Universities as entrepreneurial hotspots

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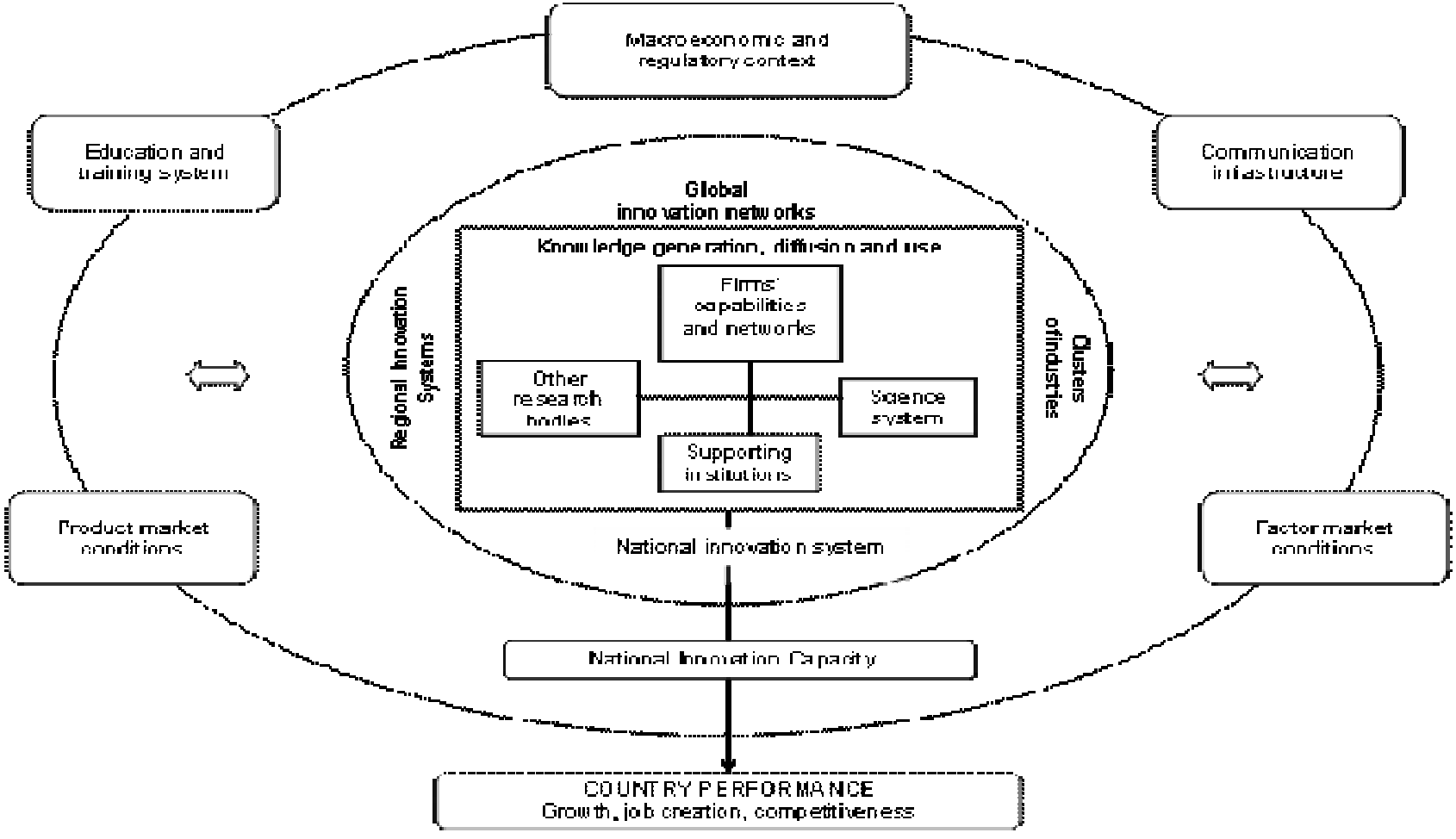
Actors and stakeholders in the innovation space …



Challenges in the innovation space require collaboration and openness …

PERIOD	FOCUS	WHO ?	LEVEL
60-70	Technological Innovation (DoD, Nasa …)	"the technologist" "the lab"	technology
80-90	Product Innovation (Automobile, PC, …)	"innovative staff" "the organisation"	marketing
Today	Business Model Innovation (Senseo, Adobe …)	"management & partners" "innovation-ecosystem"	boardroom

The variety of policy views in the innovation space …

- Fostering curiosity-driven research --- stimulating demand-driven research
- Policies geared towards individuals --- institutions --- networks
- Policies driven towards larger infrastructures & technology integration --- smaller, creativity driven projects
- Need for complementarity and additionality between and within instruments
- … European universities occupy a focal role in these (emerging) processes …

The role of the university in the innovation ecosystem …

The changing role of “ISLs” ...

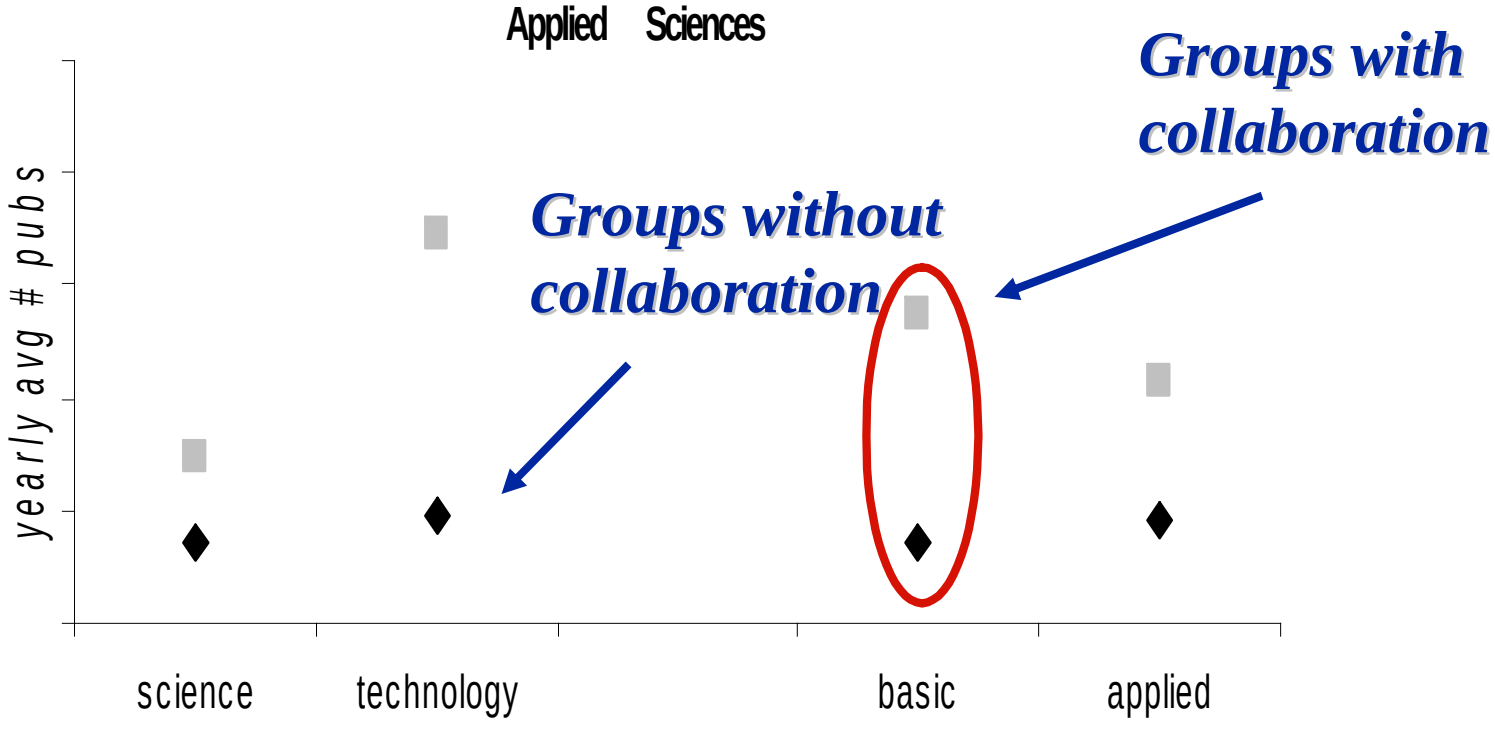
- **Understanding the need for industry – science links:**
  - Start-up of technology-oriented enterprises by researchers from the science-base generated at the research institute;
  - Collaborative research, i.e. defining and conducting R&D projects jointly by enterprises and science institutions, either on a bi-lateral basis or on a consortium basis;
  - Contract research and know-how based consulting by science commissioned by industry;
  - Co-operation in graduate education such as temporary practical studies at enterprises or the joint supervision of thesis projects;
  - Advanced training for employees, i.e. further education for enterprise staff in research and innovation related topics;
  - Systematic exchange of research staff between companies and research institutes via internship programs and leave-of-absence assignments.

The changing role of “ISLs” ...

- **Understanding the need for industry – science links:**
  - Development of Intellectual Property Rights (IPRs) by science both as a tool indicating their technology competence as well as serving as a base for licensing technologies to enterprises while generating lump-sum and royalty payments in return. Those IPRs are not limited to the establishment of patent portfolios, but also include the protection of design typologies, the establishment of frameworks for Material Transfer Agreements (MTAs), the protection of databases, the property rights on tissue banks, etc.
  - Innovative joint science & technology platforms to foster clustering of competencies & resources (at various levels, e.g. IMI-initiative EC, CD3-EIF/LRD, …) to enhance exploitation potential & likelihood;
  - + the continuous need for informal mechanisms: gatekeeping, signaling posts, ……

Collaboration: a positive effect ...

- **Groups involved in technology transfer also publish more basic scientific work (data based on ISI-SCIE):**



Source: Van Looy, Debackere et al., Research Policy, 2004

Collaboration: a positive effect ...

- ***What about academic inventors?*** ***(Van Looy, Callaert, Debackere, 2006)***

	Inventors	*Non-inventors*
Complete sample	35,8	11,7
Sample without outliers (# pubs < 90)	22,8	12,1

Publication output:

Mean Difference	***Std. Deviation***	***Std. Error Mean***	***95% Confidence Interval of the Difference***		***t***	***df***	***Sig. (2-tailed)***
Complete Sample			*Lower*	*Upper*			
24,1482	50,12	8,860	6,07	42,21	2,726	31	,010
Sample Without Outliers			*Lower*	*Upper*			
10,7210	18,25	3,389	3,77	17,66	3,163	28	,004

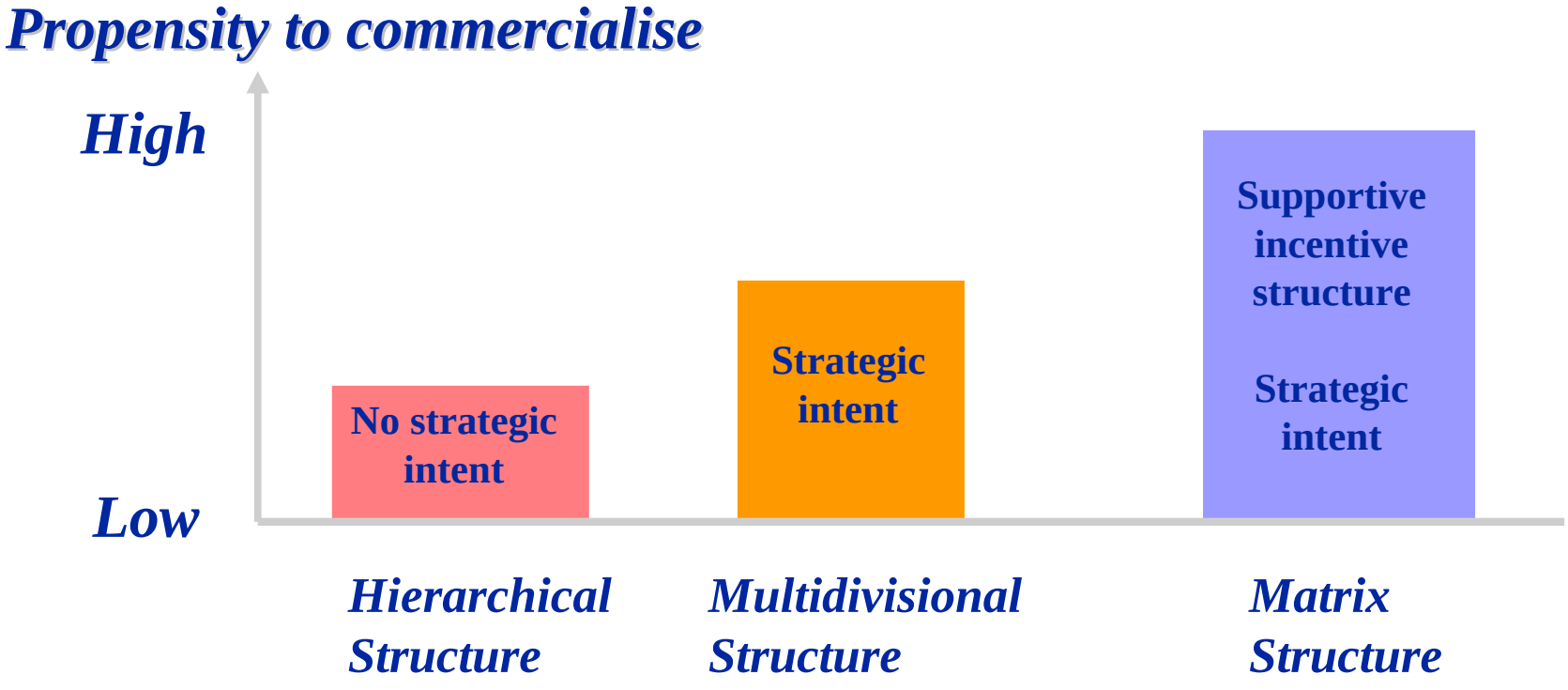
What about industry?

TABLE 5: Results of Tobit Analysis – Dependent variable: Presence/Proportion of turnover resulting from new products.

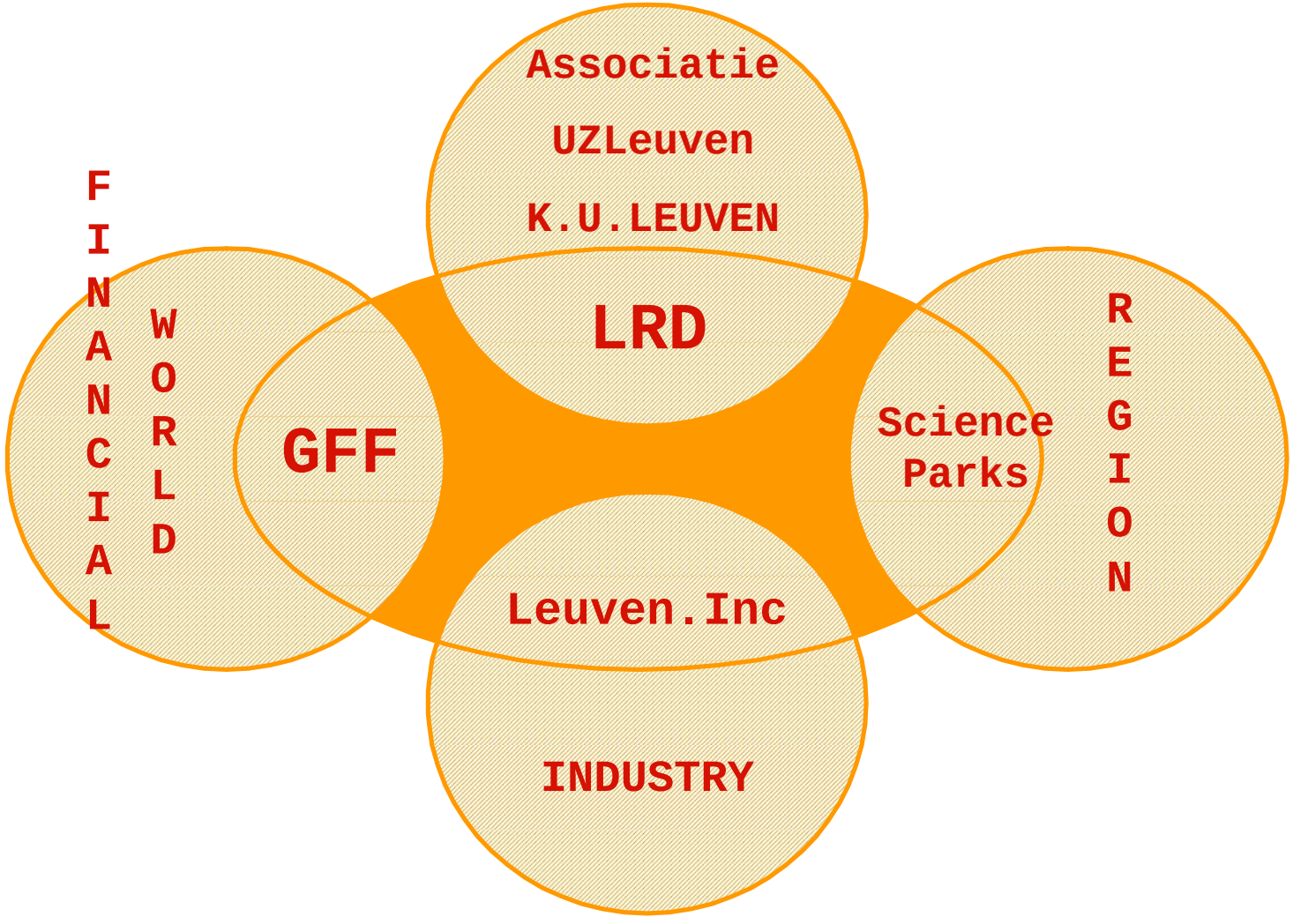
Variable	Estimate	St Error	Chi-Square	Pr > ChiSq Label
Intercept	0.082	0.036	5.200	0.023
Foreign Subsidiary	0.004	0.016	0.073	0.788
Size	-0.012	0.006	4.340	0.037
Textile, Fur, Leather	0.058	0.038	2.391	0.122
Wood & Paper	0.060	0.038	2.478	0.116
Chemicals and Pharmaceuticals	0.016	0.028	0.313	0.576
Metals and Manufacturing	-0.000	0.030	0.000	0.989
Machines	0.011	0.031	0.136	0.713
Electrical Equipment	0.014	0.030	0.207	0.649
Transport	0.068	0.036	3.693	0.055
Furniture	0.046	0.048	0.904	0.342
R&D Intensity	0.208	0.005	2.678	0.085
# Exploitation oriented collaborations	0.009	0.005	2.679	0.102
# Exploration oriented collaborations	0.017	0.006	7.18	0.007
Number of Obs.: 221				
Censored observations: 43				
Noncensored observations: 178				
LR chi^2: 32.61				
Prob > chi^2: <0.005				
Pseudo R^2: 0.129				

Case: Creating entrepreneurial clusters around universities …

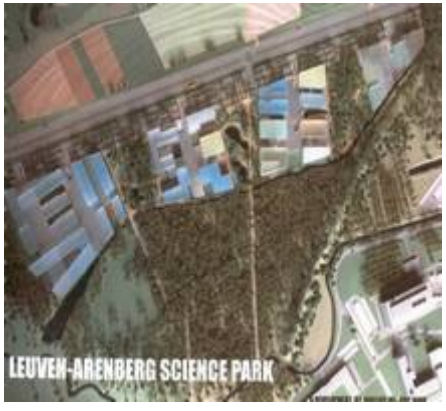
LRD: From vision to structure

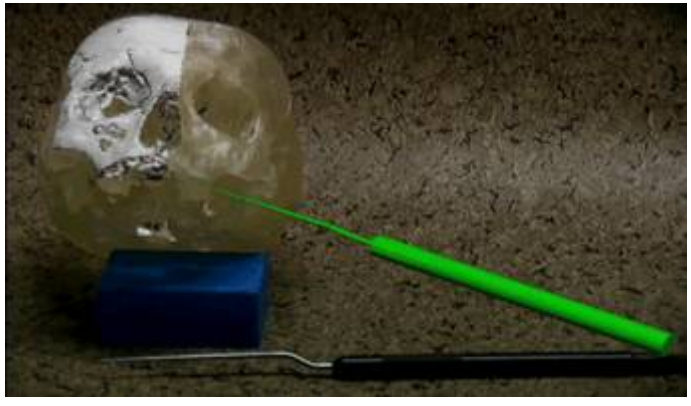


Creating a networked incubator around the university …



Stimulating entrepreneurship in Leuven … more than 120 spin-offs …





Providing seed capital … through a partnership with the financial sector

Recently, K.U.Leuven has taken several additional initiatives to live up to its responsibilities. These include an inter-faculty course 'Introduction to Entrepreneurship', and the formation of the Gemma Frisius Fund (together with the 'Generale Bank' Group and the 'Almanij-KBC' Group) to provide venture capital. The first few years of activity have clearly demonstrated that these initiatives are really serving a need.

Research and education will always be the prime objectives of any university, rather than the creation of spin-offs. As a matter of fact, spin-offs can only thrive if research quality is given due importance. Without attaining international research quality standards, the results cannot be exploited at all. If, however, a high level of quality is reached, starting spin-offs is self-evident.

We hope this brochure will convince its readers of the diversity, originality and professional approach of K.U.Leuven's spin-offs, and that it even functions as a source of inspiration for future initiatives. As for the companies themselves, we wish them a safe journey on stormy industrial seas.

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Managing Director
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Prof. R. De Bondt
Chairman
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Prof. A. Oosterlinck
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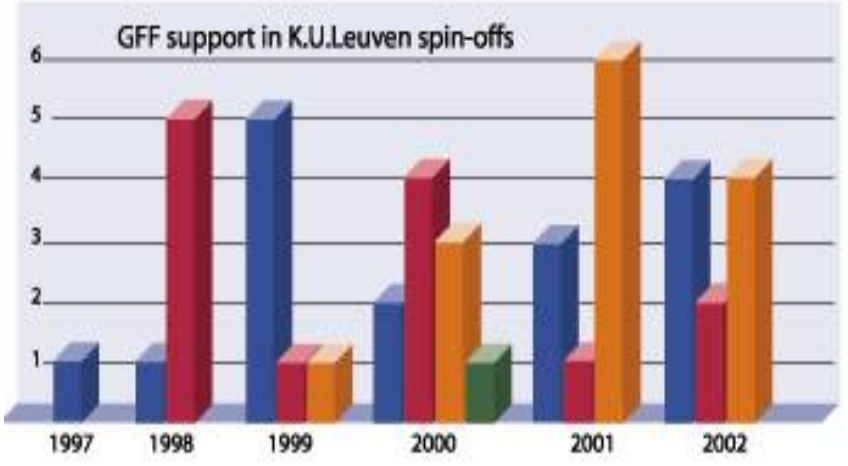
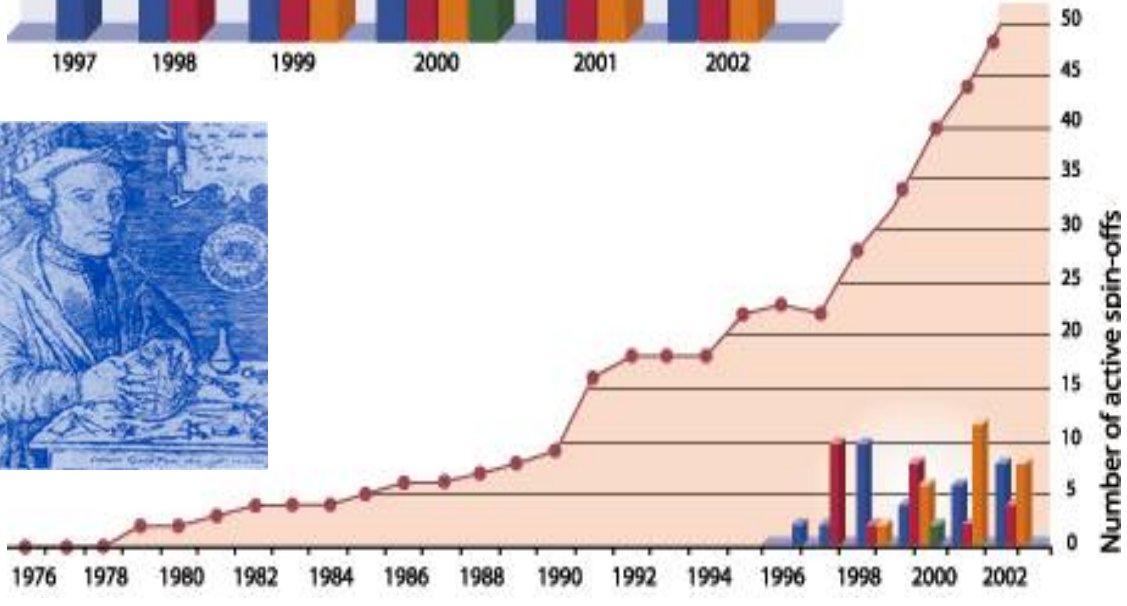
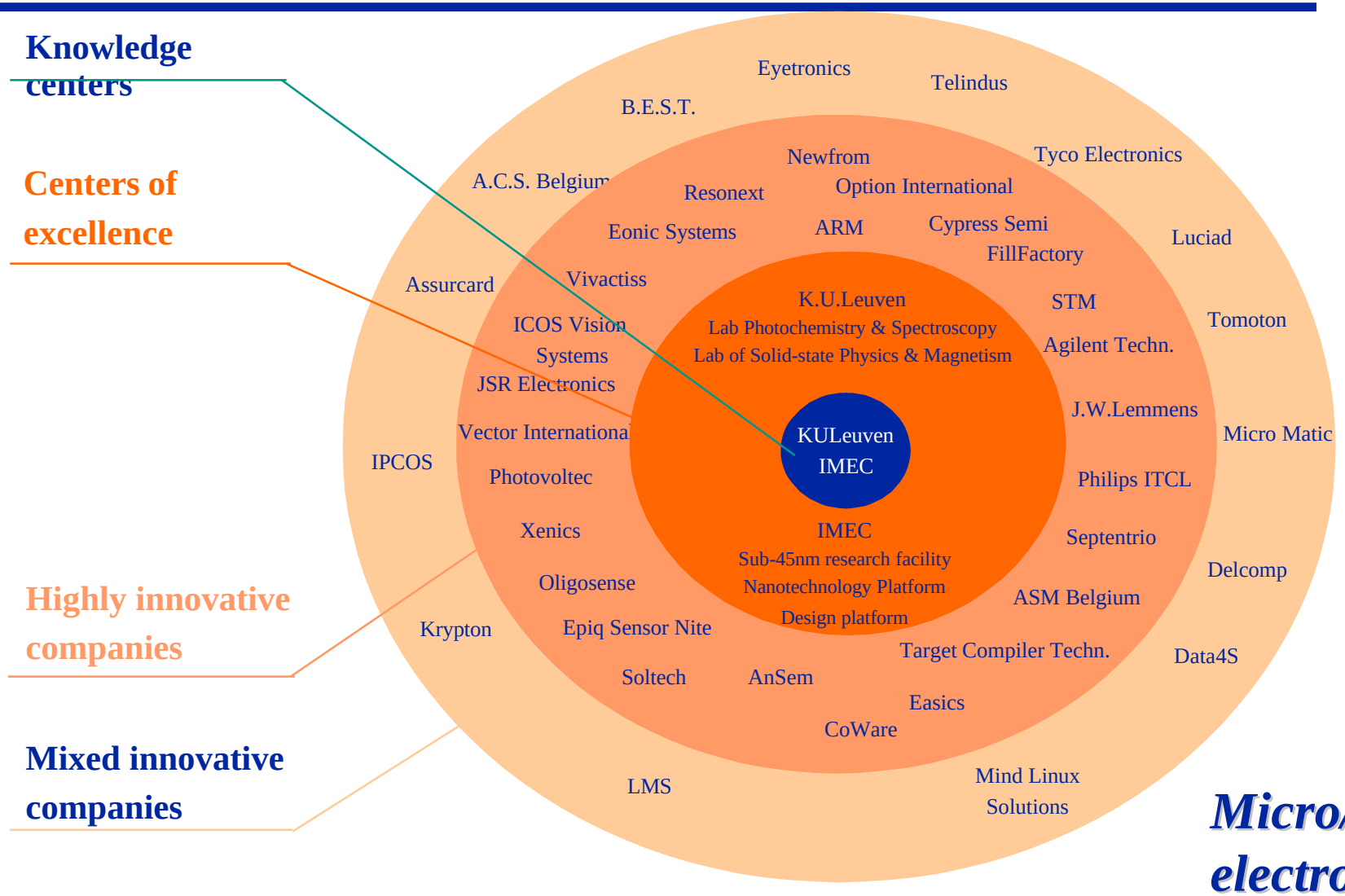




68 companies end 2005

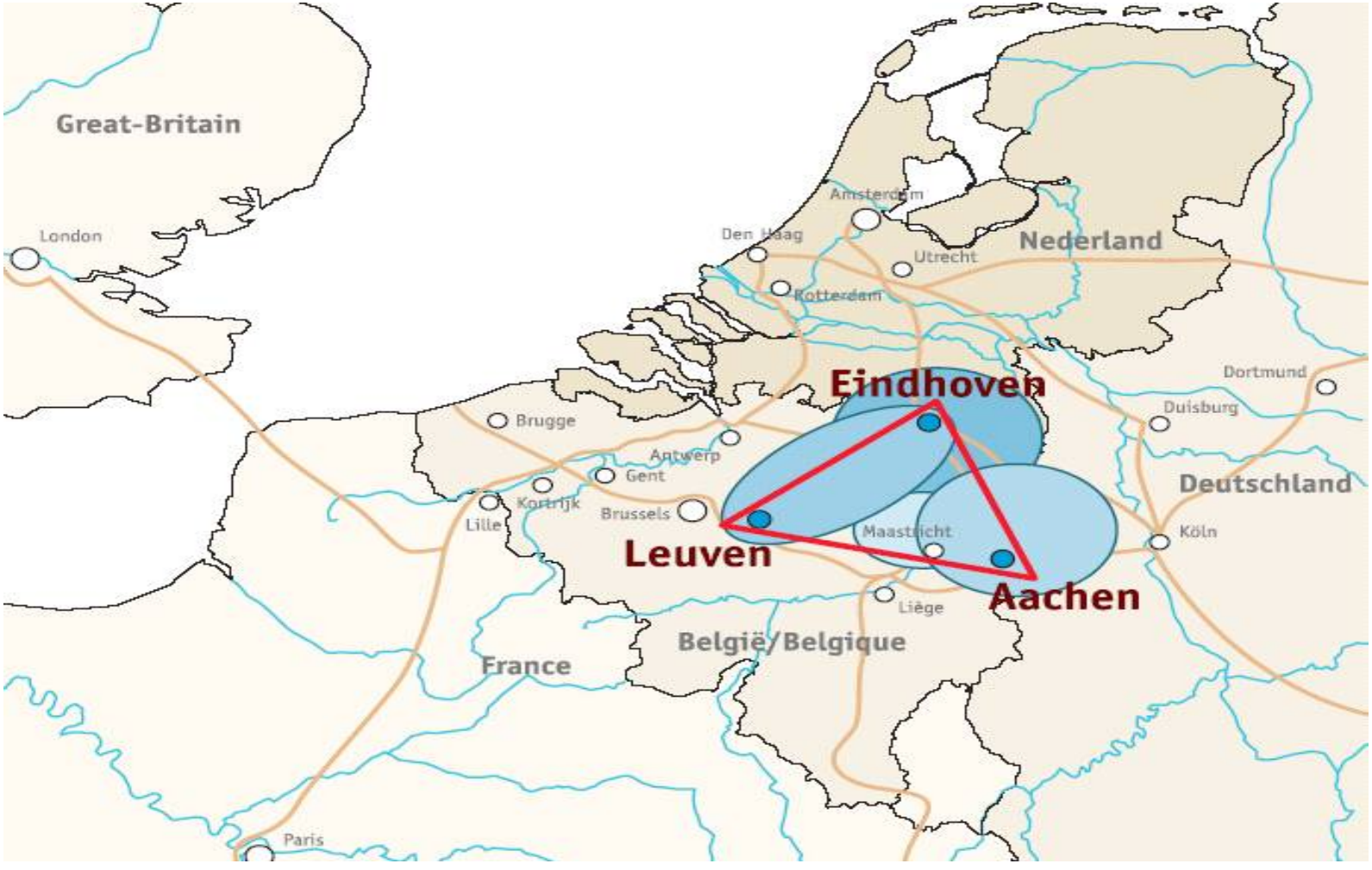
Leading to highly innovative regional clusters of entrepreneurial activity …



Networking opportunities in Leuven:

- **Horizontal Network: Leuven.Inc**
  - Network organisation stimulating contacts between university, IMEC, high-tech start-ups, innovation actors, support activities such as consulting agencies and venture capitalists, and established companies in the Leuven area.
- **Vertical Networks: technology clusters**
  - DSP Valley
    - Focusing on the design of hardware and software technology for digital signal processing systems.
  - L-SEC (Leuven Security Excellence Consortium)
    - International, non-profit network organisation dedicated to promote the use and advance of e-security.

Moving beyond borders, opening up innovation …



Moving beyond borders, opening up innovation …

K.U.Leuven is involved in the ELAt-interreg project with the following partners:

But…ELAt is a lot more:

… starting new research centres such as the Holst Centre (IMEC & TNO)

… extending existing technology cluster networks such as DSP-Valley

… extending partnerships & collaborations with companies & universities within the ELAt region

What breeds this success?

Basis = a critical mass of high quality, internationally competitive research;

Integrated approach towards research exploitation: multidisciplinary team & "high value added" services via LRD team + Gemma Frisius Fund seed capital partnership (with Fortis Private Equity & KBC Investco);

Clear incentives and policies to encourage, individuals research groups and departments to actively pursue spin-off opportunities;

Creation and acceptance of entrepreneurial climate in a university context;

Flemish legal context that is highly positive with respect to the exploitation of academic research and IP.