# THE EUROPEAN RESEARCH COUNCIL

erc

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European Commission | Horizon 2020 European Union funding for Research & Innovation

**Research Funding Opportunities, 28 January 2020**

# What is ERC?

European Research Council
Established by the European Commission

**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

## Legislation

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

## Strategy

➢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

European Commission
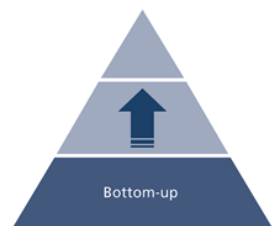
# ERC H2020 Budget
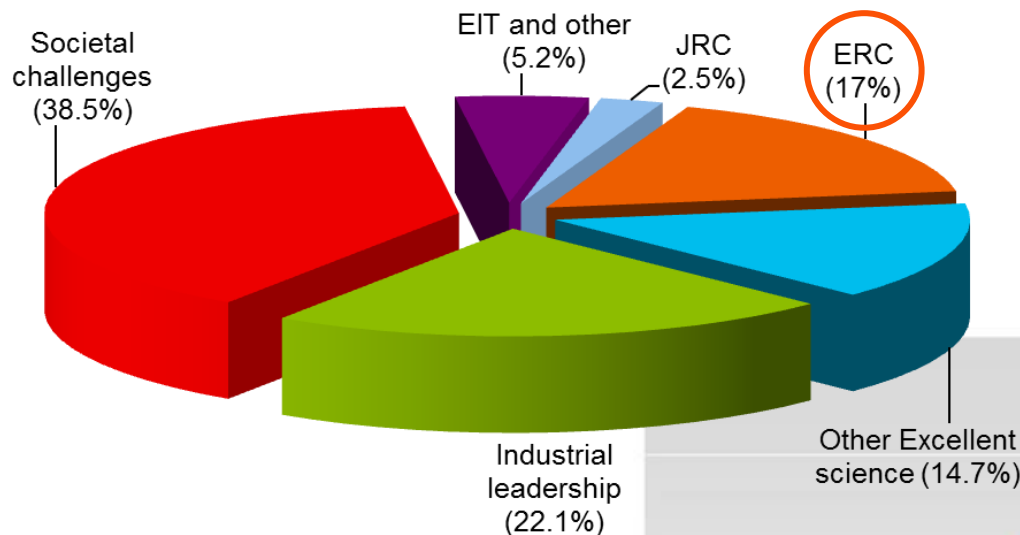


## ERC Budget
## € 13 billion

For 2020, the budget is more than 2.25 billion euros, the highest ever since the beginning of the ERC.

Pie chart labels:
- Societal challenges (38.5%)
- EIT and other (5.2%)
- JRC (2.5%)
- ERC (17%)
- Other Excellent science (14.7%)
- Industrial leadership (22.1%)

Bar chart legend:
- FP7
- final H2020

Bar chart axis: Million Eur

Years: 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

# Scientific Governance by the Scientific Council

# ERC Basics

# Creative Freedom to Individual Grantee

## 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

# Funding Structure
*ERC Grant schemes*

**Starting (StG)**

**2-7 years after PhD**

*up to € 1.5m (+1m)*
*for up to 5 years*

**Consolidator (CoG)**

**7-12 years after PhD**

*up to € 2m (+1m)*
*for up to 5 years*

**Advanced (AdG)**

**significant research achievements (last 10y)**

*up to € 2.5m (+1m)*
*for up to 5 years*

**Proof-of-Concept**
to bridge the gap between research & the earliest stage of marketable innovation

*Lump sum €150,000* <u>for ERC grant holders</u>

**Synergy**
to address ambitious research problems jointly, enabling transformative research
*2 – 4 Principal Investigators*
*up to € 10m (+4m) for up to 6 years*
*NEW from 2019 – 1 PI can be based outside EU/AC*

# Reasons for Additional budget

*„Additional funding up to the amounts set out in the table below can be requested in the proposal to cover the following eligible costs when these are necessary to carry out the proposed work:*

(a) *"start-up" costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant and/or*

(b) *the purchase of major equipment and/or*

(c) *access to large facilities and/or*

(d) *other **major experimental and field work costs**, excluding personnel costs."* (**WP2020**, page 22)

# Evaluation Panel Structure (WP2020)

**Covering all areas of science – descriptors are not priorities**
**Each panel: Panel Chair and 12-16 panel members**

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## 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

**WP 2021**: Contours of panels redefined, descriptors enriched (especially LS), two new panels (PE11, SH7)

## 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

European Commission

# What is the ERC looking for?

**Frontier of science, scholarship and engineering, i.e.**

✓ Multi- or interdisciplinary proposals which cross boundaries between different fields of research,

or

✓ Pioneering proposals addressing new and emerging fields of research,

or

✓ Proposals introducing unconventional, innovative approaches and scientific inventions.

# Evaluation of proposals
## *Excellence* is the sole evaluation criterion

- **Excellence of the Research Proposal**
  - ✓ Ground breaking nature
  - ✓ Ambition
  - ✓ Feasibility
  - ✓ *Synergy Grants*: goes beyond what PIs could do alone? Combination of scientific elements crucial to address scope and complexity of problem?

- **Excellence of the Principal Investigator**
  - ✓ Intellectual capacity
  - ✓ Creativity
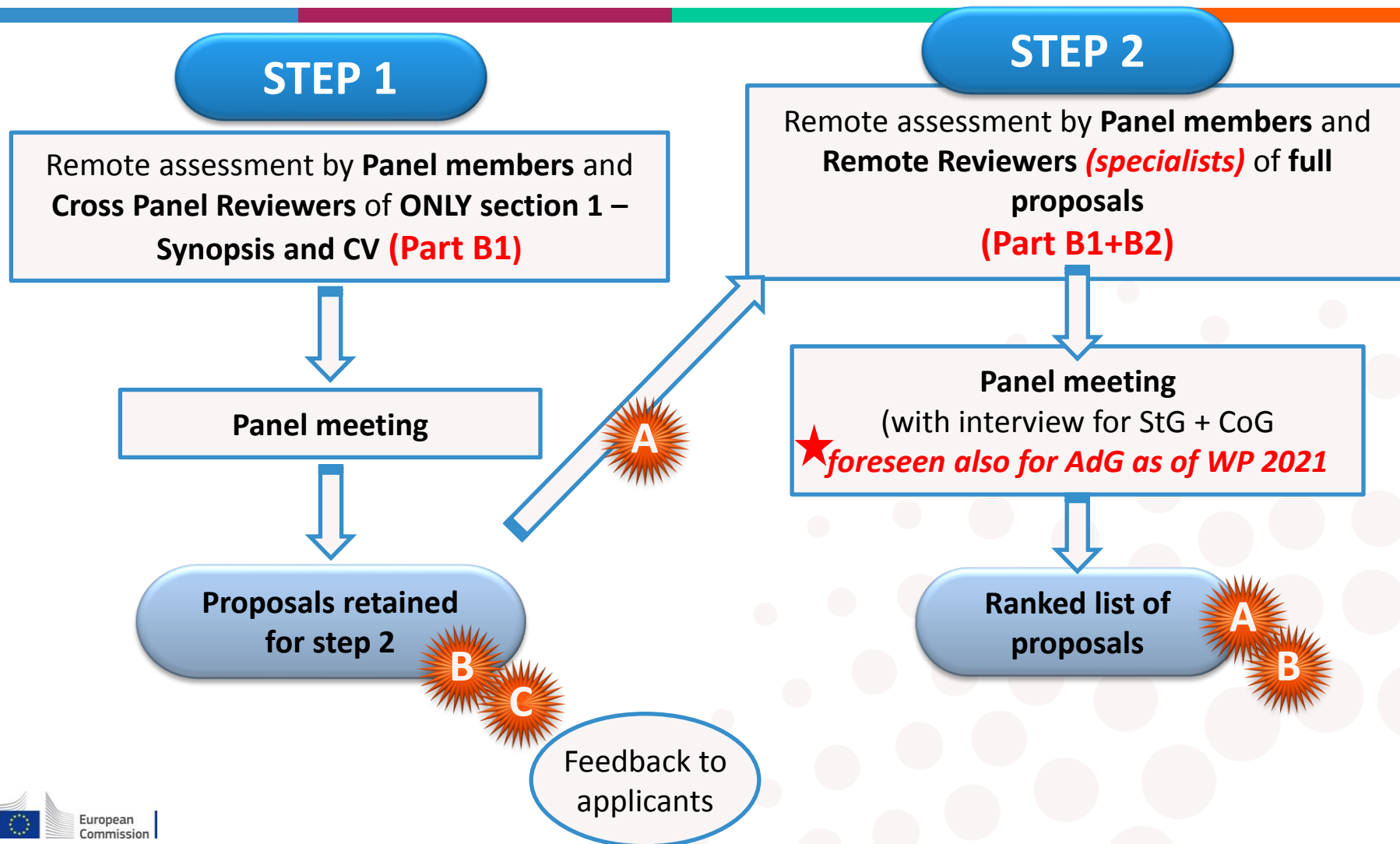  - ✓ *Synergy Grants:* Group brings together necessary elements?

# Evaluation process
## (StG, CoG, AdG)

**STEP 1**

Remote assessment by **Panel members** and **Cross Panel Reviewers** of **ONLY section 1 – Synopsis and CV** **(Part B1)**

↓

**Panel meeting**

↓

**Proposals retained for step 2**

**B**  **C**

*Feedback to applicants*

**STEP 2**

Remote assessment by **Panel members** and **Remote Reviewers** *(specialists)* of **full proposals** **(Part B1+B2)**

↓

**Panel meeting** (with interview for StG + CoG ★ *foreseen also for AdG as of WP 2021*

↓

**Ranked list of proposals**

**A**  **B**

**A**

# **Preparing your proposal:**
## **Part B1** – **5 pages + CV and track record**

- Project: innovative? new aspects/solutions/theories?

- Current state of play? Know your competitors.

- Beyond the state of the art VS incremental?

- Highlight the high-risk & high-gain character!

- Goals realistic? Risk mitigation?

- Concise and clear: also for generalists!

- Coherence of proposed project?

- Feasibility (scientific approach)

# Preparing your proposal:
## Part B2 15 pages + CV and track record

- Do not repeat the synopsis

- Extensive methodology and work plan

- Go into more detail with the state of the art

- Provide strategies to mitigate risks

- Explain involvement of team members

- Justify requested resources

- Ask funding for Open Access (mandatory)

# Preparing your proposal: Choosing your panel

Descriptors are not exhaustive, not a classification

Any topic/field is equally welcome, whether mentioned in panel structure or not

Descriptors and free keywords used by panel chair to assign reviewers – choose carefully

If crosspanel proposal: reviewers from both panels used. Explain why proposal is crosspanel (part B1)

# In a nutshell (1/2)

- Be ambitious and "daring", think big; panels are instructed to seek out high-risk/high gain research

- Grab interest and attention of reviewers

- Remember: Part B1 seen by "generalists" (panel members)

- If you make it to Step 2, reviewers (incl. "specialists" - external) see **both** B1 and B2 - do not repeat B1 in B2

- Do not include unnecessary partners and collaborators; it is not supposed to be a "consortium"

- Get agreement from collaborators to be named in proposal

# In a nutshell (2/2)

- For interviews:

  - → Get panel members interested in you and what you are doing

  - → Practice thoroughly; typically a 5-10 minute presentation + 20-25 minutes of questions

  - → Panels want to see that these are *your* ideas, not those of your supervisor

  - → It is normal to be nervous…

# **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.
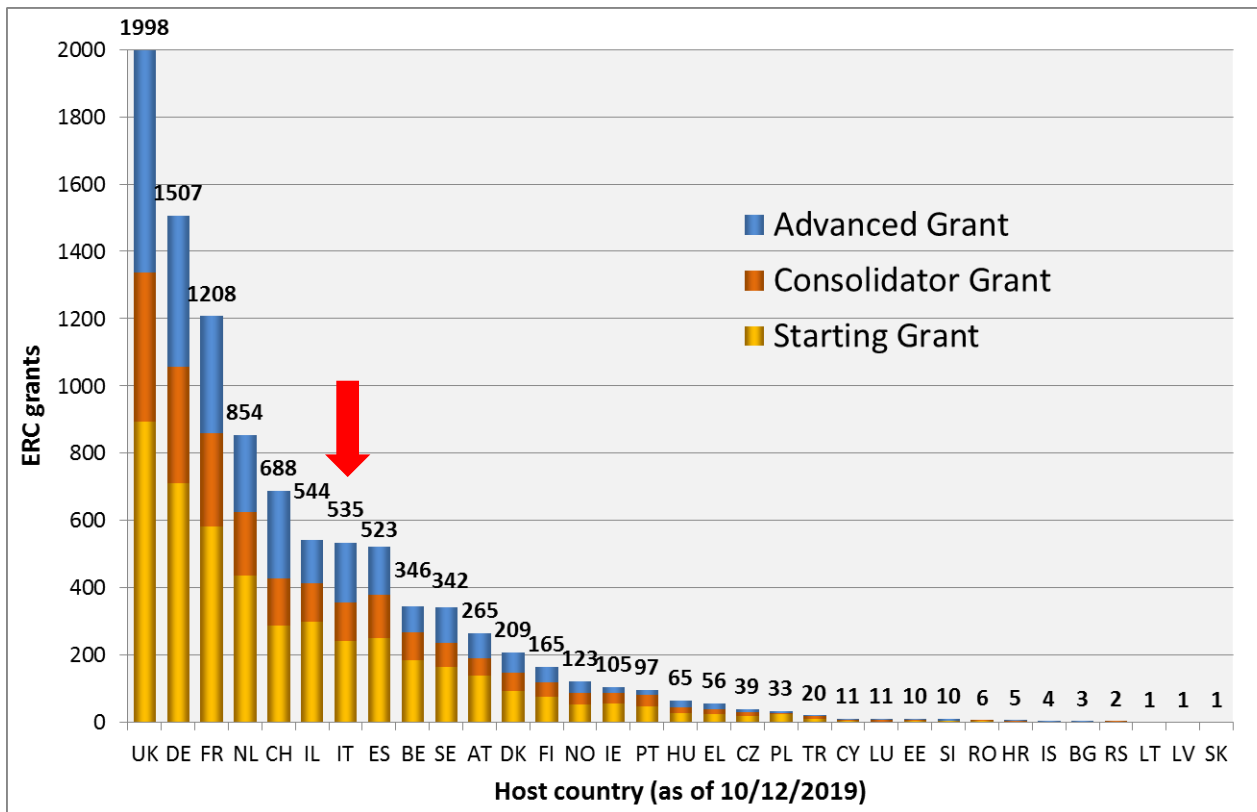- ✓ The Host Institution is not an evaluation criterion.

# Key points…

➢ Proposals shorter than five years/below max. budget are equally welcome. The project needs determine the budget.

➢ Quality/potential of applicant is evaluated in view of concrete career stage and local conditions (access to facilities etc.).

➢ Already having an ERC grant does not guarantee obtaining another one; each proposal is evaluated on its own merit.

➢ Resubmissions have a significantly higher success rate. Feedback from panels is valuable to advance own research

➢ Look at funded projects in your area (search tool on ERC website), testimonials, tutorials, previous panel composition

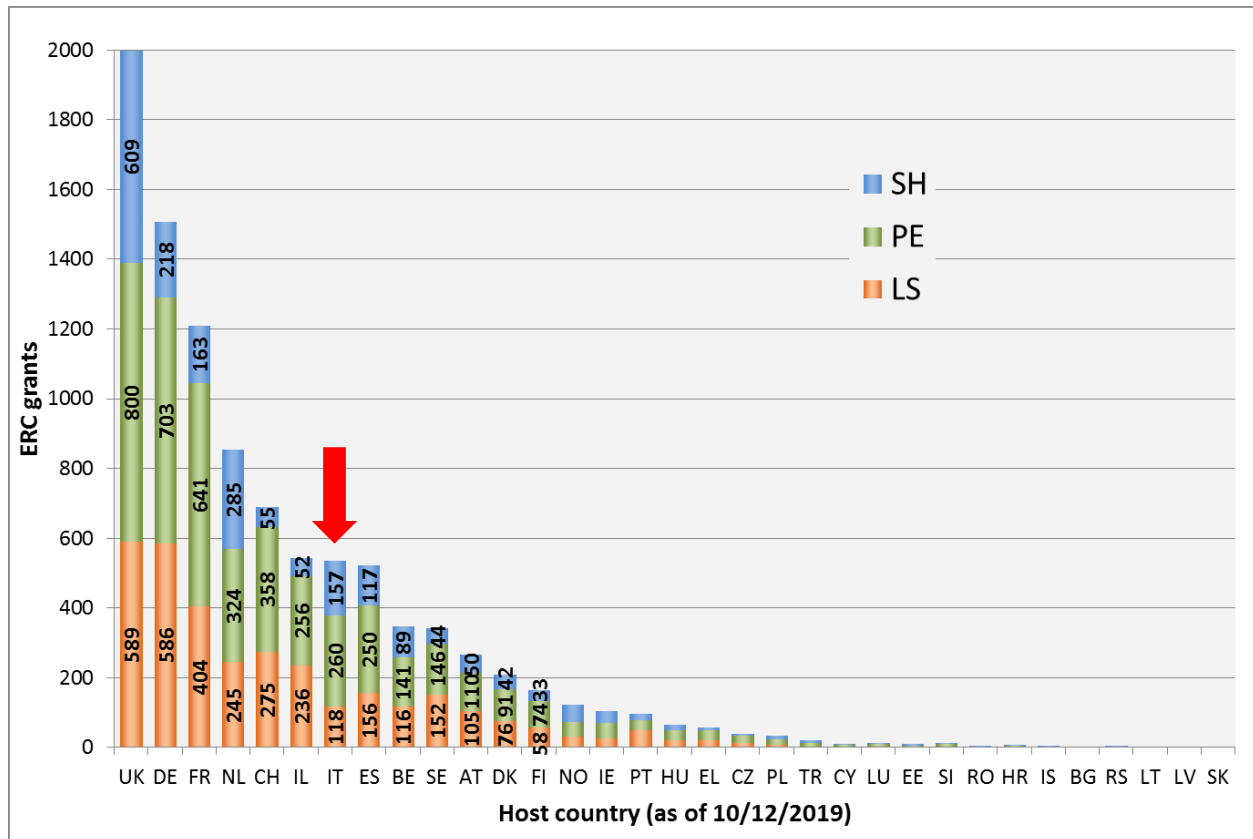# ERC Grants in Italy
## By funding scheme

# ERC Grants in Italy
## By scientific area

# Grantees at Home and Abroad



51 foreign grantees in Italy
484 Italian grantees in Italy
428 Italian grantees abroad

ERC 2007-2018 calls + StG2019 + CoG2019
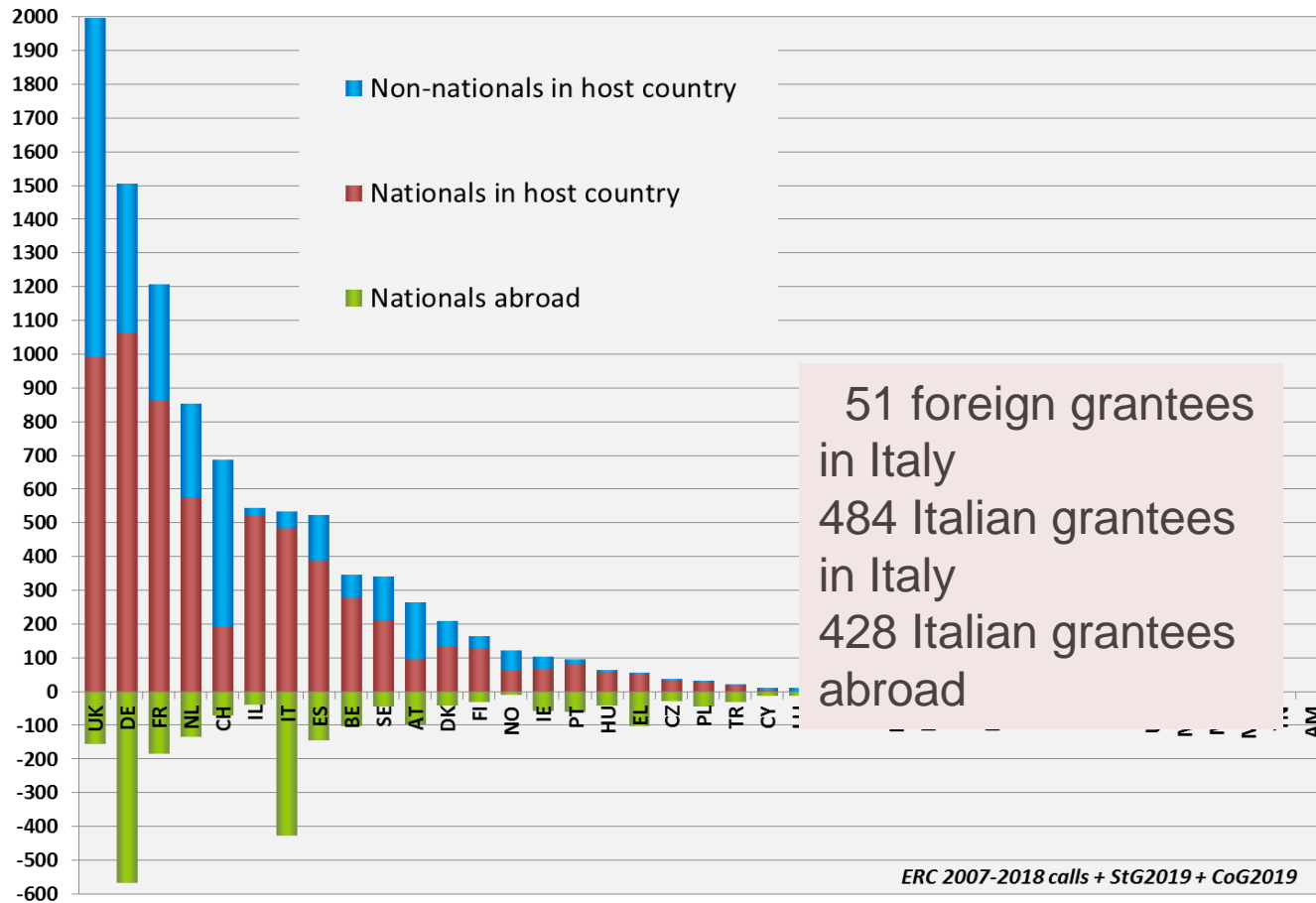
# Success rate in ERC calls



Success rate (2007-2018 + StG and CoG 2019)
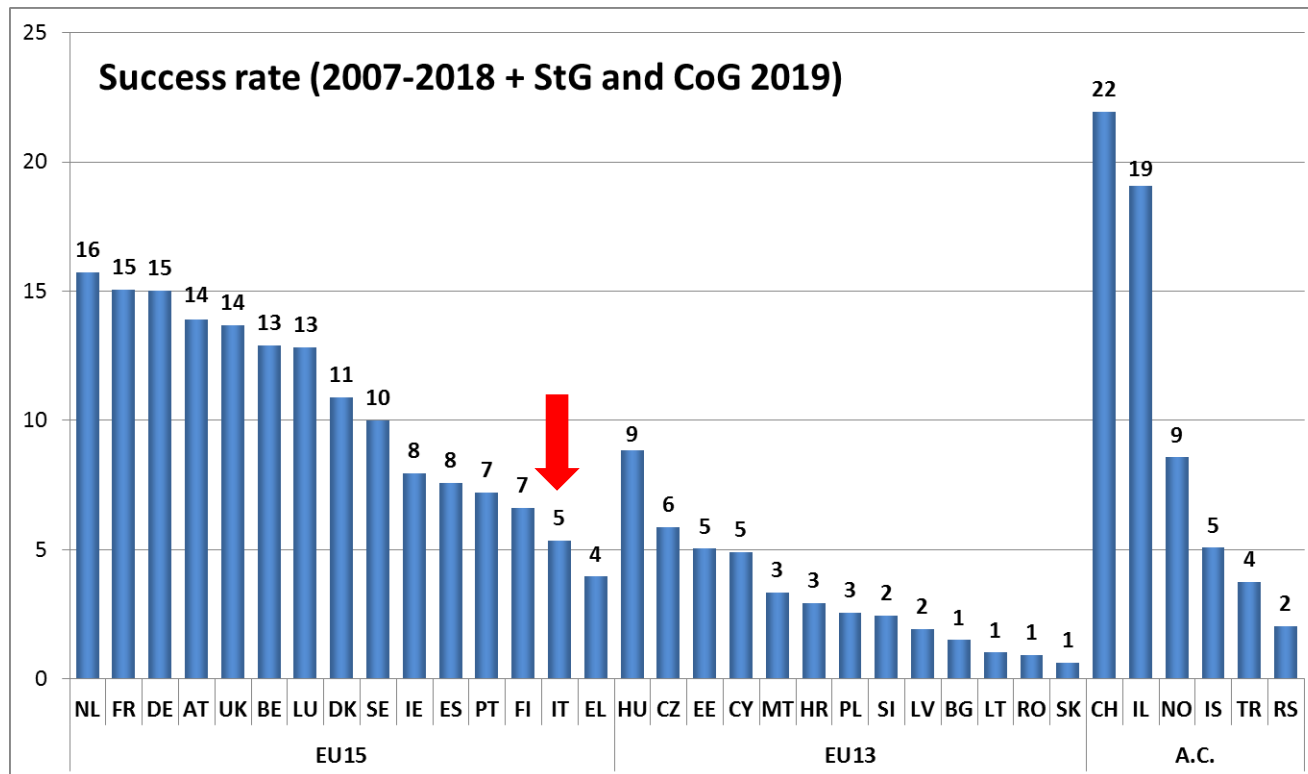
# Success Rates by Domain



ERC calls 2007-2018 + StG and CoG 2019

LS
PE
SH

success rate

Country of Host Institution

AT BE BG CH CY CZ DE DK EE EL ES FI FR HR HU IE IL IS IT LT LU LV MT NL NO PL PT RO RS SE SI SK TR UK ALL
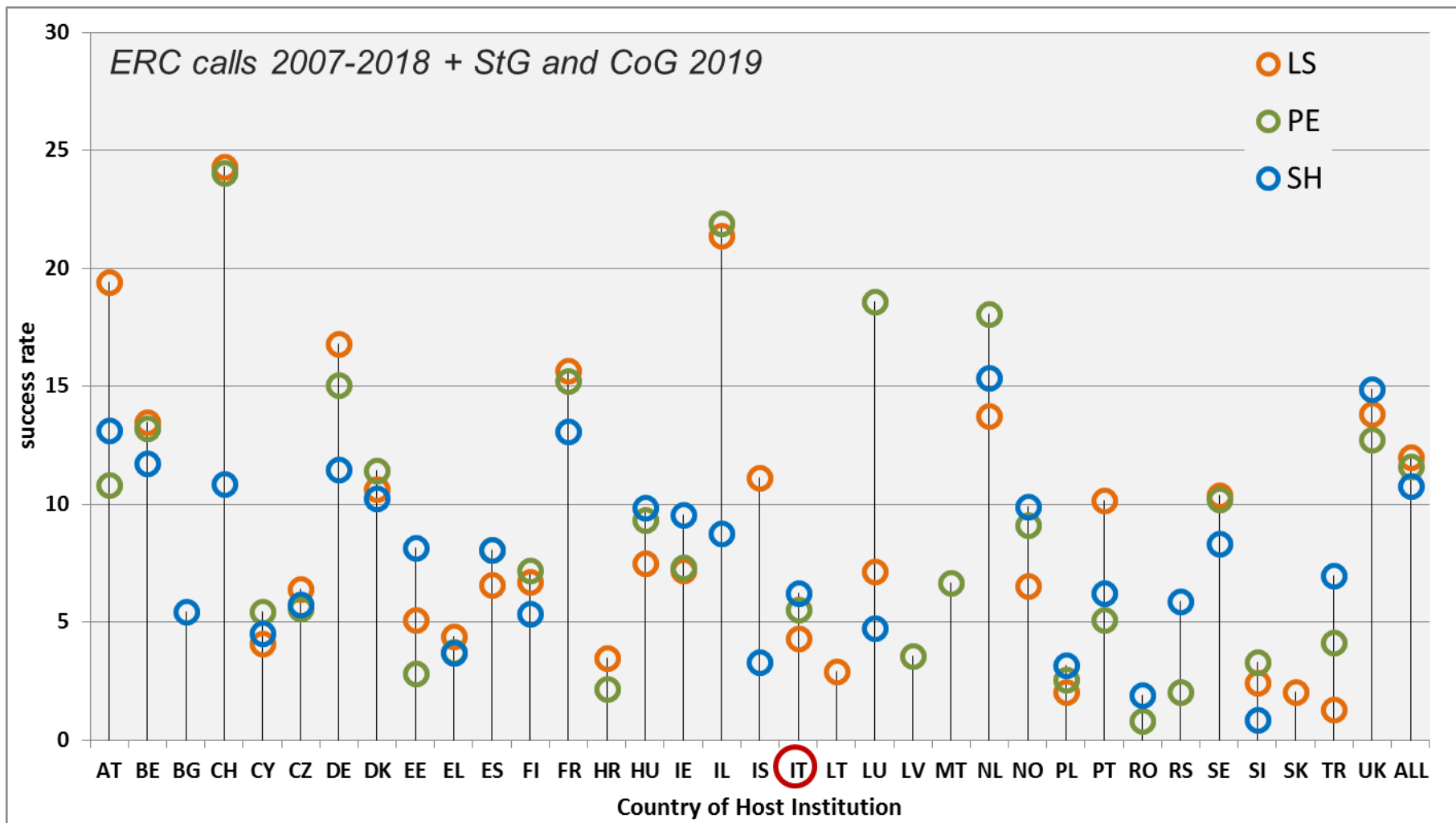
# Top Host Institutions in Italy



Current Host Institutions (data as of 10/12/2019)

Chart data (StG, CoG, AdG, PoC):

| Institution | StG | CoG | AdG | PoC |
|---|---|---|---|---|
| University of Roma - La Sapienza | 16 | 2 | 16 | 4 |
| Bocconi University Milan | 18 | 3 | 14 | |
| Polytechnic University of Milan | 6 | 10 | 8 | 10 |
| Italian Institute of Technology | 16 | 10 | 2 | 6 |
| University of Padua | 16 | 12 | 3 | 1 |
| University of Milan | 6 | 10 | 11 | 4 |
| National Research Council (CNR) - Italy | 15 | 6 | 4 | 5 |
| University of Trento | 13 | 2 | 8 | 6 |
| International School for Advanced Studies - Trieste | 7 | 6 | 8 | 2 |
| University of Bologna | 9 | 5 | 5 | 1 |
| European University Institute | 7 | 2 | 10 | |

# What is an ERC PoC?

- ➢ Support for initial steps to turn research outputs into a commercial or socially valuable proposition

- ➢ A 150.000€ /18 months grant with the objective to verify the innovation potential of an idea

- ➢ Only ERC grantees are eligible to apply

# Evaluation PoC criteria

1.  **Excellence in innovation potential**
    - Analysis whether expected outcomes are innovative or distinctive as compared to existing solutions

2. **Impact**
    - Ability to generate benefits to economy, society, culture, public policy, services

3. **Quality & efficiency of implementation**
    - Sound project management plan; demonstrate qualification of persons; appropriate resources

# Call dates – Work Programme 2020

| | Starting Grant | Consolidator Grant | Advanced Grant | Synergy Grant | Proof of Concept Grant |
|---|---|---|---|---|---|
| Call identifier | ERC-2020-StG | ERC-2020-CoG | ERC-2020-AdG | ERC-2020-SyG | ERC-2020-PoC |
| Call Opens | 17/07/2019 | 24/10/2019 | 14/05/2020 | 18/07/2019 | 15/10/2019 |
| Call closes (cut-off dates for PoC) | 16/10/2019 | ⭐ 04/02/2020 | ⭐ 26/08/2020 | 05/11/2019 | 21/01/2020 ⭐ 23/04/2020 17/09/2020 |

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# Thank you!

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