

# Roadmapping For Strategy Exploration

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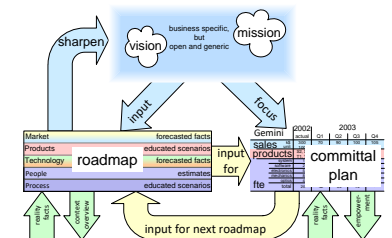
## Abstract

In this presentation, we show the process of constructing a roadmap. The Dutch energy system is taken as an example.

### Distribution

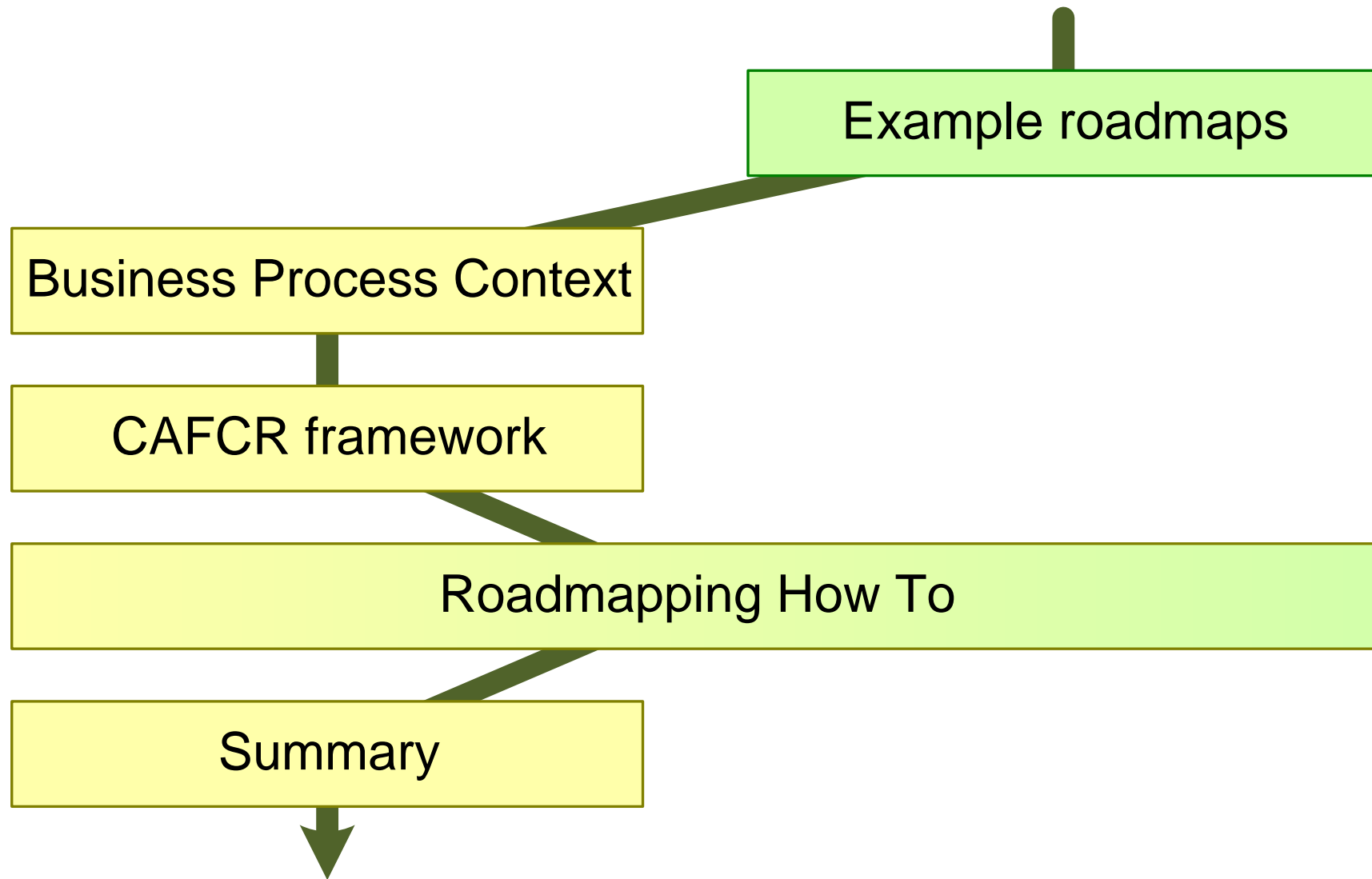
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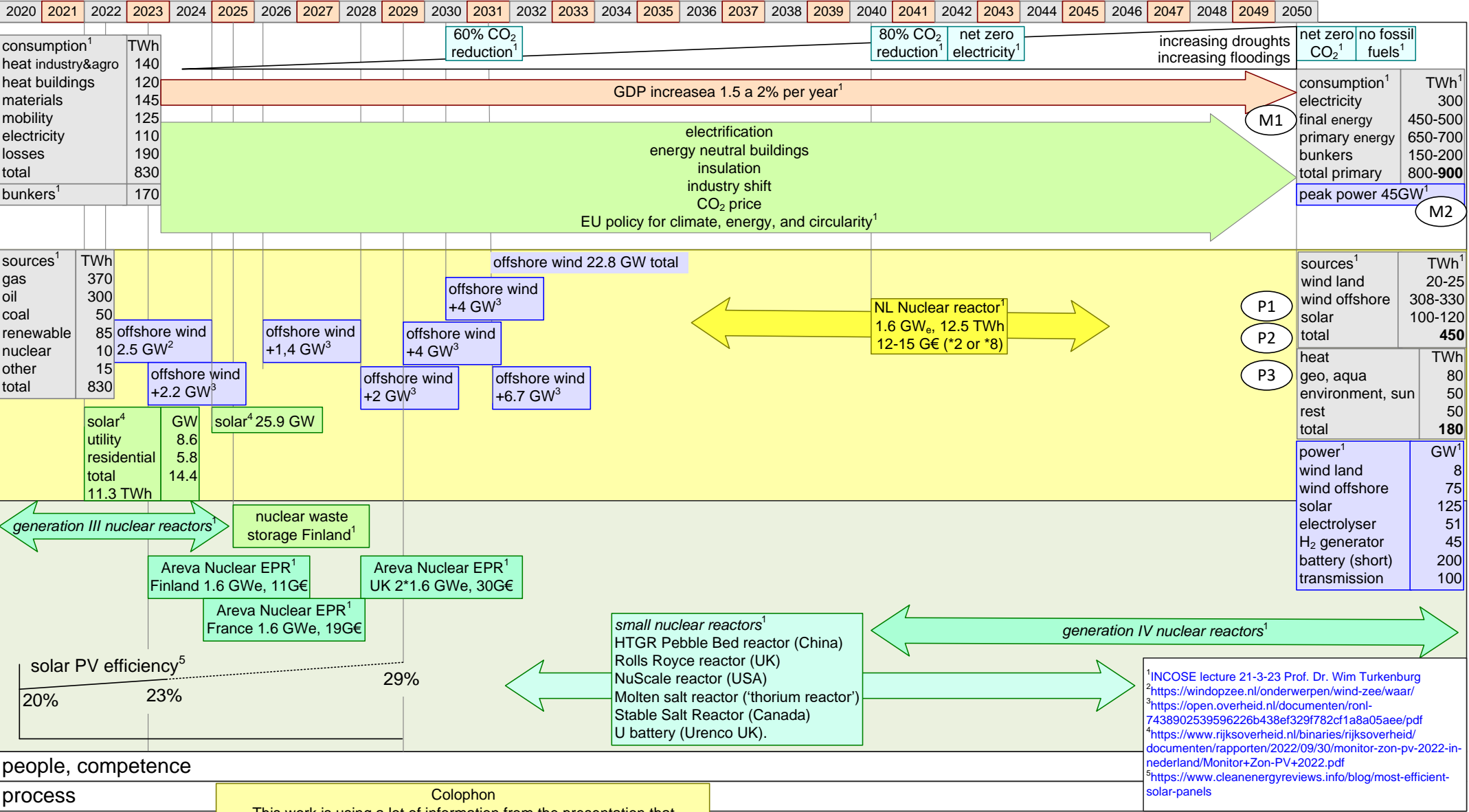
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# Figure of Content

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Colophon

This work is using a lot of information from the presentation that Prof. Dr. Wim C. Turkenburg gave at INCOSE on March 21 2023 in Eindhoven for INCOSE-NL. The affiliations of Prof. Dr. Wim C. Turkenburg are Copernicus Instituut voor Duurzame Ontwikkeling ,Universiteit Utrecht Wim Turkenburg Energy and Environmental Consultancy, Amsterdam

- M1

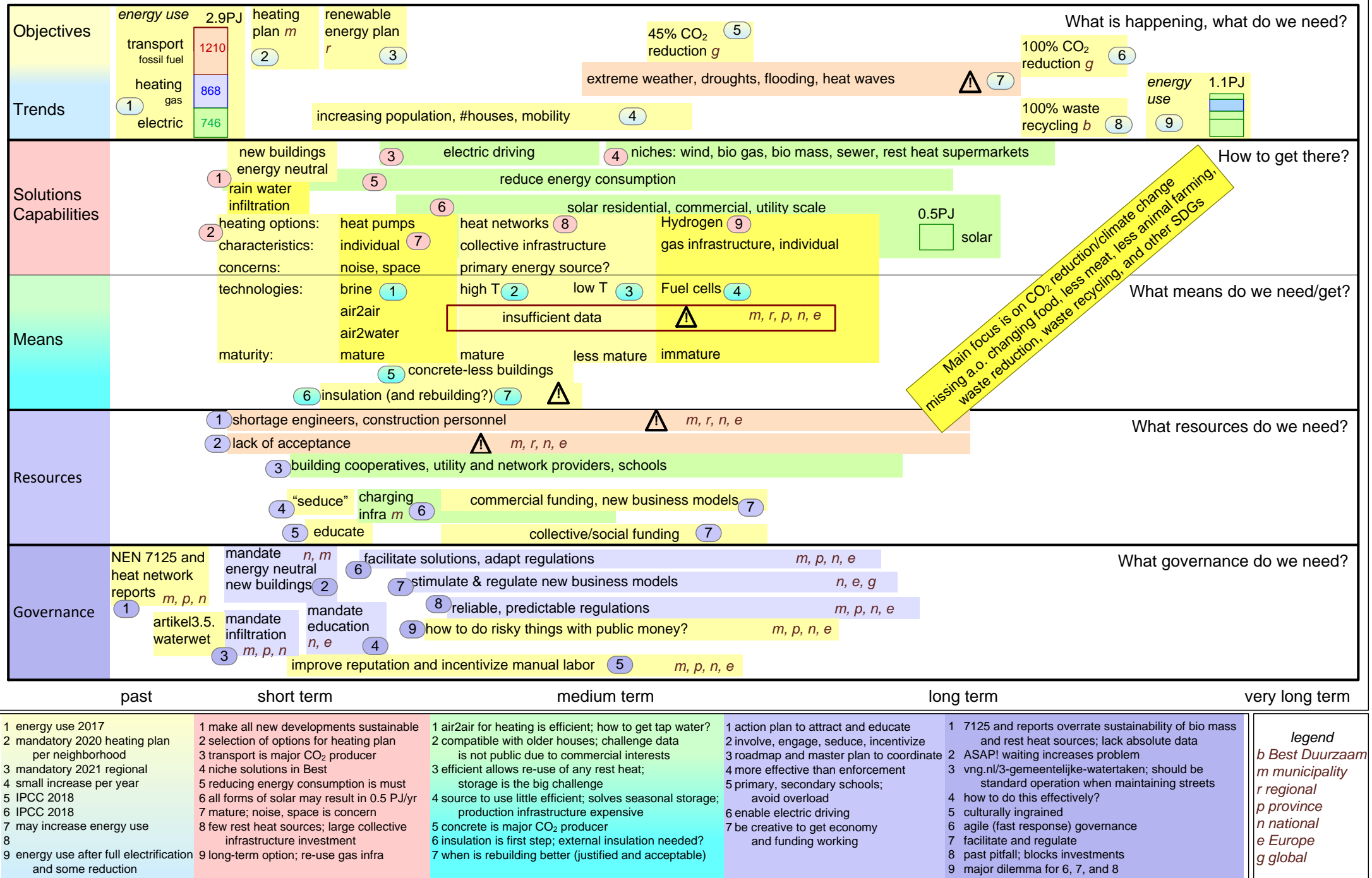
excluding<sup>1</sup>  
Direct Air Capture CO<sub>2</sub>
- M2

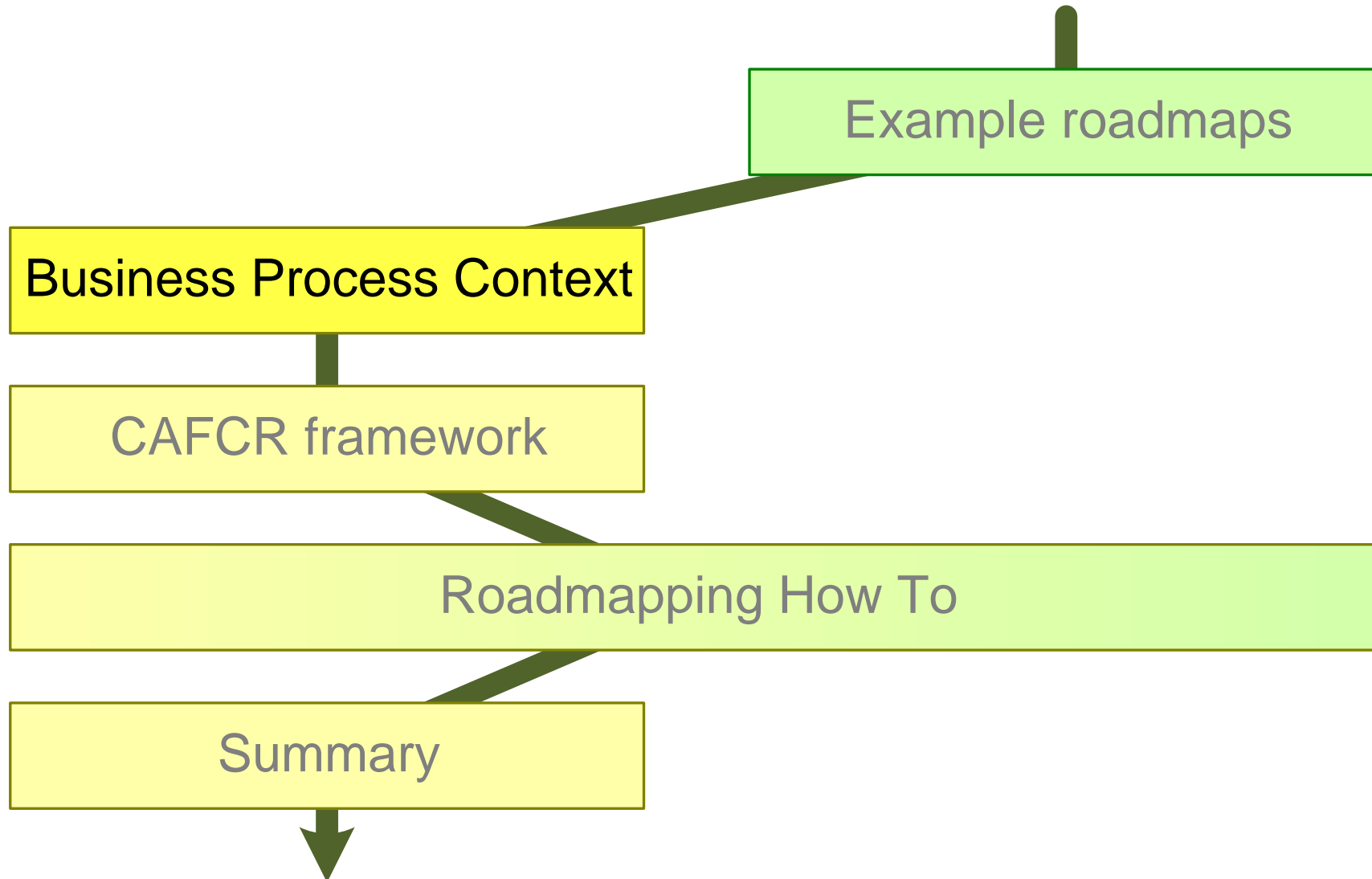
+15% for stability<sup>1</sup>
- P1

renewables cover ~50%<sup>1</sup>
- P2

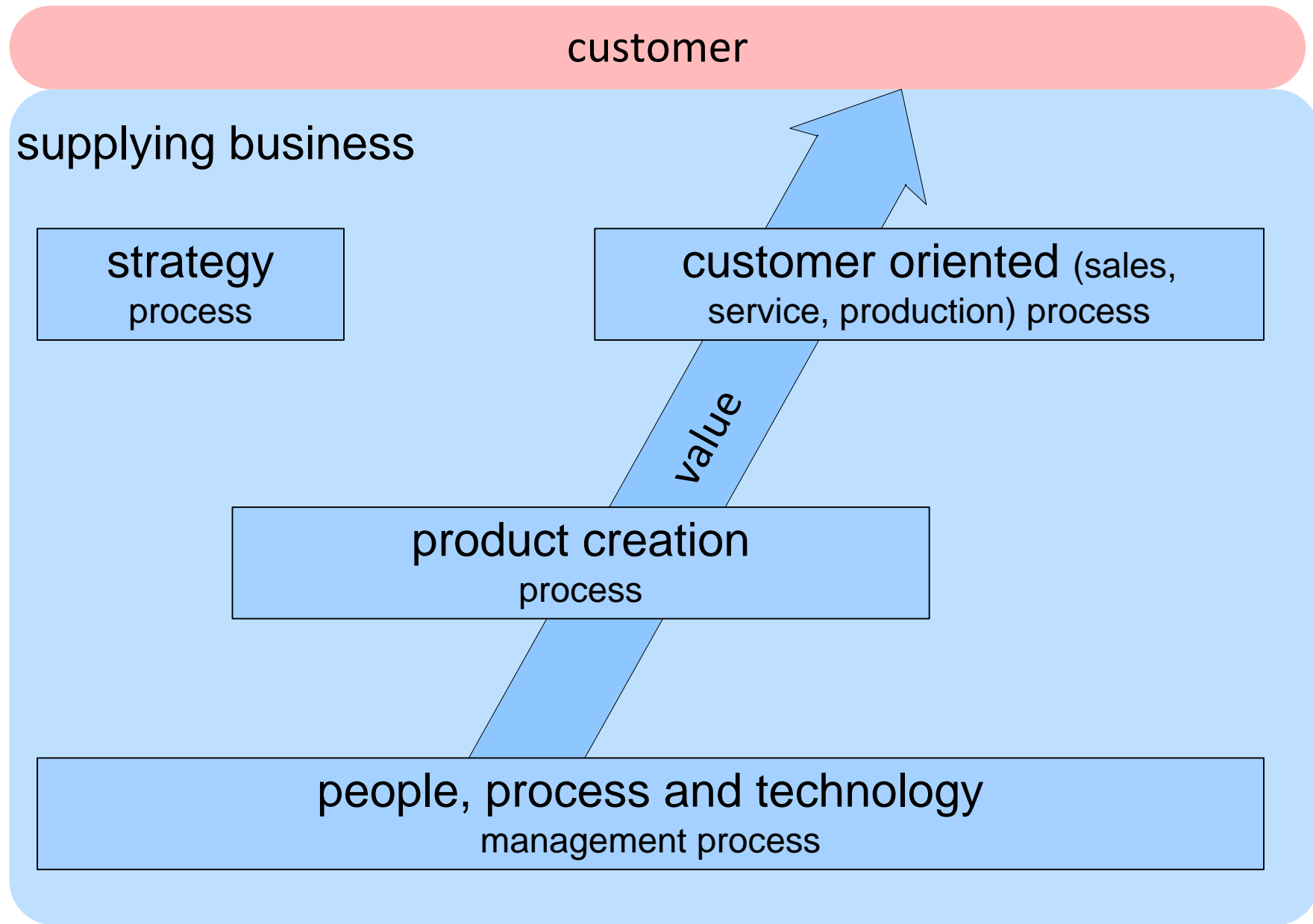
mind the losses!<sup>1</sup>
- P3

heat covers low temp needs only (<<100TWh)<sup>1</sup>

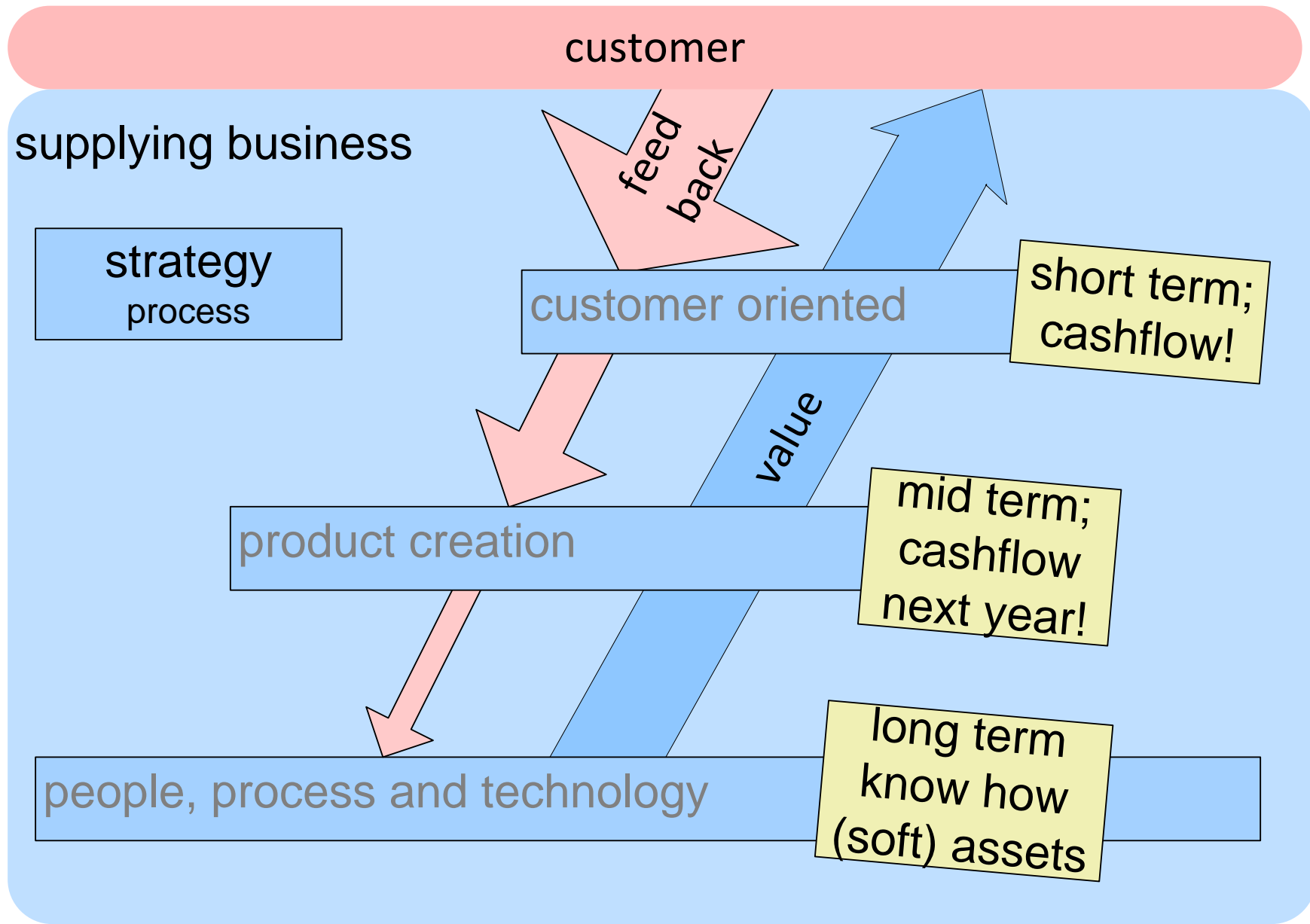




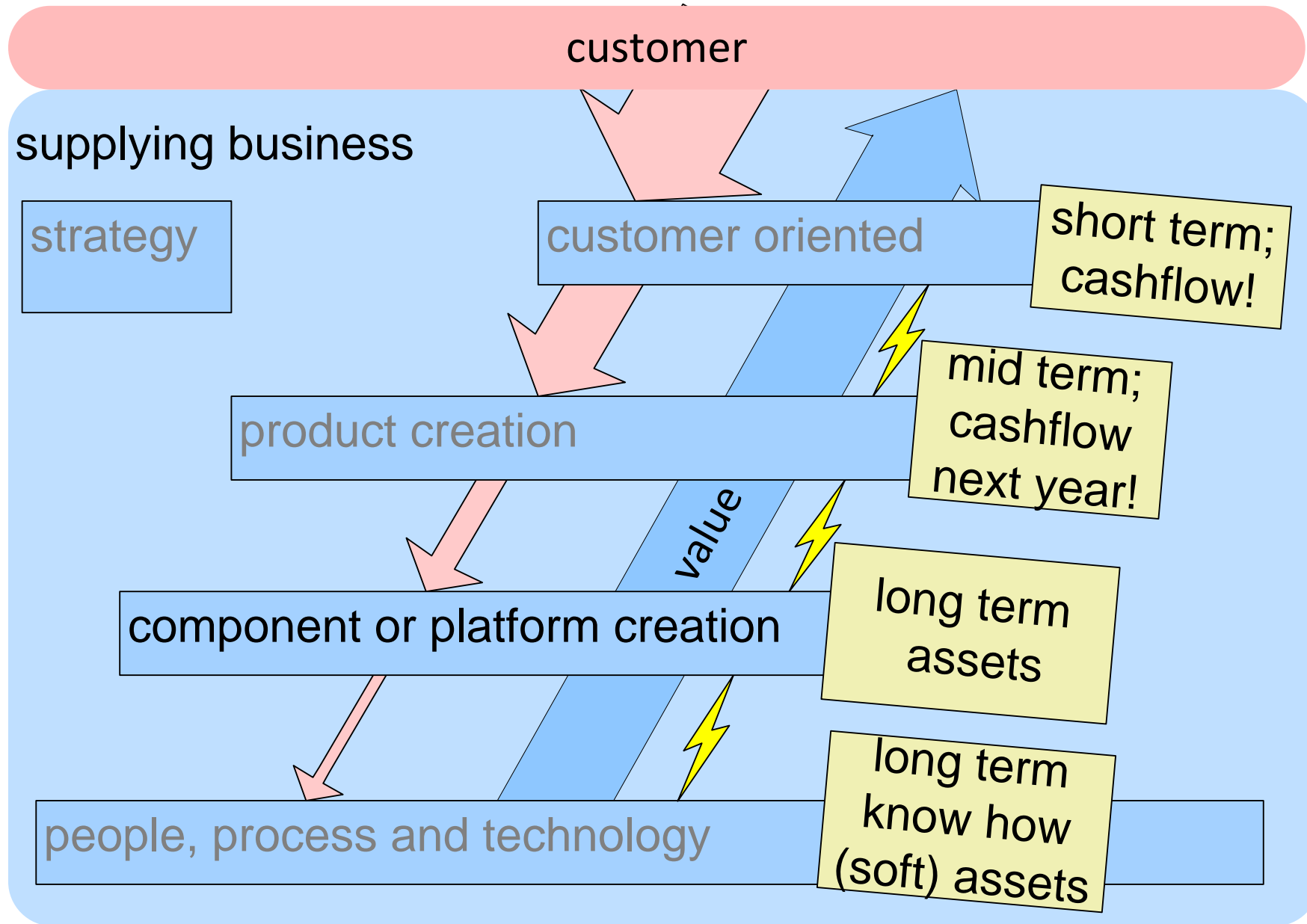
# Simplified process view



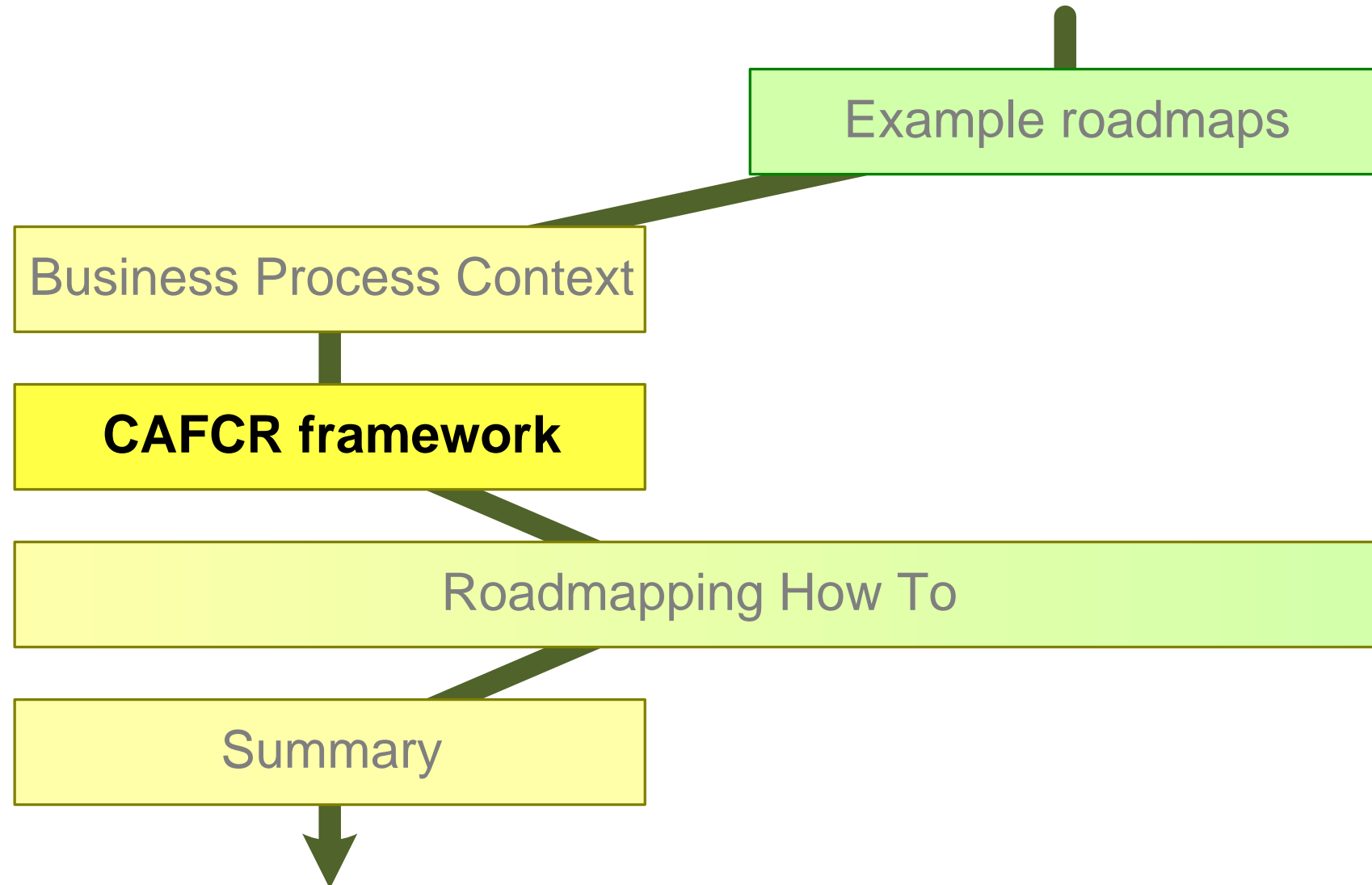
# Tension between processes



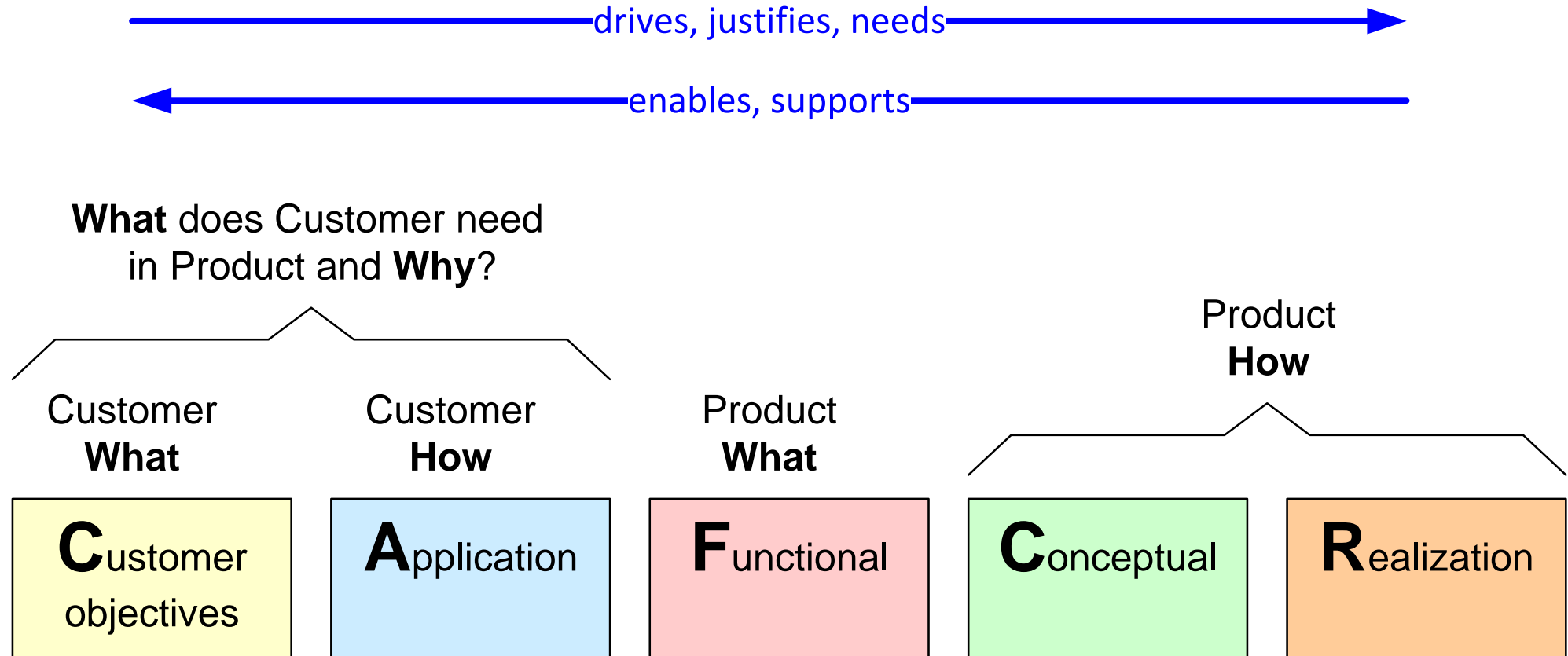
# Platform strategy adds one layer



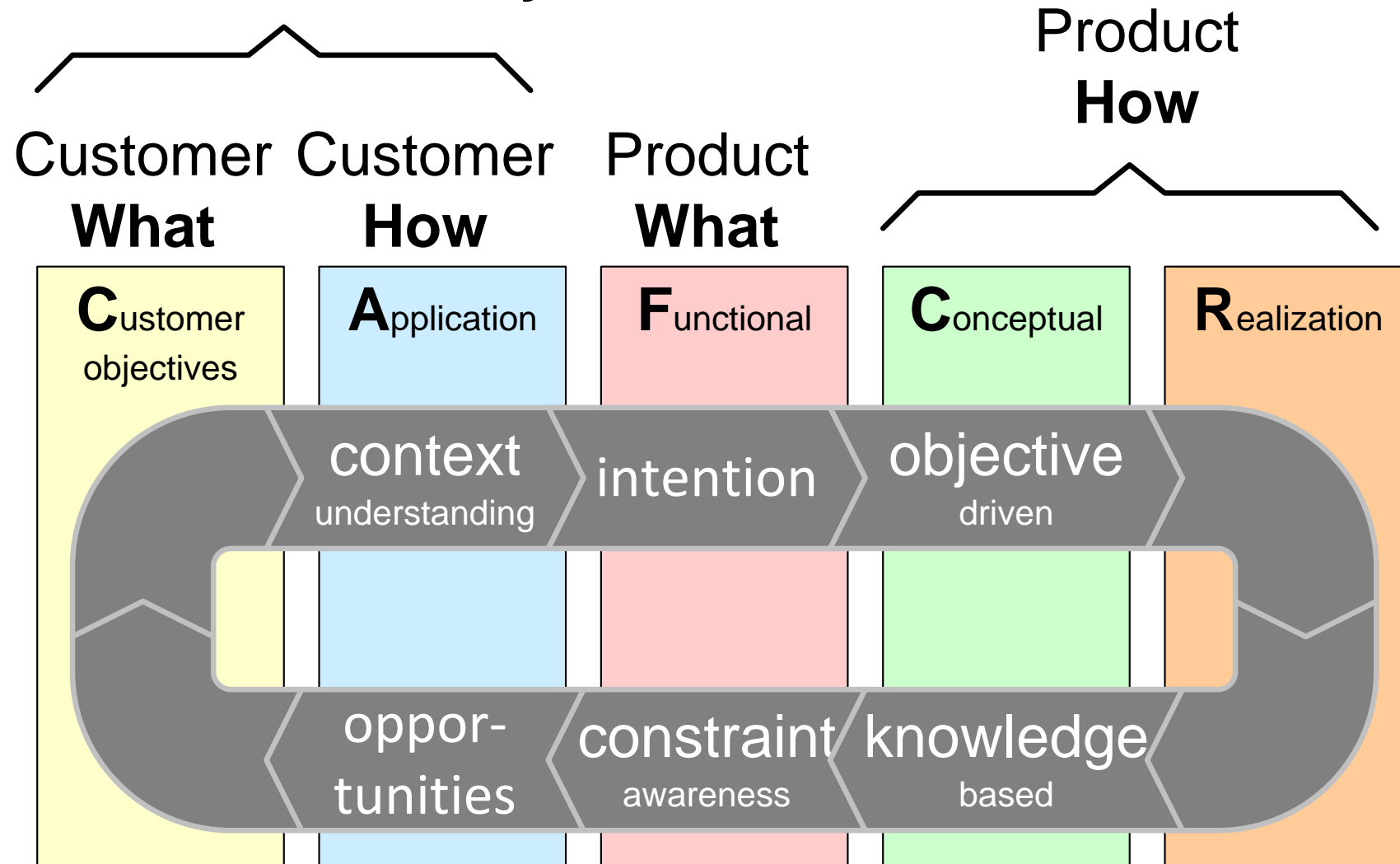




# CAFCR Framework for Architecting

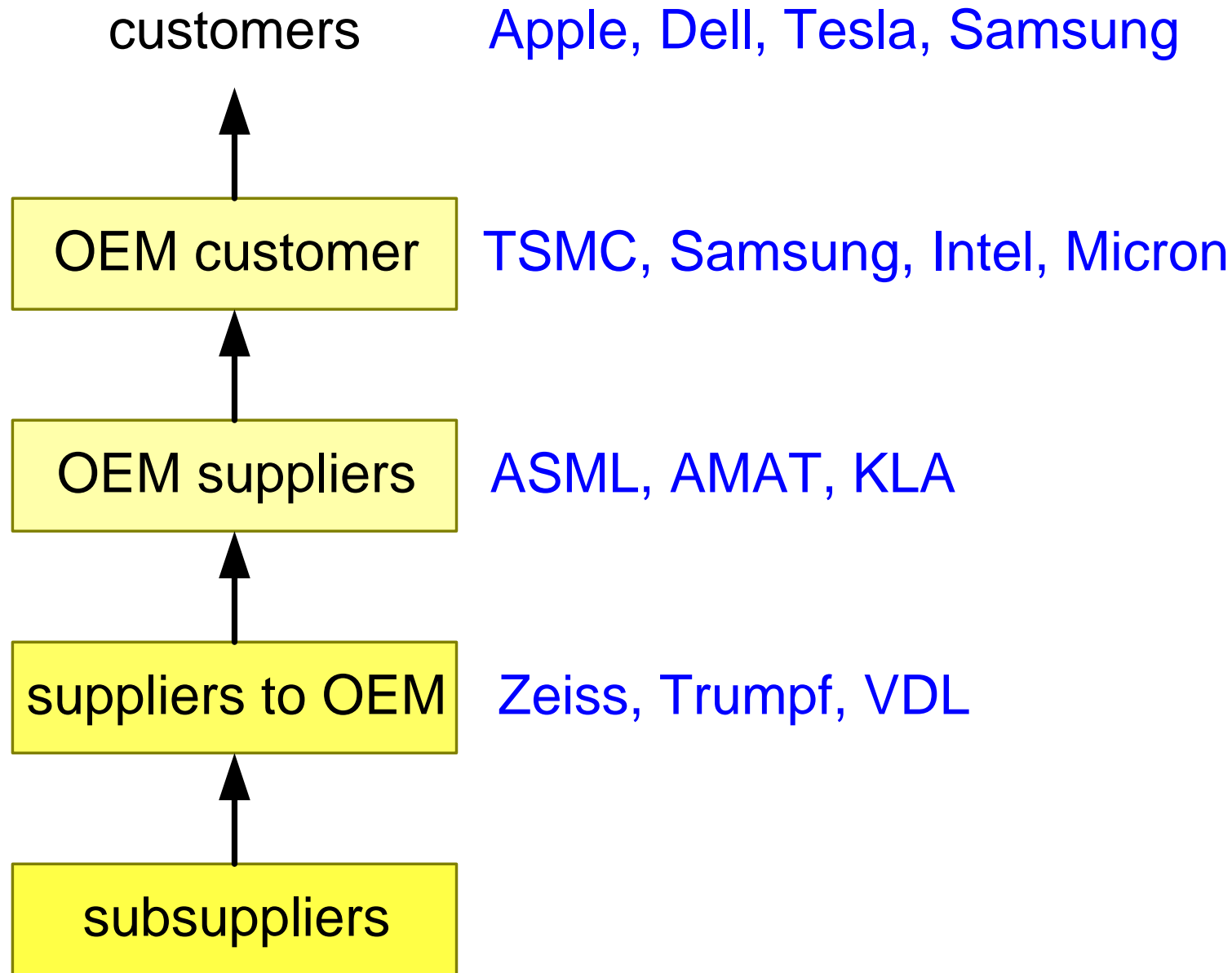


**What** does Customer need  
in Product and **Why?**



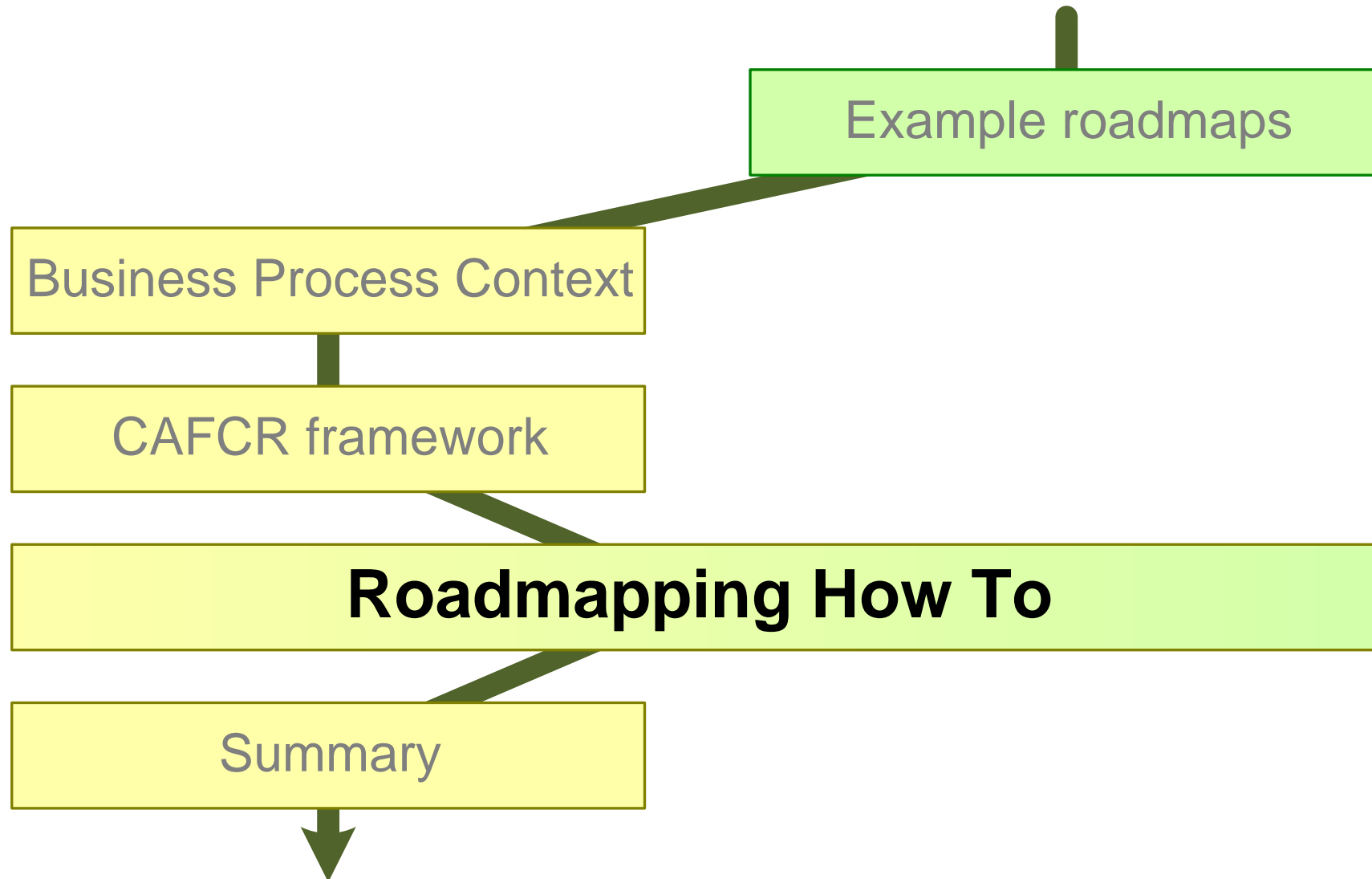
# Use CAFCR Recursively

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# Roadmapping How To

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# From Ideas to Communicatable Roadmaps

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Share domain understanding    market, applications, stakeholders

Formulate initial strategy    mission, vision

Gather data and synthesize roadmap    A3 data and roadmap

Package roadmap for target groups    (over) simplify

# Build Shared Domain Understanding

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Use a few half to full day workshops to explore the domain and map it.

Potential tools:

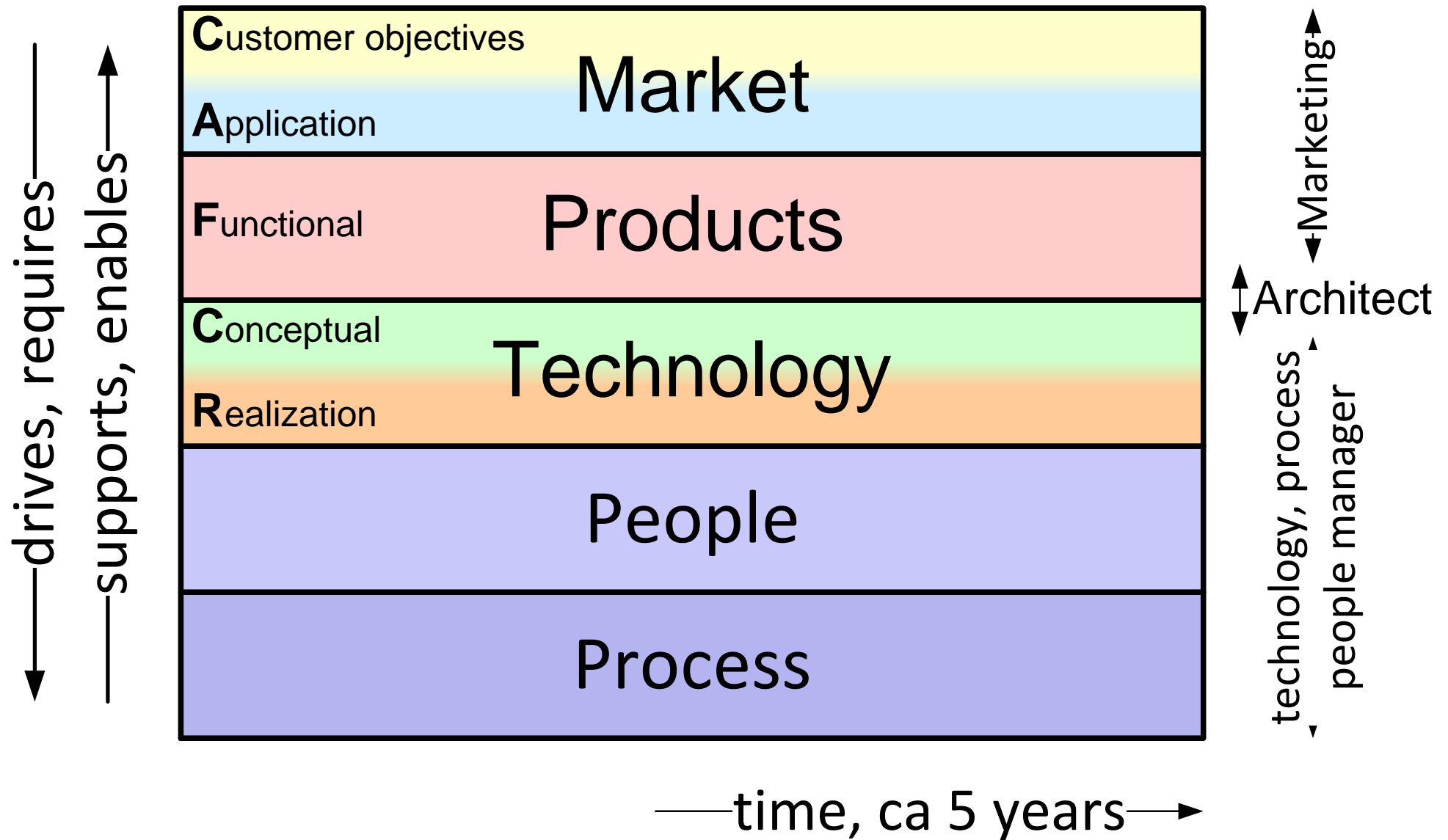
- Systems Oriented Design <https://systemsorienteddesign.net/>, using
  - Gigamapping  
<https://systemsorienteddesign.net/how-to-gigamap/> and
  - ZIP analysis (Zoom-Innovation-Potential)  
<https://systemsorienteddesign.net/zip-analysis/>
- CAFCR analysis <https://gaudisite.nl/ArchitecturalReasoningBook.pdf>

# Result of 3-day CAFCR Workshop

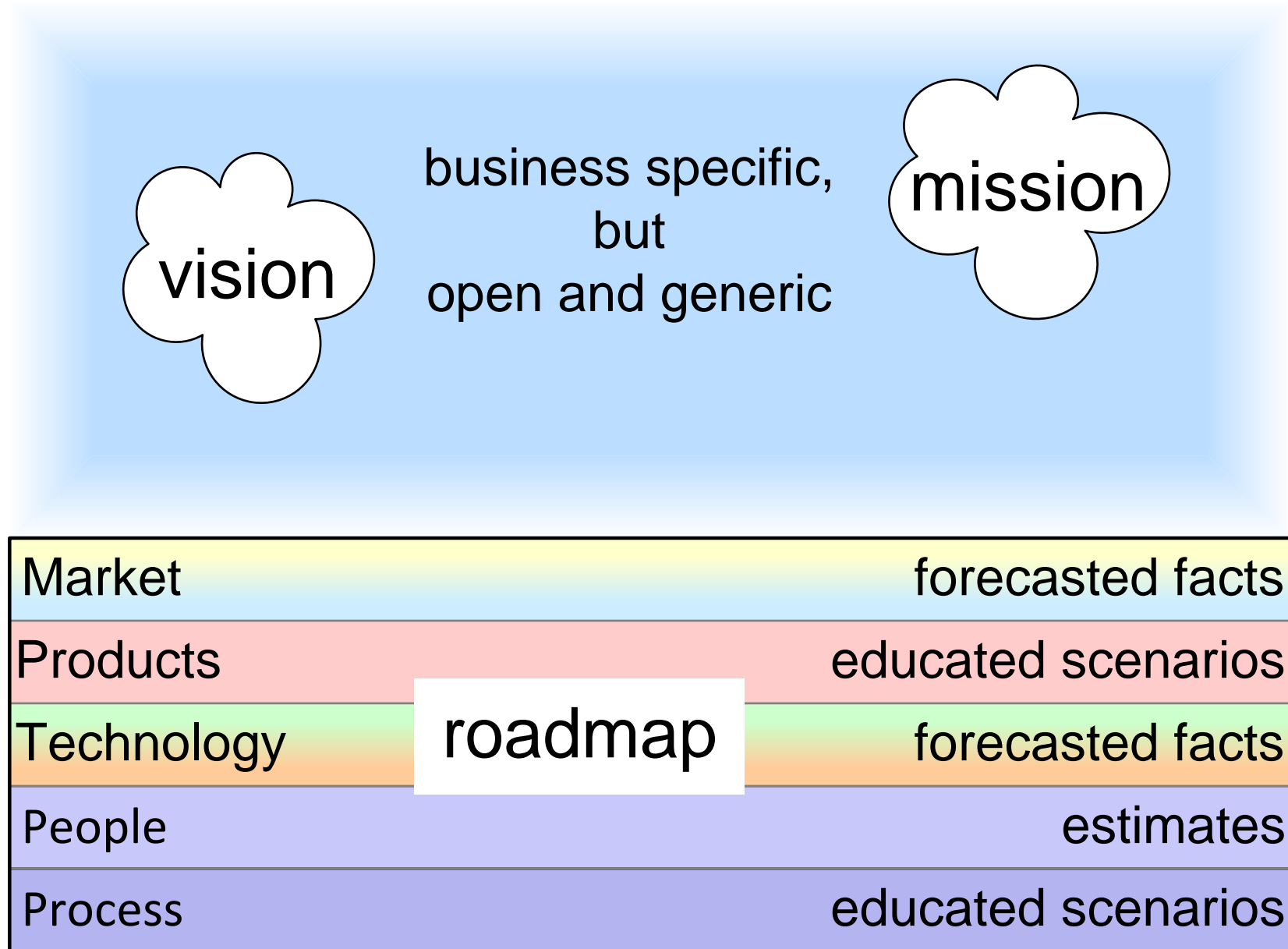




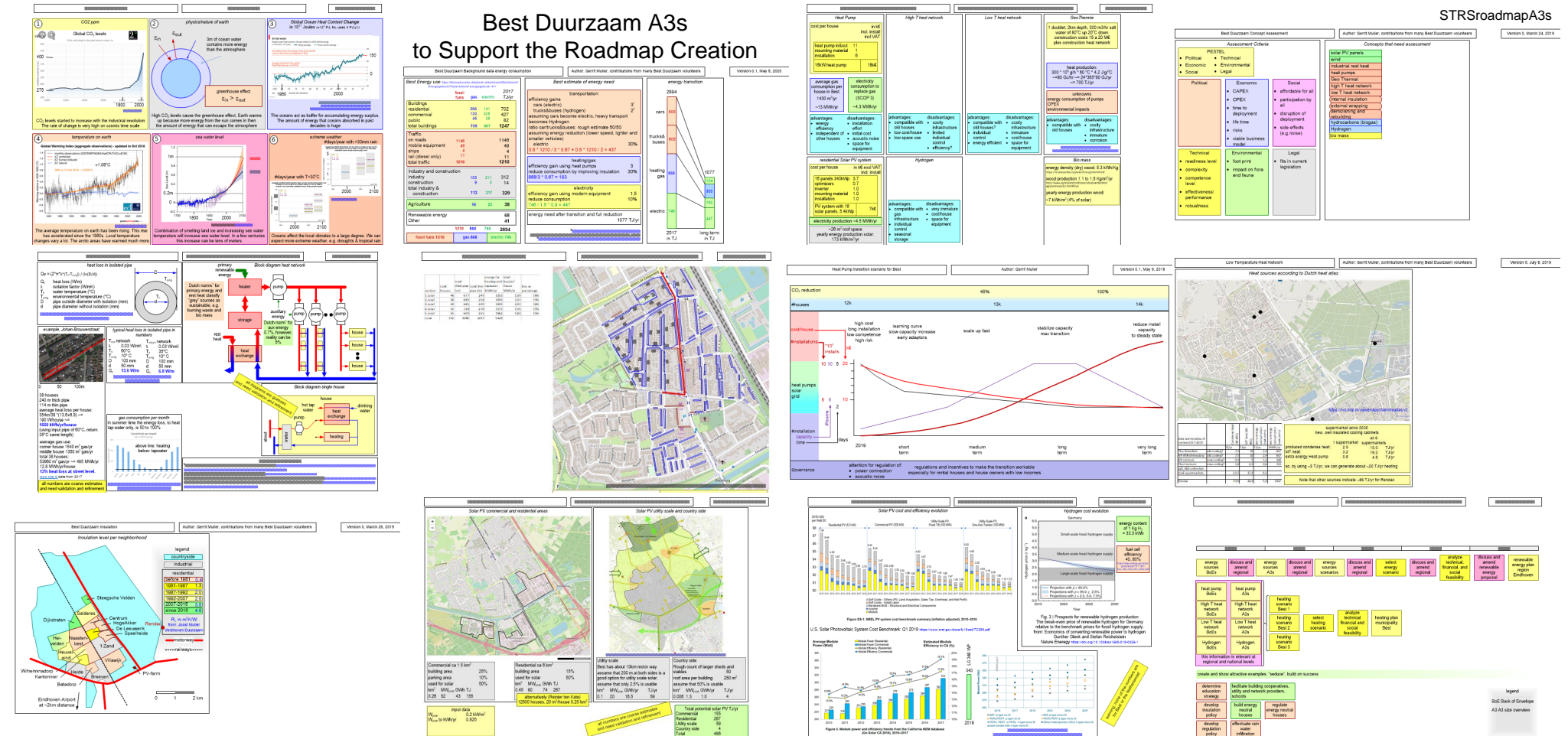
# The Roadmap Integrates Five Views



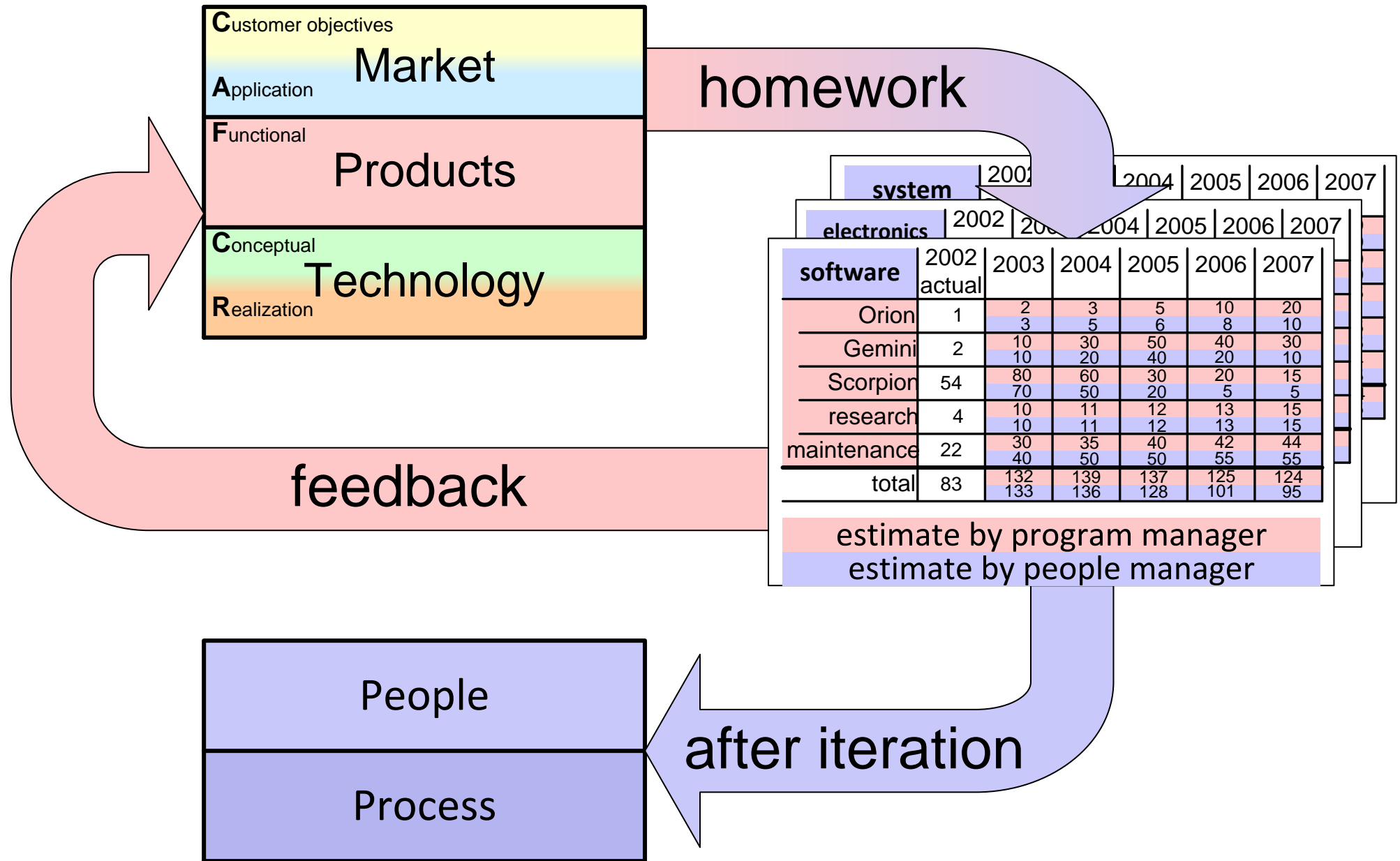
# From generic mission to factual roadmap



# Example of Data Gathering Sustainability Roadmap

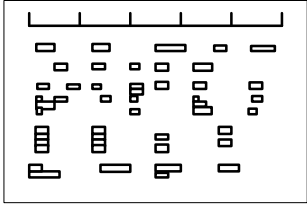


# From Market, Product, Technology to People, Process



# Granularity of Roadmap Material

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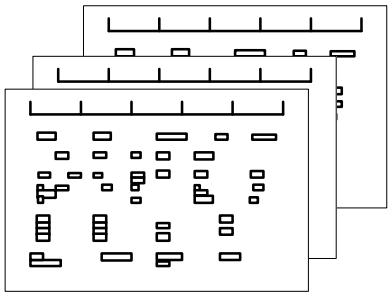


Top-level  
roadmap

Single page

Poster

part of many presentations

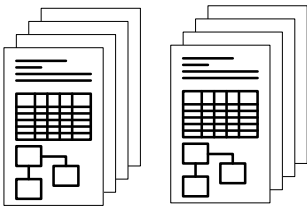


Supporting  
roadmaps

Single page  
per view  
or per driver

Poster

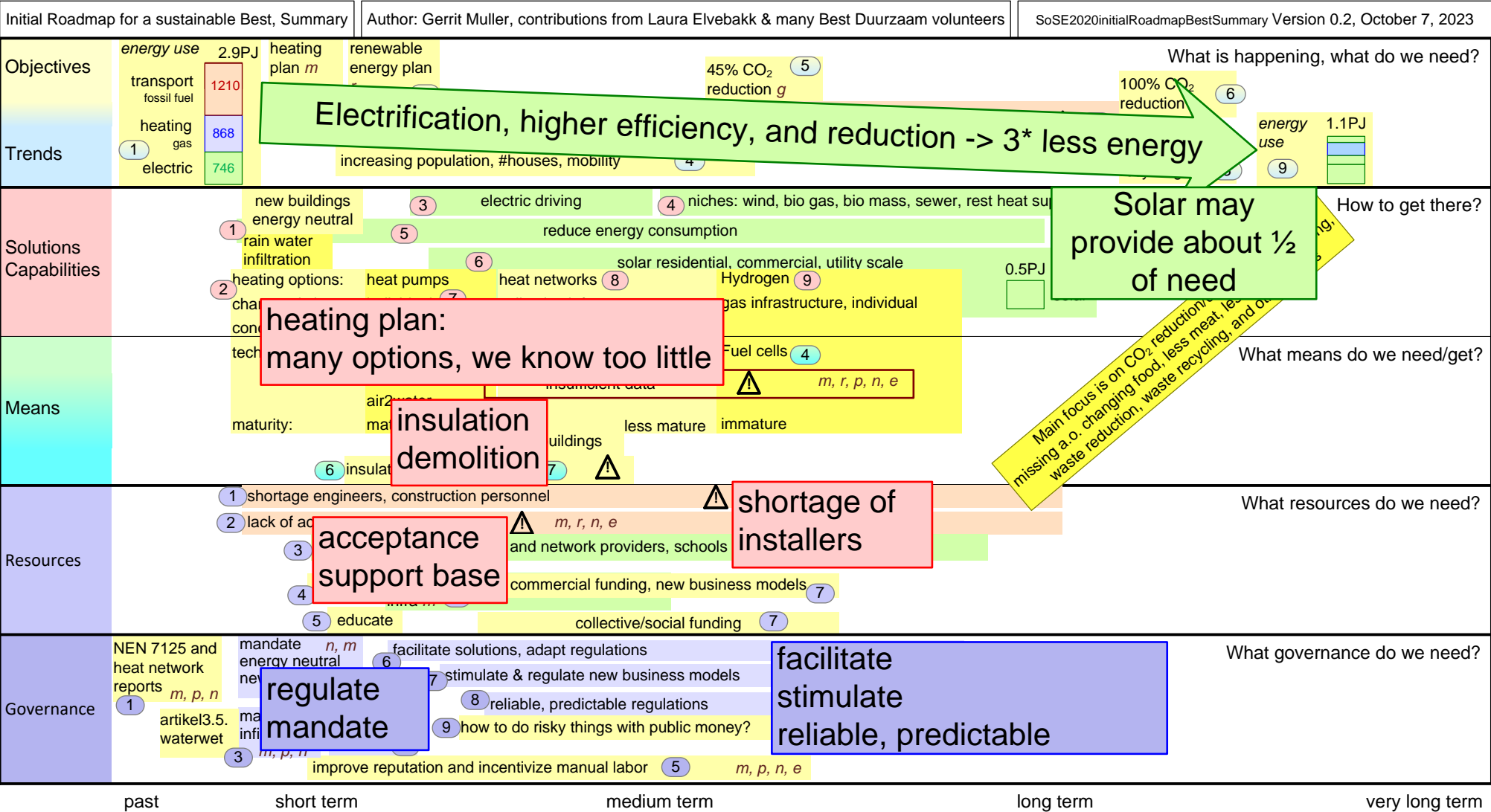
part of many presentations



Supporting  
reports

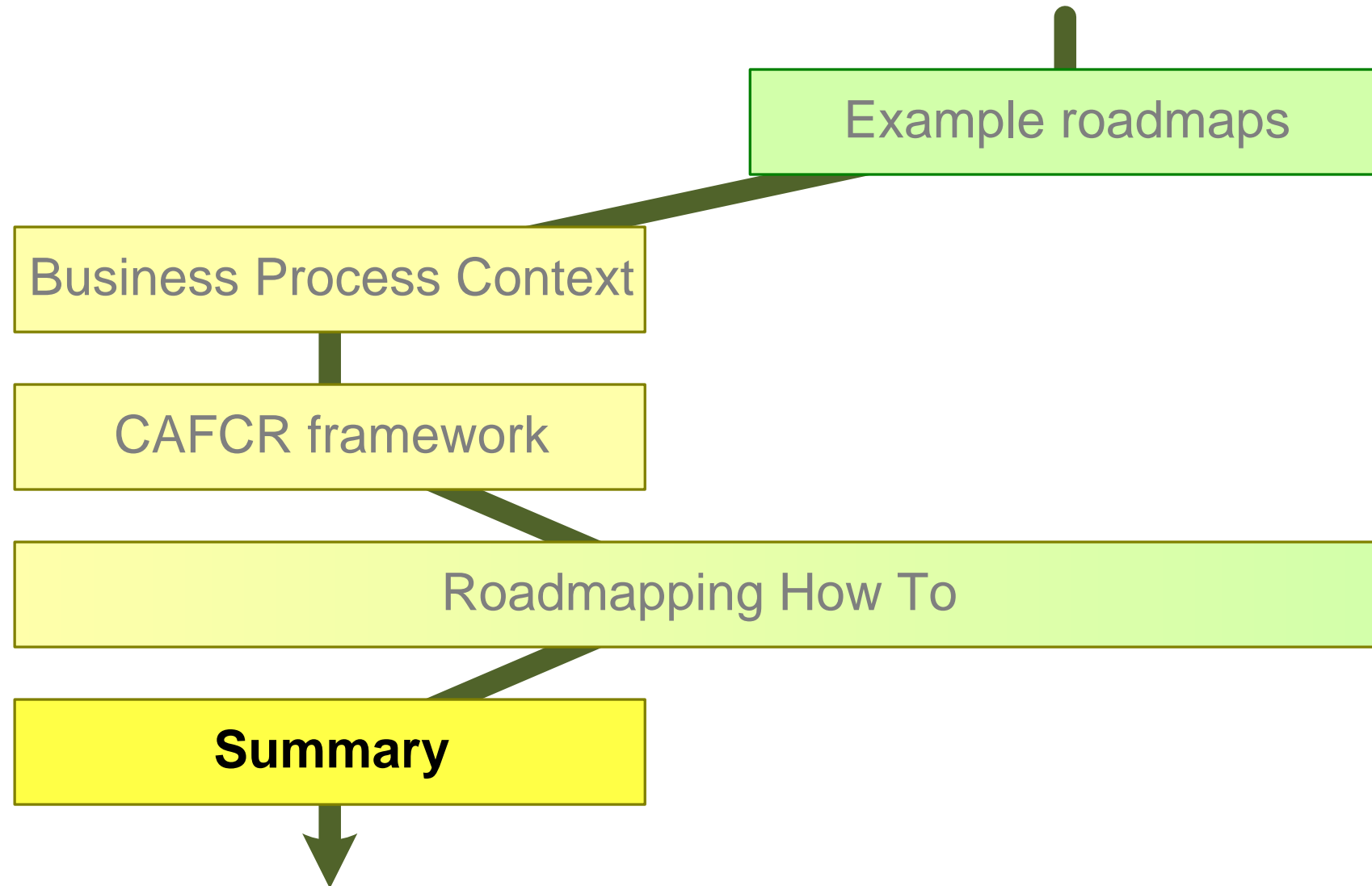
Document  
per relevant  
subject

# Package Roadmap for Target Groups

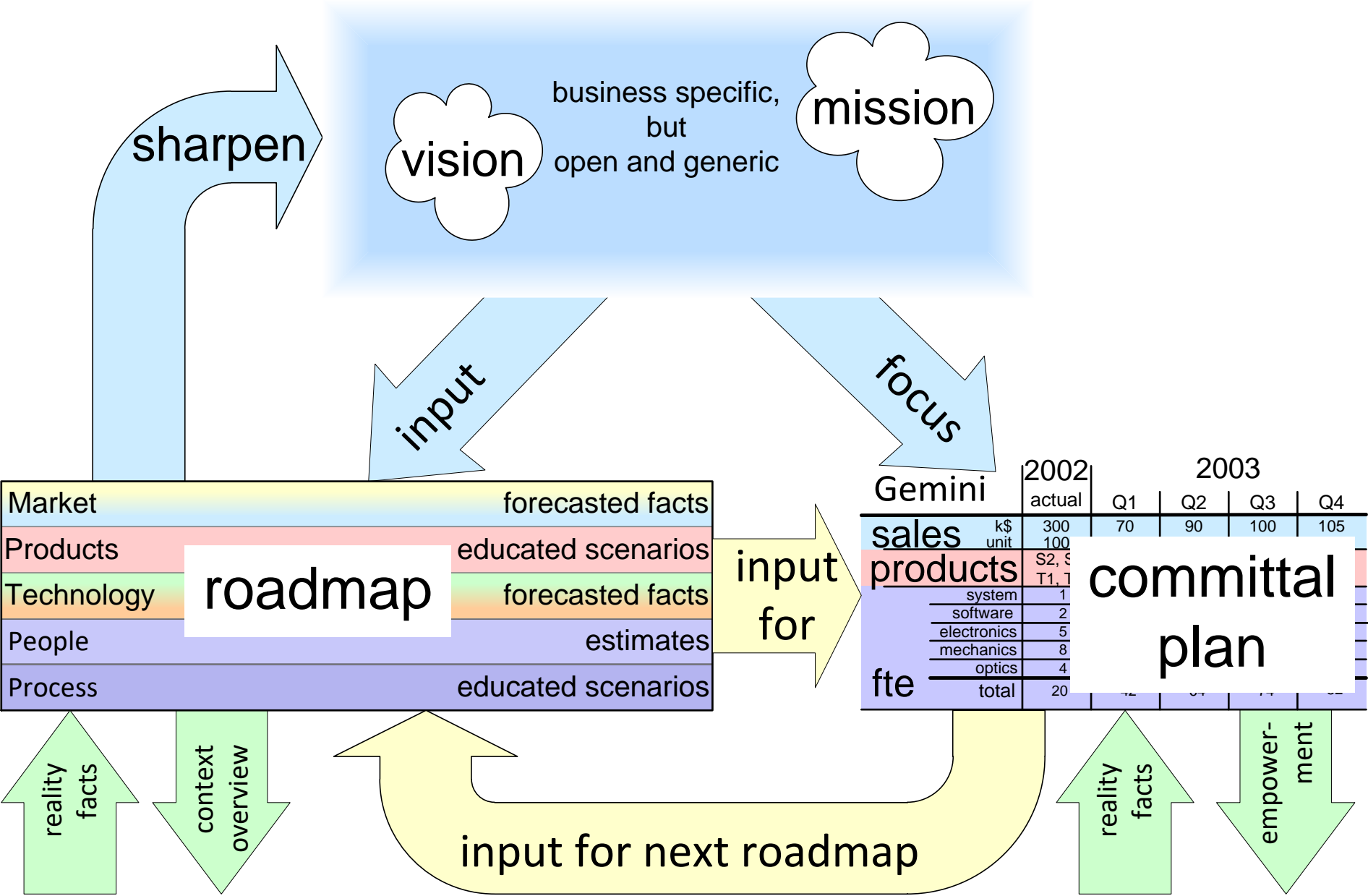


# Summary

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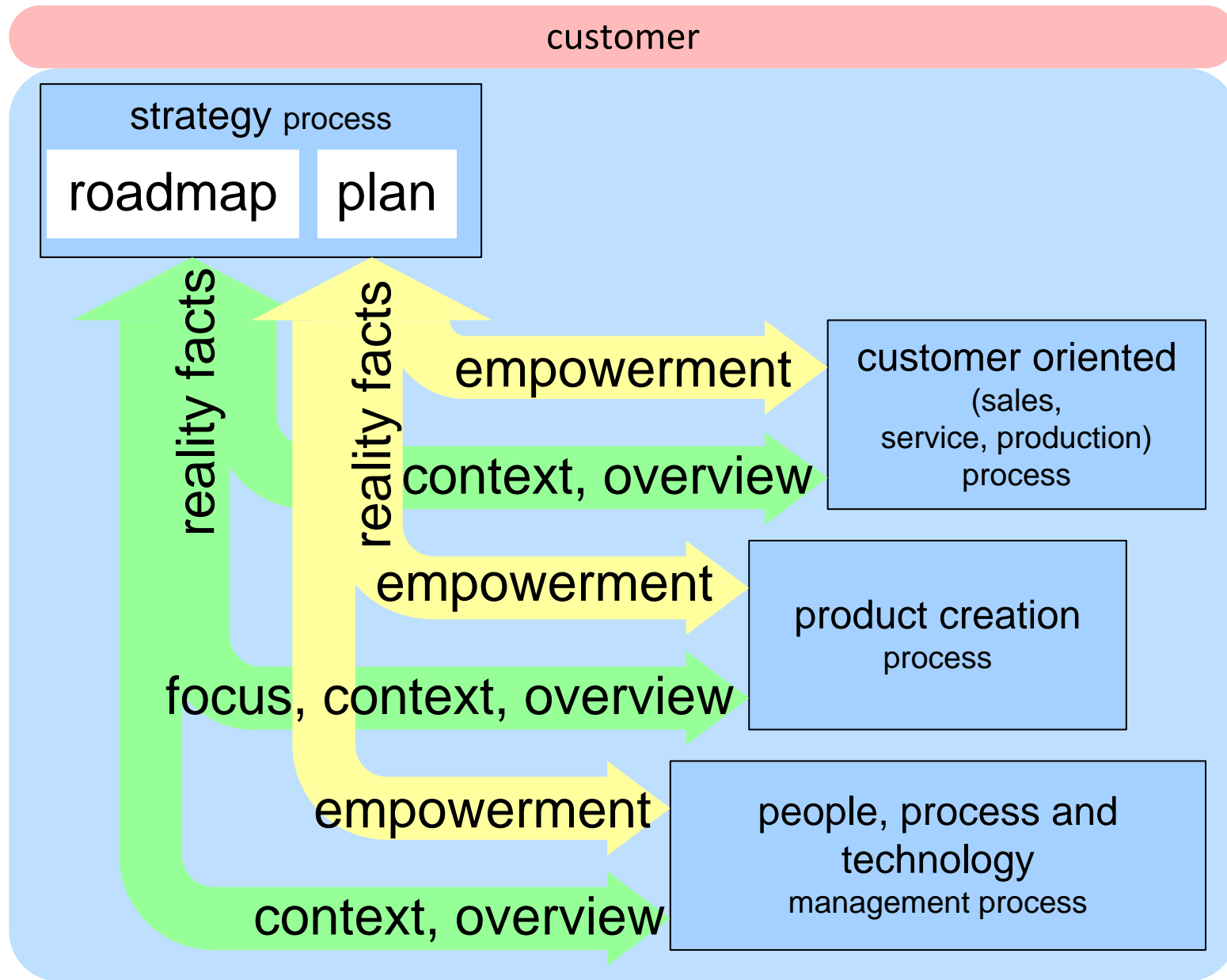


# Summary of strategy process





# Summary of role in business



Cambridge Roadmapping by Rob Phaal

<http://www.cambridgeroadmapping.net/>

Gaudisite Roadmapping Module

<https://gaudisite.nl/ModuleRoadmappingPaper.pdf>

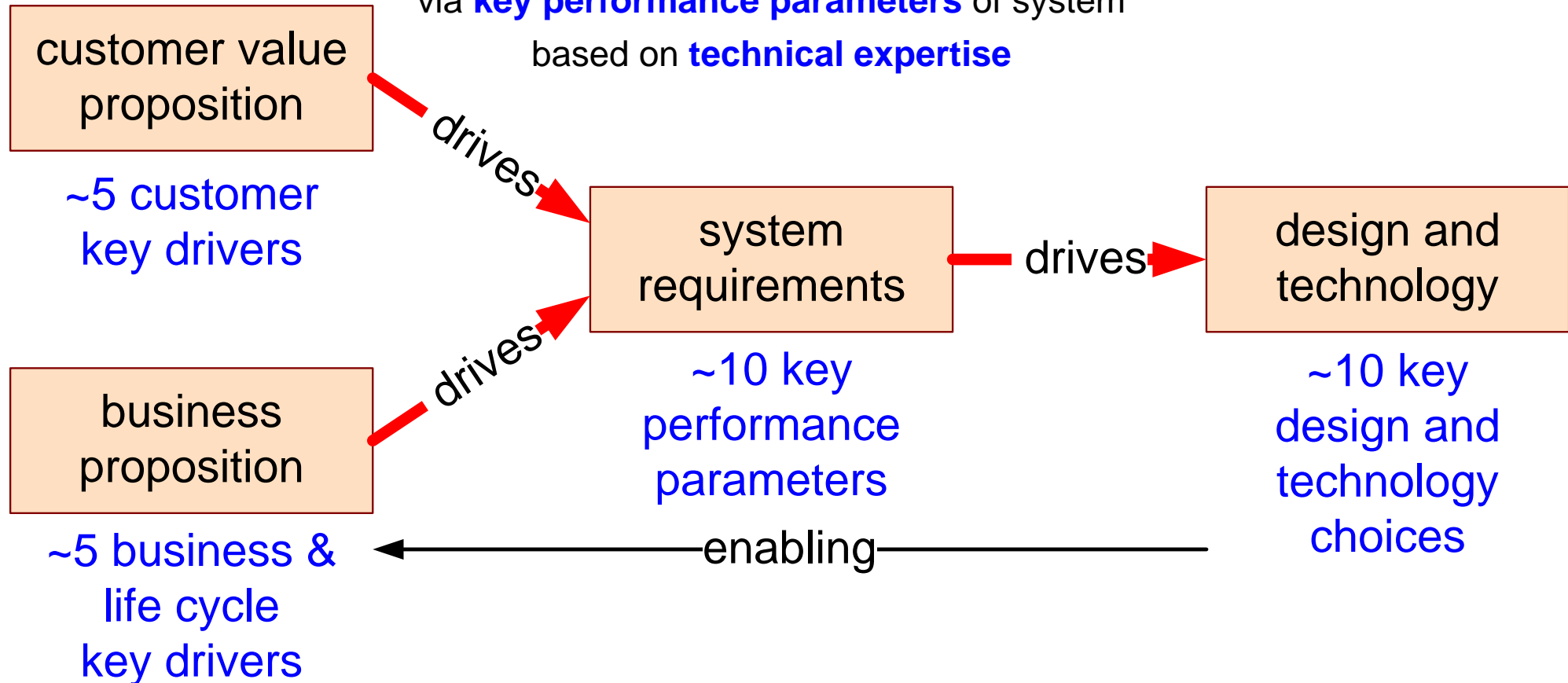
Applying Roadmapping and Conceptual Modeling to the Energy Transition: A Local Case Study by Gerrit Muller

<https://www.mdpi.com/2071-1050/13/7/3683/pdf>

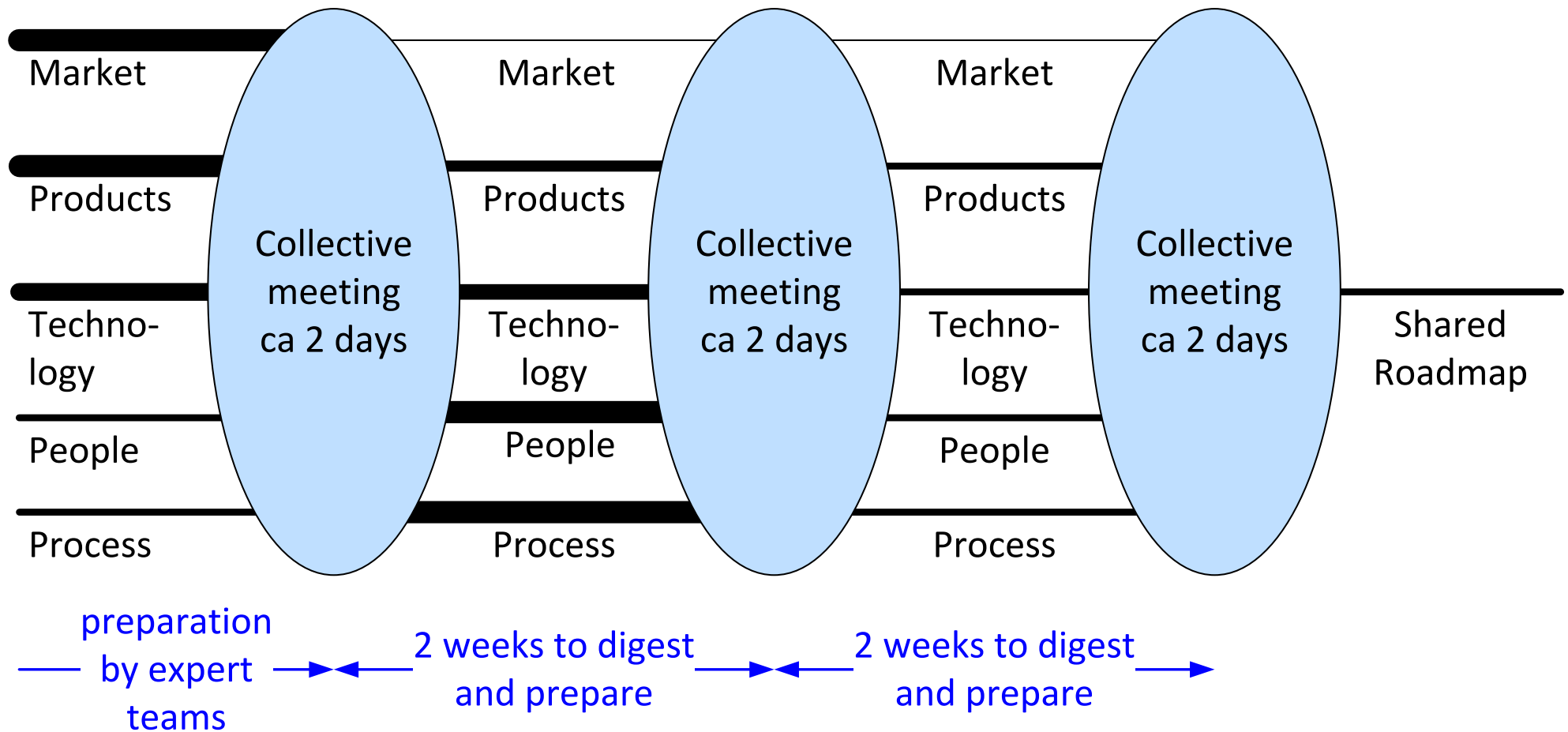
# The Architecture Captures the Rationale

## Systems Engineering: *Fitness-For-Purpose*

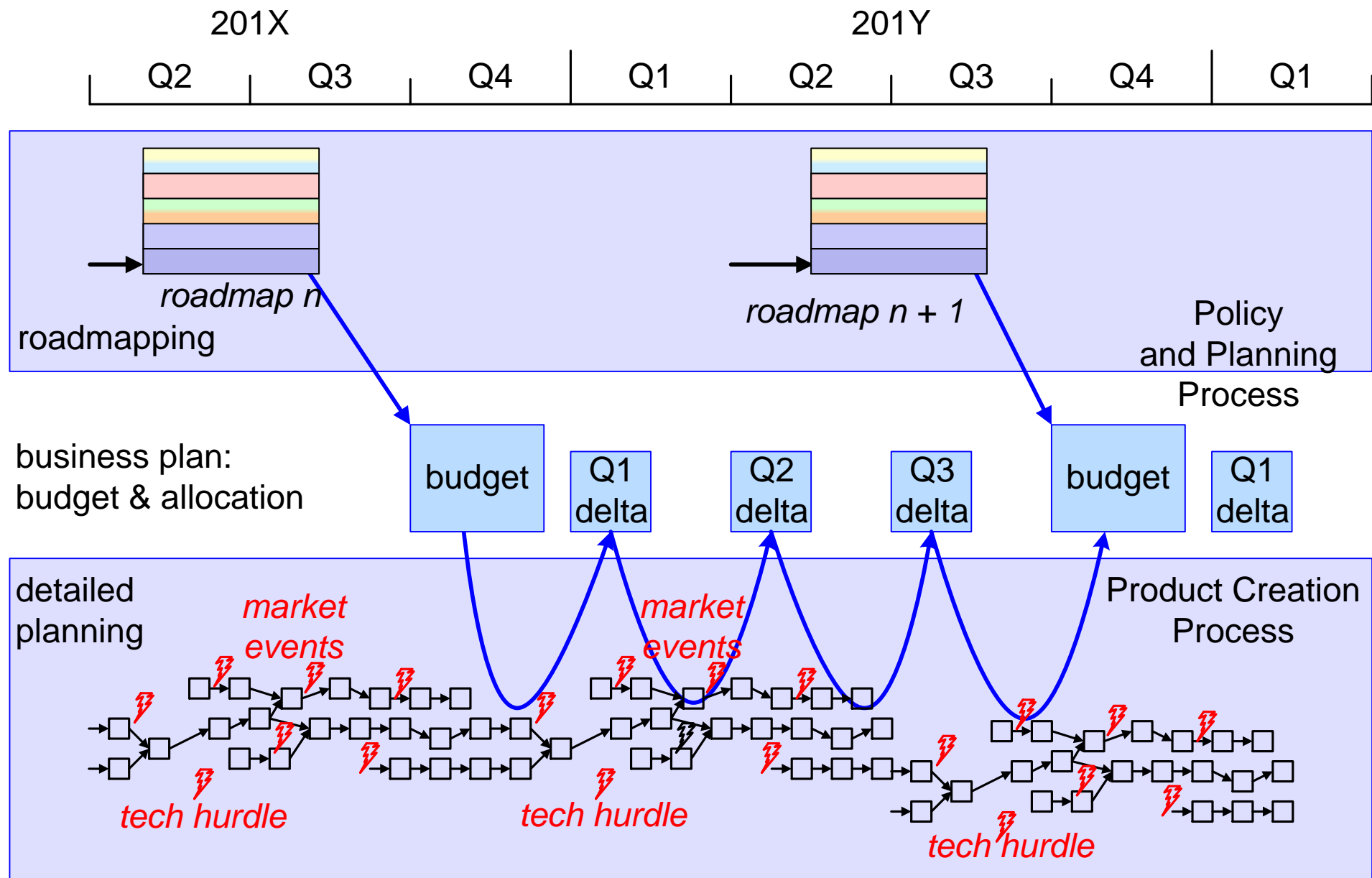
Achieving **customer** and **business key drivers**  
via **key performance parameters** of system  
based on **technical expertise**



# Creation or Update of Roadmap in Burst Mode



# From Roadmap to Detailed Plans



# 3-Tier Approach

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	<i>horizon</i>	<i>update</i>	<i>scope</i>	<i>type</i>
roadmap	5 years	1 year	portfolio	vision
budget	1 year	3 months	program	commitment
detailed plan	1 mnth-1yr	1 day-1 mnth	program or activity	control means