

THE FRENCH NATIONAL RESEARCH AGENCY : an overview

The evaluation process

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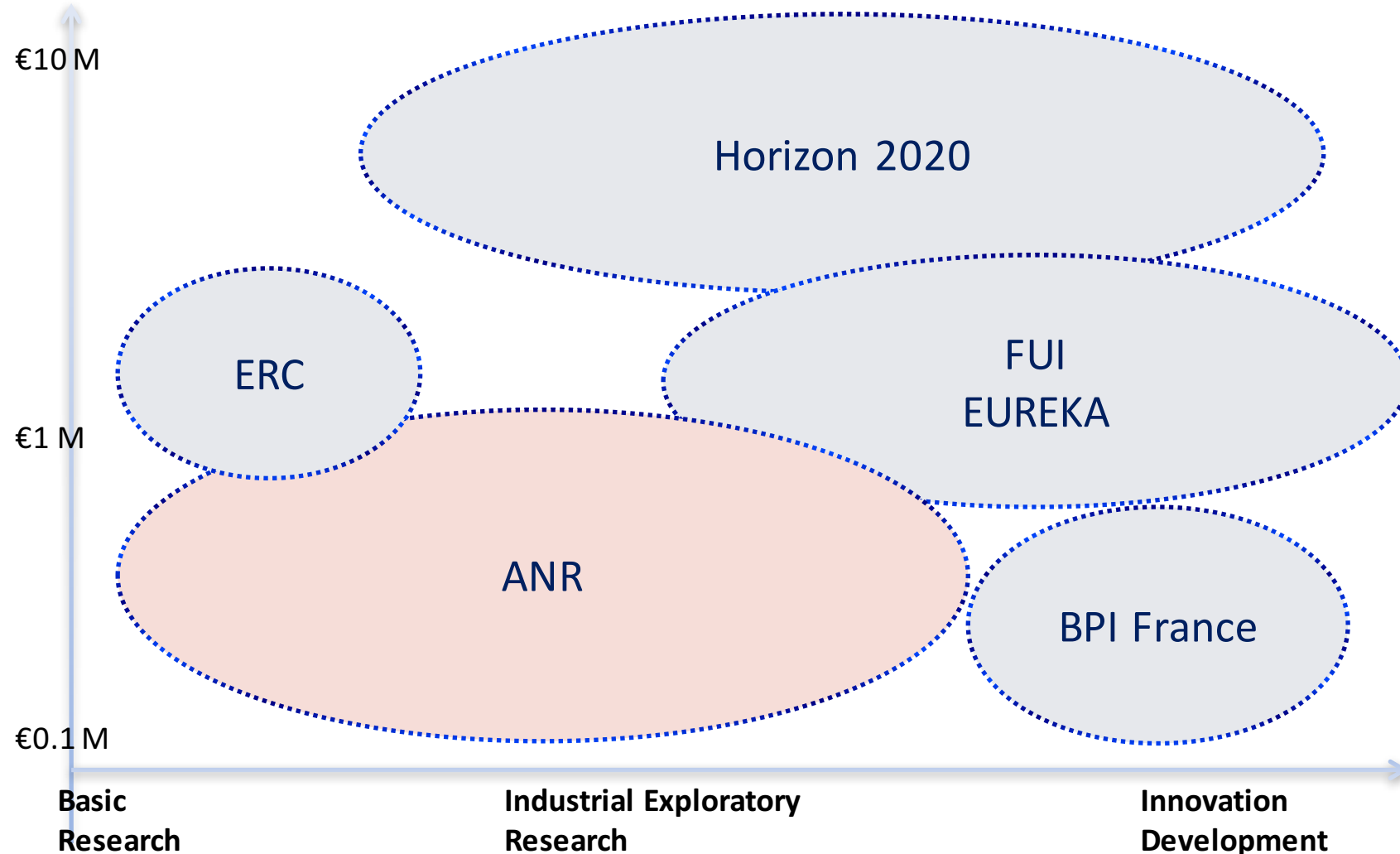
ANR:

The French National Research Agency

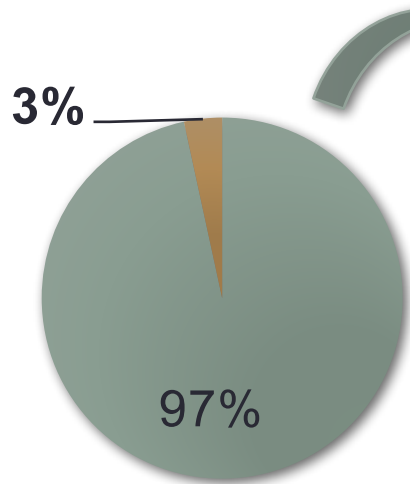
- A **public organisation** depending on the Ministry of high education and research created in 2005
- A **research funding agency**:
 - Competitive project-based research funding:
 - In all fields of science
 - In basic and applied researches
 - For research organisations, universities, private companies & SME
- Reinforced by a decree in 2014 with a new mission : *the analysis of the research offering and assessment of ANR impact in national scientific production.*
- Executive agency for “**Investments for the future**” a major State programme in the area of higher education and research

ANR in the landscape of research funding

Funding range
(whole project duration)

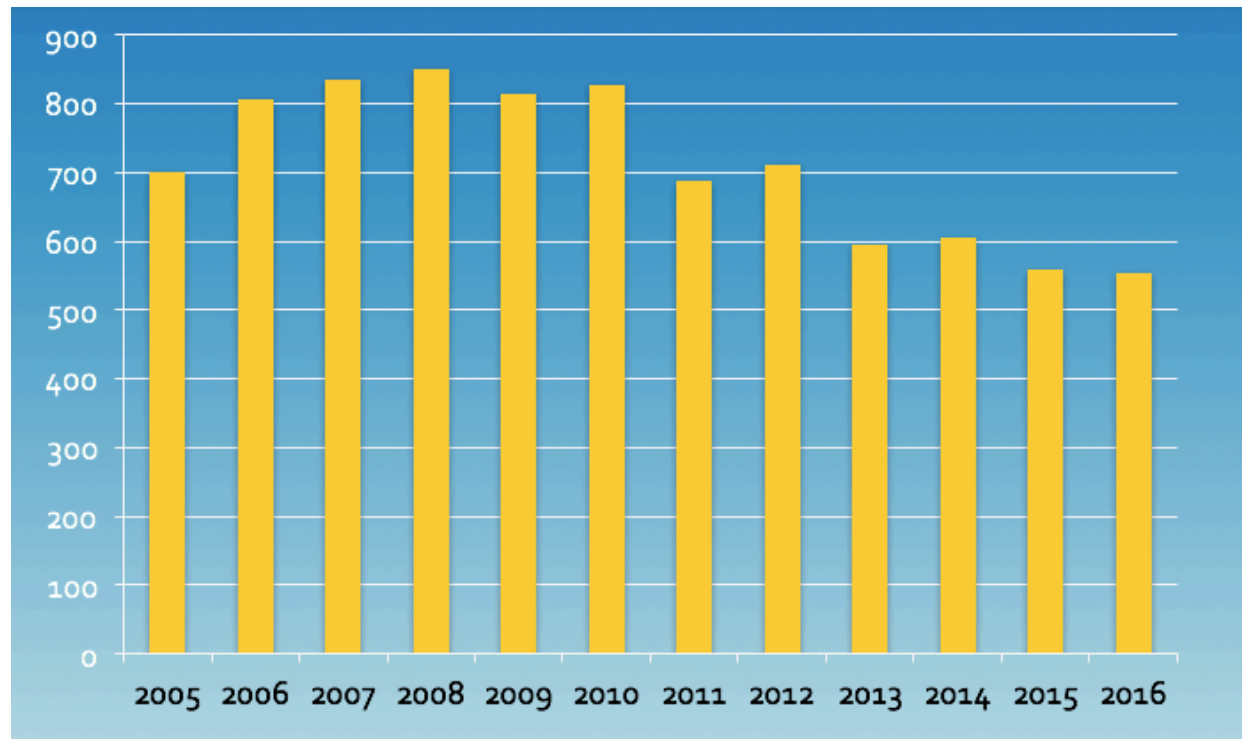


Some elements of context



Budget € 

Evolution of ANR budget (M€) since 2006

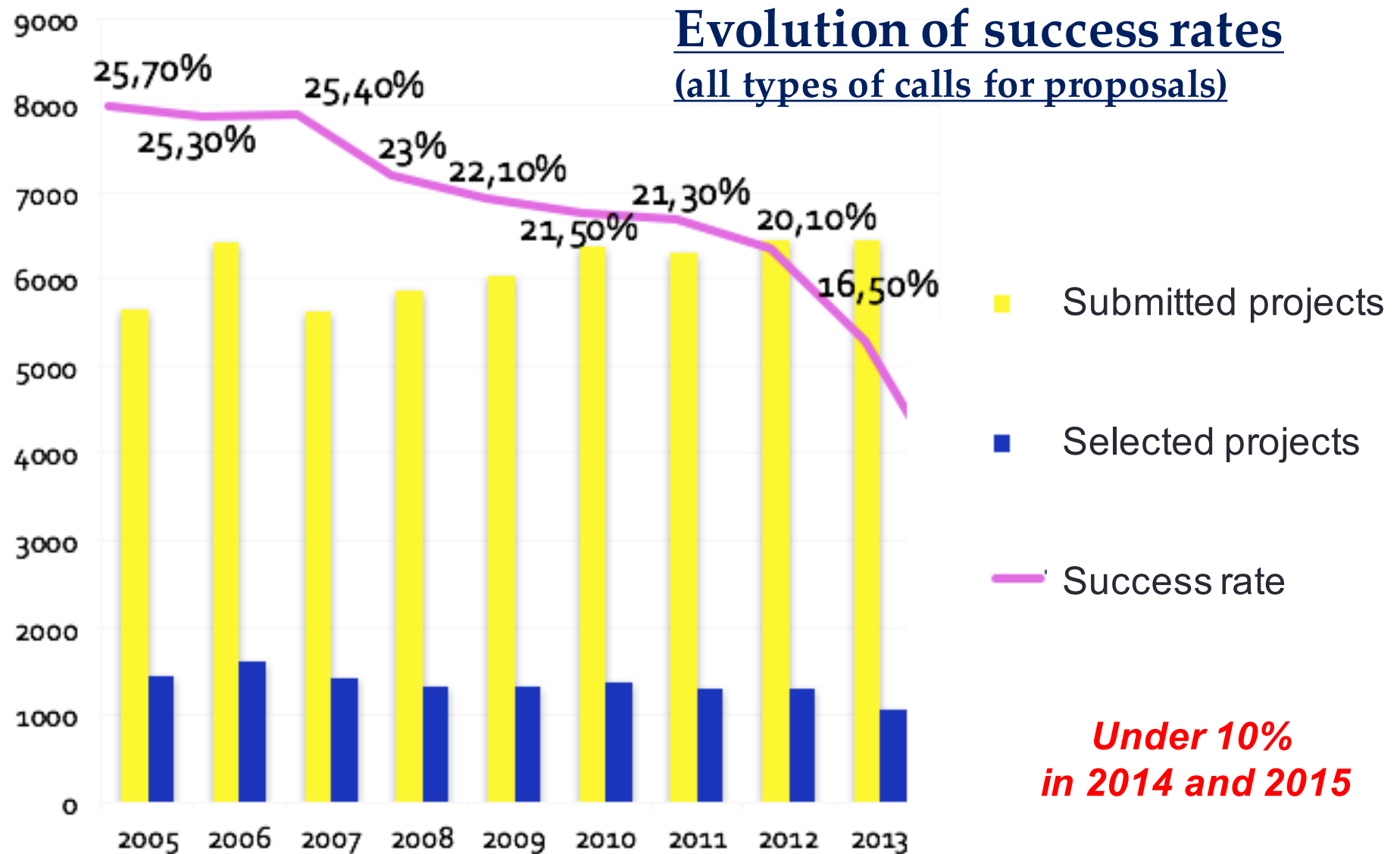


**MEIRIES budget
about 26 Bn€**

*(Mission Europe International
for research, innovation
and high education)*

*(23 Bn€ from research
Ministry and 3 Bn€
from other ministries)*

Some elements of context (2)



Some conclusions in 2012-2013

- The selection rate became low (or too low) for a good acceptance by the scientific communities.
- The submission of a large number of full proposals (40 pages) was time-consuming for researchers and also for committees.
- The funding offer was very fragmented. The number of calls issued each year was too high (in 2013, more than 50 thematic calls and a “Blanc” blue-sky programme covering all basic researches).
- The government must have a research strategy in coherence with international landscape (International projects represented 17%).



The ministry of research requested the agency to reinvent its way of working for the scientific communities.

A new work programme
in deep accordance with the
National research strategy (SNR)

A new selection process for a
generic call

An annual Work programme (WP)

- A unique document replacing more than 50 programmes.
- In deep connection with the strategic agenda « *France Europe 2020* » (in accordance with European *Horizon 2020* programme).
- In accordance with the National Research Strategy (SNR)
- The result of a broad national consultation (national thematic Alliances, CNRS, public and private stakeholders).
- The WP is then the ANR roadmap for a given financial year
 - ❖ a general overview of the agency's research funding offer,
 - ❖ main actions and calls for proposals (including a generic call),
 - ❖ research priorities,
 - ❖ funding instruments available and evaluation methods

The 9 societal challenges

- 1. Efficient resource management and adaptation to climate change
- 2. Clean, secure and efficient energy
- 3. Industrial renewal
- 4. Life, health and well-being
- 5. Food security and demographic challenges
- 6. Sustainable mobility and urban systems
- 7. Information and communication society
- 8. Innovative, inclusive and adaptive societies
- 9. Freedom and security of Europe, its citizens and its residents

- and « the other knowledge challenge » for the themes outside societal challenges

Overview of WP 2017 and its 4 components

GENERIC CALL	SPECIFIC CALLS
Major Societal Challenges	
9 societal challenges Collaborative Research Projects (PRC) & Young Researchers (JCJC)	Challenge competitions
At the Frontiers of Research	
All-knowledge challenge Collaborative Research Projects (PRC) & Young Researchers (JCJC)	OH Risk
Building the European Research Area and France's international attractiveness	
International Collaborative Research Projects (PRCI)	Setting up European or International Scientific Networks, Hosts High-Level Researchers, Bi- and multilateral calls
Economic Impact of Research and Competitiveness	
Collaborative Research Projects involving Enterprises (PRCE)	LabCom, Carnot Institutes, Industrial Chairs

Each cross-cutting component has a dedicated budget and instruments

Main funding instruments

Individuals

Young Researchers
*Hosting High-Level
Researchers*
Industrial Chairs

*Each instrument has its
own raison d'être, specific
expected impacts, and
distinct characteristics in
terms of selection*

Collaborative research

Collaborative research projects (PRC)

*Collaborative research projects involving firms
(PRCE)*

International collaborative research projects (PRCI)

Specific international calls (bilateral or multilateral)

Challenge competitions

LabCom, Flash calls, OH Risk

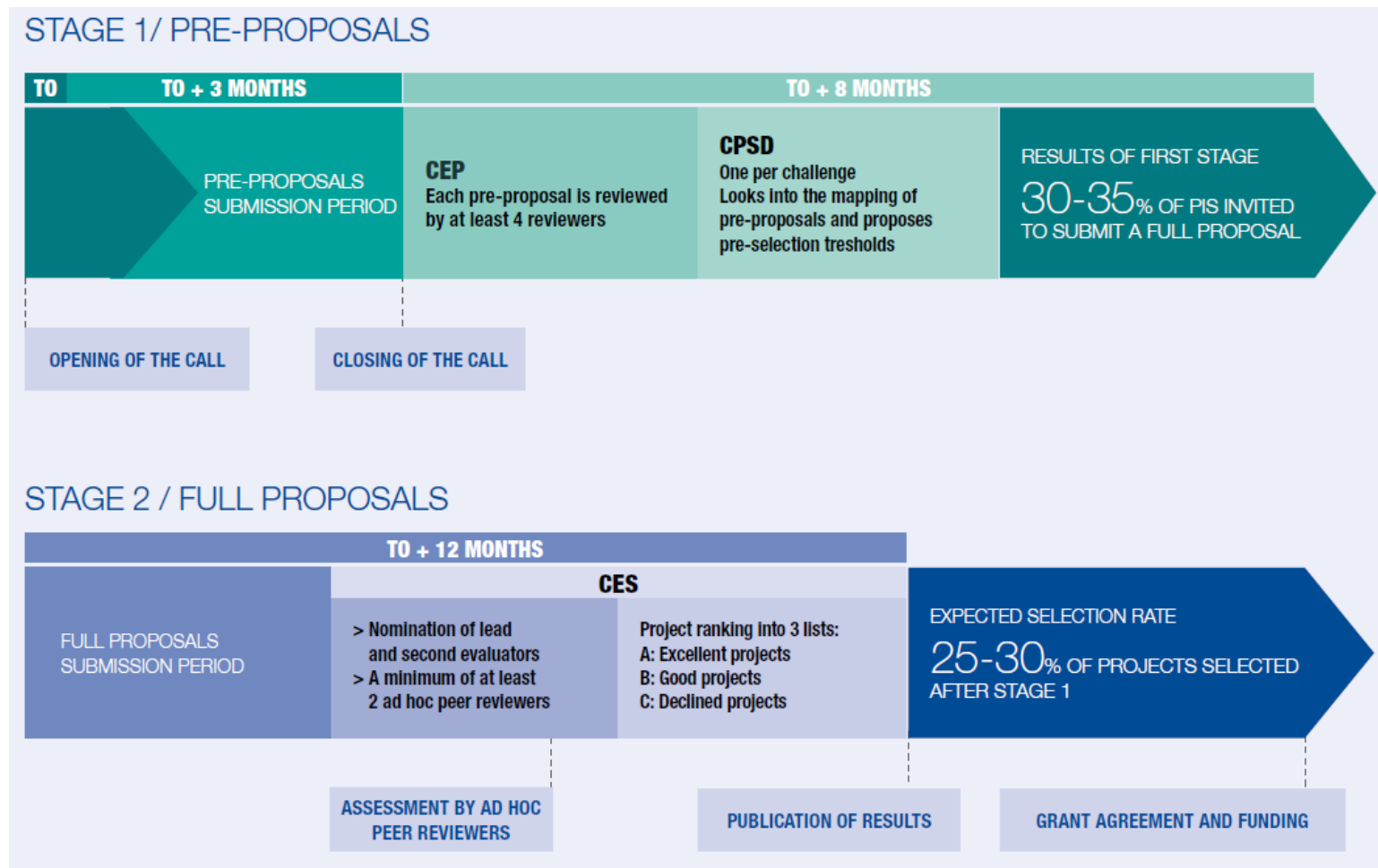
80% of
ANR
funding

Project initiation

*Setting up European or International
Scientific Networks*

An adjusted evaluation process to select the best projects

- Under the Generic call for proposals, the whole evaluation and selection process is adjusted to the new format of submission.



The 2 steps selection process

- A short pre-proposal (intention letter) of 5 pages describing the objectives of the project and the means to be implemented. The positioning in a societal challenge, the originality or the innovation as well as the consortium constitution are also very important.
- If selected, a complete proposal (40 pages) describing the details of the envisioned research, partners, requested funding, state of the art, impact...

Note : near 42% of pre-proposals were selected in 2016

The principles of evaluation/selection

- Competitive evaluation by peer reviewers (french and foreign) external to the Agency
- Respect for international standards : Excellence, impartiality, transparency, confidentiality, ethics...
- A fair treatment of all projects
- The independence of the committees.
- The acceptance of the overall process in a difficult context (low success rate due a a strong financial pressure)

Evaluation criteria in 2013

- ***Step 1 (preproposal)***

- Significance of scientific and technological objectives
- Relevance and strategic nature of the project
- Consistency of the pre-proposal with the project's objectives

- ***Step 2 (full proposal)***

- Relevance of any changes (if concerned)
- Scientific excellence and/or innovative nature for technological research
- Quality of the project's construction and its feasibility
- Overall impact of the project

Note : Each criteria is rated on the scale from 1 to 5.

A new set of criteria in 2016 for the 2 steps

- **Quality and originality of research proposed**
 - Clarity of objectives and research hypotheses
 - Innovative nature and potential for progress with relation to the state of the art
 - Feasibility, particularly with regard to methods and management of scientific risks
- **Project organisation and resources implemented**
 - Skills, expertise, and involvement of the scientific coordinator
 - Quality and complementary nature of the consortium, quality of the collaboration for PRC and PRCE or quality, complementary nature and potential of the team for JCJC
 - **Appropriate resources** for objectives
- **Overall impact of the project**
 - The potential impact in terms of scientific, economic, social or cultural value.
 - Capacity to address issues related to the challenge and the instrument by its scientific, economic, social or cultural objectives
 - Strategy for disseminating or valorisation of the obtained results

Additional criteria for Young researchers and International collaborative projects

- JCJC

- Project gives scientific coordinator greater autonomy.

- PRCI

- Balanced scientific and financial contributions from respective countries' partners
- Added value through European cooperation, benefits for France for cooperation outside Europe

- *Note : Each criteria is rated on the scale from 1 to 5.*

The committees

- **Pre-proposal evaluation panels (CEP, French acronym)**
 - External peer reviewers (highly qualified researchers with a broad vision of the societal challenge concerned).
 - Evaluation on an individual basis, without the opinion of a third person.
 - A large set of pre-proposals (ideally between 20 and 40).
 - Rating by at least 3 different members with an automatic ranking
- **Scientific evaluation panels (CES, French acronym)**
 - Qualified French or foreign figures appointed by ANR for their scientific expertise.
 - Assessment of the full proposals (stage 2), relying on peer reviews external of the committee
 - Proposition of a selection ranking
- **Scientific challenge steering committees (CPSD, French acronym)**
 - Qualified figures from the scientific and socio-economic spheres, representatives from the national thematic Alliances, and government representatives.
 - Validation of the ranking obtained in step 1 and apply a criterion of prioritisation of the pre-proposals
 - Contribution to the Work programme

Problems and solutions

- Since 2015, for transparency, all external expertises (near 30 000) are sent to coordinators (in step 1), as well as expertises (near 10 000) with a summary report from the committee (in step2).
- Some surveys are abusive, offensive or discriminatory. The validation of these expertises is therefore necessary before sending. The validation (reading) was performed by ANR staff in 2015 and by the CES in 2016. However it is time-consuming
- For 2017, it was decided that the Committee would ensure the overall evaluation (step 1 and step 2) on its own responsibility. The report of the Committee is being a consensus before sending.

 This new procedure is designed to avoid appeals.

In 2017, a rebuttal step was introduced at the end of the process before final selection in order to increase acceptance of the overall process.

How to get the assessment the most accurate ?

How to assign the right expert for a right project
and *vice versa*

how to assign the right project to the right expert ?

First approach (2014) :

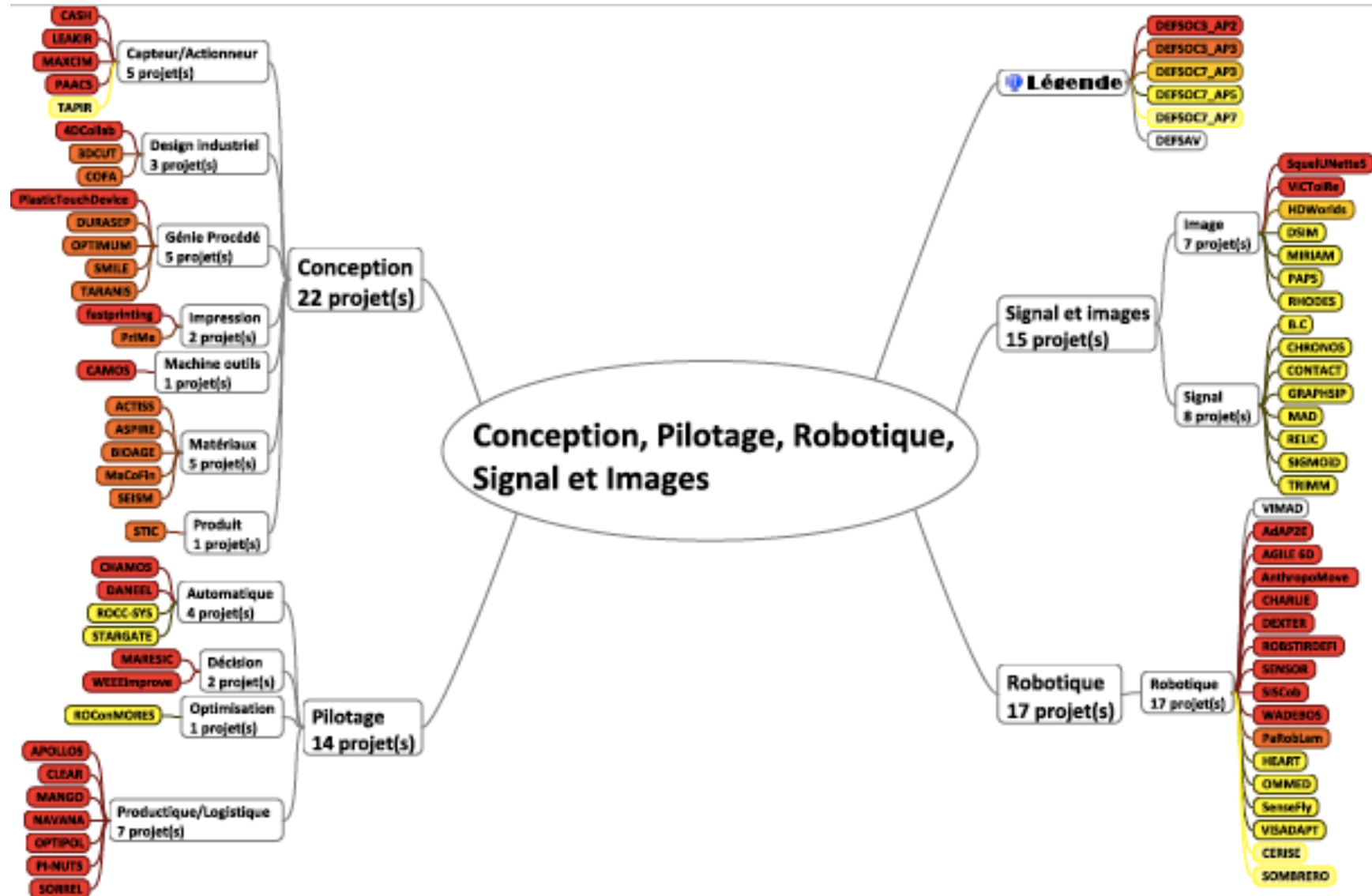
- Use of ERC descriptors and keywords .
- Use of the skills of Committee members and of ANR staff

➡ Imprecise results

A second approach : Use of a characterization process

- Each project is identified by :
 - A challenge and an axis,
 - **A Main research object** (OPR : French acronym) in a predefined list
 - **A Main research application** (APR : French acronym) in a predefined list
and their associated keywords
 - ERC code
 - Free keywords
- The IDs are then use to perform a matching between project and expert (or member of Committee).

Maps of the offer or of the selection



Evaluation of interdisciplinarity

- Definition of general cross-cutting fields (more than 2 challenges)

SENSORS

As from the proof of concept, research centring around dedicated sensors for a specific application domain (e.g. environment/climate, energy, health, food, global security) are to be submitted under **challenges 1, 2, 4, 5 or 9** respectively.

Applications concerning sensor research in the ICT domain (**challenge 7**) are to centre around the design and manufacture of sensors using nanotechnologies, and sensors with nano-measurement capacities. **Challenge 7** also involves inter-sensor communication mechanisms and protocols, as well as interactions between connected objects. Research centring around the performance (sensitivity, selectivity and the like) of physical, chemical or biological sensors for factories, products of the future, and industrial metrology (e.g. gas sensors and detectors) fall within the scope of **challenge 3**, except for NRBC-E¹⁴ agents, which fall within the scope of **challenge 9** and environmental applications, which fall within the scope of **challenge 1**.

Evaluation of interdisciplinarity (2)

- Definition of specific interfaces or specific axis within a challenge

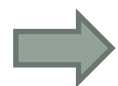
INTERFACES

Some cross-cutting research areas are related to challenge 1 as well as to other challenges. We indicate below the other challenges and areas, so as to help applicants select the challenge that is the most suitable for their research. Applicants should read the complete text of these challenges so as to familiarise themselves with the detailed content.

Big data; biology; biotechnology; health and environment; sensors; robotics

For information concerning these particular cross-cutting areas, which by and large fall within the scope of multiple challenges (including challenge 1), see the general introduction in [§ D](#) "Multi-disciplinarity, cross-cutting and interfaces".

- Installation of interdisciplinary Committees



The selection remains however a difficult task

Thank you for your attention