



MINISTRY OF SCIENCE, EDUCATION AND SPORTS

Science and Research in Croatia

**Ministry of Science, Education and Sports
of the Republic of Croatia**

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Croatia: Statistics

- ❑ Population: 4,435,056 inhabitants;
- ❑ GDP (2008): 48.5 bil EUR
- ❑ GDP Growth Rate: 2008: 2,4%
2009: - 5,8%
2010: - 0,5%

- ❑ Investments in R&D: 424 mil EUR (0,87%)
- ❑ Number of students: 170,404 students (2007/2008)
- ❑ Number of researchers: 10,767 (5,723 PhDs)
- ❑ Number of other employees in R&D: 4,988



Higher Education, Science & Technology Institutions

| | |
|--|----|
| <input type="checkbox"/> Universities (public) | 7 |
| <input type="checkbox"/> Public Institutes | 25 |
| <input type="checkbox"/> Polytechnics (public & private) | 30 |
| <input type="checkbox"/> Technology Centers | 6 |



Science and Technology Statistics

| Indicator | HR | EU-27 |
|--|---------|---------|
| Tertiary graduates in science and technology per 1 000 of population aged 20-29 years | 6.8 | 12.5 |
| Research and development personnel (% of the labour force) – All sectors | 0.55 % | 1.03 % |
| Research and development personnel (% of the labour force)- Business enterprise sector | 0.13 % | 0.54 % |
| Research and development personnel (% of the labour force)- Government sector | 0.17 % | 0.14 % |
| Research and development personnel, by sectors of performance Higher education sector | 0.24 % | 0.34 % |
| Gross domestic expenditure on R&D (GERD) | 0.9 % | 1.9 % |
| Gross domestic expenditure on R&D by business sector - Percentage of total GERD | 40.8 % | 55 % |
| Patent applications to the European Patent Office (EPO) | 6.81 | 118.37 |
| High-tech exports as a share of total exports | 6.795 % | 16.645% |



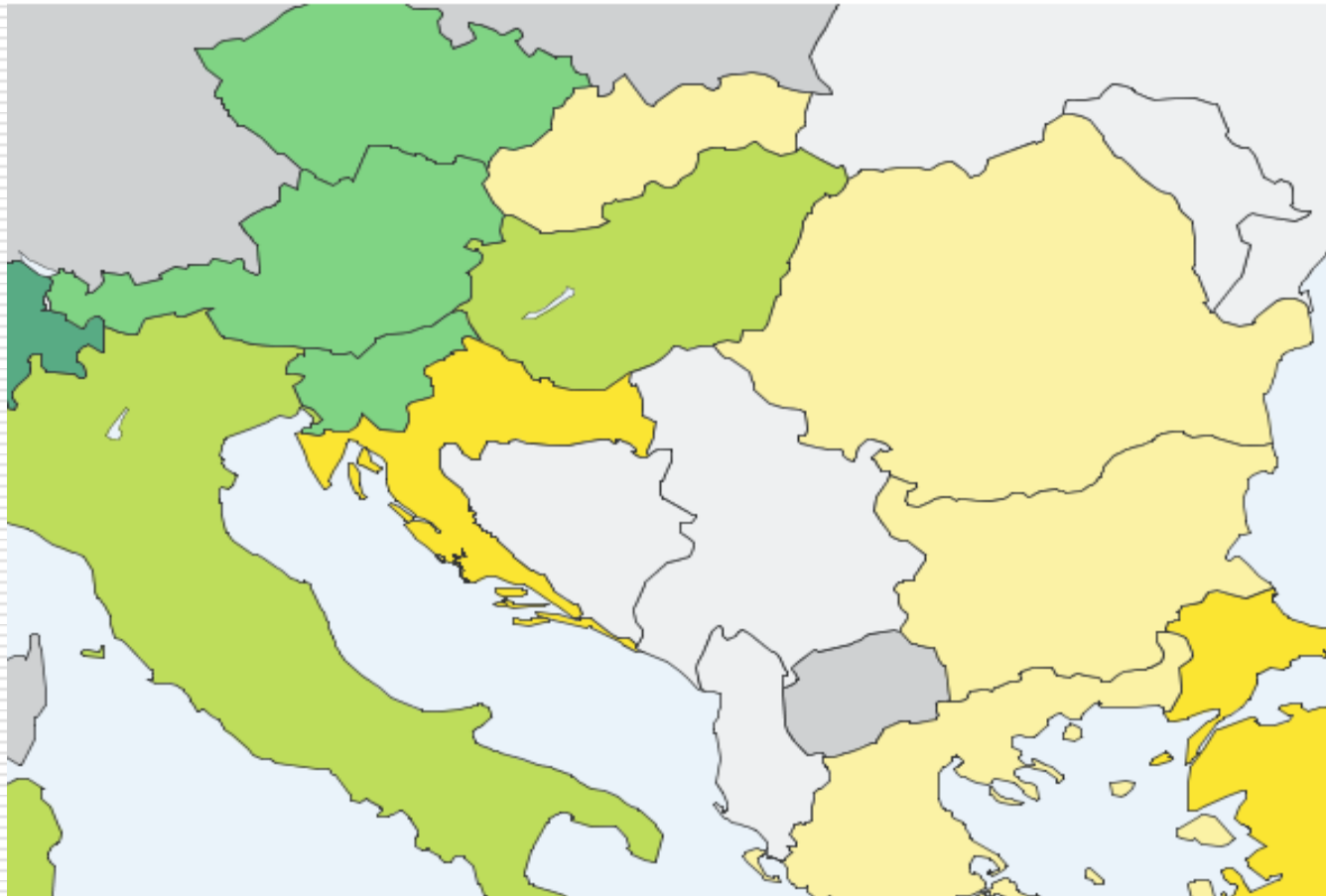
Public and Business R&D expenditures (% of GDP)

| Croatia | 2002. | 2003. | 2004. | 2005. | 2006. | 2007. | 2008. |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Public R&D Expenditures | 0,64 | 0,67 | 0,7 | 0,59 | 0,55 | 0,55 | 0,50 |
| Business R&D Expenditures | 0,47 | 0,44 | 0,5 | 0,41 | 0,32 | 0,38 | 0,40 |
| R&D intensity (GERD as % of GDP) | 1,11 | 1,11 | 1,2 | 1 | 0,87 | 0,93 | 0.90 |
| Source: Eurostat R&D database | | | | | | | |



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Research and development expenditure, by sectors of performance - [tsc00001]; All
% of GDP



Legend

0.47 - 0.58

0.58 - 0.9

0.9 - 1.43

1.43 - 2.78

2.78 - 3.91

N/A



Financing from the State Budget (EUR mil)

| | | | | | | | | |
|-------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Universities | 194 | 231 | 255 | 280 | 296 | 322 | 362 | 341 |
| Science | 94 | 103 | 98 | 103 | 111 | 115 | 127 | 125 |
| Technology | 25 | 30 | 35 | 41 | 43 | 37 | 43 | 49 |
| Total 60,72% | 313 | 365 | 388 | 424 | 451 | 474 | 532 | 515 |
| | | | | | | | | |



Science & Technology Policy



REPUBLIC OF CROATIA
MINISTRY OF SCIENCE, EDUCATION AND SPORTS

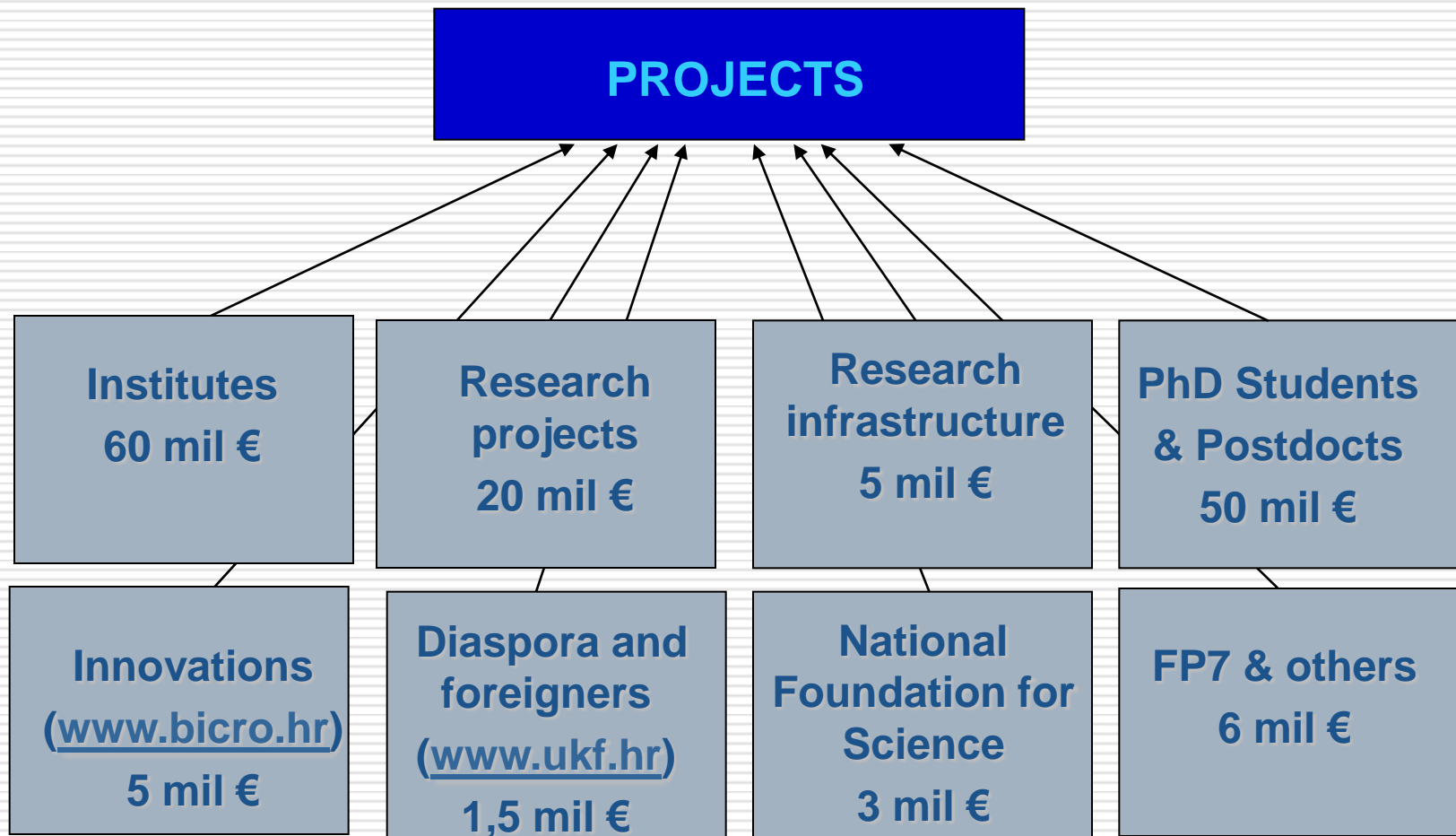


SCIENCE & TECHNOLOGY POLICY
OF THE REPUBLIC OF CROATIA
2006 – 2010

- ❑ Main goals:
- ❑ Stimulating scientific excellence and enabling the transfer of knowledge and results of scientific discoveries to industry and business
- ❑ Increasing competitiveness of the Croatian economy
- ❑ Generating sustainable economic growth and productivity



Sources of Research Financing in Croatia





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The National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia

- ☐ Central institution for funding competitive research projects (since 2009)
- ☐ Promotes science and higher education with the goal of ensuring economic growth and encouraging employment
- ☐ Develops and implements various sets of financial instruments for research career, incl. post-doc fellowships (open for foreigners)
- ☐ www.nzz.hr

The National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia



International Collaborative Workshops 15.10.2009.
the deadlines will
be published after
we receive the
invitation from the
ESF

SUPPORT FOR JOINING EUROPEAN
SCIENCE FOUNDATION PROGRAMMES



Innovation and private R&D financing

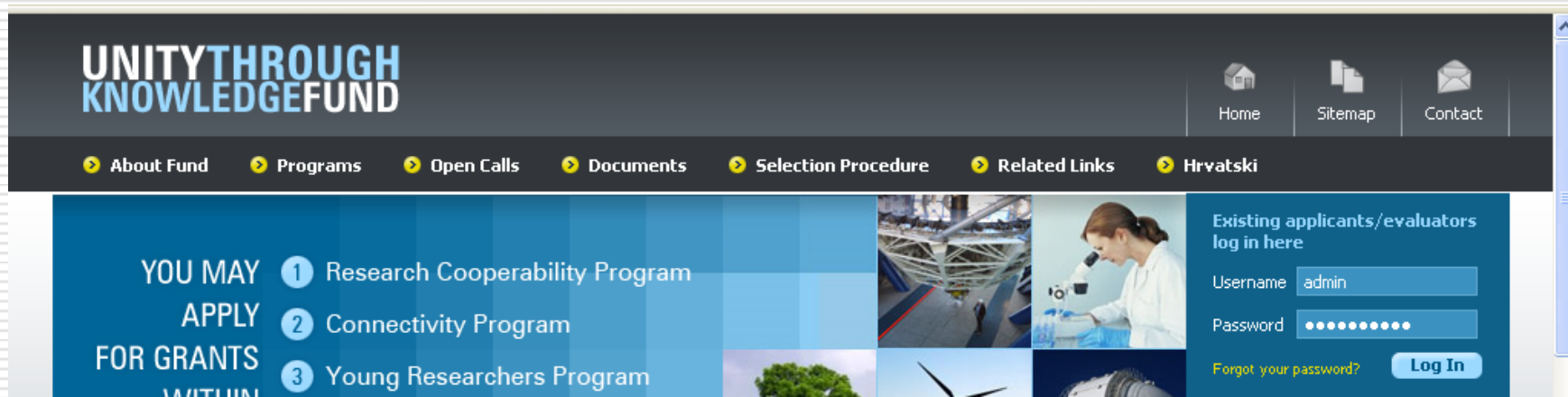
- ❑ **Razum – Innovation fostering program** – supporting new products and processes
- ❑ **TehCro – Technological infrastructure development program** – set to ensure constant growth of the SME's based on knowledge
- ❑ **IRCro – program for the encouragement of private R&D** - to encourage small and medium size enterprises to invest into R&D
- ❑ **KonCro – business competitiveness fostering program** program set to enhance competitiveness of SME's through the use of consulting services
- ❑ www.bicro.hr (5 mil EUR yearly)

The screenshot shows the BICRO website. At the top is a navigation bar with links: Naslovnica, Aktivnosti, Priopćenja, Iz medija, Vaše mišljenje, Pretraživanje, and Kontakti. Below this is the BICRO logo. To the right of the logo are fields for a username (himestric) and a password (represented by dots), followed by a Prijava button. Further right is a language selection dropdown set to English. A prominent red banner across the middle contains the text "Poslovno - inovacijski centar Hrvatske" and "Business Innovation Center of Croatia". To the right of this banner is a search bar with the placeholder "traži..." and a Pretraži button. Below the banner, it says "Gdje se nalazim: Bicro.hr". At the bottom is another navigation bar with links: Naslovnica, Programi, Financirani projekti, Natječaji, Pitanja i odgovori, Konzultanti, O nama, Iz medija, and Linkovi. The date "Ponedjeljak, 02. Studeni 2009" is displayed in the bottom right corner.



Unity Through Knowledge Fund – for attracting diaspora researchers

- ❑ **Mission:** *To unite scientific and professional potential in Croatia and Diaspora in development of a knowledge based society.*
- ❑ **Goal:**
 - To encourage scientists and experts of Croatian origin living abroad to return to Croatia and/or to foster cooperation with Croatian scientists;
- ❑ 4 permanent programs, open also to enterprises and foreigners
- ❑ www.ukf.hr





Incoming foreign researchers

- ☐ From 2008, special regulation of temporary stay permits for the purpose of scientific research
- ☐ No working permit, and all benefits as employee
- ☐ Applying at EURAXESS center – contact point for foreign researchers, with science jobs database (soon in english)
- ☐ www.euraxess.hr
- ☐ 27 foreign researchers during 2009 & 2010, not incl. permanent

The screenshot shows the EURAXESS CROATIA website. The header features the European Union flag, the text "EURAXESS CROATIA", and a "Sitemap" link. Below the header, there is a navigation bar with "HR" and "EN" language options. The main content area includes the EURAXESS logo with the tagline "RESEARCHERS IN MOTION", a "WELCOME TO CROATIA" section with a "Dear visitors," greeting, and a paragraph about the Croatian Researchers' Mobility Portal. To the right, there is a logo for the "AGENCIJA ZA MOBILNOST I PROGRAME EU" and the "Ministarstvo znanosti, obrazovanja i športa". A sidebar on the left contains a "Home" link and a "What is EURAXESS?" link. A small box in the bottom right corner mentions "Training for the administrative staff held in Zagreb".

EURAXESS CROATIA

WELCOME TO CROATIA

Dear visitors,

welcome to the Croatian Researchers' Mobility Portal! Our Service Centre is part of a European network consisting of 200 centres in 35 countries that serve about 3 500 researchers. Our objective is to help remove the barriers to the mobility of researchers.

AGENCIJA ZA MOBILNOST I PROGRAME EU

Ministarstvo znanosti, obrazovanja i športa

Training for the administrative staff held in Zagreb



New Action Plan for Encouraging Investments into Science

Reform of public sector research:

- Strengthening governance of research institutions and universities
- Strengthening National Science Foundation for supporting excellence in research
- Improving incentives for excellence
- Reform of doctoral studies (to shorten to 4 years) and opening doctoral schools
- Attracting excellent foreign researchers (including Croatian Diaspora)

Career in research as the most attractive vocation:

- Financial instruments for the development of research careers
- Increasing number of students in science and engineering

Stimulating industry invest into science and research:

- Upgrading and using capacity of the public sector research
- Tax incentives for investments into research and development

Popularizing science and research among the public



IPA – Instrument for Pre-Accession Assistance (2007-2011)

- Regional Competitiveness Operational Programme, measure: *Technology transfer and support services for knowledge-based start-ups*
 - **Science and Innovation Investment Fund** aimed at developing entrepreneurship skills and skills for intellectual property rights management in public institutions
 - **Biosciences technology commercialisation and incubation center (BioCenter).**
The activity goal is the support for the creation and growth of spin-off societies based on technology and science, especially for high added-value sectors (biosciences, biotechnology)
 - Allocation of 15 mil € , negotiating additional allocation of 15 mil € + new operations: Competitive research for innovation Fund & Technical assistance for strategy 2010-2020



EU Structural funds – 2012-2013

- Structural funds (for Croatia: 2,2 billion €)
 - Negotiations and programming of decentralized EU funds are being made
 - Regional Competitiveness Operational Programme 2012-2013
 - Infrastructural projects – technology centers, competency centers (60 mil €)
 - Grant scheme for strengthening of RTD capacities in public and private sector (130 mil €)
 - Operational Programme Human Resources Development 2012-2013
 - Grant scheme for graduate and postgraduate scholarships (10 mil)
 - Grant scheme for development of networking with diaspora and industrial sector



Changes in crisis : what's happening in 2010?

A. Research projects – rigorous administrative evaluation in progress

After the evaluation of the final reports – decision about the extension of projects that are in programmes

B. New instrument – institutional funding for research

- funds at the institutions' disposal – in line with their research programmes, mission and strategy

C. Role of the National Foundation for Science

- invitation of new calls for competitive area projects, with integrated funding (postgraduate students' salaries etc.)

D. PhD Students

- transformation into “fellowship”, connection to mentor
- decoupling of doctorates (4 + 2 years) and post-doc's (2+2 years)
- establishment of doctoral schools



Regulatory Changes

- ✓ National Foundation for Science Act– financial instruments
 - ✓ evaluation and project funding
- ✓ Law on quality assurance in science and higher education
 - evaluation of institutions
 - ✓ evaluation of university programs and research organizations
- University Act – improving governance of universities and fostering formal integration of faculties
- Science Act – improving governance and financing of research institutes
- Higher Education Act



<http://www.mzos.hr>

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- ☐ Donje Svetice 38, 10000 Zagreb



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Productivity as a measure of success

- *Current Content* base information on the number of articles published by Croatian scientists:

- 2008: 2180

- 2007 : 2018

- 2006 : 1852

- Croatian publications in the Current Contents (11)

Food Technology And Biotechnology, Croatian Medical Journal, Operators And Matrices, Strojarstvo, Chemical And Biochemical Engineering Quarterly, International Review Of The Aesthetics And Sociology Of Music, Synthesis Philosophica, Knjizevna Smotra, Drustvena Istrazivanja, Collegium Antropologicum, Croatica Chemica Acta



State support for private R&D projects

- ❑ Every investment into R&D company can represent as a deduction in tax base for profit tax
- ❑ After an expert review, the Ministry grants companies the right to tax base reduction
- ❑ Amounts which are tax-free:
 - 25% of costs for development research
 - 62% of costs for applied research
 - 150% of costs for fundamental research
- ❑ 2008: 206 approved R&D projects, about 100 mil EUR,