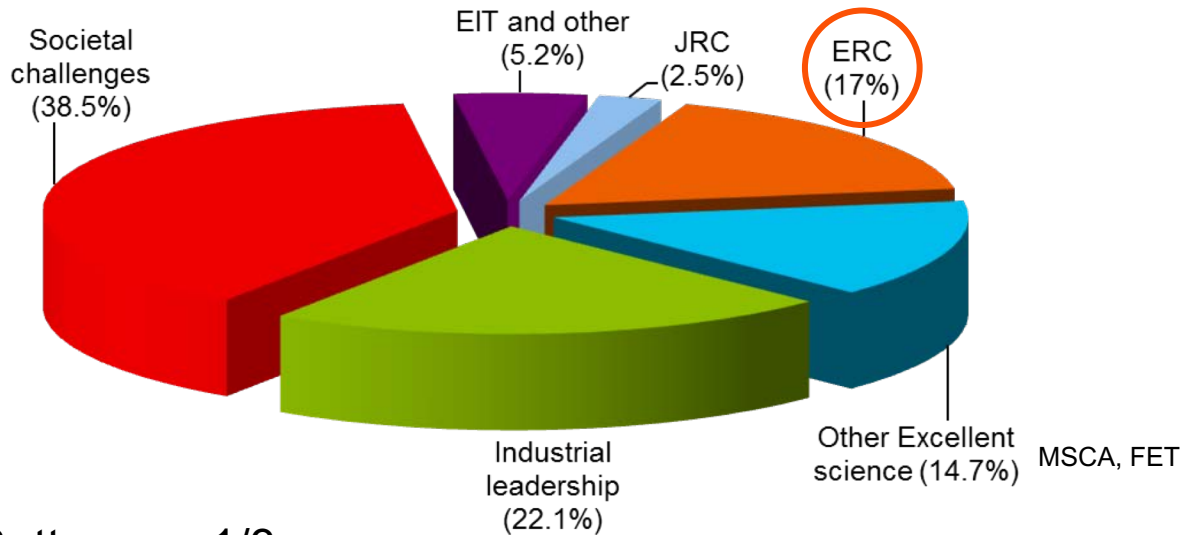


ERC – Its impact in Europe and Czech Republic

Tomas Jungwirth

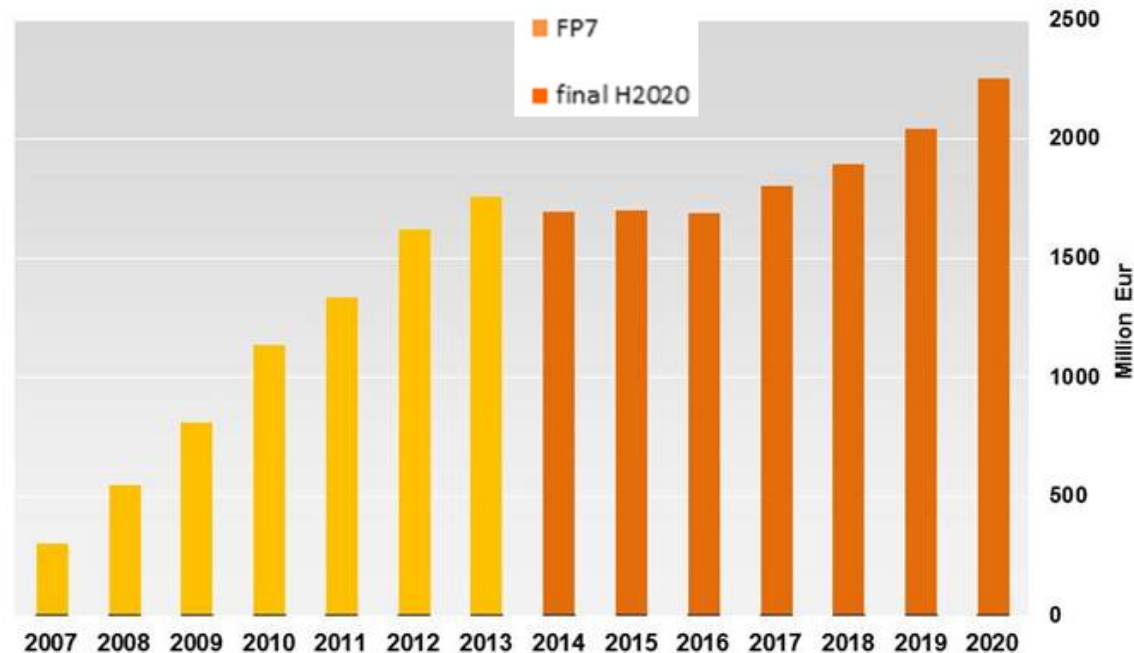
**Member of the ERC Scientific Council 2015 -
Member of the ERC evaluation panel AdG PE3 2009 - 2015
ERC Advanced Grant 2011- 2016**

ERC H2020 Budget

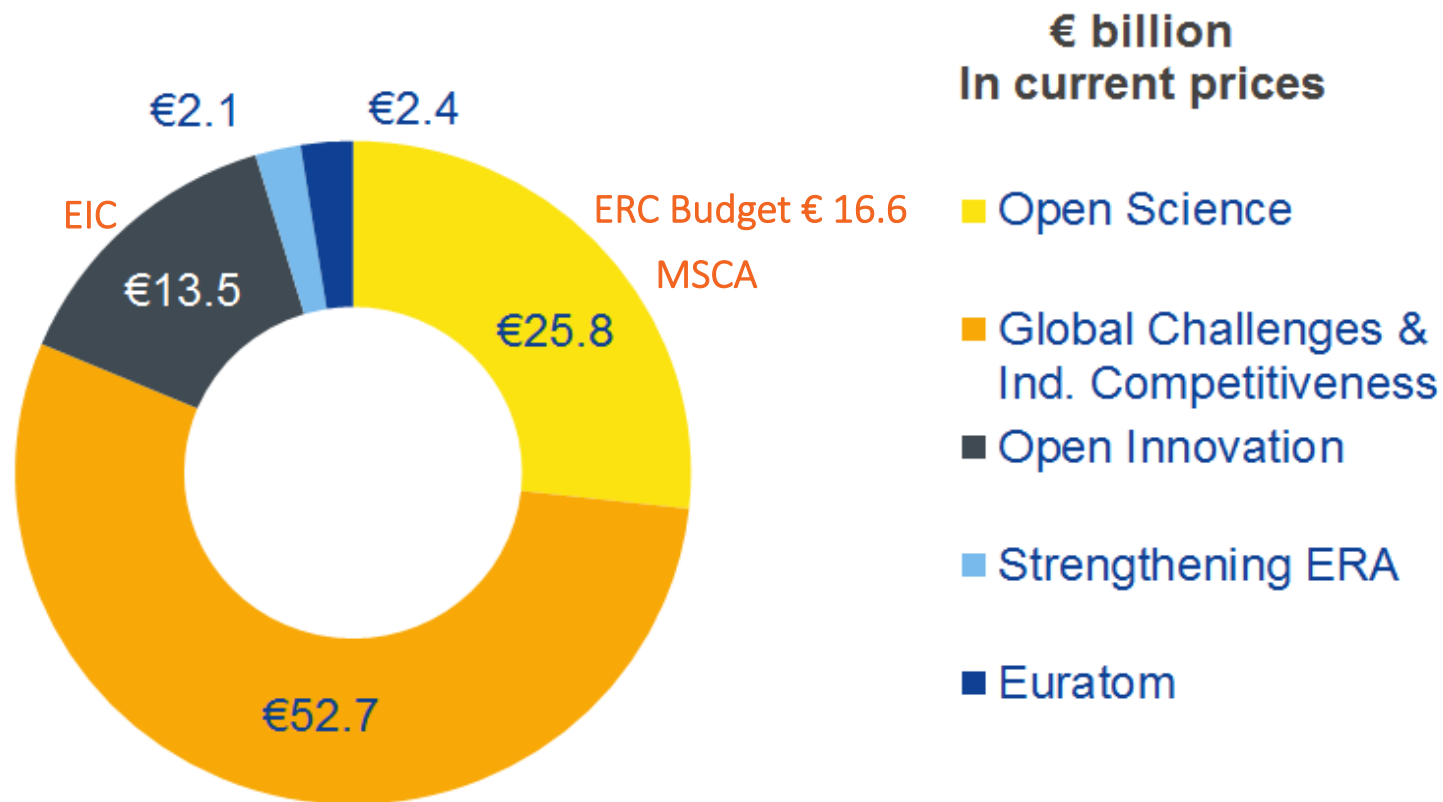


Bottom-up 1/3
Top-down 2/3

ERC Budget €
13 billion



Horizon Europe Budget Distribution



Bottom-up 1/4
Top-down 3/4

ERC run by scientists for scientists

The ERC supports excellence in frontier research in all disciplines through a bottom-up, individual-based competition

Legislation

- Scientific governance: independent Scientific Council with 22 members including the ERC President; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous) ~ 500 members of staff

Evaluation

- ~ 1000 panel members in 75 panels
- ~ 6000 remote referees
- ~1500 interviews for young applicants

Excellence sole evaluation criterion

Excellence of the Research Project

- ✓ Ground breaking nature
- ✓ Potential impact (scientific)
- ✓ Scientific Approach

Excellence of the Principal Investigator

- ✓ Intellectual capacity
- ✓ Creativity
- ✓ Commitment

ERC Grant Schemes

Starting Grants

starters
(2-7 years after PhD)
up to € 1.5+1 M
for 5 years

Consolidator Grants

consolidators
(7-12 years after PhD)
up to € 2+1 M
for 5 years

Advanced Grants

track-record of
significant research
achievements in the
last 10 years
up to € 2.5+1 M
for 5 years

Proof-of-Concept Grants

bridging gap between research - earliest
stage of marketable innovation
up to €150,000 for ERC grant holders

Synergy Grants

2-4 PIs for 6 years
up to € 10+4 M
for 6 years

ERC Evaluation Panels



European Research Council

Established by the European Commission

Life Sciences

- LS1 Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics
- LS2 Genetics, 'Omics', Bioinformatics and Systems Biology
- LS3 Cellular and Developmental Biology
- LS4 Physiology, Pathophysiology and Endocrinology
- LS5 Neurosciences and Neural Disorders
- LS6 Immunity and Infection
- LS7 Applied Medical Technologies, Diagnostics, Therapies and Public Health
- LS8 Ecology, Evolution and Environmental Biology
- LS9 Applied Life Sciences, Biotechnology and Molecular and Biosystems Engineering

Physical Sciences & Engineering

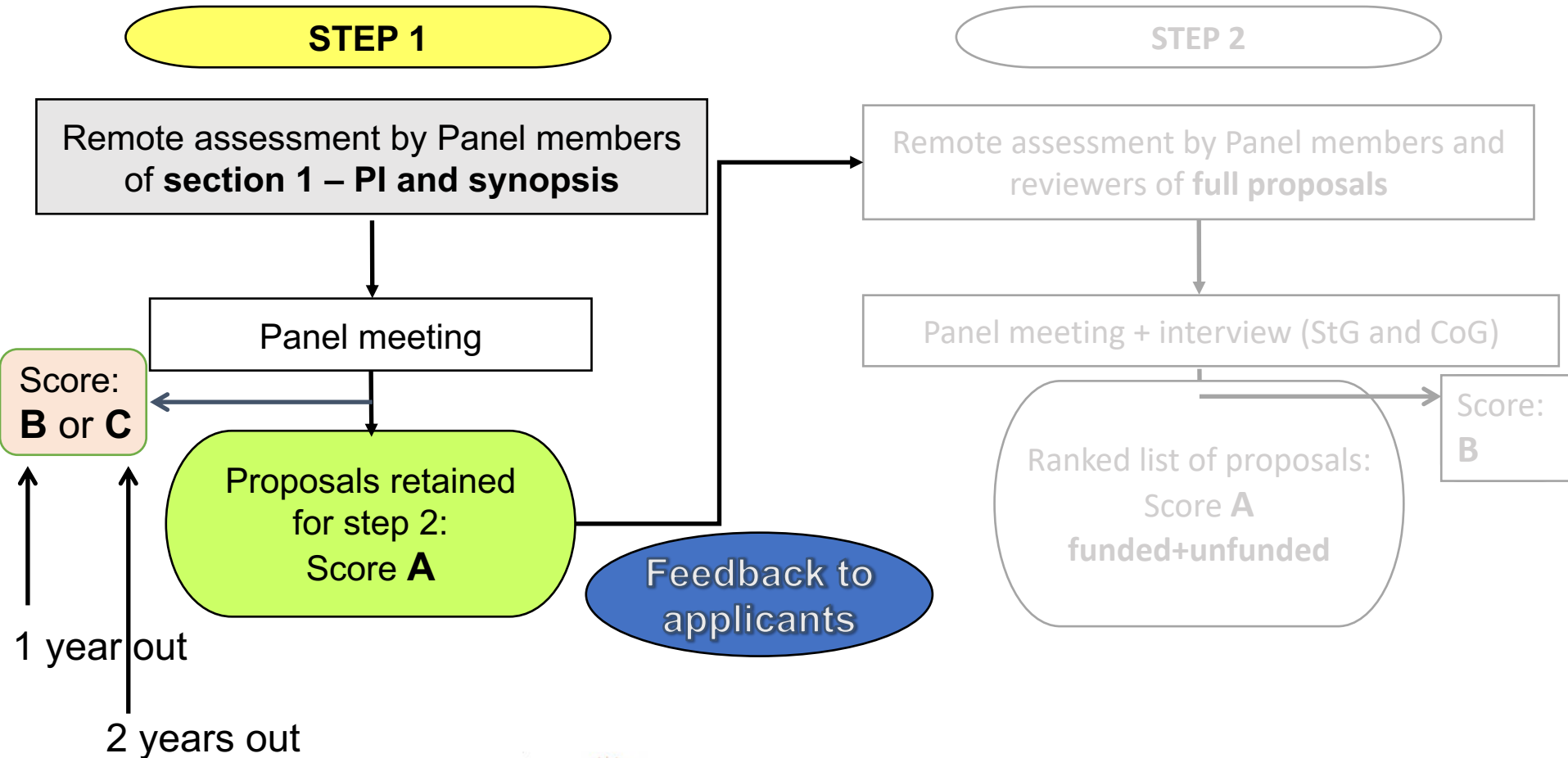
- PE1 Mathematics
- PE2 Fundamental Constituents of Matter
- PE3 Condensed Matter Physics
- PE4 Physical and Analytical Chemical Sciences
- PE5 Synthetic Chemistry and Materials
- PE6 Computer Science and Informatics
- PE7 Systems and Communication Engineering
- PE8 Products and Process Engineering
- PE9 Universe Sciences
- PE10 Earth System Science

Social Sciences and Humanities

- SH1 Individuals, Markets and Organisations
- SH2 Institutions, Values, Environment and Space
- SH3 The Social World, Diversity, Population
- SH4 The Human Mind and Its Complexity
- SH5 Cultures and Cultural Production
- SH6 The Study of the Human Past

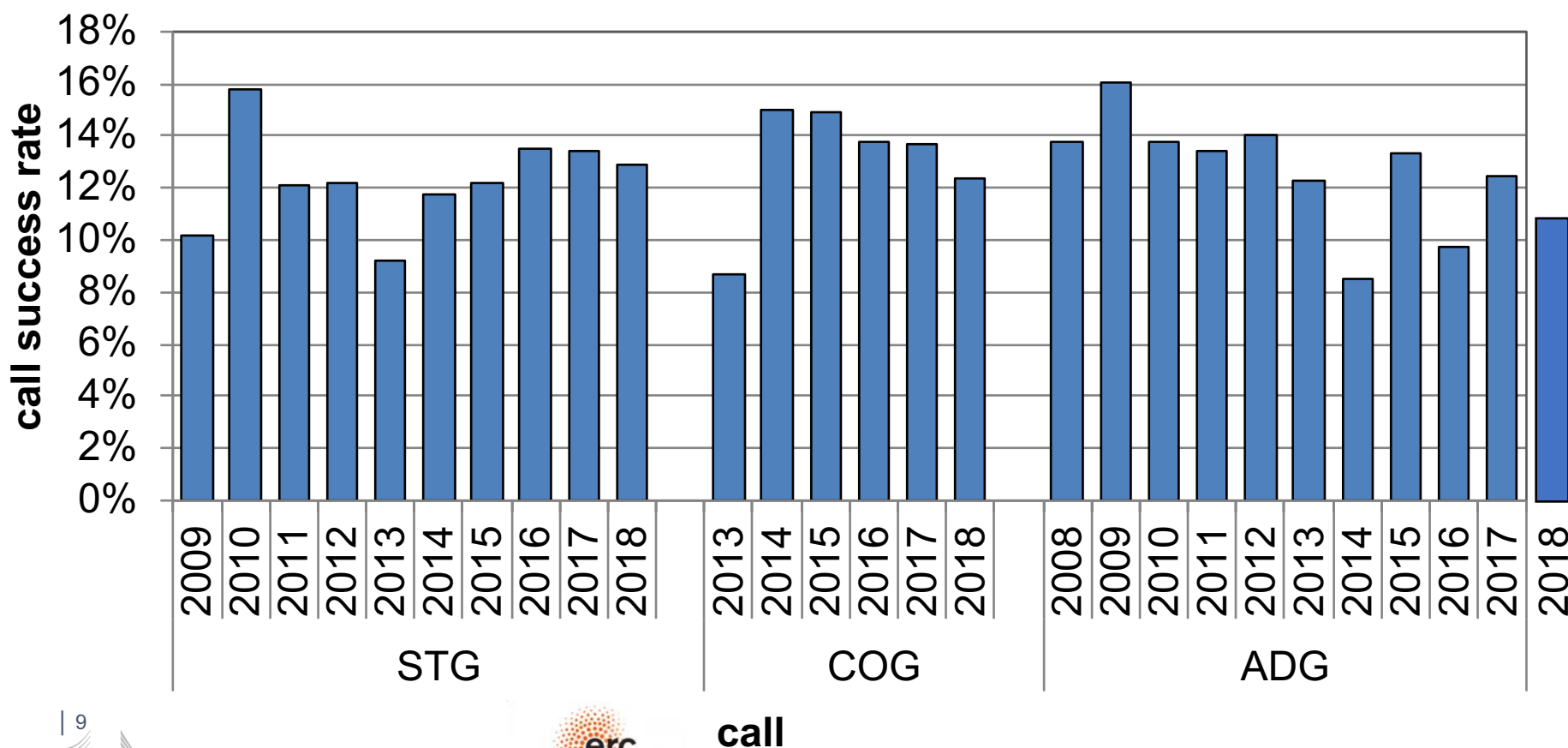
ERC Evaluation process

Review procedure: StG, CoG, AdG



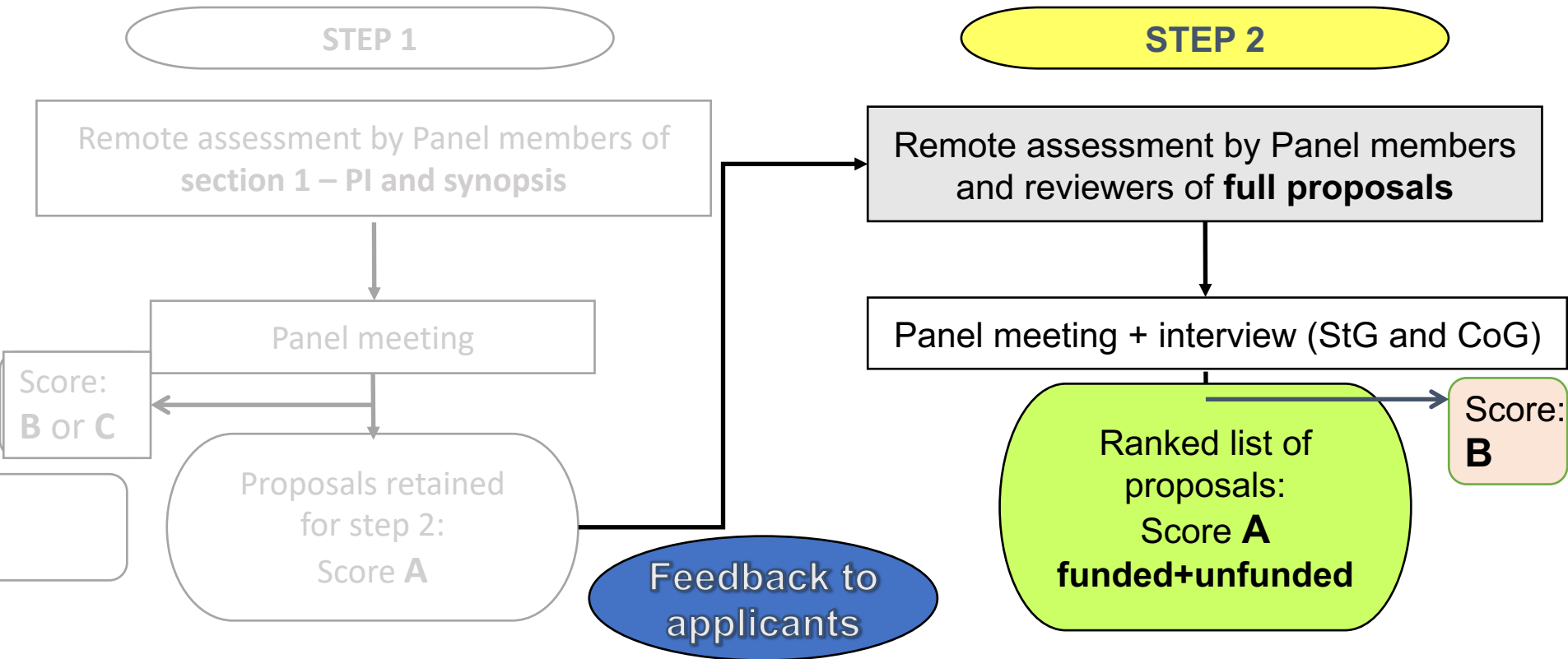
Call success rates 2008-2018

2008-2018 call success rates (evaluated proposals)



ERC Evaluation process

Review procedure: StG, CoG, AdG



- Interviews planned for AdG from 2021

Synergy Grants

Single submission of the full proposal

Three-step evaluation. The evaluation is conducted by a structure of dedicated panels. The panels are assisted by independent experts working remotely.

At Step 1, the extended synopsis of the scientific proposal and the Principal Investigators' track records and CVs are be assessed (NOT the full scientific proposal).

At Step 2, the complete version of the retained proposals is assessed (including the full scientific proposal).

At Step 3, the most competitive of the retained proposals is identified and their Principal Investigators are invited for an interview to present their project to a panel meeting in Brussels.

ERC Starting and Consolidator Grants

The applicant's profile

=> Potential to become a leader in the field

“Am I competitive enough?”

- Potential for research **independence**
- Able to develop ground-breaking idea, think out of the box
- Evidence of scientific maturity and **creativity**

Promising track-record of early achievements

- Significant publications, contribution to the field
- Invited presentations at conferences
- Funding, patents, awards, prizes

Talk about your strengths not weaknesses

ERC Advanced Grants

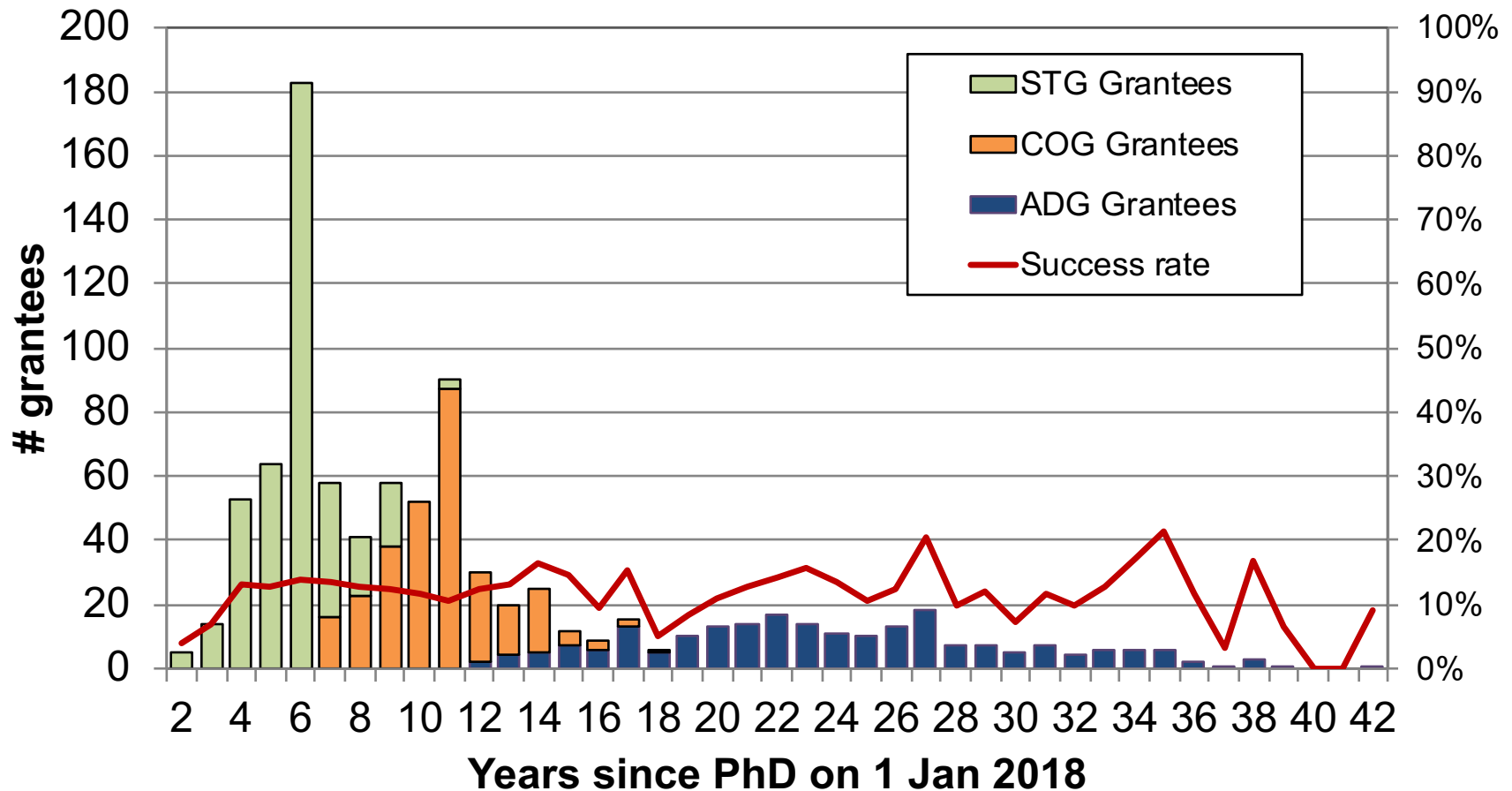
The applicant's profile

=> **Already a leader in the field?**

- Track-record of significant research achievements **in the last 10 years**
- Exceptional **leaders** and **mentors**
- publications as senior author in major scientific journals
- granted patents
- invited presentations at international conferences
- international conferences where Principal Investigator was an organiser
- International prizes/awards

"Academic age" of grantees

All calls 2018 Grantees by years since PhD



ERC Synergy Grants

The applicants' profile

ERC Synergy Grants aim to enable **minimum 2 to maximum 4 Principal Investigators** and their teams to bring together complementary skills, knowledge, and resources, in order to jointly address ambitious research problems.

- PIs to be considered as equal and can be of Advanced, Consolidator or Starting carrier stage
- No restrictions on location of PIs
 - PI can come from the same corridor in one HI, different HIs within one country, or from different countries (within EU or AC, 1 can be from outside)

9,400 ERC projects in EU since 2007

1.8 million researchers in EU (50% in academia)

0.5% projects per researcher

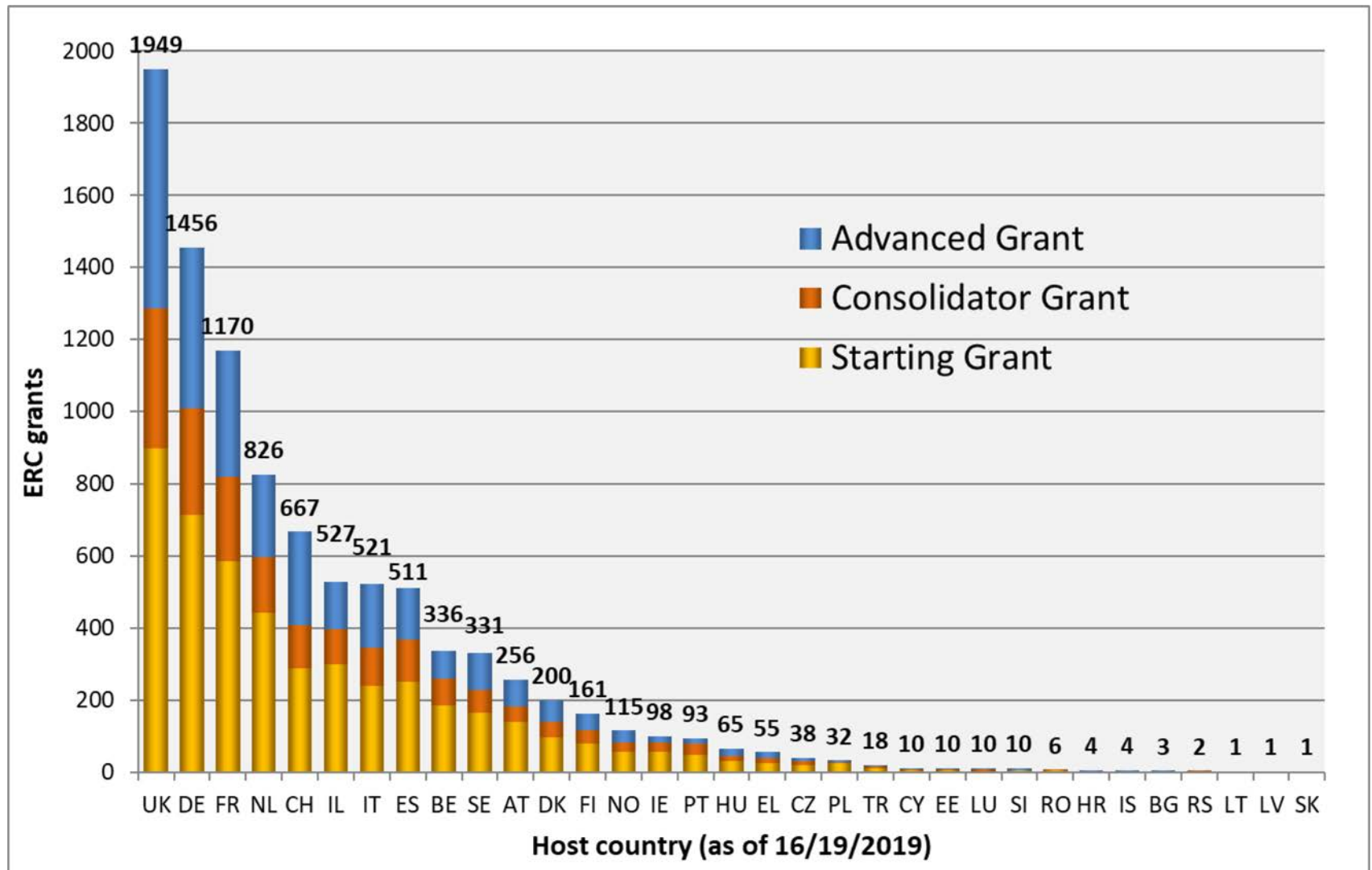
38 ERC projects in Czech Rep. since 2007

38 thousand researchers in Czech Rep.

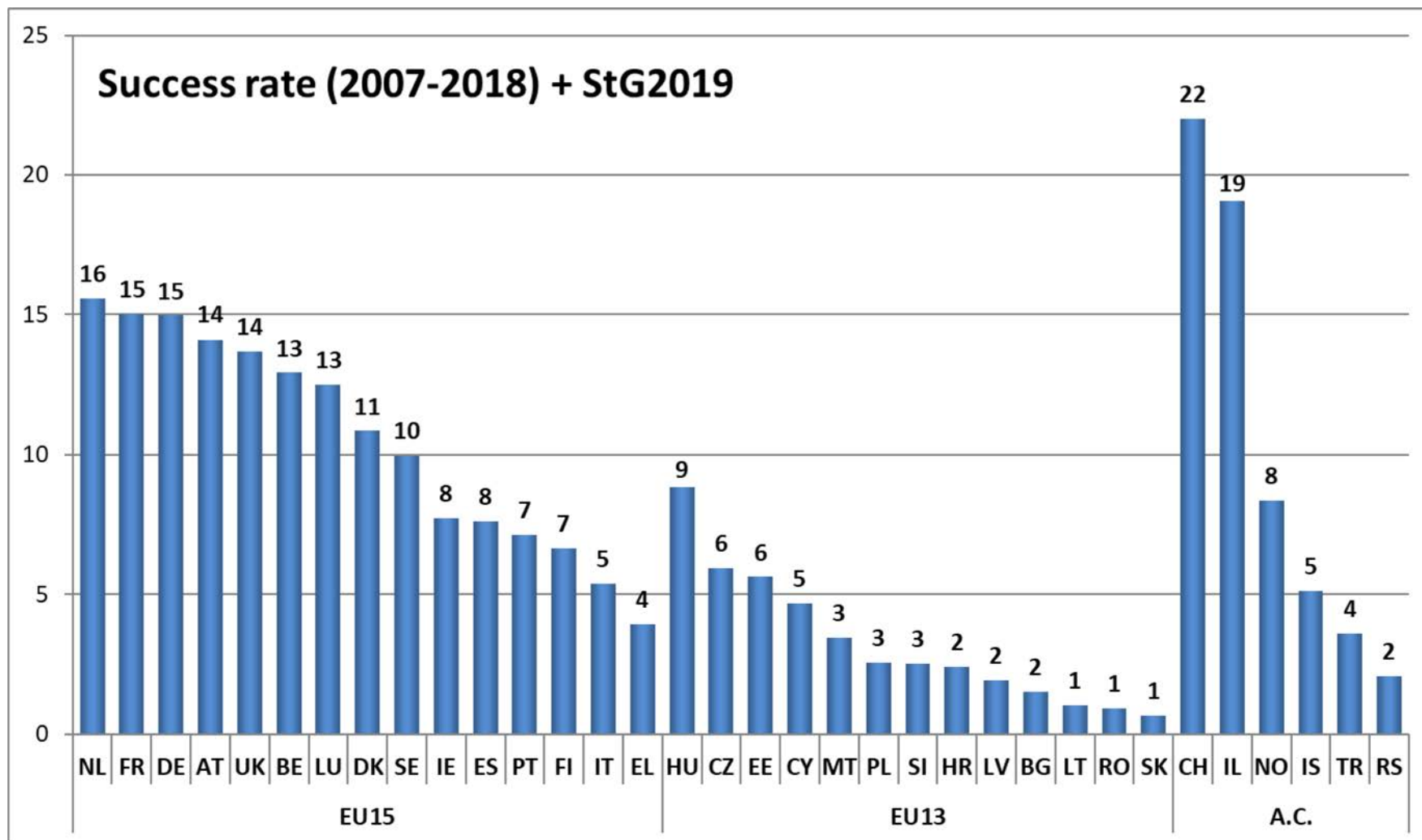
0.1% projects per researcher

Country	Higher-Education Institution	No	StG	CoG	AdG	Total	LS	PE	SH	Top European Institutions Hosting ERC Grantees by Funding Schemes
UK	University of Cambridge	1	111	49	88	248	86	120	42	
UK	University of Oxford	2	95	52	100	247	72	100	75	
UK	University College London	3	84	39	58	181	64	49	68	
CH	Swiss Federal Institute of Technology Zurich (ETH Zurich)	4	71	23	80	174	45	122	7	
IL	Weizmann Institute	5	73	42	43	158	91	65	2	
CH	Swiss Federal Institute of Technology Lausanne (EPFL)	6	68	23	58	149	38	108	3	
IL	Hebrew University of Jerusalem	7	72	21	43	136	56	55	25	
UK	Imperial College	8	60	21	29	110	32	74	4	
UK	University of Edinburgh	9	49	19	41	109	36	45	28	
DE	University of Munich (LMU)	10	55	9	40	104	40	38	26	
NL	University of Amsterdam	11	59	16	26	101	10	29	62	
IL	Tel Aviv University	12	58	17	21	96	39	49	8	
DK	University of Copenhagen	13	44	25	24	93	39	32	22	
BE	University of Leuven	14	43	15	31	89	22	44	23	
NL	Delft University of Technology	15	46	17	18	81	11	61	9	
CH	University of Zurich	15	34	18	29	81	42	16	23	
NL	Radboud University Nijmegen	16	39	17	23	79	25	24	30	
NL	Utrecht University	16	37	24	18	79	14	31	34	
FI	University of Helsinki	17	36	16	22	74	39	20	15	
IL	Technion - Israel Institute of Technology	18	47	10	16	73	23	48	2	
UK	University of Bristol	19	30	9	33	72	15	39	18	
NL	Leiden University	20	39	13	19	71	1	28	42	
SE	Lund University	21	30	16	18	64	30	30	4	
DE	Technical University of Munich	21	29	17	18	64	15	48	1	
SE	Karolinska Institute	22	26	12	23	61	57	1	3	
Data as of 16/09/2019										
39 in CZ										
Country	Research Organisation	No	StG	CoG	AdG	Total	LS	PE	SH	
FR	National Centre for Scientific Research (CNRS)	1	260	125	124	509	144	302	63	
DE	Max Planck Society	2	116	32	96	244	122	99	23	
DE	Helmholtz Association of German Research Centres	3	75	32	32	139	82	56	1	
FR	National Institute of Health and Medical Research (INSERM)	4	54	26	31	111	103	4	4	
ES	Spanish National Research Council (CSIC)	5	35	20	22	77	22	45	10	
FR	French Alternative Energies and Atomic Energy Commission	6	44	9	19	72	10	60	2	

ERC Grants by Country



Success Rate by Country



Funded ERC Projects in the Czech Republic

	StG	CoG	AdG	SyG	Tot
Charles University Prague	7	3		1	11
Institute of Organic Chemistry and Biochemistry Prague	1		2		3
Masaryk University Brno	3	1			4
Institute of Mathematics Prague			2		2
Institute of Physics (FZU) Prague		1	1	1	3
Czech Technical University of Prague		1	1		2
Institute of Chemical Technology - Prague	1				1
Tot 39 as of Oct 2019	1	1			2
Institute of Molecular Genetics Prague		1			1
Palacky University Olomouc		1			1
Biology Centre České Budějovice	1	1	1		3
Economics Institute Prague	1	1			2
Institute of Botany Průhonice	1				1
University of Pardubice	1				1
University of Technology Brno	1				1
Masaryk Institute Prague		1			1
Institute of Microbiology Prague				1	1
Total	17	11	7	1	39

Funded ERC Projects in the Czech Republic: FP7

11 out of 39 as of Oct 2019
5 AdG

2007 StG2007	PE6	Stepanek	Frantisek	VŠCHT	Praha
2008 AdG2008	PE4	Schroeder	Detlef	UOCHB AV	Praha
2008 AdG2008	PE5	Michl	Josef	UOCHB AV	Praha
2010 StG2010	PE4	Roithova	Jana	UK	Praha
2010 AdG2010	PE3	Jungwirth	Tomáš	FZU AV	Praha
2011 StG2011	PE10	Szabo	Peter	BU AV	Průhonice
2012 AdG2012	PE1	Feireisl	Eduard	MU AV	Praha
2013 SyG2013	PE	Wunderlich	Joerg	FZU AV	Praha
2013 StG2013	LS1	Plevka	Pavel	MU	Brno
2013 CoG2013	PE6	Koucký	Michal	UK	Praha
2013 AdG2013	PE6	Pudlak	Pavel	MU AV	Praha

Funded ERC Projects in the Czech Republic: H2020

28 out of 39 as of Oct 2019
3 AdG

2014 StG2014	PE5	Macák	Jan	Upa	Pardubice
2014 CoG2014	PE6	Urban	Josef	CVUT	Praha
2014 CoG2014	LS1	Štefl	Richard	MU	Brno
2014 CoG2014	LS2	Svoboda	Petr	UMG AV	Praha
2014 AdG2014	LS8	Novotný	Vojtěch	BC AV	Č. Budějovice
2015 StG2015	PE5	Bojdys	Michael	UK	Praha
2015 StG2015	LS9	Vrábel	Milan	UOCHB AV	Praha
2015 StG2015	SH1	Matějka	Filip	NHU AV	Praha
2015 StG2015	SH2	Kosař	David	MU	Brno
2015 CoG2015	PE5	Otyepka	Michal	UP	Olomouc
2015 AdG2015	PE6	Vítek	Jan	ČVUT	Praha
2016 StG2016	PE4	Kalbáčová-Vejpravová	Jana	UK	Praha
2016 CoG2016	LS3	Doležel	David	BC AV	Č. Budějovice
2017 CoG2013	PE9	Constantinos	Skordis	FZU AV	Praha
2017 StG2017	PE4	Klimes	Jiří	UK	Praha
2017 StG2017	LS7	Adam	Vojtěch.	VUT	Brno
2017 CoG2017	LS8	Hampl	Vladimír	UK	Praha
2017 CoG2017	SH1	Steiner	Jakub	NHU AV	Praha
2017 CoG2017	PE6	Barto	Libor	UK	Praha
2018 StG2018	PE9	Pejcha	Ondřej	UK	Praha
2018 StG2018	LS4	Mráz	Marek	MU	Brno
2018 StG2018	LS8	Sam	Kateřina	BC AV	Č. Budějovice
2018 StG2018	LS3	Fendrych	Matyáš	UK	Praha
2018 StG2018	LS6	Štěpánek	Ondřej	UMG AV	Praha
2018 CoG2018	SH6	Frankl	Michal	MUA AV	Praha
2018 SyG2018		Nešetřil	Jaroslav	UK	Praha
2019 AdG2017	SH5	Rampley	Matthew	MU	Brno
2019 SyG2019		Komenda	Josef	MBU AV	Praha
2019 StG2019	LS8	Kovář	Filip	UK	Praha

ERC pipe lines

- Postdoc travel fellowships
- ERC-like funding schemes



- Independence of young scientists

Universities, Institutes of CAS

- Unfunded ERC from 2nd round (A's & B's)



Technology centre Workshops for ERC applicants



International Peer Review

