

# The European Research Council



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## Appel Synergy 2018

Paris, 29 Juin 2017

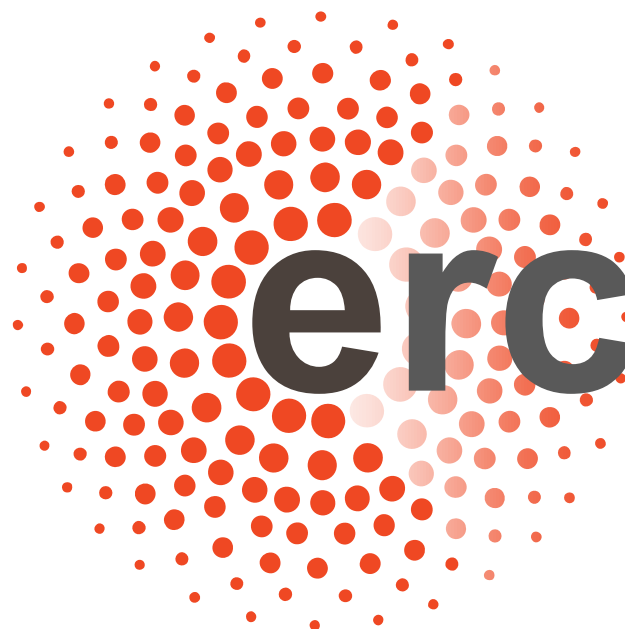


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ERCEA

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# Background

- 2012-2013: two pilot Synergy grant calls
  - ➔ 1,5-3% success rate: 24 projects selected
- 2015: Assessment by the ERC Scientific Council of the pilot funding schemes
- 2016: Decision by the ERC Scientific Council to re-launch the SyG scheme
  - ➔ Implementation: 2018 Work Programme

- 2012-2013 Synergy pilot scheme assessment
- 2012-2013 Synergy calls : results overview
- Main features expected for the Synergy 2018 grant scheme
- 2012-2013 Synergy calls : examples of funded projects

# **SYG 2013-2013 CALLS**

## **PILOT SCHEME ASSESSMENT**

# 2012-2013 Synergy pilot scheme

## Assessment method



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- Site visits to all 24 Synergy projects
- No Scientific evaluation
- Assessment included :
  - ➔ Open session with research team on:
    - Goals and status of the project
    - Vision and strategies
    - Challenges
    - Reaction from research community
  - ➔ Session with PhD students and postdocs

# 2012-2013 Synergy pilot scheme

## Assessment report : conclusions (I)



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- Synergy grant scheme would be a valuable addition to the current ERC frontier schemes
- Why?
  - ➔ Highly ambitious research goals – that cannot be achieved by a single PI
  - ➔ Complementarity of PIs/teams essential
  - ➔ Cross-fertilization of disciplines and signs of new fields emerging

# 2012-2013 Synergy pilot scheme

## Assessment report : conclusions (II)



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- Why having a SyG scheme?
  - ➔ 'Seed' effects visible: expanding the fields and attracting further funding
  - ➔ Early career scientists team members broaden their expertise and opportunities
  - ➔ Increased and/or unconventional collaborations between institutions

# 2012-2013 Synergy pilot scheme

## Assessment report : recommendations(I)



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- To run on a yearly basis
- 2 or 3 or 4 Principal Investigators
- No restrictions on localization of PIs
- More streamlined evaluation process



# 2012-2013 Synergy pilot scheme

## Assessment report : recommendations (II)



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- Excellence is the sole criterion for evaluation, with intrinsic synergetic effects
- Ambition of the research question and complementarity or interdisciplinarity of the approach to be emphasized
- Indicative budget of 10 M€ per grant, allowing for flexibility and top-ups (up to 4 M€ more)

# **SYG 2013-2013 CALLS**

## **OVERVIEW OF THE EVALUATION RESULTS**

# 2012 - 2013 Synergy pilot scheme

## Overall results



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### Synergy 2012

- 710 proposals submitted
- 11 proposals selected for funding  
(5 PE, 4 LS, 2 SH)
- 38 PIs (10 nationalities)
- 20 Host Institutions (7 countries)
- Success rate : 1,5%
- Average budget requested:  
€ 11.5m

### Synergy 2013

- 449 submitted proposals
- 13 proposals selected for funding  
(6 PE- 5 LS- 2 SH)
- 45 PIs (14 nationalities)
- 38 institutions (12 countries)
- Success rate : 3%
- Average budget requested:  
€12.5 m

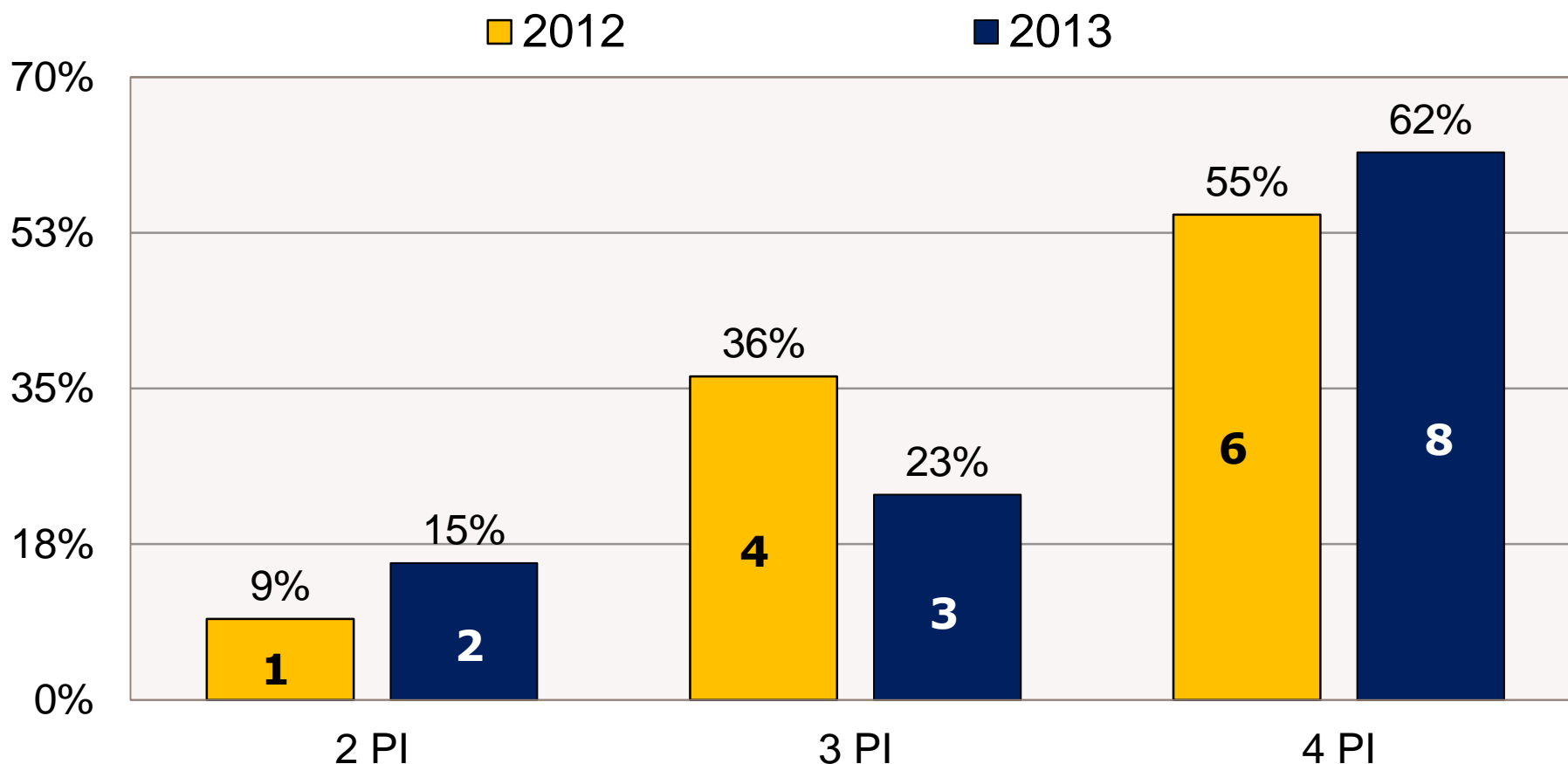
# 2012 - 2013 Synergy pilot scheme

## Grouping of PIs of funded proposals



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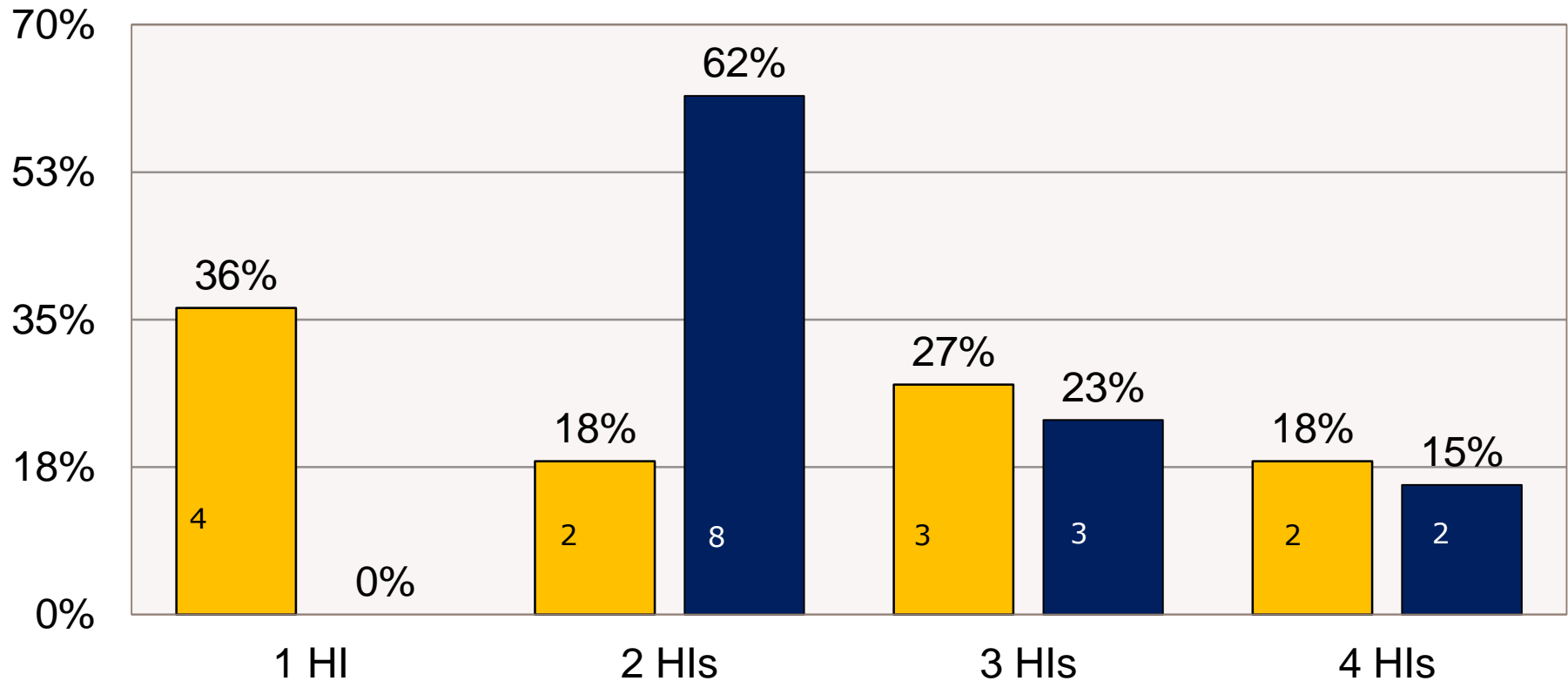


# 2012 - 2013 Synergy pilot scheme

## Grouping of proposals by Host Institutions (HIs)

■ 2012

■ 2013



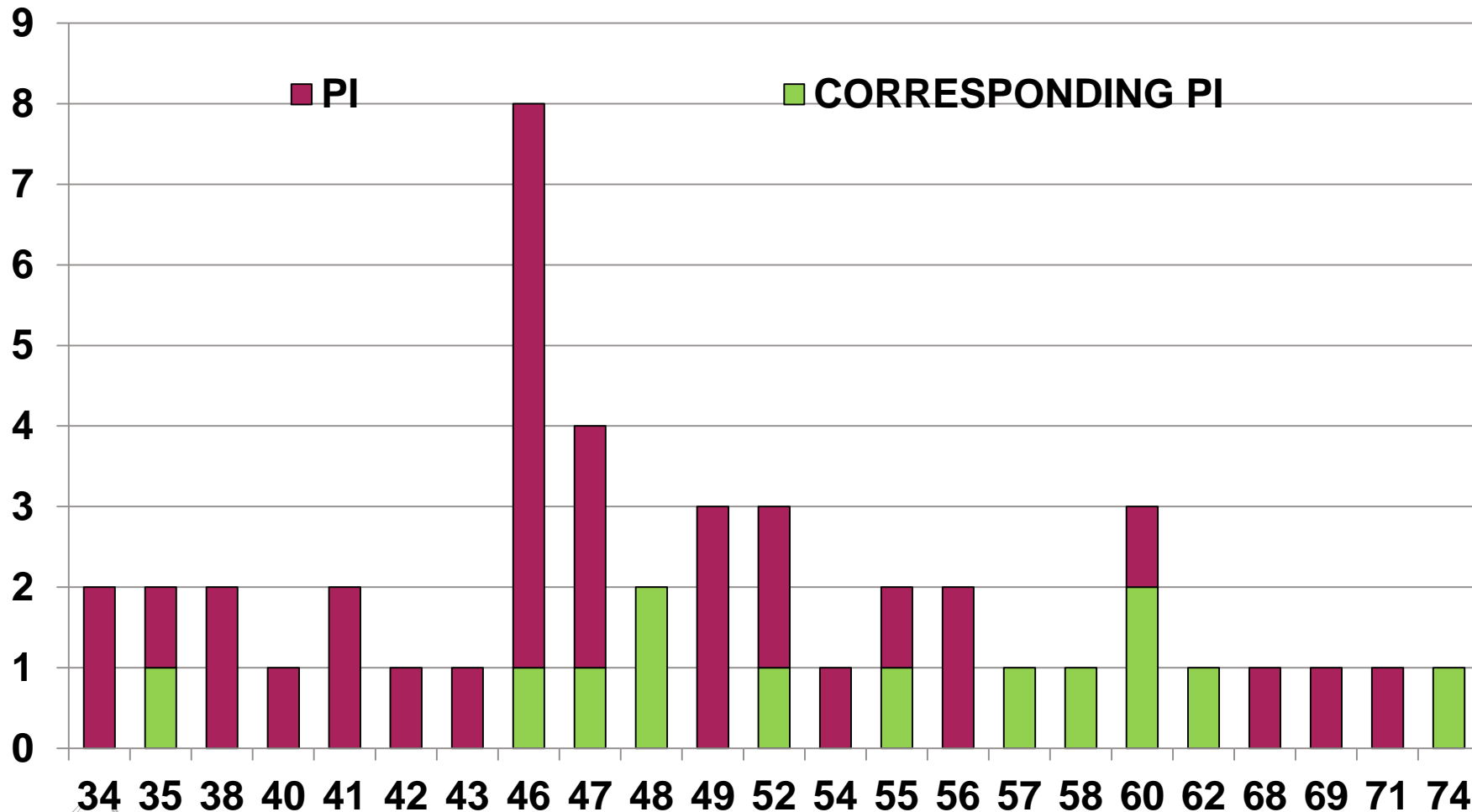
# 2013 Synergy pilot scheme

## Age of Grantees



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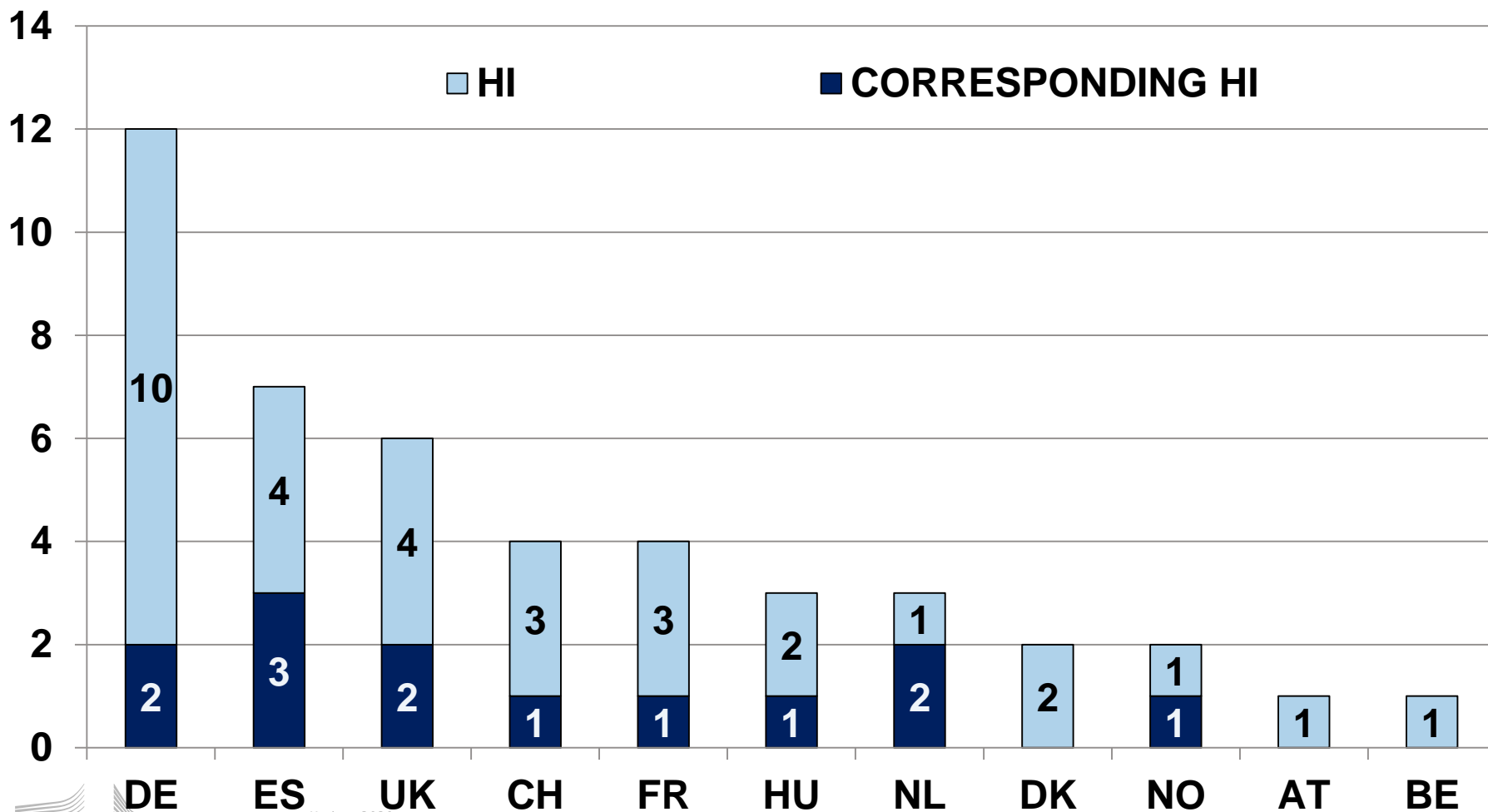


# 2013 Synergy pilot scheme

## Host Institution distribution by country



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# 2012 - 2013 Synergy pilot scheme

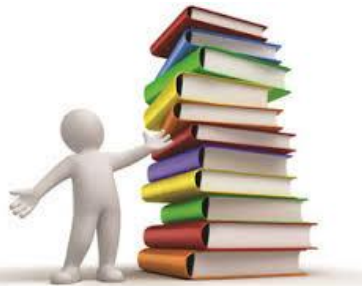
## Results in numbers



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**24** projects funded  
All have submitted mid-term reports.  
None is completed yet



**903** publications reported out of which  
**781** have been validated.



**12,3** percent of publications are  
**highly cited\***



# **SYG 2018 CALL**

## **MAIN FEATURES**

# 2018 Synergy Grant scheme Objectives



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- Looking for scientific **breakthroughs** that can be achieved **only by working in complementary teams**, not by a PI alone
- 2 to 4 PIs jointly address ***in a unique synergetic effect*** ambitious research problems to :
  - ➔ achieve substantial advances at the **frontiers of knowledge**
  - ➔ to enable **transformative research** on a global scale
  - ➔ to encourage **new productive lines** of enquiry
  - ➔ new methods and techniques, including **unconventional approaches** and investigations at the interface between established disciplines

# 2018 Synergy Grant scheme

## Background information



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### How 'Synergy' is understood for the scope of the grants

- Each proposal must demonstrate that its objectives can only be achieved through the specific combination of knowledge and skills brought together by the PIs
- Each proposal must highlight its synergetic effects, namely that the end result is substantially greater than the sum of the individual components

These substantial added values distinguish the Synergy Grant scheme from the simple cooperation, consortia or networking aspects of many EC funding programmes.

### High Risk aspects

- Proposals are expected to include high risk elements. The risks and how they will be managed have to be well thought through and explained in the proposal.

# 2018 Synergy grant scheme

## Budget and Planning

pending the adoption of the ERC Work Programme 2018 in July 2017



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- Indicative budget foreseen for 2018: 250 M€
  - ➔ 25-30 projects to be selected
- Maximum budget per grant :10 M€
  - ➔ with additional 4 M€ in case:
    - a) "start-up" costs for Principal Investigators moving to the EU or AC and/or
    - b) the purchase of major equipment and/or
    - c) access to large facilities
- Maximum duration : 6 years
- Indicative call opening: 19 July 2017
- Indicative call closure: 14 November 2017
- Proposals to be evaluated between November 2017 and September 2018.



European  
Commission

Horizon 2020  
European Union funding  
for Research & Innovation

# 2018 Synergy grant scheme

## Profile of the Principal Investigators

pending the adoption of the ERC Work Programme 2018 in July 2017



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- 2 or 3 or 4 Principal Investigators
- 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)
- PIs to be considered as equal, but a corresponding PI to be designated who will be the administrative contact for the duration of the project.
- Time commitment:  $\geq 50\%$  of working time in EU or AC and  $\geq 30\%$  of working time on the ERC project

# 2018 Synergy Grant scheme

## Profile of the Principal Investigators

pending the adoption of the ERC Work Programme 2018 in July 2017



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Applications are expected from a group of innovative and active Principal Investigators who :

- must present an early achievement track-record or a 10-year track-record whichever is most appropriate for their career stage (see Starting, Consolidator and Advanced Grant profiles).

ERC Synergy Grants are designed to foster research at the intellectual frontiers. New types of joint effort may be needed that allow for :

- new combinations of skills and disciplines,
- or the bringing together of researchers from different institutions, sectors or countries.

# 2018 Synergy Grant scheme

## Proposal Structure



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### Part B1:

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

### Part B2:

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

### Exclusion of reviewers

up to 6 people can be excluded from evaluating the proposal

# 2018 ERC Synergy Grants

## Evaluation process



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### Step 1

#### Single panel

~700 proposals

#### Remote evaluation of short proposals

- PMs + PEVs (PMs of other calls)

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

- 130-170 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

- ~60proposals
- 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

- ~30 proposals

**A, B**



# 2018 ERC Synergy Grants

## Evaluation criteria

pending the adoption of the ERC Work Programme 2018 in July 2017



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- **Similar to the other frontier ERC grants :**
  - ***Research project***: ground-breaking, ambition, feasibility
  - ***Individual PIs*** : intellectual capacity, creativity, commitment
- **In addition, synergetic aspects :**
  - ***Complementarities*** : profiles of the PIs, fields of research, ...
  - ***Working arrangements*** : innovative, collaborative...
  - ***Scientific added-value***

# 2018 ERC Synergy Grants

## Resubmission restrictions

pending the adoption of the ERC Work Programme 2018 in July 2017



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### **Score B at Step1 or Step2**

A Principal Investigator whose proposal was evaluated as **category B at step 1 or step 2** in the Synergy Grant call for proposals under Work Programme 2018 may not submit a proposal to the **Synergy Grant calls for proposals made under Work Programme 2019**.

### **Score C at Step1**

A Principal Investigator whose proposal was evaluated as **category C at step 1** in the Synergy Grant call for proposals under Work Programme 2018 may not submit a proposal to **any ERC research grant calls for proposals made under Work Programme 2019 or for the Synergy Grant call in 2020**.

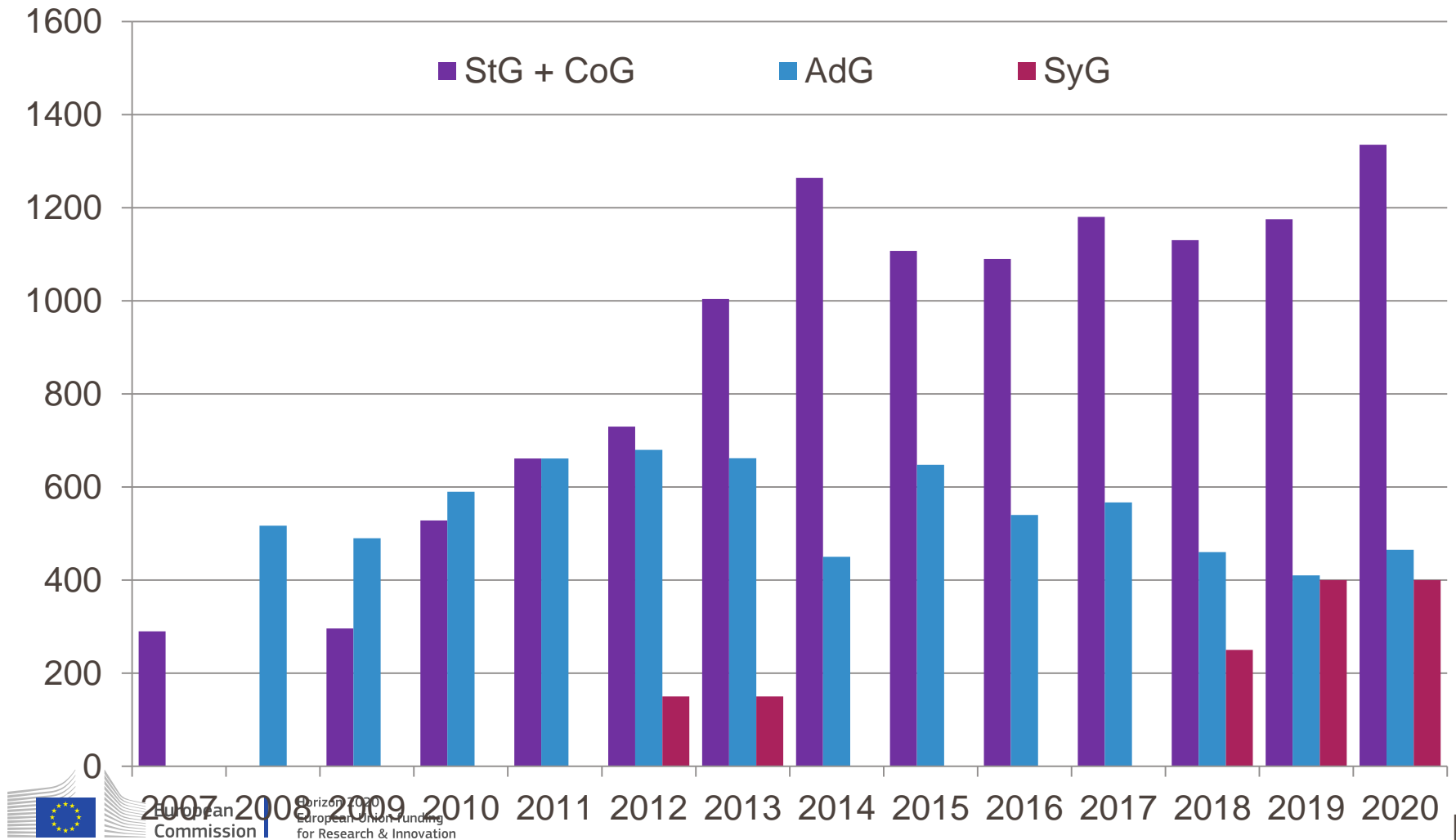
### **Breach of Research Integrity**

All Principal Investigators whose proposal was rejected on the grounds of a breach of research integrity in the Synergy Grant calls for proposals under Work Programme 2018 may not submit a proposal to the **calls for proposals made under Work**

# Call Budgets with Synergy Calls



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# **SYG 2012-2013 CALLS**

## **EXAMPLES OF FUNDED PROJECTS**

- 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 2013: SOMICS



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- "Constructing Social Minds: Coordination, Communication, and Cultural Transmission"*

Günther Knoblich	Central European University	HU
Josep Call	MPI for Evolutionary Anthropology	DE
György Gergely	Central European University	HU
Dan Sperber	Central European University - moving from FR	HU

'What makes **humans** capable of **developing cultures** that are uniquely richer, more complex, and accumulative?'



<https://www.ceu.edu/project/somics-constructing-social-minds-coordination-communication-and-cultural-transmission>

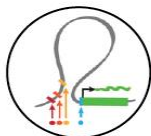


- "Dynamics of human genome architecture in stable and transient gene expression changes"*

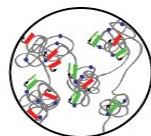
Miguel Beato del Rosal	Fundació Privada Centre de Regulació Genòmica	ES
Thomas Graf	Fundació Privada Centre de Regulació Genòmica	ES
Guillaume Filion	Fundació Privada Centre de Regulació Genòmica	ES
Marc Martí-Renom	National Center for Genomic Analysis	ES

'Do **temporal changes** in the genome **3D structure** contribute to gene regulation?'

10Kb      100Kb      1Mb      10Mb      100Mb      Genome



Looping



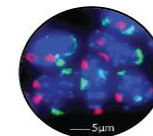
Topologically  
Associating  
Domains (TADs)



Lamina  
Associated  
Domains (LADs)



Chromosome  
Territories



Chromosome  
Positioning

12 272 645 €

# SyG 2013: BlackHoleCam



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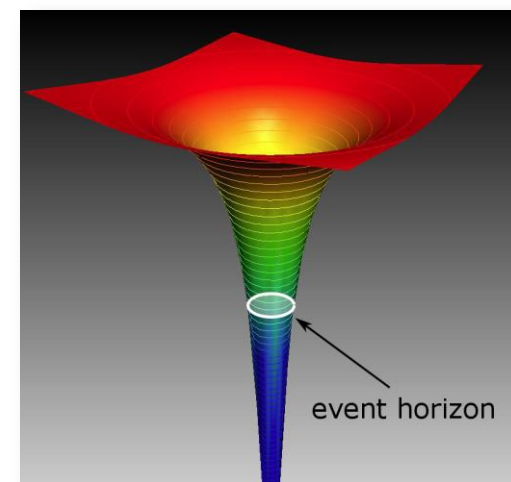
- "Imaging the Event Horizon of Black Holes"*

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/>



13 975 744 €

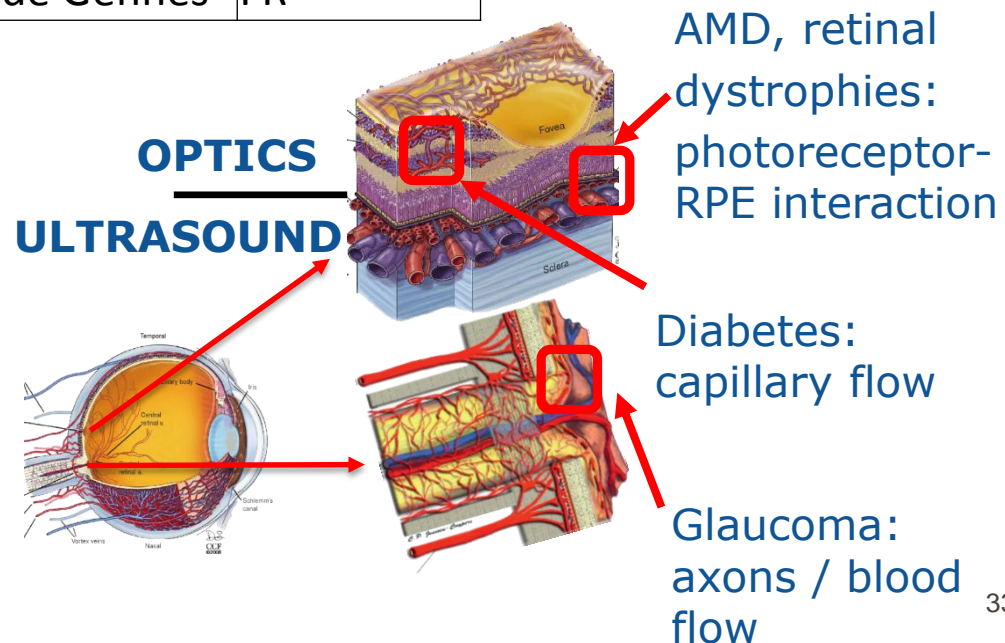


- "Holistic evaluation of light and multiwave applications to high resolution imaging in ophthalmic translational research revisiting the helmholtzian synergies"*

José-Alain SAHEL	Fondation Voir et Entendre	FR
Mathias FINK	Fondation Pierre-Gilles de Gennes	FR

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

11 861 923 €



# SyG2012 : dHCP



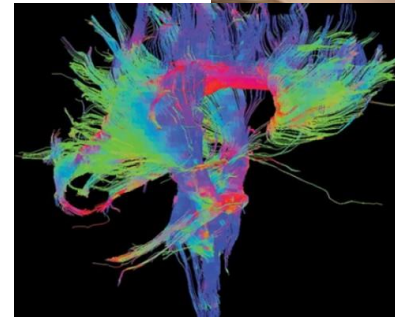
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## *"The Developing Human Connectome Project"*

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-conceptual age, which will link together imaging, clinical, behavioural, and genetic information.

<http://www.developingconnectome.org/>



# SyG2012 : MODELCELL



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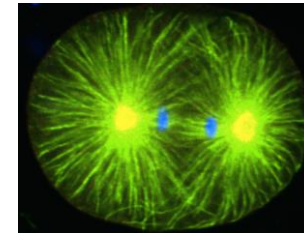
- *" Building a Model Cell to Achieve Control of Cellular Organization "*

Marileen Dogterom	Stichting Fundamenteel Onderzoek der Materie (FOM)	NL
Anna Akhmanova	Universiteit Utrecht	NL

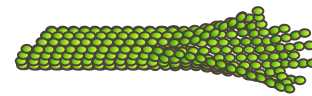
'Understand the **self-organizing principles** of cells'



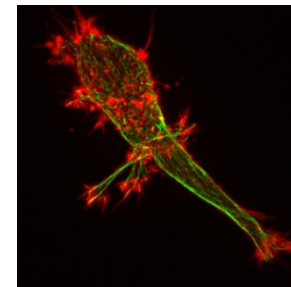
'Reconstitute, understand, and control the self-organization of **functional cytoskeletal systems**'



Dividing cell



Microtubule



Moving cell



Actin

# SUMMARY



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- 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.
- Tough future restrictions on submissions planned
  - ➔ PIs evaluated with a **C score in 2018** will **not** be able to apply to **any** ERC call in 2019.

# Indicative summary of 2018 calls



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	<i>Starting Grant</i>	<i>Consolidator Grant</i>	<i>Advanced Grant</i>	<i>Synergy Grant</i>	<i>Proof of Concept Grant</i>
<i>Call Opens</i>	18/07/2017	24/10/2017	17/05/2018	<b>19/07/2017</b>	18/07/2017
<i>Deadline or cut-off dates for PoC</i>	17/10/2017	15/02/2018	30/08/2018	<b>14/11/2017</b>	16/01/2018 18/04/2018 11/09/2018
<i>Budget million EUR (estimated number of grants)</i>	583 (391)	553 (287)	452 (194)	<b>250 (30)</b>	20 (130)
<i>Planned dates to inform applicants (after each step or cut-off date)</i>	14/05/2018 14/08/2018	06/07/2018 30/11/2018	29/01/2019 08/04/2019	<b>23/04/2018</b> <b>29/08/2018</b> <b>19/10/2018</b>	30/03/2018 21/06/2018 10/12/2018

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- More information on the SyG2012&2013 funded projects: <https://erc.europa.eu/projects-figures/erc-funded-projects/>
- National Contact Point: [erc.europa.eu/national-contact-points](https://erc.europa.eu/national-contact-points)
- Sign up for news alerts: [erc.europa.eu/keep-updated-erc](https://erc.europa.eu/keep-updated-erc)



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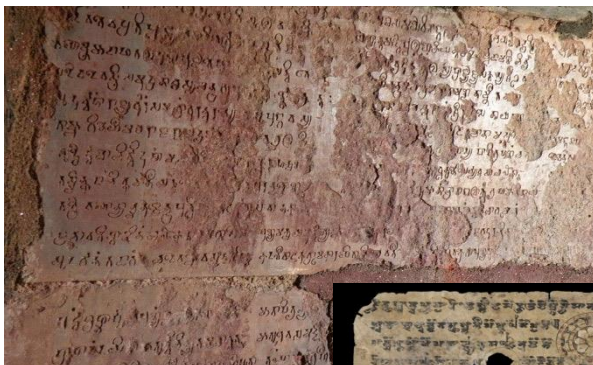
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# MERCI!



- *"Beyond Boundaries: Religion, Region, Language and the State"*

Michael WILLIS	British Museum	UK
Sam Julius van SCHAIK	The British Library	UK
Nathan HILL	School of Oriental and African Studies, University of London	UK



Rethink Asian history and present a bold picture that demonstrates how South, Central and Southeast Asia functioned as a cosmopolitan entity

<https://asiabeyondboundaries.org/>

8 053 716 €



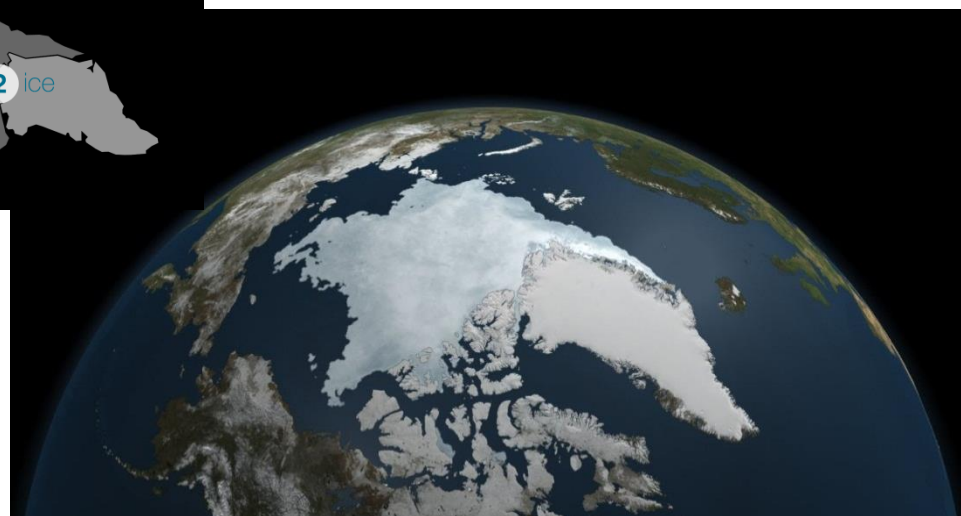
- "Arctic Sea Ice and Greenland Ice Sheet Sensitivity"*

Eystein Jansen	University of Bergen	NO
Kerim Nisancioglu	University of Bergen	NO
Jens Christensen	Danish Meteorological Institute	DK
Bo Møllersøe Vinther	University of Copenhagen	DK

Determine the impact of  
**Arctic sea ice melting** on  
climate and possible melting  
of **Greenland ice sheet**

<https://ice2ice.b.uib.no/>

12 500 000 €



- "Effects of phosphorus limitations on Life, Earth system and Society"*

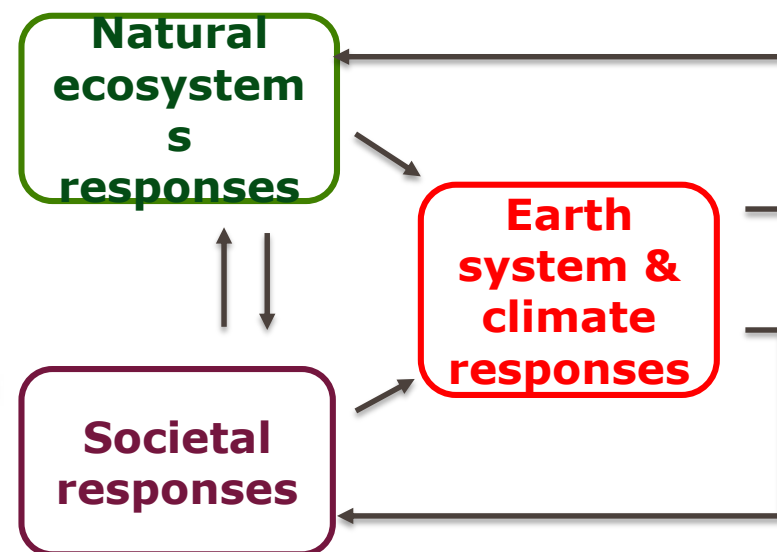
Josep Penuelas	Centro de Investigacion Ecologica y Aplicaciones Forestales	ES
Michael Obersteiner	International Institute for Applied Systems Analysis	AT
Ivan Janssens	Universiteit Antwerpen	BE
Philippe Ciais	Université de Versailles Saint- Quentin-en-Yvelines	FR

"Quantify the **responses of ecosystems** and society in a world increasingly rich in N and C but **limited in Phosphorus**"

<http://imbalancep-erc.creaf.cat/>



13 600 580 €

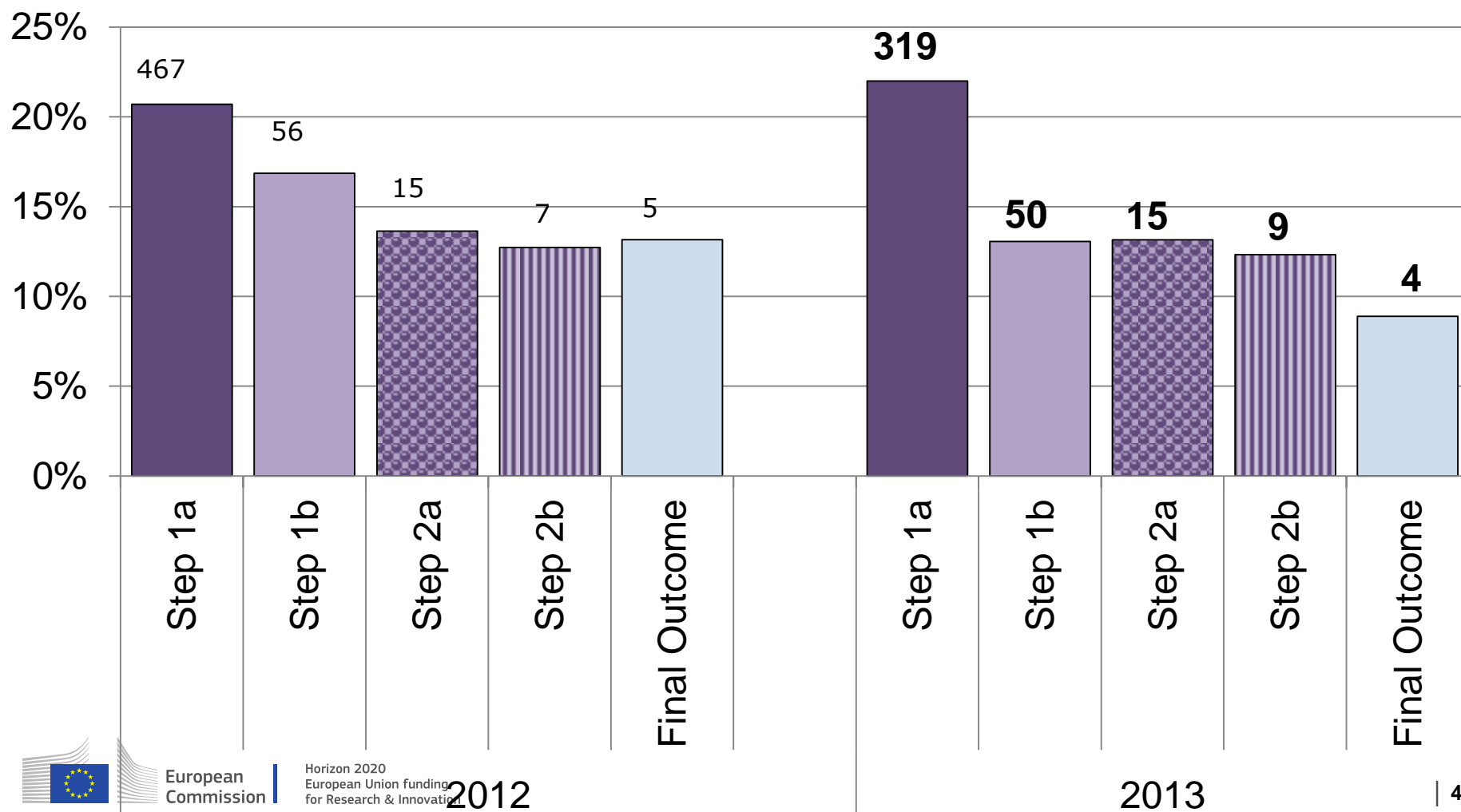


# SyG 2012-2013: Female participation by all stages for all PIs



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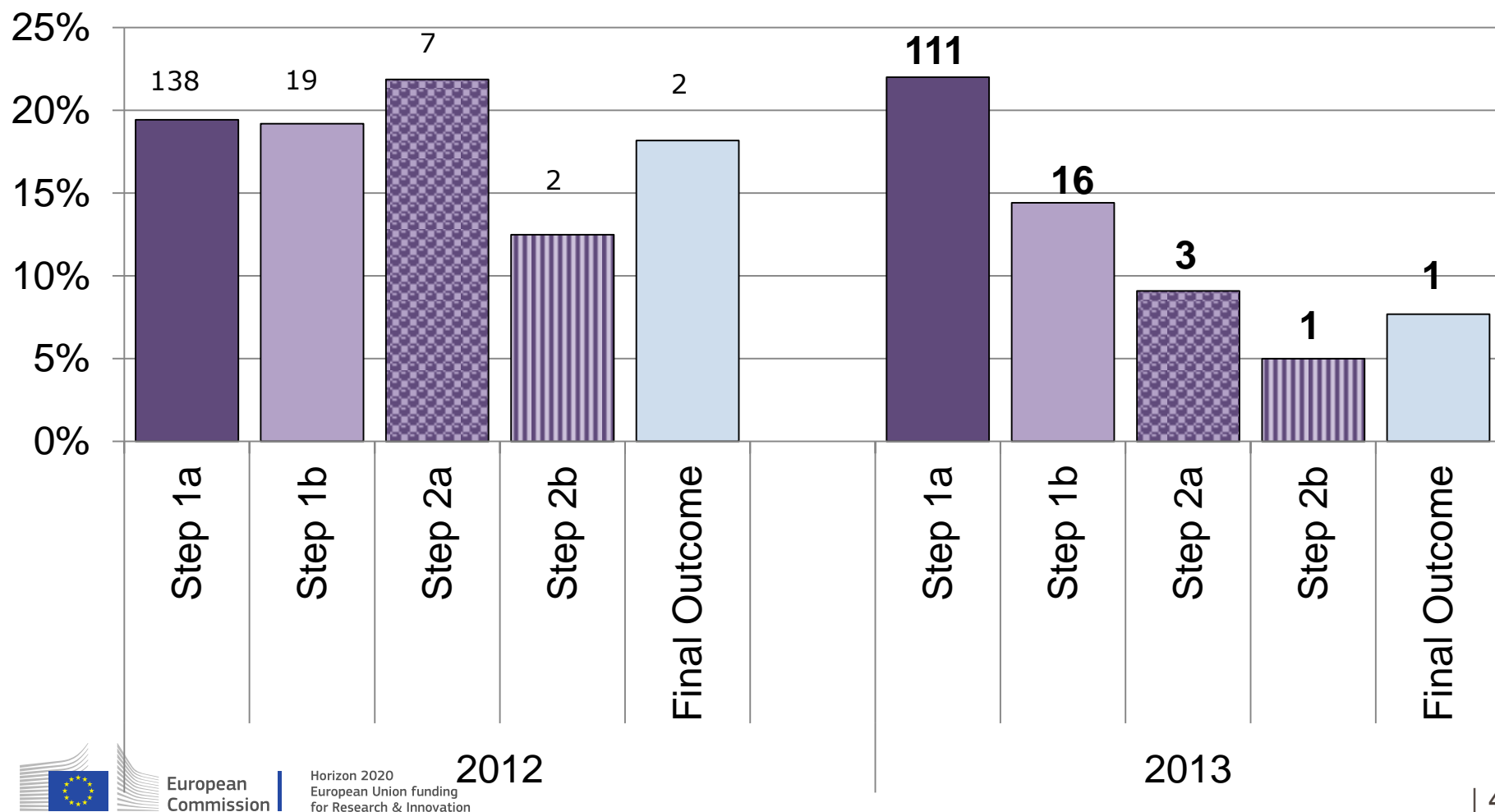


# SyG 2012-2013: Female participation by stages (Corresponding PI)



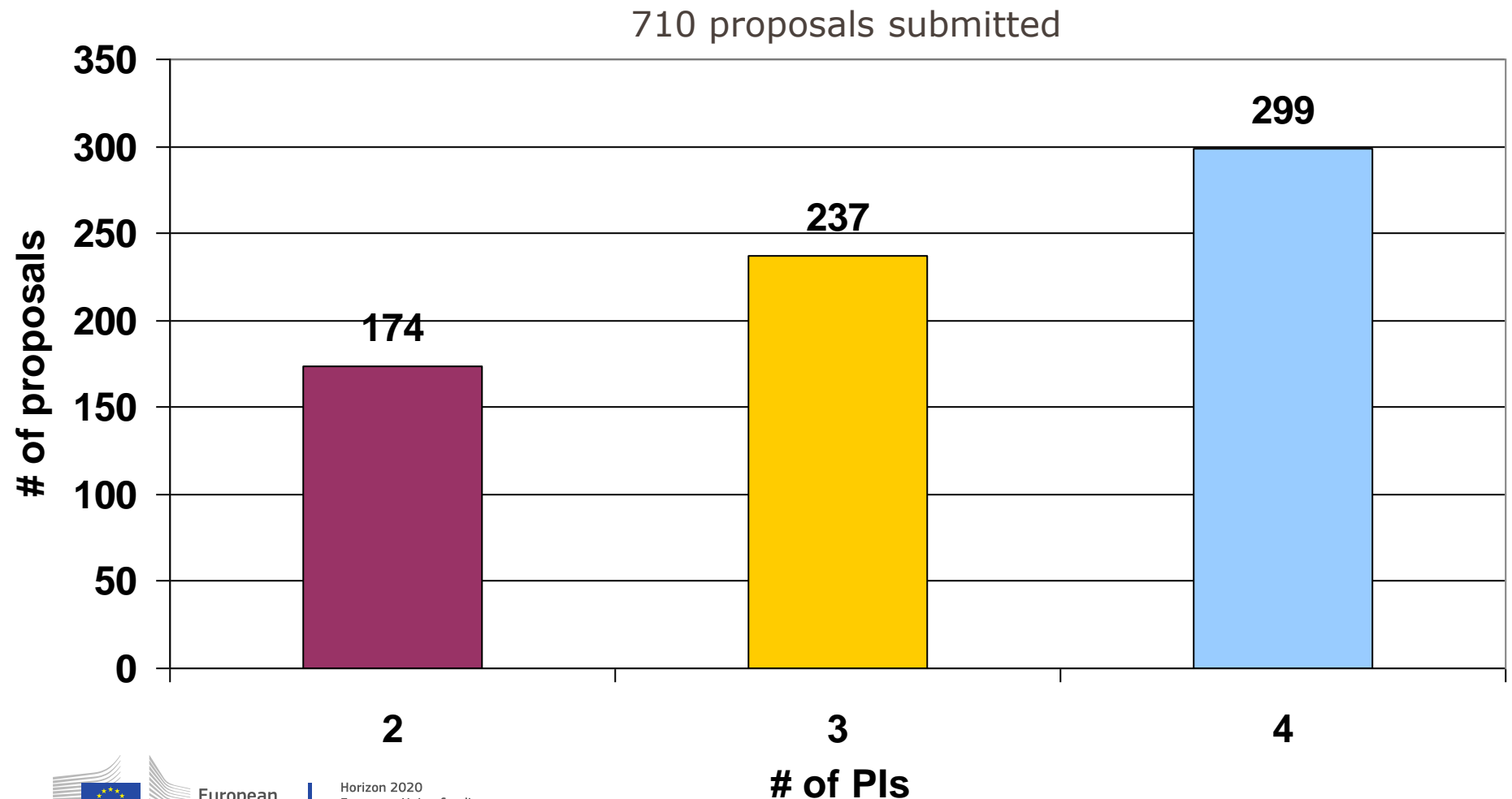
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# SyG 2012: Overview submissions

## Distribution of proposals by number of PIs



# Synergy Call 2013: overview submissions

## Grouping of proposals by Host Institutions (HIs)



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