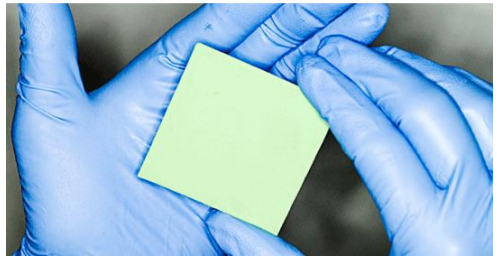
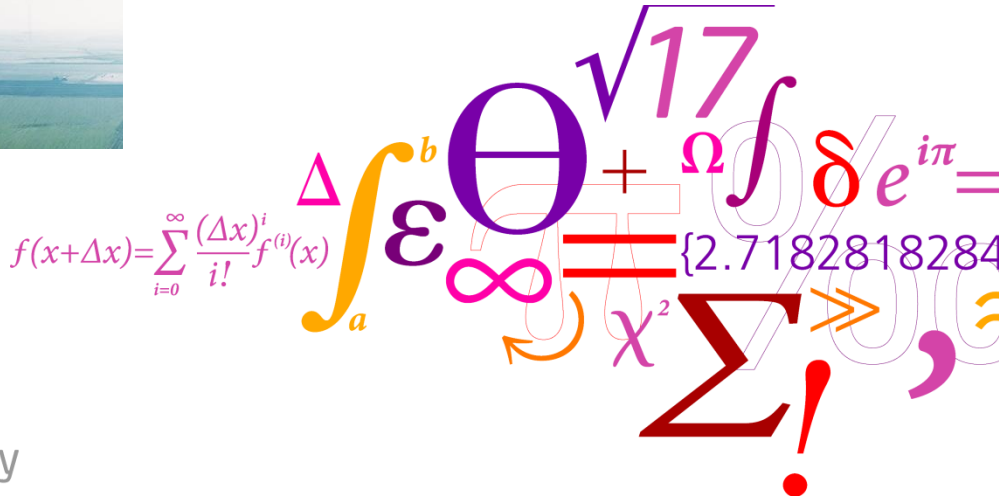
Rationales, results and recommendations from Risø Innovation Activities

Senior Business Developer Adam Hillestrøm





Risø DTU
National Laboratory for Sustainable Energy

Agenda

- Introduction to Risø DTU
  - Vision/mission
  - Innovation defined

- Risø Innovation Activities (RIA)
  - Organization
  - Activities
  - Business model

- Innovation models
  - Technology driven model
  - Need driven model

- Cases
  - Lighten
  - The spinner anemometer

Introduction to Risø DTU

Strategic foundation

Mission

Risø DTU contributes to research, development and international exploitation of sustainable energy technologies and **strengthens economic development** in Denmark.

Vision

Risø DTU is one of Europe's leading research laboratories in sustainable energy and is a significant player in nuclear technologies. Risø creates pioneering research results and **contributes actively to their exploitation, both in close dialogue with the wider society**.

Introduction to Risø DTU

Innovation defined

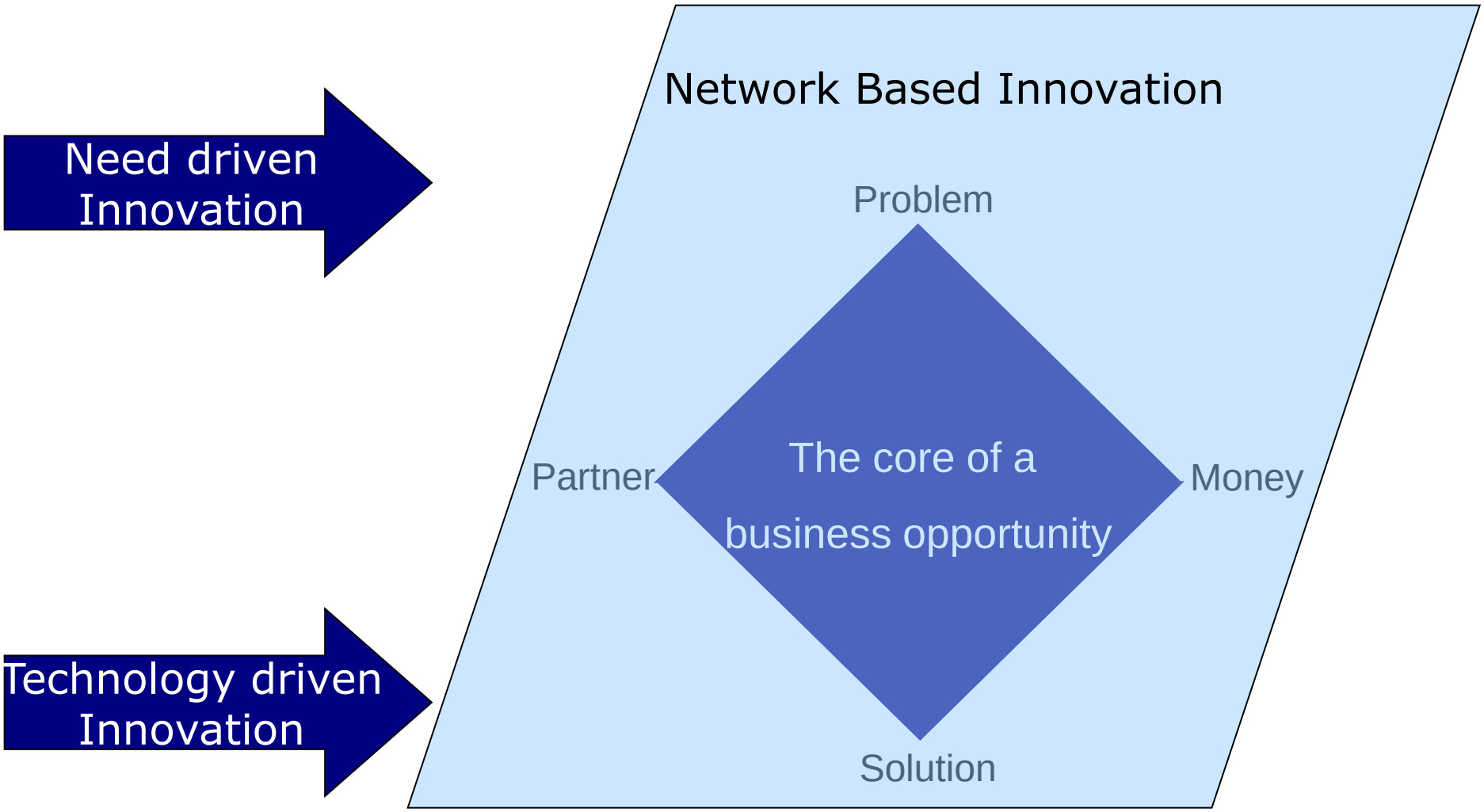
- Activities and results that lead to **application with a commercial purpose** of science based knowledge thus contributing to sustainable development of society with **growth and knowledge intensive jobs**

- Within our field of competences we take responsibility for creating something that makes a difference – on an **international, national as well as a regional** level.

- Innovation is an **independent goal** at Risø

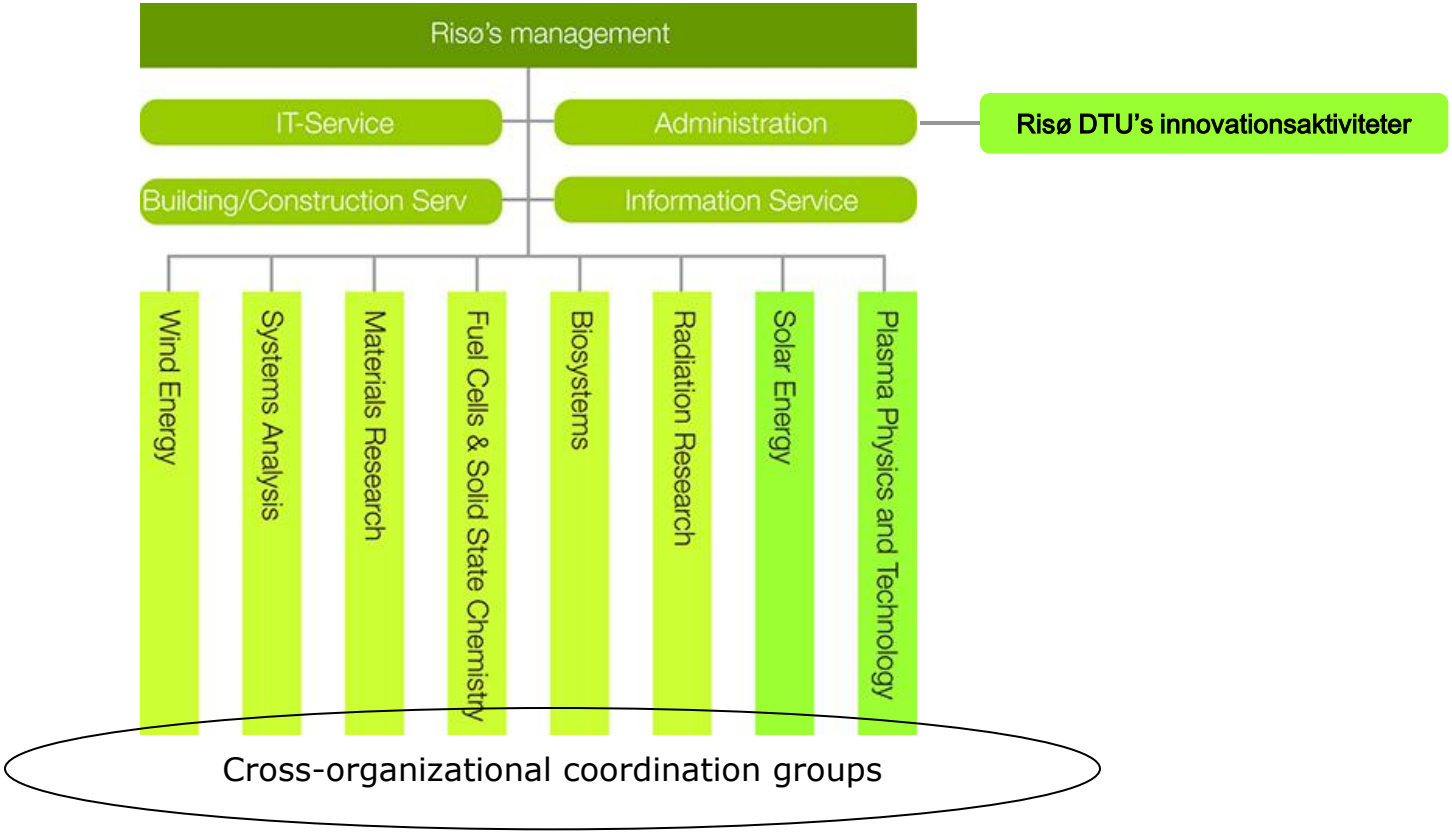
- Working with innovation is an **integrated** and **crediting** part of the work of research divisions and Individual employees work which is **publicly appreciated**.

Innovation defined – cont'd



Introduction to Risø DTU

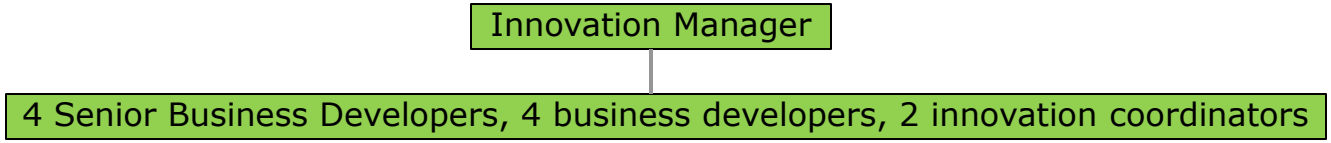
Organization



Risø Innovation Activities

Organization

Flat organization, one management level, all business developers have responsibility for their own projects



Professional backgrounds from both business and science, start-ups and large industrial corporations

Educational backgrounds ranging from BSc to Phd in both business and natural science

Risø Innovation Activities

Activities

Support unit that promotes and supports innovation at Risø – both individual projects and frames (finansing, culture etc.)

- **Commercial tasks**
  Cooperation with companies – paid by the company – that generate innovation in the company

- **Technology Driven Innovation**
  EUDP-, PoC, gap funding projects etc. + Commercialization of patents (technology transfer)

- **Need Driven and Network Based Innovation**
  Proactive dialogue with industry eg. Match making events, networks, one-on-one meetings to establish cooperation projects (knowledge brokering)

Risø Innovation Activities

Business Model

Risø does not receive earmarked basic funding for innovation activities

➔ **Financing through external project funding and commercial revenues**

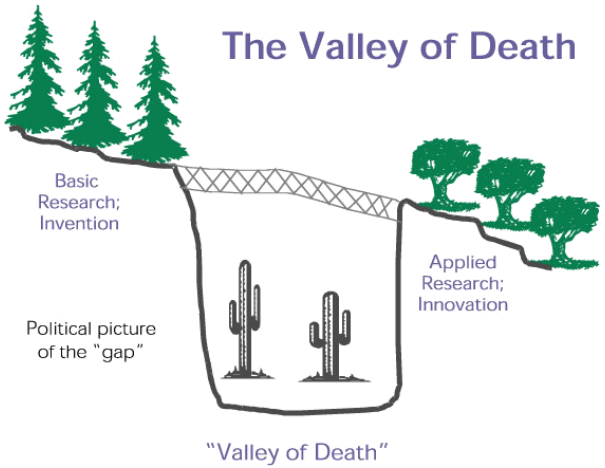
- **External project funding:**
  - Region Zeeland (approximately € 3 mill)
  - Copenhagen Cleantech Cluster (approximately € 20 mill, Risø € 7 mill.)
- **Commercial revenues:**
  - Support of patenting activities
  - Support of research applications
  - Support of other DTU institutes

→RIA is not a traditional cost center but a revenue generating business unit contributing to Risø turnover!

Innovation Models

Technology driven

- Support of commercialization of inventions and technologies originating form research divisions at Risø. Not just a consultant to researchers, but part of a commercialization team.
- Support of the patent proces from a commercial viewpoint
- Support of research applications
- Providing GAP funding – bridging ”The Valley of Death”
  - Finance the development of a concept or technology far enough to be able to sell it on commercial terms or attract external funding to finish the development
- A support function, but also a proactive partner who identifies inventions and technologies and discover commercial potential



Advantages of innovation models

Technology driven

- We advise, but we also execute → we operate the commercialization process and make sure that commercialization actually happens.
- We are closely connected with researchers → creation of mutual trust, respect and commitment. We treat researchers as customers.
- Optimization of commercial results through enhanced understanding of the application of alternative vehicles of commercialization → we optimize the results of commercialization.
- We don't take over or control patents, and we acknowledge the value of joint efforts to commercialize → we try to keep momentum with the inventor.
- We can provide funding as well as brainpower and hands

Disadvantages of innovation models

Technology driven

- Time consuming
- RIA is not in the ”driver seat” when it comes to driving the projects towards commercialization
- Much more complex process than selling a patent.
- Not all inventions are equally well suited for this apporach

Innovation Models

Need driven

- Basically it is about taking an outside in apporach to innovation → activities to identify industry needs where Risø will be able to contribute to a solution

- Over the years the portfolio of tools for need driven innovation has been developed:
  - Matchmaking between research and industry in the form of innovation days, one to one meetings, cold calling to industry
  - Network activities, networks about specific cleantech topics with involvemnt of diverse groups of people

Advantages of innovation models

Need driven

- Catch industry needs and feed them back to Risø → maximization of the total innovation potential
- More optimal use of Risø's competencies.
- Feed industry knowledge into research
- Often need driven innovation is closer to market and thereby to create effect in the market.
- Identification of new business opportunities where Risø technology can be applied

Disadvantages of innovation models

Need driven

- Difficult to consistently bring the ”right” challenges to researchers
- Some times researhers need to be involved in – e.g. – events which are not part of their individual interessts
- Synchronosation between research and industry.
- Results of need driven innovation are dificult to measure.
- We don’t follow projects all the way to commercialization

Case 1

LIGHTEN – from crossdisciplinary network to start up company

- Spring 2008 – network with 8 scientists, 8 business developers and 8 industrial designers – creation of ideas for new business opportunities
- Idea: new way of controling LED light makes it possible to meet a market demand in a new way
- 4 participants (business developers and scientists) have developed the idea – technologically and commercially
- Status: financed by gap funding a prototype is being developed and a formal cooperation agreement is about to be signed
- Goal: to establish a start up company in the region Zealand within the next 6 months

8 * 3 network

Case 2
The spinner anemometer

An anemometer for measurement of wind direction on wind turbines

Potential for increasing wind turbine performance up to 5% depending on terrain

Development started as a conceptual idea and with the support of RIA is is now very close to market introduction

RIA activities:
-Market analysis
-GAP finding for prototypes
-Business plan and business model
-Development of licensing complex
-Negotiations with sonic manufacturers and Wind turbine manufactures
-Presentations and sales activities at exhibitions and conferences