#### There is a well known situation diagnosis but there are still effective means missing for results transfer. Why? Some ideas.

Seville, 26<sup>th</sup> September 2018

farmaindustria biospain 2018

Dr. Andrés G. Fernández Director

**Ferrer Advanced Biotherapeutics** 



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In 2016 we were asking:

## Can you imagine a country without bridges?

#### biospain 2016

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#### What if 50% of bridges instantly dissapeared?



### The impact on GDP would be huge









### What about our KPIs?

### ...a quick review





#### Best countries in Science (www.scientificamerican.com/article/the-worlds-best-countries-science/)

Science Rank	#9	#10	#11	#14	#15	#36
	SWITZERLAND	SPAIN	SOUTH KOREA	NETHERLANDS	SWEDEN	TURKEY





( www.scientificamerican.com/article/the-worlds-best-countries-science/ )

Science Rank	#9	#10	#11	#14	#15	#36
	SWITZERLAND	SPAIN	SOUTH KOREA	NETHERLANDS	SWEDEN	TURKEY
Population	8,476,005	46,354,321	50,982,212	17,035,938	9,910,701	80,745,020
GDP (USD MM)	680,645	1,307,170	1,529,743	824,480	541,889	841,206
R&D (% GDP)	3.42	1.22	4.23	1.99	3.28	0.88
R&D (USD MM)	23,278	15,947	64,708	16,407	17,774	7,402
Researchers	74,589	306,866	700,649	149,235	134,647	289,067
Res / 1,000 inhab.	9	7	14	9	14	4
Expend/Res (KUSD)	312	52	92	110	132	26





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USD MM / Tr. Pat.	19.2	69.3	23.9	14.0	26.9	148.1
Researches / T.Pat.	62	1,334	259	128	204	5,781

Source: OECD (2018), Triadic patent families (indicator). doi: 10.1787/6a8d10f4-en (Accessed on 03 May 2018)

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#### **The Spanish Paradox**



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#### A desirable merge between Spain and S. Korea...







#### **ROI (Return of Investment) in R&D by country**

ASSUMPTIONS

1. Financial bias

2. Worldwide Exploitation of a Triadic Patent: 50 MM USD / each

	SWITZERLAND	SPAIN	SOUTH KOREA	NETHERLANDS	SWEDEN	TURKEY
Investment (R&D USD MM)	23,278	15,947	64,708	16,407	17,774	7,402
Triadic Patents (year)	1,210	230	2,703	1,170	660	50
<b>Return</b> (50 USD MM / Tr. Pat.)	60,500	11,500	135,150	58,500	33,000	2,500
Balance (USD MM)	37,221	-4,447	70,441	42,092	15,226	-4,902





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#### **ROI (Return of Investment) in R&D by country**







# 11)) ))

STANFORD University

OFFICE OF TECHNOLOGY Licensing Annual Report







IN FY 2013-14, STANFORD RECEIVED

481 NEW INVENTION DISCLOSURES WERE EVALUATED, AND 106 NEW LICENSES WERE SIGNED. OTL SPENT \$9.8M ON PATENT AND OTHER LEGAL EXPENSES, OF WHICH \$4M

WAS REIMBURSED BY LICENSEES.

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In the same period a Top-5 Spanish University received 0.15 M

IN FY 2013-14, STANFORD RECEIVED

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EXPENSES, OF WHICH

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OTL SPENT

ON PATENT AND OTHER LEGAL







"In the EU, there has been to date poor knowledge transfer from the academic science base to industry.

This is due, among other factors, to an academic culture that might prevent commercialization and to the lack of harmonized legal rules comparable to the Bayh-Dole Act, which creates uncertainty concerning who actually owns intellectual property"

> Bagley, Constance E. and Tvarno, Christina D., "Pharmaceutical Public-Private Partnerships in the United States and Europe: Moving from the Bench to the Bedside" (2013). Lecturer and Other Affiliate Scholarship Series. Paper 12. http://digitalcommons.law.yale.edu/ylas/12

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#### Once identified... it is urgent to solve the weaknesses of each link







#### **Direct stakeholders**







#### Weaknesses









# Improve















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#### Let's wait for future BIST results...



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# ROPO

#### **Transforming KTTs in restaurants?!?**





**ROPO** Research on-line/off-line Purchase on-line/off line







**ROPO** Research on-line/off-line Purchase on-line/off line







**ROPO** Research on-line/off-line Purchase on-line/off line















#### KTT professionals should benefit from:





#### Becas de posdoctorado para españoles en el extranjero

Información sobre becas de posdoctorado para candidatos originarios de España que desean realizar estudios de posdoctorado fuera de su país

ICRFA







#### KTT professionals should benefit from:

Stages at Pharmaceutical Companies (BD & Innovation areas)



#### Becas de posdoctorado para españoles en el extranjero

Información sobre becas de posdoctorado para candidatos originarios de España que desean realizar estudios de posdoctorado fuera de su país









#### The valorisation importance

Valorisation may be defined as all initiatives and activities undertaken with a view to increasing the value of research results and, more generally, enhancing knowledge. More specifically, valorisation involves the means used to adapt knowledge, results and capabilities acquired in research units to fit the socio-economic environment



Source: University of Luxembourg (2009) Guiding Principles For The Valorisation Of Research Results And Intellectual Property Rights

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## Urgent need of Private and Public-Private funds for valorization of early stage projects!!



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#### Valorisation & Funds

 Table I. Ratio of Disclosures and Research Expenditures at Selected High Performing Universities (Association of University Technology Managers [AUTM], Cumulative 2009–2011).

	Total research		
Name of institution	expenditures	Disclosures	Ratio
Brigham Young University	\$87,246,139	388	\$224,861
Drexel University	\$332,509,517	338	\$983,756
California Institute of Technology	\$1,524,601,879	1458	\$1,045,680
Cleveland Clinic	\$734,426,000	622	\$1,180,749
University of Central Florida	\$350,328,777	288	\$1,216,419
Rice University	\$317,542,689	255	\$1,245,265
Virginia Tech Intellectual Properties Inc.	\$685,426,322	473	\$1,449,104
Clemson University	\$420,230,611	283	\$1,484,914
Mayo Foundation for Medical Education and Research	\$1,690,000,000	1006	\$1,679,920
Utah State University	\$470,845,000	277	\$1,699,801
Georgia Institute of Technology	\$1,939,775,500	1134	\$1,710,560
University of Florida	\$1,591,096,562	921	\$1,727,575
Auburn University	\$452,104,000	256	\$1,766,031
Arizona State University	\$938,566,443	521	\$1,801,471
Children's Hospital Boston	\$686,554,899	379	\$1,811,490
University of Georgia	\$825,699,000	452	\$1,826,768
University of New Mexico/Sci&Tech Corp	\$634,105,537	345	\$1,837,987
Case Western Reserve University	\$1,002,805,000	545	\$1,840,009

Source: Balas A, et al. (2013) Evaluation & the Health Professions 36(4) 505-517 DOI: 10.1177/0163278713508135





#### Valorisation & Funds

Incorporation of Pharma Experts in either SAB or brand new Valorization Boards of the Institution can be helpful in this stage





# Early

# deliverables





**Product / Project Info** 







#### **Institution homework**

**Product/Project Info** 



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#### **Institution homework**

#### **Product/Project dossier**

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- 1. The Institution
- 2. The Product / The Project
  - a) Target Indications
  - b) Innovative mechanisms of action
  - c) Differential features facing the market
    - a) Differential Profile
    - b) Competitors analysis (commercialized and on development)
  - d) Current status of development
  - e) IPR protection
  - f) Pitfalls & Risks to be considered
- 3. Partnering Opportunities







#### Thank you

#### agfernandez@ferrer.com







### Making people better



