



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 37th cycle

**THEMATIC Research Field: DESIGN TO VALUE UNVEILING HIDDEN APPLICATIONS IN
EXISTING/EMERGING TECHNOLOGIES**

Monthly net income of PhDscholarship (max 36 months)

€ 1400.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

**Motivation and objectives of the research
in this field**

Studies of innovation management have often focused their investigations on two domains: technologies and markets. Technological innovation has been capturing most attention, especially as far as radical technological change is concerned. Indeed, in the past decades a rich stream of studies has explored the antecedents of technological breakthrough. Later, investigations have focused more on the applications of existing or new technologies and/or products to penetrate into new markets domains. However, design has recently gained much attention among practitioners and scholars as a source of innovation. Firms are increasingly investing in design and involving design firms in their innovation processes. Academic journals are publishing articles that explore the contribution of design to product development and business performance. And the practitioners' press has dived into the subject extensively. Still, the role of design in innovation and competition remains a rather young (preparadigmatic) area, with blurred boundaries and often unclear or contrasting perspectives. Design is related to the innovation of the meaning of products and services: it concerns the purpose, the 'why' people uses things, rather than the functionality and performance of products (i.e. the 'what' and 'how'). Short sighted companies often focus on the search of new markets for a technology without taking in consideration its meanings. In this way when companies look for potential applications they just focus on technological substitutions: companies



	<p>add more effective and powerful functionality or improve performance, leaving the existing meaning untouched. The myopic part of the industry embraces the new technology for utilitarian reasons - until a firm invests on design driven-innovation, finds out the disruptive quiet meaning and realizes its full potential. Especially in technology-intensive companies, design has got a minor role: in this companies design is eventually useful for creating a user friendly interface, thus making technology more accessible, and for wrapping the technology core in a nice box, but nothing more. Instead, design can play a major role at a technology's inception, especially when a breakthrough technology arises. When a breakthrough technology emerges, it embeds many potential meanings. Some are immediate and promoted by those who have initially guided technological development. Other meanings are quiescent, but sooner or later they become manifest. More precisely each technology is considered to embed a set of disruptive new meanings that are waiting to be uncovered. If a company reveals those quiescent meanings it will seize the technology's full value, celebrating a technology epiphany.</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The research project will be developed in Fedrigoni (https://fedrigoni.com/); Fedrigoni is a leading player in specialty papers (for packaging, quality prints, security and fine arts) and self-adhesive solutions. Today Fedrigoni is the third global player in self-adhesive materials and the European leader in specialty papers. Fedrigoni is currently engaged in a deep review of its product portfolio, aiming not only at completing and improving the product range but also at identifying market opportunities in adjacent businesses. An example of this is the 'plastic to paper' transition, where "unconventional applications" of paper properties have been leveraged to replace plastic materials. Fedrigoni has developed in the last years several research collaborations with the Alta Scuola Politecnica (ASP), creating the appropriate settings to welcome a PhD research project. The research project will rely on three main research methodologies:</p> <ul style="list-style-type: none"> - Case Study Research, aimed at investigating the



	<p>required capabilities and practices in the development of Technology Epiphanies;</p> <ul style="list-style-type: none"> - Ethnographic Research, aimed at observing the development process of Technology Epiphanies; - Action Research, aimed at experimenting the contribution of Technologies Epiphanies in valuing the portfolio of existing/emerging technologies.
Educational objectives	<p>Industrial PhD candidate will develop competences and attitudes aimed at applying Technology Epiphanies practices in dealing with existing/emerging technologies:</p> <ul style="list-style-type: none"> - Analyzing the potential of existing/emerging technologies; - Identifying original application field where to adopt existing/emerging technologies; - Harmonizing the portfolio of existing/emerging technologies with the aim of optimizing the product portfolio.
Job opportunities	<ul style="list-style-type: none"> - R&D Manager in Industrial and High-Tech Manufacturers - Product Manager and Business Developer Industrial and High-Tech Manufacturers - Procurement Manager in Industrial and High-Tech Manufacturers
Composition of the research group	<p>2 Full Professors 1 Associated Professors 3 Assistant Professors 5 PhD Students</p>
Name of the research directors	Claudio Dell'Era e Stefano Magistretti

Contacts
<p>Claudio Dell'Era (claudio.dellera@polimi.it) Stefano Magistretti (stefano.magistretti@polimi.it)</p>

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--



Scholarship Increase for a period abroad	
Amount monthly	566.36 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information

Funding for educational activities: 1st year: 1200 euros per student, 2nd year: 1200 euros per student, 3rd year: 1200 euros per student.

Teaching assistantship: There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.

Desk availability: shared use

Computer availability: individual use