

# The UNESCO Chair - a Driver for Research and Innovation Excellence and Sustainable Regional Development

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# UNESCO Interfaculty Chair *ICT in Library Studies, Education and Cultural Heritage*

- Start of activities:  
March, 2011
- Official Approval: 17  
February, 2012
- Signing the  
Agreement: 20  
November, 2012



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# UNESCO Chair in ICT in Library Studies, Education and Cultural Heritage

The main objectives of the Chair are:

- strengthening inter-university cooperation by facilitating exchange and share of learning methodologies, methods and technologies in education among the UNESCO Chairs and partners;
- Developing an appropriate infrastructure and new institutional relations;
- Enhancing universal access to information and knowledge for students by use of e-learning in addition to traditional face-to-face to and support the collaboration and mobility of librarians, teachers and heritage conservation professionals between SULSIT and other universities;
- Extending the collaboration and transfer of knowledge with other UNITWIN/UNESCO chairs;



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# QED 2011, follow-up of EDUsummit 2011, 8-10 June,



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# QED 2011, follow-up of EDUsummit 2011, 8-10 June,



State University of Library Studies and Information Technologies

Under the Patronage of the Bulgarian National Commission for UNESCO



Supported by Fp7 projects



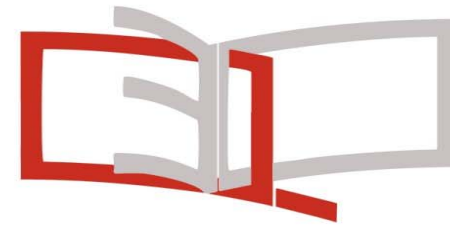
and



<http://qed.unibit.bg/>

Re-Designing Institutional Policies  
and Practices to Enhance the Quality of  
Education Through Innovative Use of Digital Technologies

UNESCO International Workshop, 14-16 June, 2011, Sofia, Bulgaria  
Re-Designing Institutional Policies and Practices to Enhance the Quality of Education Through Innovative Use of Digital Technologies



UNESCO International Workshop  
Re-Designing Institutional Policies and Practices  
to Enhance the Quality of Education through  
Innovative Use of Digital Technologies

June 14-16, 2011  
Sofia, Bulgaria

Q E D



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United Nations  
Educational, Scientific and  
Cultural Organization



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# THE PROMISE

In many instances, the Networks and Chairs serve as think tanks and as bridge builders between academia, civil society, local communities, research and policy-making.

<http://en.unesco.org/unitwin-unesco-chairs-programme>

“...the Chair will strengthen the existing networks of partners at regional level (South-East Europe, Danube Macro-Region) and **will play the role of a Centre of Excellence and innovation zone** in the specified areas...”

31.03.2011, Proposal for UNESCO Chair establishment



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# **INTELLECT: CENTRE OF EXCELLENCE IN INTERNET TECHNOLOGIES AND INNOVATION, LIBRARY SCIENCES AND CULTURAL HERITAGE**

## **Objectives:**

- to **establish a Centre of Excellence (CoE)** based on the capacity of SULSIT and its partners;
- to **further develop its research and innovation potential** in order to position it as a **strong research and innovation hub** at national, European and international level;
- to qualify as an **Associated Partner of the EIT ICT Lab** (<https://www.eitictlabs.eu/>) for South-Eastern Europe and Western Balkans



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# Partners

- **Main partners:**
  - Sofia Development Association (SDA)
  - Centre of Technology and Innovation Management GMBH, Munich, Germany (CeTIM)
  - ICT Cluster (ICTC)
  - Cluster Innovation and Culture (CIC)
- **Associated partners** – more than 50 national and international, including: Sofia Municipality, Ministry of Education and Science; Ministry of Economy and Energy, Ministry of Culture, Sofia Tech Park, Milano University, ICT Audiovisual cluster Madrid, Basque Audiovisual Cluster, Honeywell – CZ, Association of the Business Clusters, etc
- **Open for collaboration**



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# CoE INTELLECT – Research & Innovation Arm of the UNESCO Chair at SULSIT

## Main areas:

- **Research and innovation in internet technologies, library sciences and cultural heritage** – areas where the SULSIT has already demonstrated solid competitive advantage both at national and international level;
- Special attention will be paid on the area of **Future Internet and Web** – area which has transformational impact on society and all industries and provides enormous opportunities for economic growth.
- According to a study of Cisco, the overall Value at Stake of the so called **Internet of Everything** in Bulgaria (both in the public and private sector) is estimated at \$10.4B. The opportunity only for the Capital City Sofia is estimated at \$0.81B.



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## Specific Areas

- **Future Internet and Web;**
- **Smart Cities and Communities** (Sofia – Smart City);
- **Smart X:** Culture, Libraries, Education, Energy, Transport, Health, Production, Security, Agriculture, Environment, ..... **Smart Society of Smart People;**
- **Open Innovation and Web Entrepreneurship**



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# Smart City - Definition

We have a Smart City “..... when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources through participatory governance”.

[http://www.inta-aivn.org/images/cc/Urbanism/background%20documents/01\\_03\\_Nijkamp.pdf](http://www.inta-aivn.org/images/cc/Urbanism/background%20documents/01_03_Nijkamp.pdf)



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# Smarter City - IBM



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# European Innovation Partnership

European Innovation Partnership **Smart Cities & Communities**  
*Invitation for Commitments*

**1 Smart Cities and Community** a European Innovation Partnership

How to make our cities smarter?  
 The Partnership integrates the **ICT**, **energy** and **transport** sectors. It aims to apply innovative solutions to tackle issues such as **congestion**; **air pollution**; **high energy costs** and to achieve **better mobility**; **cleaner urban environment**; **energy efficiency**.

congestion

air pollution

high energy costs

better mobility

cleaner urban environment

energy efficiency

**2 Meet our Partners**

In 2014, **370 commitments** around smart city projects & solutions were submitted by more than **3 000 partners**. The lead organisations come from **31 countries**.

■ high / ■ medium / ■ low participation

**Classification of lead organisations**

Private individuals	2%
NGOs	6%
Business	26%
Others	14%
Public Authorities	36%
Academic/Research Institutions	16%

**3 Some of the areas we are working on**

Urban Mobility

Open Data

Business Models

Finance & Procurement

Policy & Regulation

Metrics & Performance Indicators

Integrated Energy, Transport & Communication Networks

Energy Efficiency & Low carbon Solutions



Learn more, join [ec.europa.eu/eip/smartcities/](http://ec.europa.eu/eip/smartcities/)  
 follow us [@EUSmartCities](https://twitter.com/EUSmartCities)



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# Future Internet PPP

The screenshot shows a web browser window with the address bar containing 'i-ppp.eu'. The website header features the 'FUTURE INTERNET PPP' logo on the left, a large title '/INTERNET-ENABLED INNOVATION IN EUROPE' in the center, and a navigation menu below it with items: HOME, ABOUT, PROJECTS, LIBRARY, HOW TO PARTICIPATE, NEWS, FOLLOW US, CONTACT. A European Union flag is positioned to the right of the navigation menu. Below the header, there is a section for news with the title '/NEWS June issue of Future Internet News and' and a 'MORE NEWS' button. The main content area is divided into three columns: 'FUTURE INTERNET PUBLIC-PRIVATE PARTNERSHIP' with a large image of a globe and various devices, 'LATEST NEWS' with a news item about training sessions at ECFI Munich on 18 September 2014, and 'PROJECTS' with a news item about FI-PPP Day Trentino. The browser's taskbar at the bottom shows several application icons and the system tray with the date '28.10.2014 r.' and time '14:57'.



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# FIRE initiative (Future Internet Research and Experimentation)

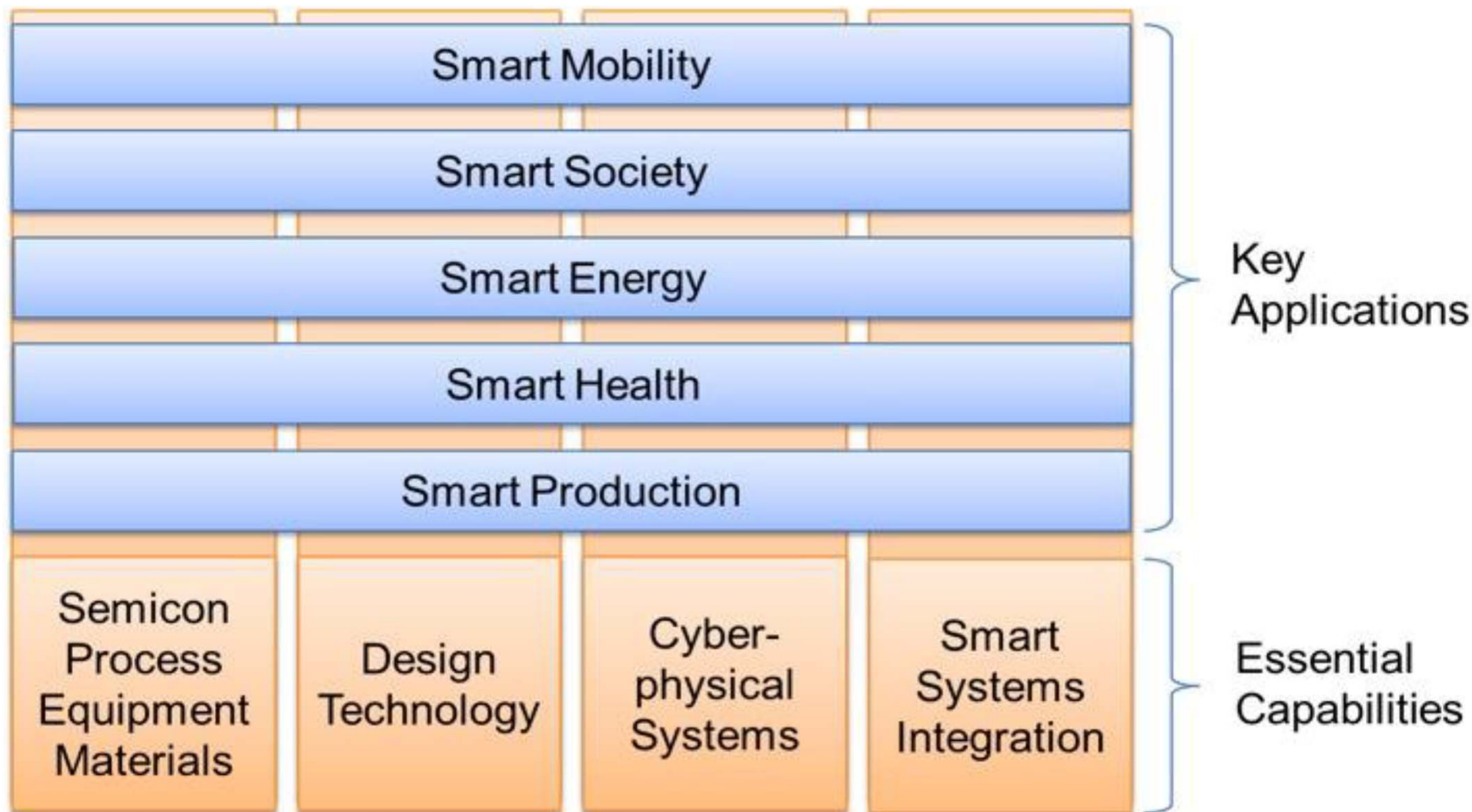


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# 'Electronic Components and Systems for European Leadership' - ECSEL Joint Undertaking



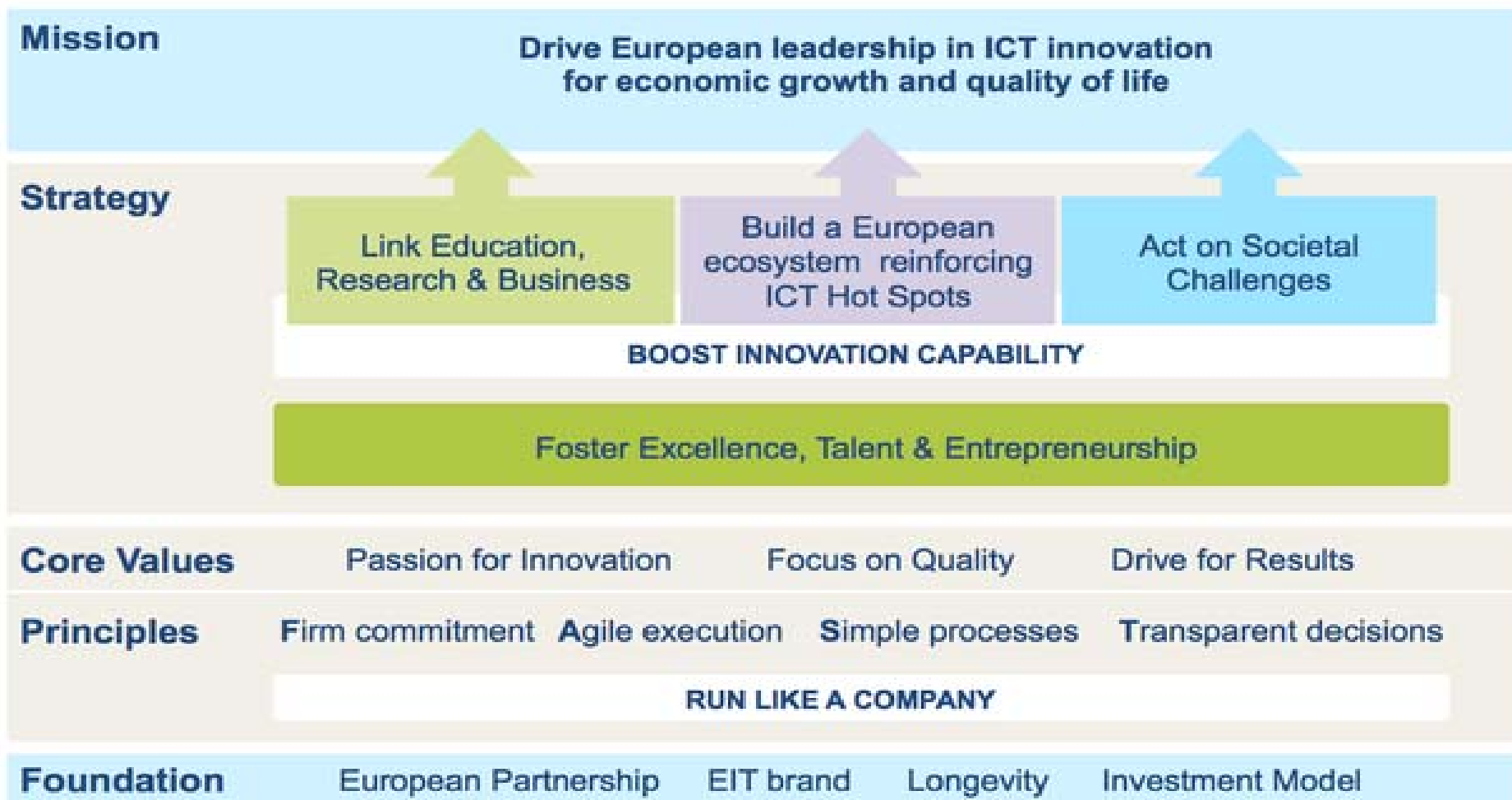
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# European Institute of Innovation and Technologies ICT Labs – (EIT ICT Labs)



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# Smart Specialisation Strategy & Structural Funds

http://s3platform.jrc.ec.europa.eu/dae-toolbox

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## About the DAE Toolbox

The **Digital Agenda Toolbox** provides support to regional and national authorities to develop a thorough understanding of the digital growth potential stemming from the Digital Agenda for Europe (DAE). It highlights the opportunities Information and Communication Technology (ICT) entails as a key element in their national or regional research and innovation strategies for smart specialisation (RIS3) and related Operational Programmes (OPs). At the same time, this Toolbox provides guidance for the fulfilment of the DAE-related ex-ante conditionalities that will form the basis for using European Regional Development Funds (ERDF) for ICT investments. It thus complements the **RIS3 Guide** and other related policy documents such as the **Guide on Broadband Investment**. The Toolbox furthermore provides hands-on assistance for developing a strategic policy framework for digital growth by discussing the do's and don'ts of the process and giving examples of good practises.

Strategies for digital growth can build on an ICT-specific policy framework that

## The DAE Toolbox

### The Digital Agenda Toolbox

## Online Toolbox Subsections

- ICT as enabling infrastructure**
  - Broadband infrastructure - Next Generation Networks (NGN)
  - H2020 R&D / e-Infrastructure for R&D
  - Cloud Computing
  - Key Enabling Technologies (KETs)
- ICT applications, services & products**
  - eHealth
  - Active and healthy ageing
  - eGovernment
  - Intelligent transport systems
  - Smart cities
  - Smart grids
  - Open data portals
  - Digitisation of cultural heritage to boost innovation



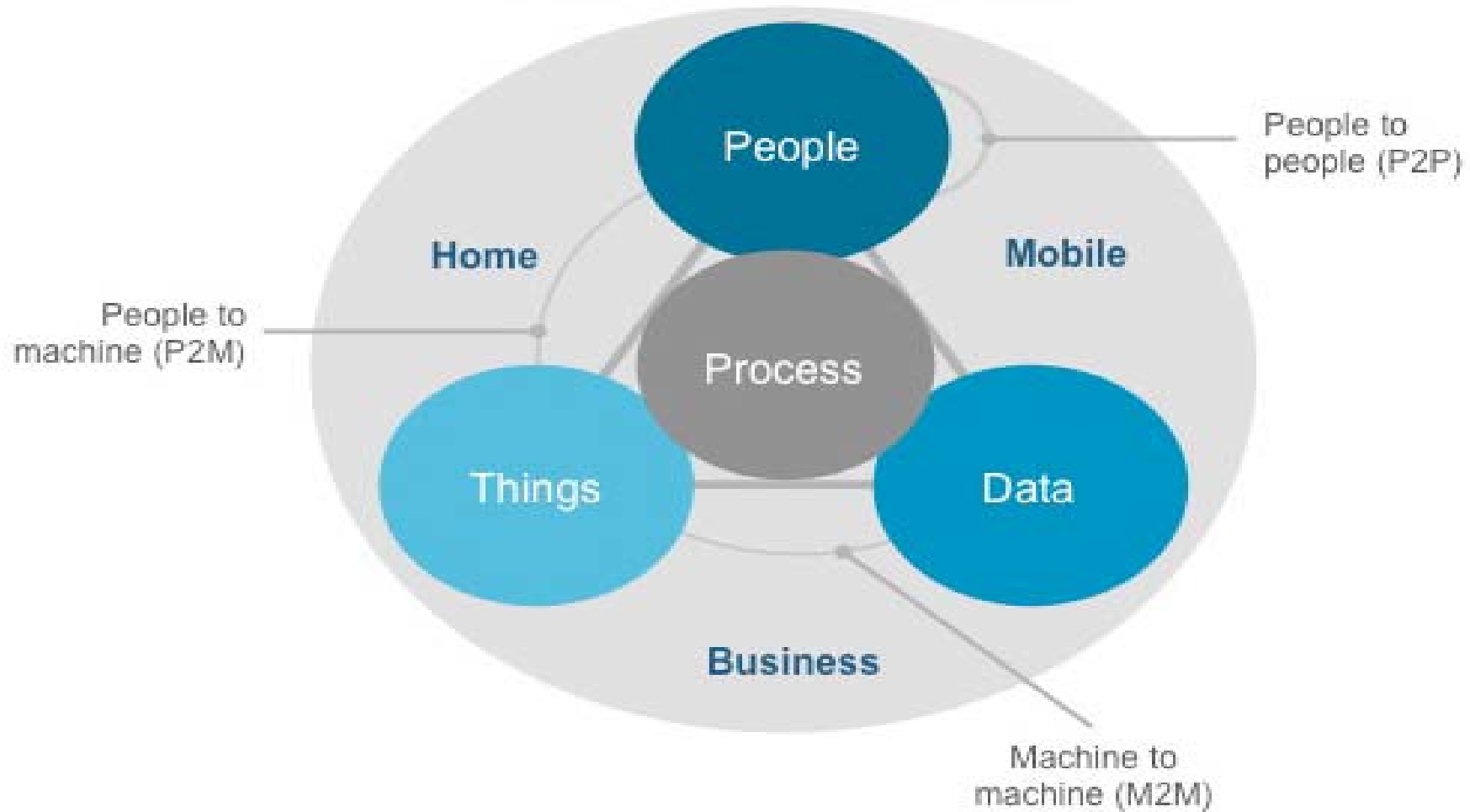
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# Internet of Everything

## Internet of Everything



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# IoE IMPACT

In a recent study, Cisco calculated that the Internet of Everything, applied in 21 core “use cases” in five areas of business (asset utilization, employee productivity, supply chain and logistics, customer experience, and innovation), has the potential to deliver \$14.4 trillion of value (net profits) for private-sector companies globally between now and 2022. ....The use cases cover areas such as smart grid, smart buildings, connected healthcare and patient monitoring, smart factories, connected private education, connected (commercial) ground vehicles, connected marketing and advertising, and connected gaming and entertainment. (<http://www.cisco.com/web/about/ac79/innov/IoE.html>)



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# IoE for Bulgaria, public sector, \$2.8B

Opportunity	Estim. Value [\$M]	Opportunity Area	Estim. Value [\$M]
Video Surveillance	\$52	Virtual Desktop	\$8
Smart Parking	\$46	Particulate Monitoring	\$11
Smart Street Lighting	\$55	Disaster Response	\$6
Waste Management	\$15	Smart Buildings	\$146
Road Pricing	\$16	Correction Visits	\$2
Public Transport	\$23	Bridges Maintenance	\$3
Offender Transport	<\$1	Fleet Management	\$26
Telework	\$165	Local Metro	\$15
BYOD	\$114	Travel avoidance	\$145
Connected Museum	NA	Smart Tollbooths	<\$1
<b>Connected Learning</b>	<b>\$169</b>	Chronic disease	\$53
Gas Monitoring	\$51	Inpatient Monitor	\$2
Water Management	\$63	Counterfeit drugs	<\$1
Smart Xmission Grid	\$150	Cyber Security	\$71
<b>Mobile Collaboration</b>	<b>\$1,332</b>	Drug Compliance	\$4

<http://www.cisco.com/web/strategy/docs/iot-opportunities-for-bulgaria.pdf>



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# IoE for Bulgaria, Smart Cities



<http://www.cisco.com/web/strategy/docs/iot-opportunities-for-bulgaria.pdf>



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Opportunity	Estim. Value [\$M]	Opportunity Area	Estim. Value [\$M]
Smart Grid	\$1,066	Smart Buildings	\$188
Connected Commercial Vehicles	\$324	Wealth Management	\$245
Smart Farming	\$197	Next-Gen Retail Bank Branches	\$11
Physical/ Logical Security	\$586	Next-Gen Vending Machines & Digital Malls	\$27
Smart Factories	\$907	Connected Gaming/ Entertainment	\$348
Connected Private College Education	\$12	Connected Marketing/ Advertisement	\$1,048
Business Process Outsourcing	\$399	Digital Signage	\$21
Innovative Payments	\$337	Virtual Attendants	\$87
Future of Work	\$619	Time-to-Market	\$554
Travel Avoidance	\$280	Supply Chain Efficiency	\$325

<http://www.cisco.com/web/strategy/docs/iot-opportunities-for-bulgaria.pdf>

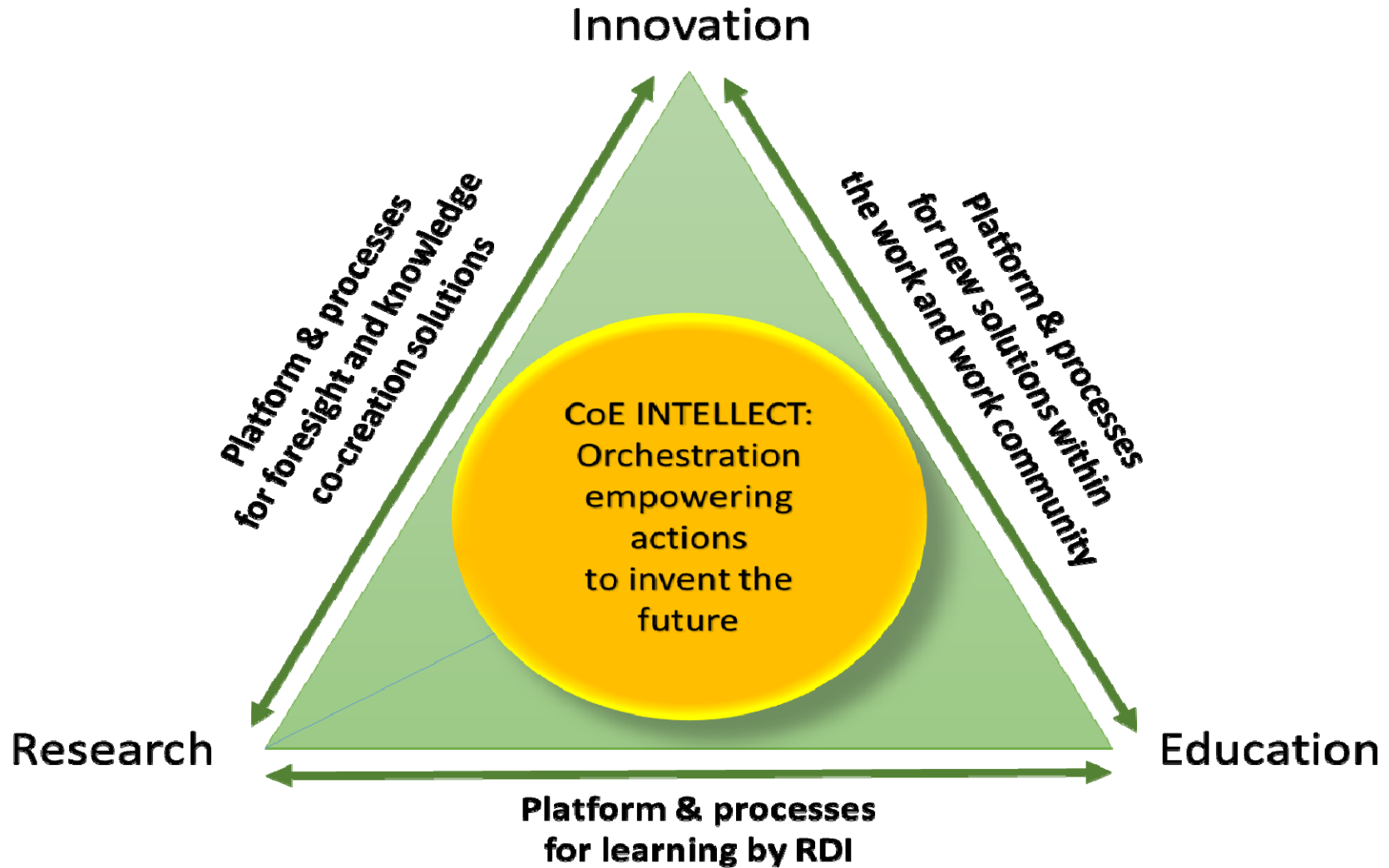


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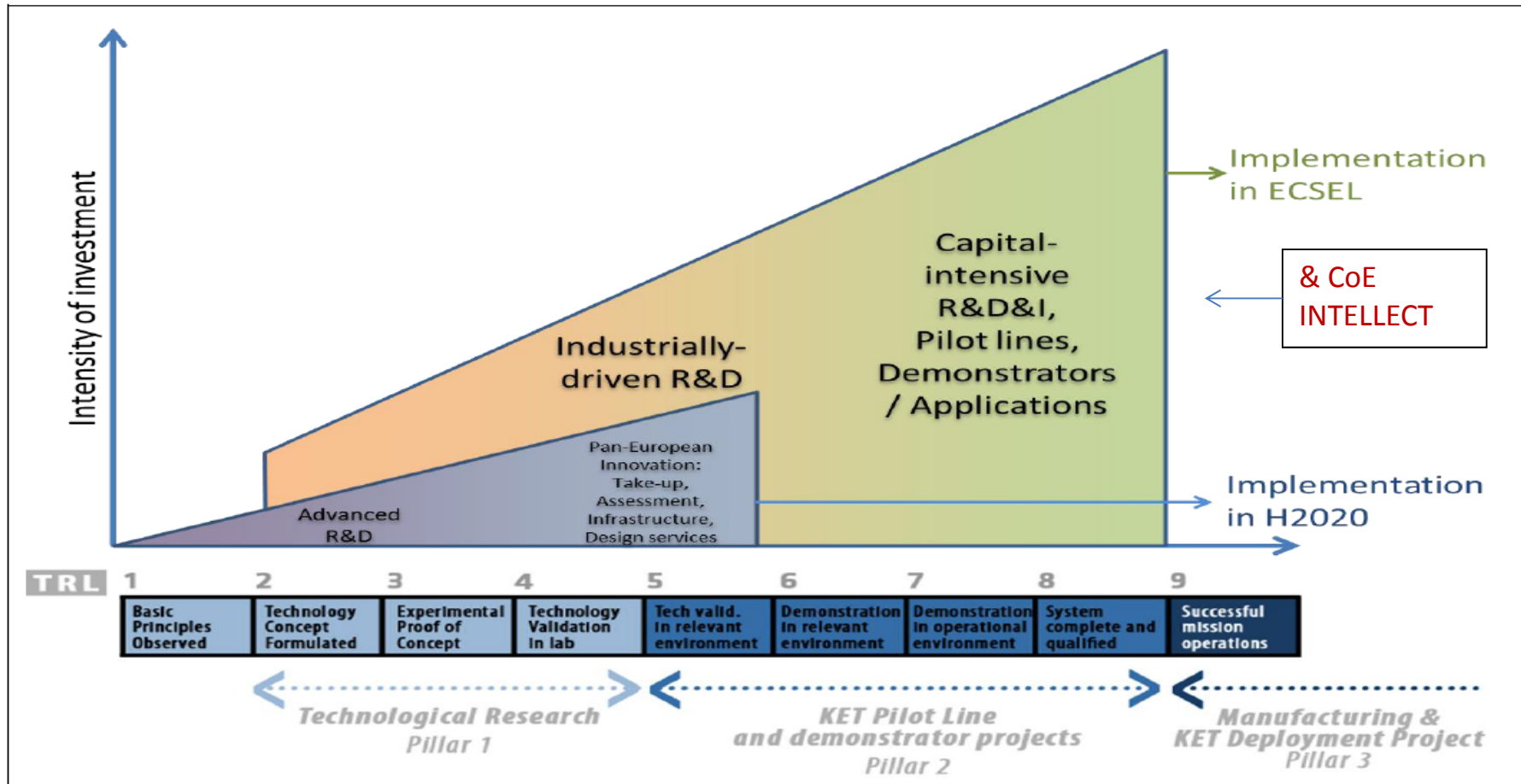
# Knowledge Triangle of the CoE INTELLECT



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# CoE INTELLECT & TRL



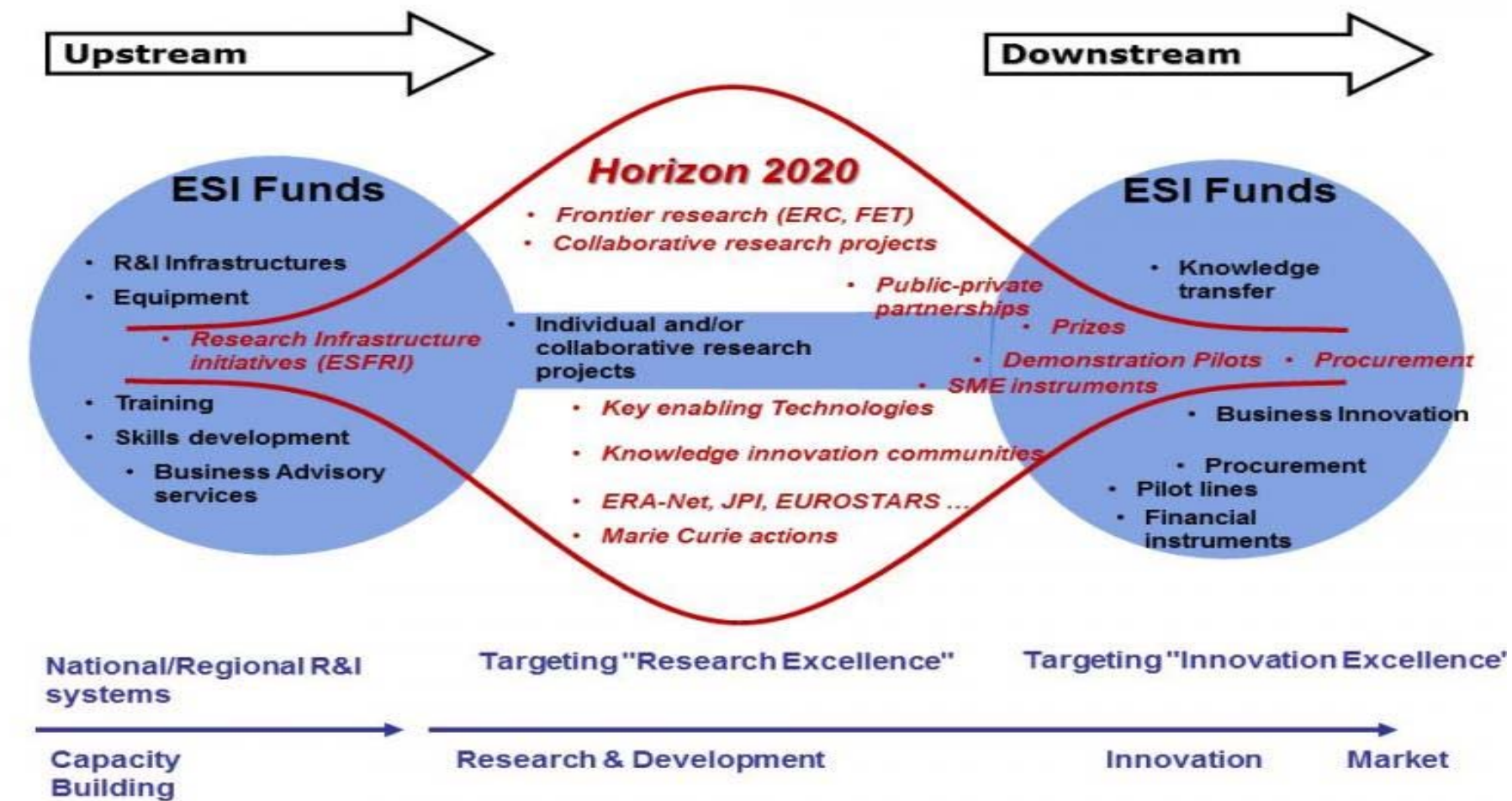
<http://ecsel.eu/>

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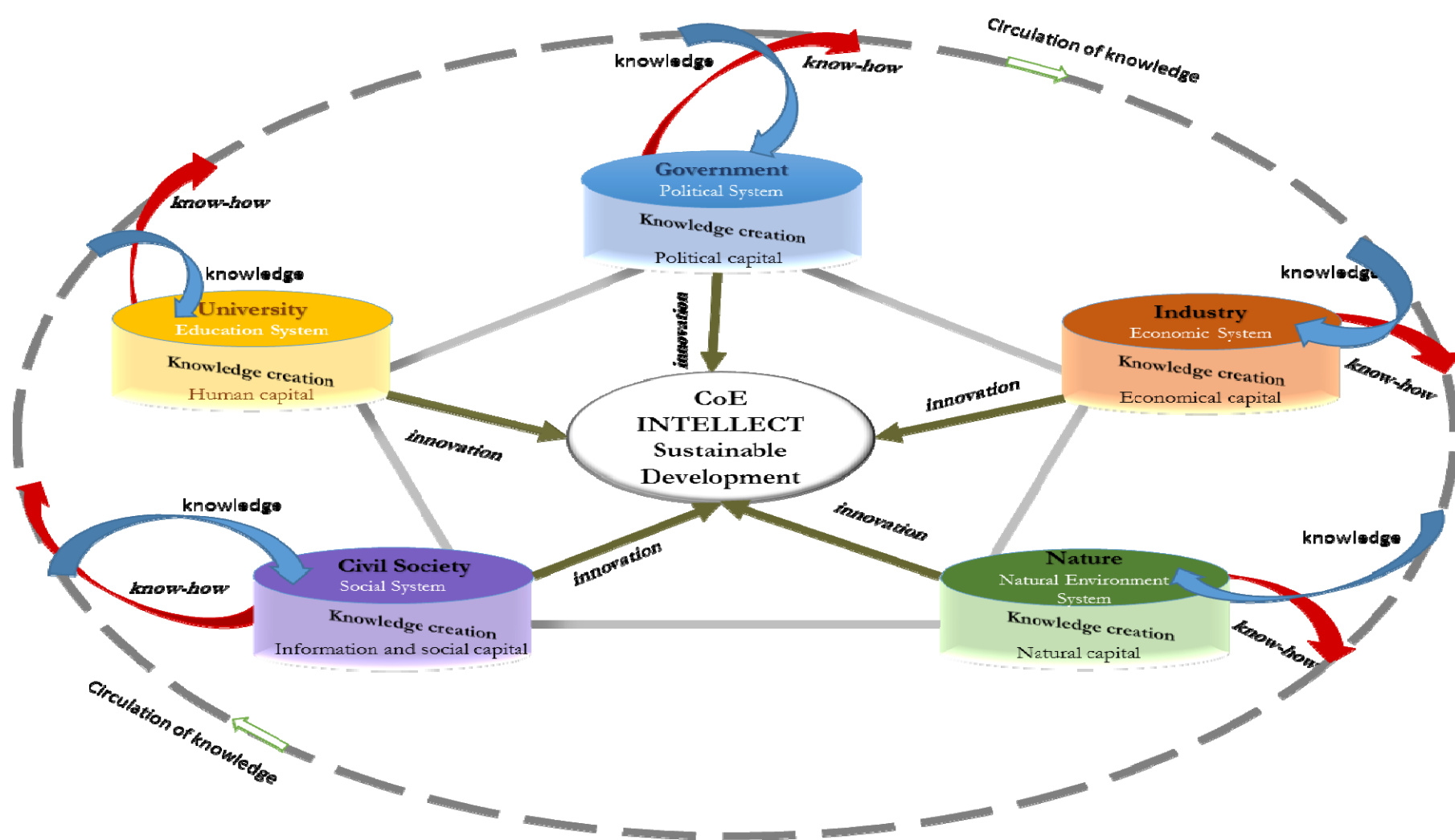


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# Stairway to Excellence, 2014



# CoE INTELLECT Model

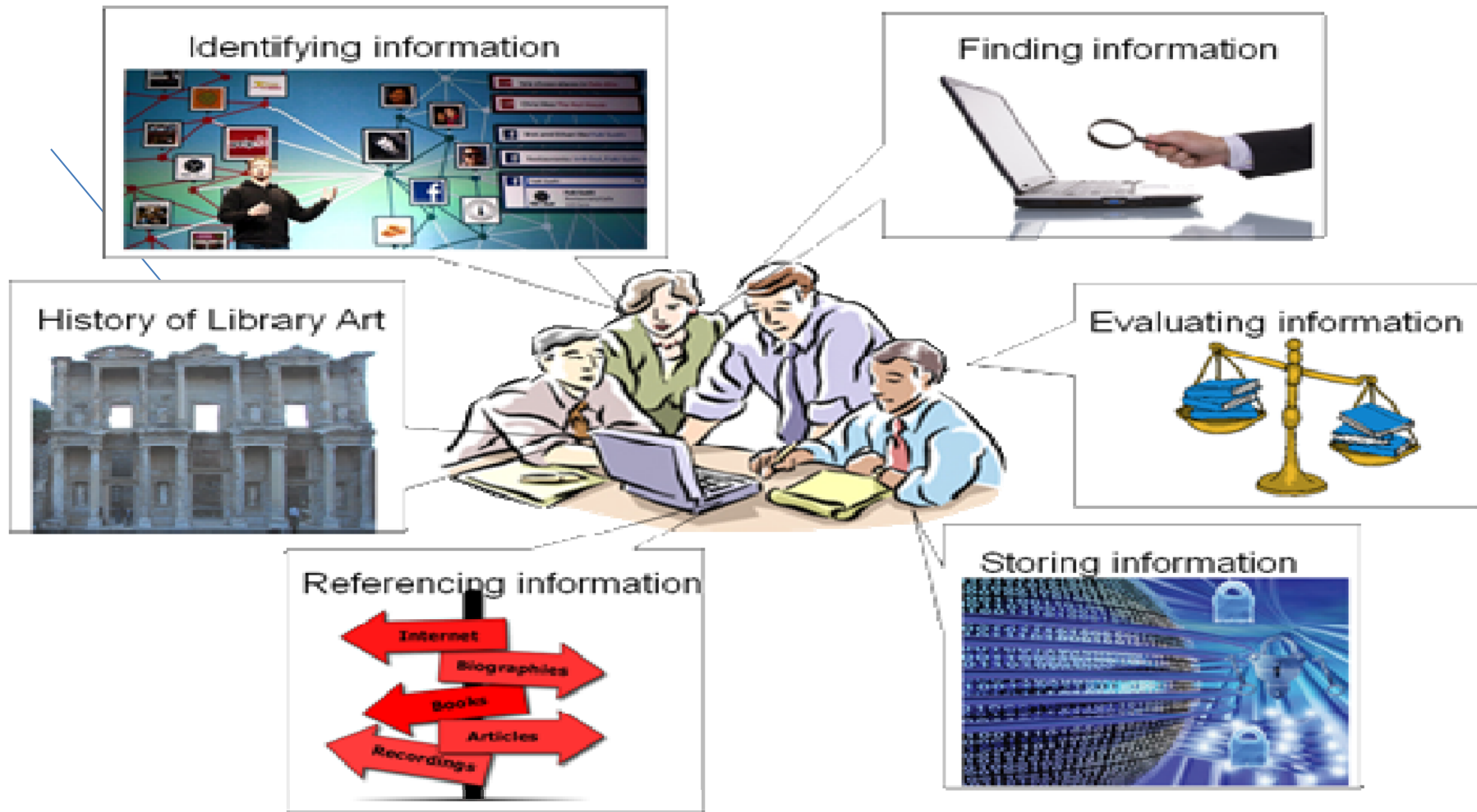


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# Online Master Course for Teachers “History of Library Science and Information Literacy”



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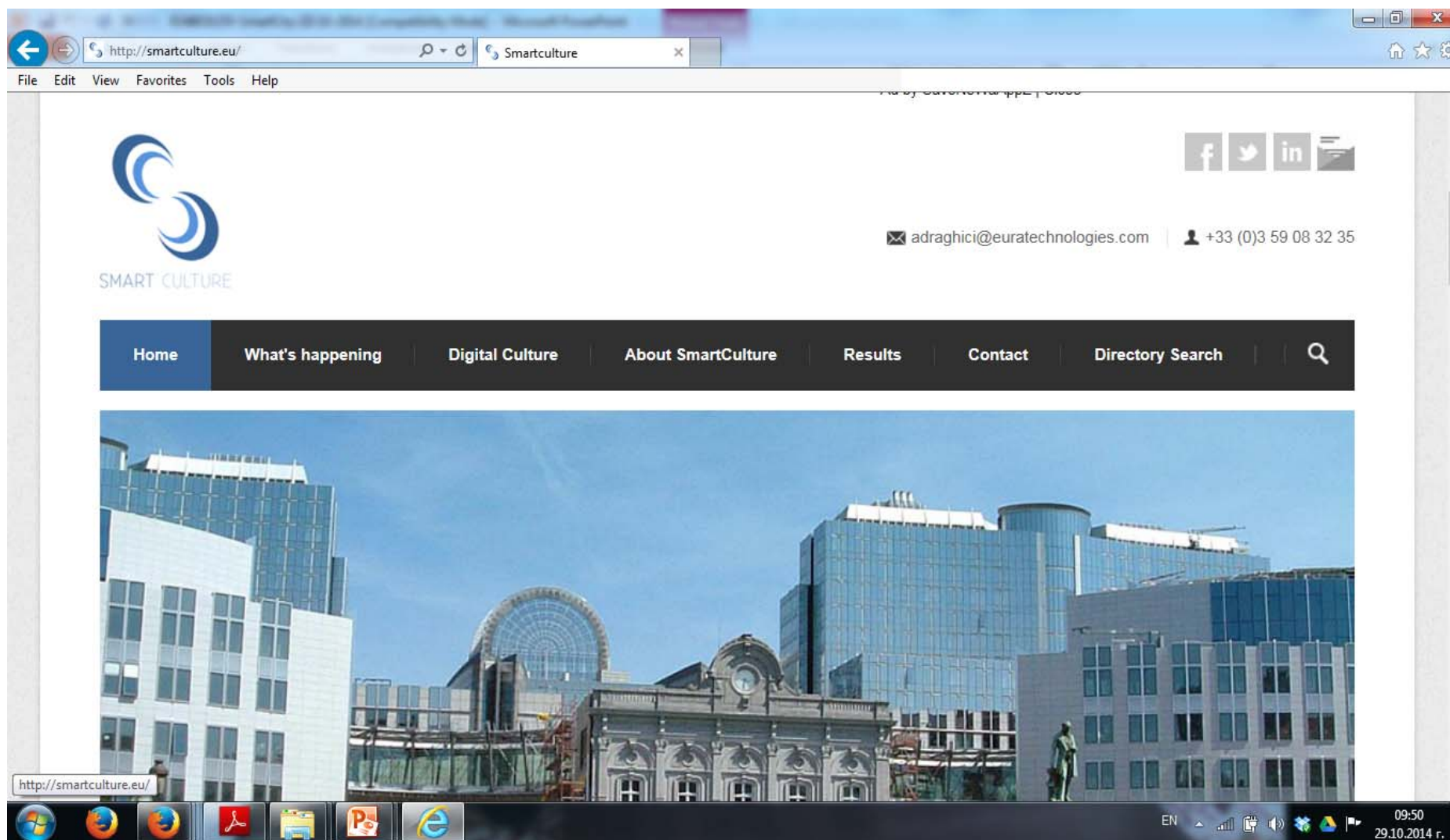
# School on the Cloud

The screenshot shows a web browser window with the URL <https://www.theschoolinthecloud.org/>. The browser's address bar and menu bar are visible. The website header includes the logo "School in the Cloud" and navigation links for "About", "Blog", "Team", "Sign in", and a "Start your SOLE" button. A large video player is the central focus, featuring a play button and the text "Be part of the global experiment in self-organized learning". Below the video, a teal banner contains the text: "Anyone can create a Self Organized Learning Environment (SOLE) – spark curiosity in children by asking them to explore a 'big' question using the Internet and their ability to work together. Learning happens spontaneously in these purposefully chaotic environments." and a link "More about self-organized learning →". Below the banner, the text "Start your own SOLE and help us design the future of learning" is displayed. The Windows taskbar at the bottom shows various application icons, the system clock (09:46, 29.10.2014 r.), and network status.

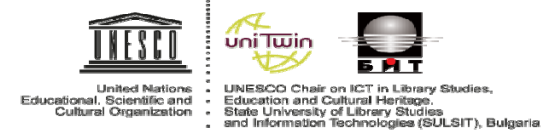


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# FP7 Region of Knowledge Project SmartCulture



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# Future Education and Training in Computing: How to support learning at anytime anywhere

http://fetch.ecs.uni-ruse.bg/?cmd=gsIndex

ETN FETCH - Future Educat...

File Edit View Favorites Tools Help

**FETCH**

*Future Education and Training in Computing: How to support learning at anytime anywhere*

Home  
News  
Summary  
Aims & Objectives  
Work Packages  
Management  
Rules  
Partners  
Groups  
Workplan  
Meetings  
Report  
CompSysTech  
e-Learning  
Dissemination  
Login  
Control Panel  
Shared Documents  
Forum

**NEWS & UPCOMING EVENTS**

**Second project meeting**  
04 September 2014  
The second project meeting will take place in Puerto de la Cruz – La Laguna, Tenerife, Spain from 10 to 13 ... [read more ...](#)

**e-Learning'14: Paper submission deadline has been extended to 10 August 2014.**  
23 July 2014  
Dear Colleagues, The paper submission deadline of e-Learning'14 has been extended to 10 August 2014. We ... [read more ...](#)

**First project meeting**

EN 09:48  
29.10.2014 г.



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# FP7 Project ELLIOT (Experiential Living Lab for the Internet of Things)

The screenshot shows a web browser window with the URL [www.elliott-project.eu](http://www.elliott-project.eu). The page features a navigation menu on the left with the following items:

- Project Goals
- Approach
- Background and Motivation
- Workplan
- ELLIOT in the Enlarged Europe
- USE CASES
  - City of the Future
  - Logistic Use-case
  - Green Services
  - Retail Use Case
  - Remote patients Assistance
  - Energy Efficient Office
- ACHIEVEMENTS
  - Experiential Platform
  - Games and ELLIOT Living Lab
  - KSB Holistic Experience Model
- NEWS
- CONSORTIUM
- GET INVOLVED
  - Dissemination Material

The main content area displays a slide presentation titled "ELLIOT Experiential Living Labs for the Internet Of Things". The slide includes the following text:

EU FP7 STREP 258666  
Duration 1.9.2010 – 30.06.2013  
Standard Presentation

The slide is presented on a Slideshare player. Below the slide, the text reads:

**Activity Area:** 1.3 Internet of Things and Enterprise environments

The ELLIOT (Experiential Living Lab for the Internet of Things) project aimed to develop an Internet Of Things (IOT) experiential platform where users/citizens are directly involved in co-creating, exploring and experimenting new ideas, concepts and technological artefacts related to IOT applications and services. ELLIOT allowed studying the potential impact of IOT and the Future Internet in the context of the Open User Centred Innovation paradigm and of the Living Lab approach.

The ELLIOT Experiential approach has been explored and its technology platform experimented within different use cases belonging to six different sectors, namely **Wellbeing, Logistics, Environment, Retail Use Case, Remote patients Assistance, and Energy Efficient Office** in order to validate the capacity for users/citizens to co-create IoT based services.

Starting from these six cases, the ELLIOT project can significantly contribute to a new,



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**THANK YOU FOR YOUR ATTENTION!**



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