



# PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

**PNRR\_352 Research Field: DEVELOPMENT OF METHODOLOGIES AND TECHNIQUES FOR IMPROVING THE SUSTAINABILITY OF PRODUCTION AND LOGISTICS PROCESSES**

<b>Monthly net income of PhDscholarship (max 36 months)</b>
<b>€ 1450.0</b>
In case of a change of the welfare rates during the three-year period, the amount could be modified.

<b>Context of the research activity</b>	
<p><b>Motivation and objectives of the research in this field</b></p>	<p>Sustainability is one of the two main pillars of PNRR and European Commission action, thus it is a key issue for all industries, but oil and gas is one that is facing a dramatic revolution, threatening its very existence. Until now, margins were high, and attention to the environment was low, so the main attention has been devoted to effectiveness of the output, whilst the usage of the resources, and the impact on the environment were not top priorities. On the other hand, oil and gas industry is a key one for the functioning of any developed country and economy, as the present situation in Europe is clearly showing. Even more for its development.</p> <p>The project is aimed at developing and testing new methodologies and tools that allow companies in the Oil and Gas Industry to significantly improve sustainability of their production and logistics processes without decreasing the quality of their products, nor significantly increase the cost of their processes. An initial analysis of literature and of the partner company's processes will allow to identify the most interesting and promising aspects to focus on.</p>
<p><b>Methods and techniques that will be developed and used to carry out the research</b></p>	<p>The work program and the associated methodologies and techniques will be as follows:</p> <ul style="list-style-type: none"> <li>- make a first analysis of the literature regarding which methodologies and techniques have been developed to improve the sustainability of production and logistics</li> </ul>



	<p>processes;</p> <ul style="list-style-type: none"> <li>- analyze the situation in Pietro Fiorentini, identifying which aspects of sustainability to focus more on;</li> <li>- deepen the study of the literature and models already present to see which one comes closest to dealing with the aspects focused with Pietro Fiorentini;</li> <li>- develop at least one new methodology and a few techniques to improve the sustainability of Pietro Fiorentini's processes on which it was decided to focus;</li> <li>- validate results with the application in Pietro Fiorentini of at least one part;</li> <li>- generalize the results by collecting information on other similar cases.</li> </ul>
<p><b>Educational objectives</b></p>	<p>The research is multidisciplinary in nature: the candidate will develop advanced research skills in the areas of Operations Management, Logistics, Product development, as well as competence on the Oil and Gas Industry. Moreover, she/he will learn how to design and conduct a research project, adopting the proper methodologies for conducting a literature review, data collection and analysis (survey, structured interviews), validate results, and to present and publish results in both academic and practitioner outlets. Such learnings are extremely useful in all the future development of the professional career of the PhD candidate, and to transfer deeper knowledge and higher innovation capabilities to companies.</p>
<p><b>Job opportunities</b></p>	<p>Because the subject is at the center of the attention of virtually any manufacturing company, job opportunities are available in Pietro Fiorentini, in Pietro Fiorentini's industry (oil and gas), as well as in any manufacturing company. The competences gathered by the PhD candidate, and the methodologies learned, make him/her extremely attractive for consulting companies also.</p>
<p><b>Composition of the research group</b></p>	<p>1 Full Professors 0 Associated Professors 2 Assistant Professors 2 PhD Students</p>
<p><b>Name of the research directors</b></p>	<p>Alberto Portioli Staudacher</p>



Contacts	
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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	725.0 €
By number of months	6

National Operational Program for Research and Innovation	
Company where the candidate will attend the stage (name and brief description)	Pietro Fiorentini
By number of months at the company	6
Institution or company where the candidate will spend the period abroad (name and brief description)	The PhD student will spend a period of at least 6 months abroad to interact with researchers and participate in joint activities potentially foreseen in the project, according to specific needs. Indeed, the project is highly interdisciplinary, and this favors the collaboration with foreign research centers where the candidate can acquire in-depth knowledge on the theme.
By number of months abroad	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p><i>Funding for educational activities: 4.900,00 Euros for three years.</i></p> <p><i>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.</i></p> <p><i>Desk availability: shared use Computer availability: individual use</i></p>