



Large players in the nanogame: Dedicated nanotech subsidiaries or distributed nanotech capabilities?

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About Grenoble Ecole de Management

- Fully accredited business school, AACSB, EQUIS, AMBA
- Major player in Europe; amongst the 50 best business schools in Europe
- About 5,000 graduate students, MBA, DBA, Ms
- Specialised in Management of Technology and Strategic Management of Innovation
 - Expertise in high tech (bio, nano, TT, energy) and in cultural industries
 - Specialised curricula from 1 week to 3 years
- Group working on nanotechnologies in close relation with the regional and European eco-system








Introduction and message

Motivation: Nanotechnologies in the hype

- How can we characterise the emerging industrial organisation?
- What will be the form of tech transfer?
- What are the respective roles of SMEs, large firms, science based start-ups in nano tech development?
- Which is the relevant model : micro-electronics, chemicals or biotech?



Message


- Nanotech : the province of large group (768 are filling 1/3 of the patent in nano)
- Nanotechs remain marginal in their knowledge base
- Hybridization between existing technologies and nanos

Data and methods


- Worldwide R&D spenders: 2008 of 1,400 groups which are the highest R&D spenders
- Database : query on ISI publication database and PATSTAT : 617,000 patent applications in nano over 65,000,000 patent applications in PATSTAT
- 9,499 firms which patented in nano
- 768 (55%) groups involved in nano
 - 2986 subsidiary companies (out of 77,383): 4% of subsidiaries
 - 201,281 patent applications in Nano (out of 10,340,000) : 2%




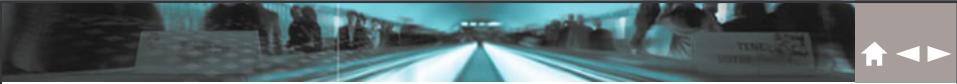
Geographic repartition

Geographical Area(EN)	% of Total Nano Firms	% of Total DTI 2008 Nano Subsidiaries	% of Total DTI 2008 Nanogroup	Share of Nano DTI 2008 (%of 1400)
US & Canada	36.79	34.9	37.15	31.29
EU27	35.22	33.22	28.07	23.64
ASIA	18.75	25.22	24.26	20.43
OTHERS	9.24	6.66	10.52	8.86
Total	100.00	100.00	100.00	-
Number	9,499	2,986	786	



Accréditations







Econometric models

- Significant determinants of the involvement in nanotechnologies
 - Small and medium size subsidiaries which have their first patent in nano
 - Diversity (patents in highly different technologies -> positive influence)
 - No effect of clusters
 - Group R&D intensity
 - Group distribution of subsidiary in nano. The more subsidiaries the more involved in nano the subsidiaries

- Interpretations
 - Nano circulation of knowledge within the group
 - Pre-adaptation strategy of large group
 - Nano : business of large groups. Different modes of TT



Accréditations





Thank you for your attention !
Questions and comments welcome

To know more www.nanoeconomics.eu

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