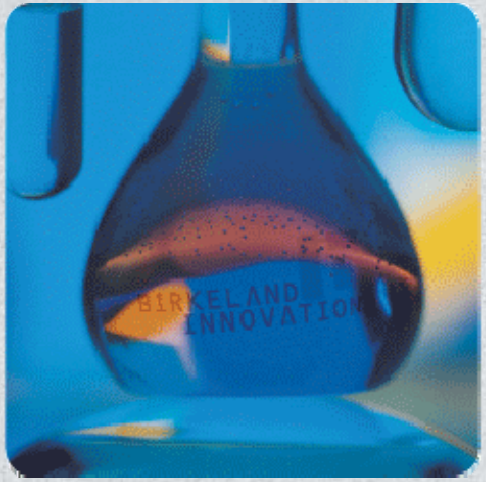

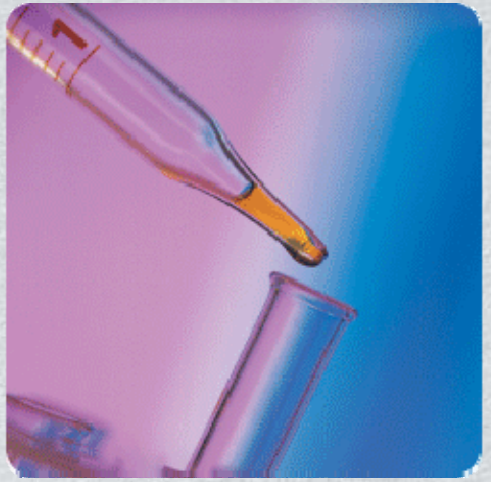

Birkeland Innovation – Transforming university research into knowledge-based innovation

Kathrine Myhre, Director Innovation,
Birkeland Innovation – 26. August 2008

BIRKELAND INNOVASJON

Creating Values of Science

Content

- Creating value for the society – TTOs role
- Research based innovation
- What makes ”it” an innovation?
- Radical and incremental innovation
- Innovation from research – from idea to business
- Examples from Birkeland Innovation

BIRKELAND INNOVASJON

Promoting a Knowledge Economy

- Technology-based innovation is critical to create wealth in society
- University research is a valuable source for innovations
- Technology transfer to existing companies and by creating new businesses

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Objectives Norwegian TTOs

- Law changes in 2003 gave the commercial rights to the Universities
- Proactively contribute to build an innovative culture at the University
- Secure, administer and refine Intellectual Property Rights (IPR) for the University
- Perform technology transfer by creating new businesses and licensing to existing companies

BIRKELAND INNOVASJON

Two missions and one team

- Create value for society
- Make money

BIRKELAND INNOVASJON

Birkeland Team

- TTO for University of Oslo
- 13 employees
- Strong scientific competence in different fields, 4 Ph Ds
- IPR specialists and several with competence in patenting
- Industrial experience and entrepreneurs
- Start-up financing and commercial exits

BIRKELAND INNOVASJON

What is research and knowledge based innovation?

Refine research and knowledge to a product or a service that fulfill a marked need and provide income

Creating Value from Science

An invention isn’t necessary an innovation

- An invention shall describe a process or a product that has not been described before – and it shall not be intuitive
- But – an invention isn’t necessary an innovation
- An innovation also require that someone want to buy the product and that it gives good income

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From idea to product

Professor Rune Blomhoff has done research in nutrition and health for more than 20 years. His field is knowledge about antioxidants in food that keep us healthy

Innovation: New juices rich on antioxidants

Products:

- Mana juice

- Book an nutrition, health and cancer

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From invention to product

Researcher Ola Nilsen makes the worlds thinnest ”films” and surfaces with new Possibilities: new inventions.

Several technological inventions are handed in to Birkeland Innovation.
The innovations might have several different applications, but what is the innovation that gives a product with good opportunity in the marked – and generate income?

The worlds thinnest display?

INNOVASJON

Making money on selling “shovels and picks” to gold diggers/gene diggers

- **Prospectors during the California gold rush bet everything they had on the long odds of finding gold, while merchants got rich selling them picks and shovels.**
- **The biotech business is similar, the great research effort behind the genome project and now the functional genomics effort, has created a large market for tools for the researchers**
- **In fact, companies that are making and selling tools and solutions to the research community has made more money than biotech / drug discovery companies**
- **Norway has a tradition in the tool business with Dynal, GenoVision, GenPoint etc.**

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There are two core types of innovation

Clayton Christensen, 2000

Disruptive innovations

- Redefines value proposition
- They under perform established products in mainstream markets
- Products based on disruptive technologies are typically cheaper, simpler, smaller and frequently more convenient to use
- Entrants nearly always win

Sustaining innovation

- Incremental improvements
- Improve the performance of established products
- Existing players
- Better products for bigger profits
- Incumbents nearly always win

BIRKELAND INNOVASJON

There are two core types of innovation

Clayton Christensen, 2000

Disruptive innovations

- Redefi position
- Th

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- Entra ys win

Start-up company strategy

Sustaining innovation

- Incre ements
- In e of

Licensing strategy to existing industry

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Blue Ocean:

Innovations to create a new market place

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How does research based innovation happen at the University of Oslo?

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From idea to business

Phase I:

Identify and generate innovations → **IP protection** → **Technology development** → **Licensing or spin-out?**

Phase II:

Develop a business model and plan → **Identify founding team** → **Incubate spin-out company** → **External investment**

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Proactively contribution from TTO

- Building relations to researchers
- Build understanding and knowledge in the research departments
- Competent TTO – being innovative on behalf of the researcher and the project
- Securing IP
- Project management
- Project financing, network and Venture Capital

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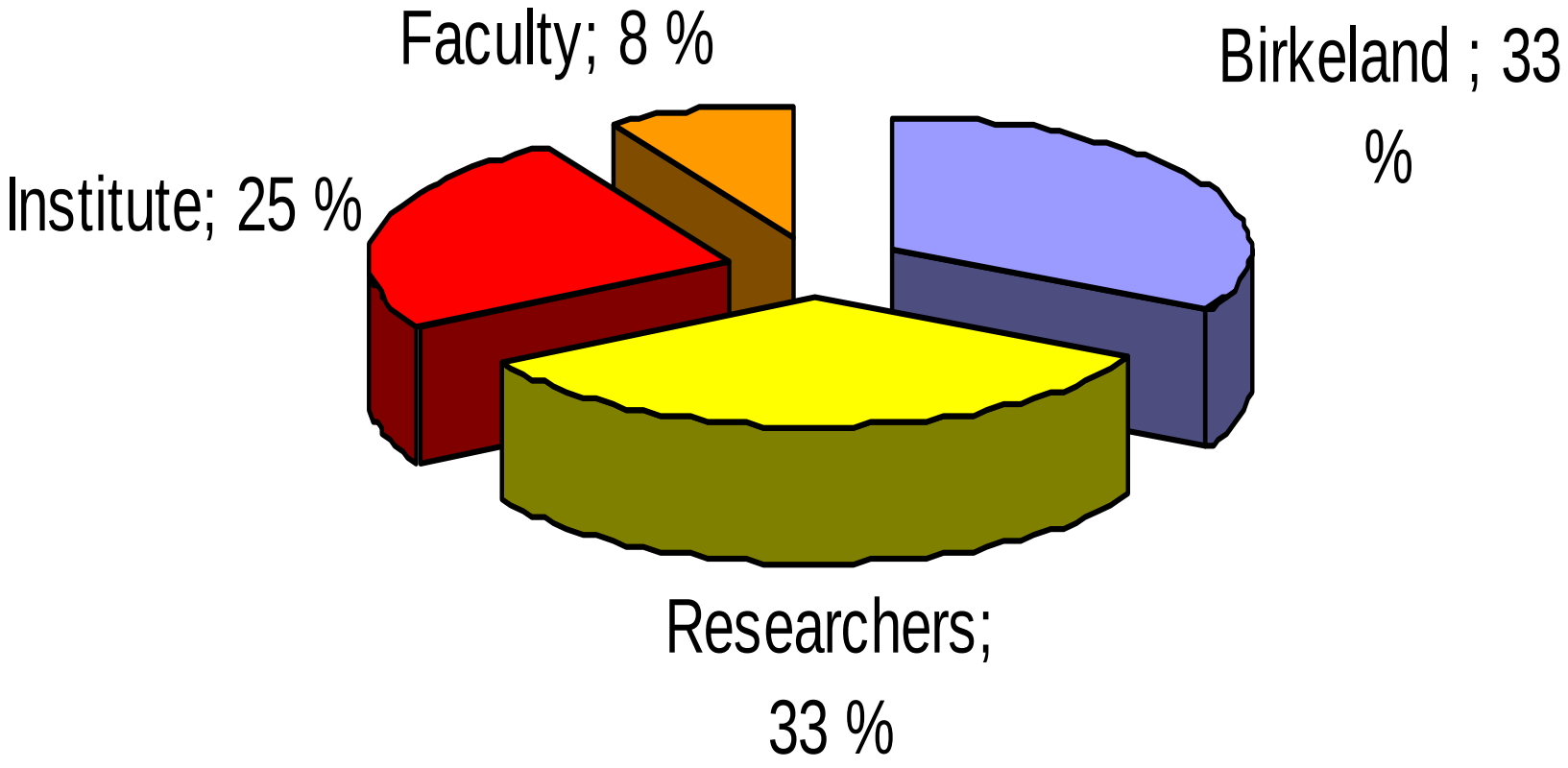
IPR Policy



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Aligning aims and close integration

- Aligning aims, objectives and incentives across an University, its departments, researchers and the TTO
- Close integration of TTO with other activities at the university (both research and education)
- Universities must take action to ensure such alignment

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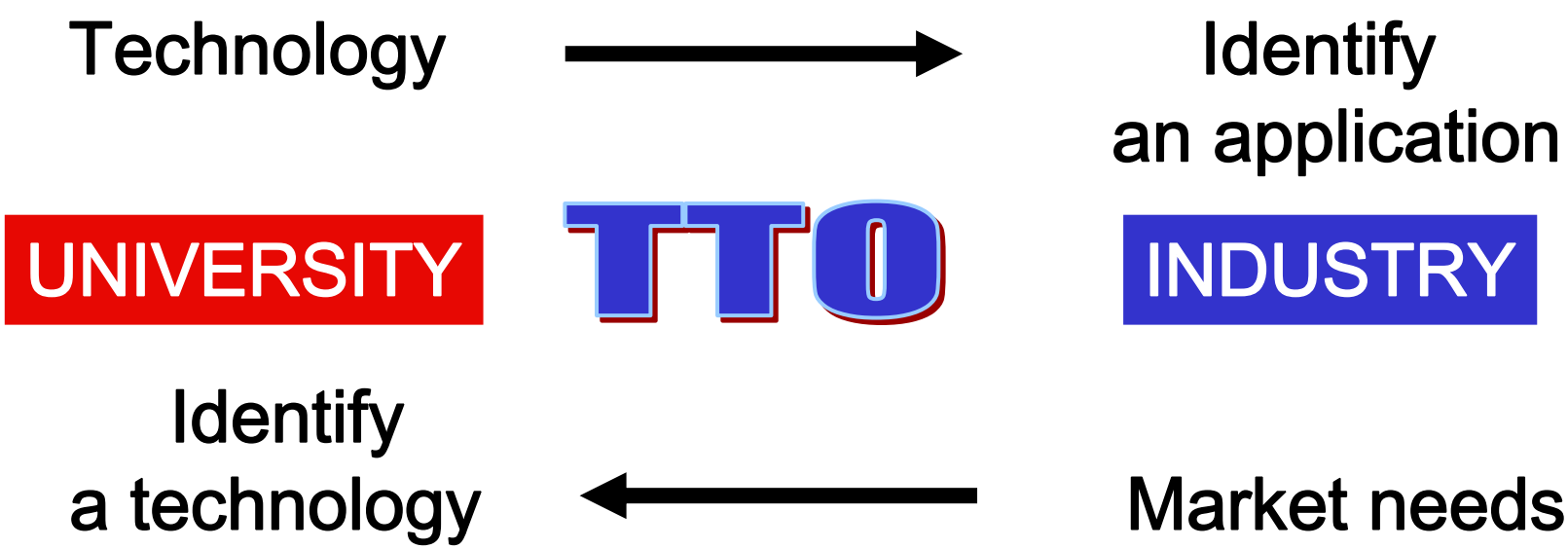
Research based but market driven innovation



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People

- Innovation in a modern society is not only about technology – It's about people
- … the researcher /inventor and the research team…
- Identify entrepreneurs ….. to drive the process from technology to innovation and commercialization

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Eksamples from Birkeland Innovation

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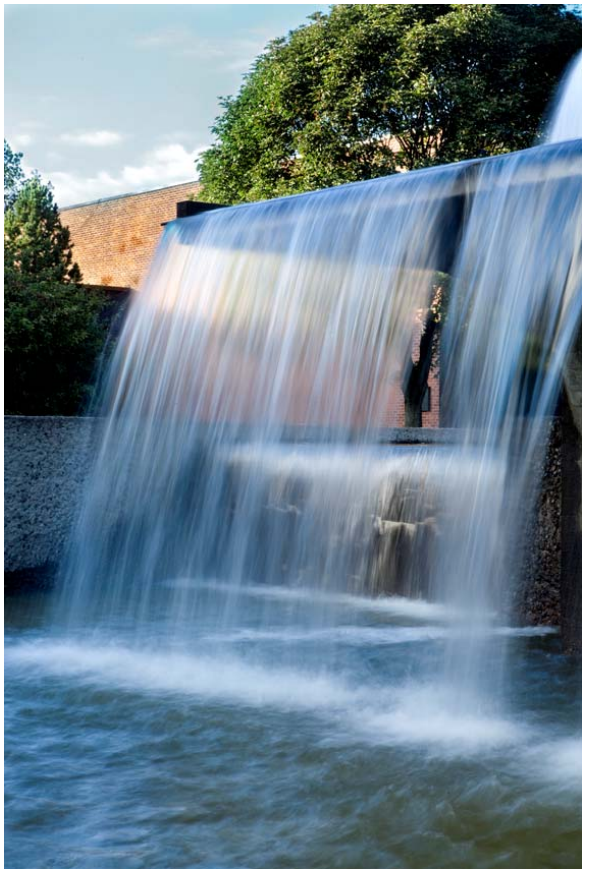
Deal flow: From ideas to business

- UiO deal flow: 70 disclosures per year
- Birkeland commercializes more than 10% of the disclosures per year
- Birkeland portfolio 2004-2008:

  15 companies and 14 licenses



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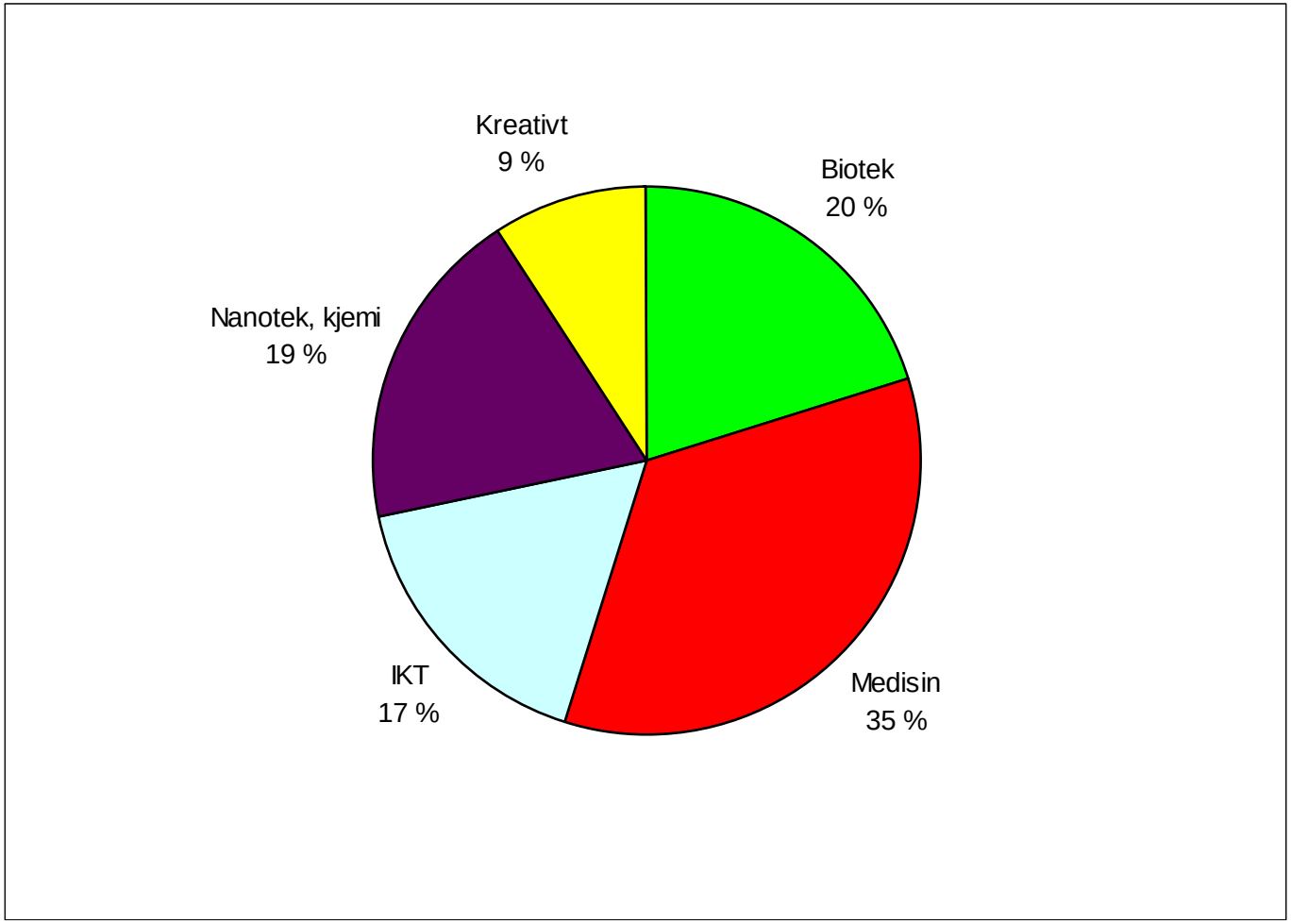
315 Disclosures (DOFI), and more than 350 researchers involved

315



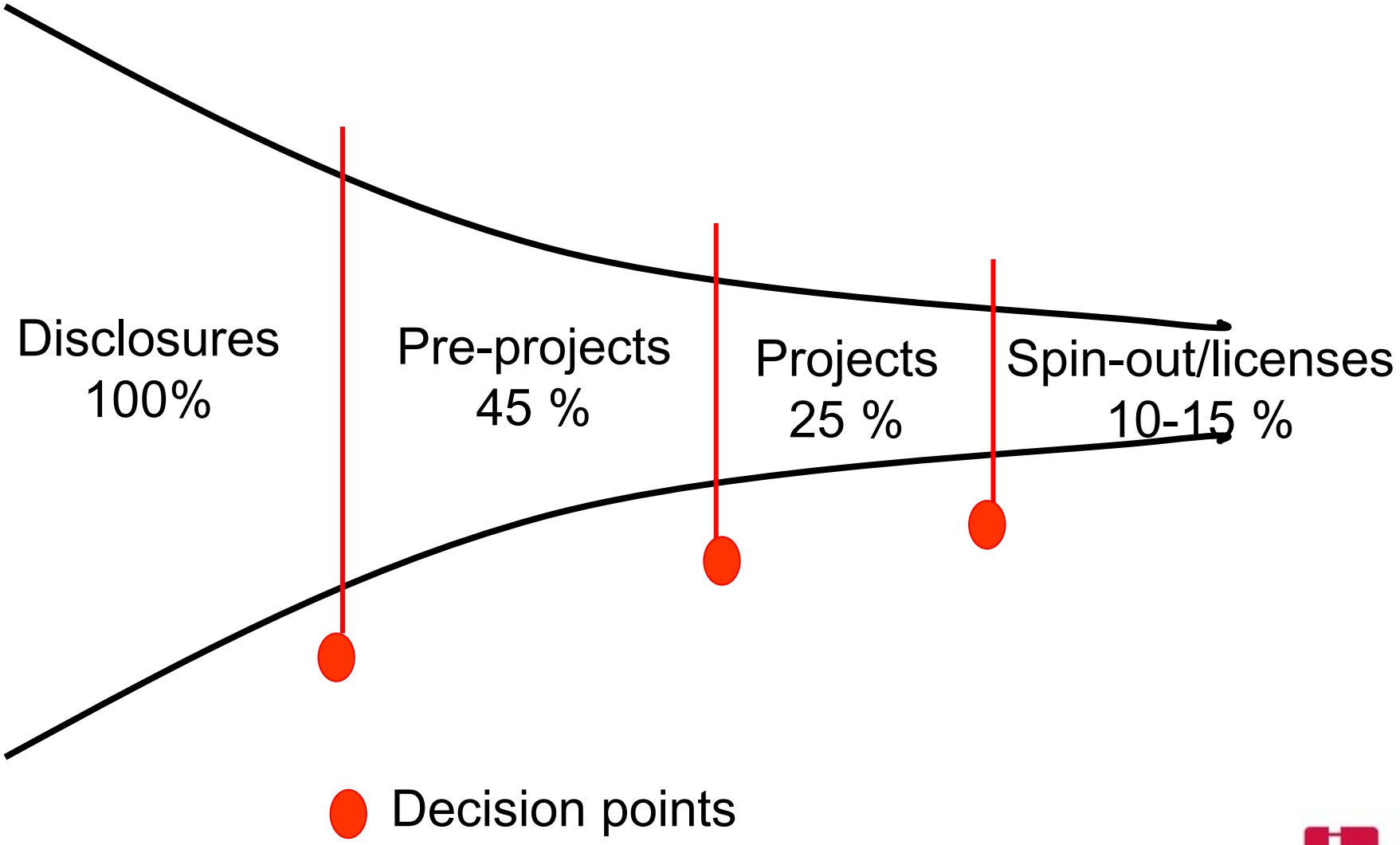
Status 25. august 2008

BIRKELAND INNOVASJON

Mål 2008

- 70 DOFI (46)
- 15 nye patentsøknader (8)
- 8 lisensavtaler (3)
- 4 bedriftsetableringer (1)
- 3-5 varemerkesøknader (2)

Commercializing technology



BIRKELAND INNOVASJON

SMN

SENTER FOR MATERIALVITENSKAP OG NANOTEKNOLOGI

- Centre for Materials Science and Nanotechnology
- Basic research in materials science, micro- and nanotechnology, i.e materials for;
  - Energy technology
  - Oil, gass and environment
  - Information and communication technology

- Top international science
- Talented researchers
- Platform technologies

- About 40 DOFI / ideas from 2004-2008
- About 15 patents filed

- Today – research based innovation with a focus on marked need
- A result of talent, interested researchers, innovation culture, interaction with companies and marked, and Birkeland Innovation

BIRKELAND INNOVASJON

PROTIA AS

- Based on new, unique material class - $La(Nb,Ta)O_4$
  - Professor Truls Norby and Reidar Haugsrud - UiO/SMN in 2004.
  - Developed together with NTNU and SINTEF.

- Great potential within environmental energy production
  - More clean and effective use of natural gas (50 % less Co2)
  - New battery technology for energy saving from sun wafers (for use when sun doesn't shine)

- Industrialisation prosess:
  - Need 80 – 100 mill NOK in first FoU phase
  - More than 30 mill NOK already given by Norwegian Research Council to the research behind the innovation ("PCFC-pack")
  - …Venture investors show great interest..
  - First investment by Springfondet (Kistefos Private Equity) in place

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- 30. March 2005: DOFI
- Software, providing proactive protection against several types of datavirus.

BIRKELAND INNOVASJON

2005 Idea evaluation, patent filing, technology development

2006 Founding team with Tom as CEO and start-up of Promon AS. Incubation at Birkeland

2007 Seed Funding by Springfondet.

5 employees and Promon has moved to Nydalen

- Closed the first industrial contract

2008 2nd round seed funding….

PROMON

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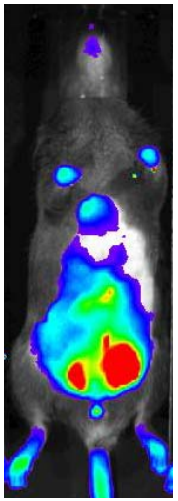
Cgene™
imaging life

..is a biotechnology company developing preclinical models for *in vivo* molecular imaging

Reduce cost and time-to-market for pharmaceutical development by providing high quality *in vivo* data at the molecular level in early preclinical R&D phase



- *In vivo,* in living animals
- Real time visualization
- Temporal and spatial resolution
- Non-invasive
- Reduce animal requirements
- "***C-*** ing is believing"

Cash positive
3Q 2006

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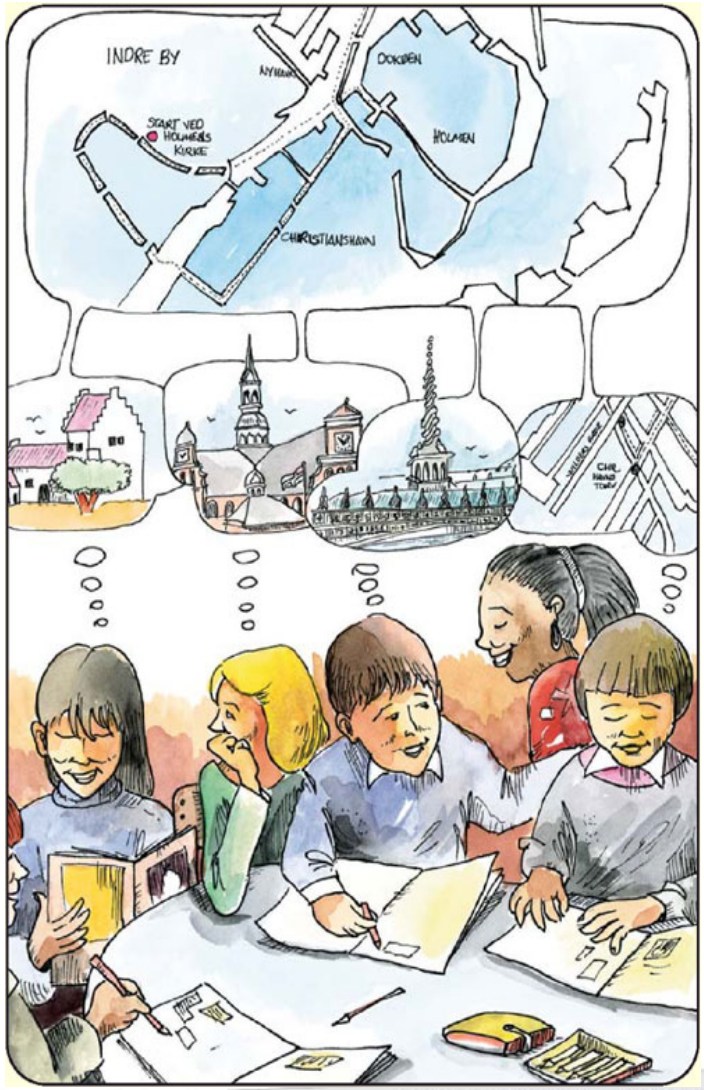
World Beside

Hva er World Beside?

- **Knowledge game for kids and pupils in Norwegian high school (System for game based learning)**
- **Content based on teaching plan for Norwegian School**
- **Pupils, teachers and experts can develop installations and do problem solving in 3D world – sharing their knowledge with others**
- **Based on 10 years technology and game research and development from Informatics**



Birkeland Publications

……har som forretningsidé å bringe forskning og kunnskap til et allment publikum gjennom produksjon av publikasjoner / publikasjonsprosjekter….

- Bøker (ikke lærebøker)
- Lydbøker
- Video/DVD
- Internettportal

WWW.BIRKELAND PUBLICATIONS.NO

FORSKNING SOM HJELPER DEG

Birkeland Publication's first publication - 13. November 06

Prostata cancer and nutrition

WWW.BIRKELAND PUBLICATIONS.NO

FORSKNING FOR ET BEDRE LIV

helse

Redigert av: JOHN SMITH

Det handler om livet ditt

Mat mot prostatakreft

Prostatakreft er den vanligste kreftsykdommen hos menn. Men mye kan gjøres for å forebygge sykdommen – og forlenge livet.

TEKST: NILS P. THUESEN

Det er flere menn som får prostatakreft enn kvinner som får brystkreft. Men mens det skrives mye om brystkreft, virker det som om det er liten interesse og kunnskap om prostatakreft. Mange er derfor uvitende om at prostatakreft er den vanligste kreftformen blant norske menn.

Alder og arv er faktorer vi ikke kan gjøre noe med.

BIRKELAND INNOVASJON

Summary – How to succeed?

- Top international science
- Committed University at all levels
- IPR policy – Conflict of interest policy
- Competent tech transfer organization
- Networks – TTO & industrial
- TTO pre-seed fund
- Access to entrepreneurs
- Seed funding & venture capital

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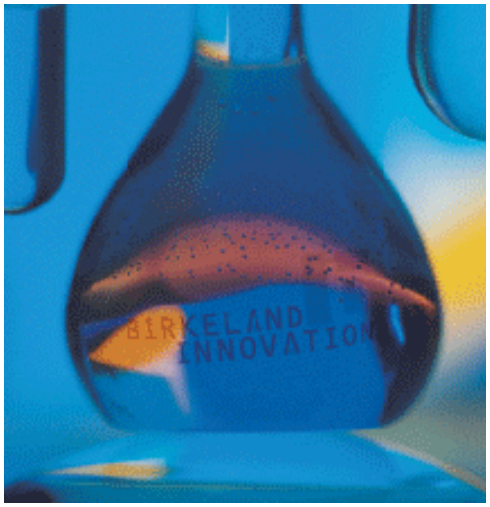


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