



Fostering Regional Innovation and Development through Anchors and Networks: A Cross Regional Comparison in an Evolving International Context.

Rejuvenating Nanoclusters with 'Sleeping Anchors': pre-adaptation and life cycle

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Motivations and objectives

To understand the role of Anchor tenant firm in promoting knowledge creation and diffusion within Catania and Grenoble clusters

To understand how cluster and MNC strategies co-evolve over time

To understand the role of policy makers in cluster rejuvenation



Outlines

- Prior results and theoretical gap
- Research methodology
- Empirical evidence from Catania and Grenoble clusters
- Implications and open issues

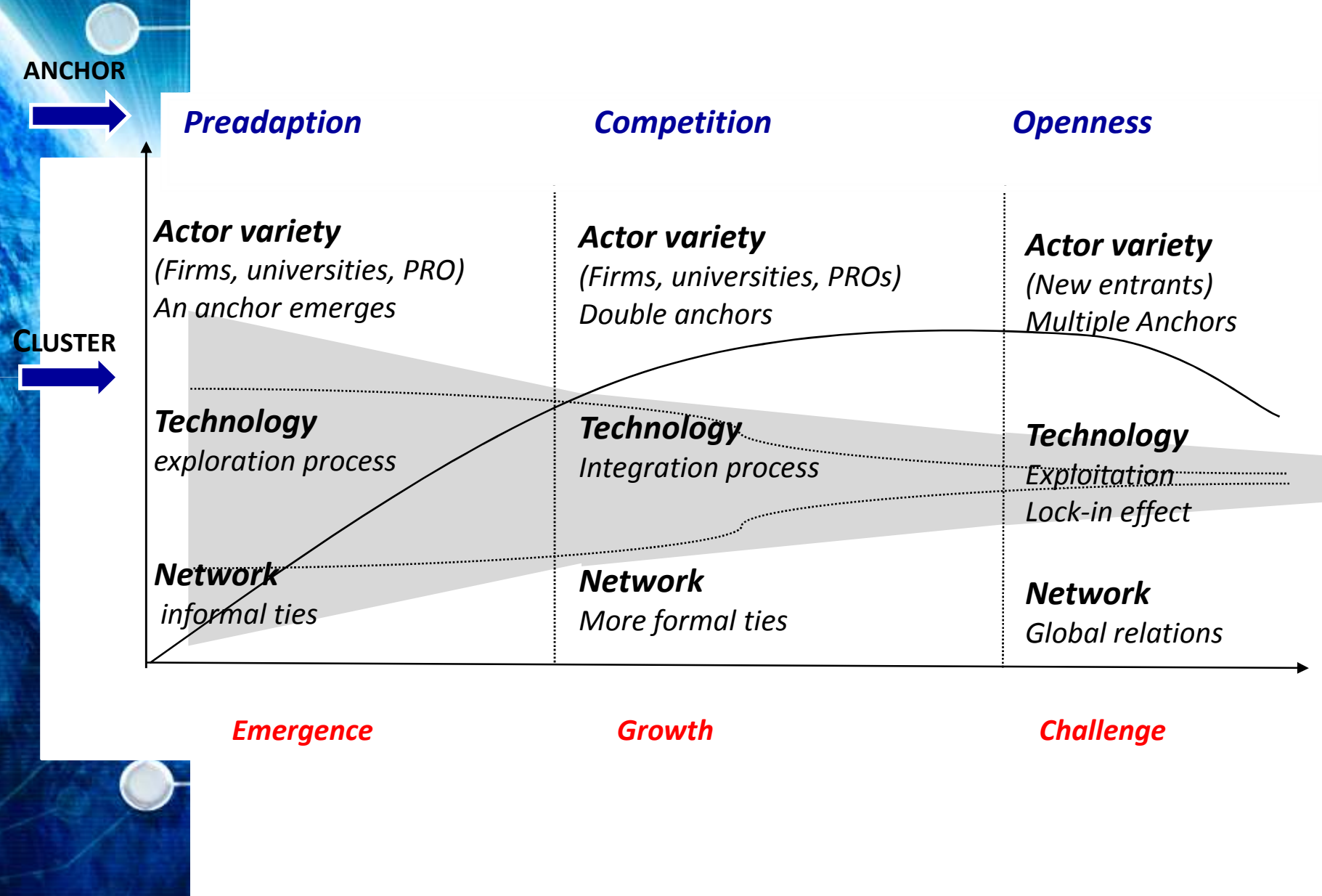
Benefitting from clusters

- Benefitting from clusters
 - Clusters are key source of regional and national competitiveness (Porter, 2000)
 - Role of geographic proximity (Boschma, 2005)
 - The role of anchor is important to cluster emergence and growth (Agrawal and Cockburn, 2003)
- But few clusters become hot spots (Pouder and St John, 1996)
 - Too much local collaboration develops cognitive proximity which leads to *lock-in effects* (Gargiulo, Benassi 2000)
 - Organization proximity leads *lack of flexibility* (Hill, Rothaermel, 2003)
 - Cluster firms reinforces existent patterns of specialization (Levinthal & March, 1993)

Pre-adaptation and sleeping anchors

- **Preadaption**
 - “knowledge potentially available for applications other than those for which they were originally developed” (Cattani, 2006)
 - Internal pre adaptation through non targeted RD
 - External - in clusters to benefit from geographic proximity to deal with tacit Knowledge
- **Degree of Cooperation vs. Competition within the cluster**
 - Time to cooperate and to compete
 - Emergence Vs. stabilisation

Clusters and Anchor Firm Life Cycles



During the emergence

Clusters	(1987-1994)	(1992-2000)
Actors	Existing anchor firm, i.e., STMicroelectronics	Existing anchor firm, i.e., STMicroelectronics
Technology	Revitalizing microelectronics. Existing research capabilities and R&D collaborations	Surf on the hype of nanotechnology
Networks	Industry-University collaboration CORIMME	Alliance Crolles 1, mostly with other firms to perform research, development and production

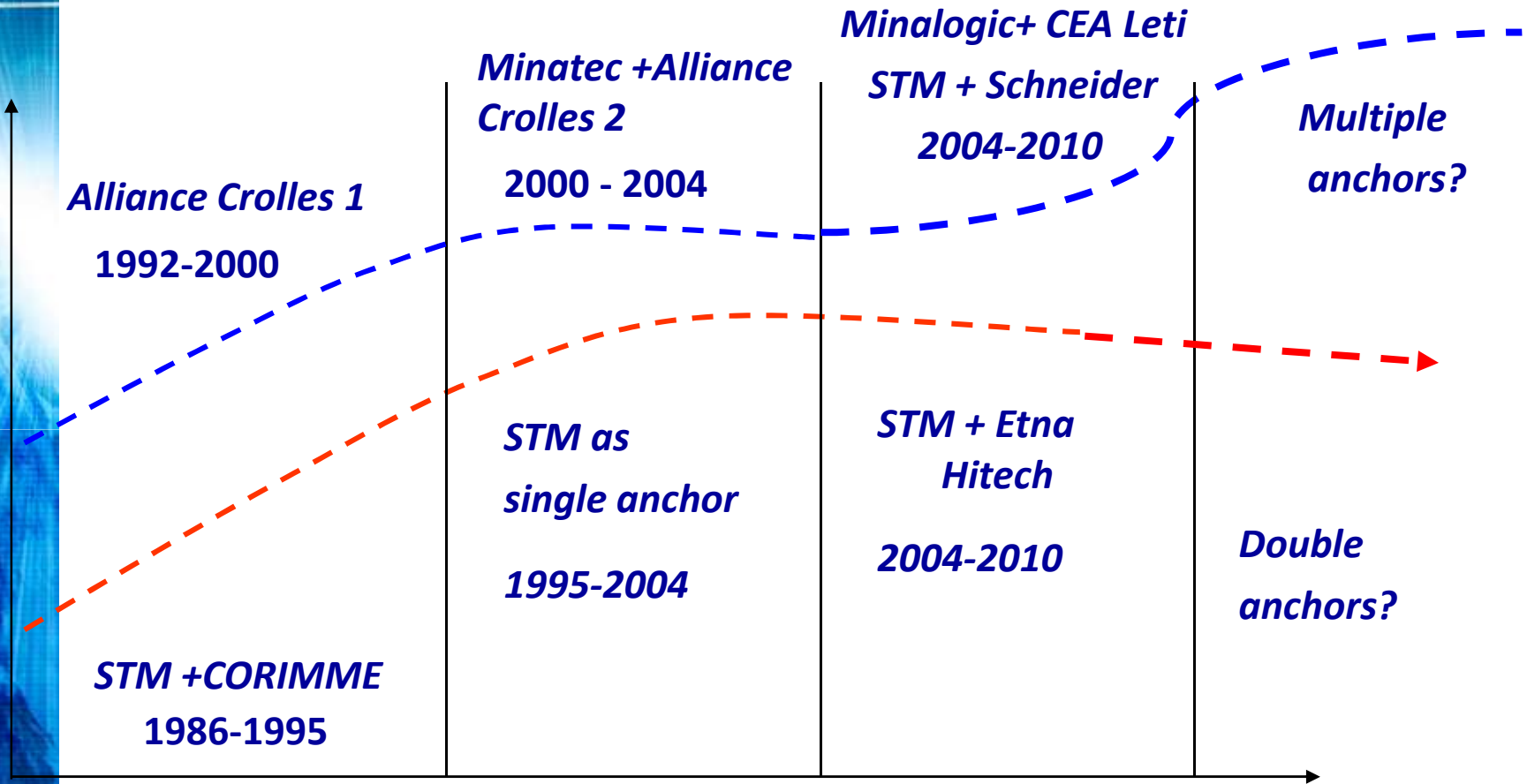
During the growth

Clusters	(1994- 2004)	(2000-2004)
Actors	Existing anchor firm, i.e., STMicroelectronics	Double anchoring (CEA as the anchor of Minatec and STMicroelectronics at the industrial anchor of Crolles Alliances)
Technology	The relationship industry-university tends to become exclusive	Investments are highly supported by local, regional and national authorities
Networks	CNR IMM Etna Valley brand	Cluster boundaries become clearer. Variety of actors provides the cluster with multiple networks

During the challenge phase

Clusters	(2004- 2010)	(2004-2010)
Actors	STM declines New actors emerge (e.g., Etna HiTech) No private investors	Minatec and Cea Leti STM and Schneider Private Investors
Technology	Solar Energy	Nano 2012
Networks	JV STM-Sharp-Enel Etna Hitech Consortium Technological District	Multi-thematic clusters i.e. Minalogic, Lyon- biopole, Tenerrdis Several large multinational firms competing to benefit from the cluster

Same anchor, different dynamics



Emergence

Growth

Maturity

Next step?



Catania



Grenoble

Interpretation

Anchor firms FIRST benefit from cluster to stabilise relations and technologies and THEN contribute to overcome cluster *lock-in, lack of flexibility, path dependence* by underlying organizational proximity

Cluster FIRST specializes on a limited number of technological fields and THEN has to reopen *knowledge diversity* (actors, networks and technologies)

To benefit from clusters over its lifecycle, concentration on ONE anchor during the emerging phase, THEN stimulate the wake up of sleeping anchors to compete to orchestrate the cluster, THEN blur the borders of the cluster and stimulate involvement within networks

Policy recommendations

- Maintain multiple anchor tenant firms within the cluster even if sleepy
 - Diversify actors and rejuvenate K
 - No lock -in with one anchor
 - Pre adaptation from Anchor and from Cluster
- From the policy maker point of view
 - Integrate the CLC in the policy design
 - Invest in different trajectories at the beginning
 - Avoid focus on one technology during the growth period; Start new invest in new tech after the emergence of Tech 1
- Policy makers have to counter balance natural evolution
 - When technology is generic (emergence), focus on one anchor tenant to create convergence
 - When technology becomes specific and the frontiers of the clusters appear more stable, reopen the competition for orchestration
 - When the cluster matures, blur its frontiers and organise the focus on the emerging next fields



Thank you for your attention !
Questions and comments welcome

To know more www.nanoeconomics.eu

Next Frida event Winterschool for social
scientists in Grenoble, March 2011

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