

PERCCOM
PERvasive Computing & COMMunications for sustainable development

Duration: 24 months

Course description:

Context : The future world challenges include impact of technological development and new emerging technologies on environment and require an enormous effort to efficiently address air, water, food and energy challenges. The Smart 2020 report [www.smart2020.org] written by the international climate group recommends to intensively deploy Information and Communication Technologies (ICT) both for enhancing the monitoring of environment and human activities (industry, building, transport, etc) and for distributed smart ICT systems for enabling to mitigate the pollution, the waste, food quality and supply, energy constraints, etc. Higher education sector has both a responsibility and a response to those challenges by educating ICT professionals with high expertise in networking, computing and programming, capable to design, develop, deploy and maintain communication architectures and pervasive computing systems as well as software and services for sustainable development.

Moreover, the traditional methodologies in distributed system engineering have to be adapted and reviewed for minimizing the ICT footprint on the environment in terms of carbon emission, radio wave propagation, waste, technological pollution, energy efficiency, resource reuse, etc. The networked system engineering has to be globally rethought in the context of new business paradigm as the circular economy. The major effort of Engineering focuses then on the resource efficiency. The objectives of PERCCOM Master include:- To address educational challenges and attract students according to the new market demand expressed by OECD in the report on "OECD Information Technology Outlook 2010", by the European Commission adopted in 2009 a recommendation saying the ICT sector should lead the transition to an energy-efficient and low-carbon economy, and by companies developing new green ICT projects (Cf 2009 Gartner report: The Impact of Recession on Green IT: Survey Results).- To propose the new International Master degree with no currently available match at international level filling the gap between ICT skills and environmental considerations. Organization: The Master Program covers four semesters. The students move as a single cohort.

They start their first semester on "ICT sustainable engineering" at University of Lorraine (France). The second semester dedicated to "Sustainable SW and services", the cohort is at Lappeenranta University of Technology (Finland), and the third one at Luleå University of Technology (Sweden). The third semester is about "resource efficient pervasive systems and communication". The last semester is dedicated to a thesis component and can be undertaken during the training period either in a private company or in one of the laboratories/departments of the different Universities involved in the Master Program. For additional information, please access portal www.perccom.eu - details the content of PERCCOM Courses and the admission procedure.

Website: www.perccom.eu

Partners:

UNIVERSITY OF LORRAINE, France (Co-ordinating Institution)
LAPPEENRANTA UNIVERSITY OF TECHNOLOGY, Finland
NATIONAL RESEARCH UNIVERSITY OF IT MECHANICS AND OPTICS, Russian Federation
LULEA UNIVERSITY OF TECHNOLOGY, Sweden

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