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Evaluation of Fundamental Research in France in the Light of Undergoing Reforms of STI system

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Organization of the lecture

- Research system in France – institutional structure, main indicators
- Evaluation of institutions (universities and research performing organizations)
- Evaluation of research units
- Evaluation of researchers and university teaching personnels



Who is conducting research activities in France?

- 202 000 people appointed in the **private research sector** including
114 000 scientists
- 162 000 people appointed in the **public research sector** including
49 400 teaching personnels (faculties)
44 000 scientists of the public research organizations
- 12 000 new PhDs started every year
2/3 in natural sciences
1/3 in humanities and social sciences
- **French National Centre for Scientific Research (CNRS)**
the largest public research organization
25 600 permanent staff, out of which
11 400 researchers



What organizations are conducting public research activities?

Higher education institutions

&

Research performing organizations

- **Universities (83)**

- Bologna system (3+2+3)
- no entrance examinations
- housing most public research laboratories
- 66 000 PhD students

- **«Grandes écoles» (~230)**

- after «classes préparatoires» (2+3)
- highly selective
- limited research effort
- ~ 3200 PhD students

- **Public S&T Organizations (9)**

CNRS - multidisciplinary

INRA - agronomy

INSERM - health

INRIA – informatics

- **Public I&C Organizations (15)**

CEA – nuclear

CNES – space

INFREMER – sea

BRGM - mining/geol.

- **Nonprofit institutions**

Pasteur Inst. - health

Specificity of the French system:

- strong interaction and interconnection between higher education institutions and research perf. org.
- focus on flexible **joint research units** rather than on big «one organization » institutes
- research units established for a **4 years period** (contract) **renewable after evaluation**



Recent instruments for making the French R&D system more effective

- Place the universities in a central position
 - New law for the autonomy of Universities (LRU 2007), revised in July 2013
- Develop funding and evaluation mechanisms
 - ANR: National research agency for project-based financing (2005)
budget ~ 800 M€/year
 - **AERES: Independent and transparent evaluation agency (2006)**
- CNRS reform
 - New system of governance, establishment of ten virtual institutes
- Increase links between research, training and innovation - new structures on the local and/or national level
- Establish new mechanisms for competitive funding (prime of excellence, LABEX, IDEX)



Evaluating research and higher education in France

Agence d'évaluation de la recherche et de l'enseignement supérieur (AERES)

established working in 2006, will be become in late 2013

Haut conseil d'évaluation de la recherche et de l'enseignement sup. (HCERES)

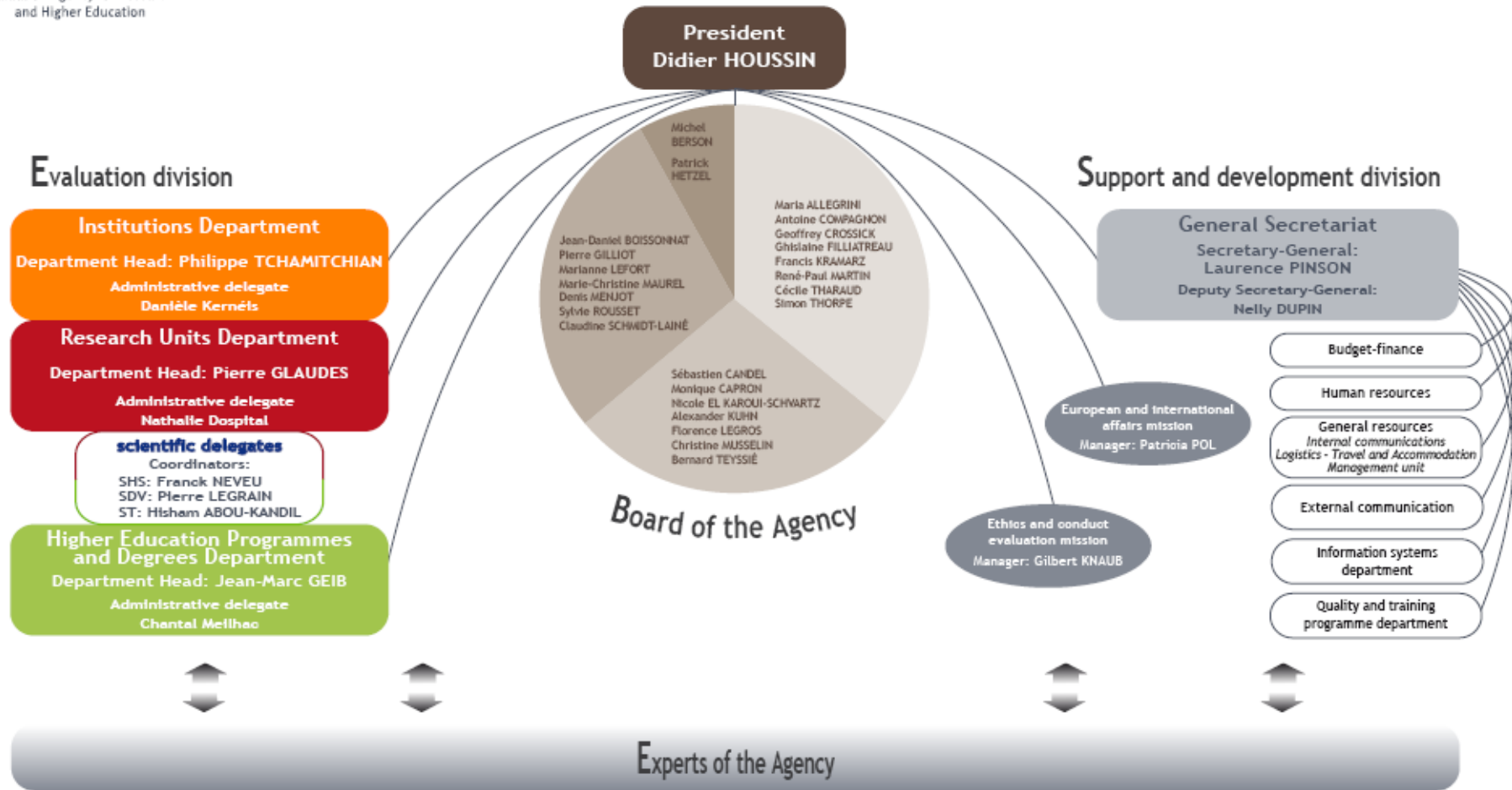
Tasks:

- evaluation of institutions (universities and research organizations)
- evaluation of research units (laboratories), **modifications since 2014 !**
- assessment of internal evaluation procedures
- evaluation of university programmes and diplomas

Composition :

- President (scientist)
- 25 board members (most are scientists, 4 years assignments)
- three departments (institutions, units, programmes and degrees)
- staff of 100 scientific delegates (part time) and 70 administrative staff (full time)
- 3700 experts called to evaluation committees per year (20% from abroad)
- annual budget of 12,0 M€ (2012)

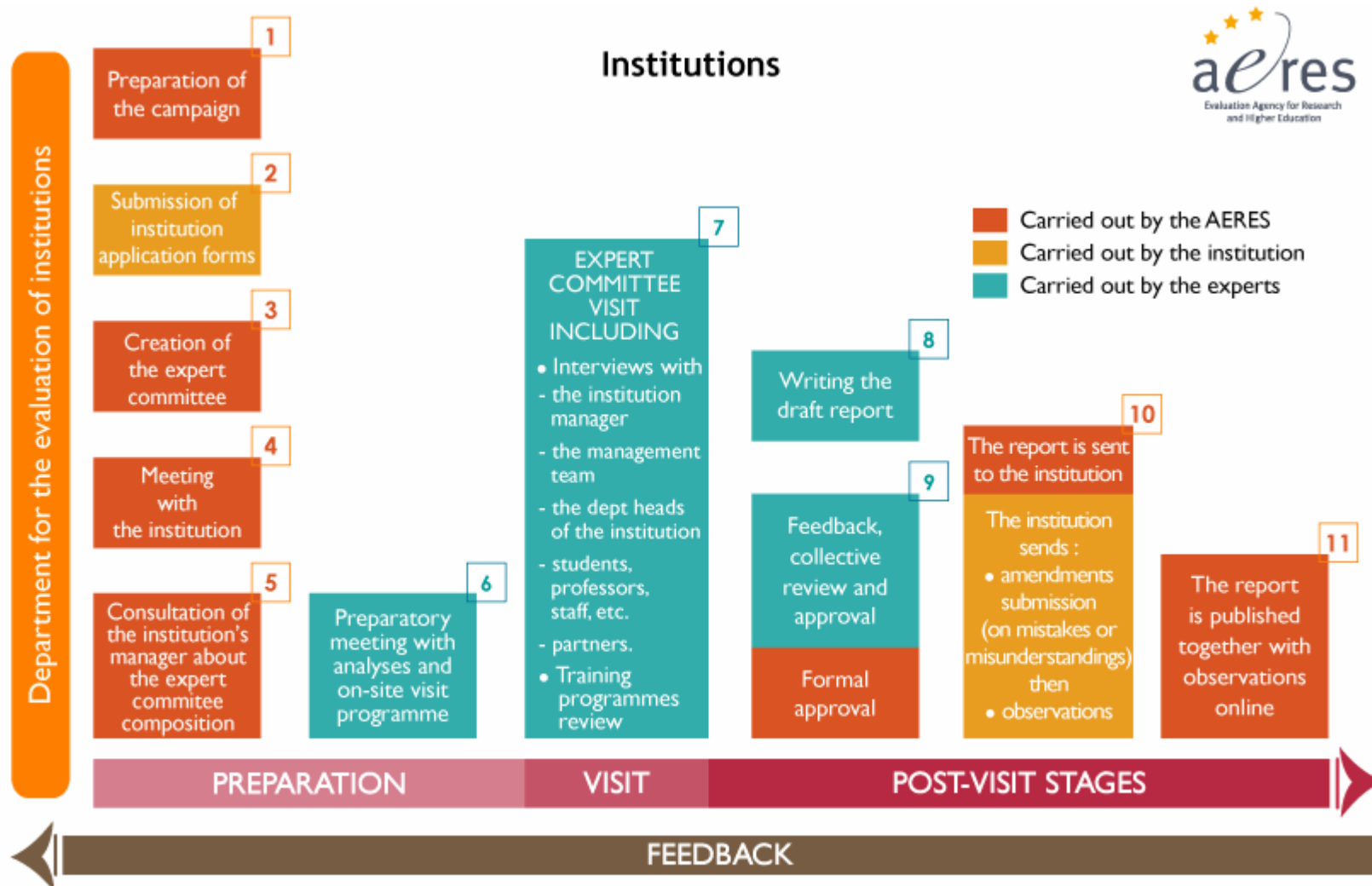
For more information see: <http://www.aeres-evaluation.com/>





Evaluation of institutions (research organizations or universities) by AERES

Autoevaluation integrated to external evaluation





Evaluation of research units by AERES

The analysis is based on **four evaluation criteria**:

- quality of scientific production;
- academic reputation and drawing power; interactions with the social, economic and cultural environment;
- organization and life of the unit;
- strategy and scientific prospects for the next contract

These criteria are graded on a four-tier scale: A+, A, B and C

Global note designing:

- A+** Unité de très haut niveau, sa visibilité internationale est incontestable, son impact majeur.
- A** Unité de haute qualité à la production remarquable et constituant un élément important du paysage français de la recherche.
- B** Bonne unité mais qui doit améliorer sa qualité dans les domaines précisés par la note multicritérisée et détaillés dans le rapport.
- C** Unité qui doit améliorer sa qualité de manière importante pour accéder au niveau d'excellence attendu. Des changements majeurs sont attendus dans un ou plusieurs domaines précisés dans le rapport.



Evaluation of research units by AERES (1)

The evaluation seeks first of all to determine the quality of scientific production

Main quantitative indicators examined for each researcher or university teacher for a period of the last 5 years:

- number of publications visible in WoS and Scopus
- impact factor of journals
- number of citations (without autocitations), H factor
- frequency of appearance as the first or corresponding author

Definition of minimum criteria for “personnels producing R&D results” (5 years)

Article in a reviewed journal, monograph chapter, data base / software, int. patent

	Researchers	Univ. teachers
Mathematics	2	2
Physics, chemistry, earth&space sciences	4	2
Engineering sciences	3	2
Life sciences	4	2
SHS	4	2



Permanent personnels in universities and research performing organizations – system of 6 public servants corps

Higher education institutions
Teachers performing research
"enseignant-chercheurs"

- Maîtres de conférences
- MCCN, MCHC



- Professeurs
- Pr2, Pr1, PrCE



Public S&T Organizations
Researchers
"chercheurs"

- Chargés de recherche
- CR2, CR1



- Directeurs de recherche
- Pr2, Pr1, PrCE

habilitation



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- Ingénieurs, techniciens, administration
- IRHC, IR1, IR2 - IEHC, IE1, IE2 – AI
- TCE, TCS, TCN – AT1, AT2

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Entering a higher corps: "concours"

Promotion inside a corps: a remote evaluation



Evaluation of university personnels and CNRS researchers

Remote evaluation performed by national instances, never by direct hierarchy

Evaluation criteria for social sciences and humanities differ from exact and natural sciences

University teachers “enseignants-chercheurs”

Evaluating body – Specialty section (87) of the National University Council

No periodic evaluation

Evaluation when asking promotion inside the corps or changing corps only

CNRS researchers

Evaluating body – Specialty section (44) of the National Committee attached to CNRS

Periodic evaluation, each 4 years major report submitted, light report at mid term

In addition evaluation when asking promotion inside the corps or changing corps



Thank you for your attention