

Katowice 2007

*Imaginations*

*Create*



*Reality*

Join Us  
in Developing  
the Silesia  
Innovation  
System

This publication was prepared under the project  
"Management Unit of the Regional Innovation System in the Silesia Voivodeship".  
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„DZ”

Luk Palmen



# Ladies and Gentlemen!

The Silesia Voivodeship in Poland has been an economic leader for ages. Once, its natural resources determined its strength. However, for several years, its human capital ensures its competitive advantage at national and international level.

Today we may say that a certain chapter in the economic history of the Silesia Voivodeship has been successfully completed and a new one has commenced. We have been building a modern economy based on knowledge and innovations. Thanks to the determination of many entrepreneurs and passion and entrepreneurship of our inhabitants, we currently experience growth in several domains. The region is plenty of energy, which is also noticed by others in Europe.

Since, the regional council of the Silesia Voivodeship unanimously adopted the Regional Innovation Strategy for 2003-2013, in August 2003, it has been a guide for many of our companies, as well as for research and development institutions (hereafter R&D institutions), business support organisations and local governments. "Imaginations Create Reality" is not only the strategy's motto, it also reflects a new life style characterised by creativity, entrepreneurship and innovativeness.

Entrepreneurship, creativity and innovativeness should be not only the drivers for the private sector, but of society as a whole. They determine the development of a society where people feel responsible for their own development and the development of their environment. Therefore, we should actively support all initiatives in the educational, scientific and business environments which will allow our inhabitants gaining new knowledge and skills to manage in new situations and cope with change.

It is an honour to present you an unusual picture of Silesia. Economic life in our region also means many unknown persons, places and achievements. It is worth getting to know them because, in many cases, they may become inspirations for others.

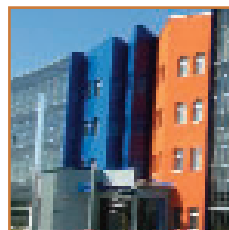
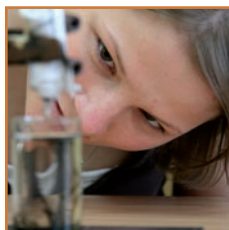
I am aware of the fact that initiatives presented herein constitute only a small part of what is currently being carried out in the area of innovations and technology development in our region. At the same time, I invite you to get acquainted with the variety of its potentials. Maybe one day soon you will find your partner in new initiatives here and also you will experience the inspiring energy of Silesia.

**Luk Palmen**



Project  
Manager  
of the Management  
Unit of the Regional  
Innovation  
System  
2005 - 2007

For further information on potential cooperation partners on innovation in the Silesia Voivodeship, please contact Mrs. Alicja Michalik of the Regional Innovation and Technology Transfer Centre in Katowice (tel. +48 (0)32 251 64 21 int. 503; e-mail: [alicja.michalik@gapp.pl](mailto:alicja.michalik@gapp.pl))












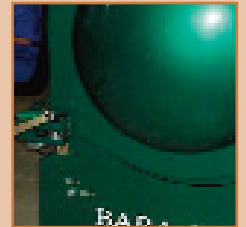
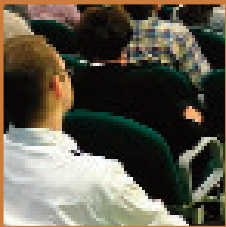
„SZSP“

# LIST OF INSTITUTIONS:

- The Silesia Centre for Advanced Technologies
- Bielsko-Biała University
- Częstochowa University of Technology – Energy Innovation Centre
- Network of Centres of Excellence BioMedTech Silesia
- Upper Silesia Agency for Enterprises Restructuring - Regional Centre for Innovation and Technology Transfer, Regional Technology Transfer and Promotion Network
- Silesia Castle of Arts and Entrepreneurship in Cieszyn - Silesia Design Network
- Institute of Non-organic Chemistry - Silesia Centre for Chemical Branch Information
- Upper Silesia Agency for Regional Development
- Częstochowa Business Council
- Business Information System (SIG), Economic Policy Department of the City of Sosnowiec
- BELOS SA
- Regional Chamber of Commerce in Katowice
- Polish Federation of Engineering Associations
- SATUS
- SILESIA FUND
- Upper Silesia Fund - Silesia Business Angels Network SILBAN
- Ruda Śląska Development Agency "Inwestor" - Loan Fund
- Silesia Consultation Point for Companies in the Chemical Branch
- Welding Institute in Gliwice
- Institute for Chemical Processing of Coal
- InfoStrategia Krzysztof Heller i Andrzej Szczerba Sp. J.
- Centre for Polymer Chemistry at Polish Academy of Science
- Upper Silesia Academy of Entrepreneurship in Chorzów
- Secondary School No. 2 in Gliwice
- Foundation for Youth Entrepreneurship
- BNI Polska Sp. z o.o
- Forum of Radlin Companies
- Karol Adamiecki University of Economics in Katowice
- Silesia Technical University, Faculty of Environmental Engineering and Energetics, Environmental Biotechnology Department
- Main Mining Institute
- EKOPRODUKT Marek Kubara
- University Entrepreneurship Incubators
- Beskids Technological Incubator
- Science and Technology Park TECHNOPARK GLIWICE
- I3D
- City of Gliwice
- Optopol Technology
- First Clinic of Cardiac Surgery of Upper Silesia Medical Centre
- Second Clinic of Cardiac Surgery of Upper Silesia Medical Centre
- Silesia Heart Disease Centre – Clinic Department of Cardiac Surgery and Transplantology of the Silesia Medical University
- Polish-American Heart Clinic Sp. z o.o.
- Cancer Centre - Maria Skłodowska-Curie Institute, Branch in Gliwice
- Burn Treatment Centre
- Dr Janusz Daab Voivodeship Hospital of Traumatology
- Haematology and Marrow Transplantation Centre
- Foundation for Cardiac Surgery Development

# TABLE OF CONTENT:

<b>PART I</b>			
Silesia Declaration For the Development of a "Creative Innovative Region"			7 s.
Priority 1			10 s.
Priority 2			16 s.
Priority 3			20 s.
Priority 4			26 s.
Priority 5			32 s.
Priority 6			33 s.
Priority 7			41 s.
Priority 8			45 s.
Priority 9			48 s.
<b>PART II</b>			
The Management Unit of the Regional Innovation System 2005-2007			61 s.
<b>PART III</b>			
Silesia Innovation System – Cooperation is the Way to Success			
Opportunities for cooperation with partners			
in the Silesia Voivodeship in the period 2008-2013			65 s.



The Silesia Declaration for the Development of a "Creative Innovative Region", signed by managers, directors and other local and regional leaders, expresses the region's readiness to take up common actions in order to improve the competitiveness of the Silesia Voivodeship in Europe. The declaration entitled "*People are the fundament of the Silesia Voivodeship's competitive advantage*" calls for:

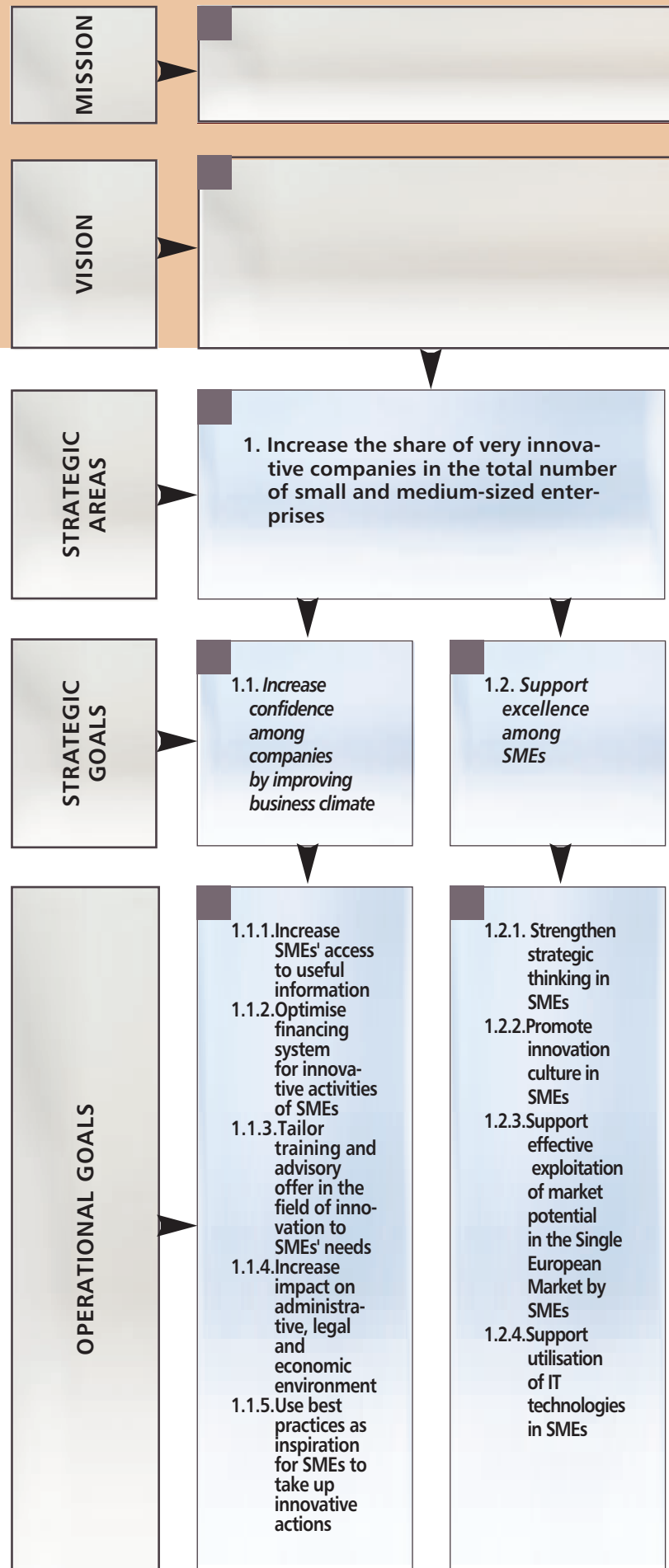
- Development of a favourable climate for innovation in the Silesia Voivodeship so that creativity and synergy through cooperation in initiation, improvement and implementation of innovations lead to a higher level of innovativeness, strengthening the competitiveness of the region's economy in relation to other regions in the European Union;
- Development of a knowledge-based economy, characterised by cooperation in networks involving people that are not afraid of change, but create such an environment that allows introducing change, where risks and failures are accepted as part of a learning process and important pillars of regional development;
- Support of entrepreneurship and creativity among inhabitants of the region to strengthen risk-taking approaches in finding new and more effective solutions to improve their personal situation and that of their environment;
- Counteracting approaches that limit creativity, entrepreneurship and innovativeness.

# Silesia Declaration For the Development of a "Creative Innovative Region"





In September 2005, the Regional Steering Committee for the Regional Innovation Strategy approved the Executive Programme for 2005-2008. The Programme groups the provisions of the strategy around nine operating priorities. With the financial support of, among others, Structural Funds and funds coming from the State Budget, as well as with the help of private capital, several dozens of initiatives, which effectively fulfil these priorities, have been developed.



Structure of the Regional Innovation Strategy of the Silesia Voivodeship for 2003-2013

**IMAGINATIONS CREATE REALITY**

The Regional Innovation Strategy supports development of a favourable climate for innovation in the Silesia Voivodeship so that creativity and synergy through cooperation in the initiation, the improvement and the implementation of innovations lead to a higher level of innovativeness, strengthening the competitiveness of the region's economy in relation to other regions in the European Union

**2. Increase the exploitations of R&D potential**

**3. Ensure an efficient Regional Innovation System based on mutual trust, creativity and excellence**

**2.1. Strengthen excellence in R&D sector**

**2.2. Introduce technologies in the R&D sector necessary to develop regional economy**

**3.1. Develop partnership cooperation in favour of innovation**

**3.2. Support establishment of new innovative products and companies**

- 2.1.1. Support innovation culture in the R&D sector
- 2.1.2. Support market reorientation
- 2.1.3. Increase share in international cooperation networks

- 2.2.1. Support specialisation of the R&D sector operating in traditional sectors
- 2.2.2. Support the establishment of new R&D specialisations
- 2.2.3. Promote best practices as the region's brand

- 3.1.1. Develop sectoral cooperation with SMEs
- 3.1.2. Establish flexible network structures to the benefit of innovations
- 3.1.3. Support foresight

- 3.2.1. Promote functional designs
- 3.2.2. Increase the use of industrial property rights
- 3.2.3. Support innovation culture in the educational system
- 3.2.4. Support the establishment of innovative companies
- 3.2.5. Facilitate technology transfer

**From Strategy to Actions**

# THE ART OF COMBINING CREATIVENESS, KNOWLEDGE AND CAPITAL FOR THE SUCCESS OF OUR COMPANIES

A companies' success is not only dependent on its own initiatives or the market. The predictability of the nearest environment where a given company operates is equally important. Business support organisations and R&D institutions play an important role as partners in the introduction of innovative activities in companies. These institutions should provide necessary resources, including knowledge and capital.

Creating an efficient regional innovation system is a long-lasting process. In recent years, we started the development of the Silesia Innovation System based on cooperation networks and knowledge exchange between R&D institutions, enterprises and business support organisations. In the near future, the system should provide for a clear structure, easy contacts, flexible cooperation procedures, as well as openness to cooperation with domestic and international partners.

In addition, the following services have been developed:

- Advice services for development and implementation of innovation and technology growth strategies in companies;
- Preparation of corporate technology development plans;
- Information, training and advice on intellectual property rights;
- Advice, training and expert services related to the implementation of new technologies;
- Searching for external sources of investment finance;
- Training for employees involved in new technology implementation;
- Advice, training and expert services related to industrial design.

Examples of good partnership in our regional innovation system are, among others: the Silesia Centre for Advanced Technologies, the cooperation of Bielsko-Biała University with Fiat and Volkswagen, the Energy Innovation Centre at the Częstochowa University for Technology, as well as the Network of Centres of Excellence BioMedTech Silesia, the Regional Centre of Innovation and Technology Transfer and the Silesia Design Network. They form new platforms of cooperation between industries and the R&D sector.

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# Priority 1

# Developing the Regional Innovation System

## Direct Contacts for Better Understanding Company Needs



The Silesia Centre for Advanced Technologies (ŚCZT) is a regional scientific and industrial consortium. It is composed of Silesia universities, institutes of the Polish Academy of Science, sectoral institutes and R&D institutions, as well as technology parks and companies. The consortium is coordinated by the Silesia University of Technology, as an institution holding the biggest scientific potential of techniques and technologies in the Silesia Voivodeship. Thanks to actions taken, companies have easier access to such institutions. Thus, processes are optimised as of the "first contact" through to joint ventures to carry out research and development projects. ŚCZT organises:

- Information and training conferences for representatives of R&D institutions and companies;
- Technological training for company employees;
- Placements of scientists at companies and representatives of companies at R&D institutions;
- Research projects involving companies and R&D institutions.

This initiative supports knowledge transfer through the exchange of personnel between R&D institutions and companies. Companies that are ready to hire specialists for a certain period benefit twice. Such actions establish better direct contacts, provide for better understanding of company needs and involve relevant specialists required at that time at the company. Currently, 40 companies are involved in the exchange program.

*"The contacts between Silesia companies and our R&D institutions brought about better mutual understanding of needs and possibilities of partners and tear down the obstacles that appeared because of a lack of confidence in the past. We invest in trust, one of the main drivers for a modern competitive economy", - Dr Marian Michalek, Engineer.*

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Engineer, Professor  
of the Technical  
University  
in Częstochowa

## Long-lasting Cooperation with the Automotive Sector is Profitable

10 years ago, the **Bielsko-Biała University (ATH)** commenced its cooperation with FIAT, including joint scientific and research projects, placements and practices for students, graduates and young scientists, as well as annual awards for the best M.A., doctoral and postdoctoral theses. The list of subjects for joint projects is defined by a steering committee on the basis of FIAT's development priorities. Carrying out such actions, the University cooperates directly with Centro Ricerche Fiat in Turin. Thanks to such forms of cooperation, scientists have access to the latest technological solutions promoted and implemented by FIAT.

In 2002, ATH commenced its cooperation with Volkswagen AG, including non-compulsory lectures for ATH students on quality management held by management board representatives, as well as practices and traineeships for students in Salzgitter. Cooperation covers quality management, production system development and working systems, including group and team work.

## Cooperation Networks within Universities to Better serve the Market



As a result of several initiatives introduced by the **Management Unit of the Regional Innovation System**, in April 2006, the Energy Innovation Centre was established by the resolution of the Senate of the Częstochowa University of Technology. The Centre runs research, training, advisory and promotion activities to integrate and coordinate activities taken by the Częstochowa University of Technology in the area of effective power production, processing and storing technologies as well as renewable sources. Thanks to the establishment of CIE, the scientific and research potential of 11 organisational units and departments of the Częstochowa University of Technology was consolidated in an internal network. Currently, CIE focuses on issues of modern power conversion technologies, including issues of environmental protection.

*"In the following years, we want to deliver new services and establish expert laboratories and scientific, industrial and specialised laboratories, initiate M.A. and doctoral theses. Thanks to these investments we will support implementation of new technologies in regional economy"*  
- **Dr Robert Sekret.**

# Priority 1

Foundation for Cardiac  
Surgery Development,  
Network of Centres of Excellence  
Bio-Tech-Med Silesia  
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www.frk.pl/biomedtech  
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Zbigniew Nawrat

## Complex Future-oriented Solutions Are Efficiently Established Together

For several years, the **Network of Centres of Excellence BioMedTech Silesia** has been operating in the Silesia Voivodeship. It is composed of the:

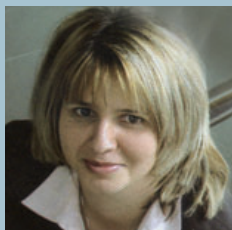
- Centre of Excellence POLIMERY 2000+;
- Centre of Excellence for Research and Education on Molecular Biology of Matrix and Nanotechnology at the Silesia Medical University;
- Centre of Excellence for New Technologies for Heart Disease Treatment at the Cardiac Surgery Foundation;
- Centre of Excellence at the Research Department of the Oncology Centre in Gliwice;
- Centre of Excellence ITAM in Zabrze.

Network participants carry out joint research activities, including those run under international cooperation, on new materials and technologies for medicine and industry. The network organises annual international conferences BioMedTech Silesia attended by over 500 persons from Poland and abroad.

*"We cooperate with European research groups interested in establishing networks of laboratories examining prosthetics explanted from patient organisms. Our research aims at finding answers for the reasons for dysfunction of certain prosthetics and at developing materials meeting requirements of long-term implantation and operation inside human organism in the best manner",*  
- Dr Zbigniew Nawrat.



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**Ewa Gołębiwska**  
Director of the Silesia  
Castle of Arts  
and Entrepreneurship  
in Cieszyn

**"Śląska Rzecz" Awards**  
Contact person:  
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Competition Curator  
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## At the Crossroads of Technology Transfer Processes



Since 2001, the **Regional Centre for Innovation and Technology Transfer** at the Upper Silesia Agency

for Enterprises Restructuring plays an important role as regional integrator by cooperating with regional, national and international partners in such networks like: Regional Technology Transfer and Promotion Network (RSPTT), Polish Technology Transfer and Innovation Support Network (STIM), as well as Innovation Relay Centres (IRC). The Centre is also engaged in the National Innovation Network (KSI).

*"By participating in such networks, we gain better access to technology offers and demands in the region, state and world. We help to find appropriate technological solutions, cooperation partners, experts. We try to promote innovative solutions in the market, match business and science, support technological cooperation", - Joanna Machnik-Słomka.*



The **Regional Technology Transfer and Promotion Network** ([www.rsptt.pl](http://www.rsptt.pl))

covers the whole Silesia Voivodeship and is composed of 5 institutions located in different areas in the region: The Upper Silesia Agency for Enterprises Restructuring in Katowice, the Agency for Regional Development in Bielsko-Biała, the Silesia Castle of Arts and Entrepreneurship in Cieszyn, the Agency for Regional

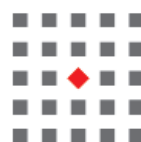
Development in Częstochowa and the Agency for Local Development in Gliwice. This allows anyone interested in innovation related issues finding a contact point nearby. Every local centre hires consultants, who directly reach interested entities, identify needs and help to establish contacts with potential partners. So far, consultants have visited around 500 companies and R&D institutions, carried out over 140 technology audits and prepared 130 offers and technology inquiries.



**Śląski Zamek  
Sztuki i Przedsiębiorczości  
w Cieszynie**

## Silesia Design Network

The **Silesia Castle of Arts and Entrepreneurship in Cieszyn** is the only regional centre financed by local government in Poland combining design, business, education, art and national heritage. It was established in 2005 from State and EU funds to stimulate economic development of Silesia by utilising designers' potential. Thanks to the Silesia Design Network, industrial design is promoted in different aspects.



**Śląska Sieć  
na Rzecz  
Wzornictwa**

The network enables cooperation between producer and designer environments. It stimulates the creation of new brands, innovative solu-



„SZSP”

tions and new products, as well as strengthens the market position of companies. Since 2006, it has been organising the "Śląska Rzecz" Awards to promote exceptional designs of products created in Si-

lesia. The competition covers the assessment of new or modernised products implemented for production, as well as visual and multimedia communication designs and their designers and producers.



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# INFORMATION – KEY TO SUCCESS

Globalisation and increased importance of knowledge to maintain a competitive advantage requires that companies manage their internal and external knowledge efficiently. Specialised information sources, like consulting companies, R&D institutions and technology transfer centres, perform an important role in the provision of specialist information in the innovative economy.

Several institutions, including among others the Institute of Non-organic Chemistry and the Upper Silesia Agency for Regional Development have tried to streamline information flows to SMEs in recent years. They have established information offices and contact points, launched web portals and organised thematic meetings and training. In Częstochowa, the Business Council creates a platform for communication between local politicians and representatives of local economy.

**Klub Pracy** 350m

**Straż Miejska** 400m

**Poradnie Rodzinne  
Poradnie Specjalistyczne** 350m

**Institute of Non-organic  
Chemistry**

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Barbara Cichy

## Silesia Centre for Chemical Branch Information



The Silesia Centre for Chemical Branch Information operates in the Institute of Non-organic Chemistry. Actions taken by the Centre result from expert group work under the RIS-Silesia project carried out in 2004, when they were indicated as actions enabling the

efficient implementation of the Innovation Strategy. Thanks to the Centre's activity, companies from the chemical sector in the Silesia Voivodeship have better access to the latest, complete and professionally prepared scientific and technical information. The web site offers newsletters and an on-line related database including information on the development of chemical technologies, environmental protection and waste management, chemical safety. The newsletters and database enable enterprises to monitor current changes in law related to environmental protection and chemical substances (including documents related to the REACH system). Quality assessment by way of questionnaires filled in by participants show that this activity is very useful for them in everyday business and that the level and accuracy of selected information are highly appreciated.

*"Company's access to specialist information on its activity areas constitutes the basis for innovative development. Our activity is innovative in Poland, thus, if we obtain further finance, we want to extend it to chemical branch companies all over the country", - Barbara Cichy.*

# Priority 2

Establishing the Regional  
Information System  
for SMEs

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www.DlaFirmy.info.pl  
Contact person:  
Robert Pisarski  
Project Manager



## Dla Firmy.info



The Upper Silesia Agency for Regional Development has launched several years ago an information portal

for small and medium-sized enterprises offering practical expert advice. While entrepreneurs are able to ask direct questions to experts, these experts sign their articles on the website. This makes their statements reliable and allows for free promotion of their knowledge and competences.

*"We want dlafirmy.info.pl to become a platform for information exchange. The site should be attractive enough so that entrepreneurs take part in its further development. In future, we want to organise direct training and conferences. We think about improving the platform's attractiveness by showing good practices and including authentic cases of how entrepreneurs solved problems and implemented their ideas successfully", - Robert Pisarski.*

**Business Council  
at the City Mayor  
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Contact person:  
Tadeusz Jezierski  
??? Przewodniczący  
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**The Business  
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Grzegorz Frugalski

## Where Policy meets Economy

The Business Council in Częstochowa comprises representatives of all local economy environments and operates as a consultative and advisory body to the City Mayor of Częstochowa. The Council supports the creation and implementation of local economic development policies. It takes up actions to promote entrepreneurship and is involved in branding Częstochowa as a strong centre in the northern part of the Silesia Voivodeship. The activities of the Business Council have undoubtedly contributed to a better climate in the city's economic environment.

## A Local Business Information System in Sosnowiec

*"The Business Information System (SIG) developed by the Economic Policy Department of the City Office in Sosnowiec is currently being tested. The system is to perform two functions. First of all, it will support companies by way of securing access to information on local business entities, business related activities and potential partners. Secondly, it will allow external investors getting better insight in the potentials of the city of Sosnowiec. In the future, the information system will probably also include good practices, for example in the area of innovation. The system will operate only electronically. Information will be collected in a standard form, including only necessary data to guarantee that the database is clear and transparent", - Grzegorz Frugalski.*

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## Regional Expert and Technology Database



*"Since 2005, the Regional Technology Transfer and Promotion Network has been running an expert database providing entrepreneurs with easier access to specialists from various scientific fields. Experts mentioned in the database, are ready to actively support new projects carried out by companies. At the same time, the technology database includes around 100 technology offers of regional research centres. Additional support and aid may be obtained from consultants who play an active role in the matchmaking process between companies and potential partners. Already 22,000 persons got acquainted with our offer", - Izabela Galbas.*



# WE STIMULATE INNOVATIVE SME DEVELOPMENT

Investments in innovations by small and medium-sized enterprises in the Silesia Voivodeship are mainly financed by their own funds. To strengthen their competitive position, SMEs need access to external financing mechanisms to finance investments, including the purchase of new equipment, obtain certificates, specialised services, order research and development work. At the same time, there is a growing demand for risk capital required to introduce new products and services on the market.

Apart from Structural Funds, programmes of the Ministry of Science and Higher Education, finance opportunities under the 7th Framework Programme of the European Commission also give chances to enterprises to initiate new research projects in cooperation with R&D institution in the nearest years.

It is worth noticing that, thanks to our SME's determination and creativity, during the recent 5 years, 100% of the pool of funds available to them under the Preaccession and Structural Funds have been used. About 3,505 contracts for the total amount of PLN 355.57 million have been signed. Silesia companies filed 13,685 ap-

plications, which is much more than in other voivodeships. Given the number of applications and the value of contracts, entrepreneurs in the Silesia Voivodeship come within the top companies using EU funds. SMEs were ready to take advantage of chances offered. Thanks to support obtained, beneficiaries may visibly improve their competitive advantage in the market. The Upper Silesia Agency for Regional Development played an important role in this process because since 2001, as one of 16 institutions in Poland, it holds the status of the Regional Financing Institution (RFI) approved by the European Commission. As RFI, its the regional partner of the Polish Agency for Enterprise Development in the implementation of the policy addressed to SMEs under Structural Funds.

To meet enterprises' expectations, the Regional Chamber of Commerce launched an information portal on aid programmes. We may also observe the growing readiness of private capital to invest in new innovative business projects. Out of the many initiatives, it is worth mentioning the establishment of the Silesia Business Angels Network and two seed capital funds: Silesia Fund and SATUS.

# Priority 3

## Management Systems at Belos SA

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Proxy and Plenipotentiary in charge  
of Management  
Systems at Belos SA

## BELOS SA

The content of each of our projects applying for EU funds is carefully assessed. Criteria are tough. Such aspects like innovativeness, impact on a company's market competitiveness improvement, environmental protection, policy of equal chances are taken into account. However, the project's financial effects are often considered as the most important criteria. Therefore, for our project applications, we selected those elements from our strategy that are most eligible for support. And we succeeded. Out of nine projects filed by Belos SA, six obtained grants. At present, we manufacture around 1,600 kinds of products, and the share of newly implemented and modernised products is significant.

*"We try to use EU funds to implement our development strategy. This works well. Returns on investments are considerable, but at first we have to provide all funds to recover 50 percent later", - Leon Dulewicz, Proxy and Plenipotentiary in charge of Management Systems at Belos SA.*

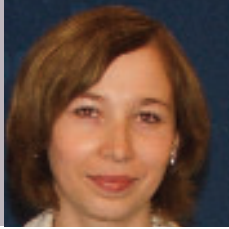
„DZ”



Establishing a Regional  
Finance System  
for Innovative SMEs

### Regional Chamber of Commerce in Katowice

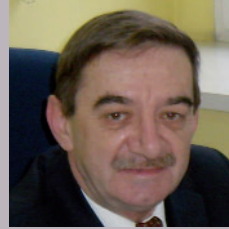
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Advisor  
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## Acquiring Access to Information on Funds



Analyses show that the biggest problem for companies applying for EU grants is the lack of an integrated

overview of funding opportunities. **The nationwide web portal [www.dotacjeUE.org.pl](http://www.dotacjeUE.org.pl)** was established for entrepreneurs interested in acquiring EU grants to strengthen the competitiveness and innovativeness of their companies. The portal is a unique Polish database for enterprises. Thanks to the portal, entrepreneurs have easy and fast access to the most actual information about EU financing possibilities for various types of projects.

## Development-oriented Support



**The Polish Federation of Engineering Associations – N.O.T.** has been present for a long time in all areas where scientific knowledge is implemented in economy.

The Federation consists of 35 units all over Poland, including centres in Katowice, Gliwice, Częstochowa and Bielsko-Biała. N.O.T. efficiently implements the national programme for support of specific research and development projects (covering industrial and pre-competitive research) to intensify cooperation between companies and R&D institutions. Under these programmes, co-financing for com-

panies and R&D institutions may constitute even up to 75% of research costs, provided that research results are implemented in a concrete business activity. Out of 500 projects, 92 were launched in the Silesia Voivodeship. In the period 2007-2013, we will be able to combine two financing schemes under the Operational Programme 'Innovative Economy'. This programme foresees not only co-financing for research activities within specific projects (Measure 1.4), it allows integrating the implementation costs and related investments in an addition to the original project application (Measure 4.1). In case the research results are positive, the company receives automatically support for the implementation.

*"We already have our stars. The KOMAG Institute was awarded for its wide-scale activity with Kamerton Innowacyjności 2006. The Silesia Medical University carried out research for the company "Med&Life" resulting in the development of a innovative product that was awarded with Złoty Eskulap at SALUS 2004 Fairs and a silver medal at the International Exhibition of Innovativeness in Geneva in 2004", - Andrzej Dołęga.*

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Michał Matujewicz

## SATUS



Spółka Zarządzająca Funduszami Kapitału Założkowego „SATUS” Sp. z o.o. manages:

a seed capital fund, two venture capital funds and a business angels network. The SATUS seed capital fund carries out new investments of high market, technological and innovative potential using private capital and Structural Funds (Measure 1.2.3 SPO-WKP). The maximum value of investment per entrepreneur is EUR 1 million.

*“The fund invests only in new projects, mainly in SMEs in the seed phase and in the start-up phase. The fund relies on a network of partners (business support organisations, R&D institutions, experts, managers, investors) that are being involved in the assessment of new business projects. Thanks to this network of business support organisations, we will establish an effective mechanism for the development of new products, from idea through to implementation. The involvement of experienced business investors in the fund’s activities - their experience, contacts and capacities - - strengthens the network function of the fund”, - Krzysztof Belech.*

## Silesia Fund



silesia  
fund

The aim of "SILESIA FUND" sp. z o.o. S.K.A.", supported by Structural Funds under Measure 1.2.3 SPO-WKP, is to deliver additional capital to micro and small enterprises in the area of new technologies, IT, biotechnologies and medical equipment, as well as innovative services. The fund focuses on projects of university graduates and scientific personnel. Up to EUR 1 million can be invested in an individual project.

*“By launching seed capital funds, innovative entrepreneurs and effect-oriented commercial scientific environments have a unique opportunity to develop their activity or commercialise their knowledge”, - Michał Matujewicz.*



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Project Manager

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Loan Fund Manager

## SILBAN



The Silesia Business Angels Network SILBAN was established in April 2006 by a consortium composed of the Upper Silesia Fund (coordinator), Upper Silesia Agency for Enterprises Restructuring and Upper Silesia Economic Association.

The network enables contacts between project initiators, which do not have sufficient capital to carry out their project, and Business Angels, i.e. investors having capital and being interested in getting involved in new business projects.

*"We help students, scientists, entrepreneurs and others to develop good business plans and we show how to sell their ideas in the most profitable manner given legal and financial aspects, as well as how to prepare for negotiations with potential investors. Every quarter, we organise investment forums where inventors and potential entrepreneurs present their ideas to investors", - Wojciech Grzyb.*

## Loans for Development

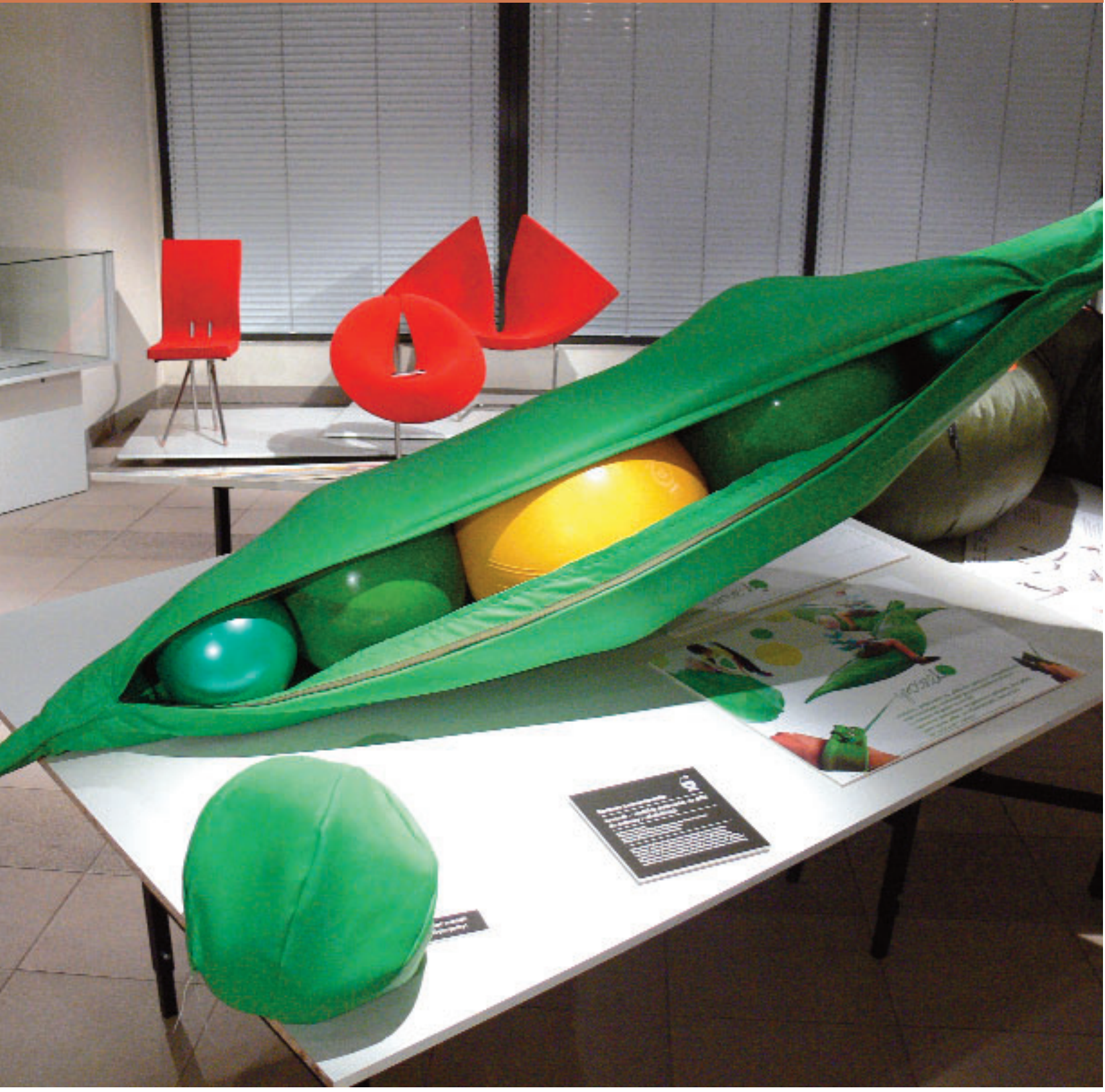
The Loan Fund of Ruda Śląska Development Agency "Inwestor" has been operating since 1998. During the last eight years, the fund has granted 190 loans of a total amount of PLN 13 million. Over 50% of loans exceeded PLN 50,000. Loans are granted to finance investments, the implementation of new technical or technological solutions, the purchase of machinery and equipment, the expansion, adaptation or modernisation of production, commercial and service facilities, or the purchase of materials and raw materials required to carry out a business project, as well as transport means, the preparation of technical documentation, the repayment of leasing costs, earlier loans, the purchase of properties and land for investments related to business activity. The fund especially focuses on environmental projects that include new technologies.

*"Thanks to our engagement, micro and small enterprises and young entrepreneurs starting their business activity have access to loans bearing small interest rates, to carry out their ideas and run or develop their existing activity", - Katarzyna Wochnik.*

# Priority 3

At present, in the Silesia Voivodeship, there are 8 Loan Funds with a total capital of PLN 132.9 million and 6 Guarantee Funds with a the total capital of PLN 40 million. In recent years, loan and guarantee funds have efficiently completed a market gap by offering loans and guarantees that are much cheaper than bank loans and loans granted by specialised non-bank institutions. Loans and guarantees are also offered to those entrepreneurs who are not able to acquire financing because of the lack of sufficient business experience or collaterals.

„SZSP“



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Silesia Consultation Point for Companies  
of the Chemical Branch**

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Dorota Łuczowska

Taking into account severe competition among SMEs in the Single European Market, enterprises with international aspirations face the challenge to find their unique market position. For small businesses, this means continuous investments, quality and production management, as well as differentiated marketing activities to respond to market changes fast and accurately.

During the previous years public and private business support organisations expanded their services in areas such as:

- Strategic management;
- Innovation management;
- Team work and project skills;
- Internationalisation and export;
- Implementation of quality systems, European standards and acquisition of certificates;
- Skill development to support specialisation.

## Achieving Standards Together

The Institute of Non-organic Chemistry hosts the Silesia Consultation Point for Companies in the Chemical Branch, financed by Structural Funds under Measure 2.6 ZPORR. A dynamic team delivers information on new requirements and prepares companies to adjust to new EU legislation norms and standards. Thanks to lectures, specialist training and workshops, companies gain knowledge and the necessary abilities to provide those changes required to receive Integrated Permits and be in line with the REACH System. The Consultation Point works closely together with over 200 companies from the Silesia Voivodeship.

*"Among our companies we randomly select some, that get specific support in preparing specification sheets. These companies receive additional advice to obtain the Integrated Permit",*  
- Dorota Łuczowska.

Zakłady Chemiczne Rudniki SA, employing currently 195 persons, specialises in the production of non-organic compounds of silicon and derivatives. The company is leader in the Polish market of sodium silicates and derivatives, which are offered to clients in many sectors: industrial chemistry, paper production, construction, metallurgy and machinery industries, while 65% of its products is exported. Production procedures are



# Priority 4



Longin Oglaza  
Director, Member  
of the Management  
Board of Zakłady  
Chemiczne Rudniki SA

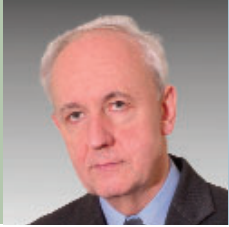
consistent with EN 9001:2000 and EN ISO 14001:2005 standards.

*"Thanks to the aid of experts from the Silesia Consultation Point at the Institute of Non-organic Chemistry in Gliwice, the company modernised its production line. The technological changes allowed the company acquiring the Integrated Permit for 10 years. The obligation to obtain this Permit for certain types of industrial systems, including chemical installations, arises from the Environmental Protection Law. Thanks to this Permit we could strengthen our competitive position in the European market and we improved overall conditions for technological development", - Longin Oglaza, dyrektor, Członek Zarządu Zakładów Chemicznych Rudniki SA.*

Supporting the Effective Use  
of Market Opportunities  
by SMEs in the Single  
European Market

**Welding Institute**

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**Professor**  
 Jan Pilarczyk,  
 director

## Training European Specialists

The Welding Institute in Gliwice is an **Authorised National Body (ANB)**. According to the harmonised international/European system of training and qualification of welding staff, it is the only institution in Poland to qualify welding personnel and allowed to act on behalf of the European Welding Federation. Participants who have passed exams, obtain certificates that are honoured in EU member states and in the world. Thanks to training organised by the Institute since 1999, 2,212 persons obtained international and European certificates, including 1,650 employees of SMEs from the Silesia Voivodeship. The "European Training and Certification" initiative organised at the Welding Institute was a EUROPRODUCT winner under the category EUROSERVICE.

*"Our diplomas/certificates help to strengthen the position of Polish construction and building companies in foreign markets. Thus, our Institute will continue training at all levels of knowledge required to perform various functions in the execution, supervision and control of welding processes and products", - Professor Jan Pilarczyk, director.*



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 Engineer, head  
 of the Technological  
 Innovation Centre

# Priority 4

## Certificates Supporting Export Development

The Polish market counts about 300 boiler producers. Based on its long-lasting experience, the Institute for Chemical Processing of Coal in Zabrze prepared and implemented a complex certification system (acknowledged by the Polish Certification Centre), which allows evaluating environmental and power effectiveness of fuel and boilers. Between 2001 and 2007, the institute carried out several hundred of certification tests of boilers. It issued 324 "environmental safety" certificates to 150 producers.

*"Responding to market needs, we cooperate with companies to develop universal construction solutions for small-power boilers. Thanks to new forms of cooperation between the R&D sector and industry, we are able to achieve technological progress much faster, and this in several areas at the same time", - Dr Jacek Zawistowski, Engineer.*

HEF from Lubliniec, a company with 150 employees, is one of the largest Polish producers of modern and highly efficient central heating boilers using solid fuels. At present 15% of its production is exported.

*"Boilers produced by us are certified with the "environmental safety mark" issued by the Institute for Chemical Processing of Coal in Zabrze. Thanks to such certificates, our boilers are included in environmental programmes to reduce low emission, which contributes to increased sales", - Jacek Ruranski, owner of the Boiler Production Plant HEF.*



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Tomasz Gluc

## SERWIS - IT at SMEs



The "Network for Growth of ICT Innovation at SMEs (SERWIS)" is an initiative addressed

to small and medium-sized enterprises in the Silesia Voivodeship. At first, needs and opportunities related to the use of ICT at SMEs are being analysed in detail. This allows preparing tailor made training packages to support the implementation of process and product innovations concerning:

- Corporate management support systems;
- Electronic document exchange via the Internet;
- Selection, implementation and maintenance of software;
- Development of company's strategy, using Internet;
- Communication via the Internet and electronic tools.

*"We try to enhance knowledge and skills of employees, management staff and owners of SMEs on the use of modern ICT technologies in business activity, which will further lead to the improvement of corporate capacities and competitiveness in the market. Our portal [www.silesia-serwis.eu](http://www.silesia-serwis.eu) serves as a platform of cooperation between entrepreneurs implementing ICT, hardware and software producers, IT and consulting companies, and Chambers of Commerce", - Krzysztof Heller.*

## ADVANCE - Efficiently Implementing New e-Learning Tools

Most European companies operating in the area of industrial production are being faced with the challenge to continuously improve their employees' qualifications. Within the ADVANCE project, an international team established a modern e-learning tool that enables improving employees' qualifications in their working environment. This method is universal enough to be used in combination with various training programmes.

*"French experts from the Institute for Automatics Regulation in Arles and the Provence University developed a training tool providing for an individual approach to e-learning. Partners from Spain, Germany, Poland, Sweden and Italy were to test this tool among technical staff of companies dealing with industrial automation, as well as among students. The Regional Chamber of Commerce in Katowice, supported by companies and several Silesia universities, involved 100 persons from our region", - Tomasz Gluc.*

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Project Coordinator

# Priority 4

## First Steps to Establish a Subregional Labour Market Observatory

Connecting education with economy requires the involvement of main labour market partners, i.e. employers, education and training institutions and local government authorities. Information exchange systems between these organisations could substantially contribute to better adjustment of demand and supply on the labour market. In the period 2005-2006, the Bielsko-Biała University decided to take the first step in establishing a subregional labour market observatory under the project "Analysis and Forecasts of Labour Market Development in the Bielsko-Biała Region". A team of young scientists analysed existing and future needs of employers with regard to employee qualifications and skills.

*"We tried to verify discrepancies between development strategies of companies and educational and training programmes in the subregion. We cooperated with companies from Bielsko-Biała and the Bielsko County. We acquired as such information about training and skill requirements directly from the source. Based on the information we gathered, schools and training organisations may prepare training programmes adjusted to specific company needs, while employees may plan their career and strengthen their position in the labour market",*  
- **Maria Baron-Puda.**



# SILESIA VOIVODESHIP, CREATIVE INNOVATIVE REGION

Taking care of the voivodeship's economic development also means, taking care of its image. Could one imagine Silesia as a creative and enterprising region? Yes.

Inhabitants of our region are imaginative, however they are often too modest and closed to share their knowledge and skills with their environment. Silesia companies develop unique solutions, which are introduced in the Polish and in foreign markets in the form of half-products, products or services. A large group of Silesia companies strengthens with success its position in the international arena, business relations reach from China through the USA to Japan. Our R&D institutions and universities operate in international networks, together with leading research groups they prepare new generation technologies. The strength of scientific and economic potential of our region sometimes seems to be dispersed and not always visible from outside. However, some of our current dynamic initiatives may become a strong distinctive element of the Silesia brand in the near future.

## Priority 5



# Changing the Image of the Silesia Voivodeship

# Priority 6

PEOPLE ARE  
THE FUNDAMENT  
OF COMPETITIVE  
ADVANTAGE  
OF OUR REGIONAL  
ECONOMY

Given the pace of changes in world economy, we all have to gain necessary knowledge and be entrepreneurial. It is not enough to be just able to fulfil instructions. We should be able, both individually as in team, to evaluate specific situations, to prepare scenarios of proceeding, to make choices, to implement and to monitor individual initiatives. To acquire such skills and put them in practice, a multilayer approach focused on the development of an innovation culture is a must.

First of all, we have to create the necessary conditions for youngsters in secondary schools to develop their creativity. Several organisations initiated scholarship programmes to finance the development of young scientific staff. At the same time, schools and universities encourage their students to take part in international contests and develop their entrepreneurial skills.

Developing  
an Innovation  
Culture in the Silesia  
Voivodeship

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## Worth Supporting Young Scientists

The **BioMedTech Network** initiated the Regional Doctoral Grant Fund (RFSF), financed by the European Social Fund under Measure 2.6 ZPORR. Thanks to the Fund, 19 doctoral students obtained aid to support their scientific development.

*"We support the development of young scientific staff in areas defined as priority in the Regional Innovation Strategy of the Silesia Voivodeship, with special focus on biotechnology, bioengineering and advanced materials. We prefer candidates preparing their doctoral theses at R&D institutes that have the status of Centres of Excellence or preparing their doctoral theses under international Ph.D. study", - Marek Kowalczyk.*

**Michał Kawalec** - participant of the Environmental Doctoral Study run in cooperation with the Chemical Faculty of the Jagiellonian University and the Centre for Polymeric Chemistry at the National Academy of Science and the International Ph.D. Study "BIOMACRO", is one of the grant holders.:

*"The grant substantially helped to do my professional work. The financial support allowed me buying the latest literature and taking part in conferences on my favourite scientific subjects, i.e. broadly understood biodegradable and bioresorbable polymers, mainly applied in medicine. Thanks to the grant, I was able to carry out much more research. I prepared and published their results in 2 articles from the Philadelphian list (Biomacromolecules, Macromolecular Symposia) and prepared a European Patent Application. I was able to present the results of my work at*

*5 international conferences, which also allowed for the exchange of knowledge and the establishment of contacts to expand my scientific cooperation. At the same time I got access to information about the latest achievements in my research area", - Michał Kawalec.*

## The World According to Young Scientists: "Be Open Towards Science!"

*"Our teacher of physics in the secondary school, Cezary Filipiuk, involves us in various projects: lectures, presentations, sessions on the ap-*



# Priority 6

Bolesław Chrobry Secondary School No. 1  
in Pszczyna

www.chrobry-pszczyna.pl

*plication of physics. We often organise with him presentations for inhabitants of the city of Pszczyna and surroundings, during which we show how science influences our everyday life. Thanks to such initiatives, we got into contact with a group of youngsters cooperating with the Katowice Youth*



*Palace. In this group, we run our own research. Justyna chose for the physical description of the operation of sound apparatus of a cricket, and Karolina analysed the movement of ink drops on the water surface. We conducted our research at home, at school. We consulted physicists from the Silesia University: Professor Władysław Borgiel and Dr Joachim Gmyrk. Our work results were filed for the 14th International Conference of Young Scientists Awards organised this year in St Petersburg. We had just 10 minutes to present our research results. We were very happy that our work and presentations were appreciated by the jury. Justyna obtained the first award and a gold medal for her work over cricket acoustics, and the description of phenomena taking place between ink and water was awarded with the third place and a bronze medal", - Karolina Jańczak i Justyna Chromik.*



For these young scientists, it is a fantastic experience to learn already at secondary school about the working life of scientists. They saw how much effort is necessary to repeat certain experiments and how much precision is required. Physics and mathematics will probably remain among their favourites in future. Karolina already now thinks about how to combine science with business. Justyna wants to study physics and may be become an "adult" scientist.



It is extremely important to enhance our young generation with a spirit of creativity, entrepreneurship and openness to innovations, as well as to provide young people with skills to live in a quickly changing world. Secondary schools and universities in our region not only focus on teaching "entrepreneurship", they also aim at integrating creativity and entrepreneurship in other courses.

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Professor  
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Assistant to Rector

## The Silesia Month of Creativity

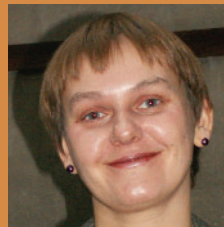
*"Entrepreneurship and creativity are inherent characteristics of all we do. We organise the Regional Contest on Knowledge About Entrepreneurship and the Regional Business Project Contest. We try to reach various environments, thus in January 2007 we organised the First Silesia Month of Creativity attended not only by our students, but people from other universities, as well as teachers and students of secondary schools. The only criterion for participation*

*in lectures, workshops and contest is interest in creativity and entrepreneurship. Taking into account that one can be creative during all life, we address our activities also to elder persons that take part in programmes of the University of the Third Age. January is the international month of creativity. That is why we also opted for January to be our Silesia Month of Creativity. For us, creative education and educating creativity are equally important. We must develop people with skills to take care of themselves in changing life. People who are able to plan and enforce their projects are the most precious ones", - Professor Andrzej Klasik.*



### Secondary School No. 2 in Gliwice Klub-Net

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Barbara Podgórska



## Their Enthusiasm Distinguishes Them

The Brazilian Culture Centre, Internet in rural areas, first aid courses, guitar school, healthy food via the Internet, and many others. This is how the near future of several dozens of young people will look like. They have already begun making their dreams come true, while participating in the project "Young Entrepreneurs, Innovative Region". The project is run by the Karol Godula Upper Silesia Academy of Entrepreneurship in Chorzów together with the Foundation for Local Democracy Development and the Upper Silesia Fund.

For almost three months, they have spent Saturdays, Sundays and Mondays at the Chorzów Academy to improve their business competences. Thanks to EU aid, they learned, for example, about small business finance and

marketing, prepared strategic analyses, conducted market research and analysed legal aspects. At the end of March 2007 they prepared business plans for their own companies

*"When we launched the programme in November 2006, we obtained 200 applications. We selected the best 80 proposals. The main criteria for selection were project innovativeness and feasibility. I must admit that all ideas were ambitious and no-one planned to open another copier centre or a corner shop", - Marcin Budziński.*

The representatives of these eighty projects took part in workshops and received free consultation. After the end of the training, the young entrepreneurs presented their business plans. Some of them registered already their own company. Twenty two persons received an investment grants of a total amount of PLN 400,000. Twenty entrepreneurs, including those who did not receive investment grants, but founded their own companies, were also provided with a support of PLN 700 per month for six months.

## Klub-Net

**Klub-Net** operating in the Secondary School No. 2 in Gliwice commenced its activities in 2002. The awareness of having an own place at the school premises and a possibility to operate there, are very important. This creates a sense of affiliation and identification. Klub-net teaches decision making, organisation, responsibility, entrepreneurship, communication and group dynamics.

*"We meet at the club to discuss both actions that have already been completed, as well as future projects. It is then that new ideas arise. The concept of our operation*

Foundation for Youth Entrepreneurship  
Regional Branch: Secondary School No. 3  
in Chorzów

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Contact person:  
Karina Machura

*is simple: you have an idea and Klub-net gives you people, opportunity and resources to make such an idea come true. Everything is based on creative behaviour of pupils, Klub-net delivers support. The awareness among youngsters that they can change something, is very important for them – not only now, but also in their future adult life”, – Natalia Jerzak, pupil at II LO.*

## Mini companies

The Foundation for Youth Entrepreneurship has its roots in the beginning of the 90s. Its employees try to stimulate entrepreneurial initiative among youngsters. They run many programmes: "Company Management", "Applied Economics", "Youth Mini companies", psychological workshops "Be Enterprising" and financial education programme "My Finance".

*“Our package "Applied Economics" is the basic programme for education of entrepreneurship. It is applied by many secondary schools during their classes "Fundamentals of Entrepreneurship". For many years, we have been promoting the concept of mini companies, i.e. companies established by pupils. Every year, a great number of such "businesses" is established in Silesia. What's more, for many years Silesia mini companies have been winning leading places in domestic contests and represent Poland in European competitions. Successes are achieved by mini companies from Tarnowskie Góry, Bytom, Chorzów and many other towns of our region. It is worth noticing that all "companies" pay taxes, insurance premiums and operate exactly on the same principles like "adult" companies – similarly to open partnerships. The role of Tax Office and Social Insurance*

*Office is performed by the parent council of the school where a given mini company is established. This is possible, because the "Youth Mini companies" programme has been approved by the Ministry of Education as a didactic programme for secondary schools. Our pupils – mini company shareholders – can pass an international examination on business skills organised by the University of Cambridge. In order to take part, they have to develop a detailed case study and share their experience in mini company management. Silesia pupils do not have any problems in dealing with such challenges and they often obtain certificates from this renown British university”, - Karina Machura.*

A companies' capacity to exploit market opportunities mostly depends on its openness towards its internal and external environment. Inside the company, employees' skills and practical experiences are often an important source of innovative ideas. While, outside the company, analyses show that the main partners of SMEs in the area of innovations are other SMEs, which have already tested certain innovative solutions. SME cooperation with other business entities is beneficial since it may provide access to new sales markets, contribute to the generation of new products and technologies, and build a stronger company image. Thus, initiatives that allow SMEs to meet, share experience and find areas of mutual cooperation should receive full support.

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## We Change Contacts into Contracts



BNI is the biggest world business organisation operating on the basis of mutual recommendation and reference. The concept was established in

1985 by Dr Ivan Misner, one of the world's best experts in direct recommendations. BNI groups are active in many countries, each group counts only one representative of a given profession. All BNI members take business cards of the other group members with them when meeting with clients. As such a network of quick and reliable contacts for specific needs is being established.

*"The BNI Silesia Group in Katowice started its activity in November 2006. We meet regularly once a week on Wednesdays at 7:00 a.m. (the meeting always ends punctually at 8:30) at one of the hotels in the centre of Katowice. The Group associates a dozen entrepreneurs. Thanks to our involvement, entrepreneurs expand their customer base, learn how to acquire customers. When constructing networks, I mostly appreciate the improvement of cooperation and the enhancement of trust in business. It is worth helping companies to gain sales skills through recommendation", - Grzegorz Turniak.*

## Forum of Entrepreneurs

**"Forum Firm Miasta Radlin"**

The "Forum of Radlin Companies" was established in 1998. The Forum offers support to companies by way of gathering them regularly, organising systematic training, establishing permanent contacts with business support organisations, as well as by providing IT and advisory services.

*"Our ambition is to help entrepreneurs to succeed. The group is our strength. We enable communication between our forum members. Entrepreneurs learn from their best practices. In our opinion, the most important values are: partnership, honesty, trust and mutual cooperation. We meet every month. It gives our members the opportunity to meet regularly with a team of various experts.", - Tomasz Brzoza.*







## "Pi-Day"

For the first time, the University of Silesia organised **"The Number Pi Day"** in 2007. During three days, applicants for mathematics, physics, chemistry and IT watched interesting experiments and attended lectures. Those deciding for a study in science now will have great chance for a prosperous future. "Our graduates do not have any problems with finding a job in the banking, medical, public sector or any other modern industrial or service sector. Studying at technical faculties may be really an idea for life", believes Professor **Maciej Sablik**, Dean of the Mathematics, Physics and Chemistry Faculty at the University of Silesia. "For some time now, our economy is lacking engineers and professionals with a scientific background. At schools, we notice a kind of "mathematicophobia". That is why we want to show that mathematics has a human face. To turn attention to technical faculties, the Faculty of Mathematics, Physics and Chemistry has been organising attractive shows, experiments and lectures for secondary school students for several years. In March 2007, for the first time, "the Number Pi Day" was held for three days in Katowice. It started on March 14 punctually at 9:42 (equal to 3 Pi). An idea to honour the number Pi, similarly to the United States, was initiated by Marcin Baron, animator from the Management Unit of the Regional Innovation System. "Companies in our region report a very strong need to hire people with technical education. We may start thinking about Silesia as a region focusing on innovations and modern technologies.



# THE SUCCESS OF NEW TECHNOLOGIES IS DEPENDENT UPON THE LEVEL OF THEIR ABSORPTION IN SOCIETY

## Priority 7

### Shaping a Regional Economy Supported by Strong Technology Clusters

The risk of not reaching success with commercialised technologies increased due to the shortening of technology life cycles. Therefore, R&D institutions try to combine their efforts around joint research areas. The Silesia region is witnessing cooperation initiatives especially in such fields like:

- Biotechnology, including bioengineering, biology and technology for health;
- Technology for energy industry, including technology of producing energy from renewable resources, waste consumption and thermal utilisation, as well as energy saving;
- Technology for environmental protection, including biogeochemical engineering and waste management,
- IT and telecommunications technology;
- Material production and processing, including new materials.

Today one can observe cooperation around integrated R&D centres, centres of advanced technologies, as well as centres of excellence associating teams of scientists of outstanding research achievements.

In May 2007, the Steering Committee of the Regional Innovation Strategy approved the list of technology development priorities for the region till 2020.

## List of Technology Development Priorities for the Silesia Voivodeship till 2020

Technology specialisation area	Technology Development Priorities
	<ul style="list-style-type: none"> <li>■ Automated machinery and equipment designs**, including the development of methods of modelling and designing environment-friendly technologies;</li> <li>■ Information*, teleinformation and telecommunications* technologies;</li> <li>■ Methods and techniques providing for information society development;</li> <li>■ Automated support for architectonic designs and spatial development;</li> <li>■ Optical electronics*.</li> </ul>
<b>Biology and medicine*</b>	<ul style="list-style-type: none"> <li>■ Biomedical engineering**;</li> <li>■ Biotechnologies;</li> <li>■ Biology*;</li> <li>■ Technologies for health care*.</li> </ul>
<b>Mining, power industry*</b>	<ul style="list-style-type: none"> <li>■ New power technologies, including pure coal technologies**, /technologies of producing energy from renewable sources, waste consumption and thermal utilisation, and power saving/*;</li> <li>■ Technologies of designing and producing mining and power machinery and equipment;</li> <li>■ Technologies of producing fuel cells**;</li> <li>■ Recognising and protecting coal deposits;</li> <li>■ Technologies of overcoming natural calamities in mines and security management.</li> </ul>
<b>Environmental protection* and land development</b>	<ul style="list-style-type: none"> <li>■ Technologies of water and gas processing (cleaning and separating)**, water collecting and treatment;</li> <li>■ Automated simulation of physical, chemical and biotechnological processes in environmental protection**;</li> <li>■ Techniques of environmental risk registration and evaluation;</li> <li>■ Technologies of environment protection and recultivation, including biogeochemical engineering and waste management*;</li> <li>■ Technologies of industrial and dangerous waste management;</li> <li>■ Technologies of intelligent and energy-saving construction in the context of sustainable development;</li> <li>■ Protection of construction industry to maintain cultural heritage and improve human life quality.</li> </ul>
<b>Metallurgy* and material engineering</b>	<ul style="list-style-type: none"> <li>■ Special construction materials**, including nanotechnologies and nanomaterials;</li> <li>■ Mechatronic system engineering;</li> <li>■ Material processing, including advanced materials*;</li> <li>■ Optical electronics*.</li> </ul>
<b>Machinery, automotive* and aeronautical industry</b>	<ul style="list-style-type: none"> <li>■ Industrial automatics*, automated production lines**;</li> <li>■ Sensors and robots**;</li> <li>■ Laser techniques in machine construction.</li> </ul>
<b>Transport</b>	<ul style="list-style-type: none"> <li>■ Environment-friendly solutions improving transport safety;</li> <li>■ Integrated, intelligent transport systems.</li> </ul>

\* Areas of technologies specialisation and technologies included in the "Regional Innovation Strategy of the Silesia Voivodeship in 2003-2013".

\*\* Technological development trends presented in the "Analysis of Development Sectors of the Silesia Voivodeship".

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„DZ”



University Professor  
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The above-mentioned technology areas will pay a key role in scientific and economic development processes in the region. One may observe various initiatives, including regional foresight, technology platforms and technology clusters in which research institutions, companies and business associations work together around new solutions

## Looking at Tomorrow's Challenges by Imagining the Future

Under the regional foresight project **“Priority Technologies for Sustainable Development of the Silesia Voivodeship”** carried out by the Silesia University of Technology, the Main Mining Institute in Katowice, the University of Economics in Katowice, and the Marshal Office of the Silesia Voivodeship, several dozens of experts is involved in the preparation of recommendations for technology development processes in our region. The experts' work in so called "technological panels" allows for verification of scenarios that might influence regional technology development in the nearest future.

*“We will verify to which extent and how certain drivers will influence the development of specific technologies in such fields like: informa-*

*tion technology, biotechnologies, environmental protection, power industry, transport, and material production and processing. During workshops and foresight seminars we will debate on how to fulfil the optimistic development scenario called “Silesia Technologica”. Together we establish an information database supporting each of us - scientists, entrepreneurs, company managers, public authorities – in the process of taking strategic decisions”, - Professor Florian Kuźnik.*

## Biofarma – It is Worth Investing in New Development Directions

For scientists of the foresight group "Biotechnologies", the project "Priority Technologies for Sustainable Development of the Silesia Voivodeship" offered a unique occasion to verify a certain idea for the development of such a promising field as biotechnology. As an outcome of our meetings, we signed a consortium agreement concerning the establishment of the Silesia Centre for Biotechnology, Bioengineering and Bio-IT (Biofarma), signed by the Silesia University of Technology, Silesia University, Silesia Medical University and Institute of Oncology in Gliwice. The Biofarma Centre in Gliwice is now investing in research and commercial laboratories and laboratories for students.

*“It's worth educating young staff in new scientific areas, with the idea that they will use their potential to implement innovative solutions in the near future. I am aware of the fact that any activity in a relatively new area is risky. It is however connected with great benefits, both for R&D institutions and industry”, - Professor Korneliusz Miksch.*



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## Labiomen



LABIOMEN

To be sure that the quantity of produced renewable energy is balanced and settled on a reliable basis and biomass property study results are comparable between power suppliers and producers, we need to introduce uniform research procedures. To respond to such a need, the Centre for Accredited Research of the Institute for Chemical Processing of Coal organised the Nation-wide Network of Supervised Laboratories "LABIOMEN", which associates 30 analytical laboratories directly or indirectly linked to power plants applying biomass combustion or co-combustion technologies.

*"Thanks to network cooperation, we may guarantee top quality of all laboratories in terms of the evaluation of physical and chemical properties of solid fuels, including renewable fuels (biomass) and ensure the single research system and current implementation of newly developed national and European standards (PN and EN) on fuel, biomass and alternative fuel energetic property analysis at such laboratories. It was worth organising the "Labiomen" Network since its activity is greatly appreciated given the continuous growth of the number of members", - Alfred Tramer.*

Since 2004, the Chemical Analysis Department of the Rybnik Power Plant has been a member of the Nation-wide Network of Supervised Laboratories LABIOMEN, associating laboratories operating in the power industry and examining physical and chemical properties of solid fuels, including especially biomass.

*"Participation in the network brought about a number of benefits to our laboratory: laboratory staff was trained in Zabrze on biomass analysis, we implemented bio-*

*mass research methods developed and provided by ICHPW, we took part in free inter-laboratory studies on hard coal, biomass and furnace waste determination organised for network member", - Andrzej Piecha Head of the Chemical Analysis Department of the Rybnik Power Plant.*

## Silesia Innovative Cluster of Clean Coal Technologies

In the **Silesia Voivodeship**, one can find both coal exploitation industry and coal processing and power utilisation industries. Taking under consideration the value of natural environment, fuels like coal have to be used in such a way that the pollution impact on environment is minimised. It is especially important to introduce so called clean coal technologies. Given the existing potential and regional traditions related to coal production and utilisation, the development and implementation of innovative clean coal technologies may become an additional incentive for regional development.

**The Silesia Innovative Cluster of Clean Coal Technologies** is a regional initiative focused on the development and implementation of clean coal technologies. These are technologies allowing for the increase of technical efficiency and economic coal production and utilisation, as well as the reduction of the impact on natural environment. An important project will be the construction of the Centre for Clean Coal Technologies. This will be an R&D infrastructure increasing the competitiveness of R&D work carried out by cluster partners. In September 2007, the cluster associated 30 partners, including representatives of industry (11), science (13) and local government (6).

# ONLY TOGETHER WE WILL ACHIEVE CRITICAL MASS

The Silesia economy is characterised by a variety of sectors and branches. Apart from companies operating at the local and regional level, many thriving enterprises is active in the international market.

In the Single European Market, Silesia SMEs should focus on value creation by way of specialising in and directing their activity to market niches and stimulating new needs among customers. To achieve such goals, many initiatives have been undertaken to combine companies' resources in networks and clusters.

## Priority 8

Developing an Innovative  
Regional Economy based  
on Cooperation Networks

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## Partnership-based Competition



TRZECIENIE  
ZAŁOŻENIA  
SIĘC W WOJEWÓDZIE  
ŚLĄSKIM  
W WARSZAWIE  
12.07.2015

The project "Network Development in the Silesia Voivodeship" has been

conducted since 2005. Its goal is to establish three cooperation networks (clusters): medical equipment (sector of modern technologies), tourism in the Beskids mountains (services) and railway transport (traditional sector). As a result of actions undertaken - including seminars, workshops, information meetings, individual visits – entrepreneurs obtain information about their sector and market trends. In addition, they have the opportunity to set up new joint business projects.



*"Thanks to our actions under the Tourism Network, entrepreneurs in the Beskids have access to knowledge corresponding to their needs. During seminars and trainings, they get to know each other and become convinced of the benefits resulting from cooperation. We have noticed visible*

*changes in our participants' mentality towards cooperation and readiness for change. It is important that such effects are strengthened in future. To secure that, we currently provide consultation on establishing a local tourism organisation", - Lubomira Trojan, Regional Chamber of Commerce in Katowice.*

## Medical Sector with Growth Perspectives



About one hundred companies producing over 300 specialised products in the medical equipment branch is active in Silesia. They offer a wide and diversified range of products, from clothing for medical staff (e.g. Joke from Sosnowiec) through massage beds (Innow from Katowice), devices for disabled (Misiarz, Tychy), world-class surgery tools (Chirmed) and implants (Mikromed), intricate dentist units (Famed Żywiec), cardiac monitors and devices recording heart operation (Emtel, Igel and ITAM from Zabrze) to ophthalmologic lasers (Optopol Zawiercie). There are also market novelties, original therapeutic (Astar ABR, Apena Remont from Bielsko-Biała) and electronic (Netic from Katowice) equipment. Many R&D centres run studies over pioneer solutions involving medical techniques, e.g. cardiac surgery robot and apparatus supporting heart operation (Foundation for Cardiac Surgery Development in Zabrze), laser for early cancer diagnosis (Silesia Medical University), as well as electronic medical products constituting world novelties (Institute of Medical Techniques and Apparatus)."

*"Thanks to our activities in the Medical Equipment Network, we managed to associate producers, distributors, R&D centres from the Silesia Voivodeship that want to specialise and cooperate with other companies in order to strengthen their competitive position in the medical sector. It is worth noticing that during the 1.5 year of cooperation, we have acquired mutual trust, we are able to speak openly both about our problems as well as about our successes. We have been searching for joint solutions and*



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*new business partners. During seminars and workshops, we discussed common issues that were pinpointed during individual meetings”, - Monika Ptak.*

**Apena-Remont Sp. z o.o.** is a repair and service company established on the basis of the Repair Section of FAE APENA SA, a company having 50 years of tradition, being a producer of electrical equipment, renown in the national and foreign market. For 2 years, the company has been producing a rehabilitation massage device UMR-1.

*“Thanks to knowledge gained at workshops organised under the Medical Equipment Network, we have better insight in opportunities in some new markets. Such a network is most useful for small businesses that do not have their own promotion and marketing sections. Especially small companies need an animator who knows the member companies of his network well, so he is able to match them or show joint fields of cooperation”, - Piotr Gołda, Apena - Remont Sp. z o.o.*

## Cooperation for Healthy Food is Profitable

Several months ago **EKOPRODUKT Marek Kubara** initiated a cooperation network of enterprises operating in the food sector. Under the joint brand "OEKO", companies promote healthy food products coming from environment-friendly farms, in Poland and abroad. The OEKO group associates 8 producers and food processors: beverages and juices, sweet and spicy snacks, breakfast products, flour and corn products, pasta, ready-made meals. The above products are obtained without any plant protection agents, without chemical substances accelerating growth, without synthetic fertilizers and genetic engineering, and without any artificial taste additives and essences. To ensure product quality, cooperation with R&D centres, which verify product compatibility with top standards applicable in the sector, is a must.

*“Caring for consumers’ health, we established the network of ecological food producers. We have a joint commercial brand, joint promotion and joint commercial offer. We also cooperate in the area of R&D on new technologies”, - Marek Kubara.*





# Priority 9

## Supporting the Establishment of Innovative Companies

### INNOVATIVE COMPANIES SECURE VALUABLE WORK- PLACES IN MODERN ECONOMY

The share of advanced technology companies in the Silesia economy is still unsatisfactory. Thanks to significant support from Structural Funds, dozen incubators and technological parks were established. At the same time, two seed capital funds and business angels networks were launched. Six universities combined their efforts around a single programme for entrepreneurship promotion among students, graduates and academic staff. The initiative 'Academic Entrepreneurship Incubators' develops dynamically.

# Priority 9

Silesia University of Technology  
www.polsl.pl



Professor  
Wojciech Zieliński  
Engineer, Rector  
President of the Regional  
Convent of University  
Rectors

## From Declaration to Actions



In 2005, university rectors from the Silesia and Opole Voivodeships, associated in the Regional Convent of University Rectors, signed a declaration in which they confirmed their readiness to fully cooperate on developing innovativeness

and entrepreneurship at their universities. The declaration was handed over to the Marshal of the Silesia Voivodeship, with the request to take up actions supporting academic entrepreneurship.

Universities of our region take up many initiatives to promote entrepreneurship. For several years, the Silesia University of Technology has been organising the competition "My Idea for Business" under which several hundred of students is trained in establishing its own company and developing business plans. The best "ideas for business" are financially awarded so that their authors could establish a company as soon as possible.

*"Knowledge-based economic development requires well-educated and creative people. Knowledge intensive activities and effective commercialisation of innovative solutions becomes more and more important. Innovativeness is an extremely important factor determining economic development in the region and in the whole country. Therefore, universities bear a large responsibility. Modern technical universities, including the Silesia University of Technology, have to prepare students to work in innovative enterprises, carry out R&D activities and teach students innovative thinking and an attitude of long-life learning", - Professor Wojciech Zieliński.*

„Polsl”



## The establishment of University Entrepreneurship Incubators

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## Students in favour of Entrepreneurship

The establishment of University Entrepreneurship Incubators was a response to problems experienced by young beginning entrepreneurs, including bureaucracy, long procedures and considerable starting costs, as well as the low awareness and lack of practical business knowledge of students.

The first University Entrepreneurship Incubator (AIP) in the region was established in October 2004 at the Jerzy Ziętek Silesia School of Management in Katowice. The project was initiated by the Silesia Student Forum of the Business Centre Club, which coordinated the project. Further AIP-incubators in the voivodeship were established at the Częstochowa University of Technology, at the



Upper Silesia School of Entrepreneurship in Chorzów and the University of Economics in Katowice. Thanks to a well-coordinated team of young people the University Entrepreneurship Incubators in Silesia are very well perceived. In February 2007, the AIP-incubator at the Silesia School of Management in Katowice was awarded "Silver Incubator" and, at present, it is one of the three best incubators in Poland.

*"Cooperation between University Entrepreneurship Incubators provides young entrepreneurs with an opportunity to exchange knowledge and solve specific business problems together. The existing successes and experience caused that University Entrepreneurship Incubators initiated the Regional Incubation Centre (RCI) in Katowice. Now, we are also able to offer our students offices, a conference and training room and workstations in common premises and wide-band Internet lines. In addition, young businesses will be supported by the staff of the University Entrepreneurship Incubators providing advice on business management and a number of additional services", - Tomasz Mrowczyk, Regional Manager.*



# Priority 9

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## BIT, First Technology Incubator



The Beskids Technology Incubator was officially opened on 18 October 2006. At present 95% of offices is

rented by companies which, apart from preferential lease conditions, obtained complete infrastructure and technical equipment (telephones, Internet). Companies can benefit from preferential training offers and they have access to their international partners by way of an integrated teleconferencing system. The Incubator houses the Beskids Centre for Innovation and Technology Transfer, where small and medium-sized enterprises can obtain specific advice.

*"Our goal is to prepare, together with the Regional Development Agency in Bielsko-Biała, a service offer that allows completing the cycle from idea creation to product launch. We commenced cooperation with the Bielsko-Biała University to prepare a place for newly established companies in order to provide young entrepreneurs with the necessary advice services," - James Jurczyk.*

## An Oasis of Entrepreneurship in the Scientific World



**Technopark Gliwice Sp. z o.o.** was established as an initiative of the Silesia University of Technology, the Katowice Special Economic Zone and the City of Gli-

wice in April 2004. Technopark Gliwice is a science and technology park located in the very centre of the University Campus of the Silesia University of Technology in Gliwice.



Technopark is an active partner in:

- Establishing new innovative companies;
- Technology transfer to SMEs;
- Organising specialist training;
- Initiating R&D service,;
- Offering measurement and control services;
- Promoting innovation in the SME sector.

*"As Technopark, we want to meet SME expectations in the area of innovation and technology development. As of the beginning of 2008, we will be able to provide them access to engineering software (CAD/CAM), equipment for fast prototyping, equipment for cutting with high-pressure water stream, 5 axial processing centre, interferometer and laser vibrometer", - Jan Kosmol.*

One of the companies operating in the Technopark is SMARTPOL - [www.smartpol.pl](http://www.smartpol.pl). The company was established as a result of the dynamic development of science dealing with intelligent materials. The Gliwice Technopark

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had a direct share in the establishment of this company since it helped the company to prepare a business plan, prepared a technological evaluation of the company's idea, and provided the company with direct finance (fixed asset lease and donations).

*"I believe that it is worth taking risk and achieve your professional goals by setting up a business. Although the beginning is not always easy, later opportunities compensate for the work spent to start ones own busines. Technopark is an institution that plays an important role in supporting entrepreneurship and promoting innovative solutions. The modern building of Technopark will be of great advantage for me", - Wojciech Klein, Owner of SMARTPOL.*

## A World of Virtual Imagination

I3D Sp. z o.o. is a young company located in Technopark Gliwice. Such a location provides the company with access to scientists with whom the first joint R&D will be initiated in the next months.

I3D Sp. z o.o. is the only company in Poland offering interactive visualisations and presentations. Thanks to the most advanced software and visualisation tools, the company develops „DZ”



three-dimensional virtual reality. The company's offer is addressed to business, as well as local governments, government agencies, scientific centres, etc.

*"We offer the most modern complex hardware and software solutions in the world, which allow for full mapping of real world in virtual reality. Together with EON Reality, Inc. (software supplier) and the consortium of Microsoft, Christie Digital, Nvidia, Philips and Hewlett-Packard (hardware suppliers), we establish the first Centre for Interactive Visualisation in Poland and this part of Europe. Scientists from the Silesia University of Technology are a significant advantage for the development of this field of science in the nearest years", - Jacek Jędrzejowski.*

## Networking for Technology Commercialisation

In Gliwice operates a dozen of R&D institutions and business support organisations in the field of innovation and technology commercialisation. Taking into account this potential, as well as economic trends related to new technologies, the city of Gliwice, together with the County of Gliwice, the Silesia University of Technology and the Main Mining Institute, initiated in 2005 the **"Network for Effective Technology Commercialisation – Pilot Project"**. Representatives of Silesia local governments, R&D units, universities and business support organisations were invited to jointly develop a technology commercialisation model. In other words, a group of 40 persons analysed how to improve the process from idea or research result, through the verification of commercialisation op-

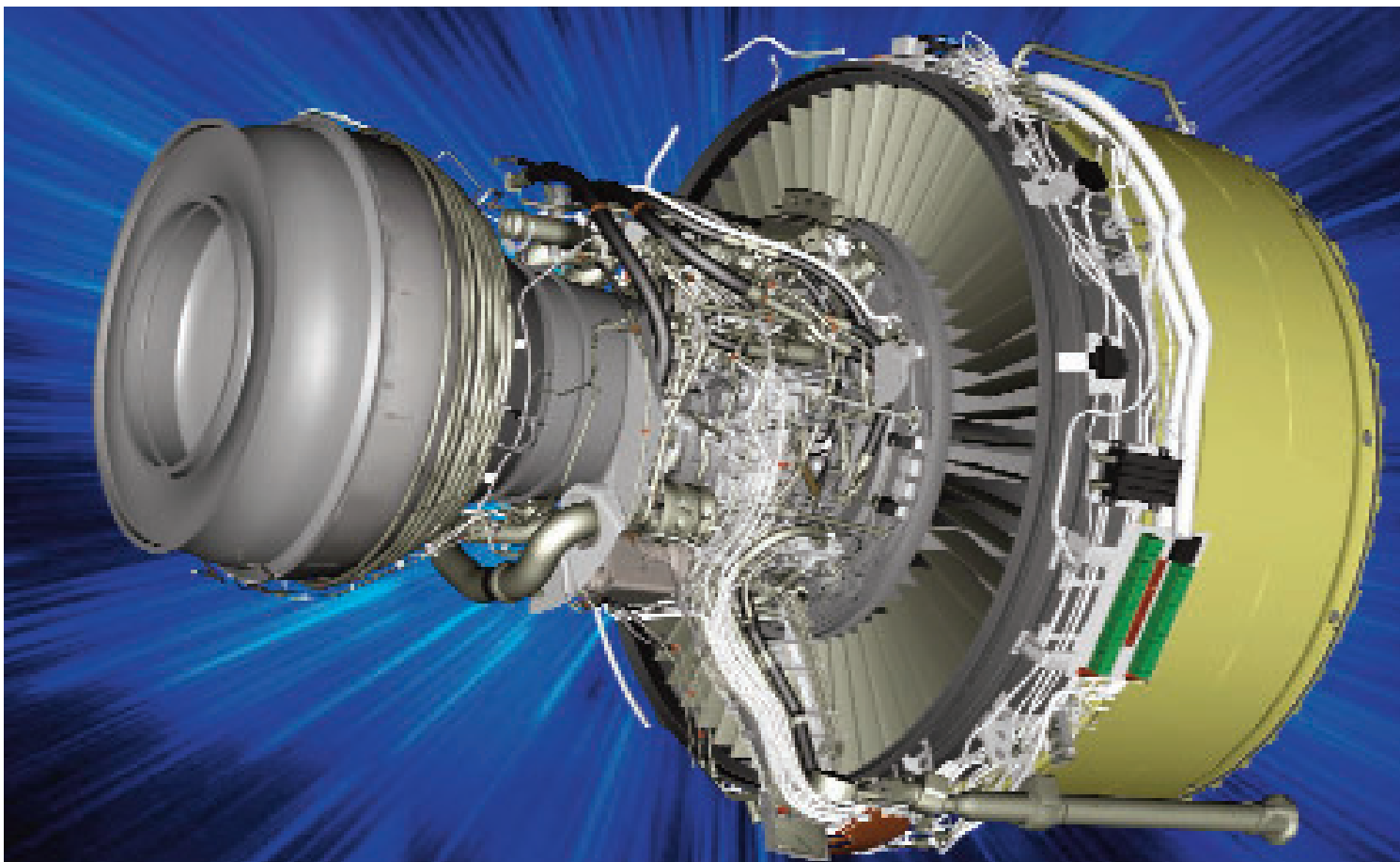
# Priority 9

## City of Gliwice Network Contact Point

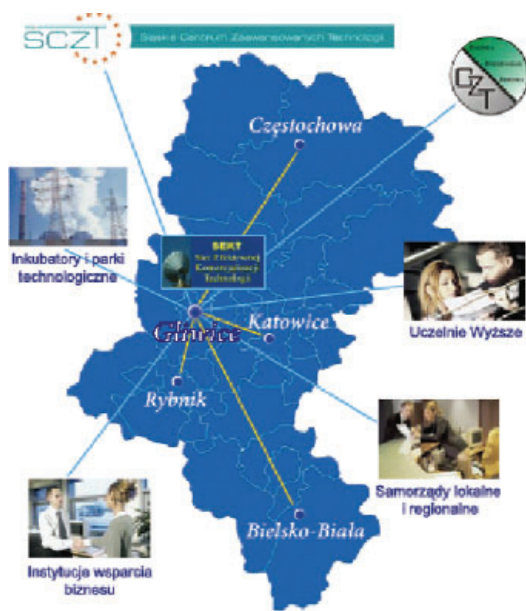
tel. +48 (0)32 2385461  
e-mail: bpr@um.gliwice.pl  
www.sekt-gliwice.pl  
Professor Jan Kaźmierczak  
SEKT Coordinator  
Contact person:  
Bartłomiej Świderek

portunities, to the effective implementation of a given innovative solution in the market. During several months, foreign experts prepared, together with four thematic groups, proposals of operational proceedings in such areas like: the establishment of technology clusters, the implementation of entrepreneurship promotion programmes at universities, incubator and technology park management. Participants found out that key success drivers are: readiness to cooperation (trust), joint vision (consensus) and an integrated approach to market solutions.

*"We published a guide being a knowledge compendium on improvements to technology commercialisation for R&D institutions. We developed the "Silesia Network of Incubators, Technology and Industry Parks" involving representatives of 17 organisations from the region. Rectors of six universities signed an agreement on the implementation of an entrepreneurship and creativity promotion programme. In my opinion, the most important project achievement is the presentation of a certain roadmap leading to changes in the way we approach regional economic potentials. The first step was*



set in the key place, this is in the mind. I believe that, to consolidate our results, we need to continue actions for which our project performed a pilot function", " – Professor. Jan Kaźmierczak, SEKT Coordinator.



## Young and Dynamic – – the First Steps of a Technology Company



**Optopol Technology** was established in 2001 in Zawiercie. In September 2005, after six months of cooperation with the Institute of Physics of the Copernicus University in Toruń, during an ophthalmologic

symposium in Łódź, it presented a testing version of its unique spectral eye tomograph SOCT Copernicus for ophthalmologic examination. At the beginning of 2006, the company already launched the serial production of this most modern equipment for eye bottom analysis. At present there are 12 units of this type in Poland and 150 of them were sold all over the world. Optopol equipment already operates in renown eye clinics in Antwerp (Belgium), Rostock (Germany), Bern (Switzerland). Polish doctors, who often learned about Copernicus abroad, acknowledged that this equipment stands for a real breakthrough in diagnosis.

*"For me, it is important that the company stays in Poland. We are proud that this equipment is invented and made in Poland. We want it to remain like this. Our personal success is related to our integrated network of highly skilled and professional people. In the near future, we want to establish our office in Toruń together with an R&D unit, where scientists from the Toruń University will work. The R&D unit will be very well equipped thanks to grants we have managed to obtain. The main barrier for further growth is the lack of well-educated graduates", - Paweł Wojdas.*

**Optopol Technology SA**  
tel. +48 (0)32 672 28 00  
e-mail: wojdasp@optopol.com.pl  
www.optopol.com  
Contact person:  
Paweł Wojdas  
R&D Manager

# Priority 9





Professor  
Adam BochenekProfessor  
Marian ZembalaProfessor  
Stanisław Woś

# Silesia Medical Specialisation

One of many areas of strong interactions between scientific, economic and social sectors is health. **The Silesia Voivodeship** holds a unique position in this field in Central Europe. The presence of outstanding scientists of many specialisations, as well as public and private R&D centres allows developing new technologies and more effective diagnosis and treatment techniques.

**The Silesia Cardiac Surgery School** initiated by Professor Tadeusz Paliwoda has been known for many years. However, its dynamic development took place in the 80s as of the establishment of the Silesia Centre of Heart Diseases. In Silesia, there are five cardiac surgery clinics, including two clinics for children. They perform all kinds of cardiac surgeries that one can find in the world, including heart and lung transplantation, intricate operations of congenital defects, ECMO infant rescue operations, and operations in the case of chronic lung embolism. In 2006, Silesia clinics carried out 4,258 extrasomatic operations, i.e. around 20% of all operations carried out in Poland.

Leaders of Silesia cardiac surgery are: Professor Andrzej Bochenek and Professor Stanisław Woś in Katowice, and Professor Marian Zembala in Zabrze. Children's cardiac surgery is successfully represented by Professor Janusz Skalski in Zabrze and Dr Jacek Pająk in Katowice. The success of Silesia cardiac surgery results from an excellent cooperation with outstanding Silesia cardiologists, cardio anaesthesiologists and very good cardiac surgery teams in Zabrze and Katowice.

Silesia clinics cooperate with the most important cardiac surgery centres in the world. Cardiac surgery centres in Silesia make the big-

gest contribution in research over surgical methods of cardiac insufficiency treatment which are carried out by the US National Institute of Heart and Vessels, and financed by the US Health Department. Silesia Cardiac Surgery Clinics also take part and are very active in European prestigious clinic studies financed by Science Departments of western European countries. They implement modern techniques of coronary treatment and cardiac valve repair through so called minimum operation openings.

**First Clinic of Cardiac Surgery of Upper Silesia Medical Centre - [www.cardiosurg.pl](http://www.cardiosurg.pl)**

**Second Clinic of Cardiac Surgery of Upper Silesia Medical Centre - [www.gcm.pl](http://www.gcm.pl)**

**Silesia Heart Disease Centre – Clinic Department of Cardiac Surgery and Transplantology of the Silesia Medical University - [www.sccs.pl](http://www.sccs.pl)**

**Polish-American Heart Clinic** is a set of five specialised branches, including three located in the Silesia Voivodeship, and one experimental workshop. The initiative was initiated and founded by cardiologists from Poland, Associate Professor Paweł Buszman and Zbigniew Czyż and Professor Stefan Kiesz and Jack Martin from the USA, who established the company in 2001. The activity of the Polish-American Heart Clinic is based on innovative solutions for new medical services, technologies and application methods.

*"The Polish-American Heart Clinic applies innovative world solutions and specialists from our clinics are more and more often invited to joint research and consultation in many clinics in Western Europe and the USA.*

*We apply the most advanced technical achievements using, for example, ECG transmission by phone, to shorten diagnosis time. In the case of heart problems, fast diagnosis and the application of relevant procedures to transmit information are our motto and play a key role in many sudden interventions. Thanks to the application of most advanced working time organisation methods, we shortened our decision-making process to 15-20 minutes as of patient's arrival",*  
 - Associate Professor Paweł Buszman.

**Polish-American Heart Clinic Sp. z o.o -**  
[www.klinikiserca.pl](http://www.klinikiserca.pl)

**Cancer Centre – Maria Skłodowska-Curie Institute, Branch in Gliwice** is one of leading highly specialised and modern clinics and scientific centres in Poland. Since 2002, it has been registered by the Organisation of European Cancer Institutes (OEI) as a European Highly Specialised Cancer Centre of Excellence.

The Cancer Centre is the only diagnostic



centre available in this field for the 4.5 million of inhabitants of Silesia. Every year, the Centre diagnoses around 32,500 patients, including 20% of patients from other regions of Poland. Every year, the Centre makes around 174,000 examinations.

*"Our clinical activities are based on the latest schemes of therapeutical proceedings and being conducted together with many cancer centres in Poland and in the world. At the same time, we implement innovative treatment methods. The Centre is a world pioneer in the study on diagnosis of cancer diseases in the area of cancer mutation development patterns. The Centre is especially interested in integrated cancer treatment allowing for optimum results",*- Dr Lech Wędrychowicz.

**Cancer Centre - Maria Skłodowska-Curie Institute, Branch in Gliwice**





# Silesia Medical Specialisation

- [www.io.gliwice.pl](http://www.io.gliwice.pl)

**Burn Treatment Centre in Siemianowice** is a leading Polish centre specialising in the complex treatment of burn injuries, as well as plastic and reconstruction surgery, rehabilitation of burn consequences and treatment of chronic hard healing wounds. In the treatment of burn injuries and acute carbon oxide poisoning, the Centre uses a hyperbaric oxygen therapy (HBO). The Centre owns the Hyperbaric Oxygen Centre equipped with two one-man hyperbaric chambers and a sixteen-person chamber, one of three in Poland. Reconstruction surgeries are also performed with a laser system. A medical team of 126 persons treats 1,200 patients on average per annum, including 30% out of the Silesia Voivodeship.

*"The Burn Treatment Centre cooperates on international level with similar centres in Europe and the world in the area of oxygen therapy, surgical burn treatment, plastic and reconstruction surgery, skin transplantation, new dressing techniques and tissue engineering. To achieve excellence, we have to specialise, acquire the best staff, and use the latest medical equipment", - Dr Mariusz Nowak.*

**Burn Treatment Centre - [www.clo.com.pl](http://www.clo.com.pl)**

**The Voivodeship Hospital of Traumatology** is considered as one of the most important hospitals in Poland as regards orthopaedics and traumatology of organs of movement. The hospital is composed of 9 specialised traumatology and orthopaedics wards, 1 anaesthesiological and intensive care ward, and 2 off-site rehabilitation branches in Kochcice. Traumatology and orthopaedics wards, apart from traditional orthopaedics, also operate on complicated injuries of organs of movement and make bone and joint reconstructions in the case of cancer, congenital and accident deformations. The hospital treats around 10,000 patients per annum, including 20% of patients from other voivodeships. The medical information centre serves around 45,000 patients. The 24-hour ambulatory treats around 13,000 injuries and sudden diseases of organs of movement per annum.

*"In my opinion, we are one of few centres in Poland providing complex and professional medical services, starting from operation treatment through to early rehabilitation of organs of movement, allowing for fast return to physical capacities and professional activeness. We perform a strategic role in the region, which results from our long-lasting experience in the provision of medical services to the benefit of our patients. We actively cooperate with similar centres in the USA, Austria and Belgium", - Dr Bogdan Koczy.*

**Dr Janusz Daab Voivodeship Hospital of Traumatology - [www.urazowka.piekary.pl](http://www.urazowka.piekary.pl)**

The Haematology and Marrow Transplantation Centre is one of the Polish leading highly specialised clinic and scientific centres. In 1997, the Centre conducted the first transplantation of mar-



Professor  
Jerzy Hołowicki



row from an unrelated donor. Its major medical activity directions are: diagnosis and treatment of cancers of blood generation system, diagnosis and treatment of anaemia, haemophilia, marrow damage and immunological disorders, as well as marrow transplantation.

*"In 2003 and 2005, the Centre was considered as the best haematology and marrow transplantation centre in Poland in the ranking of Newsweek Poland. We cooperate with many renown world centres in the field of haematology and marrow transplantation", - Professor Jerzy Hołowicki.*

**Haematology and Marrow Transplantation Centre - [www.spskm.katowice.pl](http://www.spskm.katowice.pl)**

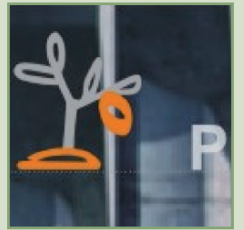
## Robots in the Operating Room

The idea to construct a Polish cardiac surgery robot was initiated by a team of the Biocybernetics Laboratory of the Institute of Heart Prosthesis of the Foundation for Cardiac Surgery Development as a result of work done on the optimisation of surgeries using computer simulation methods. The robot allows to scale the movement of a doctor's hand, through a manipulator. The robot is the first tool allowing for the direct application of operation simulation and planning methods to support operations on patients.

*"Cardiac surgery robots will support the doctor's work during intricate surgeries. In future, we will attempt to test the device at longer distances, so called teleoperations. At present, we work on the implementation of the first Polish robot: Robin Heart Vision, which will substitute an assistant and allow to perform a part of laparoscopic operations by one surgeon", - Zbigniew Nawrat.*

**Fundacja Rozwoju Kardiologii  
- [www.frk.pl](http://www.frk.pl)**





# The Management Unit of the Regional Innovation System 2005-2007

Between 2001 and 2004, the Regional Innovation Strategy of the Silesia Voivodship for 2003-2013 was successfully prepared in agreement with various stakeholders during workshops, seminars and conferences. This process took place under the RIS-SILESIA project, co-financed under the Vth Framework Programme of the European Commission.

Participants pointed out many times that the strategy had to promote diversity and cooperation at the same time. As a result a two-track model for innovation system management and strategy monitoring was developed at the end of 2004.

At the Marshal Office of the Silesia Voivodeship a Coordination Unit was established, in charge of monitoring the strategy implementation process, supervising tasks performed and providing the secretariat of the RIS Steering Committee (see picture below).

At the same time, institutions involved in innovation processes in Silesia established the Management Unit of the Regional Innovation System in charge of, among others, developing the Regional Innovation System, supporting the establishment of innovation support networks and initiating new methodologies to strengthen innovative activities in the region.



„UMWS“

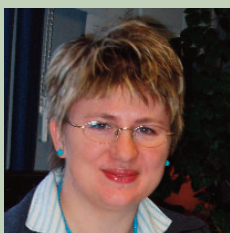


The consortium of the Management Unit of the Regional Innovation System (MU-RIS), functioning from February 2005 until December 2007, was composed of institutions delegated by: the Regional Convent of University Rectors, the Silesia Council of Research and Development Institutions, the Silesia Consortium of Business Support Organisations, Economic Self-government (Chambers of Commerce) and the Silesia Association of Municipalities and Counties. Each of these institutions delegated its representative to the project team. As such, six animators of the management unit regularly exchanged information coming from their specific target group, which allowed creating synergy in promoting new activities.

The goals of the management unit (MU-RIS) included:

- To promote the Regional Innovation Strategy of the Silesia Voivodeship,
- To initiate partnerships for innovation;
- To identify and promote new tools supporting innovation development.

Animators of the MU-RIS team promoted the Regional Innovation Strategy during individual and information meetings, as well as in articles in media. MU-RIS animators held over 140 individual meetings, where they identified new needs and project opportunities of companies, R&D institutions, business support organisations and local governments in the area of innovation and technology development. During local seminars, MU-RIS promoted innovative behaviour among companies and organised debates on how to improve local and regional cooperation between particular entities. Every year in December, MU-RIS organised a conference on regional innovation systems. These conferences served as an information exchange platform on trends and opportunities related to innovation. At the same time, during thematic workshops MU-RIS presented issues concerning the construction of the Silesia Innovation System and shared good practices showing everyday efforts made by institutions in other European regions to improve innovation in SMEs in their region.



Alicja Michalik

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**Alicja Michalik**, MU-RIS Animator, representing the Silesia Consortium of Business Support Organisations, employee of the Upper Silesia Agency for Enterprises Restructuring.

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*I mainly focused my work on the promotion of new innovation support tools among members of the Silesia Consortium of Business Support Organisations. As a result of several thematic workshops on an integrated support system for small and medium-sized enterprises, a number of joint projects were developed. Together with members of the Silesia Network of Incubators, Industrial and Technological Parks, we prepared a proposal of Investment Readiness Programme. At the same time, we worked on a complex service system for start-ups.*

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In September 2005, the Steering Committee of the Regional Innovation Strategy adopted the Executive Programme for 2005-2008. This programme includes nine priorities overlapping with nine fields subject to the innovation system development. MU-RIS animators were responsible for monitoring actions taken in those areas, as well as collecting information about best practices applied in other EU regions and in the world.

In 2006, MU-RIS, together with external experts, did an analysis on the changes that appeared between 2002 and 2006 in the regio-

nal innovation system in the Silesia Voivodeship. Main focus was put on cooperation patterns between companies, business support organisations and R&D institutions. Questionnaires were filled in by 150 small and medium-sized enterprises, tens of R&D institutions and business support organisations. If we take into account the number of companies, business support organisations and R&D institutions, the analysis showed that the innovative environment in our region is one of the biggest and most developed environments of this type in Poland. In the first half of 2006, MU-RIS organised 52 individual interviews and 6 breakfast meetings for small opinion-forming groups representing various environments. The outcomes of these activities were brought together in the report "Identification and evaluation of trends in the Regional Innovation System". Each of the groups involved, presented its role in the innovation development process, challenges for the nearest five years and recommendations for specific actions. The reports on the first and second analysis were delivered electronically to local governments, R&D institutions and business support organisations. They were also published on the RIS web site.

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**Bogusława Bartoszek** , MU-RIS Animator, representing the Chambers of Commerce, employee of the Regional Chamber of Commerce in Katowice.

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*The image of an Innovative Silesia is first of all the result of the activities undertaken by the companies in our region. Their openness towards change and creativity constitutes the foundations of modern economy. I had the pleasure to become involved in the analysis of development needs of Silesia SMEs and their expectations as to the cooperation with their environment. I held many meetings with entrepreneurs to identify what should be improved in the field of co-operation between industry and the research hand development sector. For me personally, an important event was the thematic workshop "Positive image of the region as a source of success of Silesia companies" organised in October 2006. We have sent out a clear statement on the necessity to create a positive image of Silesia, engaging companies, local and regional governments, as well as other public and private institutions.*

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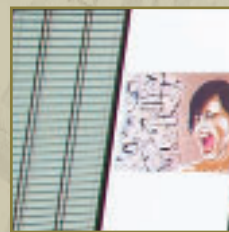
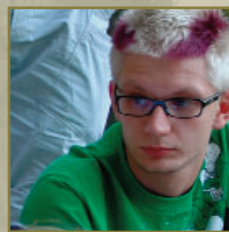


Bogusława Bartoszek



„DZ”





# Opportunities for cooperation with partners in the Silesia Voivodeship in the period 2008-2013

During the next five years, Structural Funds in Poland will give a unique chance for the construction of a strong foundation for a modern knowledge-based economy.

Between February 2005 and December 2007, the Management Unit of the Regional Innovation System tried to inspire particular target groups by showing examples of best practices, which could optimise the innovation system in the Silesia Voivodeship. Some of those examples were analysed and prepared for implementation by business support organisations and R&D institutions, including universities.

Taking into account the opportunities under Structural Funds as well as the challenges related to the globalisation of economy and the role of the Silesia Voivodeship in the European Union, at the end of its mission in 2007, MU-RIS invites regional partners to work around the following priorities for 2008-2013:

- Creation and implementation of an integrated policy on innovation and technology development;
- Increasing creativity, entrepreneurship and innovativeness at a levels of society;
- Development of strong networks and platforms;
- Development of open innovation platforms.

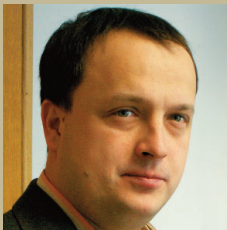
*Silesia Innovation System  
– Cooperation  
is the Way to Success*



## Creation and implementation of an integrated policy on innovation and technology development

The Board of the Silesia Voivodeship, together with the Marshal Office, are responsible for the preparation and implementation of regional development programmes, including economic development programmes and as such the Regional Innovation Strategy for 2003-2013.

Taking into account the increasing significance of Polish regional authorities in preparing and implementing integrated innovation policies, there is a growing need to include representatives of key-sectors in opinion-forming platforms. Some EU regions decided to establish Regional Councils for Innovation and Technological Development operated by regional administration. While, other regions established Regional Centres for Innovation and Technology Development, which are responsible for development and monitoring of innovation policies in a given region.



Dr Piotr Kordel

**Dr Piotr Kordel, Engineer** – JZ-RIS Animator, representing the Regional Convent of University Rectors, employee of the Management and Marketing Department at the Silesia University of Technology.

*For three years my field of action were mechanisms enhancing technology development. I conducted several meetings with scientists and organised workshops on technology development. Together with experts in several fields, we compared good practices in other regions. It allowed us preparing recommendations for intensification of technology development processes in the Silesia Voivodeship. Together with the expert group, we proposed the setting up of a Regional Council for Innovation and Technology Development. It would be in charge of managing modern cooperation processes between R&D institution and industry in the area of advanced technologies, essential for regional economic development.*

The Silesia Voivodeship, as an industrial region with significant R&D facilities, should follow its own technology development programme. Such a programme could serve as inspiration for business and R&D sectors, with a specific focus on future technological areas. In 2006-2007, a study on growth sectors was done by the Inno-observatory at the Marshal Office, at the same time R&D organisations met in expert groups in the framework of the regional technology foresight project. The outcomes of these activities will create the fundamentals for future policy and allow bringing the business and scientific sectors closer together around common priorities.

### Proposals for 2008-2013

- To establish the Regional Council on Innovation and Technology Development.
- To establish a team in charge of the Technology Development Programme within the Coordinating Unit for the Implementation of the Regional Innovation Strategy.
- To develop and implement the Technology Development Programme.
- To prepare and implement a Regional Foresight Programme.

## Increasing Creativity, Entrepreneurship and Innovativeness at all levels of society

The snow ball effect is known in various aspects and dimensions. An initiative, a decision drives the whole process of subsequent events. The wave of innovative breakthroughs in world economy open before us paths of so far unknown development opportunities. However, the snow ball effect will claim many victims on its way. Among these victims, we will find those who are not capable to keep up with change and those who think that everything has been already achieved.

In 2003, Henry Chesbrough wrote about open innovation: "Most innovative actions fail, but entities that do not innovate, will die". If entrepreneurship may be defined as an art of efficient utilisation of market potentials, innovativeness is connected with a skill of transforming them into new economic values by involving internal and external resources. Therefore, innovation is often related with "changes". The problem is that, in Poland, one change follows another. And people think there have been enough changes and it is time for stability. Unfortunately ... its only the beginning.

Thus, what should be done? Who should get involved in the process of change? At first, local government authorities at the local and regional level, as well as other public institutions should openly support creativity, entrepreneurship and innovativeness. A climate encouraging change should be created. Actions should be initiated already at the level of primary and secondary schools to prepare resourceful young generation to social life. At the same, such subjects like creativity, entrepreneurship and innovativeness should be introduced as horizontal issues to theoretical and practical curriculum. Companies also face changes in their approach to their resources, including employees. Drivers like creativity and entrepreneurship will determine whether a given company is able to efficiently initiate and implement innovative actions or not. In the 21st century, companies should perceive themselves as open platforms of knowledge and employees as crucial knowledge carriers. The adequate combination of these knowledge carriers with internal and external resources will generate new ideas, new initiatives, which may finally lead to the creation of new values in economy. Looking at employees in such a way, would free us from anything that is known and certain. Such kind of freedom opens gateways of new opportunities

### ***Proposals for 2008-2013***

- In 2008-2013, actions to be taken to develop an innovation culture in education should focus on four key issues:
  - Promotion of creativity and entrepreneurship at secondary schools. Regional (or county) entrepreneurship promotion programmes, as well as particular projects and actions taken at individual schools should cover all pupils;
  - New education programmes at universities promoting practical application of creativity techniques and entrepreneurial skills should have the broadest possible regional impact. Various projects and actions should cover the widest group of students in the region by becoming a fixed element of education at universities in the Silesia Voivodeship;
  - Information and advice for pupils, students and graduates helping them to transform ideas into projects and projects into business activities should complete new education programmes. One can observe a growing role of mentors and coaches at secondary schools and universities that actively support the process from idea to business;
  - Incubation of student and graduate projects, including specific support measures (incubators, innovation centres) in the vicinity of the school and university premises;



Marcin Baron

**Marcin Baron** – JZ RIS Animator, representing the Regional Convent of University Rectors, employee of the K. Adamiecki University of Economics in Katowice.

*For three years I cooperated with many people that aim promoting openness towards change and creativity among inhabitants of our region. I provided my support in such initiatives like: the university programme for entrepreneurship promotion START, Business Service Centres at universities, and the creation of a model for a Regional Inter-university Labour Market Observatory. On 14 March 2007, together with scientists and students, we celebrated the birthday of the number Pi. I helped to establish the Silesia Scientific Café in Katowice. We also found many allies among secondary school teachers for promoting an innovative culture in secondary education. Even the longest journey always starts with the first step. I believe deeply that we have already done the first big step in our region.*

- Taking into account growing demand for graduates of science, a relevant regional promotion programme should be launched, including active support for such initiatives like "Night of Scientists", "Number Pi Day" and "Scientific Cafe";
- It will be especially important to prepare entrepreneurs and future staff to implement and apply innovative solutions in business. Therefore, it is necessary to launch a regional training and advice programme on innovation management and to foresee animation and information actions for local cooperation platforms.

## Development of strong networks and platforms

The current situation in world economy is beneficial for most companies in Silesia. Their income grows, but also costs of running business. To maintain their competitiveness, they have to implement new solutions which will allow for cost reduction and income increase. Enterprises should become more innovative than in the past.

In such a situation, cooperation networks appear to be a good solution for many companies in developed countries. These networks (clusters, platforms, cooperatives) associate companies, as well as public and private institutions around common interests. In most cases, cooperation networks focus on various forms of knowledge exchange, employee education, marketing, lobbying, as well as joint R&D and investments.

Thanks to cooperation in these kind of networks, companies have access to the latest knowledge and can depend on skills and resources from others while implementing their growth strategies. Having many partners nearby, they are able to achieve their goals faster, cheaper and more accurately.

**Aleksandra Kulisz** – MU-RIS, employee of the Project Office, employee of the Upper Silesia Agency for Enterprises Restructuring



Aleksandra Kulisz

*During the project I had daily contact with a dozen of organisations operating in our region. I was contacted by scientists, local government staff, representatives of companies, and employees of various public institutions. Thanks to this, I experienced the rich picture of people and initiatives related to innovation in the Silesia Voivodeship. I often witnessed serious discussions during conferences and seminars. In my opinion, such platforms for information exchange enable people from various sectors, environments to gain in mutual confidence. And as we know, trust is the basis for risk taking in innovative activities.*

The analysis "Clusters in 10 new EU member states" carried out in 2006 under the European Innova programme shows that the Silesia Voivodeship has potential for establishing modern cooperation networks in such sectors like automotive, food processing, industrial technologies, children's products, recreation and sport, as well as products and services for the construction industry, precious metals, medical equipment, metal processing. This confirms the region's strong position as an industrial centre in Central Europe. The ability to maintain this position, however, depends largely on the way we will make use of the latest knowledge and how we will engage professionally prepared staff, strategic resources and innovative solutions in our regional economy.

In recent years, many network initiatives have appeared in our region, including, for example:

- Clusters (Silesia Innovation Cluster of Clean Coal Technologies, Silesia Water Cluster, Silesia Aviation Cluster)
- Sectoral networks (Medical Equipment Network, Railway Transport Network, Beskids Tourism Network, Labiomen, Biofarma Network, BioMedTech Silesia Network)
- Thematic networks (Regional Network of Technology Promotion and Transfer, Silesia Consortium of Business Support Organisations, Silesia Network of Incubators, Industrial and Technological Parks, Silesia Design Network)
- Technology platforms (Polish Technology Platform of Non-ferrous Materials, Polish Technology Platform for Railway Transport, Polish Technology Platform for Environment, Polish Technology Platform for Steel)
- Advanced Technology Centres (Silesia Advanced Technology Centre, Advance Technology Centre Energy-Environment-Health, Polish Advanced Technology Centre for Health Care and Promotion)

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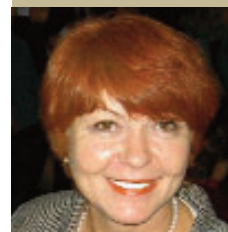
**Halina Kocek** – MU-RIS Animator, representing the Silesia Council of Public Research and Development Institutions, employee of the Institute for Chemical Processing of Coal in Zabrze.

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*In 2005, together with representatives of Silesia R&D institutions, I prepared the outline of the development strategy for that sector for the nearest ten years. As an animator, I was responsible for monitoring such issues like: new financing instruments for innovation in SME's and development of information systems for SMEs. In several reports, I presented specific examples from other regions.*

*I held individual visits, workshops. I developed materials and met potential project contractors. At the same time, I had a chance to meet an interesting team of the management unit for the Regional Innovation System in Madrid. There, I witnessed what might be achieved by concentrating funds on specific priorities and acting jointly for achieving an inspiring vision.*

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Halina Kocek

### **Proposals for 2008-2013**

- The implementation of a regional analysis on identifying industrial clusters and networks, with detailed mapping of potentials for cluster and network development.
- Preparation of a regional cluster development programme, including a wide promotion campaign.
- Development of thematic networks as a broad platform combining various environments within the Silesia Innovation System, paying special attention to continuation of initiatives launched in the period 2004-2007.
- Support for the expansion of new cooperation forms under advanced technology centres and technology platforms focusing on the development of innovative and technology clusters.

## Development of open innovation platforms

Growth of regional economy in the Silesia Voivodeship in 2000-2010 is mainly based on increasing share of foreign companies in GDP. Most of these companies create main added value in their countries of origin. This trend is likely to change, while Poland is losing its position of "low cost country" and decisions on new investments will be more and more determined by access to highly qualified specialists and R&D infrastructure. At present, one may observe increased interest of foreign companies from high-tech sectors in locating their business in Poland.

As a result of globalisation, average technology, product and service life cycles considerably shorten. Innovative companies create business models around specific projects rather than opting for an overall business model for their company. Thus, to implement a given project efficiently, a company has to select the necessary resources both inside and outside. Local business, scientific and technological partners, should get involved in the earliest possible stage of the new project. Business service centres at universities, management units of technology platforms and thematic industrial and technology parks should create exchange platforms for the development of an open innovation climate and project growth processes.

Taking into account the fact that low cost business activities will gradually withdraw from our region in the next twenty years, local governments and institutions should create favourable climate towards development of new business projects.



Bartłomiej Świderek

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**Bartłomiej Świderek** – MU-RIS Animator, representing the Silesia Association of Municipalities and Counties, employee of the City Development Office in the City of Gliwice.

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*In JZ-RIS, I mainly focused on issues related to cooperation of local governments with small and medium-sized enterprises. By way of organising local seminars and a number of individual meetings and workshops in municipalities, I found out companies' expectations towards local governments. The results of my analysis were put together in a report, including recommendations for Silesia local governments. At the beginning of 2007, together with the Silesia Association of Municipalities and Counties, we launched an initiative called "Local Government Friendly to Entrepreneurship", focussing on improving the entrepreneurship climate and the relations between local government and companies.*

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Economic success of our region may be determined by a complex approach towards the establishment of new companies as a result of the commercialisation of new innovative solutions. Apart from universities and other R&D institutions, specialised financial organisations, incubators and technological parks, as well as other public and private entities operating in the area of technology commercialisation play an important role in the overall endogenous growth process. The first steps have been already made. University Entrepreneurship Incubators operate actively. The Silesia Network of Incubators, Industrial and Technology Parks and the START programme for entrepreneurship promotion at the main six universities of the region were established. Seed capital institutions and business angels networks are also active. However, to succeed, these initiatives will have to be combined within a regional platform

## Proposals for 2008-2013

To introduce open innovation processes in economy in Silesia, it is necessary to:

- Broadly promote the idea of establishing new market values based on wide forms of cooperation between industry and R&D institutions;
- Strengthen technology transfer networks with IT infrastructures and prepare employees to run complex processes accompanying the development and implementation of innovative projects;
- Make organisational changes at universities to improve technology commercialisation and enable cooperation with industry (business service centres, technology commercialisation units);
- Expand organisational structures of technology platforms and strengthen "clustering" mainly in the area of new innovative solutions.

In the field of innovative start-ups, it seems necessary to:

- Continue activities taken by the University Entrepreneurship Incubators;
- Initiate programmes for entrepreneurship promotion at universities to ensure a systemised approach to promotion of creativity, entrepreneurship and innovativeness with regard to all aspects thereof;
- Initiate investment readiness programmes enabling the verification of innovative solutions, the optimisation of business models, and the complex preparation of inventors and future entrepreneurs to implement their solutions in the market;
- Extend services offered by incubators and technology parks to accelerate business growth and positioning on the international market.



*For further information on potential cooperation partners on innovation in the Silesia Voivodeship, please contact Mrs. Alicja Michalik of the Regional Innovation and Technology Transfer Centre in Katowice (tel. +48 (0)32 251 64 21 int. 503; e-mail: [alicja.michalik@gapp.pl](mailto:alicja.michalik@gapp.pl))*



























*In the period May 2006 – June 2007 the Management Unit of the Regional Innovation System in the Silesia Voivodeship, together with the Media Group Polskapresse, organised a media campaign called "Innovation in the Region". Articles appeared weekly in the newspaper Dziennik Zachodni. Media Group Polskapresse gave the permission to use published materials, marked in this publication by "DZ". The Marshal Office of the Silesia Voivodeship has permitted to use its photo's related to innovation promotion activities, marked in this publication by "UMWS". The Silesia Castle of Arts and Entrepreneurship in Cieszyn has given the permission to print its photo's related to creativity, entrepreneurship and innovation, in this publication marked by "SZSP". The Silesian University of Technology has permitted to use photo's made during the competition "My Idea for a Business", marked by "Pols!". The remaining pictures were published with the permission of the companies, institutions and persons mentioned in this brochure.*



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