



# IDEAAL

## *INTERNATIONAL DEVELOPMENT OF GANIL-SPIRAL2*

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### **WP2: International Coordination and New Partners**



November 7, 2017

## *DEVELOPMENT OF THE INFRASTRUCTURE, COMMISSIONING OF SPIRAL 2 : IMPACT*

- ◆ Increased interest on the part of the scientific community +
- ◆ An increase in operating costs related to the extension of the operating period -
- ◆ *“Today, the financing of phase 2 of SPIRAL2 is not acquired. This will probably be thanks to the opening of GANIL to other countries”*  
National Roadmap for Research Infrastructure 2016



International Development of GANIL SPIRAL 2  
New economic model

## ***WORK PACKAGE 2: INTERNATIONAL COORDINATION AND NEW PARTNERS***

- ◆ Task 1 : Enlargement of membership towards academic and involvement of institutional funders

*CEA : Maria FAURY, Pascal DEBU, Sylvie LERAY, Nicolas ALAMANOS*

*CNRS : Fanny FARGET, Natacha MOQUET, Amélie MARIAN (02/17)*

- ◆ Task 2 : Private sponsors and banks

*CEA : Annabelle RONDAUD*

- ◆ Task 3 : In-kind contributions

*GSI : Haik SIMON, Sonia UTERMANN (07/17)*

- ◆ Task 4 : Involvement of academic users – representative of large collaborations in User Board

*IFJ PAN : Bogdan FORNAL*

# *TASK 1: ENLARGEMENT OF MEMBERSHIP TOWARDS ACADEMIC AND INVOLVEMENT OF INSTITUTIONAL FUNDERS*

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## **WP2: International Coordination and New Partners**



# *A STRATEGY FOR THE INTERNATIONAL DEVELOPMENT OF GANIL SPIRAL 2*

## ◆ Methodology

- Analysis of partnerships models from other large infrastructures (ILL, CERN, FAIR ...)
- Analysis of the global budget and the projects' budget
- Define the partnership model for GANIL SPIRAL 2 (in discussion)
- Follow-up meeting with CEA, IN2P3, GANIL

# ANALYSIS OF PARTNERSHIPS MODELS (FAIR, CERN, ILL)

## ◆ Various models for cost sharing:

### ○ FAIR :

	Fixed operation costs (70%)	Costs to operate the accelerators (- personnel) (23%)	Costs to operate the experimental end-stations (6%)
Members	×	×	×
Associate members	×	×	×
Non-members with more than 1% of users		×	×
Non-members with less than 1% of users			×

# *ANALYSIS OF PARTNERSHIPS MODELS (FAIR, CERN, ILL)*

## ◆ Various models for cost sharing:

### ○ CERN :

- Calculation of the scale of member states / associate members based on net national income
- Associate members contribute to 10% of their theoretical contribution

### ○ ILL :

- Scientific members : fixed amount + variable amount depending on the percentage of beam-time
- ~25% of the ILL budget

# ANALYSIS OF PARTNERSHIPS MODELS (CERN, ILL)

## ◆ Main fair-returns :

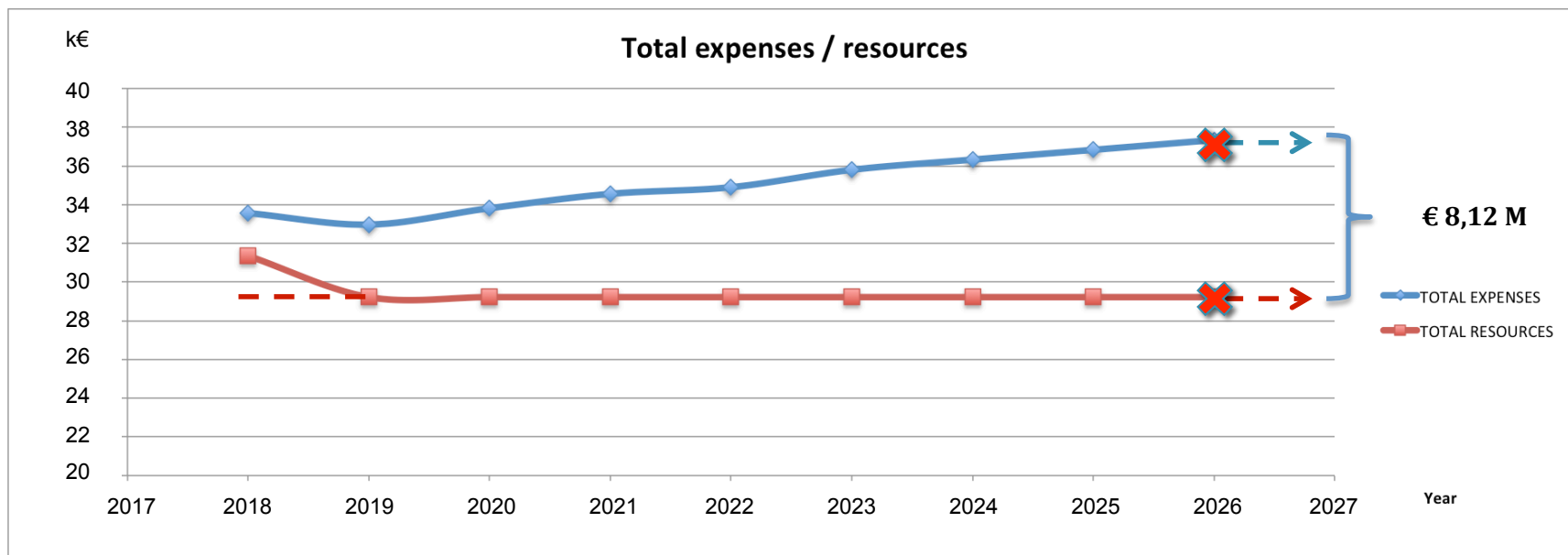
	CERN	ILL
<b>Representation in committees</b>	CERN council and its committees	Scientific council ; Subcommittee on Administrative Questions ; Observer in ILL steering committee
<b>Eligibility for staff appointments</b>	Nationality on a pro-rata basis for all members and associate members	Not enough foreign candidates for non-scientific positions
<b>Entitlement of Industry from partner's countries to bid for the RI contracts</b>	Purchase on a pro-rata basis for all members and associate members	Yes, except for around 30 % of the expenses which are in a captive market (French)
<b>Beam-time</b>	No restriction to members except for some collaborations (Ex: ISOLDE)	The beam time distribution is the main way to ensure a « fair return » a posteriori (selection based on excellence)



# BUDGET ANALYSIS

Estimated Beam time (in month)									
	2018	2019	2020	2021	2022	2023	2024	2025	2026
TOTAL (GANIL/SPIRAL2)	6	8	8	10	10	12	12	14	16

Total running costs:

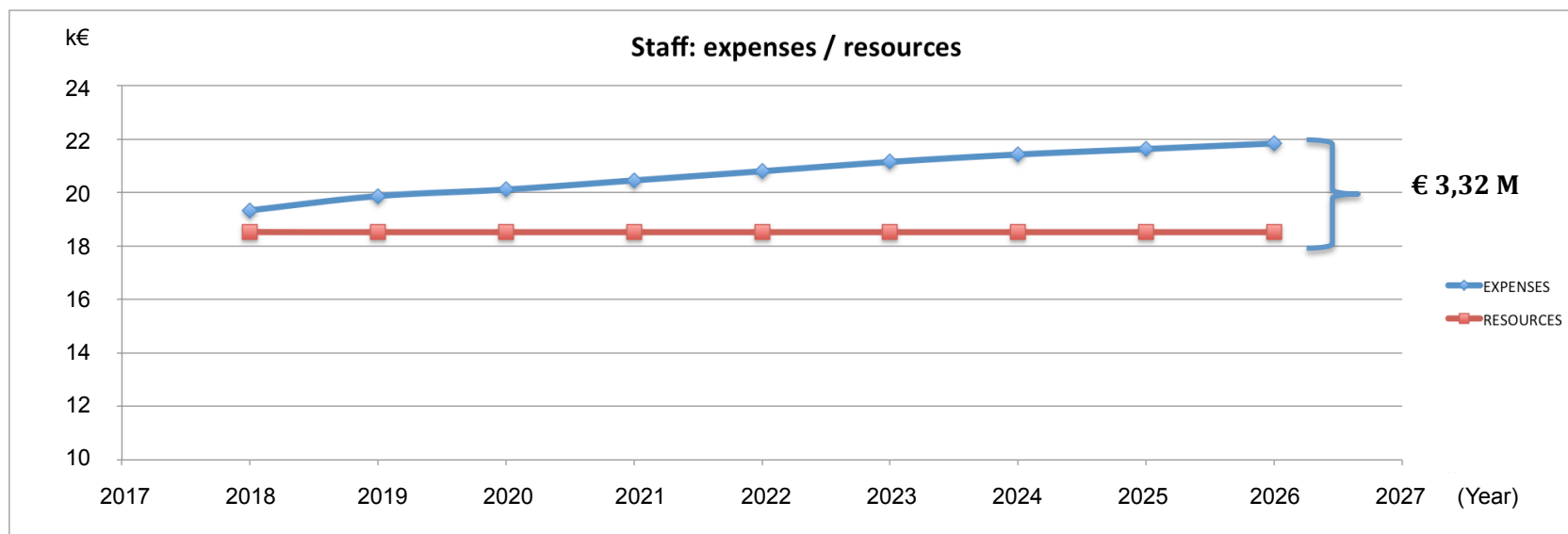


Notes :

- On the bases of the expenses plan sent to the Ministry of Research
- Hypothesis : flat ressources from CNRS/CEA (2017) in order to calculate the gap
- An overall trend, to be refined thanks WP3 – task 2

# BUDGET ANALYSIS

## Staff :



	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>Needs in HR (FTE)</b>	240	242,8	244,8	246,8	248,8	250,8	251,8	251,8	251,8
<b>Resources Hyp1 (FTE 2017)</b>	236,1	236,1	236,1	236,1	236,1	236,1	236,1	236,1	236,1
<b>↗FTE</b>	3,9	6,7	8,7	10,7	12,7	14,7	15,7	15,7	15,7

## ***BUDGET ANALYSIS***

For one month of beam-time :

	<b>Operation costs (k€/operation month)</b>	<b>Human resources (man-months)</b>
NFS	10,1	3
DESIR	156	7,5
S3	135,78	13,5

## THE GANIL SPIRAL 2 PARTNERSHIP MODEL (1)

- ◆ Associate partners. Not members like CEA & CNRS in the first stage, but could be explored in a second stage

*Art 9.3: "The EIG may decide to collaborate with scientific partners that are not members of the Group but with legal personality, through bilateral agreement"*  
Constitutive Agreement EIG GANIL 2015

- ◆ 5 years contracts:

- Objectives for the first stage (2019 – 2023) :
  - Operation cost of GANIL SPIRAL : 12 month of operation
  - Involve the partners in the decisions regarding the phase 2
- Objectives for the second stage (2024 – 2028) :
  - Investment SPIRAL 2 phase 2
  - Operation cost of GANIL SPIRAL 2 : 16 month of operation (~2026)

## *THE GANIL SPIRAL 2 PARTNERSHIP MODEL (2)*

- ◆ Possible fair-return in exchange of the contribution :
  - Participation in committees
  - Scientific and technical collaborations
  - Temporary positions, training
  - Consideration of companies and institutions in the invitation to tenders
  - Travel and subsistence for staff exchange

## THE GANIL SPIRAL 2 PARTNERSHIP MODEL (3)

### ◆ In discussion :

- The cost sharing :
  - Threshold to become associate partners
  - Consideration of past investment
- Beam-time :
  - Context : excellence as a priority, « regional reciprocity » in nuclear physics community
  - How to propose an interesting offer for associate partners who will accept to invest in GANIL on a long-term basis ?
  - Proposal : a priority access for associate partners whose experience has been selected by the PAC ?

## ***NEXT STEP***

- ◆ End 2017 – beginning 2018 : GANIL, CEA, CNRS agree on the strategy
  
- ◆ 2018 : presentation of the strategy to the Minister
  
- ◆ 2018 : contact the partners and start the negotiations
  - in priority with : Germany, Poland, Sweden, Belgium, Czech Republic, China
  - and then with : Italy, India, Romania, Israel, Hungary, JINR Dubna, USA, Korea

**Thank you for your attention**