

3.1 Publishable summary

A summary description of the project context and objectives

EURO-DOTS (acronym for European Doctoral Training Support in micro/nano-electronics) is an FP7 project that started on 1 May 2010, with a duration of 2 years and that is coordinated by imec, Belgium (BE). The partners are the Katholieke Universiteit Leuven (BE), KTH - Royal Institute of Technology (SE), École Polytechnique Fédérale de Lausanne (CH), MEAD (CH), and the Slovak Technical University (SK). The main objective of EURO-DOTS is to create a delocalized (virtual) platform to serve the Doctoral Schools in Europe by improving the offering and the quality of training of European PhD students in the fields of micro- and nano-electronics. This platform will help PhD students in acquiring ECTS (European Credit Transfer System) credits, imposed by major European universities for obtaining the Doctoral (PhD) degree in Engineering.

EURO-DOTS aims at addressing problems that exist today at Universities in Europe regarding the organization of high-level doctoral programs covering several engineering fields at the state-of-the-art level, i.e. in direct connection with research. Especially in view of the increasing multidisciplinary nature and content of the emerging research fields and the fast evolution of the nano-electronics and micro-systems domains in which disruptive developments are expected in the near future, a rapid and coherent response of the doctoral and/or continuous education courses has become indispensable. Though major European universities are at the top level in some specific research fields, they can however hardly cover the whole domain of microelectronics and micro-systems, both for scientific and financial reasons. The doctoral program they can offer is therefore restricted to some fields, and can hardly cover all the special topics that could be requested by innovative PhD work.

A coherent set of advanced courses in micro/nano-electronics, explicitly accredited by major European universities in the framework of their Doctoral Program, will therefore be made easily accessible to European PhD students, offering the opportunity to collect ECTS (European Credit Transfer System) credits throughout Europe.

The courses will respect specific organization criteria (short, intensive one-week course modules with optional exam) that will make them very flexible, accessible and attractive towards PhD students as well as for high-level continuous education of engineers from industry. Scholarships will be made available to PhD students fulfilling the selection criteria, for boosting the start-up of the project, while other sources of scholarships and/or industrial support will be explored for the long-term continuation of the project.

The EURO-DOTS consortium intends to provide solutions based on a detailed study of actual and future needs at our universities and in the industry to cover the gap in training courses. Moreover it reviews existing initiatives, studies the requirements and accreditation policies in European academia, defines the criteria that courses need to fulfill in order to become eligible and obtain the EURO-DOTS label and launches calls and invitation to European universities to propose and work out training modules in response to the recommendations of the gap analysis. Finally the EURO-DOTS platform is established and its working principles and the rules for attribution of scholarships to PhD students are defined and made public.

In order to support these goals and activities, an Academic Committee and a Scientific Committee with recognized experts from academia and industry supports and advices the consortium on the many academic and industrial issues.