European Commission

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Technologies for better human learning and teaching

The development and integration of robust and fit-for-purpose digital technologies for learning are crucial to boost the market for and innovation in educational technologies. This requires an industry-led approach in close cooperation with academia to defining the frameworks and interoperability requirements for the building blocks of a digital ecosystem for learning.

AT A GLANCE

Call:
H2020-ICT-2015

Topic:
ICT-20-2015

Budget:
€ 50 mio

Funding Schemes:
Research and Innovation Actions (RIA)
Innovation Actions (IA)
Public Procurement of Innovative Solutions (PPI)

Unit:
DG CNECT / G4 Inclusion, Skills and Youth

Web sites:
http://ec.europa.eu/digital-agenda/en/research-and-innovation-education
Participant portal

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Scope:

Activities will focus on innovative technologies for learning, on the underpinning interoperability standards and on the integration of different components into smart learning environments. They should combine different technologies (e.g. mobile, augmented reality, natural interaction technologies) and support composing, re-using and distributing interactive educational content and services, with assessment and feedback functionalities.

Target Outcomes

a) Smart learning environments (RIA)
Research experimentations on smart learning environments providing students with adaptive and personalised learning and assessment, including through multimodal / multi-sensory interaction technologies and advanced interfaces.

b) Technology platform (RIA)
Establishing a technology platform to provide a framework and roadmap for stakeholders, led by industry in collaboration with academia, to develop innovative technologies for learning (adaptive solutions, learning analytics, augmented reality, mobile learning, etc.);

c) Large scale pilots (IA)
Support to large scale pilots (in real settings) that develop and integrate innovative digital educational tools, solutions and services for learning and teaching, and supporting engagement of teachers, learners and parents.

d) Public procurement of innovative devices and software (PPI)
Development of joint specifications and procuring innovative devices and software for the application of technology mediated scenarios for learning and teaching in educational settings.

Expected Impact

- Reinforce European leadership in adaptive learning technologies for the personalisation of learning experiences.
- Enable faster ways of testing fundamental business hypothesis (including continuous development and testing with users) and increased skills capacity.
- Facilitate the emergence of innovative businesses and create a digital learning ecosystem in Europe.
- Speed up the rate of adoption on technologies for the modernization of education and training.
- Contribute to the objectives of the "Opening up Education" initiative.
- Enhance the development of digital learning and teaching resources, including for children and adults with mental or physical disabilities.
- Increase the number of public-private partnerships addressing technological challenges for modernizing and improving education and training.

Ongoing R&I

Intelligent Tutoring:

PRAISE is a social network for music education with tools for giving and receiving feedback. It aims to widen access to music education and make learning music more accessible and more social.
http://www.iiia.csic.es/praise/

EMOTE project will design, develop and evaluate a new generation of artificial embodied tutors that have perceptive capabilities to engage in empathic interactions with learners in a shared physical space.
http://www.emote-project.eu/

INTUITEL
The objective of INTUITEL is to enhance state-of-the-art e-learning content and Learning Management Systems (LMS) with features that so far have been provided only by human tutors.
http://www.intuitel.de/

ILearnRW
The aim of the project is to move away of traditional assistive software and develop next generation learning software which uses a computer to facilitate the learning process for children with dyslexia and/or dysorthographia.
http://www.ilearnrw.eu/

Science, technology and Maths (STEM):

E2LP aims to provide a unified platform which covers a complete process for embedded systems learning. A modular approach is considered for skills practice through supporting individualization in learning.
http://e2lp.org/

JUXTALEARN
JuxtaLearn will research, develop and evaluate a pedagogical and technological framework that exploits performance to enhance science and technology learning by encouraging the use creative activities, in particular video-making, to help both university and school students learning.
http://juxtalearn.org/joomla/

weSPOT aims at propagating scientific inquiry approach for science learning and teaching in combination with today's curricula and teaching practices. It lowers the threshold for linking everyday life with science teaching in schools by technology.
http://wespot-project.eu

iTalk2Learn
The Intelligent Tutoring and Exploration for Robust Learning project aims to facilitate robust learning by creating a platform for intelligent support that combines structured learning with exploratory learning activities and applies

cognitive models of the learning behaviour of students in elementary education.
http://www.italk2learn.eu/

Remote laboratories:

GO-LAB
The Go-Lab project opens up online science laboratories/remote and virtual labs for the large-scale use in education. It offers students and teachers the opportunity to perform and define personalized scientific experiments with online labs.http://www.go-lab-project.eu/

Workplace learning in SME's:

LAYERS
Learning Layers develops a set of modular and flexible technological layers for supporting workplace practices in SMEs that unlock peer production and scaffold learning in networks of SMEs, thereby bridging the gap between scaling and adaptation to personal needs.
http://learning-layers.eu/

TELL ME
The TELL-ME project (Technology Enhanced Learning Livinglab for Manufacturing Environments) aims to develop and trial in authentic contexts an innovative cross-enterprise methodology and IT platforms for continuous education and training.
http://www.tellme-ip.eu/

Creativity:

Citizen Cyberlab will research and evaluate on-line collaborative environments and software tools that stimulate creative learning in the context of Citizen Cyberscience.
http://citizencyberlab.eu/

COLLAGE will exploit new synergies between the social Web phenomenon, emerging Web analytics, collaboration and gaming technologies to energize and enable social creativity in learning.
http://projectcollage.eu/

IdeaGarden aims to implement a creative learning environment which will consist of state of the art hard and software technologies that assist designers during all phases of the creative process.
http://idea-garden.org/

C2LEARN
The C2Learn project aims to introduce an innovative digital gaming and social networking environment incorporating diverse tools, the use of which can foster co-creativity in learning processes in the context of both formal and informal educational settings.
http://www.c2learn.eu/

ICT - enabled learning environments (PCP):

IMAILE
In line with the FP 7 call for proposals the objective of IMAILE is to use the PCP process to identify new technologies and services which address the challenge of providing the next generation of Personal Learning Environments (PLE) for primary and secondary school.
http://www.imaile.eu/

Learning Analytics:

WATCHME deploys Learning Analytics (LA) tools to deliver personalised learning and enhance Quality-of-Experience through workplace-based feedback and assessment.
http://www.project-watchme.eu/

LACE will actively participate in the exploration of plausible futures for learning analytics and educational data mining by combining the creation of imaginative scenarios with participatory workshops and structured methods to inform future research and policy agendas.
http://www.laceproject.eu/

PELARS find ways of generating “analytics” (data about the learning process and analysis of this data), which helps learners and teachers by providing feedback from hands-on, project-based and experiential learning situations. .
http://pelars.eu/

LEA's BOX aims to make educational assessment and appraisal more goal-oriented and beneficial for students, and enable formative support on the basis of a wide range of information about learners for teachers and other educational stakeholders.
http://www.leas-box.eu/

Workplace learning - public administrations:

LearnPad will build an innovative holistic e-learning platform for public administrations that enables process-driven learning and fosters cooperation and knowledge-sharing.
http://www.learnpad.eu/

EAGLE's main objective is to equip employees in rural local governments with a training solution based on Open Educational Resources (OER) and Open Source (OS) tools.
http://www.eagle-learning.eu/

EmployID aims to support and facilitate the learning process of Public Employment Services (PES) practitioners in their professional identity transformation process. EmployID will offer efficient use of technologies to provide advanced coaching, reflection and networking services.
https://employid.eu/

Competitions:

TELL US will create regional contests using a network of EU countries/regions; the regional winners will compete in a Grand Final. It will create demand through the valorisation of the use of TEL in education to suppliers, purchasers, consumers and educators throughout Europe.
http://tellusawards.eu/

Exploratory Activities:

we.learn.it
we.learn.it will launch the European Living Learning Network by schools and for schools. We.learn.it is a facilitated grassroots initiative, working on crossroads of technology adoption and exploratory learning.
http://we.learn.it/

HOTEL
The HOTEL Support Action aims to contribute to more effective, holistic and faster innovation cycles in European TEL, by designing and testing an innovation support model in three labs Learning Exploratorium Labs.
http://hotel-project.eu/

LSL
The Living Schools Lab aims to create whole school approach to teaching and learning through community of practice, teacher training and a research validation network. https://lsl.eun.org/

Innovation (CIP):

ECO extends to a pan-European scale the most successful MOOC experiences in Europe, piloting and showcasing these best practices by its implementation in regional hubs of excellence throughout Europe, assessing the outcomes, results and lessons learnt from these best practices in open and mobile learning.
http://ecolearning.eu/our-project/

Open Discovery Space will demonstrate ways to involve school communities in innovative teaching and learning practices through the effective use of eLearning resources promote community building between numerous schools of Europe and empower them to use, share and exploit unique resources from a wealth of educational repositories.
http://opendiscoveryspace.eu/

EMMA - European Multiple MOOC Aggregator
The objective of this proposal is to pilot a number of trusted elements to put in place a unique platform to support ICT-based innovation in higher education and training approaches.
http://www.emma-project.eu/

Inspiring Science will design, plan and implement large-scale pilots to stimulate and evaluate innovative use of existing eLearning tools and resources (e.g. interactive simulations, educational games, VR and AR applications, modelling and data analysis tools, eScience applications, as well as, digital resources from research centres, science centres and museums) for scientific disciplines and technology, enhancing science learning in 5,000 primary and secondary schools in 15 European Countries.
http://www.inspiring-science-education.net/