



# Strategic Foresight at Deutsche Telekom

AG  
Presentation for the IRAHSS 08

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# The ICT industry has to reinvent itself.

## Current influences on the ICT industry (examples)

Market  
Liberalization



- Decreasing revenues in core business

Horizontalization



- Any software developer can offer complex services

Shift of value  
distribution



- To value added services and devices



# Strategic Foresight is a set of tools for early identification and assessment of changes in the environment

## Theoretical Foundation

### Weak Signals

- Strategic management is characterized by a certain ignorance to changes happening outside their current business (Ansoff 1980)
- Strategic discontinuities are announced by weak signals (Ansoff, et al. 1976 )
- They have to be identified in the environment (Boizard 2005, Day/ Schoemaker 2005, Lesca/ Caron 1995)
- They are usually fuzzy and unstructured (Krystek 2007)
- “The search for weak signals is one where you do not know what you are looking for” (Liebl 2005)



# Strategic Foresight creates a coherent and functional forward view.



In a fast moving environment it is essential to continuously scan for changes!

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# Three major tools at Deutsche Telekom are examples for continuous scanning.



P&S

## Product & Service Radar

Assessment of competitors and identification and assessment of products and service in development or available in lead markets



TR

## Technology Radar

Identification, assessment and usage of information on emerging technologies and technological discontinuities



## Customer Foresight

Identification, assessment and anticipation of consumer needs, lifestyle and socio-cultural trends

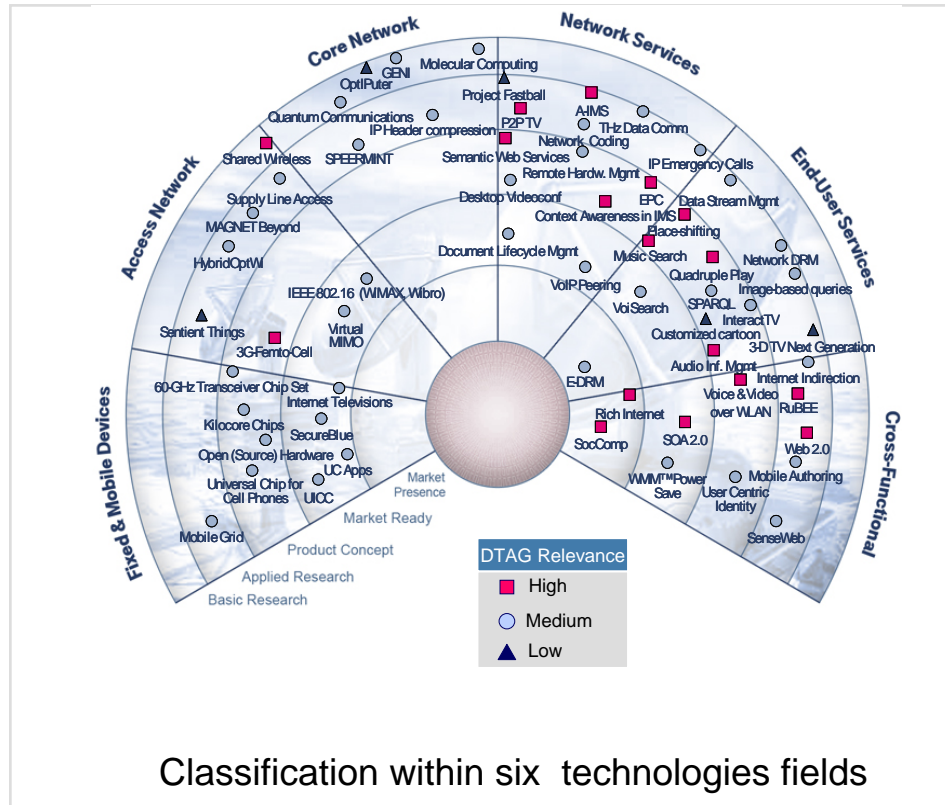




# The Technology Radar gives a pre-evaluation of

## relevant upcoming technologies for DTAG

Early identification of technologies, technological trends and technological shocks



- Summary of technology intelligence findings
- 60 technologies with relevance for DTAG
- Technologies are selected according to:
  - Relevance for DTAG
  - “Not yet covered inside DTAG”
- Technologies are classified according to:
  - their development phase
  - technological area
  - relevance



# The Technology Radar tracks individual technologies and overall technological trends.



## The Technology Radar - A Tool for Technology Intelligence at T-Labs

### Emerging Technologies

Informing you about emerging technologies potentially effecting DT's future business.

**Emerging Technologies.**  
Overview.

Starting from page 13  
Starting from page 14  
Starting from page 11  
Starting from page 17  
Starting from page 09  
Starting from page 20

Current and past editions can also be found at <http://techradar.telekom.de>

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### Technology Trend

Gathering in-depth information on one hot technology field from a research and business perspective.

**Technology Trend.**  
Overview.

Focus Topic: "Identity - Anonymity - Authentication"

Feature & Trend Papers	Trend Workshop	Conference Report
<ul style="list-style-type: none"> <li>Feature Paper (Appendix, summary starting on p. 23 of this document)</li> </ul>	<ul style="list-style-type: none"> <li>Discussion of a specific technological field</li> <li>Identification of business potential for DTAG</li> <li>Generation of ideas for products and services</li> <li>Results starting from p. 28 of this document</li> </ul>	<ul style="list-style-type: none"> <li>"Identity and Trust" Conference, February 21-22 2007, Dallas, Texas (USA)</li> <li>A gathering of the industry's most acknowledged experts giving valuable insights</li> <li>Report starting on p. 35 of this document</li> </ul>

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### Activities

Reporting on actual activities on emerging technologies in DT.

**Activities.**  
In this section we describe activities currently running regarding topics once featured in the Technology Radar.

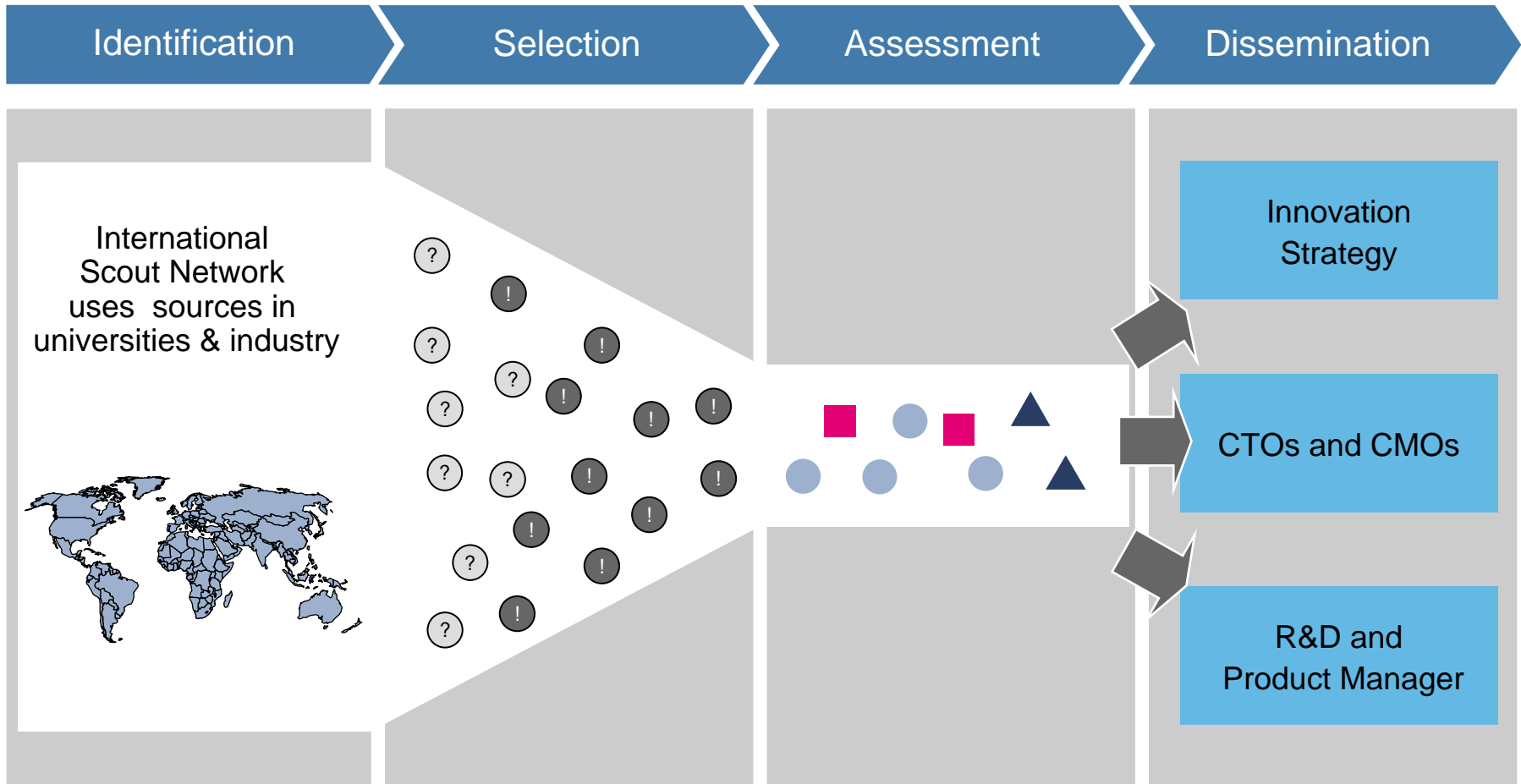
<b>Purpose</b>	<ul style="list-style-type: none"> <li>By featuring current activities we want to stimulate further the topic once featured in the Technology Radar and complement our coverage.</li> <li>We want to bring people together that are interested or working on this topic.</li> <li>Therefore we provide contact information to the responsible of the current activity.</li> </ul>
<b>Concept</b>	<ul style="list-style-type: none"> <li>Each edition of the Technology Radar will feature a couple of projects currently running at DTAG.</li> <li>The project responsible will introduce his team, aims and status of the project and further information concerning the technology behind</li> </ul>
<b>Edition 1/ 2007</b>	<ul style="list-style-type: none"> <li>Follow-ups on Localization, Authentication and Identity Management</li> </ul>

"Innovation is **DOING** new things."  
(Theodore Levitt, Harvard Business School)

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# The Technology Foresight is based on an international network of scouts



Source: Rohrbeck (2007) Technology Scouting - a case study on the Deutsche Telekom Laboratories



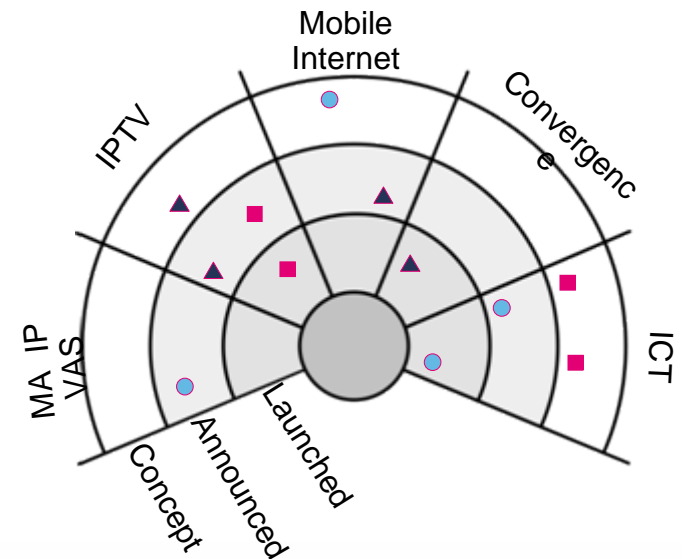
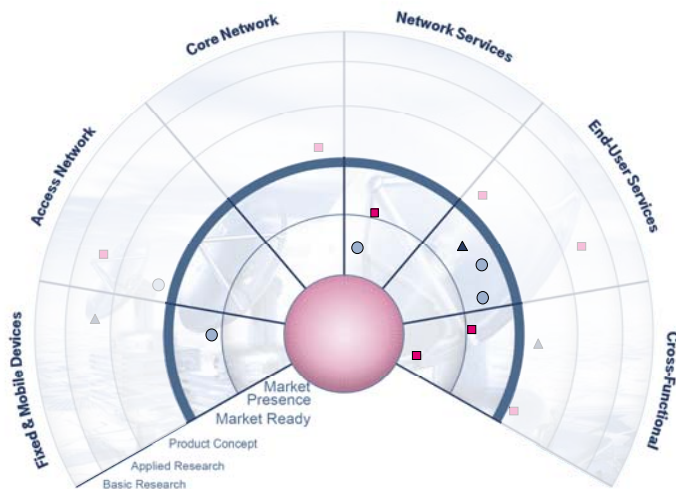
# The Product & Service Radar complements with a scan of start-ups' and competitors' services.

## The Technology Radar

- ...is identifying and assessing emerging technologies
- ...is published by the T-Labs

## The Product & Service Radar

- ...is identifying and assessing emerging products and services
- ...is published by Corporate Product and Innovation



# The Consumer Foresight contributes customer needs and socio-cultural trends at various stages.



## Day in the life visits

- Personal customer visits with cross-functional teams
- Direct interaction with customers through observation and interviews
- “User in the box”: Vivid documentation of ICT-infrastructure & usage patterns



## Insight clinic

- Personal, direct interaction along different “insight” stations
- Topic-specific design: e.g. product/service confrontation to identify barriers, group discussions to identify latent needs/ means-end-chains



## (Online) Diary research

- Target groups create topic-specific (online) diaries over a predefined period of time
- Pre-structuring of the diaries, e.g. referring needs/wants, usability requirements, drivers/barriers



## (Online) Interviews

- Execution of (online) interviews in order to identify latent needs & barriers
- Introduction & prioritization of new product/service functions (mini concepts<sup>2</sup>)
- Laddering technique to derive means-end-chains



Further Reading: Leonard/Rayport 1995; Mrazek et al. 1995, <sup>2</sup> e.g. Durgee et al. 1998



Continuous scanning detects threats and opportunities.

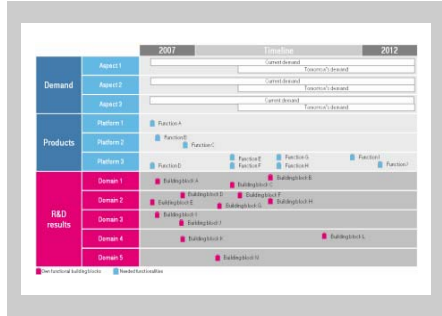
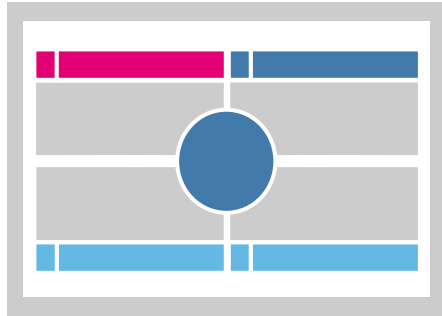
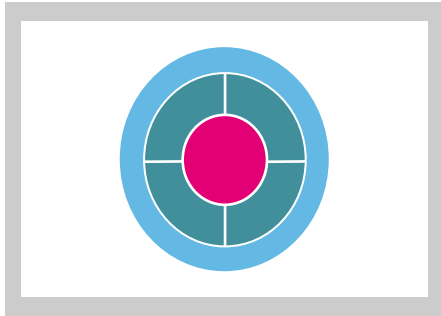
The most promising opportunities are then explored, assessed and planned for implementation.

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# Combination of scenario analysis and roadmapping allows linking R&D results with innovation and new business development.



Indicator	Current status	Needed status	Proposed intervention
Overall Status	🟡	🟢	• Comment 1 • Comment 2
Key development A	🟡	🟢	• Intervention possibility 1 • Intervention possibility 2
Key development B	🟡	🟢	• Intervention possibility 1 • Intervention possibility 2
Key development C	6	>3	• Intervention possibility 1 • Intervention possibility 2
Key development D	1	<3	• Intervention possibility 1 • Intervention possibility 2
Key development E	5	<3	• Intervention possibility 1 • Intervention possibility 2

“Identifying the key factors affecting the new business field”

“Multiple distinct scenarios reflect any possible future”

“The roadmap defines milestones and key developments needed, to reach the favorable scenario”

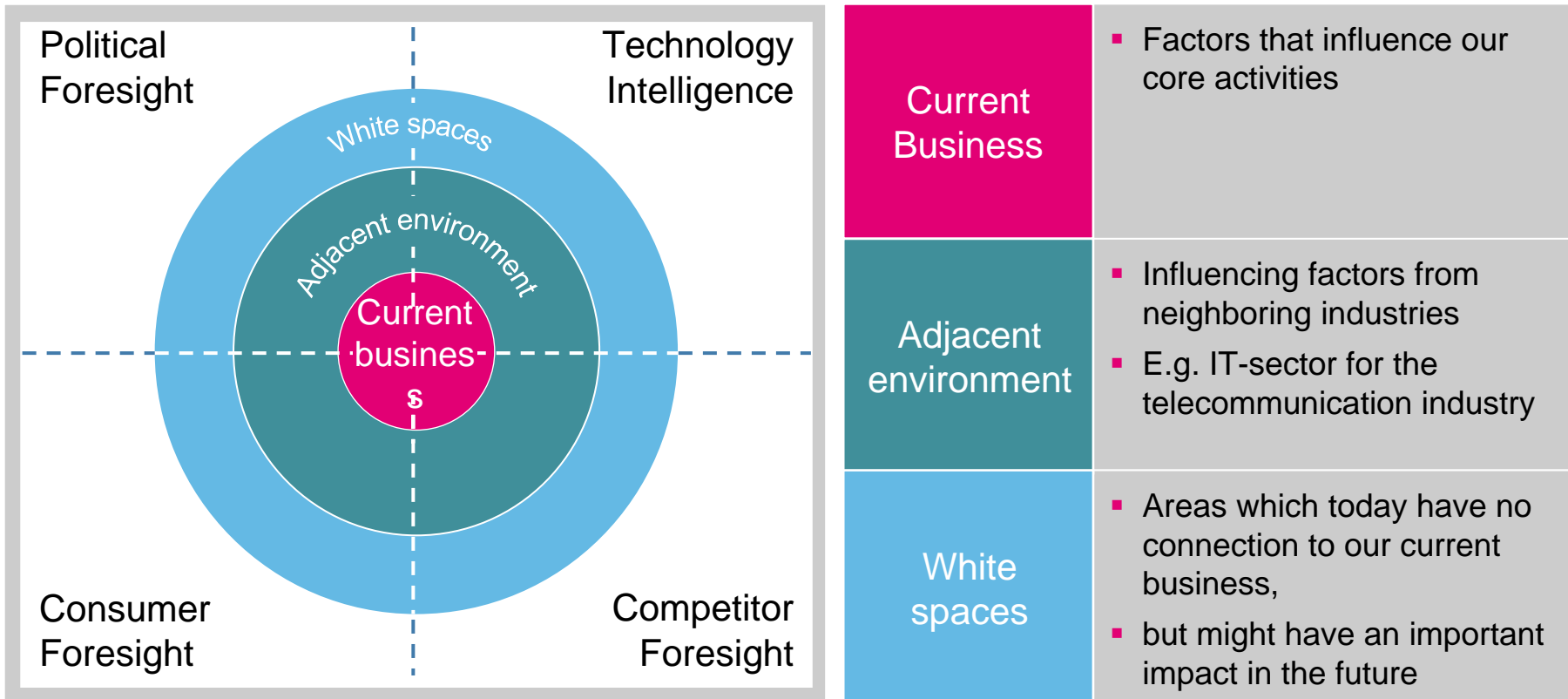
“The navigation board allows the continuous tracking of assumptions and the progress towards the favorable scenario”

Source: Rohrbeck (2008) “Strategic Roadmapping - Strategic Planning of Innovation at Deutsche Telekom Laboratories.” EIRMA Working Group on Strategic Planning of R&D and New Business.



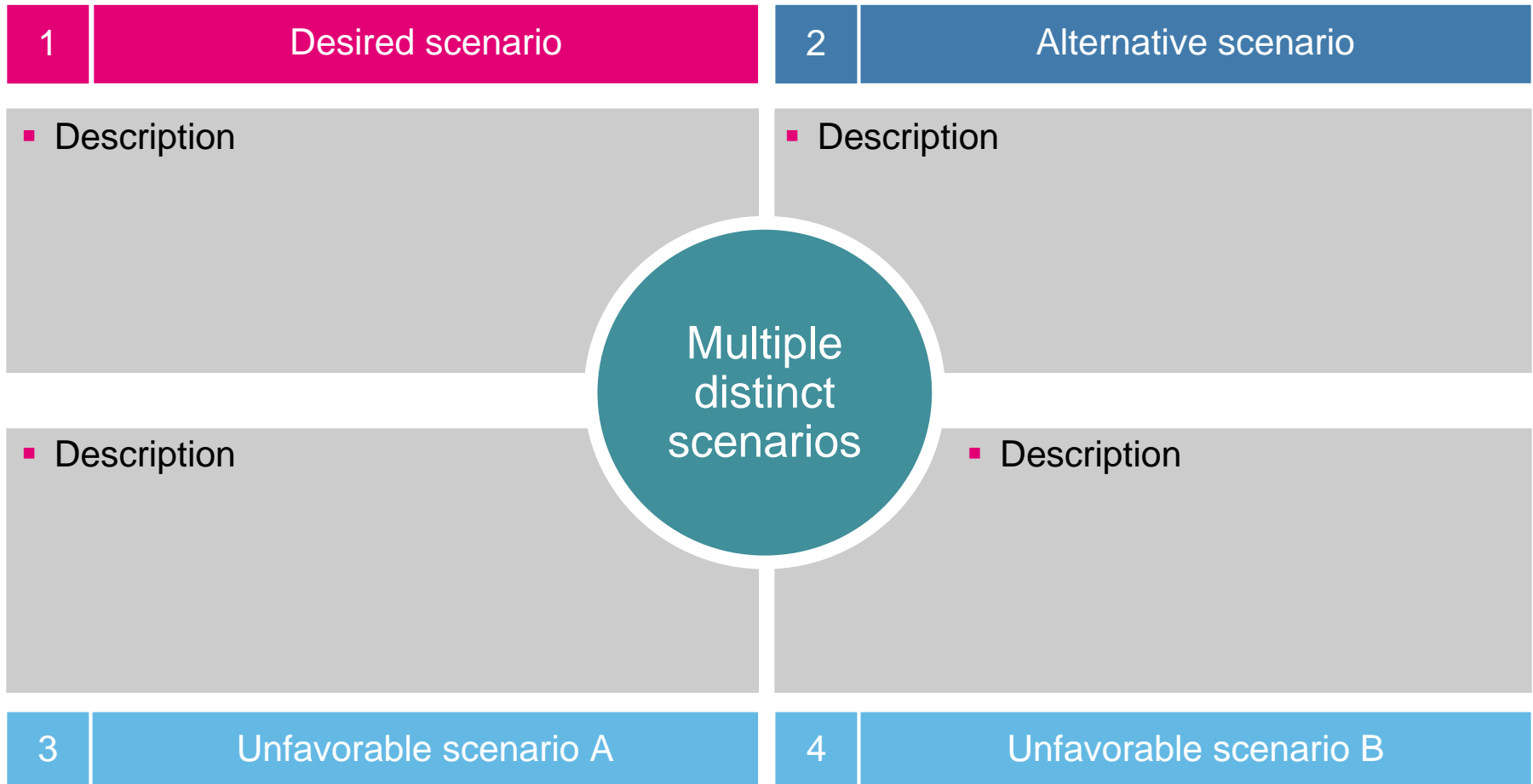
# The Environmental Scanning identifies all relevant factors that influence the new field.

## Environmental scanning



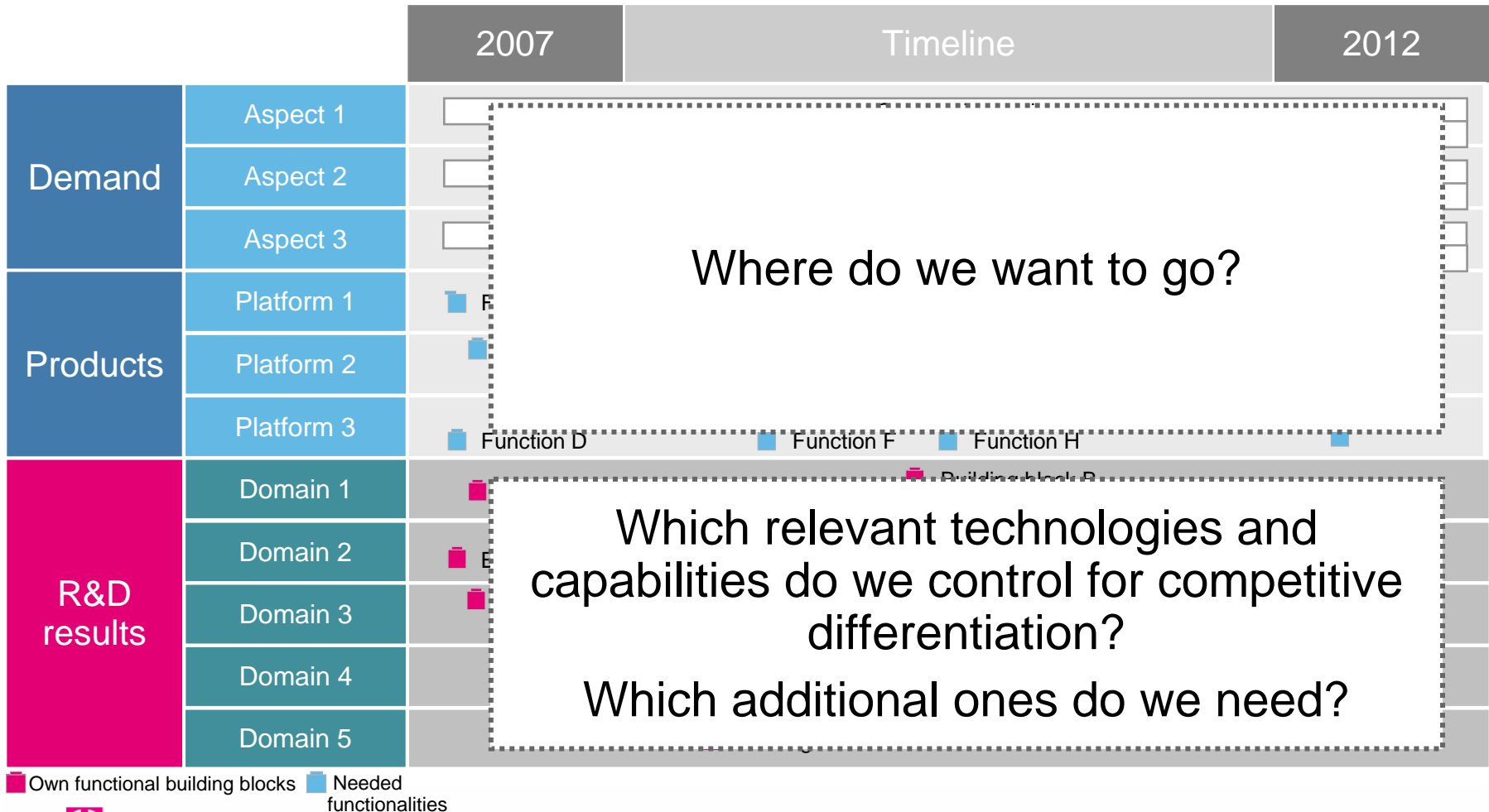
Source: Rohrbeck (2008) "Strategic Roadmapping - Strategic Planning of Innovation at Deutsche Telekom Laboratories." EIRMA Working Group on Strategic Planning of R&D and New Business.

# The Scenario Analysis provides three to six scenarios that represent any possible future.



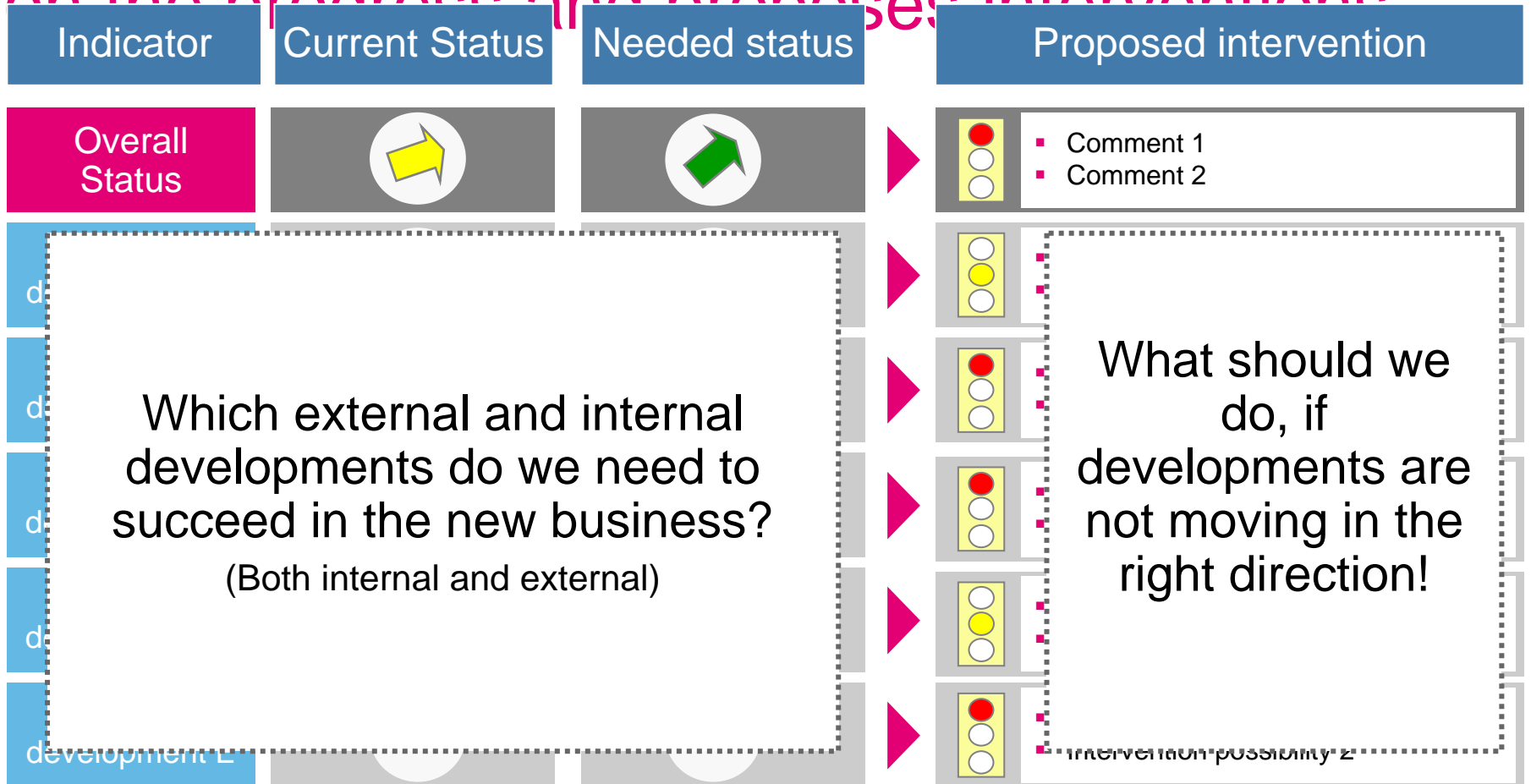
Source: Rohrbeck (2008) "Strategic Roadmapping - Strategic Planning of Innovation at Deutsche Telekom Laboratories." EIRMA Working Group on Strategic Planning of R&D and New Business.

# A Roadmapping approach allows to integrate business scenarios with internal R&D results.



# A Navigation Board provides a management view

on the progress and proposes interventions



Need for action
 Monitor closely
 as planned



Using scenario analysis with roadmapping is a strong way to explore and plan the future.

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# After three years of foresight experience in the T-Labs we would like to share with you four lessons learned

## Four lessons learned from T-Labs

A successful  
Strategic  
Foresight  
activity...

- is based on a deep understanding of the need of the decision maker
- engages many internal and external partners
- has a strong tool that enables effective collaboration
- uses a balanced mix of qualitative and quantitative methods



# Thank you for your interest.

## Conference on Strategic Foresight



[www.euroSF.org](http://www.euroSF.org)

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Thank you for your interest.

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# Further Reading.

## Technology Radar

Rohrbeck, R., J. Heuer, and H.M. Arnold. (2006) "The Technology Radar – an Instrument of Technology Intelligence and Innovation Strategy"  
The 3rd IEEE International Conference on Management of Innovation and Technology: Singapore, pp. 978-983  
[Paper Presentation](#)

## Technology Scouting

Rohrbeck, R. (2007) "Technology Scouting - a case study on the Deutsche Telekom Laboratories"  
ISPIIM-Asia Conference: New Delhi, India.  
[Paper Presentation](#)

## Strategic Foresight

Rohrbeck, R., H. M. Arnold and J. Heuer (2007) "Strategic Foresight - a case study on the Deutsche Telekom Laboratories"  
ISPIIM-Asia Conference: New Delhi, India.  
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