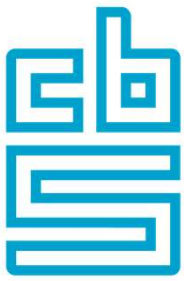


This presentation was given as part of
the Training Courses preceding the

10th European Conference on Quality in Official Statistics (Q2022)
in Vilnius on 7 June 2022

by
M. van der Steen
m.vandersteen@cbs.nl



A job in official statistics is like working for Google and CNN at the same time!

Innovation

Marcel van der Steen
Chief Innovation and Strategic Partnerships Officer



Content (Overview)

- Objective
 - Conceptual understanding of the aspects of innovation, strategy and management
 - Translate organizational vision to innovation program
 - Theory, practice, personal experience
 - Linked to the statistical world (but not entirely)



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1



Content (first hour)

- Course Description
- Personal Introduction
- Who are you?
- Vision of the Future
- The Statistical Landscape (The Dutch Story)



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Vision of the Future

The Delta describes innovation



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The statistical Landscape

The Dutch story



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The Mission and Objectives of Official Statistics

1. Create **Insight** in Complex Societal Phenomena
2. Deliver “**Actionable Intelligence**” to enable Evidence Based Policy Making
3. Quantitative **Monitoring** of Developments and Progress

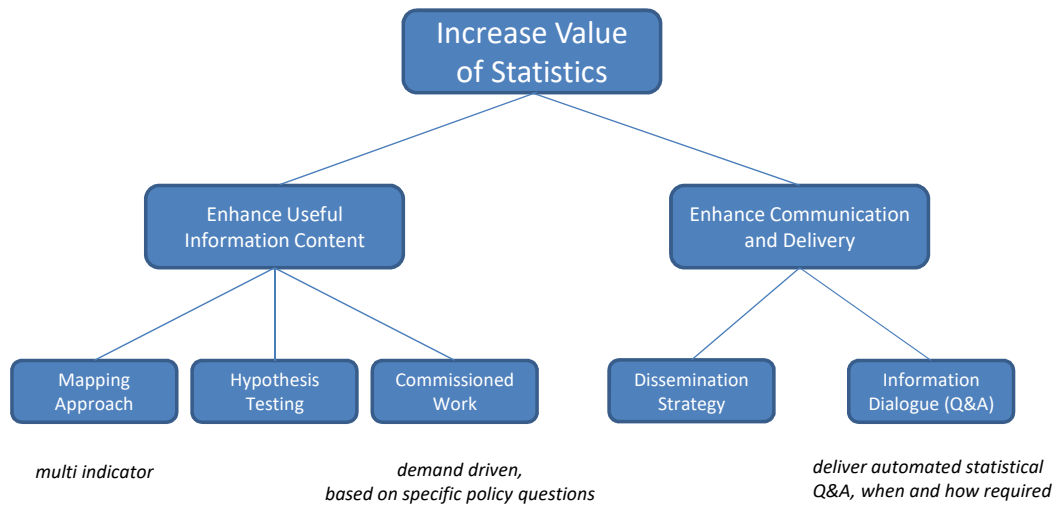
...with the required *aggregation* level and *timeliness*

Statistics are a means to an end



10

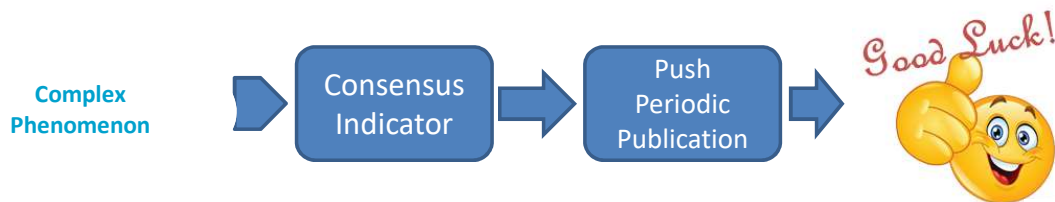
How to increase the Impact of Official Statistics?



Traditional Approach

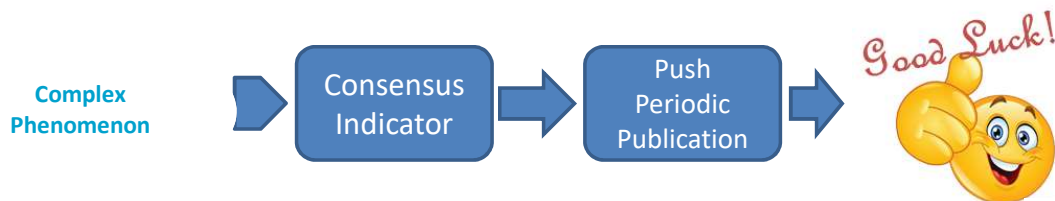


Traditional Approach



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Traditional Approach

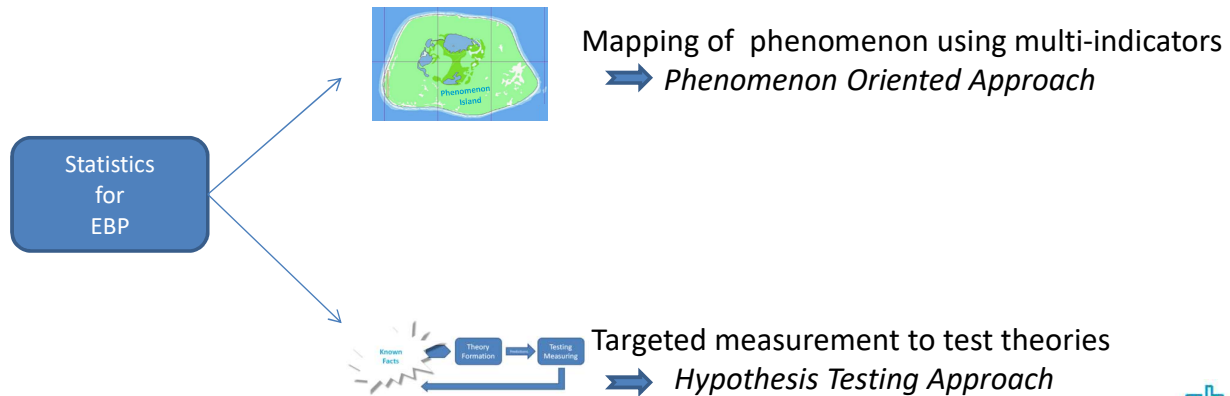


Question-Indicator misalignment
↓
misinformation and misleading information



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Two useful approaches



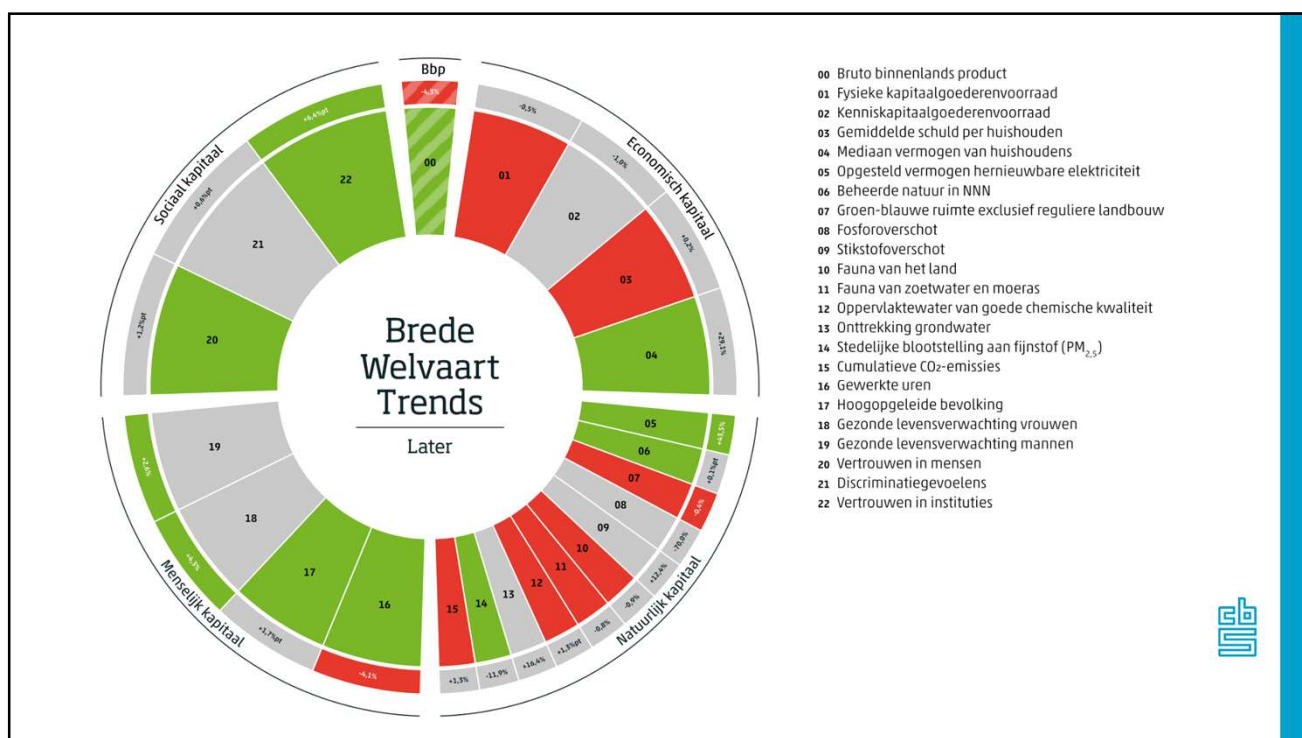
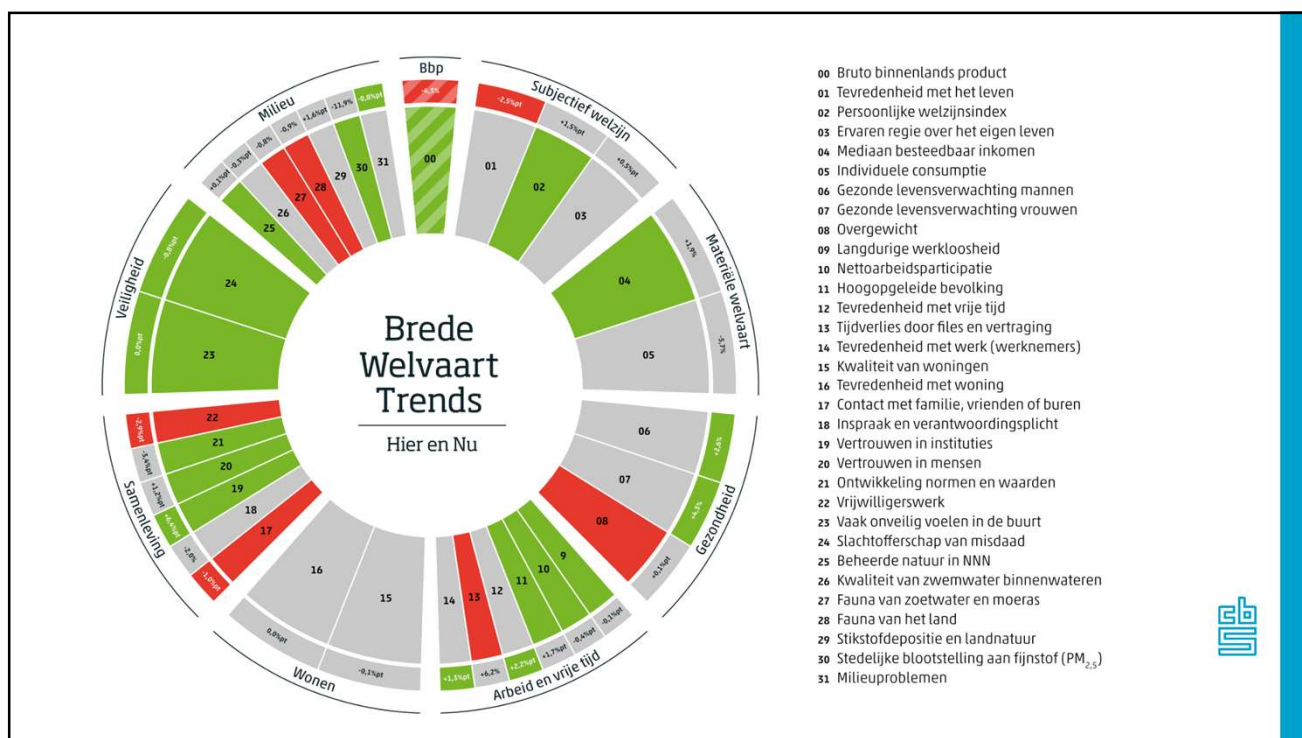
15

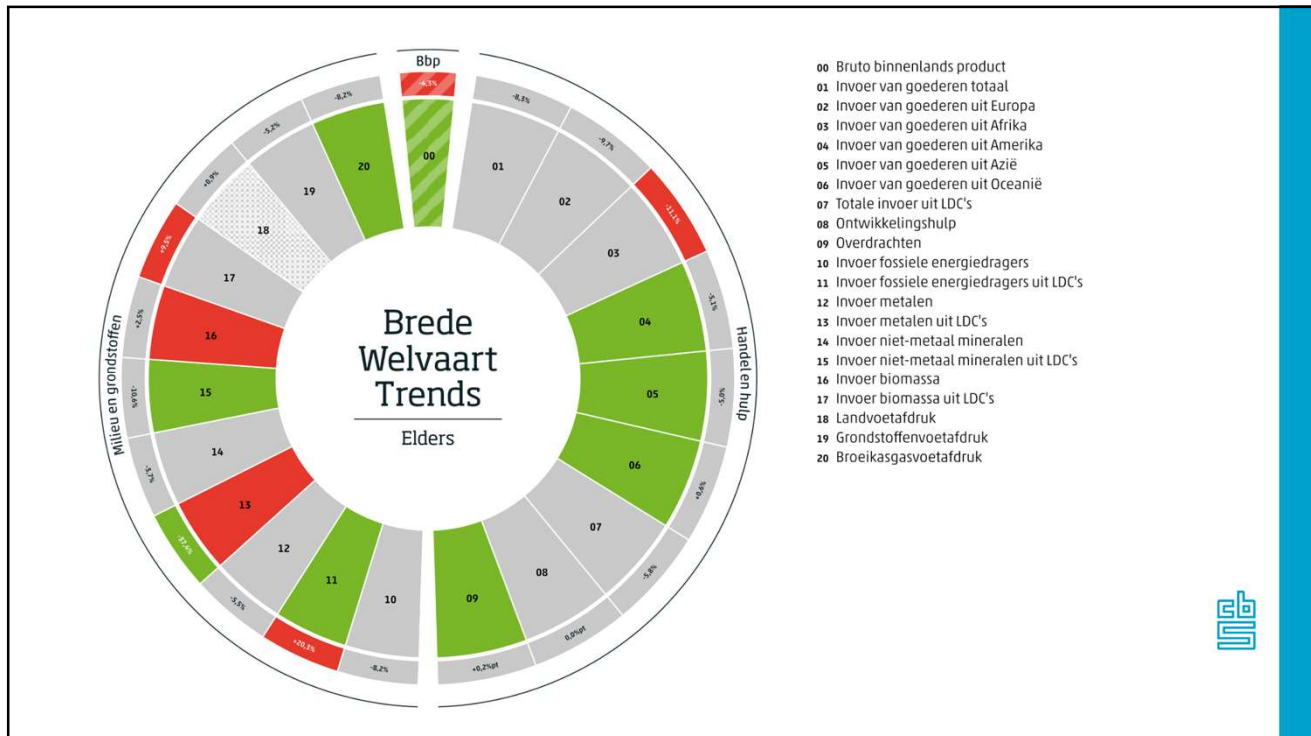
Comprehensive Monitor of Well-Being

- Annual “State of the Country”
- At the request of the Dutch Parliament
- Publication every year in May
- Multiple parameters
- Now, Later, Elsewhere
- Including SDGs

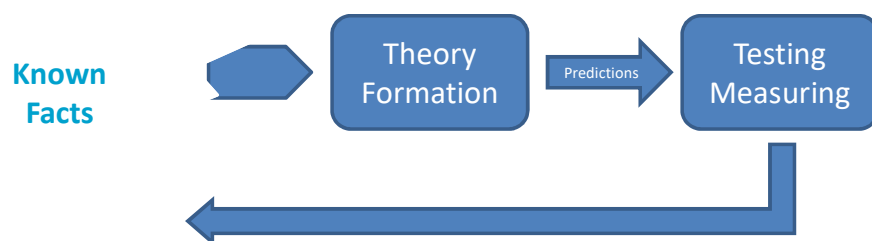


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Hypothesis Testing Approach



Flexibility, Timeliness, Aggregation Levels

All of this cannot be achieved
with the traditional approach,
based on surveys

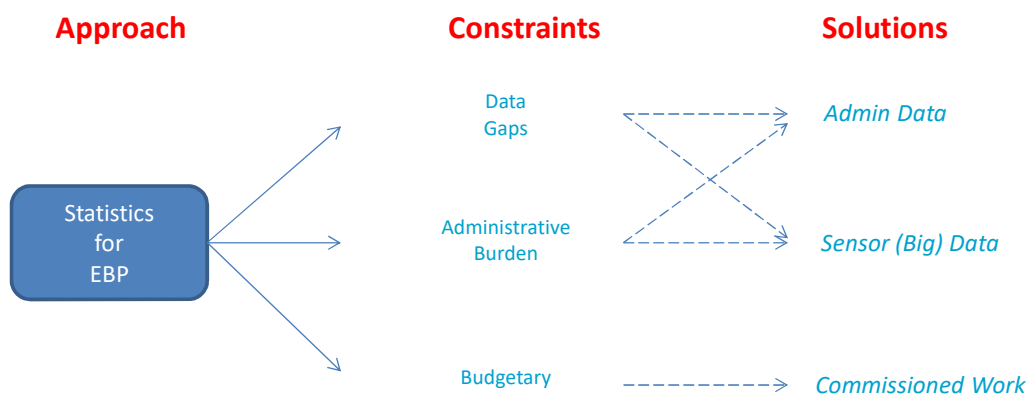


admin data and sensor data are more flexible and detailed and, therefore, create a huge opportunity to enhance the value of official statistics



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Evidence Based Policy Making

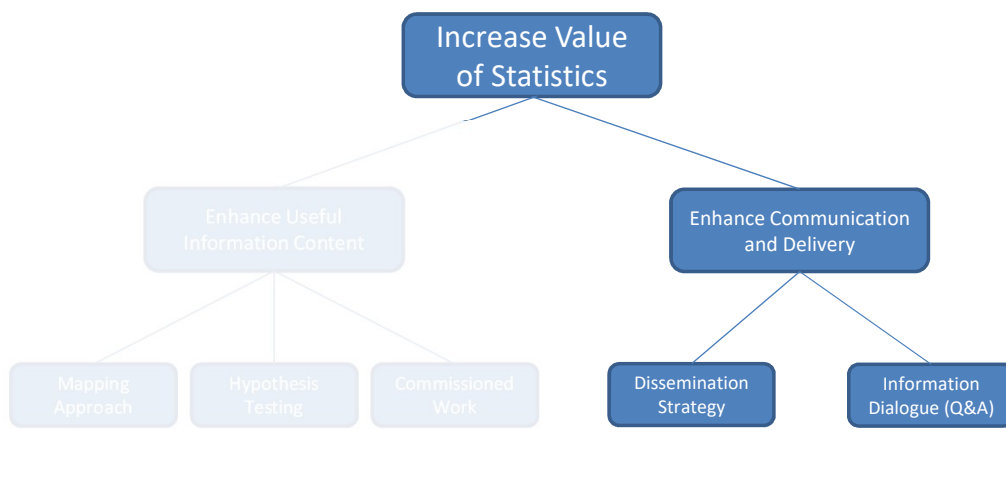


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Trends, Vision, Strategy, Innovation



Impact through communication and dissemination





2



Definitions



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Definition of Innovation



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Definition of Innovation

Creating

ADDED VALUE

for

END-USERS



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Goal of Innovation Strategy

Maximizing

ADDED VALUE

for

END-USERS



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Research and Innovation



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Research is the opposite of innovation



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Research and Innovation

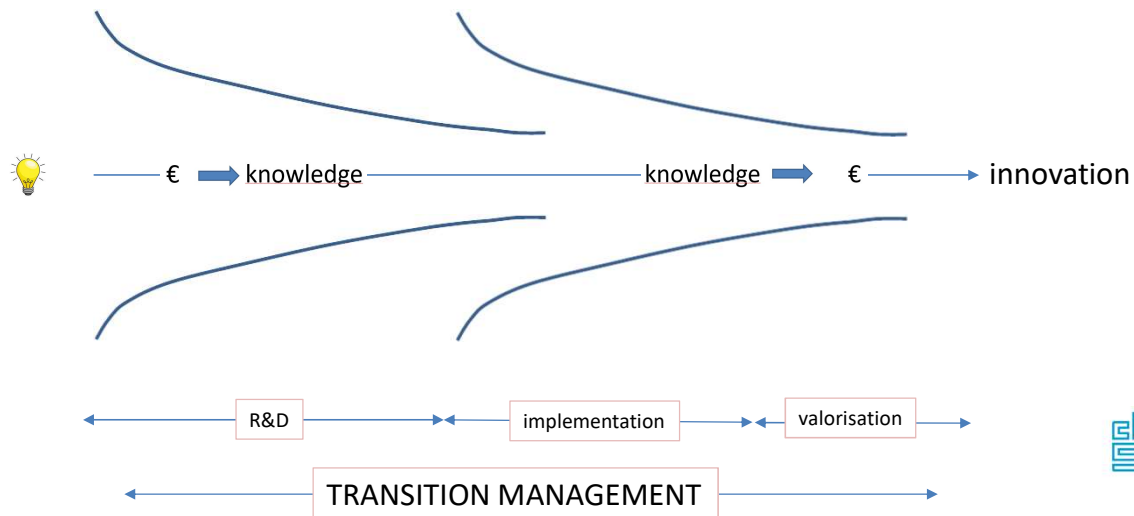
€ → knowledge

knowledge → €



32

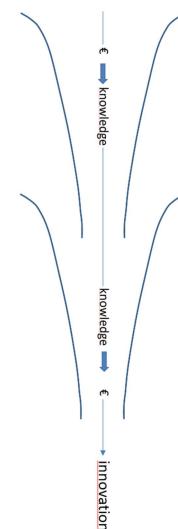
The Innovation Funnel(s)



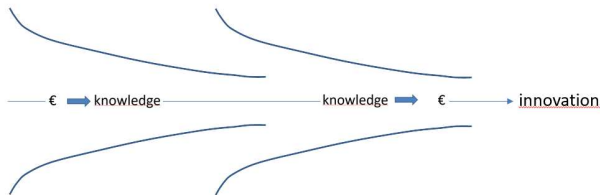
Technology Readiness Levels

Phase TRL		
Research	1	Basic principles
	2	Concept and application formulation
	3	Concept validation
Development	4	Experimental pilot
	5	Demonstration pilot
	6	Industrial pilot
Deployment	7	First implementation Industrialization detailed scope
	8	A few records of implementation Release version
	9	Extensive implementation

From: Researchgate.com



Innovation Readiness Levels



IRL-1	IRL-2	IRL-3	IRL-4	IRL-5	IRL-6
CONCEPT	COMPONENTS	COMPLETION	CHASM	COMPETITION	CHANGE/CLOSE

from: An approach for developing concept of IRLs and Crossing the Chasm (Geoffrey Moore)



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Some more definitions

Radical Innovation

Incremental Innovation

Disruptive Innovation

Sustainable Innovation

VS

Open Innovation

Co-Creation



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Radical vs Incremental / Sustainable vs Disruptive

	market business models	
	Sustainable	Disruptive
Incremental		
Radical		
	added value	



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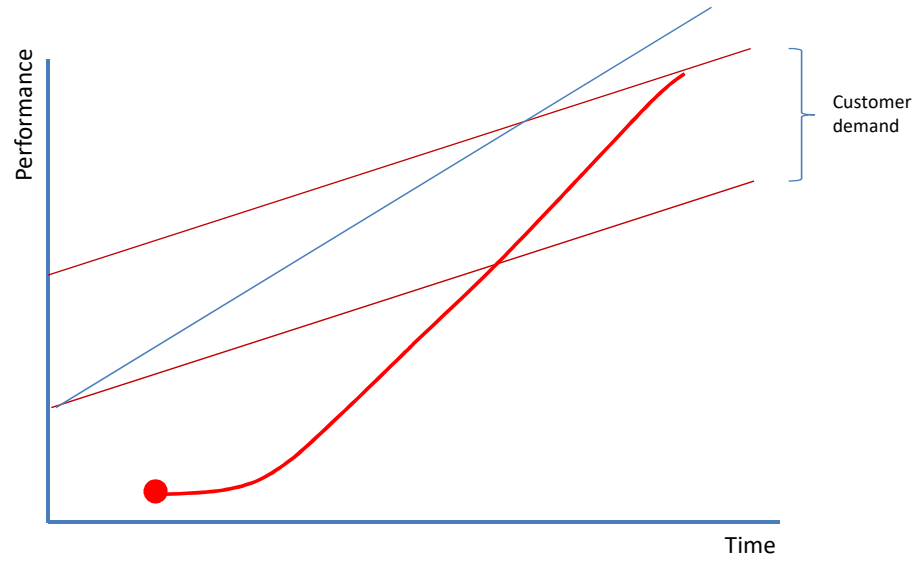
Radical vs Incremental / Sustainable vs Disruptive

	market added value	
	Sustainable	Disruptive
Incremental	current market small added value	different players different models small added value
Radical	current market high added value	different players different models high added value



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Disruptive Innovation



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Photography



SONY



Steven Sasson (1975)



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Open innovation and co-creation

Open innovation: Collaboration with third parties to build up knowledge in the innovation process

Co-creation: work together with end-users (*launching customers*) to optimize the product/service



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Innovation Strategy



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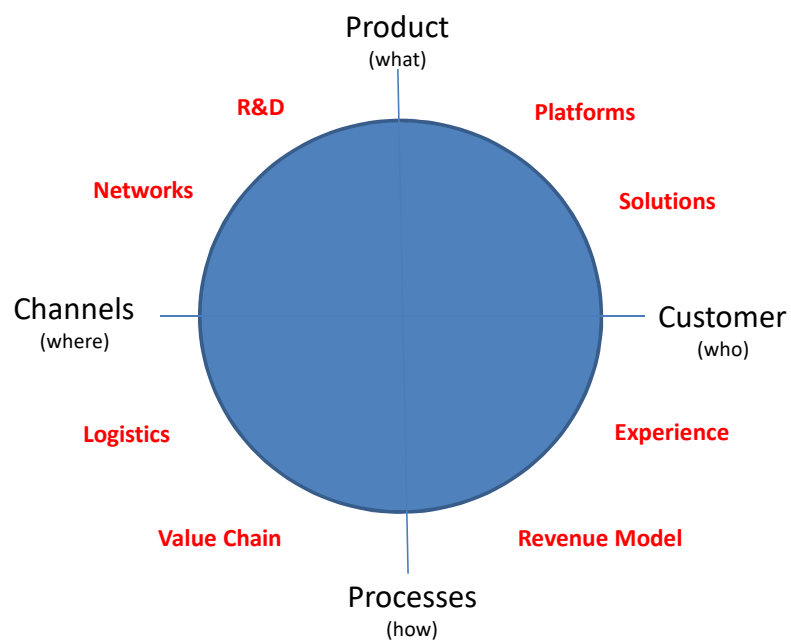
Holistic View

- Products / Services
- Methodology
- Business Model
- Process
- Management



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Innovation Paths



Source: BRIL

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What are the drivers to innovate?



45

What are the drivers to innovate?

- Competition
- Legislation / Regulation
- Organisational Culture
- Intrinsic Motivation (Leadership)



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Two important challenges

Creating Resources

Innovation Management (Transition Management)



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Important challenges

Limited Resources

- People
- Money
- Budget Structure
- Legal Framework
- Operational Pressure
-
-



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Structure around Innovation Strategy



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Resource Challenge (within the organisation)

Inside

- Free-up Resources and accept the consequences
- Protect from operational pressure
- Culture?



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Resource Challenge (outside the organisation)

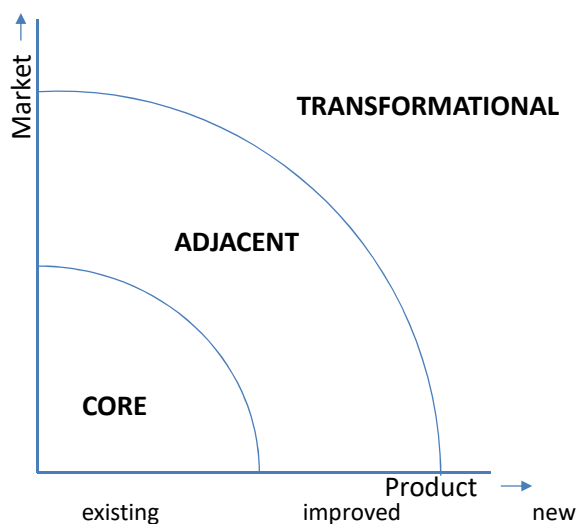
Outside (open innovation)

- Knowledge and/or Capacity
- Strategic Partnerships (-> Innovation Ecosystem)
- Strategic Partnership Building, e.g.:
 - Balanced Perceived Mutual Benefit
 - Strategic (horizon) Fit
 - Cultural Fit
 - Resource Fit
 - ...
- Avoid the “fun factor trap”



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Total Innovation Considerations



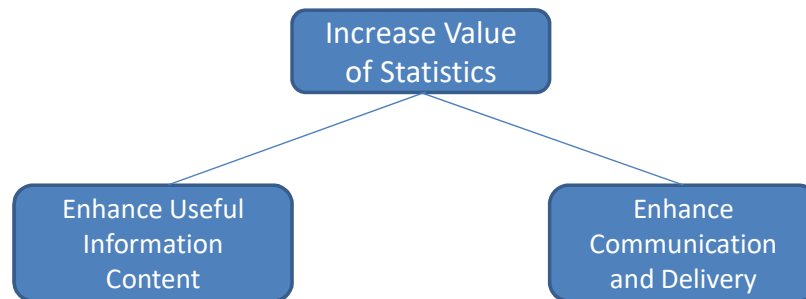
- Investment -> Value
70/20/10 -> 10/20/70
- Consumer Goods: 80/18/2
- Diversified: 70/20/10
- High Tech: 45/40/15
- (Startups 0/10/90)



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Source: Managing your innovation portfolio – Bansi Naggi, Geoff Tudd – HBR – May 2012

How to increase the Value of Official Statistics?



Innovation Management



Radical and Incremental Innovation

- Incremental
 - Plannable
 - Stage-Gate process with milestones
 - Added value is assessable but relatively low
 - Little operational disturbance



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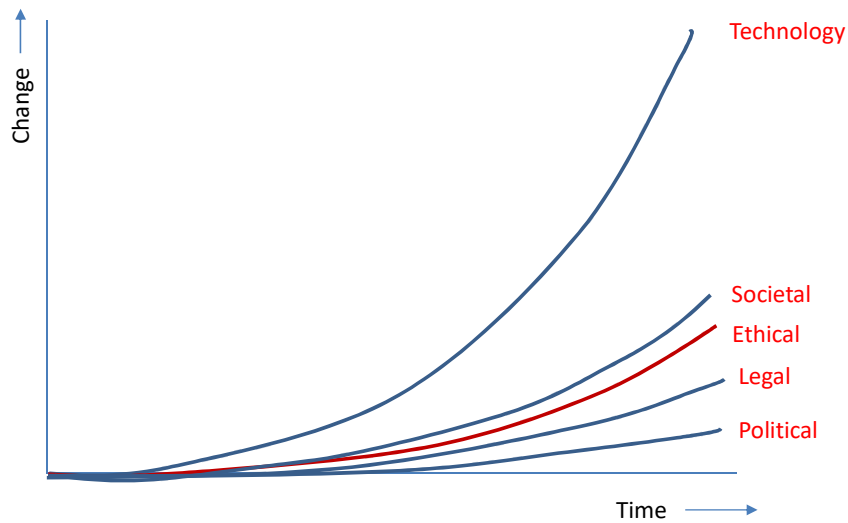
Radical and Incremental Innovation

- Radical (Discontinuous / Transformational)
 - More Trial and Error in search for the right path
 - Iterative process
 - High failure rate
 - Requires a specific mindset and culture
 - Added value hard to determine at start, but if successful very high (at risk of 'ROI mindset')



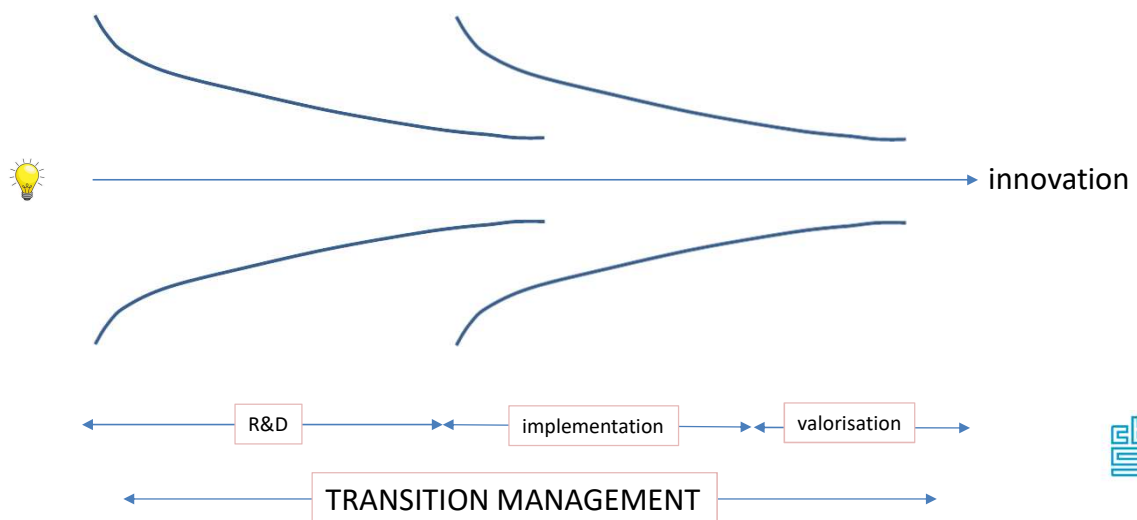
56

“Law of Implementation”



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Transition Management



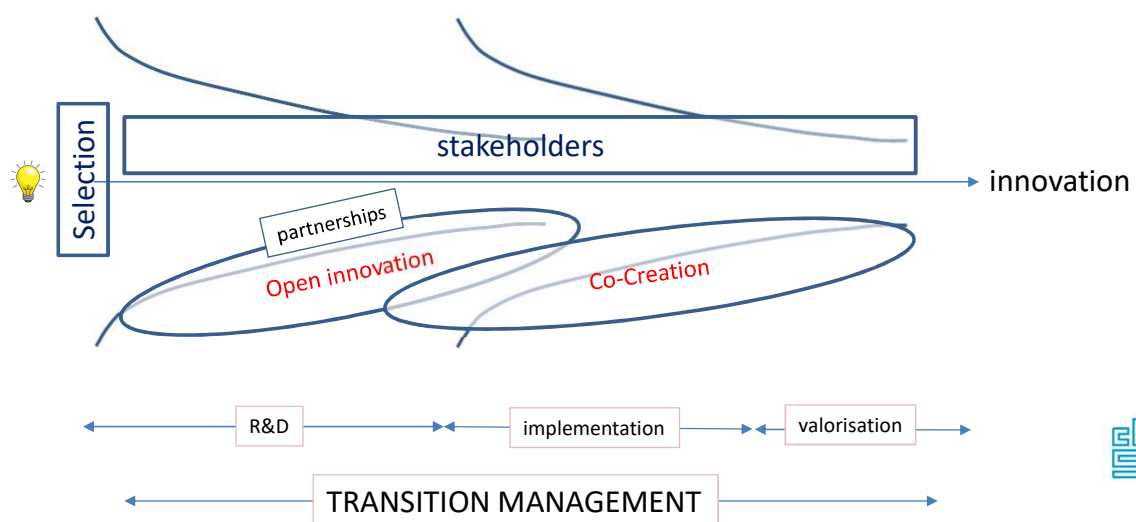
Transition Management

- Effective and Efficient Management of the process through the funnel(s)
- The challenge is the transition to the different phases, especially from R&D to implementation and to valorisation
- Complexity and iterations (Radical innovation) makes it harder



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Transition Management



Transition Management

- Identify insecurities (continuously)
 - Technical, Market, Organisational, Financial/Business, Capacity, Legal, Privacy,
- Evaluate insecurities
 - Go/No-Go
- Identify all stakeholders
 - Creators and Solvers
- Create Transition Team (and board)
- Stakeholder involvement
- Transition funding
- Involve Top Management



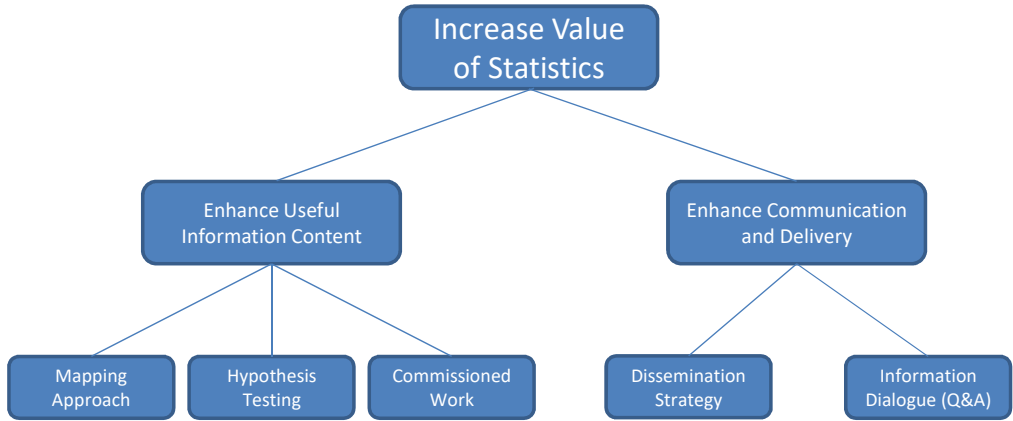
61



3



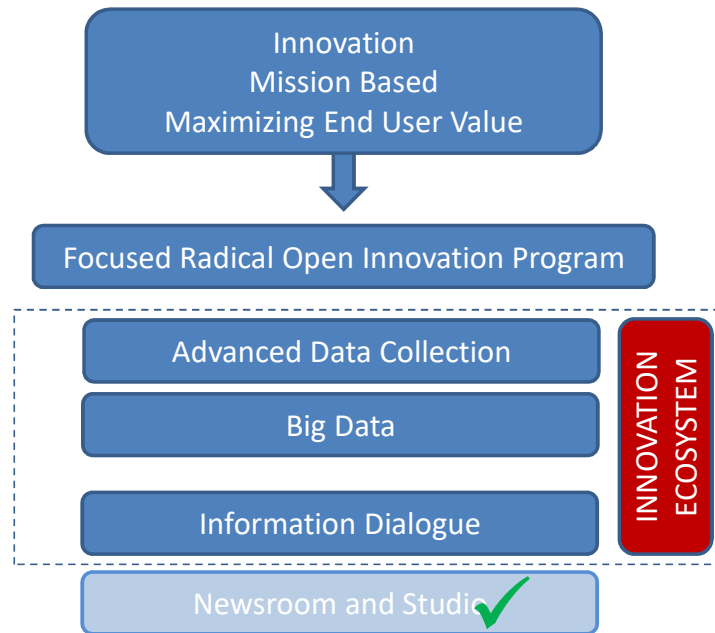
How to increase the Impact of Official Statistics?



Innovation Structure and Program

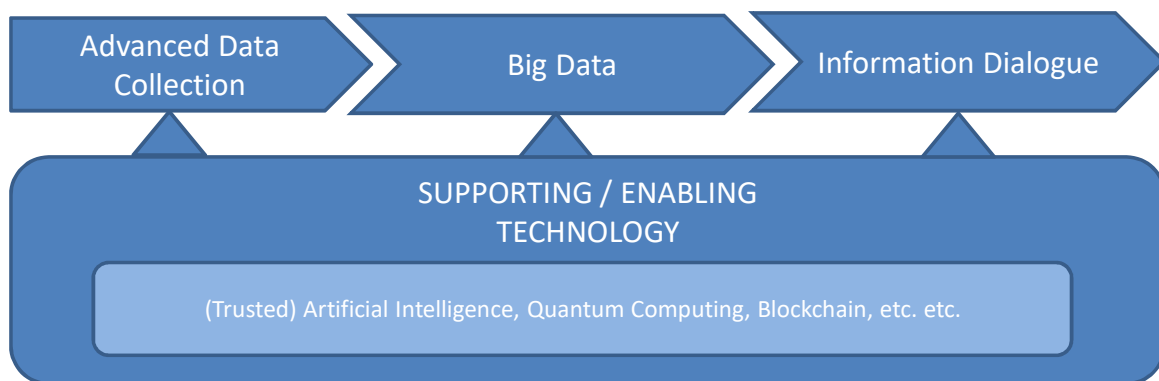


Summary



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Innovation Program Overview



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Enhance Information Content



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Enhance Information Content



Create:

- **New Statistics** (e.g. SDGs)
- **High Resolution Statistics**
- **“Real-Time” Statistics**

And:

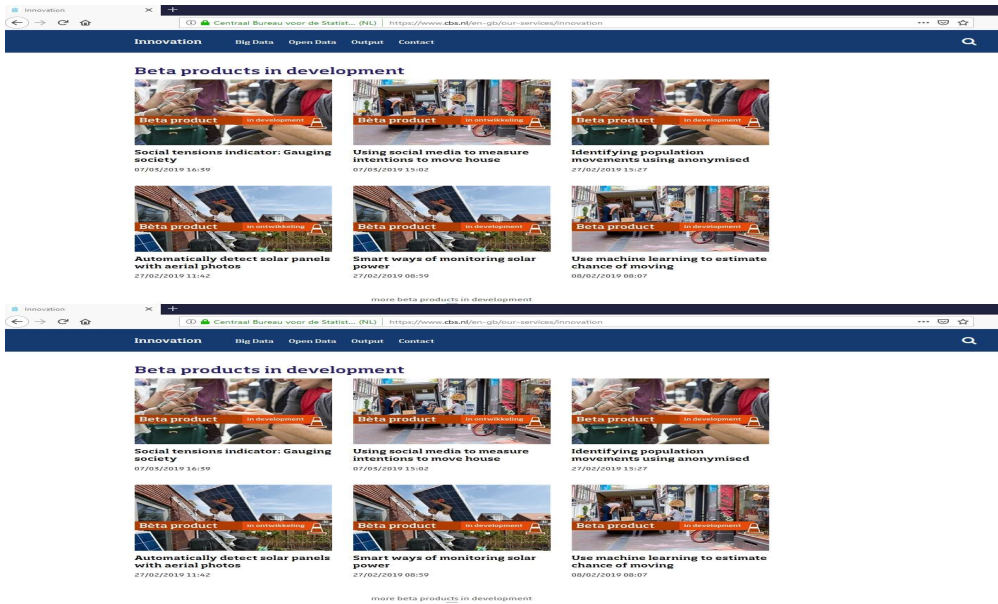
- **Minimize Surveying**



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Innovation Website



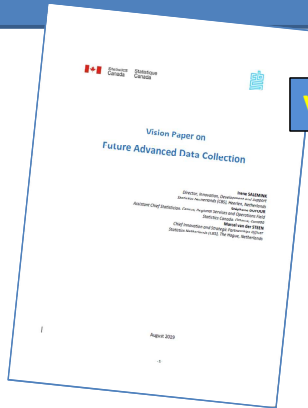
Future Advanced Data Collection



Enhance Information Content

Advanced Data Collection

Big Data



Vision Paper

&

Call to Action

- Data Access and Linkage
- Methodology
- Confidentiality, Privacy and Acceptability
- Privacy Preserving Techniques
- Meta Data
- Quality
- Process Redesign



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Observation Strategy

Statistical output is generated to a maximum extent using non-primary data sources.

Searching for available and applicable data sources, data capture modes, and data sharing solutions is an essential part of the collection strategy, as is protecting confidentiality and privacy, with an appreciation for data suppliers and regard for social acceptance.



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Data Sources

Type	Source
Primary	Survey
Secondary	Administrative
Tertiary	Sensors
Quaternary	Proprietary Sensors



Data Sources

Type	Source
Primary	Survey
Secondary	Administrative
Tertiary	Sensors
Quaternary	Proprietary Sensors



Blaise and Advanced Data Collection

Advanced Data Collection

- Web interviewing becomes leading mode
- Mode reversal: CASI – CATI – CAPI
- Smart Surveys
- Character of surveying will change (big data)



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Blaise Survey Platform



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Data Sources

Type	Source	Collected for Official Statistics	Collected Automatically
Primary	Survey	YES	NO
Secondary	Administrative	NO	NO
Tertiary	Sensors	NO	YES
Quaternary	Proprietary Sensors	YES	YES



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Conclusion and Wrap-Up



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Summary

- CBS Vision – *The Dutch Story*
- Innovation
 - Definitions
 - Types
- Innovation Strategy
- Innovation Management
- CBS – examples: from vision to implementation

