



Health Innovation Ecosystem

A „Health Economy“ perspective

Workshop “Active and Healthy ageing in Germany and Korea”

Thomas Karopka, BioCon Valley GmbH
Seoul, 8th October 2013





Part-financed by
the European Union
(European Regional
Development Fund)



ScanBalt organisation

ScanBalt fmba,
founded in august 2004

Non profit member
based association

Triple helix
(academia – industry – authorities)

Goals:

Knowledge formation & education

Commercialisation

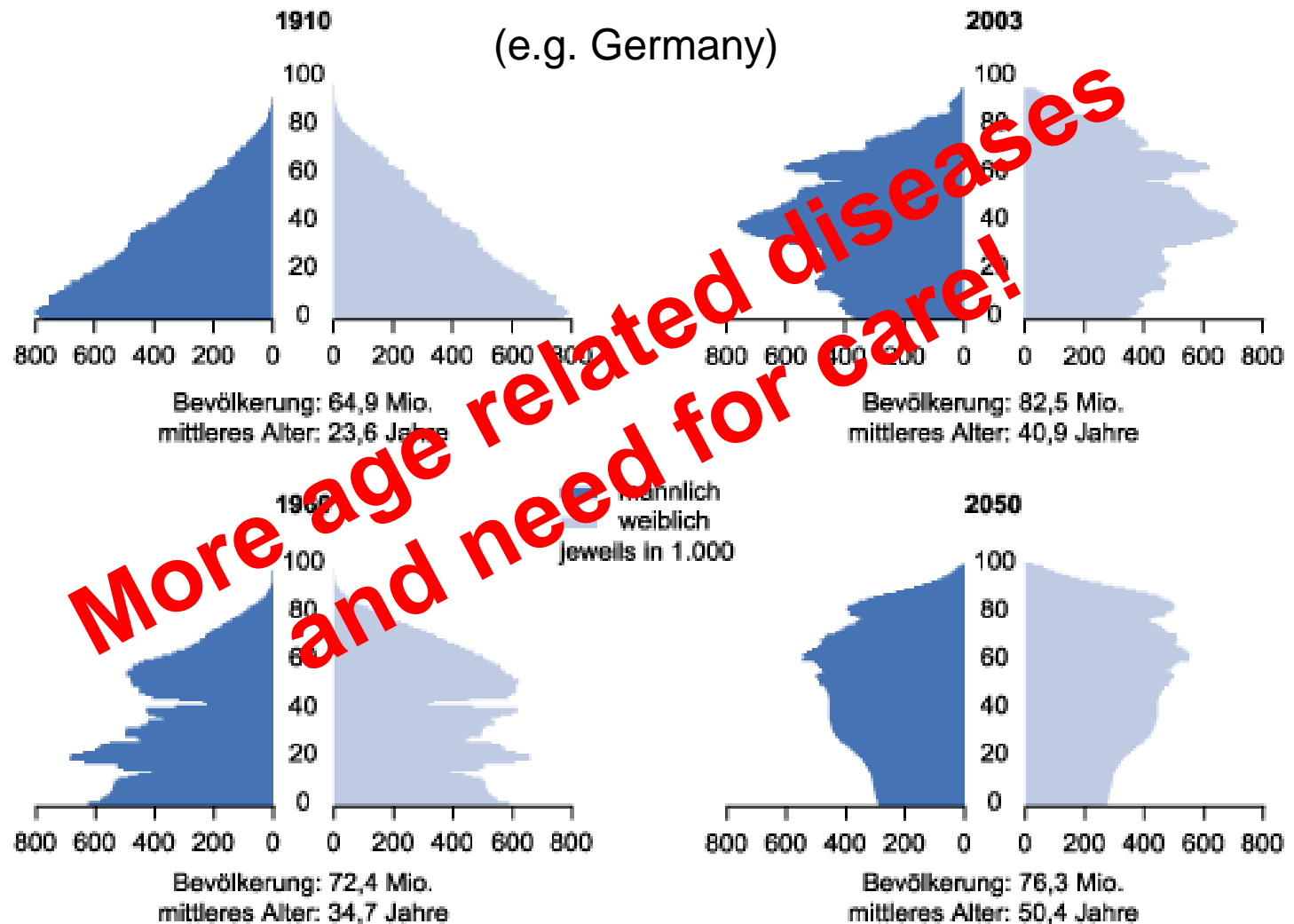
Forum for discussion on
life science – health – society impact

- ☐ ~70 members
- ☐ Bottom up organisation with lean central secretariat in Copenhagen
- ☐ Regional offices and contact points in all Baltic sea states
- ☐ Decentralized and project oriented mode of action
- ☐ Annual ScanBalt Fora





Demographic ageing





Regional challenges ...

Baltic Sea Region
Programme 2007-2013

Part-financed by
the European Union
(European Regional
Development Fund)

Demographic change

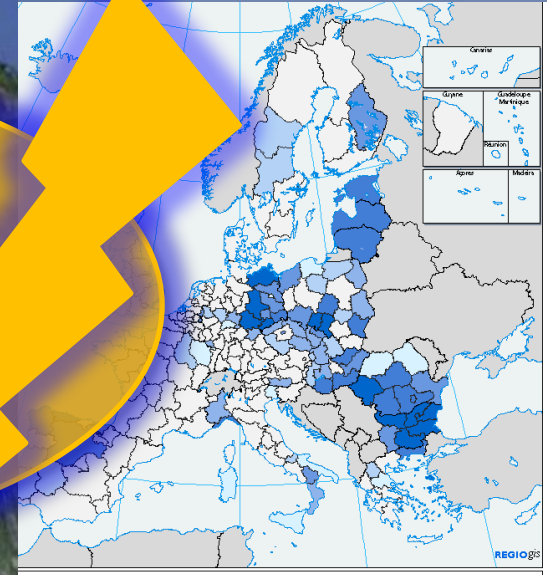
SCANBALT
HEALTHY REGION

Sca
HealthP



- ☐ Competitiveness
- ☐ Workforce
- ☐ Social Costs

Population Decline



Regional
Health Care

Labour
market

Regional
Development

Image © 2010 TerraMetrics
© 2010 Cnes/Spot Image



Baltic Sea Region
Programme 2007-2013

Part-financed by
the European Union
(European Regional
Development Fund)

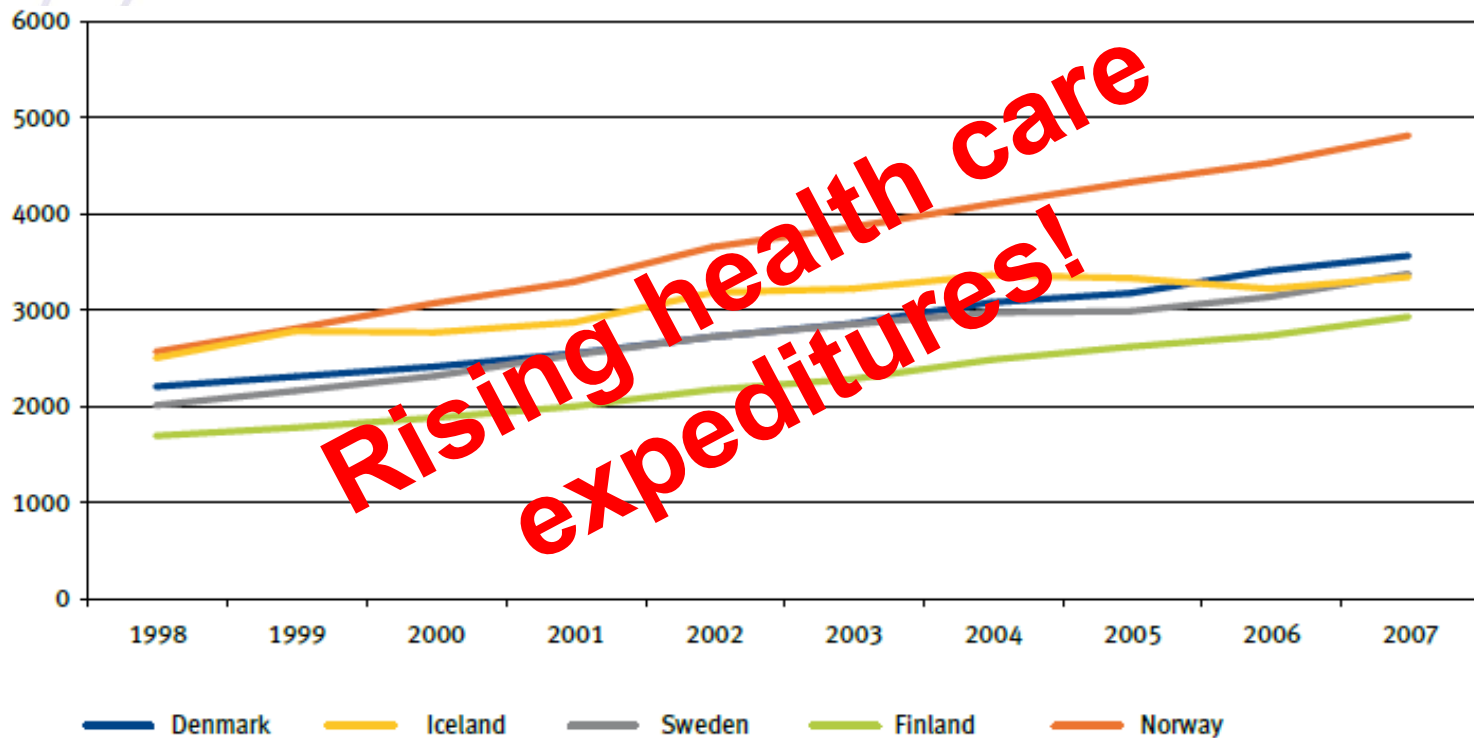
SCANBALT
HEALTH REGION

ScanBalt
HealthPort

BioCon Valley®

Why Innovation?

Total expenditure on health per capita in the Nordic countries, 1998-2007



Source: OECD Health Data

Note: Measured by the US\$ purchasing power parity exchange rate.



Part-financed by
the European Union
(European Regional
Development Fund)



Opportunities for the regions

Employment

More employees work in
health and health care related
sector than in traditional
industries

Value Generation

Investments in health foster
long-term growth and
sustainability of economies

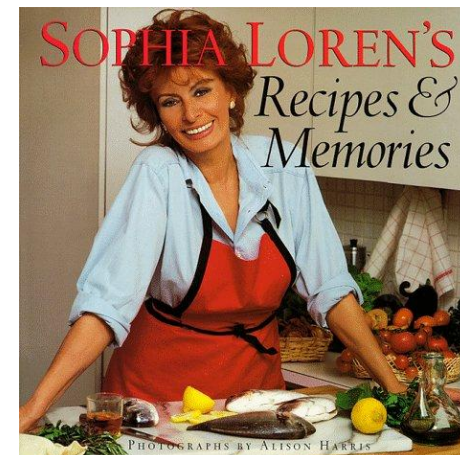
Relevance with respect
to exports and
internationalisation

Sustainability

Health sector has proven to be
resistant to financial and
economic crisis!

Advances in medicine and natural
sciences, e.g. life expectancy

- ☐ Roman Empire ~ 30 years
- ☐ 1900 ~ 46 years
- ☐ 2000 ~ 76 years
- ☐ 2010 ~ 81 years



Trends in Health Economy (Germany)

	2020	2030
<input type="checkbox"/> GVA	+2,1%	+1,9%
<input type="checkbox"/> Employment	+1,4%	+1,1%
<input type="checkbox"/> Employment in Export sector	5,1%	6,3%



Two questions..... Among many others



Part-financed by
the European Union
(European Regional
Development Fund)



1) How do we address the health related challenges of the demographic change?

2) Is our health economy capable of developing the right products and services for this new environment?



How about Innovation?

What is Innovation?

In a nutshell:
Innovation is ideas put
into practice which then
create value

(Cited from Ideas Clinic Aalborg)



Ideas can be completely new ones or existing ideas tuned or combined in new ways.

Value can be heightened quality, improved economy or increased safety



Creating Shared Value

Porter and Kramer 2011



Part-financed by
the European Union
(European Regional
Development Fund)



What is “Shared Value”?
Policies and operating
practices that enhance the
competitiveness of a
company while
simultaneously advancing
economic and **social**
conditions

Porter M.E. and Kramer M.R.: Creating Shared Value – How to reinvent capitalism – and unleash a wave of innovation and growth, Harvard Business Review 2011



Baltic Sea Region
Programme 2007-2013

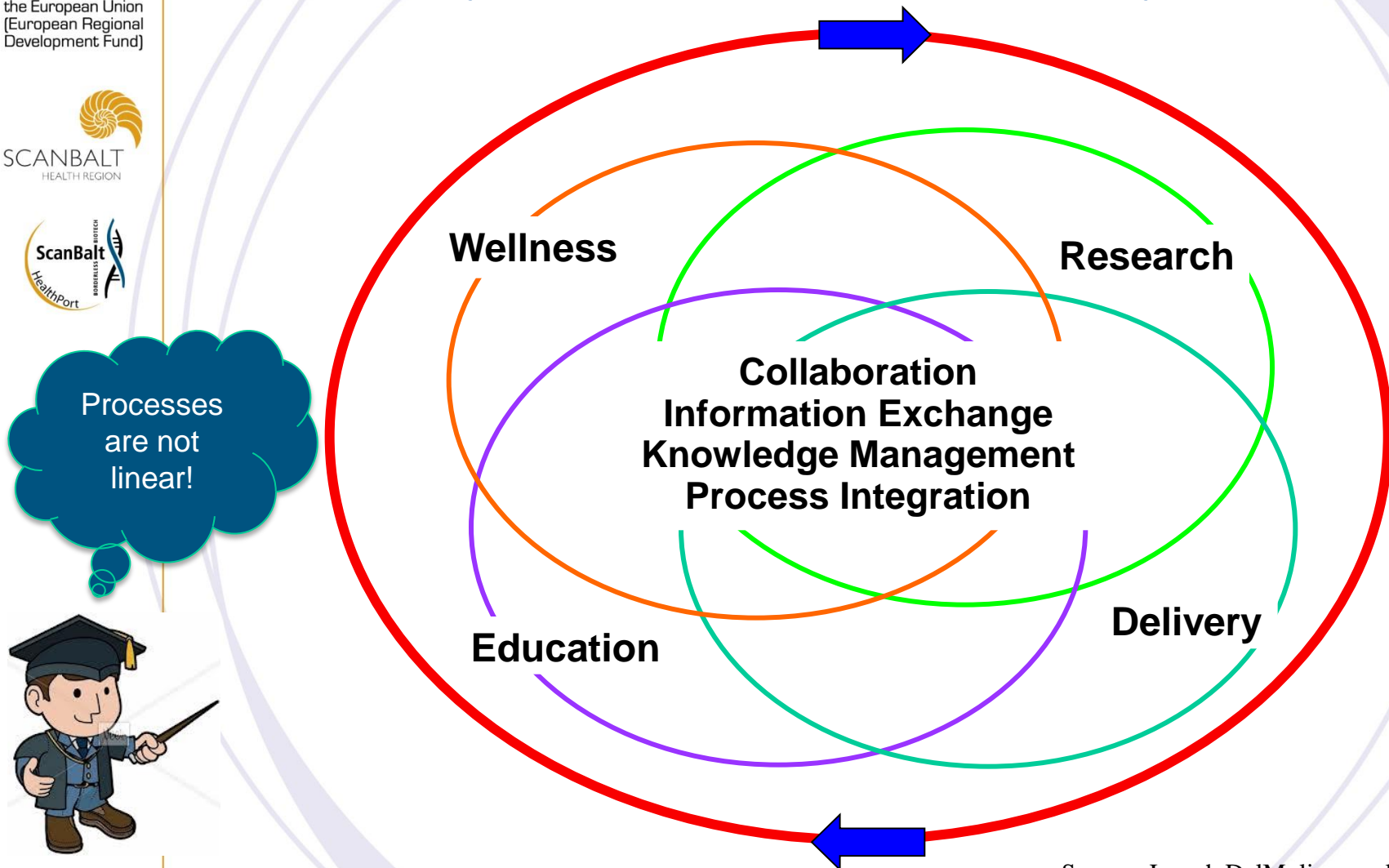
Part-financed by
the European Union
(European Regional
Development Fund)

SCANBALT
HEALTH REGION

ScanBalt
HealthPort

BioCon Valley®

Health systems are patient centred ecosystems They are complex adaptive systems



Source: Joseph DalMolin, e-cology corp.



Part-financed by
the European Union
(European Regional
Development Fund)



We are witnessing a paradigm change in health care!

Past

The individual
Acute diseases dominates
Episodic care
Cure of disease
Reactive
Physician provider
Paternalism
Provider centered
Parochial health threats

Present



Future

The community
More chronic illness/disability
Continuous care
Preservation of health
Prospective
Teams of providers
Partnership with patients
Patient/family centred
Global health threats

Cohen, 21st Century Challenges for Medical Education; 9th International Medical Workforce Conference; Melbourne, Australia; November 2005



Part-financed by
the European Union
(European Regional
Development Fund)



What is Health Economy?

Health Economy can be defined as:

„The **provision** and **commercialization** of **goods** and **services**, in order to support the maintenance and restoration of health“



Part-financed by
the European Union
(European Regional
Development Fund)



HealthPort vision

A „health economy“ perspective

*Strengthening
cross-sectoral, collaborative, open innovation
in health and life sciences
to promote
sustainable, cost-efficient, citizen-centric health
systems, strengthen regional economies and
thus improve the health, wellbeing and prosperity
in the Baltic Sea Region (BSR)*



Baltic Sea Region
Programme 2007-2013

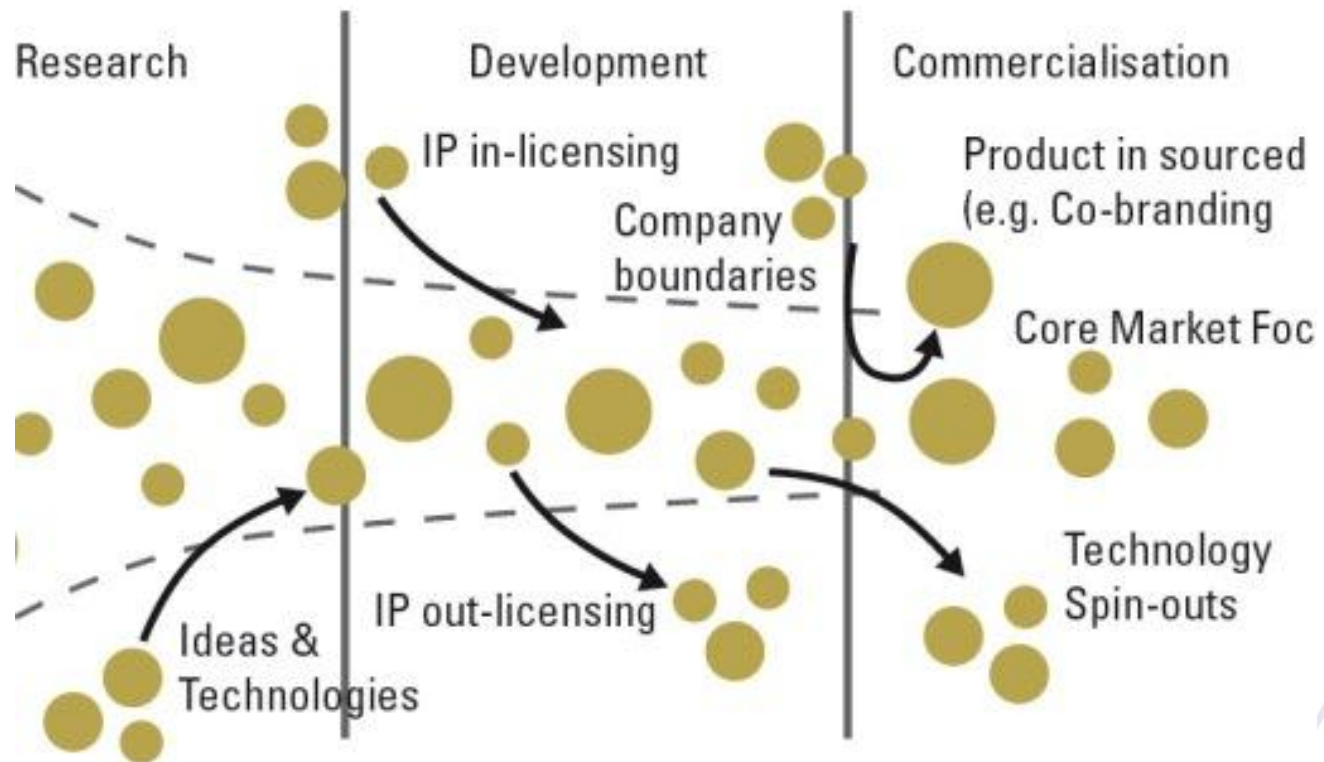
Part-financed by
the European Union
(European Regional
Development Fund)

SCANBALT
HEALTH REGION



BioCon Valley®

Open Innovation



Source: <http://www.openinnovation.eu>



Part-financed by
the European Union
(European Regional
Development Fund)



From „The lab is our world...





to „....the world is our lab!



Baltic Sea Region
Programme 2007-2013

Part-financed by
the European Union
(European Regional
Development Fund)



HealthPort Innovation Agenda to open the frameworks

Key targets:

Promote a Multidimensional
Innovation Ecosystem for health
economy

Promote self-sustainable business
innovation support services

Lead:

BioCon Valley®

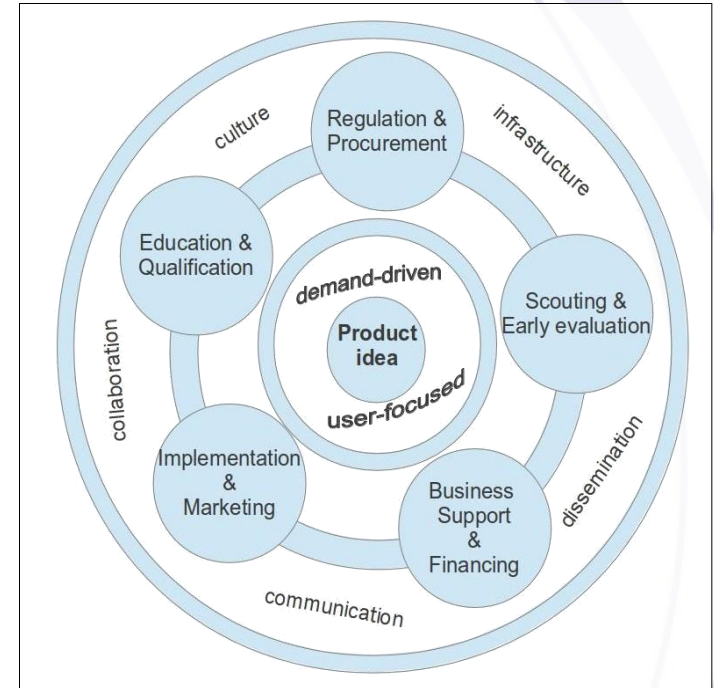


Figure by Thomas Karopka, BioCon Valley, in "Health and life sciences as drivers for regional development and prosperity in the Baltic Sea Region" Wolfgang Blank, Peter Frank, Thomas Karopka, East-West Business, in press

Part-financed by the European Union
(European Regional Development Fund)



EUSBSR
EU STRATEGY
FOR THE BALTIC
SEA REGION



Baltic Sea Region
Programme 2007-2013

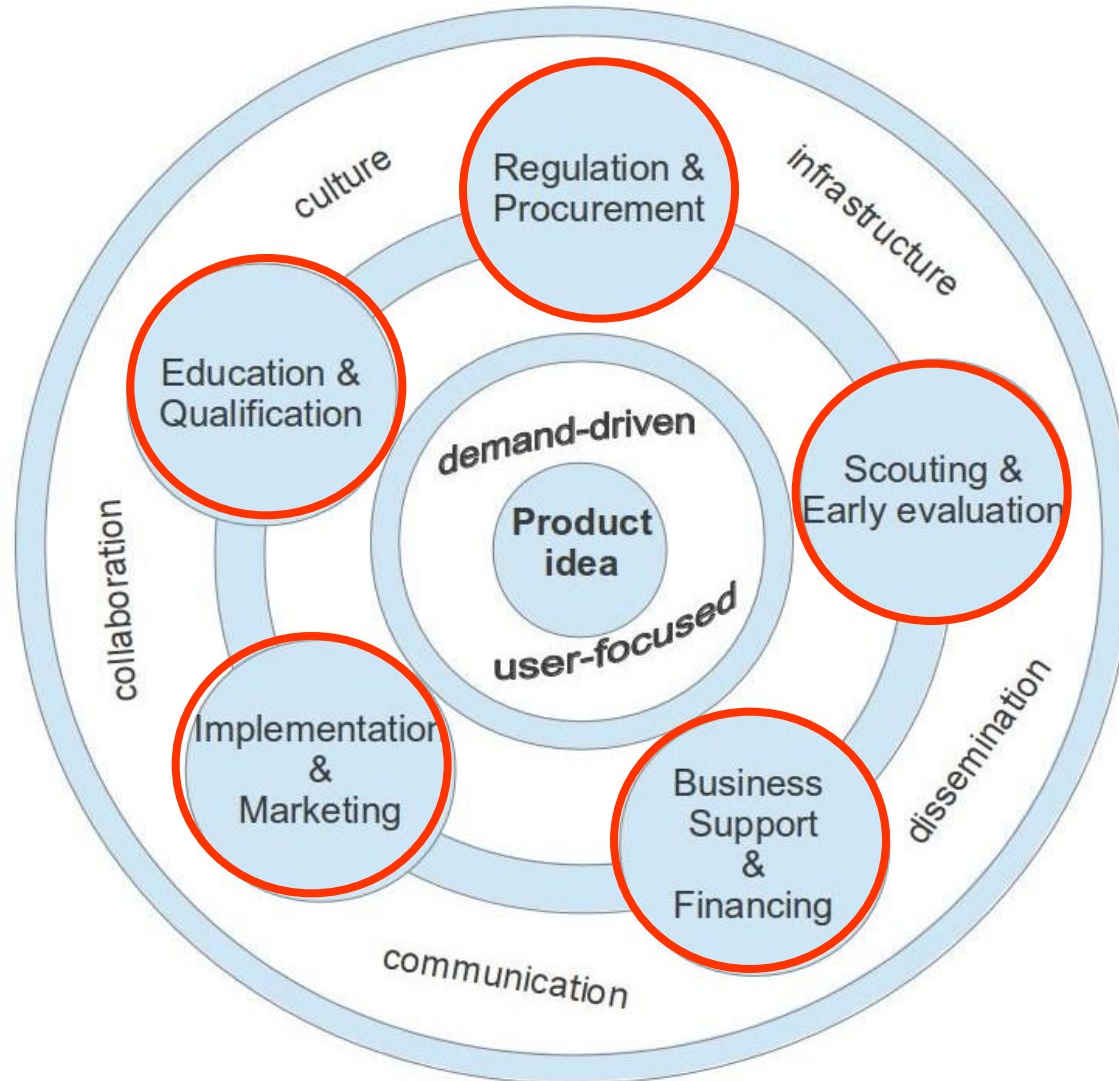
Part-financed by
the European Union
(European Regional
Development Fund)

SCANBALT
HEALTH REGION

ScanBalt
HealthPort

BioCon Valley®

Innovation Ecosystem for health economy





Part-financed by
the European Union
(European Regional
Development Fund)



Innovation Ecosystem for health economy

1. Scouting & Early Evaluation
2. Business Support & Financing
3. Implementation & Marketing
4. Education & Qualification
5. Regulation & Procurement





(1) Scouting & Early Evaluation

Challenges:
Assess the potential of an
idea to become an innovation

Recommendation:

Set up a platform / meeting point for young entrepreneurs and experts for **early evaluation** and **mentoring**.

Promote **Innovation competitions** to filter out innovative ideas

Set up **user driven idea management platforms** to generate early feedback from potential users

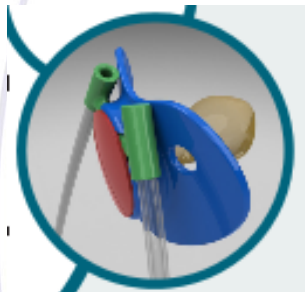




(1) Scouting & Early Evaluation

Ideas Competition: HealthPort Innovation Award

Oxygen Soother



ECHOCLIP

Two surgeons of the Department of Cardio Thoracic Surgery at Aalborg Hospital have invented an ultrasound transducer positioning device, which facilitates intraoperative, high-frequency ultrasound images of coronary bypass graft anastomoses. Ultrasound images are normally regarded very operator dependent, but with the EchoClip surgeons now have an easy-to-use device that allows for perfect results in coronary bypass surgery.

OXYGEN SOOTHER

A nurse from the Anesthesia department at Aalborg Hospital got the idea to use a soother to deliver oxygen to children - a challenge not solved effectively by available products. In collaboration with Ideas Clinic, a patent pending solution has been developed.

ATHLETE SCREENING

The project consists in screening athletes for preventing ACL injuries. Combining marker less motion analysis with a force platform and an analysis program, physiotherapists will be able to track movement and forces during landing. The movement and the forces applied to the knees will predict the risk of injury and a prevention program can be initiated.

Contact information

For further information please contact:



Valérie Daussin Laurent
Business Developer

Tel.: + 45 9932 6824
E-mail: vkd@rn.dk



Pernille Mejer Højholt
Project Manager

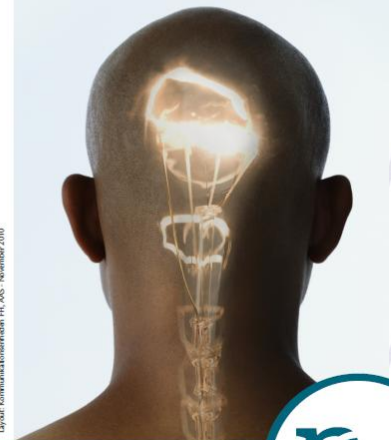
Tel.: +45 9932 6866
E-mail: pemeh@rn.dk

Aalborg Hospital Ideas Clinic
Aalborg Hospital Science & Innovation Center
Sdr. Skovvej 15
DK-9000 Aalborg
Tel.: +45 99 32 68 00
www.ideklinikken.dk

Aalborg Hospital Ideas Clinic

Bringing good ideas to life

Layzer Kommunikationsheden PH, AAS - November 2010





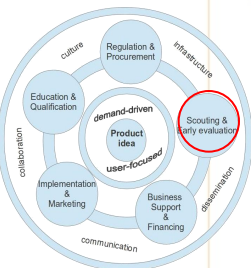
Part-financed by
the European Union
(European Regional
Development Fund)



(1) Scouting & Early Evaluation

Idea Management

The screenshot shows the Induct Innovation Community website. The header is purple with the 'Induct' logo and navigation links: Main Page, My Page, Idea Portfolio, Resources & Insight, Groups, and Admin. A search bar is on the right. The main content area is white and features a section titled 'Our Global Innovation Community' with a message about encouraging creativity and collaboration. Below this are two large buttons: 'Register your IDEA' with a green plant icon and 'Register your CHALLENGE' with a purple cube icon. A statistics bar shows: Active users (7 days) 9, # of ideas 94, Number of completed ideas 6, and # of challenges 14. The page is divided into two columns: 'Fantastic Ideas' and 'Challenges to be solved'. The 'Fantastic Ideas' column has tabs for 'Last updated', 'Most active', and 'Most voted for', and lists ideas like 'Skype on mobile phones', 'Buy baby-cot, place them near restaurant', 'Bongo EV', 'chinese super education portal', 'Vi vil gjerne få anskaffet ny vaske robot.', and 'new idea for healthcare innovation'. The 'Challenges to be solved' column lists challenges like 'Help us to reduce our communication costs', 'We need more service for families with babies.', and 'How do we best make use of innovation points?'. Each challenge includes a small profile picture and the publisher's name.





(2) Business Support & Financing

Recommendation:

Challenges:
Access to capital especially
for early idea evaluation

Develop new forms of transnational financing e.g. **crowdfunding** or special **transnationally available funds** for health and life sciences.

Promote successful models for **SME support** and development to cover the entire **BSR**

Develop a **transnational, cross-sectoral mentoring** system for SMEs in health and life sciences





(2) Business Support & Financing

BioCon Valley®


Crowdfunding for Health & Life Sciences



Part-financed by
the European Union
(European Regional
Development Fund)



SUCCESSFUL



PATIENT POWER TOOLS!

i.T.H.R.I.V.E.: a Breast Cancer Journey Partner
by Rhonda Smith

An Internet Tool for Health, Recovery, Information, Vitality, and Empowerment for Breast Cancer Patients & Survivors

105% REACHED **\$5,770 / \$5,500 BACKED** **0 SECONDS LEFT**



HEALTH

Help Fight Dengue Fever - Mosquito Control in the Maldives
by Sydney Miller

📍 Santa Cruz, California

Helping prevent mosquito-borne Dengue Fever by working with communities to implement...

\$1,878 USD **19%**

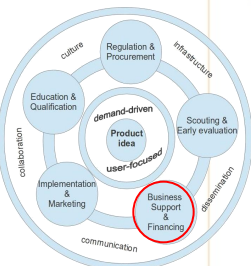
19 days left **16 funders**



Promote Healthy Living through Social Media
Hongping Liang

I hope to design a mobile app to promote healthy living through social media, to leverage the powerful relationship of social media and let the valuable health living information spread cross the friends, followers/following, connections...

0% FUNDED **\$0 RAISED** **100 DAYS AGO**





(2) Business Support & Financing

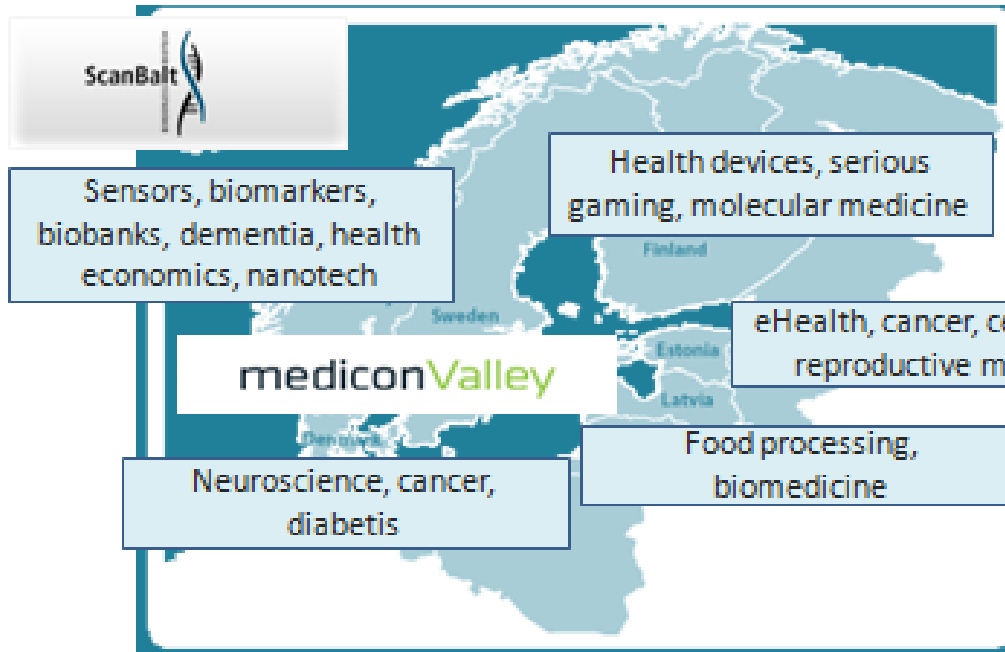


Part-financed by
the European Union
(European Regional
Development Fund)



ACCELERACE LIFE

A Baltic-
Scandinavian
elite accelerator
for health science
startups





(3) Implementation & Marketing

Recommendation:

- ☐ Provide a platform with **modular shared services** for SMEs that comprise **marketing** and **dissemination** of final products or services, Organise platforms for **cooperation** between SMEs offering **complementary services**
- ☐ Provide case specific support for **transnational market implementation** with a focus on BSR macro-region
- ☐ Support „**strategic communication**“ with all relevant actors for products and services from SME's

Challenges:

Dissemination of Innovative products and services in a transnational macro-regional context





(3) Implementation & Marketing

The screenshot displays the ScanBalt Business website. The top navigation bar includes links for Home, Advertise, Be a Sponsor, Services (highlighted), Cluster Access, About, and Contacts. The main header features the ScanBalt BioRegion logo and the text "Health and Life Science Businesses on Top of Europe" with the website URL scanbaltbusiness.com. A left sidebar lists navigation categories: Business Consultancy, CleanTech, Clinical Research Organisations, Clusters & Cluster Organisations, Diagnostics & Bioanalytics, Drug Development & Delivery, GMP Manufacturing, and Health IT. The main content area is titled "User services" and includes a list of six bullet points detailing the services offered.

Home Advertise Be a Sponsor **Services** Cluster Access About Contacts

BUSINESS 
ScanBalt BioRegion

Health and Life Science Businesses on Top of Europe

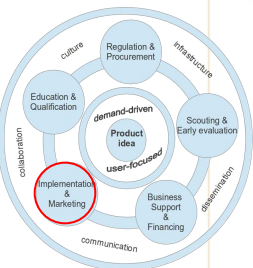
scanbaltbusiness.com

Navigation

- Business Consultancy
- CleanTech
- Clinical Research Organisations
- Clusters & Cluster Organisations
- Diagnostics & Bioanalytics
- Drug Development & Delivery
- GMP Manufacturing
- Health IT

User services

- Find suppliers and business partners in ScanBalt BioRegion
- Get information on regional clusters, networks and competencies
- Sign up and receive a quarterly issue of ScanBalt News (free of costs)
- Stay in touch – Sign in to the ScanBalt BioRegion Community on LinkedIn
- Follow news and events on www.scanbalt.org
- Become part of the ScanBalt BioRegion network by joining the non profit association ScanBalt@fmmba





Part-financed by
the European Union
(European Regional
Development Fund)



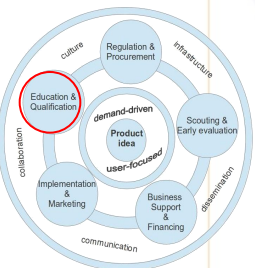
(4) Education & Qualification

Challenges:

- ☐ Lack of entrepreneurship skills in health and life sciences
- ☐ Lack of knowledge about regulation, certification and procurement

Recommendations:

- ☐ Develop a platform of practical **SME tailored courses** on specific topics for working individuals (post-education) up to hands on local **coaching for SME** consortia .
- ☐ Make **working conditions innovation friendly ...**
Value working conditions and creativity ...
Create room for innovation in the working environment
(Improve working conditions, other skill mix (up-/down-skilling) ... change the climate to allow creativeness)





ScanBalt Educational Platform Requirements

BioCon Valley®



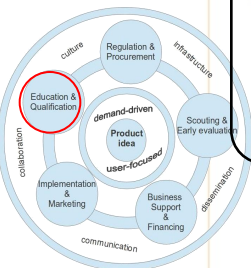
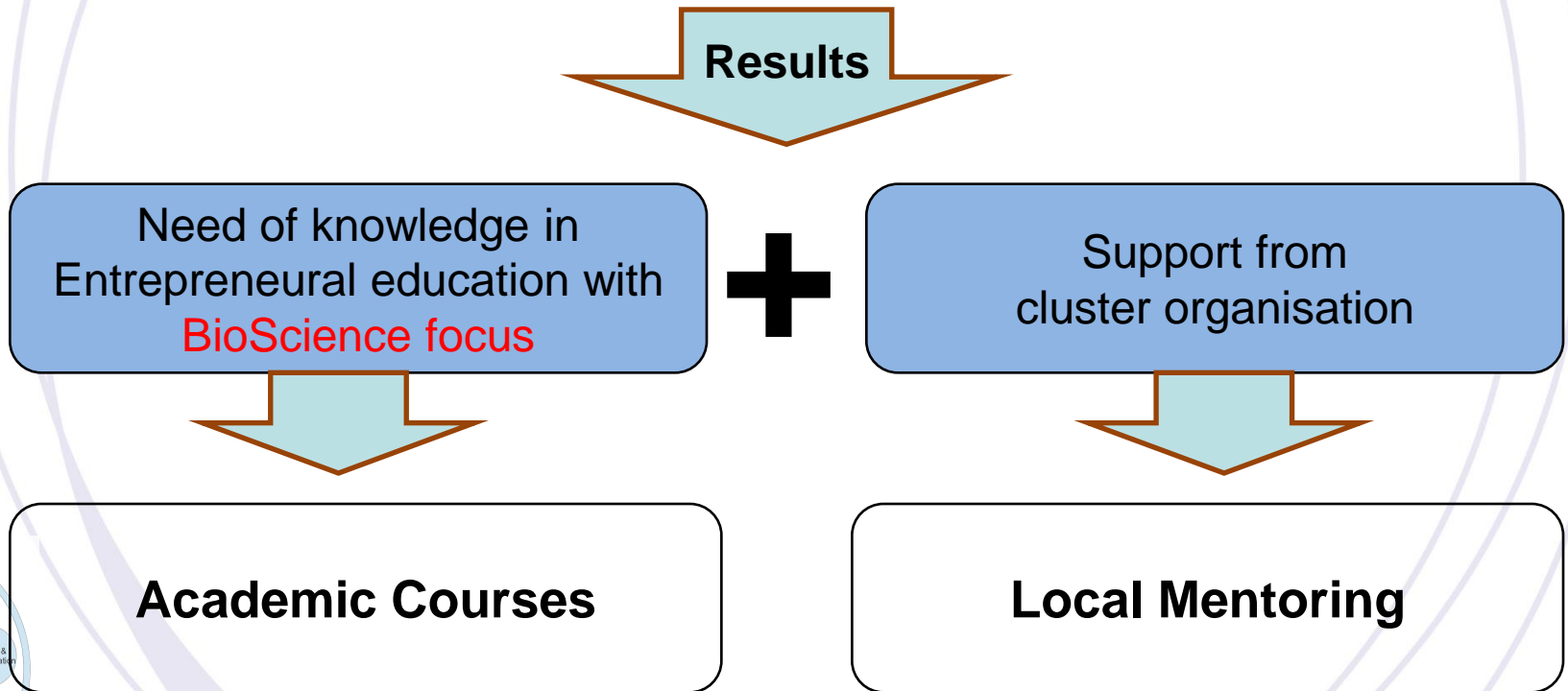
Part-financed by
the European Union
(European Regional
Development Fund)



HealthPort Report – Major challenges for SME-s to be commercially successful

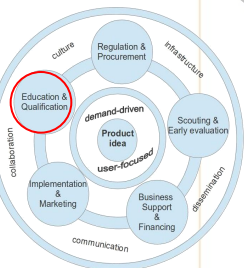
Grete Kuura and Boo Edgar, from University of Gothenburg, 2011.

Method: 21 interviews with SME, cluster organizations, science parks and hospitals within the ScanBalt Health Region:



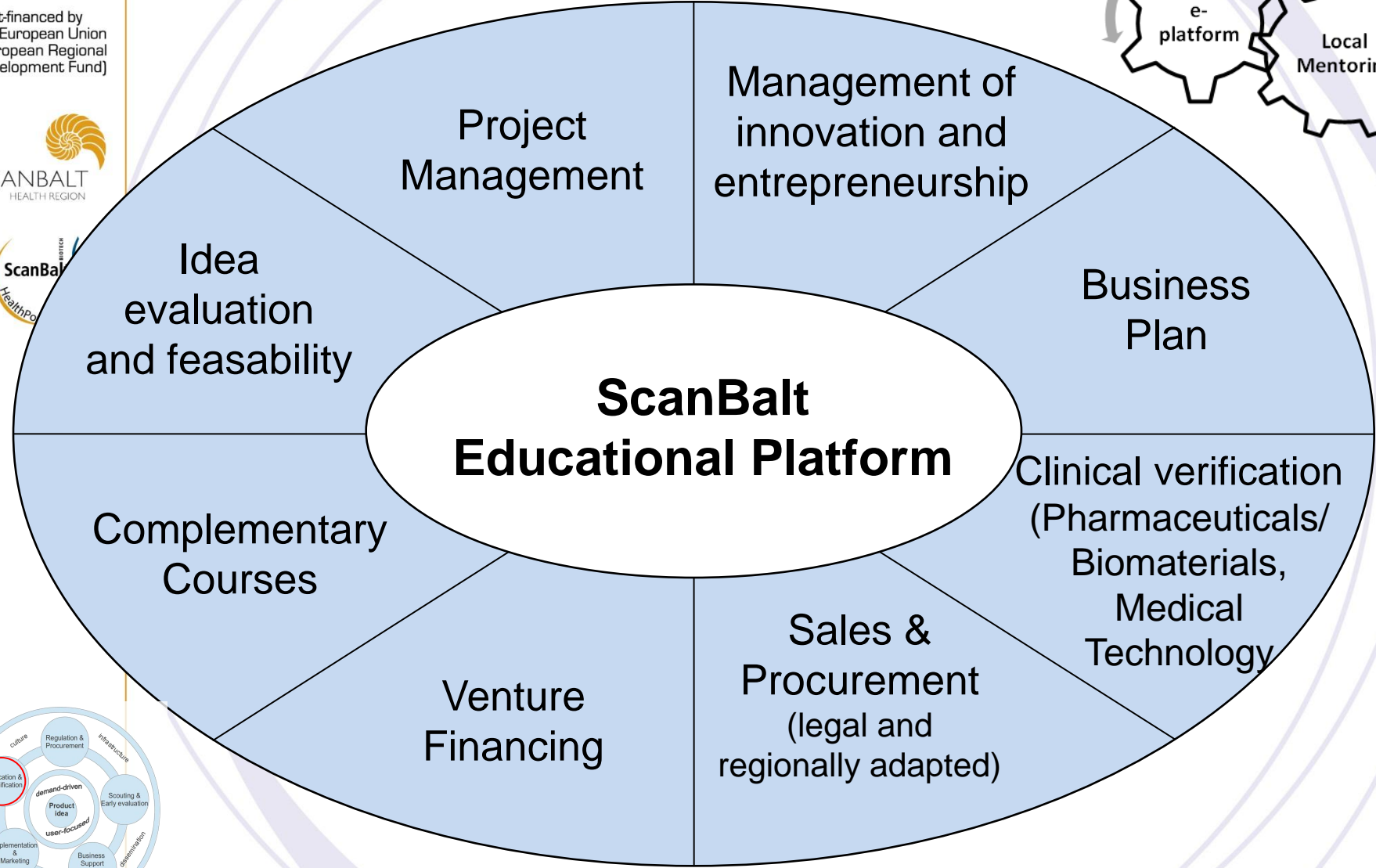


Part-financed by
the European Union
(European Regional
Development Fund)



ScanBalt Educational Platform

Educational Plan – Potential Courses



All with BioScience-Focus!

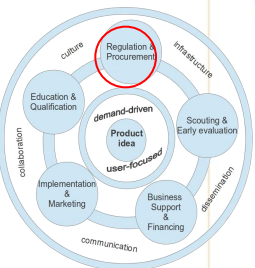


(5) Regulation & Procurement

The public sector has a dual role in respect to innovation. The public sector acts as **regulator** and as **procurer**.

In the Nordic countries **80 – 85% of health spending** is funded by **public sources**.

There is a huge potential to **stimulate innovation** through **public procurement**.





(5) Regulation & Procurement



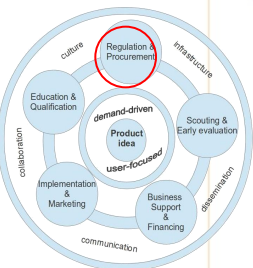
Part-financed by
the European Union
(European Regional
Development Fund)

Recommendations:

- ☐ *Understanding differences in **regulation** and **procurement** (governance) in BSR and make entrepreneurs work with them*
- ☐ Support initiatives to **coordinate clinical trials** in the BSR and offer SME support measures
- ☐ Support the installation of **HTA expertise** as a parallel process to product development
- ☐ *Support in certification and other formal requirements with respect to international markets*
- ☐ Support **PPI and PCP** in the health care sector and further work on **harmonizing and minimizing (deregulation) regulations** on the EU-level

Challenges:

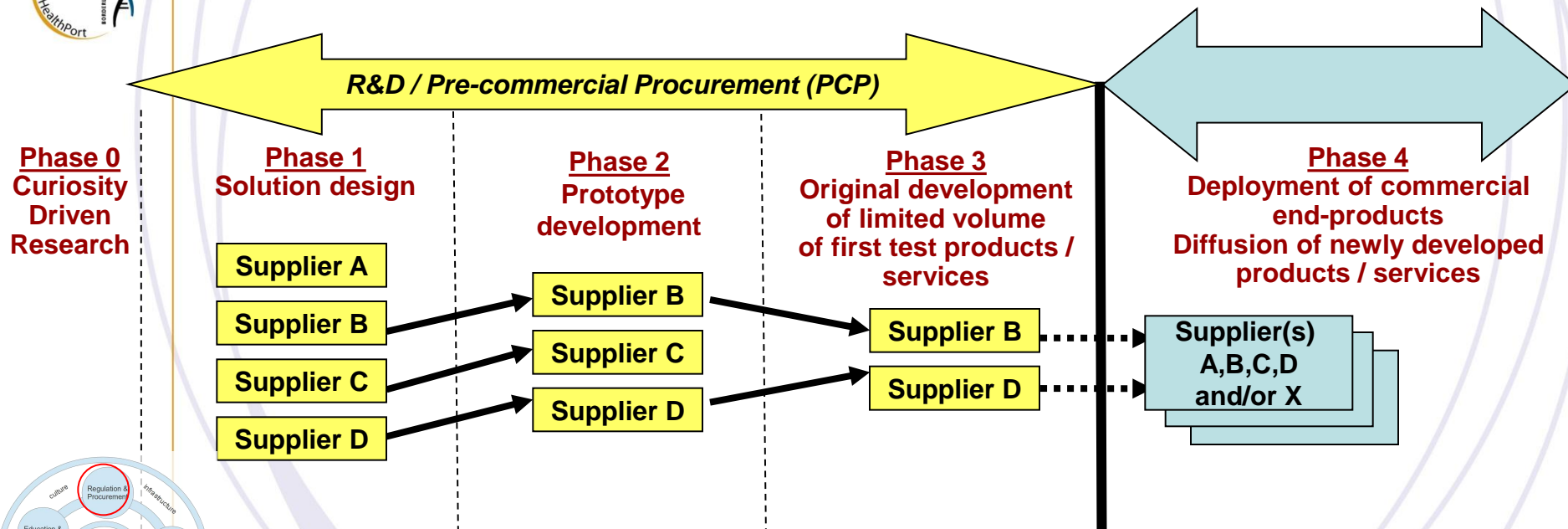
- ☐ It is increasingly difficult to conduct clinical trials.
- ☐ It is increasingly important to proof the efficacy and cost- effectiveness of new products and services
- ☐ Late stage failure rate and time-to-market extremely long





Regulation & Procurement

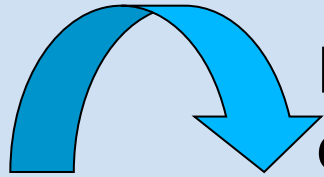
- PCP to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- PPI to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market



In line with WTO proc. rules, EU Treaty, State aid free



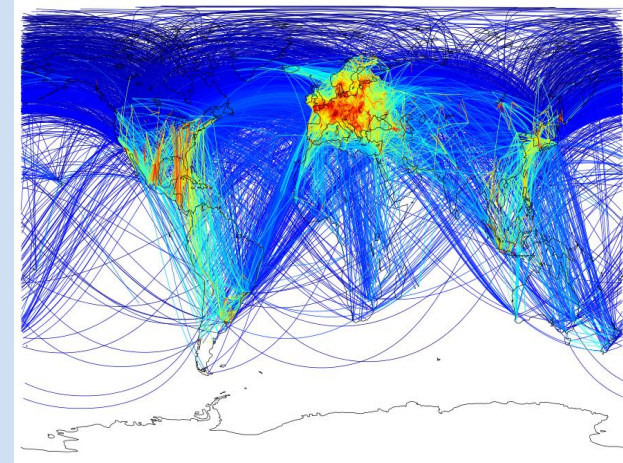
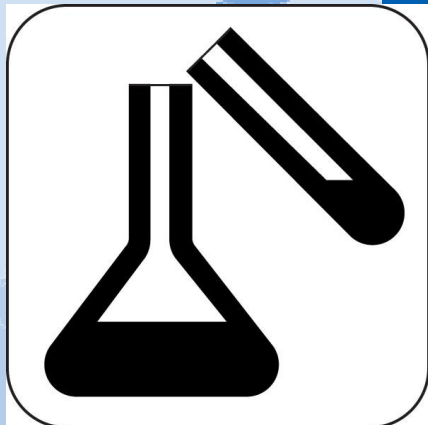
Conclusions



Product (service)
development takes
place at a global level



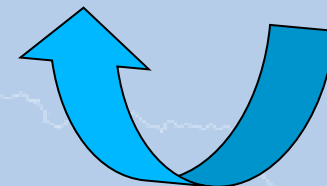
From
„The lab is our
world ...“



Think global — act local

to
„...the world
is our lab!“

Health care delivery
takes place at the
regional level





Partners

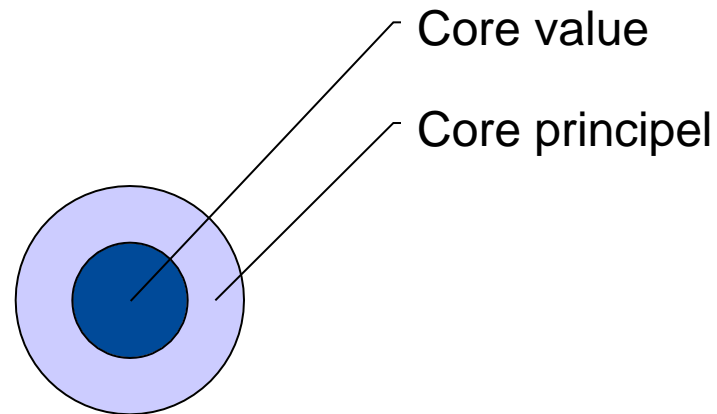
-  Göteborg University (SE)
 -  North Denmark Region (DK)
 -  Culminatum Innovation (FI)
 -  Entrepreneurship Development Centre for Biotechnology and Medicine (EE)
 -  BioCon Valley (GE)
 -  Turku Science Park (FI)
 -  InnoBaltica (PL)
 -  Institute of Biotechnology/Vilnius University (LT)
 -  ScanBalt (DK – Coordinator)
- 15 associated partners



Part-financed by
the European Union
(European Regional
Development Fund)



The take home message



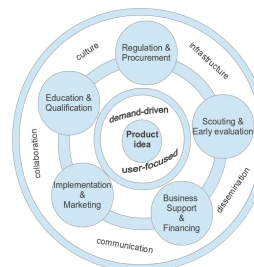


Part-financed by
the European Union
(European Regional
Development Fund)



„The significant problems we face
cannot be solved at the same level of
thinking we were at when we created
them“

Albert Einstein





Part-financed by
the European Union
(European Regional
Development Fund)



„It is hard to learn from experience,
But it is even harder not to learn from
experience“

Anonymous

