

*PUBLIC SELECTION BASED ON QUALIFICATIONS AND INTERVIEW FOR THE AWARDING OF NO. 1 GRANT LASTING 12 MONTHS FOR CONDUCTING RESEARCH IN ACCORDANCE WITH ART. 22 OF LAW OF 30.12.2010 NO. 240 AT THE DEPARTMENT OF MANAGEMENT, INFORMATION AND PRODUCTION ENGINEERING OF THE UNIVERSITY OF BERGAMO ACADEMIC RECRUITMENT FIELD 09/B2 – INDUSTRIAL MECHANICAL SYSTEMS ENGINEERING - ACADEMIC DISCIPLINE ING-IND/17 – INDUSTRIAL MECHANICAL SYSTEMS ENGINEERING AS PART OF THE PLAN FOR EXTRAORDINARY RESEARCH CALLED ITALY® (TALENTED YOUNG ITALIAN ®ESEARCHERS) - YOUTH IN RESEARCH INITIATIVE FOR THE YEAR 2016 - TRANCHE I – (CUP: F12I14000230008)*

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**RESEARCH PROJECT “Hospital processes optimization through dynamic analysis”**

The present research aims at exploiting a new approach for increasing efficiency in healthcare services, considering core services, strictly related to medical and hospital activities, as well as non-core services (referring to secondary activities). In particular, using consolidated methodologies of management and industrial engineering, linked also to the logic of Business Process Reengineering (BPR) and of Business Process Improvement (BPI), which allow a representation of the process under a system perspective, opportunities for service cost reduction, starting from medical care provided to patients, will be analysed. The main object of the analysis will be the care pathway. This is defined as the patient care cycle process, and can be further divided into sub-processes, whose analysis can be conducted through Business Process Reengineering (BPR) or Business Process Improvement (BPI) approaches. The adoption of methods and tools for the dynamic optimization, such as discrete events simulation or advanced optimization algorithms, will allow to test the efficacy and the applicability of the new hospital processes approaches, in different scenarios. The project will be developed around three main macro-activities, to help achieve a holistic and systemic view, where the different care pathway can interact or conflict. In particular:

- The identification of the pathway characteristics and of the most suitable mapping methodologies for continuous improvement;
- The identification of different dimensions of patients' needs that can bring to the necessity of a care pathway customization;
- The mapping and the simulation of the care pathway according to different situations and contexts.