



ERA-NET for Nuclear Physics Infrastructures

□ Towards transnational funding of Nuclear Physics Research Infrastructures



ISOLDE-ALTO
JYVL-LNL-LNS-
GANIL-SPIRAL1-GSI
Eastern-Network

ALICE-LHC



FAIR



Key Technical Features

- Cooled beams
- Rapid cycling superconducting magnets

EURISOL



AGATA



GANIL-SPIRAL2



Key Technical Features

- Cooled beams
- Rapid cycling superconducting magnets

Primary Beams

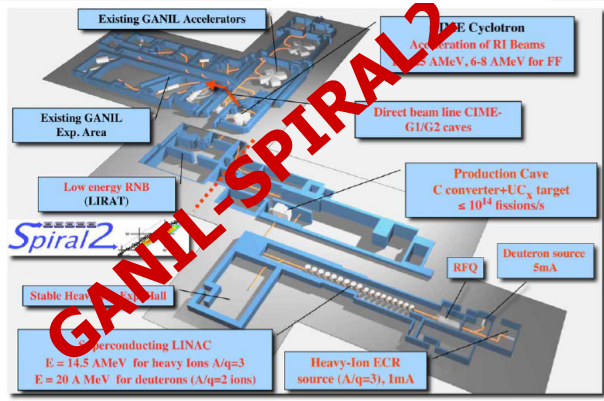
- 10% @ 1.5 GeV, $^{238}\text{U}^{92+}$
- Factor 100-1000 over present intensity
- 2.4×10^{13} s $^{-1}$ @ 30 GeV protons
- 10% $^{238}\text{U}^{92+}$ up to 25 (-35) GeV

Secondary Beams

- Broad range of radioactive beams up to 1.5-2 GeV, up to factor 10000 in intensity over present
- Antiprotons 3-30 GeV

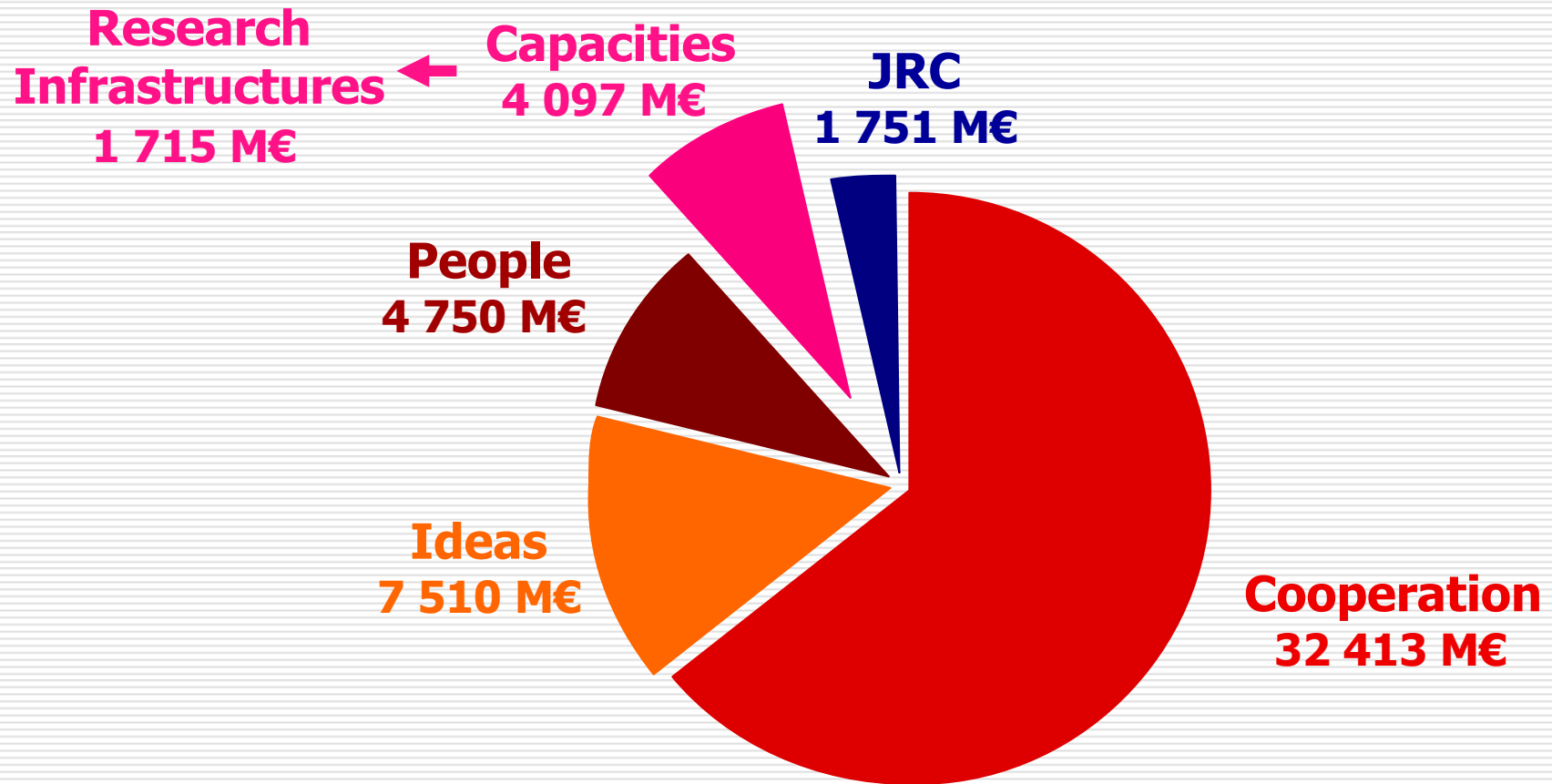
Storage and Cooler Rings

- Radioactive beams
- e-Acceller
- 10^{11} stored & cooled 0.8 - 14.5 GeV antiprotons

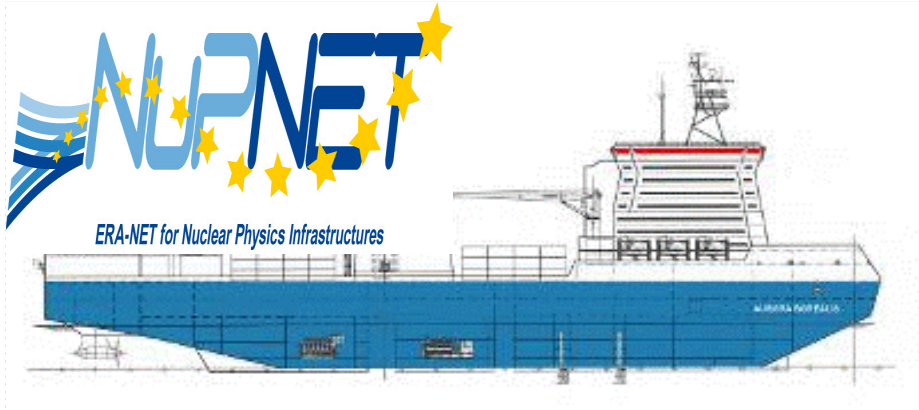


Marek Lewitowicz, GANIL

The Seventh Framework Programme: 2007 - 2013



FP7 budget (50 521 M€)



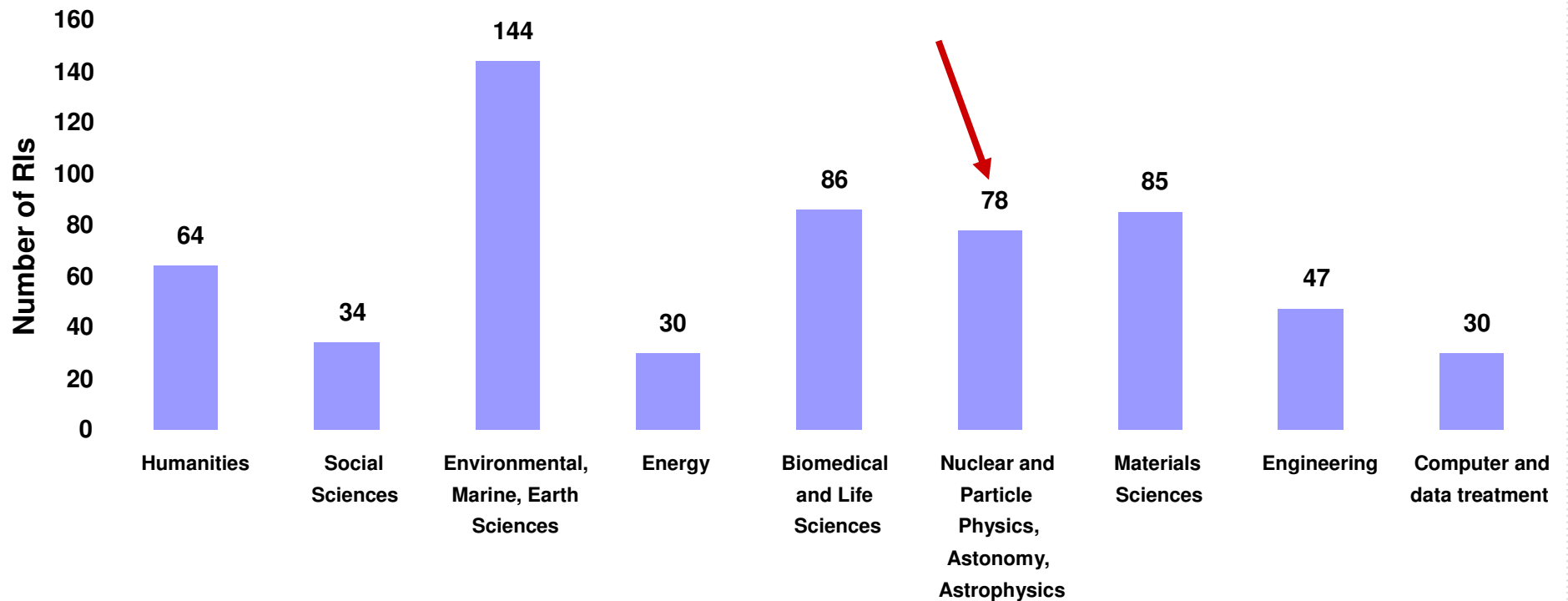
Definition of Research Infrastructures

- Facilities, resources, services used by scientific community for
 - Development of leading-edge research
 - Knowledge transmission, knowledge exchanges and knowledge preservation
- Includes
 - Major equipment
 - Scientific collections, archives and structured information
 - ICT-based infrastructures
 - Entities of a unique nature, used for research

9 major RI domains ...about 600 identified facilities

More than 25 500 permanent scientists
are working in such facilities ...

Breakdown of All RIs by Scientific Domains (2006 survey)



ESFRI

The European Strategy Forum on Research Infrastructures (ESFRI) has been set-up to help facing important challenges

- ❑ Launched in April 2002 by Council of Research Ministers
- ❑ Representatives of the 27 Member and 5 Associated States + one representative of the European Commission (EC)





Astronomy, Astrophysics and Nuclear Physics

5 Projects



European ELT 850M€

SKA 1150M€

KM3NeT 250M€

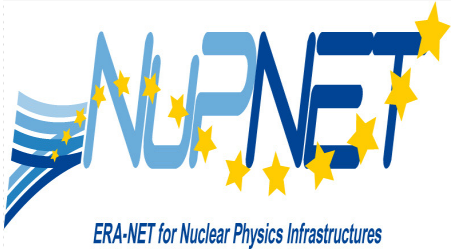
FAIR 1180M€

SPIRAL2 129M€

Report 2006

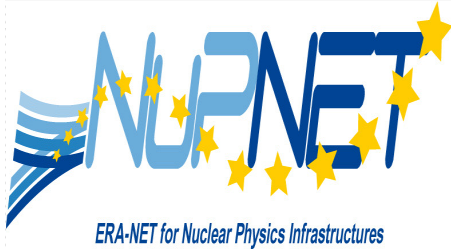
-> EU FP7 Preparatory Phase

Brussels, 19
October 2006
European
Research
Infrastructures –
*The ESFRI
roadmap
identifies 34
large-scale
infrastructure
projects*



ERA-NET for Research infrastructures Objectives

- ☞ To step up the cooperation and coordination of national and/or regional programmes/activities towards their mutual opening and implementation of joint activities
- ☞ To contribute to the development of the European Research Area by improving coherence across Europe of such programmes/activities
- ☞ To help developing a European policy for research infrastructures
- ★ **Eligible partners** are only program owners (National/region/ministries/governments or Research councils and funding agencies managing research programs)

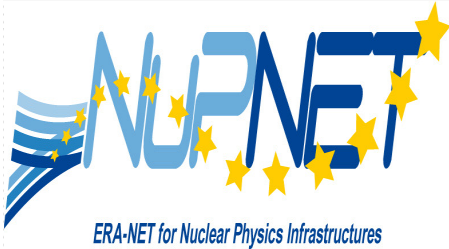


Motivations for a Nuclear Physics ERANET- NUPNET

In our field the challenge is to merge the national programs to create a stronger and more cohesive research activity which is truly European in scope

Two conditions are required

- 1- Independent scientific assessment of the field: emerging areas ,key developments, needed instruments , recommendations and scientific priorities . *This is done by NuPECC and respected*
 - 2- *Current funding procedures (separate funding agencies reflect separate priorities) has to be given a strategic direction to help to align some decisions on commonly agreed European research goals . This ERA-NET NUPNET proposal aims to meet this challenge*
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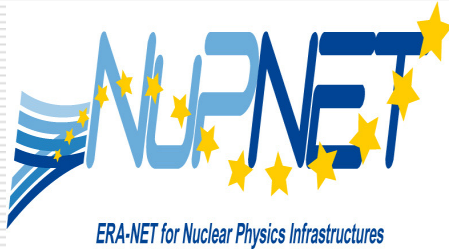
INITIATIVE PARIS June 2006

15 representatives of NP agencies, NuPECC delegation and EU officers met in PARIS to discuss the opportunity to launch a ERANET proposal called NuPNET

All Participants unanimously agreed to built such proposal to be ready for the first FP7 ERANET call in May 2007

GOALS of NuPNET

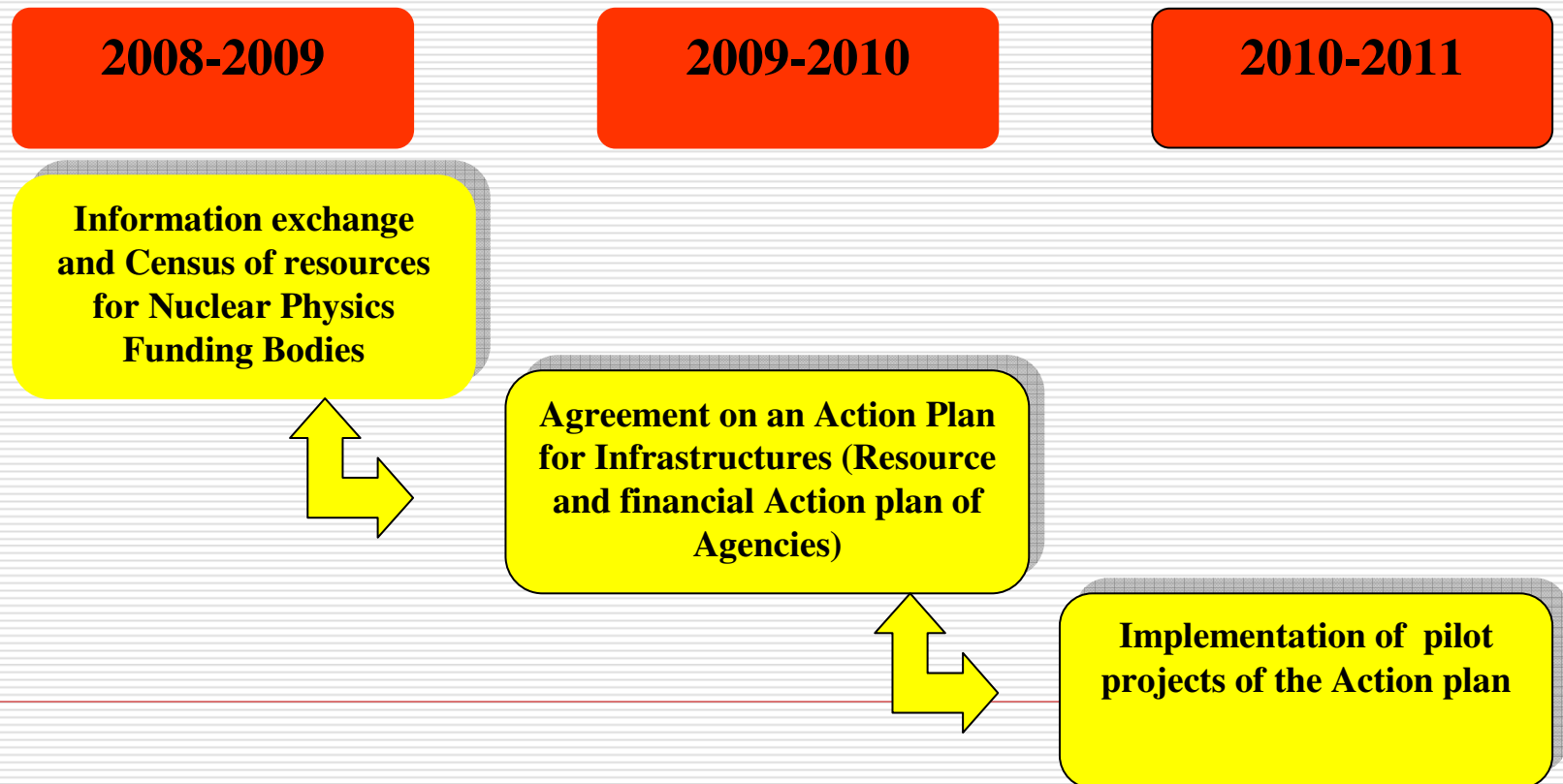
- ✓ Mapping the science priorities (NuPECC) into a funding action plan***
- ✓ Establish procedures and funding for trans-national common activities (variable geometry)***
- ✓ Identification of joint activities to be implemented in the framework of NuPNET.***
- ✓ Launching of a pilot joint activity***
- ✓ Establish a sustainable action beyond this project***

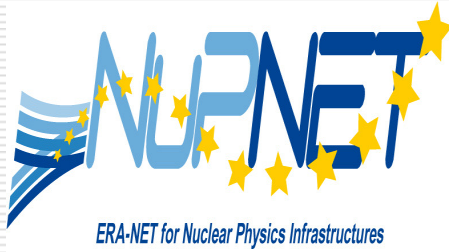


NUPNET Proposal

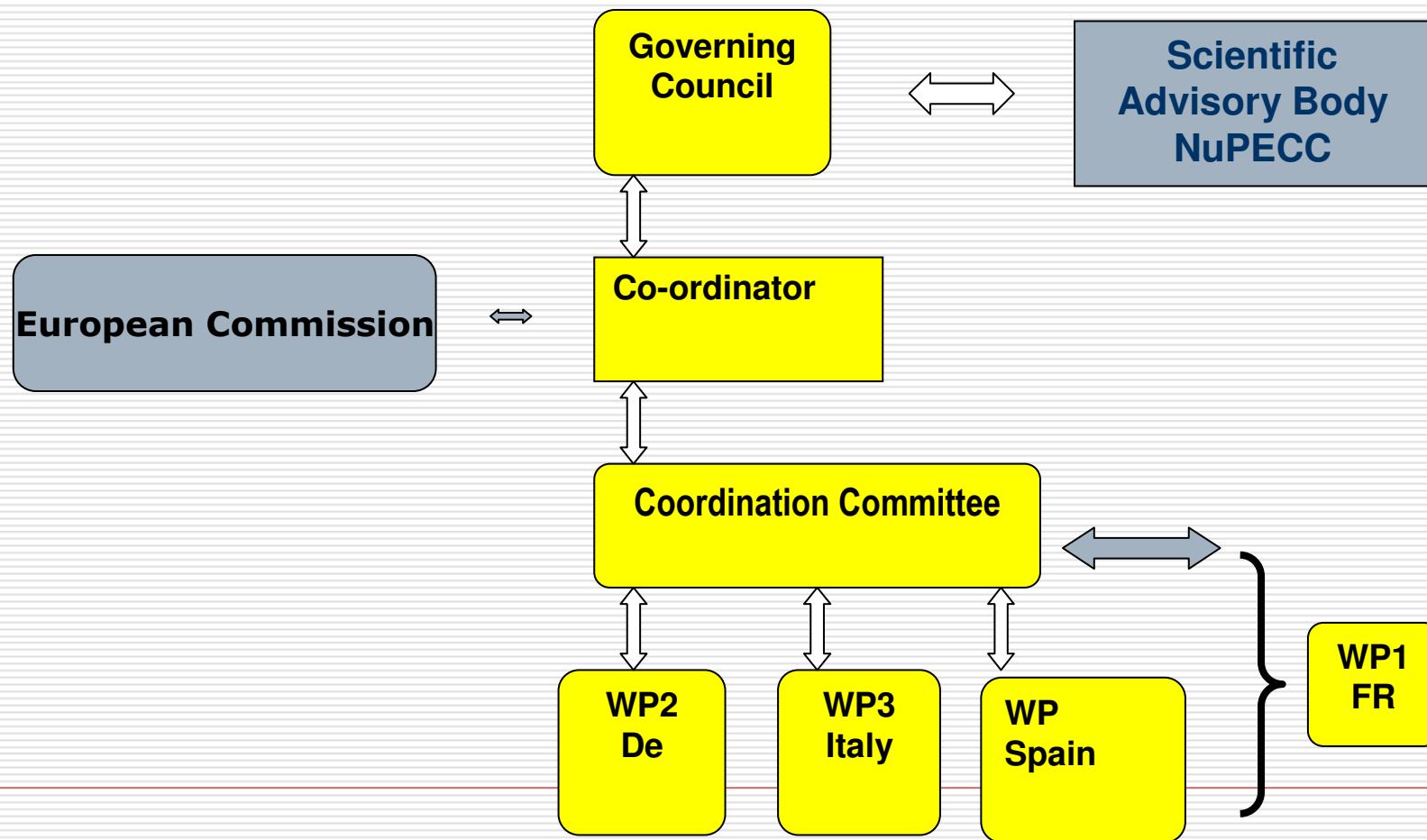
A stepwise approach

18 participants
Funding agencies and ministries
From 14 EU countries





Structure of the Project



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