Informacijske i komunikacijske tehnologije, Obzor 2020.

INFORMATIVNI DAN OBZOR 2020.
Hrvatska udruga poslodavaca
27. ožujka 2014.
Katarina Vukušić, NCP za ICT i Sigurnost
Agencija za mobilnost i programe EU
ICT u Obzoru 2020.

Europe 2020 priorities

Shared objectives and principles

Tackling Societal Challenges
- Health, demographic change and wellbeing
- Food security, sustainable agriculture and the bio-based economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and reflective societies
- Secure Societies

Creating Industrial Leadership and Competitive Frameworks
- Leadership in enabling and industrial technologies
  - ICT
  - Nanotech., Materials, Manuf. and Processing
  - Biotechnology
  - Space
- Access to risk finance
- Innovation in SMEs

Excellence in the Science Base
- Frontier research (ERC)
- Future and Emerging Technologies (FET)
- Skills and career development (Marie Curie)
- Research infrastructures

Common rules, toolkit of funding schemes

Simplified access

Dissemination & knowledge transfer
ICT u Izvrsnoj znanosti (1)
**ICT u Izvrsnoj znanosti (2)**

<table>
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<th>Izvrsna znanost</th>
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<td><strong>FET (FET Open, FET Proactive, FET Flagships)</strong></td>
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<td><strong>Open</strong> - Novel ideas for radically new technologies</td>
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<td><strong>Proactive</strong> - Emerging themes and communities</td>
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<td><strong>Proactive</strong> – towards exascale high performance computing</td>
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<td><strong>Flagships</strong> – tackling grand interdisciplinary sci&amp;tech challenges</td>
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<th><strong>Research Infrastructure</strong></th>
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<td><strong>INFRAIA</strong> – integrating and opening existing national and regional research infrastructures of European interest</td>
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<th><strong>eInfrastructure</strong></th>
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<td><strong>INFRASUPP</strong> – support to innovation, human resources, policy and international cooperation</td>
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<td>Društveni izazov</td>
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<td><strong>Zdravlje, demografske promjene i kvaliteta života</strong></td>
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<td>Personalizing health and care</td>
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<td>Coordination activities</td>
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<td>Other actions and Horizontal activities</td>
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<td><strong>Sigurna, čista i učinkovita energija</strong></td>
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<td>Energy efficiency</td>
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<td>Competitive low-carbon energy</td>
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<td><strong>Pametan, zeleni i integrirani promet</strong></td>
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<td>Mobility for Growth</td>
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<td>Društveni izazov</td>
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<td><strong>Klimatska aktivnost, okoliš, učinkovitost resursa i sirovine</strong></td>
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<td>Waste: A Resource to Recycle, Reuse and Recover Raw Materials</td>
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<td>Water Innovation: Boosting its value for Europe</td>
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<td><strong>Uključiva, inovativna i promišljena društva</strong></td>
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<td>Overcoming the Crisis: New Ideas, Strategies and Governance Structures for Europe</td>
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<td>Young Generation in an Innovative, Inclusive and Sustainable Europe</td>
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<td>Reflective Societies: Cultural Heritage and European Identities</td>
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<td>New Forms of Innovation</td>
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<td>Actions to foster innovation policies: new forms of innovation</td>
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<td><strong>Sigurna društva</strong></td>
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<td>Digital Security: Cybersecurity, Privacy and Trust</td>
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<td>Other actions</td>
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ICT: LEIT (1)

IZVRSNA ZNANOST
- Europsko istraživačko vijeće
- Buduće i tehnologije u nastajanju
- Marie Skłodowska Curie akcije
- Istraživačke infrastrukture

INDUSTRIJSKO VODSTVO
Vodeći položaj u tehnologijama razvoja i industrijskim tehnologijama:
- Informacijske i komunikacijske tehnologije
- Nanotehnologije, napredni materijali, biotehnologija, napredna proizvodnja i prerada
- Svmir

DRUŠTVENI IZAZOVI
- Zdravlje, demografske promjene i kvaliteta života
- Sigurnost hrane, održiva poljoprivreda i šumarstvo, istraživanje mora, pomorstva i unutarnjih voda i bioekonomija
- Sigurna, čista i učinkovita energia
- Pametan, zeleni i integrirani promet
- Klimatska aktivnost, okoliš, učinkovitost resursa i sirovine
- Europa u promjenivom svijetu – uključiva, inovativna i promišljena društva
- Sigurna društva – zaštita slobode i sigurnosti Europe i njezinih građana

Šireni izvrsnosti i sudjelovanja

Znanost u i za društvo
Industrijsko vodstvo (Leadership in Enabling and Industrial Technologies)

Nanotehnologije, napredni materijali, biotehnologija, napredna proizvodnja i prerada
Factories of the future
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

7.3 mld €
Components and systems 2014 – 2015.

Covers systemic integration from smart integrated components to cyber-physical systems

- Complementary to the JTI Electronic Components and Systems (ECSEL)
- Organised in three related topics:
  - Smart cyber-physical systems (56 M€)
    - Next generation embedded and connected systems
  - Smart system integration (48 M€)
    - Integration of heterogeneous micro- and nanotechnologies into smart systems
  - Advanced Thin, Organic and Large Area Electronics (38 M€)

- R&I in this area will also contribute to the implementation of the SRA on Energy Efficient Buildings

- Reinforce and expand Europe's industrial and technology strengths in low-power ICT
- Focus is on integration of advanced components on all levels in computing systems
- Complementary to and coordinated with work in the Future Internet area (on Cloud Computing) and in Excellence Science pillar under Research Infrastructures and FET (on High Performance Computing)

- Organised in one topic:
  - Customised and low power computing

57 m€

• Focused on network and computing infrastructures to accelerate innovation and address the most critical technical and use aspects of the Internet

• Organised in ten topics:
  • Smart networks and novel Internet architectures (24 M€)
  • Smart optical and wireless network technologies (30 M€)
  • Advanced 5G Network Infrastructure for the Future Internet (125 M€) → 5G PPP
  • Advanced cloud infrastructures and services (73 M€)
  • Boosting public sector productivity and innovation through cloud computing services (22 M€)
  • Tools and methods for Software Development (25 M€)
  • FIRE+ (Future Internet Research & Experimentation) (31.5M€)
  • More Experimentation for the Future Internet (18 M€)
  • Collective Awareness Platforms for sustainability and social innovation (37 M€)
  • Web Entrepreneurship (10 M€)
Content technologies and information management 2014. – 2015.

- **Addresses:**
  - **Big Data** with focus on both innovative data products and services and solving research problems
  - **Machine translation** in order to overcome barriers to multilingual online communication
  - **Tools for creative, media and learning industries** in order to mobilise the innovation potential of SMEs active in the area
  - **Multimodal and natural computer interaction**

- **Organised in eight topics:**
  - Big data and Open Data innovation and take-up (50 M€)
  - Big data research (39 M€)
  - Cracking the language barrier (15 M€)
  - Support to the growth of ICT innovative creative industries SMEs (15 M€)
  - Technologies for creative industries, social media and convergence (41 M€)
  - Technologies for better human learning and teaching (52 M€)
  - Advanced digital gaming/gamification technologies (17 M€)
  - Multimodal and natural computer interaction (31 M€)

260 m€

• **Roadmap-based research driven by application needs**
  ➔ **Robotics PPP**

• Effort to close the innovation gap to **allow large scale deployment of robots and foster market take-up**: use-cases, pre-commercial procurement, industry-academia cross-fertilisation
  - Includes two pre-commercial procurement actions (health-care sector, public safety and environmental monitoring)

• Additional activities: shared resources, performance evaluation & benchmarking, community building and robotic competitions

• **Organised in two annual calls**
  (of 74 M€ and 83M€ respectively)
Micro- and nano-electronics and photonics

Key enabling technologies 2014. – 2015.

- Covers *generic technology developments on micro- and nano-electronics* focused on *advanced research* and lower Technology Readiness Levels (TRLs) (50 M€)
  - Complementary to the JTI Electronic Components and Systems

- Addresses the *full innovation and value chain* in markets sectors where the European *photonics* industry is particularly strong (optical communications, lighting, medical photonics, laser technologies, etc.) (156 M€)
  - Photonics PPP

- Includes calls for ERANETs as well as public procurement actions (roll-out and deployment of optical networking technologies)

- Focuses on **ICT components of innovative production systems in all sectors** (for more personalised, diversified and mass-produced product portfolio and for rapid adaptations to market changes)

- Organised in **three topics:**
  - Process optimisation of manufacturing assets (34 M€)
  - ICT-enabled modelling, simulation, analytics and forecasting technologies (32 M€)
  - ICT Innovation for Manufacturing SMEs (36 M€)
  - Part of FoF PPP

102 m€

• Internet of Things and platforms for Connected Smart Objects (51 M€)
• Cutting across several LEIT-ICT areas (smart systems integration, smart networks, big data)
• Bringing together different generic ICT technologies and their stakeholder constituencies

• Human-centric Digital Age (7 M€)
• Understanding technologies, networks and new digital and social media and how these are changing the way people behave, think, interact and socialise as persons, citizens, workers and consumers

• Cyber-security, Trustworthy ICT (38 M€)
• Focuses on security-by-design for end to end security and a specific activity on cryptography
• Complementary to Cyber-security in Societal Challenge 7

• Trans-national co-operation among National Contact Points (4 M€)
• Mechanisms for effective cross border partnership searches, identifying, understanding and sharing good practices among ICT NCPs

• **Support for access to finance (15 M€)**
  Pilot action for business angels to co-invest in ICT innovative companies
  Implemented by EIF and closely coordinated with "Access to risk finance" part of H2020

• **Innovation and Entrepreneurship Support (11 M€)**
  ICT business idea contests in universities and high schools
  ICT entrepreneurship summer academy
  ICT entrepreneurship labs
  Campaign on entrepreneurship culture in innovative ICT sectors
  Support for definition and implementation of inducement prizes
  European networks of procurers
  Pre-commercial procurement

• **Open Disruptive Innovation Scheme (90 M€)**
  Support to a large set of **early stage high risk innovative SMEs in ICT**
  Implementation through the **SME instrument**
    -> Continuously open calls with several (3) cut-off dates/year
    -> 5% of LEIT budget
ICT – zasebni radni program (11)


• **Coordinated calls**

• **EU-Brazil (7 M€)**
  - Cloud computing, including security aspects
  - High performance computing
  - Experimental platforms

• **EU-Japan (6 M€)**
  - Technologies combining big data, internet of things in the cloud
  - Optical communications
  - Access networks for densely located users
  - Experimentation and development on federated Japan-EU testbeds

International partnership building and support to dialogues with high income countries (USA, Canada, East Asia and Oceania) (3 M€)

International partnership building in low and middle income countries (11 M€)
Support to SMEs in ICT-related activities 2014. – 2015.

- **SME instrument used in LEIT and Societal Challenges**
  - Open Disruptive Innovation scheme
  - Innovative mobile e-government applications by SMEs
  - **94 m€**

- **Other horizontal innovation actions in LEIT-ICT particularly relevant for SMEs**
  - ICT contribution to **pilot for co-investments by business angels in innovative ICT firms**
  - Innovation and Entrepreneurship Support
  - **26 m€**
  - Pre-commercial procurement open to all areas of public interest requiring new ICT solutions

- **Actions aimed at specific areas**
  - Web Entrepreneurship
  - Support the growth of **ICT innovative Creative Industries SMEs**
  - **25 m€**
Guide to ICT activities in Horizon 2020:


- Comprehensive coverage of all three H2020 pillars
- Detailed list of calls and topics
Ključne informacije

- Teme povezane s ICT-jem nalaze se u SVIM prioritetima Obzora 2020.

- Glavni radni program ICT-ja je u prioritetu Industrijsko vodstvo

- Teme su pretražive na Participant portalu

- Svi dokumenti Obzora 2020. su na Participant portalu

- Kontakti NCP-jeva za sva područja su na: http://www.obzor2020.hr/obzor2020-kontakt