



CORPORATE FORESIGHT – WHY, HOW AND WHAT’S NEXT

René Rohrbeck, Professor of Strategy

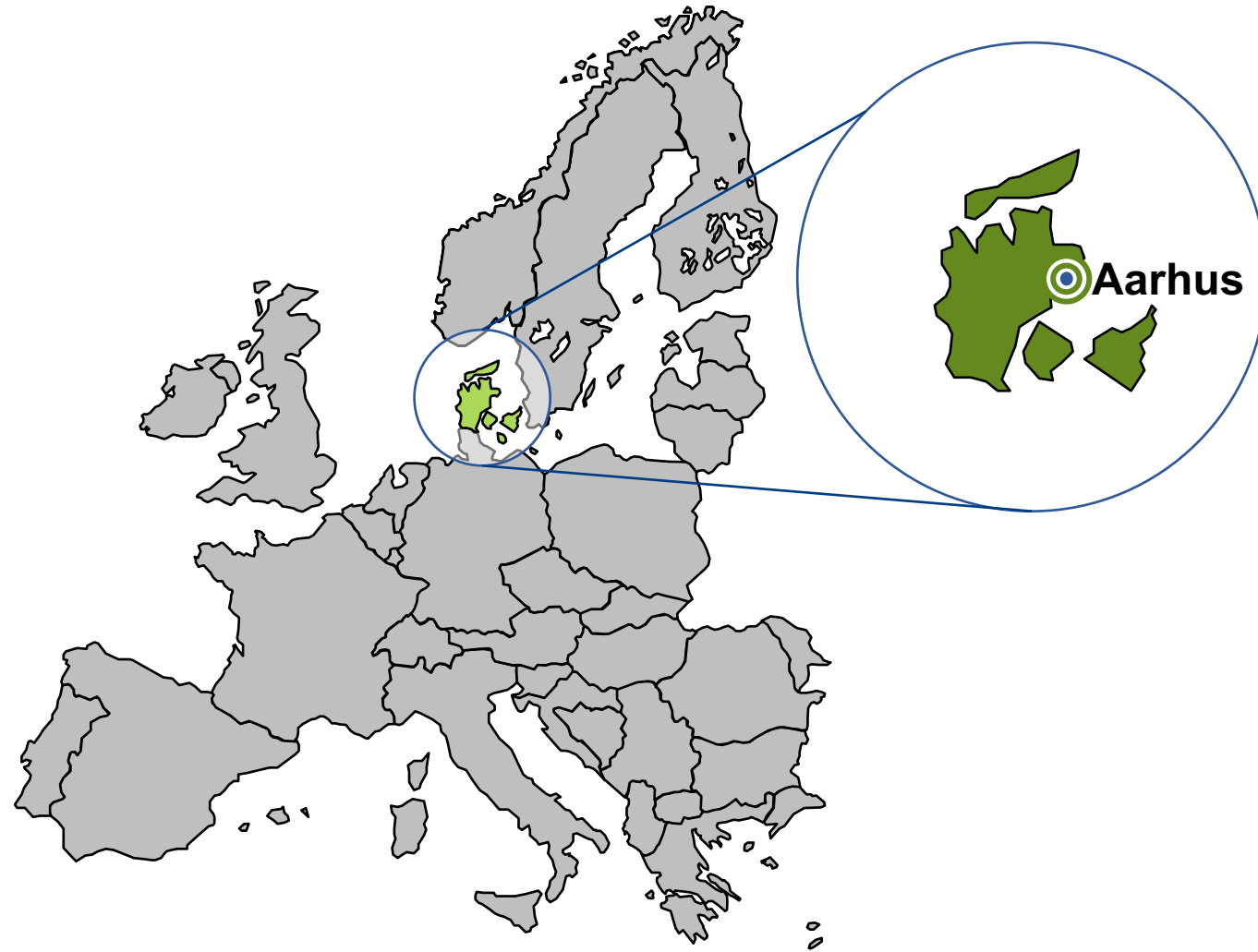
STRATEGIC FORESIGHT

Research Network



AARHUS BSS

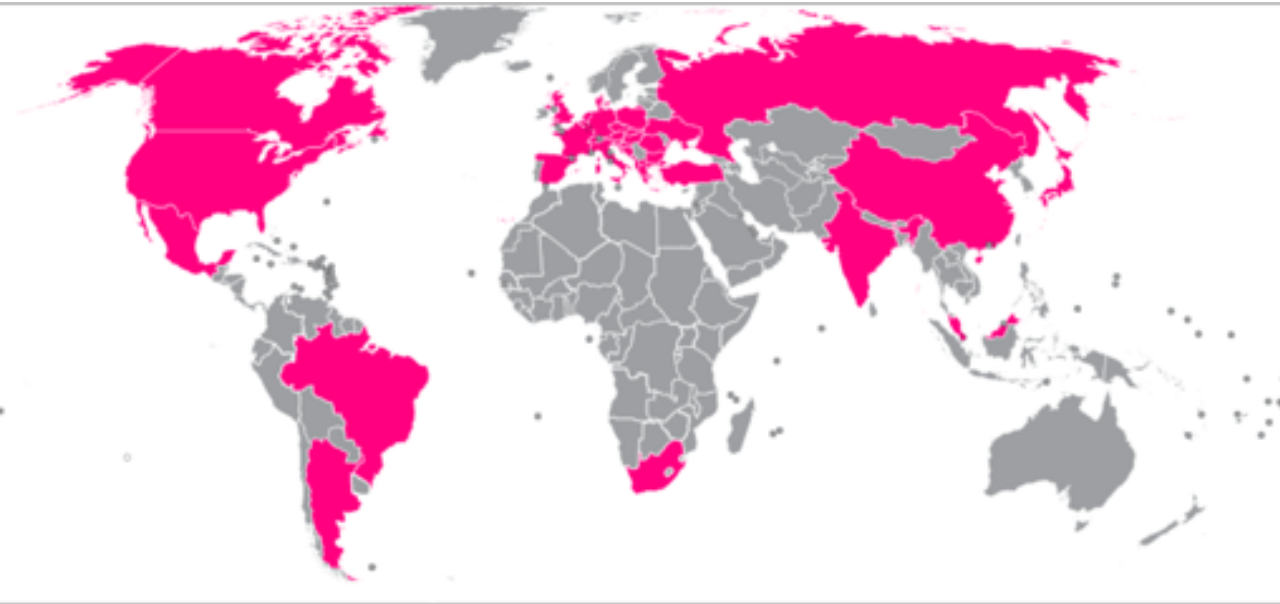
- 44.000 students (AU)
- 15.000 students (BSS)
- 800 faculty (BSS)
- Among the Top 100 Universities
- Triple-Crown accredited





AGENDA

- 1 Why
- 2 How
- 3 Which practices
- 4 What's next





Survive transitions

Challenge existing
mental models

Create shared future
outlooks

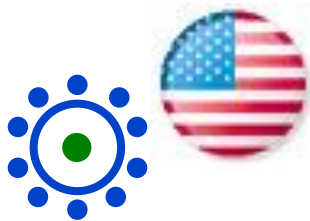
Decision-making
under uncertainty

Prepare for leaps of
faith

AGENDA

- 1 Why
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Birth of the field 1950s



Delphi analysis

Source: Rohrbeck, R., Battistella, C. and Huizingh, E. (2015) 'Corporate foresight: An emerging field with a rich tradition', *Technological Forecasting and Social Change*, 101, pp. 1–9.

<https://doi.org/10.1016/j.techfore.2015.11.002>

Key Principles of “La Prospective”

still apply today



Retrospection to identify past and current **driving factors**



Systematically **challenge** dominant believes and mental models



Analyze **broad** and **deep**



Enable **collaborative** interpretation



Accept and **embrace** uncertainty

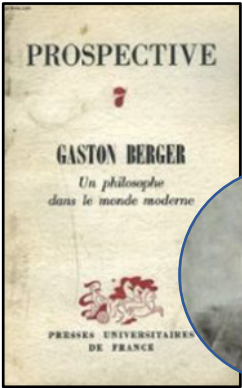


Birth of the field
1950s

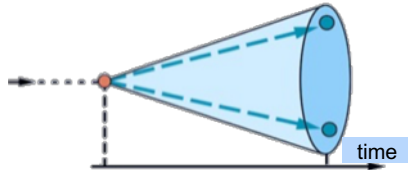
The age of scenarios
1960s – 1970s

Methods and process
1980s – 1990s

Organizational practices
2000 to present



Shell
Scenario
technique



Trend analysis
And weak signals

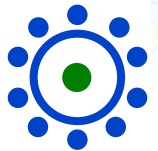


Road-
mapping

...etc.

2000

Only few examples
where Corporate
Foresight is implemented
systematically



Delphi analysis

Today: Focus on **integration** into in particular strategic management and innovation development

Source: Rohrbeck, R., Battistella, C. and Huizingh, E. (2015) 'Corporate foresight: An emerging field with a rich tradition', Technological Forecasting and Social Change, 101, pp. 1–9.
<https://doi.org/10.1016/j.techfore.2015.11.002>

OUR RESEARCH PROGRAM INCLUDES DEEP CASE STUDIES AND BENCHMARKING STUDIES

CASE STUDIES
2006-2009

BENCHMARKING STUDY
2008

BENCHMARKING STUDY
2018¹⁾



Focus on **configuration of corporate foresight systems**



Focus on the impact of corporate foresight on **firm performance**

¹⁾ Corporate Foresight Benchmarking Report 2018: Free download at ResearchGate and <https://doi.org/10.2139/ssrn.3178562> or <https://tinyurl.com/y936vu66>

WHICH CORPORATE FORESIGHT PRACTICES MATTER?

CORPORATE FORESIGHT BENCHMARKING

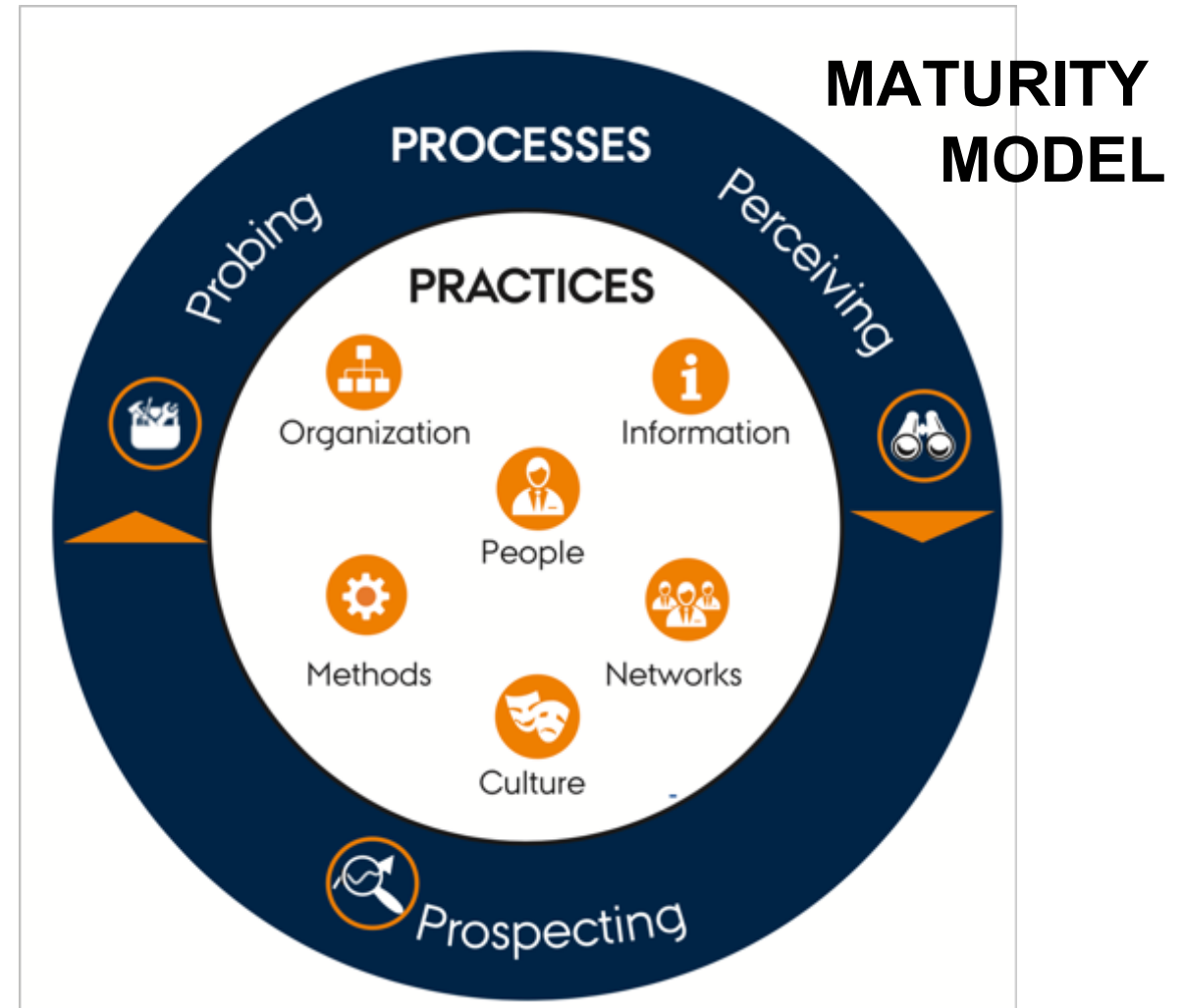
Since 2006



450+
benchmarked
companies

50+
top management
workshops

30+
implementation
projects



WHICH PRACTICES MATTER MOST?



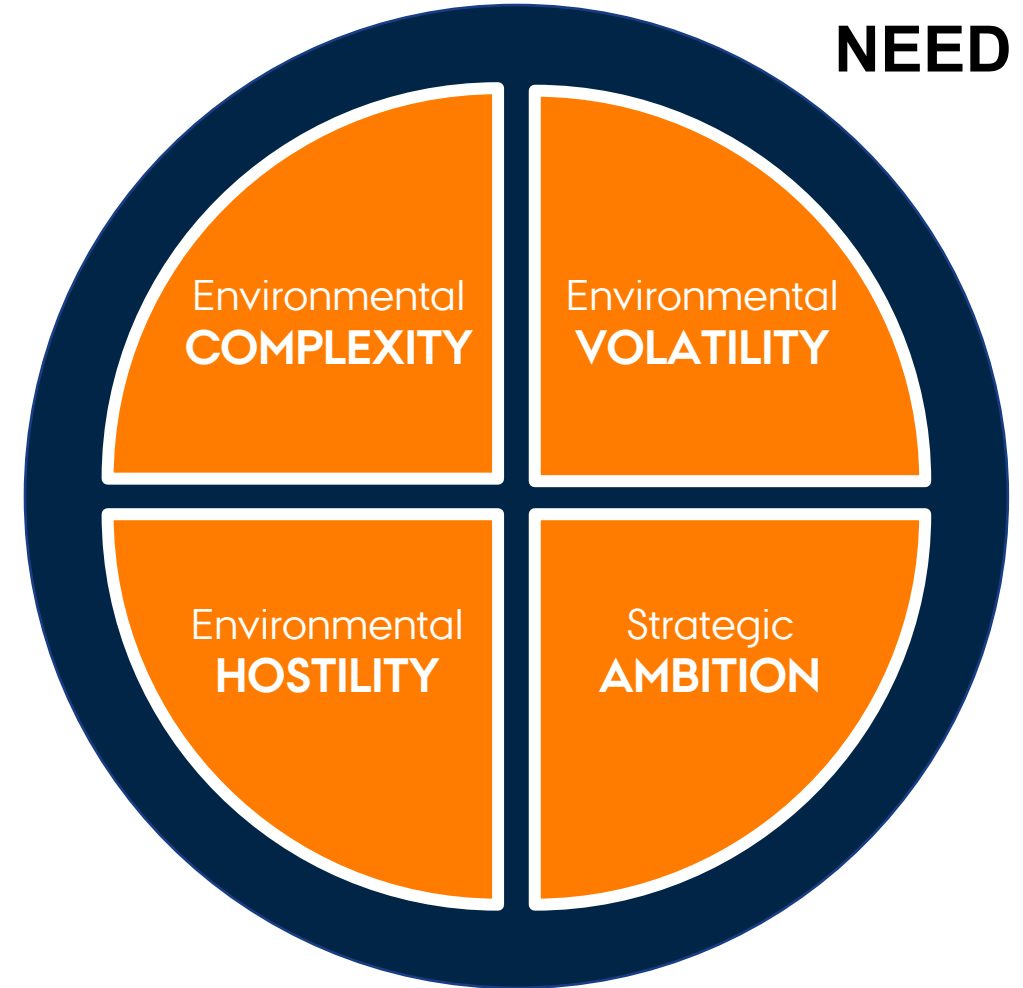
...AND FOR WHOM?

...FOR WHOM?



- Complexity
- Volatility
- Hostility (new)
- Strategy (new scale Miles & Snow, 1978)

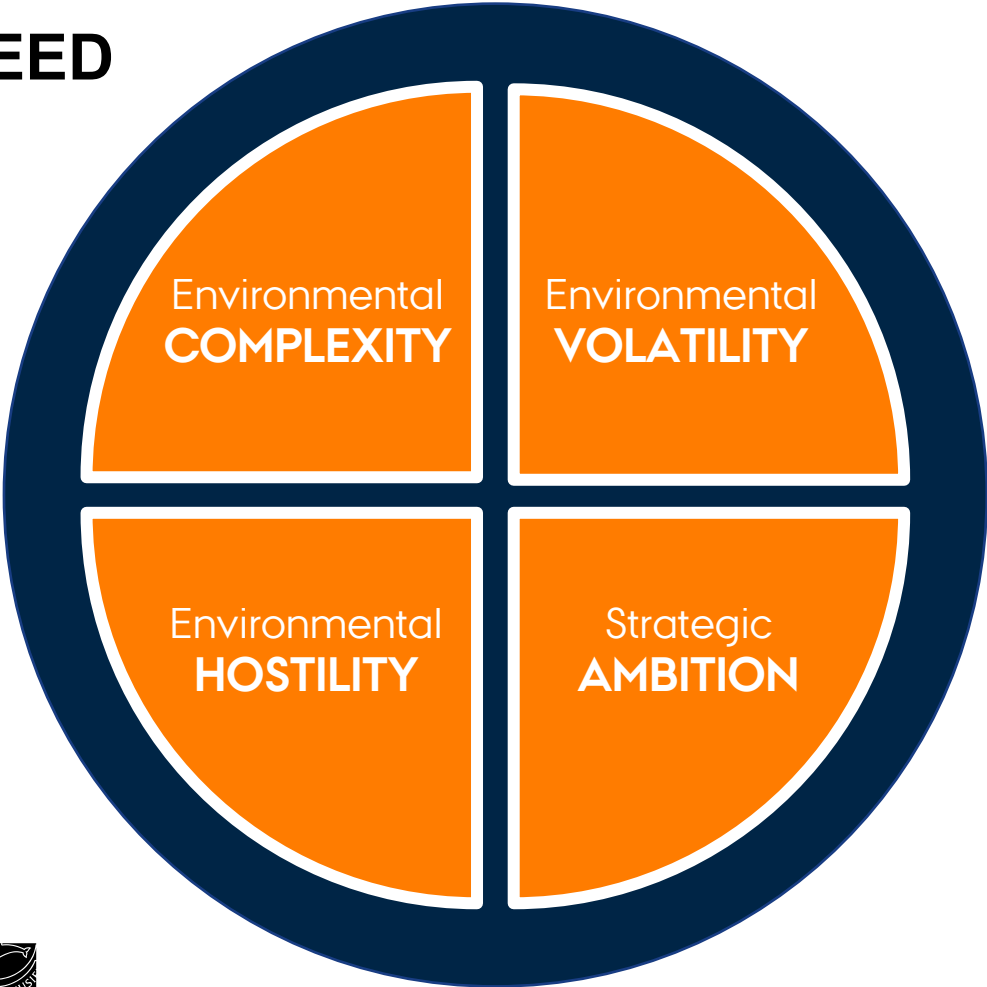
Firms can also do too much foresight



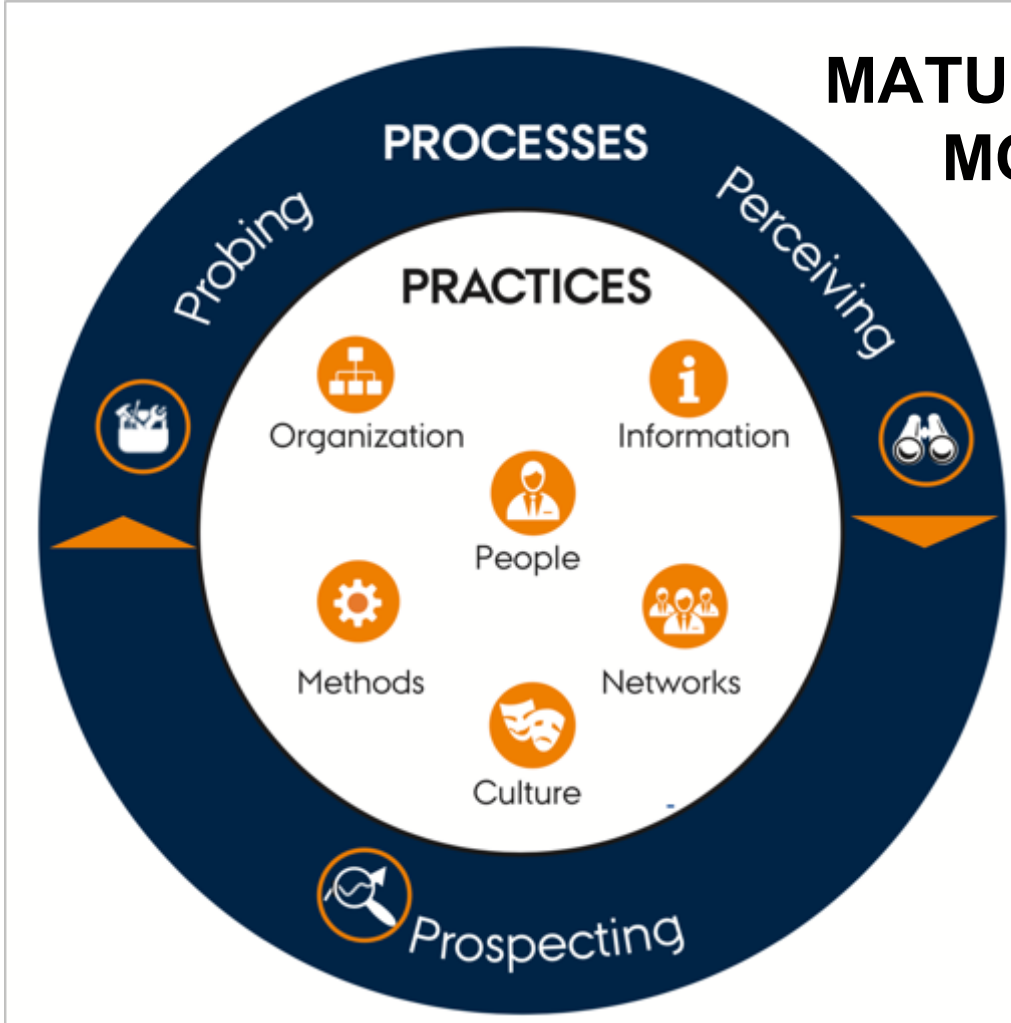
Sources: Day, G. S. and Schoemaker, P. J. H. (2005) 'Scanning the Periphery', Harvard Business Review, 83(11), pp. 135–148. <https://hbr.org/2005/11/scanning-the-periphery>
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FUTURE PREPAREDNESS COMPARES THE NEED FOR AND MATURITY OF CORPORATE FORESIGHT PRACTICES.

NEED

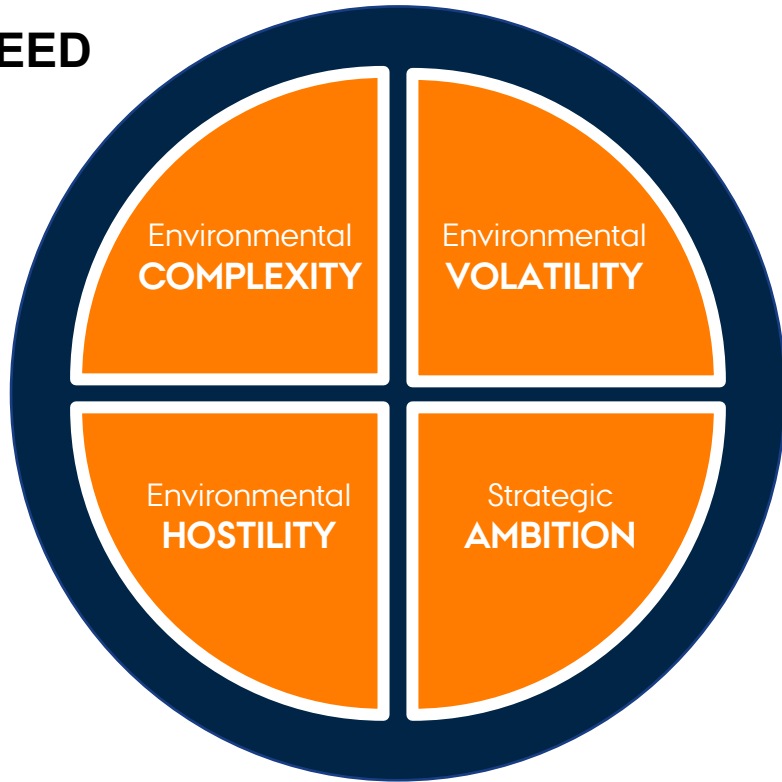


MATURITY MODEL



FUTURE PREPAREDNESS LEVELS

NEED



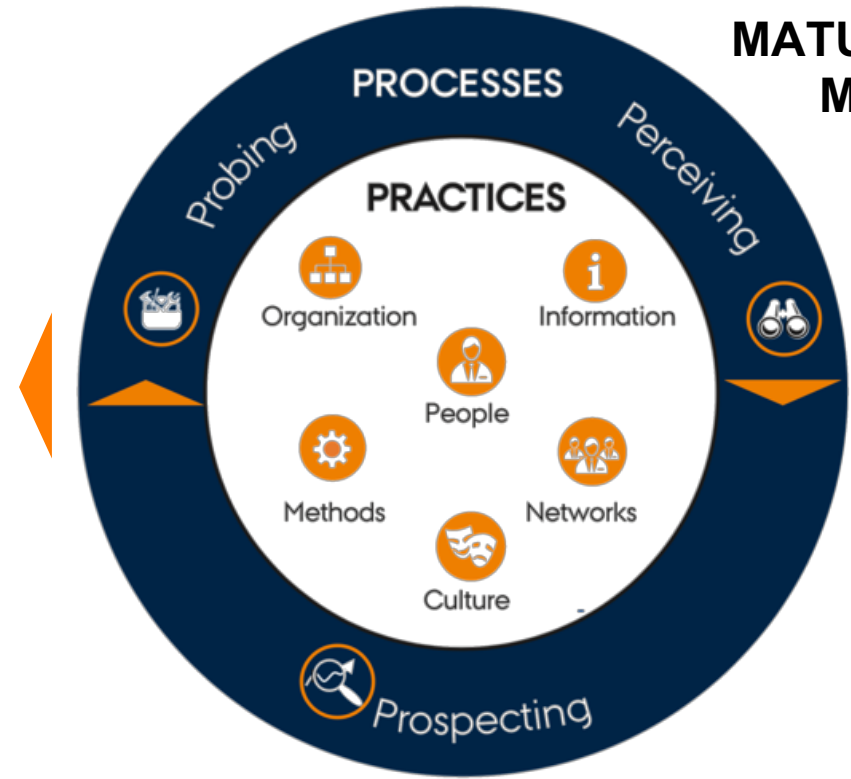
GREEN
Vigilant

ORANGE
Neurotic

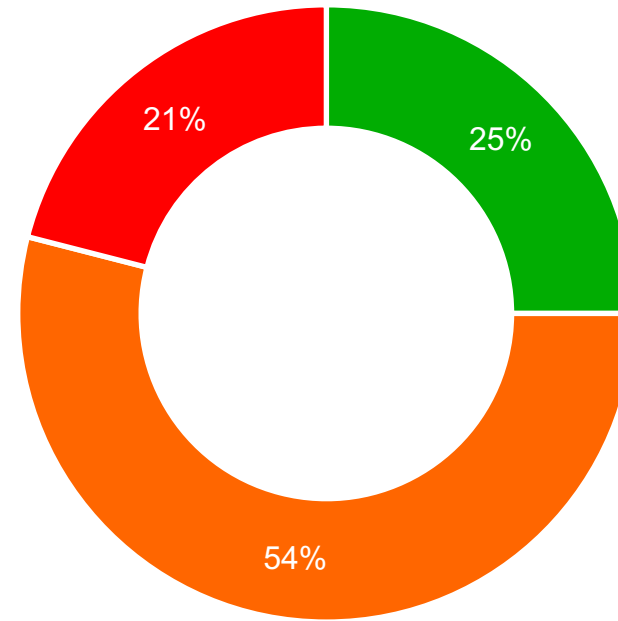
ORANGE
Vulnerable

RED
Danger

MATURITY
MODEL



ONLY 1 IN 4 COMPANIES ARE SUFFICIENTLY FUTURE PREPARED



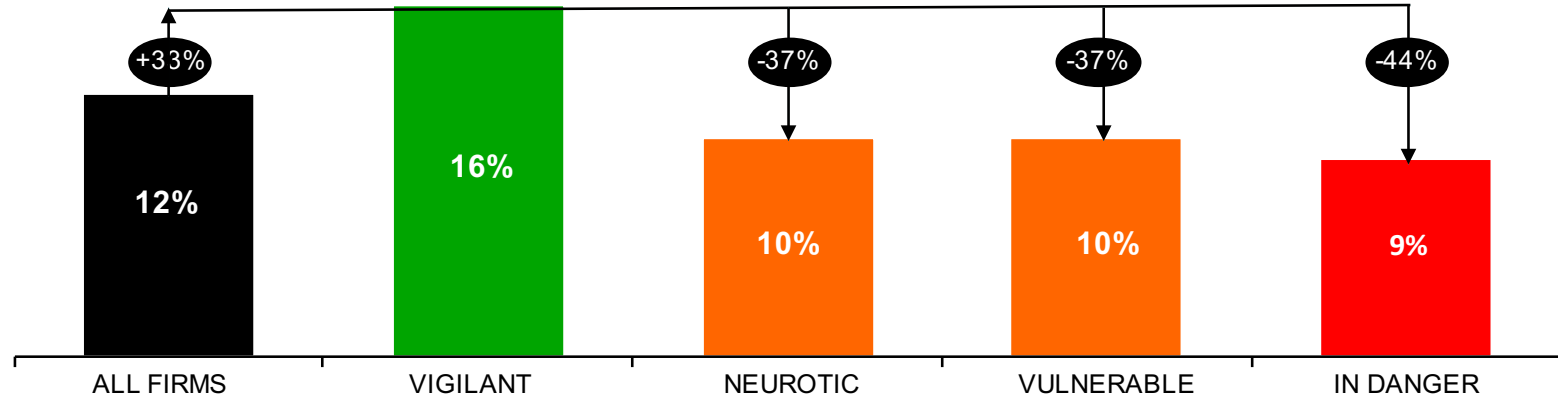
N = 200



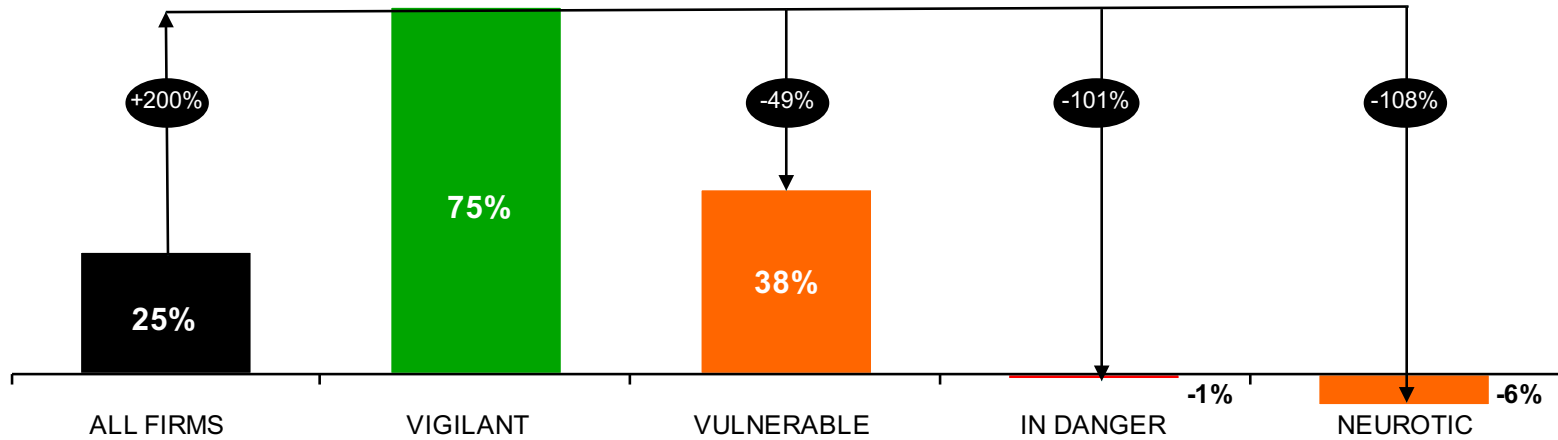
FUTURE PREPAREDNESS PAYS...

* Data: Future preparedness data from 2008
Profitability and Market Capitalization data from 2015

PROFITABILITY*



MARKET CAPITALIZATION*



Source: Rohrbeck, R. and Kum, M. E. (2018) 'Corporate foresight and its impact on firm performance: A longitudinal analysis', Technological Forecasting and Social Change, 129(4), pp. 105–116.
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WHY STRATEGIC FORESIGHT?

Functions

Examples

Main tools

A Adapt & Survive



B Innovate & Grow &
Drive Profitability

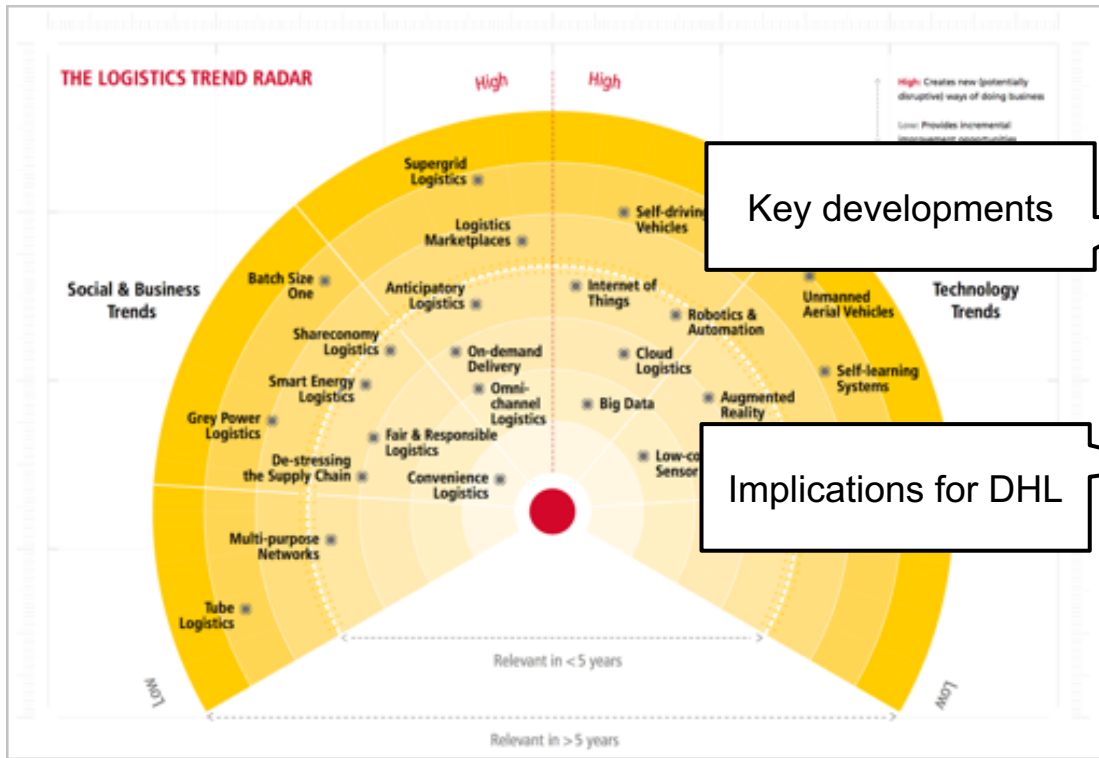


C Strategic Agility





Build a Strategic Radar to align and enable organizational learning.



Key developments

Implications for DHL

DIGITAL IDENTIFIERS

In-depth: Technology Trends 39

New generations of digital identifiers such as digital watermarking (DW), disposable smart labels, and low-cost biometrics expand predictive control options for supply chain steering, asset, stock and inventory management, and end-to-end security. With the rising use and increasing maturity of different technologies for digital identification, the vision of a connected supply chain with complete transparency and traceability becomes more and more tangible.*

KEY DEVELOPMENTS & IMPLICATIONS
Over recent years, new technologies like invisible barcodes, NFC, and QR codes have enabled smart printing/tagging, and biometric devices are being adopted across various industries for more precise identification of objects and even people. By putting an identity to every batch, shipment, and asset, it is possible to pinpoint the location of specific items, deliver additional security information, and install a new generation of track and trace capabilities in global supply chains.

- Digital product identifiers will enable all products to be identifiable, traceable, and locatable from the point of production to the point of sale. These smart labels contain information that can be digitally captured and retrieved (e.g., a bottle of water is not just assigned to a specific batch; the smart label can contain additional details such as date, time and place of bottling, and expiration date). Thus supermarkets and wholesalers, for example, can automatically generate requests for delivery for goods close to their end-of-sale date.
- Integrity management of goods will lower fraud risks and support for example health management by tracing viruses back to their origin to detect and identify root causes easily and faster than today. Another health application is for pharmaceutical companies to combat product piracy. The risks for patients (as well as for the producer's reputation) are huge, and therefore companies are likely to invest in new methods of ensuring brand integrity (such as serialization based on digital identifiers) as a part of their track and trace solutions.
- Automated access management by identification and authentication of workers in controlled logistics environments such as warehouses and airport hubs can be ensured through new breakthroughs in biometric technologies (e.g., vein, fingerprint and iris scanning). This greatly augments the effectiveness of access management and helps to increase security and cost efficiency.

KEY OPPORTUNITIES

- Broadens the capturing, storing, and provision of supply chain information
- Achieves new levels of transparency, traceability, and authentication for more mature management of supply chains
- Product safety increased by facilitating integrity control, fraud detection, and claim handling

KEY CHALLENGES

- Absence of international standards, privacy policies, and investment costs hinder broad application and acceptance among all supply chain providers
- Ability to receive and process additional data depends on a match between sender and receiver capabilities, which only partially exists
- Data protection is still a challenge due to many new data sources and the huge data volumes to be managed

Digimarc Supply Chain Solutions – A Barcode for Everything

- Digimarc Corp. creates invisible digital identifiers for everything from ID cards to everyday consumer products
- Digital watermarks in the form of multiple barcodes can be printed on products, but remain invisible to the eye
- This accelerates product scanning as well as security in supply chains and enables faster point-of-sale transactions

Source: Barcode.com

TREND ASSESSMENT
Timeframe: > 5 years | Impact: Low
Sector relevance:

AUTO EAM TECH ENERGY LSH RET&CON

Executive summary

Key opportunities

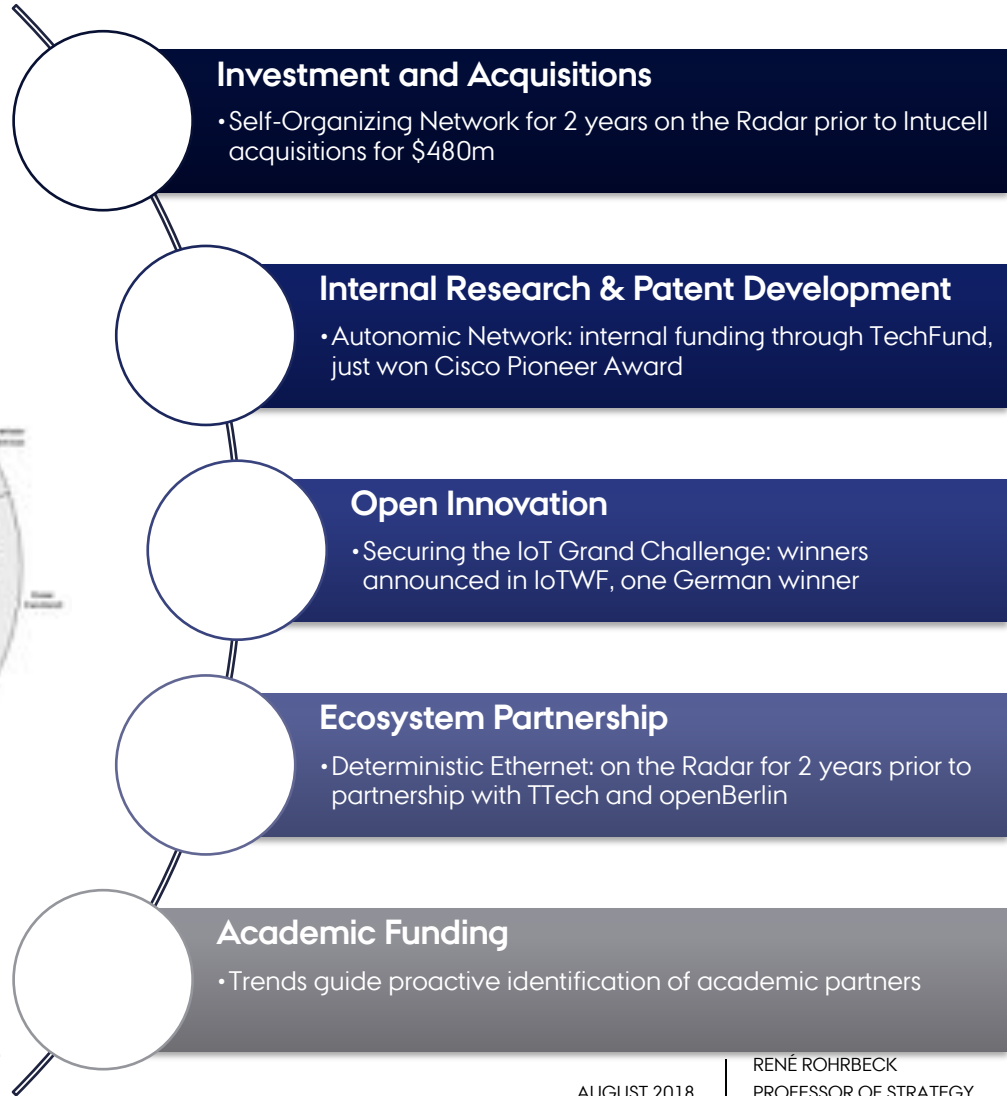
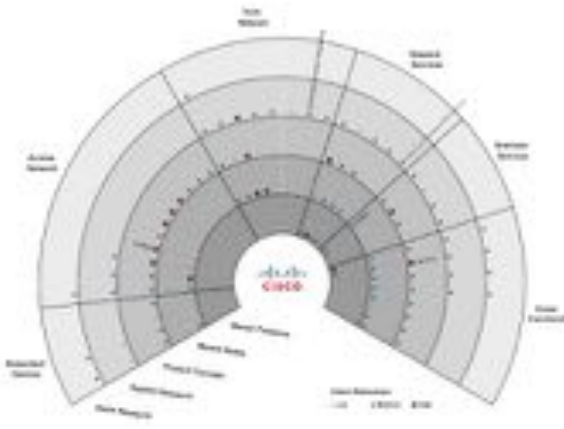
Key challenges

Concept ideas

Assessments



FROM INTELLIGENCE TO STRATEGIC ACTIONS TO EXTERNAL THOUGHT-LEADERSHIP



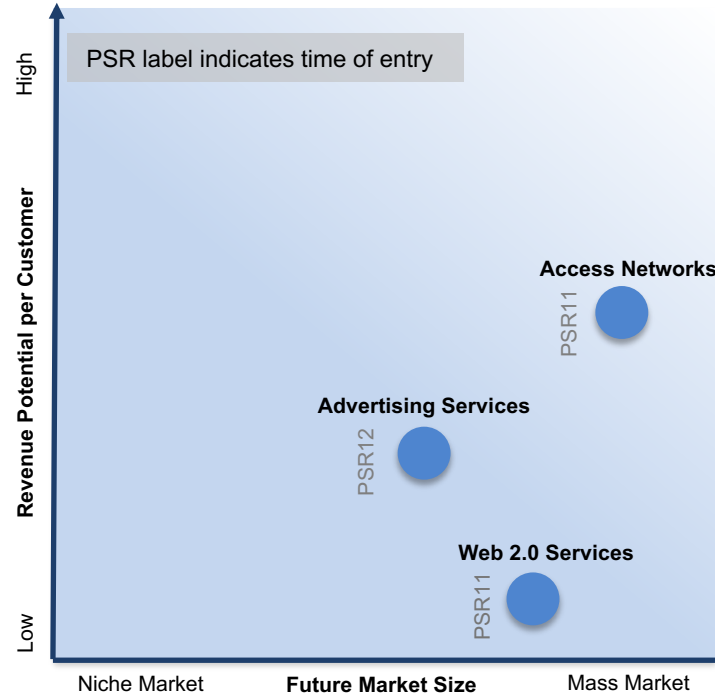
The image shows three screenshots of the Cisco Technology Radar website. The top screenshot is the main landing page with the title 'Cisco Technology Radar' and a large radar chart. Below it is a navigation bar with links like 'Home', 'Leading in Real-Time', 'Technology', 'About', and 'Contact'. The middle screenshot shows a section titled 'Envisioning the Future of IT Sets the Stage for Disruptive Change' with a sub-header 'Leading in Real-Time' and 'Technology Trends'. The bottom screenshot shows a 'Latest Working' section with several article cards, including 'Business in a hurry', 'Predictive Contact', 'Fog computing', and 'Securing the Internet of Things'.



Institutionalize Trend Audits and predefine actions at tipping points.

PRODUCT & SERVICE INNOVATION CLUSTERS

CONSOLIDATE CORPORATE "OPINIONS"



RECENT DEVELOPMENTS

- ▶ **Web 3.0 Services:** Increasing importance of semantic services, e.g. recommendation engines and browsers based in metadata/ semantics.
- ▶ **Mobile Application Services:** Centralized marketplaces ram up as essential key factors for mobile app sales (Apple App Store, Google App Market, Microsoft SkyMarket).
- ▶ **Access Network:** Increasing usage of mobile apps drives data traffic and triggers new concepts for open networks and UMA.
- ▶ **Advertising Services:** High innovation activity yet still seeking for best practice recipe.
- ▶ **Open Platforms:** Major trend towards open app development for 3rd party developers
- ▶ **Web 2.0 Services:** No significant innovations, service mature.

Web 3.0 Services

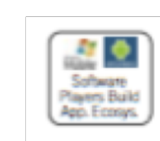
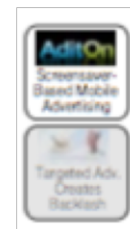
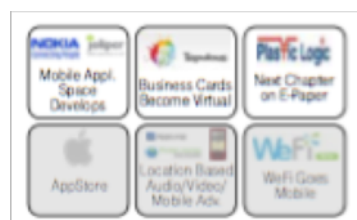
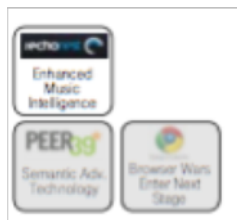
Mobile Services

Access Networks

Advertising Services

Open Platforms

Web 2.0 Services



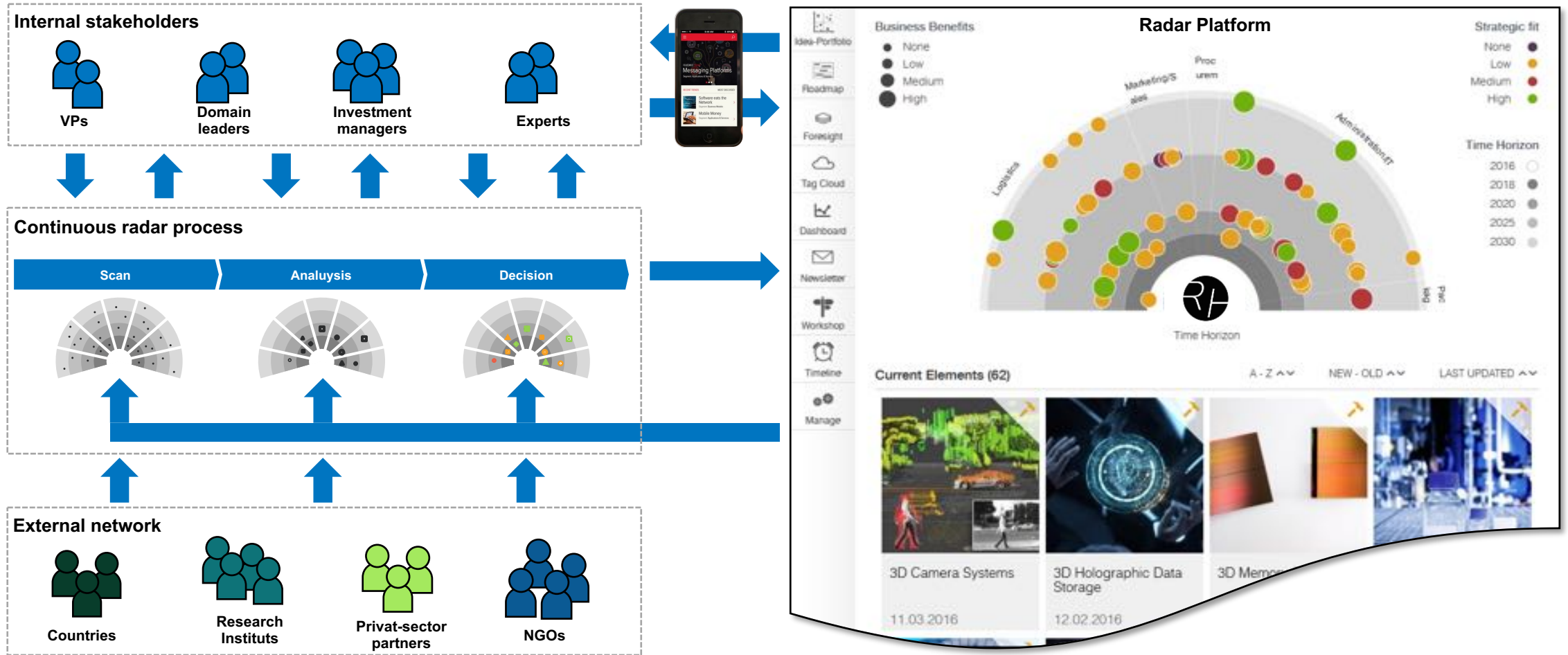


Use Foresight **Platforms** to enable real-time knowledge sharing and orchestrating joint action.





Foresight **Platforms** enable real-time knowledge sharing and orchestrating joint action.



WHY STRATEGIC FORESIGHT?

Functions

Examples

Main tools

A Adapt & Survive



 Radars
 Trend Audits

B Innovate & Grow &
Drive Profitability



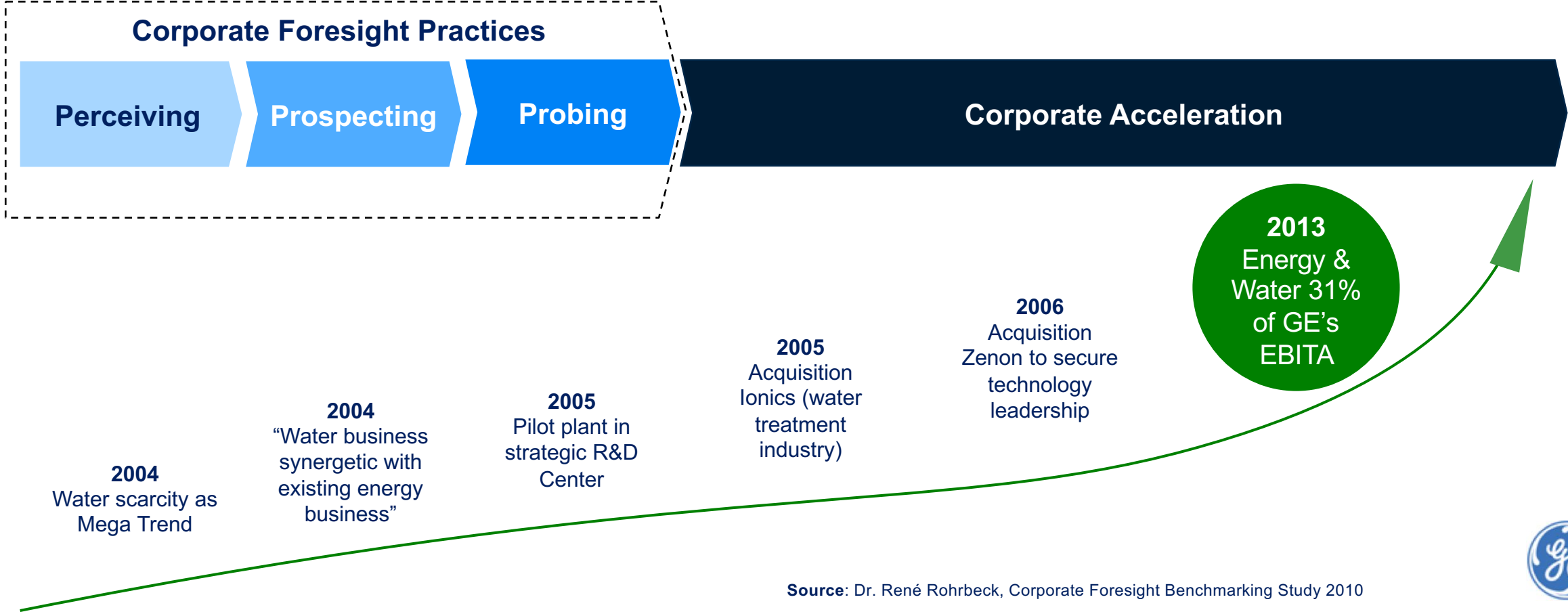
 3Ps
 Venturing

C Strategic Agility

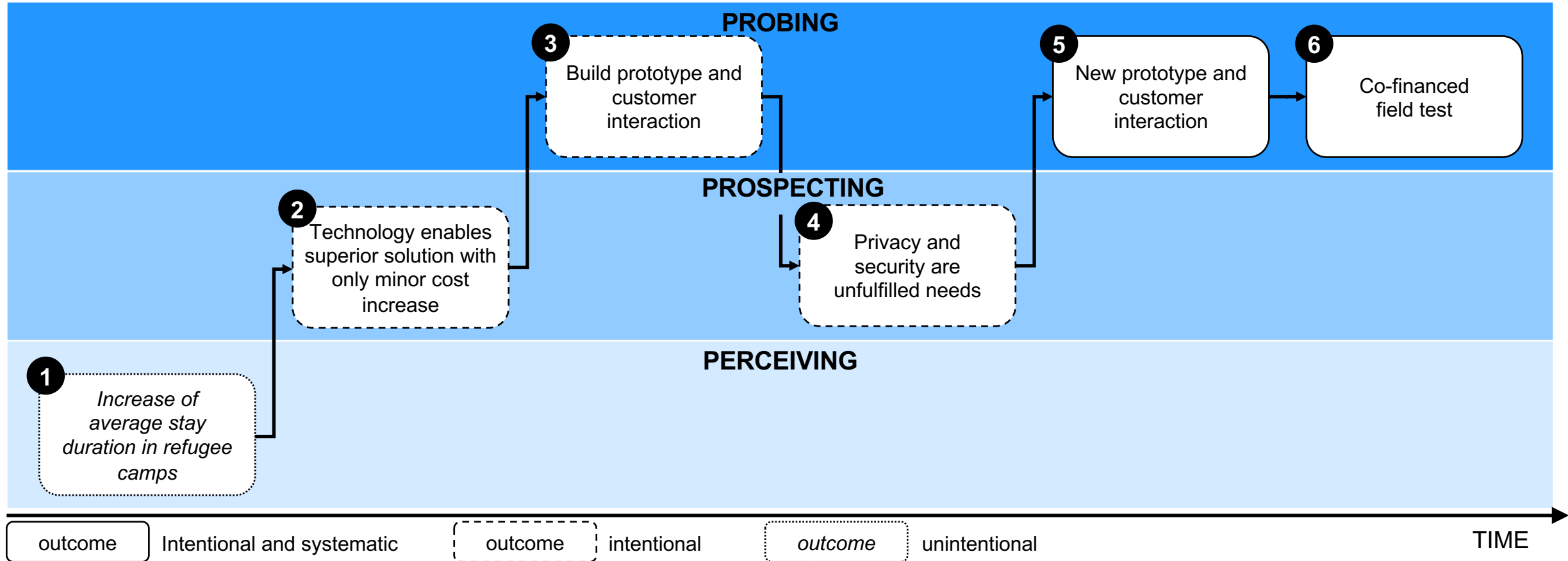


 Scenario-based strategizing

CORPORATE FORESIGHT AT GENERAL ELECTRIC

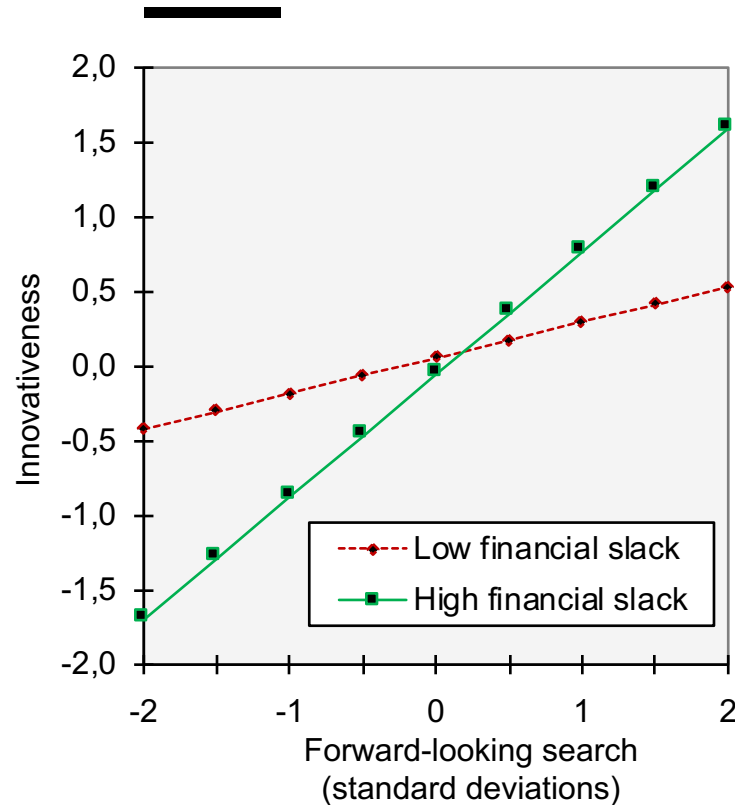


THE 3P-PROCESS IS ITERATIVE

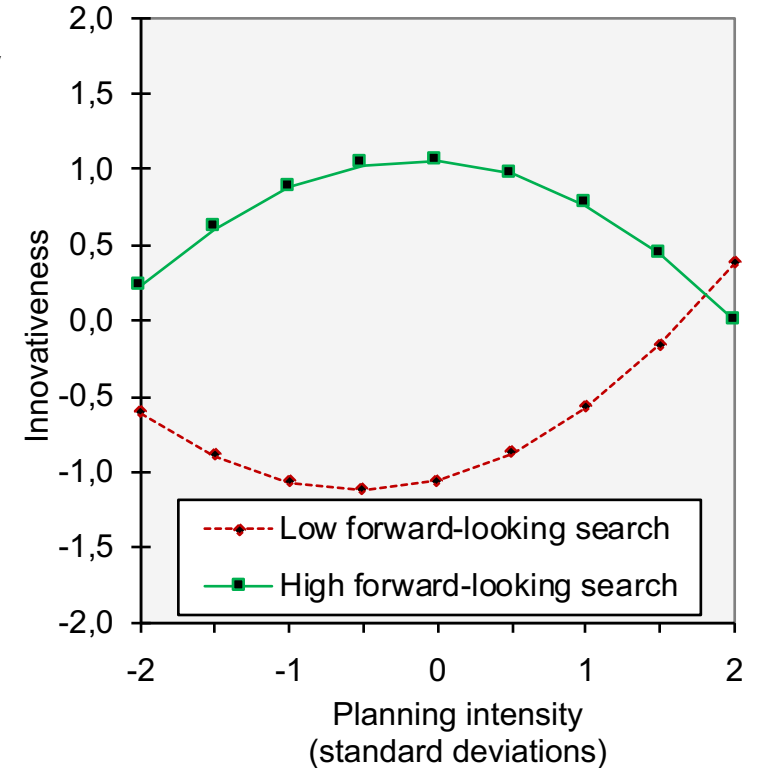


Source: Højland, J. and Rohrbeck, R. (2018) 'The role of corporate foresight in exploring new markets – evidence from 3 case studies in the BOP markets', *Technology Analysis & Strategic Management*, 30(6), pp. 734–746. <http://doi.org/10.1080/09537325.2017.1337887>

CORPORATE FORESIGHT IN PROJECTS



- **Forward-looking search** positively influences **innovativeness**
- High levels of **slack resources** amplifies the effect
- In particular high **Planning intensity (PI)** can inhibit the positive effect
- But also very low **PI** is damaging



Source: Jissink, T., Schweitzer, F. and Rohrbeck, R. (2018) 'Forward-looking search during innovation projects: Under which conditions it impacts innovativeness', Technovation. Elsevier Ltd, in press. <http://doi.org/10.1016/j.technovation.2018.07.001>

WHY STRATEGIC FORESIGHT?

Functions

- A** Adapt & Survive
- B** Innovate & Grow & Drive Profitability
- C** Strategic Agility

Examples



BOSCH
Invented for life

Main tools



Radars



Trend Audits



3Ps



Venturing



Scenario-based strategizing



Scenarios provide powerful mental images (visions) that provide guidance for **continuous development**.

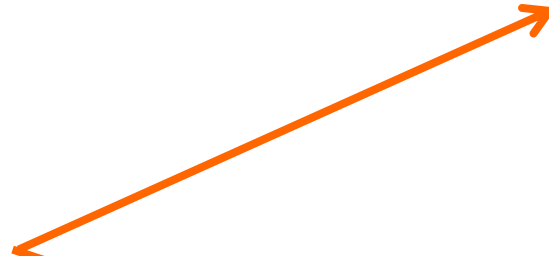


TODAY

Digital assistants for manual driving

Greener and more autonomous cars

GREAT



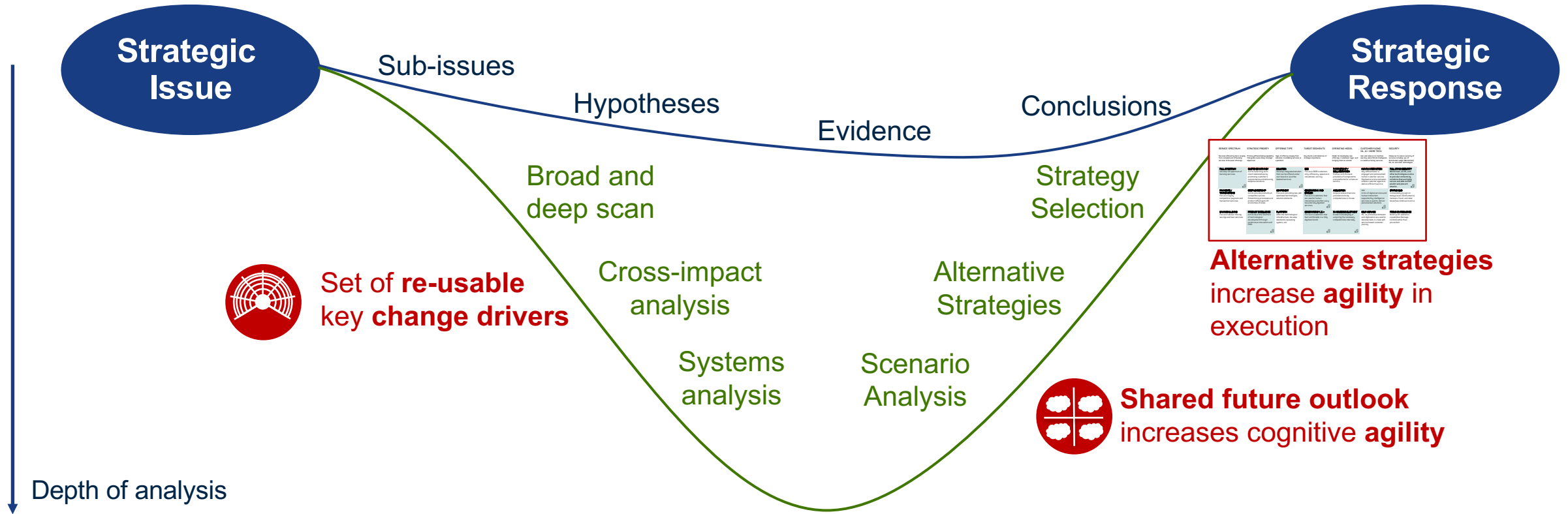
Individual and shared mobility

HOW TO ADAPT?





Use Scenario-based strategizing to be ahead of your peers.



BOSCH
Invented for life



DEPARTMENT OF MANAGEMENT
AARHUS UNIVERSITY

AUGUST 2018

RENÉ ROHRBECK
PROFESSOR OF STRATEGY



SBS TO PREPARE FOR LEAPS OF FAITH TO DISTANT STRATEGIES.

DOMINANT BROKERING BUSINESS MODEL

- Exclusive broker houses dominate
- Wealthy clients get
 - notified first
 - the best deals
 - a special treatment
- Brokers earn from percentage commissions
- Operating from large posh offices in downtown locations

NEW BUSINESS MODEL: FINANCIAL SUPER MARKET



Merrill Lynch

Theory of
merchandizing



...creating a market of one in 1940

Source: Gavetti, G. and Menon, A. (2016) 'Evolution Cum Agency: Toward a Model of Strategic Foresight', Strategy Science, 1(3), pp. 207–233. <http://doi.org/10.1287/stsc.2016.0018>

HOW IS SUPERIOR PERFORMANCE GENERATED?

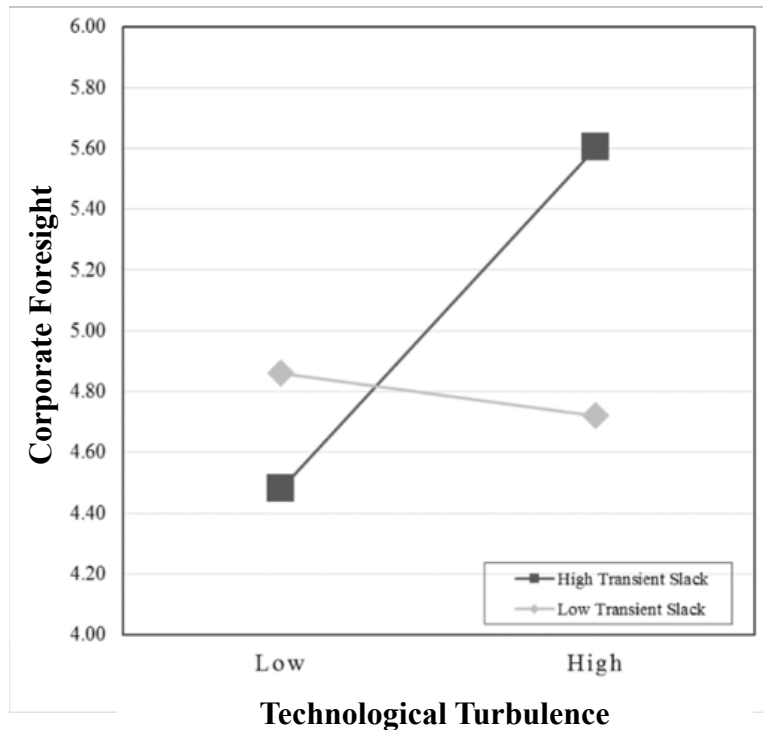
Competitive advantage



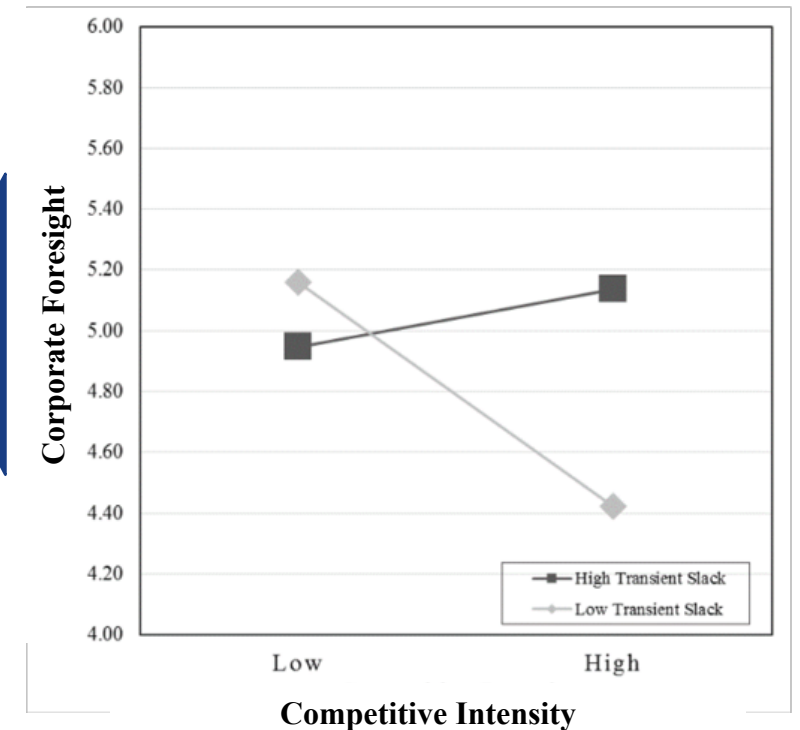
CAN WE EXPECT FIRMS TO BUILD FORESIGHT PRACTICES?



ANTECEDENTS: WHEN DO FIRMS ENACT A HIGH LEVEL OF CORPORATE FORESIGHT PRACTICES?



Firms invest
in Corporate Foresight
only if
they are in a
technological turbulent
environment
AND
have free cash-flow



Source: Unpublished working paper, shared on request, comments welcome, n=134

WE NEED TO...

- 1 Prepareing organizations for **leaps of faith**
- 2 **Scan continuously** with radars
- 3 Build **prospecting** capabilities (scenarios, etc.)
- 4 Connect foresight to **probing**

FUTURE RESEARCH

- 1 **Longitudinal case studies** understand role of foresight in org. renewal and learning
- 2 **Experimental research** planning and cognition under uncertainty
- 3 **Theory testing**, future preparedness and organizational outcomes

LOOKING FORWARD TO STAY IN TOUCH!

Rene Rohrbeck
Professor of Strategy
Aarhus University



Partner
Rohrbeck Heger



ACADEMIA: <http://rene-rohrbeck.de>

RESEARCH: <http://futureorientation.net>

CONSULTANCY: <http://rohrbeckheger.com>

REFERENCES

Burt, G., Mackay, D. J. and Perchard, A. (2015) 'Managerial hyperopia: A potential unintended consequence of foresight in a top management team?', *Technological Forecasting and Social Change*, 101, pp. 134–146. <http://doi.org/10.1016/j.techfore.2013.12.001>

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Rohrbeck, R. (2010) *Corporate Foresight: Towards a Maturity Model for the Future Orientation of a Firm*. Heidelberg: Physica-Verlag <https://10.1007/978-3-7908-2626-5>

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Rohrbeck, R. et al. (2018) *Corporate Foresight Benchmarking Report 2018: How Leading Firms Build a Superior Position in Markets of the Future*, <http://doi.org/10.2139/ssrn.3178562> or <https://tinyurl.com/y936vu66>

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FURTHER READING



<http://futureorientation.net/>