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## ***Deliverable D6.2***

### ***Indicators to measure overall effectiveness of E&T pilot degree courses***

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## Executive Summary

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The European Commission has set far-reaching gender equality in the Engineering & Technology (E&T) fields. HELENA project contributes to these initiatives by examining the presence of women in E&T higher education and exploring the impact of interdisciplinary E&T study programmes in attracting more female engineering students.

The research done in HELENA project aims to explore the students' perception and personal reasons for the E&T study choice and the influence of the cultural or social context in their decision, HELENA identifies which are the subtle processes and mechanisms operating in E&T education that contribute to sustain gender inequality, and to analyse the success of "innovative" degree courses in comparison with the "traditional" ones in attracting more female engineering students.

The work carried out under the previous work packages of the HELENA project, mainly WP2, WP4 and WP5, together with the work done in WP6 have given a judgement on the needs, to provide new ways of measure the relationship between students' perception of E&T, in general and of interdisciplinary E&T fields in particular, and study choice. In task 6.1 some interesting preliminary conclusions have been identified after exploring the impact of other factors on career choice and gender in engineering by partner country. Other related existence studies have been also explored.

In Task 6.2 the TECNALIA research group intended to taking into account the different dimensions involved to attractiveness potential of E&T high education disciplines, analyse and identify opportunities for improvement. The objective of Task 6.2 is to define indicators to measure overall effectiveness, by means of the collection of relevant factors and gender-sensitive indicators related to E&T high education programmes attractiveness. As result of Task 6.2, this D6.2 report presents a five dimensions' model with set of quantitative and qualitative indicators to measure E&T study programmes and their impact assessing the attractiveness of female students which are specific to E&T higher education. The model tries to afford an answer to the following key question: *Which would be the relevant aspects measuring performance in effectiveness of E&T study programmes on attracting female students?* The combination of five dimensions - study programme performance, university structure, personal background, national educational governance, and social & cultural context – is expected to give more comprehensive view on E&T high education programmes attractiveness potential and it reveals the diversity of aspects that could influence the study choice of young students, females in particular.

The model proposed is an attempt for structuring the factors that may influence the decision of pursuing a career in engineering. It suggests a set of assessment criteria and the setting of indicators to clarify the performance of attracting female students into E&T study programmes. The HELENA model has been contrasted against the case studies of the partners' countries in



Task 6.3 (a total of 24 selected cases studies, traditional and innovative, in seven countries - Austria, France, Lithuania, Macedonia, Serbia, Spain and United Kingdom) in order to understand where the E&T study programmes stand and where our higher educational system may look for improvement. The conclusions of the research of HELENA project will permit to propose a set of recommendations to improve the effectiveness of educational policies and study programmes in attracting more female students to engineering disciplines.

The HELENA model is constructed on the basis of the results of tasks in previous work packages of the research project HELENA, *Higher Education Leading to ENgineering And scientific careers*<sup>1</sup>. The project is funded by the European Commission under the 7<sup>th</sup> Framework Program (FP7), DG Research - Science in Society. It is coordinated by Siauliai University (Lithuania) and partners from Austria (Alpen-Adria Universität Klagenfurt), France (Ecole Normale Supérieure de Cachan and Egalité des Chances dans les Etudes et la Profession d'Ingénieur en Europe), Serbia (Mihailo Pupin Institute), Spain (Fundación Tecnalia Research & Innovation) and United Kingdom (Loughborough University) are involved.

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<sup>1</sup> HELENA project web site: <http://www.fp7-helena.org/>



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