## The European Research Council





#### **ERC in the H2020 Structure**



#### The HORIZON 2020 main components:

- Excellent Science
  - → World class science is foundation of technologies, jobs, well-being
  - → Europe needs to develop, attract, retain research talent
  - → Researchers need access to the best infrastructures
- Industrial leadership
- Societal challenges

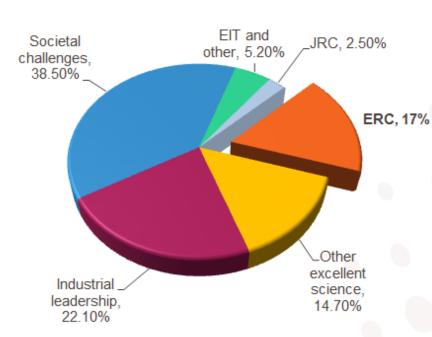
#### Excellent Science:

- European Research Council (budget under H2020: € 13 billion)
- Future and Emerging Technologies
- Marie Skłodoswka Curie Actions
- Research Infrastructures

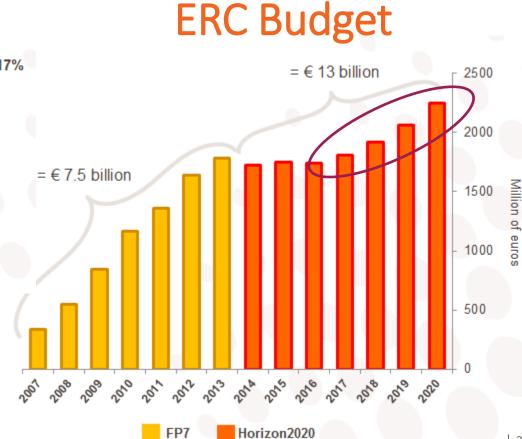


# Funding: the ERC is part of H2020





In 2019, the budget will be around 2 B euros.





## **Scientific Governance** by the ERC Scientific Council















Scientists at the Driver's Seat

- 22 prominent researchers appointed by the Commission
- Establishes overall scientific strategy
- Controls quality of operations & management
- Ensures communication with the scientific community



















**Panel Members** 

- Appointed by the Scientific Council
- Full independence in the evaluation and ranking of the proposals
- Appoint remote referees



# The ERC is... the ERC Executive Agency (ERCEA)



- Implements calls for proposals
- Organises peer review evaluation
- Establishes and manages grant agreements
- Administers scientific and financial aspects
- Carries out communications activities





#### **ERC Scientific Department**

- Manage all practical aspects of the evaluations working closely with the Panel Members
- Carry out scientific follow-up

## ERC Scientific Council Standing Committees & Working groupspean Research Council

## ColME (Conflict of Interest & Research integrity)

intellectual property intellectualism

think SCIENTITC writing
Serious misconduct standards case hard

INTEGITY

conflict of interest

professionalism

claiming plagiarism honesty

claiming plagiarism methodological

data respect

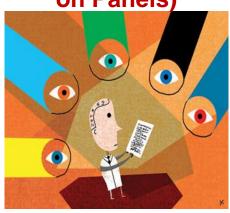
idea authorship copy-paste

strongest standards

codes of conduct formulate wrong

sufficient ethical behaviour attitudes

#### CoP (Committee on Panels)



#### **Gender balance**



#### **Open Access**



## Strengtening Internationalisation









### **ERC** basics:

1 researcher, 1 Host Institution, 1 project, 1 selection criterion













### **Creative Freedom to Individual Grantee**



European Research Council

Established by the European Commission

#### ERC offers independence, recognition & visibility

- to work on a research topic of own choice, with a team of own choice
- to gain true financial autonomy for 5 years
- to negotiate with the host institution the best conditions of work
- to attract top team members (EU and non-EU) and collaborators
- to move with the grant to any place in Europe if necessary (portability of grants)
- to attract additional funding and gain recognition; ERC is a quality label



#### **ERC Grant Schemes**



Established by the European Commission

#### **Starting Grants**

starters (2-7 years after PhD) up to € 1.5 Mio for 5 years

#### **Consolidator Grants**

consolidators (7-12 years after PhD) up to € 2 Mio for 5 years

#### **Advanced Grants**

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

#### **Proof-of-Concept**

bridging gap between research - earliest stage of marketable innovation up to €150,000 for ERC grant holders Synergy Grants (re-launched 2018) 2 – 4 Principal Investigators up to € 10.0 Mio for 6 years



## **Evaluation Panel Structure (WP2019)**



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



### After 11 Years...





Over **8,000** top researchers funded since the ERC's creation in 2007



Over **110,000** articles from ERC projects published in prestigious scientific journals



Over **60,000** researchers and other professionals employed in ERC research teams



748 research institutions hosting ERC grantees – universities, public or private research centres in the EU or associated countries



€ 13 billion

ERC budget for 2014-2020 under Horizon 2020

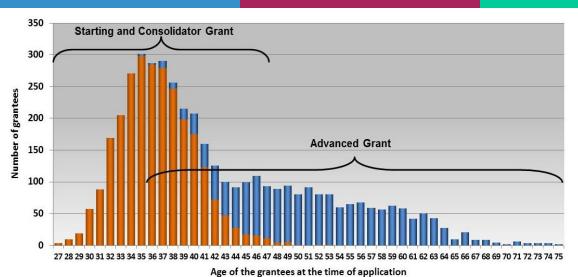


74
nationalities of grant holders

## **Priority to Young Scientists**



Established by the European Commission

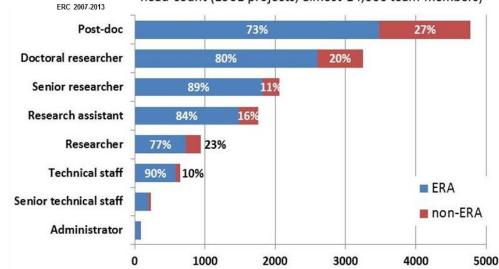


+ 35 000 PhD and post-doc researchers working in ERC teams

#### Reported team members (2015)

head count (1901 projects; almost 14,000 team members)

Two-thirds of ERC grants to early-stage Principal Investigators





Horizon 2020 European Union funding for Research & Innovation

## **Attracting Researchers to Europe**



Nationality of ERC project teams (PIs not included) Analysis of **1,901** Starting and Advanced Grants

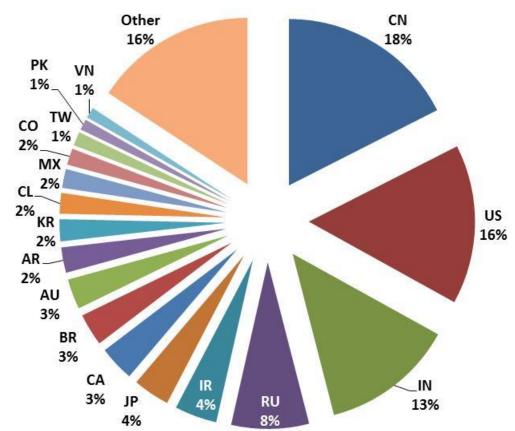
EU: 71%

**Assoc. Countries: 10%** 

non-EU/AC: 17%

unknown: 2%

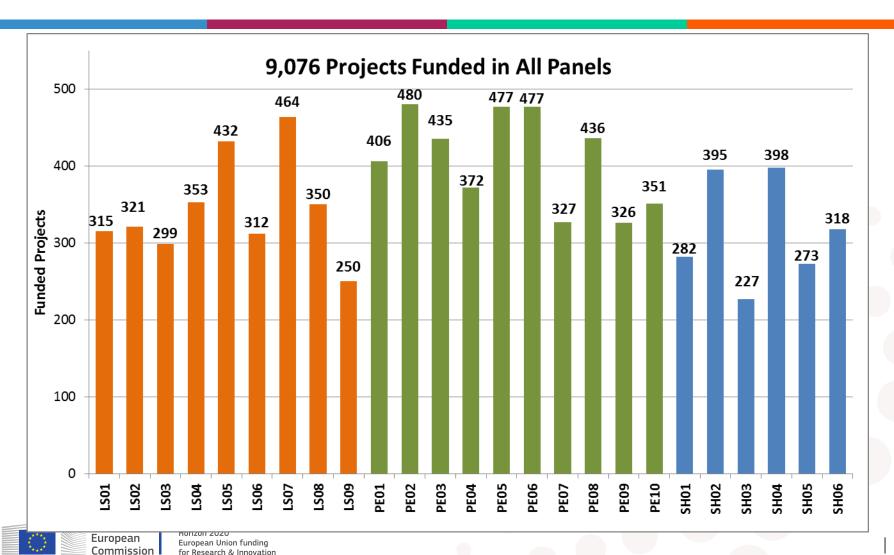
In all ERC grants
+ 10,000 non-ERA team members
most from
China, US, India, and Russia





## Distribution of ERC Grants by Panel

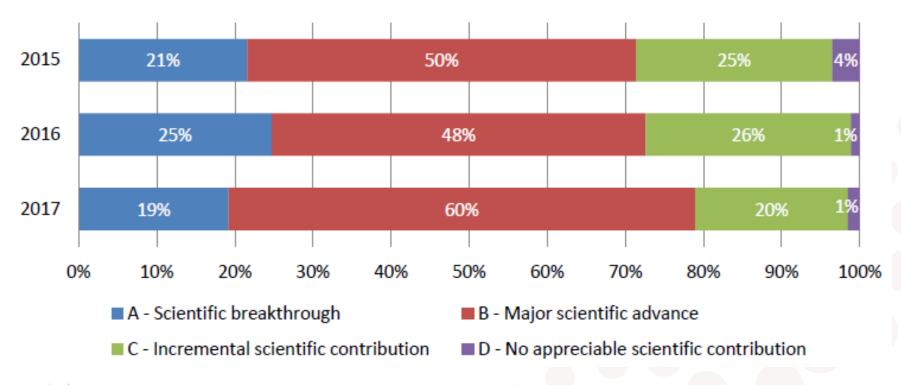




## 21% of the ERC-funded Projects Deliver Scientific Breakthroughs



#### Qualitative evaluation of completed ERC projects Overall results for 2015, 2016 and 2017





## **ERC** grants/population

Source: ERC as of July 2018 Eurostat as of 2015

#### **Associated Countries**



Netherlands 43.5 Denmark 32 Sweden 30.8 UK 27.7 Finland 27.4 Austria 27.2 Belgium 26.5 Ireland 18.6 17.8 Luxembourg 16.2 Germany 16.2 France 11.8 Cyprus Spain 9.9 8.4 Portugal Italy 7.6 6.5 Hungary 5.3 Estonia 4.5 Greece Slovenia 3.4 Czech Republic 3.1 Malta 2.3 Poland 0.8 Croatia 0.7 Latvia 0.5 Bulgaria 0.4 Lithuania 0.3 0.3 Romania Slovakia 0.2 Switzerland 70.3 Israel 60.3 18 Norway Iceland 12.2 Serbia 0.3 Turkey 0.2



## **EU Member States**



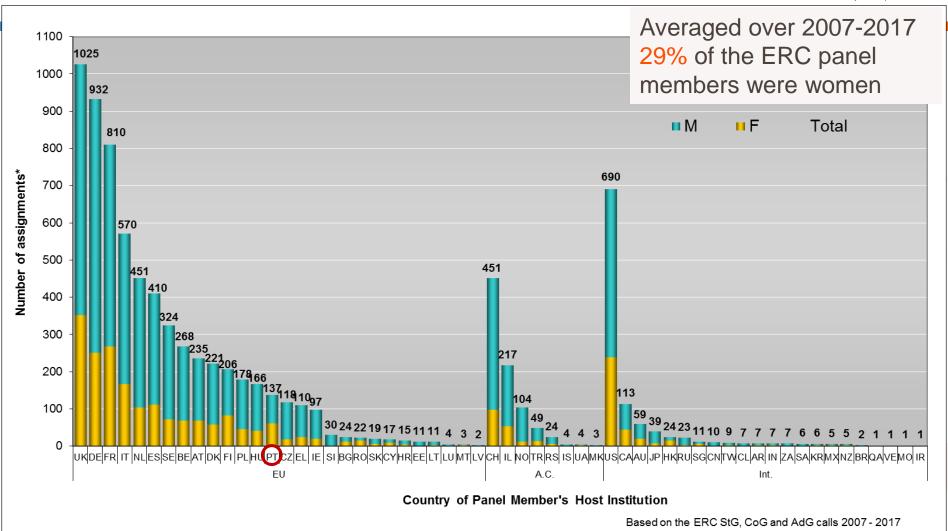
## **ERC and Portugal**



Horizon 2020 European Union funding for Research & Innovation

## **ERC Panel Members by Country of HI and Gender**





## **ERC Panel Members from PT**

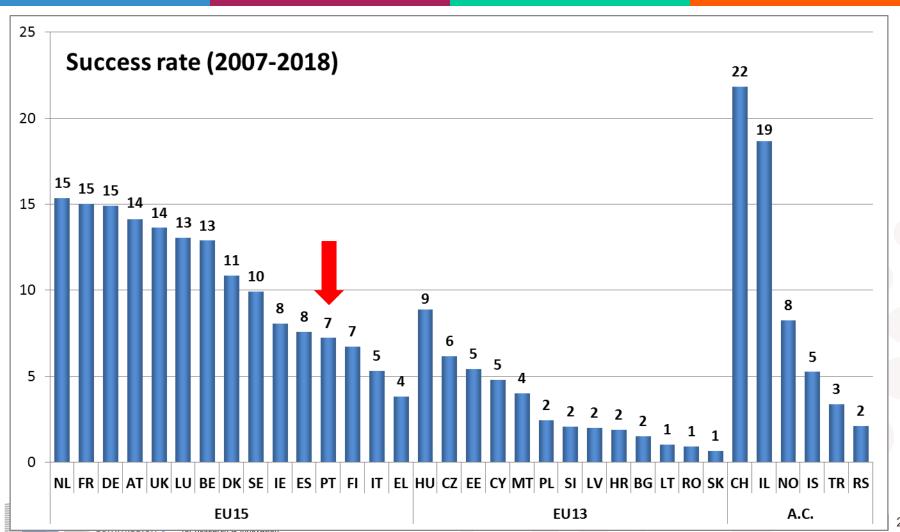


#### For 2018 Calls

PC/PM	M	F	
ADG	6	2	
COG	5	4	
STG	3	5	
Evaluators	8	1	
Total	22	12	

## **Success Rate by Country of HI**

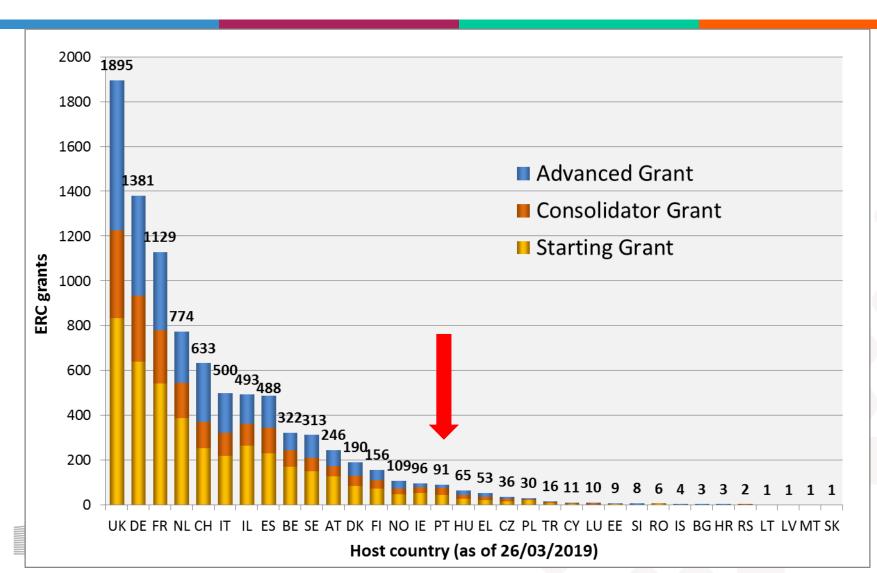




## **ERC Funded Projects by Country of HI**

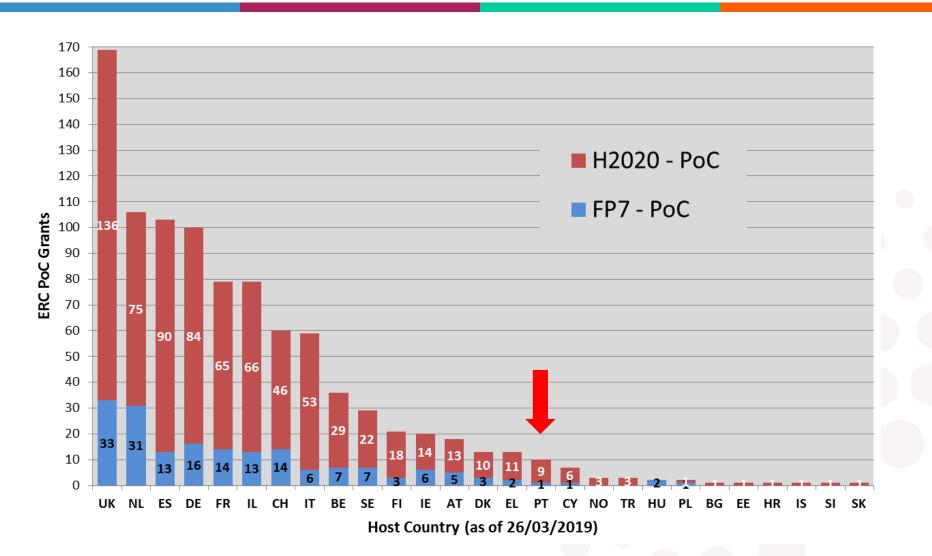


**European Research Council** 



## **ERC Proof of Concept 2011-2018**





### **SYNERGY 2018**



HI Country (SyG 2018)	Synergy Pls	Corresponding_PIs	Pls
AT	1		1
BE	1		1
СН	11	4	7
CZ	1		1
DE	23	6	17
DK	2	1	1
EL	1		1
ES	7	2	5
FI	1	1	
FR	14	5	9
HU	2	1	1
IL	4	2	2
IT	6	2	4
NL	1		1
NO	1		1
PT	1		1
SE	1		1
UK	10	3	7
Total	88	27	61

Project: ArpComplexity
Defining the role of Arp2/3
complex diversity at multiple
scales of biology

Michael Way,
Francis Crick Institute, UK
(correspondent PI)
Edgar Gomes,
University of Lisbon Institute of Molecular
Medicine, Portugal
Carolyn Moores,
Birbeck College, UK



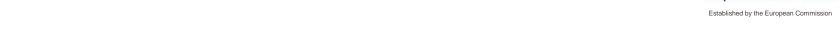
## **Top Host Institutions in Portugal**

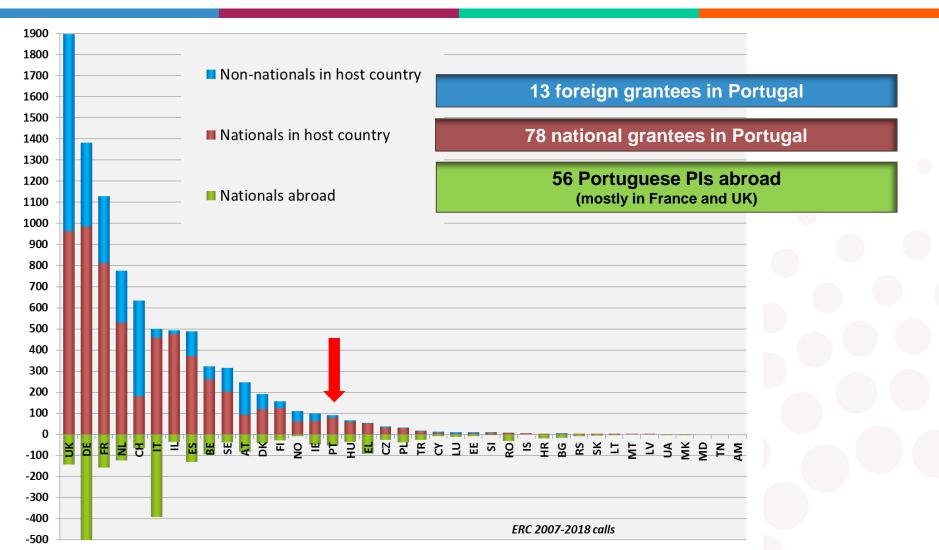


	StG	CoG	AdG	Grand Total
Grand Total	46	30	15	91
Champalimaud Foundation	5	7	2	14
Calouste Gulbenkian Foundation	5	3	1	9
New University of Lisbon	5	3	1	9
University of Lisbon - Institute of Molecular Medicine	5	4		9
University of Minho	1	3	2	6
University of Porto - Institute for Molecular and Cell Biology	5	1		6
New University of Lisbon - (NOVA ID FCT)	3	2		5
Technical University of Lisbon - Higher Technical Institute	2	1	2	5
University of Coimbra - Centre for Social Studies	2	2	1	5
University of Lisbon - Institute of Social Sciences	1	2	1	4
FCiencias.ID	1	1	1	3
University of Aveiro	1		1	2
University of Lisbon - Faculty of Letters	1		1	2
University of Porto	1		1	2
Other	8	1	1	10

### **Grantees at Home and Abroad**







## 2020 Call Calendar



ERC calls	Budget	Call Opening	Submission Deadline(s)
Starting Grants ERC-2020-StG	580 M€ (390 grants)	17 July 2019	16 October 2019
Synergy Grants ERC-2020-SyG	400 M€ (48 grants)	18 July 2019	5 November 2019
Consolidator Grants ERC-2020-CoG	602 M€ (314 grants)	24 October 2019	4 February 2020
Advanced Grants ERC-2020-AdG	391 M€ (166 grants)	14 May 2020	26 August 2020
Proof of Concept ERC-2020-PoC	25 M€ (167 grants)	15 October 2019	21 January 2020 23 April 2020 17 September 2020



## The European Research Council



- More information: erc.europa.eu
- National Contact Point: erc.europa.eu/national-contact-points
- Sign up for news alerts: erc.europa.eu/keep-updated-erc
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www.linkedin.com/company/european-research-council





## **THANK YOU!**

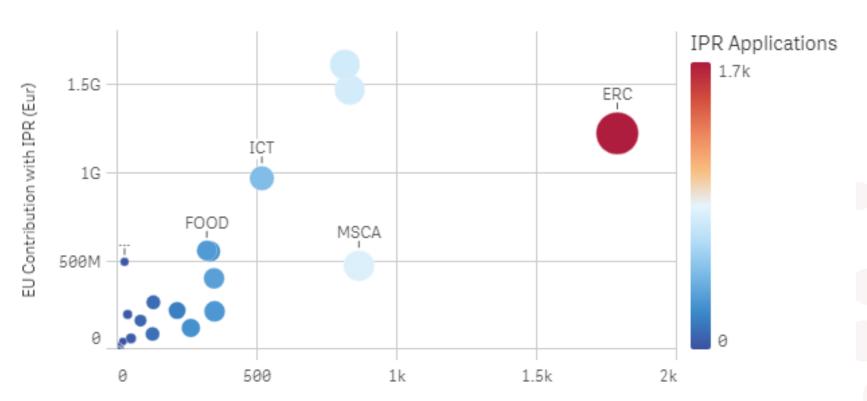
## **OBRIGADO!**



## Impact in IPR



#### IPR Applications by Research research Thematic Priority



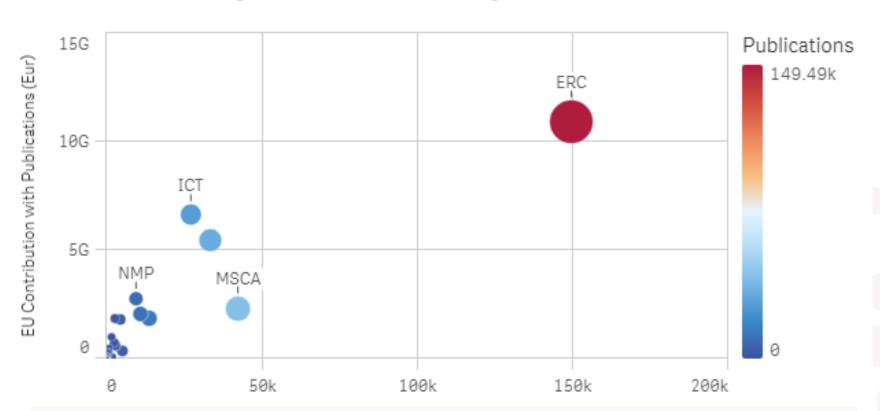
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard



## **Impact in Publications**



#### Scientific Publications by Research Thematic Priority



https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard

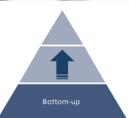


#### What is ERC?













#### The ERC supports excellence in frontier research through a bottom-up, individual-based, pan-European competition

Budget: € 13 billion (2014-2020) - 1.9 billion €/year € 7.5 billion (2007-2013) - 1.1 billion €/year

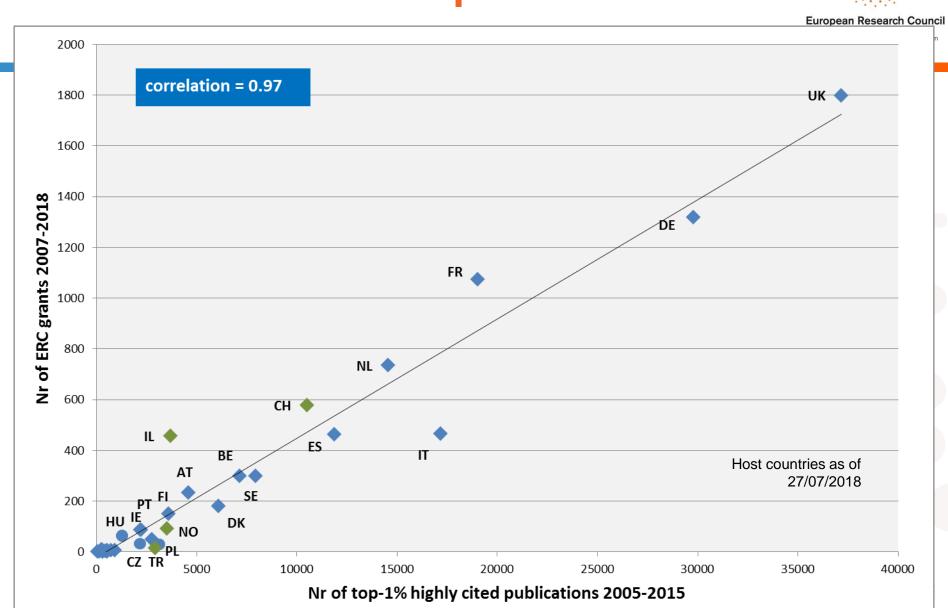
- Scientific governance: independent Scientific Council with 22 members including the ERC President; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous)
- Excellence as the only criterion

- Support for the individual scientist no networks!
- Global peer-review
- No predetermined subjects (bottom-up)
- Support of frontier research in all fields of science and humanities

Furonean for Researc....

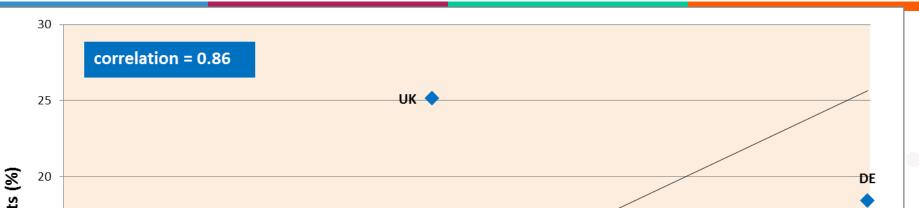
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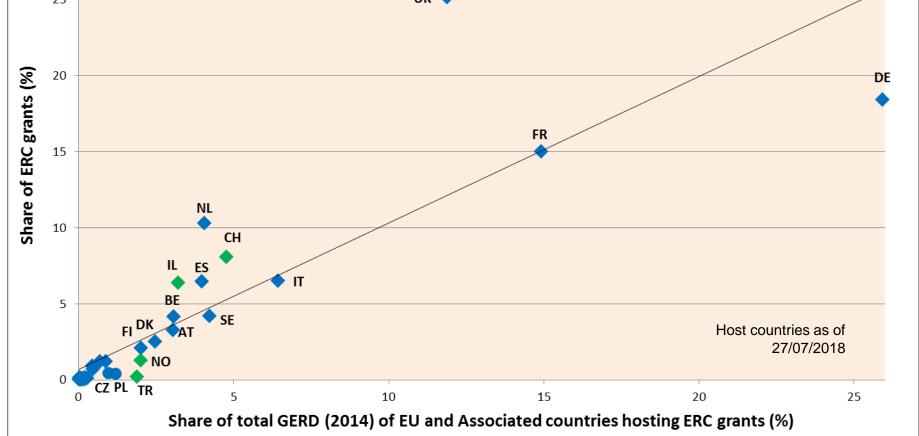
## **ERC Grants versus Top Publications**



### **ERC Grants versus GERD**



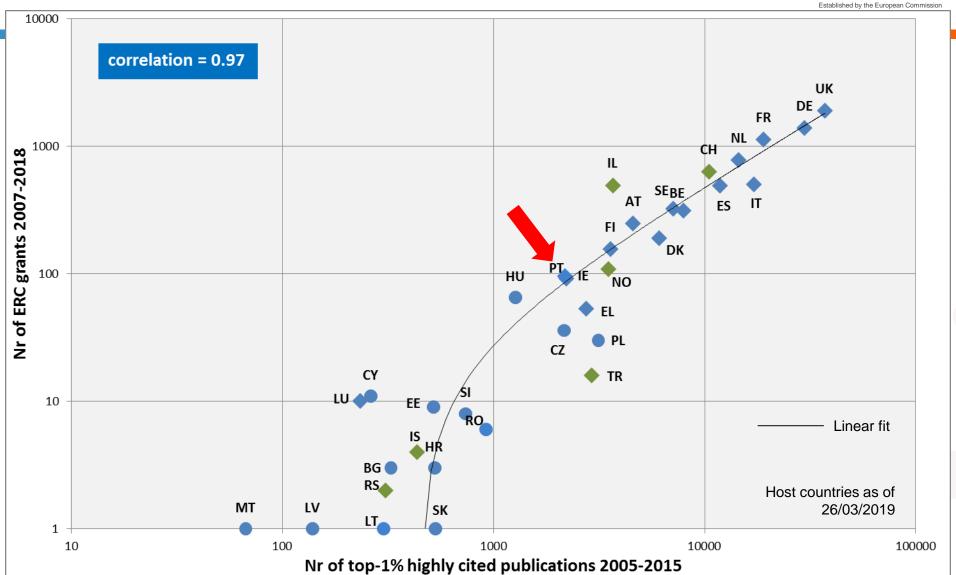




## **ERC Grants versus Top Publications**







### THE EUROPEAN RESEARCH COUNCIL



**European Research Council** 



## **After 11 Years**





Over **9,000** top researchers funded since the ERC's creation in 2007



Over **90,000**articles from ERC projects published in prestigious scientific journals



Over **65,000** researchers and other professionals employed in ERC research teams



767 research institutions hosting ERC grantees – universities, public or private research centres in the EU or associated countries



€ 13 billion

ERC budget for 2014-2020 under Horizon 2020



nationalities of grant holders

**78** 

### **Outline**



Part 1 – Grant schemes

Part 2 - Submission

Part 3 - Eligibility

Part 4 – Evaluation

Part 5 – Success rates

### **ERC Grant Schemes**



#### **Starting Grants**

- 2-7 years after PhD
- ≥ 50% commitment
- up to €1.5 Million
- for 5 years

#### **Consolidator Grants**

- 7-12 years after PhD
- ≥ 40% commitment
- up to €2 Million
- for 5 years

#### **Advanced Grants**

- Significant research track-record
- achievements in the last 10 years
- ≥ 30% commitment
- up to €2.5 Million
- for 5 years

#### **Proof-of-Concept**

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

#### **Synergy Grants**

- 2-4 PIs up to €10 million for 6 years
- to lead to breakthroughs that cannot be achieved by a PI working alone



### **Evaluation Panel Structure**



Established by the European Commission

## Each panel: Panel Chair and 10-16 Panel Members

#### Life Sciences

- LS1 Molecular and Structural Biology and Biochemistry
- LS2 Genetics, Genomics, Bioinformatics and Systems Biology
- LS3 Cellular and Developmental Biology
- LS4 Physiology, Pathophysiology and Endocrinology
- LS5 Neurosciences and Neural Disorders
- LS6 Immunity and Infection
- LS7 Diagnostic Tools, Therapies & Public Health
- LS8 Evolutionary, Population and Environmental Biology
- L\$9 Applied Life Sciences and Biotechnology

#### **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

#### **Physical Sciences & Engineering**

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

# Before the evaluation starts (I) Publication of reference documents



 Work Programme: Published every year, drafted by the SC and approved by the European Commission

http://erc.europa.eu/document-library

- <u>Call for proposal</u>: Published on the ERCEA website and F&T portal
- Guide for applicants: Updated annually
- Guide for Peer reviewers: Updated annually

# Before the evaluation starts (II) Selection of panel members



- 25 panels in StG, CoG and AdG: each panel with
   12-15 members
- 1 panel in PoC: 40 reviewers (approx)
- SYG: 11 panel chairs & 860 approx reviewers

=>identification and selection by the ScC : around 700 panel members/year



# Before the evaluation starts (III) Recruitment of panel members



- Experts asked to sign a multiannual appointment letter (contracts sent by Unit B1 – Expert management team)
- Panel chairs: Names published on the ERC website before the evaluation starts
- Panel members: Names published on the ERC website once the evaluation is over.
- Each ERC panel member serves up to four terms.



### **Outline**



Part 1 – Grant schemes

Part 2 – Proposal submission

Part 3 - Eligibility

Part 4 – Evaluation

Part 5 – Success rates



### **ERC Grant schemes**

#### Proposal content



PART A: online forms

- Proposal and PI info
- Host institution info
- Budget

**Annexes** – submitted as pdf

- Statement of support by host
- If applicable: explanatory information on ethical issues StG and CoG only: PhD certificate, documents to prove extension to eligibility window

PART B1 - submitted as pdf

Track Record of PI

- Extended synopsis 5 p.
- Scientific Leadership Potential 1 p.
- CV (including "funding ID")2 p.
- Early achievements track record 2 p.

PART B2 – submitted as pdf

Scientific proposal

15 p.

State-of-the-art and objectives, methodology, resources, excl. ethical issues table and annex





## The new online budget table

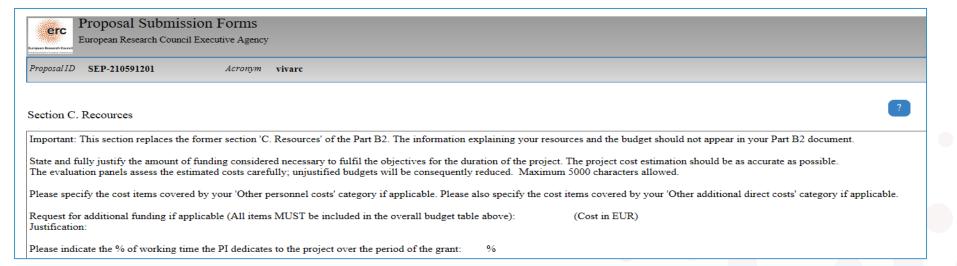
#### 3 - Budget

Beneficiary Short Name			Perso	onnel			Direct costs  Other direct costs  A.3 Internally								A. Total Direct Costs	B. Indirect Costs	Subcontracti	C2. Costs of inkind contribution s not used	Estimated	Requested EU contribution
	PI	Senior Staff	Postdocs	Students	Other Personnel costs	A.1. Total direct costs for personnel	Travel	Equipment - including major equipment	Consum-	Other goods  Publications (incl. Open Access fees) and disseminatio n	Other additional direct costs	Total other goods and services	A.2. Total Other Direct Costs	invoiced goods and services				on the beneficiary's premises		
The Chancellor, Masters And Scholars Of The University Of Oxford	150000	152000	365000	123000	0	790000.00	60000	395000	106000	35000	0	141000.00	596000.00	96000	1623000.00	405750.00	10000	25000	2063750.00	0.00
Total	150000	152000	365000	123000	0	790000.00	60000	395000	106000	35000	0	141000.00	596000.00	96000	1623000.00	405750.00	10000	25000	2063750.00	0.00

- ONE budget line per beneficiary / linked third party
- All costs have to be described and justified in the text box below the budget table
- Justify requested resources / Explain involvement of team members



## **Resources – the narrative part**



- Organize explanations heading by heading (use terminology of the budget table)
- If you request additional funding you must describe and justify this request clearly in a separate paragraph
- Remember to list the PI's time commitment!



# Preparing your proposal Choosing descriptors



- Descriptors and free keywords may influence:
  - Evaluation Panel
  - Panel members
  - Whether a cross-panel evaluation is necessary

Rumour: The more cross-panel descriptors I indicate, the higher the funding chances, since I emphasize like this the interdisciplinarity of my proposal.

NOT true: even though these are used to allocate proposals to Panel Members, once the proposals are allocated, Panel Members do not see the keywords and descriptors used. They see your justification of cross-panel aspects in the box provided in part B1.



### **Outline**



Part 1 – Grant schemes

Part 2 – Proposal submission

Part 3 - Eligibility

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Part 5 – Success rates

## **Eligibility check**



- All proposals are checked against the following eligibility criteria:
  - Submission before the deadline,
  - Completeness (presence of all requested components),
  - ✓ Eligible Principal Investigator: PhD restriction resubmissions
  - ✓ Eligible Host Institution: in EU or Associated Sates or International European Interest Organisation or JRC
- If the question is not clear-cut, an eligibility review committee is convened (Chaired by the call coordination)
- If necessary, contact with Principal Investigator or Host Institution (Unit B2 call coordination)
- The call coordination communicates to the PIs and HI if the proposal is declared inclinible

#### **ERC Grant Schemes**

## Who can apply?



- Excellent Researchers (PIs)
  - Any nationality, age or current place of work
- In conjunction with a Host Institution (HI)
  - Based in the EU or an Associated Country (spend min. 50% (StG / CoG) of total working time Individual research team
  - Researcher has freedom to choose national or trans-national team, if scientific added value proven
- ERC Grants are portable
- Many possibilities of extending the eligibility window



## **Outline**



Part 1 – Grant schemes

Part 2 - Submission

Part 3 - Eligibility

Part 4 – Evaluation

Part 5 – Success rates



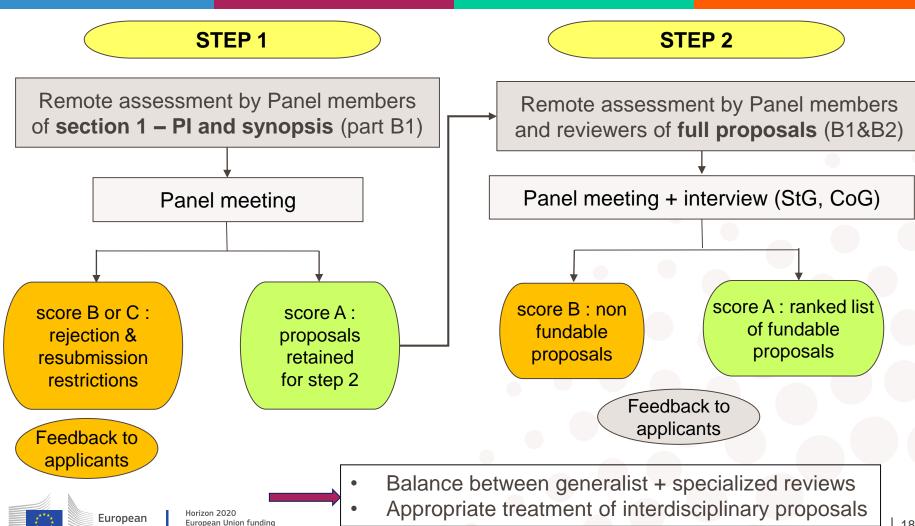
### **ERC Evaluation process**

Commission

for Research & Innovation



Established by the European Commission



### **ERC** evaluation criterion



- Quality of the Research Project
  - Ground breaking nature
  - Potential impact on the field
  - Scientific Approach
- Quality of the Principal Investigator
  - Intellectual capacity
  - Creativity
  - Commitment

## Allocation of proposals to panels



- Each proposal is allocated to a panel: automatic allocation based on selection of primary panel by applicant at submission stage.
- When more than 1 panel is identified by the applicant, default allocation goes to the first panel.
- Panel transfers: a proposal can be transferred to a different panel in case the Panel Chairs consider another panel more appropriate (and both Panel Chairs agree for the transfer).

=> Allocation of proposals to panels / panel transfers is the responsibility of <u>panel chairs</u>.



# Assignment of proposals to panel members



- Eligible proposals are examined against the relevant criteria by at least 3 evaluators
- Panel members declare their expertise before the allocation of proposals.
- Assignment in 3 steps:
  - 1. Automatic assignment (can be refined manually)
  - 2. Review and conflict of interest check by scientific officers
  - 3. Fine tuning and approval by panel chairs



## Panel meeting (II) End of Step 1: Final Scoring



#### 3 categories:

- A. Proposal is of sufficient quality to pass to Step 2 of the evaluation;
- B. Proposal is of high quality but not sufficient to pass to Step 2 of the evaluation; The applicant may be subject to resubmission limitations (1 year)
- C. Proposal is not of sufficient quality to pass to Step 2 of the evaluation.

  The applicant may be subject to resubmission limitations (2 years)



## Recruiting of Remote Referees



- The list of Remote Referees to be invited is approved by the panel chair.
- Minimum 2 referees per proposal.
- Remote evaluation only (Remote Referees submit their evaluation online.

## Interviews of Principal Investigators 1/2



European Research Council

Established by the European Commission

- StG and CoG calls: interviews with the Principal Investigators at the second stage of the evaluation
- The full panel participates in the interview
- Interviews are conducted in Brussels
- The Scientific Council oversees the process

# **Interviews of Principal Investigators** 2/2



- Depending on the panel, interviews last approximately 30 minutes.
- 2 Parts:
- ✓ First part to be devoted to a presentation on the outline of the research project by the PI.
- ✓ The remaining time to be devoted to a question and answer session.

=> Panels take into account the results of the interviews alongside the individual reviews.



## Panel meeting

## End of Step 2: Scoring



- A. Proposal fully meets the ERC's excellence criterion and is recommended for funding if sufficient funds are available;
- B. meets some but not all elements of the ERC's excellence criterion and will not be funded.

! At the end of both steps applicants are told the **ranking** range of their proposal out of the proposals evaluated by the panel.

### **Outline**



Established by the European Commission

Part 1 – Grant schemes

Part 2 - Submission

Part 3 - Eligibility

Part 4 – Evaluation

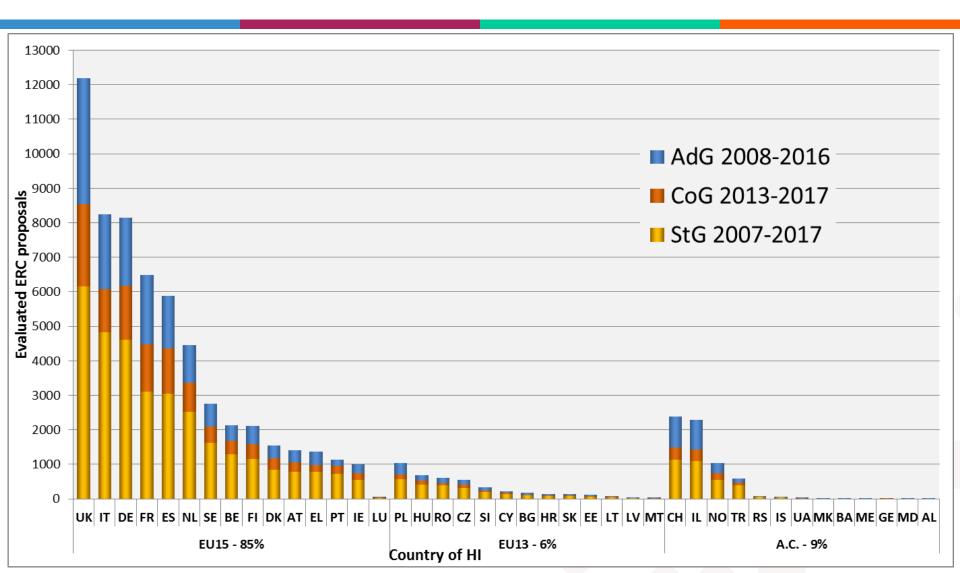
Part 5 – Sucess rates

## **Evaluated ERC Proposals by HI Country**

2007-2017: 71 400 proposals in total



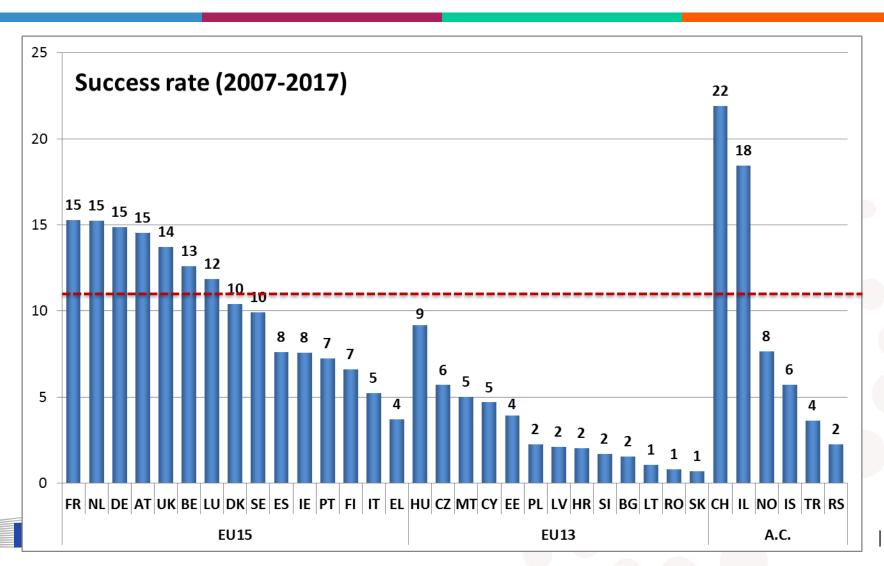
Established by the European Commission



## **Success Rate by Country of HI**

Average: 11%

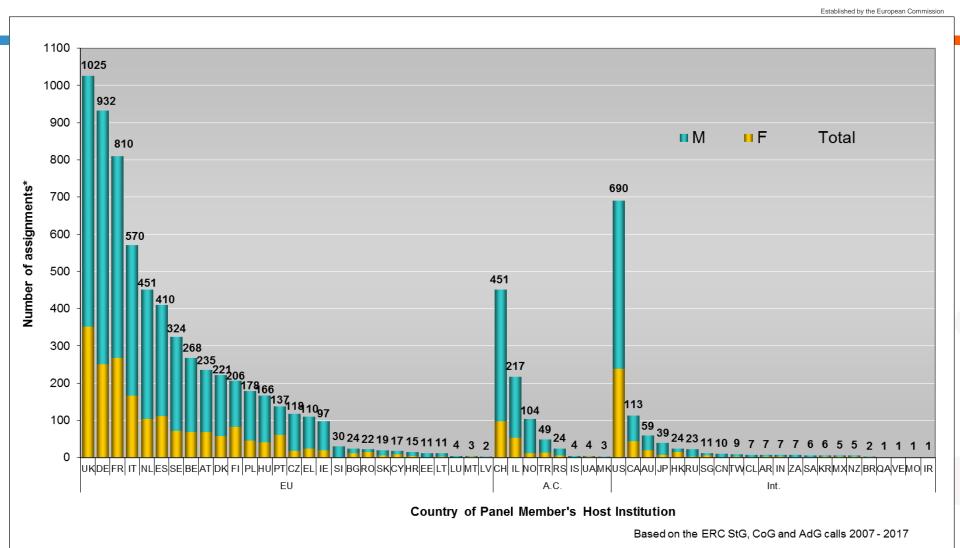




## Who evaluates the proposals?



**European Research Council** 



## **ERC Applications**

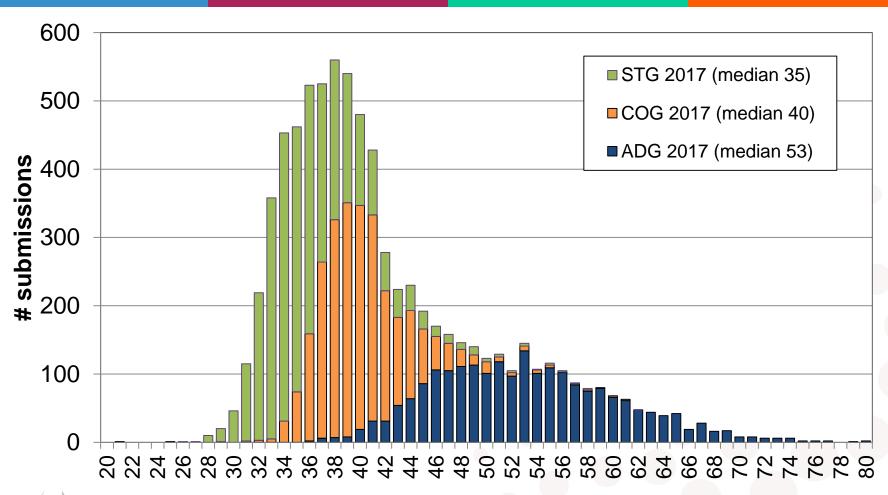


- A programme available for PIs of all ages
- A programme available for all career stages after 2 yrs PhD
- Similar success rates across career "ages"
- Generous allowances for extensions to career stage windows

## 2017 STG-COG-ADG Calls Age of Applicants



Established by the European Commission



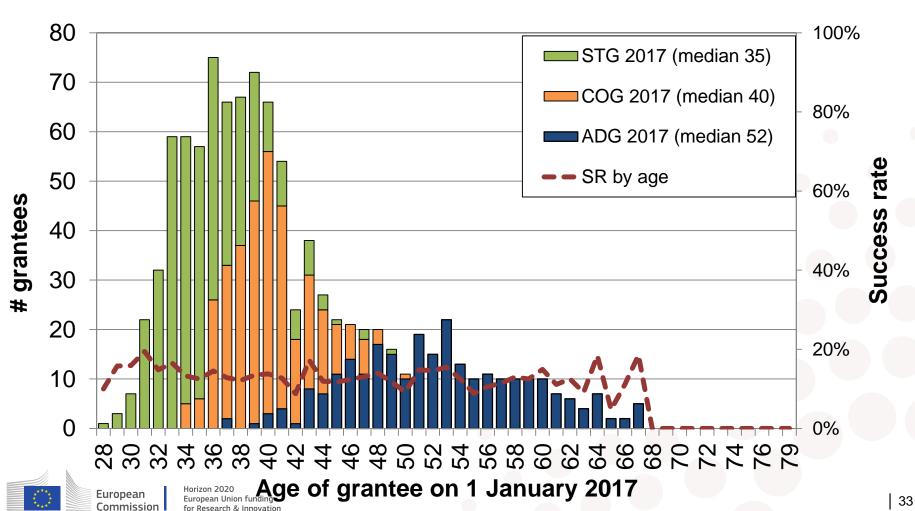
Horizon 2020

European Union funding

for Research & Innovation

## 2017 STG-COG-ADG Calls Age of Grantees





## 2017 STG-COG (ADG 2016) Calls

## "Academic age" of grantees

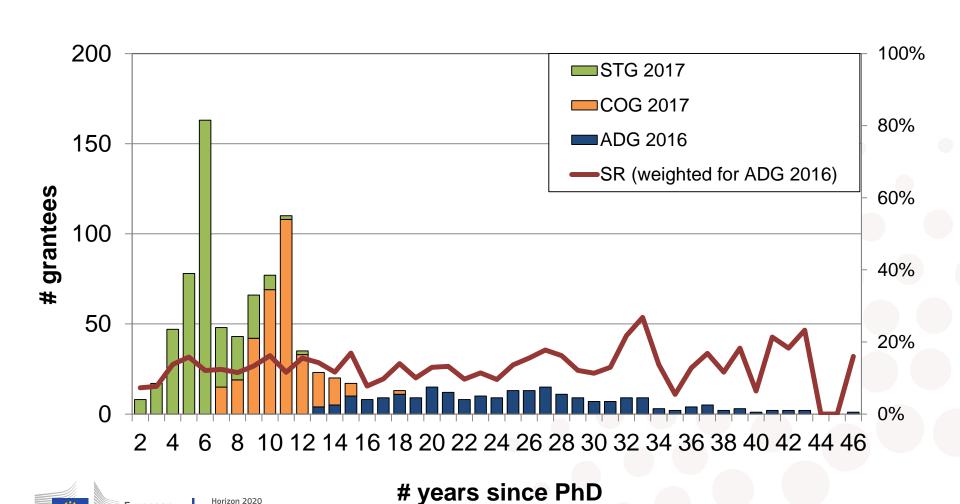
Horizon 2020

European Union funding for Research & Innovation

European

(2017 data for ADG was not available from submission forms)





## **ERC** and Reapplications



- No restriction on number of times applicant may reapply
- No restriction on number of grants
- Time restrictions apply to applications of low quality
- The average number of submissions before granting is 1.5
- The highest number of submissions before receipt of first grant is 7

PERSISTENCE PAYS!



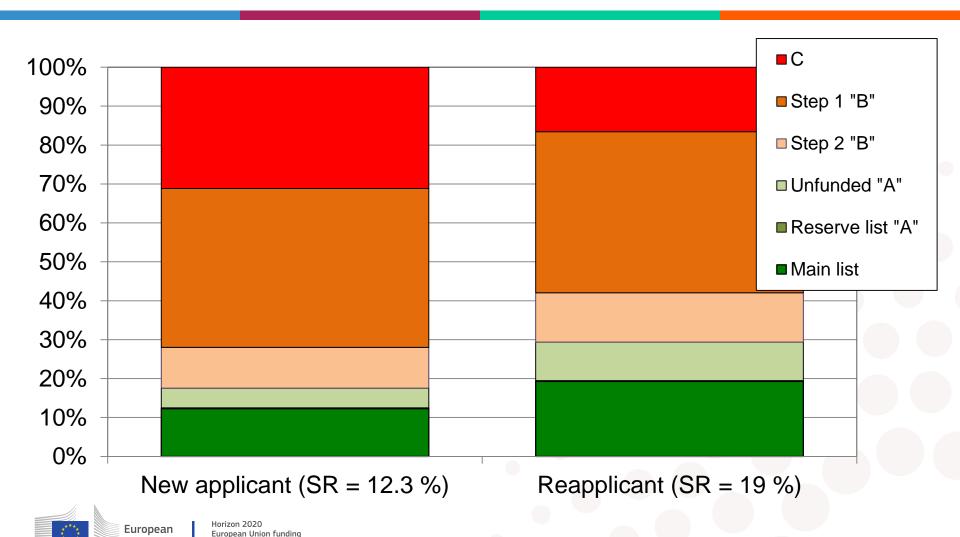
# STG 2017 Results Reapplications

Commission

for Research & Innovation

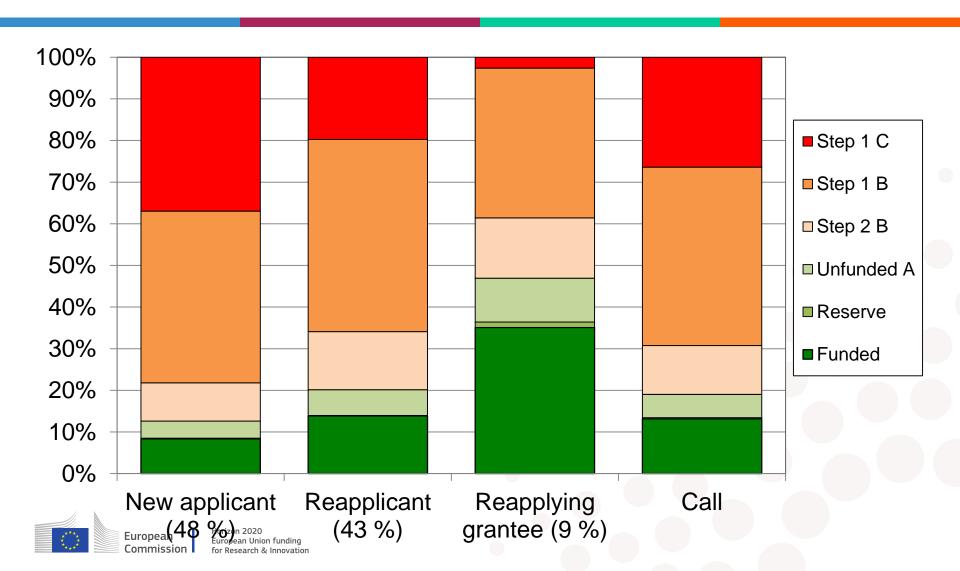


Established by the European Commission



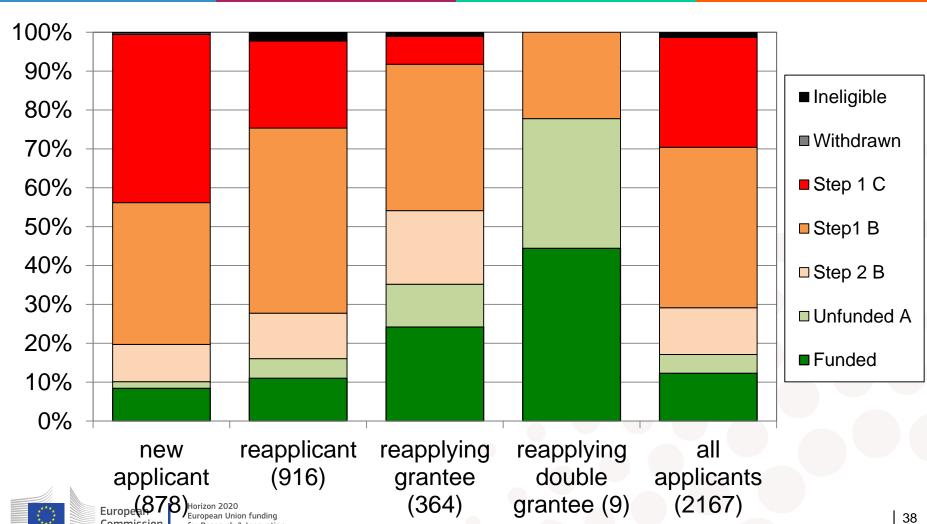
# COG 2017 Results Reapplications





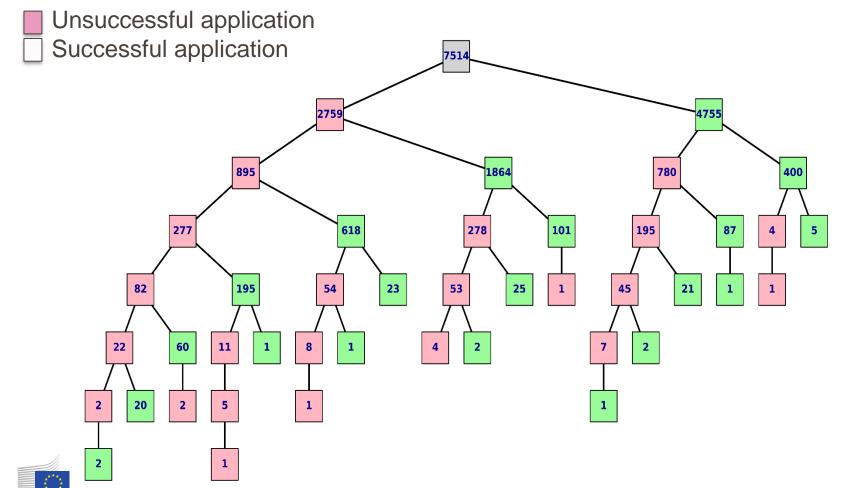
## AdG 2017 Results Reapplications





# ERC grantees 2007-2017 Applications before and after funding 7514 grantees





### Contrary to what you may think.....



- ✓ ERC funds "frontier research", including applied research.
- ✓ The budget is distributed among the scientific panels as a function of demand.
- ✓ The panel descriptors do not represent ERC scientific priorities.
- ✓ The success rate is virtually flat across the eligibility window (StG, CoG).
- ✓ Publication record is not decisive in selection decisions.
- ✓ The Host Institution is not an evaluation criterion.





## THANK YOU!



### The European Research Council



- More information: erc.europa.eu
- National Contact Point: erc.europa.eu/national-contactpoints
- Sign up for news alerts: erc.europa.eu/keep-updated-erc
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y

twitter.com/ERC\_Research

in

www.linkedin.com/company/european-research-council



### **Awarded Projects**

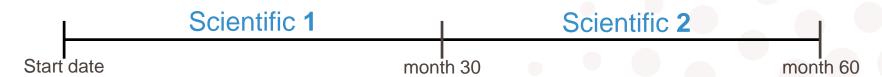
### Separation of reporting duties



4 financial reports



2 scientific reports



### **Granting - Key elements**



- Invitation Letter to prepare the grant agreement:
   The Annex outlines important and updated information for each call
- Online grant preparation via the Participant portal SyGMa
- Electronic Signatures:
  - 'Declaration of Honour'
  - EXCEPTION: Supplementary agreement

### The European Research Council



Established by the European Commission



#### **Overview**



- Features of a Synergy grant
- Preparing an application
- Evaluation process and timeline
- Evaluation principles and criteria
- Hints and tips
- SyG 2018- SyG 2019 proposals overview

### The ERC Synergy call in a nutshell



Established by the European Commission SyG2019-2020: Grant size: HI in EU or possible for one\_ up to 10M€ **Associated** + 4M€ for 6 PI to be outside Country (AC) vears of EU or AC 2-3-4 **Principal Investigators** ≥50% of SyG2019-2020: working time No restrictions in EU or AC does not apply to the on their and ≥30% of PI applying with a location working time Host Institution on the ERC outside of EU or AC project

SyG2020 call: opening mid July 2019 with submission deadline on 5 November 2019



### **ERC Synergy Grant features**



2-3-4 PIs

- Can apply from anywhere in the world when they apply
- One PI (not the corresponding PI) can apply with HI outside of EU or Associated Countries

- Call budget for 2020: 350 M€
- MAX 10 M€ + 4M€ Allow for funding of ~40 projects
  - Additional max 4M€ globally for the project

**UP TO 6 YEARS** 

 Max of 10M€ reduced pro rata for shorter duration

4M€ MAX

IN ADDITION FOR

- 'start-up' costs for Principal Investigators moving to the EU or AC and/or
- the purchase of major equipment and/or
- access to large facilities and/or
- NEW: other major experimental and field work costs, excluding personnel costs.

## **ERC Synergy grant scheme Objectives**



### SYNERGETIC ASPECT

## AMBITIOUS RESEARCH PROBLEM

- Pls must demonstrate the complementarities that could lead to breakthroughs that would not be possible by the individual Principal Investigators working alone.
- End result is substantially greater than the sum of individual components.
  - Achieve substantial advances at the frontiers of knowledge
  - New productive lines of enquiry
  - New methods and techniques, including unconventional approaches and investigations at the interface between established disciplines,
  - Transformative research on a global scale.

## **ERC Synergy grant scheme Profile of the Principal Investigators**



## EQUALITY AMONG PIS

 A designated corresponding PI (cPI) and corresponding HI (cHI) will be the administrative contacts for the duration of the project

### STRONG COMMITMENT

- ≥50% of working time in EU or Associated Countries (AC)
- ≥30% of working time on the ERC project
- SyG2019: 50% commitment requirement to stay in EU or AC does not apply to the PI outside of EU or AC



## **ERC Synergy**Profile of the Principal Investigators



PIS CAN BE OF ANY
CAREER STAGE

- They have to present either an early achievement track-record (Starting or Consolidator stage) or
- A 10-year track-record (Advanced grant stage), whichever the applicants consider most appropriate for their career stage

## COMPLEMENTARY EXPERTISE

- Research objectives can only be achieved through the specific combination of knowledge and skills brought by the PIs.
- Complementarity of the PIs is essential

JOINT EFFORT

- To foster research at intellectual frontiers
- To allow for new combination of skills and disciplines
- To bring together researchers be that from the same institution or different institutions in the country or EU and Associated Countries wide

## **ERC Synergy Grant features Synergy aspects**



NOT SYNERGY

Standard cooperation or networking between PIs

Simple passing of data or information from one team to another

Note: The proposed work does not need to cover more than one discipline or field to be considered for the Synergy grants



## **ERC Synergy Grant features Synergy aspects**



#### **SYNERGY**

A major scientific question with a transformative scientific potential that could not be addressed by an individual PI and their team working alone

Involves teams with exceptional combinations of knowledge and skills with the PIs holding a central role

Pls must demonstrate that their group can successfully bring together the scientific elements necessary to address the scope and complexity of the proposed research question.



#### **Overview**



- Features of a Synergy grant
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## ERC Synergy Grant Scheme - Proposal Structure In step 1 only part B1 is reviewed.

Administrative data and eligibility are checked by ERC staff.



#### Administrative forms (Part A)

- Administrative information
- Budget
- Ethics
- Call specific questions

4-6 ERC keywords to be selected (panels are not defined at submission)

#### <u>Annexes</u>

Commitment of the <u>each</u> Host Institution, ethics docs, etc.

#### Part B1 (submitted as pdf)

- 5 pages Synopsis,
- 2 pages for the CVs of each PI,
- 2 pages for the track record for each PI
- Appendix Funding ID

### Part B2 (submitted as pdf) Evaluated only in Step 2 & 3

- 15 pages scientific proposal (budget and references excluded)
- each PI to indicate their budget breakdown,
- in addition : one joint budget table



#### Indicative resubmission restrictions

July 2019: These restrictions may still be changed and are pending on the approval of the ERC Work Programme 2020.

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Evaluation		Can a PI apply to		
Result of SyG2019	Step	StG/CoG call in 2020?	AdG call in 2020?	SyG call in 2020?
С	1	yes	no	no
В	1	yes	yes	no
В	2	yes	yes	yes
A or B	3	yes	yes	yes

Applicants to previous StG/CoG/AdG ERC calls can apply to the SyG2020 call regardless of the score received previously.

To be eligible for SyG2020: a running ERC grant has to end before 5 November 2021

A PI can be part of only one application published under the <u>same</u> Work Programme regardless of the call. The first application will be considered, the subsequent ones will be declared ineligible.

#### **Overview**



- Features of a Synergy grant
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### 2019 ERC Synergy Grants **Evaluation process**



**European Research Council** 

#### Step 1

#### Single panel

~700 proposals

#### Remote evaluation of short proposals

• PMs + PEVs (PMs of other calls)

#### Panel chairs meeting: proposals selected for Step2

- 150-230 proposals
- up to ~7x call budget

Scores: A, B, C

#### Step 2

5 panels dynamically formed

Remote evaluation of full proposals

> PMs + external specialized reviewers

#### **Panel meetings:** proposals selected for interview

- ~80proposals
- up to ~3x call budget

A, B

#### Step 3

5 interview panels (max) dynamically formed

#### PMs reassess the proposals

- based on step 2 reports
- Interviews: all PIs of all proposals

#### Panels rank the fundable proposals

~40 proposals

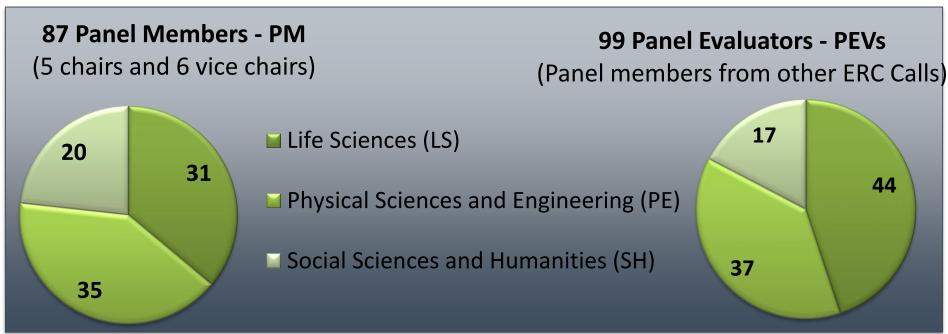
14

## SyG 2018 Step 1: Who were the reviewers?



186 Reviewers; 27 Nationalities; 59 Men and 28 Women

#### Scientific background

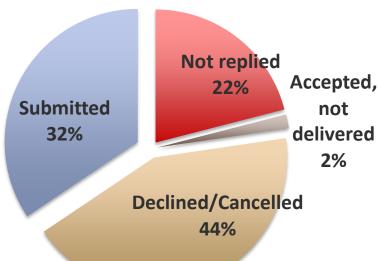


## SyG2018 Step 2 & 3: Who were the reviewers?



- Panel members: about 85 in 5 panels
- Remote referees (unpaid): 2681 invited 851 reviews delivered
- Each proposal had 8 to 13 reviews

Remote referees replies to ERC's invitation to review in step 2





#### **Overview**



- Features of a Synergy grant
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#### What are the evaluation criteria?

Sole evaluation criterion: research quality at two levels



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## 1. EXCELLENCE OF THE RESEARCH PROJECT

- Similar to the other Frontier ERC grants : ground breaking, ambition, feasibility
- Synergetic aspects: working arrangements (innovative, collaborative,...)
- Scientific added-value
- In step 1 the feasibility is assessed only (methodology in step 2)

## 2. EXCELLENCE OF THE PRINCIPAL INVESTIGATORS

- Similar to the other Frontier ERC grants (each PI assessed according to their career benchmarks): intellectual capacity, creativity
- Synergetic aspects : complementarities
- Commitment evaluated in step 2 and 3 only

#### **Overview**



- Features of a Synergy grant
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### Typical reasons for rejection



#### **Principal investigators**

- Insufficient track-record
- Complementarity of PIs not evident enough
- Not evident that the necessary elements can be successfully brought together (skills, knowledge, experience, expertise, disciplines, methods, approaches, teams)

#### **Proposed project**

- Scope: Too narrow ← → too broad/unfocussed
- Not synergetic enough
- Incremental research
- Work plan not detailed enough/unclear
- Insufficient risk management

Poor interview: prepare well! (all PIs in step 3 are invited to Brussels)



## Hints and tips When writing the CVs...



- Remember that the CVs/Track Records are as important as the project!
- Explain what has been each PI's own contribution to their key publications.
- Explain publishing habits in the field and country if needed.
- If the PI knows that he/she has gaps or other issues in the CV (e.g. coauthored publications), explain them.
- Describe activities which can indicate scientific maturity.
- Use the CV template provided by the ERC in the submission system
- No need to provide PhD supporting documents



## Hints and tips: Preparing an application Differences in Part B1 and Part B2



In **Step 1**: **Panel members** (act as generalists) they see <u>only</u> **Part B1** of your proposal: Prepare it accordingly!

- Pay particular attention to the ground-breaking nature of the research project – no incremental research. State-of-the-art is not enough. Think big!
- Synergetic aspects: crucial complementarity and possibly interdisciplinarity (if any) to be emphasised
- Only the extended Synopsis is read at Step 1: concise and clear presentation is crucial (Outline of the methodological approach – feasibility is assessed
- Show, if applicable for StG and CoG profiles, the scientific independence in the CVs, the scientific leadership in the AdG profile
- Funding ID to be filled in carefully for each PI



## Hints and tips: Preparing an application Differences in Part B1 and Part B2



- In Step 2: Both Part B1 and B2 are sent to specialists (specialised external referees)
  - Do not just repeat the synopsis in part B2
  - Provide sufficient detail on methodology, work plan, selection of case studies etc. (15 pages) (references do not count towards page limit)
  - Check coherency of figures, justify requested resources (outside of 15 pages)
  - Explain involvement of additional team members (it is possible to have further beneficiaries/partners in the project)
  - Provide alternative strategies to mitigate risk

In Step 3: no new reviews are written, but part B1 and B2 are re-assessed



#### **Overview**



- Features of a Synergy grant
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- Evaluation principles and criteria
- Hints and tips
- SyG 2018- SyG 2019 proposals overview

### SyG 2018 and 2019 Overview

2019 Budget 400 M € (40-45 projects to be funded, ~ 14% success rate)



		2018	2019
Proposals received		300	288 (- 4%)
Pls		980	951
	Average # PIs	3.3	3.3
	Female Pls	21% (208)	23% (223)
HIs		465	454
	Average # HIs	2.8	2.8
	Average # beneficiaries	3.0	3.1
# proposals with partners		68 (23%)	47 (16%)
# proposals with an HI outside of EU or H2020 Associated Country		-	56

### SyG 2018 and 2019 Overview

2019 Budget 400 M € (40-45 projects to be funded, ~ 14% success rate)



	2018	2019
Average Duration	69 months	69 months
Average budget requested	8.4 M€	8.6 M€
# Ineligible	4	3
# Passed to Step 2	154	182 (+ 18%)
Step 1 SR	51%	64%
% Awarded C	17%	9%
% PI Female passed to step 2	17%	23%
Budget multiplier (max 7)	5.75	4.26

### SyG 2018 funded proposals

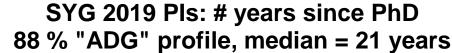


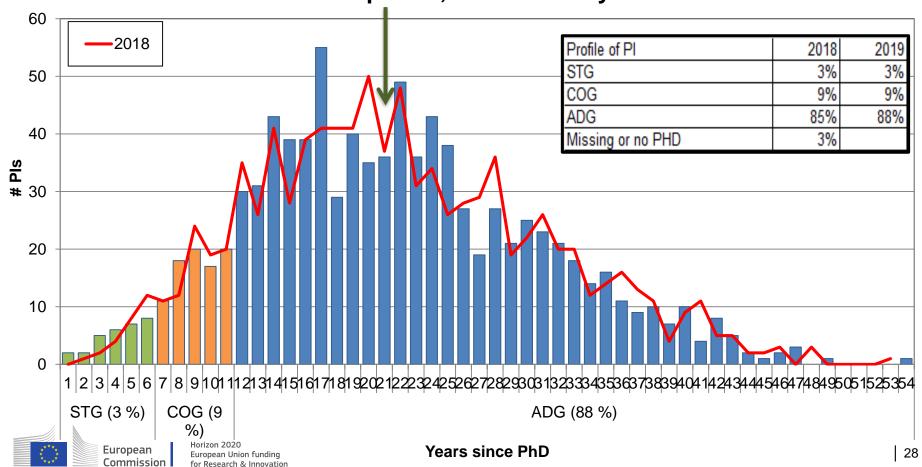
- Large variety of teams'organisation and working arrangements
- High diversity of thematics :
  - Challenging goal in a field of research
  - Emerging fields
  - Multidisciplinary projects
- For some projects, the ERC award has been complemented by local/national institutions

#### SYG 2019 Pls' Profile

SyG2020: intended relaxation of resubmission rules for early career scientists in an effort to encourage their applications to the SyG call a commission

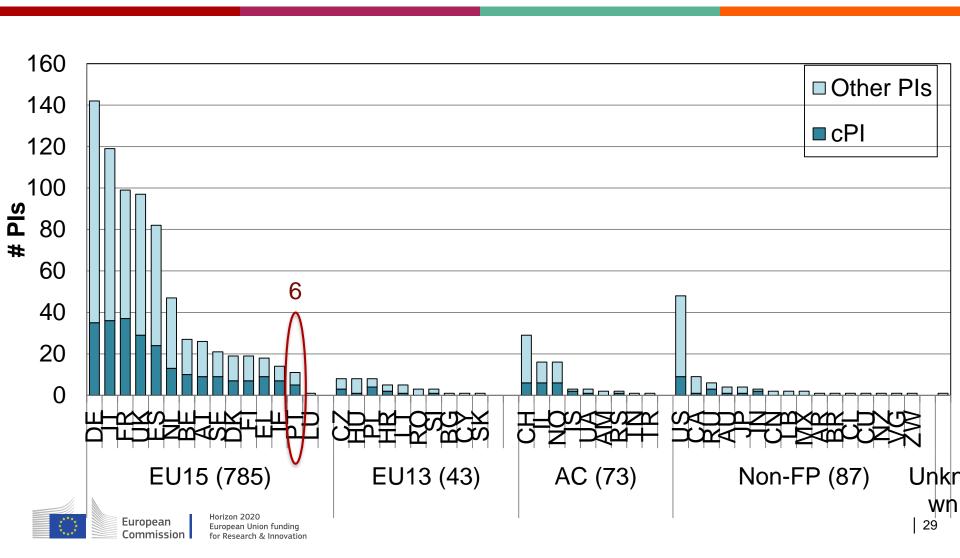
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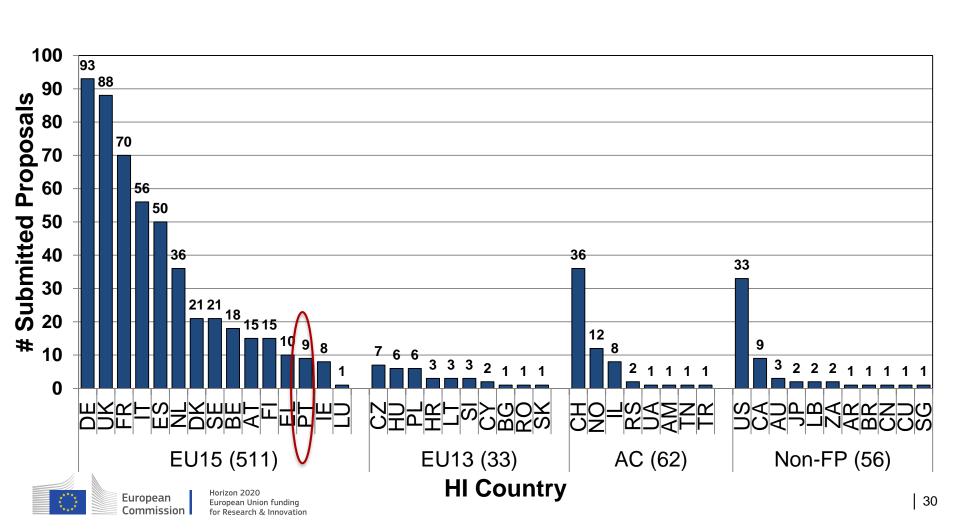
### **SYG 2019 Pls' Nationality**





#### SYG 2019 Host Institutions





## Preparing your application Information sources



- Statistics & latest funding opportunities: <a href="https://erc.europa.eu/">https://erc.europa.eu/</a>
  - 4 videos about ongoing Synergy grants
- View the step-by-step video Introduction to application process, including tips & tricks for the interview: <a href="https://vimeo.com/94179654">https://vimeo.com/94179654</a>
- Help tools and call documents (Information for Applicants, Work Programme, Frequently Asked Questions) to prepare your proposal
- Talk to your Institution's grant office and other ERC grantees
- Contact your National Contact Point if you have questions



#### SUMMARY



- Highly competitive call
- Proposals likely to be funded will :
  - demonstrate that the truly ambitious research questions could lead to breakthroughs only through the joint effort of the complementary and synergistic group of PIs.
  - yield possibly either unforeseen, completely new science, to cross fertilize disciplines or to solve important research problems that until now could not be dreamt of solving.
- Early career applicants are encouraged to apply
  - Regardless of the score received in SyG2019, applicants will be to apply to the StG and CoG calls under the ERC Work Programme 2020.

### SyG2012: HELMHOLTZ



 "Holistic evaluation of light and multiwave applications to high resolution imaging in ophthalmic translational research revisiting the helmholtzian synergies"

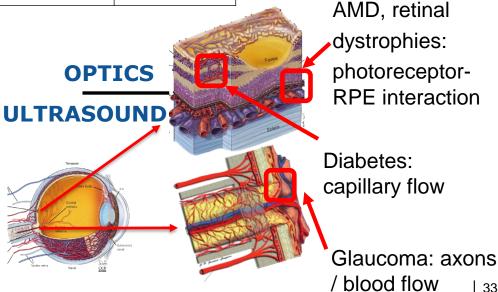
José-Alain SAHELFondation Voir et EntendreFRMathias FINKFondation Pierre-Gilles de GennesFR

"The eye, a 'small brain' with easily accessible structures, at the crossroad of human diseases"

11 861 923 €



Horizon 2020 European Union funding for Research & Innovation



### **SyG2012: dHCP**



#### "The Developing Human Connectome Project"

Anthony David Edwards	King's College London	UK
Joseph Hajnal	King's College	UK
Daniel Rueckert	Imperial College	UK
Stephen Smith	Oxford University	UK

Create a dynamic map of human brain connectivity from 20 to 44 weeks post-conceptional age, which will link together imaging, clinical, behavioural, and genetic information.

http://www.developingconnectome.org/

European Union funding for Research & Innovation



14 900 000 €



## SyG 2013: BlackHoleCam



"Imaging the Event Horizon of Black Holes"

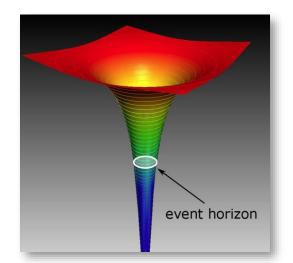
Heino Falcke	Stichting Katholieke Universiteit / Radboud University Nijmegen	NL
Micheal Kramer	Max-Planck-Institut für Radioastronomie	DE
Luciano Rezzolla	Max Planck Institute for Gravitational Physics/Albert Einstein Institute	DE

'Are black holes just a theorist's dream?'

'Prove the existence of event horizons, one of the cornerstones of general relativity '

https://blackholecam.org/

European Union funding for Research & Innovation





13 975 744 €

## **ERC SyG 2018**



## **Scope** – "Surface-COnfined fast-modulated Plasma for process and Energy intensification in small molecules conversion"

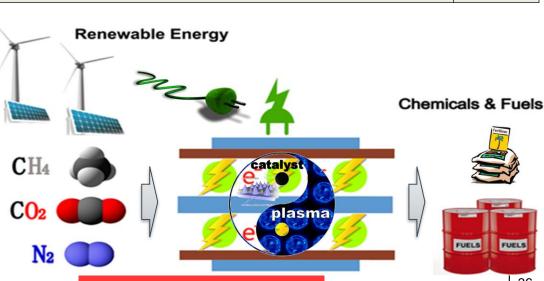
Gabriele CENTI (IT)	University of Messina	IT
Annemie BOGAERTS (BE)	University of Antwerp	BE
Volker HESSEL (DE)	Technische Universiteit Eindhoven	DE
Evgeny REBROV (RU)	The University of Warwick	UK

#### Aim:

Change the way to provide energy for chemical transformations → electrified chemical processes

Approach using renewable energy, with a drastically lower carbon footprint in three major industrial reactions: 1) N2 fixation, 2) CH4 valorization and 3) CO2 conversion to liquid solar fuels.





**Budget: 9 979 270 €** 

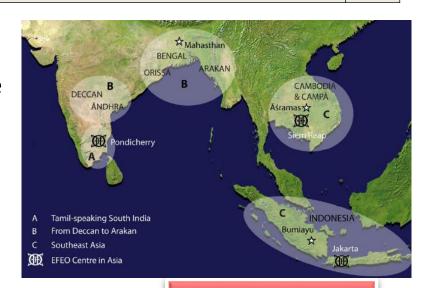
## SyG 2018: DHARMA



 DHARMA - The Domestication of 'Hindu' Asceticism and the Religious Making of South and Southeast Asia

Emmanuel FRANCIS (BE)	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
Arlo GRIFFITHS (NL)	ÉCOLE FRANÇAISE D'EXTRÊME-ORIENT	FR
Annette SCHMIEDCHEN (DE)	HUMBOLDT UNIVERSITÄT	DE

 An investigation of Hinduism in a broad range of regional contexts in South and South East Asia to uncover the complex interplay of religion, state and society in between the 6th and 13th centuries.







# THANK YOU! OBRIGADO!

Don't hesitate to contact us: ERC-SYG-APPLICANTS@ec.europa.eu



#### ERC SyG 2020 Evaluation questions

SyG2020: check the ERC Work Programme or Information for Applicants to the SyG2020 call in July 2019 for the evaluation questions

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#### **Criterion 1 - Research Project**

The following are used in STEP 1, 2 and 3. The answers to the below questions should be found in part B1, as only the short synopsis is evaluated at step 1.

#### Ground-breaking nature and potential impact of the research project

- To what extent does the proposed research address important challenges?
- To what extent are the objectives ambitious and beyond the state of the art (e.g. novel concepts and approaches or development between or across disciplines)?
- To what extent is the proposed research high risk/high gain (i.e. if successful the payoffs will be very significant, but there is a higher-than-normal risk that the research project does not entirely fulfil its aims)?

#### Scientific Approach

- To what extent is the outlined scientific approach feasible bearing in mind the extent that the proposed research is high risk/high gain?
- To what extent does the proposal go beyond what the individual Principal Investigators could achieve alone?
- Reformulated question: To what extent is the combination of scientific elements put forward in the proposal crucial to address the scope and complexity of the research

### ERC SyG 2020 Evaluation questions - continued erc

SyG2020: check the ERC Work Programme or Information for Applicants to the SyG2020 call in July 2019 for the evaluation questions

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#### Further questions relating to Criterion 1 Research project

used only in STEP 2 and 3, when the reviewers have access to both parts of application, part B1 and B2:

- To what extent are the proposed research methodology and working arrangements appropriate to achieve the goals of the project (based on the full Scientific Proposal)?
- To what extent does the proposal involve the development of novel methodology (based on the full Scientific Proposal)?
- To what extent are the proposed timescales, resources and PI commitment adequate and properly justified (based on the full Scientific Proposal)?

## ERC SyG 2020 Evaluation questions - continued erc

SyG2020: check the ERC Work Programme or Information for Applicants to the SyG2020 call in July 2019 for the evaluation questions (slight modification state of the Established by the European Commission

#### Criterion 2 – Principal Investigators – used in all steps

Intellectual capacity, creativity and commitment

- To what extent have the PIs demonstrated the ability to conduct ground-breaking research?
- To what extent do the PIs have the required scientific expertise and capacity to successfully execute the project?

#### New question used only in STEP 2 and 3:

 To what extent does the Synergy Grant Group successfully demonstrate in the proposal that it brings together the elements – such as skills, knowledge, experience, expertise, disciplines, methods, approaches, teams – necessary to address the proposed research question (based on the full Scientific Proposal)?



### Hints and tips Questions to ask yourself as an applicant



#### **Principal Investigators**

- Is each of the PIs internationally competitive as a researcher at each of their career stage and in each of their discipline?
- Is each of the PIs able to work independently, and to manage a 6-year project with a substantial budget?
- How strong is the group of PIs as a whole?
- Does the proposal demonstrate that the Pis bring together the necessary elements to address the research question?

## Hints and tips How to prepare an ERC SyG proposal?



- Have an original and exciting idea that requires the joint effort of 2 or 3 or 4 PIs
- Design a research project to implement the idea
  - It is not about a consortium, but about a tight-knit small group of PIs and their teams.
    The PIs are equal and indispensable for the project!
- Get a letter of support from your Host Institution- note a change for SyG2020 (in Syg2019, only the corresponding HI provided a letter)
  - SyG2020: each HI has to provide a support letter for the PI(s) hosted by them\*
- Write the research proposal (carefully plan the resources)
  - Choose carefully the 4-6 keywords: applications are not submitted to a StG/CoG/AdG types of the panels
- Read carefully the evaluation criteria and try to ensure that the reviewers can find the answers to them in your proposal (part B2 is not a mere repetition of part B1)
- Get feedback from your peers

submission system

Submit your research proposal before the deadline -> fully electronic/web based

## Hints and tips Questions to ask yourself as an applicant



#### **Research Project**

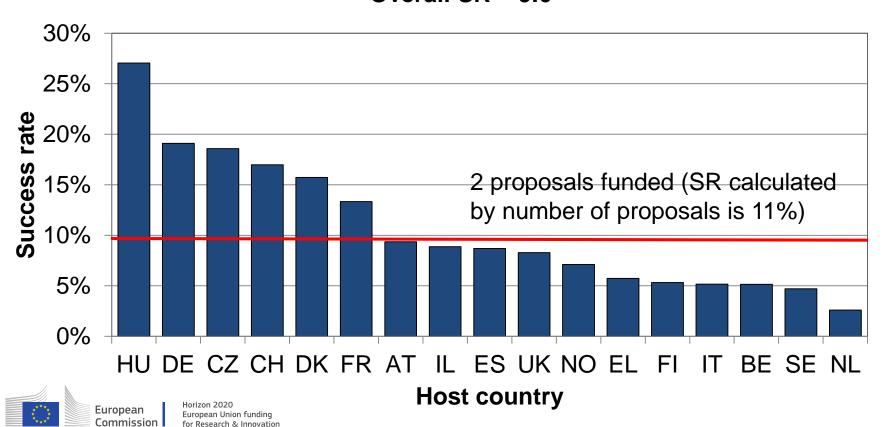
- Why is the proposed project important?
- Does it promise to go substantially beyond the state of the art?
- Has it the chance the cross-fertilize disciplines?
- What is the scientific transformative potential?
- Does it have a grand challenge that can boost European research?
- Why are we the best/only persons to carry it out?
- Why is this particular combination of the PIs the best for the project?
- Is the other person(s) really needed as a PI or only as a team member?
- Is it timely? (Why wasn't it done in the past? Is it feasible now?)
- What's the risk? Is it justified by a substantial potential gain? Do we have a plan for managing the risk?



## SyG 2018 Results



## SYG 2018 Success rate (SR) by HI country calculated by total awarded / total requested budget Overall SR = 9.6



## Evaluation reports (ER) sent to the applicants erc

After the proposals are discussed in the panel meeting, a final score is awarded and the decision summarised in a panel comment European Research Council Established by the European Commission

• Predefined standard panel comment based on the

STEP 1 REJECTED PROPOSALS	<ul> <li>score, summarizing the decision taken by the panel</li> <li>Individual assessments, without names and grades</li> <li>Possible scores given by the panel: 'A', 'B', 'C'</li> <li>For 'A' score (passed to step 2) ERs are not provided</li> </ul>
STEP 2 REJECTED PROPOSALS	<ul> <li>Carefully drafted panel comments for each rejected proposal</li> <li>Individual assessments, without names and grades</li> <li>Possible scores: 'A', 'B'</li> <li>For 'A' score (passed to step 3) ERs are not provided</li> </ul>
STEP 3 <b>ALL</b> PROPOSALS	<ul> <li>Carefully drafted panel comments for each proposal</li> <li>Individual assessments, without names and grades</li> <li>Possible scores: 'A', 'B'</li> <li>Outcome based on ranking: 'A' –( funded; reserve; not funded, but excellent quality) 'B'- not fundable</li> </ul>

## Hints and tips How to prepare an ERC SyG proposal?



#### **THINK BIG**



## Explain the budget properly!



- Budget analysis carried out in Step 3 evaluation.
- Panels have the responsibility to ensure that resources requested are reasonable and well justified.
- Budget cuts need to be justified on a proposal-by-proposal basis (no across-the-board cuts).

#### Not explained costs are often cut!

- Panels recommend a final maximum budget based on the resources allocated/removed.
- Awards made on a 'take-it-or-leave-it' basis: no negotiations.
- Ask for funding for Open Access in case needed—this is obligatory in Horizon2020!

**Rumour**: Ask for more money, the reviewers will anyhow cut it down.

**NOT true**: however, unexplained or non-motivated requests can be cut, so if you artificially inflate your budget, it will be reduced.

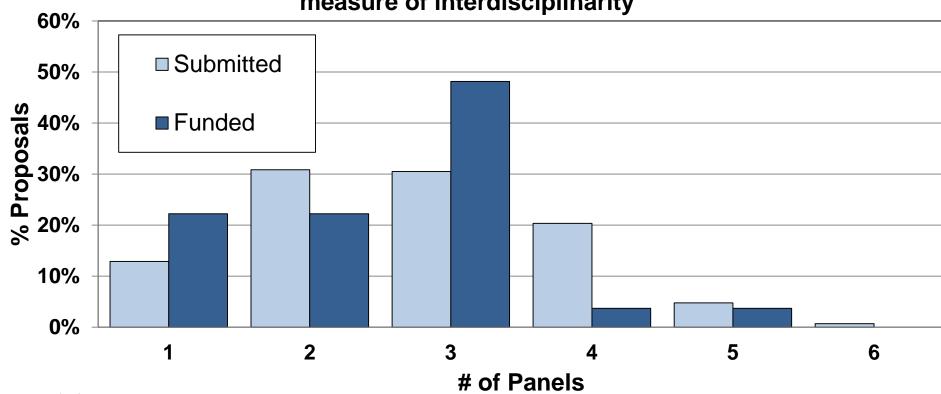


## SyG 2018 funded proposals

Majority are interdisciplinary, across multiple 'regular' Exception panels



Number of panels spanned by using keywords selected by the applicants in the submitted and funded proposals – one possible measure of interdisciplinarity





# **SyG 2018:** Proposals selected for funding SH



 EXPLO - Exploring the dynamics and causes of prehistoric land use change in the cradle of European farming

Albert HAFNER (CH)	UNIVERSITY OF BERN	СН
Willy TINNER (CH)		
Amy BOGAARD (CA)	UNIVERSITY OF OXFORD	UK
Kostas KOSTAKIS (EL)	ARISTOTLE UNIVERSITY OF THESSALONIKI	HL

EXPLO aims to understand the introduction, evolution and environmental context of early agriculture in the southern Balkans and northern Greece by combining archaeological, bioarchaeological, palaeoecological and palaeoenvironmental approaches within the context of Neolithic and Bronze Age wetland sites.





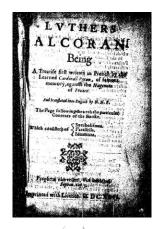
Budget: 6 403 199€

# **SyG 2018:** Proposals selected for funding SH



#### **EuQu- The European Qur'an**

Mercedes GARCIA-ARENAL (ES)	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
Roberto TOTTOLI (IT)	UNIVERSITÀ DI NAPOLI L'ORIENTALE	IT
Jan LOOP (CH)	UNIVERSITY OF KENT	UK
John TOLAN (FR)	UNIVERSITÉ DE NANTES	FR



Documenting the role that the Qur'an has played in the formation of European religious and cultural Identity as well as its intellectual history 1142 - c. 1850

Qur'an Manuscripts 1550-1600 (hypothetical)





Budget: 9 842 534 €

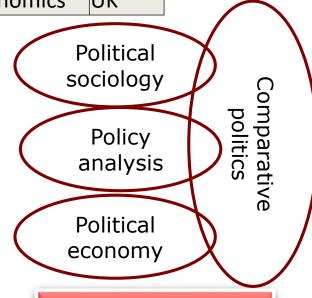
# **SyG 2018:** Proposals selected for funding SH



 SOLID – "Policy Crisis and Crisis Politics. Sovereignty, Solidarity and Identity in the EU post 2008"

Maurizio FERRERA (IT)	University of Milan	IT
Hanspeter KRIESI (CH)	European University Institute	IT
Waltraud SCHELKLE (DE)	London School of Economics	UK

- Explaining the presence of a deep crisis and apparent resilience of the EU policy
- Assessing the overall soundness of the EU's foundations in the wake of the political crisis





Budget: 9 604 138 €