METODIKA

Research evaluation in Czech Republic

Trends and future perspectives

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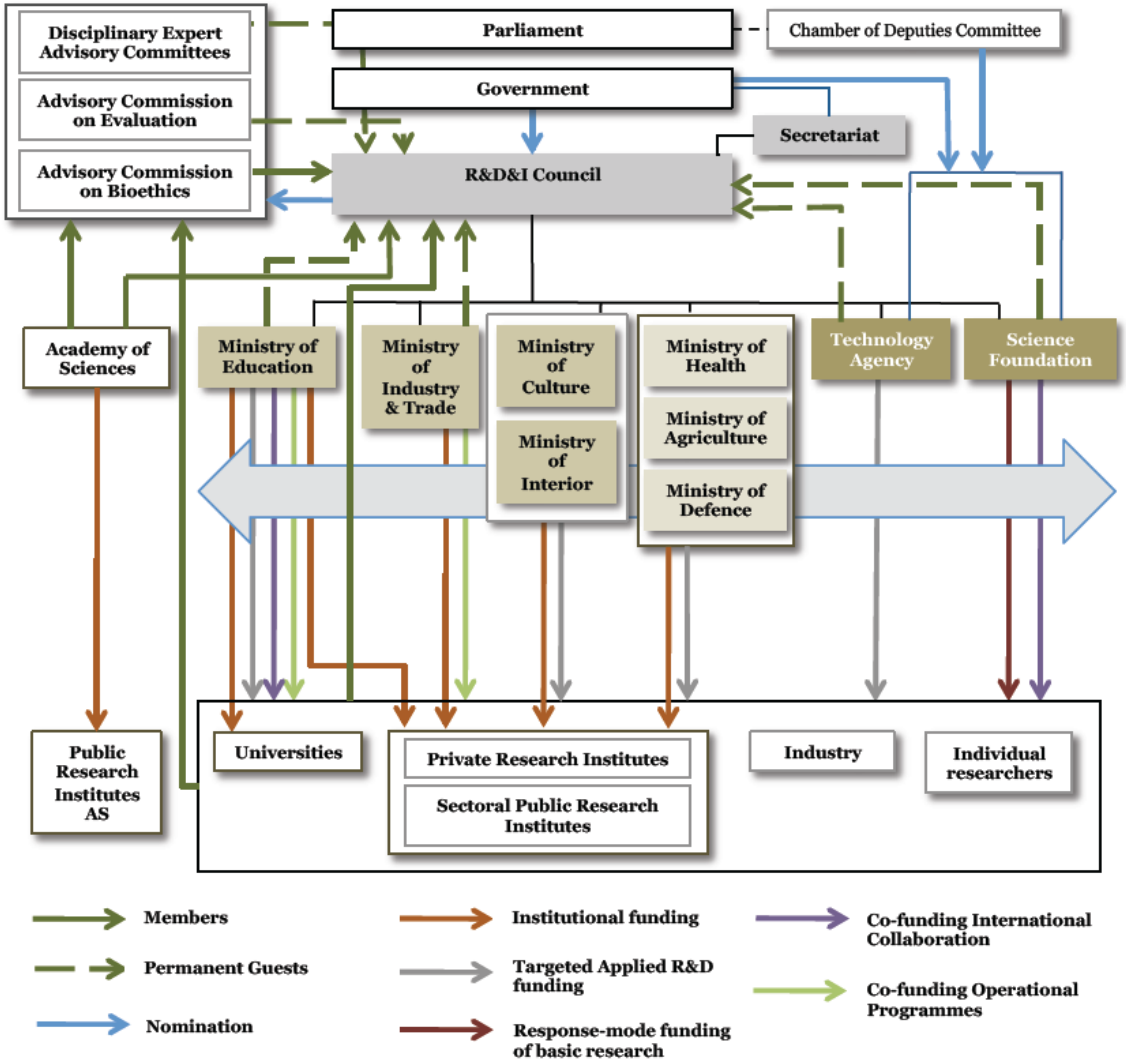
esf evropský sociální fond v ČR
EVROPSKÁ UNIE
MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY
OP Vzdělávání pro konkurenceschopnost
INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Outline

- Research evaluation system in CR in recent 10 years
- IPN Metodika – project description
- New evaluation methodology – key principles

Czech RandD System



Main fields of evaluation

- Evaluation of projects – agencies (TA CR, SF CR), ministries, regional authorities, international programmes
- Evaluation of programmes – RDI Council
- Evaluation of research organizations – RDI Council
- Evaluation of research teams and institutes – Academy of Sciences

Legal provisions

- Act on RDI „support“ (ie. funding)
  - definition of public calls for projects, incl. basic principles for their evaluation (only ex-ante!)
  - RDI Council - „evaluation of results of research organsations and of results of research programmes“
  - according to „The Methodology for Evaluation...“
  - Institutional funding – „on basis of evaluation of the institution´s research results“

The Methodology for Evaluation…

- Annually developed by RDI Council and approved by government since 2004
- Change of rationale – from measuring efficiency to allocation mechanism
- Solely output oriented
- Based on data from national information system
- Relating the types of output directly to points (to money) – „coffee grinder“

Bodové hodnocení jednotlivých druhů výsledků

Druh výsledku					I – obory NRRE [0]	II – ostatní obory
J_{imp}	článek v impaktovaném časopise [1]				10 až 305 [2]	
	článek v prestižním impaktovaném časopise (*Nature*, *Science*) [3]				500	
J_{neimp}	článek v recenzovaném časopise	světově uznávané databáze [4]	SCOPUS *		12	
			ERIH	A	30	12
				B	20	11
				C	10	10
J_{rec}	článek v českém recenzovaném časopise	seznam recenzovaných periodik [5]			10	4
B	odborná kniha	světový jazyk	angličtina, čínština, francouzština, němčina, ruština a španělština		40	40
		ostatní jazyky				20
D	článek ve sborníku [6]				8	
P	patent	„evropský“ patent (EPO) **, patent USA (USPTO) a Japonska			500	
		český nebo národní patent (s výjimkou patentu USA a Japonska), který je využíván na základě platné licenční smlouvy			200	
		ostatní patenty [7]			40	
Z	poloprovoz, ověřená technologie, odrůda, plemeno				100	
F	užitný vzor [8]				40	
	průmyslový vzor				40	
G	prototyp, funkční vzorek				40	
H	poskytovatelem realizované výsledky				40	
N	certifikované metodiky a postupy, specializované mapy s odborným obsahem				40	
R	software				40	
V	výzkumná zpráva, která je výsledkem obsahujícím utajované informace [9]				50	

[0] NRRE zahrnuje obory (dle číselníku IS VaVaI: AA – Filosofie a náboženství, AB - Dějiny, AC – Archeologie, antropologie a etnologie, AD – Politologie a politické vědy, AE – Řízení, správa a administrativa, AG – právní vědy, AI – Jazykověda, AJ – Písemnictví, masmedia a audiovize, AL – Umění, architektura a kulturní dědictví, AM – Pedagogika a školství).

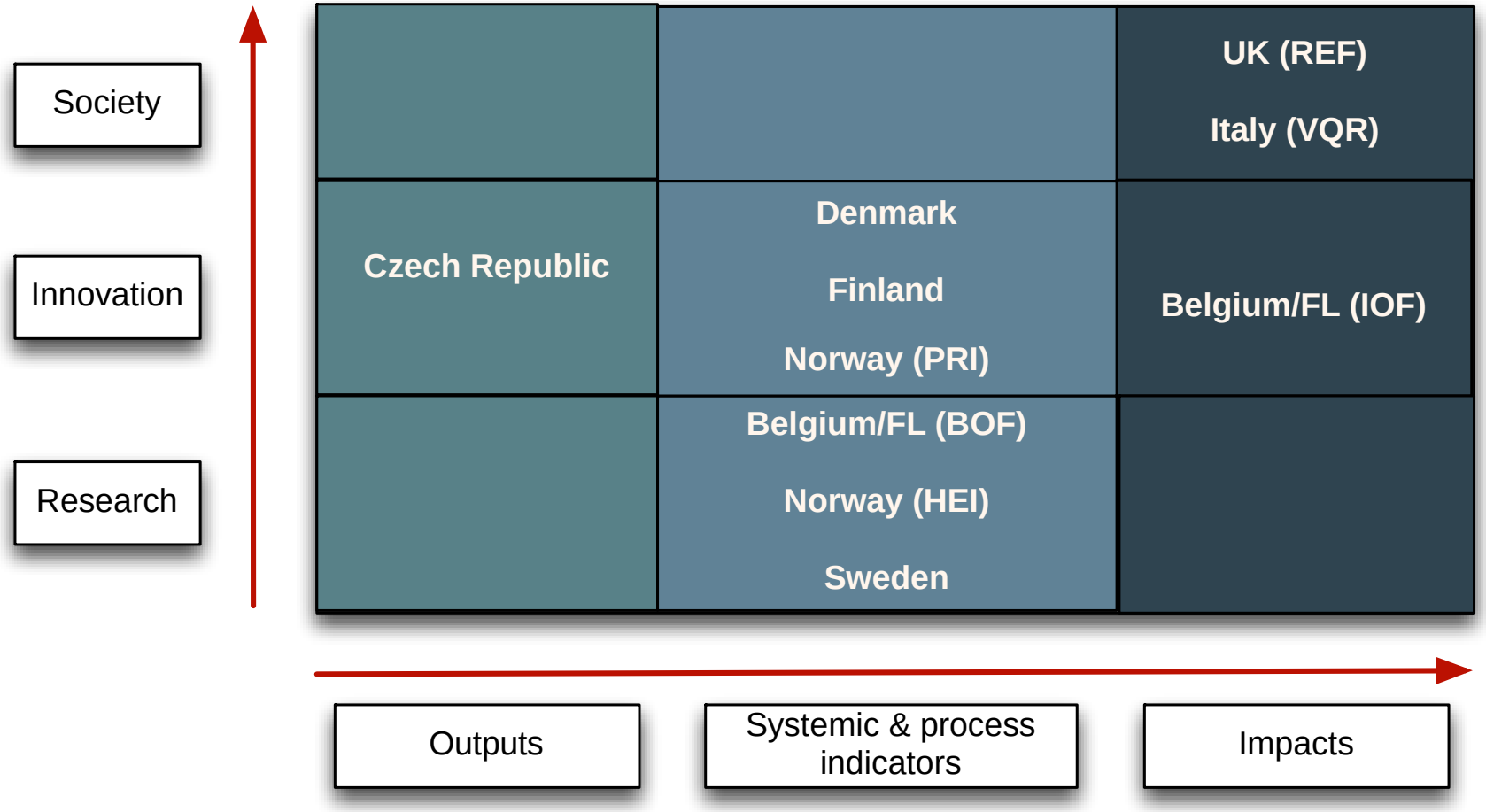
[1] Publikace uvedené v následujících databázích Web of Science společnosti Thomson Reuters: Science Citation Index Expanded (SCI-EXPANDED) – 1945 – present; Social Science Citation Index (SSCI) – 1980 – present; Arts & Humanities Citation Index (A&HCI) – 1980 – present; Index Chemicus (IC) – 1993 – present; Current Chemical Reactions (CCR-EXPANDED) – 1986 – prezent.

[2] Hodnocení $J_{imp} = 10 + 295 \times$ Faktor, kde:

Faktor = (1 - N) / (1 + (N / 0,057)), kde N je normované pořadí časopisu, N = (P - 1) /

- Points for „results“ 2011

Recent Czech focus on outputs is unusual



Source: Technopolis, Presentation by Erik Arnold (Technopolis) , Jan 7, 2014

Methodology for evaluation …

- Major change in 2013
- 3 pillars
  - publication output (incl. specific category for SSH – expert panels)
  - evaluation of excellence (limited number of outputs, expert panels)
  - evaluation of output from aplied research (patent and new breeds)

INSNAZP	Výsl		Pilíř II	Pilíř III	Další bodované výsledky					nu Jneimp	Pili
					Aplikované výsledky přebírané z minulého hodnocení						
	počet	né	Body VO podle Pilíře II (v roce 2013: inicializace na 1/9 * KBOCEL)	Body VO podle Pilíře III	počet	body před korekcemi	body korigované	Výsledky vyřazené nebo bodované 0 body		body korigované	počet
	POCPIL1		KBOPIL2	KBOPIL3	POCH12_APL	BODH12_APL	KBOH12_APL	POCNEU		KBOJNEIMP	POCJREC
Accendo - Ce	0,000	000	0,000	0,000	0,000	0,000	0,000	0,000		0,000	0,
Agritec Plant	54,916									0,000	24,
Agrotest fyto	159,572	035	239,815	212,663	30,467	1 458,667	851,325	23,469		0,000	99,
Agrovýzkum	118,853	530	412,727	253,817	48,570	2 282,784	1 381,495	40,471		0,000	82,
Akademie m	64,130									52,459	30,
Akademie m	149,709	093	269,810	93,332	53,765	2 150,600	1 221,200	42,126		22,160	101,
Akademie m	11,564									28,566	4,
Akademie m	0,000	697	256,759	117,924	24,667	986,667	602,766	45,952		0,000	0,
	0,000	455	308,102	0,000	0,000	0,000	0,000	38,000		0,000	0,
	0,000									0,000	0,
	0,000	000	44,127	49,533	3,000	120,000	67,900	6,000		0,000	0,
	0,000	000	0,000	0,000	0,000	0,000	0,000	0,000		0,000	0,
		000	0,000	0,000	0,000	0,000	0,000	0,000			
		000	0,000	0,000	0,000	0,000	0,000	0,000			
		000	0,000	0,000	0,000	0,000	0,000	0,000			
		000	0,000	0,000	0,000	0,000	0,000	0,000			

Permanent criticism

- Evaluation of different types of research organisation with different missions
- Based mainly on quantity of ouput, quality only mechanically (SSH same principle, but different wages)
- Exclusively on past performance, no future perspective (new fields?)
- Very limited disciplinary sensitiveness
- Encourages salami tactics in scientific publications
- Discourages interinstitutional and interdisciplinary cooperation
- Informs institutional funding (in fact only HEIs) annually – high instability, hinder strategic planning

IPN Metodika

- Project: „The Effective System of Evaluation and Financing of the Czech R&D&I“
- Funded by structural funds - Ministry of education, youth and sports (OP EfC 2007-2013)
- Tasks
  - To introduce evaluation principles well-developed and tested in Europe.
  - Discipllinary sensitive and based on peer-review
  - Without a mechanical link between the evaluation of research and decisions about institutional funding.
  - Multi-annual funding periods.
  - Open discussion with all stakeholders and representatives.
  - Evaluation as a tool for learning and institutional development.

IPN Metodika - workpackages

- **IT support**
- **Evaluation system**
- **Funding system**
- **Large-scale pilot study**
- **Organisational settings for evaluation process and building of expertise in RE**
- **Rules and procedures for transient period, incl. changes of legal provisions**
- **Coordination with other stakeholders and public consultation**

IPN Metodika - time schedule

- Autumn 2013 – preparation for public tender for the analytical and operational proposal of evaluation and funding system
- May 2014 – contractor Technopolis (+ TC AS CR, Infoscience)
- November 2014 – first draft of evaluation methodology for public consultation
- April 2015 – draft of summary report for public consultation
- June 2015 – feasibility of organisational settings for the implementation of evaluation methodology
- December 2014-October 2015 – large pilot study
- October 2015 – final proposal

Reporting structure

Summary Report

Main reports

- **The R&D Evaluation Methodology** — *First Interim Report*
- **The Institutional Funding Principles** — *Second Interim Report*
- **The Small Pilot Evaluation & the RD&I IS as information tool for evaluation** — *Third Interim Report*

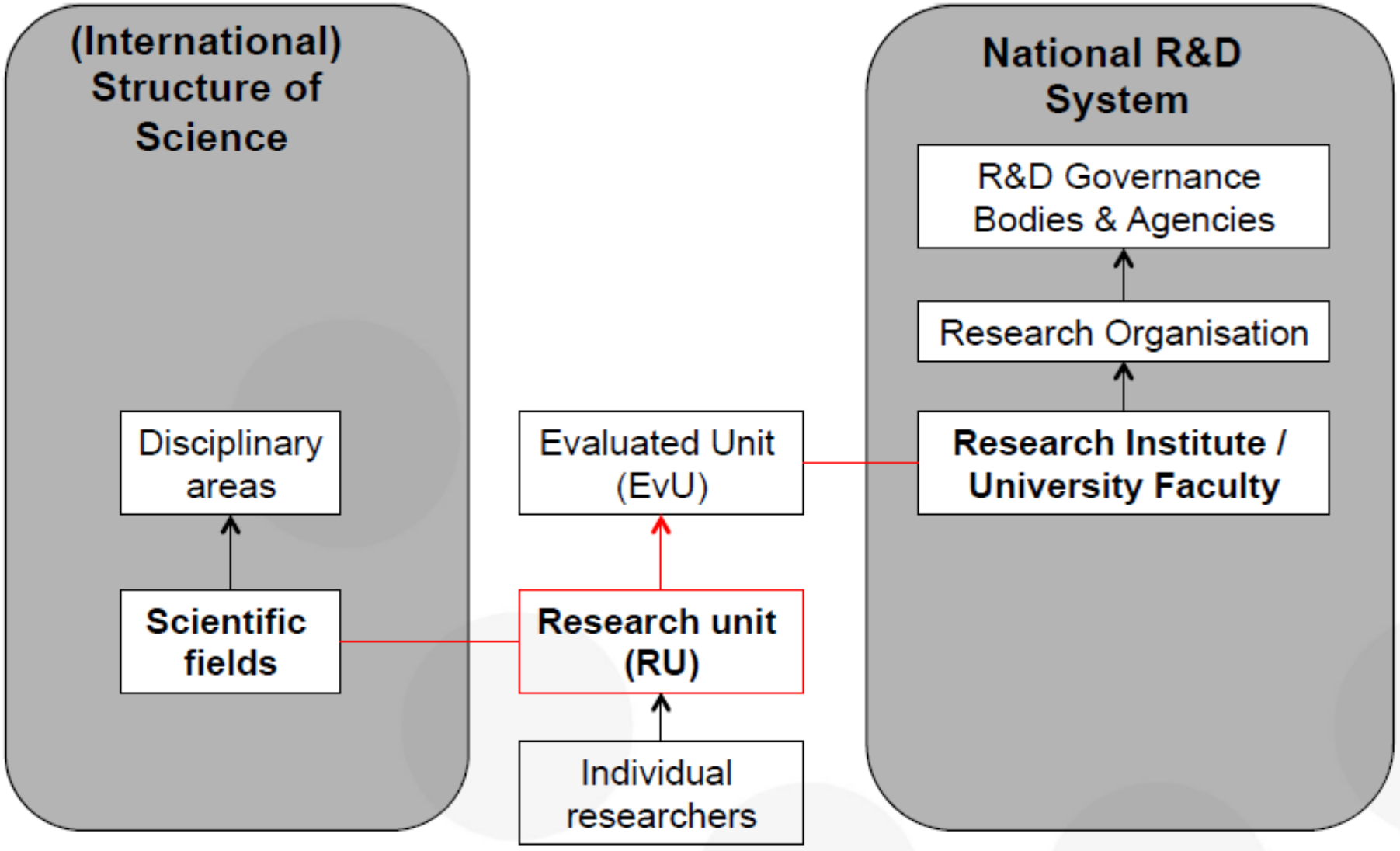
Background reports

- 1: Evaluation Systems in International Practice
- 2: Typology of ROs & Effects of the EM Thresholds
- 3: Bibliometrics on and for the Czech Republic
- 4: Detailed Evaluation Cost Framework
- 5: Evaluation Handbook
- 6: R&D Governance & Institutional Funding in International Practice
- 7: Institutional Funding System in the CR
- 8: Ex-ante Assessment of the Funding System
- 9: The Small Pilot Evaluation: Feedback & Results
- 10: The RD&I IS as an Information Tool for Evaluation

Key principles

- Only research-performing research units should be included
- Central role of ‘informed’ peer/panel review
- Common assessment ‘spine’ with field-specific variations, allowing aggregation of assessment results (eg. at field or institutional level)
- Common assessment criteria covering performance in 5 different dimensions – no expectation that everyone does well against all criteria
- Translation of performance into funding is based on the societal function/mission of the research unit
- Institutional funding contains elements that
  - Provide a substantial measure of funding stability
  - Reward the quality and impact of the research unit
  - Encourage strategic development of the research unit

Basic unit – „research unit“



Disciplines and panels

Disciplinary Area	Field
1 Natural sciences	1.1 Mathematics
	1.2 Computer and information sciences
	1.3 Physical sciences and astronomy
	1.4 Chemical sciences
	1.5 Earth and related environmental sciences
	1.6 Biological sciences
	1.7 Other natural sciences
2 Engineering and technology	2.1 Civil engineering
	2.2 Electrical engineering, electronic engineering, in
	2.3 Mechanical engineering
	2.4 Chemical engineering
	2.5 Materials engineering
	2.6 Medical engineering
	2.7 Environmental engineering
	2.8 Environmen
	2.9 Industrial B
	2.10 Nano-techı
	2.11 Other engir
3 Medical and Health sciences	3.1 Basic medic
	3.2 Clinical med
	3.3 Health scien
	3.4 Medical biotechnology
	3.5 Other medical sciences
4 Agricultural sciences	4.1 Agriculture, forestry, and fisheries
	4.2 Animal and dairy science
	4.3 Veterinary science
	4.4 Agricultural biotechnology
	4.5 Other agricultural sciences
5 Social sciences	5.1 Psychology
	5.2 Economics and business
	5.3 Educational sciences
	5.4 Sociology
	5.5 Law
	5.6 Political Science
	5.7 Social and economic geography
	5.8 Media and communication
	5.9 Other social sciences
6 Humanities	6.1 History and archaeology
	6.2 Languages and literature
	6.3 Philosophy, ethics and religion
	6.4 Art (arts, history of arts, performing arts, music)
	6.5 Other humanities

Assessment criteria

Assessment criteria	Sub-criteria
Research environment	The quality of the research management (including HR management)
	The adequacy of the research strategy
Membership of the global and national research community	International research presence and collaboration
	National research presence and collaboration
Scientific research excellence	
Overall research performance	Research output (including quantity and overall quality)
	Competitiveness in research
Relevance for society	

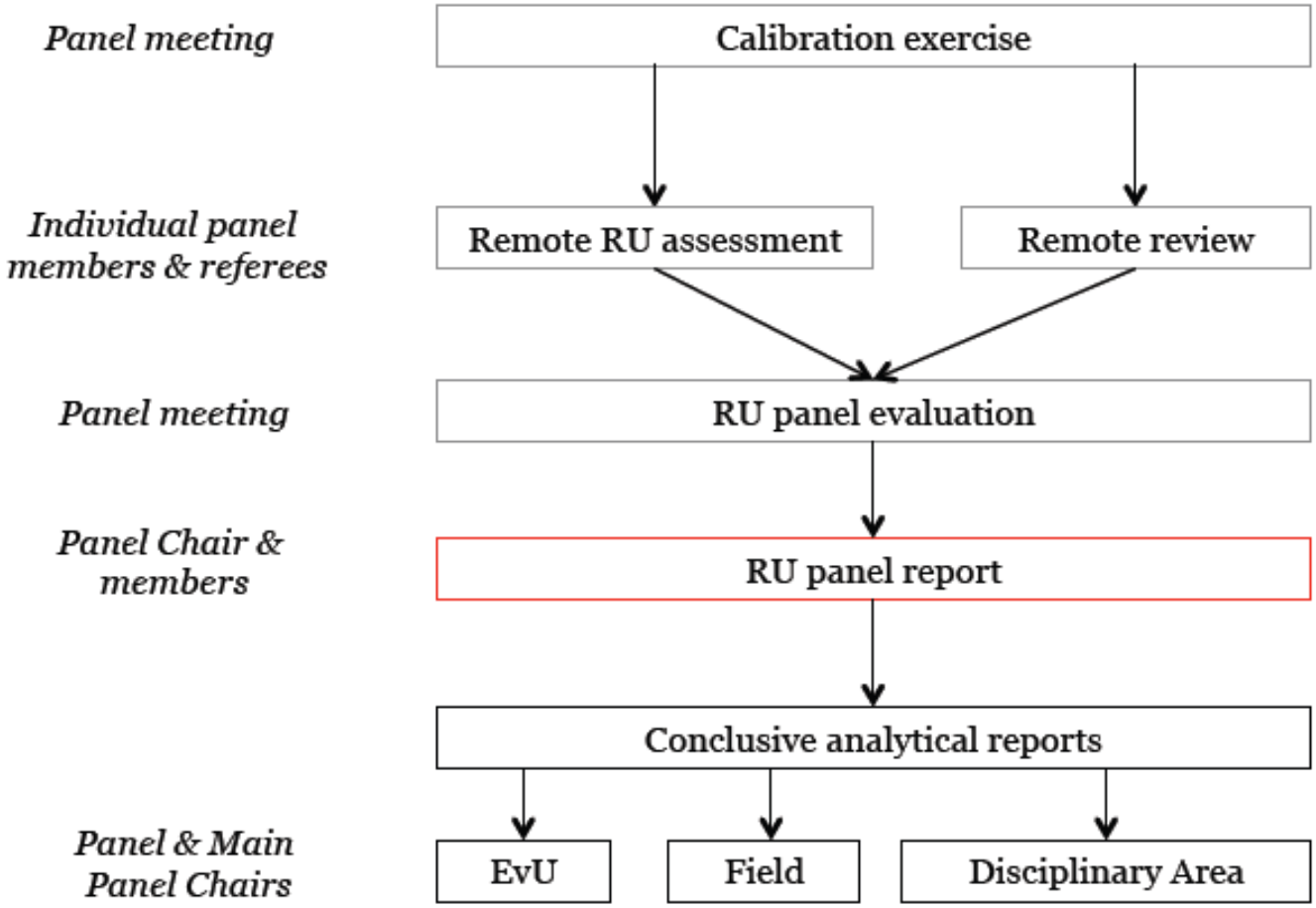
Different criteria for different types of research organistions

RO Type Category	RO Type Category Abbreviation	RO Type Sub-category
Scientific Research Organisations	**ScRO**	ASCR
		HEI - private
		HEI - public
		Infrastructure
		Research hospitals
Industry & Business services Research Organisations	**IBRO**	AgriFood RTO
		Industry RTO
		Business services RO
Public Services Research Organisations	**PSRO**	Government Lab
		Policy services RO
National Resources	**NatRes**	Cultural services RO

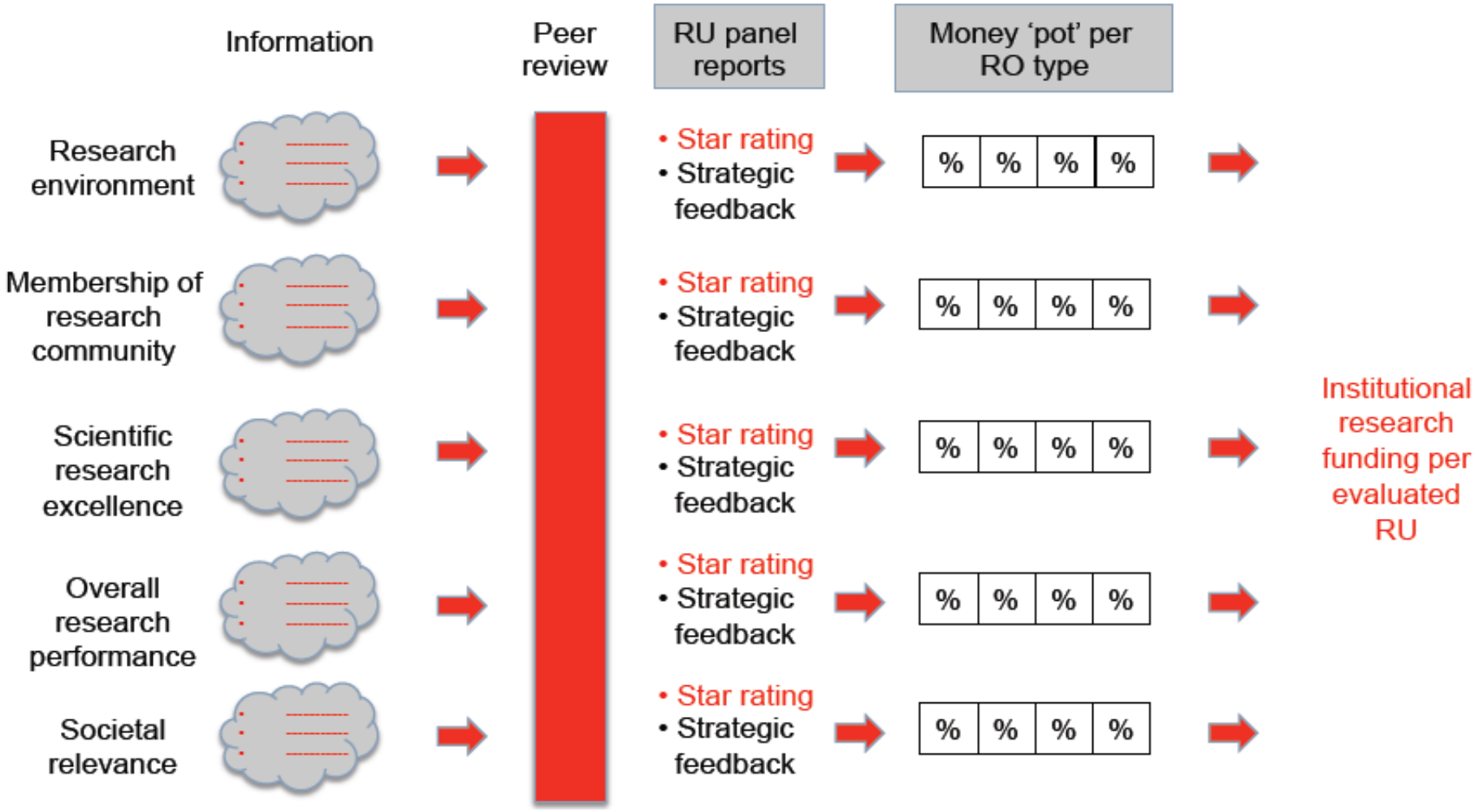
Indicators for assessment criteria

	Scientific research organisations		Other applied research organisations
	Basic research	Applied research	
Relevance for society			
External funding (competitive & contract research)	X	XX	XX
Reputation and esteem	X	XX	XX
National collaborations & partnerships (user communities)	X	XX	XX
(Use of) research outputs	X	XX	XX
Use of media channels	X	XX	XX
Licence income	X	XX	XX
Spin-off companies	X	XX	XX
Value of the RU research activities for society	X	XX	XX
Reputation and esteem	XX	XX	XX
National collaborations & partnerships	XX	XX	XX
National co-publications	XX	XX	XX

Evaluation process



Evaluation for funding



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- Thank you for your attention
- Question and comments very welcomed
- For more info

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