The ICT Work Programme 2013:
Call 10 and Call 11 - Overview

ICT Infoday, 14 December, 2012, Minsk

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BELISA

ICT WP 2013 – Some information

http://cordis.europa.eu/fp7/ict/docs/ict-wp2013-10-7-2013-with-cover-issn.pdf

- Last WP for FP7
- Only one year of duration
- It ensures a certain degree of continuity in priorities and at the same time serves as a bridge to activities in Horizon 2020

WP2013 – the main working document

Calls for Proposals - Deadlines

ICT Call 10

Open 10 July 2012 - Close 15 January 2013

PPP call 2013: Factories of the Future, Green Cars, Smartcities

Open 10 July 2012 - Close 4 December 2012

ICT EU-Brazil

Open 12 September 2012 - Close 12 December 2012

ICT Call 11

Open 18 September 2012 - Close 16 April 2013

FET Open

Continuous open up to 29 January 2013 (FP7-ICT-2013-X)

ICT Call 10

- Call launch 10th July 2012
- Call close 15th January 2013; 17h00 Brussels time
- Total indicative budget **705,5** M€
- Evaluation February-April 2013

Call 10 Thematics

Challenge 1. Pervasive and Trusted Network and Service Infrastructures

- 1.2 Software Engineering, Services and Cloud Computing
- 1.3 Digital Enterprise
- 1.5 Trustworthy ICT
- 1.6 Connected and Social Media
- 1.7 Future Internet Research Experimentation (FIRE)

Challenge 2. Cognitive Systems and Robotics

- 2.1 Robotics, Cognitive Systems & Smart Spaces, Symbiotic Interaction
- 2.2 Robotics use cases & Accompanying measures

Challenge 3. Alternative Paths to Components and Systems

- 3.3 Heterogeneous Integration and take-up of Key Enabling Technologies for Components and Systems
- 3.4 Advanced computing, embedded and control systems

Challenge 4. Technologies for Digital Content and Languages

- 4.1 Content analytics and language technologies

Call 10 Thematics - 2

Challenge 5. ICT for Health, Ageing Well, Inclusion and Governance

- 5.1 Personalised health, active ageing, and independent living
- 5.2 Virtual Physiological Human
- 5.3 ICT for smart and personalised inclusion
- 5.4 ICT for Governance and Policy Modelling
- 5.5 Collective Awareness Platforms for Sustainability and Social Innovation

Challenge 6. ICT for a low carbon economy

- 6.5 Co-operative mobility

Challenge 8. ICT for Creativity and Learning

- 8.1 Technologies and scientific foundations in the field of creativity

Future and Emerging Technologies

- FET Open scheme
- FET Proactive
- FET Flagships

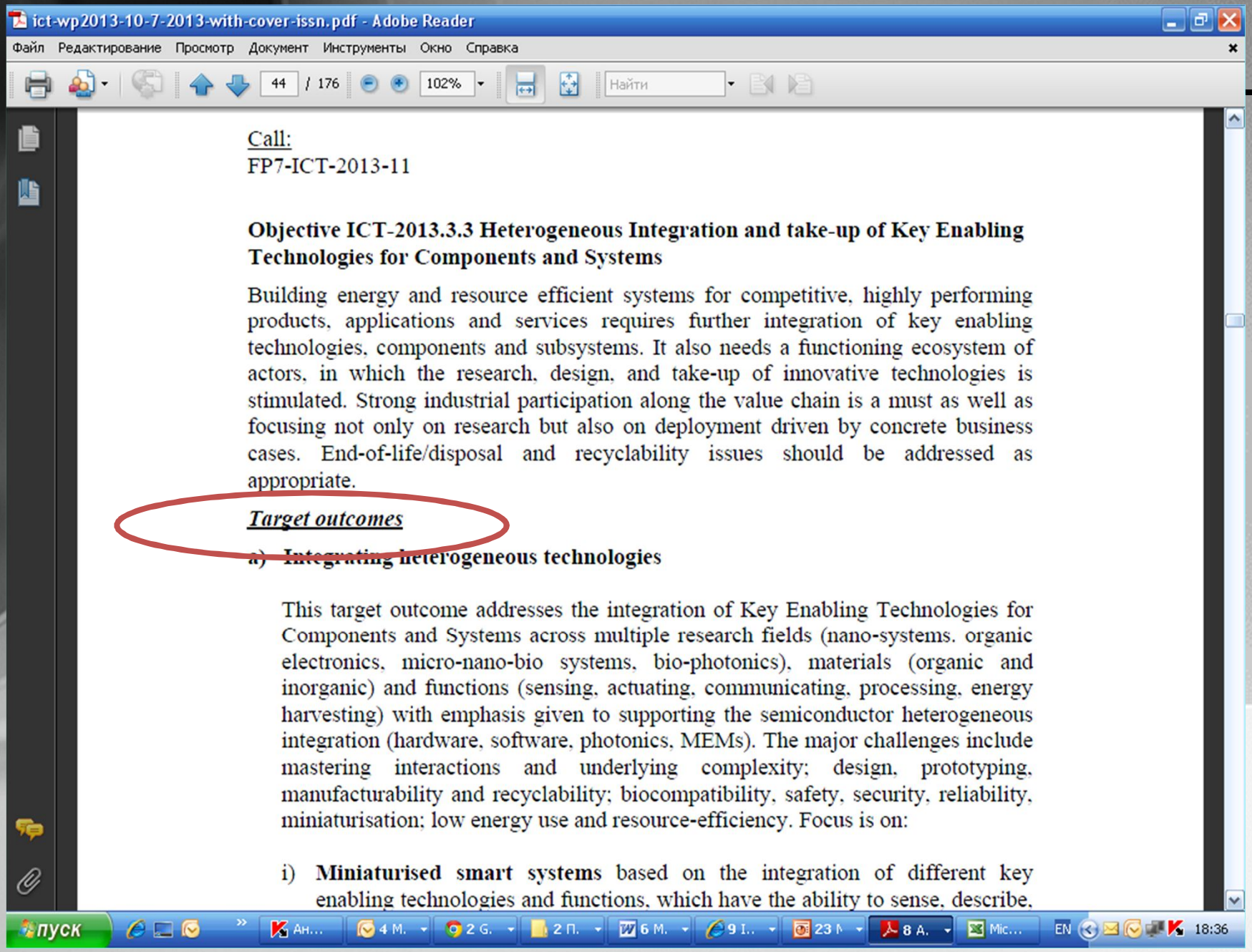
International Cooperation

- 10.3 International partnership building and support to dialogues - Horizontal International Cooperation Actions

3. Alternative Paths to Components and Systems

Challenge 3 covers nanoelectronics and photonics, the heterogeneous integration of these key enabling technologies with related components and systems, as well as advanced computing and control systems at a higher level. Energy-, resource- and cost efficiency as well as recycling/end of life issues are major drivers across the Challenge. Its overall aims are:

- to reinforce European industrial leadership in these key enabling technologies through miniaturisation, energy-efficiency, performance increase and manufacturability, for information and communication systems and other applications in 2020 and beyond;
- to enable further integration and cross-fertilisation of key enabling technologies towards building energy- and resource-efficient components and systems through the convergence of nanoelectronics, nano-materials, biochemistry, measurement technology and ICT;
- to expand Europe's industrial leadership in embedded and mobile computing systems towards powering the cloud with cost and energy efficient servers, and towards exploring new paradigms for control in systems with mixed criticalities where the embedded world meets the internet world, and systems of autonomous systems with emergent behaviour.
- to promote inter-disciplinary R&I activities by bringing together different research domains and constituencies with the aim of increasing impact and of bridging to Horizon 2020;
- to stimulate the innovation of European industry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Call:
FP7-ICT-2013-11
Objective ICT-2013.3.3 Heterogeneous Integration and take-up of Key Enabling Technologies for Components and Systems
Building energy and resource efficient systems for competitive, highly performing products, applications and services requires further integration of key enabling technologies, components and subsystems. It also needs a functioning ecosystem of actors, in which the research, design, and take-up of innovative technologies is stimulated. Strong industrial participation along the value chain is a must as well as focusing not only on research but also on deployment driven by concrete business cases. End-of-life/disposal and recyclability issues should be addressed as appropriate.
Target outcomes
a) Integrating heterogeneous technologies
This target outcome addresses the integration of Key Enabling Technologies for Components and Systems across multiple research fields (nano-systems, organic electronics, micro-nano-bio systems, bio-photonics), materials (organic and inorganic) and functions (sensing, actuating, communicating, processing, energy harvesting) with emphasis given to supporting the semiconductor heterogeneous integration (hardware, software, photonics, MEMs). The major challenges include mastering interactions and underlying complexity; design, prototyping, manufacturability and recyclability; biocompatibility, safety, security, reliability, miniaturisation; low energy use and resource-efficiency. Focus is on:
i) Miniaturised smart systems based on the integration of different key enabling technologies and functions, which have the ability to sense, describe,
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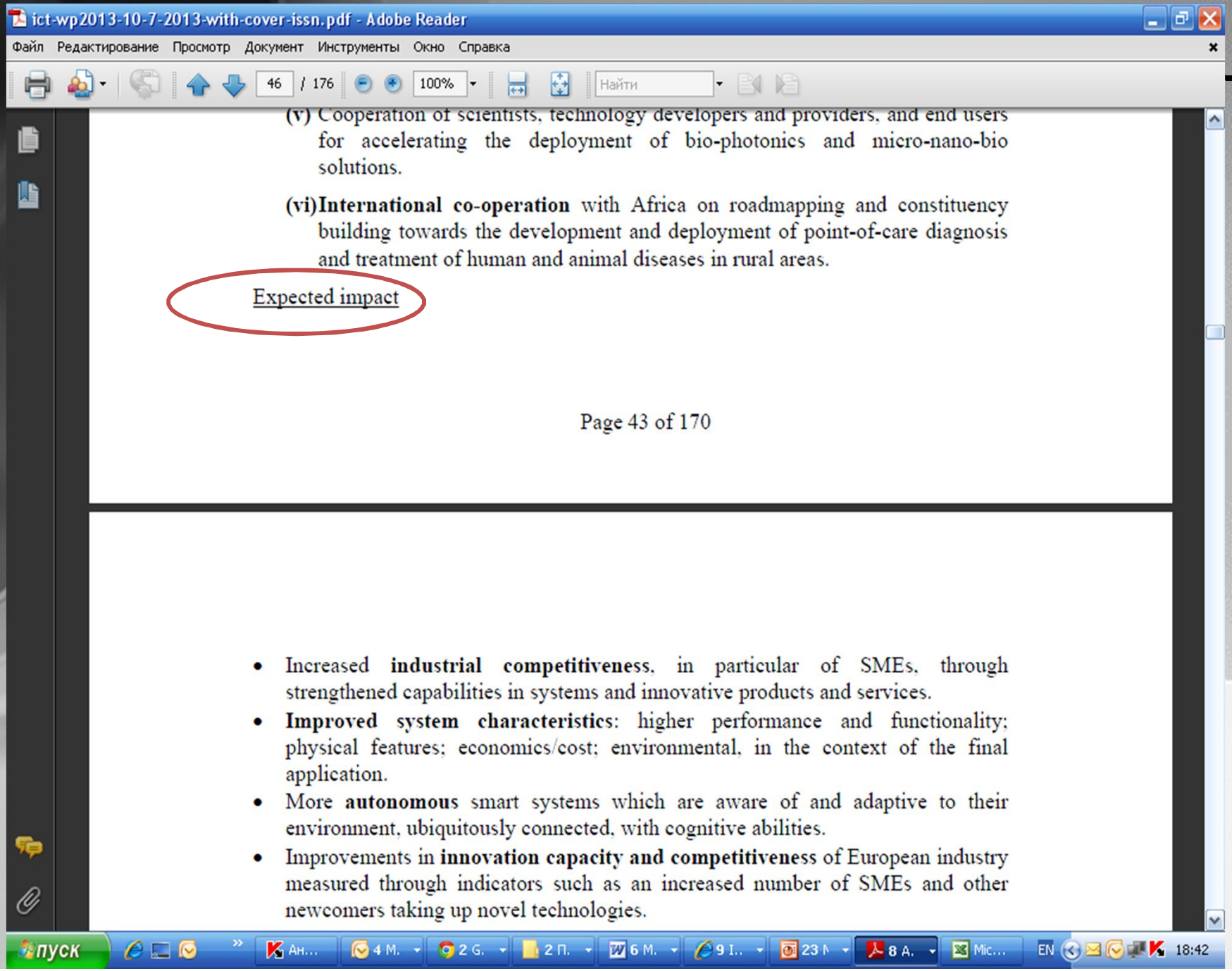
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(v) Cooperation of scientists, technology developers and providers, and end users for accelerating the deployment of bio-photonics and micro-nano-bio solutions.
(vi) International co-operation with Africa on roadmapping and constituency building towards the development and deployment of point-of-care diagnosis and treatment of human and animal diseases in rural areas.
Expected impact
Page 43 of 170
• Increased industrial competitiveness, in particular of SMEs, through strengthened capabilities in systems and innovative products and services.
• Improved system characteristics: higher performance and functionality; physical features; economics/cost; environmental, in the context of the final application.
• More autonomous smart systems which are aware of and adaptive to their environment, ubiquitously connected, with cognitive abilities.
• Improvements in innovation capacity and competitiveness of European industry measured through indicators such as an increased number of SMEs and other newcomers taking up novel technologies.
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- **Improved system characteristics**: higher performance and functionality; physical features; economics/cost; environmental, in the context of the final application.
- More **autonomous** smart systems which are aware of and adaptive to their environment, ubiquitously connected, with cognitive abilities.
- Improvements in **innovation capacity and competitiveness** of European industry measured through indicators such as an increased number of SMEs and other newcomers taking up novel technologies.

Funding schemes

a): IP and STREP;
b) (i), (ii): IP;
b) (iii), (iv), (v), (vi): CSA.

Indicative budget distribution

- IP and STREP: EUR 61 million with a minimum of 25% to IPs and 25% to STREP. It is expected that a minimum of one IP each for a)(i), a)(ii), b)(i), and b(ii) is supported;
- CSA: EUR 3 million.

Call:

FP7-ICT-2013-10

Objective ICT-2013.3.4 Advanced computing, embedded and control systems

Driven by use cases addressing the grand societal challenges in Europe, the objective is to combine and expand Europe's industrial strengths in embedded and mobile computing and in control of networked embedded systems along two dimensions: (1) designing the next generation of cost- and energy-efficient computing systems to

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ICT Call 10 – Objective 3.3

Heterogeneous Integration and take-up of KET for Components and Systems

Unit G1 "Nanoelectronics"

Future Unit: A4 "Components"

Presentation Outline

- *What are we looking for?*
- *Is this new?*
- *What do we not want?*
- *Who are driving/supporting this?*
- *Additional/background documents*

Policy and socio-economic context

Components and systems

trend to connect more devices to the cloud, (including device – device; connected components and devices). In order to serve this trend.

- ✓a constant progress in miniaturisation of more powerful systems using less energy is needed.
- ✓There is also a need for integration of more functionality on chips (multichips and multicomponent) (eg. microsystems for health, automotive, food) in order to support new advanced capabilities.
- ✓This will lead to more intelligent machines, systems and processes and will impact all sectors.

Objective 3.3 - Overall aim

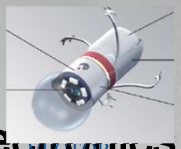
To enable further integration and cross-fertilisation of key enabling technologies towards building energy- and resource-efficient components and systems through the convergence of nanoelectronics, nano-materials, biochemistry, measurement technology and ICT.

To promote inter-disciplinary R&I activities by bringing together different research domains and constituencies with the aim of increasing impact and of bridging to Horizon 2020.

To stimulate the innovation of European industry by well-targeted take-up actions, with special emphasis on SMEs – either as users or as technology suppliers.

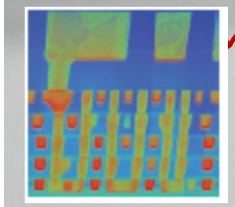
3.3 Heterogeneous Integration and take-up of Key Enabling Technologies for Components and Systems

- ✓ Integrating heterogeneous technologies
  - ✓ Miniaturised smart systems
  - ✓ Hybrid integration of organic electronics and micro/nano electronics
  - ✓ Further development and validation in real settings of micro-nano-bio and bio-photonics systems
- ✓ Technology take-up and innovation support
  - ✓ Assessment experiments in nano-electronics and smart systems
  - ✓ Access services
  - ✓ A network of innovation multipliers
  - ✓ eco-system for smart systems integration
  - ✓ deployment of bio-photonics and micro-nano-bio solutions
  - ✓ International co-operation



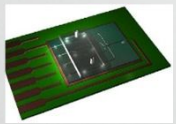
(Endoscopic capsule)

iPHOS (Sub-THZ com)



Metrology Using X-Ray Techniques
Jordan Valley, CEA-LETI,
STMicroelectronics Crolles II,
NXP Crolles R&D

Roll-to-Roll
(Fast2Light)



(PYTHIA (Lab-on-Chip)

Place-it
(ICs on plastic)

Objective 3.3 - Summary

Call 10

64 M€

a) Integrating heterogeneous technologies	*i) Miniaturised smart systems*	*IP and STREP*	*61 M€ (Min 25% to IPs and 25% to STREP)*
	ii) Hybrid integration of organic electronics and micro/nano electronics		
	iii) Further development and validation in real settings of micro-nano-bio and bio-photonics systems		
b) Technology take-up and innovation support	*i) Assessment experiments in nano-electronics and smart systems*	*IP*	
	ii) Access services		
	iii) network of innovation multipliers	*CSA*	*3 M€*
	iv) eco-system for smart systems integration		
	v) Cooperation …bio-photonics and micro-nano-bio		
	vi) International co-operation		

It is expected that a minimum of one IP each for a)(i), a)(ii), b)(i), and b(ii) is supported

Objective 3.3 a) - Target outcomes

a) Integrating heterogeneous technologies

the integration of Key Enabling Technologies for Components and Systems across multiple research fields (nano-systems, organic electronics, micro-nano-bio systems, bio-photonics), materials (organic and inorganic) and functions (sensing, actuating, communicating, processing, energy harvesting)

- The major challenges include:
  - mastering interactions and underlying complexity;
  - design, prototyping, manufacturability and recyclability;
  - biocompatibility, safety, security, reliability, miniaturisation;
  - low energy use and resource-efficiency.

Obj. 3.3 a) Integrating heterogeneous technologies

i. **Miniaturised smart systems** based on the integration of different key enabling technologies and functions, which have the ability to sense, describe, predict, decide, and to interact with their environment.

ii. **Hybrid integration of organic electronics and micro/nano electronics** on flexible, large area and/or stretchable substrates, combining different materials, components and subsystems, creating opportunities for application driven integrated systems..

iii. **Further development and validation in real settings of micro-nano-bio and bio-photonics systems** addressing key societal challenges, in particular in the health (for early or fast diagnosis and monitoring or surgery) and the food sectors (quality and safety), with involvement of relevant industrial stakeholders and driven by users.

Funding schemes

STREPs and IPs

Objective 3.3 b) Technology take-up and innovation support - Target outcomes

i. **Assessment experiments in nano-electronics and smart systems** for technology suppliers and integrators to evaluate their novel equipment, processes and building blocks with potential customers.

ii. **Access services** for new users of nano-electronics design and smart systems spanning the full innovation cycle and ranging from consultation assistance in conception and design, access to tools and equipment, and training; to feasibility studies, prototyping, pilot runs, and advanced flexible manufacturing – including Europractice-type actions.

Funding schemes

IPs

iii. A **network of innovation multipliers** established across all take-up projects of this Challenge taking an interdisciplinary approach to achieve broader technological, applications, innovation, and regional coverage thereby maximising impact and better addressing the needs of SMEs.

iv. Supporting the development of an **eco-system for smart systems integration**

v. Cooperation of scientists, technology developers and providers, and end users for accelerating the deployment of bio-photonics and micro-nano-bio solutions.

vi. **International co-operation** with Africa on point-of-care diagnosis and treatment of human and animal diseases in rural areas.

Funding schemes

CSAs

Expected Impact

*Increased **industrial competitiveness**, in particular of SMEs, through strengthened capabilities in systems and innovative products and services.*

***Improved system characteristics**: higher performance and functionality; physical features; economics/cost; environmental, in the context of the final application.*

*More **autonomous** smart systems which are aware of and adaptive to their environment, ubiquitously connected, with cognitive abilities.*

*Improvements in **innovation capacity and competitiveness** of European industry measured through indicators such as an increased number of SMEs and other newcomers taking up novel technologies.*

Is this new? Further clarifications

- **Delineation with objective 3.1**: heterogeneous integration (including 3D integration and interconnects) up to the wafer level is handled in 3.1 while anything beyond the wafer level is in the scope of 3.3.

- "Heterogeneous integration of technologies" or "**integration of heterogeneous technologies**". It is the latter one, not only integrating different technologies, but also *heterogeneous materials or heterogeneous functions* that would require special interfacing.

What we do not want

- Duplication of R&D
- Proposals which are not driven by application requirements (subtopic a))
- Low innovation
- Academic proposals (low exploitation, impact)

Key groups / Leading players

Key groups

- EPoSS ETP: www.smart-systems-integration.org/public
- Industry: microsystems, telecom, biotechnology, instrumentation and medical devices
- EU Research e.g. MNBS Cluster http://cordis.europa.eu/fp7/ict/micro-nanosystems/projects-mnbs_en.html
- Users: Associations, professionals, citizens, patients

Leading Players

- *Leading companies (ST, Infineon, IBM, Bosch, …)*
- *Leading Regional clusters (Dresden – GF/Fraunhofer; Grenoble – CEA/ST Leuven – IMEC…) and SMEs around them.*
- *RTO - European Universities of Excellence*

ICT Call 11

- Call launch 18th September 2012
- Call close 16th April 2013; 17h00 Brussels time
- Total indicative budget **236,5** M€
- Evaluation May-July 2013

Call 11 Thematics

Challenge 1. Pervasive and Trusted Network and Service Infrastructures

- 1.1 Future Networks

Challenge 3. Alternative Paths to Components and Systems

- 3.1 Nanoelectronics
- 3.2 Photonics

Challenge 4. Technologies for Digital Content and Languages

- 4.2 Scalable data analytics

Challenge 6. ICT for a low carbon economy

- 6.1 Smart Energy Grids
- 6.3 ICT for water resources management

Call 11 Thematics - 2

Challenge 8. ICT for Creativity and Learning

- 8.2 Technology-enhanced learning

Future and Emerging Technologies

- FET Flagships

Horizontal Actions

- 11.2 More efficient and affordable solutions for digital preservation developed and validated against public sector needs through joint Pre-Commercial Procurement (PCP)

Next your steps

Both Calls are open!

You need to act! As soon as possible!

What possibilities you have just now?

ICT Proposers' Day 2012
26 - 27 September 2012, Warsaw

a unique networking opportunity to build partnerships and projects targetting the new ICT WP2013

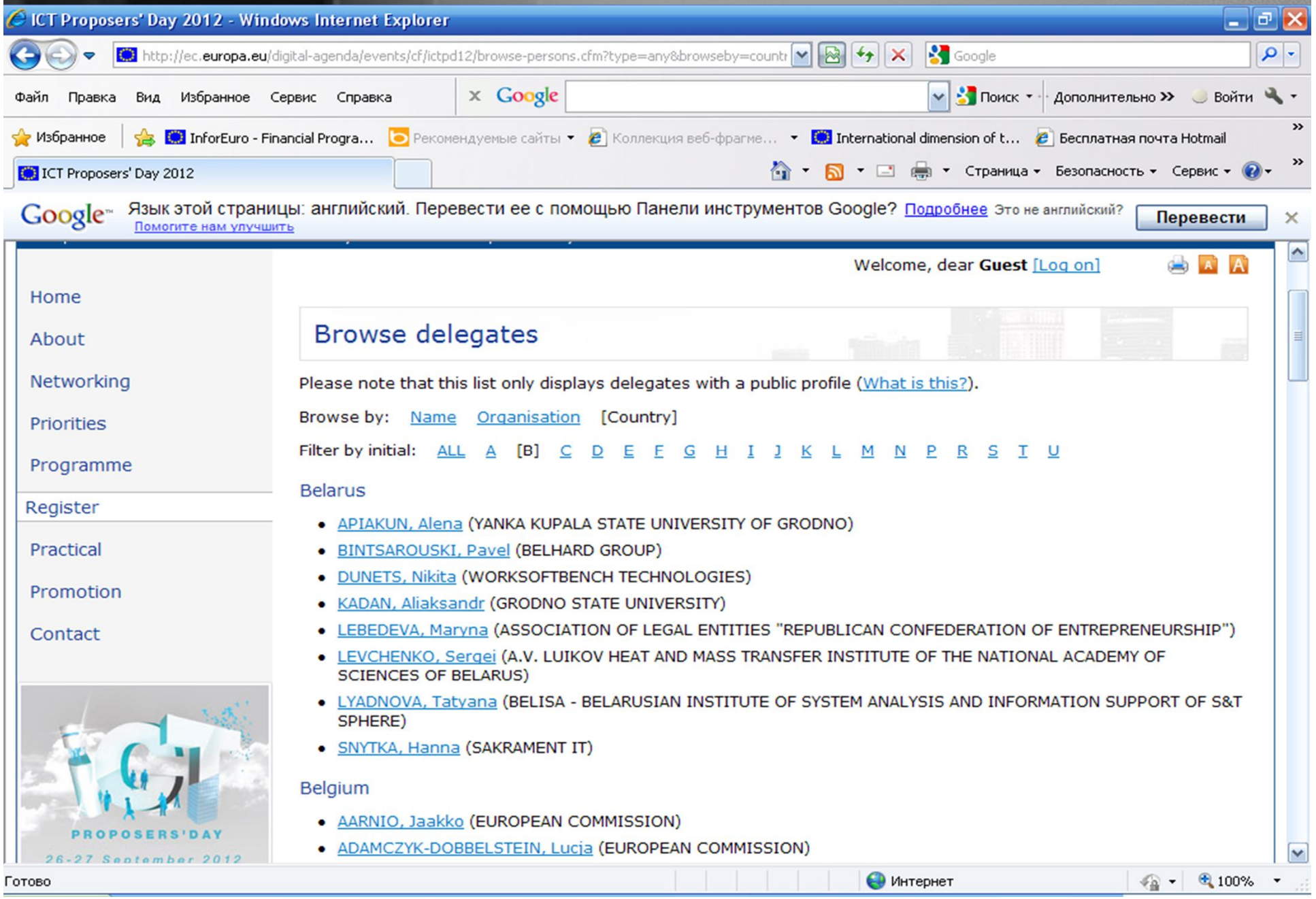
http://ec.europa.eu/information_society/events/ictproposersday/2012/index_en.htm

Networking for European ICT Research & Development

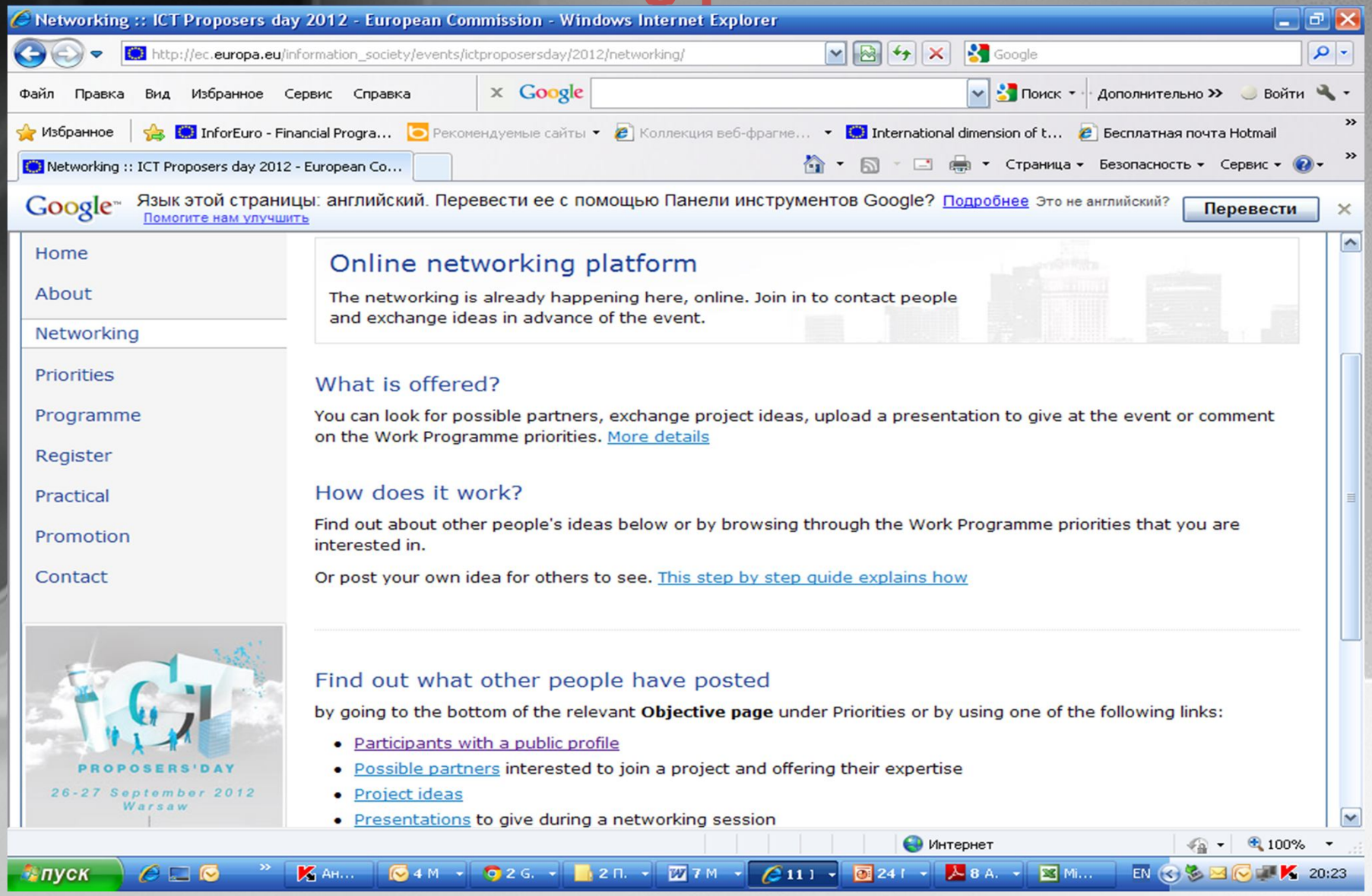
The event provided:

- first-hand information from the European Commission on the upcoming calls for proposals and the Work Programme 2013 of European ICT Research & Development, offering around 1.5 billion euro of EU funding
- an opportunity to present and discuss your project idea during one of the networking sessions on the programma
- an online networking platform for exchanging ideas and finding right partners to form project consortia
- a face2face brokerage event with pre-arranged meetings within the ICT Proposers' Day
- guidance on how to present a successful proposal

Self-promotion opportunity, Partners Search



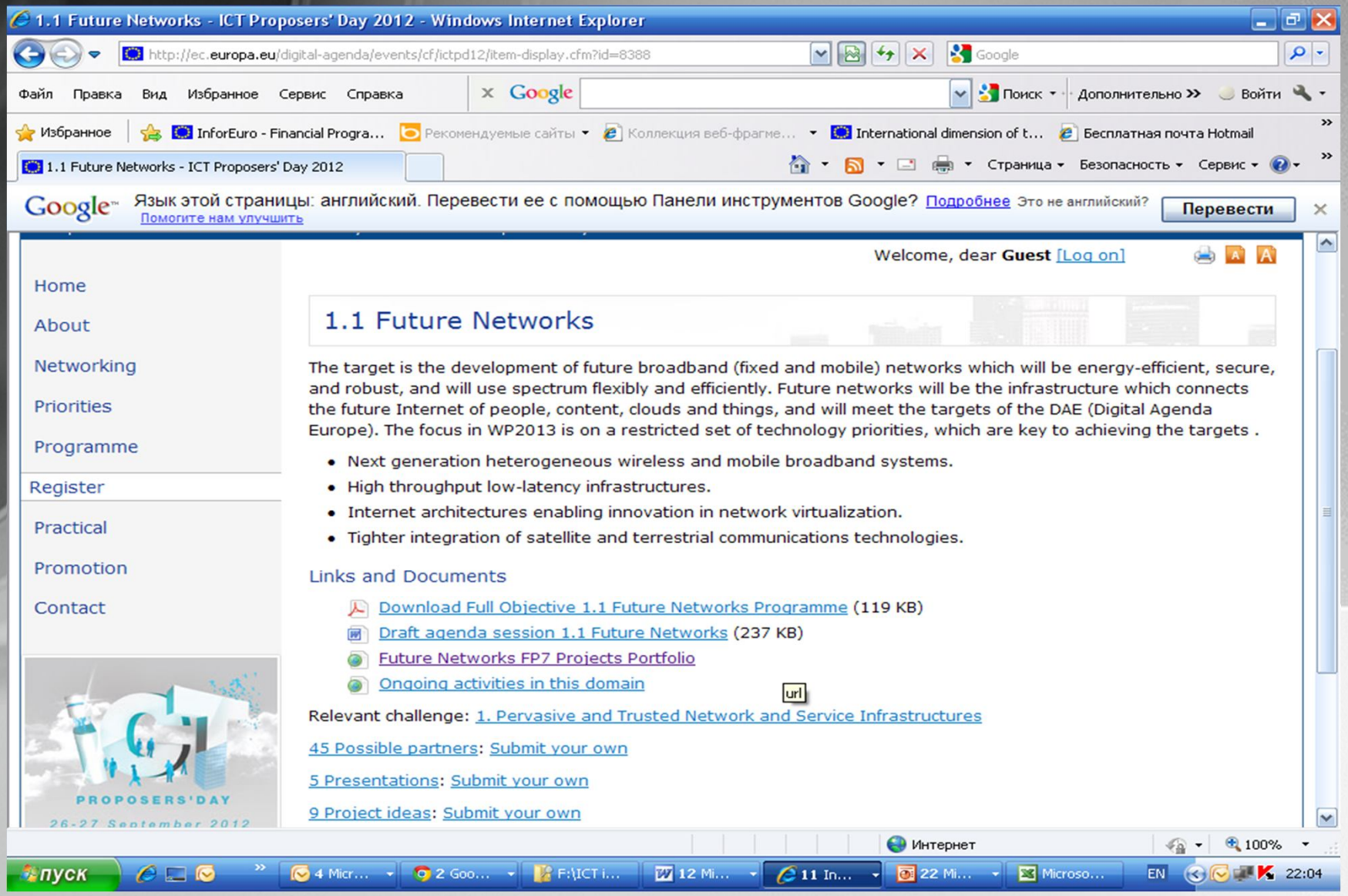
Online networking platform



Online networking remains open after the event!!!

Brokerage event

Content, Ideas, Partners, Networking



Idealist F2F brokerage event at the ICT Proposers Day 2012: statistics

Total: 450 registered participants with proposal idea

Bilateral Talks

Participants 409

Meetings 1787

Profile Views

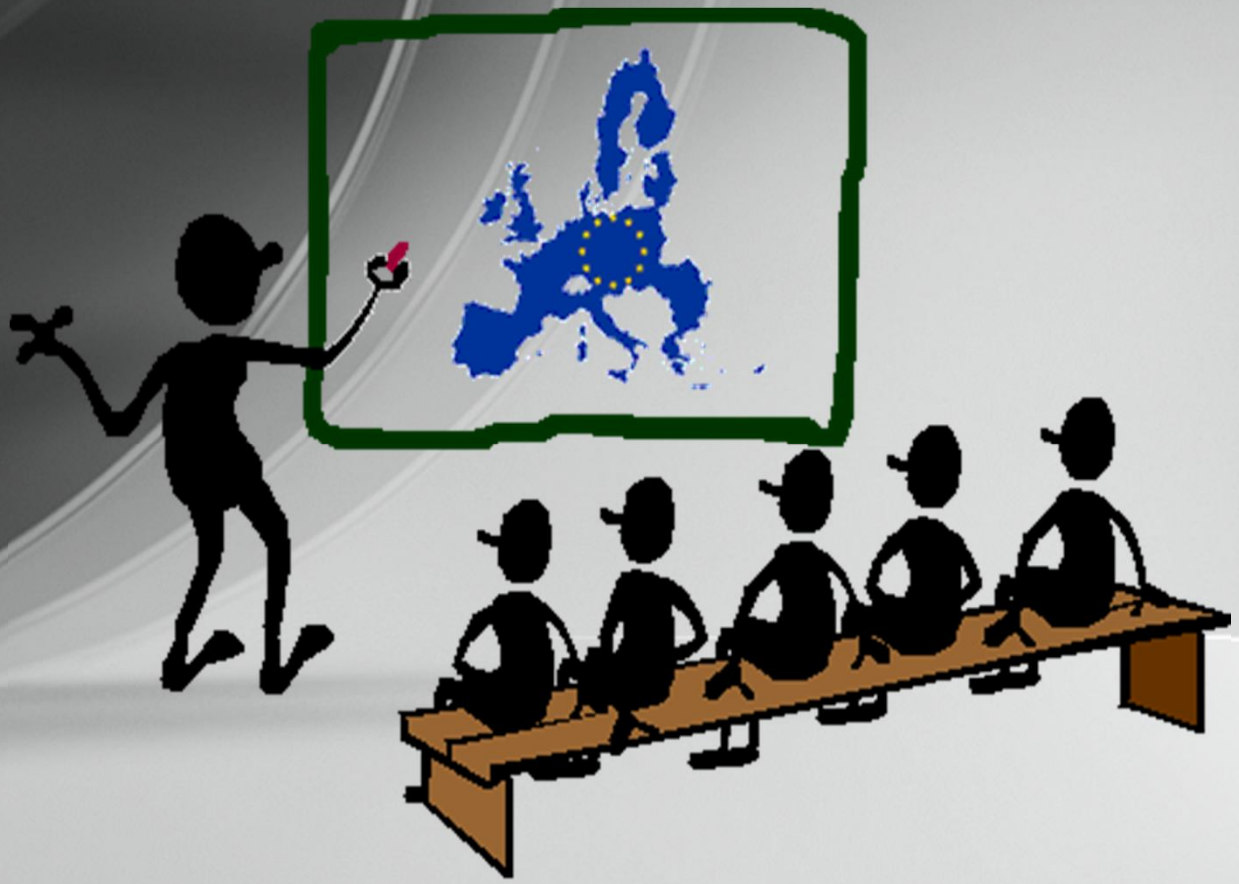
Before Event 31773

After Event 11190

Total 42963

Potential partners and proposals

All these opportunities – in your disposal!



Good luck!

Thank you for your attention!
We are glad to assist you!

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But…it is now time for…☺!