



NCBR
Annual Report
2012



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Warsaw, 2013

The National Centre for Research and Development is the implementing agency within the meaning of the Act of 27 August 2009 on Public Finance (Journal of Laws No. 157, item 1240, as amended). It was established in the summer of 2007 as the entity implementing tasks in the scope of the scientific, scientific and technical, as well as innovative policy of the state. At the moment of its establishment, the Centre was the first significant platform to support the dialogue between business and academia.

Currently, the Centre operates under the Act of 30 April 2010 on the National Centre for Research and Development (Journal of Laws No. 96, item 616, as amended). The reform of science implemented in the autumn of 2010 increased the Centre's competences in the scope of scientific research programmes and development projects.

Since 2011, by taking over the function of Ministry of Science and Higher Education as the Intermediate Body in three operational programmes: Human Capital, Innovative Economy and Infrastructure and Environment, NCBR has become one of the largest innovation centres in Poland.

The activities of the Centre are financed by the state budget and European Union funds.

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Foreword

Ladies and Gentlemen,

For the National Centre for Research and Development, the year 2012 was a time of intensive work, but also a period of reaping the effects of activities undertaken the year before. The offer of the Centre was received with considerable interest by the scientific and economic environment. It was particularly visible in the case of the Applied Research Programme, supporting research works carried out in commission to acquire knowledge of practical applicability in economy. The value of applications submitted in the second call for proposals exceeded the available funds ten-fold. What should also be stressed is an increased interest of entrepreneurs in this programme. The growing share of this sector was also recorded in other programmes of the Centre. The leading role of science-industry consortia was also visible, which confirms the strengthening co-operation between two apparently distant worlds – science and business.

Irrespective of unquestionable progress in many areas of operations, our whole team keeps working intensively on extending the programme offer of the Centre and making it more attractive. In the previous year, several new programmes were developed, such as Spin-Tech, Social Innovations and Patent Plus. Two joint projects were also launched: Blue Gas – Polish Shale Gas (carried out in co-operation with Industry Development Agency S.A.) and Gekon (carried out in co-operation with National Fund for Environmental Protection and Water Management). The Letter of Intent was also signed with KGHM Polska Miedź S.A. concerning the implementation of the CuBR programme. New support instruments are constantly tested, such as e.g. Go_Global.pl programme and BRIDGE VC – the first financial mechanism in Poland offering public-private support to the commercialisation of scientific research results, with the share of capital funds. In 2012

we focused on expanding our international research co-operation, as a result of which letters of intent on co-operation in the scope of scientific research and development works were signed with the National Science Council in Taiwan and with the Czech Agency of Technology.

The implementation of the mission to increase the capacity of the Polish scientific and research sector was also accompanied by activities supporting the NCBR operations. Among others, this includes speeding up the evaluation process of the applications submitted. Starting from 2012, an increasing number of projects is evaluated by as many as five independent experts, including international specialists. Such an approach allows for a better selection of ideas which offer the highest potential for success and provide a real opportunity to increase the competitiveness of the Polish economy.

The fulfilment of our mission would not be possible without the full commitment of our staff consisting of almost three hundred people. I would like to thank them all for their efforts and engagement in implementing the challenges we have undertaken.

I do hope that the report we are presenting will encourage you to become more deeply interested in the activities of the National Centre for Research and Development. With this belief I cordially invite you to become acquainted with the Annual Report for 2012.

prof. Krzysztof Jan Kurzydłowski
DIRECTOR OF THE NATIONAL
CENTRE FOR RESEARCH AND DEVELOPMENT

Foreword

Ladies and Gentlemen,

The year 2012 saw the first strategic programme of scientific research and development entitled „Prevention practices and treatment of civilisation diseases (Strategmed)”. The programme was developed in accordance with the rules specified in the statutory package, pursuant to which the strategic programmes of scientific research and development are designed by the NCBR Board, with the support of the Centre’s Office, and subsequently approved by the Minister of Science and Higher Education. The National Programme for Research (KPB), adopted by the Council of Ministers of the Republic of Poland in August 2011, defining seven strategic, interdisciplinary directions of scientific research and development, provides a background for the development of projects for strategic programmes by the Centre’s Board. The basis for developing the Strategmed programme was the strategic direction of scientific research and development defined in the KPB: „Civilisation diseases, new drugs and regenerative medicine”. It is worth stressing that due to the co-operation between the Board and the Office of the Centre, under the elaboration of the Strategmed programme, transparent procedures for the development and implementation of strategic programmes were prepared and adopted, and are now used for designing the programmes.

The Strategmed programme will lead to a significant progress in the scope of combating civilisation diseases. At the same time, the international position of Poland should be strengthened in research and development in the fields of cardiology and cardiac surgery, oncology, neurology and regenerative medicine as well as in the scope of transfer of know-how and new technology of prevention, diagnostics, therapy and rehabilitation, from the Polish scientific institutions to the economy. The programme will enable the creation of dynamic, young research teams of international composition in our country, holding a strong and documented position globally.

Expressing my gratefulness to the co-workers from the Centre’s Board and the employees of the Centre’s Office, for their significant contribution in the development of NCBR programmes in 2012, I wish you further successful co-operation while preparing new programmes.

prof. Jerzy Kącki

PRESIDENT OF THE BOARD
OF THE NATIONAL CENTRE
FOR RESEARCH AND DEVELOPMENT

Tasks of the National Centre for Research and Development

The National Centre for Research and Development (NCBR) was established in the summer of 2007 to implement tasks in the scope of the scientific, scientific and technical, and innovative policy of the state. The current basis for the operations of the Centre is the Act of 30 April 2010 on the National Centre for Research and Development.

The main task of the Centre is to support the creation of new solutions and technologies enhancing the innovativeness and, at the same time, the competitiveness of the Polish economy. The activities of the Centre shall contribute to the strengthening of co-operation with Polish business entities and to the commercialisation of research results. While fulfilling these goals, NCBR ensures that the public funds spent on research and development studies generate highest possible benefits for the Polish economy.

The tasks of the Centre are executed under the national and international programmes of scientific research and development. The Centre grants co-financing to the most valuable projects, selected on the basis of the competition procedure, and monitors their subsequent implementation.

There are currently three strategic programmes of scientific research and development that represent particularly important NCBR programmes:

- „Advanced Technologies for Energy Generation” – the programme covering research on clean coal technology and fuel generation from biomass,
- „Interdisciplinary System for Interactive Scientific and Scientific Technical Information”, with the purpose of creating a platform which will provide a single access point to any online knowledge resources,
- „Prevention practices and treatment of civilisation diseases” – the latest programme, executed since 2012. It was prepared by the Centre’s Board based on the National Programme for Research (KPB), adopted by the Resolution of the Council of Ministers in 2011, indicating „Civilisation diseases, new drugs and regenerative medicine”, as one of the strategic directions of long-term research and development studies,

The Centre’s Board is currently working on establishing the fourth strategic programme, comprising the issues of natural environment, agriculture and forestry.

Moreover, the Centre manages the implementation of three strategic research projects:

- „Integrated System for Reducing Energy Consumption in the Maintenance of Buildings”
- „Improving Work Safety in Mines”
- „Technologies Supporting the Development of Safe Nuclear Power Engineering”

Another important task of the Centre involves activities related to research for the purposes of national defence and security. Applications offering the highest potential for increasing the national security are selected within the competitions covering topics of tasks agreed with the Ministry of National Defence, the Ministry of the Interior and the Internal Security Agency. The purpose of programmes and projects being implemented is not only to increase the potential of Polish scientific and industrial entities, but also to strive for technological independence through the creation of Polish know-how in technology, national defence and security.

An important task of the Centre is to ensure good conditions for the development of the scientific staff, with a special focus on supporting young scientists. The following programmes fulfil this task: the Operational Programme: Human Capital, the Lider Programme as well as projects commissioned to the Foundation for Polish Science under the Operational Programme: Innovative Economy.

Research and development support programmes represent a particularly significant group of the Centre’s projects. In this category, the Applied Research Programme provides co-financing at relatively early stages of technological preparedness. On the other hand, the Innotech programme focuses on support to medium and high technologically advanced projects. The NCBR also supports innovative solutions in new areas of science and engineering. For example, products based on the application of graphene are developed under the Graf-Tech programme.

While implementing its tasks, the Centre also undertakes co-operation with other entities. Considering the effective support to pro-ecological technology, the Centre signed a letter of intent with the National Fund of Environment Protection and Water Management concerning common actions in this scope. Activities for the enhancement of the economy’s innovativeness and the level of implementation and commercialisation of the research results provided a basis for initiating the co-operation with the Industrial Development Agency (Industrial Development Agency – ARP). A new programme on the development of original technologies for shale gas extraction, with the target budget amounting to PLN 1 billion was

established as a result of the co-operation between the NCBR and ARP S.A.. Furthermore, NCBR began intensive co-operation with KGHM S.A in commission to develop and implement innovative technologies, essential in the context of the business profile of the holding which will contribute the substantial amount of PLN 100 million.

A relatively new solution in the offer of the National Centre for Research and Development is provided through sectoral programmes, representing a direct response to the demand of entrepreneurs in specific sectors of the Polish economy. Such approach enables a more effective use of public funds and offers an opportunity for an increased contribution of private resources. The first initiative in this category was undertaken in co-operation with the Polish Aerospace Technology Platform, for the aerospace industry. Similar co-operation was launched between NCBR and the Polish Technology Platform for Innovative Medicine, associating Polish companies from the medical sector.

The National Centre for Research and Development keeps working continuously on new opportunities for financing projects carried out by the Polish scientists and entrepreneurs. 2012 saw the launch of a pilot programme called BRIdge VC, which will ensure support for the commercialisation of research output, also based on private funds. On the other hand, the second pilot programme called Go_Global.pl opens opportunities for Polish companies to enter large and perspective global markets which, in the era of increasing globalisation of services, manufacturing and distribution processes, often determines the business success of an enterprise.

International co-operation is another important area of the Centre's activities. An example of this is the Polish-Norwegian Research Programme (launched in 2012 and co-funded from funds provided by the Norwegian government). In 2012, NCBR also acted as a party financing research studies within many international calls for proposals (among others, in the field of quantum information science, under ERA-NET CHISTERA, materials engineering under ERA-NET MATERA, nanoelectronics under ERA-NET MNT and JU ENIAC, application of nanotechnology in medicine under ERA-NET EuroNano-Med, neurology under ERA-NET NEURON and JP Neurodegenerative Disease). The Centre also entered the international competition of CORNET Initiative. Moreover, the NCBR also implements bilateral research initiatives with Israel, Germany, Luxembourg, Singapore, Norway and Taiwan, and participates in the international AAL research programme.

The National Centre for Research and Development performs many tasks which were previously carried out at the Ministry of Science and Higher Education, including the following multiannual programmes: the „Improvement of work safety and conditions” and the „Polish Artificial Heart”. A new formula was allocated to many of the

tasks taken over, e.g. the Patent Plus programme supporting the effectiveness of intellectual property management through patents.

The National Centre for Research and Development also acts as the as the Intermediate Body in three

operational programmes: Human Capital, Innovative Economy and Infrastructure and Environment, implemented under the EU structural funds. The function has imposed the obligation of effective implementation of diverse support mechanisms and settlement of the funds allocated by the NCBR. The Centre also provides substantive support for beneficiaries executing projects based on European Union funds. In 2012, the Centre announced, among others, the first call for proposals in Poland using the mechanism of the so-called indirect public assistance, aimed at multiplying non-public funds for R&D in Poland.

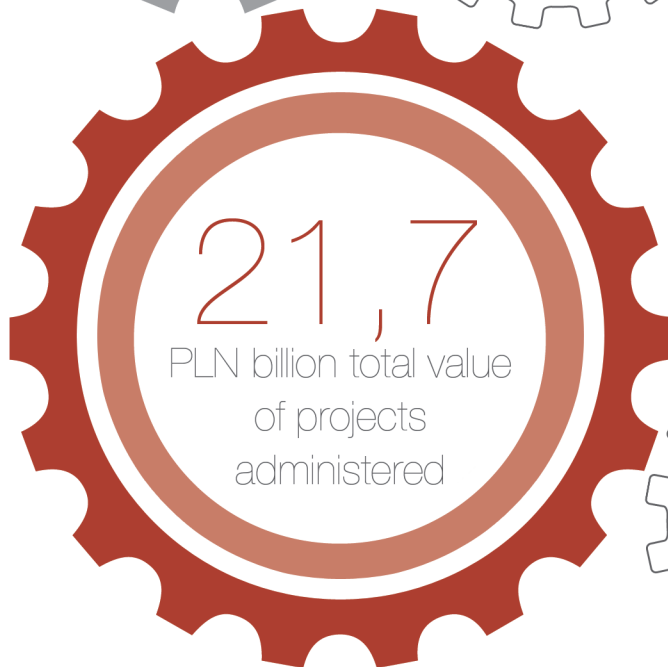
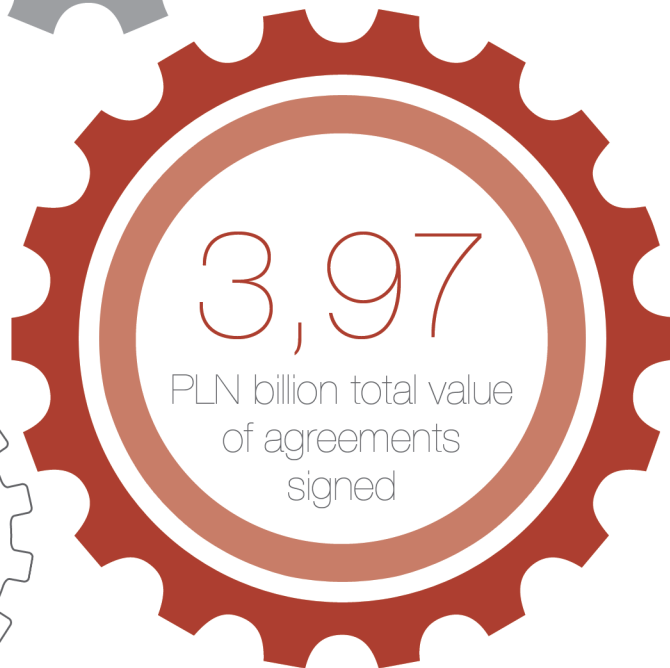
A proper implementation of the tasks is supervised by the Director of the Centre, supported by the Board of the National Centre for Research and Development and the Steering Committee.

The National Centre for Research and Development's tasks:

- development and implementation of strategic research and development programmes,
- support to the commercialisation of the output of scientific research and development studies and other forms of its transfer to the economy,
- initiation and execution of programmes on the financing of scientific research and development studies, and the implementation of their results,
- initiation and implementation of programmes covering financing of applied research,
- participation in the implementation of international scientific research and development programmes,
- stimulation of co-operation between scientific and economic communities,
- promotion of the effects of research and development studies,
- execution of other tasks commissioned by the Minister responsible for science, under the funds allocated for such purpose.



NCBR in 2012 in figures



The National Centre for Research and Development on the map of Poland



Number of projects under implementation and the value of co-financing in individual regions in 2012

The Management of the National Centre for Research and Development

The Director of the National Centre for Research and Development is in charge of the management of the Centre's activities, being responsible for the accuracy and effectiveness of the tasks performed. In particular, the Director takes decisions concerning issues associated with the management and distribution of funds available for implementation of strategic scientific research and development programmes, and other tasks of the Centre. The Director executes acts in law on behalf of the Centre and represents it externally. Moreover, the Director is responsible for financial management and administration of the Centre's assets.



Director of the Centre – Professor Krzysztof Jan Kurzydłowski

Professor Krzysztof Jan Kurzydłowski graduated from the Warsaw University of Technology. He was granted the title of Professor in 1995. From 1993 to 1999 he acted in the capacity of Vice-Rector of the Warsaw University of Technology, while in 1999–2003 he was the Dean of the Faculty of Materials Engineering.

He is a member of many international associations and organisations, among others, the International Advisory Board of NIMS – National Institute of Materials Science (Japan).

Professor Krzysztof Jan Kurzydłowski gained extensive experience in public administration. He was the Chairman of the Council of the Technology Agency, acted in the capacity of the President of the Research Commission for the Development of the Economy and the Vice-President of the State Committee for Scientific Research, as well as the Vice-President of the Scientific Council. From November 2005 to December 2007 he held the position of the Under-Secretary of State at the Ministry of Science and Higher Education.

As of 1 January 2011, he was appointed as the Director of the National Centre for Research and Development by the Minister for Science and Higher Education, Professor Barbara Kudrycka.



Deputy Director of the Centre – Leszek Grabarczyk

Leszek Grabarczyk studied law and history at the Catholic University of Lublin. He also graduated from the Prime Minister's National School of Public Administration.

Between 2004 and 2007 he worked at the Ministry of Science and Higher Education, among others, holding the position of the Deputy Director of Science Strategy and Development Department. From January 2009 to March 2010, the Director of the Implementation and Innovation Department of the Ministry of Science and Higher Education, responsible for implementation of operational programmes: Innovative Economy and Human Capital, development and implementation of programmes enhancing innovation, commercialisation of research results, as well as co-ordination and monitoring of actions taken by selected institutions involved in supporting R&D and innovation. From July 2007 to December 2008 he held the position of the Deputy Director of the National Centre for Research and Development.

He has been acting in this capacity again since 4 April 2011.

The Board of the National Centre for Research and Development

The Board of the National Centre for Research and Development is one of three governing bodies of the Centre, apart from the Director and the Steering Committee. Its most important tasks include preparing the assumptions for the scientific research and development programme which are subsequently submitted to the Minister competent for science for approval. The Board also fulfils advisory and opinion-making functions and has a right to express its standpoint on matters related to the management of the Centre's assets.

The Centre's Council presents its opinion on the following issues:

- draft annual financial plan of the Centre,
- draft annual plan of activities of the Centre,
- interim reports and final report on implementation of the strategic scientific research and development programme, excluding the programmes for national security and defence,
- annual financial statement of the Centre,
- annual report of activities of the Centre,
- execution of other tasks of the Centre.

The substantive basis for the development of the strategic programmes is provided by the National Programme for Research, established under Resolution no. 164/2011 of 16 August 2011 by the Council of Ministers of the Republic of Poland. This document defines the strategic directions of scientific research and development studies and determines the objectives and assumptions of the scientific, technical and innovative policy of the state. Immediately after its adoption, the Centre's Board developed the first strategic programme. The subject of the programme was selected under the second interdisciplinary direction of research and development studies specified in the National Programme for Research – civilisation diseases, new drugs and regenerative medicine. The programme was given the title „Prevention practices and treatment of civilisation diseases – Strategmed”.

At present, works in progress are aimed at establishing the next strategic programme, related to the issues of the natural environment, agriculture and forestry. The advanced materials engineering has been adopted as the next area of the Board's activities.

The National Programme for Research covers seven strategic, interdisciplinary directions of scientific research and development studies:

1. new technologies in power engineering,
2. civilisation diseases, new drugs and regenerative medicine,
3. advanced information, telecommunications and mechatronics technologies,
4. modern materials engineering,
5. natural environment, agriculture and forestry,
6. social and economic development of Poland in view of globalising markets,
7. security and defence of the state

During its 11 meetings held in 2012, the Board discussed new solutions in the scope of research financing management and ideas to support the development of the Polish science and economy. As a result of the Board's activities, among others, the following programmes have received a positive opinion: three new programmes: Spin-Tech, Social Innovations, Patent Plus, two pilot projects: Go_Global.PI, BRIDGE VC „Public-private support to commercialisation of scientific-research results, with the share of capital funds”, and two joint undertakings: Blue Gas – Polish Shale Gas and CuBR. The aim of the activities undertaken is to strengthen the co-operation between Polish business and academia, as well as to enhance the commercialisation of the effects of research studies. In addition, the Centre's Board expressed its positive opinion in relation to 9 international projects of ERA-NET, ERA-NET Plus type and JPI.

Owing to the multidisciplinary composition of the Board, comprising representatives of science, social and economic environment and administration, the Centre's programmes submitted to the Board's assessment gained a broader outlook and were enriched by many valuable comments.

The following persons participated in the meetings of the Board held in 2012, as visitors:

- Professor Barbara Kudrycka, Minister of Science and Higher Education
- Professor Jacek Guliński, Undersecretary of State at the Ministry of Science and Higher Education
- Mr Olgierd Roman Dziekoński, Secretary of State in the Chancellery of the President of the Republic of Poland.

Composition of the Board

Pursuant to Article 12 item 1 of the Act on NCBR, the Board of the National Centre for Research and Development consists of 30 persons appointed by the Minister competent for science. Ten members are appointed among candidates indicated by the scientific circles. Those members should hold at least the scientific title of PhD and be actively involved in scientific research or development studies. The next ten members are appointed among professionally active candidates, indicated by the social, economic and financial circles. Finally, ten remaining members of the Board are nominated by Ministers competent for: science, economy, digitisation, agriculture, environment, transport, internal affairs, health and by the Minister of National Defence, among persons acting as civil servants responsible for scientific matters.¹

The term of the Council is 4 years, with half of its members replaced every two years. The same person may not act in the capacity of Board member longer than for a period of two terms. On 30 November 2012, the first two years of tenure of the Board of the current term passed.

Composition of the Board until 30 November 2012.

1. Members nominated by scientific circles:

- **Piotr Garstecki, DSc** – head of Department of Physics and Chemistry of Soft Matter, Institute of Physical Chemistry, Polish Academy of Sciences,
- **Professor Kazimierz Jeleń, DSc** – Deputy Dean of the Faculty of Physics and Applied Information Technology, AGH University of Science and Technology in Krakow,
- **Professor Jerzy Kątcki, DSc, Eng.** – Deputy Director for Scientific Affairs, Institute of Electron Technology in Warsaw,
- **Professor Andrzej Kowalczyk, DSc** – Vice-Rector for Science and Co-operation with the Economy, University of Silesia in Katowice,
- **Professor Jan Lubiński, DSc** – Head of Division of Genetics and Pathomorphology and the Chair of Oncology at the Medical University in Szczecin.
- **Professor Antoni Waldemar Morawski, DSc, Eng.** – Director of the Institute of Inorganic Chemical technology and Environmental Engineering, University of Technology in Szczecin,
- **Professor Dariusz Jan Skarżyński, DSc** – Head of Immunology and Reproductive Pathology Division, Institute of Animal Reproduction and Food Research, Polish Academy of Sciences in Olsztyn,
- **Professor Wiesław Stręk, DSc** – Head of Division of Excited State Spectroscopy, Włodzimierz Trzebiatowski Low Temperatures and Structural Studies, Polish Academy of Sciences,

¹ Pursuant to art. 12 item 1 p. 1 and 2 and art. 13 item 1 of the Act of 30 April 2010 on the National Centre for Research and Development (Journal of Laws no. 96 item 616 as amended).

- **Professor Piotr Tryjanowski, DSc** – Director of the Zoology Institute, Poznan University of Life Sciences.

2. Members nominated by social and economic, and financial circles:

- **Professor Lech Czarnecki, DSc, Eng.** – Head of Chair of Building materials Engineering, Faculty of Civil Engineering, Warsaw University of Technology,
- **Marek Darecki** – President of WSK Rzeszów – UTC,
- **Professor Andrzej Górak DSc, Eng.** – Head of Chair of Liquid Separation Processes, Faculty of Biochemical and Chemical Engineering, University of Technology in Dortmund (Germany),
- **Professor Leon Gradoń, DSc, Eng.** – Head of Chair of Integrated Process Engineering, Faculty of Chemical and Process Engineering, Warsaw University of Technology,
- **Karol Lityński, DSc** – Chairman of the FIRE Innovation Centre Foundation,
- **Aleksander Nawrat, DSc, Eng.** – Head of Division of Controlling and Robotics, Faculty of Automation, Electronics and Information Technology, Silesian University of Technology,
- **Professor Janusz Rachoń, DSc, Eng.** – Head of Organic Chemistry Chair, Faculty of Chemistry, Gdańsk University of Technology,
- **Janusz Rymsza, DSc, Eng.** – Deputy Director of the Research Institute for Roads and Bridges,
- **Professor Krzysztof Sacha, DSc, Eng.** – Associate Professor of the Institute of Automatics and Applied Information Technology at the Faculty of Electronics and Information Technology, Warsaw University of Technology.

3. Members nominated by Ministers:

- **Marek Cieśliński, DSc, Eng.** – nominated by the Minister competent for agriculture, Deputy Director for Scientific Affairs, Department of Advice, Agricultural Education and Science, Ministry of Agriculture and Rural Development,
- **division general, pilot Leszek Cwojdzński, PhD²** – nominated by the Minister of National Defence, Director of the Armaments Policy Department, Ministry of National Defence,
- **Grażyna Henclewska** – nominated by the Minister competent for the economy, Undersecretary of State, Ministry of Economy,
- **Piotr Styczeń³** nominated by the Minister competent for spatial and housing economy, Undersecretary of State, Ministry of Infrastructure,

² Until 6 March 2012, this function was held by colonel Józef Makuchowski

³ From 1 January 2013 this function is held by Marcin Łata, nominated by the Minister competent for regional development, Director, Department of Competitiveness and Innovation Programme Management at the Ministry for Regional Development

- **Andrzej Massel, PhD, Eng.** – nominated by the Minister competent for transport, Undersecretary of State, Ministry of Transport, Construction and Maritime Economy,
- **Igor Mitroczyk, PhD⁴** – nominated by the Minister competent for environment, Deputy Director, Department of Sustainable Development, Ministry of Environment,
- **counsel Kazimierz Mordaszewski** – nominated by the Minister competent for digitisation, director of a legal bureau at the Internal Security Agency,
- **Professor Maria Elżbieta Orłowska, DSc** – nominated by the Minister competent for sciences, Secretary of State, Ministry of Science and Higher Education,
- **Junior Inspector Adam Wieczorek, MSc, Eng.⁵** – nominated by the Minister competent for internal affairs, Head of Division of Projects and Development Studies, Department of Control, Ministry of the Interior,
- **Igor Radziewicz-Winnicki, MD** – nominated by the Minister competent for health, Undersecretary of State, Ministry of Health.

As of 30 November 2012 the change of a half of the composition of the 2nd term Board, arising from the Act on the National Centre for Research and Development, took place. The remaining 15 members of the Board had their term extended by Professor Barbara Kudrycka, Minister of Science of Higher Education.

Members nominated by scientific circles:

who ended work in Board:	who started work in Board:
Piotr Garstecki DSc	Piotr Garstecki DSc
Kazimierz Jeleń Professor, DSc	Artur Podhorodecki PhD, Eng.
Andrzej Kowalczyk Professor, DSc	Piotr Łukasz Rutkowski MD, DSc
Wiesław Stręk Professor, DSc	Piotr Wolański Professor, DSc, Eng.

Members nominated by social and economic and financial circles:

who ended work in Board:	who started work in Board:
Marek Darecki	Dawid Berny, MSc, Eng.
Zbigniew Dworzecki DSc	Marek Hetmańczyk Professor, DSc, Eng.
Andrzej Górak Professor, DSc, Eng.	Michał Jaworski MSc, Eng.
Lech Czarnecki Professor, DSc Eng.	Ryszard Łęgowicz MSc, Eng.
Aleksander Nawrat DSc, Eng.	Gniewko Niedbała DSc, Eng.

⁴ Until 28 November 2012 this function was held by Małgorzata Typko

⁵ Until 10 May 2012 this function was held by Inspector Radosław Chinalski

Janusz Rachoń | Anna Rogut,
Professor, DSc, Eng. | DSc

As a result of these changes, the composition of the Board as of 30 November 2012 was as follows:⁶

1. Members nominated by scientific circles:

- **Marcin Chmielewski, DSc*** – researcher, Institute of Bioorganic Chemistry, Polish Academy of Sciences,
- **Professor Jerzy Kątczycki, DSc, Eng.** – Deputy Director for Scientific Affairs, Institute of Electron Technology in Warsaw,
- **Professor Jan Lubiński, DSc** – Head of Division of Genetics and Pathomorphology and the Chair of Oncology at the Medical University in Szczecin,
- **Professor Antoni Waldemar Morawski, DSc, Eng.** – Director of the Institute of Inorganic Chemical technology and Environmental Engineering, University of Technology in Szczecin,
- **Artur Podhorodecki, PhD, Eng.*** – Head of Division of Basic Problems of Technique, Wrocław University of Technology,
- **Professor Piotr Łukasz Rutkowski, MD, DSc*** – Head of Clinic of Neoplasms of Soft Tissue, Bones and Melanoma, The Maria Skłodowska-Curie Institute of Oncology in Warsaw,
- **Professor Dariusz Jan Skarzyński, DSc** – Head of Immunology and Reproductive Pathology Division, Institute of Animal Reproduction and Food Research, Polish Academy of Sciences in Olsztyn,
- **Professor Piotr Tryjanowski, DSc** – Director of the Zoology Institute, Poznań University of Life Sciences,
- **Professor Piotr Wolański, DSc, Eng.*** – researcher, Institute of Heating Technology, Warsaw University of Technology.

2. Members nominated by social and economic, and financial circles:

- **Dawid Berny, MSc, Eng.*** – Head of Division of Ester and Glycerine Production, Trzebinia Refinery,
- **Professor Leon Gradoń, DSc, Eng.** – Head of Chair of Integrated Process Engineering, Faculty of Chemical and Process Engineering, Warsaw University of Technology,
- **Professor Marek Hetmańczyk, DSc, Eng.*** – researcher and academic worker of the Chair of Materials Sciences, Faculty of Materials Engineering and Metallurgy, Silesian University of Technology,
- **Michał Jaworski, MSc, Eng.*** – Vice-President of Information Technology and Telecommunications Chamber,
- **Karol Lityński, PhD, Eng.** – Chairman of the FIRE Innovation Centre Foundation,

⁶ Members marked with asterisk were appointed as of 30 November 2012

- **Ryszard Łęgiewicz, MSc, Eng.*** – Director General and President of the Board of Snecma Polska Sp. z o.o.,
- **Gniewko Niedbała, PhD, Eng.*** – researcher at the Faculty of Agriculture and Bioengineering, Institute of Bio system Engineering, Poznan University of Life Sciences,
- **Anna Rogut, DSc*** – researcher of the Institute for Research on Enterprises and Economic Development – EEDRI, College of Entrepreneurship and Management,
- **Janusz Rymsza, DSc, Eng.** – Deputy Director of the Research Institute for Roads and Bridges,
- **Professor Krzysztof Sacha, DSc, Eng.** – professor of the Institute of Automatics and Applied Information Technology at the Faculty of Electronics and Information Technology, Warsaw University of Technology.

In addition, in 2012 three changes in the composition of the Board took place among members nominated by Ministers. As of 6 March 2012, the Minister of Science and Higher Education dismissed Colonel Józef Makuchowski from his function of Board member and appointed divisional general, pilot, Leszek Cwojdzirski to replace him. As of 10 May 2012, the Minister of Science and Higher Education dismissed Inspector Radosław Chinalski, from his function of Board member and appointed Junior Inspector Adam Wieczorek to replace him. As of 28 November 2012 r. the Minister of Science and Higher Education dismissed Małgorzata Typko from her function of Board member and appointed Igor Mitroczyk, PhD, to replace her.

3. Members nominated by Ministers:

- **Marek Cieśliński, PhD, Eng.** – nominated by the Minister competent for agriculture, Deputy Director for Scientific Affairs, Department of Advice, Agricultural Education and Science, Ministry of Agriculture and Rural Development,
- **division general, pilot Leszek Cwojdzirski, PhD⁷** – nominated by the Minister of National Defence, Director of the Armaments Policy Department, Ministry of National Defence,
- **Grażyna Henclewska** – nominated by the Minister competent for the economy, Undersecretary of State, Ministry of Economy,
- **Piotr Styczeń⁸**, nominated by the Minister competent for spatial and housing economy Undersecretary of State, Ministry of Infrastructure,
- **Andrzej Massel, PhD, Eng.** – nominated by the Minister competent for transport, Undersecretary of State,

Ministry of Transport, Construction and Maritime Economy,

- **Igor Mitroczyk, PhD⁹** – nominated by the Minister competent for environment, Deputy Director, Department of Sustainable Development, Ministry of Environment,
- **counsel Kazimierz Mordaszewski** – nominated by the Minister competent for digitisation, director of a legal bureau at the Internal Security Agency,
- **Professor Maria Elżbieta Orłowska, DSc** – nominated by the Minister competent for sciences, Secretary of State, Ministry of Science and Higher Education,
- **Junior Inspector Adam Wieczorek, MSc, Eng.¹⁰** – nominated by the Minister competent for internal affairs, Head of Division of Projects and Development Studies, Department of Control, Ministry of the Interior,
- **Igor Radziejewicz-Winnicki, MD** – nominated by the Minister competent for health, Undersecretary of State, Ministry of Health.

In 2012, the activities of the Board were supported by four commissions consisting of members nominated among Board members:

- **Commission on Finance:**
The Commission prepares draft opinions of the Board concerning the financial management of the Centre, in particular, the financial statement of the Centre, the financial plan of the Centre, or approval of disposal of assets at the value exceeding EUR 250 thousand by the Board.

Chairman: Janusz Rymsza, DSc, Eng.

Associate Professor of technical sciences, in the field of construction, graduate of the Faculty of Civil Engineering, Warsaw University of Technology. He acts in the capacity of the Deputy Director of the Research Institute for Roads and Bridges in Warsaw. His research interests are related to the full scope of studies connected with bridge construction.

- **Commission on strategic scientific research and development programmes:**

The Commission prepares proposals of strategic programmes which are submitted by the Board – following potential modifications – for approval by the Minister of Science and Higher Education, and prepares draft opinions of the Board on issues connected with implementation of strategic programmes.

Chairman: Professor Piotr Tryjanowski, DSc.¹¹

Full Professor, Director of the Zoology Institute, Poznan

⁷ Until 6 March 2012, this function was held by colonel Józef Makuchowski

⁸ From 1 January 2013 this function is held by Marcin Łata, nominated by the Minister competent for regional development, Director, Department of Competitiveness and Innovation Programme Management at the Ministry for Regional Development

⁹ Until 28 November 2012 this function was held by Małgorzata Typko

¹⁰ Until 10 May 2012 this function was held by Inspector Radosław Chinalski

¹¹ He held the function until 30 May 2012

University of Life Sciences, graduate of the Faculty of Biology, Adam Mickiewicz University in Poznan. He specialises in agricultural sciences, ecology, parasitology, impact of investment projects on living organisms, climate influence on living organisms.

Professor Krzysztof Sacha, DSc, Eng.

Full Professor at the Faculty of Electronics and Information Technology, Warsaw University of Technology. He is the specialist in the field of information system software engineering

- Commission for the implementation of other tasks of the Centre:

The task of the Commission is to prepare the standpoint of the Board in cases related to the implementation of other NCBR tasks, apart from the strategic research and development programmes and studies for national security and defence.

Chairman: Professor Dariusz Jan Skarżyński, DSc, DVM

A veterinary physician, specialist in biology and reproductive pathology, graduate of the Faculty of Veterinary Medicine at the Warmia and Masuria University in Olsztyn (1988). His main research interests are related to immune-endocrine mechanisms involved in the regulation of ovarian cycle, pregnancy and labour.

- Appeal Commission:

The task of the Commission is to examine appeals against decisions on the awarding of or the refusal of funds for execution of projects, or financing commitment letters.

Chairman: Professor Jan Lubiński, DSc

A physician, head of the Division of Genetics and Pathomorphology and Chair of Oncology at the Medical University in Szczecin. Since 1998, the national consultant on clinical genetics. His research interests focus on clinical studies and molecular genetics of cancer.

In 2012, a total of 228 appeals were submitted to the Appeal Commission. In 6 cases, following the confirmation of competition procedures, the applications were submitted for substantive re-evaluation. In 13 cases, the appeals did not meet the formal requirements.

65 appeals are under examination by the Appeal Commission in its new composition, i.e. by the Appeal Commission acting in 2013.

In 2012, the Appeal Commission issued 144 decisions, including: 116 decisions on the refusal to grant funds and 28 decisions concerning the granting of funds

The Chairman of the Board of the 2nd term is Professor Jerzy Kątczi, DSc, Eng.



Chairman of the Centre's Board – Professor Jerzy Kątczi, DSc, Eng.

In 1978 he graduated from the Faculty of Mechanical Engineering at the Warsaw University of Technology (specialisation: semiconducting materials technology). Having completed his PhD in the Institute of Materials Engineering, Warsaw University of Technology in 1982, he defended his PhD thesis under which he investigated the dependence of structural excellence on parameters of the crystallisation of silicone tapes from which solar cells are made. He was awarded a distinction for that thesis by the Scientific Council of the Institute of Materials Engineering of the Warsaw University of Technology and won the award of the Minister of Metallurgy and Machinery Industry. Since 1981 he has been working at the Institute of Electron Technology (ITE) in Warsaw.

In 1986-1987, he worked as a post-doctoral fellow at the Department of Materials Science and Engineering, Cornell University, Ithaca, NY, USA. His research concerning crystal lattice defect generation in semiconducting instruments production processes led to his habilitation thesis. He was awarded the degree of Habilitated Doctor of Technical Sciences in 1990. He received the title of Professor of Technical Sciences in 2000.

In 1994-2005, he was the head of the Division of Research in Materials and Semiconducting Structures at the Institute of Electron Technology. Since 2005 he has been acting in the capacity of the Deputy Director for Scientific Affairs of the Institute of Electron Technology.

In 1996, he was granted a fellowship by the Japanese Society for Promotion of Science at the Kyoto Institute of

Technology, Japan. He was in charge of scientific co-operation with such scientific centres as Max-Planck Institut für Metallforschung (Stuttgart, Germany), Massachusetts Institute of Technology, Cambridge, MA (USA), Kyoto Institute of Technology (Kyoto, Japan) and IMEC (Leuven, Belgium).

He is the author / co-author of over 150 articles published in international scientific journals and conference materials in the area of semiconducting materials science, nanotechnology and materials testing methods, the author of a monograph on the electron microscopy of semiconducting materials and instruments and the author of 10 lectures as an invited speaker. He managed national research projects and was in charge of R & D projects carried out in ITE under the EU Framework Programme in the field of electronic and photonic nanotechnology.

On many occasions he participated in experts' panels evaluating projects within the European Union Framework Programme in the area of ICT, FET and NMP. He represents Poland in the High Level Group of EU Member States and FP7 Associated States on Nanoscience and Nanotechnologies and in the Governing Board of ENIAC Joint Undertaking.

In November 2010 he was nominated by the Minister of Science and Higher Education as the Member of the Board of the National Centre for Research and Development, and in December 2010 he was elected President of the Board.

Resolutions of the Board

In 2012, 11 meetings of the Centre's Board of the 2nd term were held. During the aforementioned meetings and within 4 voting sessions in rotary mode, 39 resolutions were adopted:

- Resolution no. 1/2012 of 26 January 2012 concerning opinion on the draft action plan of the National Centre for Research and Development for 2012,
- Resolution no. 2/2012 of 26 January 2012 concerning the opinion on the National Centre for Research and Development joining the ERA-NET Transport III project,
- Resolution no. 3/2012 of 26 January 2012 concerning the opinion on the National Centre for Research and Development joining the ERA-NET Solar Electricity project in the area of solar energy,
- Resolution no. 4/2012 of 26 January 2012 concerning the opinion on the National Centre for Research and Development joining the ERA-NET Smart Grids project in the area of intelligent energy grids (smart grids),
- Resolution no. 5/2012 of 26 January 2012 concerning preparation of the strategic programme of scientific research and development studies under the direction defined in the National Programme for Research: civilisation diseases, new drugs and regenerative medicine,
- Resolution no. 6/2012 of 26 January 2012 concerning adoption of the Regulations of the Appeal Commission of the National Centre for Research and Development,
- Resolution no. 7/2012 of 23 February 2012 concerning the opinion on the report of activities of the National Centre for Research and Development for 2011,
- Resolution no. 8/2012 of 23 February 2012 concerning introduction of changes in the competition procedure of the Innotech programme,
- Resolution no. 9/2012 of 23 February 2012 concerning granting the title and establishing the level of co-financing of the strategic programme of scientific research and development studies under the direction defined in the National Programme for Research: civilisation diseases, new drugs and regenerative medicine,
- Resolution no. 10/2012 of 28 March 2012 concerning approval of the amendments to the appeal procedure under the calls for proposals of the National Centre for Research and Development,



- Resolution no. 11/2012 of 28 March 2012 concerning opinion on the supplement to the action plan of the National Centre for Research and Development for 2012,
- Resolution no. 12/2012 of 28 March 2012 concerning the opinion on the financial statement of the National Centre for Research and Development for 2011,
- Resolution no. 13/2012 of 28 March 2012 concerning the opinion on continuation of the co-operation between the National Centre for Research and Development within the ERA--NET BIOENERGY network in the area of bioenergy,
- Resolution no. 14/2012 of 28 March 2012 concerning the amendments to the Regulations of the Board of the National Centre for Research and Development,
- Resolution no. 15/2012 of 28 March 2012 concerning the opinion on the new, decreased personal composition of the Steering Committee of the strategic project „Improving Work Safety in Mines”,
- Resolution no. 16/2012 of 5 April 2012 concerning the adoption and submission for approval by the Minister of Science and Higher Education of the strategic research and development programme on Prevention practices and treatment of civilisation diseases (STRATEGMED) (voting session in rotary mode),
- Resolution no. 17/2012 of 25 April 2012 concerning the opinion on the Spin-Tech programme,
- Resolution no. 18/2012 of 25 April 2012 concerning the opinion on the National Centre for Research and Development joining the Infect-ERA project in the scope of studies on infectious diseases,
- Resolution no. 19/2012 of 24 May 2012 concerning the adoption and submission for approval by the Minister of Science and Higher Education of the strategic research and development programme on Prevention practices and treatment of civilisation diseases (STRATEGMED) (voting session in rotary mode), the Resolution no 16/2012 of 5 April 2012 is hereby waived,
- Resolution no. 20/2012 of 27 June 2012 concerning the opinion on agreement with Industrial Development Agency concerning the joint project on the technology of shale gas exploration and the NCBR programme in this scope,
- Resolution no. 21/2012 of 27 June 2012 concerning the opinion Patent Plus programme,
- Resolution no. 22/2012 of 27 June 2012 concerning the selection of the direction under which the draft strategic programme shall be prepared, based on directions indicated in the National Programme for Research,
- Resolution no. 23/2012 of 27 June 2012 concerning the rules of appointment of the strategic programme Co-ordinator,
- Resolution no. 24/2012 of 27 June 2012 concerning the appointment of the Steering Committee members of the strategic programme,
- Resolution no. 25/2012 of 25 July 2012 concerning the opinion on amendments to the financial plan of the National Centre for Research and Development for 2012,
- Resolution no. 26/2012 of 25 July 2012 concerning the opinion Social Innovations programme,
- Resolution no. 27/2012 of 25 July 2012 concerning the opinion on the pilot project Go_Global.PI,
- Resolution no. 28/2012 of 25 July 2012 concerning the award for the Director of the National Centre for Research and Development,
- Resolution no. 29/2012 of 19 September 2012 concerning the opinion on the pilot project on „Public-private support to commercialisation of scientific-research results, with the share of capital funds”,
- Resolution no. 30/2012 of 19 September 2012 concerning the self-amendment to the sectoral programme Innomed,
- Resolution no. 31/2012 of 19 September 2012 concerning on the National Centre for Research and Development joining the CSA PerMed (Personalised Medicine) programme in the area of personalised medicine,
- Resolution no. 32/2012 of 19 September 2012 concerning on the National Centre for Research and Development joining the Joint Programming Initiative „A Healthy Diet for a Healthy Life” Knowledge Hub in the area „Diet determinants and physical activity”,
- Resolution no. 33/2012 of 24 October 2012 concerning the opinion on the new members of the Steering Committee of the strategic programme on Advanced Technologies for Energy Generation,
- Resolution no. 34/2012 of 16 November 2012 concerning on the National Centre for Research and Development joining the JHEP Pilot Call under JPI Cultural Heritage (voting session in rotary mode),
- Resolution no. 35/2012 of 23 November 2012 concerning the opinion on amendments to the financial plan of the National Centre for Research and Development for 2012 (voting session in rotary mode),
- Resolution no. 36/2012 of 28 November 2012 concerning the opinion on draft action plan of the National Centre for Research and Development for 2013,
- Resolution no. 37/2012 of 28 November 2012 concerning the amendments to the Social Innovations programme,
- Resolution no. 38/2012 of 28 November 2012 concerning the opinion on NCBR joining ERA-NET Plus with Russia,
- Resolution no. 39/2012 of 20 December 2012 concerning the opinion on draft financial plan of the Centre for 2013, according to the traditional and task-oriented outline.

The steering Committee of the National Centre for Research and Development

The Steering Committee for scientific research and development studies in the area of national security and defence is one of three governing bodies of the Centre, apart from the Director and the Board.

The role of the Steering Committee covers:

- development and strengthening of the defence and security area through an effective investment of public funds allocated for research and development,
- support of capacity building in the aforementioned areas, strengthening of the technological base of the national scientific and industrial potential,
- enhancing the innovativeness and competitiveness of the Polish industry.

The aforementioned objectives are achieved through the preparation of strategic programmes of scientific research and development studies for national security and defence. The programmes are approved by the Minister competent for science.

Composition of the Steering Committee

The Steering Committee consists of 7 persons, including:

- one representative of the Minister of National Defence,
- one representative of the Ministers competent for science and internal affairs and the Head of the Internal Security Agency,
- one representative of economic environment, representing defence industry, energy sector and IT and telecommunications technology, nominated by the Minister of National Defence.

Members of the Steering Committee are appointed and dismissed by the Minister of Science and Higher Education. A representative of the President of the Republic of Poland may participate in the activities of the Committee with an advisory role. The term of the Steering Committee, as in case of the Centre's Board, lasts 4 years.

At present, the following persons act as members of the Steering Committee for research and development in the area of national security and defence:

- Colonel Józef Wrona,
- Mariusz Andrzejczak, PhD, Eng.
- Captain Piotr Durbajło
- Tomasz Kruk, PhD
- Henryk Majchrzak, PhD, Eng.
- Sebastian Serwiak
- Andrzej Synowiecki MSc, Eng.

In 2012 the Steering Committee was chaired by Józef Wrona.



Chairman of the Steering Committee – Colonel Józef Wrona¹²

Graduate of the Mechanic Faculty of the Military University of Technology in Warsaw (specialisation: engineering machines). He defended his PhD thesis on impact of support on the load of the working fittings and dislocation of a chassis of a single bucket excavator in 1998. Since 2009, he has been acting in the capacity of the Deputy Director of the Department of Military Science and Education at the Ministry of National Defence.

In 2001 he won the scientific fellowship within the competition organised under the NATO Advanced Fellowships Programme. He was a visiting scholar for half a year at Purdue University in West Lafayette, Indiana, the United States.

In 2004 he was delegated to the Department of Armament Policy at the Ministry of National Defence to serve in the capacity of chief specialist for international scientific co-operation. After the reorganisation of the Ministry and establishment of the Department of Military Science and Education in 2007, he continued acting in the same capacity in the new Department.

¹² As of 14 March 2013, colonel Józef Wrona was replaced by colonel Robert Kurowski

In the years 2004-2009 he acted as the national NATO RTO co-ordinator and the National Focal Point for Defence Research and Technology in the EDA. His most important achievements in this period include the enhancement of participation of Polish scientific and industrial entities in scientific research programmes implemented for national security and defence, including the projects of NATO Research and Technology Organisation (NATO RTO) and the European Defence Agency (EDA).

In 2009-2013, while acting as the national director for defence research and technology – the deputy of the national director for armaments, the Under-Secretary of State at the Ministry of Defence, he represented Poland on the Steering Council of the EDA and he was the voting member of the Council for Research and Technology at NATO RTO (since 2012 – the Council for Science and Technology of the NATO Science and Technology Organisation). He participated in the works concerning the change of the system of establishment, implementation and supervision of research and development projects launched in the area of defence and security in the National Centre for Research and Development.

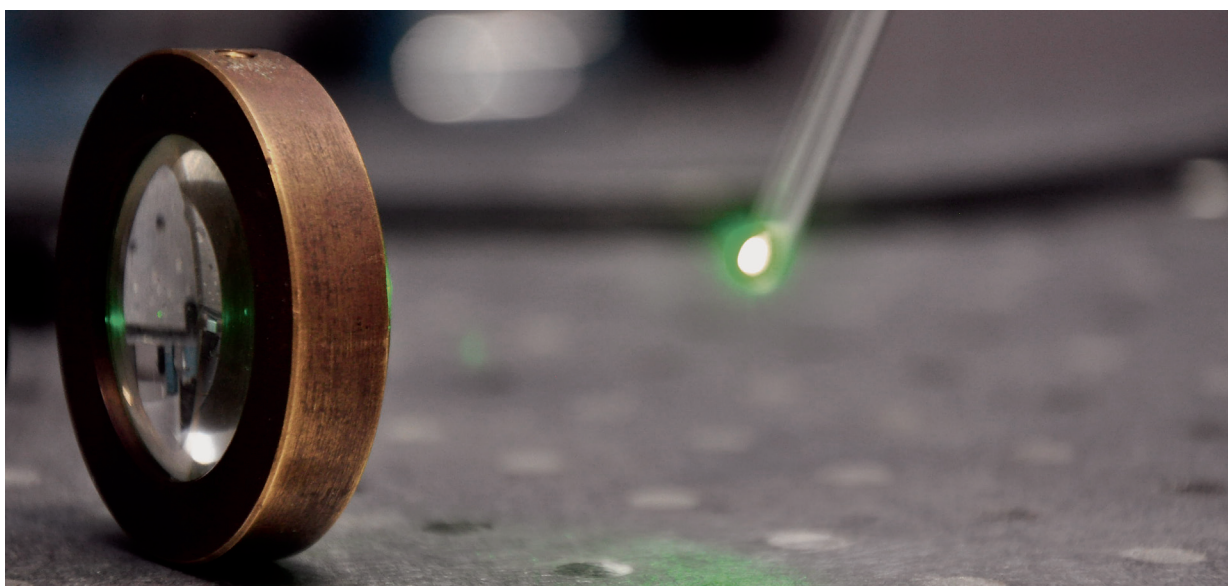
He is the author or co-author of over 100 articles and presentations. He actively participated in 18 conferences, including 8 international events, where he presented research results. He was the supervisor of 5 diploma projects and 2 final postgraduate projects.

In November 2010 he was appointed by the Minister of Science and Higher Education as the member of the Steering Committee for research and development in the

area of national security and defence, in December 2010 he was elected as its Chairman.

Resolutions of the Steering Committee

- Resolution no. 5/2012¹³ of 15 February 2012 concerning the appeals against the decisions of Director of the National Centre for Research and Development, issued after the call for proposals no.1/2011.
- Resolution no. 6/2012 of 18 July 2012 concerning the preparation of the annual report of activities of the Steering Committee for 2011.
- Resolution no. 7/2012 of 18 July 2012 concerning the preparation and submission to the Centre's Director of the ranking list of positively assessed applications submitted in the call for proposals no. 2/2012 for projects in the scope of research and development in the area of national security and defence.
- Resolution no. 8/2012 of 24 July 2012 concerning the proposal of allocation of funds planned for research and development in the area of national security and defence in the years 2013-2015.
- Resolution no. 9/2012 of 24 July 2012 concerning the proposal of allocation of funds planned for research and development in the area of national security and defence in the years 2013-2015.
- Resolution no.10/2012 of 19 November 2012 concerning the ranking list of positively assessed applications submitted in the call for proposals no. 3/2012 for projects in the scope of research and development in the area of national security and defence



Project: New efficient luminophores for lighting and solar concentrators

Beneficiary: Institute of Low Temperatures and Structural Research, Polish Academy of Sciences

Value of the project: PLN 16 million

¹³ Resolutions of the Steering Committee are numbered continuously from the moment of establishment of the Committee

18 January



Announcement of the 1st call for proposals in the Applied Research Programme. The competition received such interest that the Centre's Director decided to increase the allocation from PLN 240 million to PLN 600 million.

22 February



Conference on advanced biomass processing, co-organised by the Polish Chamber of Chemical Industry and NCBR. The subject of the discussions focused on a possibility to develop a sectoral support programme in the scope of biomass use in chemical industry.

8 May

Conference for industry entitled "Co-operation of science with industry – CTA project", devoted to possibilities of co-operation of companies with the Polish consortium implementing the "Cherenkov Telescope Array" project

12 May

Scientific Picnic in the Marshal Rydz-Śmigły Park in Warsaw. The leading topic of the event was "Energy". At the NCBR stand, the picnic participants had a possibility to take part in many competitions concerning scientific issues.

29 May – 1 June



"Innovation, Technology, Machines" Trade Fair in Poznan. The NCBR's exhibition stand was located in the Science for the economy Salon.

21 June



Approval of the strategic R&D programme on the Prevention and treatment of civilisation diseases STRATEGMED by the Minister of Science and Higher Education. The Programme funds projects consisting in the development and implementation of new preventive, diagnostic, treatment and rehabilitation methods in the area of civilisation diseases.

11 July



The ceremony of signing the Letter of Intent with Industrial Development Agency concerning the joint financing of research projects oriented towards the development of original technology for shale gas extraction. The total budget of PLN 1 billion was allocated for the programme called Blue Gas.

19–20 September



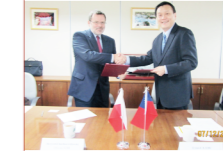
NCBR's participation in the 10th "Petroleum and Gas" International Conference and Fair at the Palace of Culture and Science in Warsaw.

5 October



Launching the pilot BBridge VC undertaking. It is the first public-private support for the commercialisation of R&D results with the share of capital funds both in the NCBR portfolio and in Poland.

11 December



Signing the Letter of Intent on co-operation in the scope of R&D between NCBR and the National Science Council in Taiwan.

17 December



Leaders' Gala – the ceremony of handing over the symbolic cheques to outstanding Polish young researchers – winners of the 3rd edition of the Lider Programme. 36 researchers received almost PLN 40 million.

2012

19 January



Signing the Letter of Intent with the representatives of the Polish Aerospace Technology Platform. The NCBR made a commitment to reserve PLN 300 million in its budget for scientific research, development works and activities supporting the transfer of their results to the aerospace industry. PLN 200 million will come from companies associated in: Aerospace Valley in Rzeszów, Wielkopolska Aerospace Cluster in Kalisz and Federation of Aerospace Companies in Bielsko Biala.

10 May



POLISH-NORWEGIAN RESEARCH PROGRAMME

The celebration of announcing the programme of the Polish-Norwegian Research Co-operation in the building of Jagiellonian University. The participants of the ceremony included: Harald V, the King of Norway with his wife, Bronisław Komorowski, President of the Republic of Poland, Professor Barbara Kudrycka, Minister of Science and Higher Education and Dagfinn Sundsbø, Secretary of State in the Office of Prime Minister of the Kingdom of Norway, as well as top level officers and representatives of the research environment of both countries.

6 March



The celebration of signing the agreements on co-financing of the infrastructural projects under the Infrastructure and Environmental Programme. The agreements of the total value amounting to PLN 200 million were signed by: University of Natural Sciences in Wrocław, Warsaw Medical University, University of Zielona Góra and University of Rzeszów.

30 May



The ceremony of announcing the GEKON Programme – the Generator of Ecological Concepts. The Programme is the result of the agreement signed with the National Fund of Environmental Protection and Water Management on joint financing of R&D projects and implementation of environment-friendly technologies. Both institutions allocated PLN 200 million for the programme.

29–30 May



3rd Congress of Regions in Swidnica. NCBR organised a panel devoted to the support programmes dedicated to enhancement of competitiveness of regions. The panel was attended by representatives of NCBR, University of Technology in Rzeszów and WSK "PZL Rzeszów" S.A.

5 July



The kick-off ceremony of the Programme: Polish-Norwegian Research Co-operation in the Copernicus Science Centre in Warsaw. The objective of the programme is to reduce the economic and social differences and to promote bilateral co-operation through popularising and support to scientific research. Under the programme of the budget amounting to EUR 43 million, projects in the area of environmental protection, health and social sciences are funded, including the issues of migration and promotion of gender equality and life-work balance.

5 September



Announcing of the competition under sub-measure 1.3.1 OP IE. System projects, for the first time using the so-called mechanism of indirect public assistance.

21 September

Announcement of the 1st call for proposals on co-financing the projects under the Blue Gas programme. The allocation of the call for tender amounted to PLN 500 million.

22 October



Announcement of the 1st call for proposals under the new undertaking Go_Global.pl, offering support for innovative companies commercialising the R&D results on the global markets.

13 December

The ceremony of signing the letter of intent with KGHM concerning joint funding of R&D in non-ferrous metallurgy. Both institutions made a commitment to allocate the total amount of PLN 200 million for this undertaking.

21 December



The meeting of the Centre's Board during which Professor Barbara Kudrycka, Minister of Science and Higher Education handed over nominations to the newly appointed members of the Board.

Activities in 2012

Programmes and competitions of the National Centre for Research and Development

NCBR programmes deal with important social and economic issues of the state. In 2012, the priority of the National Centre for Research and Development was to enhance the growth of the Polish research and development sector. To achieve this goal, 19 programmes were launched and 47 calls for proposals were conducted, with the total value of co-financing amounting to PLN 3.7 billion. The competitions were received with substantial interest and the amount of the co-financing applied for exceeded the allocation by several times. 28 competitions were organised under the international calls for proposals, 10 competitions – under national programmes, 7 – under operational programmes and 2 calls for proposals were held in the area of defence.

The level of NCBR budget in the years 2011–2012 was growing systematically, parallel to undertaking new activities and development of programmes supporting R&D

activity in Poland. In 2011 the Centre accomplished the budget at the level of PLN 2.5 billion, in 2012, the budget reached the value of PLN 4.6 billion, i.e. it has almost doubled and – compared to 2008 – the level of the budget increased about ten-fold.

Type of programme	Number of calls for proposals	Allocation of funds (in thous. PLN)
national programmes	10	1 379 800
international programmes	28	265 399
programmes in the area of defence	2	761 000
operational programmes	7	1 338 473
Total	47	3 744 672

Table 1. Number of announced NCBR calls for proposals in 2012

2012 saw the funding of 3906 projects of the total value of co-financing amounting to PLN 21.692 billion. The largest number of projects was executed by public universities (38%) and enterprises (30%).

Table 2 presents the specification of entities which signed the agreement on implementation of projects co-financed by NCBR, divided according to their legal form. In relation to the previous year, the share of scientific and research-industrial consortia increased by 30%.

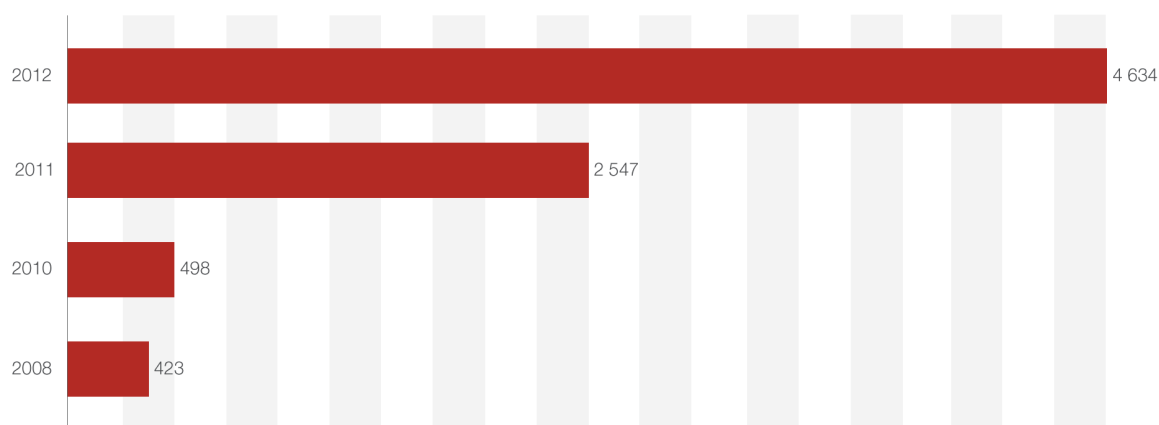


Figure 1. Budget of the National Centre for Research and Development in years 2007-2012 in PLN million

Type of entity	Number of projects	Share in the total number of projects	Co-financing value (PLN)	Share in total co-financing
Consortia	332	31,20%	1 448 717 410	36,47%
Enterprises	328	30,83%	1 223 815 824	30,81%
Universities	295	27,3%	1 040 207 267	26,19%
Research institutes	52	4,89%	115 152 400	2,90%
PAN scientific entities	34	3,20%	122 476 599	3,08%
Foundations and associations	18	1,69%	20 344 868	0,51%
Other	5	0,46%	1 470 388	0,04%
Total	1064	100%	3 972 184 756	100%

Table 2. Entities which signed agreements on implementation of projects in 2012

Analysing the beneficiaries of NCBR projects in terms of their location, enhanced activity can be particularly noticed in Mazowieckie, Śląskie, Wielkopolskie and Małopolskie provinces where 64% of the projects were carried out in total.

Province	Number of projects	Co-financing value (PLN)
dolnośląskie	264	2 013 530 030,23
kujawsko-pomorskie	99	302 822 338,14
lubelskie	132	637 525 708,06
lubuskie	30	87 139 679,81
łódzkie	185	1 139 569 667,10
małopolskie	481	2 473 590 333,11
mazowieckie	1252	7 967 582 320,55
opolskie	41	84 108 735,62
podkarpackie	130	647 092 806,18
podlaskie	56	357 756 649,46
pomorskie	235	1 296 024 307,16
śląskie	429	2 116 237 835,98
świętokrzyskie	61	270 336 031,60
warmińsko-mazurskie	44	151 407 026,43
wielkopolskie	362	1 739 371 068,47
zachodniopomorskie	105	407 933 164,45
Total	3906	21 692 027 702,35

Table 3. Information on projects/programmes carried out in individual provinces in 2012

In 2012 the Centre focused many of its activities on the development of co-operation between science and business. Important preferences were introduced for projects with the participation of entrepreneurs who were able to implement preliminary industrial research under the Applied Research Programme, whereas owing to such programmes as Innotech and Graf-Tech, they could be granted co-financing for the development of innovative products or technologies (development studies). Support to the consecutive stages leading to the commercialisation of R&D was possible under such programmes as: Patent Plus (support to patent protection), Go_Global.pl (international promotion of the activities) and the BRIDGE project (acquisition of investors).

Public assistance for entrepreneurs granted by the Centre in 2012 reached PLN 757.2 million. In terms of the value of public aid received, micro-enterprises represented the largest group of NCBR beneficiaries (PLN 250.6 million). Medium-sized enterprises received 13.8% of the total value of public aid granted by the NCBR in 2012.

Among beneficiaries of public aid granted by NCBR, micro-enterprises received the majority of funds within the Hi-Tech path of the Innotech programme and sub-action 1.4 PO IG. Large enterprises received support within the In-Tech path of Innotech programme and under the Applied Research Programme.

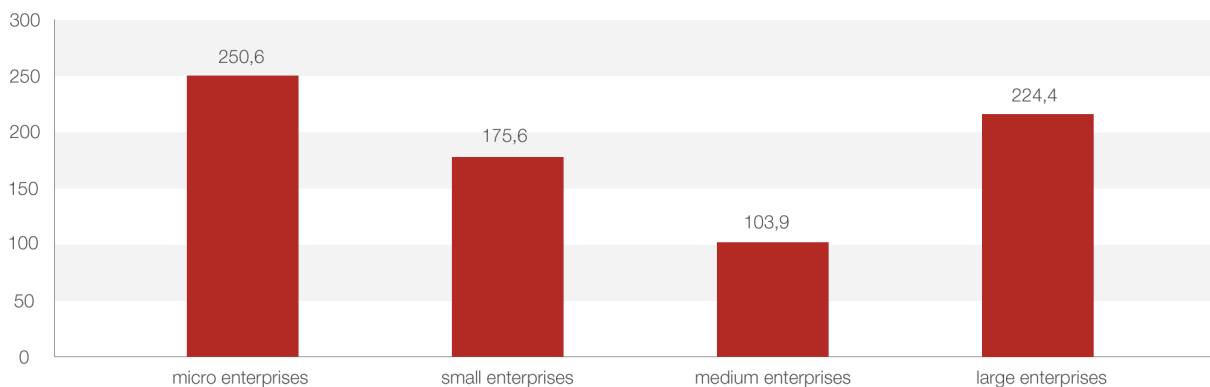


Figure 2. Public aid granted to entrepreneurs in 2012 in million PLN

Public aid granted by the NCBR was allocated mainly for industrial research. The explicitly higher share of experimental development studies in the R&D activities of large enterprises is worth noticing.

Strategic research and development programmes

Strategic programmes of scientific research and development studies support the social and economic development of Poland. They are prepared on the basis of the Na-

tional Programme for Research defining strategic directions of scientific research and development, under which the Centre's Board prepares projects for the programmes to be approved by the Minister competent for science.

The calls for proposals announced under strategic programmes are of a top-down nature and the applicants have to fulfil the requirements defined in the announcement. Implementation of strategic programmes contributes to the consolidation of research teams and the integration of scientific and economic groups around issues of key importance for the country.

In 2012 three strategic research and development programmes were executed in the Centre:

- „Advanced Technologies for Energy Generation”,
- „Interdisciplinary System for Interactive Scientific and Scientific Technical Information”,
- „Prevention practices and treatment of civilisation diseases – STRATEGMED” – the programme was approved by the Minister of Science and Higher Education in June 2012

Advanced Technologies for Energy Generation

The consumption of energy increases along the technological progress and civilisation development. The effects of this process improve living comfort while simultane-

ously stimulating the economic growth. However, their adverse effect on the environment cannot be ignored. They will affect not only the future generations but we can already observe them now – respiratory diseases are more and more common, particularly in big cities, arising, among others, from the growth of cities and, consequently, the increased energy demand, or the growing number of vehicles moving in the streets, with limited improvement of the „ecological” properties of the solutions in the scope of heating and energy generation used so far.

The aim of the „Advanced Technologies for Energy Generation” programme is to mitigate this adverse environ-

mental impact of the economic development and to improve the quality of life, with no need to resign from the benefits of progress, and to minimise the costs of energy generation. The programme focuses on the reduction of carbon dioxide emitted during the production of electric energy and fuels. Another important goal of the programme is to increase the share of renewable energy in the energy balance of the country.

In the years 2010-2015, the Centre allocated almost PLN 300 million for the programme, funding its 4 main research tasks. One of these tasks includes the development of integrated technologies of fuel and energy production from biomass and agricultural waste.

Interdisciplinary System for Interactive Scientific and Scientific Technical Information

The possibility to use the existing and sharing the created knowledge resources has a major impact on science and education. It is not only important to have easy access to the materials needed but also to be able to communicate effectively with other centres. On the other hand, scientific resources are dispersed in numerous databases, which limit their availability.

The aim of the „Interdisciplinary System for Interactive Scientific and Scientific Technical Information” programme is to facilitate access to knowledge resources existing on the web, to representatives of science, education and an open knowledge society. The task is implemented by a scientific network consisting of 16 research entities led by the Interdisciplinary Centre for Mathematical and Computational Modelling at the University of Warsaw. The teams of the network have focused their efforts on the development of the integrated IT system to enable the integration of the dispersed and incoherent databases. The universal, open, repository-like hosting platform under development is to provide for secure and long-term digital data storage and availability, as well as to enable communication between its users.

Under the „Interdisciplinary System for Interactive Scientific and Scientific Technical Information” programme, four patents were obtained in w 2012, including two in Poland and two in the USA.

No.	Programme name	Planned funds [PLN]	Provided funds [PLN]
1	Advanced Technologies for Energy Generation	67 664 869	67 626 869
2	Interdisciplinary System for Interactive Scientific and Scientific Technical	21 838 464	21 799 986
3	Prevention practices and treatment of civilisation diseases – STRATEGMED	800 000 000	—

Table 4. Financial data describing the level of commitment of the Centre's funds in implementation of strategic programmes in 2012

Prevention practices and treatment of civilisation diseases (STRATEGMED)

The ageing of the Polish society has become a significant social problem. In 1990, persons over 65 constituted 13.9% of the Polish population. In 2030 this percentage is to reach 23.8%. This means the almost two fold growth of this group in the span of only two decades. Older citizens require appropriate life comfort and efficiency at work, therefore it becomes necessary to develop advanced solutions in the area of diagnostics, prevention and treatment of the older persons.

The „Prevention practices and treatment of civilisation diseases” programme provides a response to these challenges. At the same time, it is the first programme created on the basis of the National Programme for Research. Its goal is to fund scientific research and development studies oriented towards innovative solutions in the area of diagnostics, prevention and the treatment of civilisation diseases in four areas: cardiology and cardiac surgery, oncology, neurology and regenerative medicine.

The task of the Strategmed programme is to reduce disproportions in the civilisation development between Poland and countries of high economic development. More extensive implementation of research results in the national economy, education and culture shall contribute to improvement of the quality of life. The programme is to create background for enhanced application of new medical, IT and material technology in Poland, in medical specialties and in the related sciences. Such activities shall lead to the enhancement of innovativeness and competitiveness of the Polish economy and increase international co-operation in the area of medical and related sciences.

A key aspect of the programme is its focus on combating civilisation disease which creates the largest health threat for the population of Poland in forthcoming years. Such diseases, caused by environmental factors and unfavourable changes in lifestyle, include cardiovascular diseases, malignant tumours, renal discommissions, diabetes and obesity, mental diseases (including depression), dementia and alcohol, drugs and narcotic drugs abuse, as well as communication discommissions and the increasing mental overloading associated with decision-making processes and the psycho-social stress.

The objective of the Strategmed programme is to improve the health and life quality indicators of persons suffering from civilisation diseases and to mitigate the phenomenon of exclusion of such persons from active occupational and social life. The programme offers an opportunity to transfer innovative services, products and technologies in the scope of prevention, diagnostics, therapy and rehabilitation from Polish research institutions to the economic environment. Implementation of the programme shall enable to fill the niche on the global market, which may become the Polish specialisation.

Strategic research and development projects

Based on the commission of the Ministry of Science and Higher Education, in 2012, the Centre funded the following strategic projects:

- „Improving Work Safety in Mines”,
- „Integrated System for Reducing Energy Consumption in the Maintenance of Buildings”,
- „Technologies Supporting the Development of Safe Nuclear Power Engineering”.

Improving Work Safety in Mines

The project is aimed at the development of organisational and technical solutions whose implementation will lead to risk mitigation and enhanced improvement of occupational safety in mining plants.

Subjects of research tasks comply with the recommendations of the commissions which have investigated causes and circumstances of occupational accidents in mines since 2000, following the commission of the President of the State Mining Authority. Research teams participating in the project under implementation shall develop, among others, rules for mining works design, as well as rules of measurements and studies on parameters of air in mines for the assessment of methane and fire risk.

The experts also work on the development of the equipment enabling measurements and diagnosis of cables and electric wires in excavations exposed to the risk methane and coal dust explosion.

The programme will enhance occupational safety in mines, also due to the development of the functional system of wireless rescue communications and the gasometrical system causing the immediate disconnection of energy supply in case of sudden methane leakage from gobs to mining headings

The research tasks are carried out by a consortia with the participation of enterprises, both SMEs and large coal

Project: Breast Life – innovative tester for liquid crystal thermography, detecting breast cancer

Beneficiary: BRASTER sp. z o.o

Value of the project: PLN 5 million



companies. The share of own funds of enterprises makes up 25% of the total costs.

In 2012 the Centre supervised 8 research tasks, including 5 tasks executed on the basis of agreements concluded in 2011 and 3 selected for co-financing, as a result of calls for proposals conducted in 2012.

Calls for proposals on the implementation of 4 additional projects were also announced:

- Determination of the correlation coefficient between the automatic air velocity measurement and the averaged value of velocity measured with the manual anemometer.
- Development of the fatigue management system in workers employed in underground excavations of mines exploring hard coal,
- Development of protective clothing for mine rescuers,
- Development of systems for orientation and signalling of the direction of staff withdrawal on emergency roads in longwall galleries.

The allocation for their implementation amounted to PLN 6.1 million.

Integrated System for Reducing Energy Consumption in the Maintenance of Buildings

The goal of the project is to develop solutions in the scope of designing, building and maintenance of residential and public utility buildings, aimed at reducing their energy consumption and increasing the use of renewable energy sources. The implementation of the developed system shall enable coal and gas consumption to be decreased as well as reduce the emission of CO₂ and other pollutants to the air, and it will have a positive effect on the costs of the maintenance of buildings.

Under the projects 7 research tasks are under implementation. The National Centre for Research and Development granted co-financing for the project at the total amount of PLN 26.6 million.

Technologies Supporting the Development of Safe Nuclear Power Engineering

The project is response to the demand for increasing the energy safety of the country under the conditions of the introduction of nuclear energy in Poland. Under the project, 10 research tasks are carried out, including those related to high temperature reactors and controlled thermonuclear fusion.

The programme shall contribute, among others, to solving the problems associated with spent nuclear fuel and radioactive waste management. In addition, it shall enable legal and factual regulations on radiological protection to be developed, which, in turn, should result in increased so-

cial acceptance of the development of the nuclear power engineering in Poland.

2012 saw the supervision of the implementation of 5 research tasks and the resolution of the call for proposals announced in 2011. The value of the project amounts to PLN 17.3 billion.

Support for the commercialisation of the output of scientific research and development studies

One of the priority tasks of the NCBR is to support the transfer of research and development results to the economic practice. Moreover, the Centre aims to develop closer co-operation between researchers and entrepreneurs. The following programmes were carried out in 2012, within the support to the commercialisation of the output of scientific research and development studies and other forms of its transfer to the economy:

Innotech

Innotech is a programme aimed at providing support to research and economy in the scope of innovative projects, with a special focus on advanced technologies. The programme is addressed to entities involved in research projects oriented towards the development and implementation of innovative technologies, products or services. Its additional goal is to encourage entrepreneurs to invest in research and development and, consequently, to strengthen relations between science and business. The budget of the programme amounts to PLN 650 million.

In 2012, 108 agreements were signed for projects selected in the first call for proposals. The documentation was also prepared and the second call for proposals was conducted. The allocation for the second call for proposals amounted to PLN 250 million. In total, 414 applications were submitted of the value exceeding PLN 1 billion. As a result of the substantive assessment, co-financing was awarded to 102 applications, with 30 agreements concluded by 31 December 2012.

Spin-Tech

The task of the Spin-Tech programme is to support the activity of special purpose vehicles established by state research entities, particularly universities, for the purpose of the commercialisation of research and development results. The budget of the programme amounts to PLN 120 million.

Within the works connected with the establishment of the programme, 2012 saw the preparation of the documentation for the competition as well as the announcement of the first call for proposals.

Patent Plus

Patent Plus is a new programme in the NCBR portfolio, established to support researchers and entrepreneurs in the scope of intellectual property management effectiveness through patents. The budget of the programme amounts to PLN 40 million and the co-financing covers the process of applying for international patent protection.

2012 saw the preparation of the documentation for the competition as well as the announcement of the first call for proposals.

Bro-Tech

The objective of the programme is to raise the efficiency and effectiveness of technology transfer between science and economy through co-financing consulting services rendered by technology brokers.

In 2012, the monitoring of four projects was carried out, two of which were completed.

Kad-Tech

The main purpose of the programme is to strengthen the co-operation between enterprises and highly qualified experts in the area of science and research. Companies gain a possibility to be granted funds for employing a scientist and the purchase of the so-called innovation support services in the scope of their innovation activities.

In 2012, the implementation of the last project was completed.

Go_Global.pl

The role of the Go_Global.pl project is to support innovative companies that commercialise the results of scientific research and development studies on global markets. The programme supports activities implemented by micro, small and medium enterprises, operating in the sector of high and medium-high technology.

The budget of the programme amounts to PLN 40 million, with allocation for the first call for proposals amounting to PLN 10 million. The selection of projects was carried out from 22 October to 5 December 2012. 23 applications were submitted and co-financing was awarded to five projects.

Programmes in the scope of researchers' mobility and supporting the development of the scientific staff

The National Centre for Research and Development implements programmes on researchers' mobility, focu-

sing, in particular, on the participation of young scientists. It also provides opportunities for upgrading the qualifications in the scope of entrepreneurship, management of intellectual property and commercialisation of the research results.

Lider

The goal of the Lider programme is to extend the competence of young researchers in the scope of independent planning, management and leading own research team, under projects selected due to their high scientific level as well as the potential for implementation of their results in the economy. Lider is also aimed at encouraging scientists to co-operate with business through facilitating the implementation of research of high commercialisation and implementation potential and stimulating mobility between the sectors.

The programme has been implemented since 2009 and the budget for each call for proposals has systematically increased. In the 3rd call for proposals, young researchers were granted almost double the amount of funds, as compared to the 1st call for proposals (the average amount of co-financing for the project within the 3rd call for proposals exceeded PLN 1 million). Within the 3rd edition of the programme, applications were collected from 5 December 2011 to 31 January 2012.

In response to the call for proposals, 131 applications were submitted, based on which 38 winning projects were selected. The 4th call for proposals under the Lider programme was also launched in 2012.

Programmes covering the financing of scientific research and development studies

In 2012, the NCBR initiated and implemented the following programmes in this scope:

Applied Research Programme

The Applied Research Programme is a horizontal programme to support the research sector and the enterprise sector in the area of applied research. It covers two types of activities:

- conducting research projects undertaken in commission to acquire knowledge of the practical applicability in the specific scientific discipline (e.g. studies on the new material of specific properties) – path A and
- undertaking studies which allow for achieving practical goals assumed in advance (e.g. modification of known material) – path B.

The budget of the programme amounts to PLN 1.2 billion.

In 2012, the documentation for the competitions was prepared, the applications were collected and evaluated under the first call for proposals.

Allocation for the call for proposals which initially amounted to PLN 240 million was finally increased to PLN 600 million. In total, 1140 applications were submitted, with their aggregate value exceeding PLN 2.9 billion.

Programme name	Allocation	Term of call for proposals	Total number of applications submitted under the competition	Number of decisions granting co-financing*
Applied Research Programme 1st call	PLN 240 million/ PLN 600 million after increasing the allocation	01.02.2012 – 16.03.2012	1140	227 (8)
Innotech	PLN 250 million	02.04.2012 – 02.05.2012	414	102 (4)
Graf-Tech	PLN 60 million	05.04.2012 – 04.06.2012	33	12
Blue Gas – Polish Shale Gas	PLN 125 million	24.09.2012 – 22.11.2012	22	–
Go_Global.pl	PLN 10 million	22.10.2012 – 05.12.2012	23	5
Improvement of safety in mines – competition on implementation of projects no. 9-12 (4 calls for proposals)	PLN 4,8 million	26.11.2012-09.01.2013	–	–
Lider	PLN 40 million	17.12.2012-15.02.2013	131	38

* the number of projects co-financed under the appeal procedure is provided in brackets

Table 5. Information on calls for proposals announced under national programmes, implemented by the Centre in 2012

201 agreements on the co-financing of projects were signed by the end of 2012.

Graf-Tech

The main aim of the Graf-Tech programme is to strengthen the position of Polish entrepreneurs developing graphene-based products. The programme covers the support to scientific research, development studies and activities connected to the preparation of implementation. The co-financing is addressed to projects carried out by scientific consortia and industrial-scientific centres where at least one entrepreneur is a partner.

In 2012, the documentation for competition was prepared, applications were collected and evaluated.

The allocation for the call for proposals amounted to PLN 60 million, 33 applications were submitted, and 12 projects were granted co-financing. 6 agreements on co-financing of projects were signed by the end of the year.

Blue Gas

The Blue Gas – Polish Shale Gas programme is a part of the joint undertaking of the National Centre for Research and Development and Industrial Development Agency (ARP), focused on supporting large, integrated R&D projects, covering the elaboration and pilot scale testing of innovative technologies in the area of shale gas extraction in Poland. The target budget of the project amounts to PLN 1 billion.

In 2012, the letter of intent between ARP and NCBR was signed, the competition documentation was prepared, the 1st call for proposals was launched and conducted, and the evaluation of applications was started.

International programmes, including programmes co-financed based on international funds

In 2012, the NCBR carried out intensive international co-operation, strengthening the established international relations and gaining new experience.

The tasks comprised the preparation and conducting of calls for proposals by the Centre for international research projects under the programmes described below.

ERA-NET Plus OLAE+

ERA-NET Plus OLAE+ is a programme aimed at developing and fostering technological and business relations in the European community of organic electronics at large spaces (OLAE).

In 2012, the single-stage call for proposals was resolved, for international projects in the scope of: *Organic and large area electronics*, announced in 2011.

ERA-NET Transport II

ERA-NET Transport II is a programme addressed to the promotion of research in the area of transport, aimed at ensuring the effective use of research results in the transport policy, to enable fast development of innovative transport technology.

In 2012, the single-stage call for proposals was announced – *Stepping Stones*, in the area of supporting long-term sustainable development of transport in Europe. Two applications with the participation of Polish entities were recommended for co-financing.

AAL Joint Programme

AAL joint programme is a programme whose goal is to generate innovative products, services and systems based on information and communications technology (ICT) in commission to provide for comfortable functioning of older adults.

In 2012, the fifth, single-stage call for proposals in the ICT area was announced. Four applications with the participation of six Polish entities were recommended for co-financing.

Era-Net Martec II

Era-Net Martec II is a programme oriented towards the promotion of scientific research in the area of water transport and marine technology in Europe.

Two single-stage calls for proposals in the area of marine technology were announced in 2012. As a result of the fourth call for proposals, three projects with the participation of Polish entities were recommended for co-financing. In December 2012 the fifth call for proposals was also announced, closed in 2013.

ERA-NET CHIST-ERA

ERA-NET CHIST-ERA is a programme implemented by the NCBR in co-operation with the European agencies funding research in the scope of information and communication technology – ICST (*Information and communication science and technologies*).

In 2012 the second, single-stage call for proposals was resolved, announced in 2011. As a result of the competition, one project with the participation of the Polish entity was recommended for co-financing. The agreement on co-financing of the project was signed in 2012. In the same year the third call for proposals was also announced, concerning international projects in the areas of *Intelligent User Interfaces (IUI)* and *Context- and Content-*

-*Adaptive Communication Networks (C3N)*. The call for proposals was closed in 2013.

ARTEMIS Initiative

The ARTEMIS initiative is the European programme (JTI) launched under the FP7, created on the basis of the Council Regulation (EC) No. 74/2008 of 20 December 2007 on the establishment of the 'ARTEMIS Joint Undertaking'. The objective of the undertaking is to implement a joint technological initiative in the scope of Embedded Computing Systems. The JTI ARTEMIS programme will help Europe strengthen and consolidate European leadership in the development of technologies connected with embedded systems. It is also meant to support the European industry in harmonising and strengthening its global leadership in the area of embedded computing systems.

The first, single-stage call for proposals in the area of embedded computing systems was resolved in 2012.

ENIAC joint undertaking

The ENIAC joint undertaking is implemented in the field of nanoelectronics. The initiative is focused on the integration and miniaturisation of devices and increasing their functionalities in commission to apply them in medicine, transport, environmental management and energy management as well as in IT and telecommunications.

In 2012, two calls for proposals were announced in the area of nanoelectronics. No applications were submitted under the first call for proposals. As a result of resolving the second call for proposals, three projects with the participation of the Polish entities were recommended for co-financing.

FACCE JPI pilot action of Knowledge Hub

FACCE JPI – the pilot action of Knowledge Hub is a programme oriented towards the strengthening of co-operation between researchers from states participating in FACCE JPI in selected subject areas, through providing national financial support. The programme covers three subject areas: crops, grasslands and livestock, economic and trade.

In 2012, seven agreements were signed on co-financing of projects selected in the call for proposals which commenced and was closed in 2011.

ERA-NET BIOENERGY

ERA-NET BIOENERGY is a programme on co-financing of international research projects in the broadly understood area of bioenergy. In 2012, the two-stage call for proposals was conducted in the areas of Innovations in biogas production and Sustainable biomass for energy purposes. As a result of the international evaluation, two projects with the participation of three Polish entities were recommended for co-financing.

ERA-NET EuroNanoMed II

ERA-NET EuroNanoMed II is a programme aimed at supporting the competitiveness of European nanomedicine.

In 2012, the single-stage call for proposals in the area of nanomedicine was announced, with the closing date in 2013.

ERA-NET ERA CAPS

ERA-NET ERA CAPS is a programme of financing the research projects dedicated to problems of high quality of food and issues of plant molecular biology.

In 2012, the single-stage call for proposals in the area of plant molecular biology was announced, with the closing date in 2013.

ERA-NET NEURON II

ERA-NET NEURON II is a programme focusing on the co-ordination of research in the European countries in the area of neurology. It promotes activities aimed at monitoring the sustainable development of the international, neurobiological scientific and research network.

In 2012, the call for proposals was announced in the area of innovative research methods leading to better understanding of diseases of the nervous system and the brain. As a result of the international evaluation, two projects with the participation of the Polish entities were recommended for co-financing.

ERA Net E-Rare

ERA-NET NEURON II is a programme focusing on the co-ordination of research in the European countries in the area of neurology. It promotes activities aimed at monitoring the sustainable development of the international, neurobiological scientific and research network.

In 2012, the call for proposals was announced in the area of innovative research methods leading to better understanding of diseases of the nervous system and the brain. As a result of the international evaluation, two projects with the participation of the Polish entities were recommended for co-financing.

ERA-NET Transcan

ERA-NET Transcan is a programme of co-operation between institutions financing research, coming from member states and associated states. Its goal is to integrate activities in the scope of translational cancer research.

In 2012, the two-stage call for proposals was resolved, announced in December 2011. As a result of the international evaluation, two projects with the participation of three Polish entities were recommended for co-financing.

In 2012, under the second competition, the call for proposals with closing date in 2013 was announced.

Program BONUS-185

The BONUS-185 programme is co-financed by the European Union and national organisations funding research on the problems related to nature, protection of marine ecosystem, fisheries, tourism, transport, spatial planning and management of the Baltic Sea resources. All countries located on the Baltic Sea participate in the programme.

In 2012, two, two-stage calls for proposals were announced, with the closing date in 2013.

JPI ND Joint Programming on combating Neurodegenerative Disease

The JPI ND Joint Programming on combating Neurodegenerative Disease is the pilot initiative aimed at the co-ordination of research at the European level in the area of neurodegenerative diseases.

In 2012 the single-stage call for proposals in the area of *Health Care* was announced, with the closing date in 2013.

ERA-NET ERA-IB 2

ERA-NET ERA-IB 2 is an initiative focusing on integration of national research programmes related to, among

Project: Modernisation of the Faculty of Materials Engineering and Ceramics, AGH University of Science and Technology in Krakow
Beneficiary: AGH University of Science and Technology in Krakow
Value of the project: PLN 39 million



others, environment-friendly technology, the innovative use of enzymes, microorganisms, production and processing of chemical and pharmaceutical substances and other biological materials, including food, paper, textiles and bioenergy.

In 2012, the two-stage call for proposals was announced. As a result of the international evaluation of applications, two projects with the participation of the Polish entities were recommended for co-financing.

EUREKA Initiative

The EUREKA initiative was established in 1985. Its objective is to enhance innovation, productivity and competitiveness of the European industry. Projects executed by at least two partners from two different EU Member States are funded within the framework of the initiative. The projects have to be focused on the development and implementation or significant improvement of the existing technology, or implementation of a new product or service.

In 2012, new rules of EUREKA calls for proposals were introduced. The applications can be now submitted under two calls for proposals, instead of the continuous procedure applicable before.

Program Eurostars

The Eurostars programme supports small and medium enterprises acting in the area of research and development. The projects funded under the programme are oriented towards implementation of research results under the form of a new product or service.

In 2012, two calls for proposals were conducted. In the 8th call for proposals two projects with the participation of the Polish research teams were recommended for financing.

In 2012, one agreement was signed and the next agreement was signed in 2013.

In 2012, the „New rules on co-financing of projects implemented under the Eurostars programme by the

NCBR” were also introduced. In accordance with these rules, the Polish participants of the international consortium may apply for the NCBR co-financing under the condition that the international consortium comprises a small or medium enterprise seated in Poland. The said rules shall be binding for Polish applicants in the 10th Eurostars competition.

CORNET Initiative

The CORNET initiative is the support programme for trade research, with a special focus on the role of small and medium-sized enterprises.

In 2012, two calls for proposals were announced for research projects: 14 and 15. The call for proposals under the 13th competition was also closed and resolved.

KORANET

KORANET is a programme aimed at supporting research co-operation between Europe and South Korea. In 2012, the single-stage call for proposals was announced in the area of environment-friendly technologies (*Green Technologies*). As a result of the international evaluation of applications, four projects with the participation of the Polish entities were recommended for co-financing. Three agreements –on financing of projects were also signed.

ERA-NET RUS

ERA-NET RUS is a programme whose goal is to create conditions for long-term research co-operation between the EU Member States and the Russian Federation.

In 2012 the joint, pilot competition was announced concerning innovative projects promoting common R&D activities. The NCBR declared financial support to Polish entities, members of consortia under projects selected within the competition, up to the amount of EUR 500 thousand. Among 31 projects selected in the competition, the Polish entities funded by NCBR participate in four projects.

Programme name	Allocation	Term of call for proposals	Total number of applications submitted under the competition	Number of applications with the Polish entity submitted under the competition	Number of decisions granting co-financing*
ERA-NET Transport II 1st call for proposals	100 000 €	01.03.2012 – 07.06.2012	10	4	—
Program Wspólny AAL 5th call for proposals	500 000 €	29.02.2012 – 31.05.2012	146	13	4
Era-Net Martec II 4th call for proposals	1 000 000 €	02.04.2012 – 30.04.2012	9	5	—
Era-Net Martec II 5th call for proposals	1 000 000 €	18.12.2012 – 30.04.2013	—	—	—

ERA-NET CHIST-ERA 3rd call for proposals	500 000 €	20.10.2012 – 21.01.2013	–	–	–
Inicjatywa ARTEMIS 1st call for proposals	1 000 000 €	19.04.2012 – 06.09.2012	11	3	–
JU ENIAC 1st call for proposals	800 000 €	23.02.2012 – 12.04.2012	–	–	–
ENIAC 2nd call for proposals	1 000 000 €	04.05.2012 – 13.09.2012	10	3	–
BIOENERGY 3rd call for proposals	800 000 €	01.03.2012 – 20.08.2012	25	15	2
EuroNanoMed II 1st call for proposals	1 500 000 €	10.12.2012 – 04.03.2013	–	–	–
ERA – NET ERA-CAPS 1st call for proposals	1 500 000 €	19.11.2012 – 15.02.2013	–	–	–
ERA-NET NEURON II 1st call for proposals	1 500 000 €	20.01.2012 – 09.03.2012	197	29	(1)
ERA-NET E-Rare 2nd call for proposals	1 000 000 €	07.12.2012 – 31.01.2013	–	–	–
ERA-NET Transcan 2nd call for proposals	1 500 000 €	14.12.2012 – 15.02.2013	–	–	–
BONUS 185 – 1st konkurs Vi- able Ecosystem	1 500 000 €	12.11.2012 – 14.02.2013	–	–	–
BONUS 185 – 2nd call for proposals Innovation	250 000 €	13.11.2012 – 12.03.2013	–	–	–
Joint Programming Neurode- generative Disease – 2nd call for proposals	600 000 €	10.12.2012 – 21.03.2013	–	–	–
ERA-IB 1st call for proposals	1 500 000 €	01.03.2012 – 30.04.2012	63	9	–
EUREKA 1st call for proposals	5 591 496 zł	12.02.2012 – 20.06.2012	14	14	5 (3)
EUREKA 2nd call for proposals	2 500 000 zł	21.06.2012 – 21.10.2012	6	6	2
EUROSTARS 9th call for proposals	500 000 €	02.03.2012 – 20.09.2012	306	19	–
EUROSTARS 10th call for proposals	1 000 000 €	21.09.2012 – 04.04.2013	–	–	–
CORNET 14th call for proposals	1 300 000 €	02.05.2012 – 28.09.2012	19	4	4
CORNET 15th call for proposals	1 300 000 €	01.12.2012 – 28.03.2013	–	–	–
KORANET Joint Call on Green Technologies	300 000 €	06.02.2012 – 06.04.2012	17 polskich podmiotów (16 wniosków z udziałem pols- kich podmiotów)	4	–

* in the brackets the number of projects co-financed under the appeal procedure is provided

Table 6. Information on calls for proposals announced under international programmes, implemented by the Centre¹⁴ in 2012

¹⁴ The information does not include bilateral programmes discussed hereinafter

Bilateral programmes

In 2012 the Centre implemented the following bilateral programmes:

Polish-Norwegian Research Co-operation Programme

The Polish-Norwegian Research Co-operation Programme is implemented under the Norwegian Financial Mechanism for years 2009-2014. The NCBR, as the operator of the programme, implements this under the

agreement concluded on 27 August 2012 with the Ministry of Regional Development.

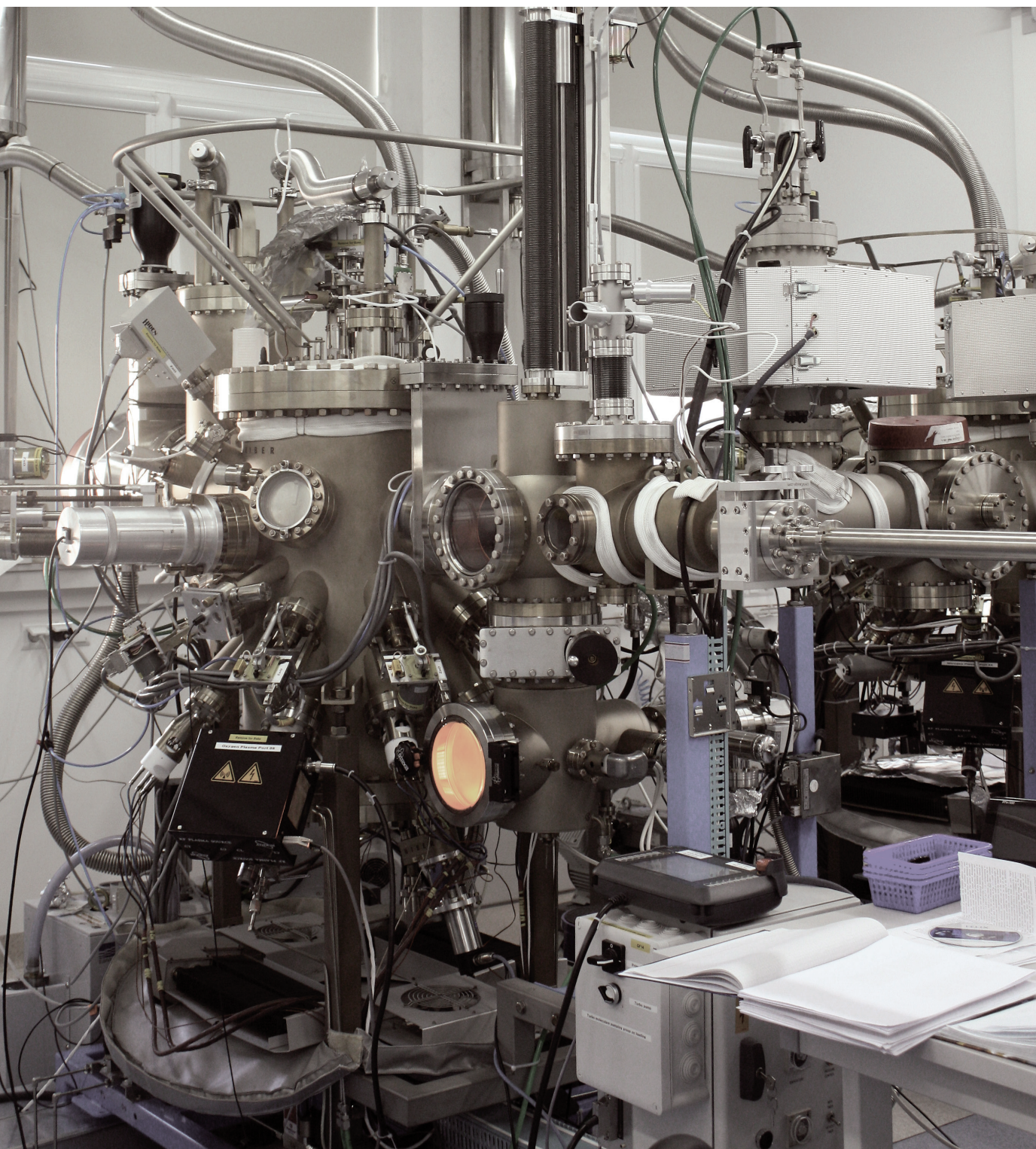
In 2012 two calls for proposals were announced under the programme:

- „Core Call” – the competition on Polish-Norwegian research projects in five areas, i.e.: environmental protection, climate change, including polar research, health, social sciences and bilateral relations, including the issues of migration, social cohesion, the role of minorities and the social dimension of sustainable development, and gender equality and work-life balance.

Project: Thermally controlled polymers compatible biologically as a replacement for skin in the treatment of burns and wounds

Beneficiary: Centre of Polymer and Carbon Materials of the Polish Academy of Sciences in Gliwice

Value of the project: PLN 10 million



Programme name	Allocation	Term of call for proposals	Total number of applications submitted under the competition	Number of decisions granting co-financing*
Polish-Norwegian Research Co-operation "Core" competition	38 529 412 €	29.09.2012 – 30.11.2012	269	–
Polish-Norwegian Research Co-operation – Small Grant competition SGS Scheme	2 352 941 €	01.12.2012 – 31.01.2013	–	–
POLLUX – 1st call for proposals	1 000 000 €	27.02.2012 – 01.06.2012	5	2
Polish-Israeli competition for R&D projects under Eureka Initiative – 3rd call for proposals	–	15.10.2012-15.01.2013	–	–

Table 7. Information on calls for proposals announced under bilateral international programmes, implemented by the Centre in 2012

- „Small Grant Scheme” – competition on small research projects conducted by Polish female researchers in technical sciences, directly related to their career development and contributing to completing doctoral or post-doctoral studies or to being granted a Professor title.

Both competitions will be resolved in 2013

Polish-Taiwanese Co-operation

The first Polish-Taiwanese competition for research projects is aimed at supporting international research co-operation between scientists from Poland and Taiwan. Under the bilateral programme with the National Science Council from Taiwan, the National Centre for Research and Development organised a call for proposals for projects in the area of environmental protection, renewable energy and neurobiology. The competition is to lead to sustainable scientific-research co-operation and the implementation of ambitious projects. The duration of the projects is 3 years and the budget allocated by each of the parties is EUR 90,000.

Polish-German Research Co-operation for sustainable development

2012 saw the resolution of the call for proposals announced in 2011 as a result of co-operation between the Ministry of Science and Higher Education and BMBF (German Federal Ministry of Education and Research). On the German side, the DLR agency is the entity conducting the competition. The competition covered three subject areas: climate and energy, sustainable economy and resources, and sustainable land management. 7 applications were selected for co-financing.

POLLUX Polish-Luxembourg Programme

In the 4th quarter of 2012, the competition for research projects in the area of Innovation in services was con-

ducted and resolved in co-operation with the Luxembourg Fonds National de la Recherche agency. The announcement of the call for proposals was the effect of the letter of intent on co-operation between the NCBR and the FNR, signed on 8 November 2011.

Polish-Singapore Co-operation

The Polish-Singapore competition comprises research projects in the areas of: disruptive technologies and security in cyberspace. It is implemented on the basis of the Memorandum of Understanding signed between the Ministry of Science and Higher Education and the Agency Science, Technology and Research A*STAR. In 2011, the Ministry of Science and Higher Education commissioned the NCBR to resolve the competition.

In 2012, the Centre together with the Agency for Science, Technology and Research A*STAR, resolved the competition and signed agreements with the Polish entities for the implementation of three projects.

Polish-Israeli bilateral co-operation

In 2010, the National Centre for Research and Development and the Israel Industry Centre for R&D (MATIMOP) decided to undertake co-operation in commission to support entities from Poland and Israel under the implementation of joint industrial research and development studies. The Polish-Israeli competitions focus on projects aimed at the development of innovative products and technological solutions which demonstrate a realistic potential for commercial application. Within the framework of the co-operation, two calls for proposals have already been conducted and on 15 October 2012, the third call for proposals was announced, closed on 15 January 2013.

Scientific research and development projects for national security and defence

Security awareness is of key importance for the quality of social life. The NCBR actively participates in activities addressing the improvement of defence and security of Poland. In 2012, 533 research and development projects for national defence and security were under implementation.

Tasks implemented in the area of security and defence

In 2012, call for proposals no. 2/2012 was prepared and conducted within which four agreements for the implementation of the projects, with the total amount of co-financing of PLN 61,401,888 were signed. The call for proposals was carried out from 27 February to 27 April 2012. 9 applications were submitted.

The main end beneficiaries of the agreements concluded include the following institutions:

- Ministry of National Defence – 1 project for the total amount of PLN 39,676,165,
- Ministry of the Interior – 1 project for the total amount of PLN 4,195,050,
- Internal Security Agency – 2 projects for the total amount of PLN 21,547,770.

The contractors of the projects include four research consortia comprising research entities and entrepreneurs.

2nd call for proposals	Allocation	PLN 61 million
	Term of call for proposals	27.02.2012 – 27.04.2012
	Number of applications submitted	9
	Number of decisions granting co-financing	4

Table 9. Data concerning call for proposals 2/2012 under the task: Scientific –research or development projects for national security and defence

Projects representing the following priority research areas were granted co-financing: Individual protection measures and equipment (for the amount of PLN 4,195,050), forensic techniques (for the amount of PLN 14,965,070), modern technology and innovative solutions in the scope of the detection, combating and neutralisation of hazards (for the amount of PLN 6,582,700) and sensors and observation (at the amount of PLN 35,659,068).

Moreover, call for proposals no. 3/2012 was prepared and conducted. Within the framework of the resolved call for proposals, at the 1st stage, 43 agreements for implementation of projects were signed for the total amount of PLN 555.1 million.

The main end beneficiaries include the following institutions:

- Ministry of National Defence – 28 projects for the total amount of PLN 498,072,275,
- Ministry of the Interior – 10 projects for the total amount of PLN 56,227,074,
- Internal Security Agency – 4 projects for the total amount of PLN 26,209,614.
- National Security Bureau – 1 projects for the total amount of PLN 3,462,453.

The contractors of the projects include 43 research consortia comprising research entities and entrepreneurs.

The allocation of the call for proposals amounted to PLN 700 million. This is a higher amount than previously assumed. The call for proposals lasted from 25 July to 5 September 2012. 121 applications were submitted.

3rd call for proposals	Allocation	PLN 700 million ¹⁵
	Term of call for proposals	25.07.2012 – 05.09.2012
	Number of applications submitted	121
	Number of decisions granting co-financing	43

Table 10. Data concerning call for proposals 3/2012 under the task: Scientific research and development projects for national security and defence

New programmes

The Centre has systematically been working on including new programmes in its offer. Activities related to the introduction of the following programmes were carried out in 2012:

BRIEdge: Research Development Innovation

BRIEdge is the pilot undertaking, previously operating under the name „Commercialisation of research and development results – testing new support mechanisms”. Its objective is to support the commercialisation of R&D results through the development, testing and practical implementation of new intervention instruments. Under the programme, specific needs of young entrepreneurs are identified, particularly small and medium-sized enterprises, in the scope of R&D commercialisation. Special

¹⁵ The value of allocation provided is the value increased by the decision of the Steering Committee, in relation to the value planned

attention is paid to recognising such needs which are not covered by the existing programmes and support schemes. The undertaking shall also enable to test the new instruments and methods of supporting the R&D results commercialisation, not used so far, in practice.

This is assumed that as a result of BRIdge, the so-called market failures will be recognised and gaps or deficiencies will be captured within the offer of public institutions in the scope of R&D results commercialisation. The acquisition of such information shall enable an informed basis for decision making on the potential establishment of a new programme or programmes in the area of supporting R&D results commercialisation to be created.

BRIdge VC

BRIdge VC is the new programme on support for the commercialisation of industrial research and development, in partnership with capital funds. Its goal is to increase the range of commercialisation of R&D results in Poland by using the opportunities for the implementation of joint projects with national and foreign entities. BRIdge VC is the response to the unsatisfactory level of commercialisation of R&D results in Poland, resulting from the implementation of early stages of R&D projects without involving the commercial partner. For the above reasons, many research and development projects are not based on adequate market analysis, and research develops in the direction which shall not guarantee a possibility of commercialisation after the studies are completed. The budget of the programme amounts to PLN 420 million.

Social Innovations

Social Innovations is a programme focusing on supporting the research sector and the economic environment in the scope of the implementation of innovative activities and social initiatives, by applying the latest science and technology achievements. The programme is addressed to entities undertaking activities to stimulate social development and improve the life quality of the society. Special attention is paid to such groups and areas in which innovative solutions and new social initiatives for the improvement of life quality of the society are needed. The budget of the programme amounts to PLN 135 million.

InnoLot

The InnoLot sectoral programme is aimed at financing scientific research and development studies concerning innovative solutions for the aerospace industry. It is the result of the agreement between the National Centre for Research and Development and a group of associations of aerospace companies representing the Polish Aerospace Technology Platform. It is addressed to research consortia to be led by entrepreneurs responsible for obtaining a specific demonstration of technology. The bud-

get of the programme amounts to PLN 500 million.

Innomed

The Innomed sectoral programme is aimed at financing scientific research and development studies concerning innovative solutions in medicine. It is the result of the agreement between the National Centre for Research and Development and a group of companies associated within the Polish Technology Platform for Innovative Medicine. The programme is addressed to entrepreneurs or research-industry consortia. The budget of the programme amounts to PLN 300 million.

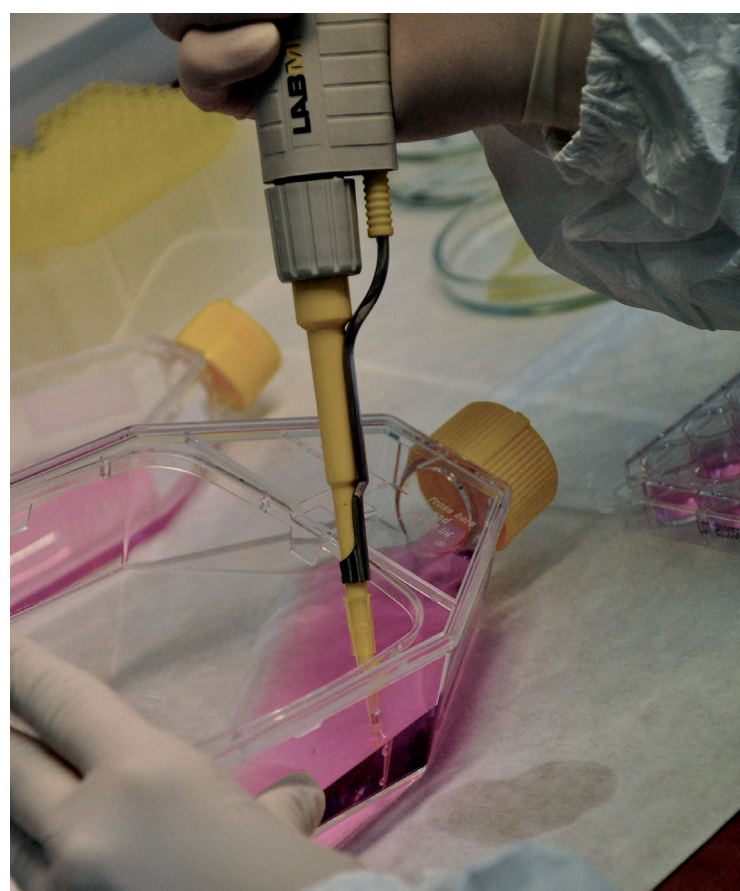
Gekon

The „Generator of Ecological Concepts – GEKON” is a programme aimed at supporting scientific research and development studies. It is the result of the agreement between the National Centre for Research and Development and the National Fund of Environment Protection and Water Management. It is the first programme in Poland providing comprehensive funding for projects carried out in commission to implement an ecologically innovative technology, starting from the research concept, ending with practical implementation. Co-financing may be granted to entrepreneurs and research-industrial consortia acting in five areas. These include: environmental aspects of search and gas exploitation from non-conventional sources, energy efficiency and energy storing, protection and rational use of water. The

Project: Thermally controlled polymers compatible biologically as replacement for skin in the treatment of burns and wounds

Beneficiary: Centre of Polymer and Carbon Materials of the Polish Academy of Sciences in Gliwice.

Value of the project: PLN 10 million



support has also covered activities associated with the acquisition of clean energy and innovative technologies for the production of fuels, energy and materials from waste and recycled waste. The budget of the programme amounts to PLN 400 million.

Support to scientific research and development on a demonstrative scale

The objective of the undertaking is to strengthen the transfer of research results to the economy through supporting the R&D projects in the scope of developing new technologies or products, including testing the new solution at demonstrative scale.

The programme is oriented towards supporting large, integrated research and development projects, focusing on the commercialisation of research results. Such projects must cover all stages, starting from conducting research, ending with the preparation of an innovative product or technology, testing it using the pilot/demonstration installation, including the construction of such installations. The said projects are to be used for testing new technological solutions developed in research organisations or in enterprises. The programme is addressed to entrepreneurs and research consortia with the participation of entrepreneurs, including companies where the research organisations and entrepreneurs are the shareholders. The budget of the programme amounts to PLN 500 million.

Programmes commissioned by the Minister of Science and Higher Education

In 2012, the Centre continued its activities connected with the monitoring of projects commissioned by the Minister of Science and Higher Education in the previous years. In accordance with the conditions of the commission, the Centre verified the implementation of the following projects:

Commissioned research projects

The commissioned research projects covering applied research or development studies focusing on the social and economic growth of the country. The NCBR was commissioned to monitor 55 projects. In 2012, based on final reports submitted by the contractors, the Centre settled 13 agreements¹⁶.

¹⁶ The Centre was commissioned to monitor 55 projects, however, only one project was implemented in 2012. The majority of the agreements were completed in 2011, therefore, in 2012, only the final reports were verified and accepted.

Development research projects

Development research projects covering applied research or development studies implemented by research entities or (starting from call for proposals X) the research and industrial consortia focusing on the application of the results achieved in economic or social practice. In total, in calls for proposals I-III, IV, VI and X, 543 were carried out, among which 81 agreements were settled and accepted.

Special purpose projects

Special purpose projects, with the subject-matter specified by the applicant, submitted by entrepreneurs or other entities able to apply the results of the research project directly in practice. In 2012, 135 projects were carried out, among which 48 agreements were settled and accepted.

Ini-Tech

The „Ini-Tech” initiative is aimed at launching and strengthening co-operation between research entities and enterprises. This shall lead to the development of new products and technologies of a high innovation and implementation potential. In 2012, the Centre carried out 66 projects in this scope. Two agreements were settled.

Technological Initiative

The „Technological Initiative” undertaking covers the financing of innovative projects of an application nature and the funding of activities preparing the results of projects for implementation. The objective of the programme is to develop new products and technologies based on the Polish scientific and technical achievements. In 2012, the Centre executed 54 projects under this initiative, and 18 agreements were settled.

The Long-Term Improvement of Occupational Safety and Conditions, Stage II

The Long-Term Programme on the Improvement of Occupational Safety and Conditions, Stage II, focuses on the development of innovative organisational and technical solutions to improve work safety and conditions. The co-ordinator of the Programme is the Central Institute for Labour Protection – the National Research Institute in Warsaw. The current stage of the programme comprises 79 projects carried out under 6 programme undertakings. In 2012, the Centre verified the interim report covering all 79 projects.

The Polish Artificial Heart

The Long-Term programme on the Polish Artificial Heart is an undertaking whose overriding goal is to develop and implement the Polish heart prosthesis for clinical application.

In 2012, under the programme, 12 research tasks were carried out, within three research undertakings. Under this programme, one project was executed.

Creator of Innovation

The aim of the programme is to enhance the activity of public research organisations and entrepreneurs in the scope of knowledge commercialisation. This objective is implemented through the development of R&D results commercialisation systems transferring the results from public research organisations to enterprises, and the intensification of information, educational and training activity concerning knowledge commercialisation in public research organisations. The Creator of Innovation shall also promote entrepreneurship among students, graduates and academic staff as well as employees of research entities. In 2012, the Centre carried out 99 projects, simultaneously verifying and setting 102 agreements.

PATENT Plus¹⁷

The PATENT Plus programme encourages the effectiveness of intellectual property management to be increased through patents. The main goal of the programme is to increase the number of patent applications, consequently enhancing the protection of industrial property rights in Poland. This is accomplished through co-financing or refunding of the costs necessary for the preparation of patent applications.

In 2012, under the PATENT Plus programme the Centre carried out 52 projects, and 43 agreements were settled.

European Funds

Since 2011, the National Centre for Research and Development has been acting as the Intermediate Body for operational programmes: Human Capital, Innovative Economy and Infrastructure and Environment, addressing the development of the science and higher education sector in Poland.

Owing to the European funds, significant financial resources are spent on necessary infrastructure investments but also stimulate entrepreneurship driven by innovative ventures and results of research and development. The European funds also support the development of research resources of the R&D sector in Poland.

Within the financial perspective 2007-2013, under three operational programmes: Innovative Economy, Human Capital and Infrastructure and Environment, the Centre manages the amount of over EUR 4.1 billion. It is allocated, among others, for the extension and modernisation of Polish universities, research infrastruc-

ture, R&D projects, strengthening the co-operation of Polish enterprises with the research sector as well as for the maintenance of high educational standards and increasing the number of students in disciplines considered as strategic for the sustainable development of the Polish economy.

Operational Programme: Innovative Economy

The underlying objective of the Operational Programme Innovative Economy is the development of the Polish economy through support offered to the Polish innovation-seeking enterprises and research entities. The co-financing under the Operational Programme Innovative Economy is addressed mainly to businesses which carry out innovative projects in the scope of R&D, the use of information and communication technologies and the development of state-of-the-art technological solutions. The co-financing of research activities carried out by enterprises in co-operation with research centres consolidates the relations between the science and business sectors.

The National Centre for Research and Development acts as the so-called Intermediate Body for two of the nine priority axes of the Operational Programme Innovative Economy.

The first Axis covers:

- Measure 1.1 Support for scientific research for establishment of a knowledge-based economy (the calls for proposals are partly announced by the Centre for Information Processing)
- Measure 1.2 Improvement of human potential of science (calls for proposals announced by the Foundation for Polish Science)
- Measure 1.3 Support for R&D projects for entrepreneurs carried out by scientific entities (the calls for proposals are partly announced by the Centre for Information Processing)
- Measure 1.4 Support for goal-oriented projects (until 2011 calls for proposals were organised by the Polish Agency for Enterprise Development)

The second Priority Axis covers:

- Measure 2.1 Development of high research potential centres
- Measure 2.2 Support for development of research infrastructure of scientific entities
- Measure 2.3 Investments connected with development of IT infrastructure of Science.

Due to the allocation of additional resources coming, among others, from the national implementation reserve, in the re-

¹⁷ Refers to the previous formula of the programme, developed at the Ministry of Science and Higher Education

porting period, one call for tender was announced under Measure 1.4: Support for goal-oriented projects. The funds allocated for co-financing of the projects amounted to PLN 700 million. Under the call for tender, 226 applications were submitted. The Centre signed, a total of 108 agreements for the co-financing amount of PLN 563,198,683.97.

Moreover, from 24 September to 30 November 2012, a call for tender was conducted under sub-measure 1.3.1

System projects. Under this sub-measure it was possible to provide funding for industrial research and development implemented by public research organisations in co-operation with entrepreneurs, using the mechanism of so-called indirect public assistance. Under the call for tender, 112 applications were submitted for the total amount of PLN 432,802,582.

In the period from 3 September to 31 October 2012, a call for tender was conducted under sub-measure 1.3.2 Support for the protection of industrial property generated in scientific entities as a result of R&D works. The allocation amounted to PLN 24 million. 92 applications were submitted for co-financing at the amount of PLN 40.8 million.

In total, in 2012, under the Innovative Economy Programme, 300 agreements for the total level of co-financing amounting to over PLN 1,390 million were concluded.

Project: Development and implementation of Business Jet class aircraft
Beneficiary: Metal-Master
Value of the project: PLN 33 million

Operational Programme Human Capital

The objective of the Human Capital Programme is to provide for the full exploitation of the capacity of the human resources through an increase in employment, enhancement of the educational level, decreasing the areas of social exclusion and supporting the development of administrative structures of the state. The support of the programme covered: employment, education, social integration, development of adaptation potential of employees and enterprises, as well as issues related to the development of human resources in rural areas, building efficient and effective public administration at all levels, implementation of good management rules and health promotion.

Priority 4 of the Operational Programme Human Capital managed by the National Centre for Research and Development focuses on the quality of the functioning of higher education institutions. The objective of the support granted is to improve curricula and supplement them with innovative elements, to strengthen the effectiveness of the training system and improve the resources and university development programmes. Under the programme, projects are funded which adjust the curricula and directions of education to the labour market requirements, upgrade students' competence and level



of knowledge and support co-operation between institutions of the educational systems and enterprises, and the R&D sector. Activities aimed at the development of the didactic potential of universities and supporting studies in technical, mathematical and natural sciences subjects, represent a key element of the programme.

The structure of Priority IV. Higher education and science is as follows:

Measure 4.1 Strengthening and development of didactic potential of universities, and increasing the number of graduates from faculties of key importance for knowledge-based economy

Measure 4.2 Developing staff qualifications in the R&D sector and increasing the awareness of the role of science in economic growth

In 2012, four calls for proposals were conducted, launched at the turn of 2011 and 2012 and three calls for proposals launched in 2012. System projects were also carried out, implemented by the system beneficiary – the Ministry of Science and Higher Education which is to develop the innovative mechanisms to be implemented in the higher education system.

Under sub-measure 4.1.1 Strengthening and development of didactic potential of universities, the call for proposals launched in November 2011 was conducted. The allocation of PLN 150 million was granted for the co-financing of 52 development programmes of universities in the scope of the implementation of quality management models and the enhancement of competence of the management staff.

In 2012, the procedure was concluded of contracting the projects selected under call for proposals no. 1/POKL/4.1/innowacje/2011, announced at the end of 2011, for co-financing of projects at the total amount of PLN 50 million. 23 projects were indicated for co-financing. The projects selected for funding represent three subject areas: new models of lifelong learning (including integration of the existing continuous education models), opening the universities to innovation as well as access to knowledge and the monitoring of graduates.

In 2012, another call for proposals was carried out, under sub-measure 4.1.2 Increasing the number of graduates from faculties of key importance for knowledge-based economy. In connection with the record interest of universities in the competition, the NCBR allocated over PLN 350 million for 120 projects.

Under measure 4.2, Developing staff qualifications in the R&D sector and increasing the awareness of the role of science in economic growth, two calls for proposals were completed, launched at the end of September 2011, allocating the amount of PLN 60 million.

In call for proposals no. 1/POKL/4.2/2011 – concerning scientific research and development works for the economy, and for the needs of science sector, as well as under call for proposals no. 2/POKL/4.2/2011 – aimed at improving the skills related to management of research and development work and to research commercialisation (including questions related to intellectual and industrial property protection), 26 agreements were signed.

In the 3rd quarter of 2012, two calls for proposals were conducted under Measure 4.3 Strengthening of didactic potential of universities in the context of targets of Europa 2020 strategies. The response of universities to the call for proposals was widespread. The total of 311 applications were submitted, including 171 applications in the 2nd call and 140 – in the 1st call for proposals. The total allocation amounted to PLN 140 million.

Operational Programme Infrastructure and Environment

The main objective of the Infrastructure and Environment Programme is to improve the attractiveness of Poland and its regions as places to invest in, through the development of technical infrastructure while protecting and improving the environment, health and cultural heritage, and strengthening territorial cohesion. Under the programme, 15 priorities are implemented. The main goal of Priority Axis 13, under which the National Centre for Research and Development manages the funds, is to develop modern university centres, especially those which train specialists in modern technologies.

The tasks implemented under Priority Axis 13 represent the comprehensive investment projects of universities. They consist, in particular, in construction, the conversion and modernisation of existing university infrastructure, including the modern equipment. The activities also cover construction, the expansion or modernisation of safe broadband computer networks linked to regional or national backbone networks.

The implementation of projects under Priority Axis 13 will mainly enable the improvement of the quality of university education. It shall also contribute to creating the conditions for the greater involvement of technical universities in European educational and research projects, enable to participate more fully in international programmes and meet European academic standards, and to increase the number of places available for students who wish to take up priority subjects of key importance for the Polish economy.

The Priority Axis 13 under the Infrastructure and Environment Programme refers to projects implemented by key academic centres offering education in „priority” subjects. The Implementing Institution for the Infrastructure and Environment Programme is the Information Processing Centre (OPI).

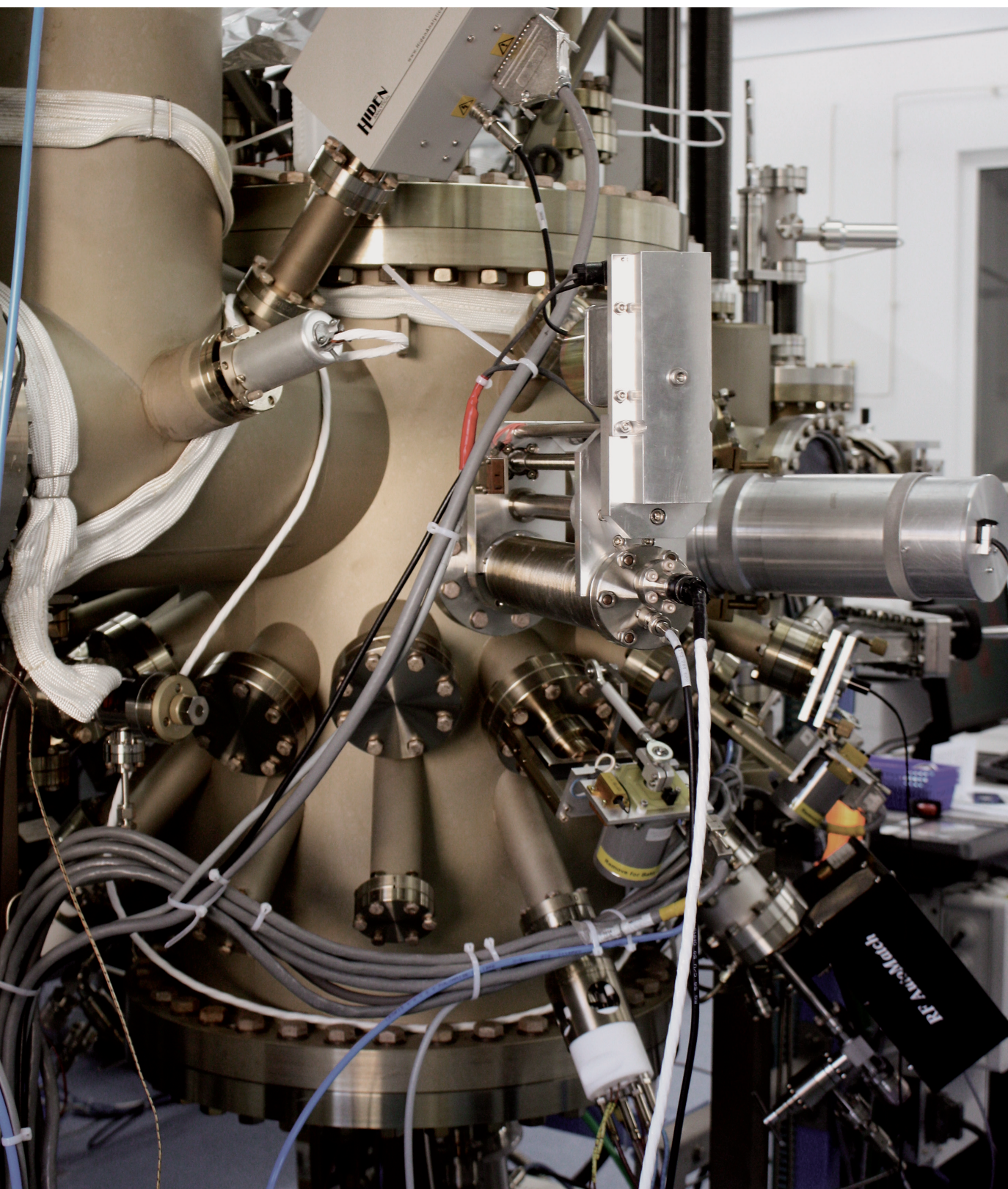
In 2012 5 agreements were concluded on co-financing under the 1st call for proposals within measure 13.1 Higher Education Infrastructure with the University of Rzeszów, the Maria Curie-Skłodowska University, the University of Natural Sciences in Wrocław, the University of Zielona Góra and the Warsaw Medical University, for the total amount of co-financing of PLN 260,251,521.92.

In addition, in the period from 11 April to 31 July 2012, the 2nd call for proposal was conducted, with 47 applications for the amount of over PLN 2,132 million submitted. Four projects were selected for co-funding, implemented by the Jarosław Dąbrowski Military Technical University, University of Gdańsk, the University of Łódź and the Gdańsk University of Technology. The total value of the agreements amounted to PLN 183,572,253.19.

Project: Quantum semi-conductor nano-structures for application in biology and medicine

Beneficiary: Institute of Physics, Polish Academy of Sciences

Value of the project: PLN 74 million



Funds spent on individual programmes

No.	Subject-matter of the task	Provided funds [PLN]
1	International Projects ERA-NET and ERA-NET PLUS	19 497 497,95
2	AAL	863 573,39
3	CORNET	316 781,00
4	ENIAC	1 841 722,99
5	EUREKA	8 210 402,94
6	EUROSTARS	2 434 485,37
7	JPI FACCE	343 897,75
8	JPND	545 729,96
9	Polish-German	1 134 625,47
10	Polish-Singapore	617 945,50
11	Projects for national security and defence	296 635 883,65
12	Interdisciplinary System for Interactive Scientific and Scientific Technical Information	21 799 986,00
13	Improving Work Safety in Mines	9 111 772,94
14	Technologies Supporting the Development of Safe Nuclear Power Engineering	14 472 980,66
15	Advanced Technologies for Energy Generation	67 629 869,00
16	Integrated System for Reducing Energy Consumption in the Maintenance of Buildings	8 533 536,00
17	Long-term programme on improvement of occupational safety and conditions	10 500 000,00
18	Polish Artificial Heart	1 000 000,00
19	Lider 1 -3	20 867 278,60
20	R&D projects	162 058 957,05
21	Applied Research Programme	87 168 848,00
22	Bro-Tech	105 000,00
23	Graf-Tech	8 718 713,00
24	Technological Initiative I	7 292 793,47
25	Ini-Tech	29 020 098,98
26	Innotech 1	70 127 540,00
27	Innotech 2	11 994 558,00

28	Kad-Tech	78 667,00
29	Creator of innovation	14 407 742,66
30	Patent Plus	2 179 560,04
31	Special purpose projects– national	21 638 829,07
32	OP IE measure 13.1 – infrastructure of higher education	560 777 537,46
33	OP HC measure 4.1 – Strengthening and development of didactic potential of universities, and increasing the number of graduates from faculties of key importance for knowledge-based economy	563 531 380,77
34	OP HC measure 4.2 – Developing staff qualifications in the R&D sector and increasing the awareness of the role of science in economic growth	24 714 963,58
35	OP IE measure 1.1 – Support for scientific research for establishment of a knowledge-based economy	361 614 274,50
36	OP IE measure 1.2 – Improvement of human potential of science	100 556 249,63
37	OP IE measure 1.3 – Support for R&D projects for entrepreneurs carried out by scientific entities	244 099 960,33
38	OP IE measure 1.4 – Support for goal-oriented projects (NCBR and PARP)	389 717 998,13
39	OP IE measure 2.1- Development of high research potential centres	643 605 010,63
40	OP IE measure 2.2- Support for development of research infrastructure of scientific entities	182 910 018,33
41	OP IE measure 2.3 – Investments connected with development of IT infrastructure of Science	178 013 711,66
	Total	4 150 690 381,46

Table 11. Co-financing provided in 2012

Evaluation of projects implemented

In 2012, the NCBR conducted 11 evaluation analyses, including: 7 ex ante, 3 mid-term and 1 ex post evaluation.

Moreover, 3 further evaluations were commissioned (2 mid-term and 1 ex post), to be completed in the 1st quarter of 2013.

The results of the evaluation (presentation of final results of the analysis) are posted on the Centre's website under the „Evaluation” tab.

No.	Name of evaluation task/activity
1	mid-term evaluation of the "Interdisciplinary System for Interactive Scientific and Scientific Technical Information" strategic programme
2	mid-term evaluation of the "Integrated System for Reducing Energy Consumption in the Maintenance of Buildings" strategic programme
3	ex ante evaluation of the Applied Research Programme
4	Economic and social effects of the completed system projects funded by NCBR
5	mid-term evaluation of Technological Initiative I
6	ex ante evaluation of the assumptions of the GRAF-TECH Programme
7	ex ante evaluation of the assumptions of the SPIN-TECH Programme
8	ex ante evaluation of the assumptions of the "STRATEGMED" strategic programme of the Centre's Board
9	ex ante evaluation of the assumptions of the PATENT Plus Programme
10	ex ante evaluation of the "Social Innovations" Programme
11	ex ante evaluation of the INNOMED Programme
12	mid-term evaluation of the project "Improving Work Safety in Mines"
13	"Assessment of usefulness and effectiveness of commissioned research projects"
14	mid-term evaluation of the "Advanced Technologies for Energy Generation" Programme

Table 12. Evaluation conducted or commissioned by NCBR in 2012

As a result of recommendations formulated under the ex ante evaluation, programmes were modified and a standardised structure of assumptions was implemented, including the recommendations concerning preparation of the logic matrix of the programme and conducting a SWOT analysis.

Changes were introduced in the case of mid-term evaluation, among others, in construction of the system of indicators for individual programmes, which should contribute to a more accurate assessment of the programme's effectiveness.

Project: Innovative didactics without barriers – an integrated development of Lodz University of Technology – university management, modern educational offer that strengthens employment abilities, including for people with disabilities
Beneficiary: Lodz University of Technology
Value of the project: PLN 35 million



Information on the contribution of funds originating from the economic sector

In 2012, the participation of entrepreneurs in programmes carried out by the National Centre for Research and Development increased significantly. The level of own share of entrepreneurs is varied, depending on the programme and size of the enterprise. In 2012 the total level of own contribution of beneficiaries in relation to the total value of projects reached ab. 30%.

Programme	Number of agreements signed	Total value of agreements signed (PLN)	Value of co-financing (PLN)	Total own contribution (PLN)	Own share of entrepreneurs (PLN)
International	65	55 023 330	46 654 715	8 368 616	5 758 688
CORNET	1	923 750	902 000	21 750	21 750
ERA NET ASPERA 2	1	629 712	629 712	—	—
ERA NET BIOENERGY	1	942 781	942 781	—	—
ERA NET CHIST-ERA I	3	2 614 540	2 614 540	—	—
ERA NET Electromobility+	4	3 054 215	2 830 320	223 895	—
ERA NET EURONANOMED	3	1 608 522	1 608 522	—	—
ERA NET KORANET	3	586 993	585 189	1 804	—
ERA NET MNT	7	6 309 114	6 162 595	146 519	38 596
ERA NET NEURON	2	2 807 999	2 807 999	—	—
ERA NET NUPNET	3	2 062 061	2 062 061	—	—
ERA NET RUS	4	2 220 933	1 887 682	333 251	—
EUREKA 2	12	14 754 957	9 973 521	4 781 437	3 062 583
EUROSTARS	2	6 065 101	3 459 342	2 605 759	2 605 759
JPI FACCE	7	1 487 891	1 378 690	109 201	—
JPND	6	2 133 033	2 133 033	—	—
Polish-German	3	4 112 332	4 082 332	30 000	30 000
Polish-Singapore	3	2 709 396	2 594 396	115 000	—
Security and defence	47	649 390 401	612 477 586	36 912 815	33 451 754
Development projects 2/2012	4	65 418 985	61 401 888	4 017 097	4 017 097
Development projects 3/2012	43	583 971 416	551 075 698	32 895 718	29 434 657
Strategic Programmes	8	24 399 520	22 828 950	1 570 570	1 570 570
Improving Work Safety in Mines	3	7 193 000	6 034 300	1 158 700	1 158 700

Technologies Supporting the Development of Safe Nuclear Power Engineering	5	17 206 520	16 794 650	411 870	411 870
National Projects – applied research	234	663 291 461	626 187 832	37 103 629	36 016 230
Lider 3	33	34 788 263	34 788 263	–	–
PBS	201	628 503 198	591 399 569	37 103 629	36 016 230
National projects – R&D Commercialisation	226	451 208 141	328 991 121	122 217 020	107 005 139
Bro-Tech	2	120 000	120 000	–	–
Graf-Tech	6	30 661 588	27 844 588	2 817 000	2 817 000
Innotech	108	297 338 606	213 036 597	84 302 009	73 935 516
Innotech 2	30	102 519 658	70 166 831	32 352 827	29 988 842
Creator of Innovation	45	17 077 760	14 764 676	2 313 084	196 254
Patent Plus	35	3 490 529	3 058 429	432 100	67 527
Operational Programme Innovative Economy	300	2 490 887 551	1 391 287 150	1 099 600 401	1 078 905 537
Total	880	4 334 200 404	3 028 427 354	1 305 773 051	1 262 707 918

* The specification does not include PO KL and PO IIS, since these programmes are not addressed to economic operators

Table 13. Commitment of funds originating from economic sector in NCBR programmes in 2012

The highest share of entrepreneurs' own contribution occurs in OP IE projects, exceeding 43%. Other programmes demonstrating a high coefficient of entrepreneurs' own contribution include the national projects focusing on the commercialisation of R&D results (23%).

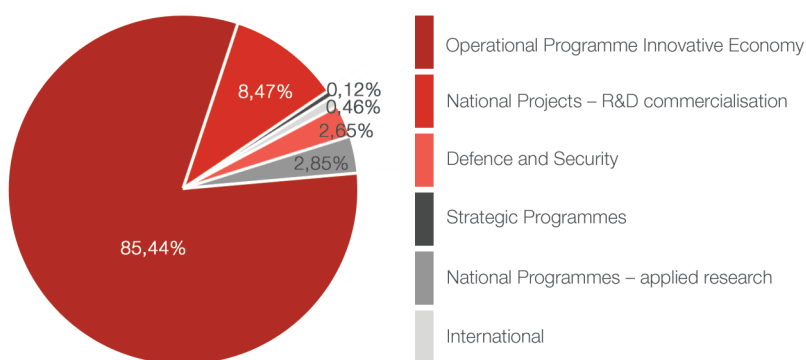


Figure 3. Distribution of entrepreneurs' own contribution within programmes implemented by the NCBR in 2012

The highest value of entrepreneurs' own contribution indicated in agreements was recorded for entrepreneurs implementing projects under OP IE (85.44%), and national projects focusing on commercialisation of R&D results (8.47%).

Organisational issues

Costs of administration of individual tasks of the Centre

No.	Implemented tasks/sub-tasks	Cost of administration of the task (PLN)	including cost of special purpose subsidy for the investment (PLN)*	including costs incurred under EU Funds (PLN)**
	Total costs	57 339 310	1 865 852	24 977 796
3.2.	Higher Education	8 349 698	31 511	7 097 235
3.2.1.	Higher Education System Management	4 627 738	0,00	3 933 570
3.2.2.	Education in university higher education	2 812 812	31 511	2 390 889
3.2.4.	Infrastructure of higher education	909 148	0,00	772 776
10.1.	Research studies	2 871 083	89 516	1 630 391
10.1.1.	Support for Research studies	2 871 083	89 516	1 630 391
10.1.1.3	Support for international co-operation	1 793 970	50 387	1 122 141
10.1.1.4	Support for scientific staff development	479 172	29 711	0,00
10.1.1.5	Developing staff qualifications in the R&D sector and increasing the awareness of the role of science in economic growth (Measure 4.2 of OP HC)	597 941	9 418	508 250
10.2.	Strengthening research for practical application	46 118 529	1 744 825	16 250 170
10.2.1.	Support to applied research and development projects	37 958 042	1 744 825	9 313 760
10.2.1.2	Funding applied research	12 523 568	782 394	0,00
10.2.1.3	Support to the commercialisation of R&D output	4 059 807	253 848	0,00
10.2.1.4	Financing R&D in entities able to implement its results in practice	13 912 325	243 108	9 313 760
10.2.1.5	Support for R&D in the scope of national defence and security	7 462 342	465 475	0,00
10.2.1.6	Long-term programme on the improvement of occupational safety and conditions II (CIOP)	0,00	0,00	0,00
10.2.1.7	Long-term programme – Polish Artificial Heart	0,00	0,00	0,00
10.2.2.	Extension of Polish science infrastructure	8 160 487	0,00	6 936 410
10.2.2.2	Investment supporting research (support for creating joint research infrastructure)	4 650 549	0,00	3 952 964
10.2.2.3	Investments connected with development of IT infrastructure of Science.	3 509 938	0,00	2 983 446

* investment subsidy funds are included and funds for NCBR investments under operational programmes of technical assistance

** funds include: Norwegian Financing Mechanism (financing under the special purpose subsidy from Ministry of Regional Development, paragraph 2005), funds from operational programmes of technical assistance (financing under the special purpose subsidy from Ministry of Science and Higher Education, paragraph 2008) and reimbursements of the European Commission for international programmes.

Table 14. Costs of administration of individual tasks of the Centre in 2012

Employment status in the Centre Office

The status of employment in the NCBR as of 31 December 2012 was: 251 persons (246.1 FTEs).

Execution of the annual financial plan of the Centre

No.	Content	Plan according to the budgetary Act	Plan after adjustments	Execution	Execution %
W tysiącach złotych					
I	TOTAL REVENUE	3 472 150	4 634 161	4 221 484	91,09%
1	Subsidies from state budget	1 554 355	1 578 416	1 477 468	93,59%
1.1	- Subjective	22 962	30 690	26 284	85,64%
1.2	- Special purpose	1 529 463	1 547 040	1 450 313	93,75%
1.3	- for investment and investment purchases	1 930	1 930	1 737	90,00%
2	Funds received from the European Union	1 917 565	3 052 673	2 741 517	89,81%
3	Other revenue	230	1 828	1 633	89,33%
II	EXPENSES¹⁸	3 472 150	4 634 161	4 221 484	91,09%
1	Including, costs by kind	60 181	69 806	55 473	79,47%
1.1	- materials and energy	1 215	1 195	467	39,08%
1.2	- other external services	23 702	15 458	8 852	57,26%
	- Remuneration	24 843	33 298	28 502	85,60%
1.3	- Personal costs	17 244	18 399	18 242	99,15%
	- other	7 599	14 899	10 260	68,86%
1.4	- social security contribution	2 790	3 476	3 066	88,20%
1.5	- contribution to Labour Fund	472	507	431,5	85,11%
1.6	- Social benefits	148	283	273,5	96,64%
1.7	- Other operating expenses	7 011	15 589	13 881	89,04%
2	including costs of implementation of statutory tasks	1 492 114	1 509 392	1 422 628	94,25%
3	European funds	1 917 565	3 052 673	2 741 517	89,81%
4	Capital expenses	2 290	2 290	1 866	81,48%

Tabela 15. Level of implementation of the annual financial plan of the Centre in 2012

¹⁸ Costs of administration of the Centre's tasks cover only costs of the NCBR's operations, the NCBR capital expenditure and funds transferred to the Implementing Bodies of the 2nd level/ implementing institutions (OPI and PARP) for their operations. However, the costs do not cover the funds for beneficiaries for the implementation of projects

