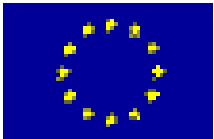


**GLOBAL CHANGE RESEARCH INSTITUTE**  
*Czech Academy of Sciences*

# ***Internationalisation of the projects' results***

***Jiří Kolman***  
***Scientific Secretary of Global Change  
Research Institute***



# ***CzechGlobe specifics***

**Interdisciplinary research** (*from life sciences to socioeconomic fields*)

**Big amount of data** (*e.g. remote sensing data, climate modelling data, sensors in various ecosystems sites collecting e.g. 20 figures per second...*) => *challenge to keep control and right interpretations*

**Change in time** (*data corrections, remodelling...based on the latest methodology development*)

# ***CzechGlobe specifics***

**International collaboration** mainly within 7 pan-European infrastructures (ESFRI) and world databases (e.g. WMO, Fluxnet...) =) challenge to fulfil all data protocols and keep all background information necessary for the provided data interpretation (e.g. geographical conditions of the monitoring site), who takes the responsibility

**International staff** (more than 25 nationalities) and various national and international partners =) cultural differences, different background, expectations and experience

# ***Czechgobe specifics***

**Multisource funded research** (=) different funders' rules (e.g. acknowledgement, embargos, trade secrets, data sustainability)

**Various types of data** (e.g. basic data, „cleaned“ data, metadata (synthesized data), modelled data (e.g. via neural nets methods))

# ***Czechgobe specifics***

**Political sensitivity of climate research** (*IPCC Climategate, climate skepticism, alarmism, big societal expectations* )

**Heavy effort of the data „production** (*time and financial costs, operational and managerial effort*)

**Wide range of users** (*stakeholders, researchers, governments, IPCC, world databases, companies, SMEs, students, mass media, wide public...*)

**Reuse of the others' data**

# Main information source

07.02.2018

*The third volume of the ESFRI Scripta series is built on the outcomes of the ad hoc Working Group on Innovation as approved by the Forum in March 2016. This [ESFRI Scripta volume 'Innovation-oriented cooperation of Research Infrastructures'](#) describes the different forms of industry and Research Infrastructure collaboration that generate innovation: industry as supplier for the construction / upgrade of the RIs, being instructed and guided in developing new technologies or production protocols; industry as partner of RIs and industry as user exploiting the specific dedicated access modes as well as through the academic access supported by research grants. It is focused on the main objectives which were defined by the Forum – see the Terms of Reference of the Working Group on Innovation – INNO WG – namely to contribute to the development of a strategy aimed to strengthen and improve the relations between Research Infrastructures and Industry and to promote the potential for innovation of Research Infrastructures in all its aspects. All sections of the report are concentrated on these issues. Examples of good practices are given in the Boxes.*

# ***Identifying partnership opportunities with the business at the international stage***

## *Business applied partners*

- *Companies (SMEs, international companies)*
- *NGOs*
- *With suppliers (joint improvement of the supplied instruments and technologies)*
- *Spin-offs and start-ups*
- *TNA (transnational access to research infrastructure)*
- *International organisations (UN, NATO, EU institutions...)*

# ***Identifying partnership opportunities with the business at the international stage***

*Personal contacts (e.g. family and professional contacts, employment of foreign experts, scientific mobility and traineeships, expats abroad)*

*Project consortiums*

*References and recommendations (e.g. governmental support, participation and hosting ministerial foreign visits)*

*Networking with embassies based in the country and abroad*

*Networking (must be very selective)*



# ***Identifying partnership opportunities with the business at the international stage***

*Active (co)organisation of the events (conferences) not only in home country but also abroad (esspecially Brussels...)*

*Sending experts to present topics to specific events where are relevant contacts*

*Collaboration with the representatives of the international companies working in the country*

# ***Establishment of preconditions for effective transfer of technologies abroad, collaboration with industry and internationalisation of the projects' results***

*Be ready!*

*How:*

- *Long-term collaborations via „clubs“ (ESFRI, ESFRI, ESFRI...)*
- *Clear centre competencies (who, what, when...)*
- *To have capacity (in-house, outsourced)*
- *To have experience*
- *Good contacts*
- *References*

# ***Establishment of preconditions for effective transfer of technologies abroad, collaboration with industry and internationalisation of the projects' results***

*Be ready!*

*How:*

- *References*
- *Teach and educate your (potential) users and partners*
- *ISO*
- *Learning by doing approach*
- *Try crazy things (awards nominations, invitation of famous reputable persons/experts, nominations to international expert positions)*
- *Don't worry to lobby – actively participate in creation of the game rules, results promotion (e.g. legal norms and public policy based on your technology)*

# ***TT via pan-European research infrastructure consortiums***



*European Strategy Forum on  
Research Infrastructures  
(ESFRI)*

*European Research  
Infrastructure Consortium  
(ERIC)*

*Association of European-Level  
Research Infrastructures  
Facilities (AISBL)*

*European Institute of Innovation  
& Technology (EIT)*

## ***Long-term research infrastructure collaborations with non-EU countries***

*Mainly supported by: EU FP, national  
and ESIF funding*

*But also partner local funding  
(Vietnamese, Ghanian national  
funding, UN programmes)*

# ***International projects and public tenders abroad***

*UN tenders*

*Development aid*

*Bilateral projects*

*It is necessary to have a very good local partner (it is not easy to find).*

## ***Conditions for participation of CoEs and CoCs in the Horizon 2020 programme***

*Quite quickly possible (even before centre final establishment)*

*Collaborate with the best from the beginning*

*Attract the projects professionals to the Centre from the beginning*

*FPs really help*

# ***Transnational open access to research infrastructure, technology transfer, capacity building, open access, open data***

**Open data** (*within the context of open access to infrastructure and results*)

**Active dissemination** (*e.g. via international databases, data management, collaboration on data protocols creation...*)

**Traceability** (*DOI*)

**Acknowledgment** (*e.g. to funding*)



## ***CzechGlobe data policy***

**Proactive approach** *via projects and collaborations with top partners e.g.*

*Horizon 2020 project* **Readiness of ICOS for Necessities of integrated Global Observations (RINGO)** *implemented 2017-2020*



# ***CzechGlobe data policy***

**Proactive approach** *via projects and collaborations with top partners e.g.*

- **Safetica Technologies** (*globally operating IT company*)
- **CERIT-SC** (*Masaryk University IT partner*)
- **Participation in GDPR Commission of the Czech Academy of Sciences**

# ***Collaboration with Safetica Technologies***



# ***Challenges***

Open data vs. commercial interests

Open data vs. acknowledgment and authorship

Open data vs. public aid

Open data vs. responsibility

Open data vs. personal data (*e.g. GDPR*)

Open data vs. time (*e.g. sustainability*)

Open data vs. innovation obsession of funders

# ***Long term sustainability of research infrastructure***

Benefits of current model that is OK:

- Stable long-term funding
- Based on robust international regular and fair evaluation
- Significant funding (surely more funding better funding)

Multisource funding supporting the RI development and operation is possible (e.g. *H2020 project Readiness of ICOS for Necessities of integrated Global Observations (RINGO) implemented 2017-2020*)

**RINGO**

**Readiness of ICOS  
for Necessities of  
Integrated Global  
Observations**

# ***Missed opportunities***

Minimum support for the involvement of research in EU, UN and NATO development policies

Minimal support for "pro-export" state policy in support of internationalization of new technologies and transfer of new knowledge

Hosting prestigious research institutes from abroad

# ***Missed opportunities***

Support for innovative  
public procurement

Systematic involvement  
of public administration  
as the first customer of  
R&D products

Absence of a culture of  
"improvers"