Science Diplomacy in Action seminar at the Institut Pasteur

February 11th, 2013

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President ARIIS

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ARIIS: the Alliance for Research and Innovation in the Healthcare Industry

Public-Private Partnerships: Accelerating Innovation

Claude Bertrand, EVP Research & Development, Chief Scientific Officer, -IPSEN Pharma
President ARIIS

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ARIIS: Key objectives

- **ARIIS has been working to unite the healthcare industry since February 2010**
  - backed by the industry association, the FEFIS

- **Bringing together healthcare stakeholders around the themes of Research and Innovation:**
  - players in the drug industry,
  - medical technology,
  - diagnostics,
  - biotechnologies (human and veterinary)
  - Close coordination with public sector organizations (e.g. AVIESAN, Inserm, CNRS, etc.)

- **ARIIS aims to:**
  - promote not just public-private partnerships, but also private-private partnerships
  - provide partner with greater visibility by interacting with key competitiveness clusters - IHUs (university hospitals), in the context of global clusters

Actions

- Supporting IA (Future Investment) winners
- Participating in the national biobank network
- Translational research
- Innovation school
- Lead the International Research Meetings (RIR)

- **Functional map of the R&D centers of members and Future Investment (IA) winners**

- **Audit of public/private partnerships**

Facilitating role

Mission 1: Future Investments

1. Support for IAs, in line with the criteria for industrial players and predefined by the committee

- 4 Hearings for project sponsors

- **27 Future investment projects reviewed and supported**:

  13 IHUs (university hospitals), 2 IRTs (tech research institutes), 4 Labex's (laboratories of excellence), 3 infrastructure projects, 2 Carnot Institutes (animal health and lymphoma), 1 industry committee, 1 PHUC (university hospital oncology research institute), 1 Equipex (facilities of excellence), …

2. Bringing these future investments to the industry's attention

- **Presenting winners before the committee:**
  - The 6 IHUs + the IRT in infectiology
  - Projects in the Alsace region: Alsace Biovalley, SATT Conectus and 3 Labex's (INRT; Medalis; HepGen)
  - …

3. Channelling industry's contribution to the strategic orientations of future investments, especially in their governance

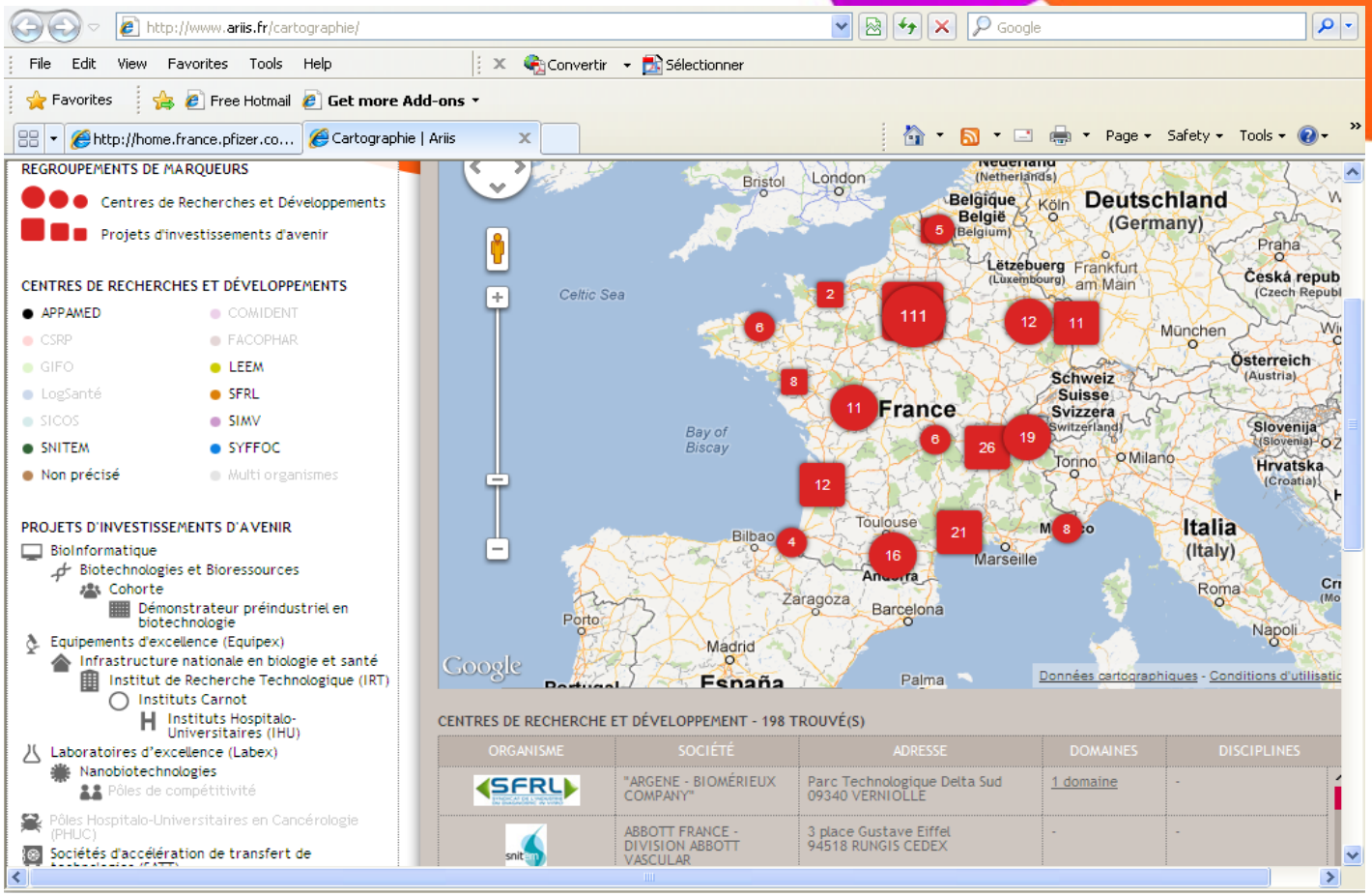
→I. Thizon de Gaulle represents ARIIS on the board of the IHU ICAN
→P. Denèfle represents ARIIS on the strategic guidance board of the IHU A-ICM

4. Improving clarity for these future investments

Building an **interactive map** of future investments in collaboration with the CGI (Commissariat-General for Investment)
1st wave mapped: 153 projects
2nd wave: end of September - 86 projects

Publication on the ARIIS website since May 30th 2012

Link between healthcare industry research sites and future investments



Next step: Implementing the measures of the CSIS (Strategic Council of the Healthcare Industry)

- **Measure n° 1: Amplifying public-private research partnerships**
  - Simplifying the partnership process
  - Optimizing the way drug compounds are used as a research tool
  - Supporting the development of public-private partnerships

- **Measure n° 2: Strengthening clinical and translational research**
  - Promoting translational research
  - Promoting clinical research

Accelerating innovation models:

New kinds of partnerships?

Attractiveness of PPPs in France

- **Quality of care and Biomedical Research**

- **Pluridisciplinary training courses**

- **Emergence of patient-focused concentrations and skills hubs**
  - Future investments, in particular IHUs (uni hospitals)
  - Centers of Excellence in Translational Medicine (CEMTs)
  - Network of CICs (clinical research centers), etc.

PPP incentives - examples

- Part of the French National Research Agency's (ANR) role is to **stimulate cooperation between public and private research players**.
  - Calls for projects
  - Resources for promoting partnership-based research
    - The Carnot program,
    - Support for competitiveness clusters,
    - Research tax credits,
    - Industrial chairs,
    - Cifre theses (Cifre = industrial research-based training agreements)

Development of a tool for monitoring Public-Private Partnerships (PPPs)

in the French Healthcare sector

2011 Study

Objectives:

Quantify and qualify PPPs in France
for facilitating and accelerating the creation of
Public-Private Partnerships (PPPs)

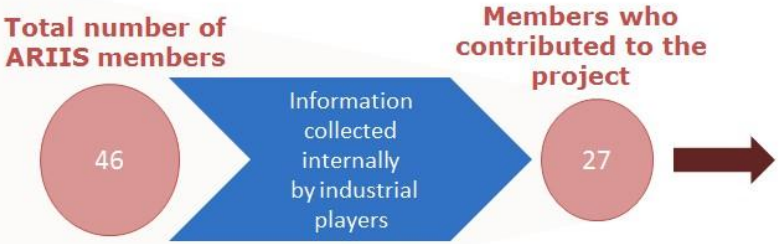
Context and Method

This initial study, carried out in 2011, looks at PPPs signed or on which negotiations began in 2010

Four main partnership types:

- R&D projects
- Licensing agreements
- Creation of a mixed unit
- Technological platform

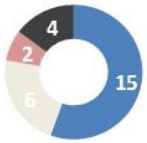
Nature of the stakeholders



Total number of PPPs: 258

Description of the 27 participants

Main business sector



- Human medicines
- Diagnostics
- Medical devices
- Veterinary medicines

Number of employees worldwide

1 Very small enterprises (<20 employees)

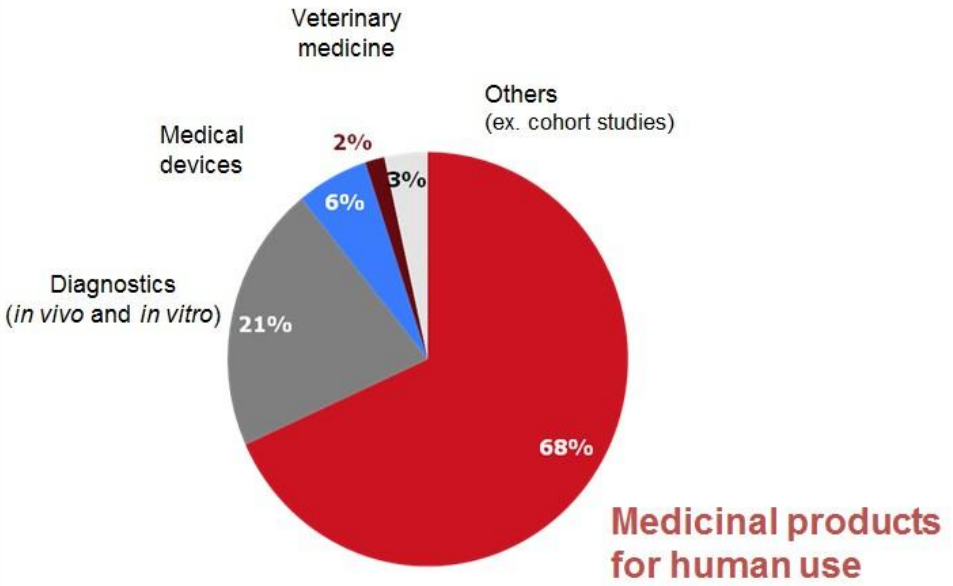
2 Small and medium-sized enterprises (20 to 249 employees)

7 Intermediate-sized enterprises (250 to 4,999 employees)

15 Large enterprises (5,000 employees and over)

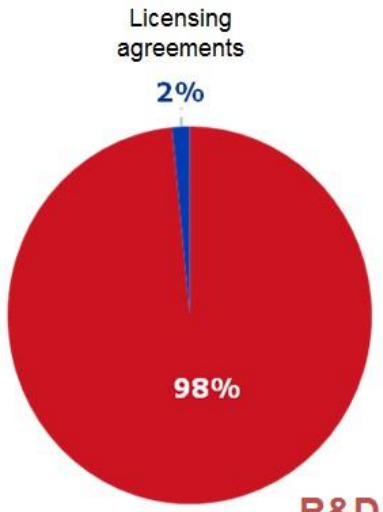
> 65,000 FTEs in France

Nature of projects



Medicinal products for human use

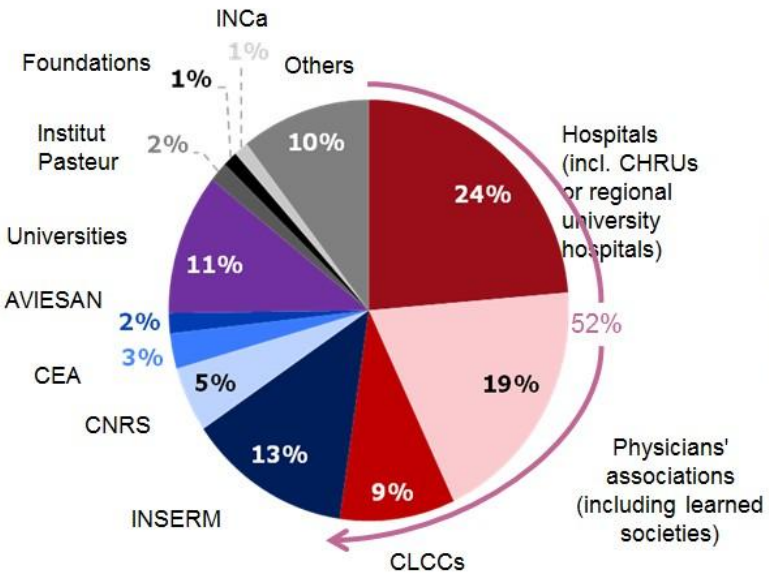
Main applications for PPPs

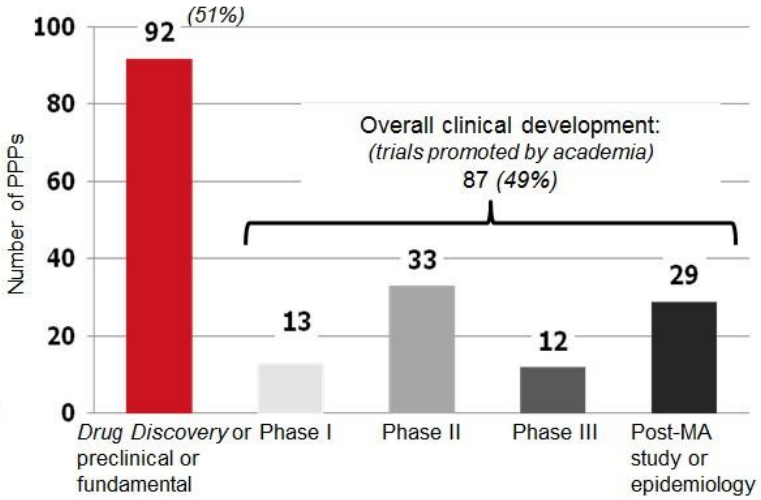


R&D projects

Typology of PPPs

Nature of projects

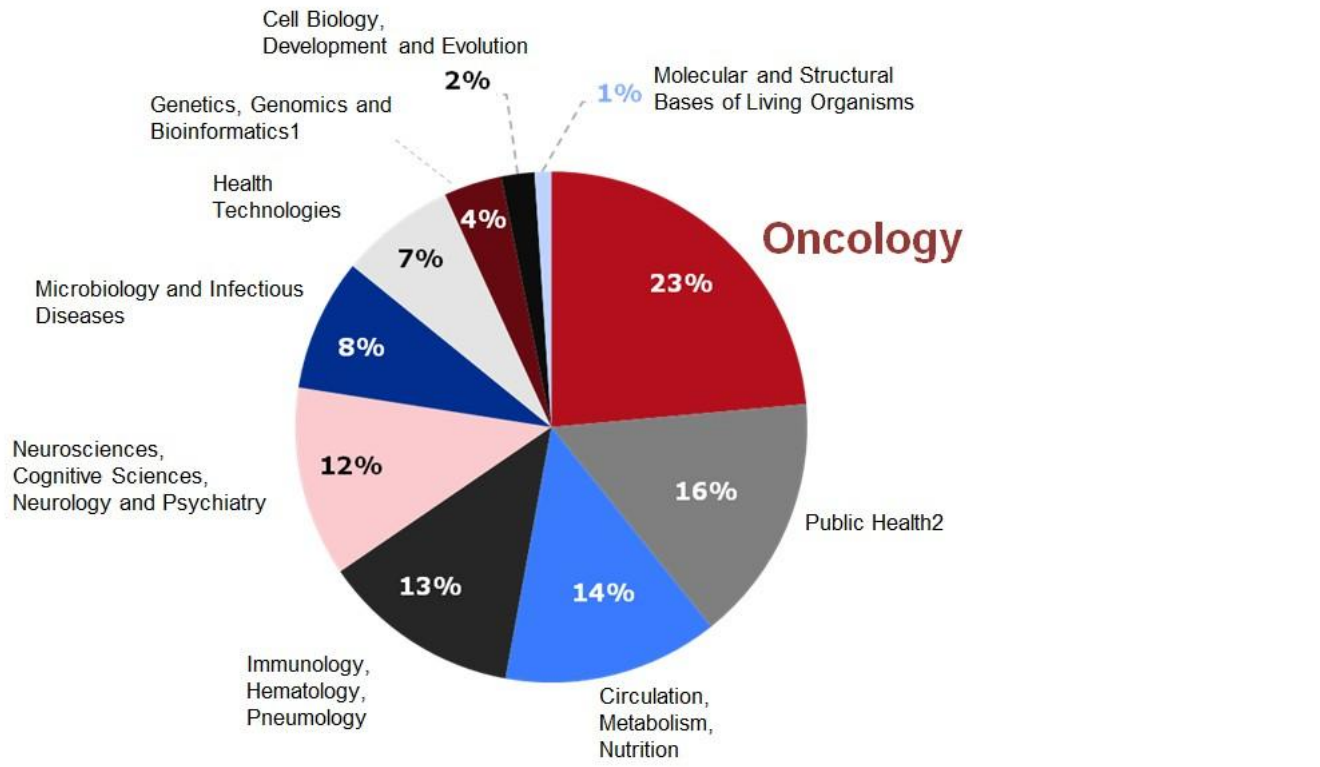




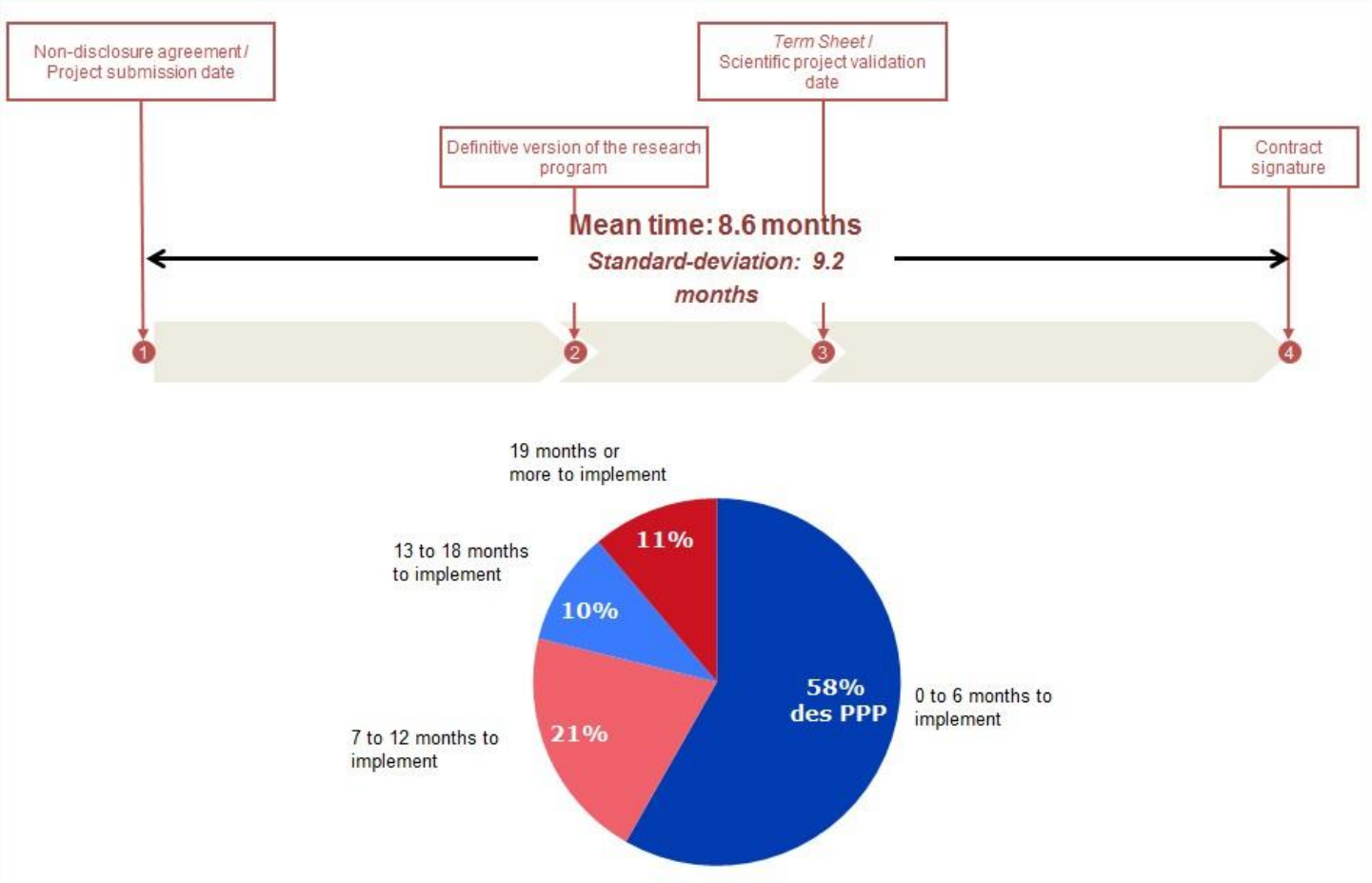
52% involve a treatment centre or clinicians' associations

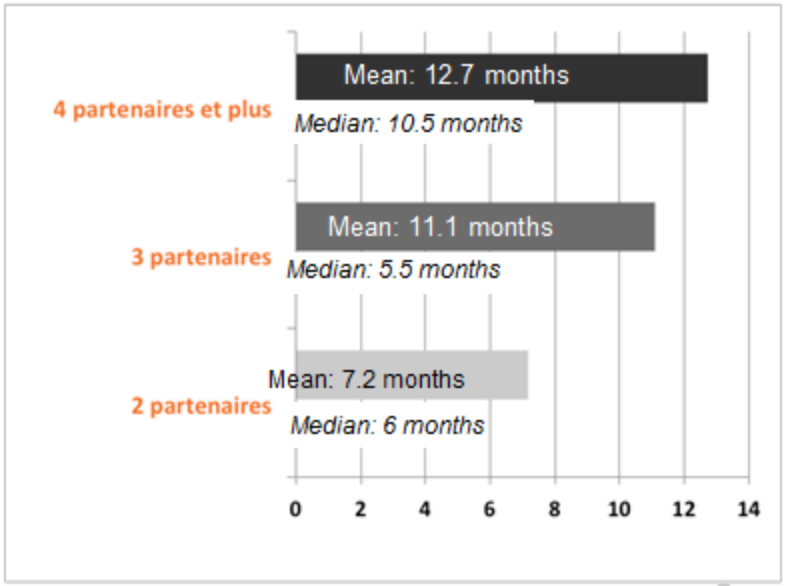
INCa (National Cancer Institute)
AVIESAN (French National Alliance for Life Sciences and Health)
CEA (Centre for Nuclear Studies)
CNRS (French National Centre for Scientific Research)
INSERM (French National Institute for Health and Medical Research)
CLCC (Centers for Combating Cancer)

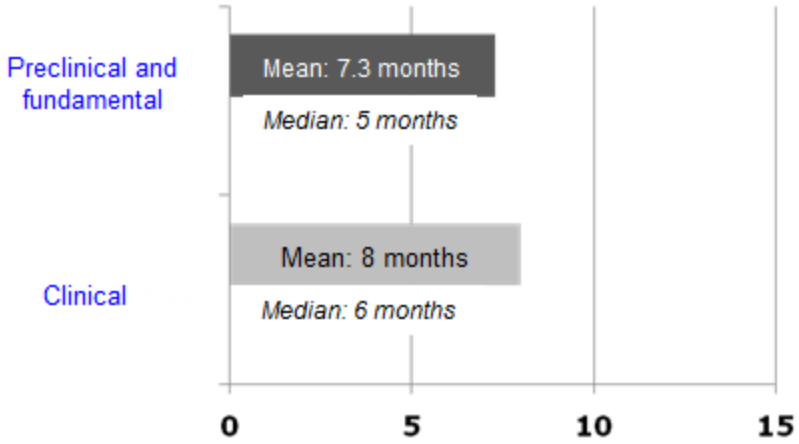
Representation of research units
(as per ITMO multi-organization thematic institute classification)

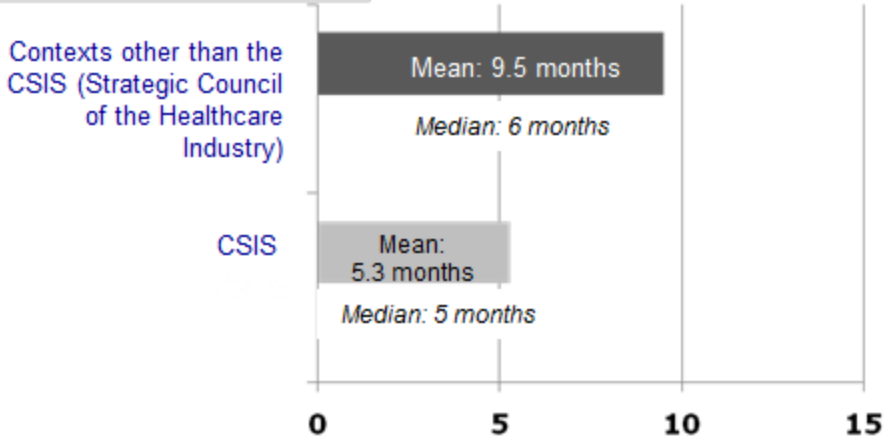


Timeframes for creation of PPPs



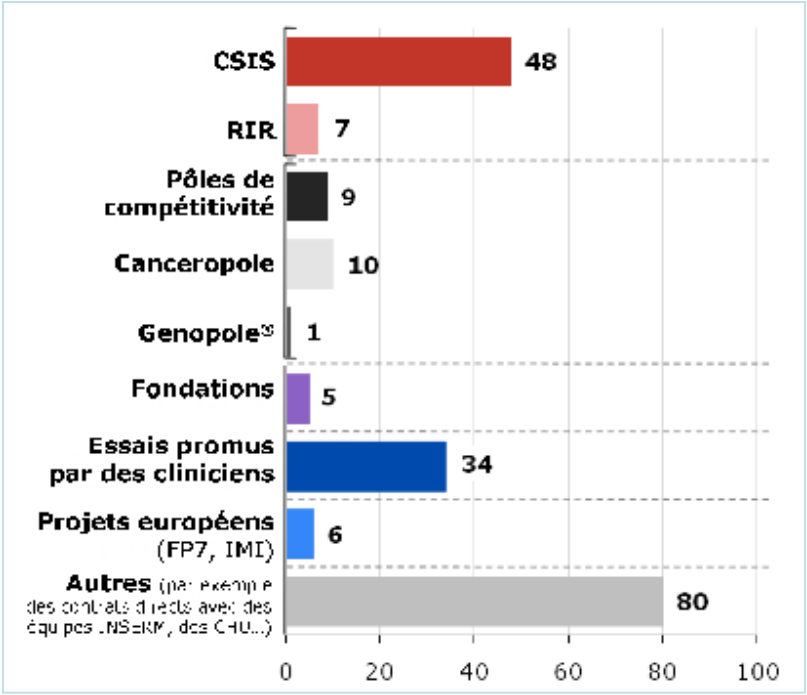

4 partenaires et plus
Mean: 12.7 months
Median: 10.5 months
3 partenaires
Mean: 11.1 months
Median: 5.5 months
2 partenaires
Mean: 7.2 months
Median: 6 months
0
2
4
6
8
10
12
14


Preclinical and fundamental
Mean: 7.3 months
Median: 5 months
Clinical
Mean: 8 months
Median: 6 months
0
5
10
15


Contexts other than the CSIS (Strategic Council of the Healthcare Industry)
Mean: 9.5 months
Median: 6 months
CSIS
Mean: 5.3 months
Median: 5 months
0
5
10
15

Factors for success

- **Favorable environments**
  - the CSIS, International Research Meetings, etc.
- **Support structures:**
  - competitiveness clusters, foundations, etc.
- **Simplified public funding:**
  - European (IMI, etc.)
  - National (FUI single interministry fund, etc.)
- **A suitable organization:**
  - Academic promotion unit, dedicated PPP team for industrial players
    - a single point of contact
  - Term-sheets and standard contracts for documenting basic principles and then focusing on partnership specifics,
  - Early involvement of support functions such as legal affairs.



New Public-Private Partnerships The role of ARIIS

Facilitating networks

Identifying barriers

Leveraging

Monitoring progress (e.g. timeframes)

Relative roles & responsibilities

"Current" model

- A short-term project is proposed, generally by the academic investigator
-
- An industry sponsor funds the project or supply reagents, and the end result is a publication.
  - Role of the investigator?
  - Fit with Industry strategy unclear and undiscussed

Source: Nurjana Bachman, PhD, Boston Children's Hospital, Innovation blog, July 2011

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20 new alliances in 2012

Capitalization on the value that each party brings to the relationship:

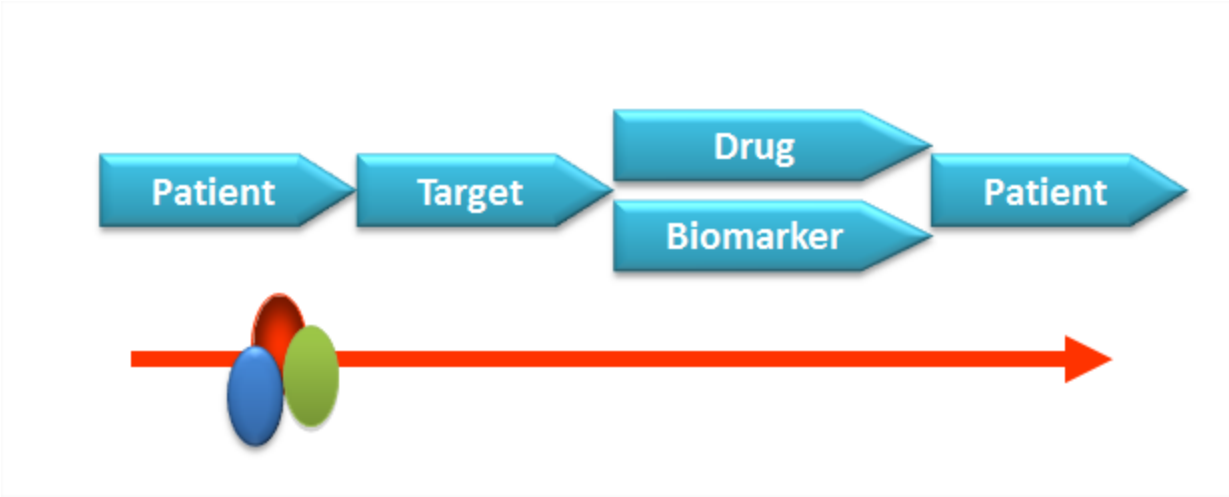
- **Physician-scientists**
  - Deep knowledge of the biology of a specific disease process,
  - Platforms/tools to study it
  - Continuity of focus built upon long careers in a given field.
  - Access to human tissue samples
  - Access to patients for ultimate clinical trials.

- **The industry partner**
  - Molecule libraries,
  - Critical ability to optimize a starting molecule to make a viable drug,
  - Deep expertise in the long process of developing a drug — including the ability to bring it through regulatory review and to market.

Toward personalized medicine

Translational R&D as an new partnership model

"Fast Path to POC"



Private/Patient/Public

Inviting Academia to take the lead?

Clear the path to the clinic

- a molecule with a clear disease relevant MoA
- in pre-selected patient populations
- with appropriate decision-enabling biomarkers

"…the world is becoming too fast, too complex and too networked for any company to have all the answers inside."

— Yochai Benkler: The Wealth of Networks

Source: Nurjana Bachman, PhD, Boston Children's Hospital, Innovation blog, July 2011

Benchmarking

- **Pfizer's Centers for Therapeutic Innovation (CTI),**
  - 20 centers, 300 applications
  - Shared translational sciences from early to POC

- **GSK's Discovery Partnerships with Academia (DPAC),**
  - Joint teams with dedicated experts and sharing of information

- **J&J's Corporate Office for Science and Technology (COSAT),**
  - The 4 J&J Innovation centers, located in California, London, Boston, China

- **Bayer's Grants4Targets initiative**
  - Translational research prgms in 4 disease areas

- **Eli Lilly's PD2 program**
  - Connecting compounds to patients

Conclusion

- **The Approach and Environment to Healthcare is changing fast and deeply**

- **France is qualitatively and quantitatively very attractive for PPP**

- **There is an opportunity to simplify, adapt and enlarge PPP models**

- **Time is of the essence: role for ARIIS in reducing time to PPP signature**

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Thanks