



Central European Institute of Technology  
BRNO | CZECH REPUBLIC

# Central European Institute of Technology (CEITEC) Brno University of Technology

**Jan Prošek**  
**Head of Technology Transfer Office**

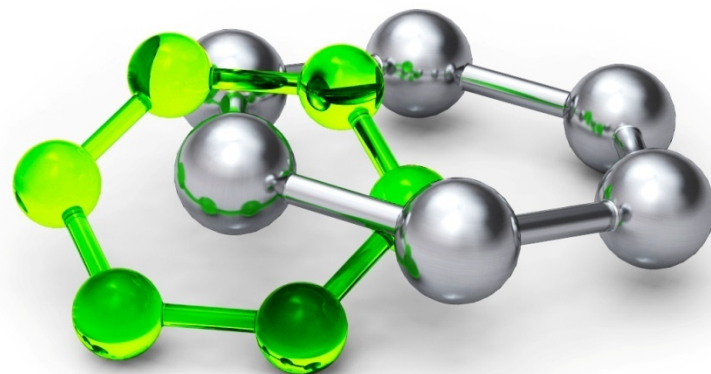
Czech Nano Show Boston  
October 27, 2016



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
INVESTING IN YOUR FUTURE



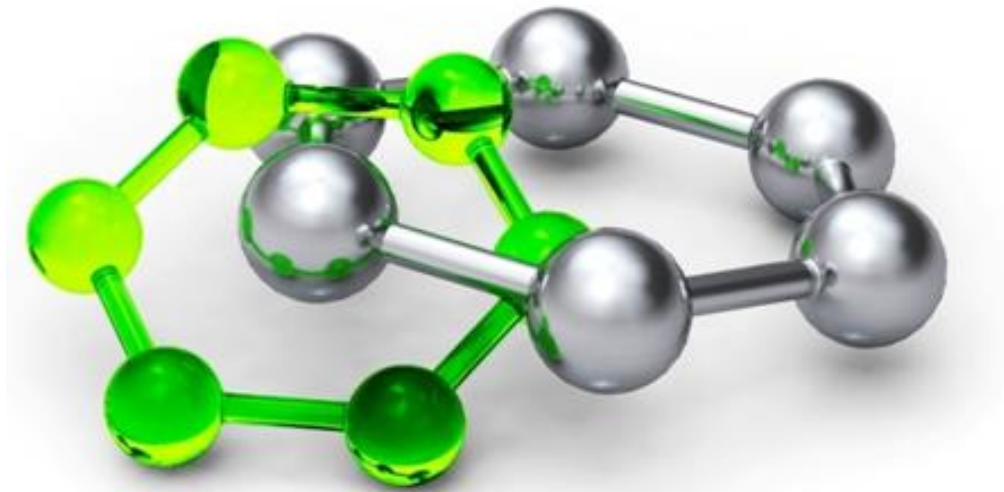
**OP Research and  
Development for Innovation**



# CEITEC

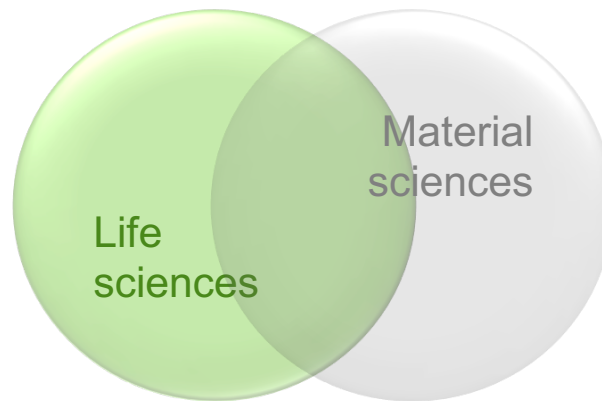


*CEITEC was founded to establish a prestigious European centre of science, it is the centre of scientific excellence in the **fields of life sciences and advanced materials and technologies***



# CEITEC vision

CEITEC is a project of the **European Centre of Excellence** established and developed by a consortium of universities and research institutes in Brno to integrate **life and material sciences**.



It focuses on **scientific excellence**, provides a **state-of-the-art infrastructure**, encourages **international mobility**, enhances **cooperation with the application sector** and stimulates **growth of high-tech sectors**

[CEITEC INTRO](#)

# Brno/Czech Republic/Europe



# Why in Brno?

## City of science, research and innovation

Over 3,000 researchers in Life Sciences and technical disciplines

One quarter of world's production of electron microscopes

## City of history, heritage and culture

Gregor Johann Mendel

Leoš Janáček

Villa Tugendhat (Mies van der Rohe)

## City of knowledge, high-tech services and education

Over 80,000 university students (almost 10,000 foreigners)

Centre of medical research and medical care (over 5,000 hospital beds)

## City of the future

Clear and functional  
Regional Innovation Strategy

Coordinated cooperation with ICRC,  
NETME, RECETOX and other Research  
and Development Centers



# CEITEC overview

- **6** partners
- **up to 600** researchers
- **7** research programmes
- **63** research groups
- **25,000 m<sup>2</sup>** of new laboratories
- **10** core facilities
- Start of research activities: **2011**
- Project 1<sup>st</sup> Phase (investments): **2011 - 2015**
- Project 1<sup>st</sup> Phase Budget: **USD 275 mil./ USD 120 mil.**
- Project 2<sup>nd</sup> Phase (operations): **2016 – 2020**
- Project 2<sup>nd</sup> Phase Budget: **USD 120 mil./ USD 52 mil.**

# Partnering institutions



Masaryk University  
[www.muni.cz](http://www.muni.cz)



Brno University of  
Technology  
[www.vutbr.cz](http://www.vutbr.cz)



Mendel University  
in Brno  
[www.mendelu.cz](http://www.mendelu.cz)



University of Veterinary  
and Pharmaceutical  
Sciences Brno  
[www.vfu.cz](http://www.vfu.cz)

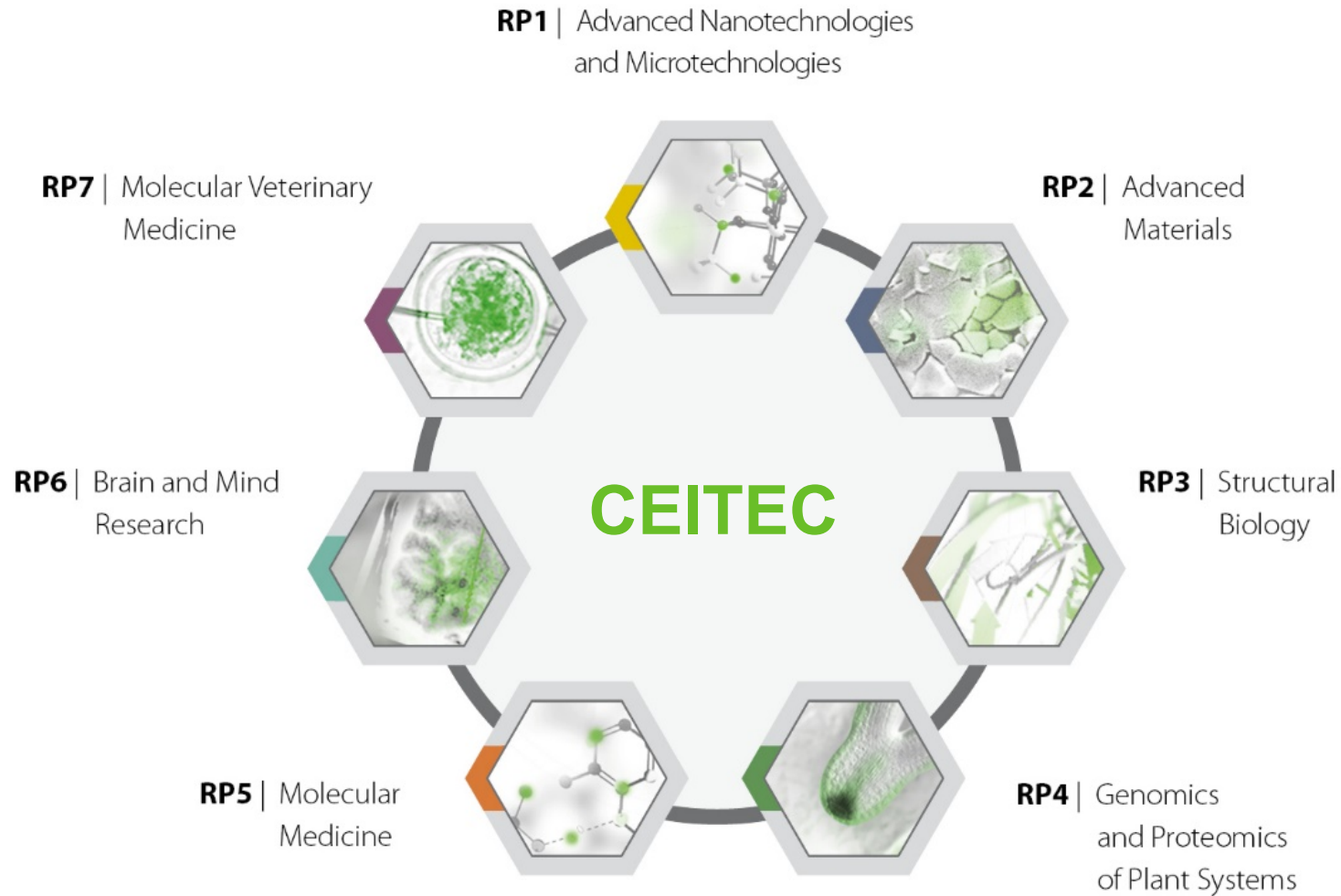


Institute of Physics  
of Materials, Academy  
of Sciences of the Czech  
Republic  
[www.ipm.cz](http://www.ipm.cz)



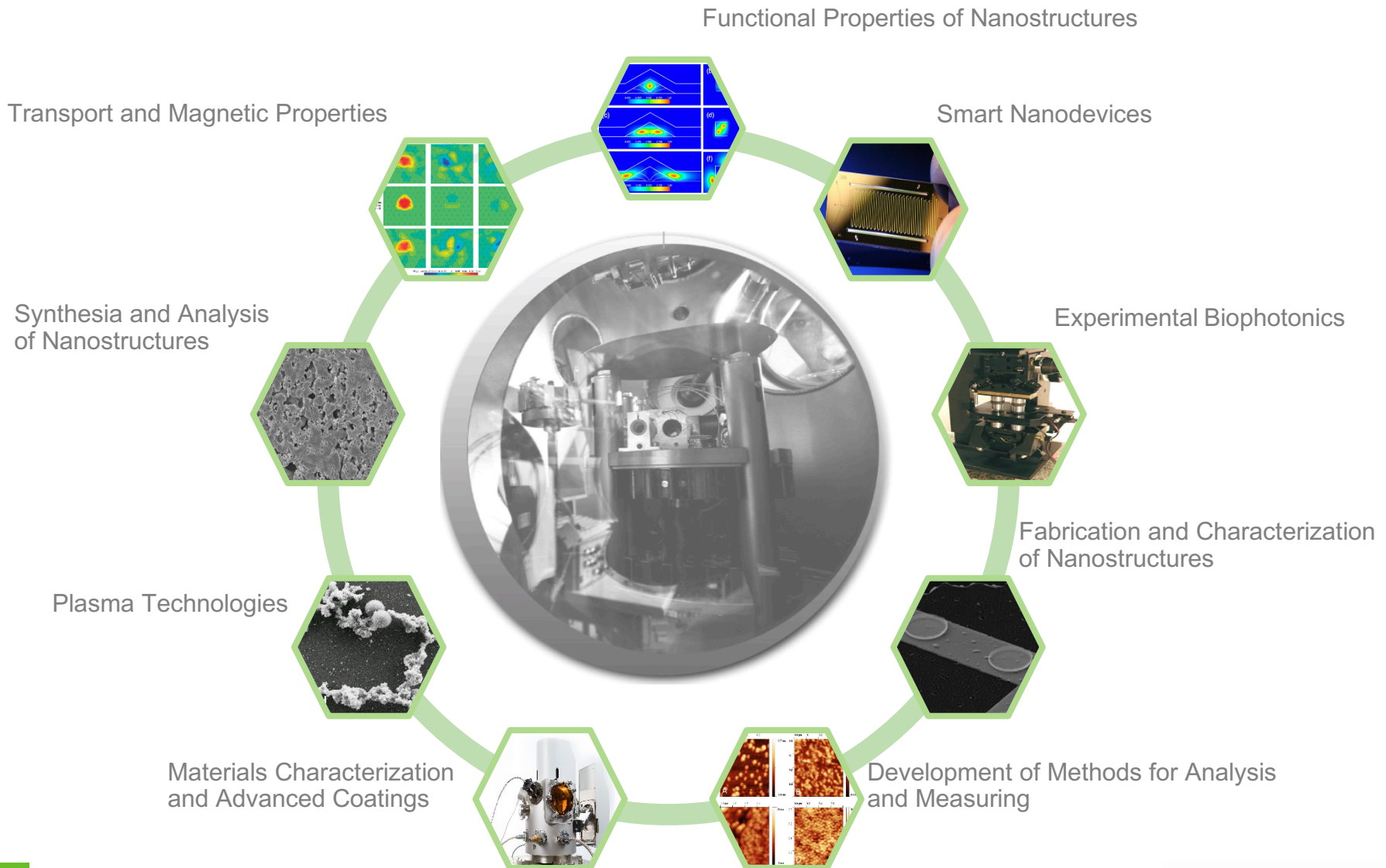
Veterinary Research  
Institute  
[www.vri.cz](http://www.vri.cz)

# Research Programmes

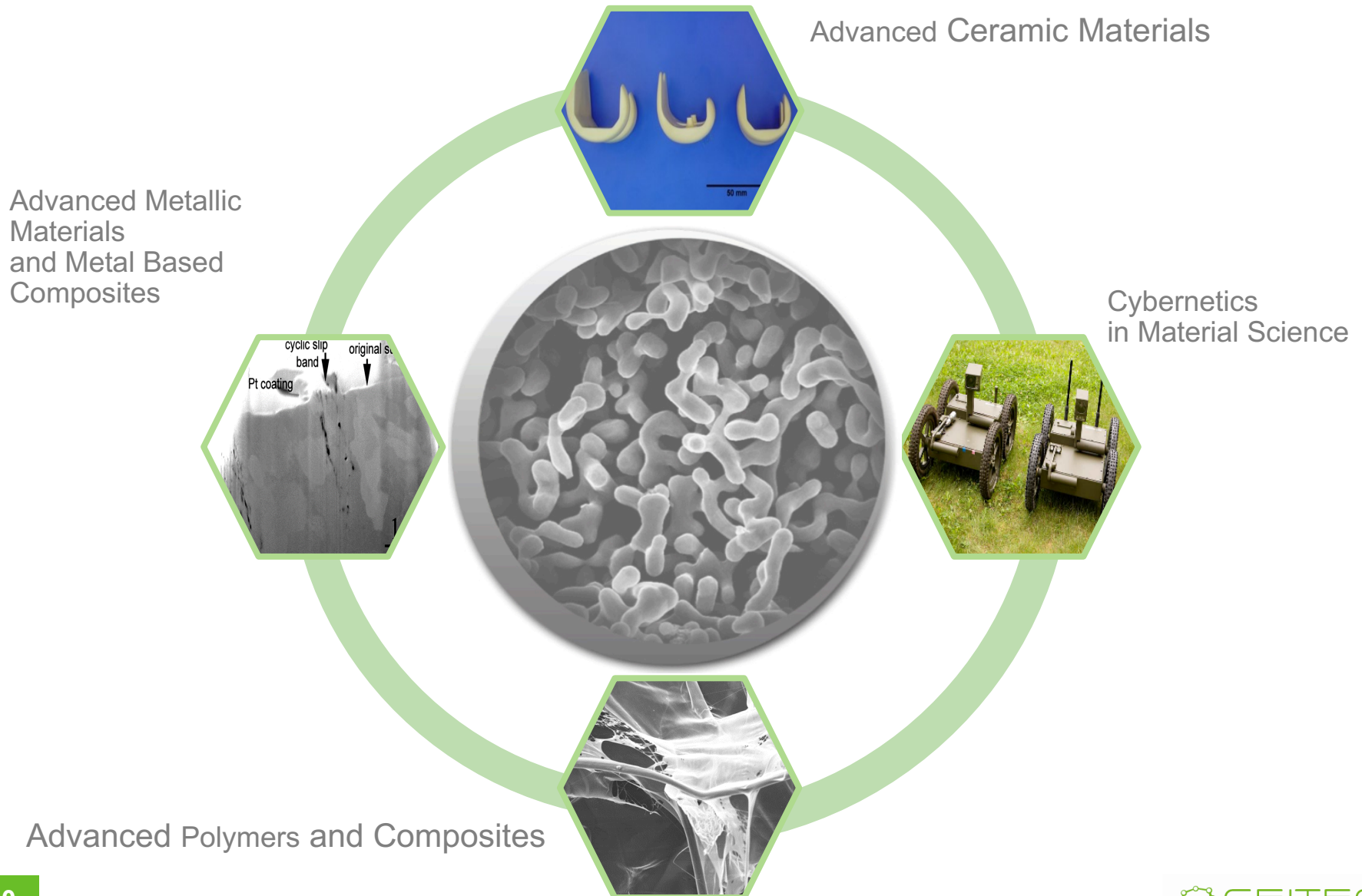




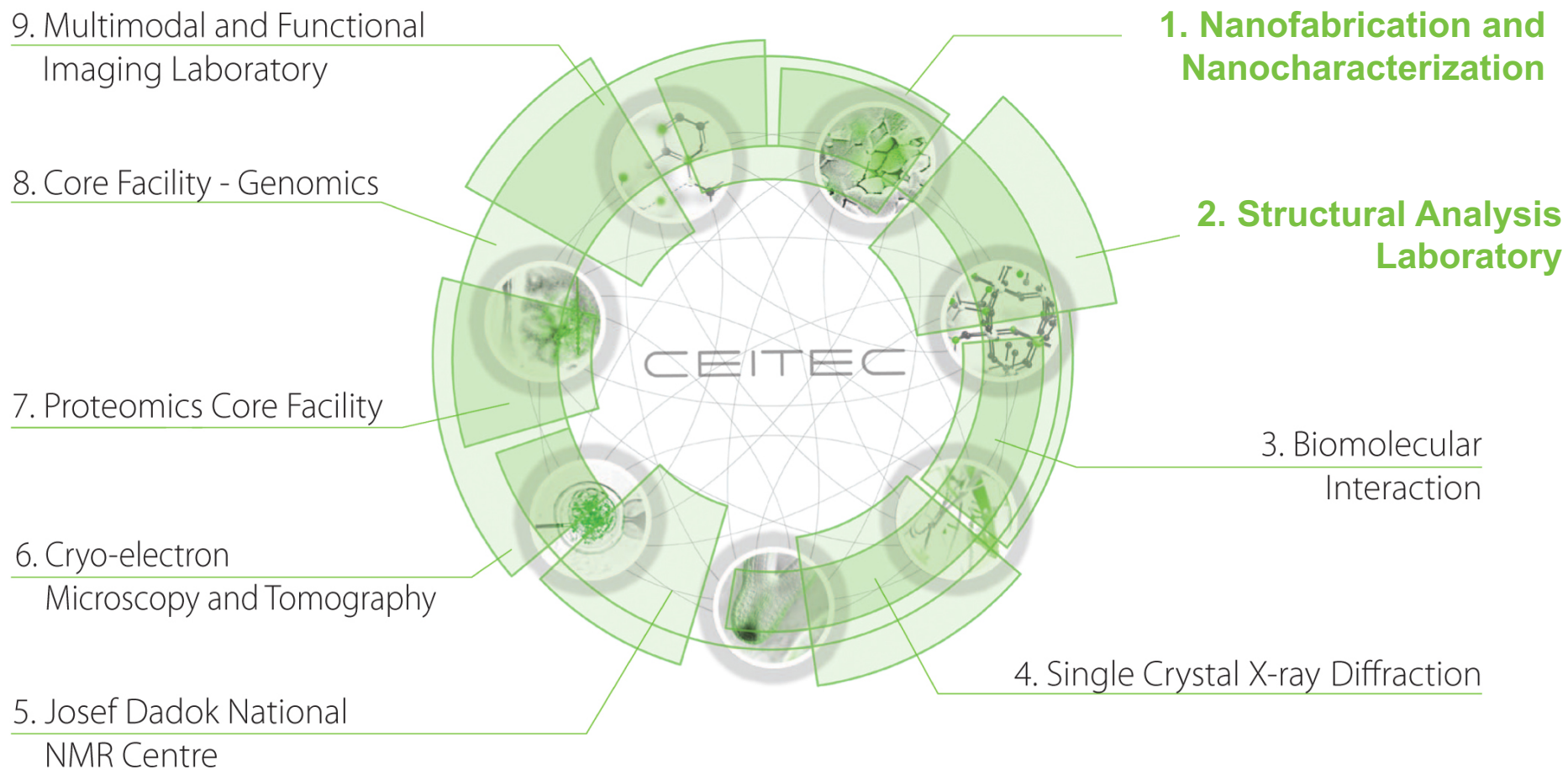
# RP1: Advanced Nano and Microtechnologies



# RP2: Advanced Materials



# Core Facilities



# Achievements, international and intersectoral collaboration

# CEITEC BUT 2011 – 2016 at a glance

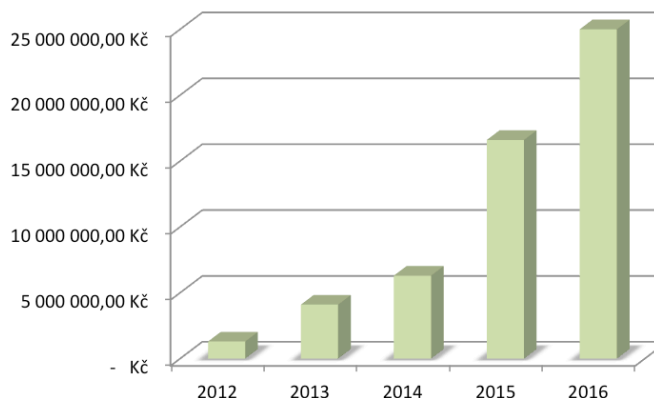


**530 IF journal papers**  
**79 % in Q1 and Q2**

**> 700 mil CZK / 30 mil USD of external grant funding secured**



**Private funding received**



**51 PhD students**  
**CEITEC PhD school**

**CEITEC**  
**PhD SCHOOL**

**Successful pre-seed projects**  
**start-up companies founded**



OP Výzkum a vývoj pro inovace

**Research Infrastructures**



# Selected international projects (2011-2015)

- EMC2 - Embedded multi-core systems for mixed criticality applications in dynamic and changeable real-time environments



- FP7 JTI ARTEMIS (2014 – 2017) – 100 partners, < 100 mil. EUR (key partners: Infineon, BMW, AUDI, Volvo, ABB, Fraunhofer, NXP, Siemens, AIT, Thales, Rockwell, TU/e, Technion)

- 3CCAR - Integrated Components for Complexity Control in affordable electrified cars



- H2020 JTI ECSEL (2015 – 2018) – 50 partners, < 50 mil. EUR (key partners: Infineon, BMW, Daimler, Fraunhofer, Siemens, OTH-AW, TU Dresden, AVL, AIT, ITRI Taiwan)

- OSEM-EV – Optimized and Systematic Energy Management in Electric Vehicles

- H2020 GV (2015 – 2018) – 12 partners, < 8 mil. EUR (key partners: Infineon, Daimler, Fraunhofer, Siemens, Valeo, TU Dresden, Hutchinson SA, University of Sheffield)



- BIO-SCAFFOLDS - Natural inorganic polymers and smart functionalized micro-units applied in customized rapid prototyping of bioactive scaffolds



- FP7 NMP: EU-China (2013 – 2016) – 8 partners, < 2,2 mil. EUR (partners: University of Mainz, University of Extremadura, ORTOMA, NanotecMARIN, Tsinghua University, Peking University, Shenzhen Lando Biomaterials)

- UnivSEM - universal scanning electron microscope as a multi-nano-analytical tool



- H2020 NMP (2012 – 2015) – 8 partners, ≈ 6 mil. EUR (partners: TESCAN, Max Planck Institute, EMPA, Witec, Amires, Tofwerk, Specs)

- MotorBrain - Nanoelectronics for Electric Vehicle Intelligent Failsafe Power Train

- FP7 ENIAC (2011 – 2013) – 30 partners, ≈ 36 mil. EUR (key partners: Infineon, Fraunhofer, Siemens, TU Dresden, AIT, Volkswagen, TNO, University of Sheffield)





# Collaborations – Universities and Research Institutes

## ○ Institutions:



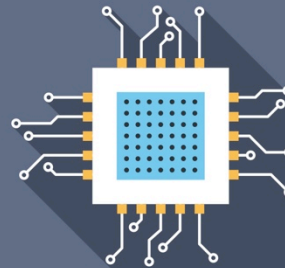
## ○ Infrastructure:





Central European Institute of Technology  
BRNO | CZECH REPUBLIC

# CEITEC PhD SCHOOL



## YOU CAN LOOK FORWARD TO:

- › an interdisciplinary scientific community
- › state-of-the-art infrastructure
- › an international environment
- › welcome services for foreign students

## STUDY PROGRAMMES

### *Advanced Materials and Nanosciences*

- › Advanced Nanotechnologies and Microtechnologies
- › Advanced Materials

### *Life Sciences*

- › Structural Biology
- › Bio-omics



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
INVESTING IN YOUR FUTURE



OP Research and  
Development for Innovation

[www.ceitec.eu/phd](http://www.ceitec.eu/phd)





Central European Institute of Technology  
BRNO | CZECH REPUBLIC

## CEITEC BUT

c/o Brno University of Technology  
Purkyňova 123, CZ-61600 Brno  
the Czech Republic

[www.ceitec.vutbr.cz](http://www.ceitec.vutbr.cz) | [info@ceitec.vutbr.cz](mailto:info@ceitec.vutbr.cz)



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
INVESTING IN YOUR FUTURE

