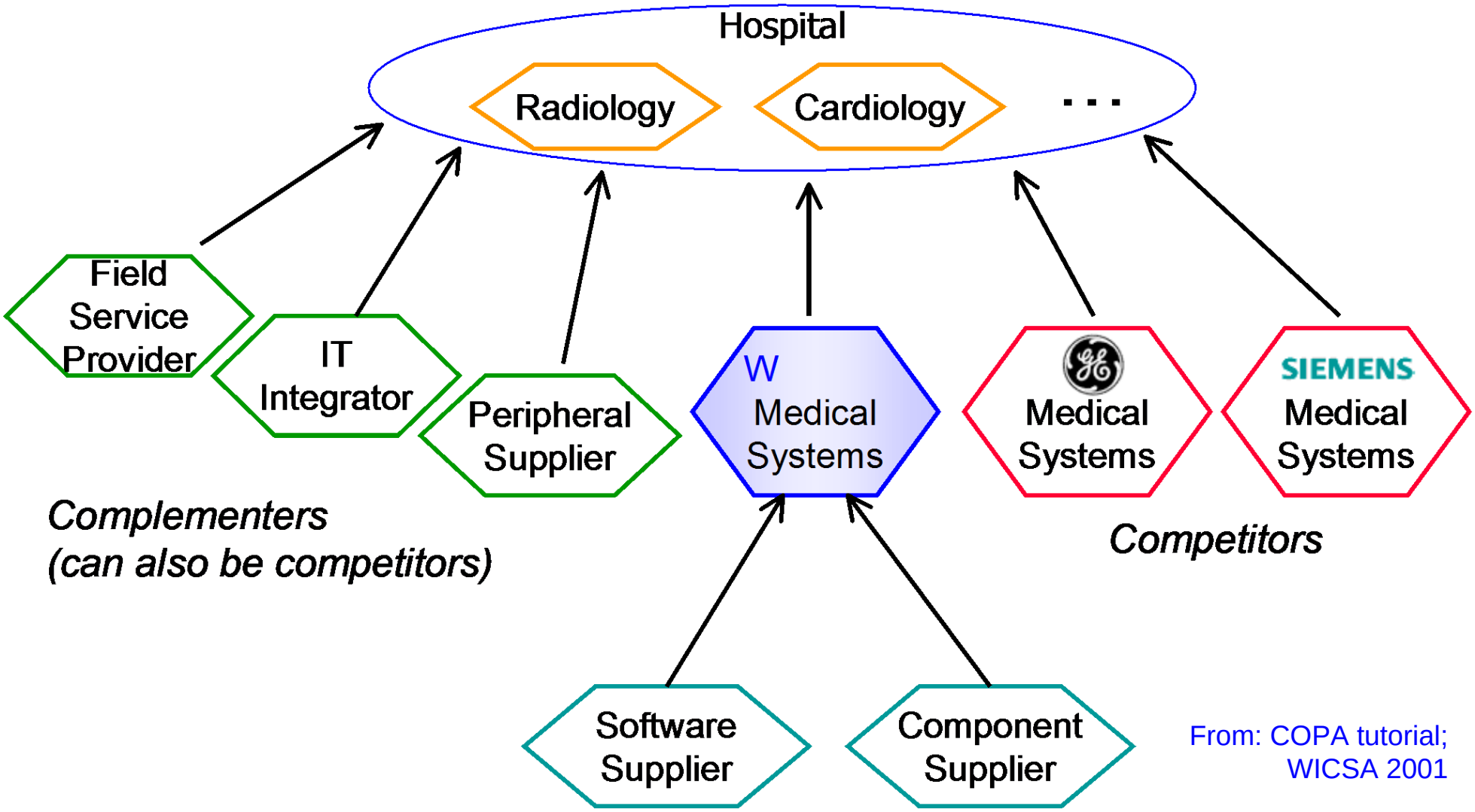
# Submethod to Link Key Drivers to Requirements

| | |
|---|---|
| • Define the scope specific. | in terms of stakeholder or market segments |
| • Acquire and analyze facts | extract facts from the product specification and ask why questions about the specification of existing products. |
| • Build a graph of relations between drivers and requirements by means of brainstorming and discussions | where requirements may have multiple drivers |
| • Obtain feedback | discuss with customers, observe their reactions |
| • Iterate many times | increased understanding often triggers the move of issues from driver to requirement or vice versa and rephrasing |

# Key Driver Recommendations

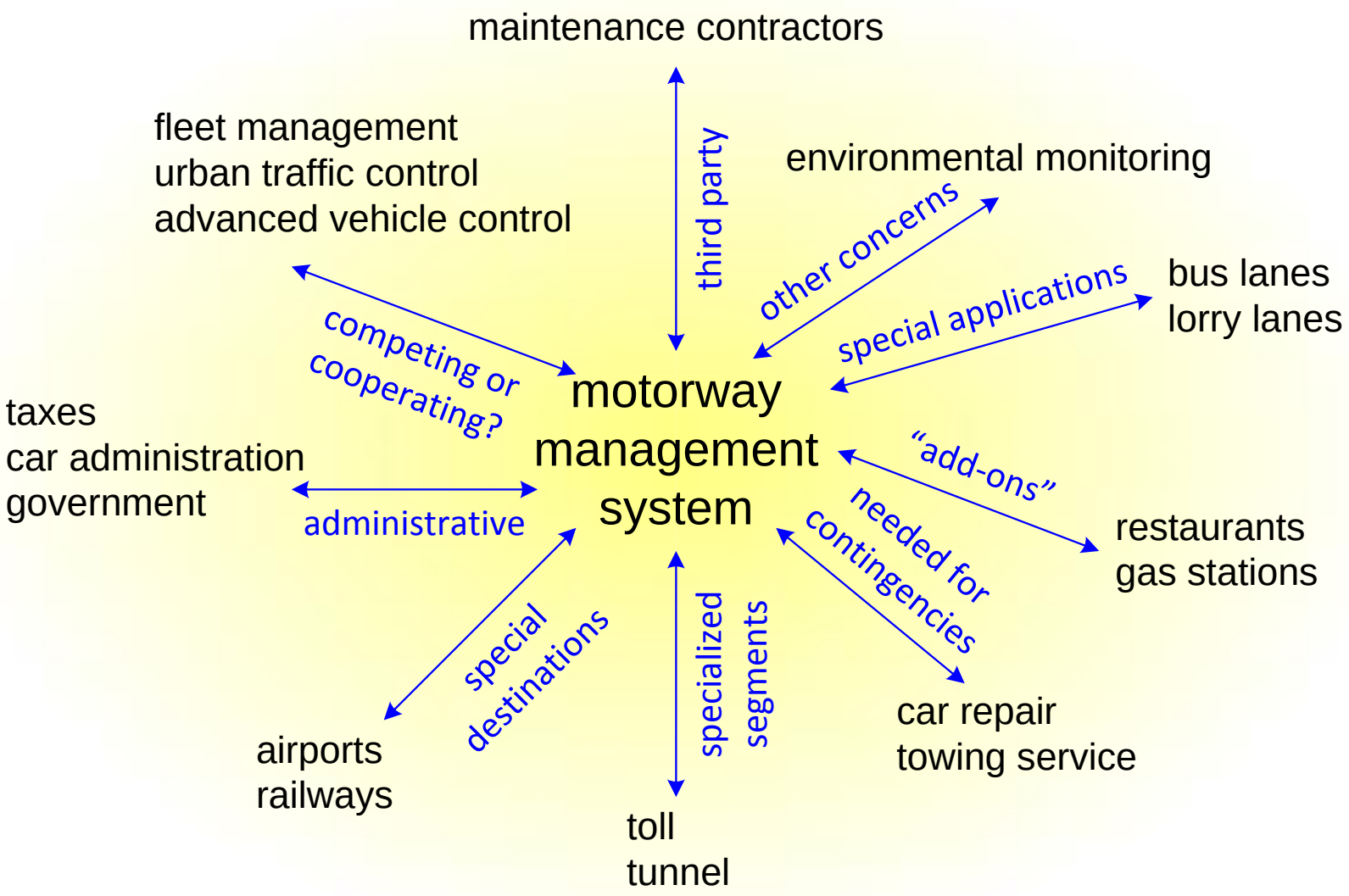
| | |
|---|---|
| • Limit the number of key-drivers | minimal 3, maximal 6 |
| • Don’t leave out the obvious key-drivers | for instance the well-known main function of the product |
| • Use short names, recognized by the customer. | |
| • Use market-/customer- specific names, no generic names | for instance replace “ease of use” by “minimal number of actions for experienced users”, or “efficiency” by “integral cost per patient” |
| • Do not worry about the exact boundary between Customer Objective and Application | create clear goal means relations |

# Map of Complementors

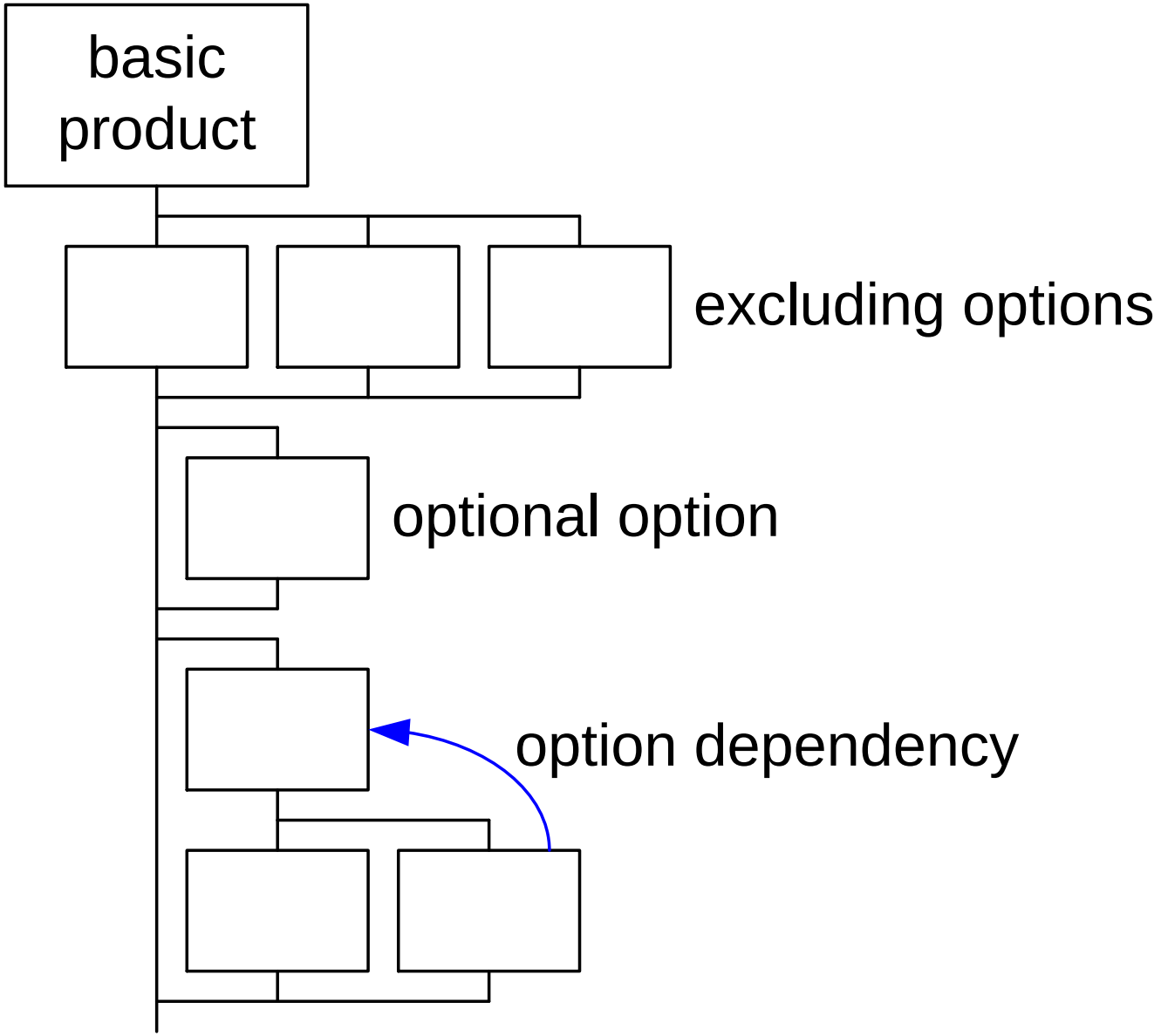



From: COPA tutorial; WICSA 2001

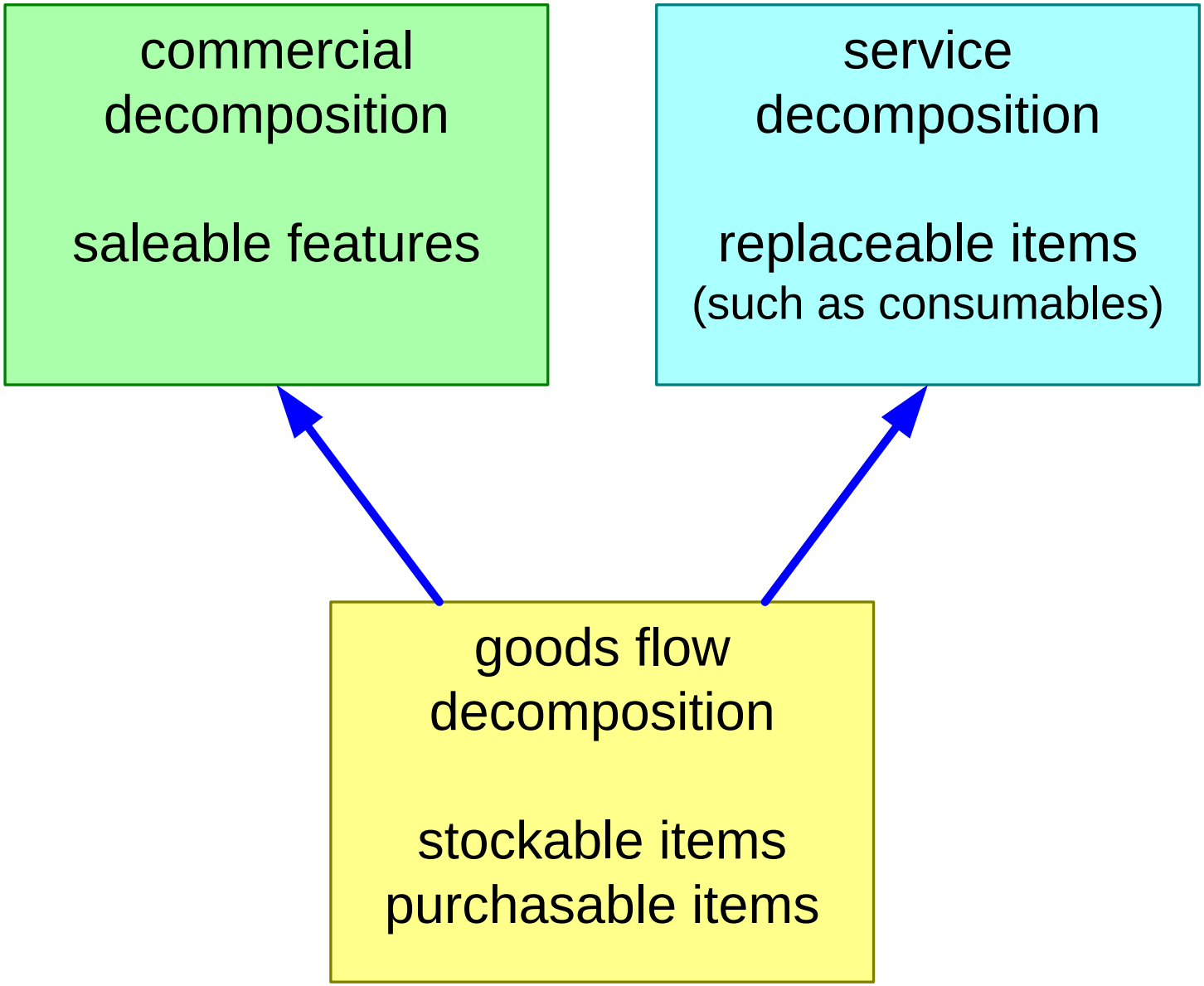
# Context of Motorway Management System



# Commercial Graph



# Logistics Decompositions



# Use Case

## typical use case(s)

**interaction flow (functional aspects)**

- select movie via directory
- start movie
- be able to pause or stop
- be able to skip forward or backward
- set recording quality

**performance and other qualities (non-functional aspects)**

- response times for start / stop
- response times for directory browsing
- end-of-movie behaviour
- relation recording quality and storage

## worst case, exceptional, or change use case(s)

**functional**

- multiple inputs at the same time
- extreme long movie
- directory behaviour in case of
  - extreme many short movies

**non-functional**

- response time with multiple inputs
- image quality with multiple inputs
- insufficient free space
- response time with many directory entries
- replay quality while HQ recording

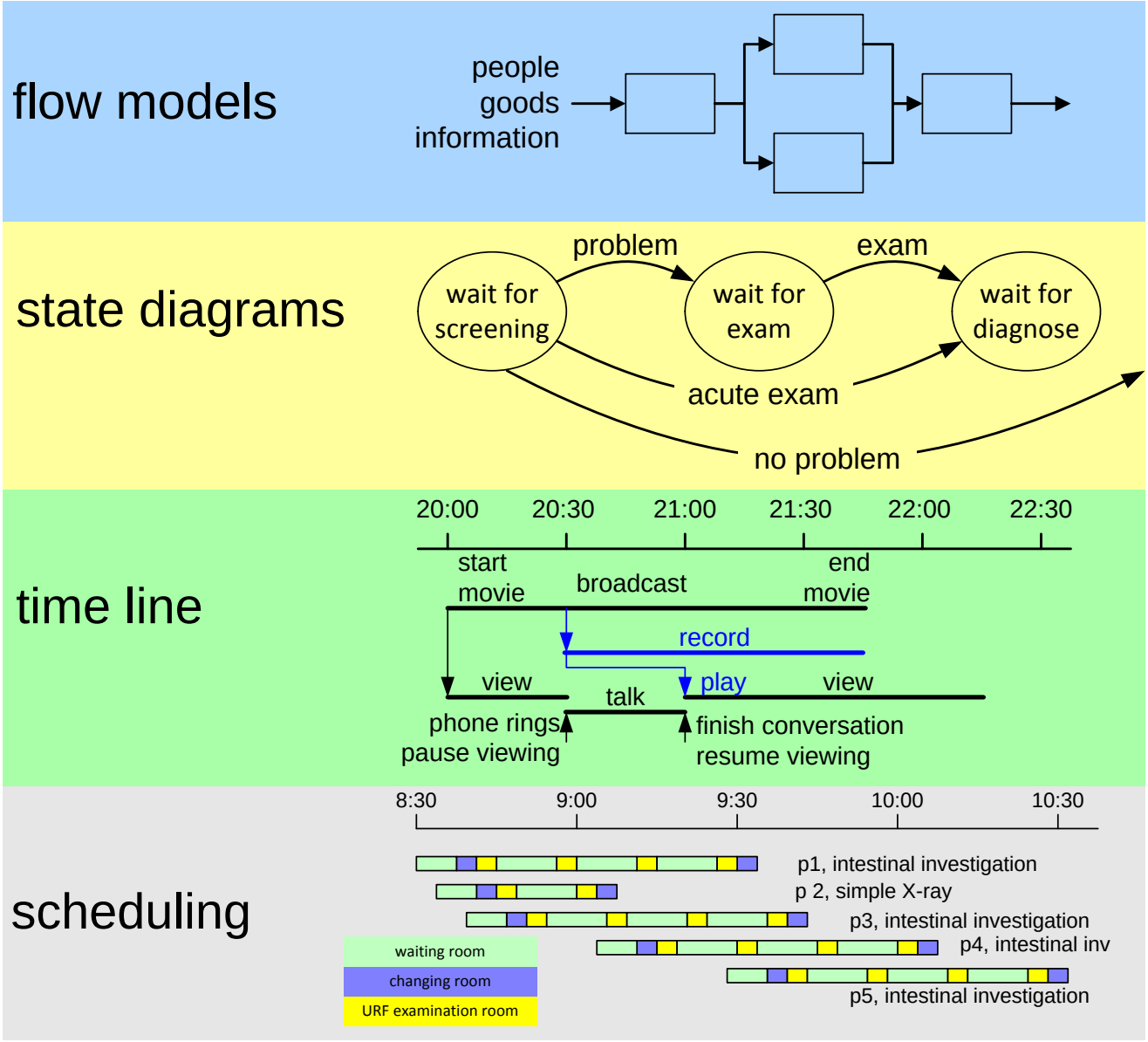
# Function Feature Matrix

| *technical functions* | *products* | home cinema system | flat screen cinema TV | bedroom TV |
|---|---|---|---|---|
| HD display | | + | + | - |
| SD->HD up conversion | | + | + | - |
| HD->SD down conversion | | + | + | o |
| HD storage | | o | - | - |
| SD storage | | o | - | o |
| HD IQ improvement | | + | + | - |
| SD IQ improvement | | + | + | + |
| HD digital input | | + | + | o |
| SD digital input | | + | + | o |
| SD analog input | | o | + | + |
| 6 HQ channel audio | | + | o | - |
| 2 channel audio | | - | + | + |

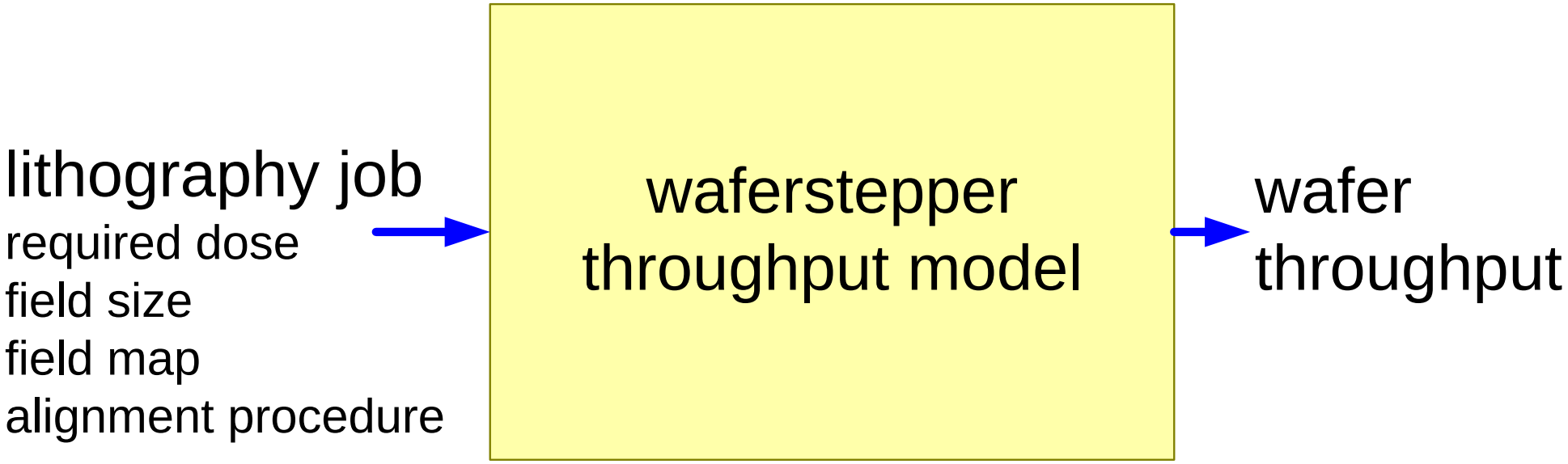
legend

| | |
|---|---|
| + | present |
| o | optional |
| - | absent |

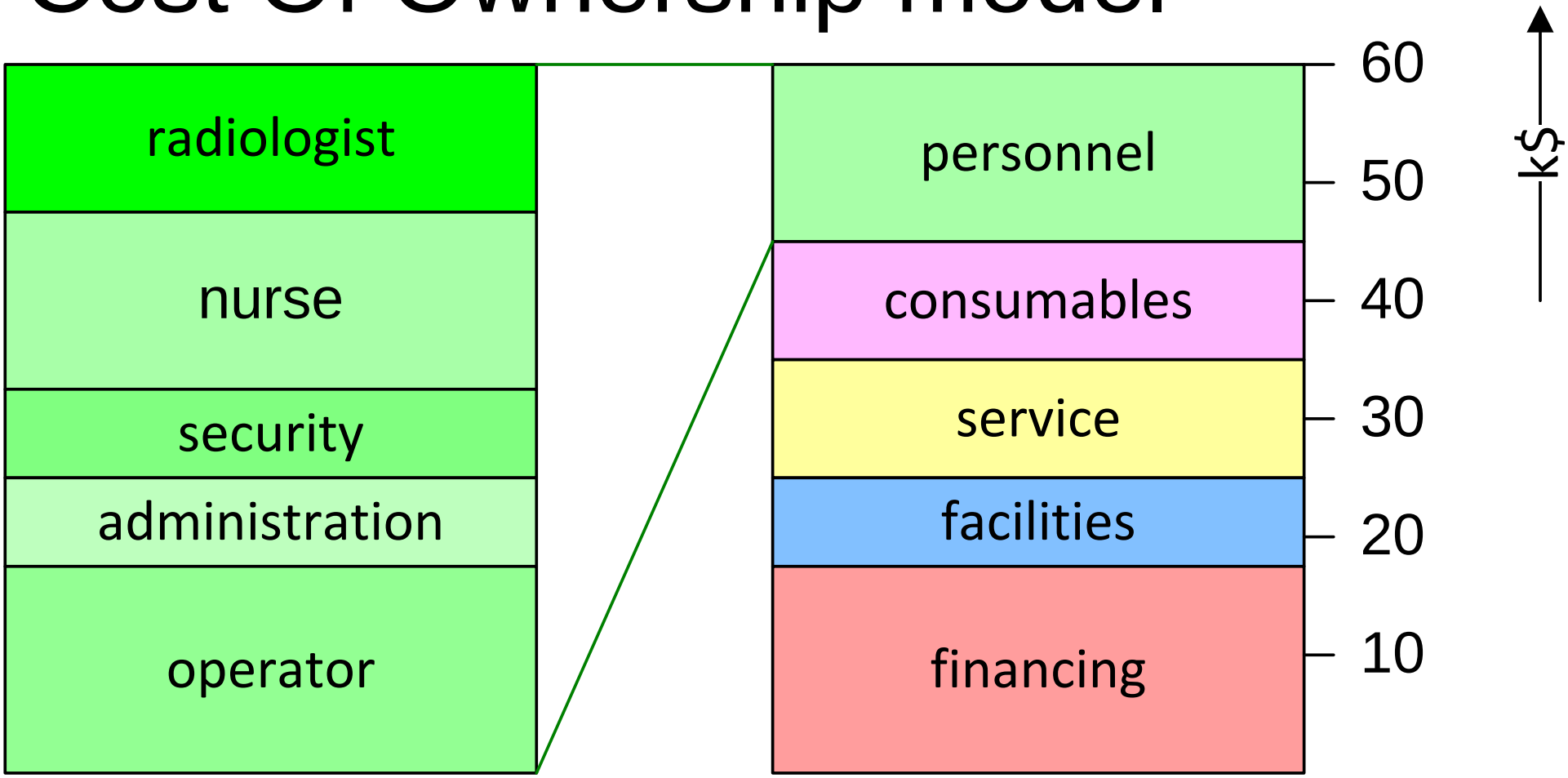
# Dynamic Models



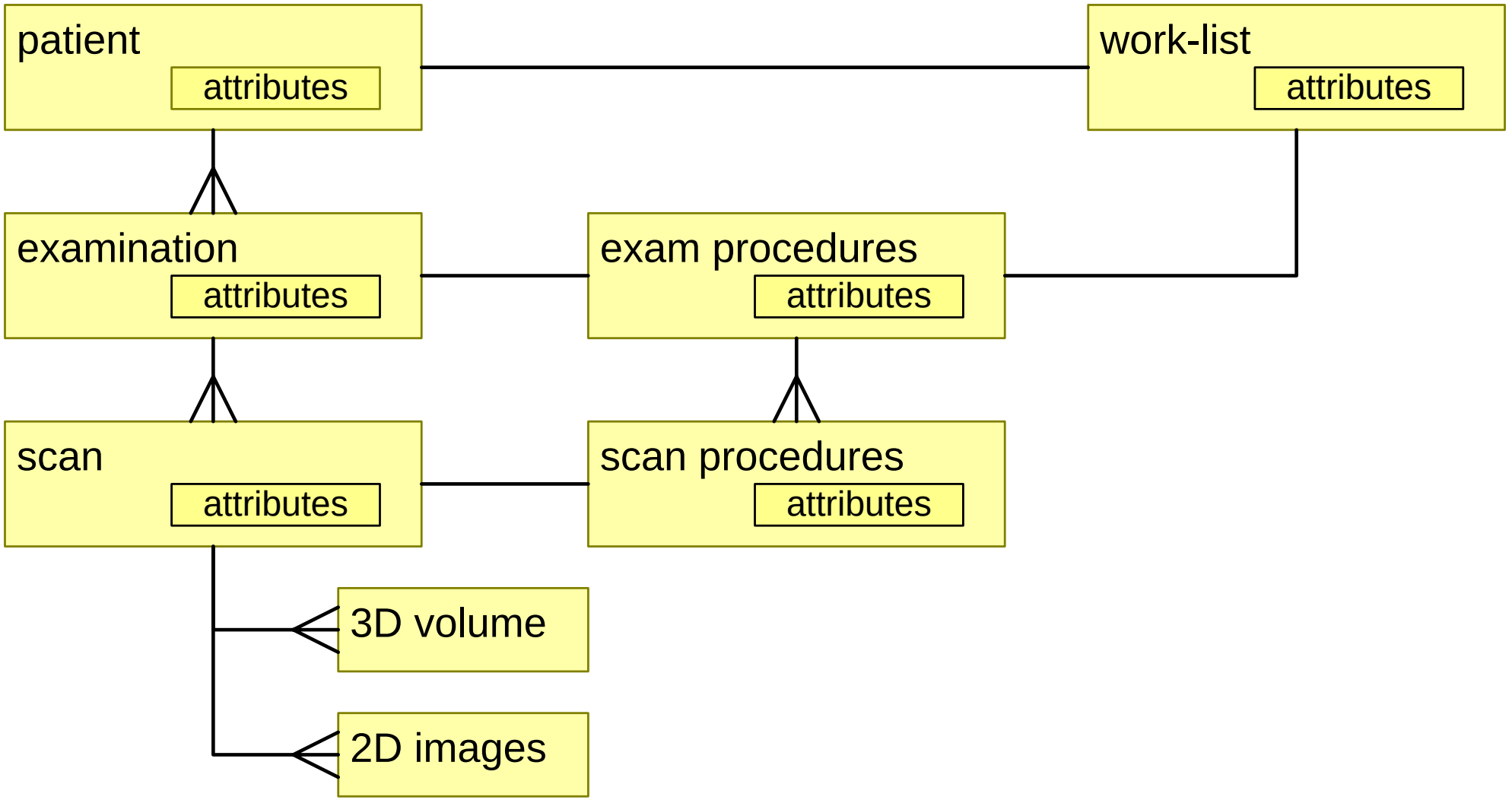
# Throughput Model



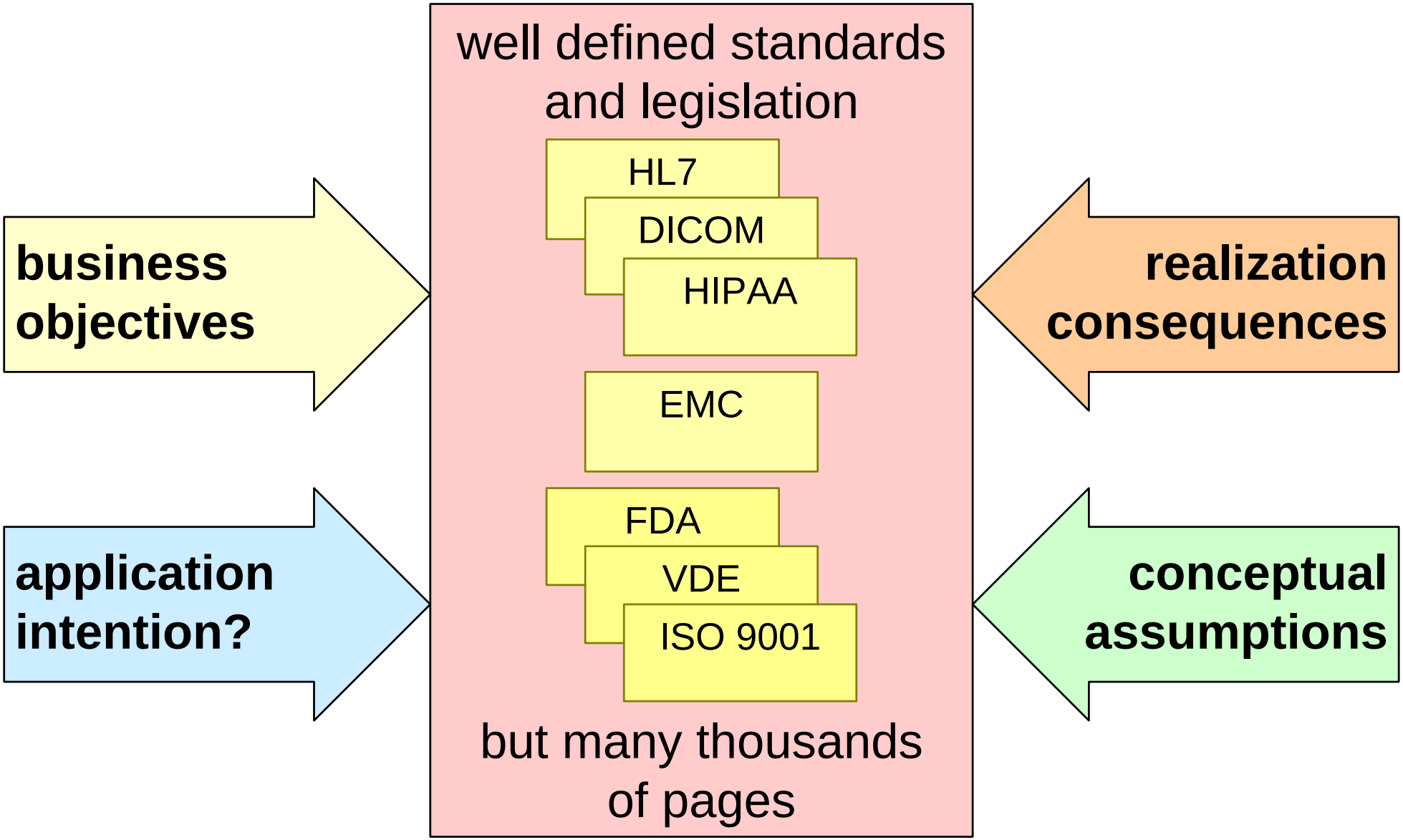
# Cost Of Ownership model



# External Information Model



# Forces of Standards



# Overview of CAF Submethods

| **C**ustomer objectives | **A**pplication | **F**unctional |
|---|---|---|
| key drivers<br>value chain<br>business models<br>suppliers | context diagram<br>stakeholders and concerns<br>entity relationship models<br>dynamic models | case descriptions<br>commercial decomposition<br>service decomposition<br>goods flow decomposition<br>function and feature specifications<br>performance<br>external interfaces<br>standards |