IDBM
DEVELOPMENT

The Changing Role of Design -workshop

"Design for Business Challenges"

Helsinki, September 7th 2009

Dr. Markku Salimäki

Program Director,

International Design Business Management IDBM Program

Helsinki School of Economics &

Aalto University

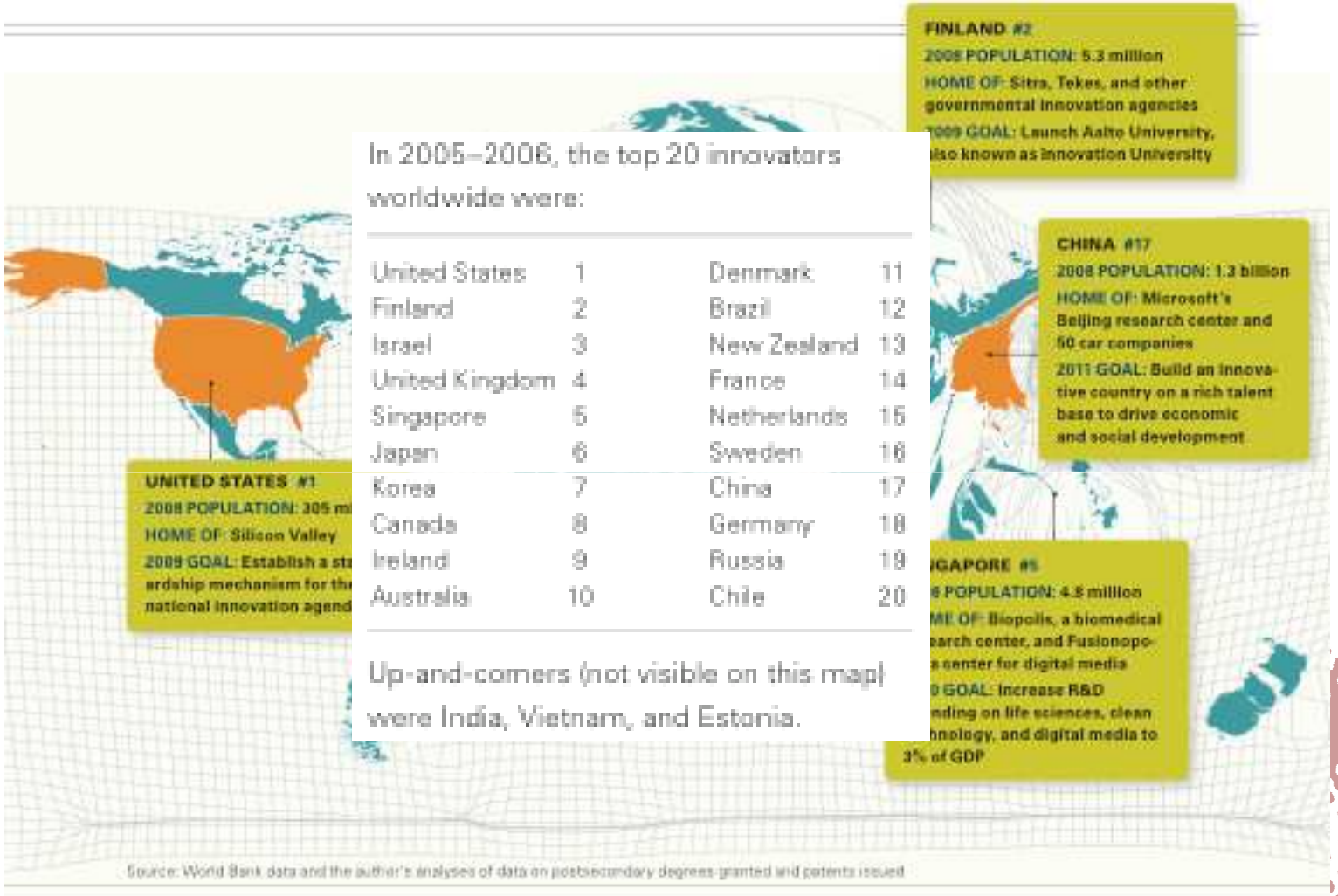
IDBM
DEVELOPMENT

Finland: a large-scale innovation ecosystem

Source: John Kao Harvard Business Review March 2009

IDBM

DEVELOPMENT



Source: John Kao Harvard Business Review March 2009

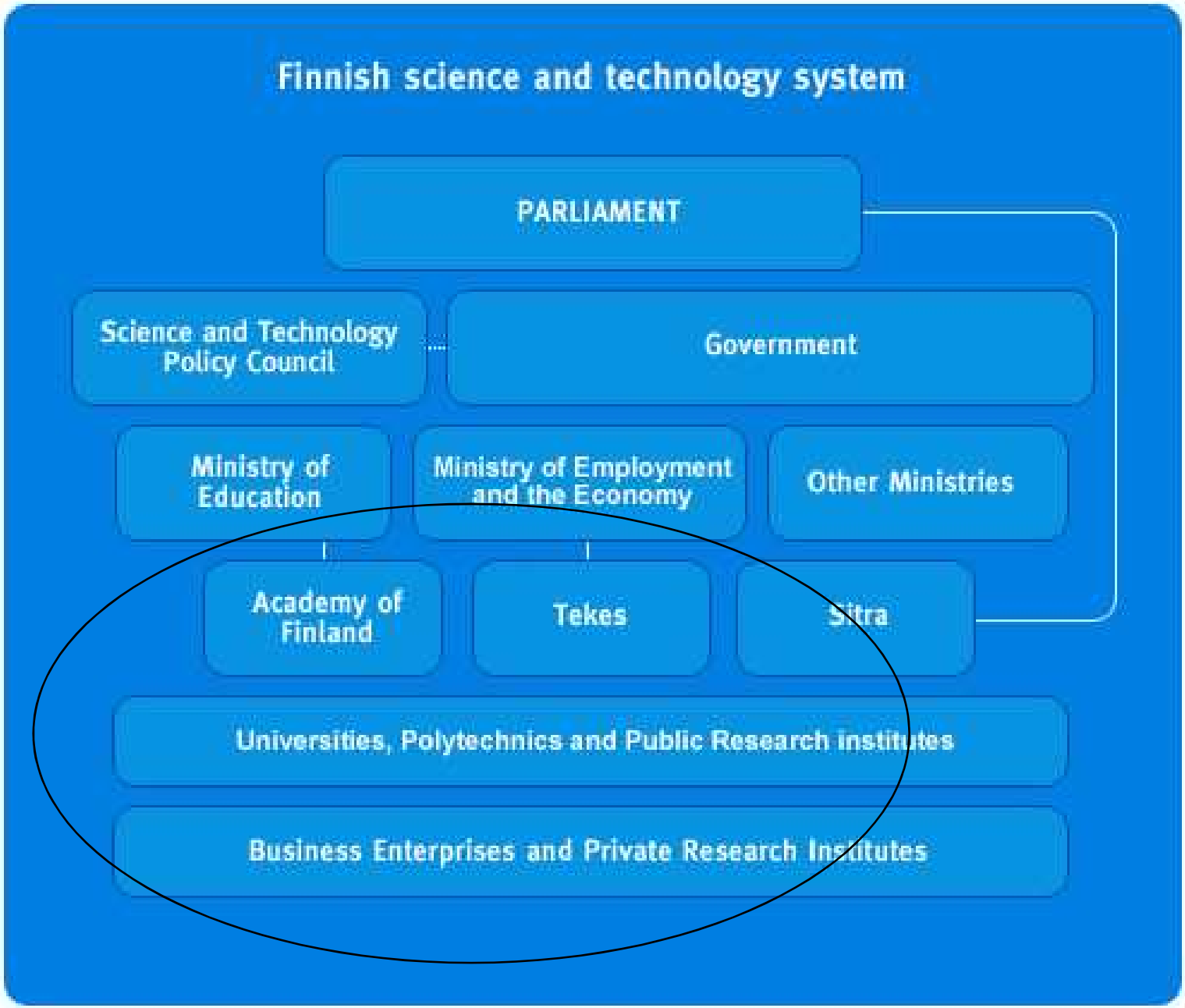
IDBM
DEVELOPMENT

Innovation World

- **Focused factories**: Singapore, Denmark
  - Focused innovation investment
- **Brute Force**: China, Brazil
  - Volume of talent driving innovation
- **Hollyworld**: Silicon valley, India
  - Clusters of creative entrepreneurs
- **Large-scale ecosystem**: Finland
  - Designed systems & environments

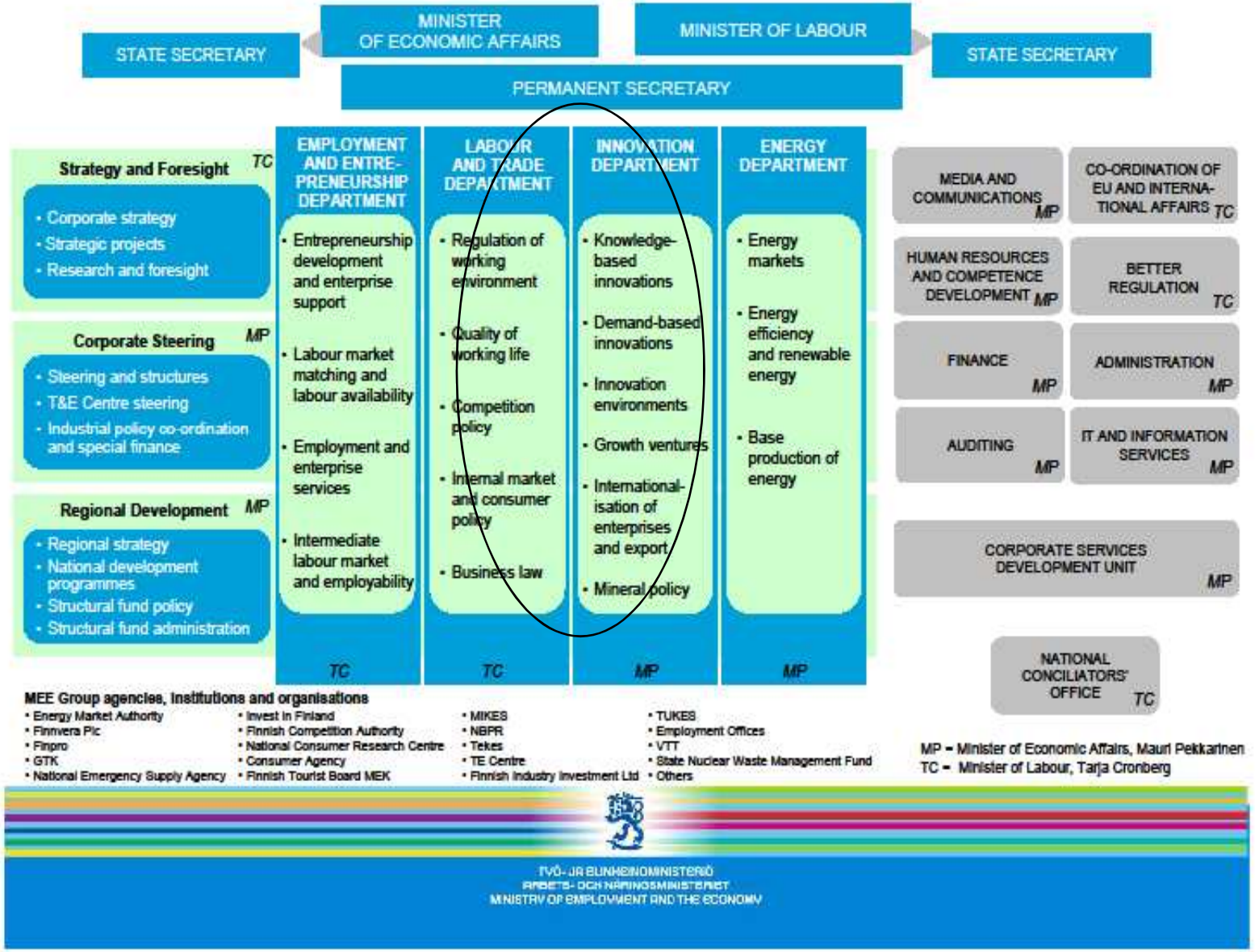
Source: John Kao Harvard Business Review March 2009

IDBI
DEVELOPMI



IDE
DEVELOI

The Ministry of Employment and the Economy – Organisation



IDBM
DEVELOPMENT

What is (Industrial) Design!

My definition (for purposes of multidisciplinary teaching and working):

Design is what trained designers do!

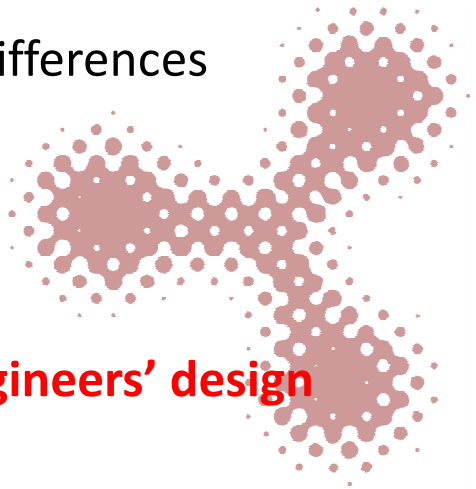
Designer's education: In many countries designers are educated with engineers

In Finland (and some other countries) designers are (have been) trained at separate universities/institutes

- Selection criteria and early training **art based** (not natural sciences) → different thinking frame from engineers

Multidisciplinarity: maintaining and benefiting professional differences

- Richer way of finding solutions – more innovative outcomes?
- More challenging teamworking ”effectiveness versus efficiency”



→ **My view: Difference between ”designers' design” and engineers' design**

IDBM
DEVELOPMENT

Design Process

- **Creative artistic process**
  - **Free sketching**
  - **Form experiments**
- Data processing
  - Data gathering (user observations etc.)
  - Brand, market position etc.
  - Internal competences (technology, logistics etc)
- Communication and decision making
  - Cooperation with other functions (multidisciplinarity)
- Problem solving and producing result
  - Model of product/service

Process similar as engineering design process but way of doing different!

Source: Möten kring design, Johansson&Svengren Holm, 2008

IDBM
DEVELOPMENT

Unique competences of designers

Visualization
- •Free sketching (art), prototypes etc.
- •Making words visual – communication

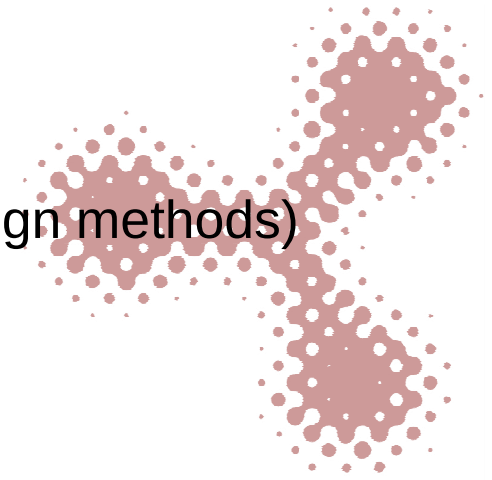
Ability to deal with the whole and the details
- •Ecology, economics/business
- •Technology, ergonomy, communication (art)
- •Communicate emotions through colours, form etc.

Ability to move between the whole and the details
- •Internal zooming to details → whole

Ability to structure and restructure
- •Aesthetics and functionalities

Representing the user
- •User observations
- •Connection with usability studies (basis for design methods)

Asking why?
- •Reference to academic critical tradition



Source: Möten kring design, Johansson&Svengren Holm, 2008

IDBM
DEVELOPMENT

Design Thinker's Personal Profile – Design Thinking to Business Management

Empathy

•imagine world from multiple perspectives
•People first

Integrative thinking

•Analythical + creation of novel alternatives

Optimism

•At least on epotential better solution exists

Experimentalism

•Exploring in entirely new directions

Collaboration

•Increasing complexity of products, services and experiences
•Lone creative genius -> enthusiastic interdisciplinary collaboration
•Engineers, designers, marketers, architects, anthropologists, psychologists

Tim Brown, CEO of IDEO
Harvard Business Review, June 2008

IDBM
DEVELOPMENT

Design as value-creating function

Value in Use

Design increases the functionality and usability of a product

Functionality: set of attributes characterizing what the product does to fulfil the user's functional needs
Usability: quality of the user interaction with a product.

IDBM
DEVELOPMENT

Possession Value

Products are bought for what they symbolize in terms of meaning and value. They are signifiers of our personal values, our lifestyle and our social status.

Design is a communicator of values and meaning

required by consumers than just a functional problem solving activity. This is especially true in mature product categories, where the use-value of a product is indistinguishable from that of its competitors.

(Cooper and Press, 1995)

IDBM
DEVELOPMENT

Value Over Time

Phase	Product Design Factors
Before purchase:	Manufacturer's specification, advertised performance and appearance, test results, image of company's products, list price. **"Brochure characteristics"**
Purchase:	Overall design and quality, special features, materials color, finish, first impressions of performance, purchase price. **"Showroom characteristics"**
Initial use:	Actual performance, ease of use, safety, etc. **"Performance characteristics"**
Long-term use:	Reliability, ease of maintenance, durability, running cost, etc. **"Value characteristics"**

The emphasis that consumers place on different product attributes changes in different phases of the purchasing process. Source: Roy, Walker, Cross, (1987), Design for the Market, Watford, EITB Publications

IDBM
DEVELOPMENT

”Good design is good business”

(Thomas Watson Jr, IBM 1974)

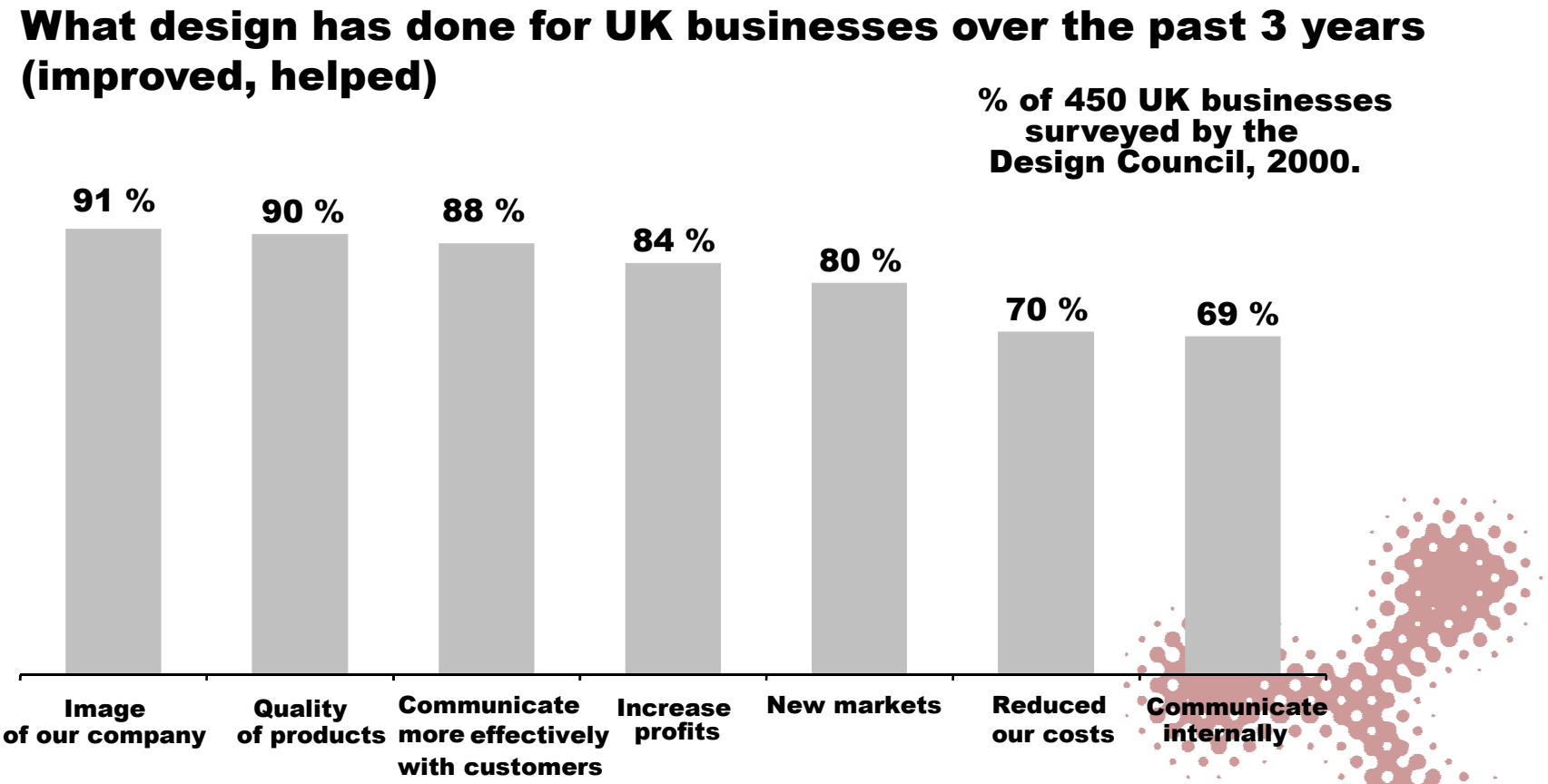
- Selfevident for designers, scientific evidence shallow
- First indications in designers’ descriptive cases (1960-)
- Systematic research in UK in the 1990s
  - Design Council, Open University, UMIST etc.
    - Both designers’ and engineers’ design
- DMI Boston, Harvard Business School
- Dansk Design Center, Svenska Industridesign
- D(esign) schools – B(usiness) schools

Positive impact on business functions widely recognized and accepted

Source: Möten kring design, Johansson&Svengren Holm, 2008

IDBM
DEVELOPMENT

The Benefits of Design



The results of a study of 450 British businesses by the Design Council on the benefits of design over the past 3 years. Source: Design in Britain, 2000

Thermotech, Sweden

underfloor heating systems

Redesign of the product line

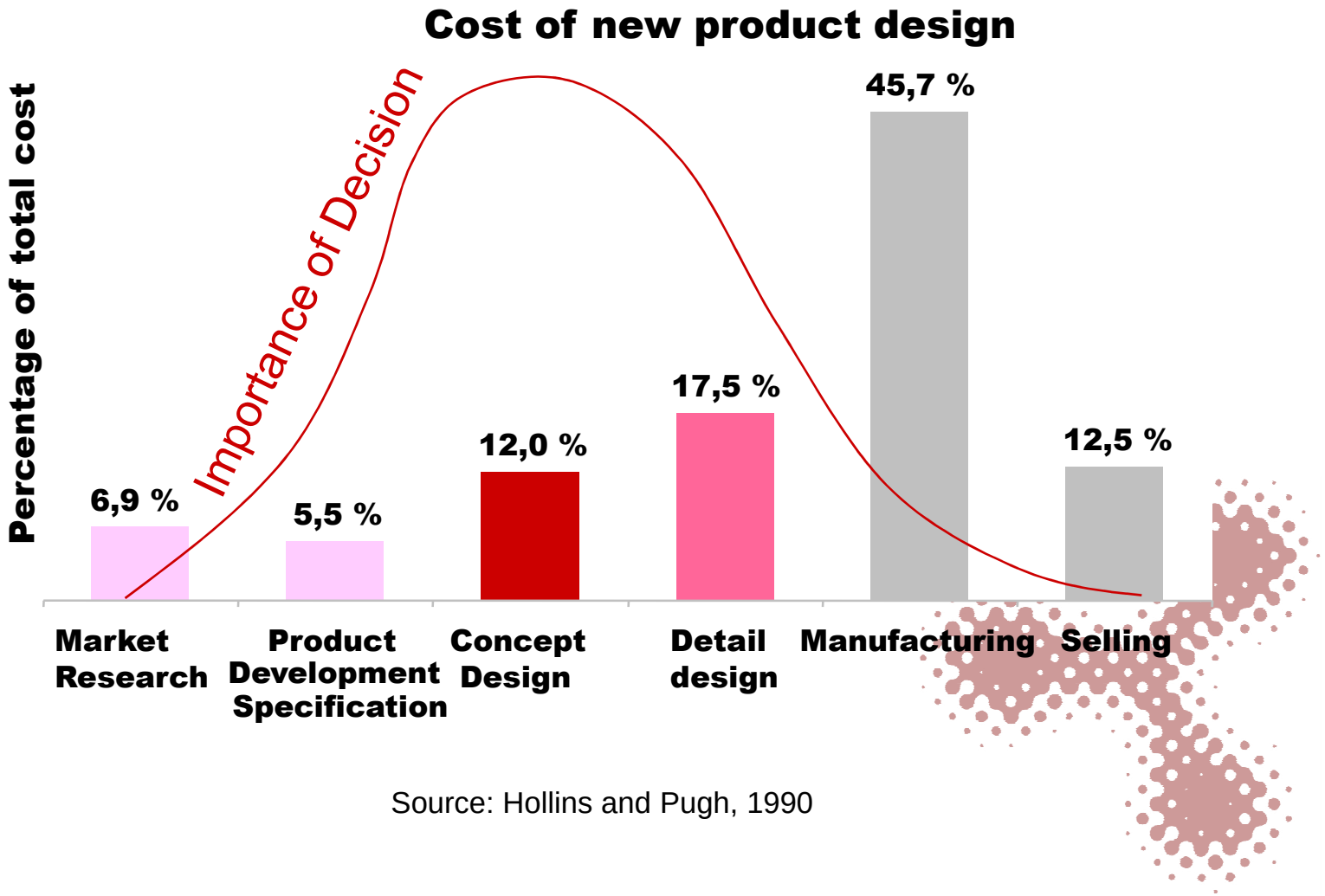
- **Team of designers**
- **Several key changes: copper and brass pipes → stainless steel**
- **2 year later: $965.000 savings in manufacturing costs, sales up 40% to $9,7 Million**
- **CEO: “Today, I think that if a company isn’t using design it isn’t working correctly”**

Source: www.businessweek.com (Jan 2006)

Full Period Performance
1994-2003

IDBM
DEVELOPMENT

The Cost of Design



Source: Hollins and Pugh, 1990

IDBM
DEVELOPMENT

Mission
Vision
Stategic goals

Business strategy

Resource Base View(internal)

Competitive Strategy (external)

Processes
Skills
Resources
Design Management

Product:
Manufacturability
Cost
Logistics
Storing etc.

Flexibility:
Platforms
Modules
components

Designer
as Strategist:
Analysing
business situation
Foresight/
trend analysis
Brand image
Sensitivity
Communication

Product:
Functionality
Usabilty
Look

Branding
Corporate Image

Sustainability

Strategy is understood differently by Designers and Business Executives!

IDBM
DEVELOPMENT

Mission
Vision
Stategic goals

Business strategy

Resource Base View (internal)

Processes
Skills
Resources
Design Management

Product:
Manufacturability
Cost
Logistics
Storing etc.

Flexibility:
Platforms
Modules
components

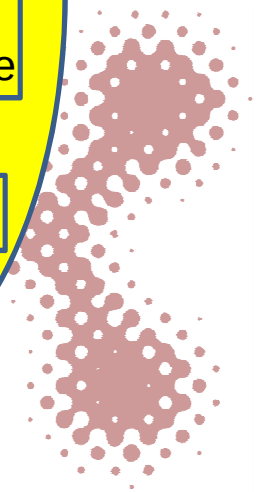
Designer as Professional

Competitive Strategy (external)

Product:
Functionality
Usabilty
Look

Branding
Corporate Image

Sustainability



IDBM
DEVELOPMENT

Mission
Vision
Stategic goals

Business strategy

Resource Base View (internal)

Processes
Skills
Resources
Design Management

Product:
Manufacturability
Cost
Logistics
Storing etc.

Flexibility:
Platforms
Modules
components

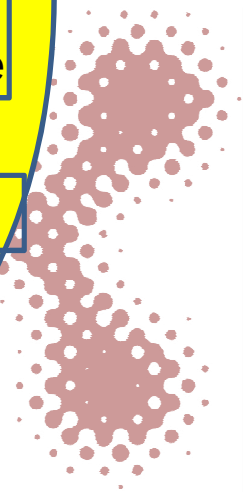
But:
By same designers/ design teams
or
we loose the internal communication effect

Competitive Strategy (external)

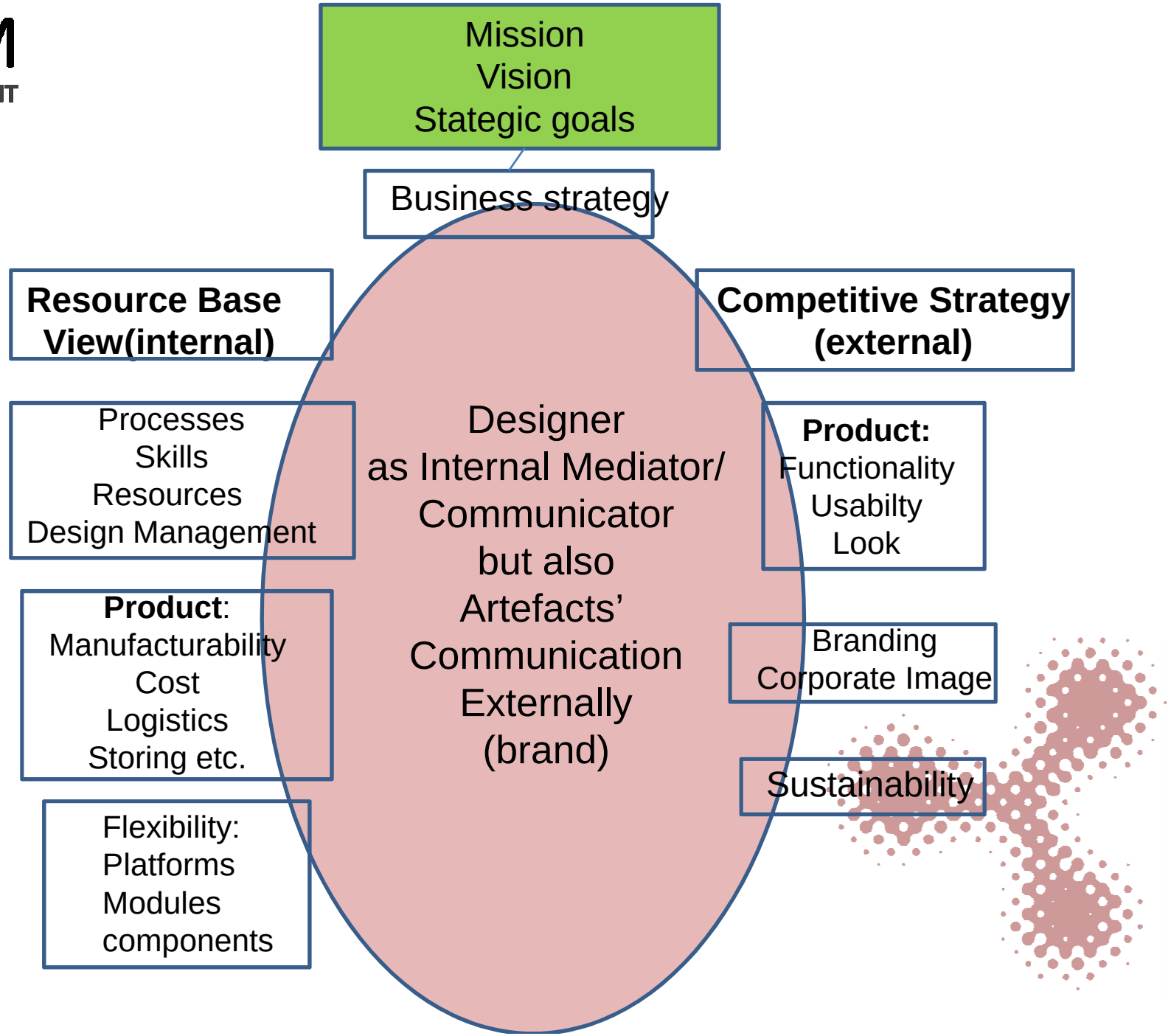
Product:
Functionality
Usabilty
Look

Branding
Corporate Image

Sustainability



IDBM
DEVELOPMENT



IDBM
DEVELOPMENT

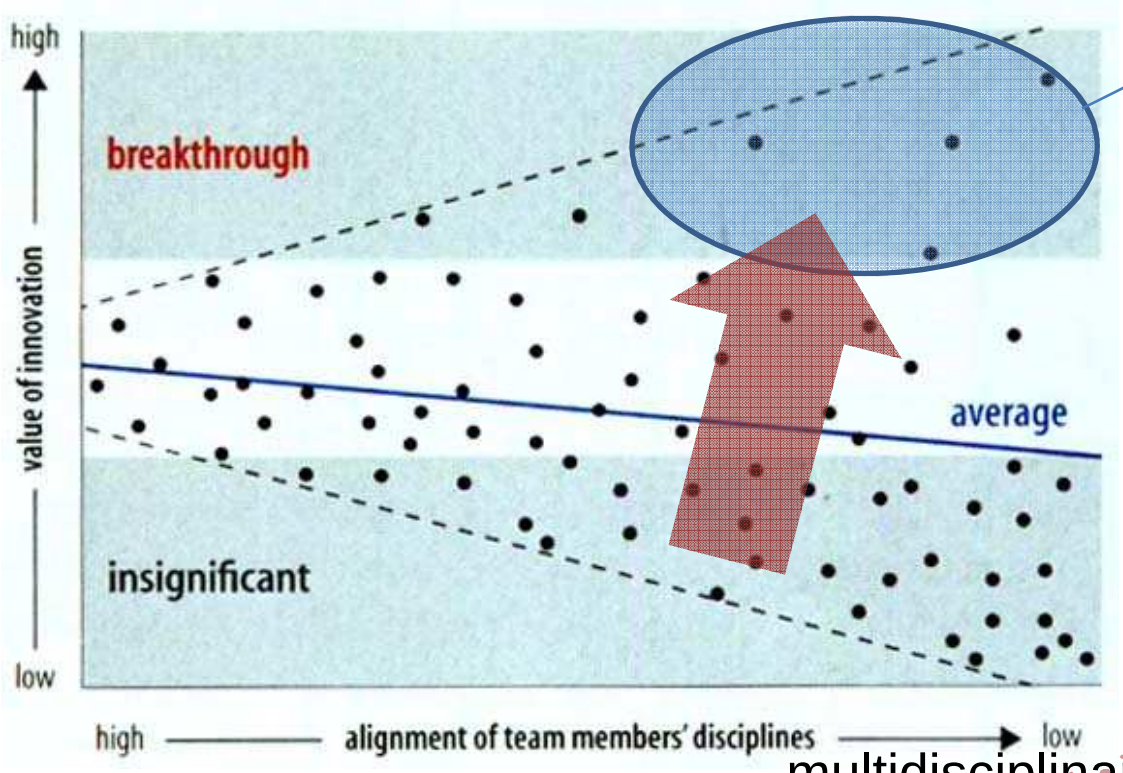
Developing systemic response: Merging three major players

- **Helsinki School of Economics**, founded1911
- **University of Art and Design Helsinki**, founded1871
- **Helsinki University of Technology**, founded1849

Aalto University starts on 1 January 2010.

IDBM
DEVELOPMENT

Perfecting Cross-Pollination



IDBM

high value innovation through multidisciplinary teams

multidisciplinary team

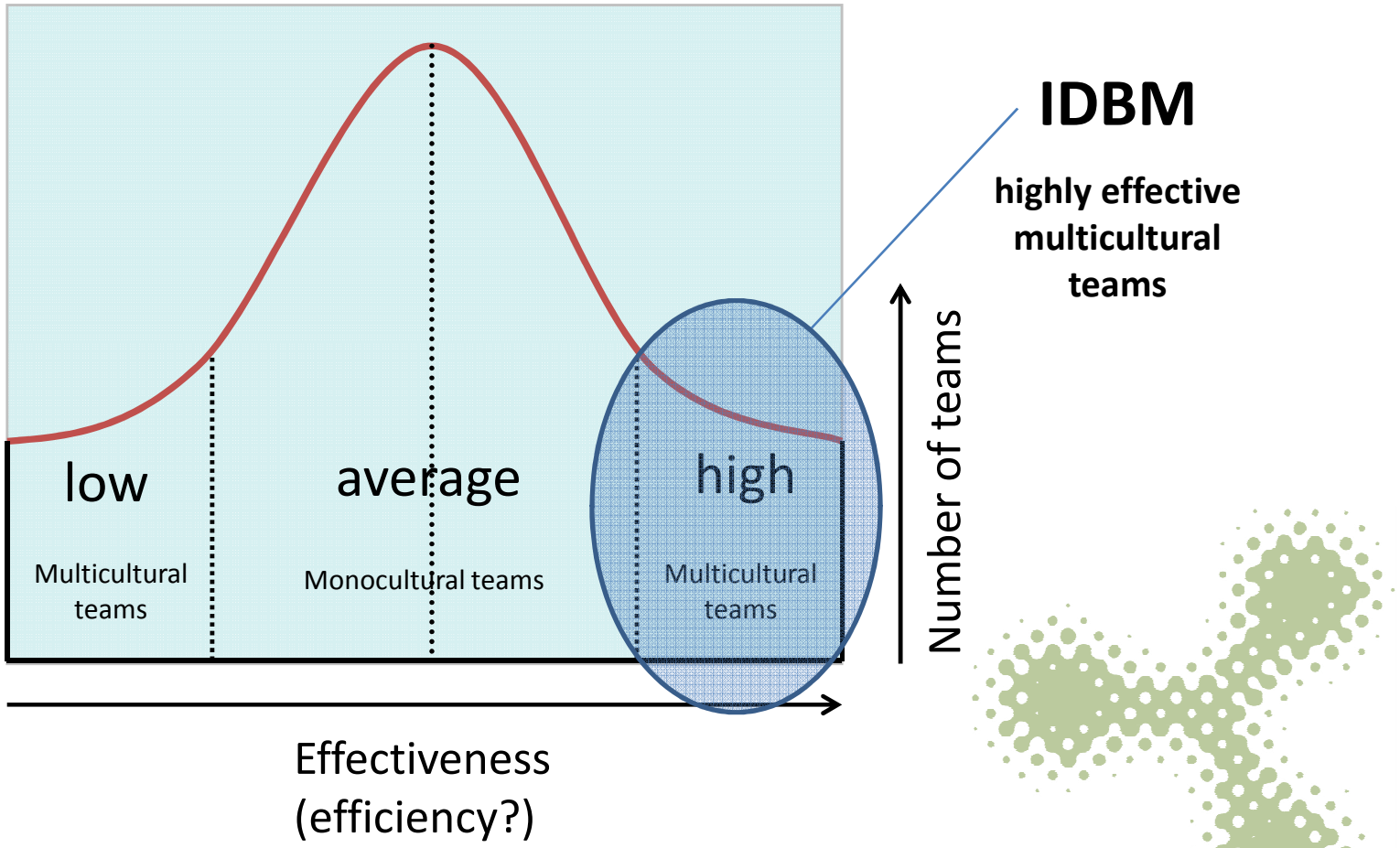
Maximize the change of breakthrough (research on more that 17.000 patents):

- Bring together well established and understood fields
- Low alignment of team members' disciplines
- Bring together people with deep expertice in their fields

Source: *Perfecting Cross-Pollination.* Fleming, Lee, Harvard Business Review, 00178012, Sep2004, Vol. 82, Issue 9

IDBM
DEVELOPMENT

Multicultural teams: effectiveness



Source: Carol Kovach, UCLA-Adler, Nancy; unidos course material 4/2009

IDBM
DEVELOPMENT

The Aalto Experiment

aa”lto
u!nive
rsit?y

HSE

TKK

TAIDETEOLLINEN
KORKEAKOULU
UNIVERSITY OF ART AND
DESIGN HELSINKI

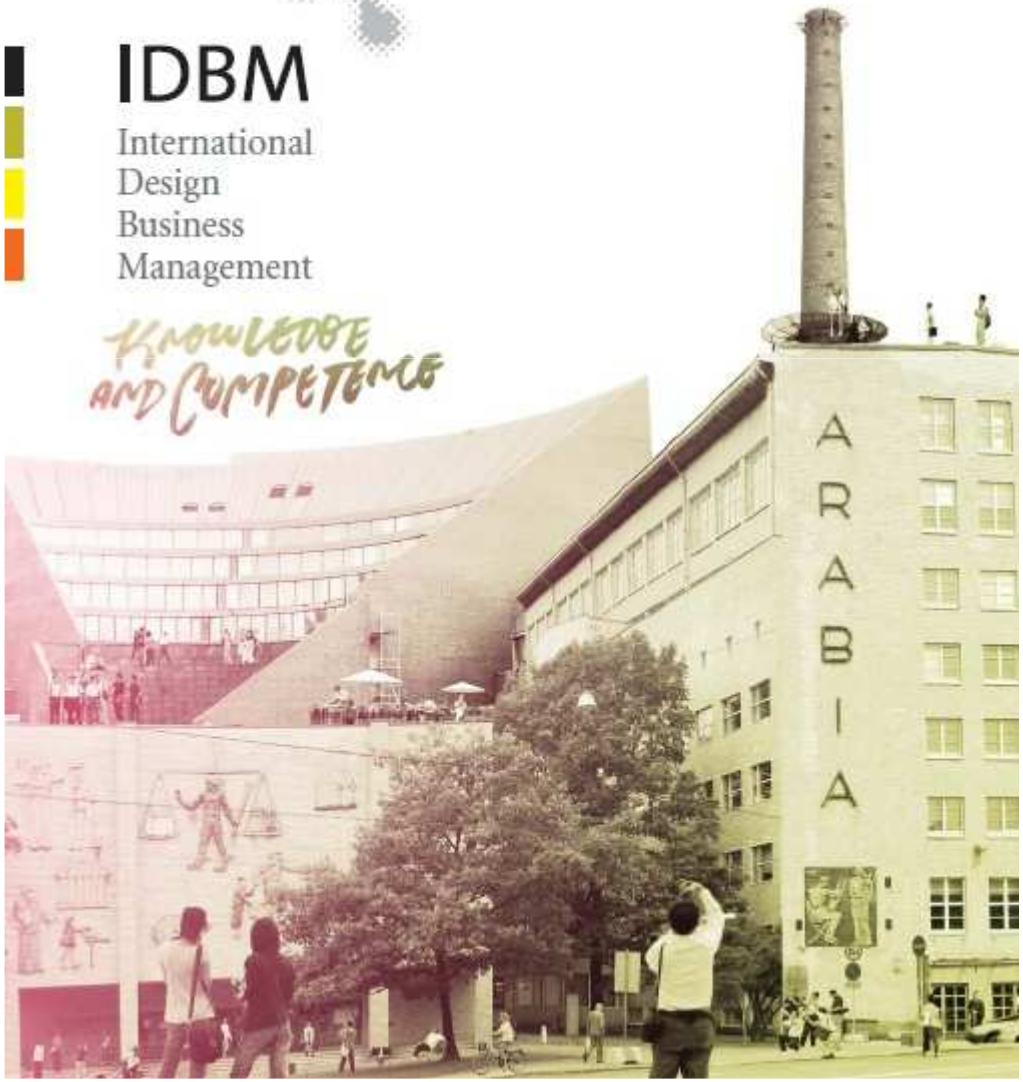
IDBM
DEVELOPMENT

The Aalto University

- The Aalto University mission is to **advance the success of Finland** through education and research;
- By joining **technology, business, art and design** and international appeal;
- To **support human welfare** and the environment.

IDBM
DEVELOPMENT

Case IDBM



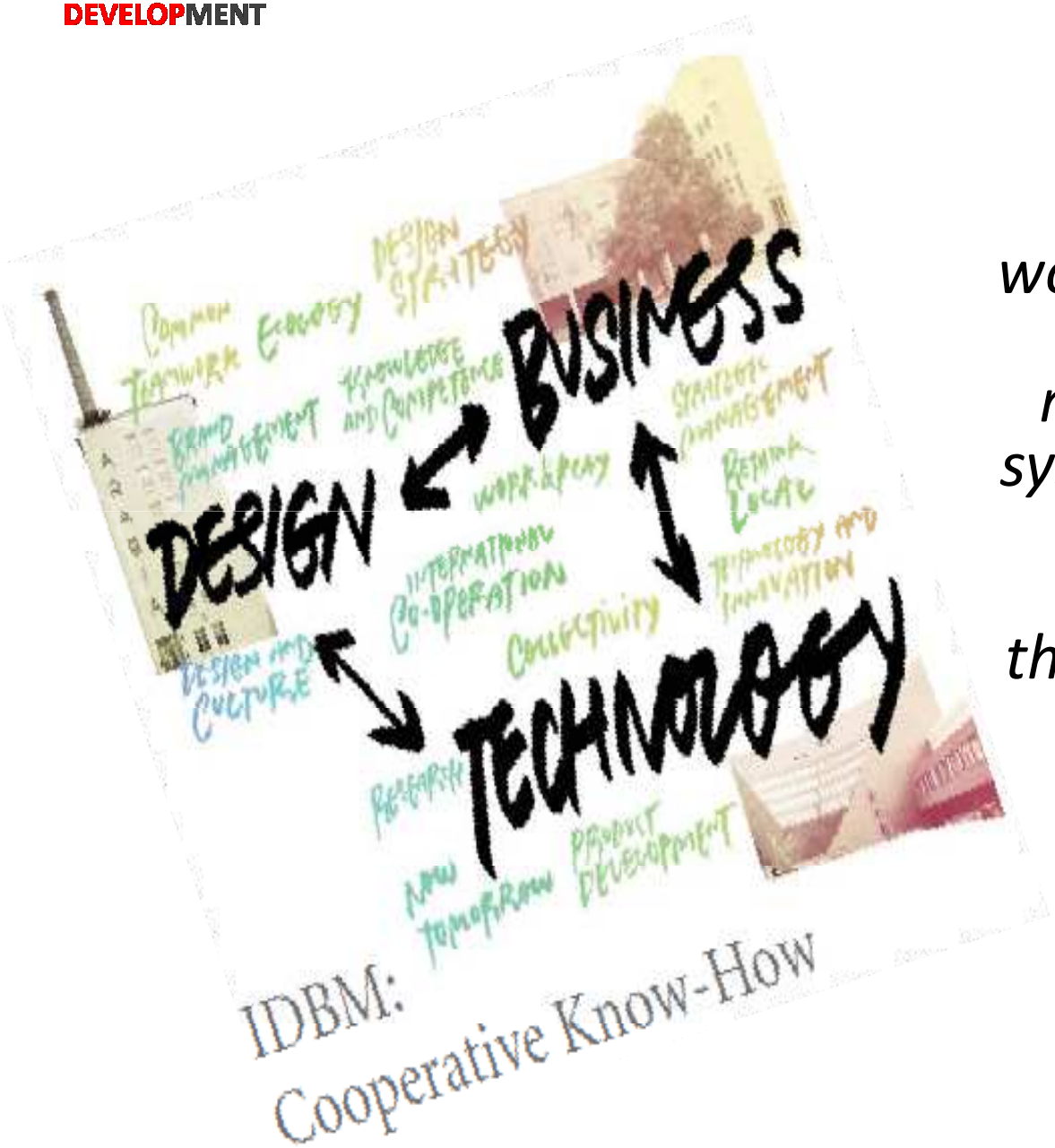
- A centre of excellence of Aalto University
- Integrating Business, Design and Technology
- **Since 1995** has transformed the Finnish design-intensive business field
- c. 600 masters level alumni, 130+ industry projects, all major Finnish firms involved

IDBM

DEVELOPMENT

Source: The Cox Review, 2004

IDBM
DEVELOPMENT



A mission

"Continue and develop further world-class learning and research in multidisciplinary, systemic and ***global business development*** *through design and technology."*

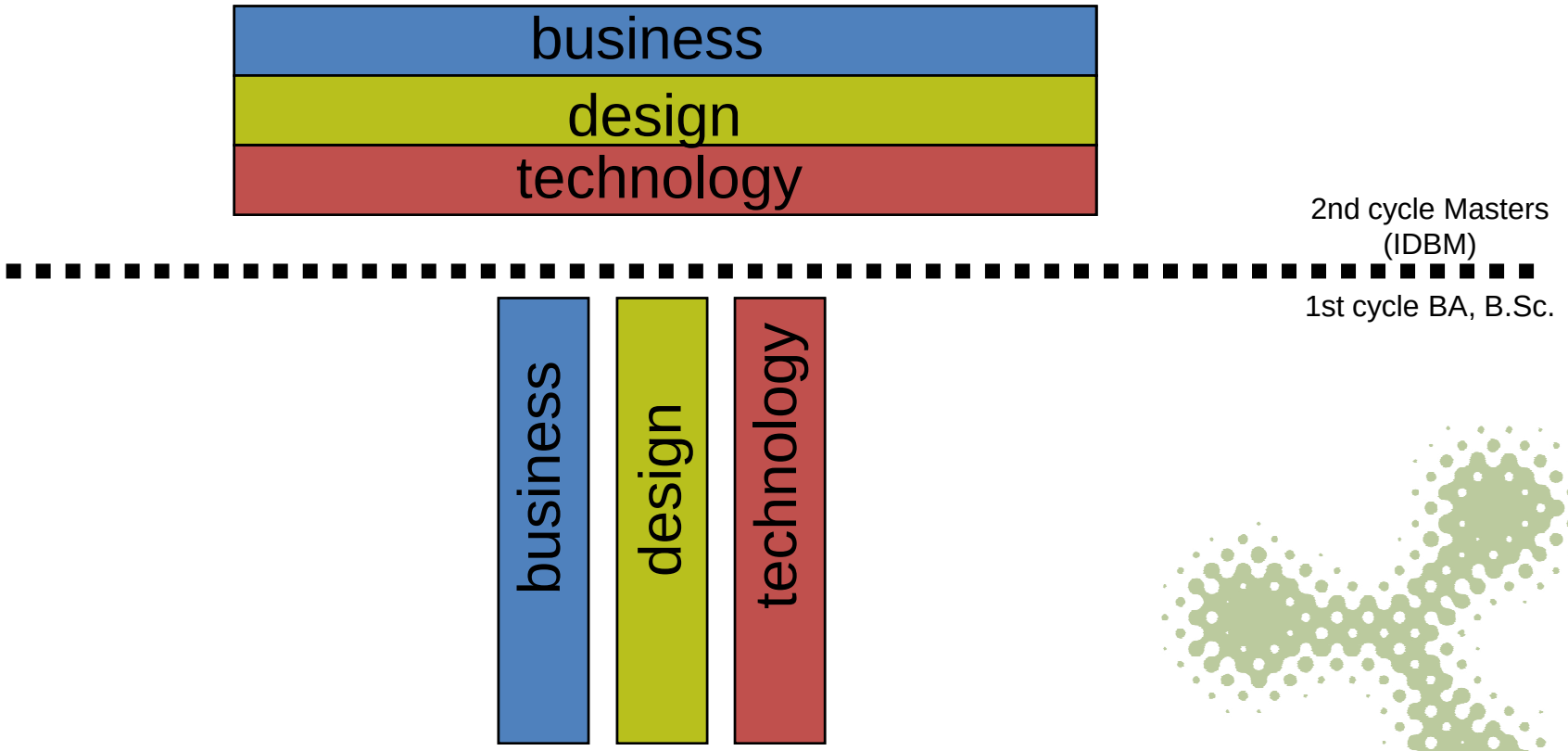
IDBM
DEVELOPMENT

Innovating with people?

- **Creative abrasion** between disciplines and individuals creates novelty;
- But people need to be taught to act in **systemic multidisciplinarity** to develop novelty into innovation.
- Diffusion in the global economy demands **multicultural approaches**

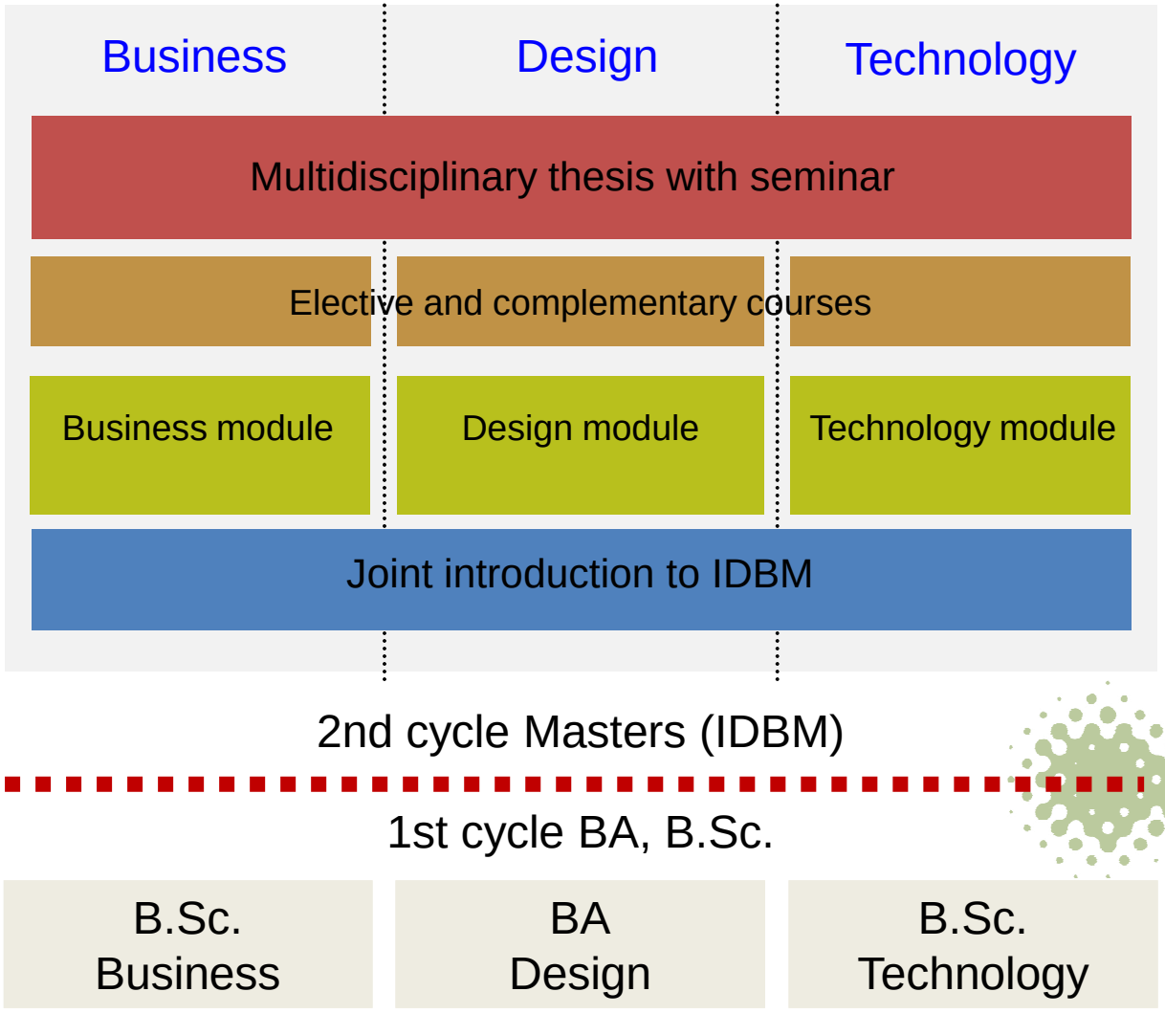
IDBM
DEVELOPMENT

Building T-shape professionals



IDBM
DEVELOPMENT

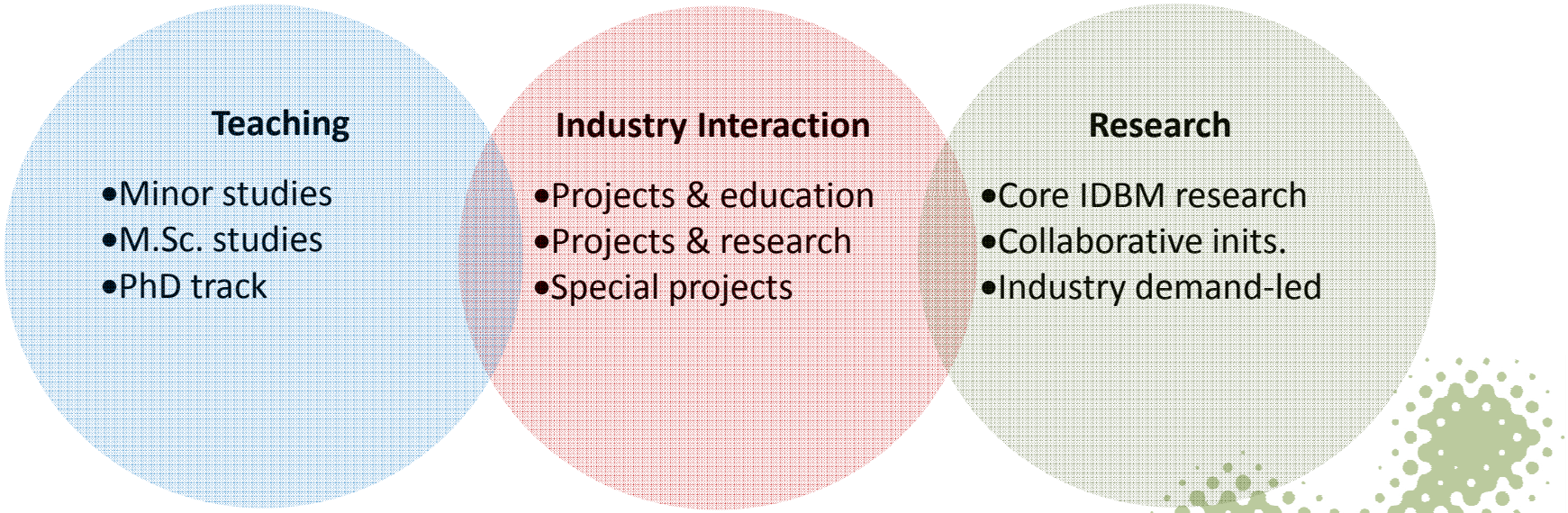
Aalto-wide masters structure



IDBM
DEVELOPMENT

IDBM Platform

The IDBM 2.0 Platform



IDBM
DEVELOPMENT

IDBM Partners (87 by 2008)

Industry collaboration 1

Goals of the research: The goal of the project was to provide Nokia's designers, marketers and other stakeholders with a collection of new and fresh ideas to improve the Nokia brand experience at different consumer touchpoints.

Research method: The team met with different professionals and researchers at Nokia and elsewhere throughout the year. Many [illegible] the team [illegible] on myths and storytelling to various [illegible] newsfeeds and blogs.

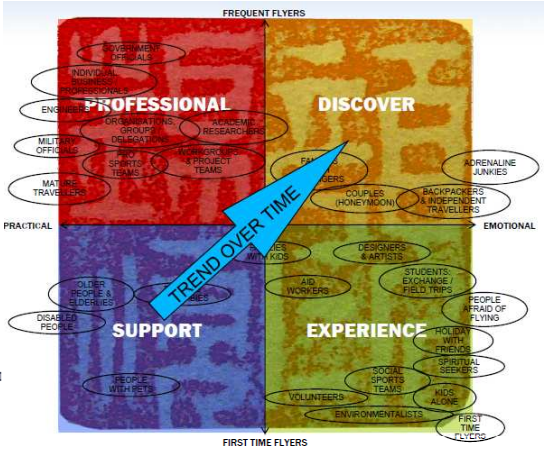
Nokia's role: Nokia helped the team to connect with different professionals that otherwise would have been difficult to reach. The contact persons also gave supervision and guidance for the team throughout the project. In addition, Nokia provided the team with internal and external research on the topic.

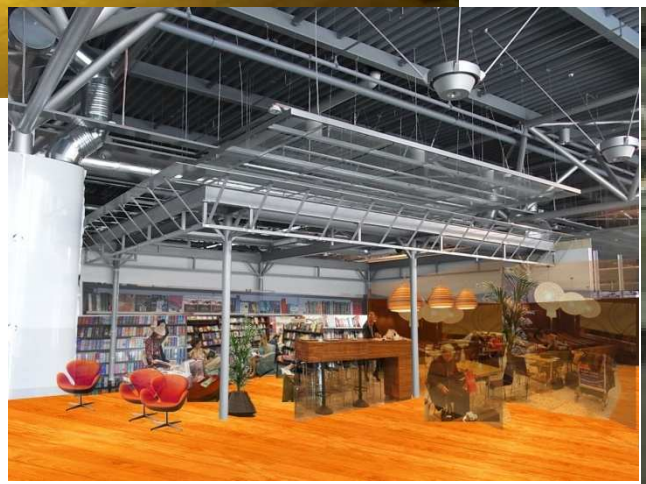
The outcome of the project: The preferred outcome of the project was not defined for at the start of the project. Eventually, the team created a "scrapbook" that included long essays, pictures, graphics and small pieces of new ideas. The book was organized into six different themes which the team had conceptualized. The final result was meant to be visually engaging and fun to read compilation of 120 pages titled "Nokia Rebirth".

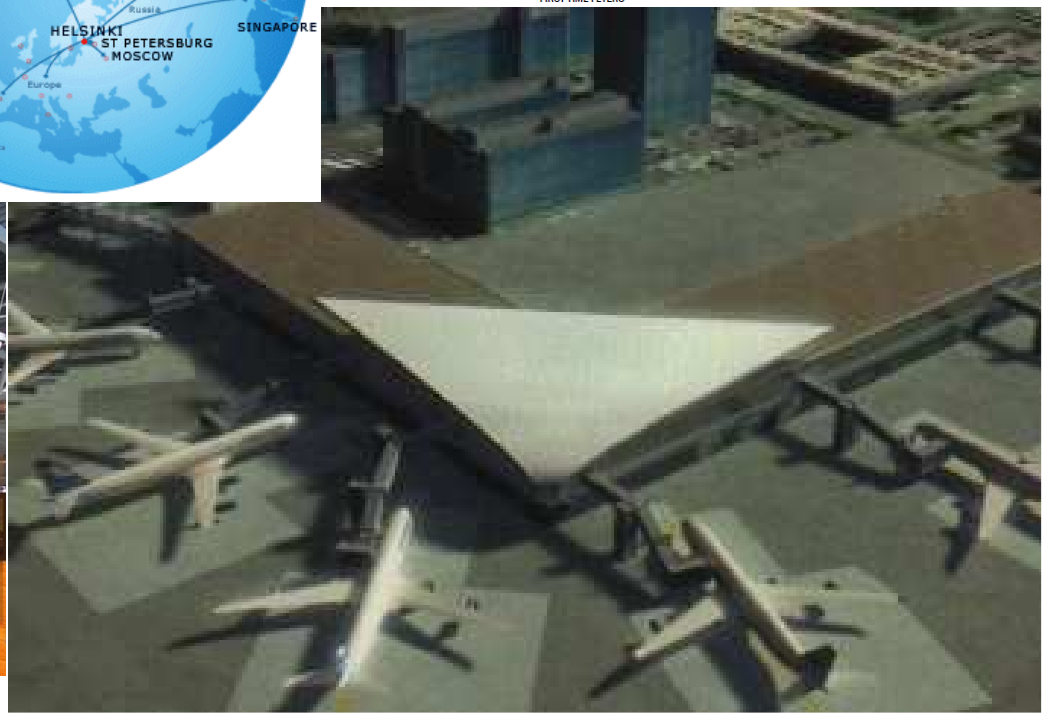
The research team: Janne Korhonen (TKK) Roberta Petrosillo (Bocconi, Italy) Salla Solokangas (UIAH) Petra Väänänen (Jyväskylä University) Henri Weijo (HSE)

IDBM
DEVELOPMENT

Industry collaboration 2

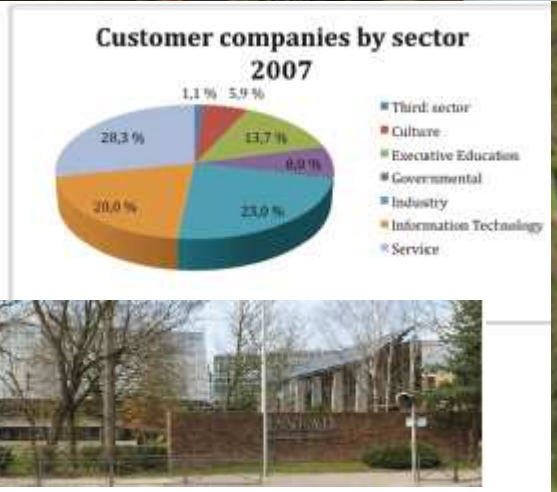






IDBM
DEVELOPMENT

Industry collaboration 3



IDBM

DEVELOPMENT

Thank you!