

Bocconi



Università Commerciale
Luigi Bocconi

KITeS

Knowledge,
Internationalization
and Technology
Studies

Highlights 2009

About KITeS

KITeS was established in 2008, and is hosted by Università Bocconi in Milan. This inter-departmental research center integrates researchers from the fields of economics, management and institutional analysis. It builds upon two pre-existing research centers (CESPRI and CRITOM) that merged into one larger group of researchers interested in the relationship between innovation, company competitiveness and economic growth in the global economy.

The center's research focuses on three key areas: **innovation and applied economics, technology management** and **international trade**.

KITeS Honorary President is Fabrizio Onida, and Salvatore Vicari is President.

The Director is Franco Malerba, supported by Deputy Directors Stefano Brusoni, Myriam Mariani and Emanuela Prandelli.



The KITEs research team includes 22 Fellows, 14 Affiliates plus 16 research assistants and PhD candidates.

Data Management

Gianluca Tarasconi is KITEs database manager.

Administrative Staff

Sabrina Miraglino, Stefania Torriani
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Main Research Projects & Results

AEGIS - Advancing Knowledge-Intensive Entrepreneurship and Innovation for Economic Growth and Social Well-being in Europe

AEGIS deals with the interaction between knowledge, innovation, economic growth and social well-being. The project studies the role of competencies and incentives across sectors and countries in promoting the generation of knowledge from suppliers, users and related activities, and its transformation through entrepreneurship into innovation, economic value added, and social benefits. It then draws policy conclusions and recommendations addressing supply, demand and system features.

Coordinators: Franco Malerba, Nicoletta Corrocher

CID - Culture and Innovation Dynamics

The benefits of new ideas and new technologies are unevenly distributed, both geographically and across different types of organizations. Addressing this imbalance is especially important in the current context of the newly enlarged EU. CID studies underlying cultural reasons for its existence, as a step towards the definition of policies to promote greater equality and entrepreneurship through cross-cultural interaction. **Coordinator:** Stefano Brusoni

Europe INNOVA Sectoral Innovation Watch

Within the Project EUROPE INNOVA - Sectoral Innovation Watch, KITEs together with IWW in Karlsruhe has drafted a Report on "National Specialization and Innovative Performance". The focus is European national specialization in innovative activities, its characteristics and the relationship with European economic performance. It investigates the relationship between technological specialization and innovative and economic performance across the EU and four global players (the United States and Japan as well as the emerging economies India and China). Furthermore, the Report takes into account the market structure by examining the role of large innovative companies as well as new firms.

Coordinator: Fabio Montobbio

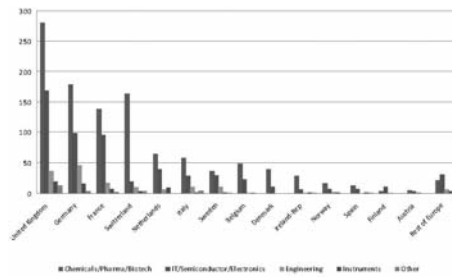
GLOBINN - The Changing Nature of Internationalization of Innovation in Europe: Impact on Firms and the Implications for Innovation Policy in the EU

A major EU policy challenge is to enhance extra-EU, in addition to intra-EU, innovation activities and inter-firm technology transfer. The purpose of the GLOBINN project is to improve our understanding of international knowledge sourcing strategies of European firms and their effect on

performance. The KITEs team in particular focuses on the heterogeneity of technology licensing strategies and the barriers to the growth of global licensing markets.

Coordinators: Alfonso Gambardella, Salvo Torrisi

Distribution of Licence Agreements by Technology and by the Country of European Participants



Source: Gambardella and Torrisi (2010) on SDC-Thomson data

ICT Network Impact on Structuring a Competitive ERA

This project develops and tests a

methodological framework for assessing the effectiveness of ICT networks formed in FP6 and FP7 in supporting the formation of a European Research Area (ERA). What are the structural properties of these networks? Are they able to attract the most technologically dynamic small and medium-sized enterprises in Europe? What is the relative positioning of European organizations in the networks beyond their involvement? To answer these questions, we use data from different sources: ICT RTD collaborative projects in the FP6 and FP7; global strategic alliances in ICTs from SDC Thomson Financial database; patents and patent citations (KITEs-PATSTAT database); survey information from organizations in IST RTD projects in FP6 (InnoImpact survey). **Coordinators:** Stefano Breschi, Franco Malerba

INNOS&T - Innovative S&T Indicators Combining Patent Data and Surveys: Empirical Models and Policy Analyses

INNOS&T is a world-wide survey of patent inventors (like the PatVal-EU survey on a



KITeS fellows supervise several students of the **Bocconi PhD School**:

- “Entry, Industrial Structure and Innovation in an Agent-Based Perspective” - Gianluca Capone
- “Chance or necessity? How learning affects seemingly unpredictable inventions” - Raffaele Conti
- “The transfer of innovation-related information in creative industries” - Giada Di Stefano
- “Small firms, big patents? Estimating patent value using data on start-ups’ financing rounds” - Gili Greenberg
- “The microfoundations of entrepreneurial and innovative decision-making” - Daniella Laureiro Martinez
- “Internationalization of MNEs’ innovative activity: a geographic and sectoral analysis” - Roberto Mavilia

- “Technology development and commercialization strategies for innovative firms” - Elena Novelli
- “Three essays on the evaluation of product design” - Irene Scopelliti



smaller scale). The objectives of the project are: 1) to develop and collect novel and systematic science and technology indicators; 2) to produce empirical models that can contribute to improve policies on the following topics: the economic use of the patents (unused patents and strategic patenting; licensing, entrepreneurship); science-industry linkages and innovation performance; gender, education and mobility of inventors; the economic value of patents. **Coordinator:** Alfonso Gambardella

KEINS - Knowledge Based Entrepreneurship: Innovation, Networks and Systems

The project is part of the STREP program of the EU. It examines the relevance and features of knowledge intensive entrepreneurship in Europe, by looking at start-up entrepreneurship and academic entrepreneurship in different countries and sectors. Knowledge intensive entrepreneurs are knowledge operators, dedicated to the integration of different knowledge assets and the creation of new ones. How important is knowledge intensive entrepreneurship in Europe, including the new member countries? What are the factors that affect knowledge intensive entrepreneurship? How can knowledge intensive entrepreneurship be effectively promoted? The KEINS project was chosen by a panel of 10 EU experts as an example of best practice research, and presented at the EU conference “Creativity and innovation - best practice from European programmes” in Brussels. The book *Knowledge intensive entrepreneurship and innovation systems: evidence from Europe* edited by Franco Malerba (Routledge) contains the main results of the project. **Coordinator:** Franco Malerba

Networks in Information Society: Development and Deployment in Europe

This study follows in a series of evaluative

projects sponsored by DG Information Society and Media applying network methodology. It investigates the effect of networks on market application and deployment of new IST technologies.

Coordinator: Franco Malerba
The main results of KITeS research on ICT networks are published in the book *Innovation networks in industries* edited by Franco Malerba and Nicholas Vonortas and published by Edward Elgar

Trends and Evolution of the EU ICT Research and Deployment Landscape

This project assesses the effectiveness of network collaborations and knowledge transfer between innovation and deployment of the Information Society at the EU regional level. To this end it employs information at the organizational level related to collaborative IST-RTD and ICT deployment activities.

Coordinator: Nicoletta Corrocher

Using Performance Indicators in Monitoring the Implementation of ICT Research in FP6

The project provides a bibliometric assessment of the scientific and technological research output produced by the FP6 projects funded by the EU DG INFSO (Information and Media Society Directorate General) – i.e. scientific publications and patent applications. As expected, results show that the distribution of scientific productivity is skewed. A significant impact is associated to the type of instrument used to fund projects. In particular, Integrated Projects (IPs) and Networks of Excellence (NoEs) outperform Specific Targeted Research Projects (STREPs). There is also complementarity between patenting and publishing activities. In addition, the scientific impact of articles produced by DG INFSO projects (measured by forward citations) is no lower and often significantly higher than the average article published in the same journal and

in the same scientific field. Finally, the extent of joint patent ownership in the context of DG INFSO projects is significantly higher than in the benchmarking population of patents.

Coordinator: Stefano Breschi

More information on KITeS Research Projects can be found at:

www.kites.unibocconi.it/projects
www.kites.unibocconi.it/networks

Seminars

The research center organizes two different types of seminars: the KITeS SEMINAR SERIES (KISS) and the BROWN BAG (BB) discussion meetings.

KITeS SEMINAR SERIES

Speakers in the **KITeS Seminar Series** present recent developments in applied economics, innovation management, technology strategy and international economics. During the semester September 2009 - January 2010 we had the pleasure to welcome:

- September 24th, **Michael Jacobides** (LBS), “Who Wins in a Sector, and Why? How the Dynamics of a Segment Shape Its Position in the Industry Architecture”
- October 28th, **Paula Stephan** (Georgia State University), “The Impact of Information Technology on Scientists’ Productivity, Quality and Collaboration Patterns”
- November 11th, **Jan Fagerberg** (Oslo University), “The Future of Innovations Studies: An Exploration Based on Reasoned History”
- December 2nd, **Andrea Pataconi** (University of Aberdeen), “When is a Nexus of Contracts More Firm-Like? Theory and Evidence from Business Groups”

Also as joint KITeS-DIR seminars, we had:

- December 14th, **Lee Fleming** (Harvard Business School), “Regional Disadvantage? Non-Compete Agreements and Brain Drain”
- January 11th, **Gautam Ahuja** (University of Michigan), “External Inducements and Internal Efforts: Effects on the Nature of Innovation”

BROWN BAG Discussion Meetings

The **Brown Bag Discussion Meetings** provide a forum where KITeS researchers and external researchers present their ongoing work and exchange feedback. Among the 2009 guests: **Satoshi Inomata** (IDE-Jetro, Tokyo), **Mauro Sylos Labini** (IMT- Sant’Anna School of Advanced Studies), **Stine Grodal** (Boston University), **Rachel Jafta** (University of Stellenbosch, South Africa), **Federico Barbiellini Amidei** (Banca d’Italia), **Lucio Picci** (University of Bologna).

Events

KITeS faculty organizes scientific events such as workshops, conferences and summer schools.

- Milan, September 2009. FIRB-RISC CONFERENCE, "Research and Entrepreneurship in the Knowledge-Based Economy"
- Milan, December 2009. "Industrial Dynamics and Sectoral Systems in Developing Economies" (DIME Workshop)
- Milan, January 2010. "Globalization and International Competitiveness" (Italian Trade Study Group (ITSG))

For further information on KITeS researchers and publications, please refer to the following link: www.kites.unibocconi.it

Publications

Altomonte, C., Pennings, E., (2009).

"Domestic Plant Productivity and Incremental Spillovers from Foreign Direct Investment", *Journal of International Business Studies*, 40(7): 1131-1148.

Arora, A., Gambardella, A., Magazzini, L., Pammolli, F., (2009). **"A Breadth of Fresh Air? Firm Type, Scale, Scope and Selection Effects in Drug Development"**, *Management Science*, 55(10): 1638-1653.

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Behrens, K., Hamilton, J., Ottaviano, G., Thisse, J-F., (2009). **"Commodity Tax Competition and Industry Location under the Destination and the Origin Principle"**, *Regional Science and Urban Economics*, Elsevier, vol. 39(4): 422-433.

Bonaccorsi, A., and Thoma G., (2009). **"Institutional Complementarity and Inventive Performance in Nanotechnology"**, *Research Policy*, 36(6): 813-831.

Breschi, S., Catalini, C., (2010). **"Tracing the Links between Science and Technology: An Exploratory Analysis of the Research Networks among Scientists and Inventors"**, *Research Policy*, 39(1):14-26.

Castaldi C., Fontana R. and Nuvolari A., (2009). **"'Chariots of Fire': the Evolution of Tank Technology 1915-1945"**, *Journal of Evolutionary Economics*, 19(4): 545-566.

Corrocher, N., Cusmano, L., and Morrison, A., (2009). **"Modes of Innovation in Knowledge-Intensive Business Services: Evidence from Lombardy"**, *Journal of Evolutionary Economics*, 19(2): 173-196.

Corrocher, N. and Guerzoni, M. (2009). **"Product Variety and Price Strategy in the Ski Manufacturing Industry"**, *Journal of Evolutionary Economics*, 19(4), 471-486.

Di Mauro, F., Ottaviano, G. and Taglioni, D., (2009). **"The Euro and the Competitiveness of European Firms"**, *Economic Policy*, 24(17): 5-53.

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"Openness, Government Size and the Terms of Trade", *The Review of Economic Studies*, 76(2): 629-668.

Fontagné L., Mayer T., Ottaviano G., (2009).

"Of markets, products and prices: The effects of the euro on European firms", *Intereconomics: Review of European Economic Policy*, Springer, 44(3): 149-158.

Fontana, R. and Nesta, L., (2009). **"Product Innovation and Survival in a Hi-Tech Industry"**, *Review of Industrial Organization*, 34(4): 287-306.

Fontana R, Nuvolari A and Saviotti P.P., (2009). **"Introduction to the Journal of Evolutionary Economics Special Issue: The Product Characteristics Approach to Innovation Studies"**, *Journal of Evolutionary Economics*, 19(4): 463-469.

Fuchs, C., Prandelli, E., & Schreier, M., (2010). **"The Psychological Effects of Empowerment Strategies on Consumers' Product Demand"**, *Journal of Marketing*, 74(1): 65-79.

Gambardella, A., Giarratana, M., Panico, C., (2009). **"How and When Should Companies Retain their Human Capital? Contracts, Incentives, and Human Resource Implications"**, *Industrial and Corporate Change*, 19(1): 1-24.

Gambardella, A., Mariani, M., and Torrisi, S., (2009). **"How Provincial is Your Region? Effects on Labour Productivity in Europe"**, *Regional Studies*, 43(7): 935-947.

Giuri, P., Ploner, M., Rullani, F., and Torrisi, S., (2009). **"Skills, Division of Labor and Performance in Collective Inventions: Evidence from Open Source Software"**, *International Journal of Industrial Organization*, 28(1): 54-68.

Grieco D. and Hogarth R.M. (2009). **"Overconfidence in Absolute and Relative Performance: The Regression Hypothesis and Bayesian Updating"**, *Journal of Economic Psychology*, 30(5): 756-771.

Hall B., Thoma G. and Torrisi S., (2009). **"Financial Patenting in Europe"**, *European Management Review*, 6(1): 45-63.

Lissoni, F., Lotz, P., Schovsbo, J., Treccani, A., (2009). **"Academic Patenting and the Professor's Privilege: Evidence on Denmark"**, *Science and Public Policy*, 36(8): 595-607.

Thoma, G. (2009). **"Striving for a Large Market: Evidence from a General Purpose Technology in Action"**, *Industrial and Corporate Change*, 18(1): 107-138.

Vaccaro, A., Brusoni, S. and Veloso, F., (2009). **"The Impact of Virtual Technologies on Knowledge Based Processes: An Empirical Study"**, *Research Policy*, 38(8): 1278-1287.

Forthcoming Papers

Bacchiocchi E., Montobbio F., **"International Knowledge Diffusion and Home-Bias Effect. Do USPTO & EPO Patent Citations Tell the Same Story?"**, *Scandinavian Journal of Economics*.

Corrocher, N. and Zirulia, L., **"Demand and**

Innovation in Services: The Case of Mobile Communications", *Research Policy*.

Cusmano, L., Mancusi, ML. and Morrison, A., **"Globalisation of Production and Innovation: How Outsourcing is Reshaping an Advanced Manufacturing Area"** *Regional Studies*.

Cusmano L., Morrison A. and Rabellotti R., **"Catching-up Trajectories in the Wine Sector: A Comparative Study of Chile, Italy and South Africa"**, *World Development*.

De Luca, L., Verona, G., Vicari, S., **"Market Orientation and R&D Effectiveness in High-Technology Firms: An Empirical Investigation in the Biotechnology Industry"**, *The Journal of Product Innovation Management*.

Di Stefano, G., Peteraf, M., Verona, G., **"Dynamic Capabilities Deconstructed: A Bibliographic Investigation into the Origins, Development, and Future Directions of the Research Domain"**, *Industrial and Corporate Change*.

Durisin, B., Calabretta, G., Parmeggiani, V., **"The Intellectual Structure of Product Innovation Research: A Bibliometric Study of the Journal of Product Innovation Management"**, 1984-2004, *The Journal of Product Innovation Management*.

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Gambardella, A., Giarratana, M., **"Organizational Attributes and the Distribution of Rewards in a Region: Managerial Firms vs Knowledge Clusters"**, *Organization Science*.

Giarratana, M., Torrisi, S., **"Foreign Entry and Survival in a Knowledge Intense Market"**, *Strategic Entrepreneurship Journal*.

Lacetera, N., Zirulia, L. **"The Economics of Scientific Misconduct"**, *Journal of Law, Economics and Organization*.

Laureiro-Martinez, D., Brusoni, S. and Zollo, M., **"The Neuro-Scientific Foundations of the Exploration-Exploitation Dilemma"**, *Journal of Neurosciences, Psychology and Economics*.

Laursen, K., Leone, I. and Torrisi, S., **"Technological Exploration through Licensing: New Insights from the Licensee's Point of View"**, *Industrial and Corporate Change*, Special Issue on Markets for Technology and Industry Evolution.

Lissoni, F., Mairesse, J., Montobbio, F., Pezzoni, M., **"Scientific Productivity and Academic Promotion: A Study on French and Italian Physicists"**, *Industrial and Corporate Change*.

Montobbio, F., Sterzi, V., **"Inventing Together: Exploring the Nature of International Knowledge Spillovers in Latin America"**, *Journal of Evolutionary Economics*.

KITeS has also a Working Paper series: www.kites.unibocconi.it/workingpapers

