

# Module 34, Architectural Reasoning Customer Space Analysis

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## Abstract

This module provides methods and techniques to analyze the customer space.

### Distribution

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June 4, 2017

status: preliminary

draft

version: 1.1

# Methods to Explore the Customer Perspective

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## Abstract

This presentation provides a set of techniques to explore the customer perspective. The main purpose is for an organization to understand its customer sufficiently. Architects need this level of understanding to guide specification and design.

### Distribution

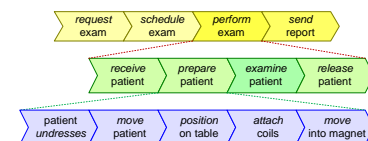
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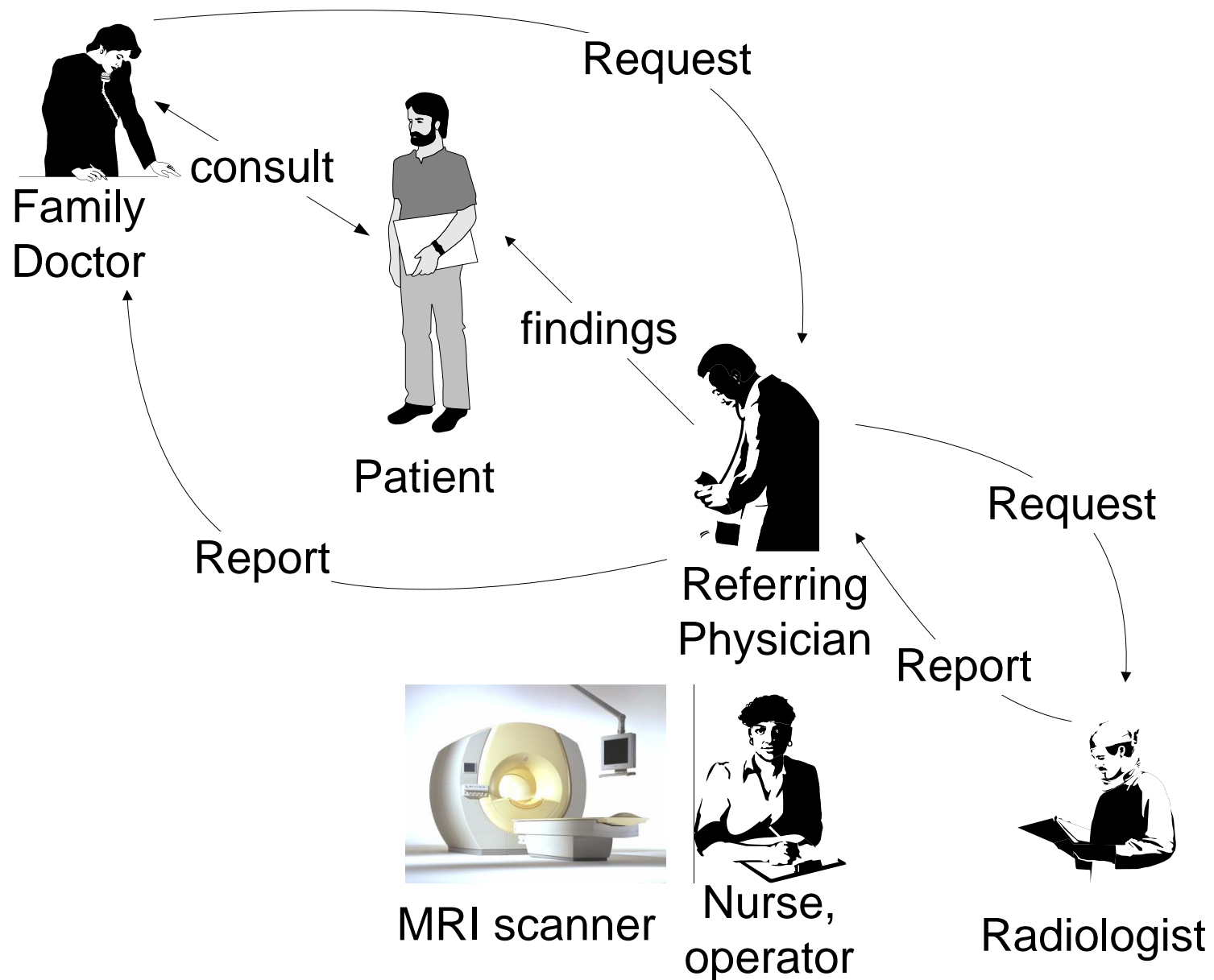
# Overview of methods

<b>what</b>	story telling, scenario	<a href="http://www.gaudisite.nl/info/StoryHowTo.info.html">http://www.gaudisite.nl/info/StoryHowTo.info.html</a>
<b>who</b>	stakeholders and concerns	<i>humans</i> <i>organizations</i> <b>autonomous behavior</b> <b>emotions</b>
<b>how</b>	system context diagram	<i>human-made artifacts</i>
	workflow	
<b>when</b>	timeline	<b>from seconds to years</b>
<b>where</b>	map	<b>from nanometers to kilometers</b>
<b>why</b>	customer key driver graph	
	productivity model	<a href="http://www.gaudisite.nl/info/KeyDriversHowTo.info.html">http://www.gaudisite.nl/info/KeyDriversHowTo.info.html</a>
<b>financial</b>	cost of ownership model	
	money flow	

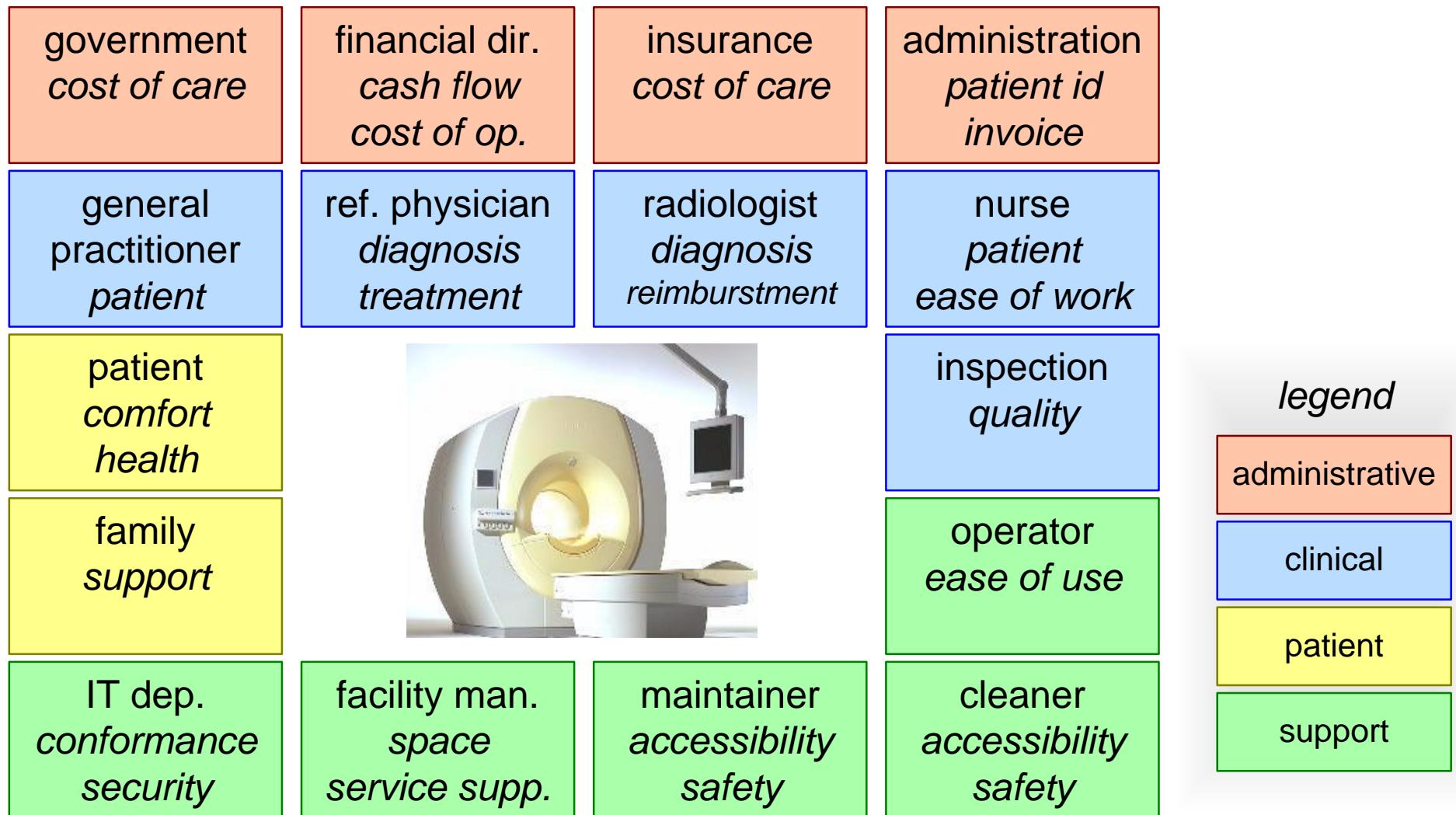
# Scenario: Patient George

- Patient George has continuous headache.
- His family doctor has send him to the Neurologist.
- The Neurologist wants to exclude the possibility of a tumor and requests an MRI examination.
- The Radiologists does not see any indication for a tumor.
- The Radiologist sends his report to the Neurologist.
- The Neurologist discusses his findings with the patient and sends a report to the family doctor.

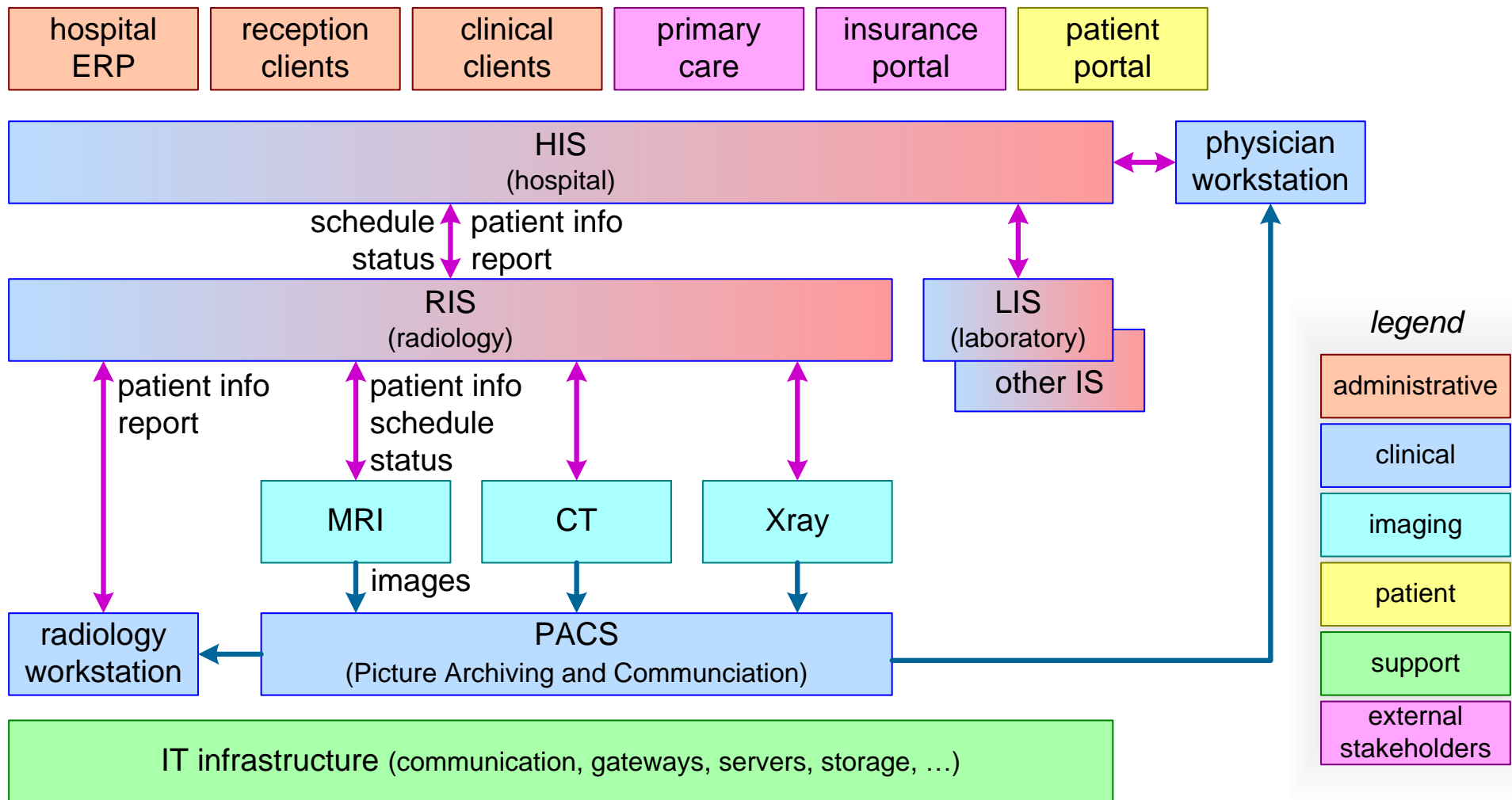
# From Complaint to Diagnosis



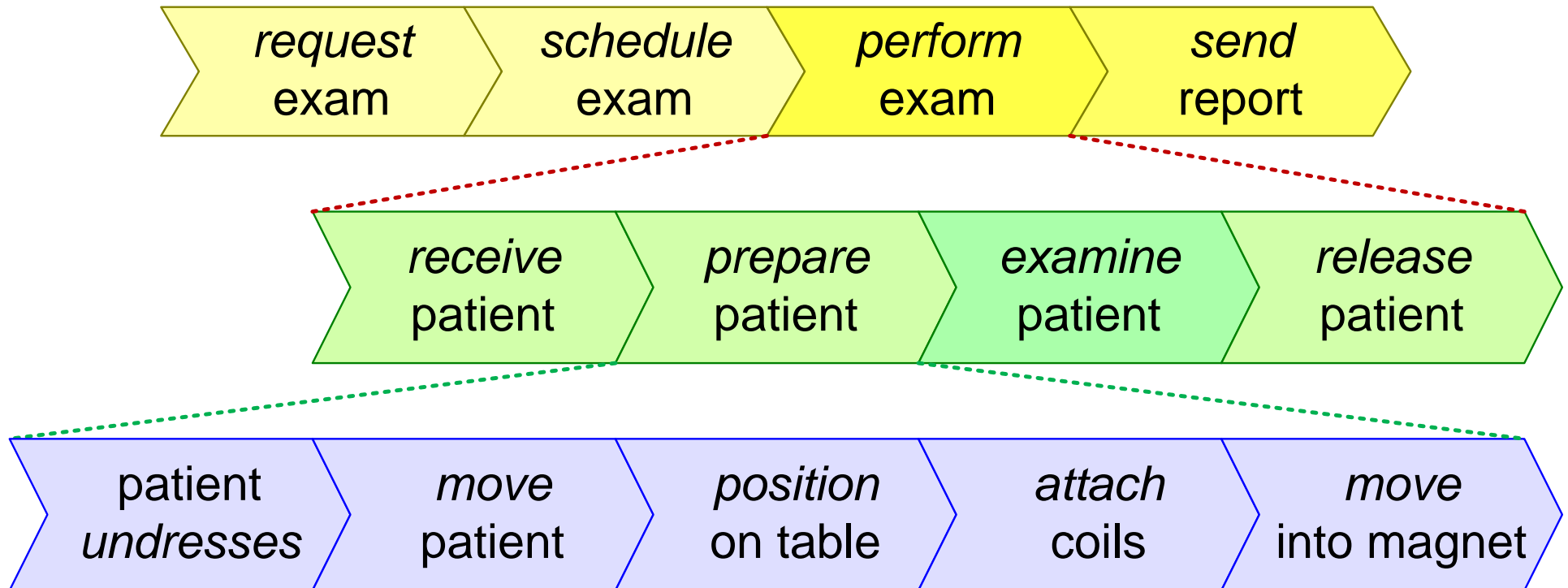
# Stakeholders and concerns MRI scanner



# Context of MRI

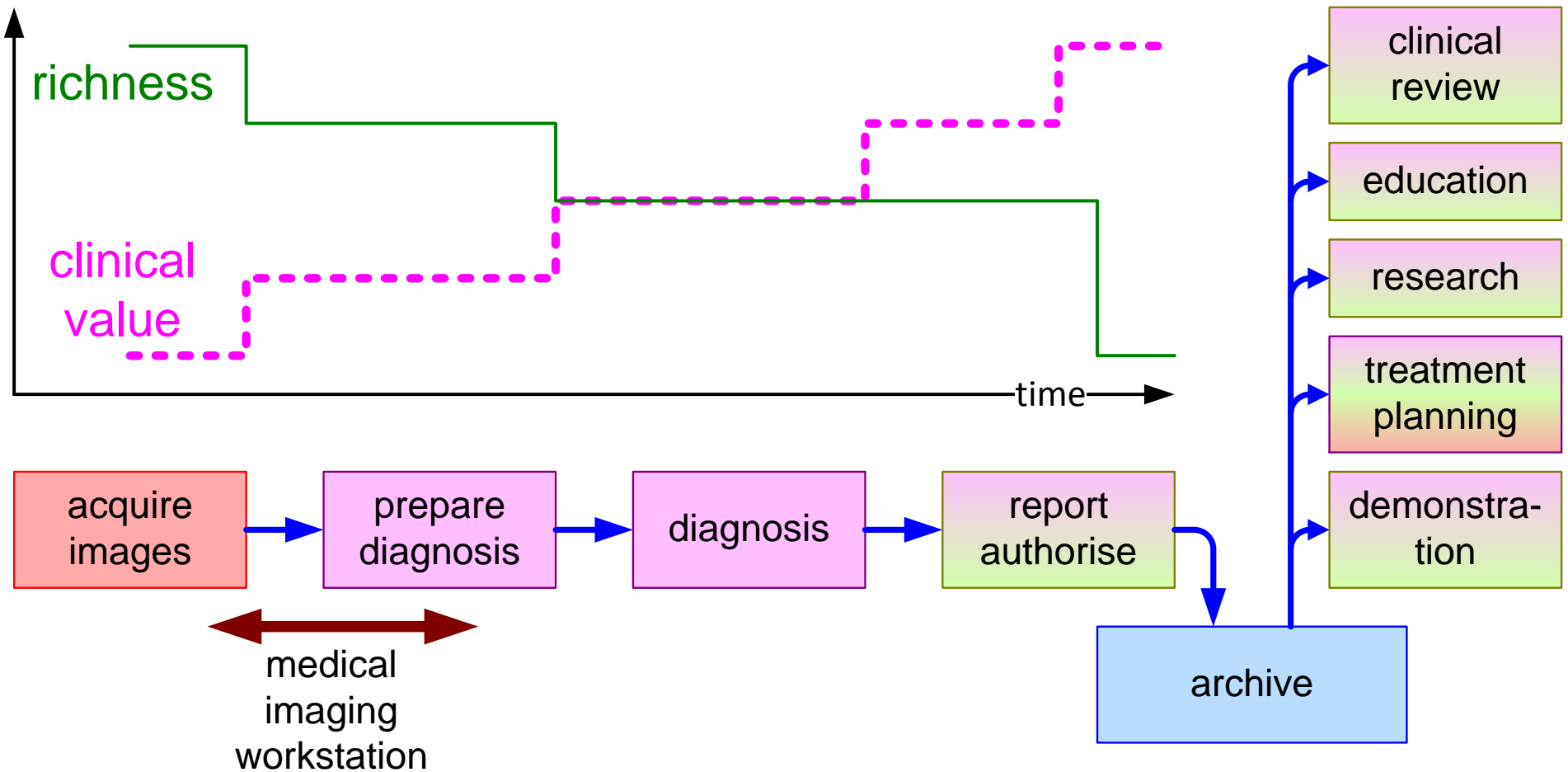


# Workflow

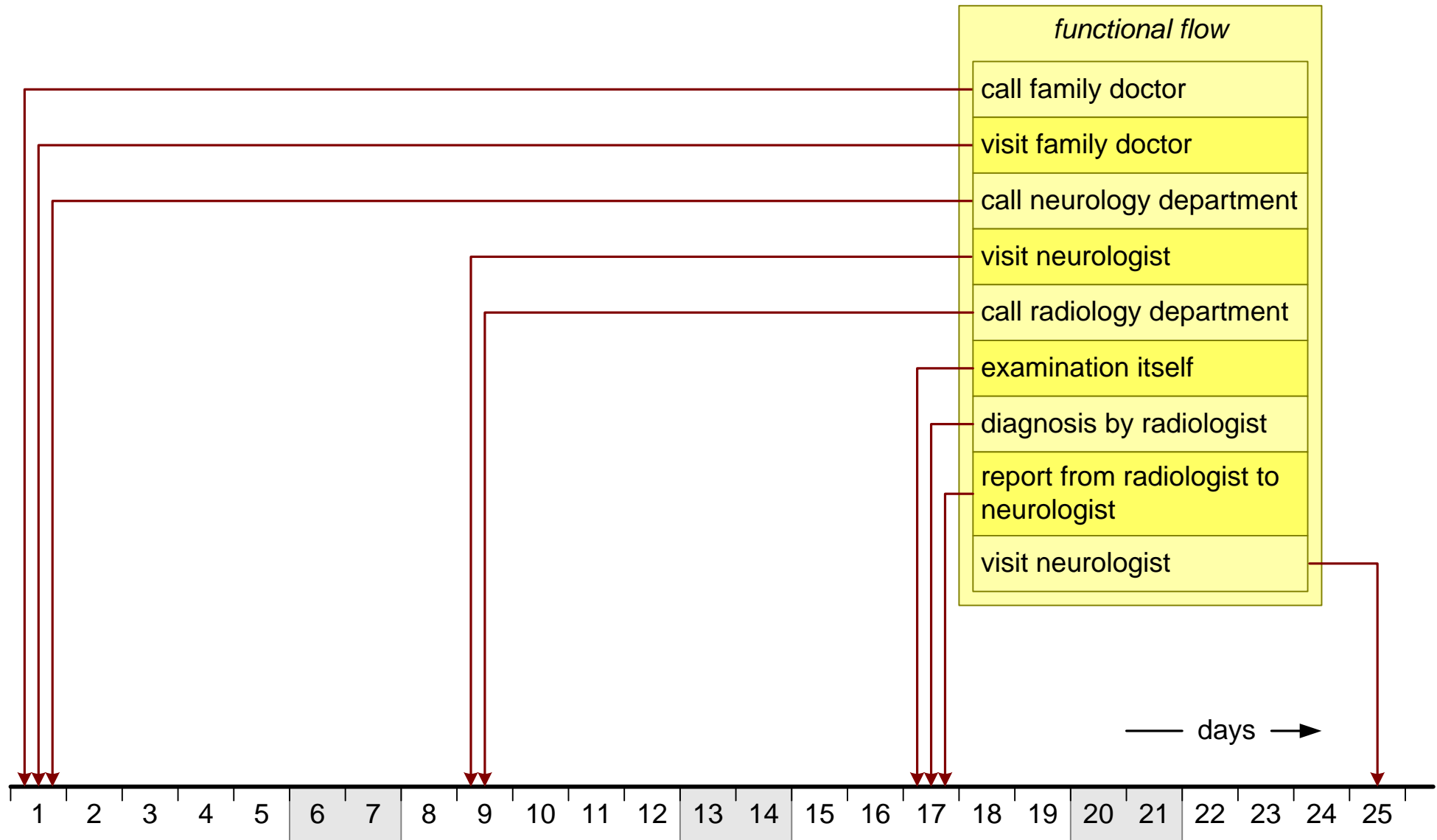




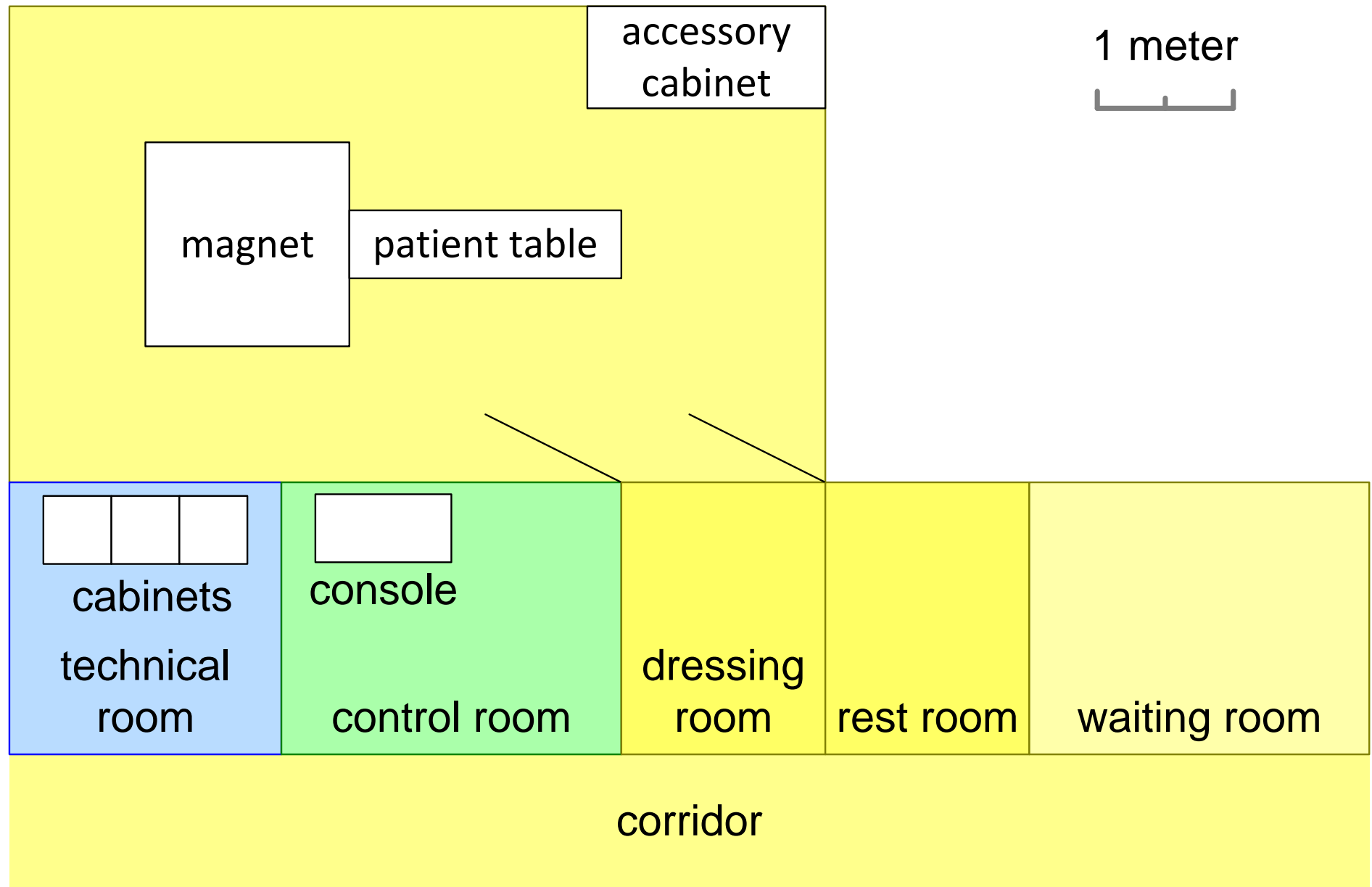
# Clinical Information Flow



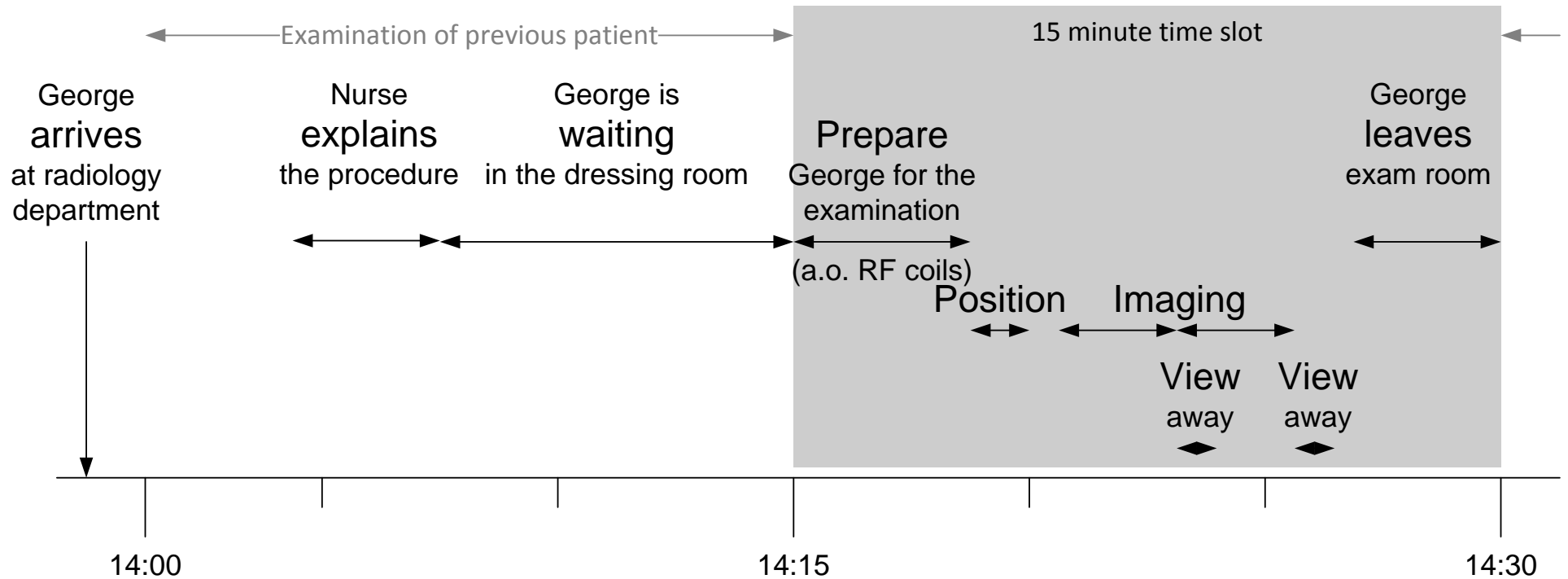
# weeks view: from Complaint to Diagnosis



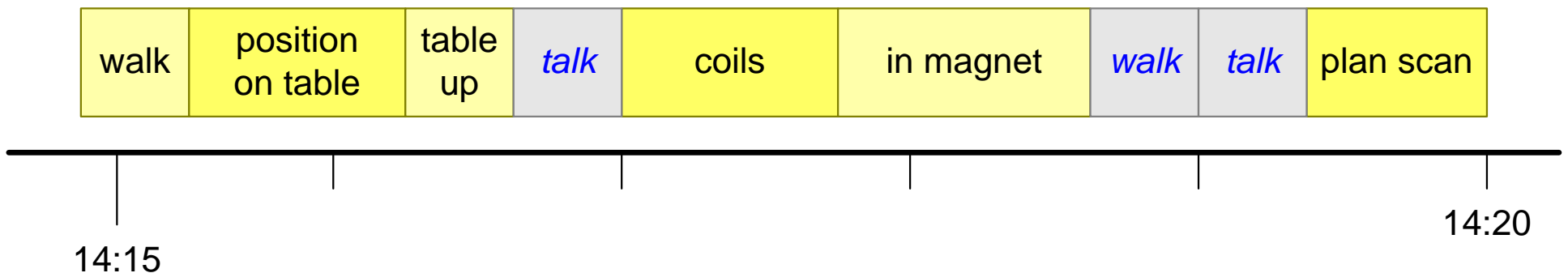
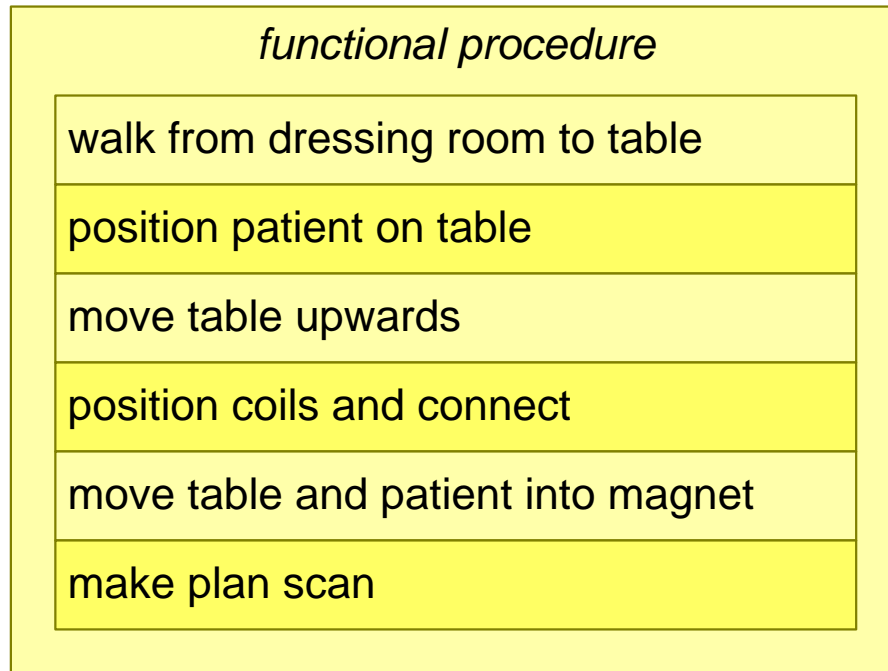
# Room Layout



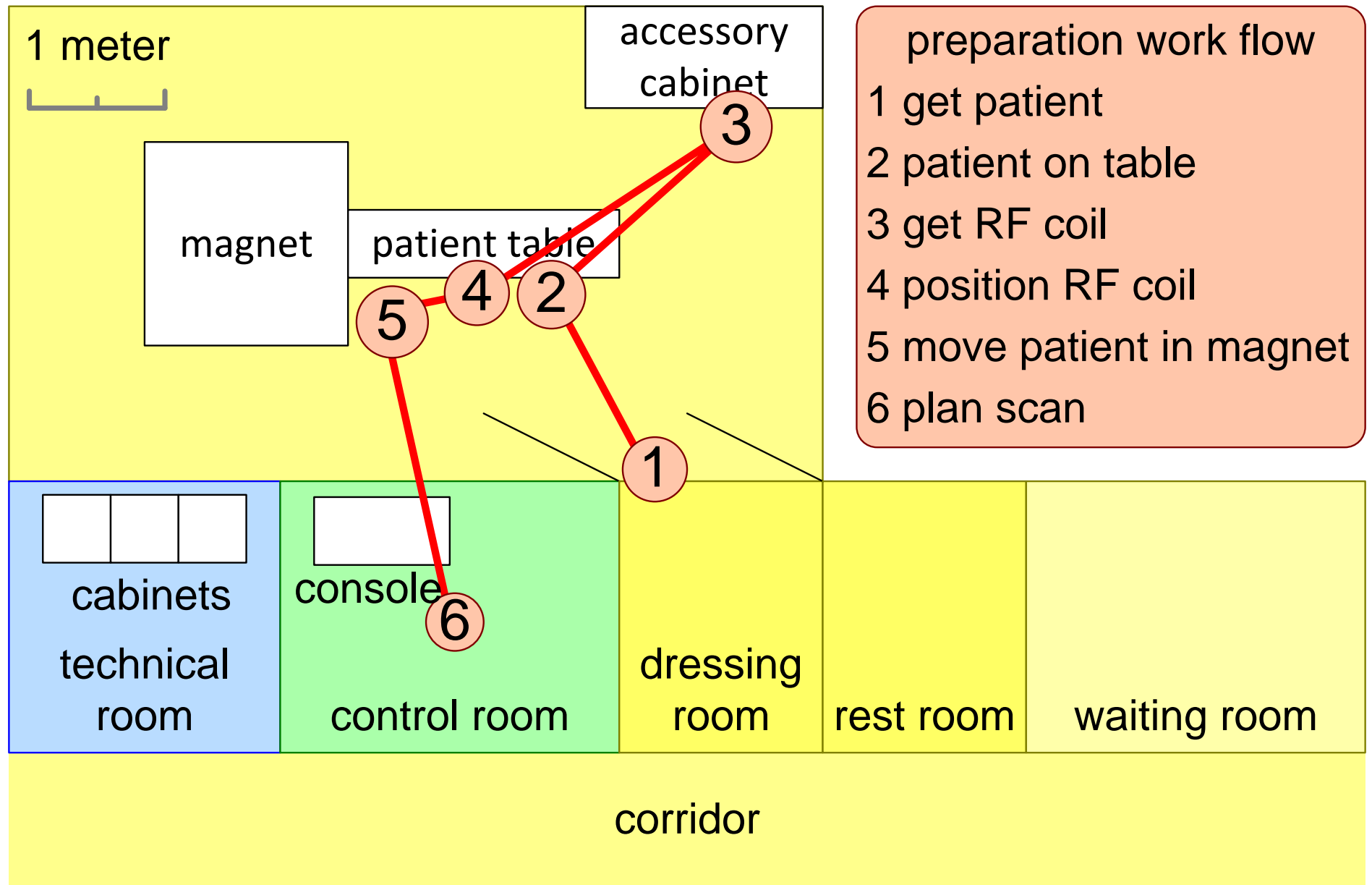
# half hour view: Examination



# 5 minute view: Patient Preparation (1 operator)

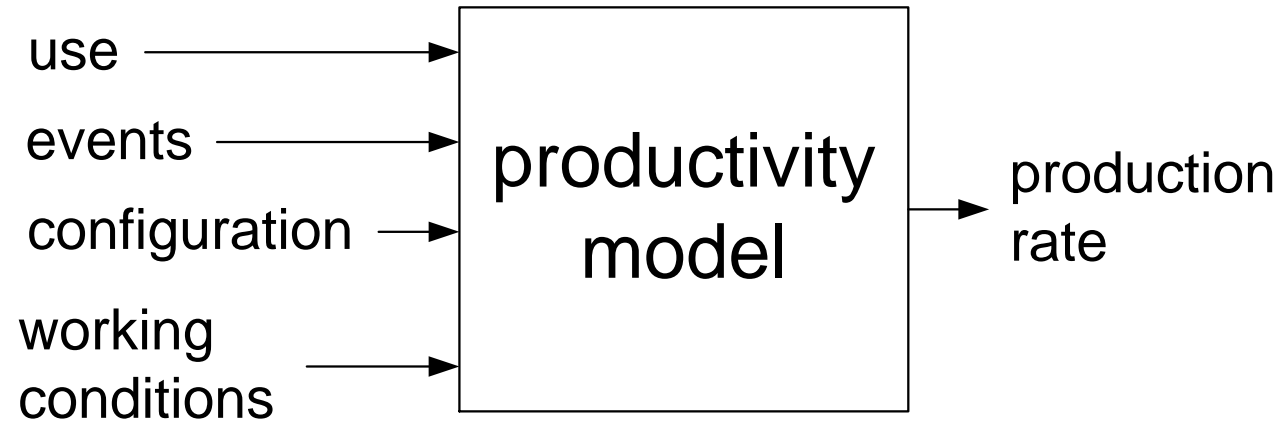


# Patient Preparation Work Flow

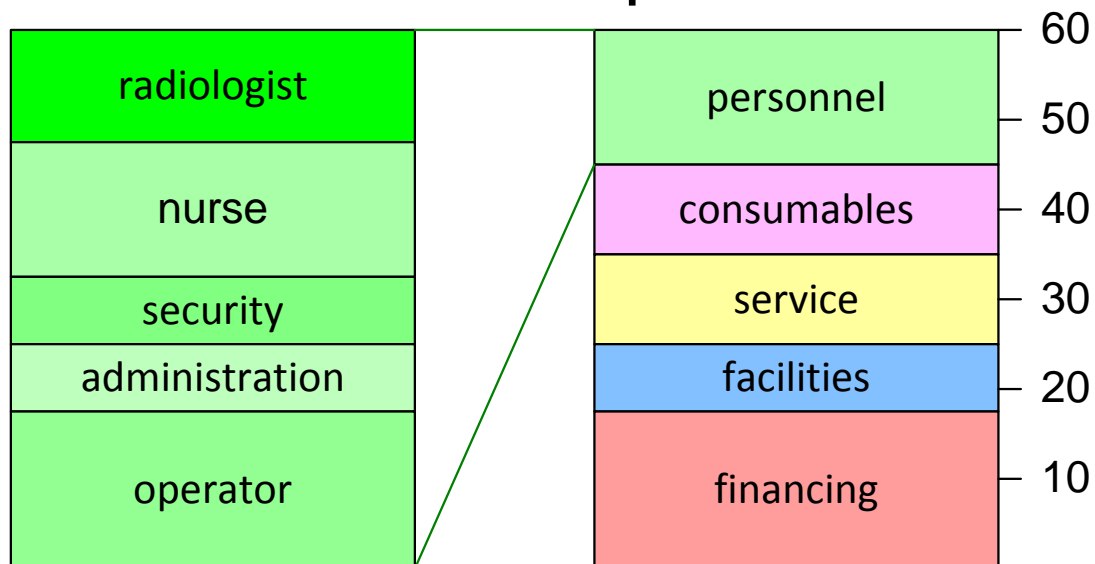


# Productivity and Cost models

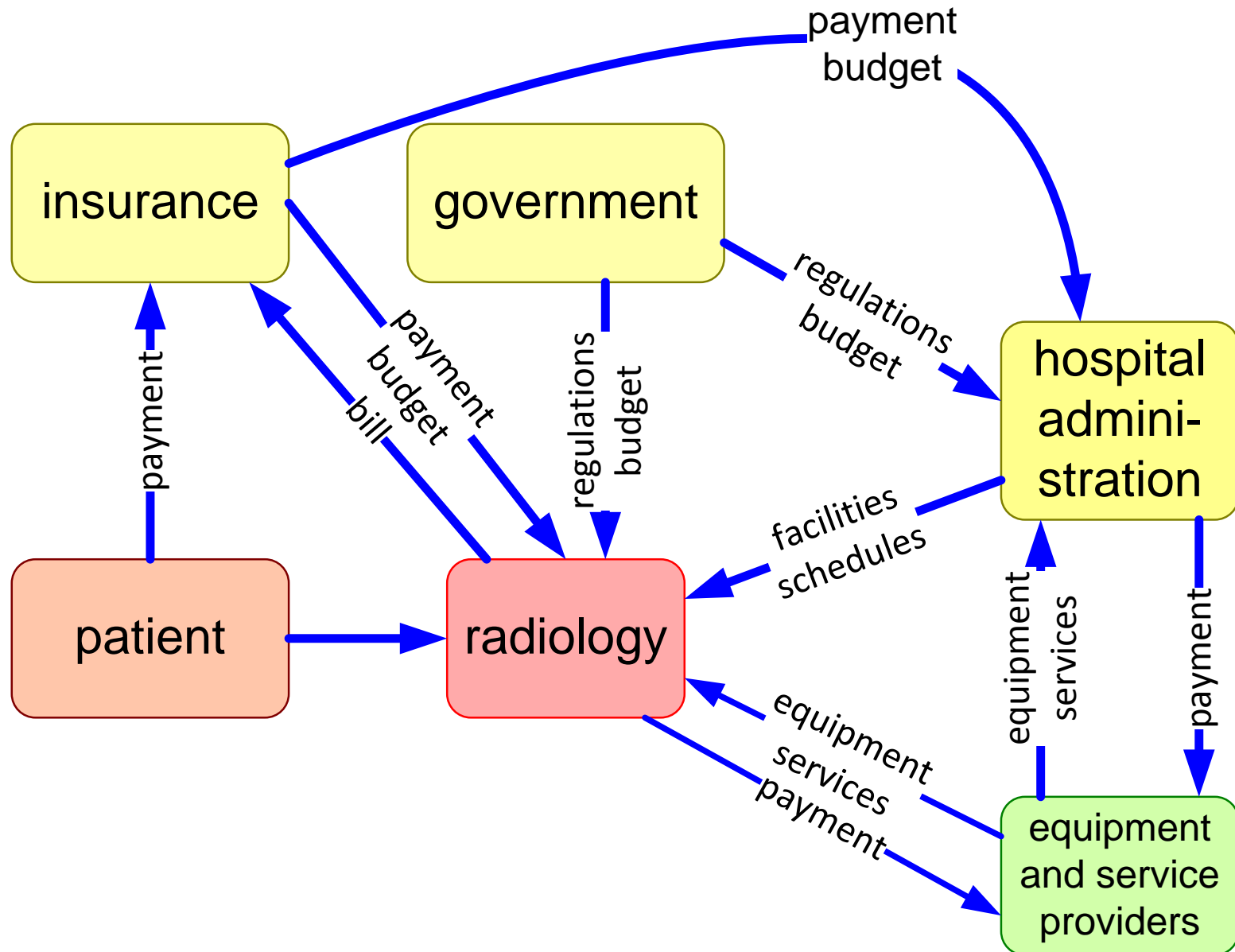
typical



## Cost Of Ownership model



# The financial context of the radiology department





Make a **context diagram**, showing the **systems** and their **relations** in the **customer space**

- typically, tens of systems are relevant for customers

Capture one or a few main **workflows** in the customer space

# Key Drivers How To

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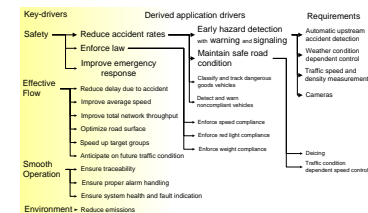
## Abstract

The notion of "business key drivers" is introduced and a method is described to link these key drivers to the product specification.

## Distribution

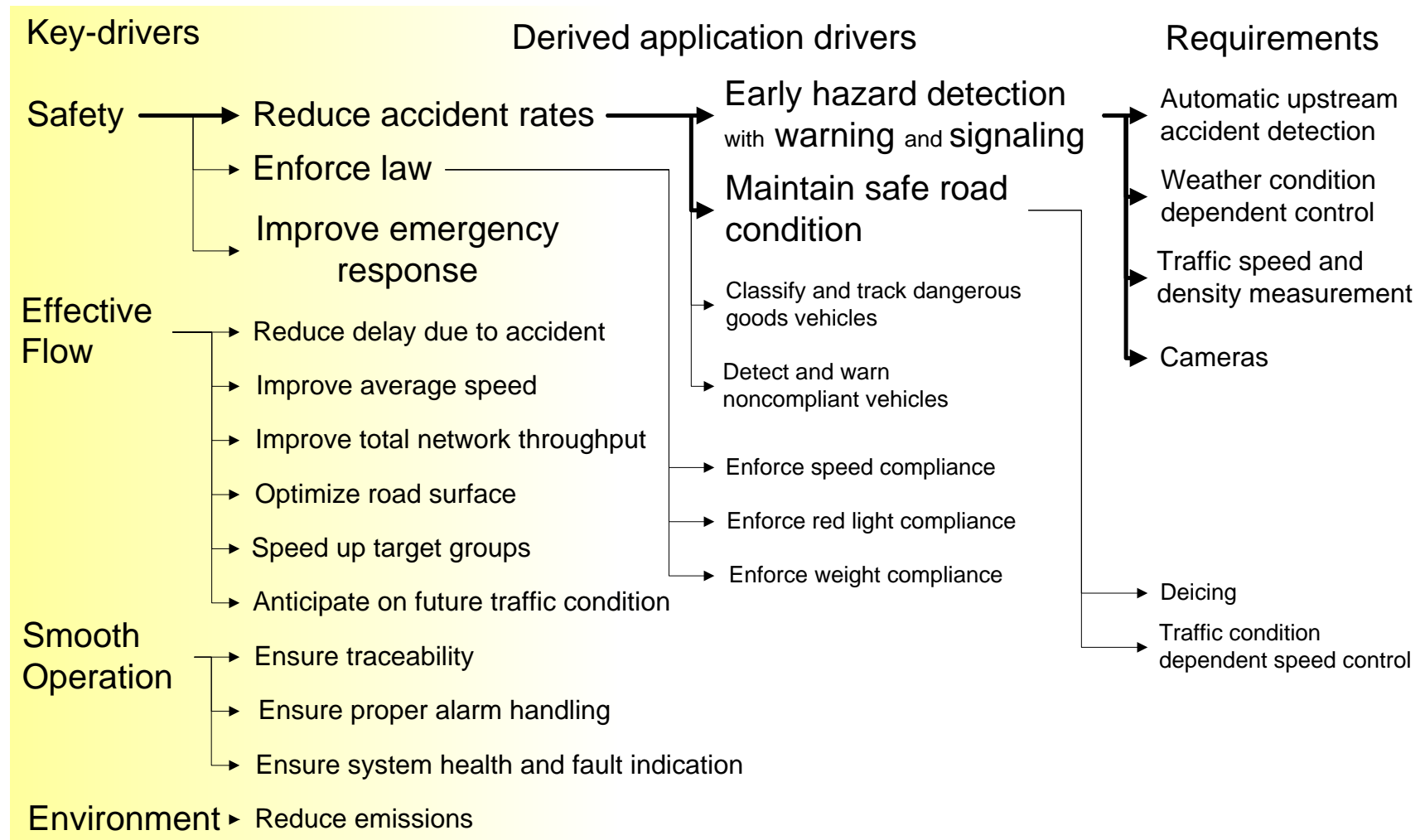
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Note: the graph is only partially elaborated for application drivers and requirements

# Example Motorway Management Analysis



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

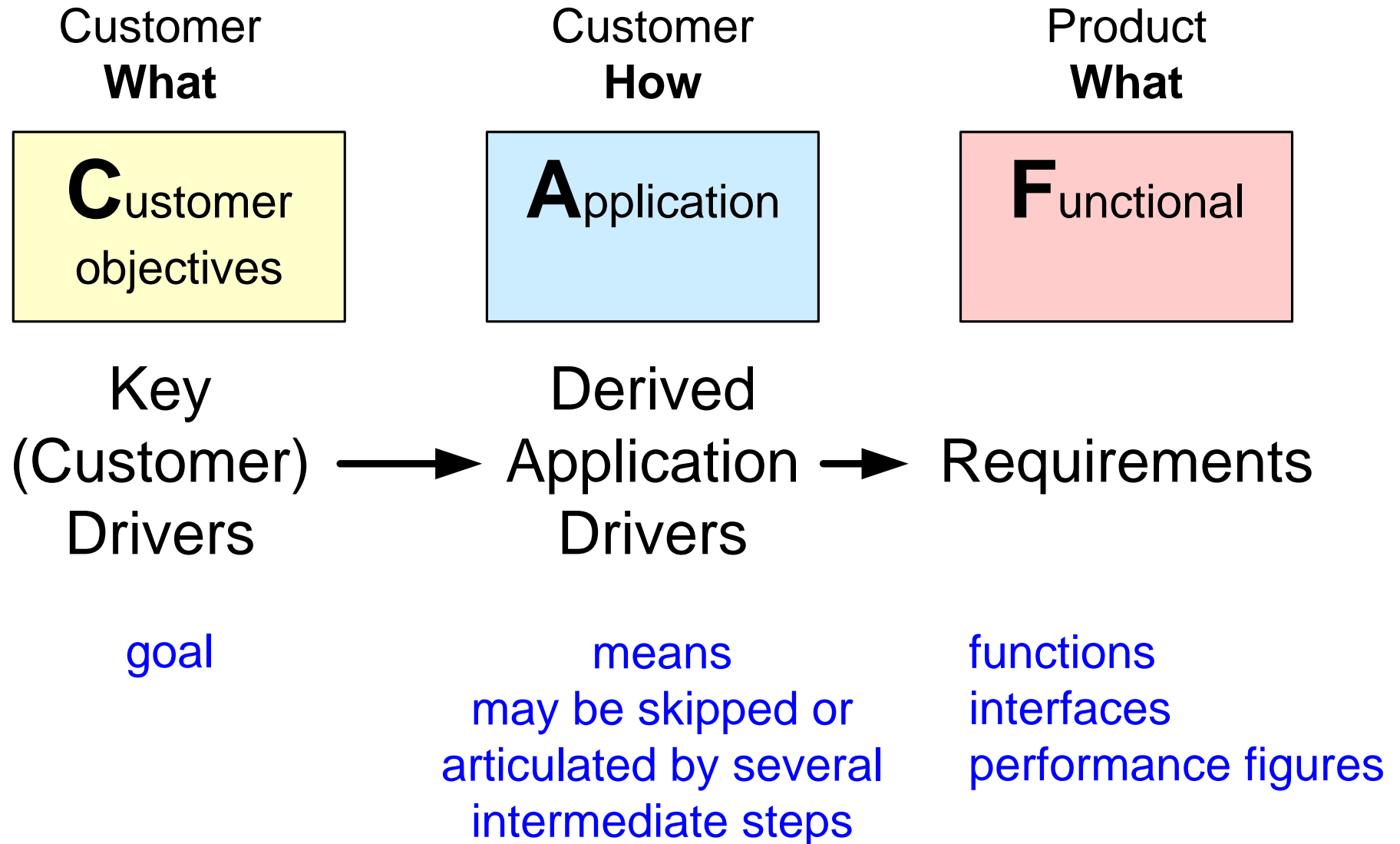
# Method to create Key Driver Graph

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

# Recommendation for the Definition of Key Drivers

- 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

# Transformation of Key Drivers into Requirements

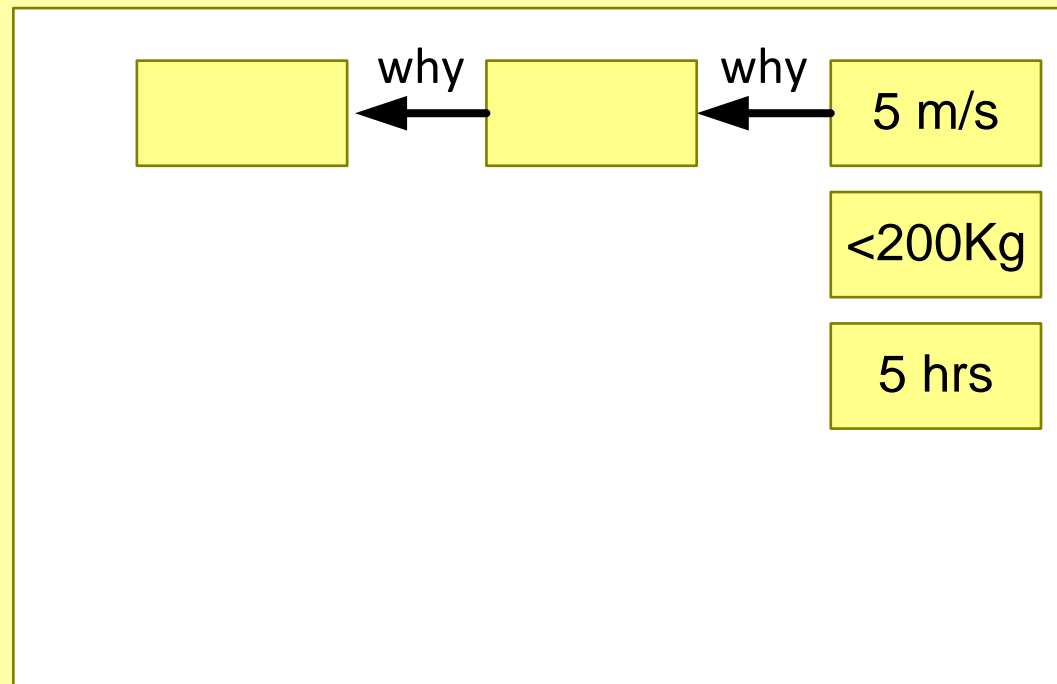


# Exercise Customer Key Driver Graph

Make a **customer key driver graph**

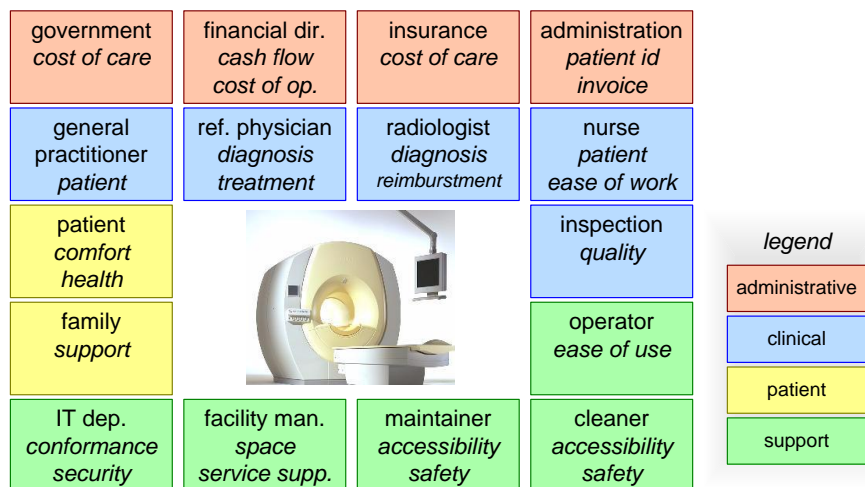
Use yellow note stickers

Start at the right hand side

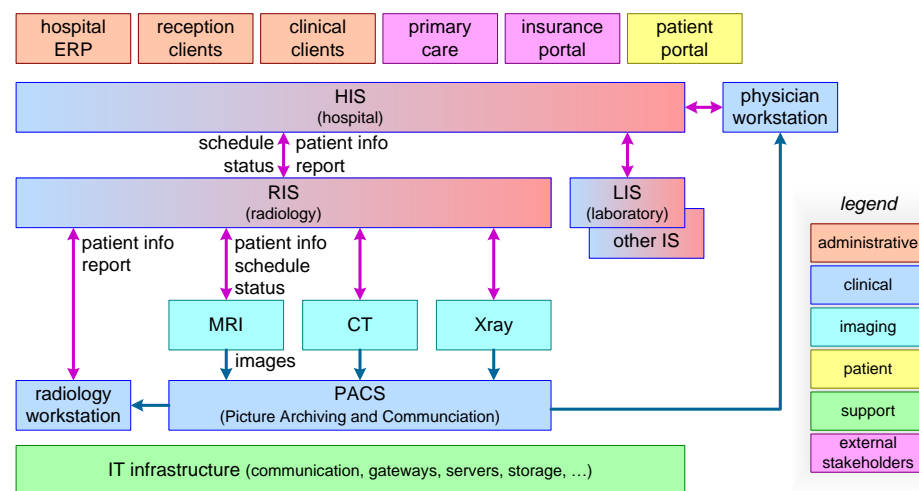


# Analysis Methods and Techniques

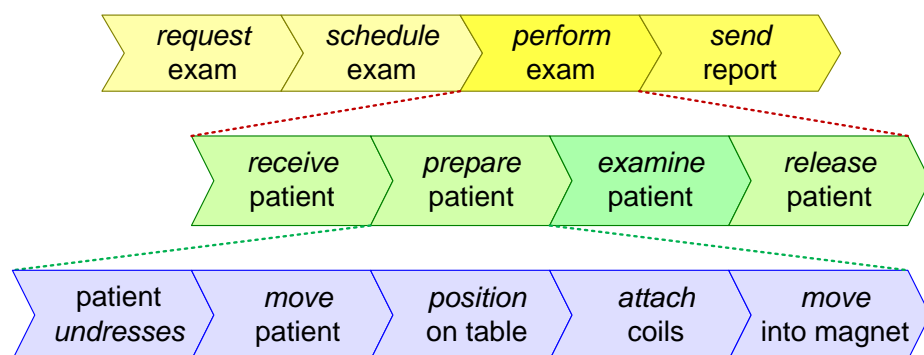
## Stakeholders and Concerns (Who)



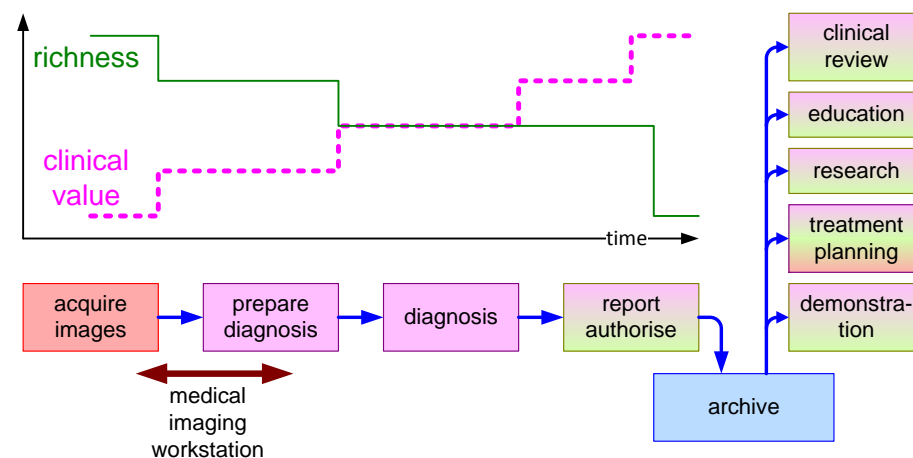
## Context Diagram (what systems)



## Workflow (what dynamics)



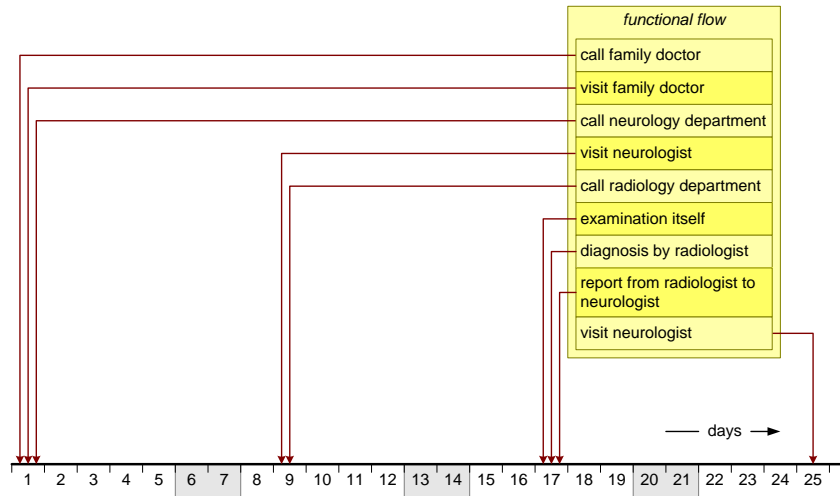
## Information Flow



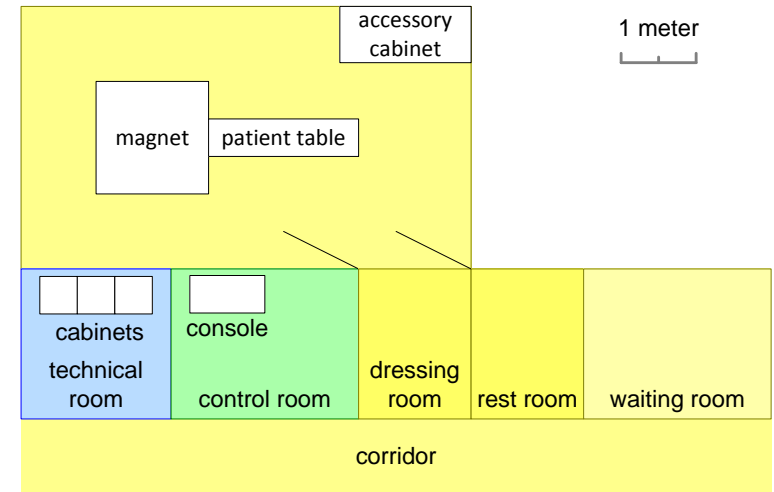


# More Analysis Methods and Techniques

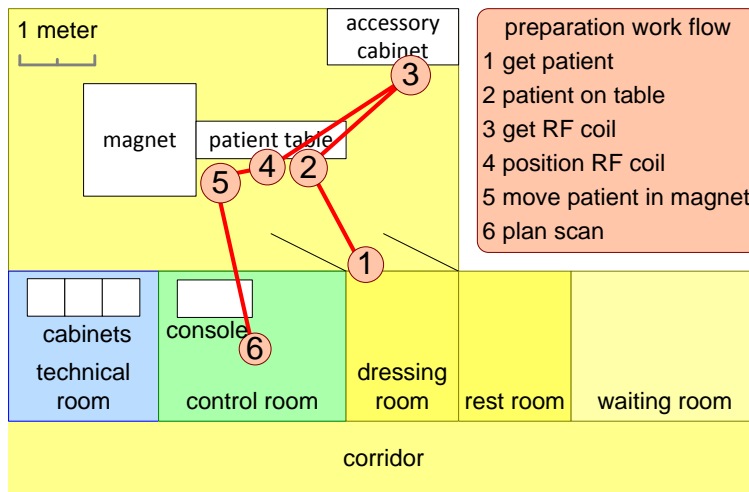
## Timeline (when, what, who)



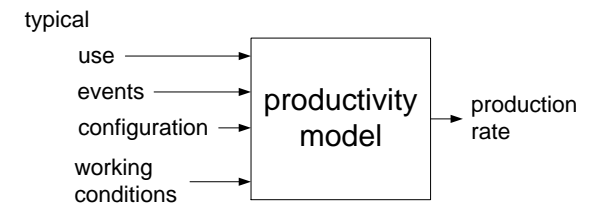
## 2D or 3D map (where)



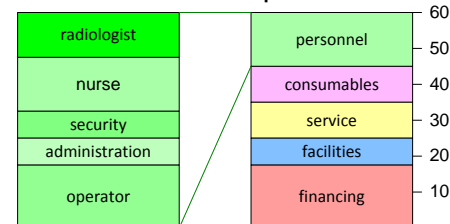
## Annotated map (where, what)



## Cost Models

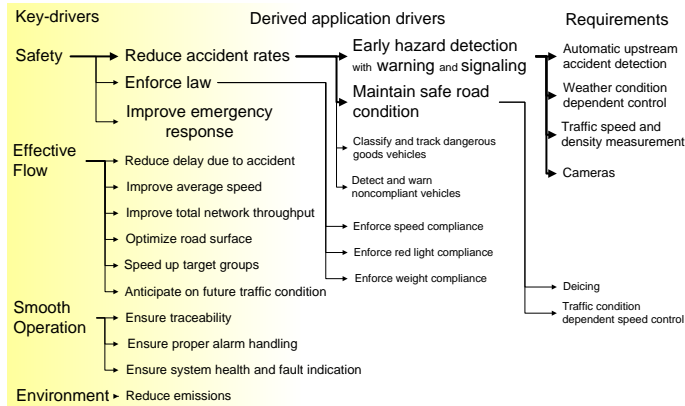


### Cost Of Ownership model



# Customer Key Driver Graph

## Focus on Customer World



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

## Specific Scope, Fact Based

- 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 *where requirements may have multiple drivers* by means of brainstorming and discussions
- 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*

## 3 to 6 Key driver, Capture Tensions

- 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*

intentionally left blank