



Plataforma de Mercados  
Biotecnológicos  
(Spanish Biotech Platform)



MEDICAMENTOS INNOVADORES  
Plataforma Tecnológica Española



NANOMED



PLATAFORMA  
ESPAÑOLA INNOVACIÓN  
TECNOLOGÍA SANITARIA

## IX Conferencia Anual de las Plataformas Tecnológicas de Investigación Biomédica: Medicamentos Innovadores, Nanomedicina Tecnología Sanitaria y Mercados Biotecnológicos

**Nuevos retos en investigación biomédica**

**Barcelona, 15 y 16 de Marzo de 2016**



# Innopharma

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University of Santiago de Compostela



GOBIERNO  
DE ESPAÑA



MINISTERIO  
DE ECONOMÍA  
Y COMPETITIVIDAD




EUROPEAN UNION  
EUROPEAN REGIONAL  
DEVELOPMENT FUND




idiS USC  
UNIVERSIDADE  
DE SANTIAGO  
DE COMPOSTELA

## Who we are






BioFarma



GRUPO DE  
MEDICINA XENÓMICA

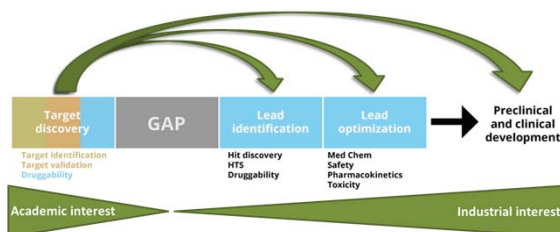
### Pharmacogenomic Platform in Early Drug Discovery

<ul style="list-style-type: none"> <li>• Reference groups with over <b>15 years of experience</b> in genomic medicine and drug discovery.</li> <li>• <b>10 NCE</b> (New Chemical Entities) reached <b>clinical trials</b> from our work.</li> <li>• Managing a multidisciplinary team of <b>130 professionals</b>.</li> <li>• More than <b>650 publications</b> in indexed journals, with <b>25 publications in Nature and Science</b> journals.</li> <li>• <b>Consolidated</b> knowledge-based platform.</li> </ul>	<ul style="list-style-type: none"> <li>• Over 30 Spanish and international <b>pharmaceutical and biotechnology companies</b>.</li> <li>• International <b>research groups and scientific networks</b> at the highest level.</li> <li>• Connected with the <b>best experts</b> in the world on strategic issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Our fundraising average is <b>2,5 million €/year</b>.</li> <li>• We have a <b>self-funded and validated platform business model</b>.</li> <li>• <b>Surpassing the traditional financial, technical and execution risks</b> associated to Academia</li> </ul>
<b>Experience</b> 	<b>Collaborations</b> 	<b>Validated model</b> 

## Galicia: the gap in early drug discovery and Innopharma

### AIM

Bridging the **gap** between **basic research in new therapeutic mechanisms** and **industrial application**.



Innopharma is acting as a **hub** capable of collaborate with very creative academic ideas, adding value and transforming them into feasible proposals: **translational technologies**, **biomarkers** and **early drug discovery programs**.

*Operational Programme for R&D&i by and for the benefit of Companies,*  
**EU TECHNOLOGY FUND 2007-2013.**

Signed agreement between USC and MINECO on April, 26<sup>th</sup>, 2012, with a total budget of **10,2 M € for the period 2012-2015.**

## Innopharma pillars

### Project Management

#### Project start-up

- Equipment acquisition
- Equipment installation and setting in motion
- Initial staff training

**PILLAR 1:**  
Pharmacogenomic  
screening platform

- Completion and annotation of a chemical library

**PILLAR 2:**  
Innopharma Chemical  
Library

#### Programs pipeline:


Generating drug discovery programs by taking early stage ideas and advancing them into co-development projects with strong industrial involvement.


**PILLAR 3:**  
Valorization in drug  
discovery

### Dissemination / Exploitation / Sustainability



## Innopharma results: Public infrastructure

-  **PHARMACOGENOMIC PLATFORM** with state-of-the-art genotyping and screening capabilities, including more than **300 assays** developed. It has been recognized as **one of nine high-throughput screening platforms with high capacities** partnering the European Network ESFRI [EU-OPENSREEN](#)

-  **Chemical compound libraries** completed until **60.000 compounds** with a wide chemical and biological space coverage

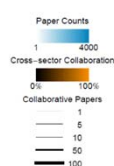
-  IMI-OpenPHACTS Project

Increasing participation in excellence science projects (H2020), in collaborative networks and attracting new funding

6 European projects  
3 Networks of excellence

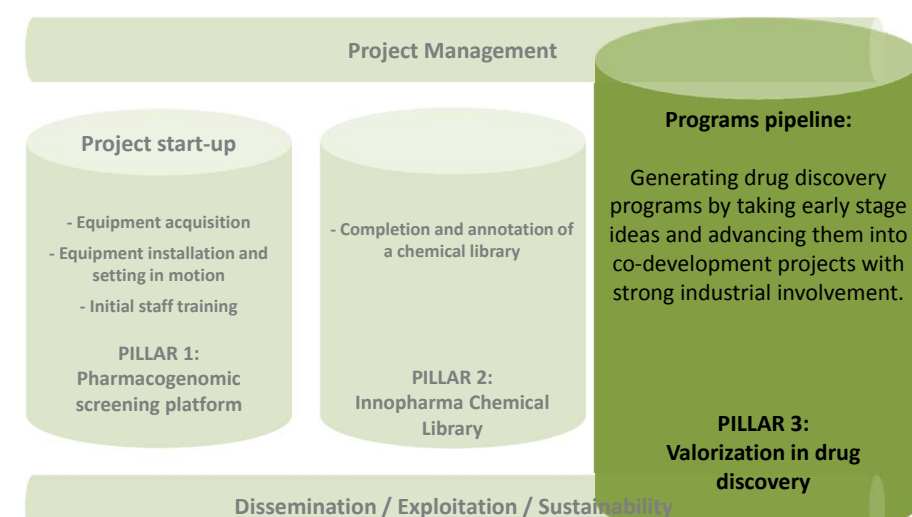
### Creation of unprecedented collective intelligence networks

Collaborative publications among IMI researchers -Call 1-3

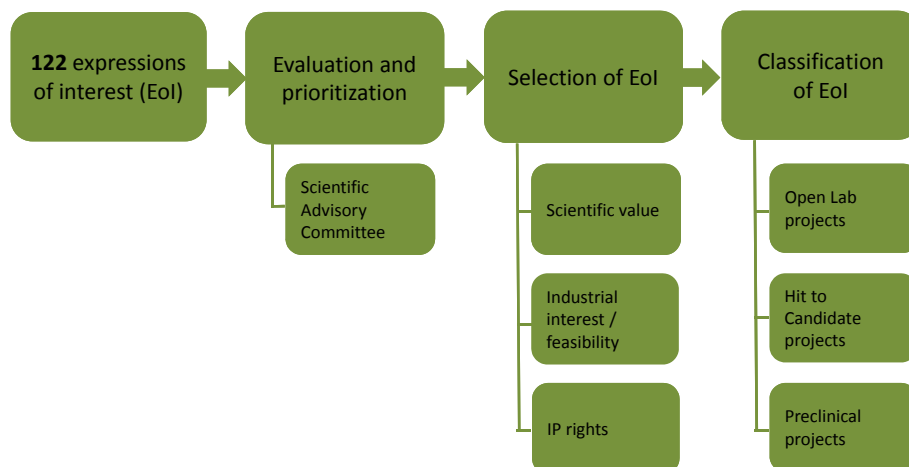


Data & analysis: Thomson Reuters (Custom Analytics & IP Solutions)

## Innopharma pillars

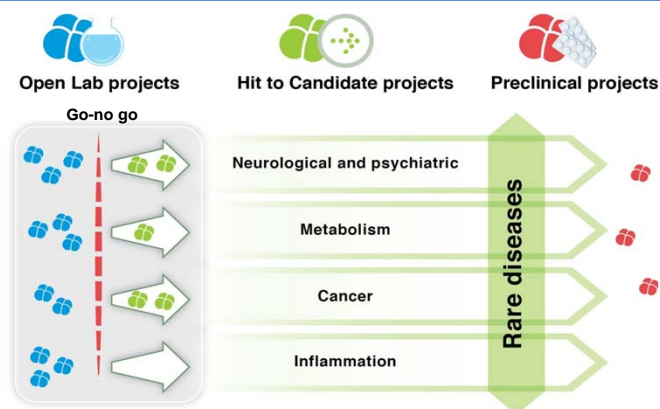


## Innopharma launches open call for high-risk high-reward research projects



## Innopharma programs: pipeline

**INNOPHARMA launches open calls for high-risk high-reward research projects** in five therapeutic areas: Neurological and psychiatric diseases; Metabolism; Cancer; Inflammation; Rare diseases. Until now, **122 expressions of interest** were received and those **18 with the highest potential** were **prioritized** for further development. Selected projects were classified in the three categories according to their maturity in the process of early drug discovery.







## Innopharma pipeline: Non-confidential flyer



### Review of main documents:

- ❖ CDA
- ❖ Route map
- ❖ **Non-confidential flyer**
- ❖ Dossier

**Innopharma**  
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PXXX – Project title

**Therapeutic hypothesis**

• Aim of the project:

• Target:

• Patient stratification:

**Rationale/Evidences**

• -

• -

**Clinical development approach**

• Target population:

• Biomarker:

• Clinical endpoints:

**Current program status**

• Current status:

• Type of assay available:

• Next milestone:

**Value proposition**

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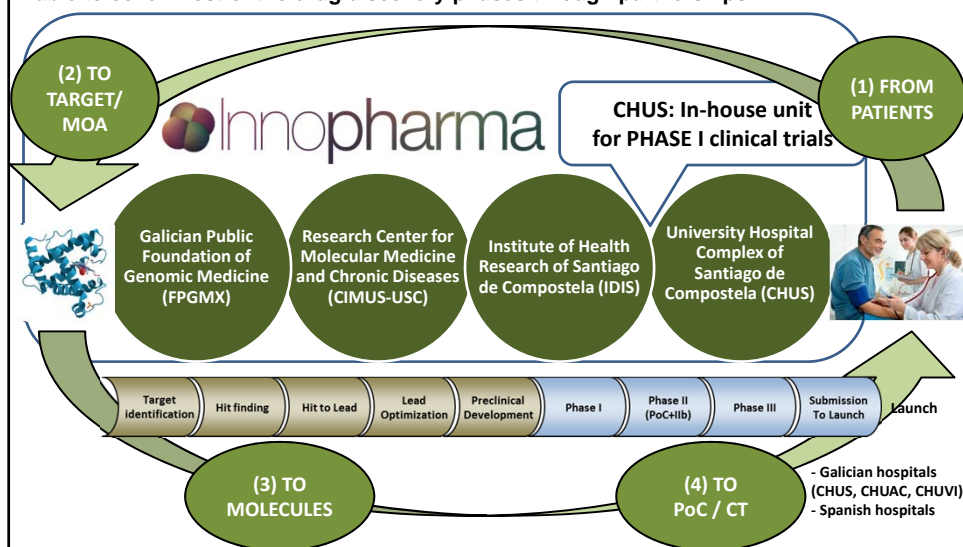
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For further information, please contact to: [info@innopharmaplatform.com](mailto:info@innopharmaplatform.com)

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## Innopharma prototype program

Every program starts from patients, assuring traslational capability, and is aimed to finish in a clinical Proof of Concept or other Clinical Trial (back to patients). INNOPHARMA is able to cover most of the drug discovery phases through partnerships.



## Innopharma hub

- Signed agreements with **25 research centers**, principal investigators and different research results transfer offices
- Building of a **drug discovery network** in Spain



## Innopharma results: Public Private Partnerships

- Signed agreements with **42 companies** and partners:
  - Pharmas
  - Biotechs
  - CROs
  - Advisers (legal / technical)
  - Manufacturers / dealers
- Agreements with **5 pharmaceutical companies** to establish new collaboration models (academy-industry), to promote professional training and internships and to develop new standards in drug discovery. Agreements with different companies to act as a beta-tester of new products/technologies
- 1 program winner in an open innovation contest of a multinational pharmaceutical company : **GSK Discovery Fast Track Challenge (Discovery Partnerships with Academia, DPAC)**
- 1 program with clinical Proof of Concept finished.**
- Award for **Best Research Initiative** from the journal *Correo Farmacéutico*
- Creation and retention of **high-quality employment** in the region (scientists, technicians, innovation/business development specialists and management)



## Innopharma: Sustainability process

### I Innopharma Workshop

- September, 22<sup>nd</sup>-23<sup>rd</sup>, 2014, Santiago de Compostela
- Introduction of Innopharma to the joint public-private international scientific community and discussion about how it can contribute to drug discovery in an open innovation environment

<p><b>Innopharma Workshop 22-23<sup>rd</sup> September 2014</b></p> <p><b>MISSION:</b> To introduce Innopharma to the joint public-private international scientific community and to discuss how it can contribute to drug discovery in an open innovation environment.</p> <p><b>AIM:</b> To help identify the most appropriate collaboration model for each partnership opportunity, in order to ensure success in an open innovation context.</p> <p><b>RESULT:</b> The dialogue initiated during the workshop fulfilled expectations. Several key points were raised that will help define a differentiation strategy to make the model of complementarity, on which the sustainability plan of Innopharma is based, successful.</p> <p><b>SUMMARY:</b></p> <ol style="list-style-type: none"> <li>Innopharma is a public initiative built on the experience of more than 12 years of public-private partnerships. It is able to generate drug discovery programs by using early stage ideas and progressing them into co-development projects with industry. The main strength of the initiative were perceived to be (a) the role of Innopharma as a hub capable of capturing very creative academic ideas and collecting them into an innovative portfolio, and (b) the ability to add value by transforming them into feasible business projects.</li> <li>Integrated Platform of Pharmacogenomics. Functional Genomics allows patient stratification according to biomarkers and the identification of new therapeutic targets. Furthermore, it bridges pharmacogenomics to early drug discovery programs and translational models that are needed yet not already available within the Innopharma platform.</li> <li>Optimal use and development resources to meet our needs. The shared facilities and resources potentially groundbreaking ideas in early stages are allocated sufficient resources to allow them to mature.</li> <li>Industry standards are applied from the beginning in our processes, reflecting the follow-up and the integration of the intellectual property and the market demands in the route map of the expectations.</li> <li>A strong translational capability. This implies collaboration with clinicians and the set-up of "proof-of-concept" early exploratory investigations: new drug (IND) studies with high potential of translation into humans, always keeping in mind their application in the clinic as the final goal.</li> <li>A philosophy of open innovation. Innovative risk-sharing formulae for collaboration and co-developments are possible in the European R&amp;D environment by (co)opting the ability to attract financial support from the Galician and Spanish governments, as well as financial tools such as innovative public procurement.</li> <li>Highlights of Neurological, Metabolic, Rare diseases and Cancer projects. From 124, Innopharma positive were presented and then discussed by groups of experts from both the private and public sectors. Scientific rationale and route maps were debated to identify synergies and opportunities. A high level of discussion in the development of the Innopharma sustainability plan was added of the participants of the various roundtables.</li> </ol>	<ol style="list-style-type: none"> <li>In Neurological and Rare diseases, the evolution using biomarkers and potential therapeutic identified to set-up "proof-of-concept" studies for rare and orphan diseases in the first place, with the intention of expanding to more common diseases with similar mechanism of action if successful. Creating a public-private consortium focused on rare disease drug discovery and development is a priority.</li> <li>In Metabolic and orphan diseases, the main challenge is to identify biomarkers and patient population efficiently in order to treat with precision each patient, but every new medicine is difficult to treat a disease, we might increase treatment efficiency by using different drug combinations. It is very important to use human tissues to test candidates.</li> <li>In Cancer there is an important space at generating drugs in an integrated and synergistic effort consortium formed by hospitals, basic research centers and private companies.</li> <li>The Open lab effort is an early stage project area in which Innopharma would never invest due to the high risk associated to it. We aim to make an impact on innovation being efficient, finding synergies and looking for both local and foreign, generating open source ideas. A molecule and assay open source repository might be very useful to advance in disease mechanisms knowledge.</li> <li>Unlike industry, Innopharma can afford risk of early drug discovery by obtaining a high scientific value return. We aim to do things differently, faster, relevant in vitro projects in two years, being permissive to innovative ideas with potential to achieve a competitive advantage and being proactive to make fast go/no go decisions.</li> <li>We recommend that new indicators for the research value of the drug discovery process, not only patents and articles are important but also technology transfer, translational research, clinical computing, etc.</li> <li>Some of the major challenges for Innopharma are to understand the commercial context and to interpret the market landscape, having a sustainability plan in place, with a business development unit, and being able to anticipate the changes in the drug discovery and development sector is key for success.</li> <li>The creation of a financial vehicle considering present and future stakeholders as well as different funding possibilities, a private management team with independence to make decisions is instrumental to generate something valuable for the industry by focusing on our own life as our customer.</li> </ol>
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### Sustainability: External Advisory Committee

- Initial: November, 13<sup>rd</sup>, 2014, Madrid. Follow-up meeting in April, 20th, 2015, Madrid
- Setting up an **External Advisory Committee** of renowned experts (15 people initially, more than 20 now).
- Creation of a sustainability model of Innopharma based on open innovation and public-private partnerships

### II Innopharma Workshop on reverse transference

- November, 18<sup>th</sup>, 2015, Santiago de Compostela
- Improve sustainability plan based on totipotent model and share strategic positioning in socioeconomical development of Galicia

### III Innopharma Workshop

- March, 10<sup>th</sup>-11<sup>th</sup>, 2016, Santiago de Compostela
- Joint analysis and discussion of the new collaborative strategies for Innopharma sustainability



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## AGENDA

### INNOPHARMA SUSTAINABILITY WORKSHOP. "Conclusions and next steps"

Centro de Estudios Avanzados (CEA)

Parque de Vista Alegre. Rúa Salvadas s/n

Santiago de Compostela. 10-11th March, 2016

**MISSION:** To take advantage of the new emerging initiatives for drug discovery to allow more efficient and faster transference of the best science to patients.

**AIM:** To introduce and improve, through joint analysis and discussion, the new collaborative strategies for Innopharma sustainability; initiated following the conclusions of the previous Innopharma workshop.



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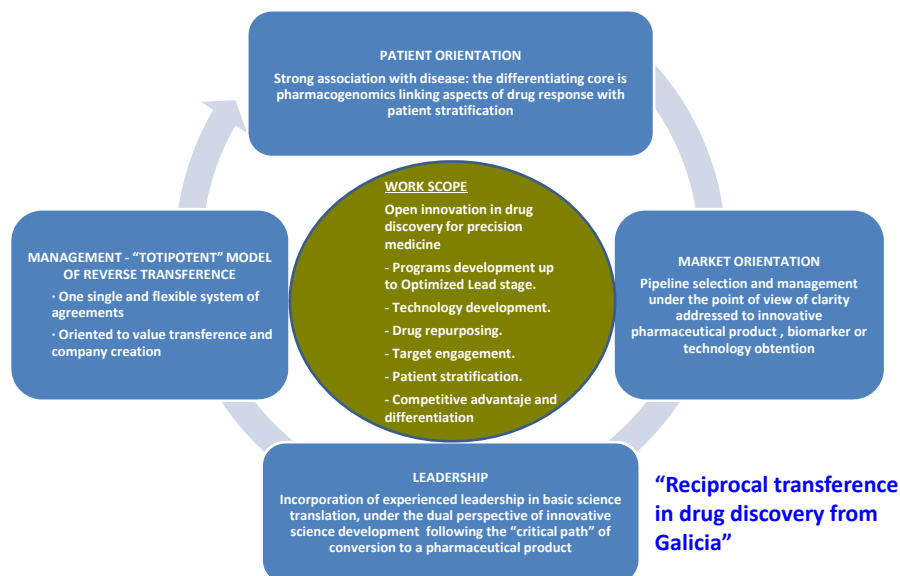
**TOTAL NUMBER OF PARTICIPANTS:** 121 participants.

**INTERNATIONAL:** 15 different nationalities represented in the workshop.

**MULDISCIPLINAR:** Representatives with responsibilities including research, discovery, innovation, transference, legal advice, public policies, business development, management, etc.

**REPRESENTED SECTORS:** 17 pharmaceutical and biotech companies, 28 European institutions and drug discovery initiatives, 6 foundations, 5 venture capital companies and 6 independent advisers / others.

## Sustainability: Key ideas

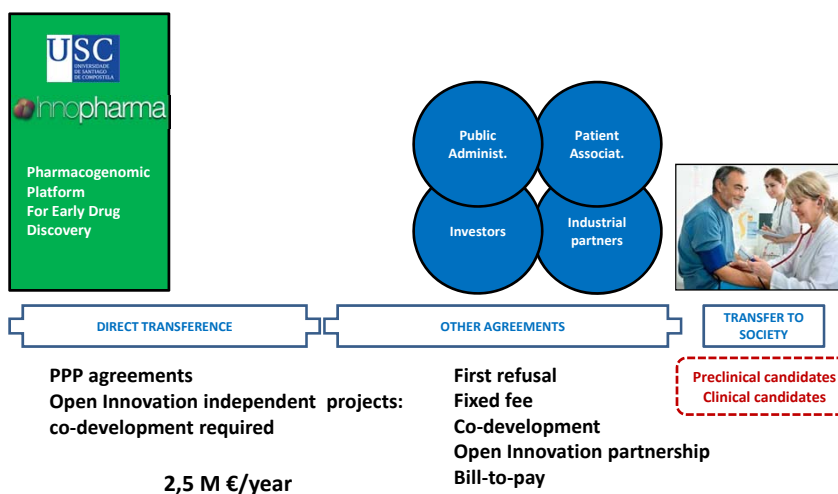


## Sustainability: "totipotent" model

Model of Reciprocal Transference:

**Direct transference** from USC to the Foundation and eventually to industrial partners.

**Reverse transference** from Foundation to USC to translate industrial knowledge and to cover private partners needs.

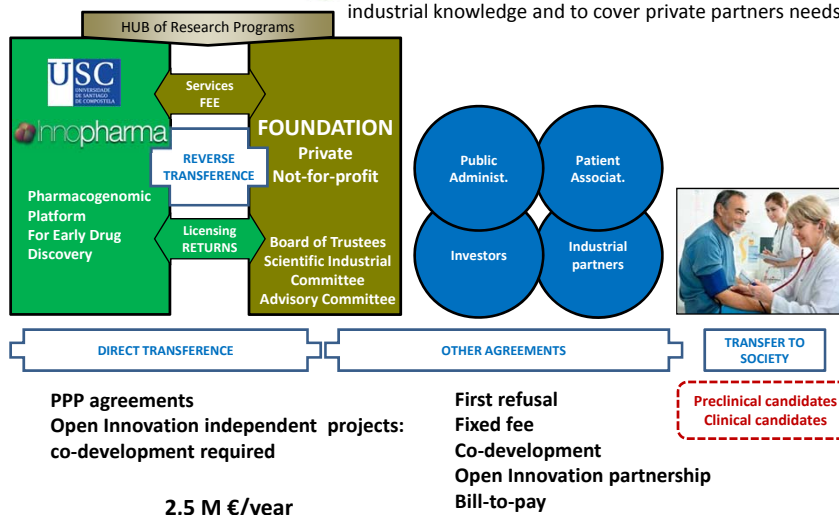


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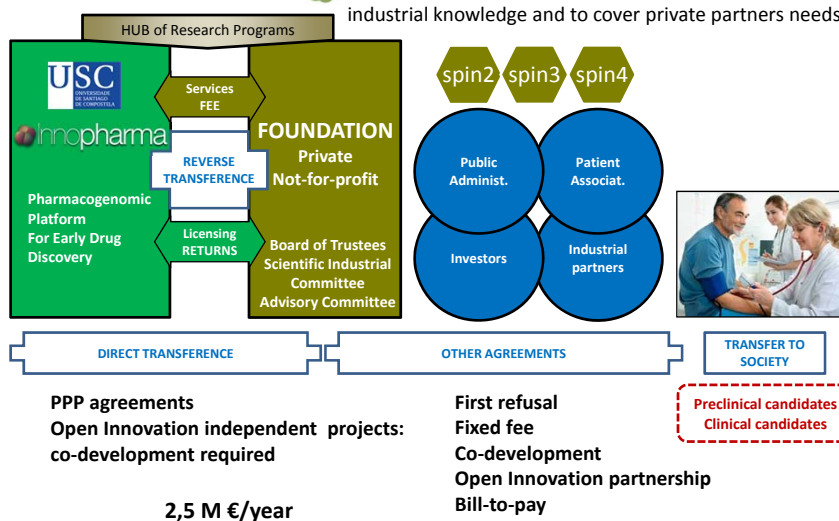


## Sustainability: “totipotent” model

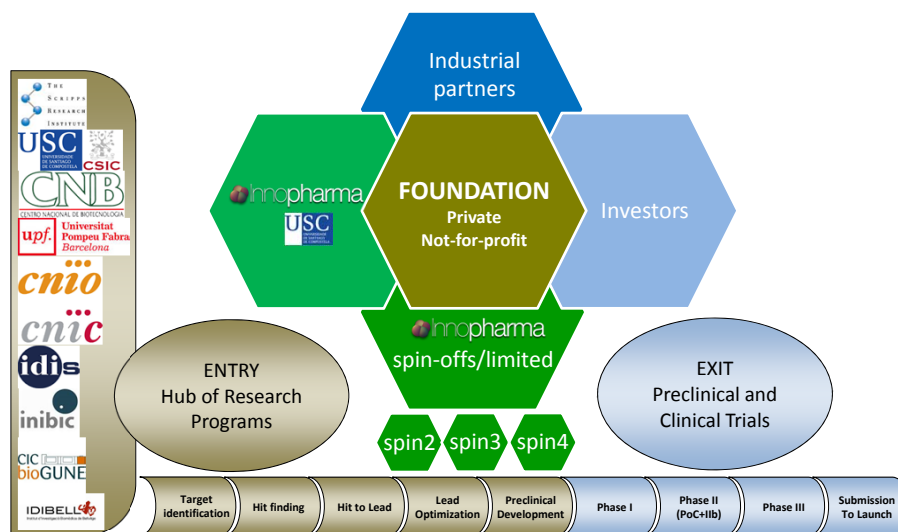
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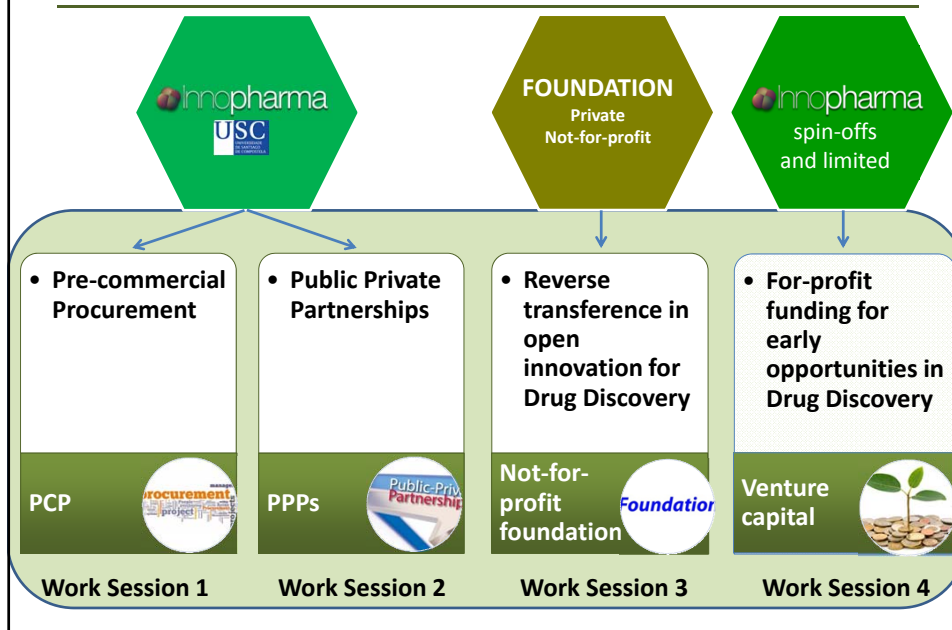
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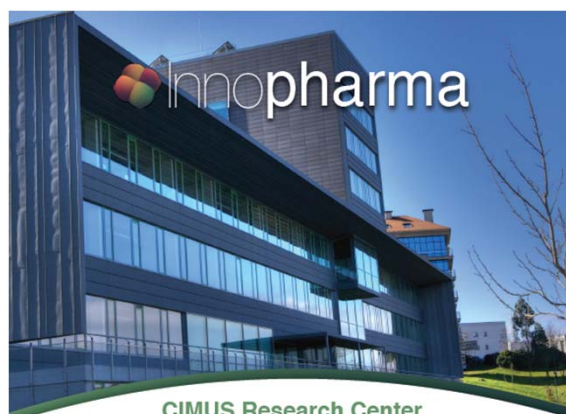


## Sustainability model



## Pillars for Innopharma sustainability





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