

ACM SIGCOMM 2018

ERC Networking 2018



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ERC and Its Funding Opportunities

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ERC Scientific Council

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Outline



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- Introduction
- ERC Mission and Structure
- ERC Funding Opportunities
- ERC International Strategy
- ERC Next Challenges
- Conclusion

ERC Mission and Structure

ERC Mission

**ERC created
in 2007**



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To raise the level, dynamism and creativity of the whole European research system by:

- Supporting the emergence of research leaders in Europe capable of opening new avenues in their disciplines and of training and inspiring others
- Improving the career prospects of early stage researchers in Europe so as to reduce brain drain and promote institutional change
- Providing a benchmark for all of Europe's national research authorities and individual institutions encouraging further efforts, reforms and investments, thereby sustaining structural reforms across Europe

What is the ERC?

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

Strategy

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

Legislation

- Scientific governance: **independent Scientific Council** with 22 members including the ERC President; **full authority over funding strategy and evaluation**
- Support by the **ERC Executive Agency** (autonomous)
- **Scientific quality** as the only criterion aiming for excellence

Creative Freedom to Individual Grantee

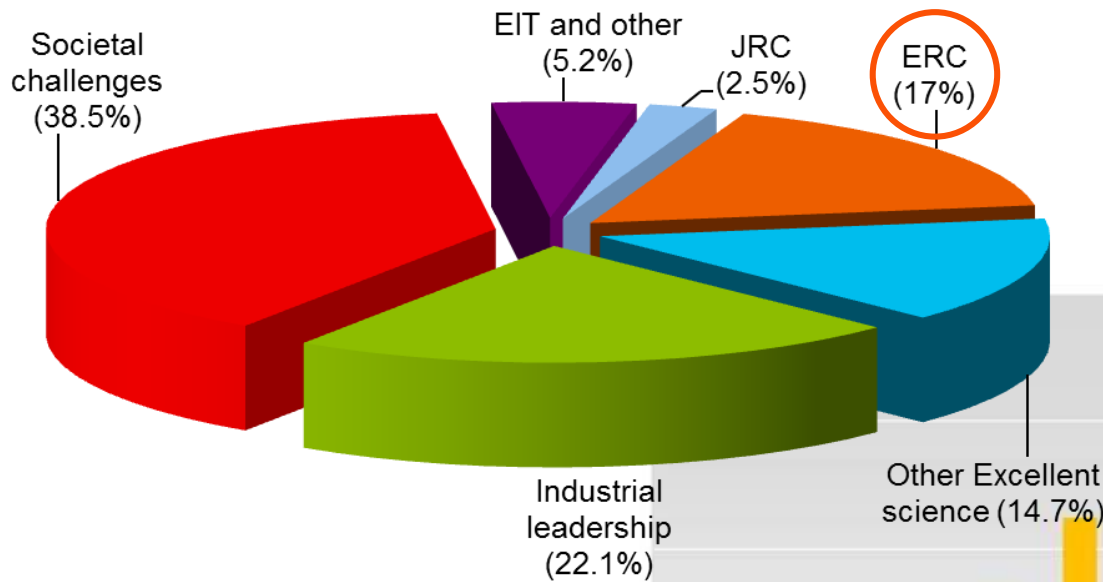


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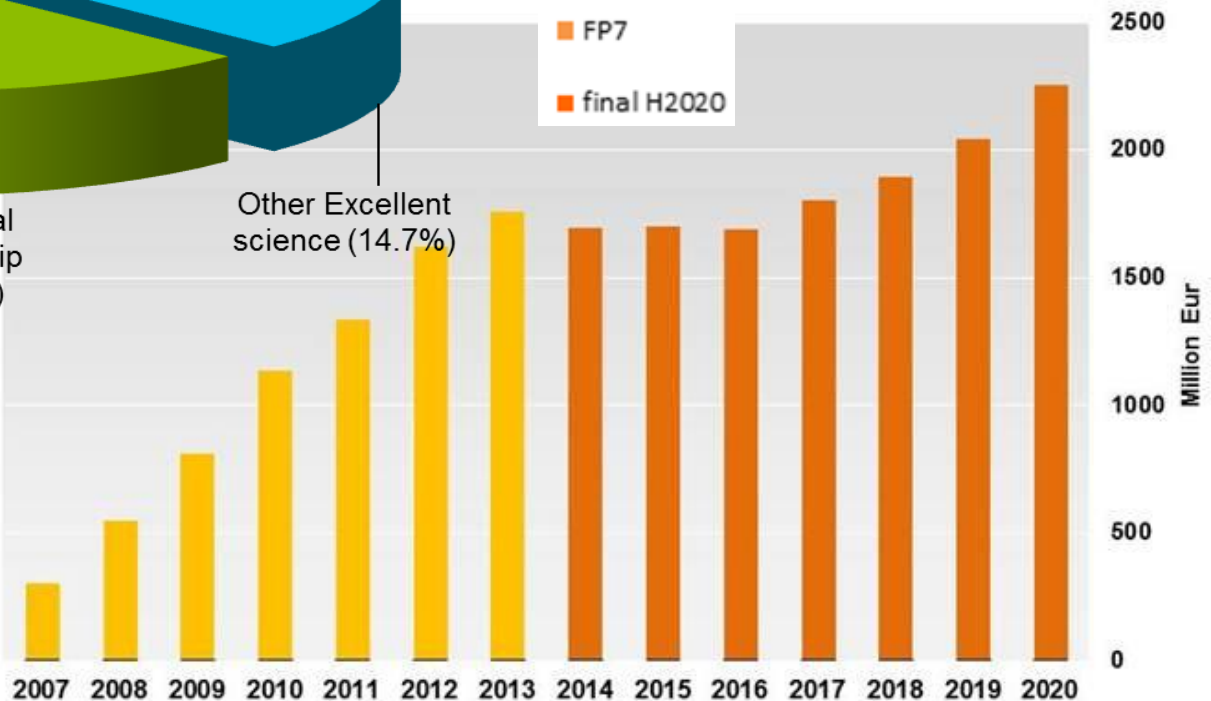
ERC offers independence, recognition & visibility

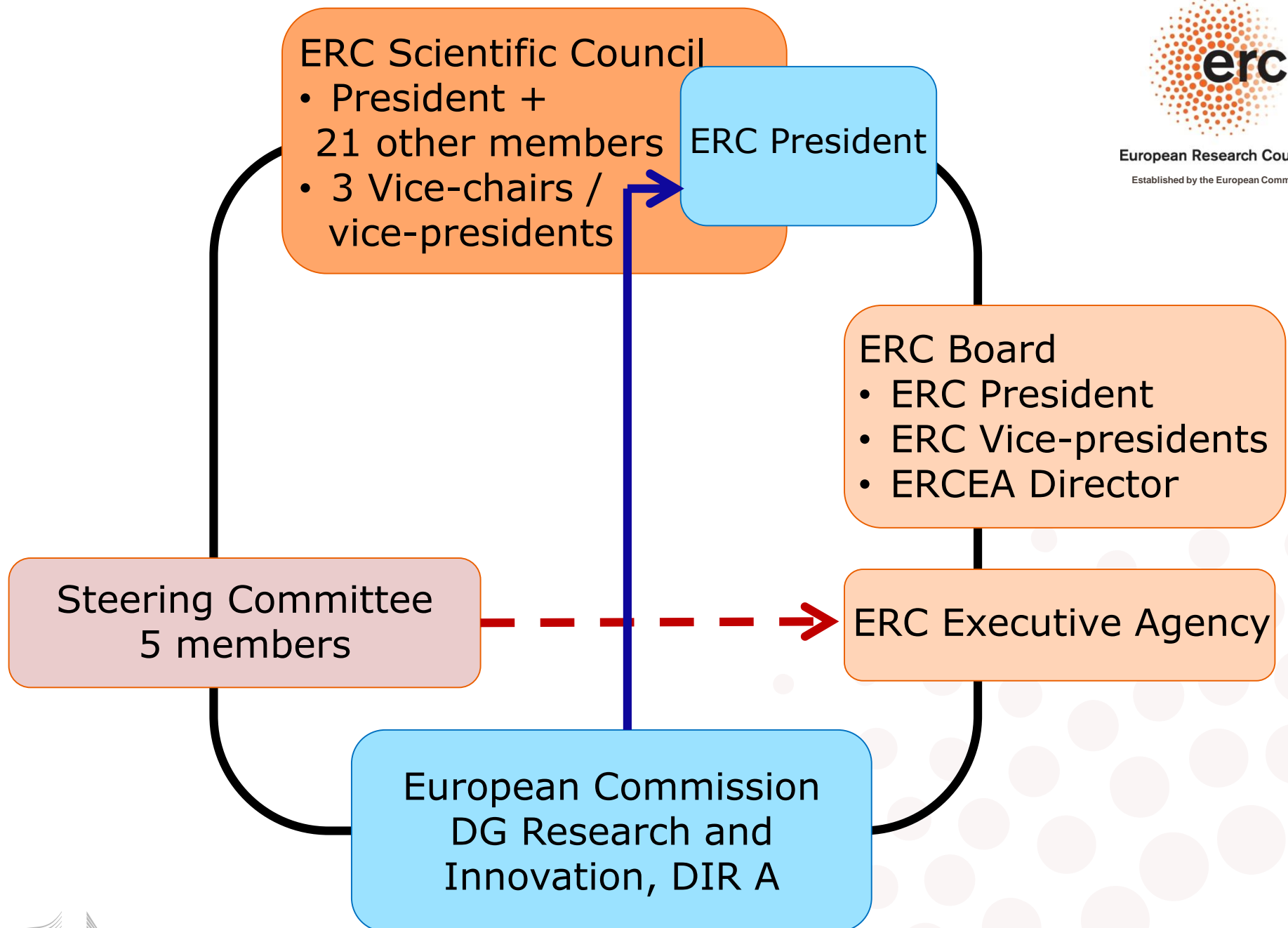
- to work on a research topic of **own choice**, with a team of **own choice**
- to gain true **financial autonomy** for 5 years
- to negotiate with the host institution the **best conditions** of work
- to attract **top team members** (EU and non-EU) **and collaborators**
- to move with the grant to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

ERC H2020 Budget



**ERC Budget
€ 13 billion**





ERC Scientific Council

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Jean-Pierre

Vice-President



BOCK Klaus

Vice-President



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Vice-President



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Paola



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MEHLHORN Kurt



ROMANOWICZ
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Chr.



SUPERTI-FURGA
Giulio



TAVERNARAKIS
Nektarios



THORNTON
Janet



VERNOS Isabelle



VEUGELERS
Reinhilde



WIEVIORKA
Michel



ZWIRNER Fabio



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ERC Funding Opportunities

ERC Grant Schemes

Starting Grants

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

Consolidator Grants

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

Advanced Grants

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

Proof-of-Concept

bridging gap between research –
earliest stage of marketable
innovation up to €150 k
for ERC grant holders

Synergy Grants

2 – 4 Principal Investigators
up to € 10.0 M for 6 years



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ERC International Strategy

ERC International Strategy

- The ERC operates on a bottom-up basis without predetermined priorities. Researchers from anywhere in the world can apply for ERC grants provided that the research they undertake will be carried out in an EU Member State or Associated Country
- Overall, among the over 7,000 ERC-funded researchers, 621 are non-EU nationals (from 38 countries), which represent 8% of all ERC grantees

ERC International Strategy (2)



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- Additional funding is available to cover 'start-up' costs for scientists moving to Europe
 - up to €500 000 for Starting grantees
 - up to €750 000 for Consolidator grantees
 - up to €1 000 000 for Advanced grantees
- Dual affiliation is possible: ERC grantees are required to spend 50% of their time in Europe

Attracting Researchers to Europe



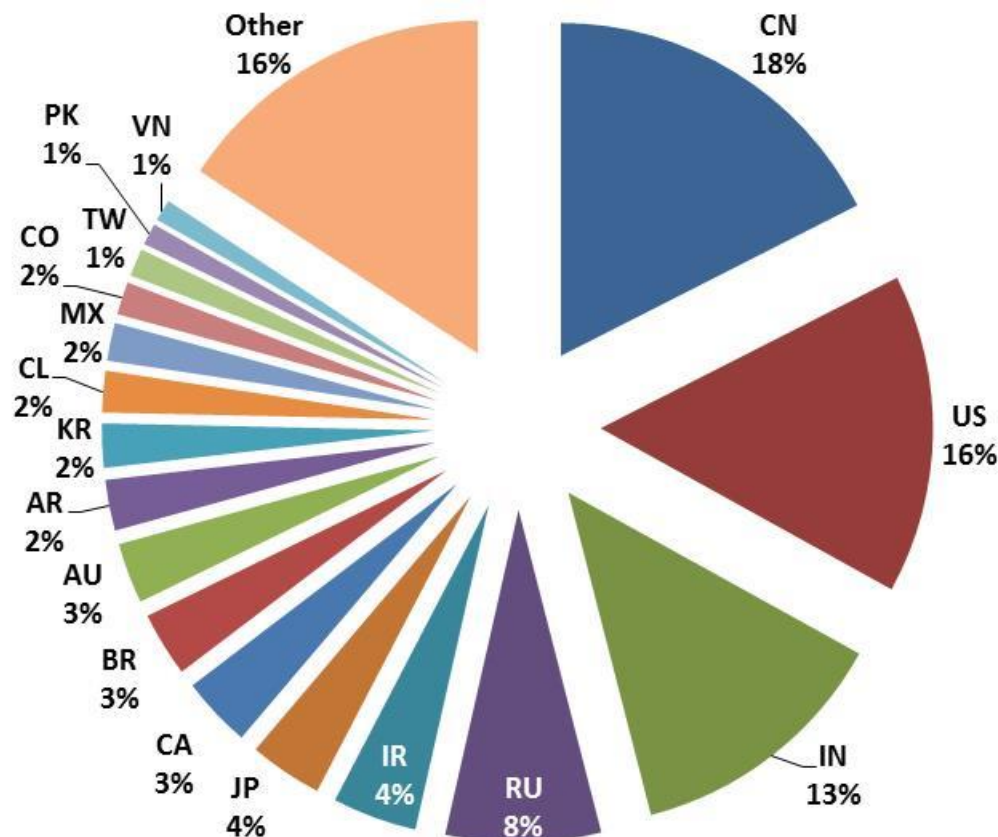
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Nationality of ERC project teams (PIs not included)
Analysis of **1,901** Starting and Advanced Grants

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**





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ERC Delivers

After More than 10 Years, a Success Story

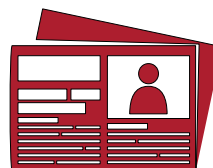


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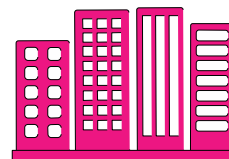
Over **8,500**
top researchers funded since
the ERC's creation in 2007



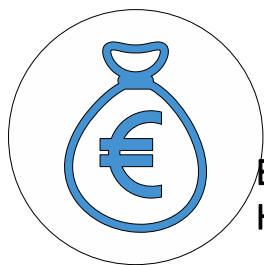
Over **90,000**
articles from ERC projects published
in prestigious scientific journals



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



> 750 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



76
nationalities of
grant holders

Distribution of ERC Grants by Panel

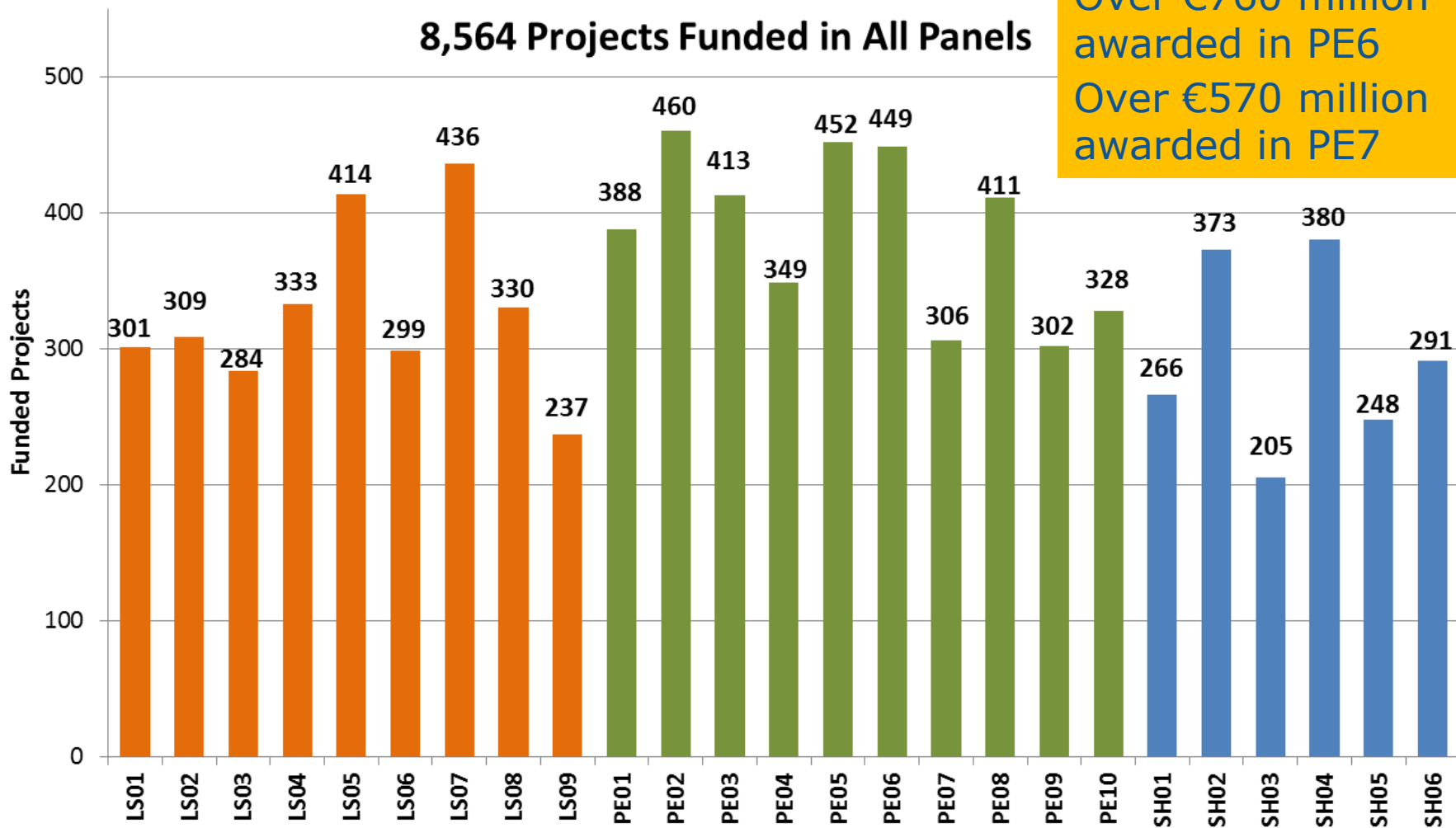


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8,564 Projects Funded in All Panels

Over €760 million
awarded in PE6
Over €570 million
awarded in PE7

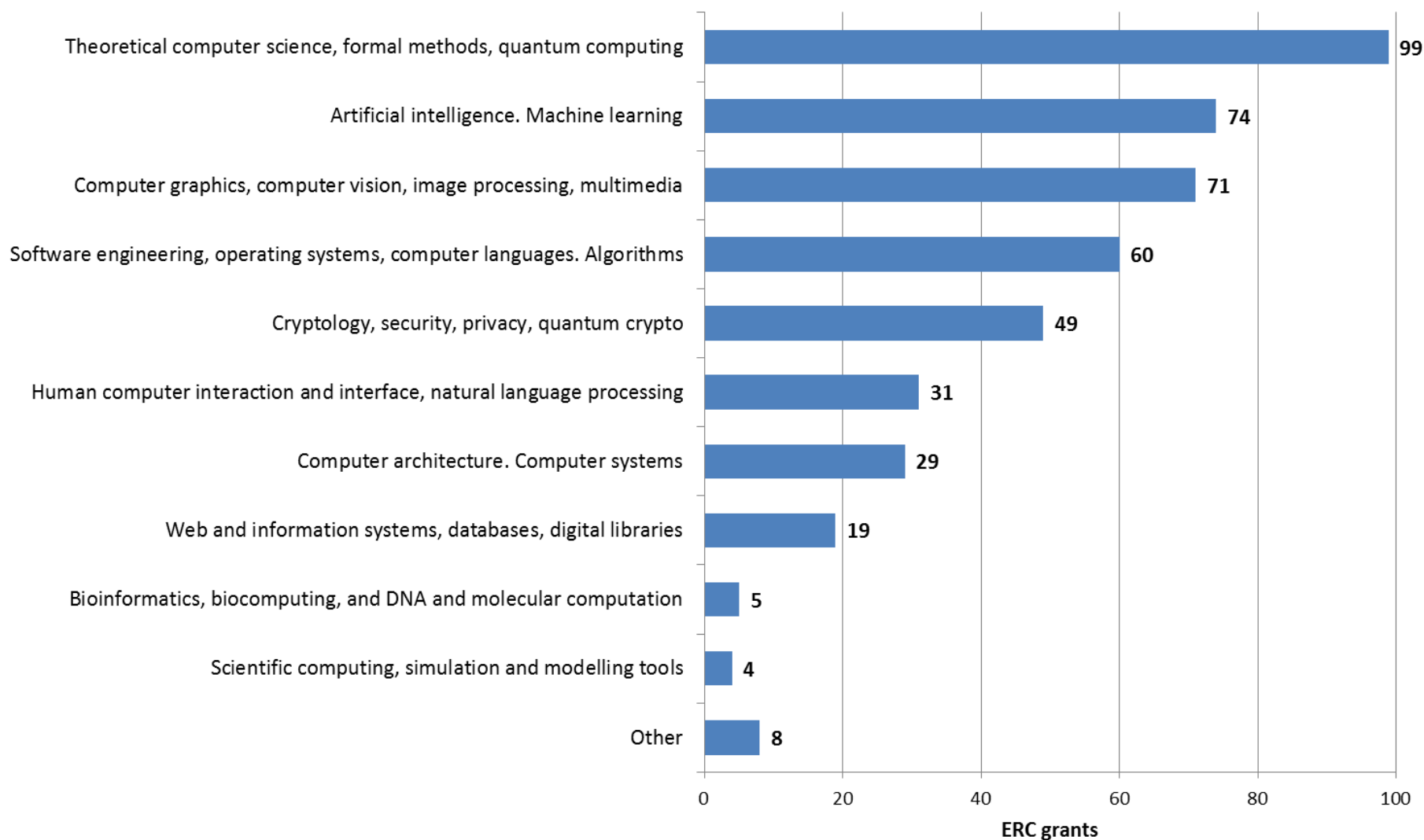


ERC-Funded Research in Panel PE6

■ PE6 Computer Science and Informatics



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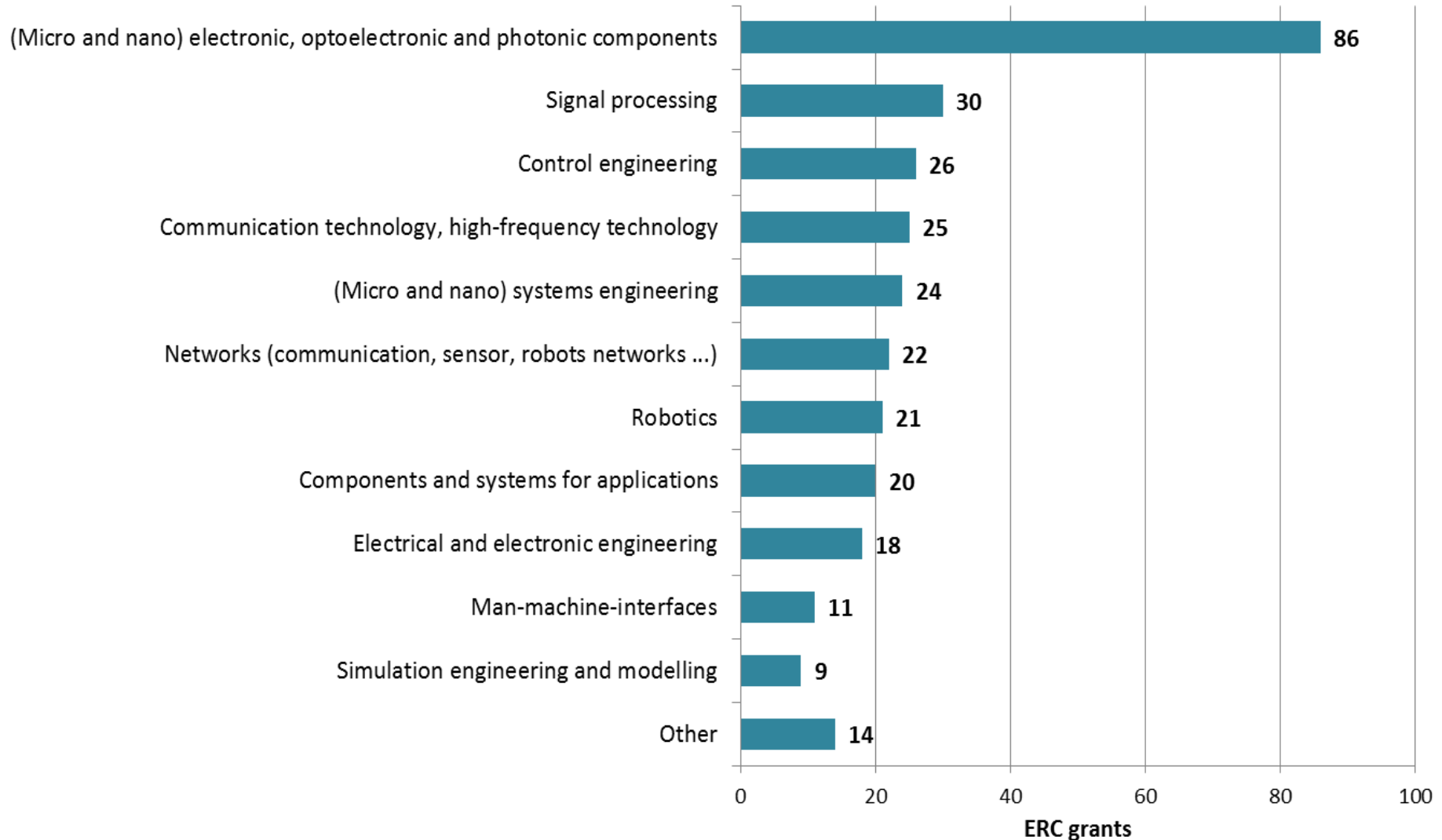


ERC-Funded Research in Panel PE7

■ PE7 Systems and Communication Engineering



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Nobel Prize to ERC grantees



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The Nobel Prize in Chemistry 2016 was awarded jointly to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa *"for the design and synthesis of molecular machines"*.



Bernard Feringa
Nobel 2016

ERC Grantee
AdG 2008

ERC Grantee
AdG 2015



May-Britt Moser
Nobel 2014

ERC Grantee
AdG 2010



Edvard Moser
Nobel 2014

ERC Grantee
AdG 2008

ERC Grantee
AdG 2013



Jean Tirole
Nobel 2014

ERC Grantee
AdG 2009

The Nobel Prize in Economic Sciences 2014 was awarded to Jean Tirole *"for his analysis of market power and regulation"*.



Serge Haroche
Nobel 2012

ERC Grantee
AdG 2009



Konstantin Novoselov
Nobel 2010

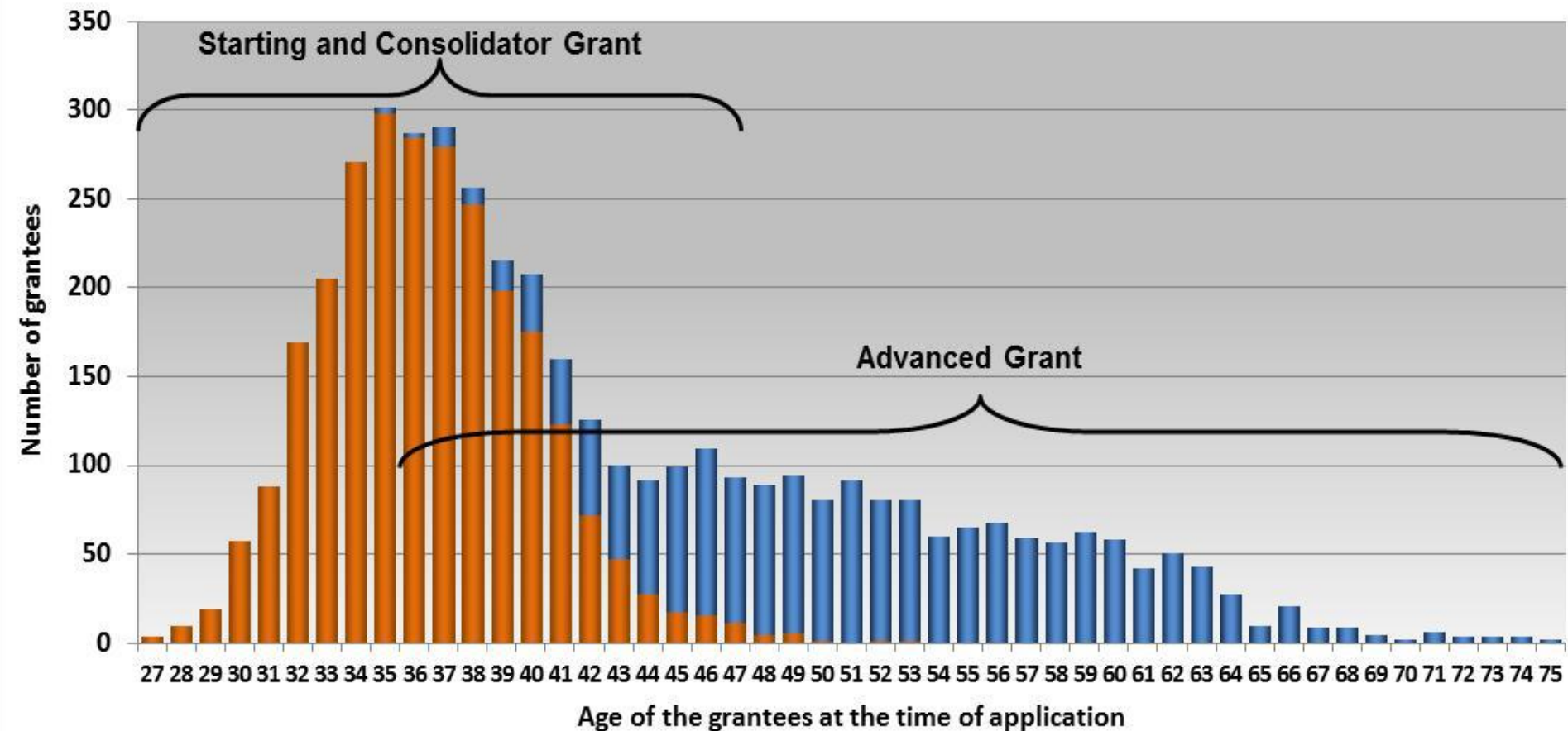
ERC Grantee
StG 2007

ERC Grantee
SyG 2012

The Nobel Prize in Physiology or Medicine 2014 was awarded to May-Britt Moser and Edvard Moser, together with John O'Keefe, *"for their discoveries of cells that constitute a positioning system in the brain"*.

- **2** other ERC grantees received the Nobel prize in **2010** and **2012**
- Other **7** ERC grantees were already Nobel laureates at the moment they received the ERC grant

Priority to Young Scientists



ERC 2007-2013

ERC World Best Major Research Funder



ERC

EU-28

Global

Papers

• 40,422

4,632,786

13,161,879

Category normalised citation impact

2.46

1.12

1.00

Number of papers in the world's top 1%

• 1,956

52,350

131,619

Papers in the world's top 1% as a percentage of total output

4.8%

1.1%

1.0%

Papers in the world's top 10% as a percentage of total output

27.4%

10.7%

10.0%

Percentage of papers involving international collaboration

59.2%

40.5%

22.4%



Clarivate Analytics

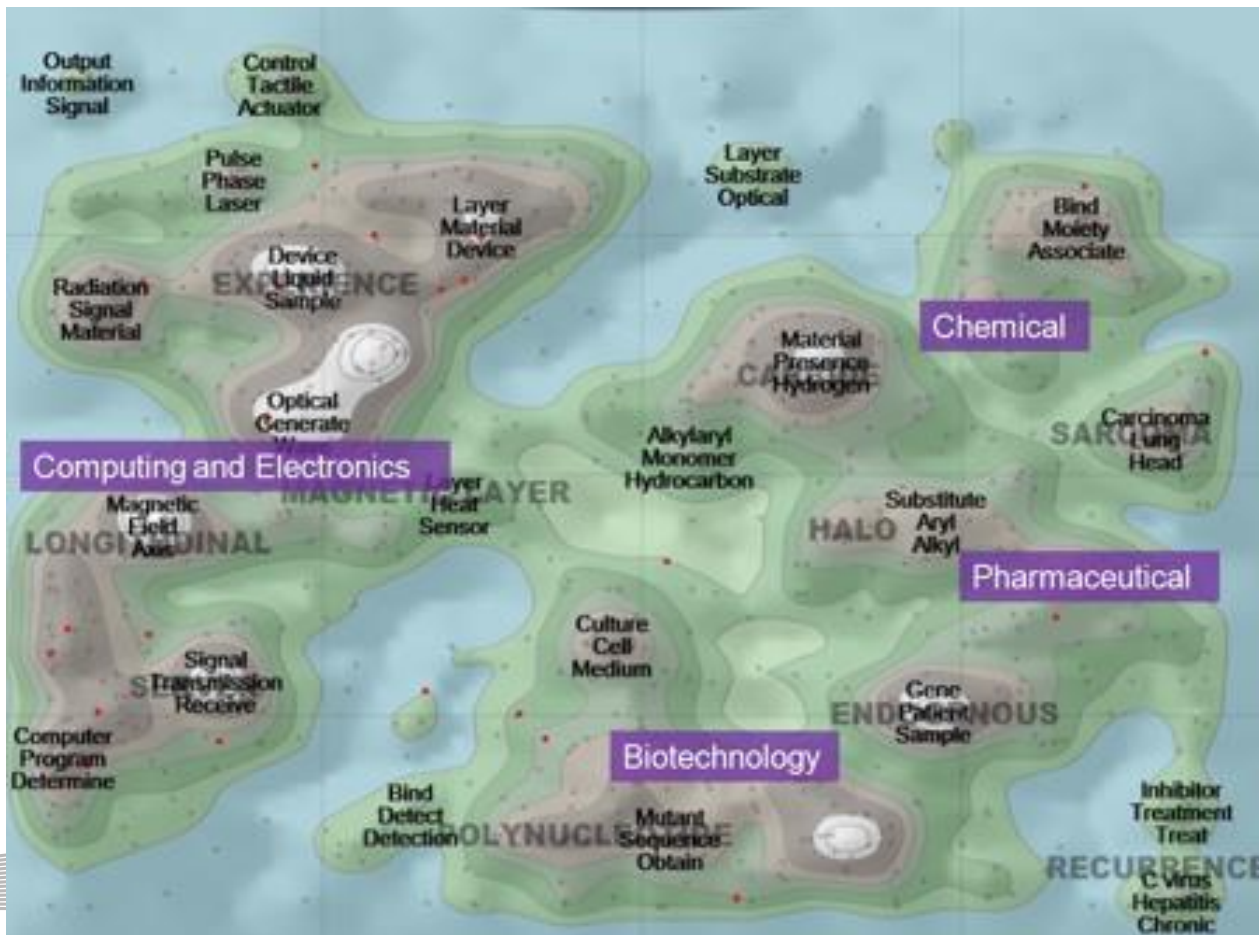
ERC. The first 10 years 2017

Frontier Research Leads to Innovation



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With 17% of the budget of the 7th Framework Programme (FP7), the ERC accounts for 29% of FP7-funded patent filings (>800)



**Thematic
concept map of
ERC supported
inventions**



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ERC Next Challenges

The EC Proposal for Horizon Europe



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2 May 2018 the European Commission adopted its proposal for the next EU long-term budget

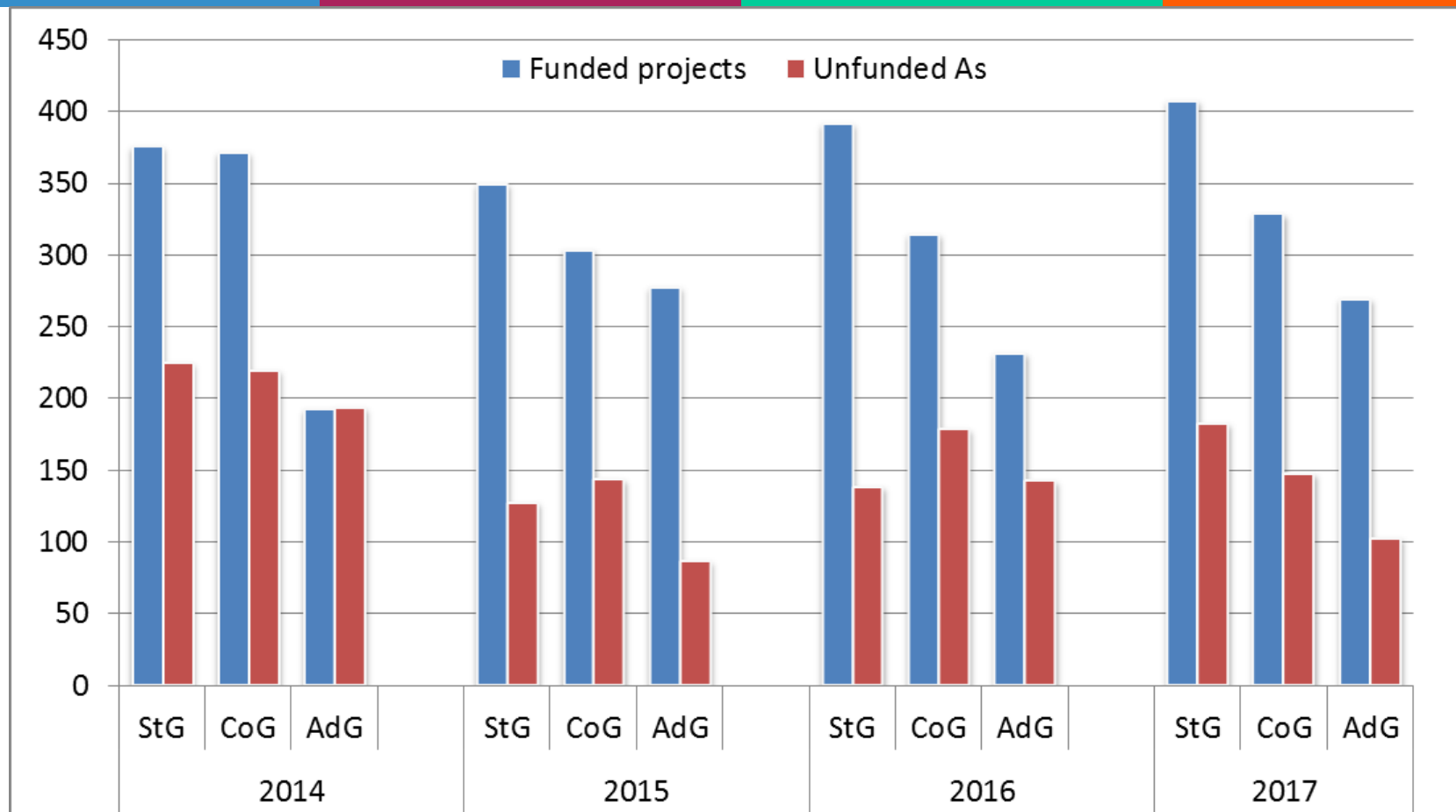
6 June 2018 the European Commission adopted its proposal for Horizon Europe

For the next long-term EU budget 2021-2027, the Commission is proposing **100 billion €** for **Horizon Europe**, the framework programme for research and innovation, of which **16.6 for ERC**

Need for Budget Increase: More Talent to Fund



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With a higher budget, ERC could fund many more excellent projects across Europe



Conclusion:

EC Key Messages on FP9



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Invest more ambitiously

Continue simplification

Support breakthrough innovation

Create more impact through mission-orientation and citizens' involvement

Increase synergies with other EU funding programmes and EU Policies

Strengthen international cooperation

Reinforce openness

Rationalise the funding landscape

← With Brexit looming EU Commissioners have not signalled intention to consider a budget below current levels

← ERC, EIC

← Missions

Source: COM(2018) 2 Final of 11.1.2018, "Horizon 2020 interim evaluation: maximising the impact of EU research and innovation"

← Mainly via missions and EIC

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**Thank you
very much
for your
attention!**

