



CEITEC

Central European Institute of Technology
BRNO | CZECH REPUBLIC



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6th June 2019

CEITEC and research infrastructures



Why

Why?

- Outdated research infrastructure
- Brno second research location in CZ ... more can be done
- Establish critical mass of research = EU visibility
- Visibility of Brno as a research location = benefit for academia and companies
- Lifetime opportunity with EU Structural Funds
 - First ideas: 2004
 - Initiation and planing: 2006-2009
 - Implementation 2011-2015
 - Sustainability 2016 on 😊

What

CEITEC Basic Overview



Advanced
Nanotechnologies
and Microtechnologies



Advanced
Materials



Structural
Biology



Genomics
and Proteomics
of Plant Systems



Molecular
Medicine



Brain and Mind
Research



Molecular
Veterinary
Medicine



MASARYK
UNIVERSITY
www.muni.cz



MENDEL UNIVERSITY
IN BRNO
www.mendelu.cz



UNIVERSITY OF
VETERINARY AND
PHARMACEUTICAL
SCIENCES BRNO
www.vfu.cz



BRNO
UNIVERSITY
OF TECHNOLOGY
www.vutbr.cz

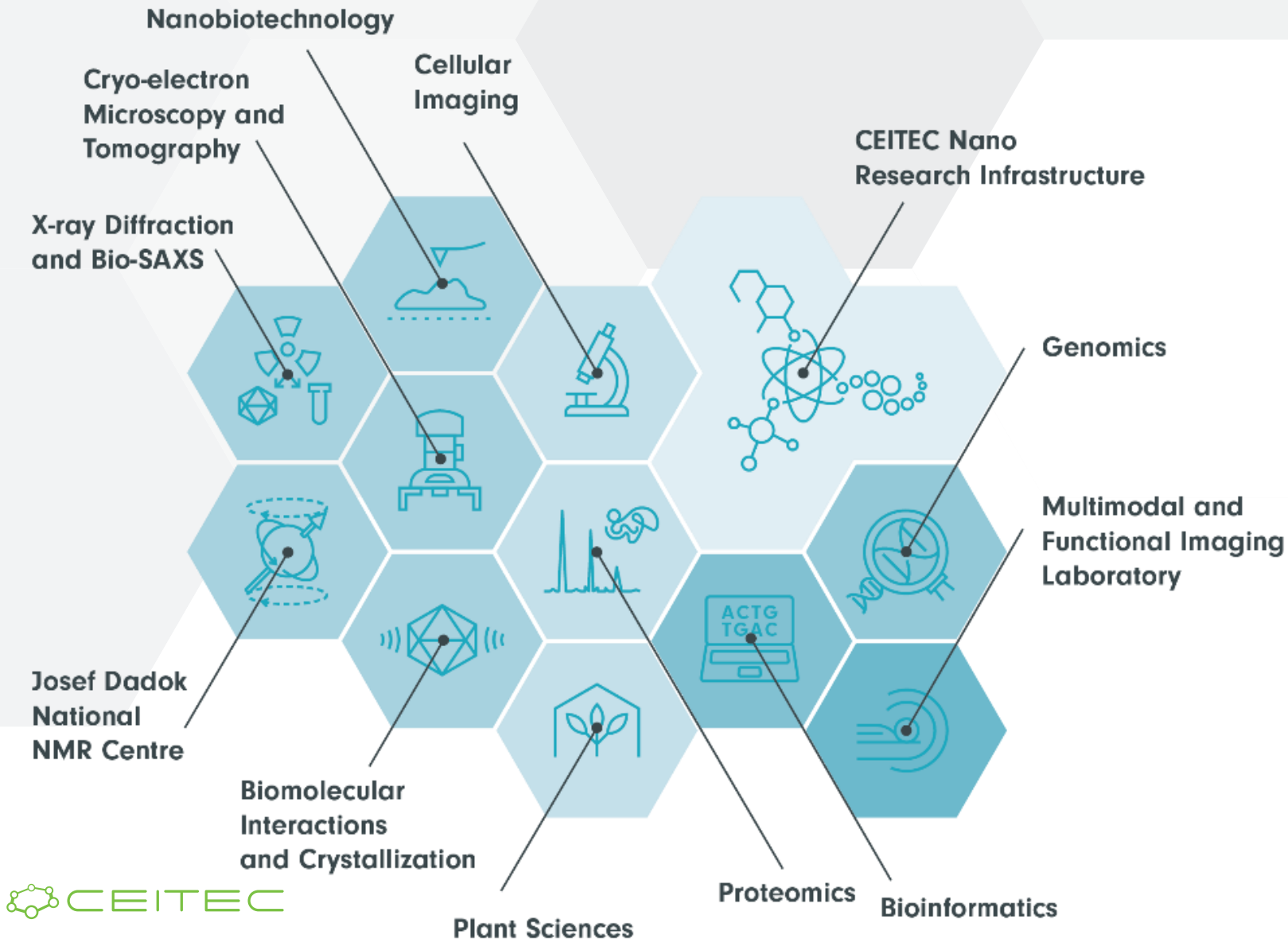


INSTITUTE OF
PHYSICS OF
MATERIALS AS CR
www.ipm.cz



VETERINARY
RESEARCH INSTITUTE
www.vri.cz

Core facilities (CF) at CEITEC – institutional level



- 12 facilities = independent units
- 4 mil EUR annual OPEX
- 70 FTEs, cca 10 % of CEITEC staff

CEITEC and CZ Roadmap for Reserach Infrastructures

CEITEC participation in national RI consortia, 10 facilities participating

- Czech Infrastructure for Integrative Structural Biology (CIISB)
- CzechNanoLab – 2 partners
- CzechBioImaging – 9 partners
- ELIXIR CZ – 14 partners
- EATRIS-CZ – 6 partners
- National Centre of Medical Genomics – 6 partners



CEITEC and ESFRI projects

INSTRUCT-ERIC – structural biology

- Since 2016 full INSTRUCT centre

EuroBioImaging – biological and medical imaging

- CEITEC is coordinator Brno EuBI node

ELIXIR – bioinformatics

- Active part of Czech ELIXIR node

EATRIS – translational research

New ESFRI project proposal under development = **EuroNanoLab**



How

How – governance and agreements matter

- Significant investment = 210 mil EUR (EU Structural Funds)
- Building on local excellence (not a cathedral in desert)
- Blending with international best practice + international staff
- **Political agreement and support**
 - Regional politicians
 - Rectors and directors of institutes
- Targeted lobbying and preparation
- Linking to Regional Innovation Strategy



**CHEMISTRY
AND NON-METAL
MATERIALS**

**RESEARCH
& DEVELOPMENT
DISCIPLINES**



**PHYSICS,
METAL MATERIALS
AND MACHINERY**



**LIFE
SCIENCES**



**ELECTRONICS
AND INSTRUMENTATION**



**INFORMATION
TECHNOLOGIES**

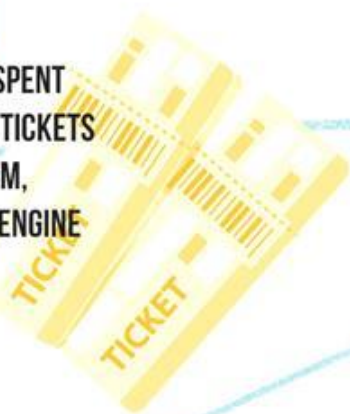
B R N O R E G I O N



INDUSTRY AND INNOVATIONS TO [] DAY

330

MILLION EUROS ARE SPENT
EVERY YEAR ON FLIGHT TICKETS
THROUGH KIWI.COM,
AN INTERNET SEARCH ENGINE
FROM BRNO



4 TECHNOLOGY INCUBATORS
IN #BRNOREGION



40%

OF THE GLOBAL ANTIVIRUS MARKET
IS CONTROLLED BY COMPANIES
EITHER WITH BASES OR DEVELOPMENT
CENTRES IN #BRNOREGION



700+

ELECTRON MICROSCOPES ARE
EXPORTED FROM #BRNOREGION
EVERY YEAR



3RD

LARGEST PRODUCER OF
HOT-AIR BALLOONS IN THE WORLD
IS BASED IN #BRNOREGION



20

YEARS IS HOW LONG
#BRNOREGION HAS BEEN
AMONG THE GLOBAL ELITE
IN SPEECH TECHNOLOGY



30%

OF GLOBAL ELECTRON
MICROSCOPE PRODUCTION
HAPPENS IN #BRNOREGION



160+

DIGITAL GAMES
HAVE BEEN RELEASED BY GAME
DEVELOPMENT COMPANIES
BASED IN #BRNOREGION SINCE 1994



B · R · N · O · R · E · G · I · O · N

ELECTRON MICROSCOPY

70

YEARS OF ELECTRON
MICROSCOPY
IN #BRNOREGION

30%

OF THE WORLD'S
ELECTRON MICROSCOPES
COME FROM #BRNOREGION

1/4

ONE FOURTH
OF GLOBAL
SPENDING
ON ELECTRON MICROSCOPES
GOES TO #BRNOREGION.

400,000,000+ EUR

EUR IS THE YEARLY TURNOVER
OF THE THREE MOST IMPORTANT
PRODUCERS OF ELECTRON MICROSCOPES
IN #BRNOREGION: TESCAN,
THERMO FISCHER SCIENTIFIC,
AND DELONG INSTRUMENTS

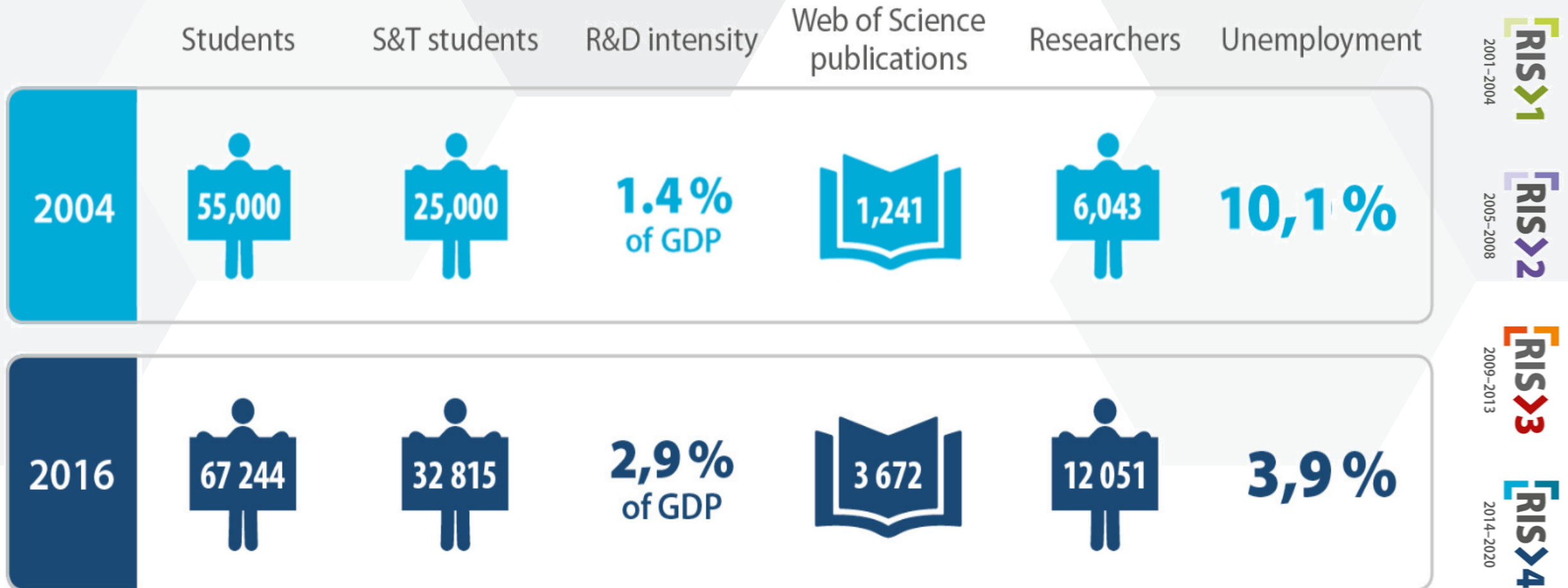
700+

ELECTRON MICROSCOPES
ARE EXPORTED
FROM #BRNOREGION
ANNUALLY.

~ B · R · N · O · R · E · G · I · O · N

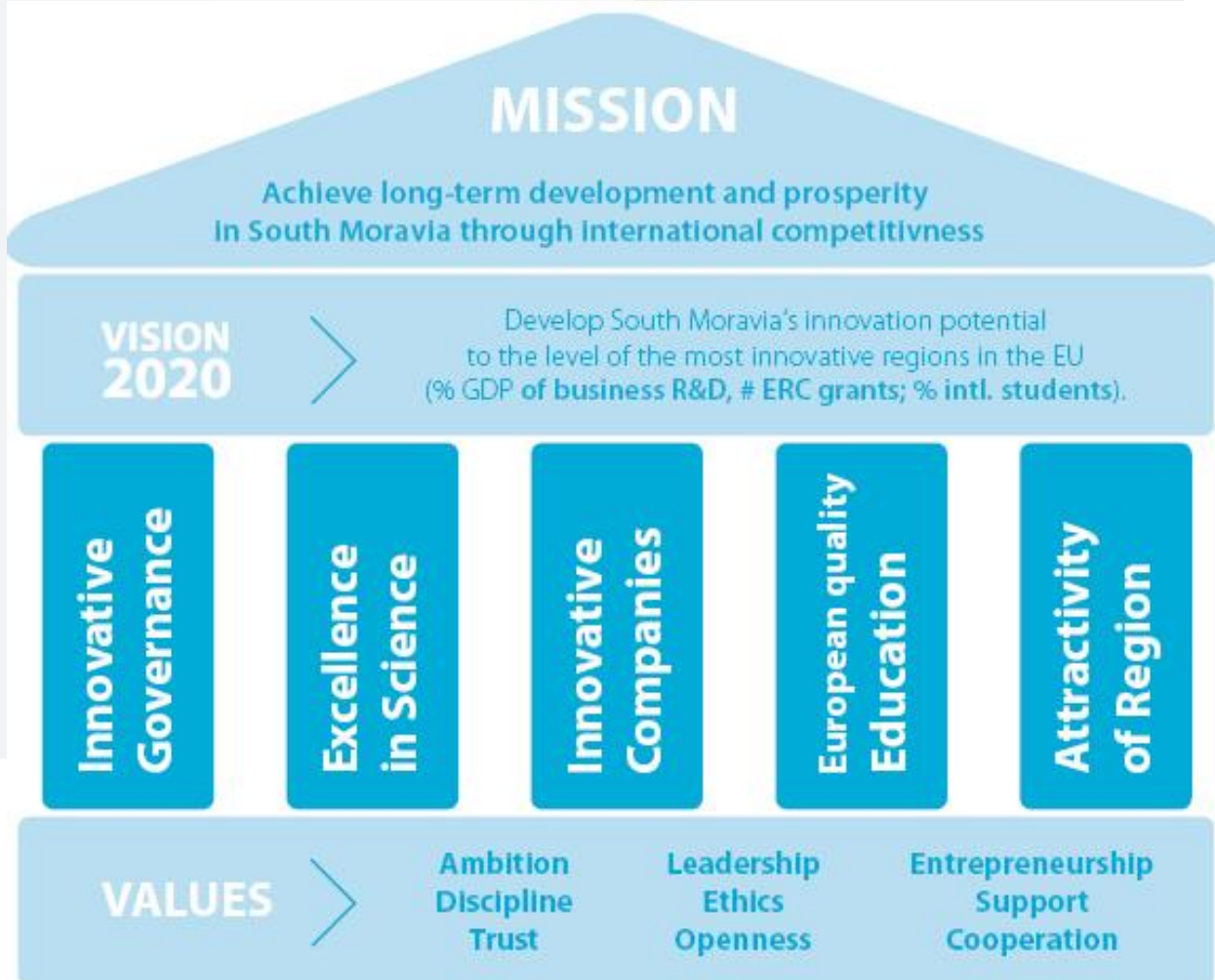
EVOLUTIONARY DEVELOPMENT

- Four generations of Regional Innovation Strategy since 2001 do matter – evidence, strategic intelligence, informed decision-making



STRATEGIC FRAMEWORK

- Regional Innovation Strategy (RIS) is a long-term commitment to promote competitiveness of the whole South Moravian Region



RESULTS

- ERC grant holders

2014 | +1

2015 | +1

2016 | +1

2017 | +2

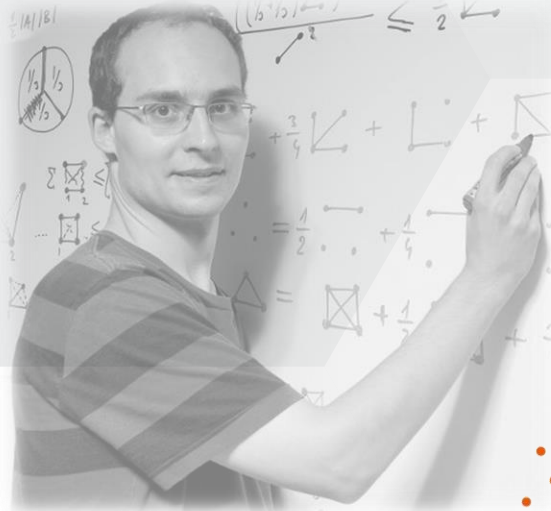
2018 | +2 **SO-MO-PRO-**

2019 | +1 **MUNI AWARD IN SCIENCE AND HUMANITIES**

The Award holder will be offered Tenure Track Professorship with the budget of \$ 1,150,000 for the period of 5 years, laboratory and office space, and access to the state-of-the-art research equipment.

8 (CEITEC = 5)

MUNI



 **CEITEC**

How – institutional level

- Overcoming many **administrative hurdles**:
 - Reporting and audits
 - Public tenders
 - Timesheets
 - ...
- Establishing proper **support structures**:
 - **International management** – ISAB, evaluation of science
 - **Grant office** - focused both on national and EU funding
 - **Core facility ecosystem** – booking system, costing, user fees, reporting, user committees, regular internal review
 - **Events team** – organising circa 250 events yearly

Challenges of sustainability

Challenges of sustainability

If you are good enough, you will be sustainable

- Apply international best practice and keep to it
- Long term stability of national policies
- Long term funding
- Integration into EU networks



CEITEC



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