



QUANTERA

ERA-NET Cofund in Quantum Technologies

Co-funded Call 2017: 1st stage submission statistics

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Board of Funders
Brussels, 15/05/2017



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 731473.



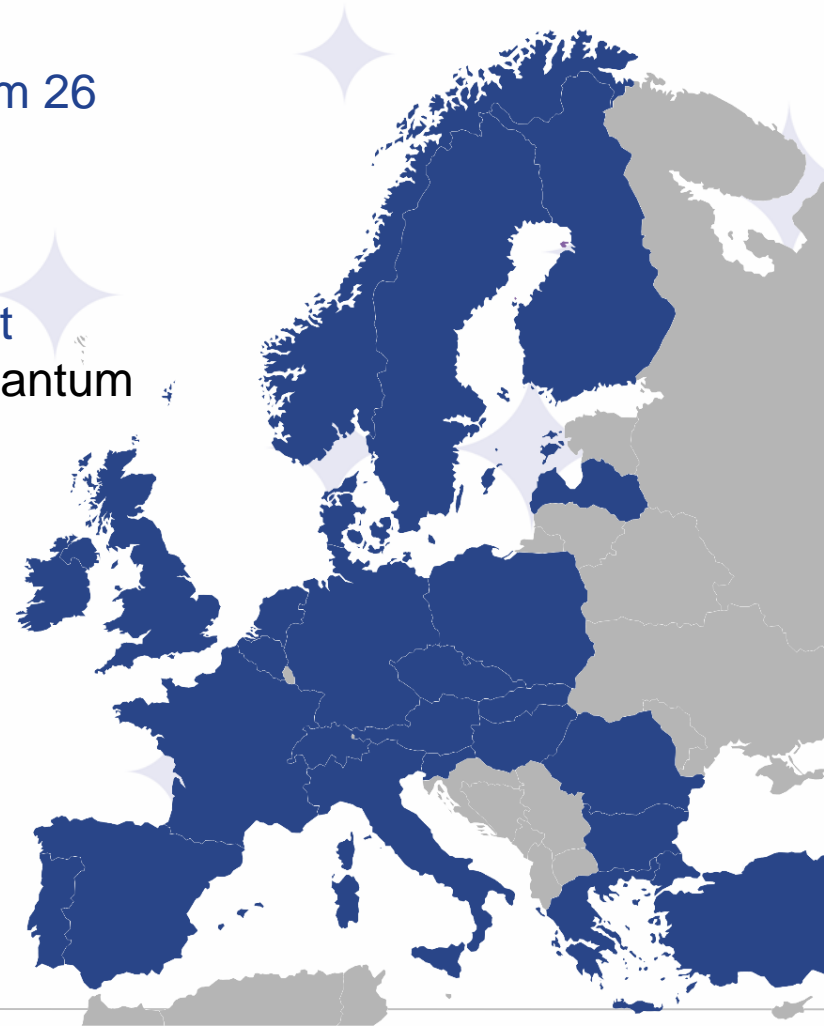


QuantERA Project

- QuantERA is a network of **32 organisations from 26 countries**, coordinated by the National Science Centre, Poland.
- The main goal of QuantERA is to **fund excellent international research projects** in the field of quantum technologies through **joint calls for proposals**.

QuantERA Coordinator

National Science Centre Poland (NCN) is a government agency, supervised by the Ministry of Science and Higher Education, set up in 2011 to support basic research in Poland with an annual budget over 283 M€ and a vigorous programme of international cooperation.





QuantERA Co-funded Call 2017

Scope: Quantum Information and Communication Sciences and Technologies (Q-ICST)

Max. call budget: 34 M€

International consortium: The project consortia must have a minimum of 3 partners requesting funding in at least 3 of the following countries: AT, BE, BG, CH, CZ, DE, DK, ES, FI, FR, GR, HU, IE, IL, IT, LV, NL, NO, PL, PT, RO, SK, SE, SI, TR, UK

Standard consortium size: Three to six partners

TENTATIVE TIMELINE

15th of March 2017, 17:00 CET Deadline for pre-proposal submission

May 2017 Notification of accepted pre-proposals to submit a full proposal

25th of June 2017, 17:00 CET Deadline for full proposal submission

September 2017 Rebuttal stage

October 2017 Notification of accepted proposals



QuantERA Co-Funded Call Target Outcomes

1. Quantum communication

Methods/tools/strategies to deal with the issues of distance, reliability, efficiencies, robustness and security in quantum communication; novel protocols for multipartite quantum communication; quantum memory and quantum repeater concepts.

Novel photonic sources for quantum information and quantum communication, coherent transduction of quantum states between different physical systems; integrated quantum photonics; quantum communication embedded in optical telecommunications systems; other communication protocols with functionality enhanced by quantum effects.

2. Quantum simulation

Platforms for quantum simulation; development of new measurement and control techniques and of strategies for the verification of quantum simulations. Applications of quantum simulations to condensed matter, chemistry, thermodynamics, biology, high-energy physics, quantum field theories, quantum gravity, cosmology and other fields.

3. Quantum computation

Development of devices to realise multiqubit algorithms; demonstration and optimization of error correction codes; interfaces between quantum computers and communication systems. Development of novel quantum algorithms; demonstration of quantum speed-up; new architectures for quantum computation.



QuantERA Co-Funded Call Target Outcomes cont'd

4. Quantum information sciences

Novel sources of non-classical states and methods to engineer such states. Development of device-independent quantum information processing. Methods for the reconstruction and estimation of complex quantum states or channels and certification of their properties. Development of resource theory for quantum information. Study of topological systems for quantum information purposes. Understanding and control of open quantum systems; development of methods to confine dynamics in controllable decoherence-free subspaces. Study of thermodynamics processes at the quantum scale.

5. Quantum metrology sensing and imaging

Use of quantum properties for time and frequency standards, light-based calibration and measurement, gravimetry, magnetometry, accelerometry, and other applications. Development of detection schemes that are optimized with respect to extracting relevant information from physical systems; novel solutions for quantum imaging and ranging. Implementation of micro- and nano- quantum sensors, for instance for quantum limited sensitivity in the measurement of magnetic fields at the nanoscale. Extension of the reach of quantum sensing and metrology to other fields of science including e.g. the prospects of offering new medical diagnostic tools.

6. Novel ideas and applications in quantum science and technologies

Quantum phenomena, such as superposition and entanglement, as means to achieve new or radically enhanced functionalities.

QuantERA Strategic Advisory Board

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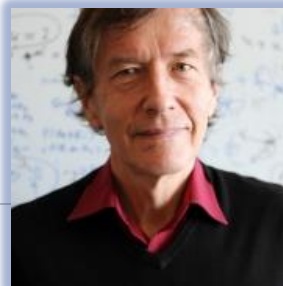
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Labs Europe

Ataç İmamoğlu
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Evaluation criteria

Excellence (threshold: 4/5, weight: 60%)

Compliance with 'FET Gatekeepers'

- i. *Clarity and novelty of long-term vision, and ambition and concreteness of the targeted breakthroughs towards that vision*
- ii. *Novelty, non-incrementality and plausibility of the proposed research for achieving the targeted breakthrough and its foundational character*
- iii. *Appropriateness of the research methodology and its suitability to address high scientific and technological risks*
- iv. *Range and added value from interdisciplinarity, including measures for exchange, cross-fertilisation and synergy*

Impact (threshold: 3/5, weight: 20%)

Extent to which the outputs of the project contribute at the European or international level to: (i) the expected impacts (ii) the transformation of technology and/or society

Quality of the proposed measures to: (i) Exploit and disseminate the project results (incl. management of intellectual property rights), and to manage research data where relevant (ii) communicate the project activities to different target audiences

Quality and efficiency of implementation (threshold: 3/5, weight: 20%)



Widening efforts

QuantERA aims at spreading research excellence in the whole European Research Area. Therefore, proposal consortia are encouraged to include partners from the **widening countries** participating in the call: Bulgaria, Czech Republic, Hungary, Latvia, Poland, Portugal, Romania, Slovakia, Slovenia, and Turkey.

Selection

The selection decision of the projects to be recommended for funding to the national/regional research funding organisations has to follow the ranking list. If at a given rank in the list not all ex aequo proposals can be selected, the following criteria will be considered:

- The output of the call, i.e. the overall funding, should be maximised;
- The projects involving partners from the widening countries should be prioritised;
- If possible, each funding organisation funds at least one project.



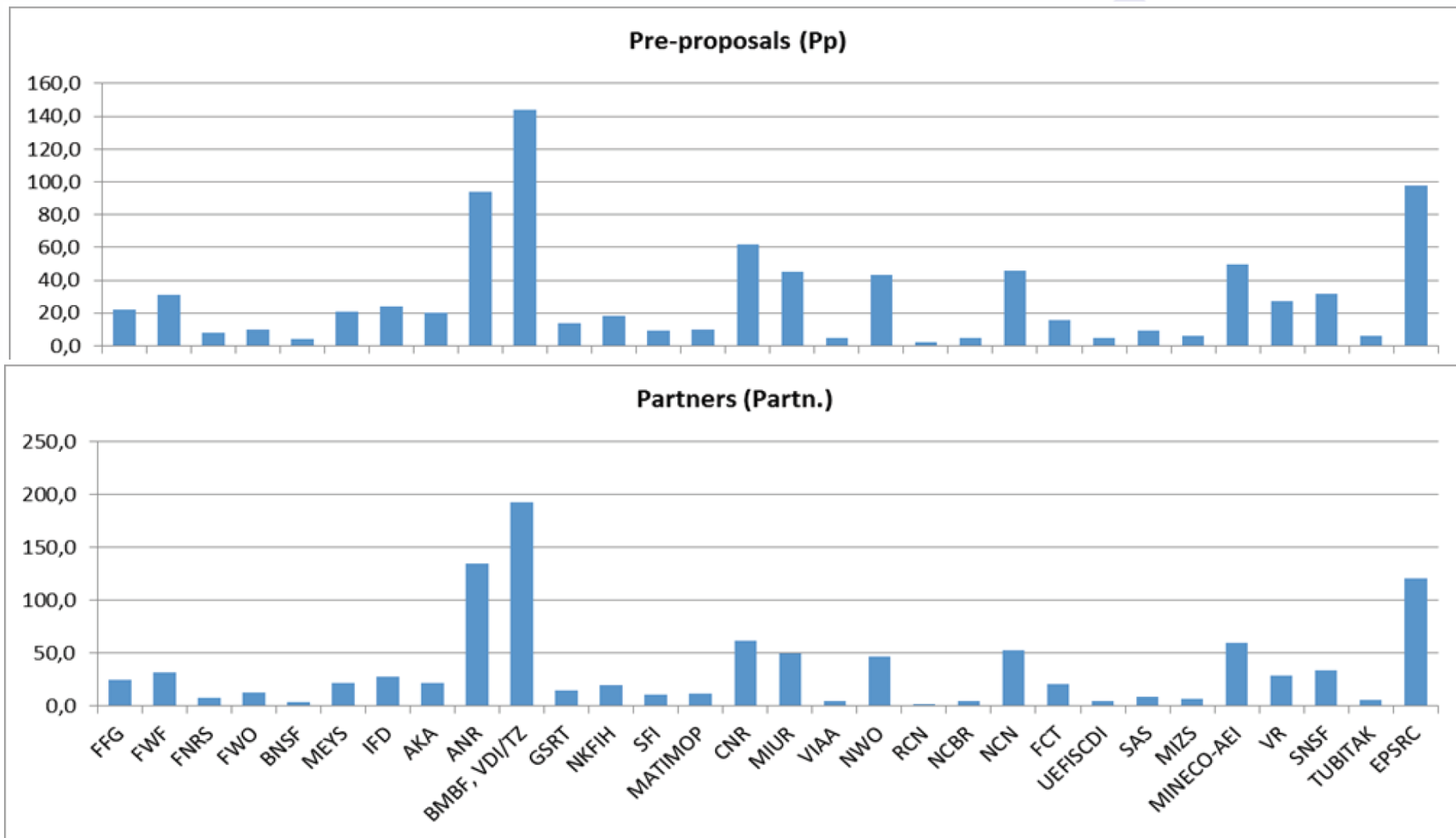
1st Stage Submission statistics

- 221 pre-proposals submitted, for 1 087 European partners
- 237 M€ requested (budget for the call : 34 M€)
- Average request per pre-proposals : 1,1 M€
- Average participation in a Consortium : 5 partners, 4 countries
- 10% women Pis
- The topics of the call are addressed in a rather homogeneous way

Submission system hosted by Agence Nationale de la Recherche, FR
All data prepared by Elisabeth Giacobino and Mathieu Girerd, ANR

ANR

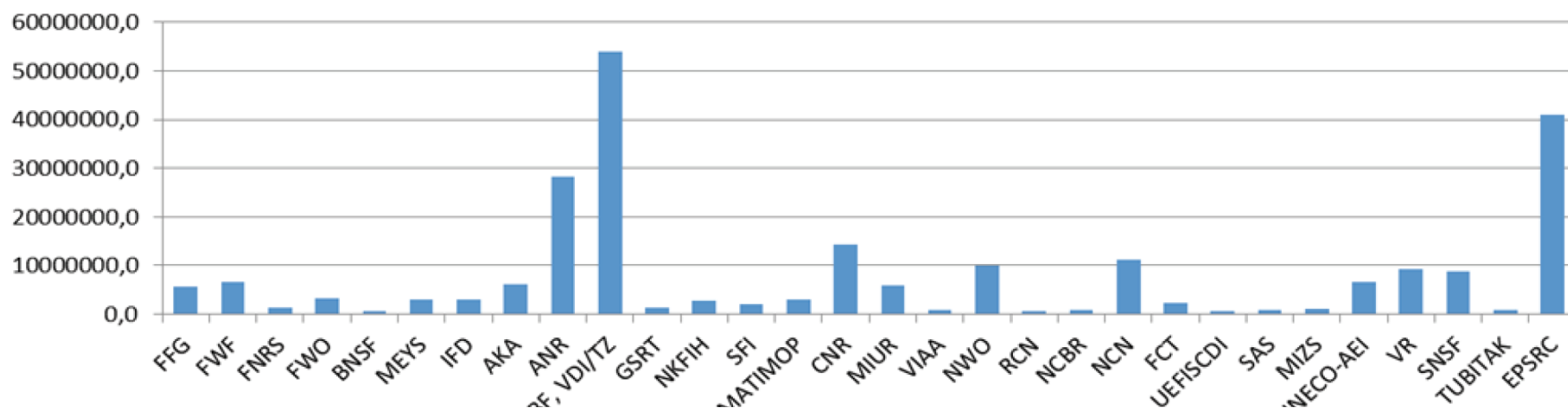
Numbers of pre-proposals and partners per Agency



Requested funding vs. available budget per Agency

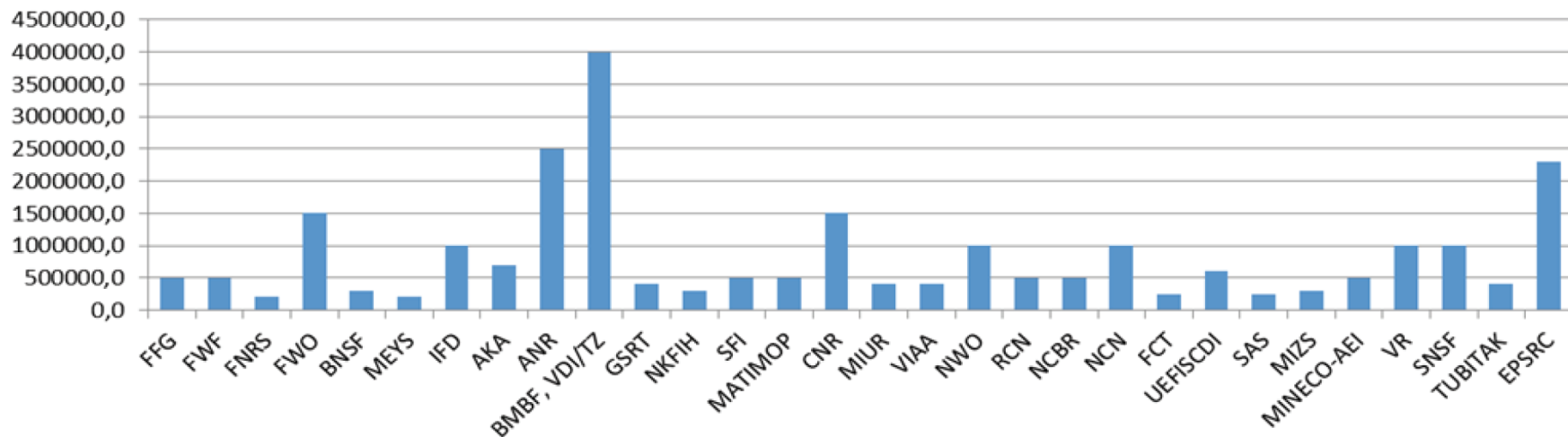
Euros

Requested funding (RF)

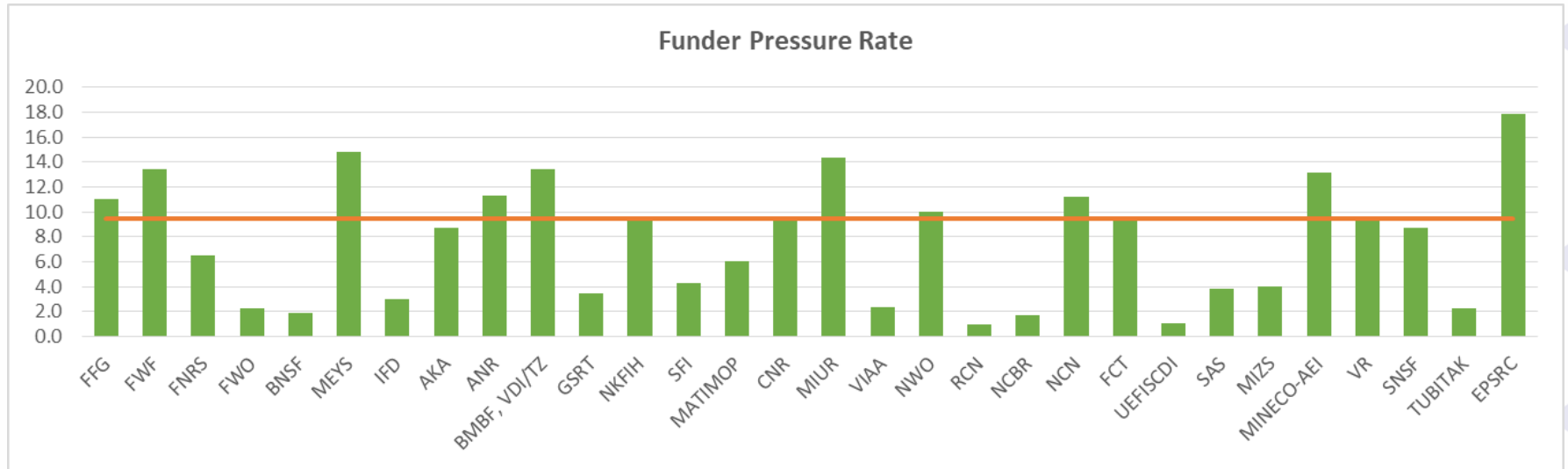


Euros

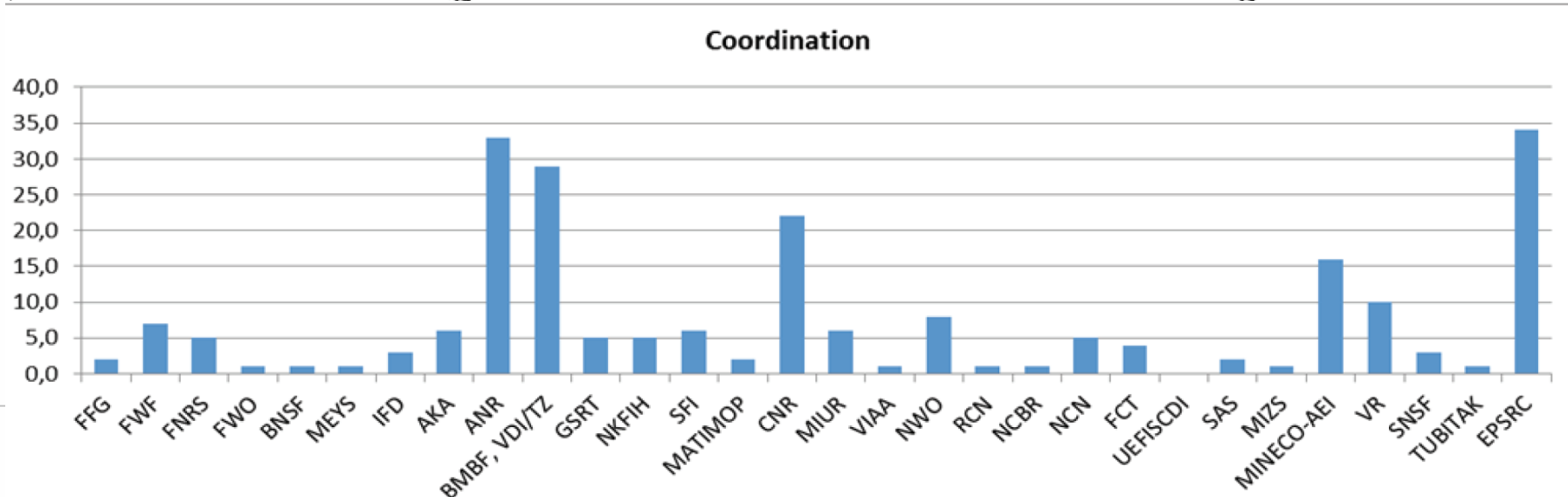
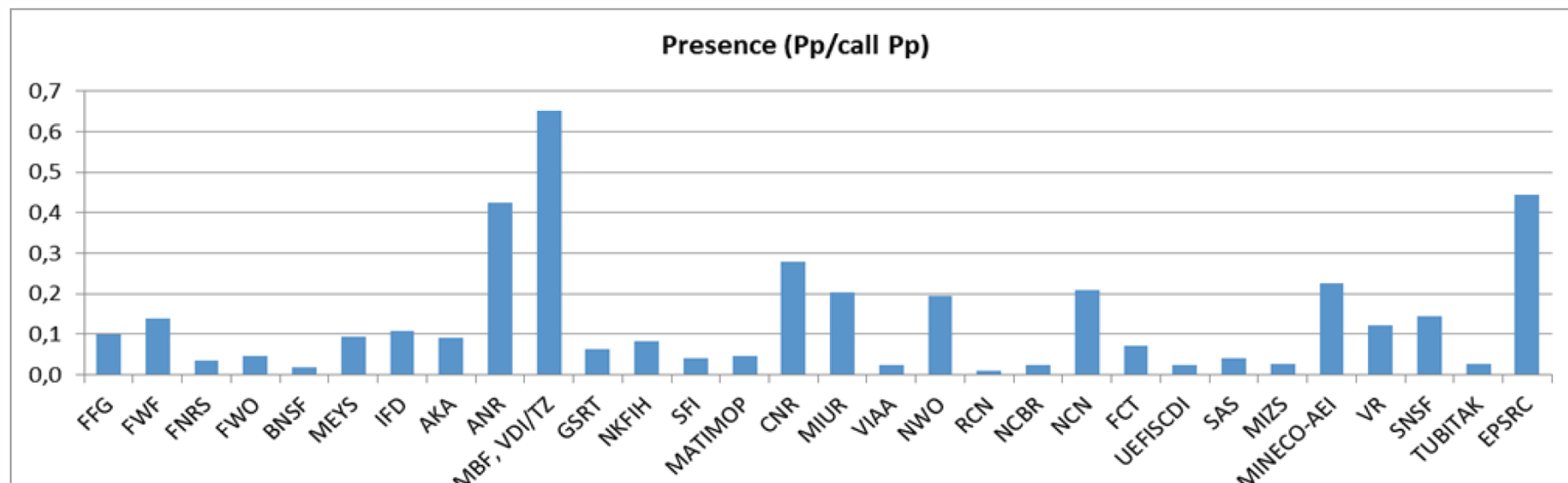
Budget available (BA)



Pressure rate per Agency

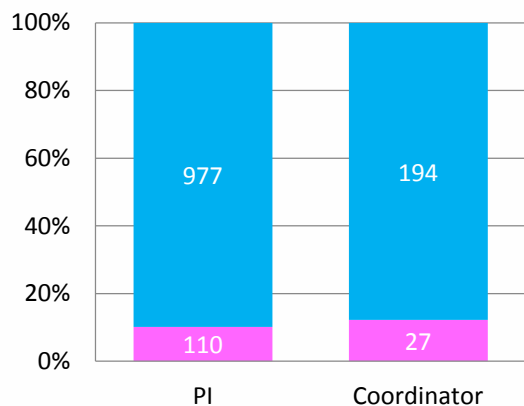


Participation and coordination (per Agency)

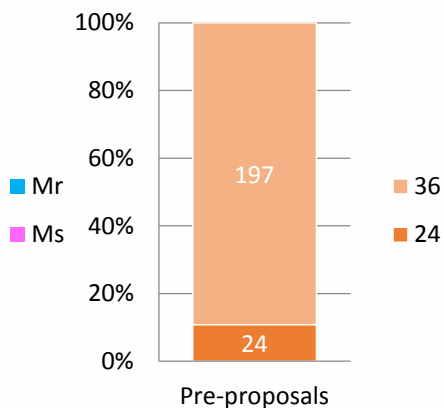


Project characteristics

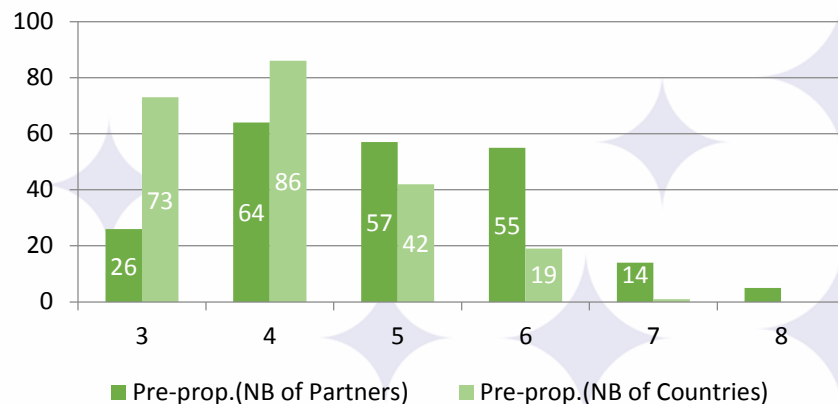
Gender Balance



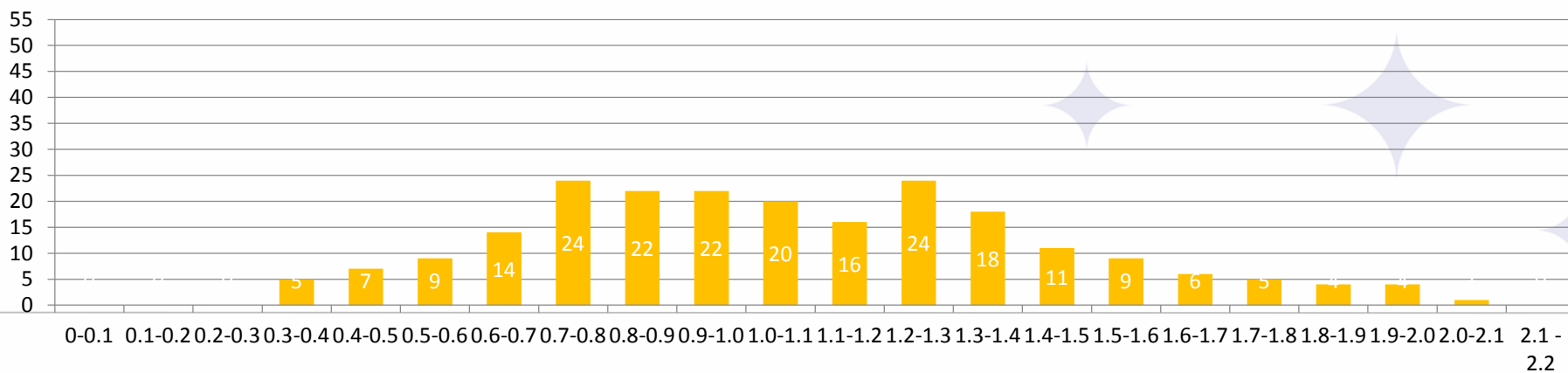
Projects Duration



Partnership Size



Funding Requested





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