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# Institut national de physique nucléaire et de physique des particules



*The strong interaction at the frontier of knowledge:  
fundamental research and applications (STRONG-2020)*

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*SUBATECH*

*NuPECC meeting  
Warsaw, 1 March 2019*



# Horizon 2020

- Horizon 2020 or H2020 is the European programme for research and development during 2014-2020
- It has a budget of 79 billion euros
- Several calls
  - H2020-INFRAIA-01-2018-2019

Call	Budget (Million EUR)		Deadlines
	2018	2019	
	Opening: 5 December 2017		
INFRAIA-01-2018-2019 (RIA)	101,5		22 March 2018
	Opening: 14 November 2018		
INFRAIA-01-2019-2020 (RIA)		125	20 March 2019
Indicative total budget	136,5		



# Project STRONG-2020

## ○ 32 Work Packages

- Management and Coordination
- Dissemination and Communication
- 7 Transnational Infrastructures (COSY, MAMI, ELSA, GSI, LNF, CERN, ECT\*)
- 2 Virtual Infrastructures
- Experimental / Theoretical / Instrumentation Activities
  - 7 Networking Activities (NA)
  - 14 Joint Research Activities (JRA)

## ○ 44 participating institutions

- 16 countries: Austria, Belgium, Switzerland, Germany, Spain, Finland, France, Croatia, Ireland, Italy, Montenegro, The Netherlands, Poland, Portugal, Sweden and United Kingdom

 Beneficiary





## *Link with the Work Programme*

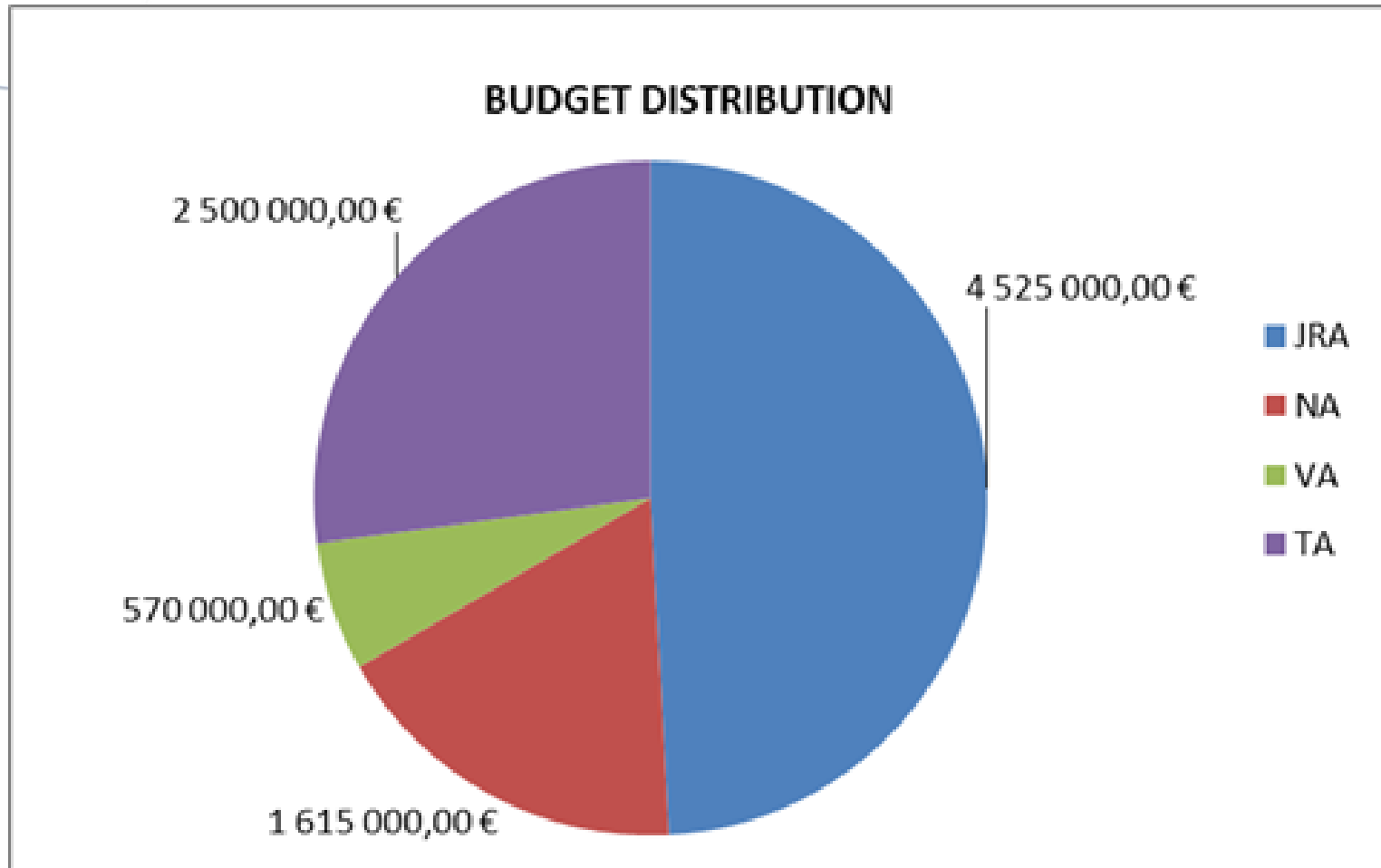
- STRONG-2020 offers open access to six world-class experimental facilities (COSY, MAMI, LNF, ELSA, GSI/FAIR and CERN). ECT\* will play a crucial role in fostering innovative theoretical developments in hadron physics in close synergy with experimentalists. FAIR and LHC-HL are included in the ESFRI roadmap list. GSI/FAIR, ALICE at LHC and ECT\* are recommended in the NuPECC Long Range Plan. Two complementary Virtual infrastructures (VA) will provide access to automated tools generating open-source scientific codes.
- Innovative technical developments will be performed in collaboration with Joint Institute for Nuclear Research in Dubna. In the frame of the future NICA project strong synergies exist with FAIR and are strongly supported by NuPECC.
- Joint theoretical and technical programmes will be performed with high-level Institutes outside Europe: JLAB, RHIC, Fermilab and future EIC in United-States, JPARC and BELLE in Japan, BESIII in China.



## *Link with the Work Programme*

- The role of 14 JRAs will be to enhance the access to the infrastructures through challenging theoretical, experimental and high-level technology developments leading to strong advance in hadron physics and new industrial applications. 7 Networking Activities will initiate and foster new collaboration actions within TAs, VAs and JRAs.
- STRONG-2020 is complementary to ENSAR2 integrating activity. Two infrastructures (GSI/FAIR and ECT\*) will offer access to both, hadron and nuclear physics communities, based on different, even though related, scientific objectives.

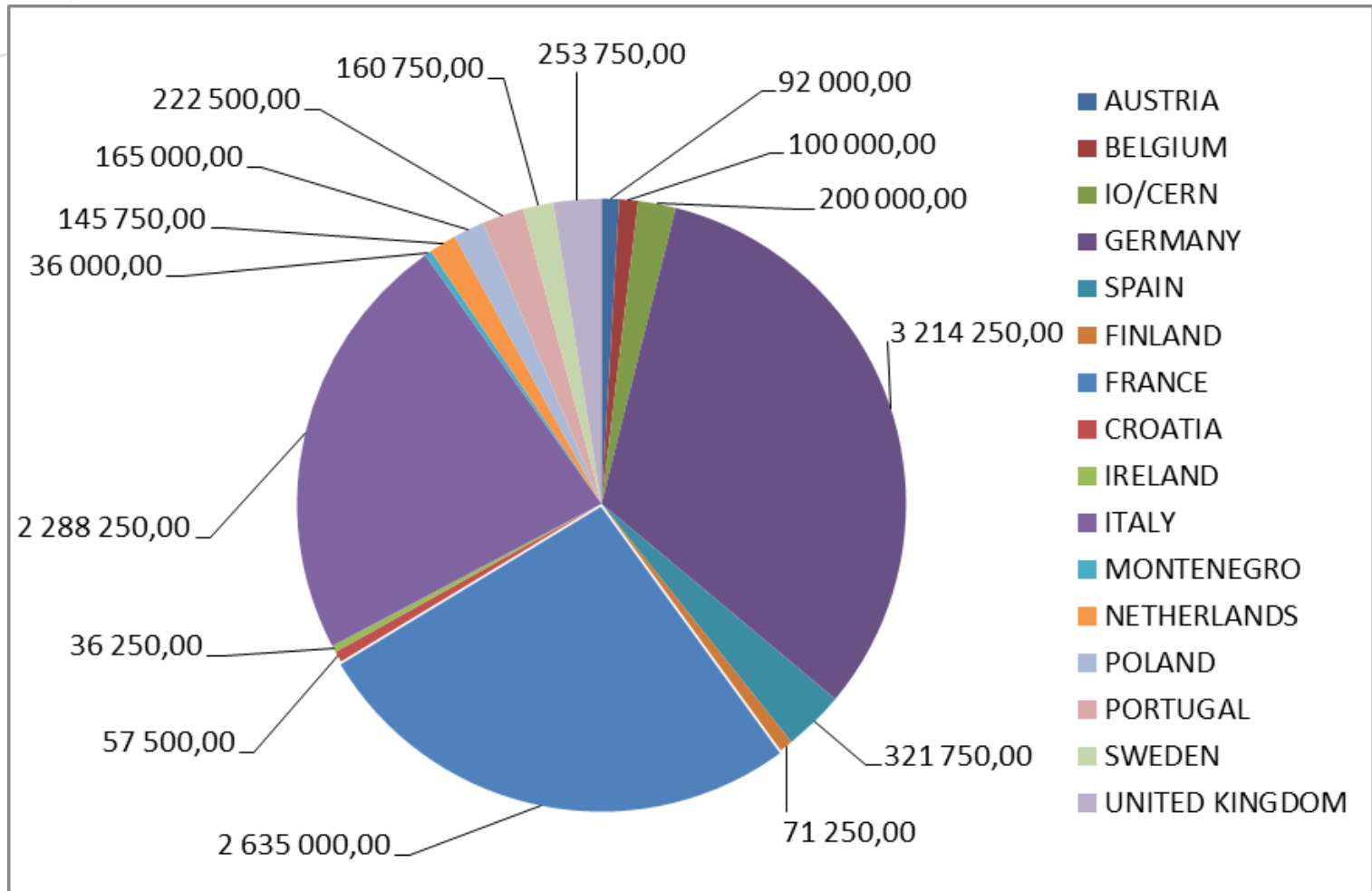
## Overall Budget Distribution (€)





# Budget allocation by country (€)

## Total 10 M €





# *Evaluation Report - Impact 5/5*

- The results connected to low- and high-energy pillars will have significant impact beyond hadron physics itself. They will contribute to fundamental research for physics beyond the standard model, impact astrophysics as well as theories of strongly coupled complex systems in condensed matter physics.
- The tools and methodology for new-cutting edge experiments will provide upgrades to RIs enhancing thereby their competitiveness. The developed technologies will impact medicine (diagnostic tools, cancer treatment), industry (line-scan cameras, micro-scale particles, 3D-magnets technology) and may also lead to advances in computing/machine learning.
- Measures to exploit and manage research data are well outlined. Part of the dissemination will happen in parallel, directly at the RIs that already have their own dissemination teams at their disposal. The communication and dissemination of results is thorough and appropriate, including strategies for targeting not only the hadron community and scientists in general, but also the public, schools and policy makers.
- Newsletters, meetings, workshops, participation in conferences, peer reviewed articles, reports, white papers, a website, and a Youtube channel are employed, demonstrating the previous experience and a deliberate effectiveness of dissemination. The outlined dissemination plan contains elements of the current state of the art in science communication.





# List of successful projects

## Main List

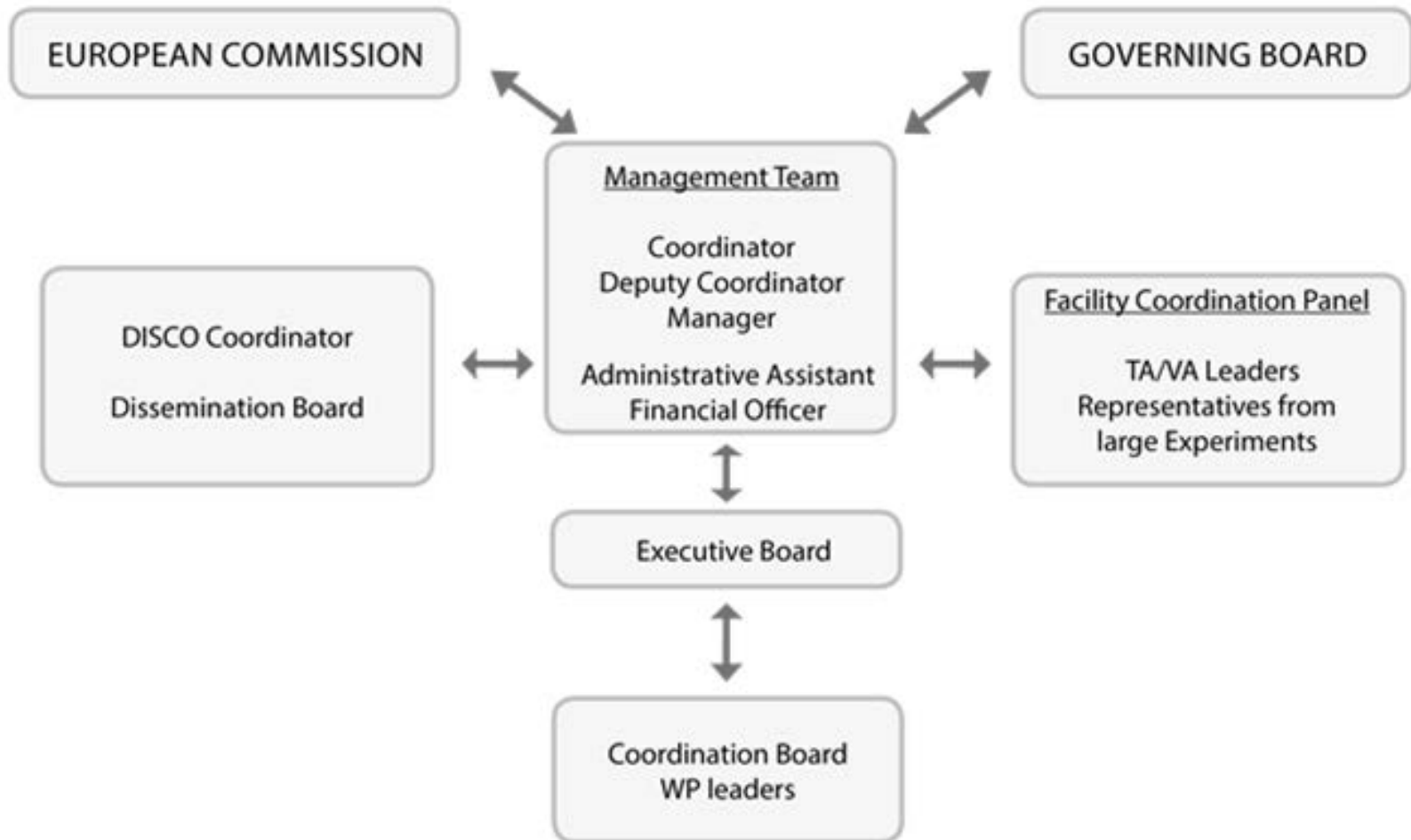
- Synthesys Plus (UK) *Synthesis of systematic resources*
- EuroFleets Plus (IE) *New operational steps towards an alliance of European research fleets*
- SFERA III (ES) *Solar Facilities for the European Research Area*
- EASI Genomics (ES) *Employment and Social Innovation*
- SOLARNET (DE) *High-Resolution Solar Physics Network*
- EMP (DE) *Energy Modelling Platform for Europe*
- IS-ENES-3 (FR, CNRS) *InfraStructure for the European Network for Earth System Modelling*
- EPIC- XLS (NL) *Enabling Practical Wireless Tb/s Communications with Next Generation Channel Coding*
- ARIADNEplus (IT) *ARgon ImAging DetectioN chambEr*
- ESTEEM3 (DE) *Enabling Science and Technology through European Electron Microscopy*
- RISIS 2 (FR, Uni. Marne La Vallée) *Research Infrastructure for Science and Innovation Studies*
- RADIATE (DE) *Radiation Innovations for Therapy and Education*
- STRONG 2020 (FR, CNRS) *The Strong Interaction at the Frontier of Knowledge*
  
- Reserve list :
  - TREEFORCE (FR, INRA) *Forestry and Environmental Challenges*
  - Micro4Life (FR, Institut Pasteur) *Microbial Bioindustry*



# Timetable & deadlines for grant preparation

- Submission of grant data & annexes: 3 weeks after receiving this letter (8 February)
- Once the Commission has checked the information you have encoded, you will have 2 weeks
- to submit your final version — to bring it in line with the comments of the project officer.
- Signature of the declaration of honour (DoH): 6 weeks after receiving this letter
- Grant signature: **within 3 months** after receiving this letter (indicative date).

# Organisational Structure





**Thank you for your  
collaboration and support**