
11 March 2011
Republic of Serbia
Ministry of Science and
Technological Development
SCIENCE FOR THE FUTURE OF SERBIA
A SUMMARY OF THE LAST TWO AND A HALF YEARS
AND FUTURE PERSPECTIVES
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1. Results accomplished by the Ministry of Science and Technological Development from July 2008 until March 2011, when it is merged with the Ministry of education;

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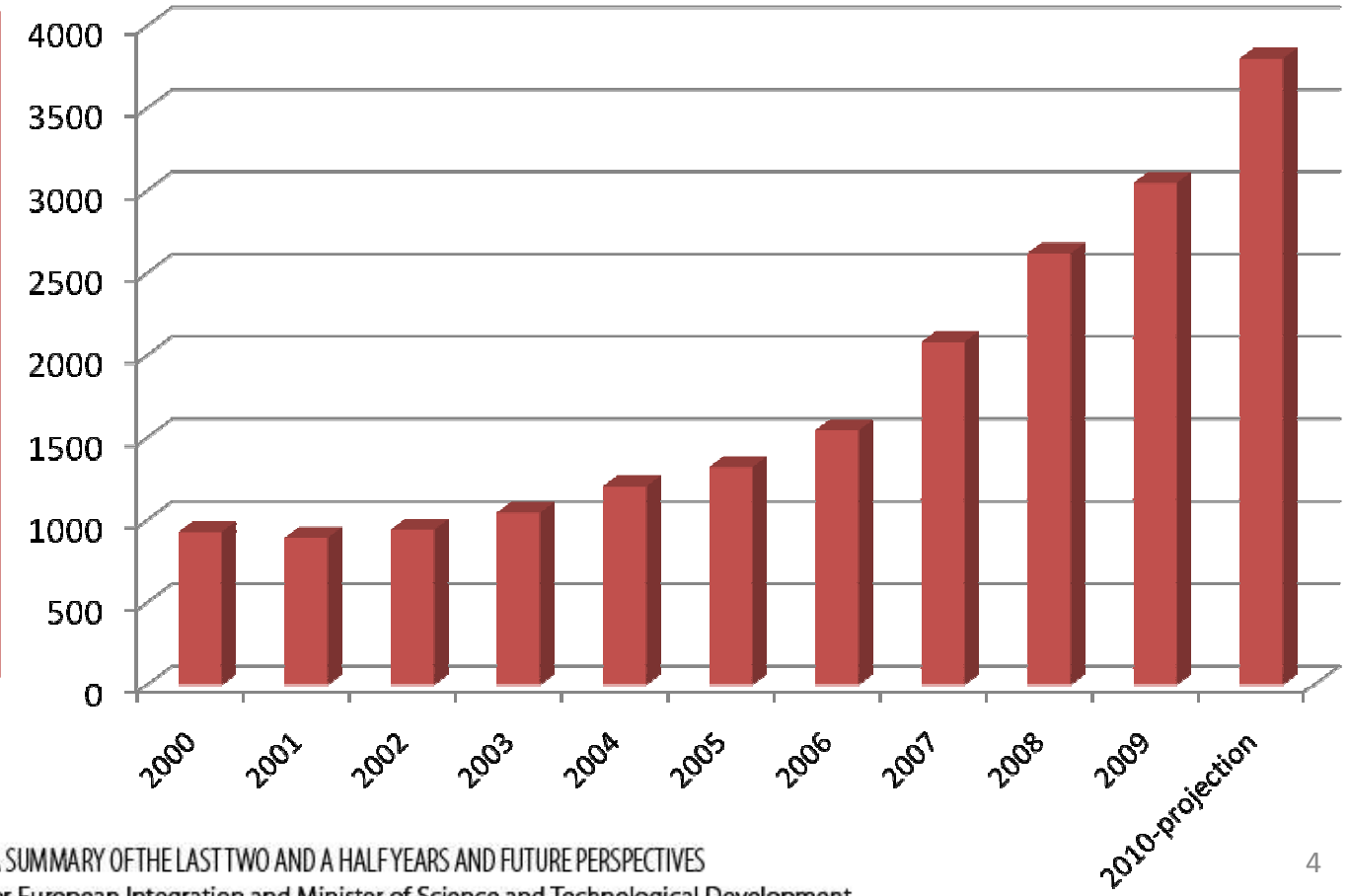
# CONTINUITY IN SCIENCE POLICY OVER THE LAST TEN YEARS HAS LED TO AN INCREASE IN THE NUMBER OF INTERNATIONALLY RECOGNIZED SCIENTIFIC PUBLICATIONS

Serbia was declared the global "rising science star" by Thomson Reuters since February 2010 as the country with the highest growth in citations in 11 out of 22 scientific disciplines

The number of internationally recognized scientific publications in Serbia (SCI, SSCI I AHCI):



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# A STRATEGY OF SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT OF THE REPUBLIC OF SERBIA WAS ADOPTED FOR THE FIRST TIME

- The key words of the Strategy which covers the time period 2010-2015 are “focus and partnership”: Focus through defining a list of national scientific priorities and Partnership with institutions and companies that will allow Serbia to promote and commercialize its ideas, services and products on the global market.

- Vision of scientific and technological development of Serbia:

  „Serbia as an innovative country, where scientists attain European standards, contributing to the overall level of knowledge of the society and advancing the technological development of the economy”

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# THE STRATEGY DEFINES SEVEN NATIONAL SCIENTIFIC PRIORITIES

- Biomedicine
- New materials and nanosciences
- Environment protection and countering climate change
- Agriculture and food
- Energy and energy efficiency
- Information and communication technologies
- Improvement of decision making processes and affirmation of national identity

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# THE SERBIAN PARLIAMENT ADOPTED A NEW LEGAL FRAMEWORK FOR SCIENCE AND TECHNOLOGY WHICH ALLOWS FOR STRATEGY IMPLEMENTATION

- The Law on Research Activities;
- The Law on Innovation Activities;
- The Law on the Serbian Academy of Sciences and Arts.

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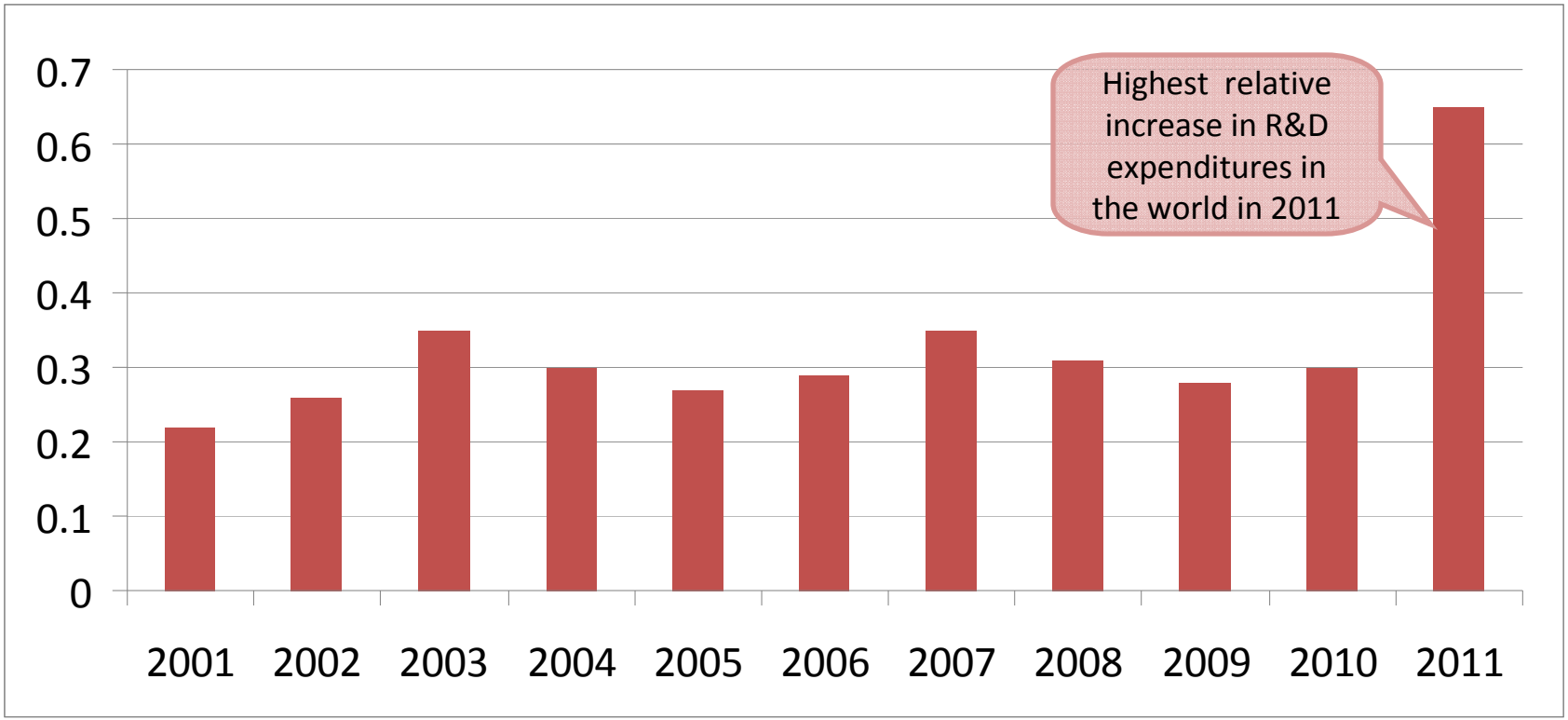
# SERBIA DOUBLED ITS PUBLIC INVESTMENT IN R&D IN 2011, REACHING 0,65% OF GDP

Public investment in R&D (in % of GDP from 2001 until today):




Source: Law on Budget RS

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# THE BIGGEST PUBLIC CALL FOR SCIENCE PROJECTS EVER STARTED ON MAY 23rd IN THE PRESENCE OF 3,000 SCIENTISTS, BUSINESSMEN, THE PRESIDENT, PRIME MINISTER AND MANY INTERNATIONAL PARTNERS

- The Program and all other legal documents and terms of the call were presented on that day;
- For the first time, the public call included both project and equipment financing through a unified procedure for application and review;
- International review was introduced for the first time for technological development projects;
- National science priorities were incorporated through the new program of interdisciplinary research;
- 12,315 researchers applied through a total of 878 projects.

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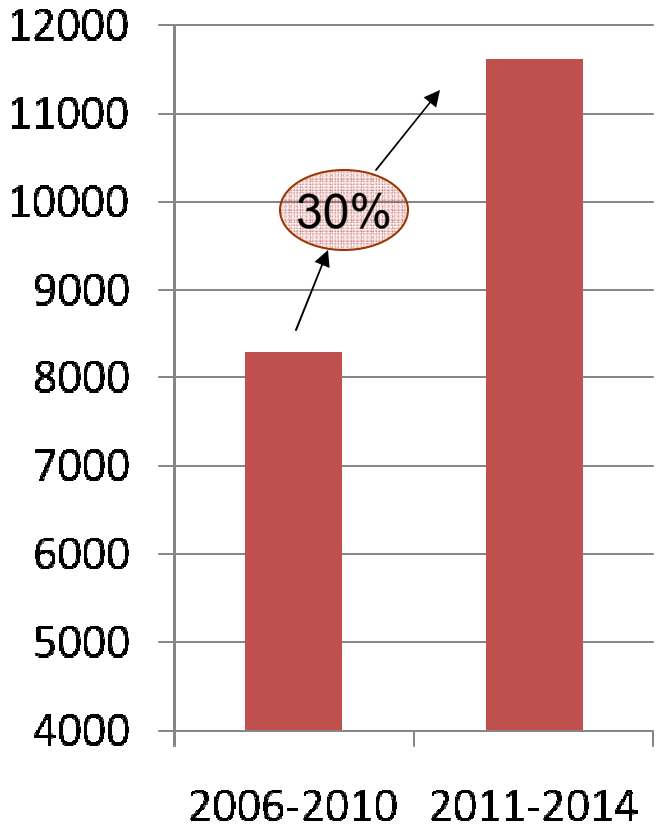
# THE NEW PROJECT CYCLE INCREASED THE NUMBER OF RESEARCHERS BY 30%

The number of researchers funded in Serbia in the previous project cycle (2006-2010) and the new one (2011-2014):




- 780 out of 878 projects were accepted for financing (89%);
- There is a total of 11,615 researchers on the accepted projects;
- 1,714 young researchers (under 30) will for the first time participate in projects;
- 1,024 researchers from abroad will be partners on projects;
- 47% of the researchers are women, which represents one of the best gender balances in the world.

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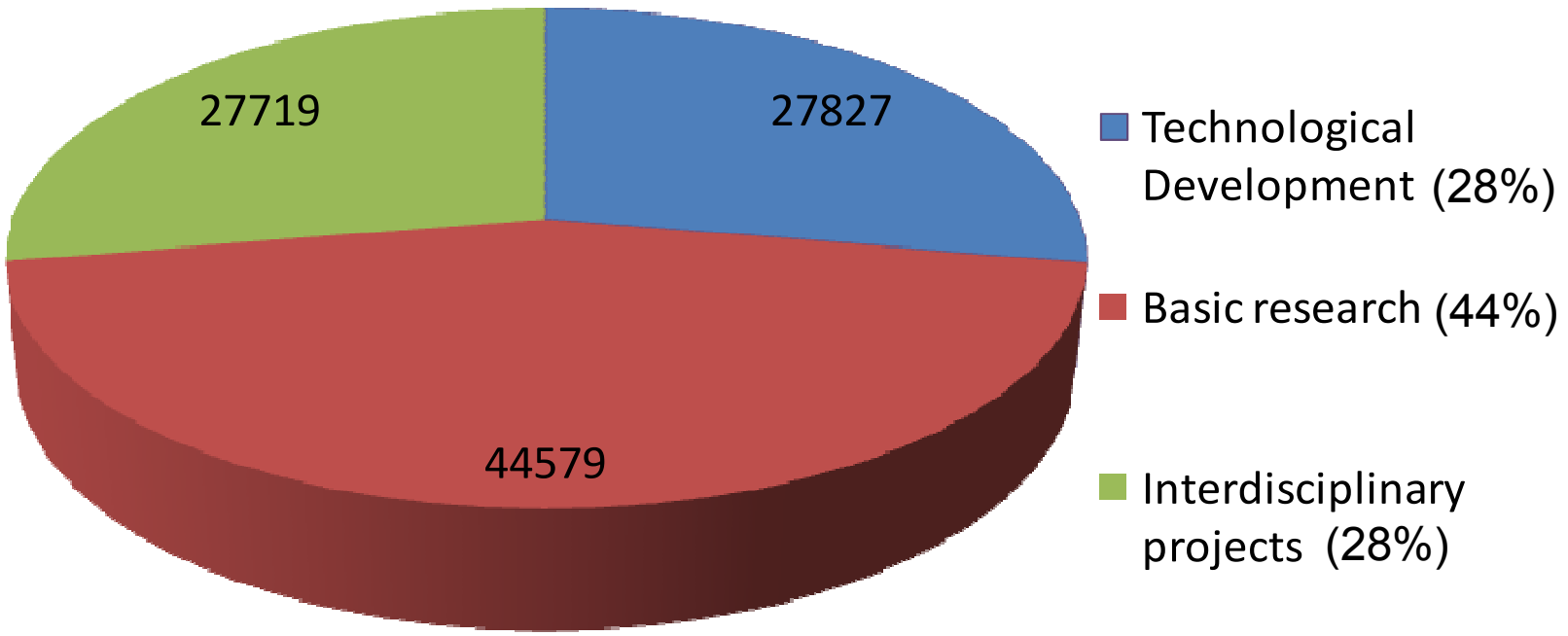
# A THIRD OF THE NATION'S SCIENTIFIC CAPACITY WILL FOR THE FIRST TIME BE ENGAGED IN LARGE INTERDISCIPLINARY PROJECTS

Number of researcher months per scientific program in the new project cycle:



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# THE BEST YOUNG RESEARCHERS WILL FOR THE FIRST TIME HAVE THE OPPORTUNITY TO LEAD THEIR OWN PROJECTS

- The public call allowed the best researchers under 35 to apply for their own projects;
- 25 young researchers applied, and 24 will get financial support from the Ministry in the next four years;
- This model of support is used by the European Research council (ERC) and these young researchers are a starting base for receiving ERC funding in the future.

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# PARTNERSHIP WITH KEY INTERNATIONAL PARTNERS AND COUNTRIES WAS ACCOMPLISHED

- Bilateral agreements on scientific and technological cooperation were signed with China, USA, Spain, Italy and Austria;
- A Memorandum of understanding was signed with the Joint Research Center in Brussels in 2010.

4 March 2009, Serbia officially applied to become a member of CERN

17 December 2010, the CERN Council made a decision to initiate negotiations for candidate status with Serbia

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# INTELECTUAL PROPERTY RIGHTS LEGISLATION WAS HARMONIZED WITH EUROPEAN STANDARDS

- Terms for commercialization and revenue division were defines by the Law on innovation activities for inventions that are a result of State financed projects;
- In 2010, our Intellectual Property Office celebrated 90 years of existence and Serbia became a member of the European Patent Organization;
- In the last two and a half years key legislation in line with European standards in this field was adopted by Parliament:
  - Law on trademarks;
  - Law on copyright and related issues;
  - Law on topographies of integrated circuits and others...

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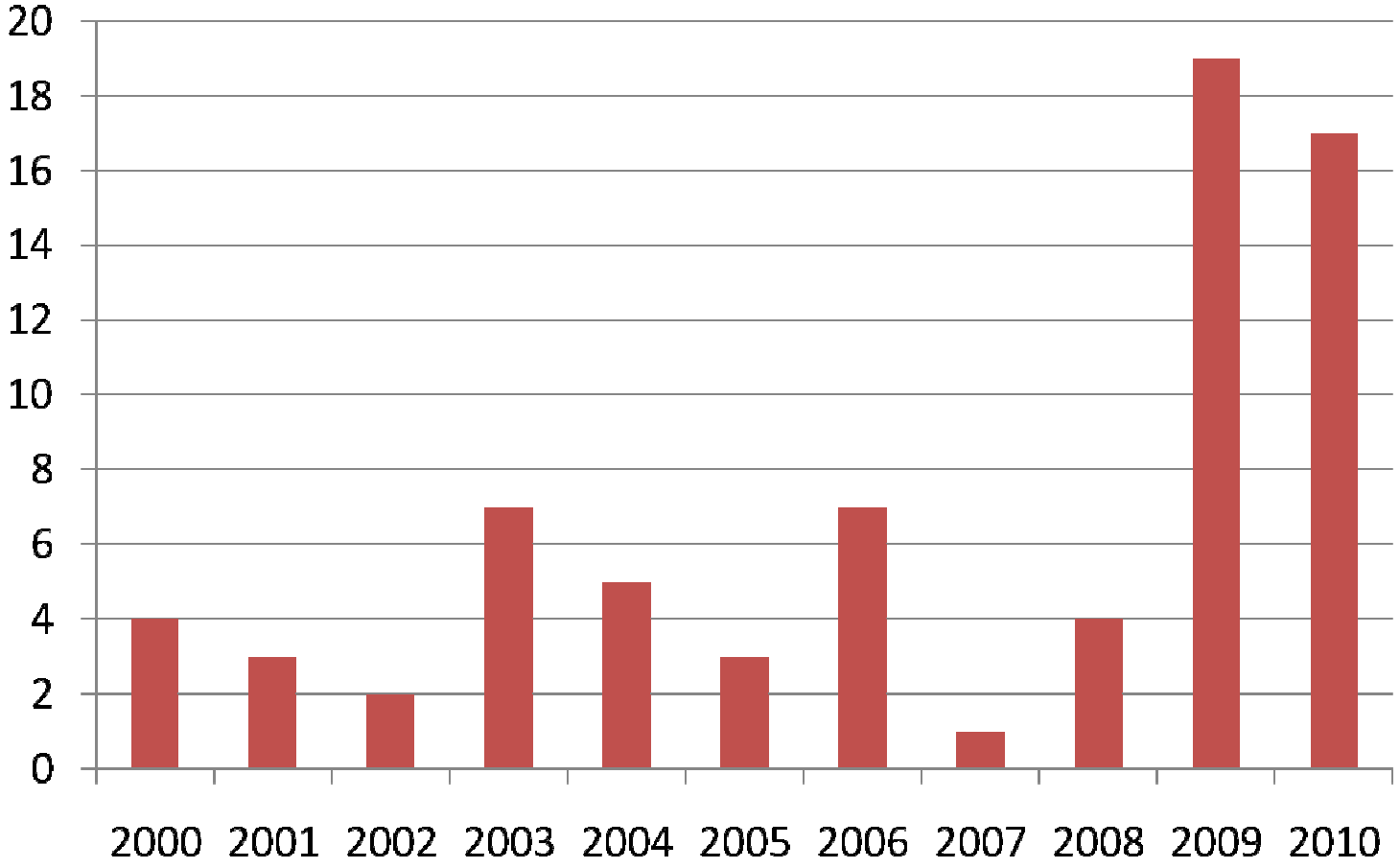
# DESPITE MODEST IMPROVENT IN THE LAST TWO YEARS, OUR SCIENTIFIC COMMUNITY STILL PRODUCES UNSATISFACTORY NUMBERS OF PATENTS

The number of patents registered by research organizations from 2000 until today:




Source: Intellectual Property Office of Serbia

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# NEW LEGISLATION WAS ADOPTED IN THE AREA OF NUCLEAR SAFETY AND AFTER 26 YEARS OF STORAGE, SPENT NUCLEAR FUEL WAS SUCCESFULLY TRANSPORTED BACK TO RUSSIA

- Law on radiation protection and nuclear safety was adopted;
- The public company „Nuclear facilities of Serbia" was formed;
- Serbian Radiation Protection and Nuclear safety Agency was formed;

After 26 years of storage, and after successful negotiations with international partners, spent nuclear fuel was transported from Serbia to the Russian Federation in December 2010. The total cost of the project was 26 million USD, financed by Serbia, the EU, USA, Russia, Czech Republic and IAEA.

# 2. Serbian Research and Development Infrastructure Investment Initiative;

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# NONBUDGETARY RESOURCES IN THE AMOUNT OF 400 MILLION EUROS WERE MOBILIZED FOR SCIENTIFIC AND TECHNOLOGICAL INFRASTRUCTURE

- **200 million EUR** – European Investment Bank (Financial agreement negotiated, signed and ratified by Serbian parliament)
- **35 million EUR** – Council of Europe Development Bank (Financial agreement negotiated, signed and ratified by Serbian parliament)
- **25 million EUR** – EU IPA funds for infrastructure of faculties across Serbia
- **9 million EUR** – EU IPA funds for financing innovative companies through the Serbian Innovation Fund.

Negotiations are underway with the Council of Europe Development Bank for an additional 70 million EUR project, as well as for a 50 million EUR operation with the World Bank

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# A PROJECT IMPLEMENTATION UNIT FOR INFRASTRUCTURE PROJECTS WAS FORMED ACCORDING TO EU STANDARDS

- In accordance with the Financial agreement signed with the European Investment Bank, a Project Implementation Unit "Public sector research and development" was formed;

- Besides the implementation of infrastructure projects and purchase of equipment, the PIU will professionalize the purchase of expendables and smaller research equipment through a centralized system for purchase.

www.piu.rs

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# FOR THE FIRST TIME IN SERBIA, EQUIPMENT THAT IS NECESSARY FOR SCIENTIFIC WORK WILL BE FULLY PROVIDED

- Within the public call for projects, researchers asked for a total of 136 million EUR worth of equipment (a total of 5,558 requests) ;

- A database of the requested equipment was prepared and researchers were given a chance to correct their requests;

- An expert committee will examine the database by the end of March and rationalize the purchasing of equipment based on the following criteria:
  - The team score within the public call;
  - The project total ranking;
  - The size of the team;
  - The defense of the request in front of the committee
  - Rational usage of equipment for the entire scientific community.

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# KEY INFRASTRUCTURE PROJECTS HAVE BEEN SELECTED AND ARE CURRENTLY BEING IMPLEMENTED

- Central building of the University in Novi Sad;
- Stem cell research center in Kragujevac;
- Science and technology parks in Beograd, Nis, Kragujevac and Novi Sad;
- Nanosciences and material science research center in Belgrade;
- Science promotion center in Belgrade;
- Natural history center in Svilajnac;
- Petnica Science Center;
- Noncommercial apartments for researchers in Belgrade, Novi Sad, Kragujevac and Nis.

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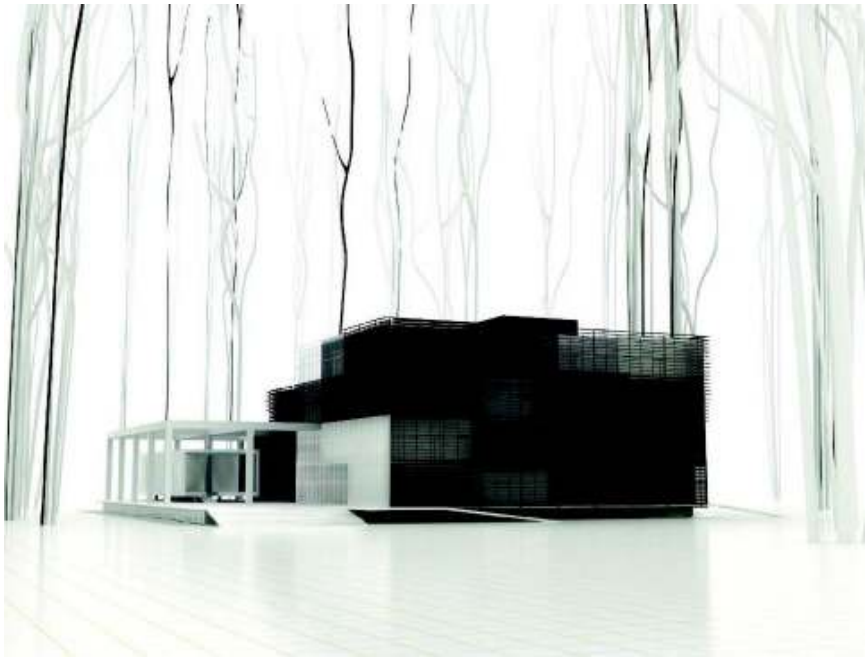
# CENTRAL BUILDING OF THE UNIVERSITY OF NOVI SAD



- The new central building of the University of Novi Sad will also house a technological incubator, as well as a technology transfer office;
- The project value is 4.5 million EUR
- Construction will start in April 2011.

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# STEM CELL RESEARCH CENTER IN KRAGUJEVAC

- The first Stem cell research center in Serbia will be built adjacent to the Medical faculty of the University of Kragujevac
- The total project value is 5.2 million EUR;
- Final revisions of the project documentation are currently being completed.

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# SCIENCE AND TECHNOLOGY PARKS IN BELGRADE, NOVI SAD, NIS AND KRAGUJEVAC

- These will be the first science and technology parks in Serbia and the future homes of technological start-ups;
- Construction of the Belgrade science and technology park will start in April of 2011;

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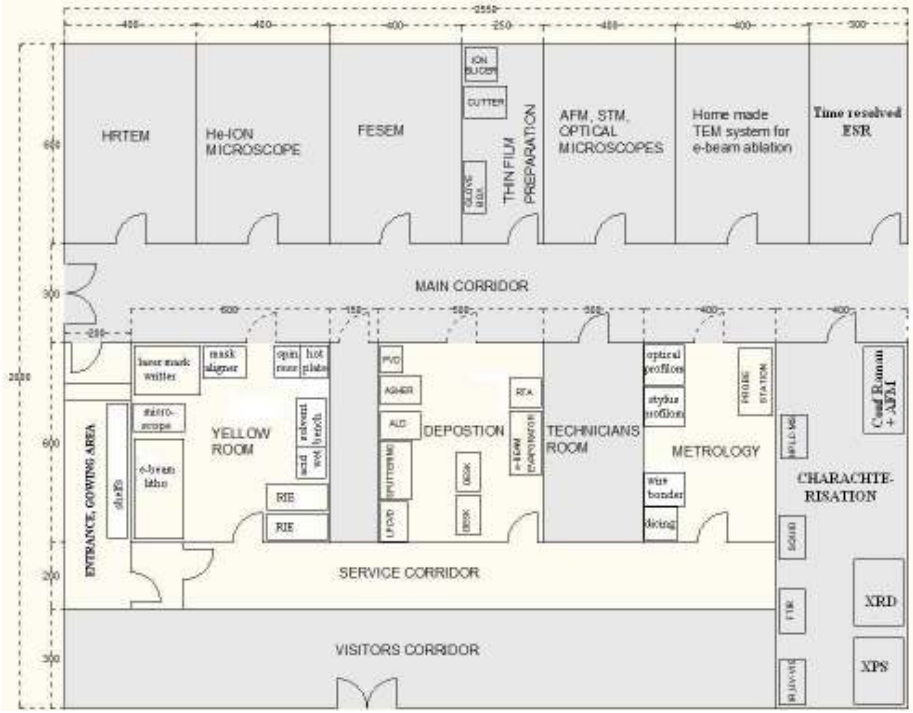
# NANOSCIENCES AND MATERIAL SCIENCE RESEARCH CENTER IN BELGRADE




- The Nanosciences and material science research center in Belgrade will be a shared facility which will house the necessary research equipment and will be used by the entire research community;
- Project preparation is ongoing.

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# CENTER FOR PROMOTION OF SCIENCE IN BELGRADE

- The Center for Promotion of Science was founded according to the Law on Research Activities in December 2010.
- The design of the center was selected through an international call for architects, with the Vienna-based architect Wolfgang Tschapeller winning over 232 proposals;
- Main project design is underway.

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# NATURAL HISTORY CENTER IN SVILAJNAC


- As a branch of the Center for promotion of science, the Natural History Center in Svilajnac will be the key institution of this type in central Serbia;
- Main project design is completed and construction will start in June 2011.

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# THE PETNICA SCIENCE CENTER

- The Petnica Science Center, a unique institution for young researchers, will get a new dormitory, laboratory building, as well as equipment for research;
- The project value is 7.6 million EUR;
- Public procurement procedures for construction works are currently being conducted.

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# NONCOMMERCIAL APARTMENTS FOR RESEARCHERS IN BELGRADE, NOVI SAD, NIS AND KRAGUJEVAC

- In Belgrade, the third building for researchers in Blok 32A in New Belgrade will be built in 2011. 134 families have waited since 2005 to move into this building.
- Kragujevac will get its first apartments of this type through this project and similar initiatives in Novi Sad and Nis will be continued.

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# 3. Perspectives for future development of science and technology in Serbia.

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# CONTINUITY IS A PRECONDITION FOR SUCCESS IN THE AREA OF SCIENCE POLICY

- Implementation of the completed call for scientific projects;
- Final selection of equipment by the end of March, and purchase of all the equipment by the end of the year;
- Continuing implementation of infrastructure projects;
- Maintaining continuity in governance and leadership;
- Further strengthening international collaboration (CERN, bilateral agreements with USA and Russia, cooperation with the Joint Research Center, forming the Western Balkan Technology Fund)

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# UNITY WITHIN THE SCIENTIFIC COMMUNITY NEEDS TO BE STRENGTHENED BY BETTER COLLABORATION BETWEEN FACULTIES AND INSTITUTES

- Systematic inclusion of researchers who work in institutes in PhD programs as mentors;
- Encouraging mobility within the higher education and science system;
- Making procedures easier for those researchers who obtained their diplomas or experience abroad.

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# CONNECTING SCIENCE TO INDUSTRY IS NOW PRIORITY NUMBER ONE

- Patenting expenses for researchers will be covered;
- By the summer of 2011, the Serbian Innovation Fund will start its operations;
- Discussions need to be continued with international technological companies (Lafarge, Microsoft, Stada, Hewlett Packard...): bringing them to Serbia rather than them taking are best people abroad.

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# THANK YOU FOR YOUR SUPPORT!

## Ministry of Science and Technological Development, senior management

In the picture (from left to right): Dr Radosav Cerović, Prof. Dr. Viktor Nedović , Prof. Dr. Nada Dragović, Prof. Dr. Miloš Nedeljković, Božidar Đelić, Prof. Dr Snežana Pajović, Prof. Dr Tibor Sabo, Katarina Petrović, Biljana Spasić, Ljubomir Aksentijević;

Missing in the picture: Prof. Miroslav Veskovic, Dr Darko Đukić, Dr Ljiljana Kundaković and Aleksandra Drecun.