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Role of Universities in the Regional Development (RURD)  
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TTO



Training  
Masaryk University  
Brno, Czech  
Republic  
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# Technology and Knowledge Transfer at the MU

# Content

**South Moravian Region, Brno and Masaryk University** (Ondřej Franek)

**Technology Transfer Office of Masaryk University** (Eva Janoušková)

**Proof of Concept** (Hana Půstová)

**TTO in Numbers** (Jiří Velinský)

**PR of TTO, Success Stories** (Ondřej Franek)

# South Moravian Region

A light gray map of Europe is shown in the background. The South Moravian Region in the Czech Republic is highlighted in red. A blue flag icon is positioned over the red area.

- Population: 1 million
- Capital city: Brno (2nd major city in the CZ)
- Brno is economic dominant centre of SM Region

**Other important cities: Znojmo, Břeclav, Hodonín, Vyškov, Blansko**

# South Moravian Region

[https://youtu.be/9kaI6NSc\\_Nc](https://youtu.be/9kaI6NSc_Nc)

# South Moravian Region – Economic Branches

## Service Industries

- IBM Global Delivery Centre CR
- Red Hat Czech
- Honeywell technology Solutions
- Thermo Fisher Scientific
- Siemens
  
- Trade Fairs Brno
- The Faculty Hospital Brno

## Biotechnology

- INBIT
- CEITEC
- ICRC

## Processing industry

- Zetor
- Hamé
- Penam
- Nová Mosilana

# South Moravian Region – Universities

## Public:

- **Masaryk University**
- Brno University of Technology
- Mendel University Brno
- University of Veterinary and Pharmaceutical Sciences Brno
- University of Defence in Brno
- Janáček Academy of Music and Performing Arts in Brno

## Private:

- Newton College
- Sting Academy
- AMBIS
- College of business and hotel management

**70 000 students together**

# Masaryk University

- founded in 1919
- 29 792 students
- 7 000 graduates per year
- 6 280 employees → 2nd biggest employer in South Moravia





# Masaryk University

- 10 faculties:



- 4 R&D centers
- over 200 laboratories, departments, institutes and clinics

→ **good conditions for science and research**

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# **Technology Transfer Office of Masaryk University**

# Technology Transfer Office of MU

## TTO of Masaryk University:

- was established in 2005 to **support the collaboration** of the scientific community of MU with the industry and to **boost the transfer** of research results into practise
- **First contact point** - „One stop shop“ for commercial partners in initiating collaboration, creation of long-term partnerships, promotion of IP created by researchers at the MU
- **Interface** - direct collaboration with other partners in the region (and beyond) in the field of innovation (other universities, JIC/South Moravian Innovation Centre, clusters, hubs, companies active in the region, national ministries, agencies...)

# Technology Transfer Office of MU

**TTO of MU: one of the first TTO's in the Czech Republic**

*„Thousands of great ideas are thought up at the university.*

*Our mission is to **help** these ideas **cross the borders of the university** and **put knowledge and technologies into practice.**“*

**200+**

companies and external subjects cooperating through TTO

**1200+**

Various contracts drawn up in cooperation with TTO

**60+**

patented technologies, registered utility models, valid trademarks

**18**

MUNI spin-off companies



# Key Areas

## We focus on our strong areas

- Molecular biology, genetics, biomedicine
- Stem cell research
- Biomolecular research, bioinformatics, modelling and imaginig of molecular structure
- Biostatistics, computational biology, chemistry
- Neuro-sciences, oncology, cardiovascular diseases
- Cyber security, supercomputing
- Environmental chemistry and ecotoxicology
- Ultra-thin nano-structured layers for optics and electronics
- Humanities



# Our Team

## Our employees are

- Director (1)
- Business Development Managers (2)
- Intellectual Property Manager (1)
- Lawyers (3)
- Project Managers - PR, grants, PoC... (2)
- Economist (1)
- Administrative and Technical Support (2)



# Our Services

## Technology Transfer Department

- **business development:**
- negotiation/drafting contracts
- licensing of technologies & IP
- seeking scientific partners for contractual research
- IP protection and management
- commercialization via new company - emerging spin-offs

## Legal Department

- all kinds of **legal support:**
- contracts, agreements...
- participation at negotiations
- setting up internal guidelines
- consultation
- authorship, inventions, know-how, trademarks (all of IP)
- education, training

## Department of Economics & Projects

- economic services TTO/IP
- management of TT grants
- Proof of Concept agenda
- PR activities and events  
conferences, fairs, exhibitions,  
partner matching, workshops...
- newsletter INTERFACE
- back office

# Environment

## Background of technology transfer realised by our TTO:

- Existence/creation/development of **National system of TT collaboration and support of TT activities** (Proof of Concept, pre-seed money, spin-off creation...)

- **Transfera.cz** - the national platform protects the interests of the Czech transfer community with the aim to promote and develop activities in the field of technology and knowledge transfer



- **Czech Republic Innovation Strategy 2019-2030**

- Czech Republic - The Country For The Future
- Support spin-off and start-up creation/ecosystem
- Intellectual Property Protection





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**Proof of Concept**

# Proof of Concept (PoC)

## What is it?

- answers the question whether inventions actually have a commercial potential
- it's merely a **proof or verification** – e.g. of a technology which works in a lab but so far isn't very interesting to companies
- it's an **opportunity for scientific results** which wouldn't be able to go through this process without any other financial support
- the goal of PoC is to **increase the technology's potential** to make it more attractive to companies and therefore more marketable
- to have a **cooperating commercial subject** is an advantage

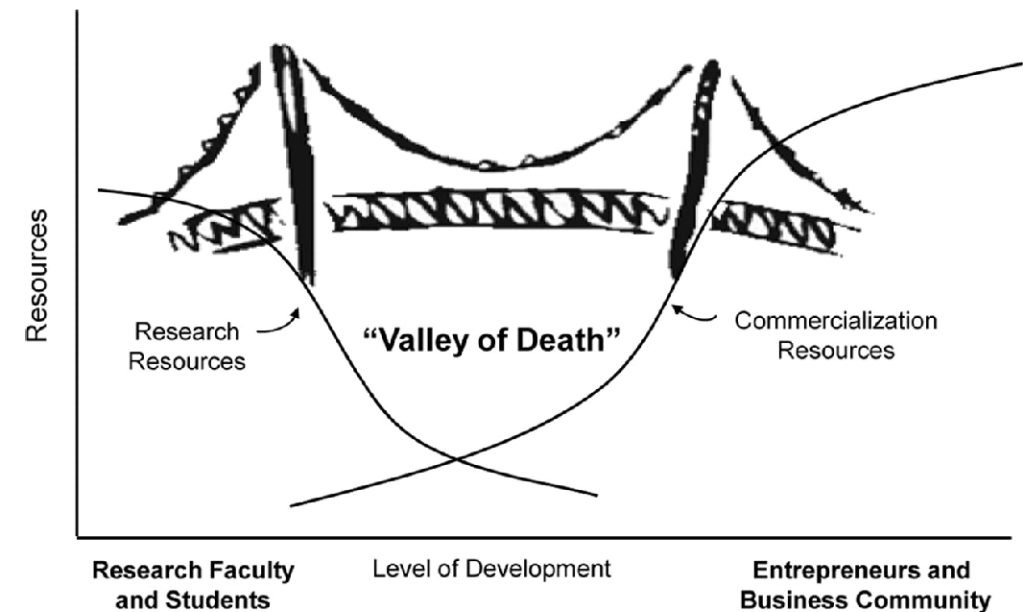


Figure 2. The Valley of Death (Barr et. al., 2009)

# Proof of Concept

## Czech National Grant Opportunities: Technology Agency of the Czech Republic (TA CR)

- established by the Government of the Czech Republic
- supports and finances **applied research**, experimental development and innovation
- invests yearly over 158 million €

### Programmmes: national × international

**Beta 2** – public administration bodies

**Gama 2** – Proof of Concept in applied research, experimental development and innovation

**Trend** – competitive knowledge-based economy, energy, environment

**Eta** – social science and humanities

**Zeta** – cooperation between the academic sphere and companies, young researches

**Centers of Competences** – supporting the establishment and activities of centers for research, development and innovation in advanced fields with strong application potential



# Proof of Concept (PoC)

## How does it work?



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### preparation

- searching and receiving sub-project proposals
- checking
- processing, pre-evaluation
- sub-project submission to TT Board

### PoC realization

- sub-project administration
- communication with researches
- submits quarterly report to TT Board

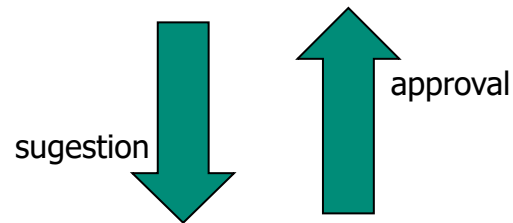
### commercialization

- communication and negotiations with the companies
- preparation and conclusion of the agreements
- promotion of results

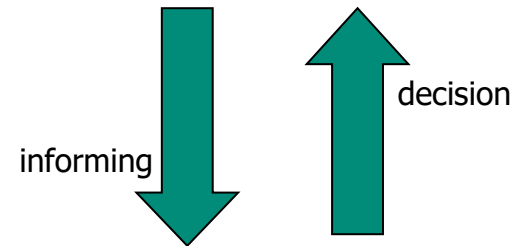
### TT Board

*advisory body of MUNI*

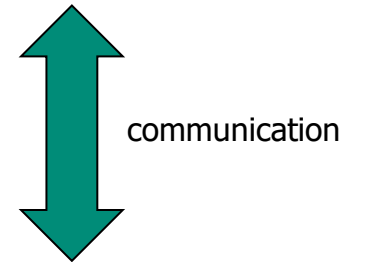
Financial sphere - 1  
Application sphere - 4  
MUNI - 3



evaluates, approves,  
rejects sub-projects



- monitoring realization
- terminating sub-project
- approves implementation plan



supervision

# Proof of Concept (PoC)

- Budget: approx. **190 000 € per year** since 2016.
- Technology Transfer Office (TTO) supported more than **40 projects**.
- Duration of the supported projects: **12 - 24 months**.
- Financial support for one project: **500 000 – 1 000 000 CZK (20 000 – 40 000 €)**

## Advantages:

- Licencing oportunities
- Contract x coloborative research
- Interest of scientiscs in applied research

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# TTO in numbers

# TTO in numbers

- Public university, main activities are not primarily business-related
- Accounting period – one calendar year
- Non-capital revenues MUNI: 320 million €
- Non-capital revenues TTO MUNI: 1 million €
- Staff: 12
- Spin-offs: 18

# TTO in numbers

- Public funding TTO MUNI: 80 %
- IP protection expenditures: 80,000 €
- Licenses revenues: 60,000 €



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# **PR of TTO, Success Stories**

# Events

- Workshops, trainings, lectures
- Round tables for application partners
- Conferences
- TT Day
- Business Research Forum



# Business Research Forum

- Presentation of opportunities for cooperation with potential partners
- Wide range of options from science and research through the utilization of laboratories and expert advice of MUNI employees to HR and editorial work.
- Once per 2 years
- 200 participants



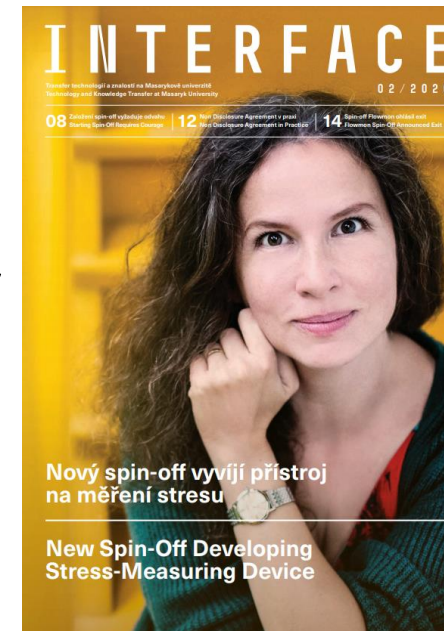
# Printed materials

## Brochures

- TT at MU in general
- Intellectual properties
- Research data management

## Interface

- MU Newsletter focused on technology transfer
- Biannual periodicity
- Circulation 2000 copies + e-version
- [Archive here](#)





# Spin-off CasInvent Pharma a.s.

- has been established by MU in cooperation with investment partner i&i Prague, s.r.o. in 2020
- further development of new compounds that could be used to treat certain types of leukemia, lymphoma and solid tumours.
- compounds that inhibit the enzyme Casein Kinase 1 which is responsible, among other things, for the migration of leukaemia cells into lymphoid organs.



# Spin-off Flowmon announced exit

- company that was founded as a university spin-off with Masaryk University as a shareholder made a successful exit
- transaction will help the company expand to the USA and appreciate its shareholder's contributions



# Spin-off Entrant

- monitor stress levels in an objective and non-invasive way using an innovative thermodynamic method and a special device
- the stress-measuring device could help not only pilots, soldiers and astronauts but also those working in the field of emergency medicine.



# Oncology Drug Research Program Continues with Global Pharmaceutical Company

- Pharmaceutical companies will use the results of cooperation with Masaryk University.
- Artios Pharma Ltd. and Merck KGaA announced a global three year research collaboration to discover and develop multiple precision oncology drugs.
- Artios will receive from Merck US\$30 million





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**Thank you!**

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