EIT: Knowledge Triangle revisited – Entrepreneurship as the Driver

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Chairman Elect of the EIT Governing Board

ERC meeting on the "Innovation Union".
SB Meeting INiTS
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About discovery, invention, innovation & translation

DEFINING THE TERMS

– **Discovery**: finding something existing before

– **Invention**: creating or designing something not existing before

– **Innovation**: making changes with societal impact, based on discoveries and/or invention

– **Translation**: processing discoveries and/or invention into innovations

*Science & Research are necessary, but not sufficient for innovation*
Biotech in Europe: Does excellence in basic research and education suffice?

**HOW TO CAPITALIZE ON THE ASSETS?**

- High level of education
- Solid academic base
- Top science at many historical power houses of research: EMBO, Pasteur, Karolinska, Cambridge, Oxford, Max Planck, VBC etc..
- Increasing number of Centers of Excellence
- Long tradition of pharmaceutical development and industry
- Excellent clinical institutions with the potential to carry out studies
- Growing interaction between the national bio-medical scenes
- Scientific output in biotech is even larger than in the USA
Biotech example: Does European biotech exploit its chances?

<table>
<thead>
<tr>
<th>CREATING VALUE - CREATING JOBS</th>
<th>Europe</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of employees</td>
<td>63,000</td>
<td>172,000</td>
</tr>
<tr>
<td>Average Investment per year</td>
<td>EUR 6 bn</td>
<td>EUR 18 bn</td>
</tr>
<tr>
<td>Public listed</td>
<td>&lt;10%</td>
<td>&gt;30%</td>
</tr>
<tr>
<td>Total value of companies</td>
<td>EUR 30,000 bn</td>
<td>EUR 300,000 bn</td>
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Age distribution of companies’ contribution to innovation: Europe v. US and others

Figure 1: Share of leading innovators by age cohort

US: approx. 21%
EU: approx. 2%

Source: author’s calculations. Note: Figure based on a sample of 226 companies, obtained from matching firms in the FT Global 500 from 2007 with the 2007 EC-IPTS Top 1000 EU and non-EU R&D scoreboard companies. Leading innovators are thus defined both by their market capitalisation and R&D expenditures. The US has 80 companies in this sample, Europe 86 and other countries 60.
Innovation driven entrepreneurship an accepted paradigm in the 19th century of Europe

E.G.: v. BEHRING’s & EHRLICH’s SERUM BIOTECH COMPANY

Homed in an arch of a suburban railway in Berlin, 1894

Contract between the founders, 1894

1 cow, 7 goats and 10 employees
Nobel, Citroen, Siemens, Reuter, Merrieux - history?
Boyer, Gates and Zuckerberg - US-reality!

• HOW TO MOTIVATE KIDS TO SET UP GARAGE COMPANIES IN EUROPE?

• One definition of entrepreneurial innovation:
“A Grapefruit is a lemon who took a chance”
Changing the mindset: the first step towards innovative entrepreneurship

OUR HORIZON NEEDS TO BE RESHAPED

– **Joseph Schumpeter:**
  
  *The entrepreneur uses the invention, new idea and transforms it into a product and thereby brings the innovation to the market*

– **Academic success is not enough:**
  
  “Dear Alex, he (Bill Gates) and I were in the same class at university - but he was smarter and didn't graduate. Cheers Rich” (Richard Hudson, former editor of Nature)

– **Career goals need to be redefined:**
  
  *When graduates from India and Europe are asked for their future plans, 25% of the Indian students want to become entrepreneurs, but only 2% of the European students*
The core of innovation is the Knowledge Triangle driven by entrepreneurship

Actors in the knowledge triangle are at the core of the innovation web
EIT - an Innovation Impact Investment Institute

• The EIT is an EU Institute that **encourages, seeds** (25%) and **enables** existing European education, research and business **hotspots** to form entrepreneurial and excellence driven innovation clusters - its **KICs**

• The KICs are driven by **entrepreneurship** to provide **higher innovation impact**
EIT and KICs impact

Impact achieved through:

• addressing key **societal challenges**

• fostering world-class innovation hotspots through **co-location**

• turning ideas into **business creation** through entrepreneurship and;

• promoting the attractiveness of entrepreneurial education by **EIT labelled degree programmes**
Co-location hotspots

**Climate-KIC:**
- 🟢 Co-location centre
- 🟠 RIC (Regional Implementation and Innovation Centre)

**EIT ICT Labs:**
- ▄ Co-location centre
- ▄ Associate partner

**KIC InnoEnergy**
- ▢ Co-location centre
KICs’ specificities

• **Smart funding**
  – EIT funding or seeding of the KICs accounts for only 25% of the total KIC budget.
  – Remaining 75% reflects the commitment of the KIC partners and comes from the partners’ own resources and regional, national or European funding attracted by the partners.

• **Legal and financial entity**
  – Core partners have formed legal entity
  – Led by a CEO under a supervisory board
  – Business plans as a moving target
  – Governance structures differ from KIC to KIC

• **Culture**
  – KICs are shaped by strong entrepreneurial mindsets and cultures
  – Driven by common visions and goals/impact expressed in their business plans.
EIT strategic work streams: next steps

1. Building up of the EIT and the KICs by further development of the EIT HQ and of all KIC co-location centres as a hotspot driving innovation;

2. Further development of entrepreneurship education within KICs sealed and branded by an EIT label;

3. Continued focus on new business creation within KICs based on entrepreneurship leading to
   i. new products and services for existing industry,
   ii. new businesses and SMEs and
   iii. better entrepreneurially minded and trained people.
EIT major challenges

- Stabilizing and anchoring the EIT autonomy while under the CSFRI* and maintaining key relations with EHEA*.

- Enabling the KICs to become true ‘innovation machines’ driven by entrepreneurship:
  - Establishing KIC relationships based on trust rather control, in order to encourage innovation.
  - Moving from EIT role as smart funder to seed investor to impact investor.
  - Generating a shift from a risk averse to risk taking entrepreneurial culture in Europe (incl. acceptance of failure).

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* CSFRI – Common Strategic Framework for Research and Innovation
* EHEA – European Higher Education Area
Initial EIT achievements

• **2008 Sept.**: Following the first EIT GB meeting with Pres. Barroso, the EIT launched its first call for KICs in April 2009.

• **2009**: The first three KICs were designated on 15 December 2009

• **2010**: Implementation of the first three KICs
  
  – developing KIC legal and financial entities, getting the contracts signed, putting the KIC entities under the leadership of a CEO.

  – Starting to drive entrepreneurship education and business creation together with the KICs; KIC summer schools, mentoring schemes, business accelerators and an EIT Entrepreneurship Award.

  – the EIT Foundation has been established to raise additional funding supporting the EIT.
Initial ideas for potential future KIC themes

Initial theme ideas for the envisaged new KICs that are to start activities in 2014 include:

- Human Life and Health
- Learning and learning Environment
- Food for Future
- Manufacturing by/for Creative Beings
- Security/Safety
- Human Mobility and Smart Cities

- The initial themes remain included
Thanks!