



NEWS - AnPHA meeting

- **Two NuPECC meetings in 2012 so far**
- **One meeting of NPN editorial board**
- **Meeting with ESF**
- **Strategic planning of CERN**

Angela Bracco- Adelaide - August 4 2012

Nuclear Physics News

NuPECC* News @ the editorial Board

New NuPECC Representatives at the Editorial Board

Previously: Tullio Bressani, Torino, since 2007

Hans Ströher, Jülich, since 2005

New NuPECC representatives:

Ari Jokinen , Jyväskylä

Eugenio Nappi, Bari

Present Composition

Rick Casten, Yale < 2002-

Ari Jokinen, Jyväskylä, 2012-

Reiner Krücken, Vancouver, 2011-

Jan Kvasil, Prague and EPS/NPB, 2007-

Yu-Gang Ma, Shanghai, 2012 -

Douglas McGregor, Glasgow and EPS/NPB, 2010-

Eugenio Nappi, Bari, 2011-

Hideyuki Sakai, Tokyo, 2011-

James Symons, Berkeley , 2006-

Marcel Toulemonde, Caen, 2010-

Maria J. G. Borge, Chair, 2011-

Editor: Sissy Körner

* Role of Correspondents

Nuclear Physics News

- * The editorial board of the Nuclear Physics News (NPN) has decided to enhance the role of the NuPECC members and use them together with the editorial board members as the main representatives to channel the proposal of feature articles or any other type of contribution to the NPN magazine.
- * Therefore the role of the correspondent will henceforth be reserved for the countries that have no representative on any of the two boards.

(Argentina, Australia, Brasil, India, Israel, Mexico, Russia, Serbia, Shangai, South Africa)

Interaction with EPS



NuPECC

Meeting in Milan 2012

9 March 2012

Common initiativesin outreach?



LUISA CIFARELLI – European Physical Society

University & INFN, Bologna (IT) – CERN, Geneva (CH) – Centro Fermi, Rome (IT)

Status of EU projects



ERA-NET for Nuclear Physics Infrastructures

** Towards transnational funding of Nuclear Physics Research Infrastructures and associated equipments*



ALICE-LHC



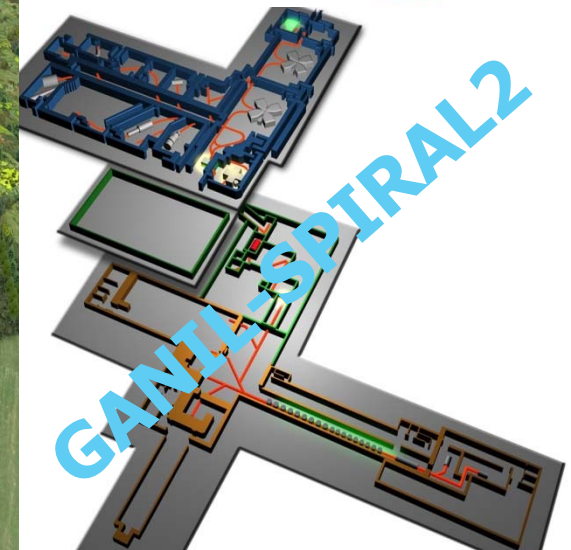
FAIR



FURISOL



**ISOLDE-
SPES LNL-LNS-
JVYL
ALTO
GANIL--GSI
EasternNetwork**



GANIL SPIRAL2

Project fully completed 03-2008/11-2011
All milestones achieved
All deliverables submitted

Publication of the
"NuPNET Report"

Launch of the first
"NuPNET Call"

Launch of joint
pilot activities

Action beyond
NuPNET to be discussed



☞ *To help developing EU Programmes and Policy for research infrastructures (Very important in relation with future calls in Particular for FP8 aligned with our needs!!!)*

Partners



7 Joint research activity
6 networking

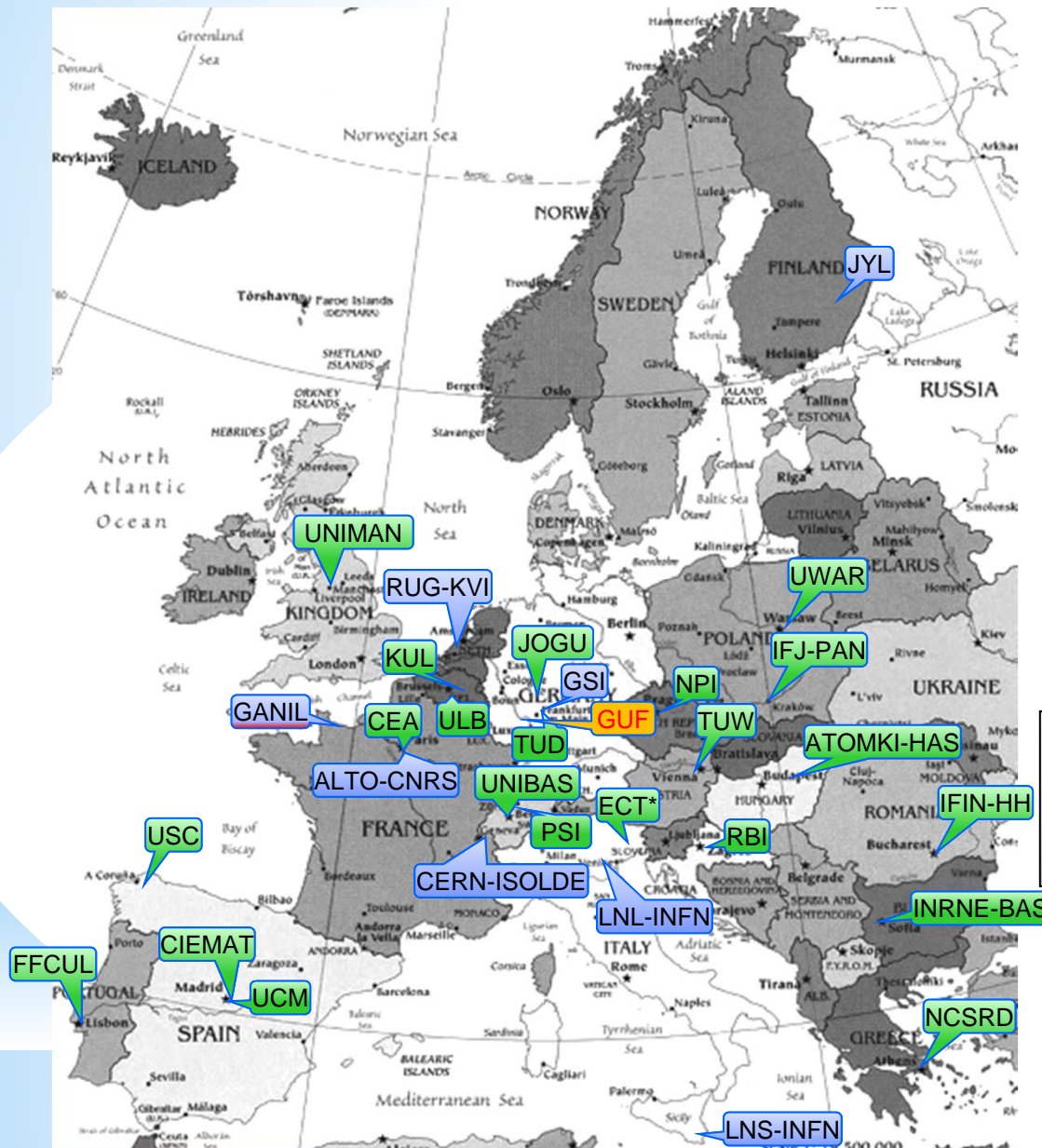
7 TNA Facilities

30 beneficiaries

+1 beneficiary

18 countries

53 associated partners



Blocks of activities

**TRANSNATIONAL
ACCESS
ACTIVITIES (5)**

**JOINT
RESEARCH
ACTIVITIES (14)**



Study of Strongly Interacting Matter



HadronPhysics



HadronPhysics3

**NETWORKING
ACTIVITIES (9)
And
MANAGEMENT**

- Consortium: 48 European Organizations
- Other involved Institutions: 119
- Involved researchers: more than 2500
- Involved Countries: 35
- EC requested contribution: 9 M€
- Contract duration: 36 months

Status of ESFRI projects and new projects

* Facility for Antiproton & Ion Research

Nuclear Structure & Astrophysics
(Rare-isotope beams)

Hadron Physics
(Stored and cooled
14 GeV/c anti-protons)

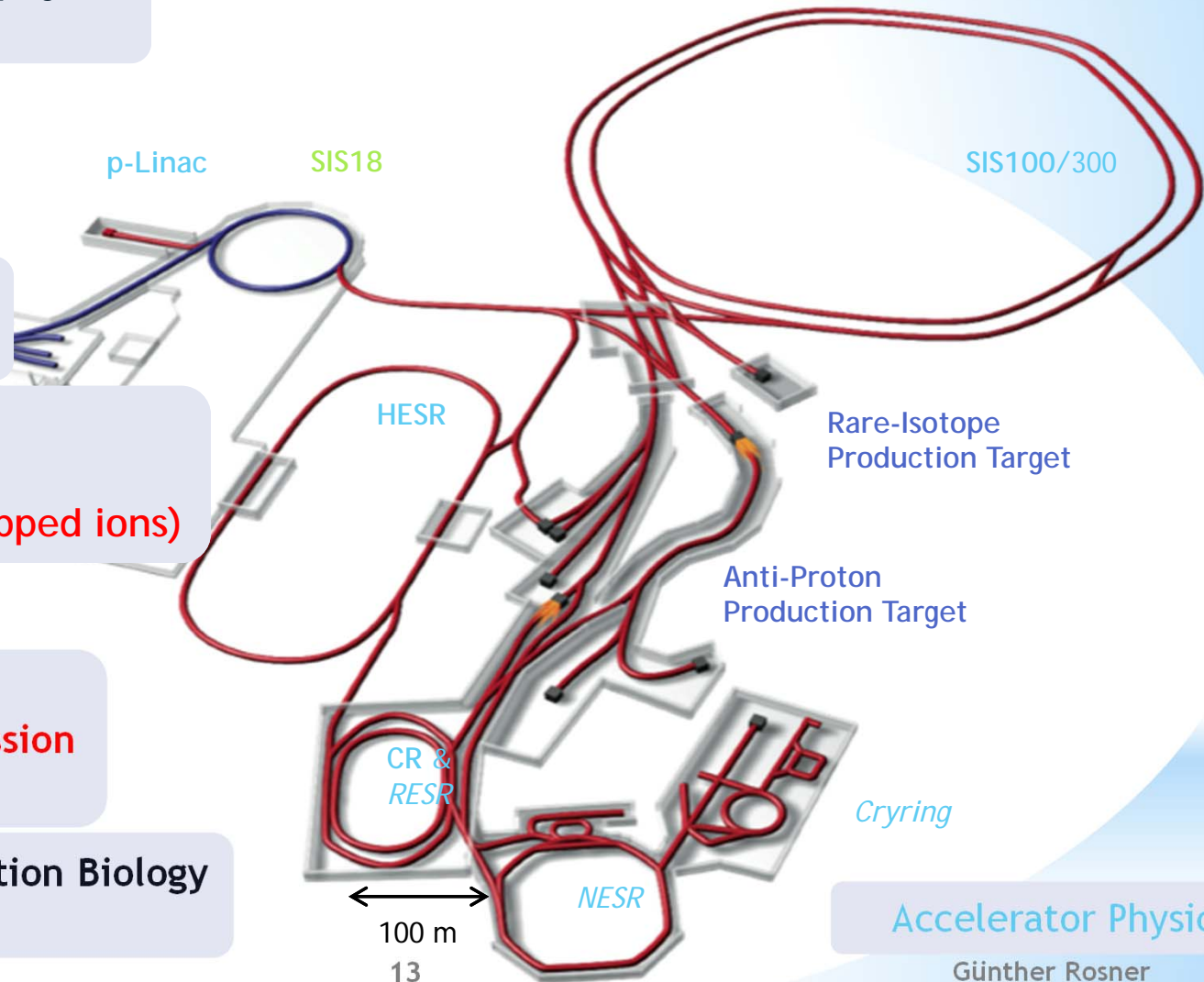
QCD-Phase Diagram
(HI beams 2 to 45 GeV/u)

Fundamental Symmetries
& Ultra-High EM Fields
(Antiprotons & highly stripped ions)

Dense Bulk Plasmas
(Ion-beam bunch compression
& petawatt-laser)

Materials Science & Radiation Biology
(Ion & antiproton beams)

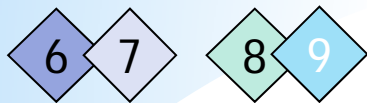
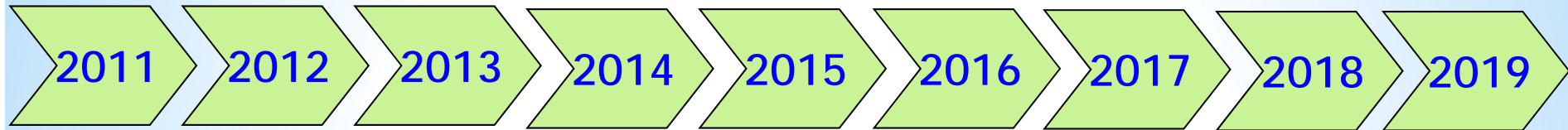
NuPECC, Copenhagen, 15/6/12



Accelerator Physics

Günther Rosner

* FAIR Timeline



- 6 Building permits
- 7 Site preparation
- 8 Civil construction contracts
- 9 Building of accelerator & detector components
- 10 Completion of civil construction work
- 11 Installation & commissioning of accelerators and detectors
- 12 Start Data taking

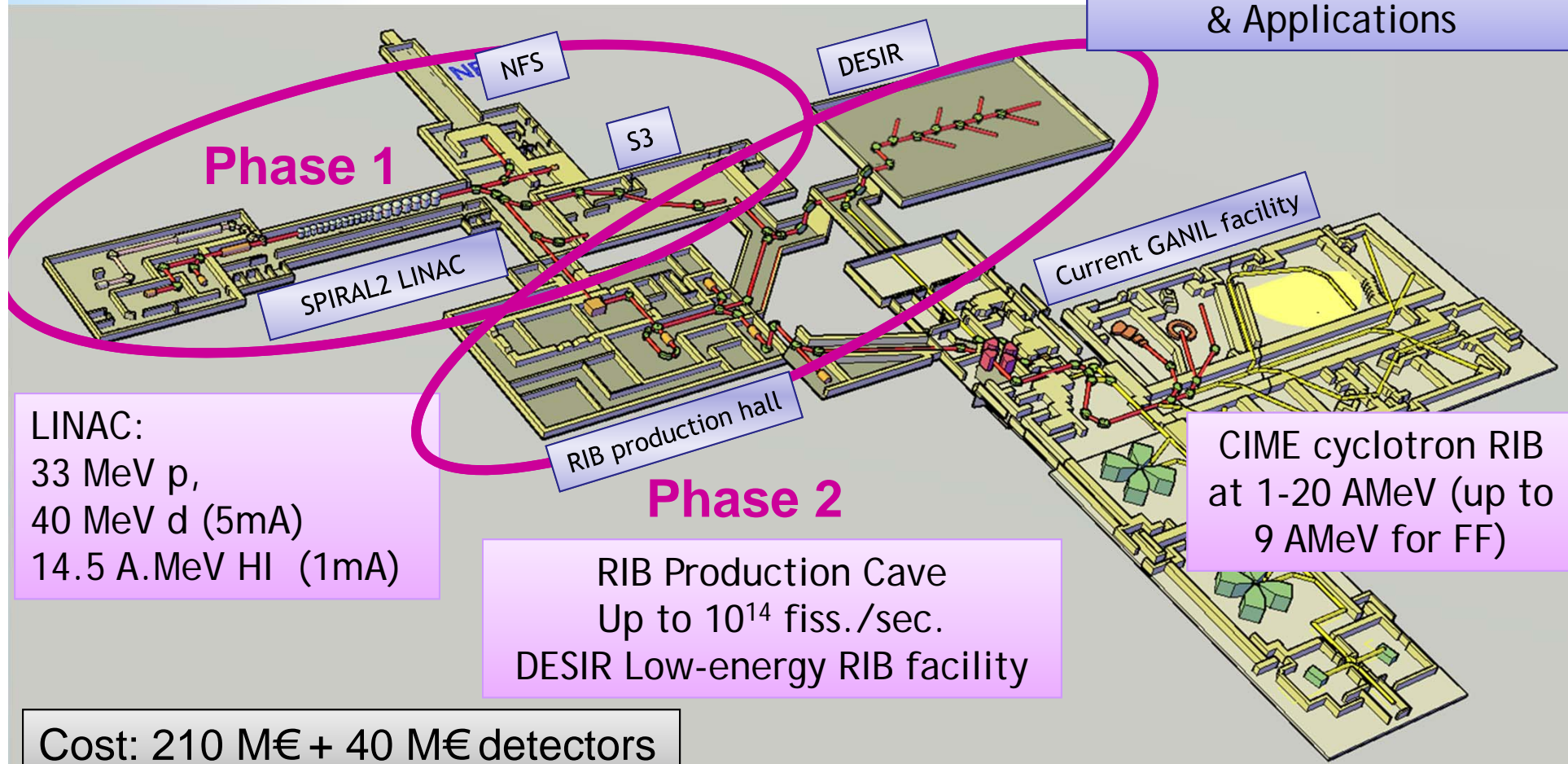


SPIRAL2 under construction

Phase 1: High intensity stable beams + Experimental rooms (S³ + NFS)

Phase 2: High-intensity low-energy (DESIR) & post-accelerated
Radioactive Ion Beam facility

- Nuclear structure
- Nuclear Astrophysics
- EOS** - Isospin dependence
- Fundamental Interactions
- Multi-disciplinary research & Applications



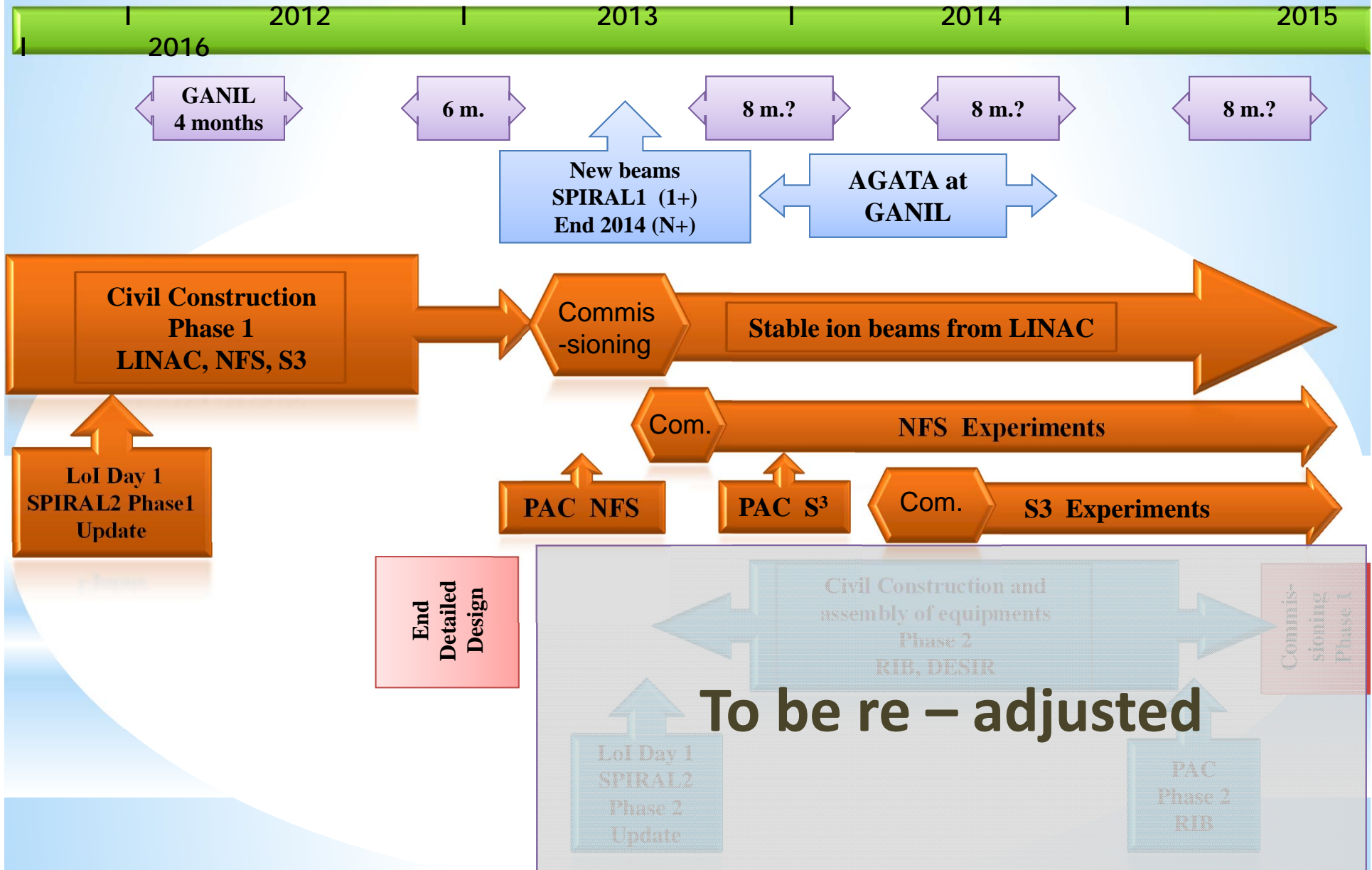
LINAC:
33 MeV p,
40 MeV d (5mA)
14.5 A.MeV HI (1mA)

Phase 2
RIB Production Cave
Up to 10^{14} fiss./sec.
DESIR Low-energy RIB facility

CIME cyclotron RIB
at 1-20 A.MeV (up to
9 A.MeV for FF)

Cost: 210 M€ + 40 M€ detectors

Timeline GANIL & SPIRAL2



* *ELI – Nuclear Physics Research*

- * *Nuclear Physics experiments to characterize laser – target int.*
- * *Photonuclear reactions.*
- * *Exotic Nuclear Physics and astrophysics
complementary to other NP large facilities (FAIR, SPIRAL2).*
- * *Applications based on high intensity laser and very brilliant γ beams.
Complementary to the other pillars*

ELI - Nuclear Physics

in ‘Nuclear Physics Long Range Plan in Europe’ as a major facility

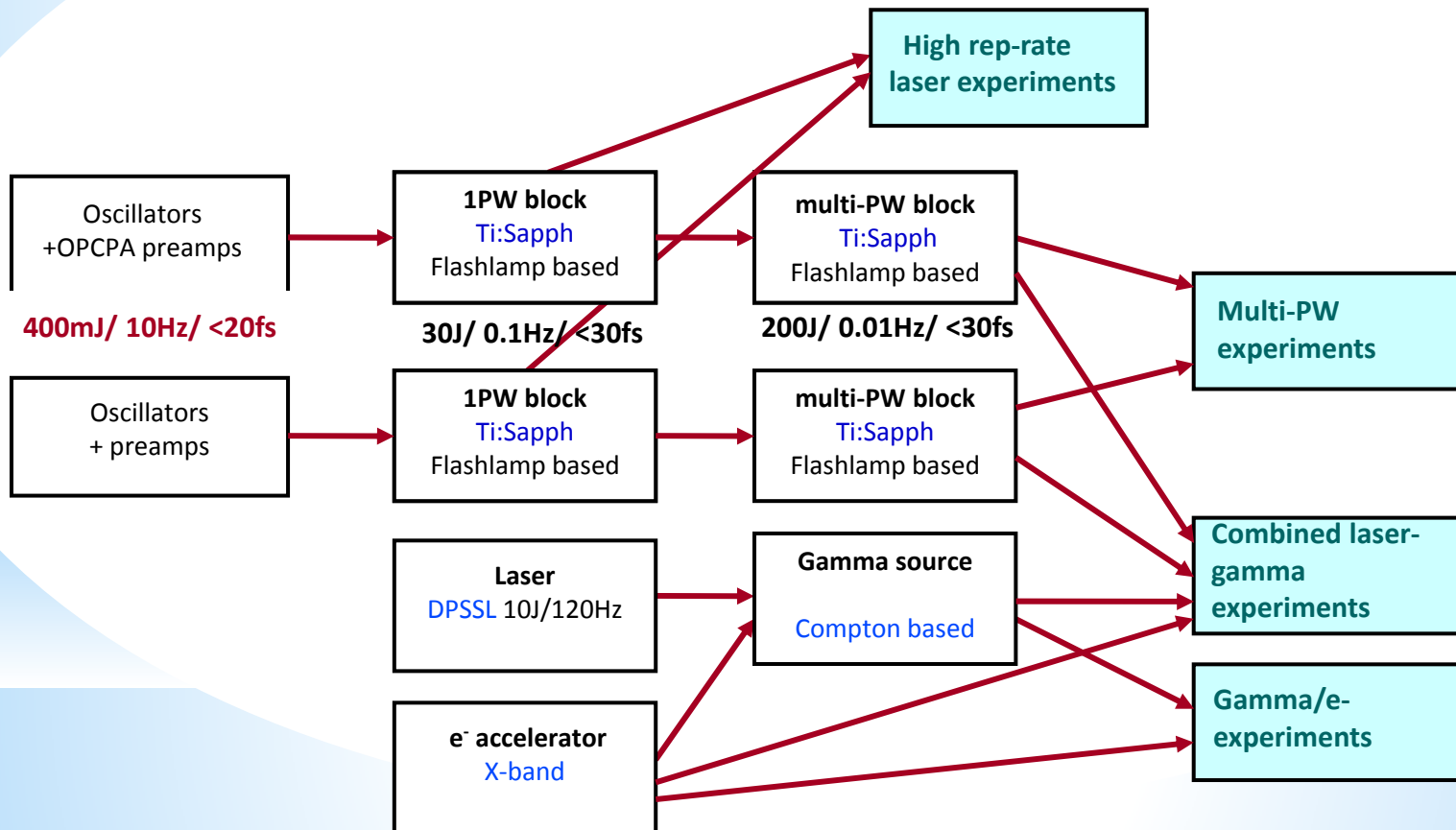


ELI-NP Main buildings



*Bucharest-
Magurele,
Romania*

- ▶ Lasers
- ▶ Gamma beams and experiments
- ▶ Laboratories
- ▶ Unique architecture





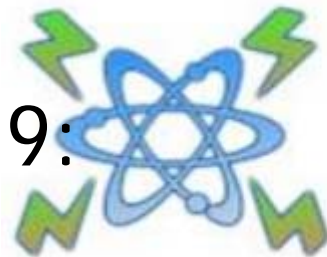
Tiara



Test Infrastructure and Accelerator Research Area

The main objective of TIARA is the integration of national and international accelerator R&D infrastructures into *a single distributed European accelerator R&D facility.*

Workpackage 9:



*Test Infrastructure for High Power
Accelerators Components*

TIHPAC

Addressing two major technical issues before launching the construction of **EURISOL**:

- i) the development of high power target and ii) low beta superconducting accelerating structures. The objective of this Work Package is to coordinate the design of the corresponding test infrastructures

Meeting with ESF

* 2011 Review of ESF Expert Boards

- * Took place between April and August 2011
- * All **6 ESF Expert Boards** assessed by one Panel
- * Chair: Martin Huber
- * Other NuPECC-related members:
 - * **Professor Shoji Nagamiya**, J-PARC,
 - * **Professor Dan-Olof Riska**, Helsinki Institute of Physics, Helsinki
 - * **Professor John Simpson**, STFC, Sc. & Techn. Facilities Council, UK
- * General outcome with regards to NuPECC was positive.
- * Review Panel overarching statement:
 - * “NuPECC should continue to provide its valuable, unique and essential role for the European nuclear physics community. NuPECC should continue to provide European strategy guidelines, strengthen collaboration and coordinate European bids and projects. ”



* Next steps

- * For the moment, ESF is the appropriate organisation to cover strategic and operational/legal aspects for EBCs.
- * The ESF is preparing **alternative business models** for a possible successor organisation towards finding a future base for EBCs.
- * The successor organisation could be an umbrella organisation hosting all the existing Expert Boards and Committees and potentially new ones (Computational sciences, Mathematics, astrophysics, astro-nuclear physics, chemistry, graphene, etc).
- * The Physical, Engineering and Space Sciences Unit will run a large **study on Scientific Community Needs** over the summer. We want to understand their needs that EC, ERC, SE or national programmes may not fulfil. We may ask for your contribution.
- * There is a need to coordinate strategies at international level for **collaborations and joint ventures**.

Strategic Planning of CERN

TOPICS

- Exploitation of LHC programme, machine and experiments: including **luminosity upgrade**
- R&D on accelerators for both at energy and intensity frontiers
- ILC could be the next machine **if LHC results show physics case in the 0.5 to 1 TeV range**
- Flavour physics as complementary approach: **R&D for future neutrino facilities, and national (with other countries) facilities** for other flavour physics and precision experiments
- Importance of **non-accelerator based particle physics** and coordination with ApPEC
- Coordination with NuPEC on particle-nuclear physics
- Theoretical Physics

TIME TABLE

- **Written scientific input (from 15.4)** from the community, and authorities: input for the Open Symposium (till 11.7) and briefing books by the Preparatory Group (till 15.10)
- **Open Symposium:** 10 to 12 September 2012 in Cracow
 - Aiming at ≥ 500 participants (2006 Orsay was ~ 400)
 - Plenary talks with ample of discussion time
- **Strategy drafting meeting by the European Strategy Group** 21-26 January 2013 (Call for a venue proposal)
 - Solid six-day meeting to produce a draft for Strategy Update
- **Council meeting in March 2013**
 - Reaching basic agreement on the strategy
- **Formal adaptation at a Special Council meeting in May/June 2013 in Brussels** with presence of ministers

Conclusions:

Agenda next meetings

- Next meeting the discussion of LHeC and interference with ALICE
- CERN Strategic Planning
- Booklet on Nuclear Physics and Medical applications