- Delivery of **vocational trainings** to address the skills gap of Data Scientists and IoT engineers employed in the ICT and other economic sectors with increased demands for these occupational profiles. Trainings will be delivered into three phases: e-learning, face-to-face and work-based learning.
- Design of a mechanism that will be used for the **certification** of skills and competences acquired and provision of recommendations for the validation, certification & accreditation of provided VET programs, as well as NQFs, EQF and ECVET alignment.
- Production of a set of toolkits, guiding stakeholders and especially companies and VET providers on how to exploit project's results.
- Organization of three **workshops** (in Greece, Bulgaria and Cyprus) and a **final conference** (in Greece during the last month of the project) to effectively disseminate project's activities and outcomes to target groups and all related stakeholders.

## PROJECT INFO

**Program:** Erasmus+ KA2: Cooperation for innovation and the exchange of good practices - Sector Skills Alliances

**Call ID:** EACEA-04-2017

**Coordinator:** University of Patras

**Duration:** 36 months

**Start Date:** 1st December 2017

**End Date:** 30th November 2020

**Number of Partners:** 12, from 4 countries

**Online:** www.sending-project.eu

## PROJECT PARTNERS

The consortium consists of higher education institutions (University of Patras, University of Cyprus), VET providers (Olympic Training and Consulting, ESI Center Eastern Europe, University of Cyprus), private-sector companies (Universal Learning Systems, Yodiwo, Mixanografiki, Code Runners, Nemetschek), associations of IT companies and IT scientists (Greek Computer Society, Bulgarian Association of Software Companies), as well as a certification organization (Unicert). Higher educational institutions involved in the project provide the European ICT-related sectors with research results and highly qualified IT graduates, while VET providers offer vocational training, lifelong learning, studies, seminars, training material and community initiatives. Participating companies are active at the areas of Data Science and/or Internet of Things and associations materialize their efforts to support the establishment of a well-developed system of formal and informal education in the field of ICT. The certification organization will undertake the design of the skills certification mechanism aligned with EU standards.

Co-funded by the Erasmus+ Programme of the European Union



# SEnDIng

## Sector Skills Alliance for the design and delivery of innovative VET programmes to Data Science and Internet of Things professionals

(591848-EPP-1-2017-1-EL-EPPKA2-SSA)

www.sending-project.eu

## AIM

***The SEnDIng project aims to address the skills' gap of Data Scientists and Internet of Things engineers identified at the ICT and other sectors (e.g. banking and energy) where Data Science and Internet of Things have broad applications.***

***SEnDIng is targeted at developing and delivering outcome-oriented, modular VET programmes using innovative delivery methodologies. The project consortium will work on the design and application of a trainees' certification mechanism for the accreditation of acquired skills of the vocational programs.***

## RATIONALE

Competitiveness, innovation and job creation in European industry are increasingly being driven by new Information and Communication Technologies (ICTs) and the availability of highly skilled and qualified workers in line with rapidly evolving market trends. The ICT sector is rapidly changing, has a strong momentum and an important contribution to the growth of economy. According to the EC, during 2010, the ICT contribution to Europe's growth represented 5% of GDP and ICT drove 20% of Europe's overall productivity growth. Furthermore, despite the uncertainty seen on global labor markets during and after the economic crisis, the employment of ICT specialists has been largely unaffected, as at European level the employment growth rate for ICT specialists has remained on an upwards path averaging 3% growth per annum since 2006 (i.e. it was more than eight times higher than the average growth rate of total employment over the same period).

Changes and disruptions in the economy can have significant influence on the future skill demands for ICT professionals. Data Science (DS) and Internet of Things (IoT) are among the key drivers of change with regard to the skills required by the ICT professionals. Furthermore, Big Data and Data Science are foreseen to contribute more than €206 billion to the EU economy by 2020 since, according to estimations, there will be a 160% increase in demand for Data Scientists from 2013 to 2020 with more than 300.000 new jobs. This forecast raises the need to constantly update the skills required by related occupational profiles (Data Scientists and IoT Engineers).

Therefore, SEnDIng aims to:

- Address the skills' gap of Data Scientists and IoT engineers, by developing curricula for the delivery of outcome-oriented modular VET programmes using innovative teaching and training delivery methodologies.
- Provide to Data Scientists and IoT engineers skills and competences that are transferable and recognized among EU countries according to European established frameworks and standards.
- Contribute to the increased demand of industry sectors other than the ICT sector (e.g. banking, energy, logistics) for highly-qualified Data Scientists and IoT Engineers equipped with the required e-skills and competences.
- Make the provided training more relevant to the actual needs of the labor market, by focusing on outcome-oriented programs that include strong work-based learning components and combine knowledge and skills with personal and sociocultural competences (soft skills).

## TARGET GROUPS

- IT professionals and associations
- VET providers
- Certification bodies
- Higher Education Institutions
- Companies & SMEs
- Policy-makers

## WORKPLAN AND OUTCOMES

The SEnDIng consortium will join its efforts to reach the following outcomes:

- Definition of the targeted **learning outcomes** of the provided vocational trainings in terms of knowledge, skills and competences for the occupational profiles of engineers working in the DS and the IoT domains.
- Design of **a common reference scheme** of competences, skills, knowledge and proficiency levels, in compliance with the European eCompetence Framework (eCF) and the ESCO IT occupations ensuring transparency, comparability and transferability between European countries.
- Design of **two modular outcome-oriented curricula**, one targeting DS and another targeting IoT, taking into consideration EQAVET.