Entrepreneurship at the heart of the EIT's vision

Alexander von Gabain
Chairman of the EIT Governing Board

Youth and Entrepreneurship – Drivers of Innovation
EIT Conference
Krakow – October 20 2011

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A personal note to Krakow

1. Sorbonne 1268
2. Prague 1348
3. Krakow 1364
4. Vienna 1365
5. Heidelberg 1386

Annemarie von Gabain
Renowned sinologist
1901 - 1993

About discovery, invention, translation & innovation

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DEFINING THE TERMS

- **Discovery:** finding something existing before
- **Invention:** creating or designing something not existing before
- **Translation:** processing discoveries and/or invention into innovations
- **Innovation:** making changes with societal impact, based on discoveries and/or invention

Science & Research are necessary, but not sufficient for innovation

Academia, innovation & industry – traditional model (Francis Bacon; 1561 – 1626)

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LINEAR TECHNOLOGY EVOLUTION

Academia, innovation & industry: the Californian model (Adam Smith; 1723 – 1790)

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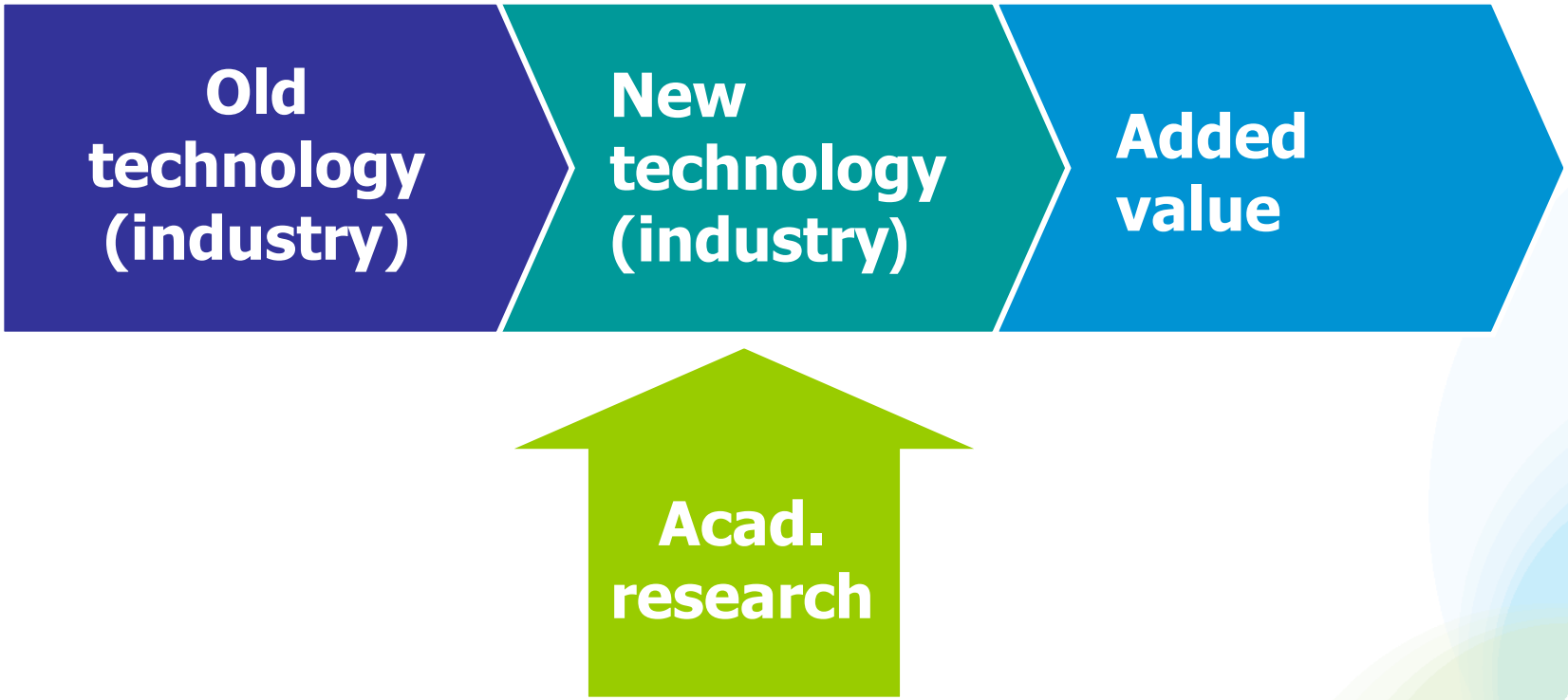
BRANCHED TECHNOLOGY EVOLUTION MODEL



More than half of economic growth during 1945 – 2002 is attributed to innovation within the high-technology sector*

* Leary et al 2002

Biotech example: EU has strong assets to support a strong entrepreneurially driven industry

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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: However, does European biotech exploit its chances?

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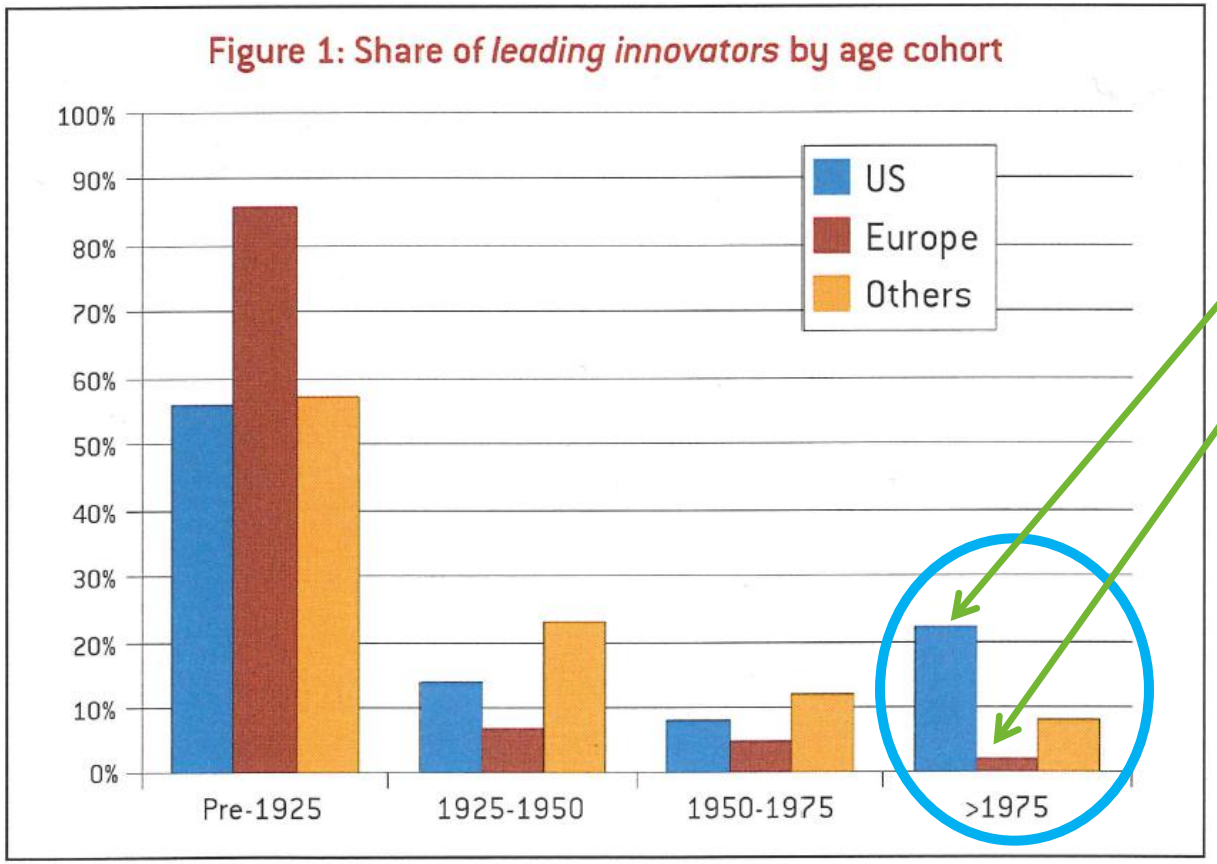
CREATING VALUE - CREATING JOBS

	Europe	USA
No. of employees	63,000	172,000
Average Investment per year	EUR 6 bn	EUR 18 bn
Public listed	<10%	>30%
Origin of patents from commercial enterprises	~ 28%	~ 52%
Total value of companies	EUR ~30 bn	EUR ~300 bn

Europe Bio
Report for 2007

Age distribution of companies' contribution to innovation: Europe v. US and others



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.

Bruegel policy brief
March 2009
Reinhilde Veugelers

So what's wrong with Europe?

Why do we underperform in innovation?

Why do we miss to recruit venture capital leading to innovation?

Innovation driven by entrepreneurs, an accepted paradigm in Europe of 1900

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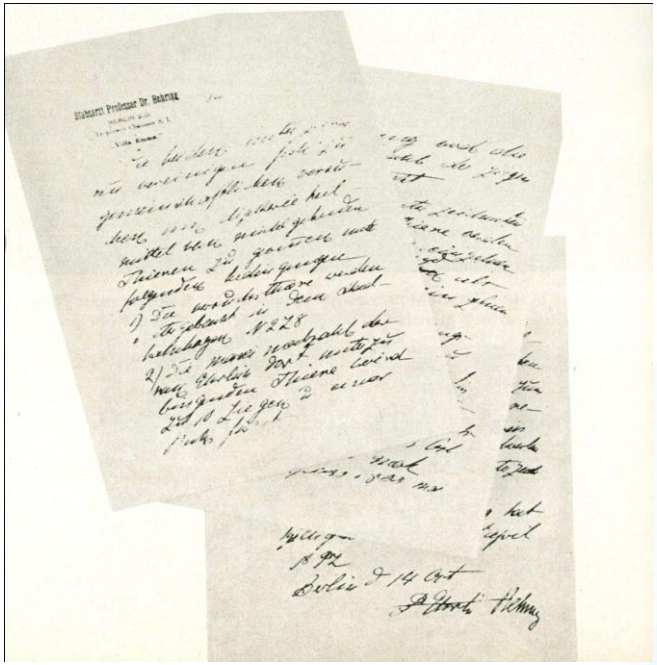
e.g.: BEHRING's & EHRLICH's SERUM BIOTECH COMPANY

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



Contract between the Founders - 1894

1 cow, 7 goats and 10 employees

Behring, Nobel, Citroen, Siemens, Reuter European history, but Boyer, Gates and Zuckerberg – US reality!

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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

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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

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Through the EIT's approach, actors in the knowledge triangle are at the core of the **innovation web**

Entrepreneurship – a forbidden city for university graduates?

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Bridge the gap: incentives of entrepreneurship & academia

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- Best class teachers and scientists
- Education of top class students
- Documented competence in science or in high tech services (e.g. hospitals)
- High impact publications, awards, etc
- Successful funding of the programs
- Good performance and historical record
- Respect of the international peers

Lead to basic understanding of principles that pave the way for new technologies
Driving force:
"**curiosity and prestige**"

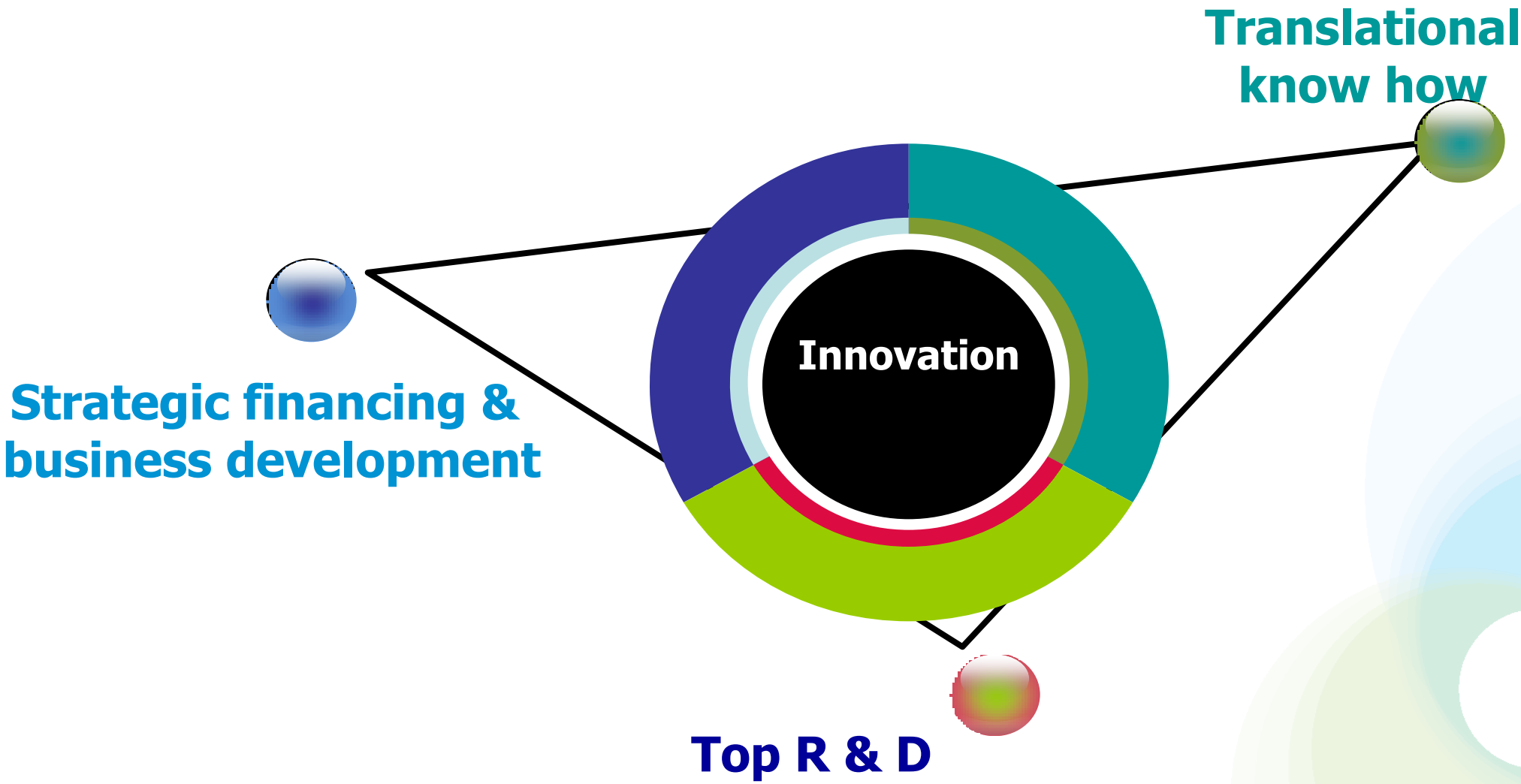
- Science merges with business, financial and marketing experts
- Scientific concepts with product and market potentials
- Strong IP position
- Investors who want a return of their investment
- Validation of the technologies/ products by established commercial players
- Successful positioning of the company's mission, achievements and products

Lead to sustainable companies and products
Driving force:
"**value creation**"

Gabain & Lanthaler in EMBO reports 2003, Vol. 4, No. 7, p. 642 - 646

Go for a worthy target: polar bears teach entrepreneurs!

How to build a tech company



How entrepreneurs form strong teams in the knowledge triangle?

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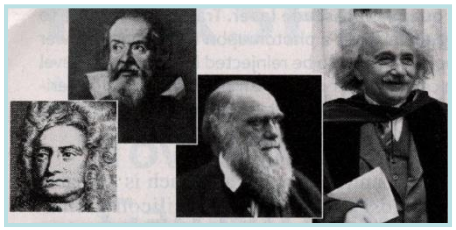
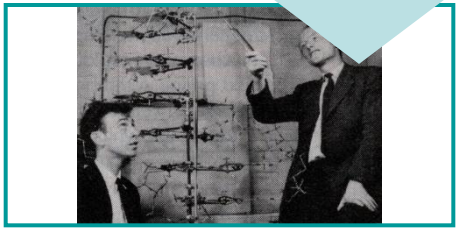
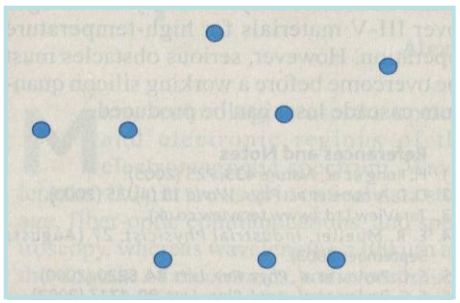
ACADEMIC RESEARCH

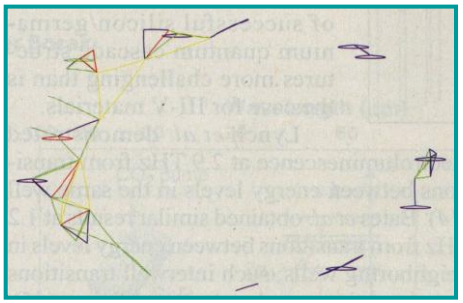
COMPANY R&D

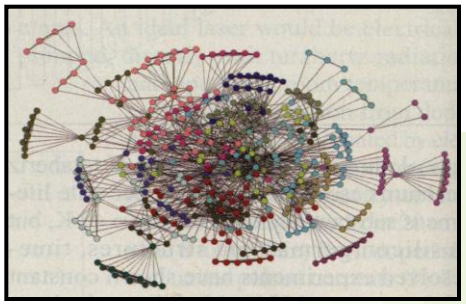




- Go for the best, but with social intelligence
- Make sure they understand the master plan & the risk to fail
- Make sure they form a strong team
- Create respect for the involved competence areas
- Encourage everybody to balance the strength/weakness profile of the other team members

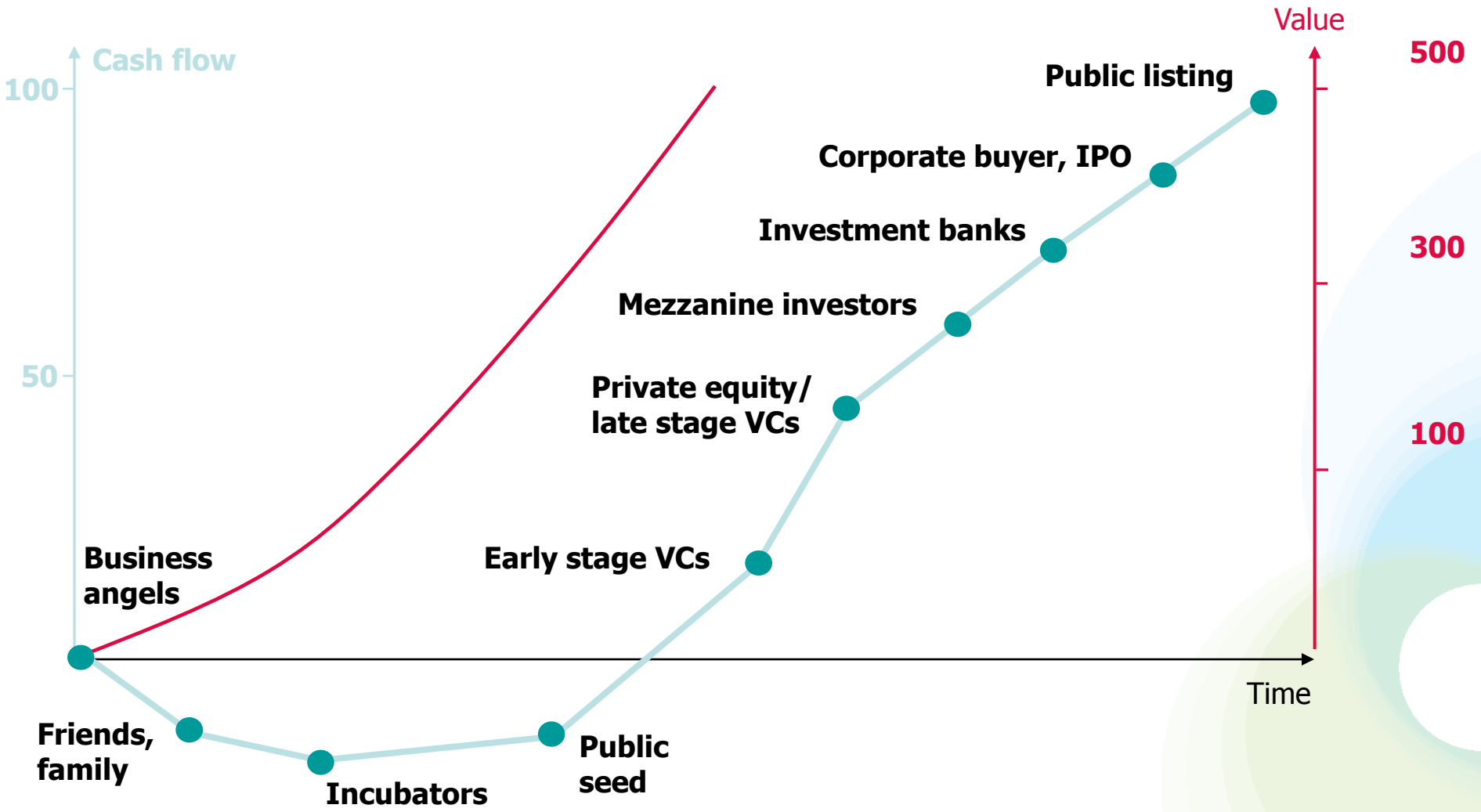






Source: Science, Vol. 308, p. 640

How to position the innovation potential to investors



Source: TVM

10 P's for an entrepreneur to build a tech company creating value

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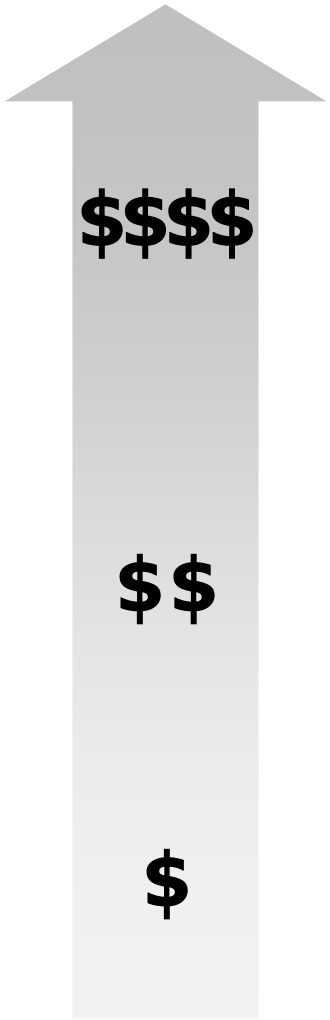

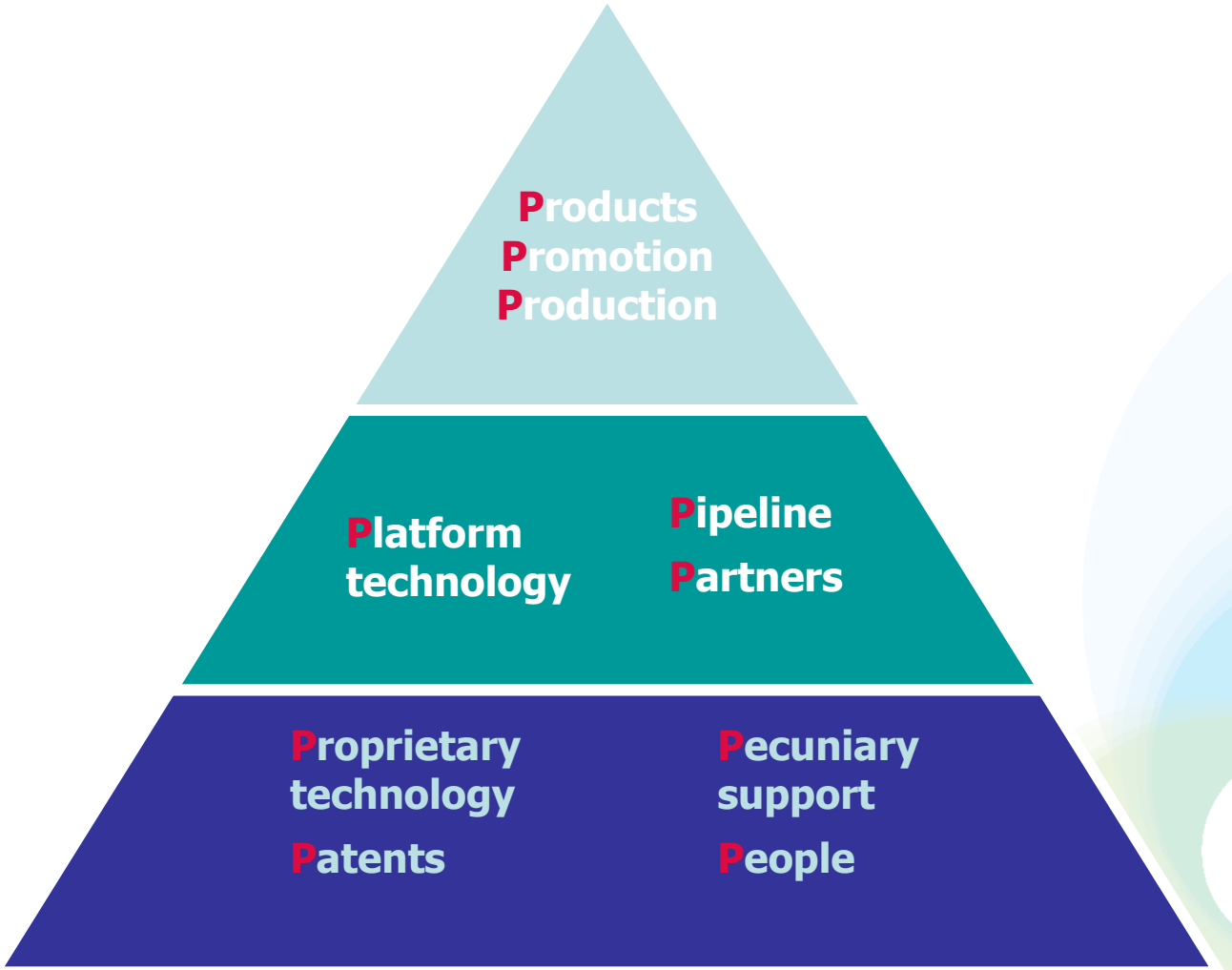

Entrepreneurship - lessons to be learnt

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OPEN YOUR MINDSET AND DON'T GET STUCK TO THE LESSONS LEARNT AT SCHOOL

- Accept your university degree as a gate only
- Appreciate and respect skills, mindsets and fields outside of your study curriculum
- Allow outsiders to become your teachers, even in your core field
- Share your knowledge with others and be curious of their expertise
- Be interdisciplinary and think in more than one dimension
- Be aware that multi-cultural environments achieve much more than mono-cultural isolation

Where the EIT comes in: Seeding entrepreneurship

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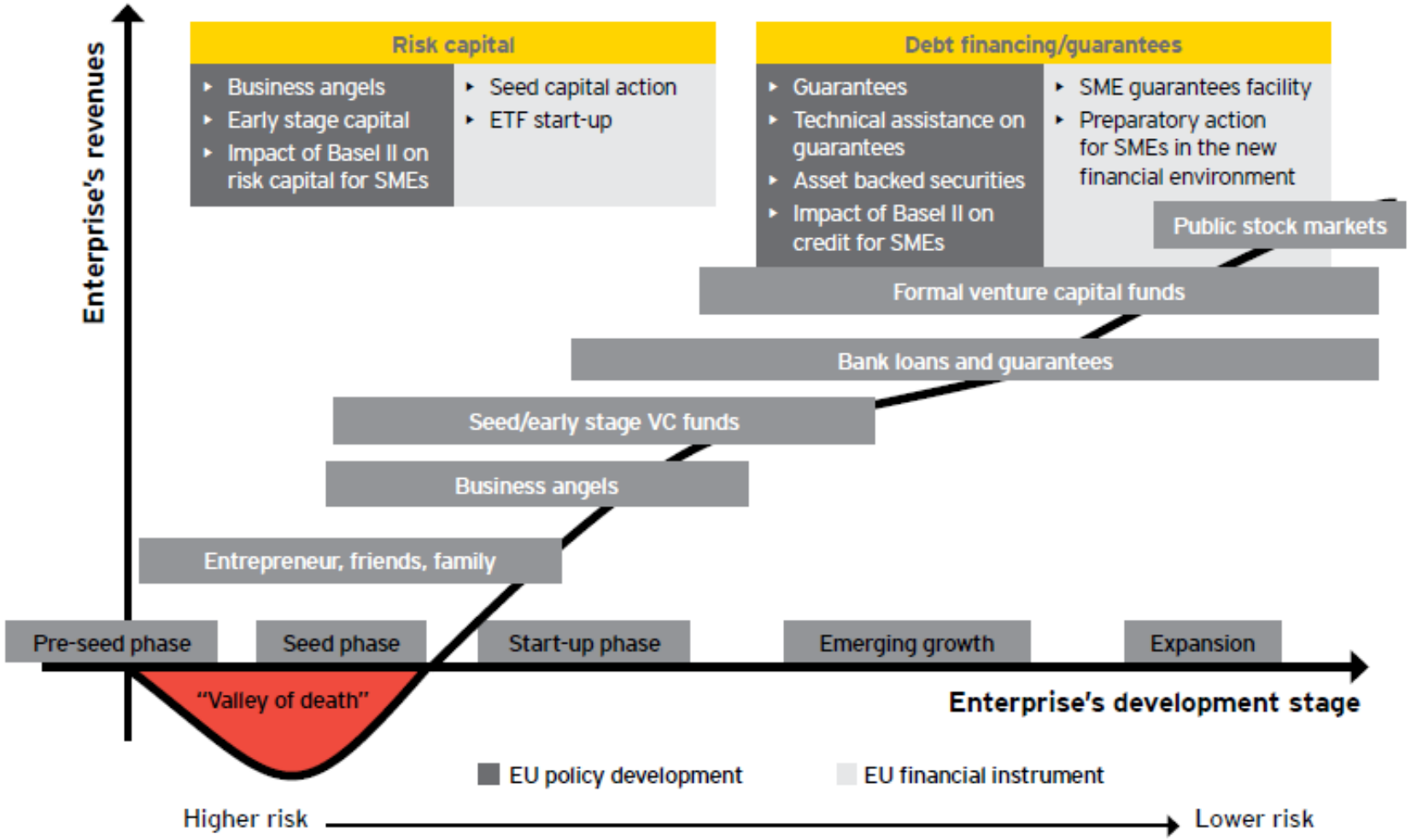
SME development and funding instruments

Source: Renda et al. (2006)



European Institute of Innovation and Technology (EIT)

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1. The EIT, established in September 2008, is the first initiative of the European Union bringing together **all the three sides** of the knowledge triangle.

2. It is an EU institute with unprecedented **autonomy** and HQ in Budapest.

3. Its **mission** is "to be the *catalyst* for a step change in the European Union's *innovation capacity* and *impact*"

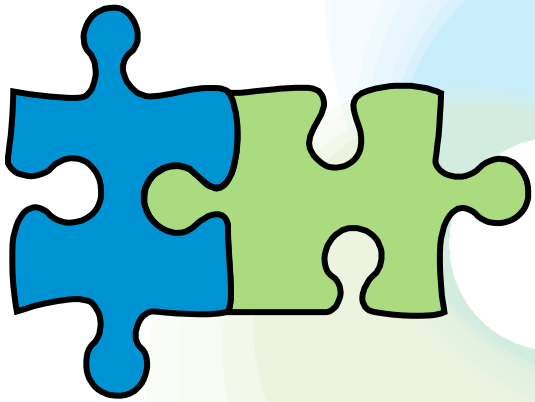
EIT operates via its three Knowledge and Innovation Communities (KICs)

- **The three KICs** =

  highly integrated, creative and excellence-driven autonomous partnerships; with internationally distributed but thematically convergent partners

- **KIC partners** =

  key actors from the knowledge triangle: research, higher education and business



KICs Co-Location & Culture

- **Co-location hotspots**
  - The KICs' 16 innovation hotspots consist of five to six "centres of excellence" where all the elements of the knowledge triangle are co-located.
  - Additional Regional Innovation and Implementation Centres (RICs) help address geographical coverage and cohesion through Europe.

- **Culture**
  - KICs are shaped by strong entrepreneurial mindsets and cultures and driven by common visions and goals/impact expressed in a business plan.

KICs' Impact

Climate-KIC:

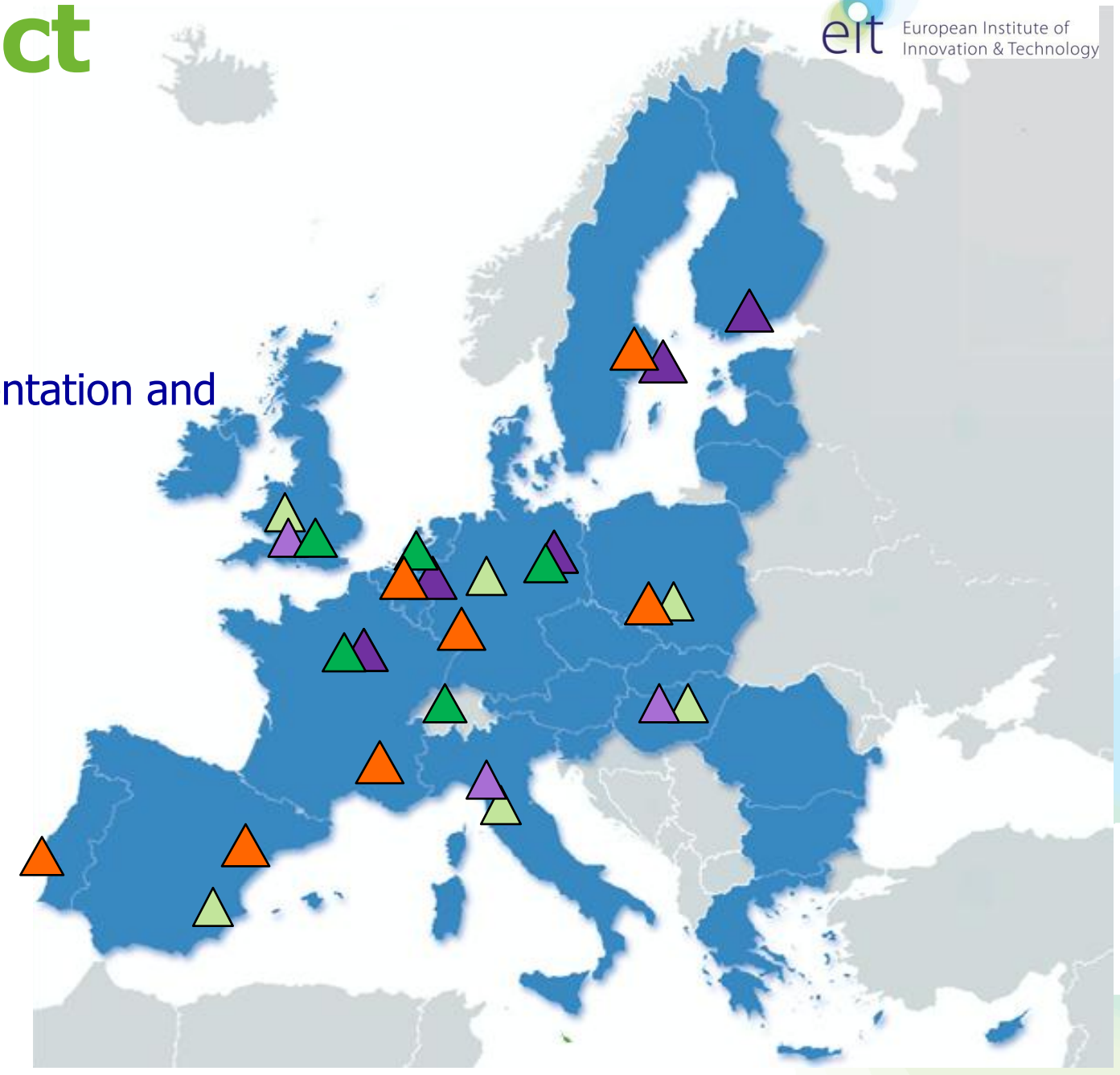
- Co-location centre
- RIC (Regional Implementation and Innovation Centre)

EIT ICT Labs:

- Co-location centre
- Associate Partner

KIC InnoEnergy

- Co-location centre



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;

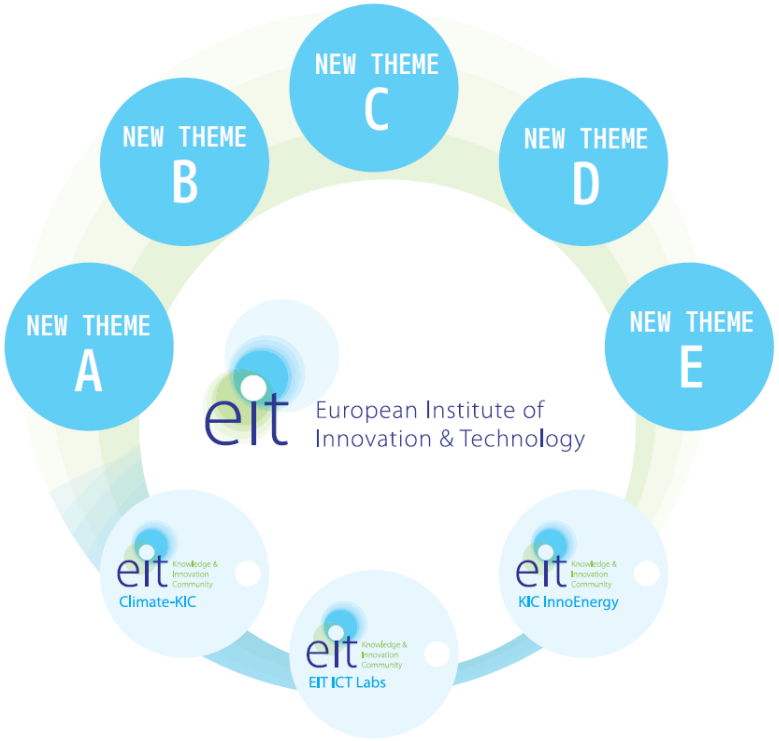
2. Further development of entrepreneurship education within KICs sealed and branded by an EIT label;

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.

The role of the EIT - an Innovation Impact Investment Institute

- The EIT encourages, seeds and enables existing European education, research and business hotspots to form KICs
- The EIT will accompany KICs in their learning curve and monitor their success, but also gather information, how to build KICs and make it available to others
- The EIT is proposing to set up 7 - 10 further KICs until 2020, as outlined in the SIA (Strategic Innovation Agenda).
- Innovation is risk, thus the EIT also expects KICs to fail, as a venture fund does seeding high tech companies

The EIT's Vision for the Future: Strategic Innovation Agenda (SIA)



Priority areas for the envisaged new KICs that are to start activities in 2014 include:

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

Initial themes remain included

THANKS!

… Talent has no homeland! … Innovation powered by EIT! … Entrepreneurs in the making! …