

ITTC 16

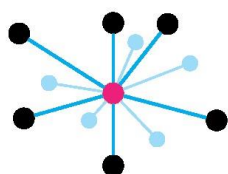
16. Mednarodna konferenca
o prenosu tehnologij

16th International Technology
Transfer Conference

Urednici • Editors:
Tinkara Mlinar, Špela Stres

11. in 13. oktober 2023 | Ljubljana, Slovenija • 11 and 13 October 2023 | Ljubljana, Slovenia

IS2023



ITTC 16

16th International Technology
Transfer Conference

LET'S INNOVATE THE FUTURE

Zbornik povzetkov / Book of abstracts

Urednici:

Tinkara Mlinar
Služba za vsebinsko podporo projektom, prenos tehnologij in inovacije
Institut »Jožef Stefan«, Ljubljana

Špela Stres
Direktorjeva pisarna
Institut »Jožef Stefan«, Ljubljana

Založnik: Institut »Jožef Stefan«, Ljubljana
Priprava zbornika: Mitja Lasič, Vesna Lasič, Tinkara Mlinar
Oblikovanje naslovnice: Vesna Lasič

Dostop do e-publikacije:
<http://library.ijs.si/Stacks/Proceedings/ITTC/>

Ljubljana, oktober 2023

Informacijska družba
ISSN 2630-371X

Kataložni zapis o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani

[COBISS.SI-ID 184989955](#)

ISBN 978-961-264-286-0 (PDF)

Committees and Financers

The main organiser of the 16th ITTC is



Jožef Stefan Institute, Ljubljana, Slovenia

THE ORGANIZING COMMITTEE

Dr. Špela Stres, MBA, LL.M., Jožef Stefan Institute

Robert Blatnik, MSc, Jožef Stefan Institute

Marjeta Trobec, MSc, Jožef Stefan Institute

Urška Mrgole, Jožef Stefan Institute

Petra Žagar, MSc, Ministry of Higher Education, Science and Innovation

SCIENTIFIC PROGRAMME COMMITTEE

Scientific papers on technology transfer and intellectual property:

Niko Schlamberger, President of Slovenian Society INFORMATIKA

Assoc. Prof. Tamara Besednjak Valič, Faculty of Information Studies in Novo mesto

Prof. Alexandru Marin, Politehnica University of Bucharest

Collaboration

The 16th ITTC is organized in collaboration with the International Multiconference Information Society (IS2023).



EUROPEAN UNION CAMPAIGN TO BOOST KNOWLEDGE VALORISATION

The 16th ITTC is taking place under the umbrella of the EU Campaign to boost knowledge valorisation.

THE SCIENCE MONTH

The 16th ITTC is organised within Science Month that is coordinated by the Ministry of Higher Education, Science and Innovation.



KAZALO / TABLE OF CONTENTS

16. Mednarodna konferenca o prenosu tehnologij / 16th International Technology Transfer Conference	1
Introduction and Aim of the Conference	1
Overview of the Programme	5
Welcome Addresses / Jordan Romana, Gašparič Jure, Dröll Peter	7
Council Recommendation on the Guiding Principles on Knowledge Valorization / Boh Tomaž	11
Commission Recommendation of the Code of Practice on the Management of Intellectual Assets for Knowledge Valorization / Golisteanu Florentina.....	12
Commission Recommendation on the Code of Practice on Standardization / Sagias Ioannis	13
Knowledge Valorization: Empowering Slovenia's Future / Dröll Peter, Boh Tomaž, Pal Levin, Salecl Jernej, Karčnik Tomaž	15
Pitch Competition: Best Innovation with Commercial Potential.....	17
Fruit Plant Memory Game: Nurturing Botanical Awareness in Schools / Godec Boštjan.....	20
WatchBuilt: Be Green, Be Digital and Be on Time / Pučko Zoran, Rebolj Danijel	23
AeroDrops: Counting of Invisible / Malok Matjaž, Kavšek Darko, Remškar Maja	25
A Novel Platform for the Production of Cold Atoms for Quantum Computers and Quantum Sensors / Zupanič Erik, Jeglič Peter	27
Bithiazoles for Safer Combination Chemotherapy / Perdih Andrej	29
Sphynx Protect: Next Generation Potato-Incorporated Protectant Against Colorado Potato Beetle / Petek Marko, Coll Anna, Lukan Tjaša, Pogačar Karmen, Gruden Kristina, Panevska Anastasija, Grundner Maja, Sepčič Kristina, Žigon Primož, Razinger Jaka	31
Best Innovation with Commercial Potential	33
WIPO IP Enterprise Trophy.....	34
WIPO Medal for Inventors	36
Presentations of Selected Research Topics from the Jožef Stefan Institute and Proposals for Cooperation	37
Presentation of the Possibility of Cooperation Between the Jožef Stefan Institute and Education / Mrgole Urška	37
Didactics of Quantum Mechanics for Secondary School Students / Žitko Rok, Faletič Sergej	38
Artificial Intelligence / Lukan Junoš, Reščič Nina.....	39
Overview of Slovenian Study Programmes in the Field of Environmental Chemistry for Different Levels of Education / Vidmar Janja, Hočevar Jan, Heath Ester	39
Presentations of Current Research Results: Excellent in Science	40
Immunocastration in Adult Boars as a Model for Late Hypogonadism / Batorek Lukač Nina.....	40
The Fire That Engulfed Europe: Trieste National Hall 1920-2020 / Klabjan Borut, Bajc Gorazd	40
The Škofja Loka Passion Play as a Building Block of European Cultural Consciousness / Drnovšek Jaša	40
Research Papers on Technology Transfer and Intellectual Property	41
Research Infrastructures and Cooperation with Industry / Arbeiter Jana, Brečko Barbara, Bučar Maja	42
Randomized Optimization: From Algorithmic Studies to Industrial Applications / Filipič Bogdan	42
Creating Conditions for an Active Role of Public Administrations in Academia-Industry Cooperation: An Overview of Critical Points through the ExSACT Project / Fric Urška, Lutman Tomaž, Mlinar Tinkara.....	43
Technology Transfer Office as a Support Structure for Innovation Management: The Experience of Latvia / Krūmiņa Justīne.....	43
A Statutory Model for Organising the Process of Intellectual Property Protection and Commercialisation in Polish Public Universities / Rutkowska-Sowa Magdalena.....	44

A Comprehensive Analysis of Portuguese National and Regional Policy Instruments for Technology Transfer Offices / Rosário Da Costa Helena, Cruz Katiuska.....	44
Compulsory Licensing in Belarus / Uspenskiy Alexander, Uspenski Aliaksei, Prybylski Maksim	45
Assessing the Contribution of Hubs to Uganda's Innovation Ecosystem, a Case Study on the Role of Innovation Hubs in Kampala / Amana Linda.....	45
The Importance and Benefits of the Technology Transfer Ecosystem / Mrak Matej.....	45
The Interconnection of Property Technology and Intellectual Property: Literature Review / Ribičić Marijana	46
An Information-Centric Perspective on Data / Rožanec Jože M., Montero Santos Lola, Delinavelli Giacomo	46
Fostering Research & Innovation in AI through Regulatory Sandboxes / Montero Santos Lola, Rožanec Jože M.	46
New Initiatives for Knowledge Transfer between Industry and Academia: The INDUSAC Project / Odić Duško, Mrgole Urška, Trobec Marjeta.....	47
Closing of the Conference.....	49
Associated Partners.....	51
Promotion Partners.....	53
<i>Indeks avtorjev / Author index</i>.....	55

Introduction and Aim of the Conference

Objectives of the Conference

The Conference continues its vital role in highlighting the significance of professional technology transfer within national innovation ecosystems. Aligned with the EU's initiative for enhancing knowledge valorisation, the conference is a hub for exchanging ideas and fostering partnerships among representatives from academia, industry, and government, aimed at converting research into industrial applications.

Maintaining its legacy, the conference has attracted a diverse range of over 2600 participants, including researchers, students, and professionals in technology commercialization, since its inception in 2008. It serves as an essential platform for enriching the knowledge and skills of professionals involved in technology transfer at public research organizations.

One of the key features of the conference is its series of annual international competitions, which have so far involved 99 teams from public research organisations throughout Europe since 2009. These competitions have been a launching pad for numerous teams, helping them evolve into spin-out companies and achieve licensing agreements.

The conference also includes a dedicated session where researchers, backed by the Slovenian Research Agency, showcase their latest work, offering businesses a window into emerging opportunities for development.

In summary, the International Technology Transfer Conference steadfastly supports the advancement of technology transfer, innovation, and the application of scientific research in commercial settings.

Conference prize for the best innovations in 2023

The primary goal of the special prize for innovation is to foster the commercialization of creative technologies developed at PROs and to enhance collaboration with the industrial sector. Equally important is the aim to highlight entrepreneurial opportunities and share best practices within these organisations. Researchers showcase their technologies and business models to an international panel of experts through a pitch competition. In transitioning from research to industrial application, these researchers require comprehensive support. They and their teams need guidance, expertise, and tools to develop business models, identify suitable partners, build effective teams, and obtain financial resources. This support is crucial to bridge the gap from publicly funded research to the marketplace, whether through launching a start-up (spin-out) company or by licensing their technology. The question we face is how to effectively assist them in this journey.

Over the past 15 years, the Conference pitch competitions have consistently facilitated significant outcomes. Each year, at least one participating team has successfully established a spin-out company, secured a licensing agreement, or advanced a business opportunity. Notably, many young researchers participating in these competitions have engaged for the first time in a structured process of developing a business model for their technology. This includes preparing and delivering targeted presentations (pitches) about their ventures to investors and technology commercialization experts, a crucial step in their professional development and the advancement of their innovative projects.

Opportunities arising from publicly funded research projects/presentations of successful scientific projects

Researchers showcase their projects funded by the Slovenian Research Agency.

Scientific papers on technology transfer and intellectual property rights

Experts in technology transfer, intellectual property rights, industry-collaborating researchers, and others were invited to submit their research papers. The selected papers, accepted for presentation, are presented by the authors themselves. The focal themes for this year included:

- Establishing a strategy for the efficient management of intellectual assets
- Managing intellectual assets in joint research and innovation activities
- From intellectual assets creation to the market
- Key factors for successful technology transfer from different points of view (researchers, knowledge transfer experts, enterprises)
- The role of TTOs in maximizing the impact of science, technology and innovation on society
- Examples of IP protection in Artificial Intelligence
- Other, chosen by the contributor

Connecting the education system with academia

A parallel section “Connecting the education system with academia: Presentations of selected research topics from the Jožef Stefan Institute and proposals for cooperation” is conducted. This part of the event, designed for primary and high school teachers, features presentations on various research topics from the Jožef Stefan Institute and discusses potential collaboration opportunities.

Key stakeholders

The conference engages a diverse range of key stakeholders, including public research organizations as sources of knowledge, technology parks providing infrastructure, business accelerators, intellectual property offices, IP attorneys, various agencies and consultants, as well as financial entities like venture capital firms, business angels, and development banks. Additionally, medium-sized enterprises, international corporations, private innovators, and others play a crucial role. These stakeholders collaboratively shape the conference, sharing their knowledge, expertise, and insights with co-organizers, partners, and audiences. They also promote the conference within their networks. Their involvement enhances awareness of knowledge transfer and intellectual property rights within their organizations and across the Slovenian and European innovation ecosystems.

Target audience and benefits

The conference's target audience includes researchers, students, and post-graduate students with entrepreneurial aspirations, technology transfer managers, industry representatives, established and aspiring entrepreneurs, innovators, as well as officials from government institutions and policy-making organizations.

Organisation of the International Technology Transfer Conference

The International Technology Transfer Conference (ITTC) is organised by the **Jožef Stefan Institute** and its partners for the 16th year in a row. The first ITTC was organized in 2008. Initiated in 2008, the ITTC has evolved in format over the years and is currently a part of the International Multiconference Information Society (IS2023), also organized by the Jožef Stefan Institute.

The Conference has been organized with the support of partners from the Enterprise Europe Network project (EEN) and other partners from the innovation ecosystem. The project aims to assist businesses, particularly small and medium-sized enterprises, in innovating and expanding internationally. Recognized as the largest global support network for small and medium-sized enterprises with international goals, the Enterprise Europe Network operates worldwide. It consists of experts from member organizations known for their excellence in business support. The ITTC aligns with the Enterprise Europe Network project's mission, which focuses on supporting small and medium-sized enterprises and researchers in finding suitable business partners, facilitating international technology transfer, and helping to find partners/coordinators for EU calls. Additionally, the project offers support in areas like intellectual property rights, finance access, and regulatory and legal advice.

Overview of the Programme

Day 1 – 11. October 2023

Hybrid event - Grand Hotel Union Eurostars and Zoom

08:30 – 09:00	Registration
	Welcome addresses Dr. Romana Jordan, Assistant Director for EU Affairs, Jožef Stefan Institute Dr. Jure Gašparič, State Secretary, Ministry of Higher Education, Science and Innovation Dr. Peter Dröll, Director for Prosperity, Directorate-General for Research and Innovation, European Commission Dr. Levin Pal, Assistant Acting Director, Slovenian Research and Innovation Agency
09:00 – 09:20	
09:20 – 11:05	Council recommendation on the guiding principles of knowledge valorization Commission recommendation of the Code of practice on the management of intellectual assets for knowledge valorization Commission recommendation on the code of practice on standardization Round table Knowledge Valorization: Empowering Slovenia's Future
11:05 – 11:35	Break
11:35 – 13:05	Best innovation with commercial potential: Pitch competition
13:05 – 14:00	Light lunch
14:00 – 14:20	Award announcement: Best innovation with commercial potential
14:20 – 14:30	Break
14:30 – 16:20	Paper presentations: scientific papers on technology transfer and intellectual property Parallel session: Connecting education system with academia: Presentations of selected research topics and proposals for cooperation
16:20	Closing Remarks

Day 2 – 13. October 2023

Jožef Stefan Institute, Grand Lecture Room

12:00 – 12:01	Opening greeting
12:01 – 12:05	Musical performance
12:05 – 12:10	Welcome Speech Prof. Boštjan Zalar, Director, Jožef Stefan Institute
12:10 – 12:15	Opening Speech Dr. Nataša Pirc Musar, President of the Republic of Slovenia
12:15 – 12:20	Speech Prof. Mojca Ciglarič, Dean, Faculty of Computer and Information Science, University of Ljubljana
12:20 – 12:30	IS2023 Awards ceremony Announcement of the best papers at the conference 16th ITTC Awards ceremony: award for the best innovation with commercial potential in the year 2023
12:55 – 13:00	Musical performance

Welcome Addresses

Dr. Romana Jordan

Assistant Director for EU Affairs, Jožef Stefan Institute

Summary

Today, we gather as a community dedicated to science, research, and innovation. At the Jožef Stefan Institute, we're dedicated not only to advancing knowledge in various scientific fields but also to transforming research into sustainable solutions that improve life and the environment, particularly through key technologies like quantum, nanotechnologies, and biotechnologies.

In our role as scientists, we face daily challenges, tasked with providing national and global solutions. Since the inception of the first International Technology Transfer Conference, we've learned from global institutions, enhancing our technology transfer system and actively contributing to Slovenia's national innovation system. This includes tackling funding challenges for spin-out companies and influencing legislative changes in research and innovation.

A notable advancement is the Central and Eastern European Technology Transfer initiative, a collaborative investment program offering pre-incorporation investment opportunities for spin-out teams. Another breakthrough is the incorporation of spin-outs in the national Act on Scientific Research and Innovation, allowing public research organizations to take equity in spin-outs, which presents both challenges and opportunities.

The 16th International Conference on Technology Transfer reflects our journey, especially in the innovation competition, where participants have begun commercializing their research, leading to successful spin-outs. The competition has been key in guiding entrepreneurial researchers in business model development and pitching. The growth of the conference, marked by the inclusion of peer-reviewed contributions, has enriched our knowledge and awareness of technology transfer.

Lastly, the evolving organizational structure and industry cooperation at the Jožef Stefan Institute highlight our dedicated team's efforts over the past decade and a half in supporting researchers in commercializing and advancing their innovations.

Dr. Jure Gašparič

State Secretary, Ministry of Higher Education, Science and Innovation

Summary

As you may know, our Ministry is somewhat like a startup, being so newly established. This gives us fresh enthusiasm and a strong dedication to our mission. Our primary goal is to transform knowledge into practical applications. This mission is not just about advancing our societal development, but also about creating a nurturing environment for research and innovation.

A crucial milestone in our journey is the concept of knowledge valorization. I believe that knowledge valorization should go beyond just numbers and statistics. While these metrics are undeniably essential in our work, providing us with valuable insights, the true essence of knowledge valorization lies in its potential to make a tangible impact on our society. It's about harnessing the power of knowledge to bring about meaningful change and improvement in various aspects of our societal life.

Therefore, I urge everyone here to actively engage in the dialogues during this conference. Let's share our experiences and insights, which are invaluable in fostering a robust knowledge ecosystem. It's through these exchanges that we can forge strong partnerships and collaborations. These connections are crucial not just for advancing our individual endeavours but also for driving collective progress in the field of science and innovation.

As we proceed with the conference, I extend my best wishes for it to be a fruitful and enlightening experience for all of us. Let's seize this opportunity to learn from each other, to inspire and be inspired, and to lay down the groundwork for future collaborations that will propel our shared mission forward. Here's to a conference that's not only fruitful in its immediate outcomes but also influential in shaping the future landscape of knowledge valorization and societal development.

Dr. Peter Dröll

Director for Prosperity, Directorate-General for Research and Innovation, European Commission

Summary

Research and innovation play a tremendously important role in the possibly bright future of our society. In July 2023, a strategic foresight report has been published by the EC. It has four scenarios for the transition of the EU to something which would correspond to the EU's ambition to be the first climate-neutral continent. The four scenarios depend on whether they are driven (i) by industry and business – that would be a green boost scenario; or (ii) by states, strong government taking actions - that would be the eco-states scenario; or (iii) by citizens, communes, communities – that would be the local eco-states scenario; or (iv) the fourth scenario, the least desirable, is actually that our transition would be driven by crises. Over this summer we've all seen that our crises are increasing; you have seen it in a particularly painful way here in Slovenia. The conclusion from this foresight report is that we need clear transition pathways. First, we need a new social contract because our societies risk drifting apart (polarization). In addition to this, we would need to pay more attention to intergenerational solidarity across Europe. This is just one example of science providing the evidence base for building a better and stronger future. That is at the heart of what knowledge valorization is about, creating from new knowledge value for the economy and for society by linking different actors, because our problems are increasingly complex linking disciplines, and actors for creating this value in society. When we look at the EU more generally we can do better in the field of knowledge valorization. For that reason, we took policy action and prepared (i) the council recommendation on the guiding principles on knowledge valorization, (ii) the commission recommendation of the code of practice on the management of intellectual assets for knowledge valorization, (iii) the commission recommendation on the code of practice on standardization. It is very important that we widen the notion from technology to knowledge transfer. Technology transfer is central to knowledge valorization, but it's no longer just this transfer, it's co-creation, it's combining actors, it's bringing disciplines together. Second, it should be very broad, it's not just traditional players, universities, businesses, and administration, it's also civil society organizations, foundations, etc. And the third very important element is the entrepreneurial spirit.

It's fantastic what you said about your ministry being a sort of a startup. We need solutions. We need a solution-oriented approach. I will see whether we can also consider ourselves as a startup back in the research department in Brussels. Besides two codes, on intellectual property or intellectual assets and standardization, as presented today, we are also working on two more codes to make them practical and applicable, regarding principles on business-academia cooperation, where Slovenia is particularly strong, and on citizen participation. There is a public consultation going on right now, so it would be great if you can engage, if you haven't done it yet.

How we can deal with the future? It doesn't look so bright right now if we're honest with ourselves. Let's take courage from a quote from Maria Skłodowska-Curie, who once said, that there's nothing to be feared, only to be understood. And now it is the time to fear less and to understand more.

Dr. Levin Pal

Assistant Acting Director, Slovenian Research and Innovation Agency

Summary

Since the adoption of the Act on Scientific Research and Innovation Activity in Slovenia in 2021, we have witnessed significant development and regulation in the fields of innovation and innovation management, including knowledge valorization, at both the national level and within our agency. This act marks a new era of structured innovation efforts in Slovenia, but it's important to note that it doesn't mean innovation was absent before. In fact, the ongoing series of this international technology transfer conference, now in its 16th iteration, is a testament to Slovenia's long-standing commitment to innovation.

The collaboration fostered by the Ministry of Higher Education, Science, and Innovation, along with the European Regional Development Fund, has been particularly impactful. From 2017 to 2022, they brought together technology transfer offices from the eight major Slovenian public research organizations into a consortium. This initiative enabled a fruitful exchange of knowledge and best practices, which I find incredibly valuable.

Personally, having spent over a decade working in the technology transfer office at the Jožef Stefan Institute, I feel a deep connection to this area. It's heartening to return to the conference and see the proactive engagement of researchers in international collaborations and innovative projects.

I am confident that this event will further enhance knowledge exchange among participants and foster effective networking. Such interactions are crucial for establishing strong collaborations and exploring new opportunities for innovation. I am excited to see the new connections and collaborative ventures that will emerge from this conference, contributing to the advancement of our collective innovation goals.

Keynote Speech

Council Recommendation on the Guiding Principles on Knowledge Valorization

Dr. Tomaž Boh

Acting Director-General, Ministry of Higher Education, Science and Innovation

Summary

The council's recommendations on guiding principles for knowledge valorisation are a crucial aspect of our collective effort to harness knowledge for maximum economic and societal benefit. Understanding the importance of knowledge valorisation is vital, especially in the context of our rapidly changing world, where societal value is increasingly paramount alongside economic considerations.

Tracing the evolution of these ideas, we see a journey beginning in 2008 with the European Commission's initial document. Since then, much has changed, necessitating a broader societal inclusion in our approach to knowledge valorisation. This approach is integral to achieving more desirable future scenarios, driven not just by economic forces but by societal needs and prosperity on a global scale.

We recognize three key elements in this endeavour: maximizing economic and social value, accelerating innovation, and enhancing research impact. These elements underscore the importance of transitioning from traditional academic realms to the business sector, incorporating citizen science and open science along the way.

The historical overview of our journey shows an evolution from a focus on intellectual property rights management to a more holistic approach, integrating the council's recommendations and conclusions, particularly those achieved during the Slovenian presidency.

The guiding principles, while non-binding, serve as a vital manual for aligning efforts across member states. These principles address changes in our world over the last decades and emphasize technological sovereignty, inclusive policies, and collaborative government approaches in research and innovation.

In Slovenia, our approach to knowledge valorisation has been incorporated into national strategy and law, promoting autonomy and strategic collaborations for research institutions. We've established financial support and incentives to foster this environment.

Furthermore, the concept of open science plays a crucial role in this framework, facilitating the transfer of knowledge for societal benefit without being in conflict with knowledge valorisation.

In closing, knowledge valorisation is not just about introducing new instruments; it's about a mindset change, valuing knowledge and research outcomes, and their transfer to society. We must address societal challenges collectively, striving for a future that aligns with our most desirable scenarios, rather than being driven by catastrophes. Together, with the commission and other stakeholders, we aim to build a better and more prosperous future for society.

Keynote Speech

Commission Recommendation of the Code of Practice on the Management of Intellectual Assets for Knowledge Valorization

Florentina Golisteanu

Policy Officer for Valorisation Policies and Intellectual Property Rights, Directorate-General for Research and Innovation, European Commission

Summary

Our policy context has evolved, shifting from knowledge transfer to knowledge valorisation. We're moving beyond classical intellectual property rights, considering all forms of knowledge assets as vital for valorisation.

The Commission's recommendations on code management of intellectual assets are designed as flexible, hands-on guidance for organizations to use in accelerating the use of research results. We emphasize the need for each organization to develop a suitable strategy and toolkit for managing these assets and evaluating their tangible and intangible contributions to society.

Our recommendations are structured around three pillars: developing an appropriate strategy, teaming up with the right partners, and scaling up technologies for users. An essential part of this strategy is open science and innovation, ensuring a balance between protected IP and shared knowledge.

We recommend that organizations publish their exploitation strategies and engage in open innovation platforms. This encourages sharing best practices, as seen on the Knowledge Valorization Platform promoted by our DG.

Education, training, and awareness-raising are fundamental in changing mindsets and establishing effective partnerships. We stress the importance of capacity building, professional training in intellectual assets management, and fostering entrepreneurial skills among researchers.

Effective partnerships require clear agreements from the outset, defining contributions and expectations. The European Commission offers support services and toolkits, especially for SMEs and startups, to ease this process.

In conclusion, bridging the gap from intellectual asset creation to market involves careful consideration of protection versus sharing, asset evaluation, and collaboration with professionals. I encourage you to explore the provided resources and engage with our support services.

Keynote Speech

Commission Recommendation on the Code of Practice on Standardization

Ioannis Sagias

Deputy Head of Unit for Valorisation Policies and Intellectual Property Rights, Directorate-General for Research and Innovation, European Commission

Summary

Our goal is to demonstrate practical applications of knowledge valorization, ensuring each channel has at least one tool for effective implementation.

Standardization is a critical element in valorizing knowledge, and transforming research from various scales into globally marketable innovations. Europe has been a leader in standards development, though we now see more global competition. Nevertheless, Europe remains a powerhouse in research-based standards. Our objective is to enhance Europe's role in standardization, recognizing that standards, or "commons," are integral to both technological and social contexts.

For every valorization channel, we aim to provide practical tools and guidance. We've identified a gap between research, innovation, and standardization, often running on parallel tracks. Our strategy includes tapping into the potential of research to develop or improve standards. The Standardization Booster service supports Horizon 2020 or Horizon Europe projects with standardization activities.

Our code of practice aims to merge standardization and research, encouraging closer collaboration. We need more standardization experts to guide researchers and innovators in engaging more with standardization processes.

The code addresses higher education institutions, project partners, and policy stakeholders with tailored recommendations. For higher education, it involves developing standardization strategies, rewarding engagement in standardization activities, and including standardization in performance metrics. Project partners should consider standards in their project landscapes, engage the right partners or expertise, and ensure the sustainability of standardization processes beyond project lifetimes.

Policy stakeholders should prioritize standardization in their agendas, supporting startups and SMEs in meeting standardization needs and engaging in the full research and innovation value chain.

To summarize, our key recommendations focus on integrating standardization at institutional, project, and policy levels. More details are available in the provided links and Florentina's presentation.

This awareness-raising campaign aims to communicate the value of knowledge valorization, creating a common understanding of the term. The Knowledge Valorization Platform is an excellent resource for best practices and peer learning. We also have ongoing consultations on the Code of Practice on Academia Co-Creation and Citizen Engagement until October 20th, which you can find in the presentation.

Round Table

Knowledge Valorization: Empowering Slovenia's Future

Moderator:

Igor E. Bergant

Participants:

- **Dr. Peter Dröll**, Director for Prosperity, Directorate-General for Research and Innovation, European Commission
- **Dr. Tomaž Boh**, Acting Director-General at the Science Directorate, Ministry of Higher Education, Science and Innovation
- **Dr. Levin Pal**, Assistant Acting Director, Slovenian Research and Innovation Agency
- **Jernej Salecl**, Director-General at the Industry, Entrepreneurship and Internationalisation Directorate, Ministry of the Economy, Tourism and Sport
- **Dr. Tomaž Karčnik**, DATANA Project and Product Manager at BioSistemika d.o.o.

Summary of the Round Table

The discussion delved into various aspects of innovation, both in the broader European context and specifically within Slovenia. Dr. Dröll initiated the conversation by emphasizing the importance of increased investment in R&D for Europe to become a global innovation leader, pointing out that the EU's investment in R&D lags behind other major economies like the US, Japan, and China. He also stressed the need for a stronger single EU market, which would enhance the return on innovation investments.

Expanding on the idea of directionality in innovation, Dr. Dröll highlighted Europe's ambition to be the first climate-neutral continent, noting Europe's global leadership in green technology innovation and patents. This, he suggested, is an area where Europe, including Slovenia, can excel and gain a competitive edge.

Dr. Boh addressed Slovenia's challenges in innovation, pointing to the country's history of frequently changing strategic directions and the need for a consistent approach. He emphasized the importance of not only investing more but also fostering a culture of risk-taking and ambitious thinking within the Slovenian research and innovation ecosystem.

Dr. Pal spoke about the recent restructuring of the Slovenian Research Agency, noting the slow but steady progress in establishing an innovation-focused sector within the agency. Despite the bureaucratic hurdles, he was optimistic about the agency's future role in transforming Slovenia's innovation landscape, starting with the transfer of innovation projects from various ministries in 2024.

Mr. Salecl brought up the concept of the 'valley of death' in startup development, highlighting the significant challenges faced by Slovenian startups in bridging the gap between initial support and achieving market success. He advocated for a change in mentality among

researchers and entrepreneurs and stressed the importance of stable financial resources, along with a need for academia to embrace the commercialization of inventions and for entrepreneurs to be open to foreign investment and knowledge.

Dr. Karčnik shared insights from the success of BioSistemika, underscoring the importance of flexibility, a multidisciplinary approach, and the pursuit of high-risk, high-reward projects. He pointed out that Slovenia's small market size can be advantageous, pushing companies to think and operate internationally.

Intellectual property emerged as a crucial topic, with Dr. Dröll advocating for a strategic approach to IP management, where IP is viewed as an investment asset rather than just a protective measure. Dr. Boh mentioned initiatives at the EU level to support knowledge valorization and the need for a community of professionals in this area.

The discussion concluded with a consensus on the need for a more cohesive and strategic approach to fostering innovation in Slovenia. This involves government support, academic participation, and a private sector willing to take risks and think beyond local markets. The panellists agreed that such a multifaceted strategy is essential for Slovenia to realize its potential as a vibrant innovation hub.

Pitch Competition:

Best Innovation with Commercial Potential

Moderator:

Robert Blatnik, MSc

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

The 16th annual Competition for the Best Innovation in 2023 at Public Research Organizations (PROs) is designed to encourage researchers from PROs to develop business models for the commercialization of their inventions. Each year, the competition commences with a public call for teams possessing inventive technologies. Eligible participants include individuals employed at PROs who are working on transforming innovative technologies into viable business models. These proposed business models involve either licensing the technology to industrial partners or commercializing it through their own spin-out companies.

The teams have prepared a description of their technology, including the key discoveries underpinning their commercial activities, whether through licensing or spin-out ventures. An essential component of this description is the proposed business model and the value proposition for potential customers. Adhering to guidelines provided by the Conference Organizer through dedicated preparatory webinars and individual consultations, the teams have developed pitch presentations. In these sessions, researchers familiarized themselves with the presentation guidelines and received feedback to refine their business models. Through a series of individual consultations and pitch rehearsal sessions, we have assisted them in creating pitches for their inventions and business models, aimed at potential investors or partners for either technology licensing or commercializing their technology within their spin-out companies.

The discussions focused on identifying the strengths of each participant's business model and how to create an engaging and effective presentation for their target audience. The guidelines included several crucial elements for preparing a pitch: a cover/introduction slide with a name and a compelling tagline, specifics of the deal (what is being sold, to whom, and at what price), market analysis and segmentation (target customer, market size, and trends), customer value proposition, and the timing for the solution. Other aspects involved detailing the product, financial aspects, impact, competitive advantage, the team, and the founder's or inventor's vision. Emphasis was also placed on a concise summary featuring three key takeaway points.

Moreover, the written description of the proposed invention/innovation consisted of specific chapters: the title of the idea with a brief commercial tagline, a summary, scientific details, the opportunity (problem-solution dynamics), the plan (developmental stage and business model), insights into the team, and the projected impact.

The teams and their applications, along with the proposed business models, were evaluated by an international panel of experts comprising the evaluation commission.

The members of this commission include:

- **Alexandre Massart**, Managing Partner Blend Ventures Ltd.
- **Ioannis Sagiias**, Deputy Head of Unit for Valorisation Policies and IPR DG for Research and Innovation, EC
- **Jure Tomc**, CEO of Cresco Innovation & CEO of JT Business Development
- **Andrea Di Anselmo**, President of META Group

The experts assessed the proposals in two phases: an initial evaluation of the written descriptions and a subsequent evaluation of the five-minute pitches presented at the Conference. These evaluations were based on predetermined criteria established in the public call. The evaluation criteria, outlined in Table 1, amounted to a maximum of 20 points for the written applications. Following the pitch presentations, the experts deliberated, shared their views and opinions and selected the winner(s) based on collective assessments.

In its 16th year, this traditional annual pitch competition inspired six innovative and entrepreneurial research teams to develop business models for the commercialization of their inventions and participate in the competition. Team members actively engaged in preparatory workshops and rehearsals, focusing on refining their proposed business models and pitch presentations. The Jožef Stefan Institute's Office for Substantive Project Support, Technology Transfer, and Innovation organized and led these workshops, with assistance from the Office for Project Informatics, Organization of Thematic Events and Conferences (SPIK). The entrepreneurial research team members are either fully or partially employed at the following Public Research Organizations (PROs): the Agriculture Institute of Slovenia, the University of Maribor, the Jožef Stefan Institute, the National Institute of Chemistry, and the National Institute of Biology.

Criteria	Short description of the criteria	Max. points
Application	Which problem is the technology solving? Has this been verified with end users? What is the Technology Readiness Level (TRL)? How many different applications can the technology be used for? Is there a well-defined end-user for this technology? Is there any barrier to the end-user adopting this solution? Is there a clear existing end-user need for this solution? How well does this solution match the users' needs? When will this solution be ready for market? Will this solution have a social impact or bring other benefits to people?	10
Value chain	Where does the technology fit in? How well does the technology fit the existing value chain?	3
Market size and development costs	How is the market size in relation to the development costs? How large is the potential customer community for this product? 1000, 100K, 1M, 100M? How strong is the competition in this market? How receptive will the market be to your idea? What total market share do you expect to get in 5 years? How aligned are the market drivers to the proposed solution? What Is the perceived value by the end user? What is the perceived Strength level overall? What is the perceived Weakness level overall?	2

	<p>What is the perceived Opportunity level overall?</p> <p>What is the perceived Threat level in your overall?</p> <p>Only limited development is required before an investor will commit.</p> <p>Funds are available to complete the development investor or other sources (e.g. PoC).</p> <p>The time to market Is shorter or comparable to the time scale for any competition.</p> <p>For VCs: The costs associated with taking the product to market are at least 25 times smaller than the value of the market.</p>	
Competition	<p>What do the end users use today? Is any other technology underway?</p> <p>What is the expected competition level when you hit the market</p> <p>How good is the present solution (not yours) in solving the problem?</p> <p>How good will any expected future solutions (not yours) be in solving the problem?</p> <p>How good will your solution be in solving the problem?</p> <p>How strong is your market differentiator?</p>	1
The team	<p>Are the inventors, members of the team, dedicated to the idea?</p> <p>The researchers have unique skills, have experience with tech transfer, and are enthusiastic about following the project through</p> <p>Does the team have the technical, business, marketing, and financing skills needed to understand and develop the idea into a marketable product?</p>	3
IPR & Regulatory	<p>Can the intellectual property of the technology be protected?</p> <p>How strong is the patent likely to be?</p> <p>How dense is the IPR landscape in this technology area in terms of pending and granted patents?</p> <p>How strong is the IPR competition?</p> <p>How complex is the regulatory system in this area</p> <p>Is the technology ready for investment?</p>	1

Table 1: Criteria for evaluating the applications (source: Jon Wulff Petersen, TTO A/S, Denmark)

Below are the short summaries of all the competing teams and their technologies

Fruit Plant Memory Game: Nurturing Botanical Awareness in Schools

Authors/inventors: Boštjan Godec

Presenter: Boštjan Godec

PRO: Agriculture Institute of Slovenia, Slovenia

Summary:

Our innovation, the Fruit Plant Memory Game, serves as an extraordinary solution to the pressing issue of declining awareness among school-age students about the diverse fruit plants indigenous to our region. Rooted in education and entertainment, this didactic aid empowers students with a comprehensive understanding of local flora, transforming the process of learning about fruit plants into a fun and memorable experience.

The growing disconnection between the younger generation and traditional knowledge regarding local fruit plants threatens their sustainability and presents a critical issue endangering their cultural and environmental significance.

The Fruit Plant Memory Game is meticulously designed to bridge this gap, offering an interactive and immersive platform that captivates and educates students about the rich diversity of indigenous fruit plants in our region.

Our innovation targets an educational equipment market encompassing educational institutions, schools, and parents keen on fostering a deep-rooted connection to botanical heritage among the younger generation. The uniqueness of our approach sets us apart from conventional educational tools, making it an attractive proposition for both educators and students.

Our vision involves consistent growth driven by a well-structured plan for financing, content enrichment by adding fruit species that bear the hallmark of our wider production market, and widespread distribution. We are committed to ensuring the longevity and expansion of the Fruit Plant Memory Game as well as to introducing additional educational aids that could complete the Fruit Plant Memory Game.



Figure 1: Photo of the Fruit Plant Memory Game, consisting of 18 pairs presenting the diverse fruit plants indigenous to our region.



Figure 2: Photo of the cover of the publication "Descriptions of fruit species on the edge of the forest".

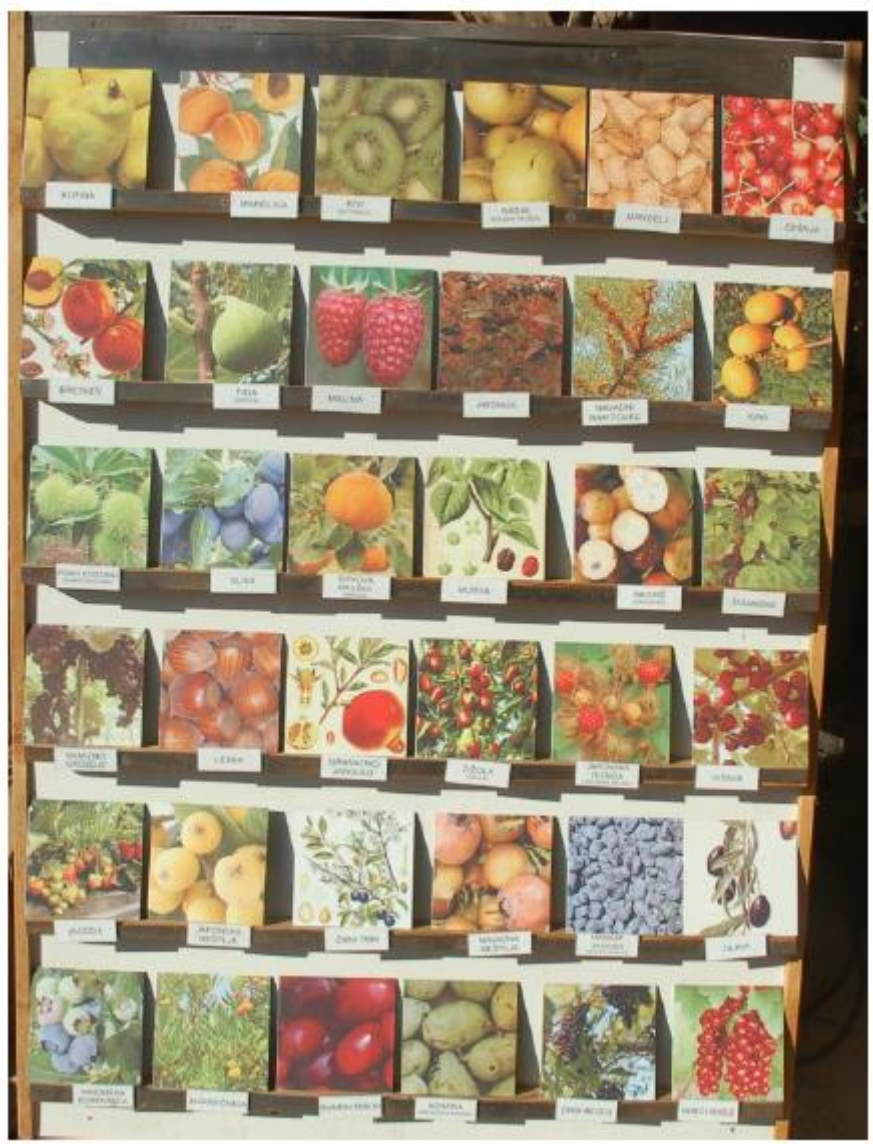


Figure 3: Photo of the stand with tiles with photos and pictures of the fruit species.

WatchBuilt: Be Green, Be Digital and Be on Time

Authors/inventors: Zoran Pučko, Danijel Rebolj

Presenter: Danijel Rebolj

PRO: University of Maribor, Slovenia

Summary:

Many construction projects (85%) are not completed within the planned period and the reasons are various. Construction projects are complex with many supply chains and subcontractors. Construction monitoring at the construction site is done manually, which is time-consuming, expensive and often inefficient. There are individual solutions on the market, but they are only for support, are semi-automatic and require the engagement of experts. The WatchBuilt solution enables fully automated construction monitoring from data acquisition to report generation, working in real-time, inside and outside the building under construction and without additional work activities for the manager or supervisor.

The WatchBuilt solution is a comprehensive solution that combines many advanced technologies and applies to all types of construction projects. The main users are all construction companies that strive to complete construction projects on time and within budget.

The WatchBuilt solution is at the TRL 5 level and for successful implementation in construction practice, further development is required, where the international team of founders of the deep tech startup (spin off) strives to obtain funding and find development partners and investors to commercialize the innovation with the goal of offering the solution at the end of the year 2024.

In the development phase, the team is already working closely with individual construction companies as part of pilot projects, as the need for a comprehensive working solution is recognized. Thus, the interest in joint development is mutual and targeted development of the solution based on the needs of the users is guaranteed.

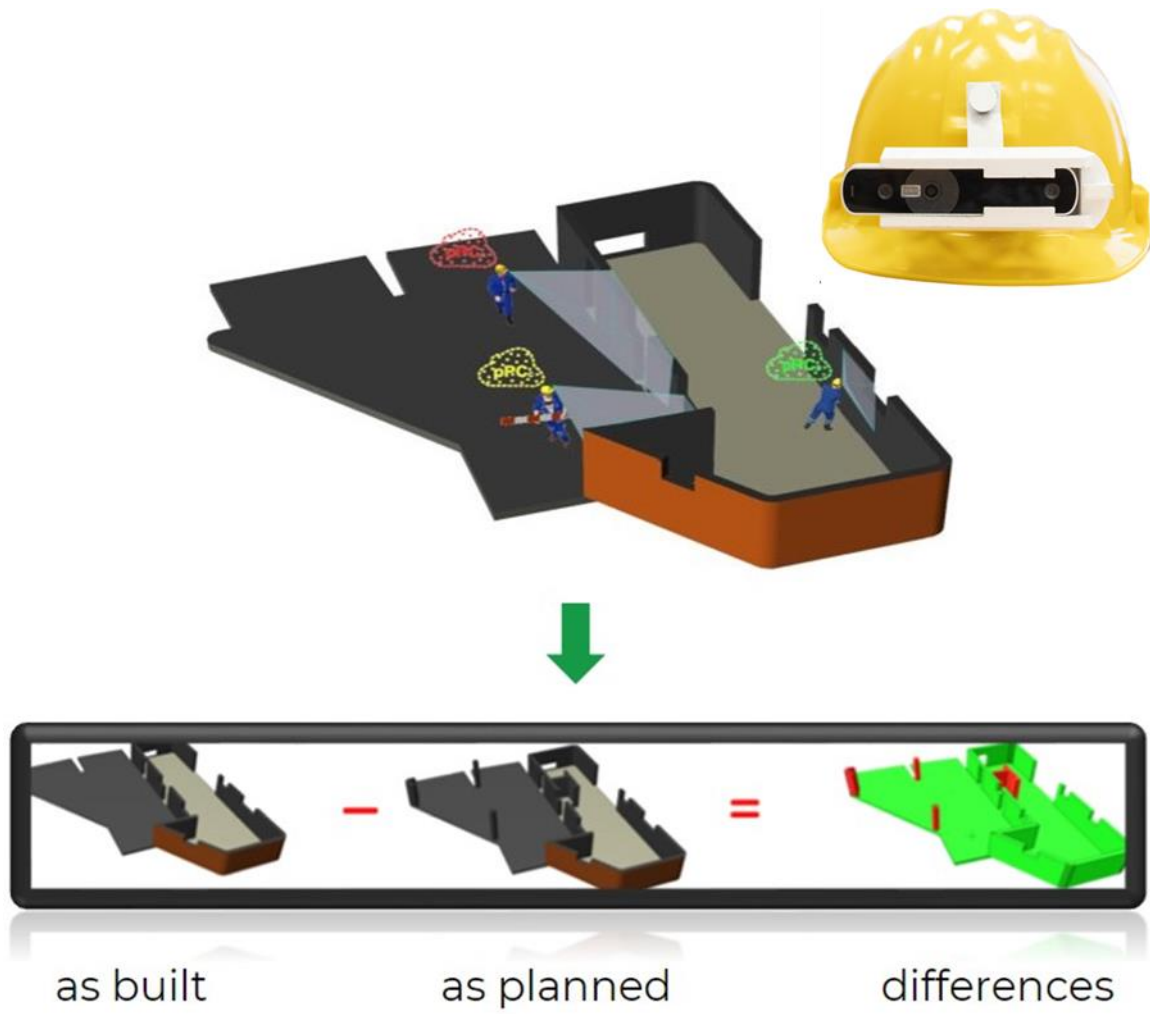


Figure 1: A basic conceptual presentation of the WatchBuilt solution and prototype helmet with a 3D scanner.

AeroDrops: Counting of Invisible

Author/inventor: Matjaž Malok, Darko Kavšek, Maja Remškar

Presenter: Matjaž Malok

PRO: Jožef Stefan Institute, Slovenia

Summary:

The transmission of airborne diseases presents a significant challenge in environments such as hospitals, care institutions, schools, and kindergartens. Furthermore, air pollution with nanoparticles and the spreading of airborne diseases in crowded places have been globally identified as a risk to public health. Nonetheless, there is a lack of cost-effective instruments capable of detecting aerosol droplets containing viruses. This prompted our team, comprising members equipped with diverse knowledge and skills in physics, engineering, and business, to develop a platform for monitoring infection spread through aerosolized respiratory droplets. This platform involves the detector of single respiratory droplets (AeroDrops), which operates purely on electric principle, signal recognition and processing, customer and partnership discovery, targeted research, networking, and preparation steps for commercialization. The AeroDrops is portable, user-friendly, reliable, and of rapid response. The basic principle of its operation is patent-protected (US 9,151,724B2). Intellectual property is owned by the Jožef Stefan Institute and Nanotul Ltd. The current TRL is 5.

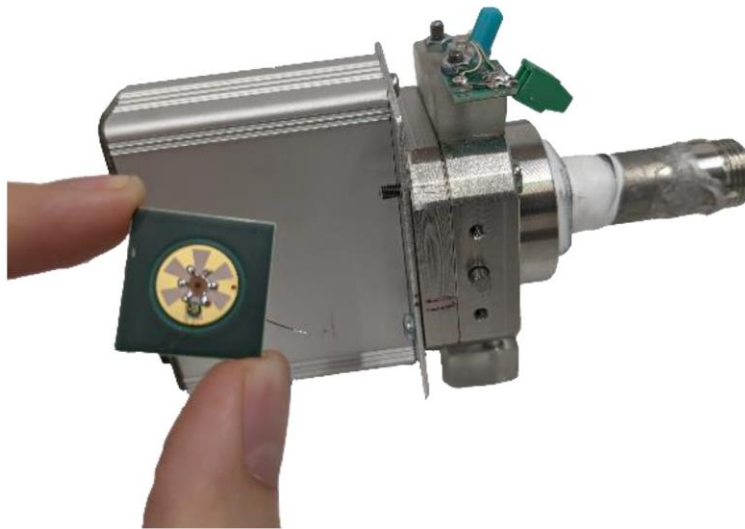


Figure 1: Prototype of the device showcasing the anticipated size of the final

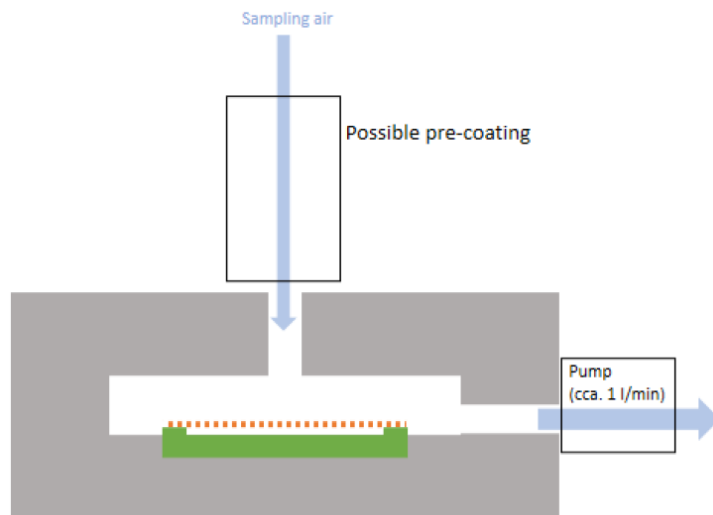


Figure 2: Schematic of the detector: Sampled air is directed into the detector (depicted in green) via the nozzle. The airflow is generated by the pump.

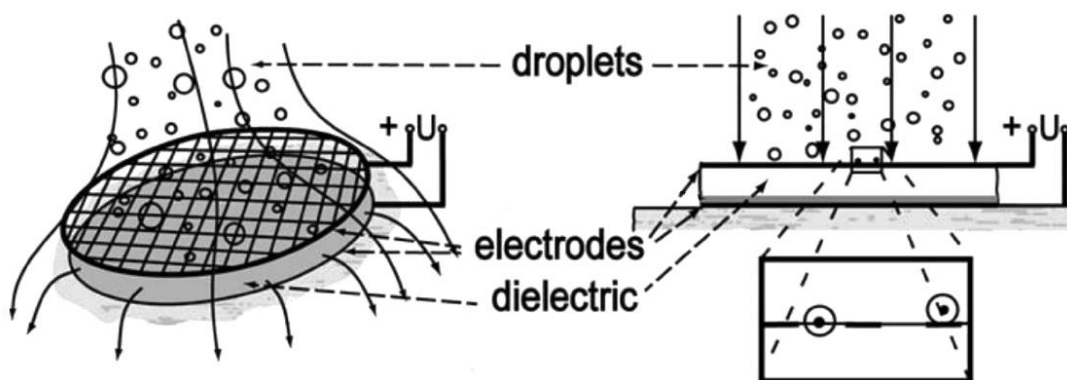


Figure 3: The principle of particle detection involves introducing droplets into a dielectric layer situated between two water-filled electrodes. Upon introduction, these droplets generate a crater, altering the dielectric quantity between the electrodes. This alteration is then translated into a pulse signal.

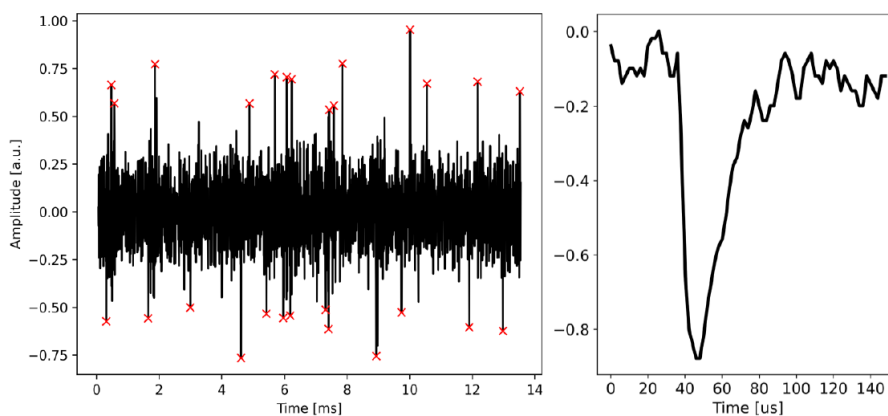


Figure 4: Recorded signals with marked peaks resulting from the impact of nanoparticles on the detector. The number of pulses reflects the particle concentration, while the amplitude indicates the particle size.

A Novel Platform for the Production of Cold Atoms for Quantum Computers and Quantum Sensors

Authors/inventors: Erik Zupanič, Peter Jeglič

Presenters: Erik Zupanič, Peter Jeglič

PRO: Jožef Stefan Institute, Slovenia

Summary:

Quantum technologies, especially quantum computers (QC) and quantum sensors (QS) promise revolutionary advancements in numerous fields. QCs can solve complex problems beyond classical computers while Qs offer unparalleled precision and sensitivity. The global market for QC alone was valued at 14 billion USD in 2022 expecting to reach 143 billion USD in 2032.

The main building block of any QC is a qubit and more qubits are required to solve more complex problems. Qubits are realized using, e.g., superconducting circuits, photons, trapped ions or cold atoms. Although cold atoms emerged as one of the most promising methods, preparing a large number (thousands) of cold atoms/qubits is still an insurmountable problem. Our solution to the problem of scaling the number of atoms allows us not only to build QCs with (ten)thousands of qubits but also to make them compact, robust and more affordable. Additionally, our platform can be used as a source of cold atoms for different Qs. It offers a superior alternative to existing slow and complex approaches, enabling major advances in quantum devices.

Our first goal is to develop the platform for rapid and scalable production of cold atoms which can be used by companies for their quantum devices. Our second goal is to develop affordable QC based on our platform for large and medium-sized enterprises, and research/educational institutions. The founding team has expertise and experience in key areas, diverse knowledge, and business experience, comes from a research/academic environment and has access to a huge pool of scientific talent in southeast Europe. Our goal is to become one of the leading European companies developing cold atom technology for quantum applications.

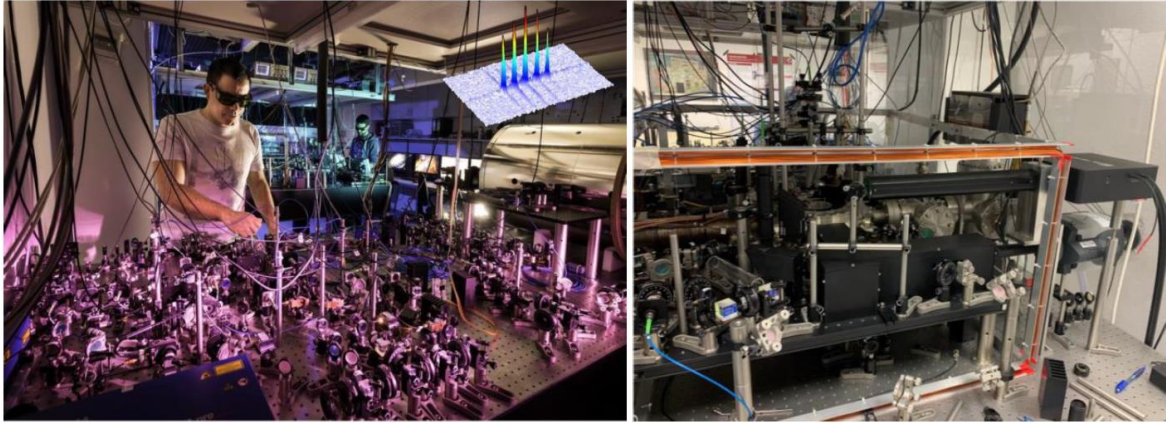


Figure 1: Laboratory for cold atoms at Jožef Stefan Institute (left) with Aresis laser optical tweezers integrated into the experimental system (right).

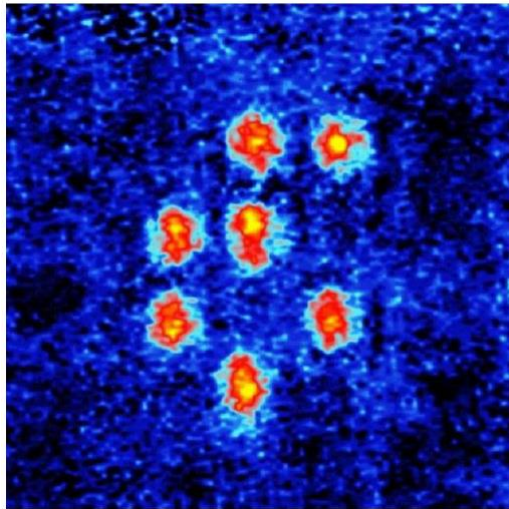


Figure 2: The Jožef Stefan Institute logo formed with clouds of a few ten thousand cold Cs atoms, trapped in optical traps created with Aresis optical tweezers.

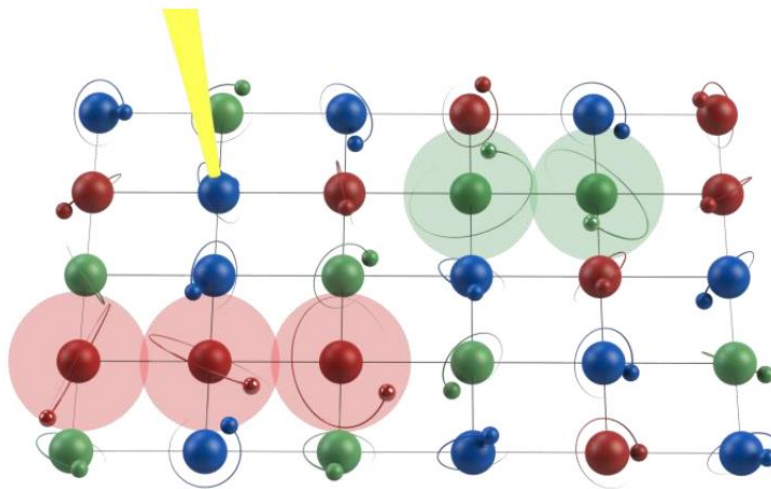


Figure 3: Schematic representation of an array of cold atoms, individually addressable and excited into Rydberg states, used for quantum computing.

Bithiazoles for Safer Combination Chemotherapy

Authors/inventors: Andrej Perdih

Presenter: Andrej Perdih

PRO: National Institute of Chemistry, Slovenia

Summary:

Cancer is one of the most prevalent diseases. WHO reports nearly 10 million deaths and 20 million newly diagnosed cases per year. Global spending on cancer drugs reached \$164 billion in 2020, with an average annual growth rate of 14.3%. Human DNA topoisomerase II α is a known and validated target for chemotherapy because it catalyses topological changes in DNA. Topoisomerase poisons currently used in chemotherapy suffer from serious side effects such as cardiotoxicity and induction of secondary malignancies. This is attributed to their ability to cause double-strand breaks (DBS) in the DNA molecule, which complicates chemotherapy with these drugs.

We have developed a chemical class of substituted 4,5'-bithiazoles for use in combination chemotherapies with existing chemotherapeutic agents. Bithiazoles inhibit human topoisomerase II α via an alternative ATP-competitive mechanism that is distinct from the mode of action of topo II poisons as well as superior to some clinical topo II poisons. At the cellular level, they exhibit cytotoxicity comparable to clinical topo II agents without inducing DBS. Initial in vivo experiments with selected bithiazole compounds have already shown that it is able to reduce the growth of cancerous tissue in a mouse model.

This technology could enable the development of safer chemotherapy regimens containing these compounds and would be of great benefit to cancer patients worldwide. The technology is already patented and the team at the National Institute of Chemistry has secured innovation funds to fully evaluate its in vivo potential and attract investors, particularly the pharmaceutical industry, which would be interested in licencing the patent to complete the development of a cancer treatment with safer combined chemotherapy.

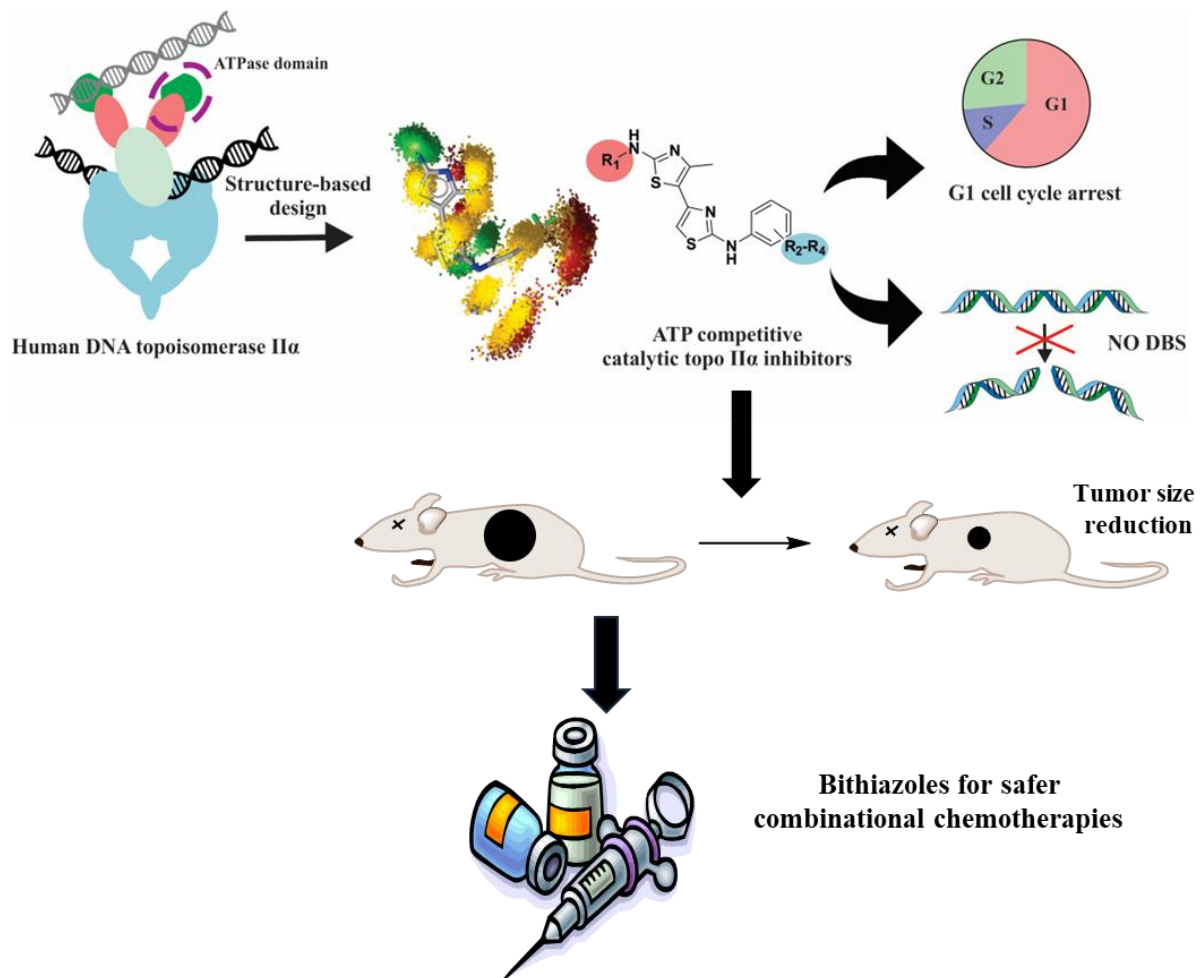


Figure 1: Bithiazols as potential safer chemotherapeutics for combinational therapies.

Sphynx Protect: Next Generation Potato-Incorporated Protectant Against Colorado Potato Beetle

Authors/inventors: Marko Petek¹, Anna Coll¹, Tjaša Lukan¹, Karmen Pogačar¹, Kristina Gruden¹, Anastasija Panevska², Maja Grundner², Kristina Sepčič², Primož Žigon³, Jaka Razinger³

Presenter: Marko Petek

PROs: ¹National Institute of Biology, Slovenia; ²Biotechnical faculty, University of Ljubljana, Slovenia; ³Agricultural Institute of Slovenia, Slovenia

Summary:

The Colorado potato beetle (CPB) is a notorious potato pest, causing billions of USD in economic losses worldwide. Without protection, approximately 75% of potato production would be lost due to CPB. The beetle has developed resistance to most insecticides, making its control a challenge. Our innovative product is the “Sphynx Protect” potato plant producing a biopesticide that effectively protects the plant against CPB (Figure 1) by forming pores in the membranes of beetle’s gut cells. The product is based on two filed patents in the fields of pest control and agricultural biotechnology. This is the first and so far, the only biopesticide that relies on binding to membrane lipids of beetle cells. Other pore-forming biopesticides recognize the beetle’s proteins, thus a single mutation of these proteins allows beetles to develop resistance, while this is not possible in our case.

Based on the market size forecast, considering tightening regulations on synthetic pesticides, biopesticide utilization as an alternative greener pest control approach is expected to increase exponentially.

The inventor team involves 10 scientists from different disciplines, including members with entrepreneurial exposure. Our goal is to develop the product to technology readiness level (TRL) 5 (Figure 2). Reaching market release (TLR 9) would require further approval procedures, production scaling, and a well-branched system of international distributors. Our strategy is to partner with industry in the agribiotech sector to bring the solution to market.



cv. Desiree Sphynx Protect

Figure 1: “Sphynx Protect” potatoes effectively protect against CPB in comparison with the non-modified cv. Desiree potato line

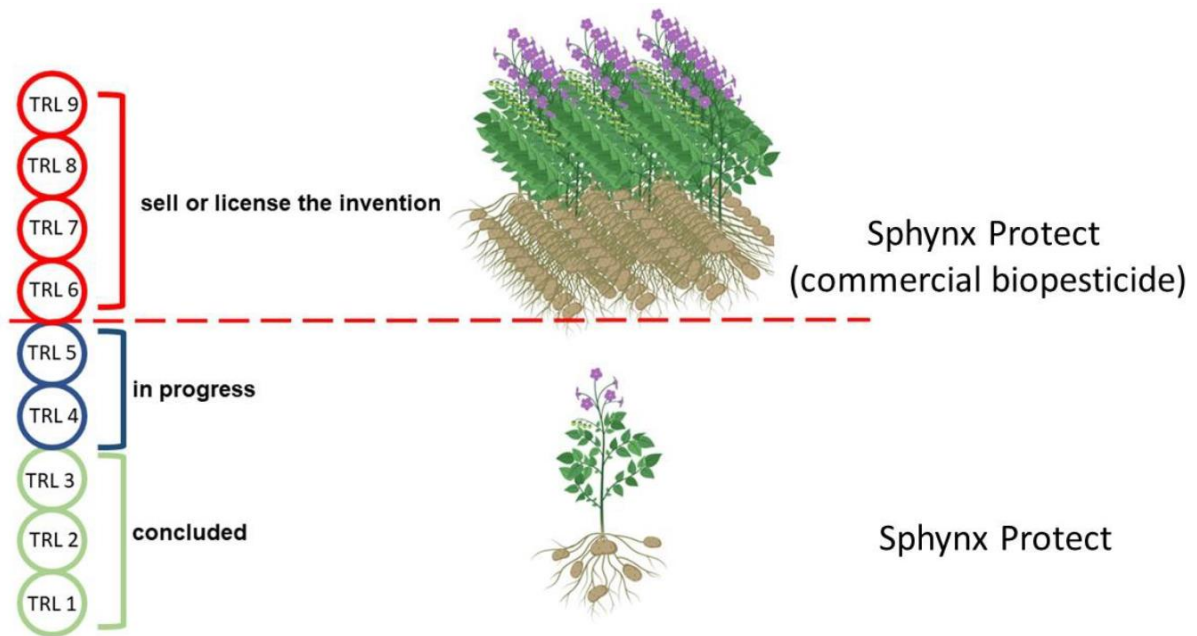


Figure 3: Development stages of “Sphynx Protect” potato

Award Announcement

Best Innovation with Commercial Potential

Moderator:

Robert Blatnik, MSc

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

Evaluation commission:

- **Alexandre Massart**, Managing Partner Blend Ventures Ltd.
- **Ioannis Sagias**, Deputy Head of Unit for Valorisation Policies and IPR DG for Research and Innovation, EC
- **Jure Tomc**, CEO of Cresco Innovation & CEO of JT Business Development
- **Andrea Di Anselmo**, President of META Group

The evaluation commission members assessed all six teams and their applications based on the evaluation criteria. After the pitch presentations, the commission decided that two teams, in comparison to the other four, showed the greatest potential for future use and market adoption. Team TT04, despite significant financing requirements and potential risks associated with relatively low technology readiness, demonstrated great potential in the upcoming era of quantum technologies. On the other hand, the commission decided that Team TT02 presented a well-defined product which is closer to the market and with a clear value proposition.

The evaluation commission weighed all the criteria in the evaluation process and decided that two equally ranked winning teams, in comparison to the other four, showed the greatest potential for future use and market adoption.

The winning teams are (in alphabetical order):

- Peter Jeglič and Erik Zupanič, **Jožef Stefan Institute for Novel Platform for the Production of Cold Atoms for Quantum Computers and Quantum Sensors.**
- Zoran Pučko, **University of Maribor for WatchBuilt: Be Green, Be Digital and Be on Time.**

Each team received an **award of 1250 €**.

Congratulations!

Award Announcement

WIPO IP Enterprise Trophy

Moderator:

Robert Blatnik, MSc

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

By celebrating the achievements of inventors, creators and innovative companies around the world, the WIPO Awards aim to foster a culture in which innovation and creativity are encouraged and appreciated at every level of society.

Three years ago, at the 13th International Technology Transfer Conference, the WIPO awards were presented in Slovenia for the first time.

The members of this year's selection committee were:

- **Alojz Barlič**, Slovenian Intellectual Property Office (SIPO)
- **Nina Urbanič**, Slovene Enterprise Fund
- **Christoph Kempf**, IPEK – Institute of Product Engineering, Karlsruhe Institute of Technology (KIT)

The WIPO IP Enterprise Trophy is awarding a Slovenian enterprise for its good practice in constant and methodological use of the IP system in its business activities.

The main criteria for the selection, which have remained unchanged for the last 11 years, were the following:

- The number of cooperations with public research organisations,
- The number of employments of your PhD from public research organisations,
- New products or services launched to the market based on TT and protected IP,
- Public campaigns to promote the appreciation of companies' IP assets,
- Encouragements for creative and inventive activity among staff,
- Programs to use the IP-based business for public goals and
- Commercial/marketing strategies based on effective use of the IP system.

Among the applications, the jury has decided to give the IP Enterprise Trophy to the company **Krka d.d.**

Justification:

Krka, d. d., Novo mesto, one of the leading generic pharmaceutical companies, has been throughout its corporate development actively cooperating with national and foreign public-research organizations. Cooperation projects in the course of development of the new medicinal/pharmaceutical products and technologies are especially important in the field of essential components of their products, processes and other innovative solutions. Several of these partnerships resulted in the establishment of long-term in-depth collaborations where corresponding findings and innovations are regularly protected with the appropriate intellectual property (IP) rights – from patents to trademarks – both on Slovenian and international levels, focused on markets, where specific products are marketed. Furthermore, the appreciation and relevance of the IP assets is shown in diverse ways: Krka Awards for young researchers have become one of the most renowned national events which promote science and innovation among young generations in more than 50 years of their existence, Krka has established a widespread system supporting and encouraging a creative and innovative environment by awarding its employees for inventions and innovations, public campaigns, printed and electronic promotion materials, videos, presentations and discussions, etc. where different public channels are used. Furthermore, the company promotes cooperation between academia and business with participation in regional, domestic and international innovation competitions. Krka's experts actively participate in different curricula at universities. Their company culture is oriented towards encouraging creative and innovative thinking both within and outside the company.

Award Announcement

WIPO Medal for Inventors

Moderator:

Robert Blatnik, MSc

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

The WIPO Medal for Inventors is awarding a Slovenian public researcher for his contribution to national wealth and development.

The members of the selection committee were:

- Alojz Barlič, Slovenian Intellectual Property Office (SIPO)
- Nina Urbanič, Slovene Enterprise Fund
- Christoph Kempf, IPEK – Institute of Product Engineering, Karlsruhe Institute of Technology (KIT)

The entry criteria for the selection were granted patents or utility models in the last 10 years. Further, the patented invention had to show a significant economic and technological impact in Slovenia via:

- creation of a new company or
- creation of new jobs in the companies that cooperate with the researcher or
- the number of new products and services launched to the market.

The committee ranked all applications and decided that the "WIPO Medal for Inventors" goes to **Prof. Ddr. Denis Donlagić**.

Justification:

Prof. Ddr. Denis Donlagić from the Faculty of Electrical Engineering and Computer Science at the University of Maribor has been actively engaged in research work in the fields of laser diodes, fibre optics, sensors, systems and apparatuses. In the last decade his research findings and innovations resulted in eleven granted patents with examination, some of them are in possession of renowned international high-tech companies from Canada and the USA, where one of them is operating through a subsidiary of Lumentum Slovenia (former Optacore) on the Slovenian market with around 100 employees.

Besides the impact on the economy that has been looked at it is worth mentioning that the income from the partnering companies supported the development of the Laboratory for electro-optics and sensor systems at the University of Maribor and allowed for the employment of several young scientists.

Connecting Education System with Academia

Presentations of Selected Research Topics from the Jožef Stefan Institute and Proposals for Cooperation

Moderators:

Urška Mrgole

Office for Project Informatics, Organization of Thematic Events and Conferences, Jožef Stefan Institute

Dr. Tinkara Mlinar

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

As per the Jožef Stefan Institute's mission, the Office for Project Informatics, Organization of Thematic Events and Conferences promotes scientific work and research accomplishments among young people and the rest of the interested public.

During the 16th International Technology Transfer Conference, a concurrent segment titled "Connecting education system with academia: Presentations of selected research topics from jozef stefan institute and proposals for cooperation" was held. This part of the conference targeted high school educators, featuring presentations on chosen research topics from the Jožef Stefan Institute with opportunities for collaborations, along with presentations of projects Excellent in Science.

Presentation of the Possibility of Cooperation Between the Jožef Stefan Institute and Education

Urška Mrgole, Office for Project Informatics, Organization of Thematic Events and Conferences, Jožef Stefan Institute

School visits: every Thursday during the school year, the Office for Project Informatics, Organization of Thematic Events and Conferences, with the help of the Jožef Stefan Institute's research departments, organizes visits to the Institute that are intended for primary and high schools, faculties and everyone else from the school sphere.

Open day at Jožef Stefan Institute: each year at the end of March, traditional Stefan's Days take place at the Institute, marking the birthday (24 March) of the great Slovenian scientist, Jožef Stefan. In the scope of Stefan's Days, the Office for Project Informatics, Organization of Thematic Events and Conferences, in cooperation with the Institute's research departments, organizes the Open Day at Jožef Stefan Institute. Visitors can choose from several visit programmes and look at the laboratories at Jamova cesta in Ljubljana and the Reactor Center near Ljubljana.

Open week at the Jožef Stefan Institute: In the scope of Stefan's Days an open week at Jožef Stefan Institute is organized, where every day of the week one school is welcomed to the Institute for a visit.

Participation in various European projects and initiatives such as "Science with and for Society": The Office for Project Informatics, Organization of Thematic Events and Conferences at the Jožef Stefan Institute enthusiastically participates in various European projects and initiatives with the aim of promoting science and research work among Youth, e.g., the research festival Znanstival, the European Researchers' Night, and European projects such as STEM4Youth. Within the STEM4Youth project, nine chemistry modules were prepared and implemented in 19 Slovenian primary and secondary schools, with 20 mentors and over 500 elementary and high school students participating. The modules are now available online for all schools to implement them.

In the second part, researchers from various research departments presented their work.

Didactics of Quantum Mechanics for Secondary School Students

Prof. Rok Žitko, Jožef Stefan Institute, Faculty of Mathematics and Physics, University of Ljubljana

Asst. Prof. Sergej Faletič, Faculty of Mathematics and Physics, University of Ljubljana

Quantum technologies play a fundamental role in various aspects of our daily lives, including healthcare, medical research, environmental monitoring, construction, energy, and navigation. To spark public interest and deepen understanding of quantum technologies, the Slovenian cool atom laboratory at the Jožef Stefan Institute annually hosts several events every April focused on this field. These events feature practical workshops specifically designed for secondary school students.

Furthermore, a dedicated educational program for secondary schools has been developed. This program encompasses six to eight sessions, each lasting 45 minutes, where students learn about key concepts like polarization, collapse, models, hypothesis formulation, experiment design and execution, among others. This program is currently being conducted at two Ljubljana secondary schools, Gimnazija Vič and Gimnazija Poljane. Looking ahead, there are plans to offer comprehensive, multi-day, interactive training courses for secondary school physics teachers. These courses aim to equip teachers with the necessary skills and knowledge to integrate quantum technologies into their teaching curriculum.

Artificial Intelligence

Junoš Lukan, Jožef Stefan Institute

Nina Reščič, Jožef Stefan Institute

At the Jožef Stefan Institute, artificial intelligence (AI) is a focus area for four departments. They are involved in various projects, including SmartCHANGE, which predicts chronic diseases in adults based on youth data; InLife Watch, designed to predict falls; URBANITE, a decision-making system for urban transformation and mobility; Robocop, a robotic arm for card playing; TOPP, addressing tunnel design optimization; XPRIZE for pandemic response, and more.

In the realm of education, AI can be applied in multiple ways. Beyond just teaching students about AI, it can be integrated into educational support systems, enhancing both student learning and the teaching experience. AI-related lecture materials can be woven into school curriculums or presented in workshops. Children can be taught about reliable AI technologies and trained to identify 'deep fake' videos. Among the key advantages of employing AI in education are the personalization of educational content for individual students and the potential for significant time savings.

Overview of Slovenian Study Programmes in the Field of Environmental Chemistry for Different Levels of Education

Asst. Prof. Janja Vidmar, Jožef Stefan Institute

Jan Hočevar, MSc, Faculty of Chemistry and Chemical Technology, University of Ljubljana

Prof. Ester Heath, Jožef Stefan Institute

The Environment Section, established in 2014 by the Slovenian Chemical Society, aims to promote networking, collaboration, and the exchange of experiences among chemistry professionals dealing with environmental issues. Its goal is to raise public awareness about current environmental challenges and integrate environmental chemistry into new educational content in Slovenia's educational system.

A 2014 study by the European Chemical Society included all first and second-level study programs offering environmental chemistry themes. The results indicated that environmental chemistry is present in 25% of the existing study programs across EU institutions.

A new study reviewed first, second, and third-level environmental science programs in Slovenia, with data sourced from the gov.si portal. It found 45 study programs with environmental content under various names, most prevalent in Ljubljana and Maribor.

Environmental studies are well-established in the Slovenian educational system, featuring a wide variety of interdisciplinary study programs. The representation of chemistry in these programs (10-50%) is lower compared to the presence of environmental content (20-100%).

The Office for Project Informatics, Organization of Thematic Events and Conferences at the Jožef Stefan Institute, alongside similar organizations in Europe, serves as a pivotal link between researchers and the education sector. One of our primary objectives is to make scientific research and achievements more accessible to young people, teachers, and other interested audiences. We firmly believe in the unparalleled impact of personal experiences and direct interactions with laboratories and leading researchers. The event was particularly beneficial for teachers, providing them with fresh ideas for classroom lessons and introducing new opportunities for collaboration with the Jožef Stefan Institute.

Presentations of Current Research Results: Excellent in Science

In the third part, results of three Excellent in Science projects were presented.

Excellent in Science is a project implemented by the Slovenian Research and Innovation Agency in the framework of the promotion of science. It is a selection of outstanding achievements that represent significant scientific or socio-economic progress, a patent or other high-profile result of agency-supported scientific research work. Achievements can be proposed by heads of research programs and projects. The agency forwards the set of proposed achievements to individual science research councils for selection. The members of the scientific research councils of individual sciences propose a selection of exceptional achievements to the Agency's Scientific Council for approval.

Out of 52 projects, brief results of the following three were presented:

Immunocastration in Adult Boars as a Model for Late Hypogonadism

Asst. Prof. Nina Batorek Lukač, Agricultural Institute of Slovenia

The Fire That Engulfed Europe: Trieste National Hall 1920-2020

Assoc. Prof. Borut Klabjan, Science and Research Centre Koper
Prof. Gorazd Bajc, Faculty of Arts, University of Maribor

The Škofja Loka Passion Play as a Building Block of European Cultural Consciousness

Dr. Jaša Drnovšek, Center of Applied Research, University of Maribor

Paper presentations

Research Papers on Technology Transfer and Intellectual Property

Moderator:

Igor E. Bergant

Technology transfer officers presented the research papers on technology transfer and intellectual property. The research papers comprised the following topics:

- Establishing a strategy for the efficient management of intellectual assets
- Managing intellectual assets in joint research and innovation activities
- From intellectual assets creation to the market
- Key factors for successful technology transfer from different points of view (researchers, knowledge transfer experts, enterprises)
- The role of TTOs in maximizing the impact of science, technology and innovation on society
- Examples of IP protection in Artificial Intelligence
- Other, chosen by the contributor

The papers are published in the main part of the Proceedings of the 26th International Multiconference (Volume E), available at:



Scientific Review Programme Committee representative has selected and ranked the best three papers of the Conference:

1st place: Randomized Optimization: From Algorithmic Studies to Industrial Applications

2nd place: New Initiatives for Knowledge Transfer between Industry and Academia: The INDUSAC Project

3rd place: Fostering Research & Innovation in AI through Regulatory Sandboxes

The abstracts of all the participating papers are published below.

Research Infrastructures and Cooperation with Industry

Asst. Prof. Jana Arbeiter, Faculty of Social Sciences, University of Ljubljana, Slovenia

Dr. Barbara Brečko, Faculty of Social Sciences, University of Ljubljana, Slovenia

Prof. Maja Bučar, Faculty of Social Sciences, University of Ljubljana, Slovenia

The paper addresses the experience of the European Strategic Framework on Research Infrastructure (ESFRI) Landmarks in their work with partners from the industry. While the main mission of the RIs is to provide infrastructure support to scientific work, they are also cooperating intensively with the industry. Our survey among 42 ESFRI Landmarks showed that as many as 82% of them have strong and well-established cooperation with partners. However, there are still several barriers to cooperation on both sides, with the management of intellectual property being an important one.

Randomized Optimization: From Algorithmic Studies to Industrial Applications

Prof. Bogdan Filipič, Department of Intelligent Systems, Jožef Stefan Institute, Slovenia

As opposed to deterministic optimization techniques, randomized optimization algorithms rely on random choices when searching for good solutions to a given problem. They represent a viable alternative for solving real-world problems whose properties are usually unknown and their complexity too high to be solved with deterministic techniques. In our research group, we are specialized in studying and designing randomized optimization algorithms and deploying them in practice. In this paper, we report on our algorithmic studies that have led to successful industrial applications. We illustrate these with two case studies from engineering design and production process optimization.

Creating Conditions for an Active Role of Public Administrations in Academia-Industry Cooperation: An Overview of Critical Points through the ExSACT Project

Asst. Prof. Urška Fric, Knowledge and Technology Transfer Office, Faculty of Information Studies in Novo mesto, Slovenia

Tomaž Lutman, Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute, Slovenia

Dr. Tinkara Mlinar, Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute, Slovenia

The ATTRACT European Scientific Research Infrastructures (ERIs) have formed an ERI Innovation Ecosystem (ERI-IE) as an essential tool in boosting academia-industry collaboration. The state administration encourages academia-industry (co)operation with financial incentives. However, it still encounters rules and legislation to protect competition in the free market imposed within state aid limitations. Due to limited recognition of state aid practices, the allocation of funding and intellectual property rights (IPR) needs management given state aid restrictions. Ambiguities result in state investments into academia-industry collaboration or research/technology infrastructure (RI/TI) usage needing improvement and simplification. This status quo, therefore, necessitates an examination of this field – to explore the effect of the state administration on financing research, RI/TI and IPR transfer procedures through state aid rules abiding (RI/TI and IPR) management. The following paper presents existing conditions and the most common challenges for creating conditions for an active role of public administrations to mitigate risks in academia-industry cooperation (in the EU). It concludes with state-of-the-art results obtained through the project ExSACT.

Technology Transfer Office as a Support Structure for Innovation Management: The Experience of Latvia

Justīne Krūmiņa, Department of Doctoral Studies, Rīga Stradiņš University, Latvia

The study describes a support structure – a technology transfer office for knowledge and technology management in Latvia between 2007 and 2023. The analysis is based on the operational programme of the Latvia for 2007–2013, 2014–2020, and 2021–

2027.

A Statutory Model for Organising the Process of Intellectual Property Protection and Commercialisation in Polish Public Universities

Dr. Magdalena Rutkowska-Sowa, Faculty of Law, University of Bialystok, Poland

For almost two decades, the Polish legislator has been encouraging the spread of the idea of entrepreneurship in the academic environment, delineating the scope of organisation of the process of protection and commercialisation of the R&D results created by university employees. As part of successive amendments to the Act - Law on Higher Education, it has proposed the introduction of internal regulations governing the management of intellectual property rights and the principles of commercialisation, the establishment of organisational units responsible for supporting the commercialisation process, and incentives such as additional remuneration for the implementation of the so-called third mission of the university. The conference paper aims to show what the statutory model of intellectual property management at Polish public universities looks like. The final conclusions will take into account the results of research carried out in 2023-2024 under the project entitled: "Transfer of R & D results from universities of Podlaskie voivodeship to the economic and social environment", funded by the Ministry of Education and Science.

A Comprehensive Analysis of Portuguese National and Regional Policy Instruments for Technology Transfer Offices

Helena Rosário Da Costa, National Innovation Agency, Portugal

Katiuska Cruz, National Innovation Agency, Portugal

In the rapidly evolving landscape of global technological advancement, the process of transferring technological insights from academic settings to industrial and commercial areas – known as Technology Transfer (TT) – is paramount. This research examines the national and regional mechanisms that Portugal employs in the TT domain, with a specific focus on instruments targeting academic Technology Transfer Offices (TTOs). Particularly, the research assesses the implemented policy instruments, emphasizing their respective significance and operational dynamics for the benefit of TTOs. This paper offers a comprehensive understanding of Portugal's ambition and strategy for translating academic knowledge into tangible industrial benefits. The findings illuminate not only Portugal's strategic trajectory in TT but also offer critical insights for policymakers, academia, and industry stakeholders, exploring and highlighting the instrumental role of TTOs in bridging the gap between innovation and commercialization.

Compulsory Licensing in Belarus

Dr. Alexander Uspenskiy, Republican Centre for Technology Transfer, Belarus

Aliaksei Uspenski, Republican Centre for Technology Transfer, Belarus

Maksim Prybylski, Republican Centre for Technology Transfer, Belarus

The paper informs on the state of compulsory licensing in Belarus and recent changes restricting IP rights.

Assessing the Contribution of Hubs to Uganda's Innovation Ecosystem, a Case Study on the Role of Innovation Hubs in Kampala

Linda Amany, Uganda National Council for Science and Technology, Uganda

This paper focuses on assessing the role of hubs in facilitating innovation for economic development. It analyzes the ability of innovation hubs in Kampala to provide three critical elements for innovation - financial support, business development services and networking opportunities. The paper also explores the development focus of these hubs, as well as the challenges they face in facilitating innovation. Based on the results of this analysis, it is recommended that comprehensive instruments be developed to facilitate the integration of the different pathways for innovation, and the collaboration of actors in the National System of Innovation (NSI)

This paper emphasizes the need for innovators based outside of research and academic establishments to acquire a good understanding of intellectual property assets in order to benefit from the knowledge economy, It is proposed that innovation hubs in the informal innovation pathway address not just the awareness gap that exists, but also the limited capacity in identifying, protecting and diffusing research products and intellectual property generated.

The Importance and Benefits of the Technology Transfer Ecosystem

Matej Mrak, Office for Industrial Liaison, Jožef Stefan Institute, Slovenia

Creating and maintaining the technology transfer ecosystem is a foundation on which many (future) technology transfers (TTs) are built. Having a good invention/technology is usually not enough if you do not have either a buyer or a partner on the other side ready to assist you. It is important to establish and maintain (strong) relationships with the industry in order for them to give you the opportunity to present, when the opportunity presents itself, for example in the form of tender/call, innovation, research collaboration etc.

The Interconnection of Property Technology and Intellectual Property: Literature Review

Marijana Ribičić, DOBA Business School, Slovenia

This paper presents a systematic literature review on the link between property technology and intellectual property. Property technology or PropTech is technology and innovation which improves various aspects of the real estate industry, etc. the optimization of the way people buy, sell and manage property. It may for example refer to property management platforms, smart home technology, and data analytics for market insights, virtual property tools etc. Innovative technologies and solutions developed in the PropTech sector often require legal protection through various intellectual property mechanisms, however, our analysis shows, that there is not a single study analysing the interconnection between intellectual property and PropTech innovation.

An Information-Centric Perspective on Data

Jože M. Rožanec, Department for Artificial Intelligence, Jožef Stefan Institute, Slovenia

Lola Montero Santos, Department of Law, European University Institute, Italy

Giacomo Delinavelli, Arthur's Legal, The Netherlands

While the focus of information theory, science, and technology is information, most of the current legal and regulatory frameworks focus on data and portability, disregarding the information aspect, and therefore fail to successfully achieve their goals. The paper presents an information-centric perspective on data. Furthermore, it argues that data ownership could enable additional regulatory aspects while being key to developing a data market and a data value chain. Moreover, some ideas are drafted on how the value of information could be attributed across different stages of the data value chain.

Fostering Research & Innovation in AI through Regulatory Sandboxes

Lola Montero Santos, Department of Law, European University Institute, Italy

Jože M. Rožanec, Department for Artificial Intelligence, Jožef Stefan Institute, Slovenia

This paper advocates for the establishment of AI regulatory sandboxes in the European Union to enable responsible testing of AI systems in real-life conditions. By aligning the sandbox modalities with the risk tiers of the AI Act, a smooth transition from research to testing of AI systems is ensured. The framework emphasizes the oversight and compliance obligations needed for the desired outcomes to be realised. This will foster AI Research and Innovation in the European Union, delivering benefits for society and ethical legally conforming AI technologies.

New Initiatives for Knowledge Transfer between Industry and Academia: The INDUSAC Project

Dr. Duško Odić, Office for Project Informatics, Organization of Thematic Events and Conferences, Jozef Stefan Institute, Slovenia

Urška Mrgole, Office for Project Informatics, Organization of Thematic Events and Conferences, Jozef Stefan Institute, Slovenia

Marjeta Trobec, MSc, Office for Project Informatics, Organization of Thematic Events and Conferences, Jozef Stefan Institute, Slovenia

At the Jožef Stefan Institute most current practices of knowledge transfer involve licensing and contract and/or collaborative research between researchers and industry, whereas student-industry relations are less explored, often do not regard geographical or gender balance, and rarely involve upskilling in entrepreneurship. In the Horizon Europe INDUSAC project, the main objective is to develop and validate a simple and user-friendly industry-academia collaboration mechanism for short-term (4-8 weeks), challenge-driven co-creation. Knowledge transfer is importantly extended from researchers to also involve students, who are in turn financially supported. Gender balance is ensured by the conditions set out in the project's calls for applications. Emphasis is put on upskilling, achieved through looking for solutions to real-life challenges faced by industry. The workflow involves registering on the INDUSAC online platform, issuing a Challenge by companies, assembly of student/researcher co-creation teams, and submitting Motivation Letters to apply to solve a Challenge. Once Motivation Letters are evaluated and approved, selected co-creation teams proceed with solving the Challenge with assistance from the company. Once completed, companies and co-creation teams submit reports and feedback on the process in terms of experience with the project, and upskilling and familiarity in regards to selected entrepreneurial areas. The workflow will be carried out three times during the project, to allow for dynamic challenge-solving and feedback-based improvements on the process itself. By solving companies' Challenges, students are expected to acquire international collaborative experiences as well as transversal and entrepreneurial skills, access to companies from the EU and associated countries, and references for future networking. Through supporting at least 300 transnational co-creation teams and creating a dynamic community of industry-academia stakeholders, the INDUSAC mechanism will establish the co-creation system as a catalyst for the integration of academia in business practices and technical solutions in the future.

Closing of the Conference

Robert Blatnik, MSc

Office for Substantive Project Support, Technology Transfer and Innovation, Jožef Stefan Institute

The versatile programme of the 16th International Technology Transfer Conference included presentations of recommendations for knowledge valorisation (principles with Codes of practice for management of intellectual assets and standardization), a round table with a discussion on how to empower Slovenia's future with knowledge valorisation principles and practices, pitch competition of promising research projects with commercial potential of research teams from public research organizations, presentations of scientific papers on technology transfer and intellectual property, along with the selected research topics and proposals for cooperation between education system and academia.

All sections of the Conference provided valuable and useful insights into the main Conference topic, that is knowledge valorisation. Several conclusions and recommendations will find their place in the processes and activities of the technology transfer office of Jožef Stefan Institute.

Additionally, I would like to express gratitude to all the representatives of the European Commission, national innovation ecosystem, round table panellists, research team members of the pitch competition, commission members, authors of scientific papers, presenters of selected research topics (education system and academia), participants in the Glass Hall and on Zoom, along with everyone else who in any way contributed to the success of this year's conference.

The next conference – the 17th International Technology Transfer Conference – is planned to take place next year at around the same time.

Associated Partners

Agriculture Institute of Slovenia



Faculty of Information Studies



Geološki zavod Slovenije



National Institute of Biology



**Rudolfovo – Science and Technology Centre
Novo mesto**



University of Ljubljana



University of Maribor



University of Primorska



Promotion Partners

Centre of Excellence for Integrated Approaches in Chemistry and Biology of Proteins



LUI - Ljubljana University Incubator



**LJUBLJANSKI UNIVERZITETNI
INKUBATOR**

RRA Koroška – the Regional Development Agency for Koroška



ZRS Bistra Ptuj – Scientific Research Centre Bistra Ptuj



Indeks avtorjev / Author index

Amanya Linda	45
Arbeiter Jana	42
Bajc Gorazd.....	40
Batorek Lukač Nina	40
Boh Tomaž	11, 15
Brečko Barbara.....	42
Bučar Maja	42
Coll Anna	31
Cruz Katuska	44
Delinavelli Giacomo	46
Drnovšek Jaša.....	40
Dröll Peter	7, 15
Faletič Sergej.....	38
Filipič Bogdan	42
Fric Urška.....	43
Gašparič Jure	7
Godec Boštjan	20
Golisteanu Florentina	12
Gruden Kristina	31
Grundner Maja	31
Heath Ester	39
Hočevar Jan.....	39
Jeglič Peter	27
Jordan Romana.....	7
Karčnik Tomaž.....	15
Kavšek Darko	25
Klabjan Borut.....	40
Krūmiņa Justīne	43
Lukan Junoš	39
Lukan Tjaša	31
Lutman Tomaž	43
Malok Matjaž	25
Mlinar Tinkara	43
Montero Santos Lola	46
Mrak Matej.....	45
Mrgole Urška	37, 47
Odić Duško.....	47
Pal Levin	15
Panevska Anastasija	31
Perdih Andrej	29
Petek Marko	31
Pogačar Karmen	31
Prybylski Maksim	45
Pučko Zoran	23
Razinger Jaka	31
Rebolj Danijel	23
Remškar Maja	25
Reščič Nina	39
Ribičić Marijana.....	46
Rosário Da Costa Helena	44
Rožanec Jože M.	46
Rutkowska-Sowa Magdalena	44
Sagias Ioannis.....	13
Salecl Jernej	15
Sepčič Kristina	31

Trobec Marjeta	47
Uspenski Aliaksei.....	45
Uspenskiy Alexander	45
Vidmar Janja	39
Žigon Primož.....	31
Žitko Rok	38
Zupanič Erik.....	27



16. Mednarodna konferenca o prenosu tehnologij

16th International Technology Transfer Conference

Urednici • Editors:
Tinkara Mlinar, Špela Stres