



**I3E**  
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## Best Practice Report

***Technopol Program  
Wiener Neustadt  
Center for Modern Industrial Technologies***

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Best Practice Report

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<b>Reviewer</b>		

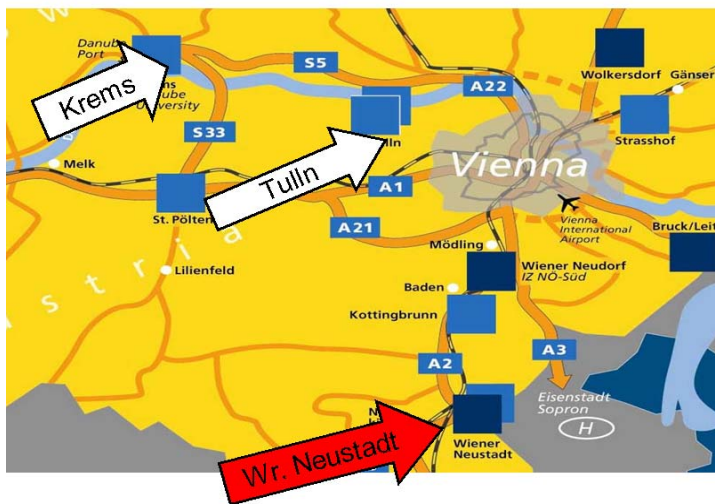
## 1. Best Practice Title

Technopol Wiener Neustadt, with focus on “Modern Industrial Technologies”. An innovative approach to support regional development in the frame of the Lower Austria’s Technopol Program.

## 2. Location of Best Practice

*Country, region, town*

Austria, Lower Austria, Wiener Neustadt – Tulln – Krems (3 Technopol locations with different fields of focus)



## 3. Best Practice Executive Summary

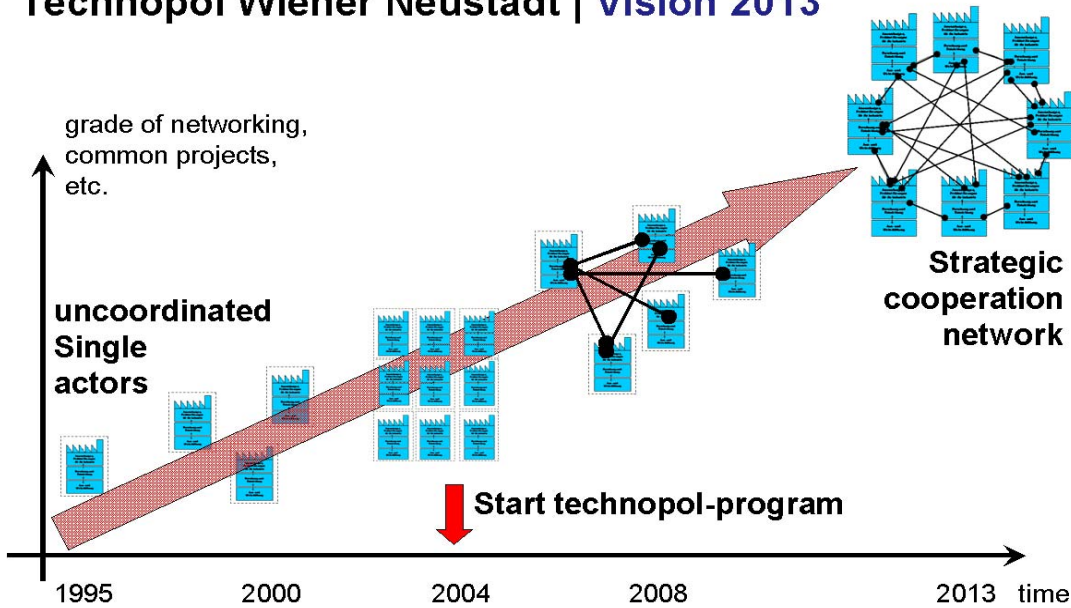
*Describe briefly (max 10 lines) the GP context (partnership, funding, objectives, approach followed, results)*

In order to bridge the gap between the areas of academic education, industry and R&D the so called “Technopol-program” of Lower Austria was founded in 2004. To enable a coordinated technology oriented regional development for each of the three Technopol locations auf lower Austria one local expert per Technopol was hired to overtake the duty as Technopol manager in order to act as a hub between the stakeholders.

The Technopol location Wiener Neustadt focuses on five technology fields as a) materials, b) surfaces, c) medical technology, d) processes and e) sensors-actors which are summarized as “Modern Industrial Technologies”. In each of these areas at least three independent facilities are engaged with overall staff of at least 30 scientists to build a critical mass.

It is the aim of the Technopol manager to double the amount of scientists from 300 to 600 at the Technopol till 2013 and to build a strong network between the thematic adequate companies, the academic education and R&D facilities.

## Technopol Wiener Neustadt | Vision 2013



### 4. Best Practice Classification

#### Best Practice Theme

- Research Transformed to Innovative Product
- Research Transformed to Innovative Service
- Research Transformed to Innovative Methodology
- Research Transformed to Innovative Production Process
- Financial Mechanism for Transformation of Research to Innovation
- Support Mechanism for Transformation of Research to Innovation
- Other (describe)

#### Best Practice Research / Application Areas

- Industrial / Manufacturing Systems
  - Industrial Informatics and Communications
  - Intelligent Devices
  - Distributed Control Systems
  - Flexible Manufacturing Systems
- Embedded Systems
  - Industrial Embedded Systems
  - Nomadic Environments
  - Private Spaces
  - Public Infrastructures

## 5. Description of Best Practice

### 5.1 Best Practice Context

*Overall background of the Best Practice. Location, socio-economic, technical & policy background of the BP (max 10 lines)*

Since April 2004 ecoplus is responsible for implementing Technopol Program on the behalf of the province of Lower Austria, co-financed by the EU – ERDF. “Technopol” hereby means a narrow region where four key attributes must exhibit:

1. A critical mass of R&D facilities carrying out research with one or several areas of focus and having established the appropriate infrastructure.
2. The immediate spatial vicinity to university institutions in order to link research to education and instruction.
3. Professional firms both as a source of demand for, and exploiters of, this expertise in national and international markets.
4. Area for company (re-)allocation in the immediate vicinity of research facilities.

The Technopol-Manager acts as a hub between the main areas a) R&D facilities, b) academic education and c) high-tech industry.

Technopol Wr. Neustadt focuses on “Modern Industrial Technologies” with the five key-technology-fields: materials, sensors-actors, surfaces, medical-technology, processes and engineering. To foster these areas one so called Technopol-Manager is situated cloth to the research, education and industry facilities.

Due to the activities of the Technopol Manager lot of thematic networks have been crated, additional projects have been launched, additional jobs crated, synergies between the R&D facilities identified and used, technology transfer increased, promotion of the Technopol location and abilities in national and international networks performed.

As the first and largest university of applied sciences in Austria, the University of Applied Sciences Wiener Neustadt was established in 1994, marking the beginning of an exciting new era in education in Austria. Concurrently with the establishment of the University, the Technology and Research Centre, was also founded. In immediate vicinity to the University of Applied Sciences, the Technology and Research Center “TFZ” houses 2010 a) three Centres of Excellence – for medical-technologies, tribology and electrochemistry, b) FoTec, c) the Institute for Integrated Sensor Systems of the Austrian Academy of Sciences, d) the biomedical engineering department of the Austrian Institute of Technology AIT, e) the project development group working on the MedAustron Cancer Research Centre for Ion Therapy and f) several private owned R&D companies. Fore more details see e.g. <http://www.ecoplus.at/ecoplus/e/20686.htm>, [www.tfz-wienerneustadt.at](http://www.tfz-wienerneustadt.at) and [www.fhwn.ac.at](http://www.fhwn.ac.at).

The utilization of complementary resources has utmost priority in Wiener Neustadt. Both on-site research and the dissemination of research findings are optimally supported. Bachelor and Master theses as well as PhD dissertations may be completed at the R&D facilities here. As a rule, the establishment of extensive experience in the area of applied research and development leads to the founding of new companies. Space for company settlement is made available by ecoplus, the business agency of Lower Austria, and a local company, Civitas Nova. In Wiener Neustadt it has been possible to turn a historically industrial city into a modern, blossoming site for business, research and education. This successful transformation has been accompanied and formed by a pro-active and above all, locally active, Technopol management.

Initiated by the Technopol-Management e.g. a common vision, mission and fundamental elements for Wr. Neustadt have been elaborated as follows:

### **Vision, Mission, and Objectives of the TP Wiener Neustadt:**

The TP Wiener Neustadt stands for cross-linking the 3 fields namely research, academia, and high-tech industry. The focus is put on technology oriented modern industrial technologies as well as onto the region of Wiener Neustadt – Industrial Quarter – including the cooperating supra-regional industrial and research organizations. Goal of the TP Program is the balanced stabilization and the intense inter and cross linkage of the 3 fields in the frame of the Lower Austrian TP Programs.

#### **Vision**

Through collective efforts of central players coming from the 3 fields the TP Wiener Neustadt is becoming a Know-How Centre of international dimension with 600 researchers until 2013. More than 80 scientific employees and an extensive international connection to scientific and industrial networks characterizing each of the technology fields. This symbiosis offers also an ideal framework for students and thus future key personnel.

#### **Mission**

To achieve this common goal of 5 technology fields

- Materials
- sensors-actors
- surfaces
- medical-technology
- processes and engineering

to strengthen and to consequently to further develop them, existing co-operations are being intensified and new co-operations built. The players at the TP Wiener Neustadt engage actively in the fields of technological progress. Through the Country of Lower Austria these efforts are being supported best possible through funding, consultancy and support services.

#### **Objectives**

- economical operations in ones own interest as well in the interest of the customer
- Co-operations
- Competencies on international level
- High personal engagement
- Permanent progress and ongoing learning, researching, and studying

### **5.1.1 Policy Elements**

*What are the policy initiatives that have influenced the contextual environment of BP: innovation promotion policies, research funding policies, certification etc. as well as relevant tools (max 10 lines)*

### **5.1.2 Socio-economic & Other factors**

*Other contextual factors such as customer / target market addressed, international validity, customer density, economic conditions, customer values, research area addressed (max 10 lines)*

All relevant markets of the Technopol-Management are involved. Due to the activities of the Technopol-Manager e.g. by

- initiating additional international R&E projects
- participation in ETZ projects (European territorial cooperation)
- organizing international events at the Technopol site
- support of settlement of international action R&D facilities
- providing information regarding international R&D project funding possibilities

the Technopol-Location Wr. Neustadt increased their international visibility considerably.

Also the structure and performance of the technology fields has been increased steadily during the last several years.

E.g. by organizing one “Day for the Industry” per Year, clearly focused on the 5 technology fields of Wr. Neustadt, especially regional SME gained knowledge about the R&D and service possibilities offered by the stakeholders of Wr. Neustadt.

## 5.2 Objectives

*Aim of the project, specific objectives & strategies to achieve these objectives (max 10 lines)*

Strategic alignment within the EU framework, the country Austria as well as alignment with the strategy of the province of Lower Austria.

## 6. Process

*Describe the project including key concepts and the overall approach followed. Indicate project end users, target market, main project phases, problems encountered and solutions, problem resolution (max 10 lines)*

The overall approach is to foster technology orientated regional development by supporting regional R&D, industry and academia due to a local site management (the so called Technopol Management).

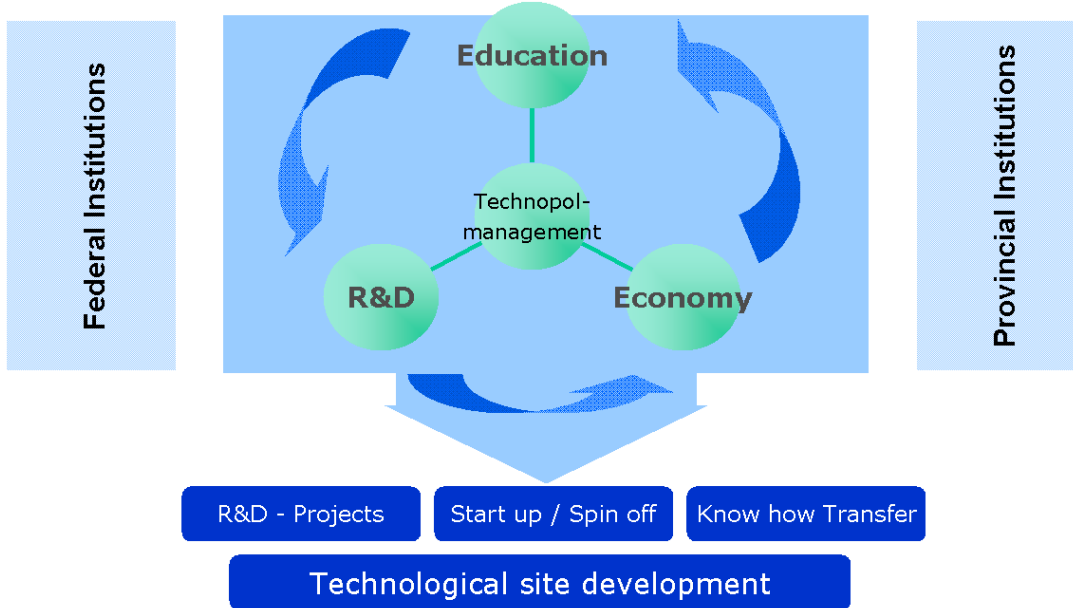
Synergies between industry, academia and R&D are permanently identified, the relevant stakeholders brought together to elaborate strategies to use these latent synergies.

### 6.1 Project Design

*Project design based on targeted market complete understanding, project structure, policies and procedures, management and implementation actions (max 10 lines)*

Each Technopol-Manager is mainly responsible for the implementation of the Technopol-Program per Location. The Technopol-Manager acts as hub and networking-body between the main areas of industry, academia, R&D.

## Technopol Management | Function



### 6.2 Project Management

*Activities relevant to project coordination and management, project documentation and reporting, quality control, validation and verification (max 10 lines)*

The Implementation of the Technopol-Program is assigned to ecoplus. The Business Agency of Lower Austria Ltd. by the Province of Lower Austria, periodical meetings with the contraction body take place. The Technopol-Managers are coordinated by an overall Program-Manager. A Balanced Score Card System has been implemented.

### 6.3 Project Implementation

*Main elements associated with the project implementation. Realization of new idea, or new technological realization or improvement / novelty to known technology and means to achieve this. Innovation associated with the project realization in terms of new products, services, methodologies. Marketing, advertising and customer service. (max 10 lines)*

After setting the main criteria's and tasks for the Technopol-Program and the Technopol Manager, for each Technopol location a adequate Technopol manager was appointed, which is not only is expert in the relevant technology fields, furthermore experienced in R&D project funding schemes and programs as well as an efficient networking person. Important element was to turn affected stakeholders to involved stakeholders within the Technopol-Management. Successful regional development depends within the frame of this project on the involvement of and collaboration with the main stakeholders from industry, academia and R&D. Beside a short term action list per year, a long-term strategy for the Technopol-Location e.g. for Wr. Neustadt was developed.



## **6.4 Project Evaluation**

*Project feedback mechanisms and evaluation mechanisms. (max 10 lines)*

The Technopol-Program is basically under Evaluation by the contracting body. Based on an internal Balanced Score Card System, a permanent monitoring of the development of each Technopol-Location for the overall Technopol Management is given.

## **7. Description of Research team/Institution**

*Short description of R&D team and institution (max. 10 lines)*



- Krems

„medical biotechnology“ with focus „regenerative medicine“ e.g, extra corporal blood-purification, tissue engineering, cell therapy building science – energy saving-systems - ICT -visual computing

- Tulln

Agro- and environmental biotechnology with focus on plant- and animal-production, (bio)-analytics, natural materials technology, environmental biotech

- Wiener Neustadt

„Modern industrial technologies“

- Wieselburg – Land

Bioenergy

The Technopol with a sub-focal point on industrial informatics and embedded systems is Wiener Neustadt which is located in the Technology and Research Center Wiener Neustadt.

**Institutions in the Technology and Research Center Wiener Neustadt are following:**

CEST – Competence Center for Electrochemical Surface Technologies, [www.cest.at](http://www.cest.at) :

CEST develops new, and improves existing electrochemical surface technologies based on scientific excellence and transfers these solutions to private industry, thus enhancing their clients' competitive edge in business. CEST makes a significant contribution to the attractiveness of this location.

AC<sup>2</sup>T – Austrian Competence Center for Tribology, [www.ac2t.at](http://www.ac2t.at) :

AC<sup>2</sup>T is a private sector research facility active in interdisciplinary, pre-competitive research focused on the areas of lubricants and lubrication, functional surfaces, tribo-systems characterization, tribo-sensors and tribo-simulation.

IMA – Integrated Microsystems Austria [www.ima-mst.at](http://www.ima-mst.at) :

IMA is a development and prototype centre for micro systems technology. It carries out application-oriented R&D for new and improved products and processes on behalf of partners from industry. Up until today, projects have been carried out for companies active in the fields of medical technology, pharmaceuticals, communications technology, environmental technology, measurement engineering and even aviation and astronautics.

AIT – Austrian Institute of Technology Ltd. [www.ait.ac.at](http://www.ait.ac.at) :

AIT's Biomedical Systems division produces research output and biomedical innovations for businesses in two main program areas, Biomedical Technologies & Systems and Bio-mathematical Modelling & Analysis. The interdisciplinary team of experts at ARC offers a knowledge portfolio to meet the demands of the competitive medical technology market.

Austrian Academy of Sciences, Institute for Integrated Sensor Systems [www.iiss.oew.ac.at](http://www.iiss.oew.ac.at) :

In order to develop intelligent, integrated sensor systems, expertise in the traditional area of sensors technology is required. Yet equally important is mastery of microelectronics and circuit technology, algorithm design, software engineering, communications and network technology. The research institute IISS was founded in 2004. Its mission is to work in an interdisciplinary fashion within all these fields, as opposed to working in each separately as is normally the case.

MedAustron [www.medaustron.at](http://www.medaustron.at) :

Developer/operator EBG MedAustron is currently in the process of realizing the MedAustron Cancer Centre for Ion Therapy project to be located in Wiener Neustadt. The centre will be engaged in both clinical and non-clinical research. The centre is currently in the planning phase and is scheduled to commence trial operations in 2013.

Fotec – Research and technology [www.fotec.at](http://www.fotec.at)

Fotec is the research and service provider of the University of Applied Sciences Wiener Neustadt. Core competencies include injection molding, product development, test and measurement engineering, innovative software systems, rapid prototyping, and project management. Together with the Technikum Wiener Neustadt, Fotec also manages a well-equipped industrial research laboratory.

Attophotonics Biosciences [www.attophotonics.com](http://www.attophotonics.com) :

Using its proprietary technologies, Attophotonics produces unique nano layers and nano colors without the use of pigments. Active nano colors interact with their environment and, by altering their color and/or pattern, are capable of depicting changes in temperature, humidity, moisture, pH-value, ions, shelf life of food, magnetic fields, pressure and many other attributes.

Naku [www.naku.at](http://www.naku.at) :

NAKU – the German acronym stands for "Natürliche Kunststoffe," or organic plastics – devotes itself to technologies utilizing natural renewable materials to produce plastics. For or with its clients, NAKU designs innovative yet practical items which enable small and medium-sized businesses but also large enterprises to exploit these pioneering, environmentally-sound technologies for their own innovative projects.

University of Applied Sciences Wiener Neustadt [www.fhwn.ac.at](http://www.fhwn.ac.at) :

Offers various degree programs in business, science, IT, health and sports nearby the Technopol Wiener Neustadt. Close to 3.000 students from 58 countries.

## Technopol Wr. Neustadt | Technology focus fields

### Modern Industrial Technologies

- materials
- operation and processes technologies
- medical engineering technologies
- sensors - Actors
- surfaces

- > 315 employees
- > 19 nationalities
- > 70 academic Partners
- > 110 industrially Partners

More than 4 independent R&D facilities are engaged in each of these five technology focus fields.

### Hightech Industry at Technopol location e.g.:

Diamond Aircraft Industries, Diamond Airborne Sensing [www.diamond-air.at](http://www.diamond-air.at)

Austro Engine [www.austroengine.at](http://www.austroengine.at)

Schiebel [www.schiebl.net](http://www.schiebl.net)

Sorex Wirless Solutions [www.sorex-austria.at](http://www.sorex-austria.at)

### Technopol Krems with its focus on Medical Biotechnology and Regenerative Medicine:

Technopol Krems features two main locations: Campus Krems and the Bio Science Park Krems. Campus Krems is the seat of Danube University Krems, IMC University of Applied Sciences Krems and the start-up service Accent. Geared to postgraduate education, Danube University Krems has 16 university departments; over 4,500 students are currently enrolled. Augmenting this offering, the IMC University of Applied Sciences Krems offers its more than 1,800 students ten degree programs focused primarily on economics, life sciences and health sciences. The Bio Science Park Krems boasts grounds of 84,000m<sup>2</sup>. Incubators providing start-up assistance include the BTZ (Biotechnology Center Krems) and the RIZ Nord (Regional Innovation Center North). Medical and pharmaceutical production facilities for the life sciences may be found here. In concert with the city of Krems and the provincial hospital, the development of Krems as a center for life sciences is being promoted. Medical technology fields concentrated here include:

- Blood purification systems
- Tissue engineering (biocompatible materials)
- Cell therapy
- Cell biology and cellular physiology.

And other new technology sectors have been established:

- Building physics/energy and systems
- ICT (information and communication technology) and visual computing.

[http://www.ecoplus.at/de/ecoplus/technologie-forschung/standorte#Technopol\\_Krems](http://www.ecoplus.at/de/ecoplus/technologie-forschung/standorte#Technopol_Krems)

### **Technopol Tulln**

The Business Location for Agro- and Environmental Biotech

Following the model set by Wiener Neustadt and Krems, Tulln has established an additional **Technopol for so-called “green” and “gray” biotechnology and related sectors and disciplines.**

The Technopol Tulln is a key driver in the implementation of the Lower Austria technology offensive with competitive advantages that are attracting business investment:

- The best-prepared commercial tracts
- State-of-the-art infrastructure
- A well-educated workforce
- Research and development operations
- Tertiary education institutions

Techno-Park Tulln is working closely with the Institute for Agrobiotechnology (IFA) and the University of Applied Sciences to provide the cornerstone of the Technopol Tulln. The Technopol is allowing Tulln, along with Krems and Wiener Neustadt, to establish itself as a key site in Lower Austria’s research and education network.

The Technopol hosts following institutions and activities:

1. Research and Development Center (Technology Generation)
2. University Training
3. Business Parks for Business Locations
4. Technology and Startup Center

The first three elements are already in place: the IFA Tulln, the University of Applied Sciences, and the Techno-Park Tulln (incorporated for the establishment of the Business Park). The Technology Center is well into the planning stage.

- Techno-Park Tulln was established in direct proximity to IFA at the initiative of ecoplus in partnership with Raiffeisen Holding and the City of Tulln. The net area of the property totals 60,000 m<sup>2</sup> (646,000 sq. ft.).
- For companies and project managers interested in locating in Tulln, construction-ready commercial space remains available for sale.
- At the same time, custom-designed, turnkey properties can be offered for lease.
- A Technology Center devoted to green and gray biotechnology was finished in September 2005. The lessees are working closely together with the developers.
- The expansion of the Technology Center is already in detailed planning stage.
- Additional expansion will be pursued immediately as the need presents itself.

## 8. Applied Financial Mechanism

*Describe financial mechanisms applied in transformation of research into innovation within BP, as well as means of connecting scientific research team and financiers (max. 1000 char.)*

The Technopol-Program is partly financed by the province of Lower Austria and the European Union – ERDF.

The named R&D facilities finance themselves by different funding schemes. E.g. as State and province 50% co-financed R&D Center, like Competence Centers for Excellent Technologies COMET, or mostly industry financed R&D on the one hand and on the other hand basic R&D facilities with a high grade of basis financing like the Austrian academy of sciences.

## 9. Impact and benefits

*Describe achieved benefits of R&D team and/or enterprise implemented innovation, as well as impacts on institutional and policy levels. (max. 1000 char.)*

- ⇒ Achieved benefits are co-operations between business/industry, research and academia in the above mentioned fields of specialization.
- ⇒ A permanent process for identification of synergies between the R&D facilities, the academic education site and industry has been established.
- ⇒ The regional industry gets continuously information about the R&D offer and funding possibilities for R&D projects.
- ⇒ Industry gets support during identification problems, elaboration project proposals, to find the proper partner.
- ⇒ R&D facilities get support in the field of technology transfer, consulting the area of financing mechanism.
- ⇒ New, additional, jobs are created.
- ⇒ Site development is fostered in specific thematic fields.
- ⇒ Companies get support during site evaluation and settlement process.
- ⇒ New national and international projects give the chance to promote the Technopol location.

## 10. Sustainability

*Provide information on sustainability of innovation after financial aid within implemented financial mechanisms, and some multiplier effects as replication and extension of the action performed in BP. Expected use of Best Practice and lifecycle considerations. (max. 1000 char.)*

Sustainable partnerships between industry, research institutions and academia have been enabled over the last years. But we have to respect that the R&D facilities depend on time-limited funding schemes which last for 3 to 10 Years, depending on the individual funding programme, the R&D Offer and the thematic fields of specialization are in a continuous modification. Also the R&D Know-how and the service offer changes every Year. On the other side, also the requirements from industry have changed e.g. due to the financial crisis. This both facts require a permanent Technopol-Management on Site, to keep all involved parties permanently up to date and to support all in every phase of development.

## 11. Repeatability and transferability

*Lessons learned from the project implementation team. Repeatability and transferability of the project. (max. 1000 char.)*

The Technopol-Program was developed on basis of a detailed analysis e.g. of the region, the innovation support system, funding programs and individually set up per Technopol location. Basically, the idea of establishing a Technopol-Programm and – Management seems to be transferable to comparable provinces if infrastructure, funding, and will are given.

## 12. Evaluation

*Describe reasons and evaluation criteria why the described example is a best practice. (max. 1000 char.)*

This example shows that there is a need for intermediary institutions (so called “hubs”) to enhance co-operations between institutions and fully exploit their potential to get to an innovative stage and also to built centers and special sites for innovation to make the process of co-operation easier to avoid any kinds of barriers in this process.

## 13. Contact of research team/institution

*Name, address, tel., fax, e-mail, URL*

TP Wiener Neustadt  
Viktor-Kaplan-Strasse 2  
2700 Wiener Neustadt, Austria  
Phone: +43 2622 82 324 30  
e-mail: technopol-wienerneustadt@ecoplus.at

## 14. Contact of financial mechanism facilitator

*Name, address, tel., fax, e-mail, URL*