

# Croatian science foundation (HRZZ) - role and opportunities on Open Science

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*12.9.2017, Dubrovnik*

# Title

- ▶ **Croatian Science Landscape**
- ▶ Who We Are and What We Do
- ▶ Towards an Open science

# The Croatian Research Landscape

## Facts and Figures

- ▶ 182 publicly funded research institutions, 13 centres of research excellence
- ▶ 14.955 staff in Research and Development, approx. 11.500 scientists and researchers
- ▶ bilateral, European and multilateral scientific cooperation agreements with more than 30 countries
- ▶ Gross Domestic Expenditure on Research and Development: 374,8 million euro (in 2015) = 0.85 % of GDP

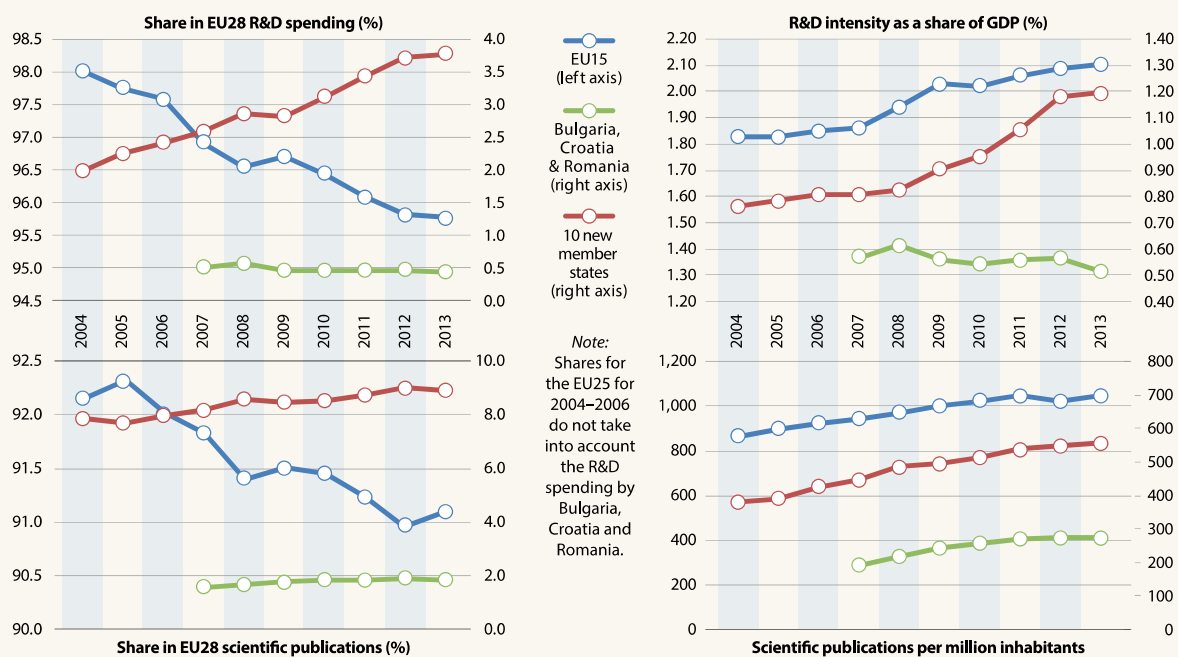
# The Croatian Research Landscape

## The newer member states have progressed

There has been a marked improvement in the volume of R&D conducted by the ten countries which joined the EU in 2004. Their share of total R&D spending increased from less than 2% in 2004 to almost 3.8% by 2013 and their R&D intensity from 0.76 in 2004 to 1.19 in 2013. Although their R&D intensity remains well below that of the EU15 countries, the gap has been narrowing consistently since 2004 (Figure 9.8).

For Bulgaria, Croatia and Romania, on the other hand, which joined the EU in 2007 and 2013 respectively, the situation has deteriorated. All three contributed less to EU28 GERD in

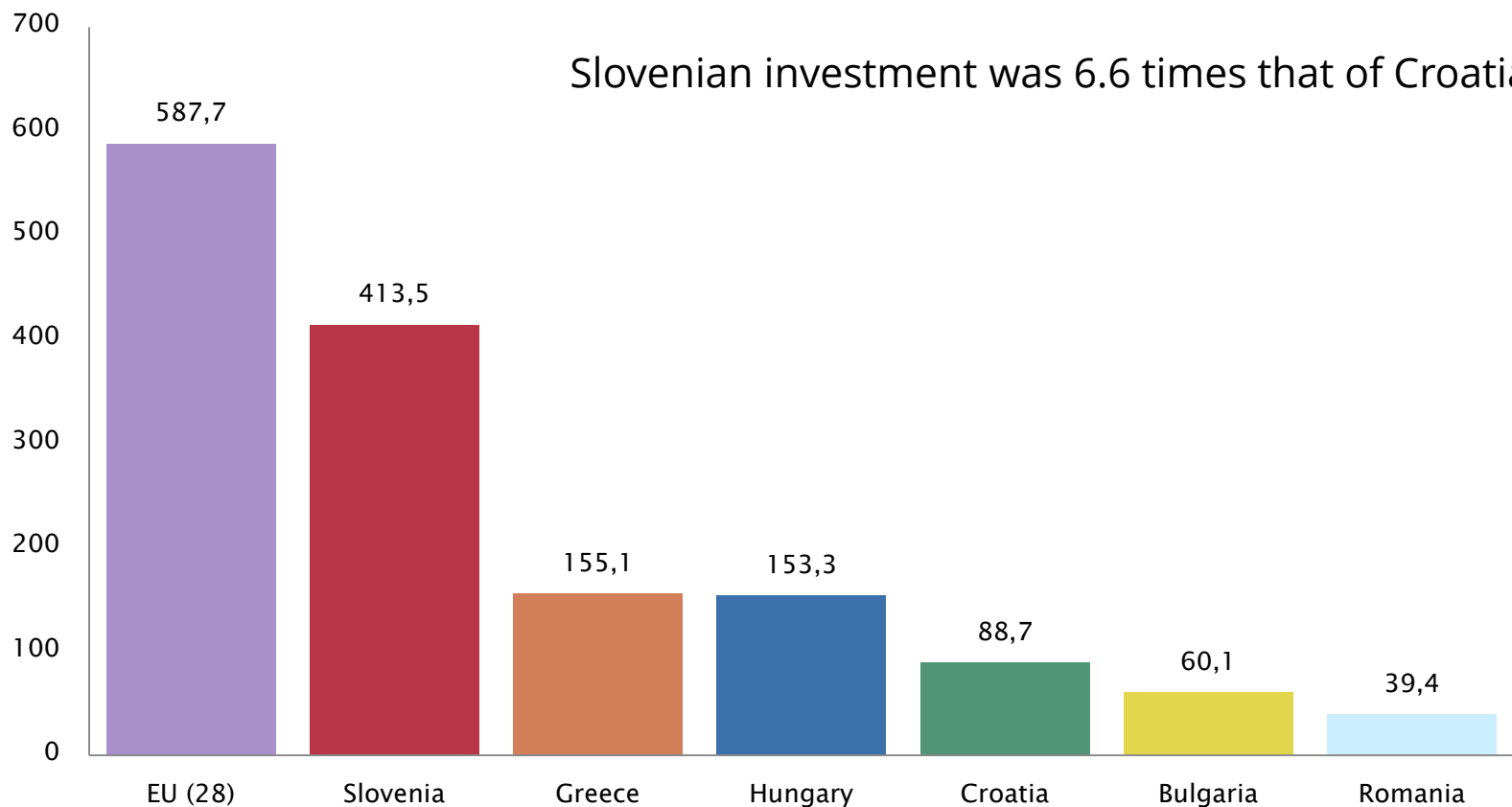
Figure 9.8: Uptake of STI activities by new EU member states, 2004–2013



Source: UNESCO SCIENCE REPORT, <http://uis.unesco.org>

Source: for top two graphs: Eurostat, January 2015; for bottom two graphs: computed by Science-Metrix using Thomson Reuters' Web of Science

# R&D expenditure (GERD) per capita in 2015



# Croatian science in global context

## Horizon 2020

€ 37.5 million

193 grants

11.23% success rate

largest financial support to area n9. (Food security, sustainable agriculture and forestry...)

## ERC

3 grants

€ 5.4 million

4% success rate

15 Croatian researchers are implementing an ERC grant abroad (DE, CH, UK, SI, AT...)

- Out of 8 368 published scientific papers, most of them are in three scientific areas: Natural sciences (22,3%), Social sciences (20,2%) and Technical sciences (18,7%).
- Most of the publications are fundamental (51,2%) and applied researches (41,3%).

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# Who We Are and What We Do?

- ▶ an autonomous, bottom-up, funding body set up by the Croatian Parliament in December 2001 and **led by scientists**
- ▶ serves all branches of science and the humanities by funding research projects at research universities and other publicly funded research institutions in Croatia
- ▶ **Mandate:** to promote technological development in Croatia in order to ensure the development of economy and to support employment
- ▶ Budget in 2016: approx. 13 million €



# HRZZ Profile

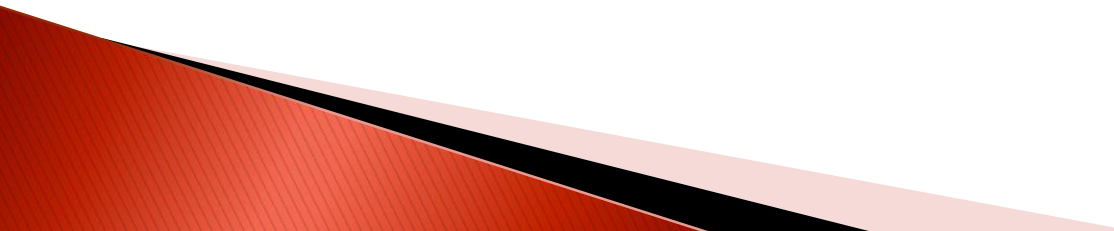
## Strategy

- Support for individual scientists
- International peer-review
- No predetermined subjects (bottom-up)
- Support of basic and applied research in all fields of science and humanities

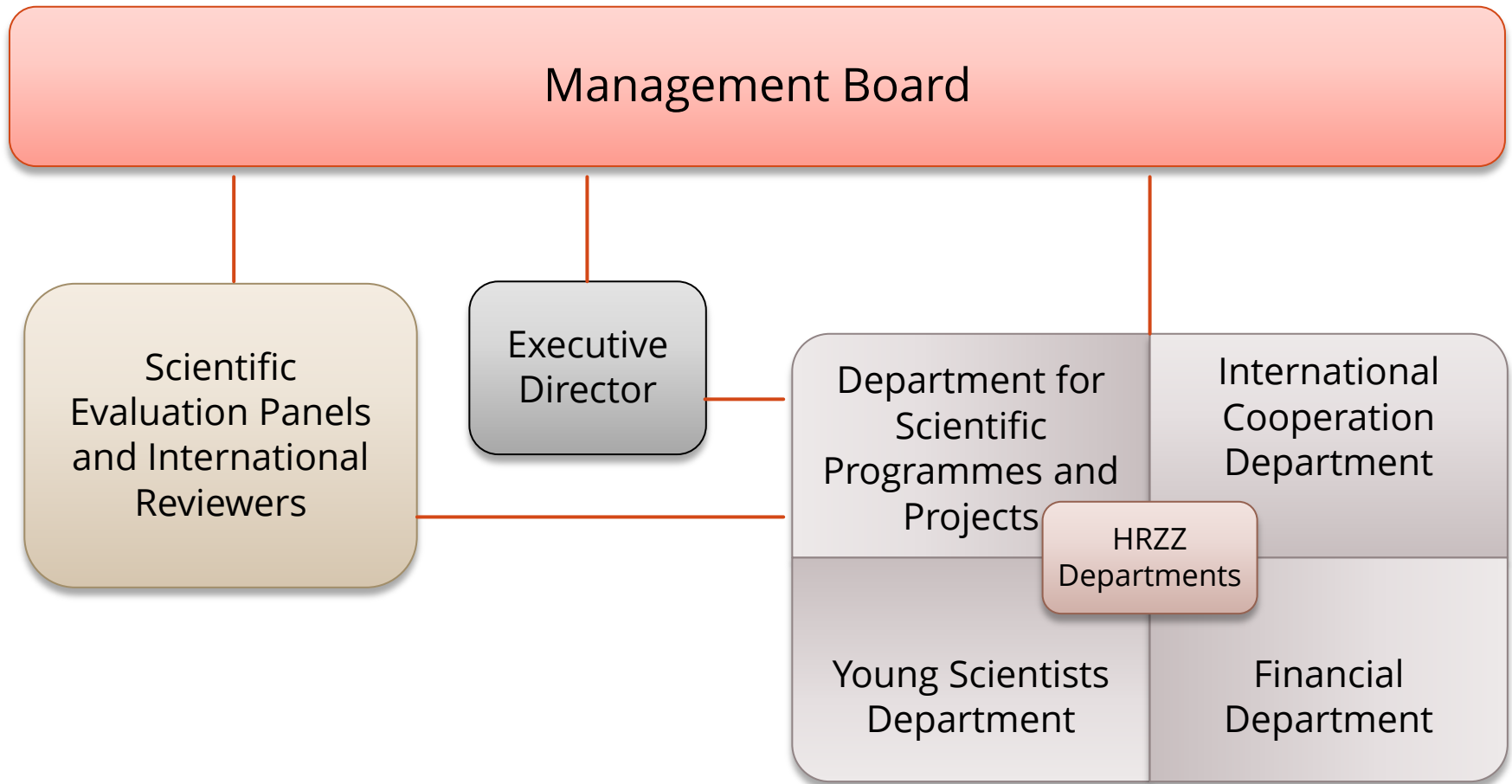
## Legislation

- Scientific governance by an independent 7-member Scientific Board
- Scientist organized in scientific panels have full authority over funding and evaluation
- Support by the Parliament and Ministry of science and education
- Most important criterion: quality of research and PI

# HRZZ Mission

- ▶ stable funding of research in regular long-term and foreseeable multi-year cycles.
  - ▶ special emphasis on the training of doctoral students and early career researchers
  - ▶ promotes close ties between research and industry as well as with researchers abroad
  - ▶ promotes Involvement of the Croatian Scientific Community in the European Research Area (ERA).
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# HRZZ organizational structure



# HRZZ Funding Schemes

## Installation grants

starters  
(2-7 years after PhD)  
up to € 267.000 for 5  
years

## Research grants

track-record of  
significant research  
achievements in the  
last 5 years  
up to € 134.000 for  
2-4 years

## Training of new doctoral students

annual gross salary  
during 4 year period

## Partnership in research

cooperation of industry and  
science  
up to € 200.000 for 3 years

## Specific calls

financed from private and other  
sources

# Who and how can apply for funding?

- ▶ Individual researchers and research organizations apply for funding in the grants program:
  - grants enable researchers to conduct research project with clearly defined topics and duration
  - no predetermined fields or programs
  - in areas of current relevance and by concentrating scientific potential at organizations.
- ▶ Mentors apply for funding of doctoral students:
  - rewarding scientists achievements and ensuring quality teaching.

# Three-stage evaluation procedure

- ▶ Competitive evaluation of projects proposals
- ▶ **International Peer Review:** evaluation of project proposals includes Croatian and international experts
- ▶ Principles of quality, transparency, equality of treatment, efficiency and speed, confidentiality, and respect for ethical principles

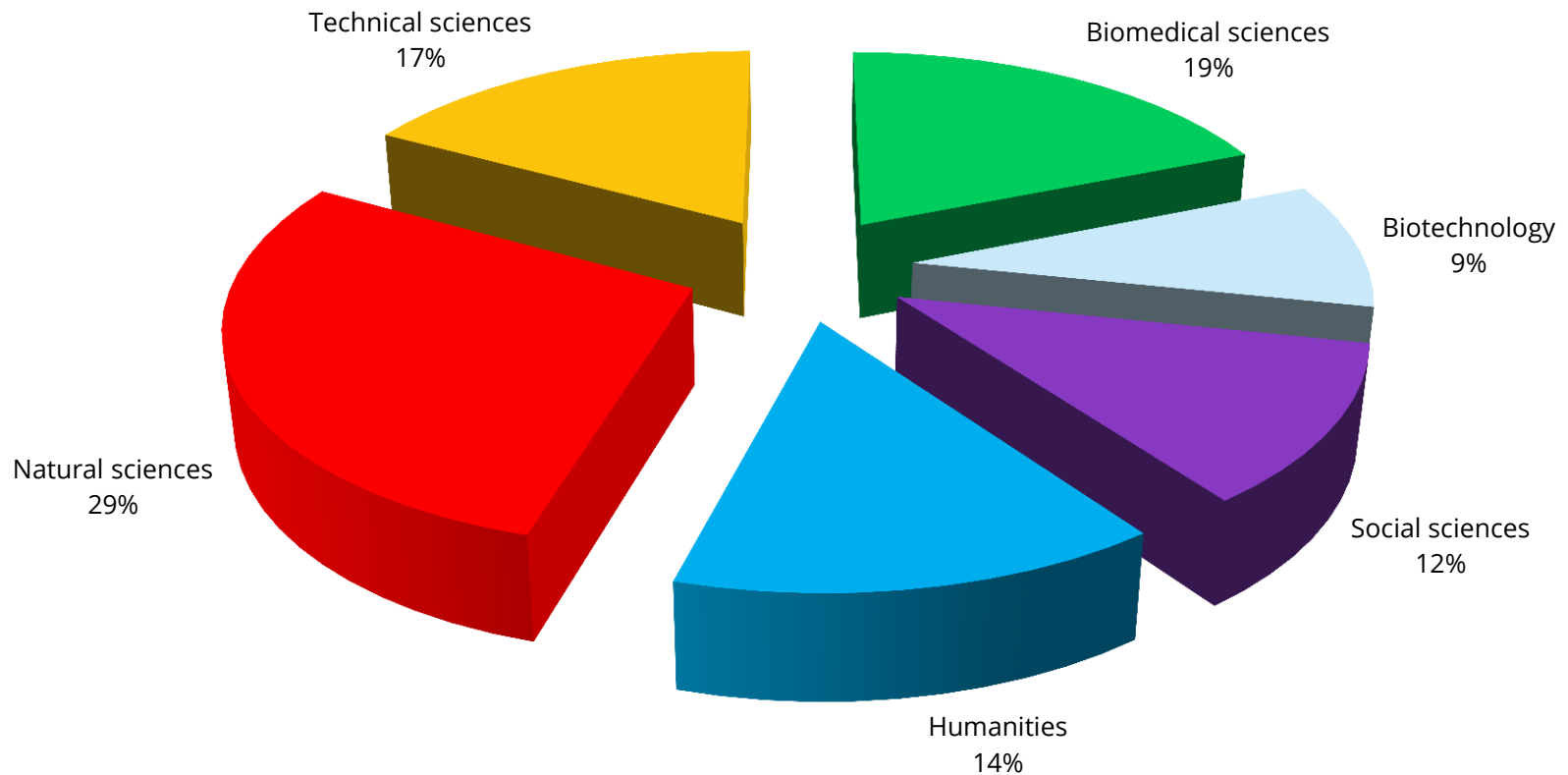
# Scientist track record evaluation criteria

- ▶ Before 2013. HRZZ wasn't fully responsible for funding of research activities

	Before 2013.	After 2013.
Success rate %	75	30 – 40
Number of financed projects per year	2308	193
Grant value €	10.000	80.000 – 267.000

# HRZZ Profile

Funding by scientific discipline in period 2013-2016

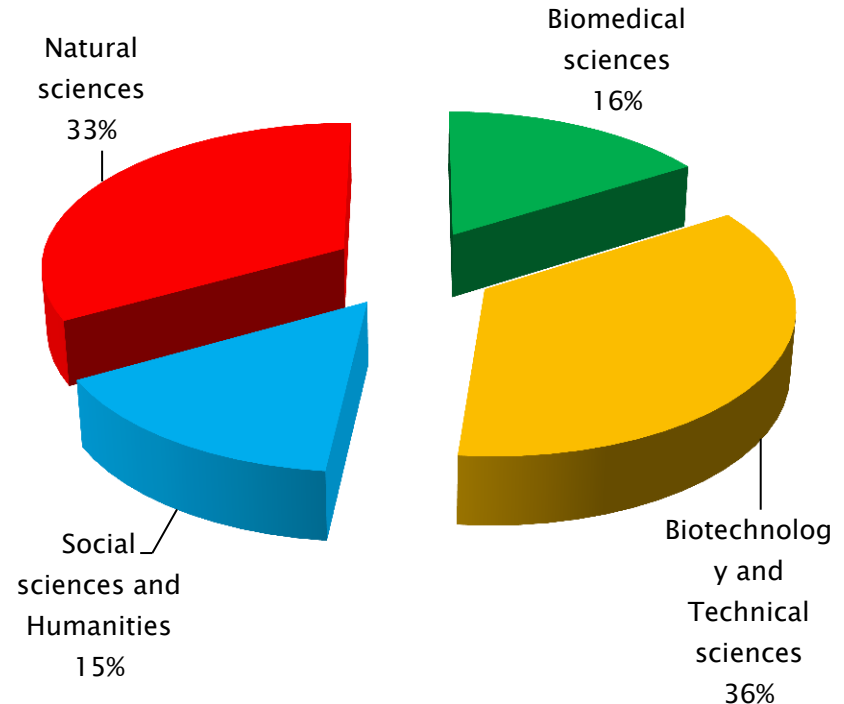
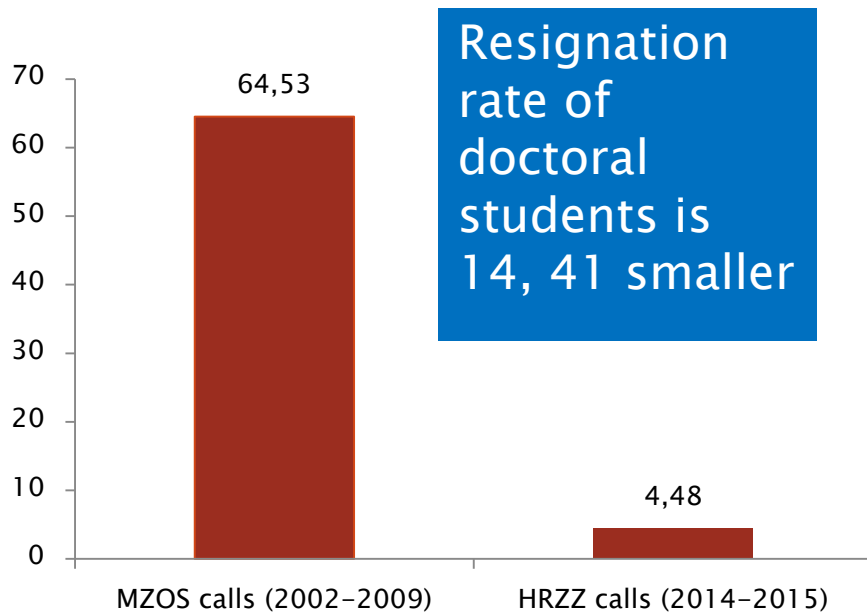




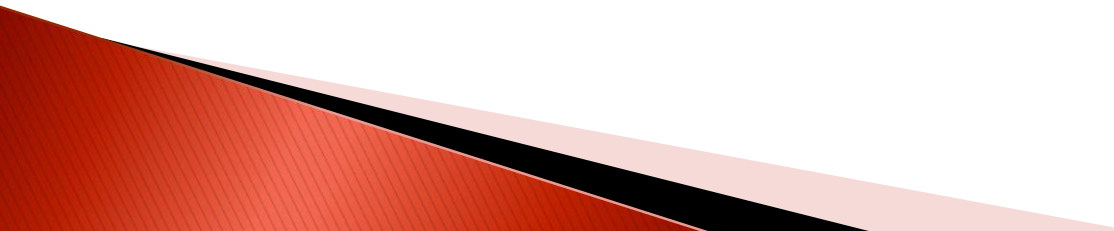
# Promoting young researches

- Strengthening mentoring capacities by evaluating mentors scientific qualities
- Young scientists are directly involved in scientific research

335 doctoral students employed



# HRZZ after 4 years

- ▶ 5 000 researchers involved in projects
  - ▶ Grants located in more than **60** different institutions in Croatia
  - ▶ 27 % grantees in **3** institutions
  - ▶ **Benchmarking** effect: impact on national programmes and agencies;
  - ▶ **Efficient** and **fast** grant management
- 

# Result based monitoring

- ▶ Evaluation of progress every **12 months**
- ▶ Two-stage evaluation procedure done by more than **430 Croatian scientists**

▶ **67** workshops organized under projects

**3122** published scientific papers

**10** patent applications

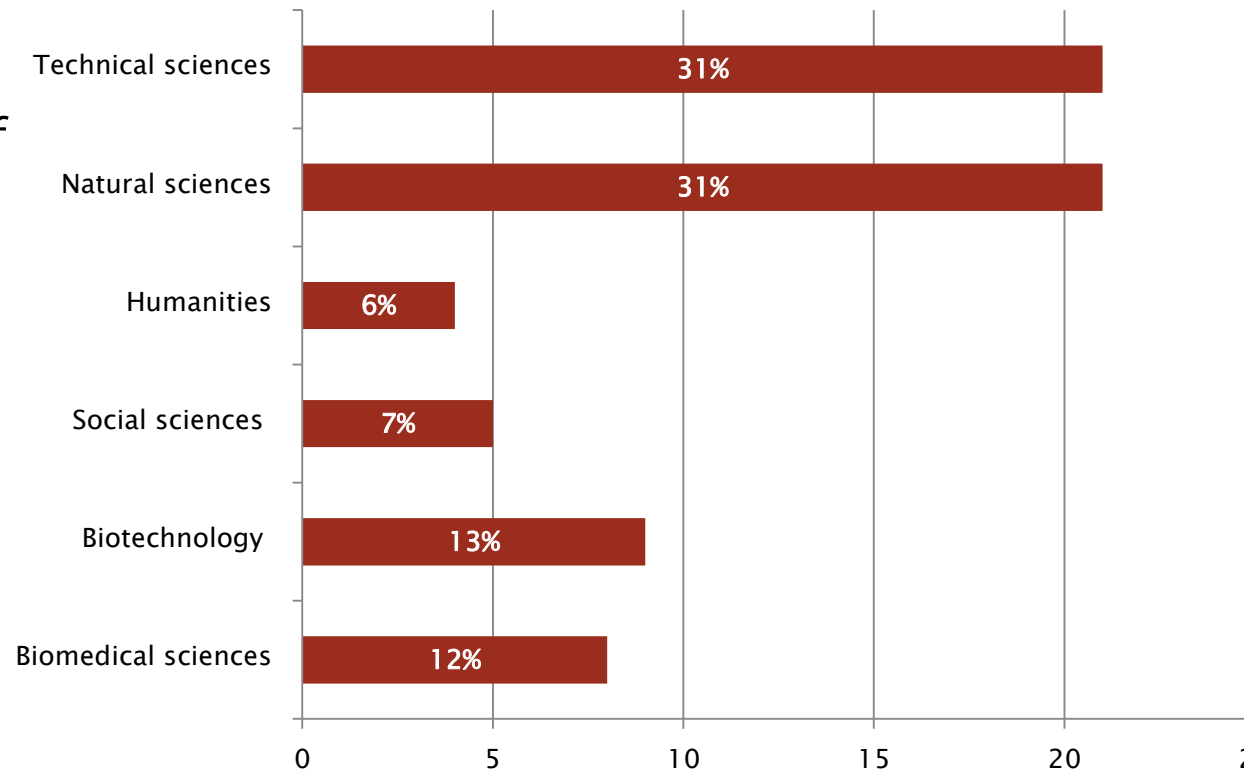
**3069** presentations at conferences were held

# Developing a foundation for the future

- ▶ On average each HRZZ project team has nine members.
- ▶ ¼ of team members are in initial phase of their career

**878**  
PhD researchers are participating in HRZZ projects and **68** post-docs were employed

## Employed Post-doc researchers



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# Towards an Open science

- ▶ Croatian Science Foundation supports both roads, green and gold
- ▶ **Article 21, Grant Agreement**
  - „Results should be made publicly available. Principle investigator must ensure the greatest possible dissemination of results, their communication and commercialization.”
- ▶ **Article 22, Grant Agreement**
  - „Project summary and a summary of the project results (other than financial data and data that can not be disclosed taking into account the provisions on intellectual property protection) are public information and the Foundation reserves the right to publish them.”
- ▶ Grant holder must establish project web site and regulary update content, self-archive published results, papers and research data

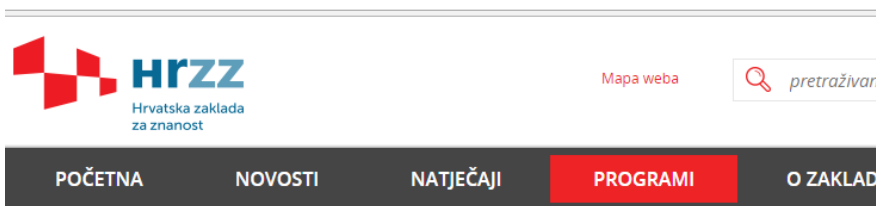
# Towards an Open science

- ▶ Supporting publishing in open access journals – 6.670 € per project (5y)
- ▶ Many open access journals don't operate on article processing charges
- ▶ Funds can only be used for articles in true open access journals with a severe quality control
- ▶ Many researchers store their data in more than one place: on their work computer; on an external hard drive or USB drive; on their private computer.

# Where to find relevant information on HRZZ projects

[www.hrzz.hr](http://www.hrzz.hr)

Hrvatska zaklada za znanost putem svojih natječaja financira projekte od 2004. godine. Neke od istraživačkih tema predstavljamo u nastavku:



- Pregled programa
- Arhiva programa
- Pregled financiranih projekata
- Popis odobrenih mentora i doktoranada
- HRZZ projekti
- Baza znanstvenih fotografija
- Kolokviji HAZU i HRZZ
- Baza projekata**

## Baza projekata

Ime i prezime

Vrsta natječaja

Natječajni rok

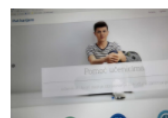
Znanstveno područje/polje

Ključne riječi

TRAŽI

Preuzimanje cjelokupne baze u CSV ili XLSX formatu: [\[CSV\]](#) [\[XLSX\]](#)

[ispis stranice](#)



**Naziv projekta:** Profesionalni razvoj u adolescenciji: razvoj modela tranzicije karijere adolescenata  
**Program i rok:** Uspostavni istraživački projekti, rok studeni 2013.  
**Voditeljica:** dr. sc. Iva Šverko  
**Ustanova:** Institut društvenih znanosti "Ivo Pilar"



**Naziv projekta:** Promjenjivost Sunca i Zvijezda  
**Program i rok:** Istraživački projekti, rok studeni 2013.  
**Voditelj:** dr. sc. Bojan Vršnak  
**Ustanova:** Opservatorij Hvar Geodetskog fakulteta u Zagrebu



**Naziv projekta:** Stvaranje socijalističkoga čovjeka. Hrvatsko društvo i ideologija jugoslavenskoga socijalizma  
**Program i rok:** Uspostavni istraživački projekti, rok studeni 2013.  
**Voditelj:** izv. prof. dr. sc. Igor Duda  
**Ustanova:** Sveučilište Jurja Dobrile u Puli, Centar za kulturološka i povijesna istraživanja socijalizma



**Naziv projekta:** Jezična obrada u odraslih govornika  
**Program i rok:** Uspostavni istraživački projekti, rok studeni 2013.  
**Voditeljica:** doc. dr. sc. Jelena Kuvač Kraljević  
**Ustanova:** Edukacijsko – rehabilitacijski fakultet Sveučilišta u Zagrebu



**Naslov projekta:** Molekularni mehanizmi imunološkog djelovanja PVR (CD155) u virusnoj i tumorskoj patogenezi  
**Program i rok:** Uspostavni istraživački projekti, rok studeni 2013.  
**Voditeljica:** izv. prof. dr. Tihana Lenac Roviš  
**Ustanova:** Medicinski fakultet Sveučilišta u Rijeci



**Naslov projekta:** Hrvatska i Srednja Europa: umjetnost i politika u razdoblju moderne  
**Program i rok:** Uspostavni istraživački projekti, rok studeni 2013.



Thank you for your attention!

For more information:

▶ on HRZZ: <http://www.hrzz.hr/default.aspx?id=47>

▶ on HRZZ-funded projects:

<http://www.hrzz.hr/default.aspx?id=78>