Book of Abstracts

of the 4th International Technology Transfer Conference

Jožef Stefan Institute

24 - 25 October 2011

ORGANIZING COMMITTEE

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This conference has been funded by:

Jožef Stefan Institute, Ministry of Higher Education Science and Technology, Slovenian Technology Agency, European Union, Embassy of the Kingdom of the Netherlands.

The conference has been organized by:

Jožef Stefan Institute and co-organized by TehnoCenter of the University of Maribor, Slovenian Technology Agency, Chamber of Commerce and Industry of Štajerska and National Institute of Chemistry.

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INTRODUCTION AND AIM OF THE CONFERENCE

On behalf of the Organizing Committee it was our pleasure to invite you to participate in the **4th International Technology Transfer Conference**, which was held in Ljubljana and Maribor, Slovenia on the **24 – 25 October 2011**. The conference was organized by the Jožef Stefan Institute in cooperation with TechnoCenter at the University of Maribor, the Slovenian Technology Agency and National Institute of Chemistry.

AIM

The conference targeted the researchers of public research organizations (PROs) in Europe with the aim of increasing awareness and knowledge about technology transfer processes and their necessity. It was also targeted at enterprises, seeking collaboration with public research organizations.

The Conference was subdivided into two days. The 1st day of the conference was dedicated to:

- technology transfer industrial relations between PROs, large enterprises and SMEs;
- methods and tools to support technology transfer activities;
- internationalization of innovation and business excellence;
- spin-off creation; business development and preparing for the investment.

The emphasis of the spin-off creation was the workshop on seeking venture capital and pitch presentations of the inventors in front of the evaluation commission. The commission was constituted from the representatives of venture capital investors and the technology transfer experts. The commission members evaluated the commercial potential of the presented innovative technologies and selected the prize winners.

The 2nd day of the conference was designated to:

- methods and results of contract and collaborative research aid;
- technology transfer office organization challenges.

The emphasis of the 2nd day was on presenting the results of the selected consultants (technology transfer facilitators) who worked closely with PROs and industrial partners on the development of the cases for commercialization.

PRIZE

The special prizes for **innovations for economy** were awarded in the amount of EURO 10,000.

WELCOME INTRODUCTION OF THE HEAD OF THE ORGANIZING COMMITTEE

Dr. Špela Stres, Head of Center for Technology Transfer and innovation, JSI, an LLM student

Technology transfer - the exciting Slovenian way

According to Wikipedia: "Technology Transfer ... is the process of skill for transferring knowledge, technologies, methods of manufacturing, samples of manufacturing and facilities among governments or universities and other institutions, to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services. "

"Many companies, universities and governmental organizations now have an "Office of Technology Transfer", TTO ... dedicated to identifying research which has potential commercial interest and strategies for how to exploit it."

"As a result of the potential complexity of the technology transfer process, technology transfer organizations are often multidisciplinary, including economists, engineers, lawyers, marketers and scientists. The dynamics of the technology transfer process has attracted attention in its own right, and there are several dedicated societies and journals."

As it happens, the Center for Technology Transfer at JSI is organizing this conference for the 4th year in a row. Our immediate objective is to apprentice this countries economy development.

Technology transfer needs further nourishment, so that the long term goal of involving all key- players in the triple helix of academia-firms- education systems to benefit the national economy, can be achieved.

Thank you for participating to our conference and see you next year.

PRESS RELEASE

Jožef Stefan Institute and TehnoCenter of the University of Maribor in cooperation with the National Institute of Chemistry and with the support of Public Agency for Technology of the Republic of Slovenia, Chamber of Commerce and Industry of Štajerska and the European Commission ended a two-day international conference on technology transfer.

The 4th International Technology Transfer Conference hosted renowned international experts in the field of technology transfer from recognized institutions such as the University of Cambridge, Eindhoven University of Technology, Polytechnic University Zuyd, University of Copenhagen, Institute Rudjer Bošković and TTO A/S Copenhagen.

The first day, 24th of October 2011, the conference took place at the Jožef Stefan Institute in Ljubljana, on the second day, 25th of October 2011, at the Rectorate of the University of Maribor.

On the first day a special prize for Innovation for Economy was given, in a total amount of 10.000 EURO. The winner was chosen by an international jury composed of: Andrea Di Anselmo, Meta Group, Italy; Laszlo Czirjak, iEurope Capital, Hungary; Aleksandar Čabrilo, Serbian Business Angels Network, Serbia; Uroš Glavan, DTK Murka d.d., Slovenia; Rok Habinc, STH Ventures d.d., Slovenia; Blaž Kos, the Business Angels of Slovenia, Slovenia; Jure Mikuž, RSG Capital, Slovenia; Christian Schmock, TTO A/S of Copenhagen; Prof. Leo Verhoef, Eindhoven University of Technology, Polytechnic University Zuyd, Netherlands. The conference commission awarded the prize for the most inventive and innovative ideas with applications of interest and use in the economy.

The prize was divided into two parts and granted the following winners: First prize in amount of 7.000 EURO was given to Professor Dr. Gregor Majdič from the Veterinary Faculty, University of Ljubljana and Faculty of Medicine Maribor, University of Maribor for the invention entitled: Treatment of animals with the help of stem cells.

Second prize in amount of 3.000 EURO went to the Professor Dr. Marin Berovič from the Faculty of Chemistry and Chemical Technology, University of Ljubljana and Professor Dr. Darko Makovec from the the Jožef Stefan Institute, for the innovation entitled The process of magnetic separation of waste yeast biomass from the bottles of sparkling wine.
The second day of the conference was organized by the TechnoCenter of the University of Maribor. Invited speakers presented examples of good practices on the field of technology transfer. The project KBB was implemented under the Operational Program Slovenia-Austria 2007-2013 and organized by Slovenian and Austrian partners (www.kbb-si-at.eu). The main objective of the project was to help businesses in the border region with the technology transfer.

In the afternoon the honorable Mr. Christian Schmock from the TTO A/S Copenhagen led the workshop on how to organize a technology transfer office, how to be successful in early commercialization and what is the proper commercial strategy, i.e. spin-out, licensing or collaboration.
Lectures and round table discussion on venture capital will be available at the conference web site: http://tehnologije.ijs.si/ 4ittc/program.html.

LIST OF SPEAKERS AND THEMES

DAY 1

- His Excellency DOUMA, Jos; Ambassador, Embassy of the Kingdom of the Netherland, Introductory lecture;
- TOSSAINT, Leon; Technology Transfer, experiences at Philips and its Spin-off's;
- ZORC, Hrvoje; Development of knowledge mapping and brokering in Croatian PROs and HEIs;
- VERHOEF, Leo; (Potential) Impact of University support to regional SMEs;
- ČADONIČ, Srečko; Joint venture partnering: A way to bring technology to the market;
- BEVC, Dušan; Methods and tools for successful management of innovation processes;
- RATAJ, Simona; Internationalization of innovation: How can companies enter international markets? Good practices of exporting, licensing, franchising, joint venture and subsidiary from Slovenia;
- SAVIČ, Nenad; Internationalization of innovation and business excellence;
- MAZGAN, Nina; Workshop leader (TT & Spinoff creation);
- BLATNIK, Robert; Workshop leader (TT & Spinoff creation);
- KRNEL, Kristoffer; researcher and founder of the spin-out company at Jožef Stefan Institute - Spin-out startup InnCerT, d.o.o.

DAY 2

- KITSON, Michael; University of Cambridge, Introductory lecture;
- ČERNIVEC, Tadej, Introducing KBB project (activities, project results);
- ZALAZNIK, Alenka, Introducing KBB project (activities, project results);
- RAUTER, Romana, Introducing KBB project (activities, project results);
- PETEK, Janez; Development of a water soluble powder and slon for animal feed addition;
- POLIČ, Aleš; EI-mis – IT Implementation process for energy monitoring in industry;
- SEŠEK, Tomaž and FROHLICH, Hubert; Si.mas – System for identification, measurement and analysis of the dynamics of the social networks;
- PROSSNEGG, Sabine; Technology transfer projects in the food sector;
- SCHABEREITER, Wolfgang; Development of a multifunctional 30-feed container;
- STOCKSREITER, Wolfgang; Development of an energy monitoring system;
- DRSTVENŠEK, Igor; Successful knowledge application to the market: Product development with 3D technologies in company Ortotip d.o.o.;
- SCHMOCK, Christian; How to organize a TTO – Key learning's from Northern Europe.

Prof. dr. Jadran Lenarčič, director of Jožef Stefan Institute. Opening speech. Photo: M. Smrke.

His Excellency Jos Douma; Ambassador, Embassy of the Kingdom of the Netherland. Introductory lecture. Photo: M. Smrke.

The commission of the special prize for innovations is evaluating the presented cases. Photo: F. Podobnik.

Commission for special prizes for innovations for economy

The representatives of regional venture capital companies or associations and TTO:

- Jure Mikuž, Prvi sklad, družba tveganega kapitala, d.o.o., managing director and partner of RSG capital;
- Andrea Di Anselmo, META Ingenium, družba tveganega kapitala, d.o.o., vice president of Meta Group;
- Laszlo Czirjak, iEurope Capital, Co-Founder and Co- Managing Partner;
- Aleksandar Čabrilo, director of Serbian Business Angels Network;
- Uroš Glavan, DTK Murka, družba tveganega kapitala, d.o.o., CFO at Murka, d.d.;
- Rok Habinc, STH Ventures, družba tveganega kapitala, d.o.o., director of S.T. Hammer investments;
- Blaž Kos, Sklad poslovnih angelov, družba tveganega kapitala, d.o.o., director, group manager at Business Angels of Slovenia;
- Christian Schmock, partner at TTO A/S, Copenhagen;
- Leon Verhoef, Prof at Eindhoven University of Technology and Prof at Polytechnic University Zuyd.

The commission for the special prize for innovation for economy. Standing from left: Christian Schmock, Laszlo Czirjak, Uroš Glavan, Aleksandar Čabrilo, Leon Verhoef, Rok Habinc, and Andrea Di Anselmo. Photo: M. Smrke.

ABSTRACTS OF THE PRESENTATIONS

Section 1.1: TT industrial relations

Speakers:

Leon TOSSAINT

Hrvoje ZORC

Leo VERHOEF

THEME

Technology Transfer, experiences at Philips and its Spin-off's

Abstract

Philips is one of the largest Global Electronic Companies with sales of around € 26 B, based in the Netherlands with the Head Quarter in Amsterdam and Research in Eindhoven, where Philips was founded 120 years ago. Philips is a key player in the global market for Healthcare, Consumer Lifestyle and Lighting. Philips has a history in R&D with many inventions which became world standard, like the Audio Cassette and CD (together with Sony). Technology changes had to be managed like in the 90th moving from 'Hardware to Software', which was quite a challenge. Translating new technologies into commercially successful products needed a dedicated 'Lifecycle Management' approach.

Leon Tossaint speaking at the 4th International Technology conference. Photo: M. Smrke.

From the huge diversity of technologies which have been developed in Philips, many spinoff' Companies have been created. ASML (Advanced Semiconductor Material Lithography) is one of the most successful Philips' spinoff's being now the global market leader for IC Machines with a turnover of € 4.5 B and a € 1 B profit in 2010. ASML and many other Philips' Spinoff's are still located around Philips Research in Eindhoven. To stimulate Technology Transfer, Philips has initiated the so called 'High Tech Campus Eindhoven' and invested € 500 M to create a unique knowledge centre: 90 Companies working together in sharing technical knowledge with an 'Open Innovation' approach. Together with the nearby 'High Tech Automotive Campus' and the international University triangle: Eindhoven-Aachen-Leuven, an Innovative Region has been created, named: 'Brainport Eindhoven'. This knowledge conglomerate, strongly supported by the Dutch Government, has become the innovative engine of the Dutch Knowledge Economy, generating one third of all Dutch R&D investments and over 50% of all patents granted in the Netherlands. 'Brainport Eindhoven' has recently been rewarded as the 'Intelligent Community of the year 2011' competing with 400 of the 'World Most Smartest Regions'.

The WEF (World Economic Forum) Global Competitiveness Report 2011/2012 shows for The Netherlands an increase in competitiveness from the 8th up to the 7th position (coming from 10th position in 2009), strongly supported by the growing importance of Innovation and Technology Transfer for the 'Dutch Knowledge Economy'.

Léon Tossaint, MSc in Chemical Engineering, has been Vice President Quality Management & Business Excellence within Philips Consumer Electronics. In this position he was leading the global Business Excellence Program within his Division. Since being retired in 2006 he supports the EFQM (European Foundation for Quality Management) and their Member Companies worldwide in implementing Business Excellence within their organizations. He is Honorable Member of the Board of SFPO (Slovenian

Foundation for Business Excellence) and active in supporting the SFPO drive for building an 'Excellence Culture' within Slovenia.

THEME

Development of knowledge mapping and brokering in Croatian PROs and HEIs

Abstract

Successful transfer of scientific results to the industrial use is the key for improvement of the competitiveness on the global market. Despite of numerous models of knowledge transfer, we are still faced with problems like "bridging the innovation gap" and similar. Various innovation systems have been developed at national levels but the problem of matching industrial needs with scientific expertise is still permanently present. To overcome that problem Croatian PROs and HEIs with support of European Union develop knowledge databases that should grow up to the national knowledge platform. It should enable the industry a direct access to scientific expertise and, therefore, act as a national brokering system. Of course the problem of tailoring the knowledge to the industrial needs will still exist, but it is expected that its common solving by partners will be much more straightforward and fruitful.

Dr. Hrvoje Zorc. Photo: F. Podobnik.

Hrvoje Zorc is the member of Ruđer Bošković Institute in Zagreb, Croatia (1977- now). Since the year 2000 he has been the Head of Division of Laser and Atomic R&D. He was the member of Croatian Technology Board (2000-2004) and later the Deputy Minister for technology development at Ministry of Science, Education and Sports (2004-2005). He is author and co-author of more than 40 Current Contents listed scientific papers, numerous professional papers and studies and co-author of several patents. He holds a PhD in Thin-Film Physics (University of Zagreb and Ruđer Bošković Institute). He is the member of several professional societies (Croatian Physical Society, Croatian Astronomy Society, Croatian Vacuum Society, European Platform for Photodynamic Medicine, Croatian Systems Society, etc.). Since 2004 he has been the Croatian High Level Representative at EUREKA.

THEME

(Potential) Impact of University support to regional SMEs

Abstract

Target group for knowledge valorization by Universities of Technologies is mostly: big companies, and university Start-ups. The impact of this activity towards regional SMEs is rather limited. This is caused by the low understanding of the specific organizational and operational dynamics of individual SMEs. However, there could offer more additional value for fulfilling their needs if they would get more understanding and develop a more effective and efficient business model for knowledge valorization.

Dr. Leo Verhoef is professor at Eindhoven University of Technology and at Zuyd University of Applied Sciences, both in the Netherlands

Section 1.2: TT methods & tools

Speakers:

Srečko ČADONIČ

Dušan BEVC

THEME

Joint venture partnering: A way to bring technology to the market

Abstract

One of the key external growth strategy which should be considered by established and emerging growth companies is the establishing of partnering relationships whereby two or more companies work together to achieve a specific purpose or towards the attainment of common business objectives. Joint Ventures, Strategic Partnering, Cross-Licensing, Co-Branding and Technology Transfer Agreements are all strategies designed to obtain one or more of the following: (1) direct capital infusion in exchange for equity and/or intellectual property or distribution rights; (2) a "capital substitute" where the resources which would otherwise be obtained with the capital are obtained through joint venturing; or (3) a shift of the burden and cost of development (through licensing) in exchange for a potentially more limited upside.

These various types of partnering arrangements have been used for a wide variety of business purposes, including: joint research and co-promotion; distribution and commercialization and cross licensing and sub-licensing of new technologies. The participants to these agreements could be at various points in the value chain or distribution channel – from agreements by and among direct or potential competitor (e.g. cooperate rather than compete as a precursor to a merger and/or to join forces to fend off an even larger competitor) to agreements by and among parallel producers (e.g. to widen or integrate product lines) to parties linked at different points in the vertical distribution channel (e.g. to achieve distribution efficiencies).

Srečko Čadonič is founder and CEO of Cadonic Consultancy Services LL.C. (CCS), company focused on corporate development of fast growing hi-tech businesses. In this regard CCS is advisor to various entities (companies, centers of excellence, clusters) in establishing IP strategies, business models as well as internal corporate structure of the company and partnering relationship. One of the companies of the CCS Group - InnCerT is actually technology transfer result from Jožef Stefan Institute. CCS can offer its knowledge with the team of internationally recognized experts and its activities are international.

THEME

Methods and tools for successful management of innovation processes:

Abstract

Current economic conditions are necessitating dramatically increase deliverables from innovations in the conception and design of products and in the processes that manufacture, deploy and maintain them. These solutions must come faster, with higher quality and greater competitive differentiation, and at lower resource cost than ever before. There is consensus that innovation is the magic word that best describes the »silver bullet« needed to achieve these goals. However, there is little consensus about how to promote and sustain a capability for repeatable innovation.

For most organizations innovation is still an accidental event. In fact, at time when innovation is needed the most, it's becoming increasingly problematic as complex problems necessitate skills from multiple disciplines, different technical jargon and retirement and fluctuation of senior staff and experts.

Accidental innovation by internal staff is not a viable business strategy. Also extensive reliance on ideas from »Open Innovation« networks is not a long term fix; in fact, it can create a dependency that erodes the development of organization's intellectual assets and competencies.

Organizations need their researchers, engineers and scientists empowered with essential capabilities that stimulate repeatable high-quality ideation and creative problem solving and thus achieve reliable innovation »on-demand«.

Dušan Bevc has broad expertise in high-tech products and programs, assessment and commercialization of emerging technologies, national and international programs and cooperation, and Offset regulations and operations.

Mr. Bevc is frequent speaker and lecturer at leading international conferences on industrial participation, offsets and countertrade and author of several articles on those topics. He is member of Global Offset and Countertrade Association. Mr. Bevc is consultant for industrial participation and offsets to some major global corporations.

His international sales and marketing experience is extensive, including lead roles in negotiating multi-million Euro contracts, international teaming agreements and strategic partnerships. He is advising and representing emerging technology firms in multiple industries in product and technology commercialization in Central and Eastern Europe.

Mr. Bevc earned a University's Degree in Technical Physics from the University of Ljubljana, Department of Natural Studies and Technology, and holds an MBA from the International Executive Development Center, Bled, Slovenia. He has completed various postgraduate courses including the IBM Advanced Management School, La Hulpe, Belgium.

Mr. Bevc's company D.Bevc s.p. is regional distributor and representative of Invention Machine Corporation, headquartered in Boston, USA. Invention Machine has offices in six countries and works with a network of distributors and partners worldwide. Invention Machine supports hundreds of customers in over 25 countries across the globe. Invention Machine Goldfire, the innovation intelligence platform, makes innovation repeatable and sustainable. The software also empowers users with precise innovation intelligence so they can deliver the right products the first time and fuel the product pipeline with cost effective, competitive products.

Section 2: Internationalization of innovation

Speakers:

Simona RATAJ

Nenad SAVIČ

THEME

Internationalization of innovation: How can companies enter international markets? Good practices of exporting, licensing, franchising, joint venture and subsidiary from Slovenia

Abstract

Slovenia is a really small country with a really small market, therefore Slovenia's innovative and research driven companies need to export. Although there are only about 14.000 exporters (of goods and services), representing 11,1 percent of all companies), nevertheless they export more than 63,4% of national GDP.

How do they do it? There are many different ways; most of them are already known (business delegations abroad; networking activities…), but there is still place for new and innovative ways to enter new market.

Simona Rataj is responsible for innovation and technology development support activities at the Chamber of Commerce and Industry of Slovenia. Her daily routine is communication with all relevant stakeholders of triple helix (companies, RTD institutions, ministries and agencies), identification of the needs of companies and organization of various events supporting innovation, internationalization of innovation and building the competences of companies for efficient marketing of innovation.

She is also a member of SI-TT, the Association of Slovenian Technology Transfer Professionals.

Internationalization of innovation and business excellence

Abstract

Innovation is a source for differentiation, and differentiation is the essence of strategy, the prime source of competitive advantage. The sharper is differentiation, the greater is advantage. There are different types of innovation: business model innovation, product and service innovation, process innovation and technology innovation. Any type of innovation is reflected in added or shared values. The concept of shared value could be defined as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing economy and social conditions in the communities in which it operates. Such idea has already been implemented into results part of excellence model developed by EFQM years ago. Results part of excellence model is divided into four areas which are natural and logical consequence of shared value concept. For the purpose of measuring excellence each area must be supported by set of performance indicators and related outcomes which determine the successful deployment of company strategy and supporting policies, mainly based on the needs and expectations of customers and supported by innovations. By using the concept of continuous measurement of performance and gap analysis, and thru the learning and changing the way if doing, when it is necessary, organization are on the way of excellence which is by EFQM definition: „Excellent organizations achieve and sustain superior levels of performance that meet or exceed the expectations of all their stakeholders.“

Nenad Savič, founder and CEO at Unikatum – Institute for innovative business models Ltd.

Nenad is classically trained and experienced strategic management consultant, and one of the Slovenia's leading experts on the Business Excellence and Strategy development. He works for Unikatum which is a leading consulting company in Slovenia for making creating decision support systems that enable fast perceptions, proper judgments and efficient actions by management teams. Unikatum also helps organizations to find ways of gaining competitive advantage and establishing excellence within their business: its services include performance management and measurement, development of business excellence and business model innovation. Nenad has been also a president of board of Slovenian Foundation for Business Excellence since 2010.

Section 3.1: Seeking Venture Capital – round table

Round table moderator:

Mag. Nina Mazgan, META Group

Round table with the representatives of venture capital companies and TTO:

- Andrea Di Anselmo, META Ingenium, družba tveganega kapitala, d.o.o., vice president of Meta Group;
- Laszlo Czirjak, Co-Founder and Co- Managing Partner iEurope Capital;
- Aleksandar Čabrilo, director of Serbian Business Angels Network;
- Rok Habinc, STH Ventures, družba tveganega kapitala, d.o.o., director of S.T. Hammer investments;
- Christian Schmock, partner at TTO A/S, Copenhagen;
- Leon Verhoef, Prof at Eindhoven University of Technology and Prof at Polytechnic University Zuyd.

Feedback on workshop

Workshop on business planning and investment readiness with researchers and would-be entrepreneurs, organized by Jožef Stefan Institute in September 2011, was an evident proof of high potential and great motivation among Slovene young researchers, graduates and potential entrepreneurs. Adding a piece of ambitions, commitment and global orientation can turn the precious high level knowledge in Slovenia into global success stories of the next generations. Young would-be entrepreneurs are hungry enough of new knowledge that can be turned into successful marketable products with some support, courage and motivation.

Nina Mazgan has previous experiences working at Municipality of Ljubljana, Department for Economic Affairs and tourism on designing and implementing projects and programs related to Innovation policies and entrepreneurship support and is currently employed at META Group d.o.o., working on support to innovative knowledge-based start-ups and regional innovation development. She has background in social sciences, in particular international relations and Masters Degree in Economics. At Meta Group she is responsible for Slovene office, working with knowledge based entrepreneurship and responsible for operational management of META Ingenium, Slovene venture capital fund.

META Group is an international group, dynamic and independent, devoted to the creation and acceleration of *knowledge intensive* enterprises, an engine for the success of the dynamic regions of high entrepreneurial intensity, ones that are open to innovation. META works with policy makers and public managers, who aim towards innovation and the promotion of entrepreneurship, the enhancement of growth of competitiveness of their territories as well as the entrepreneurs, who want to solidify and develop their enterprise, the researchers who want to add value to their research and the investors in the *seed capital* phase. Our mission is to make the *knowledge to market* route an efficient and profitable one.

The round table with the representatives of venture capital companies and the technology transfer experts. Sitting from left: Leon Verhoef, Andrea Di Anselmo, Laszlo Czirjak, Nina Mazgan, Christian Schmock, Rok Habinc, and Aleksandar Čabrilo. Photo: F. Podobnik.

Section 3.2: Workshop – TT & Spinoff creation »Innovation for the Economy«

Section chair:

Robert Blatnik, Jožef Stefan Institute, Center for Technology Transfer and Innovation

Presentation of the submitted cases and questions/comments by the commission members[1].

The project teams - authors of the inventive/innovative technologies - presented their cases in front of the evaluation commission. Each of the presenters had exactly 4 minutes for the pitch presentation and 8 minutes for responding to the questions of the commission members.

Presenters of the cases:

- Stojan Petelin
- Gregor Majdič
- Jernej Iskra
- Marija Vukomanović
- Marin Berovič and Darko Makovec
- Uroš Petrovič
- Slavko Kralj
- Manca Logar
- Ida Istinič
- Vasja Vehovar
- Branka Mušič

The presenters of the submitted cases for the public call for the best inventive/innovative projects within public research organizations (PROs) for the economy in 2011.

[1] IMPORTANT NOTICE: All informations disclosed during the workshop in section 3.2 are considered as confidential!

Section 4: Spin offing & Youth »Good practices in spin-out creation«

Promoting the spin-out possibilities and good practices in the public research organizations

Speaker:

Kristoffer Krnel

Spin-out company InnCerT, d. o. o.

Abstract

Spin-out start-up InnCerT, d. o. o. was established in 2010. Company develops new innovative ceramic technologies for the use in medicine and stomatology. Company develops adhesion ceramic coatings for dental upgrades.

Doc. Dr. Kristoffer Krnel is a researcher and founder of the Spin-out start-up InnCerT, d. o. o. at Jožef Stefan Institute in Ljubljana.

INTRODUCTORY LECTURE: New developments in the movement of ideas: from technology transfer to knowledge exchange

Speaker:

Michael Kitson, University of Cambridge

Abstract

There has been an increasing focus on the role of universities in stimulating innovation and economic growth though the transfer of technology. This presentation argues that the transfer of technology is an important element of the movement of ideas but that it needs to be considered in wider context of broad knowledge exchange. The presentation will show that there are many knowledge exchange mechanisms used by academics – these include commercialization processes but also many other 'hidden' connections involving people based and problem solving activities.

It will also show that knowledge exchange involves academics from all disciplines – not just those from science and engineering - and involves partners from the public and charitable sectors as well as private sector businesses. Furthermore, it shows that the main constraints that hinder or limit the knowledge exchange process include: a lack of time within academia: insufficient internal capability in businesses to manage relationships; and insufficient information to identify partners and benefits. The presentation will argue that effective knowledge exchange requires 'boundary spanners' - people or organizations who can connect businesses (and other institutions) to academia and who can manage productive relationships.

Michael Kitson is university Senior Lecturer in International Macroeconomics and fellow of St Catharine's College. He is a Research Associate of the Centre for Business Research (CBR), Cambridge and is a co-editor of the Cambridge Journal of Economics. He has been an expert witness for the House of Lords enquiry into globalization.

Section 5: Methods and results of contract and collaborative research aid

Speakers:

Tadej Černivec,

Alenka Zalaznik

Romana Rauter

Introducing KBB project (activities, project results) – TTFs

Romana Rauter, Graz University of Technology

Tadej Černivec and Alenka Zalaznik, Slovenian Technology Agency

Abstract

The **KBB project** has been developed to boost the activities of **technology transfer** in the border regions of Slovenia and Austria in order to provide the relevant stakeholders with the methodology for training and to pilot projects in companies. In 2009 the activities with developing methodology and curriculum were undertaken in order to train interested individuals with technical background to further develop their »soft skills«. In 2010 the KBB consortium has organized several (sector oriented) events for companies and other interested public in Slovenia and Austria presenting different State of the Art tools and services from different sectors. During the year 2011 pilot projects were/are being implemented, supporting 26 companies from Slovenia and Austria with help of technology transfer facilitators (TTFs). Since some of these projects are not yet finished, presentation will show partial results gathered from the involved actors (companies and TTFs). Presentation will be concluded with and overview of future activities within and after the project.

Section 6.1: Support within the three networks in Slovenia and Austria

Section chair:

Tadej Černivec, TIA.

Presentations of cases by TTFs and TTOs. The main challenges companies face with TT, what is needed on business level.

Speakers:

Janez Petek
Aleš Polič
Tomaž Sešek

Hubert Fröhlich
Sabine Prossnegg
Wolfgang Schabereiter
Wolfgang Stocksreiter

Development of a water soluble powder and solution as supplementary animal feed

Janez Petek, Dragica Kisilak, Vesna Weingerl, Mateja Ratiznojnik

Abstract

The company LEK veterina Ltd. is the producer of the supplementary animal feed with the products in the powders form. The market demands the water soluble powder products and liquid products.

In the framework of the KBB project the new product has been developed: NutriSel Plus as water soluble powder and liquid form. In the frame of the KBB project the following activities have been carried out:

- Planning and organization of the project (presentation of the KBB projects and opportunities of the technology transfer and facilitating, constitution of the project team, setting the goals of the project);

- The analysis of the existing situation (marketing study, SWOT analysis, proposals for the new products, cost analysis definition of the external expert needed for the project).

- Research and development of the products (development the new products, chemical analysis, packaging materials, testing, promotion materials);

- launching the products on market.

Achieved results in this project shows that it is possible to develop new projects with minimum funds and with the efficient use of the existing resources and with the cooperation with the facilitators and external researches from the universities and institutes.

KBB facilitators are the key actors in the project except in the final stage. The main obstacles in the facilitating projects are how to convince the top management and where to find additional fanatical and material resources and how to involve the external experts. The efficient facilitator should have the basic facilitation skills, know-how in the various technologies, and project management skills. It is also very important that the facilitator has the good view on the research situation in the region and state and experience in industry.

»EI-mis« pilot energy monitoring implementation

Dr. Aleš Polič

The main purpose of the project is to evolve and define the process of the energy monitoring implementation in the commercial buildings and industrial facilities.

The company is seeking for a TTF with broad knowledge of energy process evaluation and possible connections wit the institutions providing energy monitoring solutions.

Based on the market research, performed in 2009, the energy consulting services in the field of energy procurement, energy efficiency and environment emissions as well as introduction of renewables, heavily depend on the depth of the corresponding energy and environmental data retrieved.

Despite the fact, that there are several providers of the energy measurement, communication and information services and solutions, the company realized that actual value added remains on the analysis of the specific plant, and configuration of the ICT solution to meet the specifics of particular location. Integration of the plant energy flow specifics with the correlated measurement and communication technology on one side, with the technological, commercial and logistics requirements on the other hand needs an interdisciplinary knowledge from several fields.

The main purpose of the project is to identify and standardize the implementation of the energy management information systems in the commercial and industrial plants, which will results the crucial infrastructure providing the energy and environmental data for our main course – providing energy consulting services.

During the project the pilot location was identified where initial energy survey was performed including building characteristics, load flow identification and native measurement and communication technology. Based on the survey, cost effective energy monitoring solution was identified and implemented. Web based energy information system was configured to meet the needs of the considered location including organization of measurement data as well as configuration of the representative performance indicators.

The TTF performed a crucial role during the project identification and implementation including commercial support during the pilot location identification as well as connection with the knowledge institution on one hand and application of specific knowledge during the implementation of the system itself.

Considering the promptness of the energy efficiency solutions on one hand and the technological advantages of the solution applied on the other hand, the company has gained a cost-effective and competitive solution to further develop energy and environmental consulting services in the field of integrated solutions for energy data management in the fields of energy research and consulting, energy efficiency, introduction of renewables, procurement optimization, cost optimization and environmental pollution reduction.

Si.mas – System for identification, measurement and analysis of the dynamics of the social networks

Tomaž Sešek and Hubert Fröhlich

This presentation outlines the technology transfer project proposed by a company Adnet and supported by joint effort of Slovenian and Austrian government through KBB project.

At the core of the project is the Social portal Mladismo.si, set up by a company 3CE in February 2011. The portal is primarily targeting young people offering them different benefits. The membership started growing slowly at the beginning but it is gaining momentum now and the daily visit now ranges from 10.000 to 15.000 and it has over 1.000 members.

Naturally 3CE wanted Mladismo to be as effective as possible at growing the number of members and in keeping them involved in it. This naturally led to the question of what can be done with modern IT to achieve this goal.

This was the starting point of our project: 3CE had a social network with clear strategy and they wandered how to make it useful and how to produce some revenue with it. Adnet on the other hand was curious if they can produce an analytical tool, which could later be designed as a generic tool which they could put on the market.

What was lacking was the critical knowledge about how such tools can be implemented. That was one of the main reasons why Adnet applied for the KBB public call to be able to get some assistance in acquiring technology and knowledge needed for successful implementation of such a tool.

The project was assigned to Tomaž Sešek and Hubert Fröhlich as TTFs. After a thorough examination of the project goals we identified a research group of prof. Andrej Košir at Faculty of Electrical Engineering, University of Ljubljana, who was already involved in similar projects.

After the initial analysis we found out that the project definition was overambitious, although it made sense in the long run. After a thorough discussion with Adet we decided it had to be redefined.

The challenges we faced during the project were:

- Overambitious goals
- Difference in size and organization of involved parties
- Lack of resources from industry partner's side
- Conflict of priorities since research group wanted to publish as soon as they have first results, but industry partner wanted to keep things secret
- Legal issues about what can be published and what cannot since the data in the social networks are sensitive

All the challenges mentioned resulted in redefinition of the project which basically became a two stage project. The first stage would give preliminary results and guidelines for improvement of the portal and second stage would result in generic tool Adnet is pursuing. The new definition of the project is now a bit less ambitious but more realistic.

It was critically important to ensure that both sides got to work early so we pushed them both to the hands-on analysis stage. Towards the end of a project we were able to identify some of the opportunities for improvement – and now the industrial partner is in the process of implementing them.

This project is far from finished. Its scope remains the same. What had radically changed is the timeline that takes into account the available resources and other limitations of the involved parties. On top of that we established a mid-term cooperation between industry and research institution. This is in our opinion the most important result of this project.

KBB - Technology Transfer Projects in the food sector in Styria

Proßnegg Sabine, SFG

The main aim of the project KBB is to define and establish a mechanism for supporting the development of competitive companies (mainly SMEs) in Slovenia and Styria. One core issue therefore was the setting up of a network of technology transfer facilitators, who help SMEs in border regions to carry out technology transfer projects with institutes, universities and universities of applied sciences.

Three transfer projects will be presented at the conference in Maribor in more detail that were carried out with companies from the food sector in Styria: Company Vitavin, family Jagersberger in Wörschach, company Sternhof Vitalkosmetik, family Swoboda in Arnfels, and company Manniladen, Teubenbacher/Schratzer in Hart bei Graz.

The transfer institutions were Dr. Siegfried Wagner in Lebring, eurofins ofi-Lebensmittelanalytik and fh wieselburg in Wr. Neustadt.

The main issues when producing food and drinks are always quite similar:

- compliance with food safety standards;
- durability of the products;
- issues of optimizing the processing of the production;
- taste, smell, color etc. of the products after their production but also during their life span;

Additionally, these projects also addressed the issues, such as:

- health aspects, especially with regard to organic production and contamination;
- how to bring such products successfully to the market (packaging, target group oriented approach etc.).

In general, the technology transfer facilitators working with companies in the food sector experienced that bridging the barriers for producers to approach such R&D facilities as well as helping them when communicating with each other were very important issues during the transfer projects. Also time and money is a big issue for SMEs, which means that they have no time to search for funding possibilities themselves and rarely spend money for external consultancy in general. Another - positive matter - was that very often once SMEs did work together with R&D facilities, they discover how many more ideas they would have for their products. In that case, the transfer facilitators had to slow down the process and keep the focus on one project.

All together it was a very good experience and a very successful venture for all of us, projects partners in the project KBB as well as technology transfer facilitators, and of course, also for the participating companies. Many of them expressed their hope that something similar will be provided for them also in the future.

Construction of a 30-foot tarpaulin container

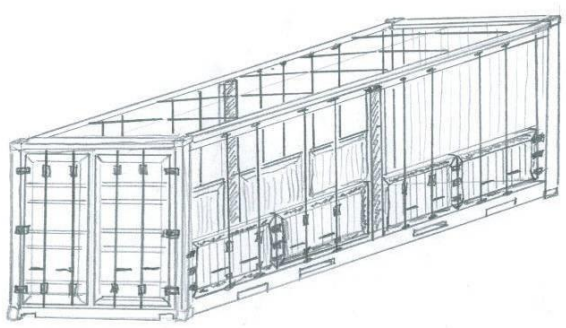
Wolfgang Schabereiter, Brainplus

Context of the project

MONTAN SpeditionsgesmbH is working in the logistics sector, mainly in the transport combined traffic with 30-feed containers. The motivation for the company Montan SpeditionsgesmbH to develop a 30-foot-tarpaulin-container is because of the following reasons: reduction of weight and flexibility.

Project objectives/Impacts on further development of the company

The main objective of the project is developing a 30-foot tarpaulin-container prototype that represents an optimal alternative to traditional 30-foot containers with a significant weight reduction. In addition, this type of container is the ideal combination of traditional unit and bulk containers. Following figure represents a rough draft for a better understanding of the container.



A rough draft 30-foot tarpaulin-container prototype.

The container is a transport system both for pieces (units) and bulk. The long sides are completely open, with flaps or doors (results in the development) up to half container height range. This ensures that heavy material can be transported. The open part of the side walls is covered with a tarpaulin. The tarpaulin does not only protect the contained cargo against environmental influences but also provides security for the loads to the side. As a side effect, the empty weight of the container is reduced because of the low weight of the tarpaulin - contrary to steel doors. The roof of the container is also covered with a tarpaulin that allows a load from above when opened. The multi-functionality of the container is completed by two arranged doors on the face.

Weight saving - construction and material

The reduction in weight of the container should be compared with conventional
30-foot containers approximately 500 kg. The achievement of the target weight of 3,500 kg is only possible to achieve through optimal material selection and a great design. In the selection of materials, various materials (steel, aluminum, etc.) are analyzed in terms of the requirements for this type of container. There was already a balancing between the costs of the used material and its characteristics and availability in the design process. It always had to match its strength and workability to the required conditions. By the shape of the container and the resulting construction should save weight on the one

hand because of only half-height side covering and on the other hand you had to try reducing weight in the range of the beam and platform through appropriate design measures.

Functional design - flexibility

Almost as a contradiction to the postulate of weight saving, the demand of the functional design stands for the best possible opening opportunities of the container. The fulfillment of this requirement for the highest possible flexibility is usually at the expense of weight reduction. Because of the opening possibilities of the container there are potential problems in relation to the rigidity and durability of the container, which can only be corrected by appropriate design measures. In short, you cannot often save weight because it would reduce the stiffness and potential capacity of the container and thus the danger could be that a necessary technical review of the container cannot be met. In such a review the container will be loaded for example with twice the weight, which is normally allowed during transport. Specified values in standards and testing requirements need to be fulfilled.

Section 6.2: Successful knowledge application to the market

Successful knowledge application to the market: Product development with 3D technologies in company Ortotip d.o.o.

Speaker:

Igor Drstvenšek

Successful knowledge application to the market

Dr. Igor Drstvenšek

Abstract

Entrepreneurship is a word that sometimes evokes strange emotions among the population that was raised and educated in a socially friendly and relatively fair environment. This kind of environment has nowadays been replaced by a more exposed and by far less safe substitute, a society where coined words like »Financial Product« or »Insurance Product« are not only accepted but also given a certain context… Putting aside the changed society, an engineer can certainly not accept money to be called a product since it is only a substitute for certain products a mean that simplifies exchanging of goods. That sounds familiar but is nowadays hardly accepted by bankers and orthodox economists. As well as it is hard to understand that nowadays state's system of taxes is not made for people but for companies, which means that the only way to avoid over taxation is to establish a company and start living as an entrepreneur… The Catch 22 in this derivation is that one can understand all these only after becoming an entrepreneur, meaning that there must be other triggers to start the company.

Theoretically a good idea should be such a trigger but this is only true in environments with highly developed entrepreneurship. In our case the triggers were obstacles that started to roll among our legs when we have first established a contact to venture capitalists in a quest to collect some money for new equipment in a public institution… This quest opened the eyes and minds towards more straightforward solutions and this change of perspective also revealed the fact that there are many ideas that could actually be sold – for money.

Since the ideas are abundant in our environment there was only one step needed to start the company and to start solving new problems. These come in many forms taking shapes of taxation system, overcrowded governmental institutions mainly populated by useless politically induced personnel, complicated process of governmental subventions, calls with under defined and awkward rules, but none of these can't be matched with the fact that an engineer has no knowledge about the entrepreneurship and if one is seeking for this knowledge it is very likely that it will be delivered by people who had only read about it and never actually tried the whole process.

But at the end the puzzle somehow jumps together, the ideas start to sell, some of them even well and all the rest is history, again.

Section 7 – Workshop: How to organize a TTO – Key learning's from Northern Europe

Abstract

Over the past ten years, both Denmark and Norway has abandoned the professor's privilege and adopted organizational ownership when it comes to inventions generated at the universities. In effect, technology transfer in a university setting is still an emerging business in the Nordic region. Nonetheless, much ground has been covered in the past ten years by the university Technology Transfer Office's and interesting insights can be made from the experience.

The work-shop will take offset in learning's and experiences that the Danish consultancy company TTO A/S has had from working with university TTO's over the past 8 years. The company works with more than 15 university TTO's spread out over Northern Europe. Their experience ranges from commercializing life-science, IT and Clean-tech research to setting up tech-transfer processes and portfolio management systems at the universities.

The session will cover aspects such as:

- What are the key areas to cover to be successful in early commercialization – and how is it done?
- Choosing the proper commercial strategy, i.e. spin-off, licensing or collaboration.
- Which competencies are essential to possess internally at the TTO and which can be outsourced to third parties? Areas such as the following will be discussed: IPR, legal, business development and strategy, partnering and negotiation.
- Examples on how to organize university TTO's are outsourcing models and internal competence building models.

Christian Schmock. Photo: M. Smrke.

Since 2005, **Christian Schmock** has worked as a business development consultant advising both public and private clients. His industry expertise is mainly within food science, med-tech, pharmaceuticals and industrial biotechnology. He has managed commercialization processes for 10+ European universities and led business development assignments for 15+ Nordic company clients.

Since 2008 he is part of the TTO management, especially sales strategy and key account management of life-science clients.

His special skills are commercial strategy building and execution, financial valuation (early stage), portfolio management (incl. process building), technology scouting and sourcing and technology transfer (incl. process building).

Public call for the best inventive/innovative projects within public research organizations (PROs) for the economy in 2011

In the frame of the 4th International Technology Transfer Conference, which was held on the 24th and 25th of October 2011 at the Jožef Stefan Institute and the University of Maribor, a Public call for the best inventive/innovative projects within public research organizations (pros) for the economy in 2011 was announced.

The Organizer of the Award Call was Jožef Stefan Institute in co-operation with the National institute of Chemistry, the National institute of Biology and RDA North coastal region for University of Nova Gorica, the University of Maribor and the University of Ljubljana.

The purpose of the call was to support development projects in the inventive and innovative areas of technological ideas/projects, such as nanotechnology, new materials, biotechnology, management technology and production, communication technology, computer technology and technology skills, environmental technology, reactor technology.

The aim of the call is to promote inventiveness/innovation from PROs for the economy.

The criteria for evaluating the applications for inventive/innovative projects within public research organizations (PROs) for the economy in 2011 were[2]:

- Overall (Degree to which project aligns with market need, Project's IPR situation)
- Product/application advantage (Unique benefits, Meets customer needs better, Value for money)
- Market attractiveness (Market size, Market growth, Favorable trends)
- Competitive situation (Degree of entry barriers, Manufacturing / processing synergies)
- Technology maturity (Technical gap, Complexity, Technical uncertainty)
- Risk versus return (Expected profitability (e.g. NPV), Return (e.g. IRR), Payback period, Certainty of return / profit estimates, Low cost & fast to do)

The best inventive/innovative projects within public research organizations (PROs) for the economy in 2011 were awarded with prizes in the total value of EURO 10,000.

[2] Source: Jon Wulff Petersen, TTO A/S, Denmark

The winners for innovative ideas

On the first day of the 4th International Technology Transfer Conference a special prize for Innovation for Economy was given, in a total amount of 10,000 EURO.

The winner was chosen by an international jury composed of: Andrea Di Anselmo, Meta Group, Italy; Laszlo Czirjak, iEurope Capital, Hungary; Aleksandar Čabrilo, Serbian Business Angels Network, Serbia; Uroš Glavan, DTK Murka d.d., Slovenia; Rok Habinc, STH Ventures d.d., Slovenia; Blaž Kos, the Business Angels of Slovenia, Slovenia; Jure Mikuž, RSG Capital, Slovenia; Christian Schmock, TTO A/S of Copenhagen; Prof. Leo Verhoef, Eindhoven University of Technology, Polytechnic University Zuyd, Netherlands. The conference commission awarded the prize for the most inventive and innovative ideas with applications of interest and use in the economy.

The prize was divided into two parts and granted the following winners:

First prize in amount of 7,000 EURO was given to **Professor Dr. Gregor Majdič** from the Veterinary Faculty, University of Ljubljana and Faculty of Medicine Maribor, University of Maribor for the invention entitled: Treatment of animals with the help of stem cells.

Second prize in amount of 3,000 EURO went to **Professor Dr. Marin Berovič** from the Faculty of Chemistry and Chemical Technology, University of Ljubljana and **Professor Dr. Darko Makovec** from the the Jožef Stefan Institute, for the innovation entitled The process of magnetic separation of waste yeast biomass from the bottles of sparkling wine.

The holders of the second prize, standing from left: Professor dr. Darko Makovec and prof. dr. Marin Berovič. Photo: M. Smrke.

Holder of the first prize, prof. dr. Gregor Majdič. Photo: M. Smrke.

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