

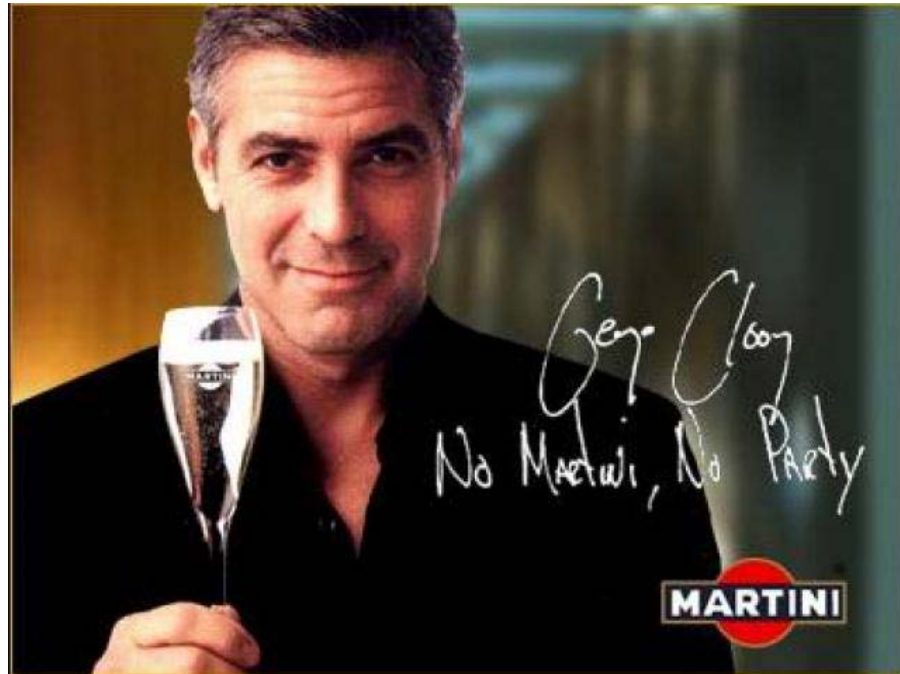
Funding opportunities and instruments in Grenoble and Barcelona

Prof. Xavier Obradors
Director ICMAB - CSIC

Grenoble – Barcelona twin conference, Grenoble 23th – 25th October 2019



Materials are an enabling technology!



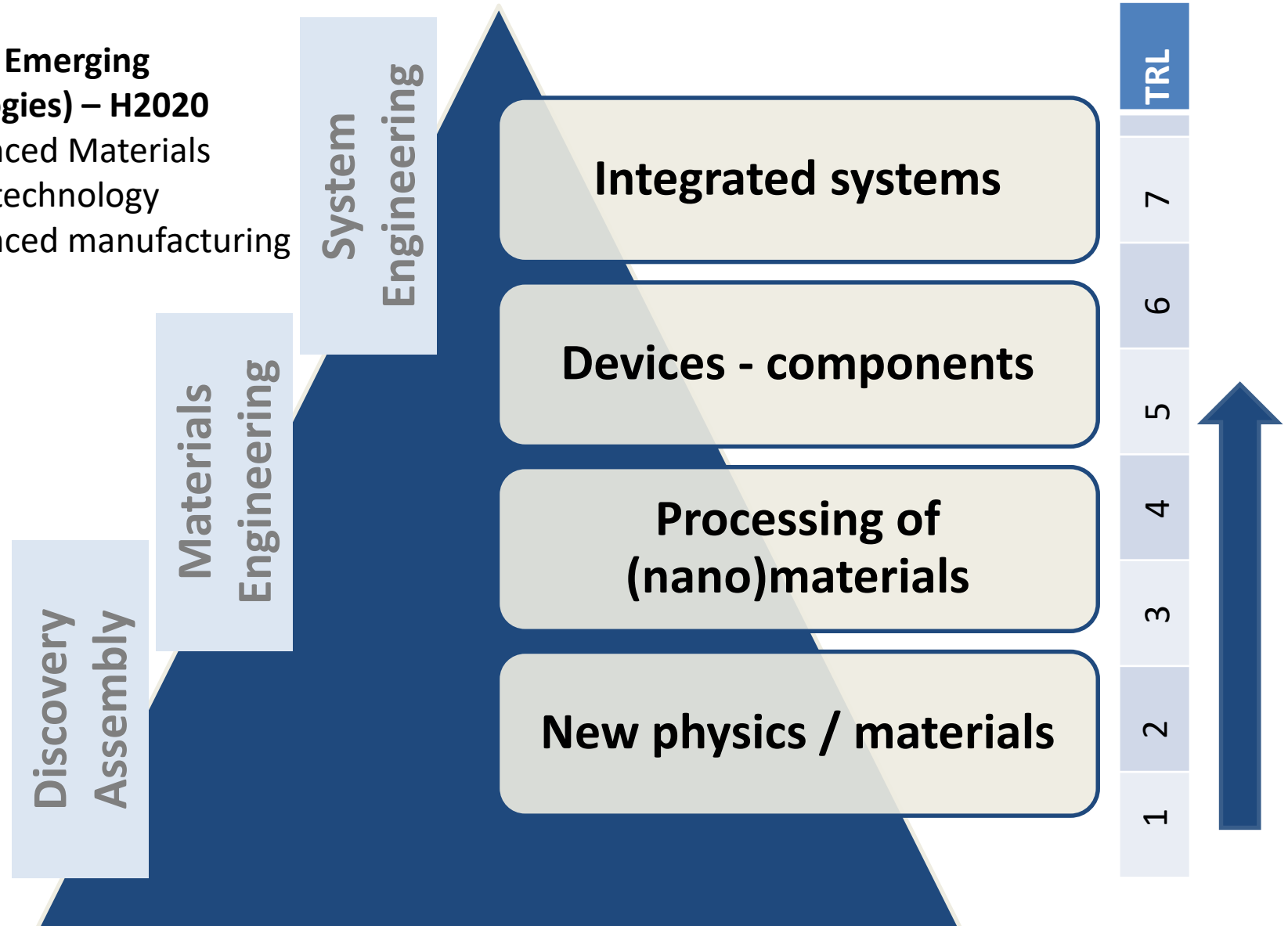
Many scientific and social grand challenges rely on achieving advanced materials and integrating them in competitive devices

Functional Materials and devices

EU: 80 % of new products in the market rely on new materials

KET (Key Emerging Technologies) – H2020

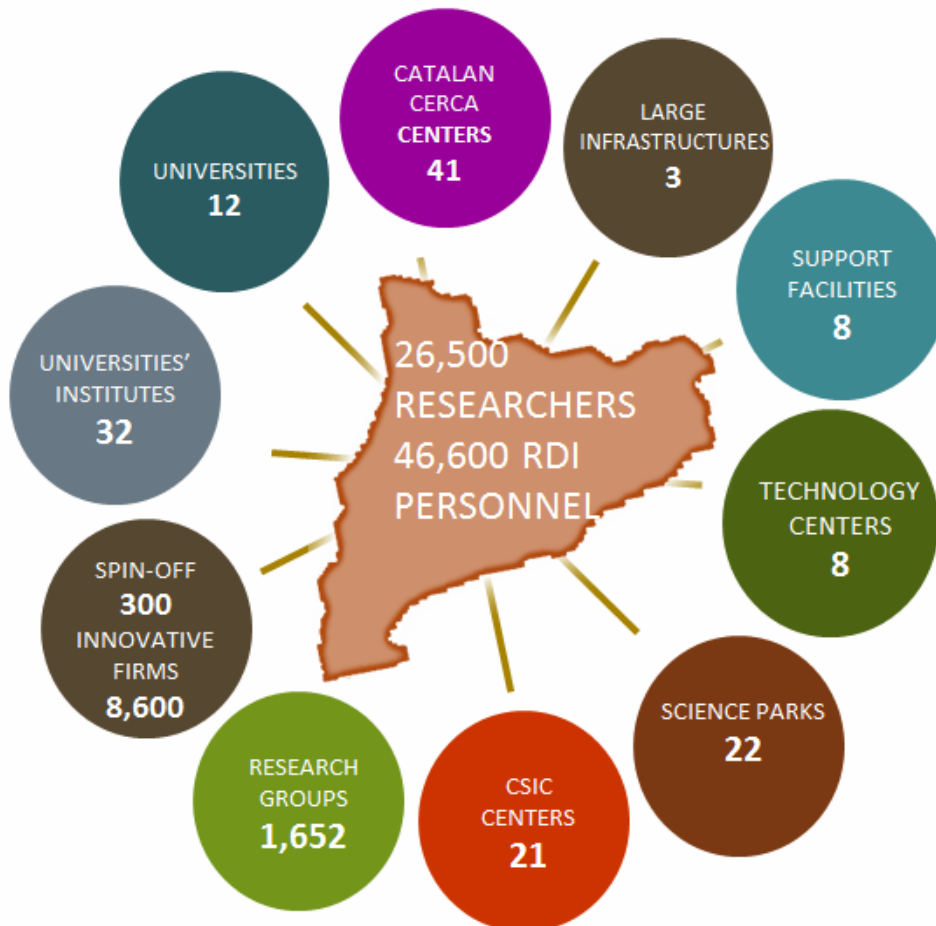
- Advanced Materials
- Nanotechnology
- Advanced manufacturing



Catalonia's RTD system and policies



Generalitat de Catalunya
Departament d'Empresa i Coneixement
Secretaria d'Universitats i Recerca



Catalonia is a cutting-edge cluster and strategic hub of Southern Europe, thanks to a highly competitive economy and a privileged geographic location that opens it up to the world.

Its business activity benefits from an excellent university and research system.



UNIVERSITAT DE BARCELONA

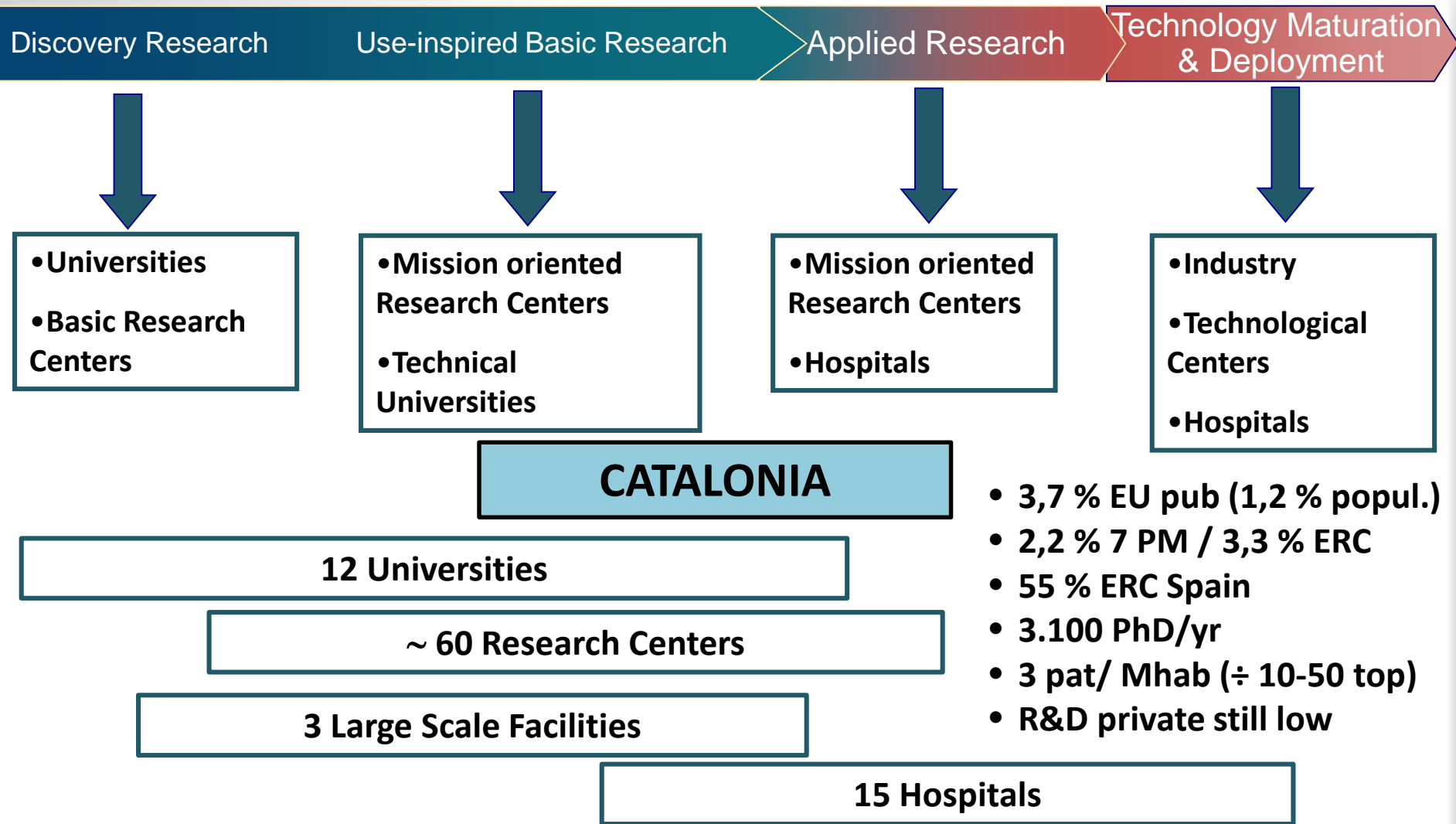
UAB
Universitat Autònoma de Barcelona



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

~ 24.000 publications / year
226,000 students / 9,500 faculty

R&D&i VALUE CHAIN



The whole chain value needs is attended: interdisciplinary and multi-institucional cooperation is a must!

Catalonia: research distribution

Institutions	Number	Number researchers	% Catalonia
Universities	12	16.000	62
CERCA*	41	5.000	20
CSIC*	21	1.500	6
Hospitals	15	5.000	20
Large Infrastructures	3	~200 -300	~1-2
ICREA		235	~1
Research groups	1297 (530 Sc&Eng)	~18 inv / GR	
Total researchers		~25.000	~ 100

* 5 centers are Shared by CERCA and CSIC

Participation meeting: ICN2, IREC, ICFO, IFAE, IMB, ICMAb, UAB, UPC

Research institutions (Physical Sciences and Engineering)

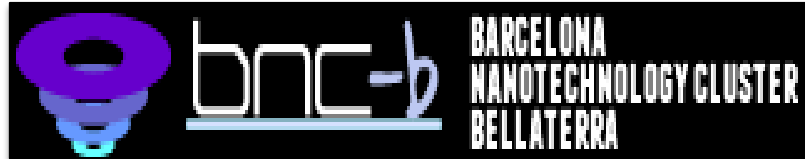
	CERCA	CSIC	UNIV
Physics	IFAE, ICFO, ICN2, IREC	ICE, ICN2, ICMAB, IMB-CNM	UB, UAB
Chemistry	IREC, ICRA	IQAC, ICMAB, ICN2, IDAE	UB, UAB, URV, UG
Engineering	CIMNE, CVC, IBEC, IREC	IRI, IMB-CNM, ICMAB, IIIA	UPC, UB, UAB

Strong institutional complementarity: many opportunities for international cooperation! (30-50 % PhDs/postdocs)

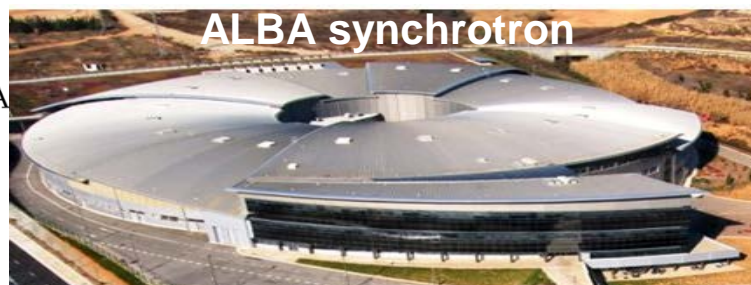
PUBLICATIONS

Catalonia 2018: 24.000 publications / 3.300 with France (14 %) / 376 With Grenoble (1,6 %)

~ 55 art/yr (15 %) IN COND MATTER, MATERIALS, NANOSCIENCE, E&E ENG



Barcelona Nanotechnology Cluster - Bellaterra



BNC-b ~ 700 researchers

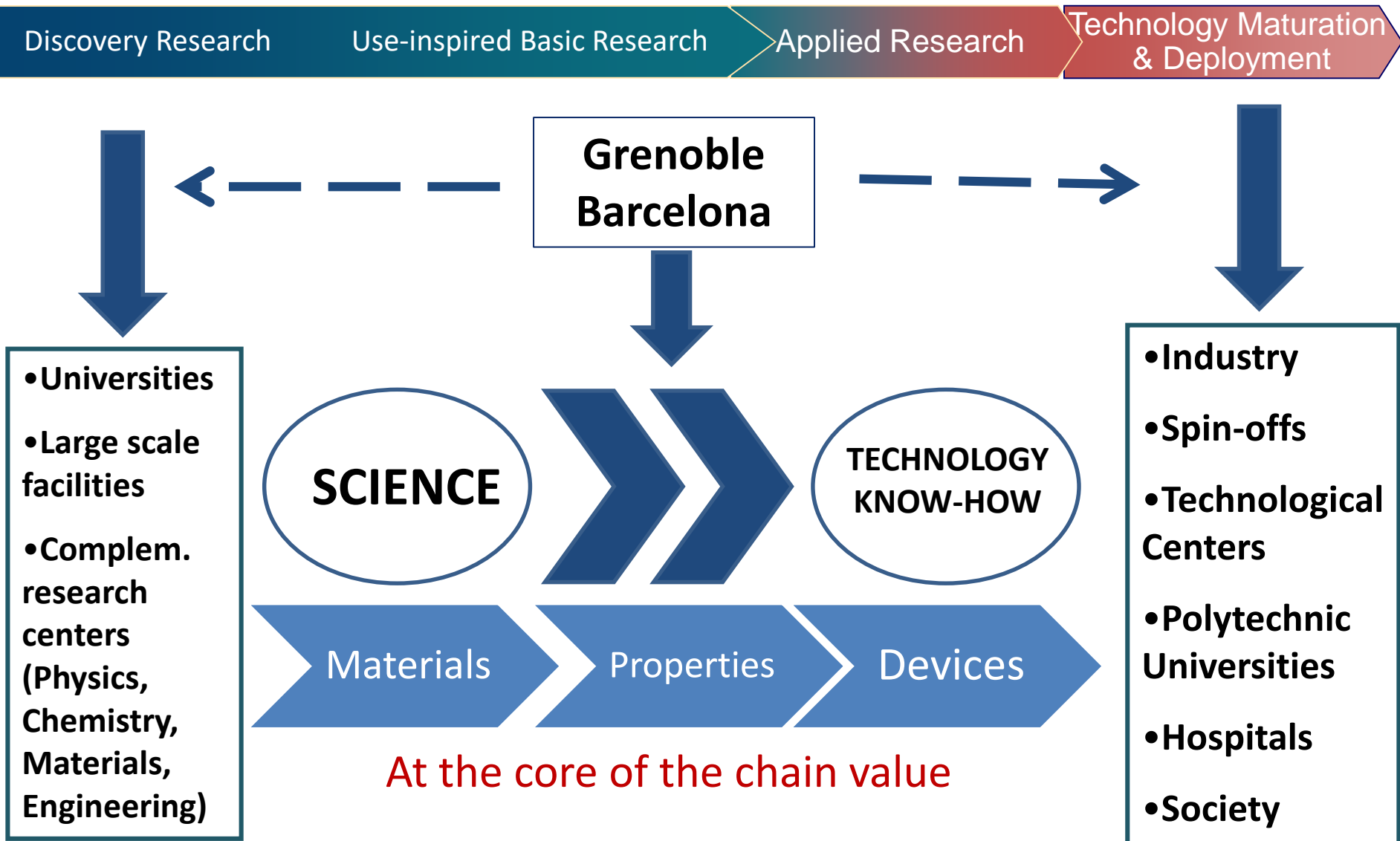
~ 1000 people



The largest R+D N&N concentration in Spain

~40-50 % Catalonia scientific production Mat&N&N

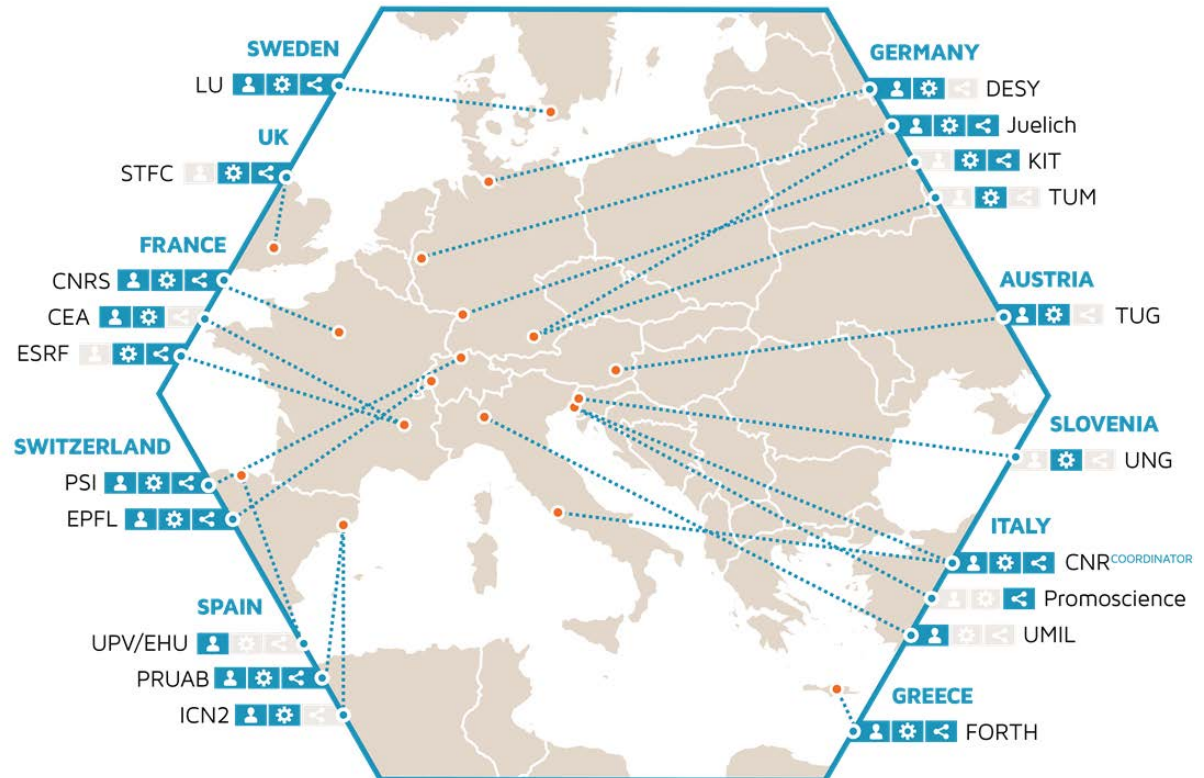
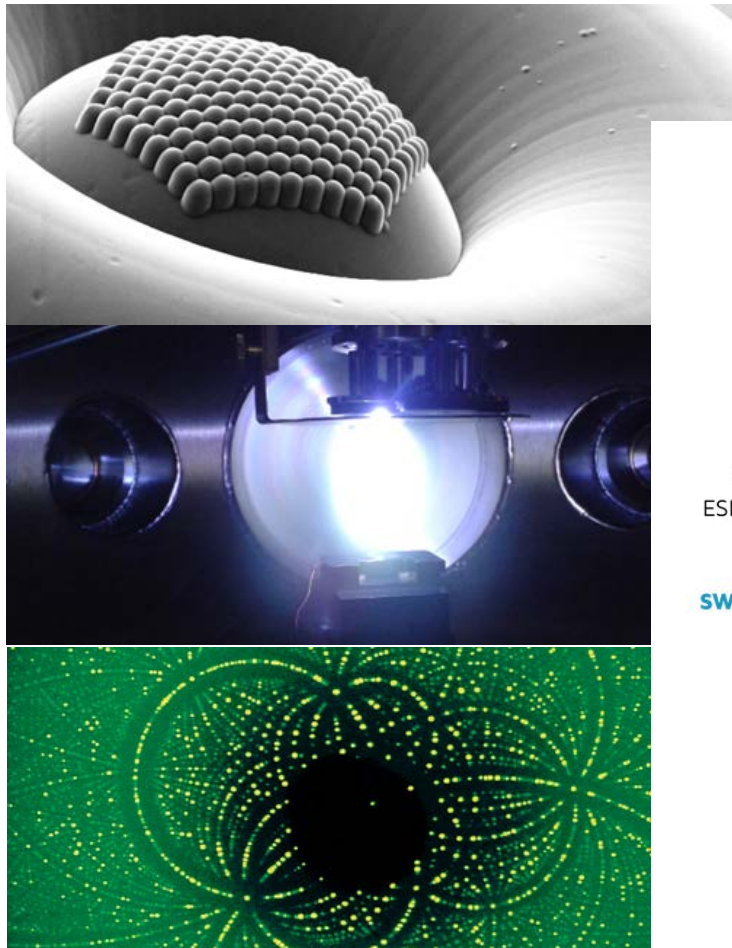
Vision of the cooperation



The widest range of tools for research at the nanoscale

Free transnational access to academia & industry

Enhancing European competitiveness in nanoscience research and innovation (2016-2019)



Instruments for international cooperation



- **EU H2020 and FP9 projects**
 - Many different topics and calls
 - Very significant budgets to cooperate
 - ERA – NET : 3 EU countries min, topics agreed yearly, 3 years max, budget max 60.000 €/yr (Spain)
 - Topic 1: Modeling for materials engineering and processing
 - Topic 2: Innovative surfaces, coatings and interfaces
 - Topic 3: High performance composites
 - Topic 4: Functional materials
 - Topic 5: New strategies for advanced material-based technologies in health applications
 - Topic 6: Materials for additive manufacturing
- **EU NFFA large scale nanoscience infrastructures**
 - Close to synchrotron radiation centers (ESRF, ALBA)
 - New opening opportunity for 2020-2023!
- **Projets Internationales Coopération Scientifique (PICS) (CNRS – CSIC)**
 - Consolidate partnerships to enhance international / European ambition in specific areas
 - Requisite: previous collaboration demonstrated
 - Funding: 5.000 – 7.000 €/yr (3 years). Travel, meetings.

Instruments for international cooperation



- **I-LINK (CSIC)**
 - Consolidate international cooperations with the objective to promote competitiveness in international project calls
 - Funding: < 24.000 € (< 20 months). Travel and exchanges of both teams

- **APPEL A PROJETS UNIVERSITAIRES ET SCIENTIFIQUES**
 - Ambassade de France à Madrid (2019)
 - Événements touchant à la France ou à ses organismes scientifiques ; ils doivent appuyer des aspects bilatéraux de recherche franco-espagnole, ou favoriser la diffusion de publications en langue française.
 - No information yet about budget

Instruments for international cooperation



- **Catalonia and Spain calls to exchange or recruit scientists**
 - Master and PhD fellowships
 - Beatriu de Pinós for postdocs (Generalitat de Catalonia)
 - ICREA researchers (Generalitat de Catalonia)
 - Juan de la Cierva for postdocs (Spain)
 - COFUND postdocs and PhDs
 - Ramón y Cajal for Tenure Tracks (Spain)
 - CSIC scientist positions (Spain) and
- **Severo Ochoa excellence label centers (SOMMA network) (ICN2, ICFO, IFAE, ICMAB) (> 50 % Catalonia)**
 - Calls for Master fellowships
 - Calls for PhD and postdoc positions
 - InPhinit – La Caixa PhD positions
 - BIST COFUND programs

SWOT BARCELONA - GRENOBLE

- **Strengths**
 - Leading position of researchers
 - Multidisciplinarity and multinationality of research staff
 - High talent attractiveness at all levels
 - Internationalization is strong
 - Excellent scientific equipment platforms and skilled personnel
 - High success in attracting competitive research funds
 - Large society impact and very active in outreach and communication

SWOT BARCELONA - GRENOBLE

- **Opportunities**

- International cooperation with outstanding international research institutions
- Strong implication in University teaching and training activities
- Competitive equipment platforms implemented in several research centers
- Strong participation in EU programs linked to H2020 and FP9
- Increase of cooperation with large facilities: synchrotron ALBA , supercomputer BSC
- Strong cooperation opportunities within Catalan research centers
- Integration in SOMMA (excellence) network helps to improve the national and international impact



**THANK YOU FOR YOUR
ATTENTION!**