



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 37th cycle

**Thematic Research Field: INDUSTRIAL ECOSYSTEMS FOR THE DEVELOPMENT OF
QUANTUM KEY DISTRIBUTION INFRASTRUCTURE: A PRE-COMPETITIVE ANALYSIS IN
EUROPE**

Monthly net income of PhDscholarship (max 36 months)
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€ 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	
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Motivation and objectives of the research in this field	The ability to manipulate quantum systems has been developing in the past 30 years. In this field, Quantum Key Distribution (QKD) emerges as the closest to operational application with preoperational terrestrial networks. To prove the potential to finalise technological basis for a consolidated quantum key distribution system Europe will start with a QKD set of experiments embarked in the G2G transition batch spacecraft. To do so, evidence of technological maturity and manufacturing capacity is required at European scale and with particular emphasis on the Italian space industry.
Methods and techniques that will be developed and used to carry out the research	The candidate will develop her/his research in tight collaboration with Italian and European industrial and research partners involved in the QKD initiative. The research project will ground on the literature on system engineering and value creation in megaprojects. The research approach will blend qualitative and quantitative methods, such as case study, surveys and system dynamics modelling.
Educational objectives	The research is multidisciplinary in nature: the candidate will develop advanced research skills in the areas of complex project and programme management, system engineering, and business model innovation. She/he will learn how to design and conduct a research



	project, adopting the proper methodologies for data collection and analysis, and to present and publish results in both academic and managerial outlets.
Job opportunities	The successful completion of the programme will open several job opportunities in both academia and companies, in research, consulting and managerial roles.
Composition of the research group	4 Full Professors 0 Associated Professors 2 Assistant Professors 0 PhD Students
Name of the research directors	Prof. Paolo Trucco

Contacts

<i>Paolo.Trucco@polimi.it</i>

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

Scholarship Increase for a period abroad	
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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