Outline of the presentation

- Context / Policy and R&I background
- Challenges & Scope
- Research and Innovation WP 2014-15
- Conclusions
"Member States to mainstream eLearning in national policies for the modernisation of education and training, including in curricula, assessment of learning outcomes and the professional development of teachers and trainers."
Challenges

• Promote excellence in education and skills through pervasive access to digital learning and 21st century competencies

• Ensure adequacy between skills and employment market

• Support to a triple play: innovation, inclusion (digital literacy) and economic impact (growth and jobs), and development of learning technology industry in Europe.
Recent EU actions

Initiative Opening up Education (2013)
To support faster and wider uptake of ICT and Open Education Resources in Education and Training

Grand Coalition for ICT jobs (2013)
A multi-stakeholder partnership helping to address a shortfall in the number of European citizens with ICT professional skills and to exploit the employment creation potential of ICT

Research and innovation on ICT for Learning
Close to 40 projects (185 MEUR between 2007-2013), New calls under H2020 contributing to shape the future of education and training
Digital technologies in Slovenia

- Equipment - low levels of access
- Higher levels of high-speed broadband provision
- Frequency of use of technology by teachers is generally above the EU but use by students is lower.
- Teachers’ and students’ confidence in their ICT skills is average
- Professional development in ICT seems to be rather uneven
- Support measures for using ICT in teaching and learning are good

Source: EC ICT and Schools Survey (2013)

OPPORTUNITY: USE OF ESIF
Horizon 2020 - What is new?

- A single programme \((FP7 + CIP + EIT)\)
- Strong focus on societal challenges \((\text{game changing for ICT}...)\)
- More innovation
- Reaching out to non-traditional actors
- More risk taking
- Strengthened support for high-tech SMEs
- More open, light & fast schemes
ICT and H2020

Excellent Science

Industrial leadership

Societal challenges
Excellent Science - ICT

- Future and Emerging Technologies (FET)
  - FET Open: fostering novel ideas
  - FET Proactive: nurturing emerging themes and communities
  - FET Flagships: pursuing grand interdisciplinary science and technology challenges

- Research infrastructures
  - Developing the European research infrastructure for 2020 and beyond
    - Development, deployment and operation of ICT-based e-infrastructures
Key principles for ICT R&I in the Societal Challenges

• Interoperability
• Re-use and economies of scale
• Breakthroughs leveraging the transformative power of ICT
• Preparation for market deployment
  +
• Information for future digital policy
Industrial Leadership - ICT

• A new generation of **components and systems**:  
  • engineering of advanced embedded and resource efficient components and systems

• **Next generation computing**:  
  • advanced and secure computing systems and technologies, including cloud computing

• **Future Internet**:  
  • software, hardware, infrastructures, technologies and services

• **Content technologies and information management**:  
  • ICT for digital content, cultural and creative industries

  • **Advanced interfaces and robots**:  
    • robotics and smart spaces

  • **Micro- and nanoelectronics and photonics**:  
    • key enabling technologies
What do we fund?

individual creativity maths science systems

affective appliances technology Learning

Adaptive Competitions science

Intelligent organisational Responsive Century

emotional approaches interdisciplinary Challenges

environments analytics Grand

networks tutors intuitive 21st

learning
Technologies for better human learning and teaching in WP 2014-15

• Multidisciplinary research experimentation on smart learning environments
• Technology platform for digital learning
• Large scale pilots in real settings
• Procuring innovative solutions for digital learning and teaching
I - Research experimentations on smart learning environments

• Multidisciplinary research (neuroscience, pedagogical and learning theories, educational psychology as well as artificial intelligence)
• Focusing on adaptive and personalised learning and assessment
• Through multi-modal/multi-sensory interaction technologies and advanced interfaces
• Application scenarios include formal and informal education, including workplace learning.

Budget 9 MEUR
II - Technology Platform Digital Learning

- A **framework and roadmap** for stakeholders to
  - develop innovative technologies for learning
    adaptive solutions; learning analytics, augmented reality; mobile learning, etc.
  - address **standards for interactive content**
    composition, re-use and distribution
  - adaptation into learning scenarios

*Led by industry in collaboration with academia*

**Budget 5 MEUR**
III - Large scale pilots in real settings

• Innovative digital educational tools, solutions and services for learning and teaching practices
  Engagement of teachers, learners and parents
  Reducing time and physical space restrictions
  Greater connection formal, non-formal and informal learning

• Pilots to link all relevant stakeholders

• As part of piloting scenarios, include also target group children and adults with mental or physical disabilities who undergo general education, lifelong learning or vocational training.

Budget 28 MEUR
IV - Public procurement of innovative devices and software

- Coordinate the development of joint specifications and procuring innovative devices and software application in educational settings.

Budget 10 MEUR
Expected impact

- Reinforce European leadership measured by the number of excellence centres collaborating through specific joint research experimentations and technology transfers programmes
- Emergence of new innovative businesses
- Speed up the rate of technology adoption in E&T
- Contribute to "Opening up Education"
- New public-private partnerships
THANK YOU FOR YOUR ATTENTION!