



SOMM
EXCELLENCE
ALLIANCE

Cutting-edge Research for Global Challenges

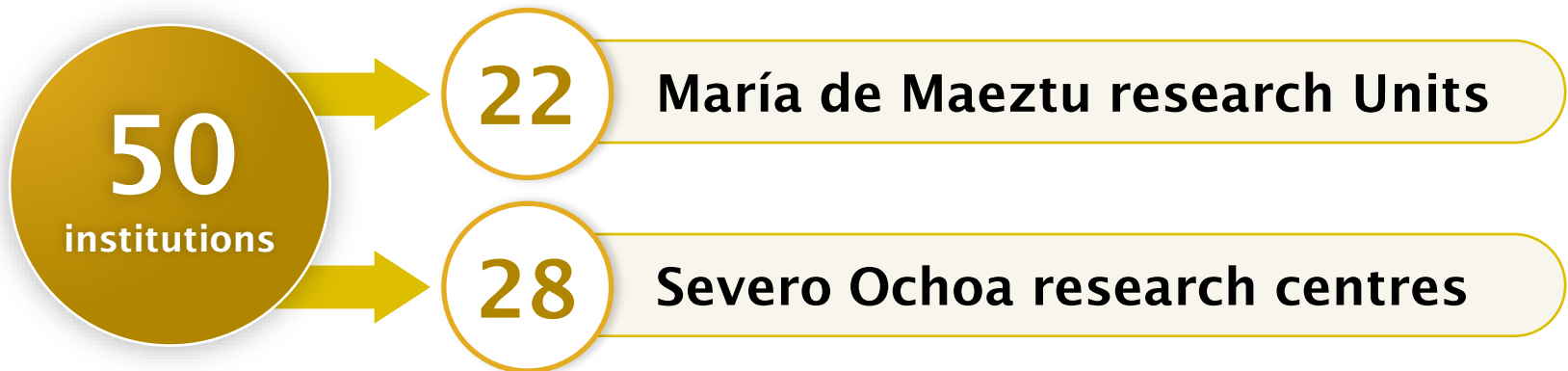
SOMMa is the alliance of
Severo Ochoa Centres and María de Maeztu Units

Maria Blasco - SOMMa Chair

The SO/MM Program

- Evaluation and selection by an independent international committee of prestigious scientists
- First call launched in 2011
- Awardees hold the SO/MM distinction 4 years
- The SO/MM Program aims to:
 - ✓ Identify and promote **excellence in scientific research**
 - ✓ **Boost Spanish science** by recognising existing cutting-edge research centres and units
 - ✓ Enhance the **impact, international scientific leadership, and competitiveness** of top institutions

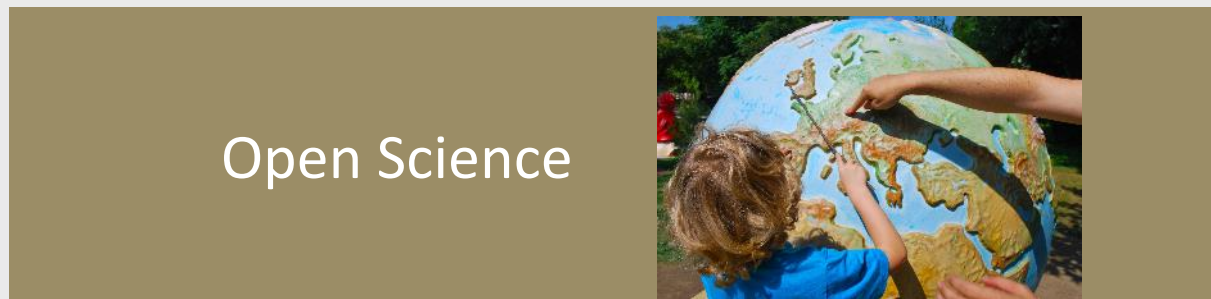
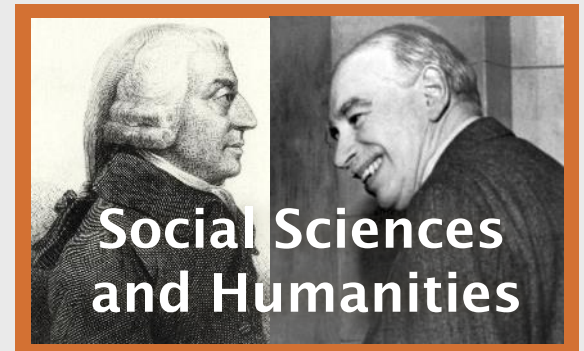
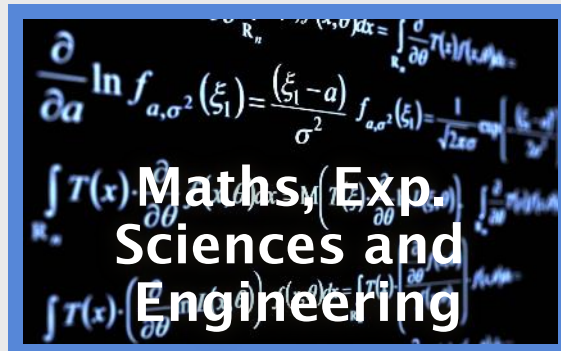
SO/MM Institutions



- Highly competitive, **frontier research** programmes at the forefront in their fields
- Proven **impact and leadership** nationally and internationally
- Active **social and economic actors**
- Covering **all fields of research**

Whats is SOMMa?

SOMMa: the Alliance of the Severo Ochoa and María de Maeztu research **centres and units of excellence**



Objectives of the alliance

- To increase the **visibility and competitiveness** of Spanish research and the Severo Ochoa – María de Maeztu programme
- To have a voice and influence in **science policy** both in Spain and in Europe
- To promote **exchange of knowledge**, technology and good practice between SOMMa members, the international scientific community and key stakeholders
- To **collaborate** with other centres and universities to push forward Spanish science
- To attract and nurture **scientific talent** to promote ground-breaking research
- To **help and support** other institutes and research groups in Spain

Governance structure of SOMMa



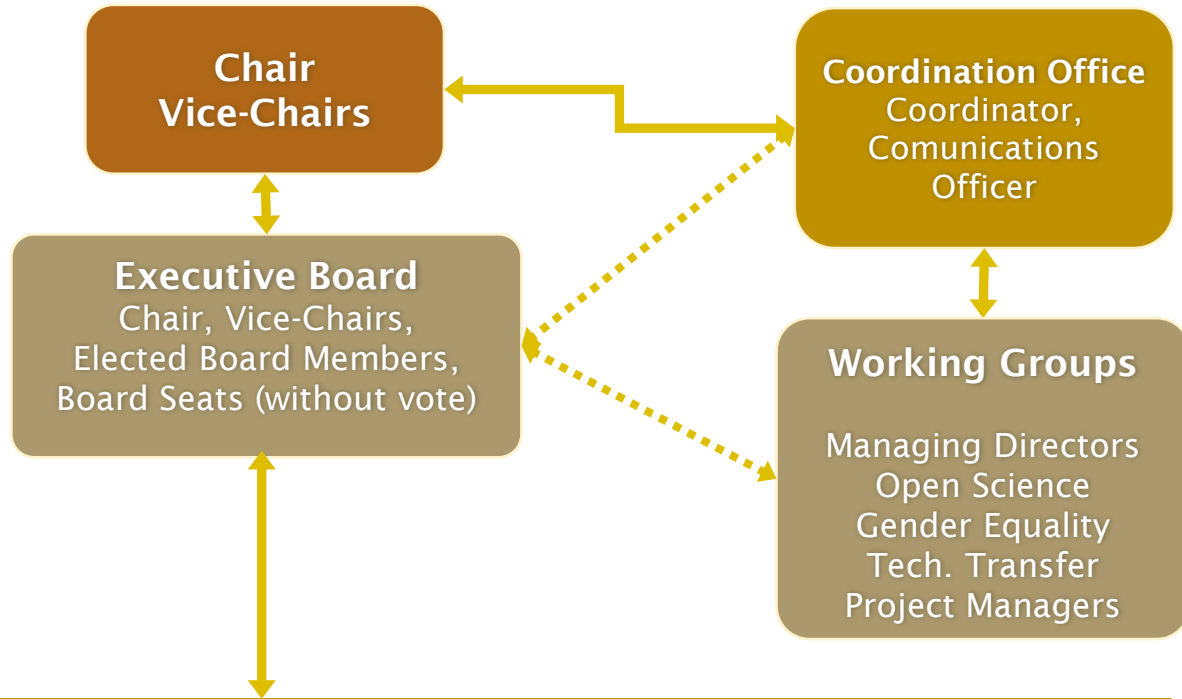
SOMMa Chair
CNIO Director
Maria Blasco



SOMMa Vice-chair (1st)
BC3 Director
María José Sanz



SOMMa Vice-chair (2nd)
CBGP (UPM-INIA) Director
Antonio Molina



Secretary
IAA-CSIC, Scientific Director
Isabel Márquez



Delegate Communication & International Visibility
CAB (CSIC-INTA) Scientific Director
David Barrado



Delegate R+D+i Policy
IFAE Director
Ramon Miquel



Delegate Global Impact
Barcelona GSE, Director
Teresa Garcia-Milà



Delegate Institutional Relationship
BECAM Director
Luis Vega

SOMMa in numbers - 2019 (I)

People

12,000 Total staff => 8,500 researchers

42% women => 28% as Senior Researchers

1,908 new hires

48% international postdocs

Scientific Output

> 9,980 publications

75% in 1Q journals => 35% in 1D journals

49% published in Open Access journals

661 Doctoral Thesis defended

SOMMa in numbers - 2019 (II)

International leadership

183 ERC grants active (48 Advanced) => 370M €

90M € income from FP7/H2020 programs

467 EU consortia participated

116 EU collaborative projects led by SOMMa PIs

Collaboration with private sector

67M € income from private sector (467 contracts)

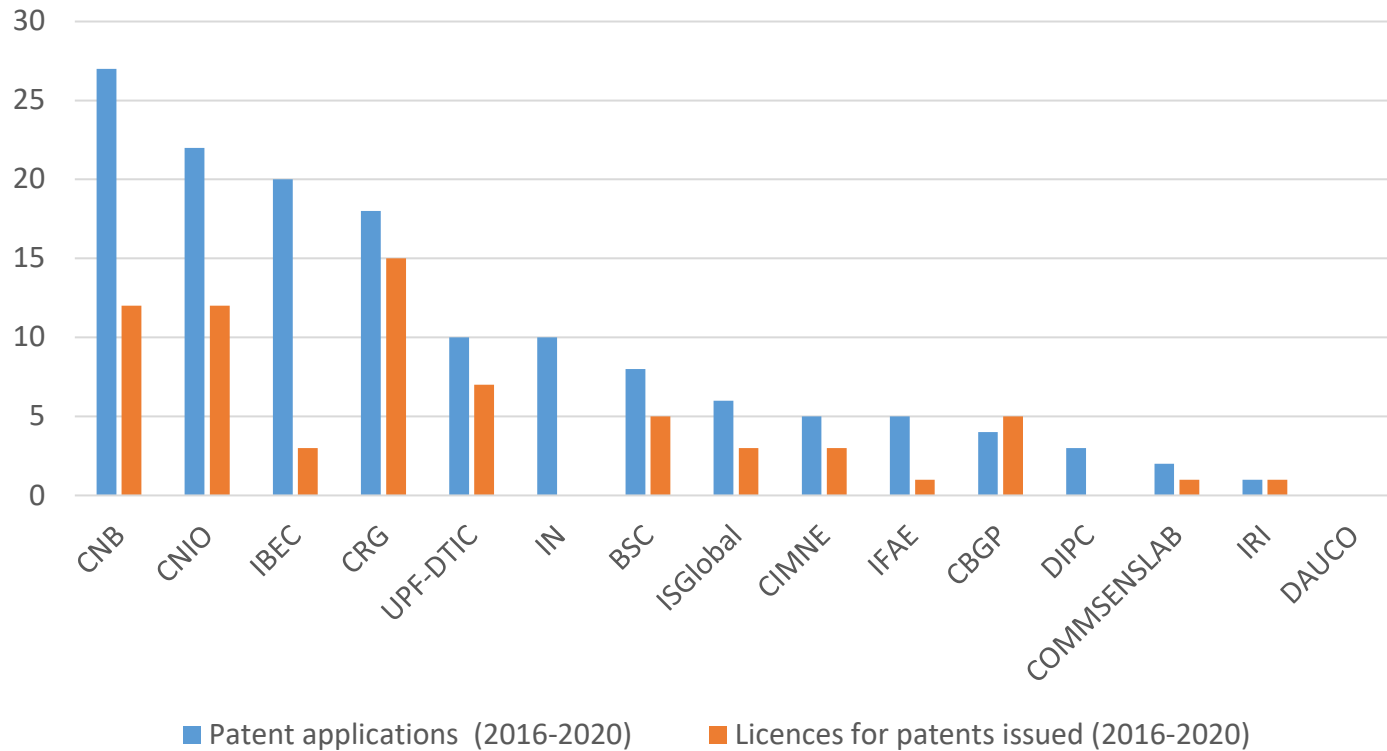
87 patents issued (>68 licensed since 2016)

16 spin-off companies launched (56 since 2016)

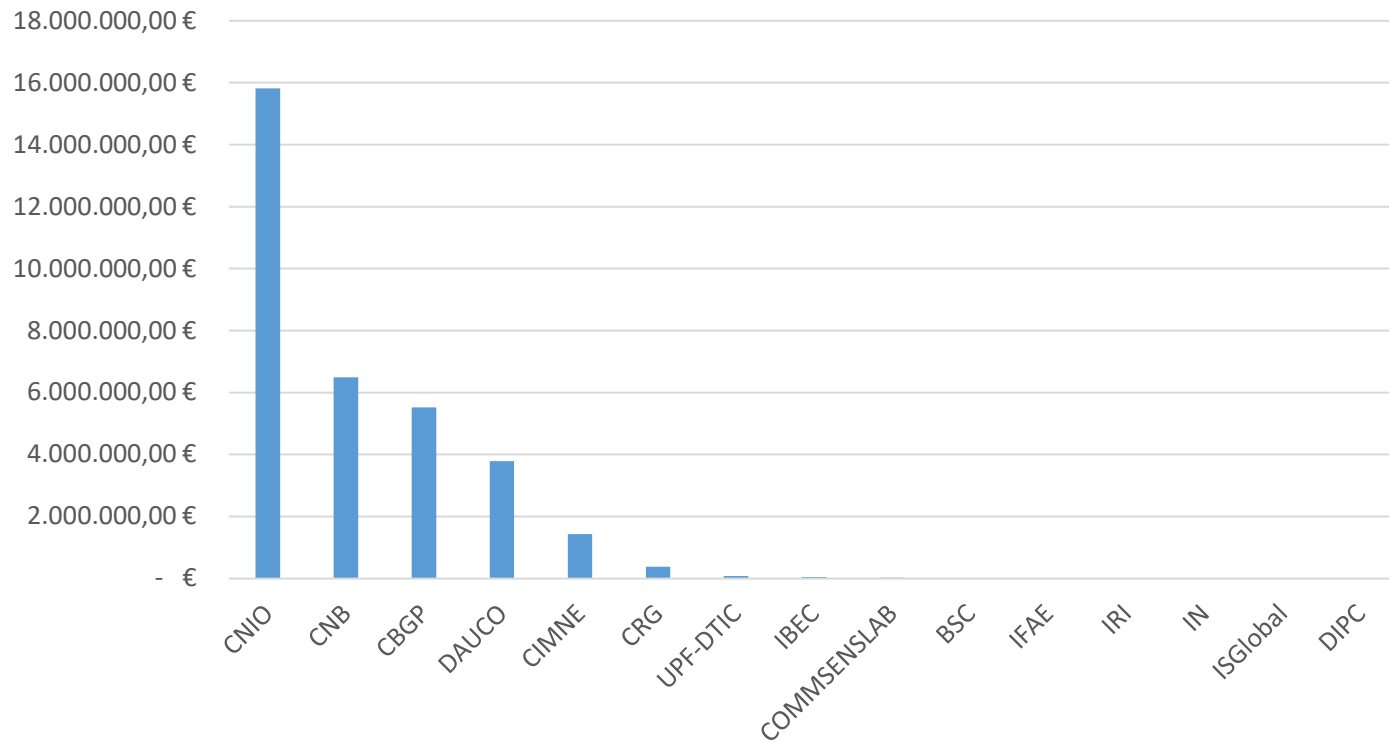
10M € income in philanthropy (since 2016)

- 87 patent applications (>141 in 2016-2020)
- 22 license agreements (>68 in 2016-2020)
- 16 spin-off companies (>56 in 2010-2020)
- 467 agreements with industry (>1.400 in 2016-2020)
- >33 M€ from licenses and IP sales (2016-2020)

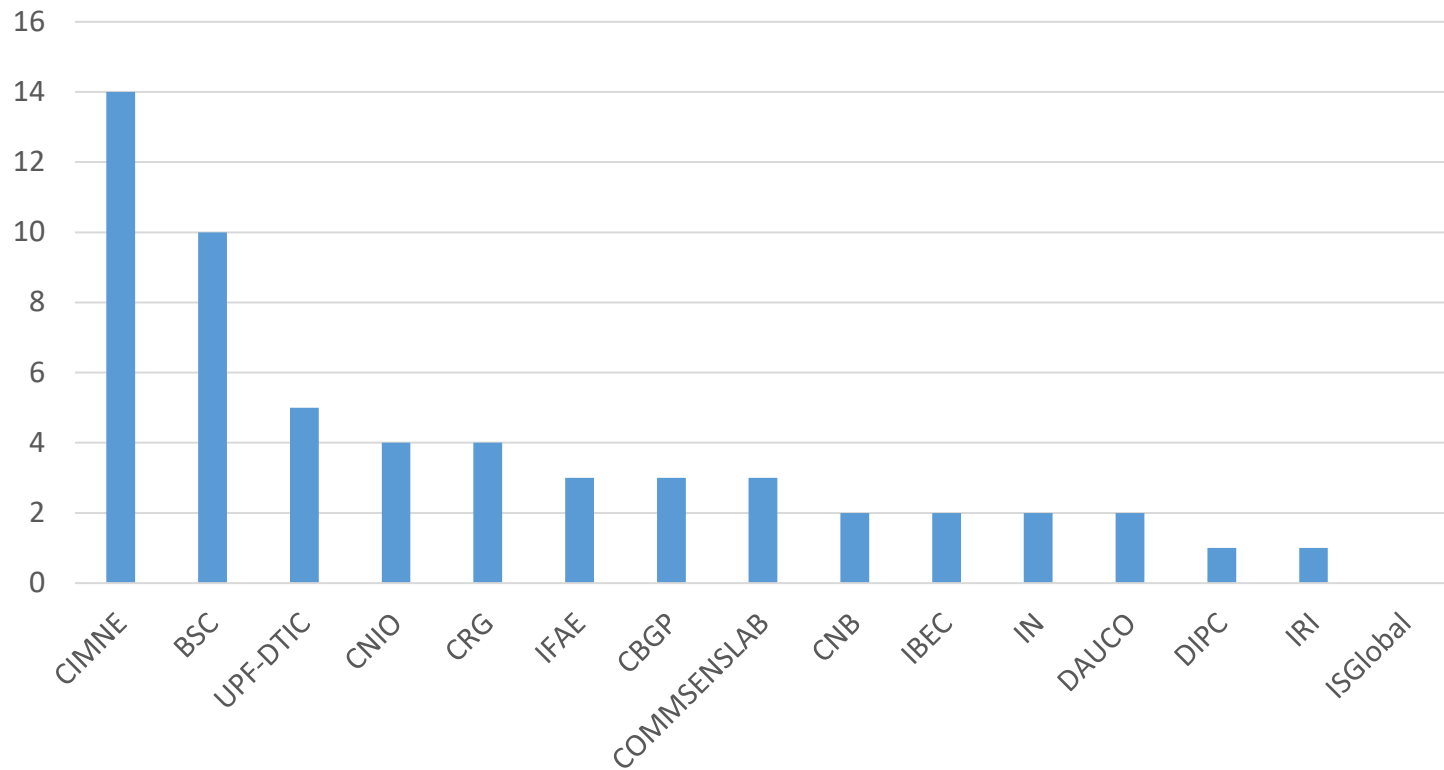
Patents applications and licenses (2016-2020)



Income obtained from all licences (not just patents) 2016-2020



Spin-offs companies created since 2010



Spanish National Cancer Research Center (CNIO)

cnio stop cancer



RESEARCH EXCELLENCE & LEADERSHIP

CNIO distinguished As a Center of Excellence “Severo Ochoa Accreditation”



CNIO obtained the Severo Ochoa Excellence Accreditation in the first call in 2011
(it was among the first 9 awarded centers)

CNIO renewed the accreditation in 2016

CNIO renewed the accreditation in 2020 with a score of 97.9 out of 100



CNIO in *SCImago Ranking* – Cancer Research Centres Worldwide 2021



INSTITUTION	COUNTRY	RANKING POSITION		
		GLOBAL	HEALTH SECTOR	CANCER RESEARCH
Dana Farber Cancer Institute	USA	69	12	1
Memorial Sloan-Kettering Cancer Center	USA	88	14	2
Ludwig Institute for Cancer Research *	USA	105	18	3
University of Texas M.D. Anderson Cancer Center	USA	111	19	4
National Cancer Institute	USA	132	24	5
UCSF Helen Diller Family Comprehensive Cancer Center	USA	153	31	6
Vall d`Hebron Instituto de Oncologia	ESP	196	40	7
Fred Hutchinson Cancer Research Center	USA	205	41	8
Centro Nacional de Investigaciones Oncologicas	ESP	221	45	9
Institute of Cancer Research	GBR	222	46	10

CNIO in *SCImago Ranking* – Research Centres in Spain 2021



INSTITUTION	RANKING POSITION	
	ALL SECTORS	HEALTH SECTOR
Vall d'Hebron Instituto de Oncologia	196	1
Centro Nacional de Investigaciones Oncologicas	221	2
Centro de Investigacion Cooperativa Biogune	344	3
Institut Catala d'Oncologia, Badalona	360	4
Institut de Recerca Biomedica Barcelona	377	5
Centro de Regulación Genómica	398	6
Institut d'Investigacions Biomediques August Pi i Sunyer	400	7
Hospital Clinic i Provincial de Barcelona	415	8
Centro Nacional de Investigaciones Cardiovasculares	417	9
Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina	443	10



ERC ongoing projects



Scientific excellence is recognised through 8 ERC grants: 3 advanced, 3 consolidator, 1 Starting and 1 Proof of Concept awards totalling >12.6 M€ CNIO funding



FOCUS ON
INCREASING
ERC AWARDS

Telomeres and
Telomerase
Group
M. Blasco

ERC-Advanced SHELTERINS
'Targeting Shelterin Proteins in Cancer'
Budget: 2,495,466 €

Experimental
Oncology
Group
M. Barbacid

ERC-Advanced THERACAN
'Novel therapeutic strategies to treat pancreatic and lung cancer'
Budget: 2,499,500 €

Melanoma
Group
M. Soengas

ERC-Advanced METALERT-STOP
'Imaging, characterizing and targeting metastatic niches in melanoma'
Budget: 2,497,945 €

Transformation
and Metastasis
Group
E. González

ERC-Consolidator PLEIO-RANK
'Pleiotropic treatment of cancer: RANK inhibitors targeting cancer stem cells and immunity'. Budget: 1,999,960 €

Topology and
DNA breaks
Group
F. Cortés

ERC-Consolidator TOPOmics
'Global dynamics of topoisomerase-induced DNA breaks'
Budget: 2,000,000 €

Bain Metastasis
Group
M. Valiente

ERC-Consolidator ALTER-brain
'Metastasis-associated altered molecular patterns in the brain'
Budget: 1,897,437 €

Metabolism & Cell
Signalling Group
A. Efeyan

ERC-Starting NutrientSensingVivo
'The Physiology of Nutrient Sensing by mTOR'
Budget: 1,846,494 €

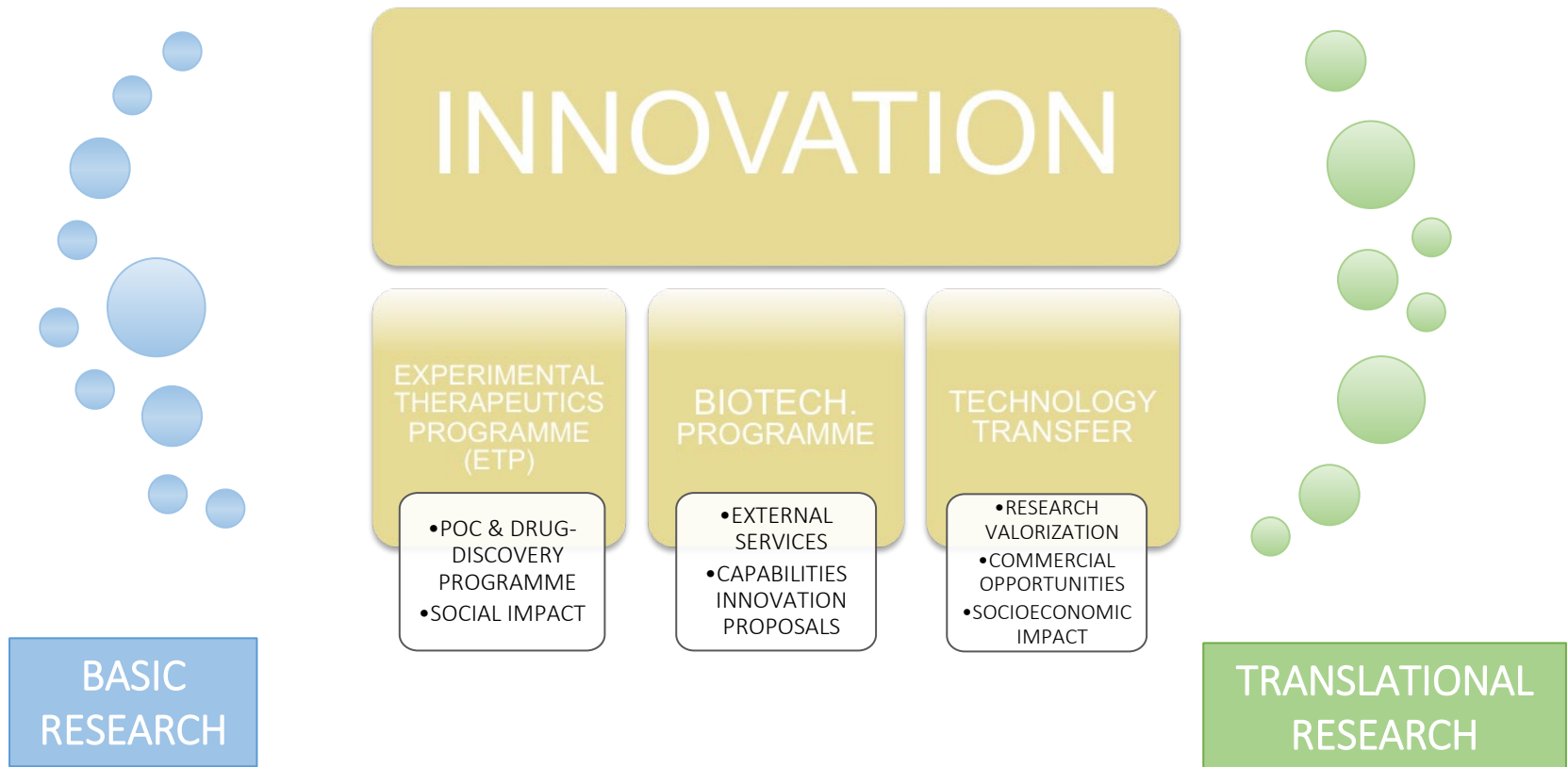
Genomic
Instability
Group
O. Fdez.-
Capetillo

ERC-Proof of Concept TARGETSET
'Commercial feasibility of targeting the histone methyl-transferase SETD8 in cancer: New chemical entities and biomarkers'
Budget: 150,000 €

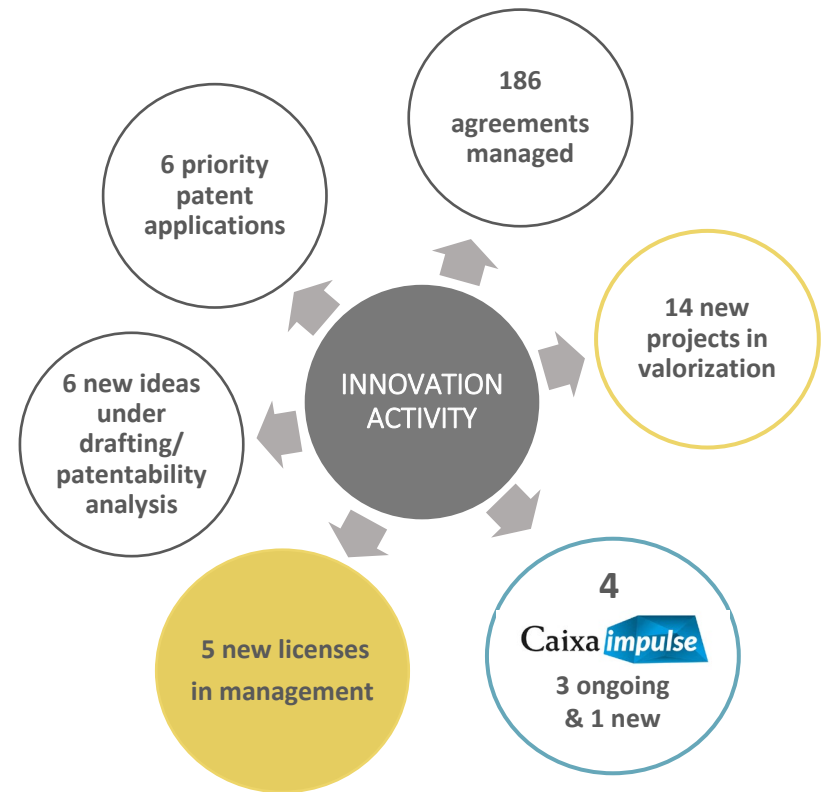
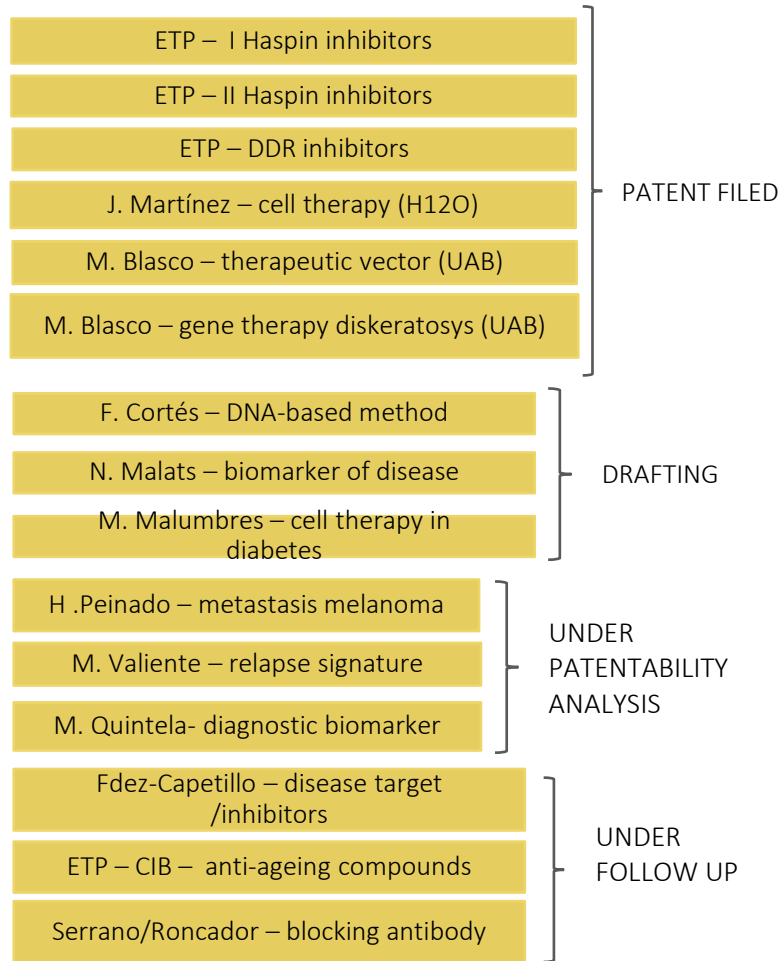
INNOVATION

CNIO – committed with innovation

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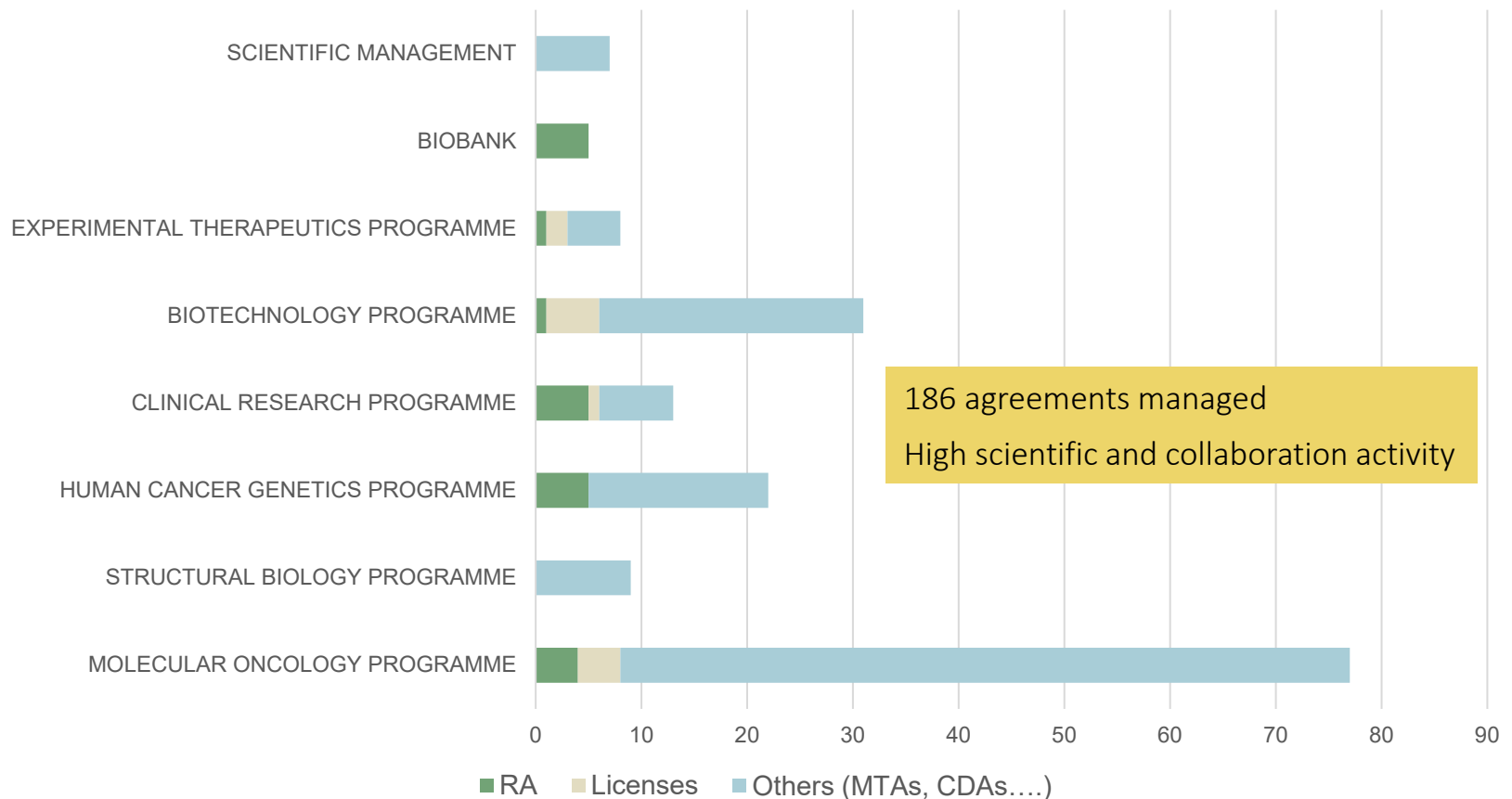


Innovation activity 2021



Knowledge and technology transfer agreements 2021

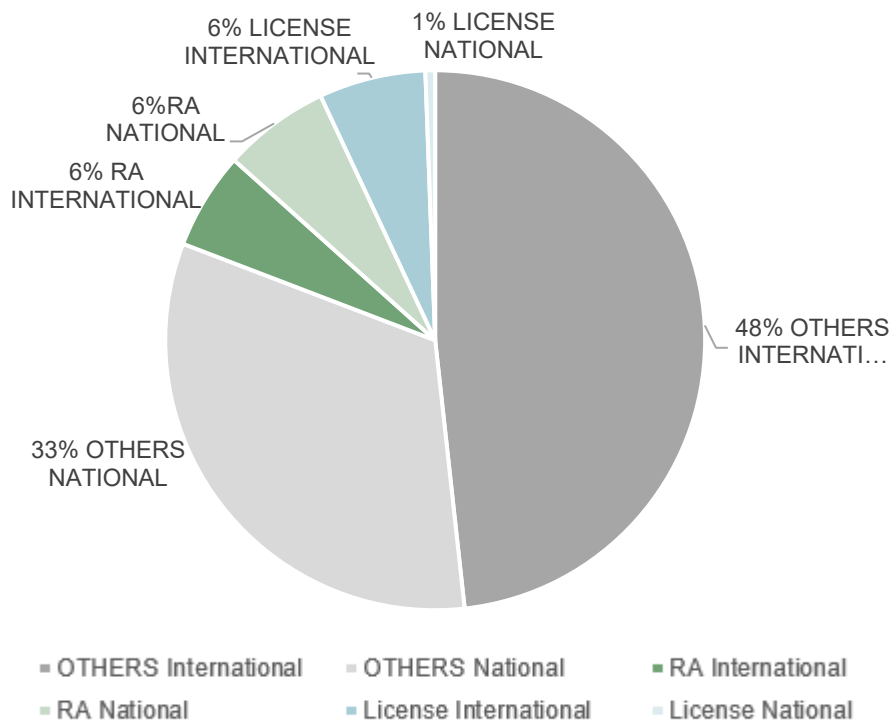
Innovation activity by Programme/Area



Creating value and impact in Spain and abroad 2021

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Agreement by type



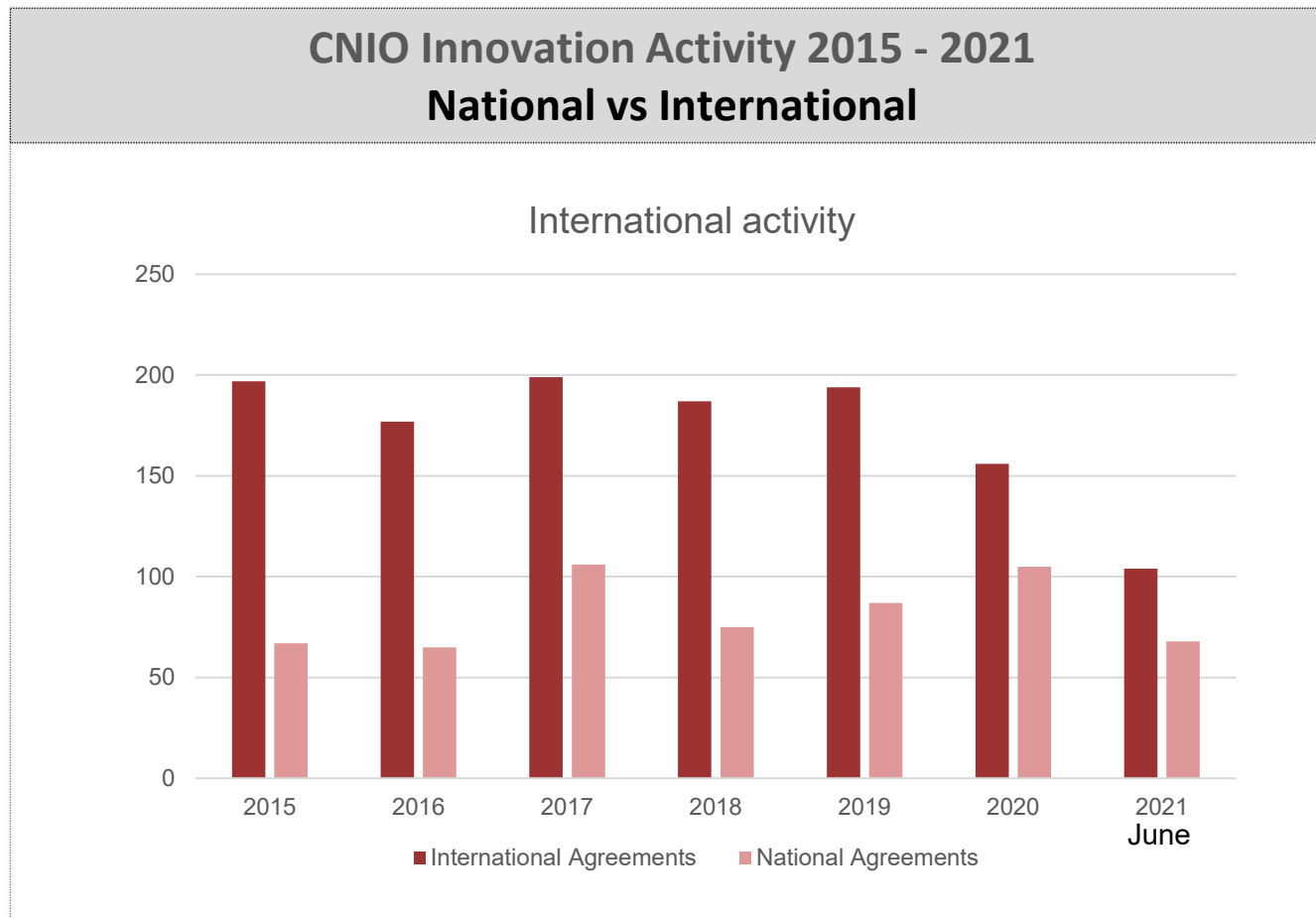
INTERNATIONAL

Janssen
Pfizer
Lilly
Genentech
Boehringer Ingelheim
Amgen
Bristol Myers Squibb
Loxo Oncology
Abcam
Verastem
Daicel
Affymetrix
EMD Millipore
Becton Dickinson
Moderna
Totus Medicine
Genome Asia Korea
Prosenestar

NATIONAL

GEICAM
IMDEA Alimentación
FISEVI
IDIVAL
Telomere Therapeutics
IVI Madrid
NimGenetics
Pharmamar
GENYO
Refoxy Pharma
VCN Biosciences

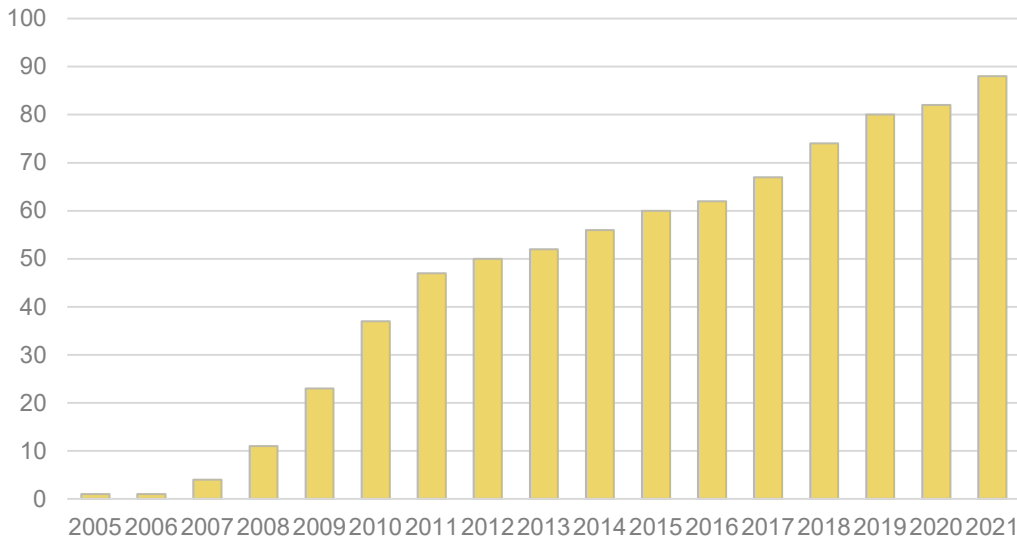
High international activity maintained through the years



CNIO Patent Portfolio

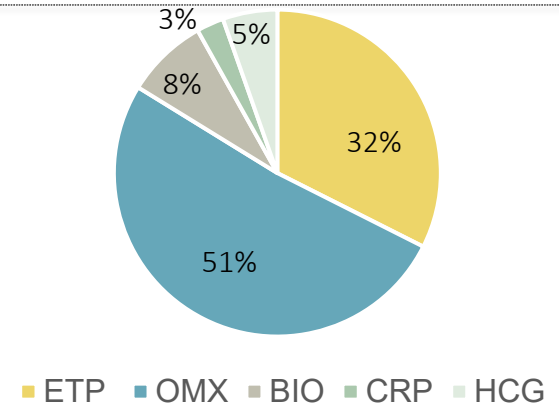


**Cumulative (2005-2021)
88 Patent Applications/ 40 Active**

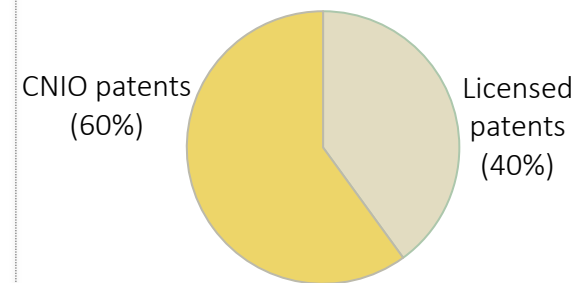


An active portfolio is maintained to optimize costs (patent strategy and licensing efforts)

**Active portfolio
Research Programmes**



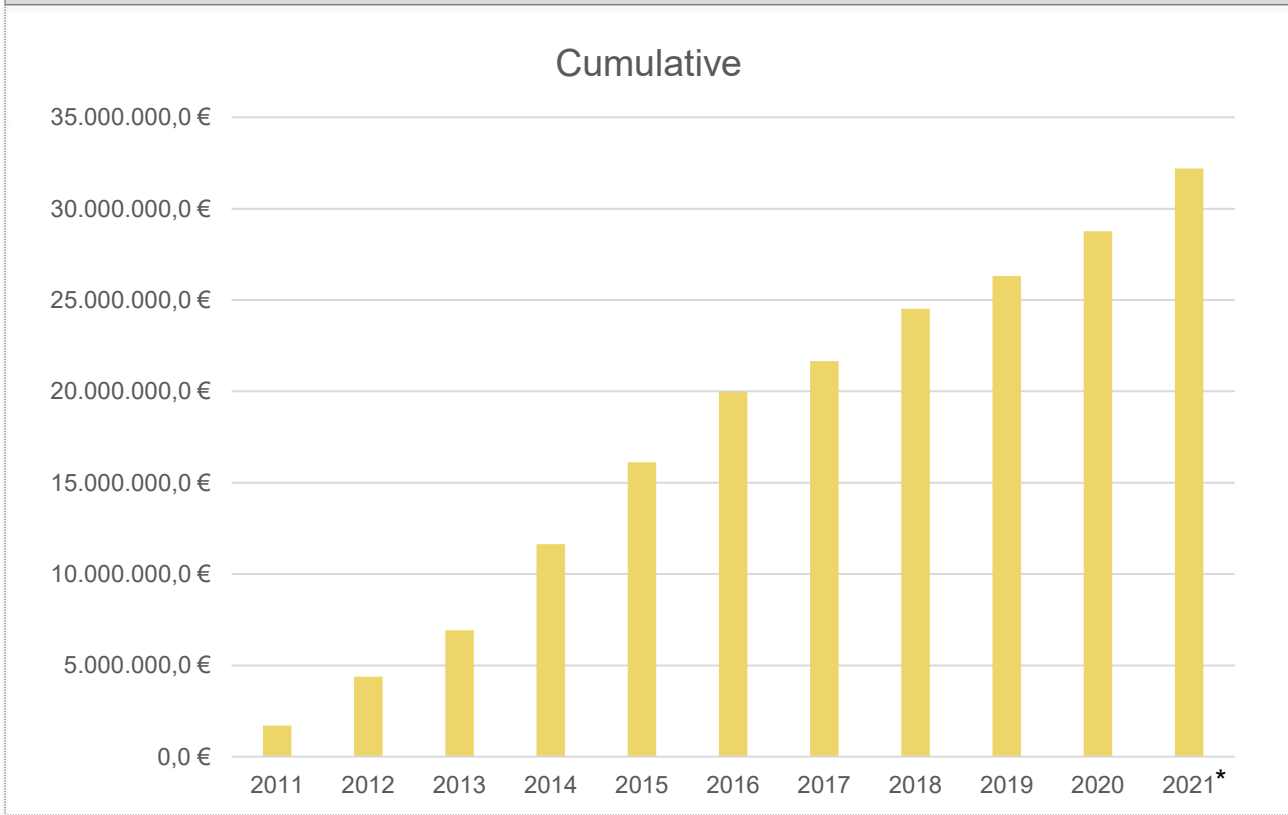
**Patents licenced from active portfolio
16 patents (40%)**



Income from collaborative research with industry 2011 - 2021



Cumulative 11 years → 32.205.781 €



*Data 2021 estimated, agreements pending from signature



Income from collaborative research 2021

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Janssen

Boehringer Ingelheim

Amgen

Loxo Oncology*

Bristol Myers Squibb*

Abcam*

Telomere Therapeutics*

Verastem*

Affymetrix*

EMD Millipore*

NimGenetics*

Daicel*

And several research institutions

* Agreements pending to be signed

Total: 3.430.000 €

INNOVATION PROJECTS CAIXAIMPULSE

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INNOVATION

4 CNIO projects ongoing since 2018

- **Financial support** for R&D, commercialization & business implementation (70-100K € for Validate projects and up to 300K € for COVID-19 project)
- **Mentoring** by industry, VC, consultants, entrepreneurs, legal and regulatory experts to help define a valorization and commercialisation plan
- **Network** of companies, entrepreneurs, and investors

VALIDATE (2018 – 2019)

TRF1 INHIBITORS

An anticancer drug against TRF1 protein to treat glioblastoma

FUGE THERAPEUTICS

A gene-editing technology to fight cancers caused by oncogenic fusion genes

CELL THERAPY FOR T1D

An improved cell therapy for effective glucose control in type 1 diabetic patients

COVID-19 (2020)

COVI-PHI TEST

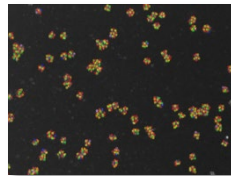
A novel detection kit for the simple and rapid diagnosis of SARS-CoV-2 infection



Felipe Cortés

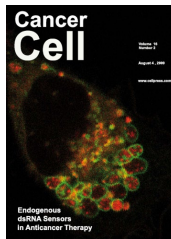
Entrepreneurship CNIO Spin-offs

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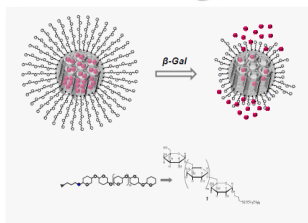
2010

- TECHNOLOGY: telomere length measurements for biomedical use
- Activity in more than 30 countries



- TECHNOLOGY: a dsRNA with anti-tumorigenic effects
- 2016 clinical trial in metastatic melanoma, glioblastoma, pancreatic & bladder cancer (first-patient-in Sept 2016).

senolytx



2017

- TECHNOLOGY: senescence target and know-how; silica nanoparticles coated with a galactoligosaccharide that gets degraded in senescent cells; senolytic compounds and antibodies
- Spin-off to develop 'senolytic' compounds.

Entrepreneurship

New CNIO Spin-off

Telomere Therapeutics



Maria Blasco, PhD

CNIO Director and Leader
of the Telomeres &
Telomerase Group



Fátima Bosch, PhD

Professor of Biochemistry
and Molecular Biology &
Director, CABGT



- Mission: develop **TELOMERASE GENE THERAPY** using AAV9 vectors for the treatment of **HUMAN LUNG FIBROSIS**
- **CONSTITUTED ON NOV. 30, 2020**

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UAB
Universitat Autònoma
de Barcelona

invivoventures ⇒ 1 million €

INVESTMENT BY:



⇒ 890,000 €

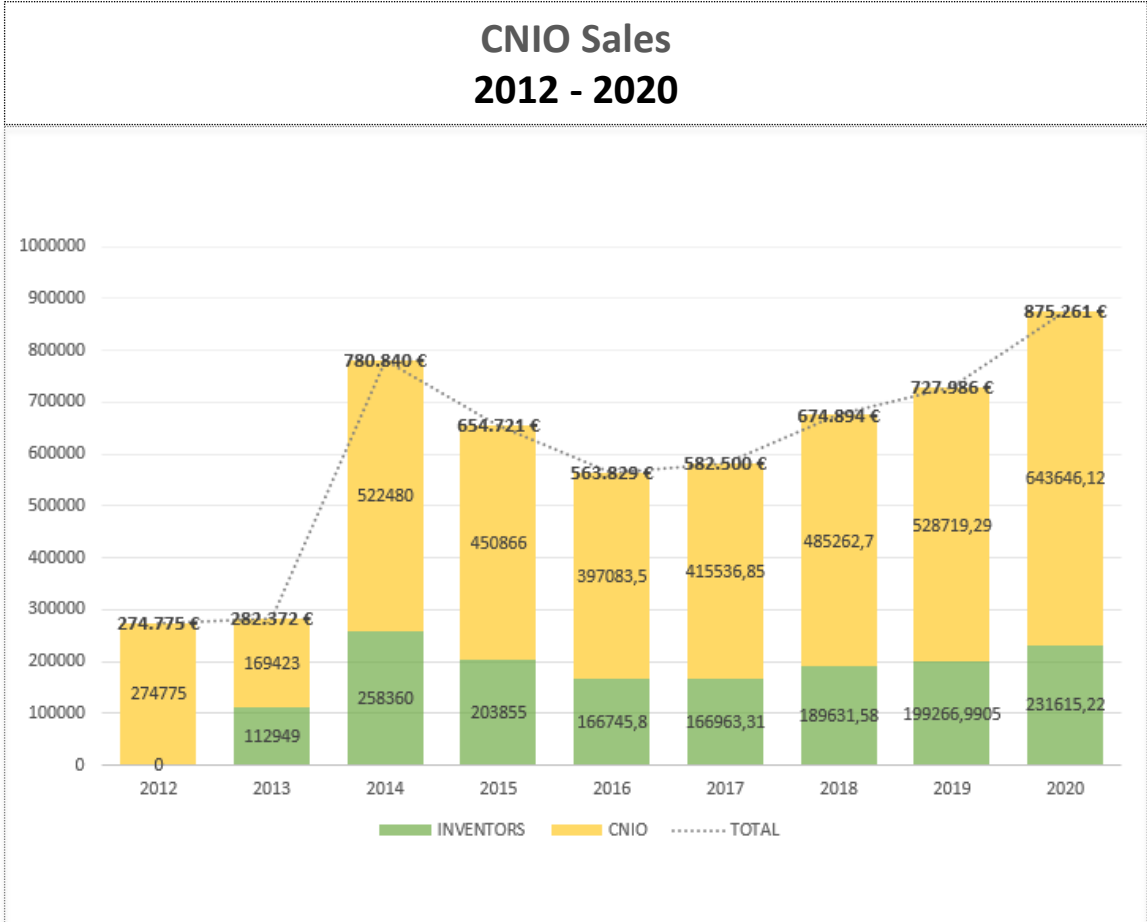
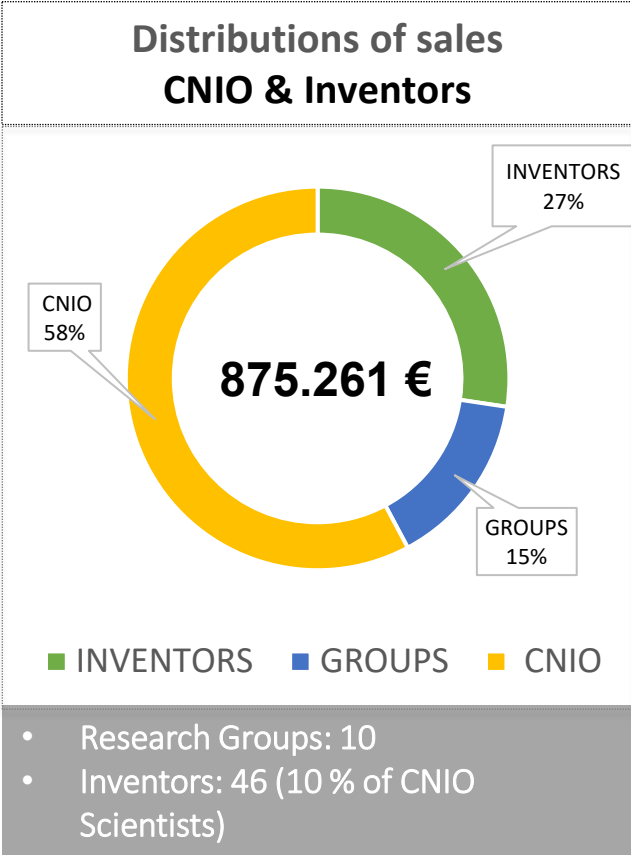
Sales 2020



Net income CNIO
€ 875.261

CSIC (2019)
€ 1,561,000

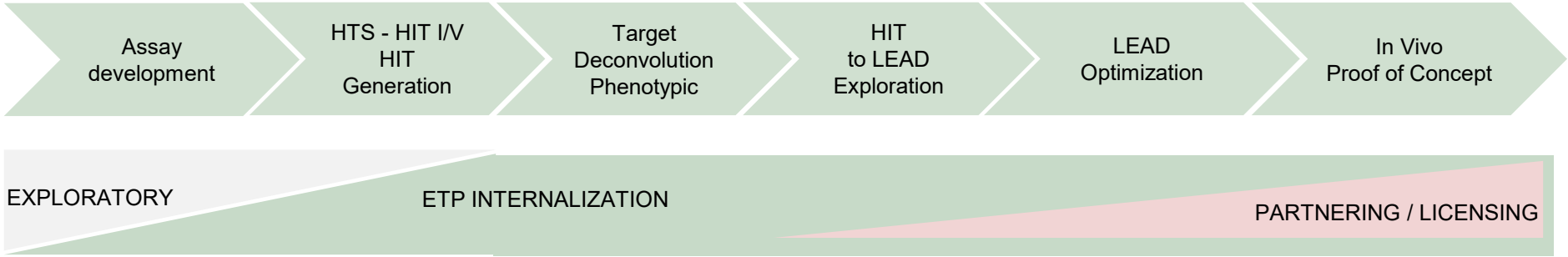
All Spanish universities
€ 3.5 M/year



Innovation – drug discovery efforts 2021



Phases of the Drug Discovery Process and ETP-CNIO Operating Model. Pipeline June 2021



Exploratory Projects CNIO

- PrimPol inhibitors / Screening / J Mendez
- TDP2 inhibitors / Screening / F Cortes
- NGFR antagonist / Repositioning / H Peinado
- MetPlatform / M Valiente / Patient Samples
- RANK-is / E G Suarez / Grant applications
- Target Z / Beato CRG / Grant applications
- Target W / Moreno UAM / Pending approval
- Target V / Mulero UM / Pending approval

ETP Internalized Projects

- CDK8 inhibitors / CNIO / PoC / Toxicology
- MASTL inhibitors / M Malumbres / Hit-LO
- TRF1 direct inhibitors / M Blasco / Hit Validation
- SETD8 inhibitors / O F Capetillo / HTS / Hit Generation
- Target X / CNIO-REFOXY-CSIC
- Target Y / CNIO-VIB Belgium
- DDR1 inhibitors / CNIO / Testing in NSCLC models
- Haspin-is / M Malumbres / Specific Probes for TV
- RORgT Protacs / N Djouder / Pending Internalization

Licensed Projects

- PIM inhibitors -> INFLECTION
- Dual PIM-PI3K inhibitors -> INFLECTION
- Triple PIM-PI3K-mTOR inhibitors -> AUM
- ATR inhibitors -> MERCK
- PI3K inhibitors -> TOTUS Medicines Proposal for discussion

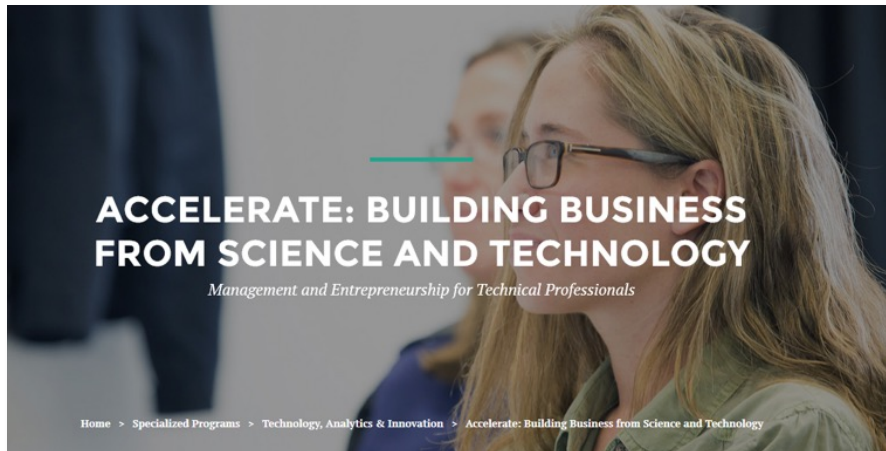
Fostering the innovation culture



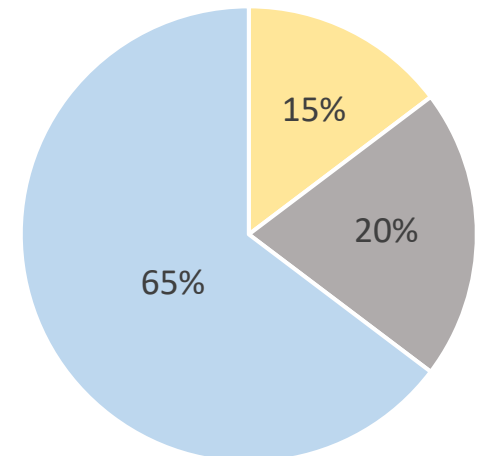
ACCELERATE COURSE - BUSINESS TRAINING COURSE OFFERED BY THE IE SCHOOL

- ✓ An initiative to foster innovation and entrepreneurial culture amongst CNIO Scientists
- ✓ 38 CNIO's Scientist have followed the course since 2012
- ✓ In 2020, CNIO offered 6 scholarships for this course, which is currently ongoing
- ✓ Course recognized by students and postdocs as “an attractive attribute to work at CNIO”

CURRENT POSTS CNIO - IE STUDENTS BY FIELD 2012 - 2019



- Techtransfer
- Company
- Research



***cnio** stop cancer*

CNIO in *Nature Index* 2021

* Based on Share LIFE SCIENCE / HEALTHCARE



CNIO holds <u>2nd</u> position for monographic cancer centres in Europe & only Spanish institution within the top 25	EUROPE RANKING POSITION	
INSTITUTION	<i>August 1, 2019 - July 31, 2020</i>	<i>1 April 2020 - 31 March 2021</i>
Netherlands Cancer Institute (NKI)	7 position (16,82)	17 position (12,71)
Spanish National Cancer Research Centre (CNIO)	18 position (11,54)	23 position (8,89)
CNIO holds <u>8th</u> position for monographic cancer centres worldwide & first Spanish institution out of 2 within the top 100	WORLD RANKING POSITION	
INSTITUTION	<i>August 1, 2019 - July 31, 2020</i>	<i>1 April 2020 - 31 March 2021</i>
Memorial Sloan-Kettering Cancer Centre (MSKCC)	6 position (93,10)	3 position (104,. 2)
University of Texas MD Anderson Cancer Center	12 position (66,00)	11 position (70.75)
Dana Farber Cancer Institute (DFCI)	15 position (51,99)	15 position (58.67)
Netherlands Cancer Institute (NKI)	40 position (16,82)	59 position (12.71)
H. Lee Moffitt Cancer Center & Research Institute	43 position (16,72)	38 position (18.28)
UNC Lineberger Comprehensive Cancer Center	52 position (14,66)	50 position (14.43)
Sun Yat-sen University Cancer Center (SYSUCC)	63 position (12,48)	58 position (12.92)
Spanish National Cancer Research Centre (CNIO)	77 position (9,98)	75 position (8.89)

INNOVATION PROJECTS

2021

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INNOVATION

Very active participation in the new National AEI Innovation calls, cofunded by the EU Reconstruction Funds “NextGenerationEU”:

- 3 proposals submitted to the “Proof of Concept” Call related to the results of the RETOS projects:
 - Hector Peinado
 - Nabil Djouder
 - Maria S. Soengas
- 3 proposals submitted to the “Strategic Projects” Call in collaboration with private companies (1 coordinated by CNIO) :
 - Marcos Malumbres (Coordinator) together with Pharmamar
 - Marcos Malumbres collaborating with CSIC (coordinator), MECWINGS SA and FIBH120
 - Giovanna Roncador collaborating with CNIC (Coordinator), IMMUNOTEK SL and ISS FJD



Innovation at SOMMa centres and units



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Institution	Patent applications	Licences for patents issued	Research collaborations with industrial partners	Money obtained from all licences	Spin-offs companies
CNIO	22	12	115	15.813.614,00 €	4
CNB	27	12	179	6.493.741,26 €	0
CBGP	4	5	59	5.518.659,00 €	2
DAUCO	0	0	136	3.784.699,52 €	0
CIMNE	5	3	364	1.435.778,00 €	4
CRG	18	15	154	379.672,08€	3
UPF-DTIC	10	7	157	75.555,24 €	2
IBEC	20	3	32	50.000,00 €	0
COMMSENSLAB	2	1	36	23.953,66 €	2
BSC	8	5	40	10.295,18 €	10
IFAE	5	1	22	7.500,00 €	3
IRI	1	1	26	2.500,00 €	1

Data compiled for the period 2016-2020

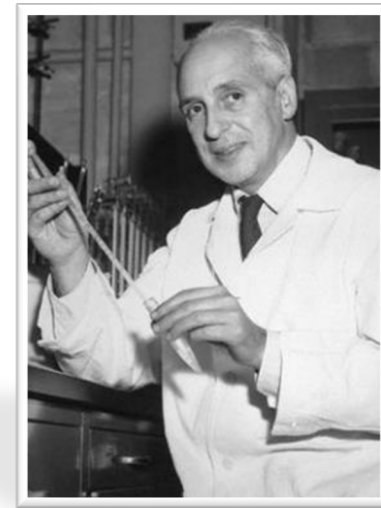
- Programme deployment:
 - ✓ Training: business and career development, translational research, bioinformatics, scientific communication, lab management
 - ✓ Research: pioneer research programmes and lines
 - ✓ Tech transfer: tech transfer with social impact
- Recruitment:
 - ✓ PhD, Postdoc, young and senior group leaders (ICREA/ERC researchers)
 - ✓ Communication, tech transfer, management staff talent
 - New tech transfer, open science, research project offices
- Facility upgrades:
 - ✓ Critical equipment and specialized experimental facility (“enabling technologies”) update and purchase
 - Enhanced underlying research capacities and services

Value added by SO/MM programme

- Strategic alliances and Exchange networks:
 - ✓ International strategic exchange alliances with international institutions
 - ✓ Exchange between basic research – clinicians
- Innovation:
 - ✓ Development of novel university dept. management structures
 - ✓ Numerous spin-off companies, patents, software
- SO/MM programme snowball effect:
 - ✓ Enhanced capacities increased the eligibility for external funding, international collaboration and talent attraction

What is SOMMa?

SOMMa: the Alliance of the Severo Ochoa and María de Maeztu research **centres and units of excellence**



“**SOMMa’s mission** is to internationally promote, strengthen and maximise the value of the ground-breaking research produced by the Spanish ‘Severo Ochoa’ Centres and ‘María de Maeztu’ Units of Excellence and the scientific, social and economic impact it generates.”

Actions and achievements

- October 2017: **launch** of the SOMM alliance
- March 2018: presentation of the “**Informe SOMMa**” position paper; website launch >225,000 visits to date
- **Meetings 100xCiencia** held in Madrid (2018), San Sebastián (2019).
 - ✓ Next meeting scheduled for November 2021 in Santiago de Compostela
- Contribution to the **Spanish Strategy of Science, Technology and Innovation 2021-2027**
- Manifesto for Science, together with ASEBIO and ASEICA (Oct 2020)
- **Adoption of amendments** to the *PGEs* proposed by SOMMa (2019, 2021)
- Regular contacts and meetings with policy-making agents: Ministry of Science and Innovation, General Secretary of Research, Parliament Groups, AIE, etc.
- Collection and elaboration of information about capacities and activities for different stakeholders (MCI, AIE, ISCiii, MAE...)
- Contribution to the national strategy on Open Science coordinated by the FECYT



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SOMMa contacts and support



CONFEDERACIÓN DE SOCIEDADES
CIENTÍFICAS DE ESPAÑA

<http://www.cosce.org/>

TEDAE

Defensa, Seguridad, Aeronáutica y Espacio

<https://www.tedae.org/es>

COTEC

FUNDACIÓN
COTEC
PARA LA INNOVACIÓN

<http://cotec.es/>



Regic

<http://regic.org/>

asebio

<http://www.asebio.com/es/>



Comisión de Ciencia

Ametic

<https://ametic.es/es>

feiQue

Federación Empresarial de la
Industria Química Española

<https://www.feique.org/>



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For More information:



www.somma.es



[@SOMM_Alliance](https://twitter.com/SOMM_Alliance)



info@somma.es

Thanks for your attention!



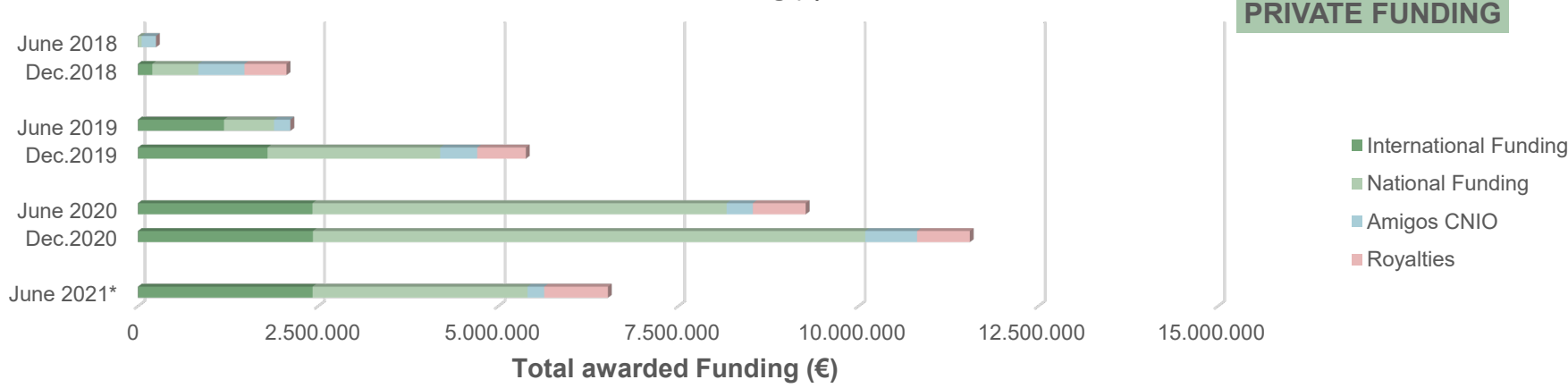
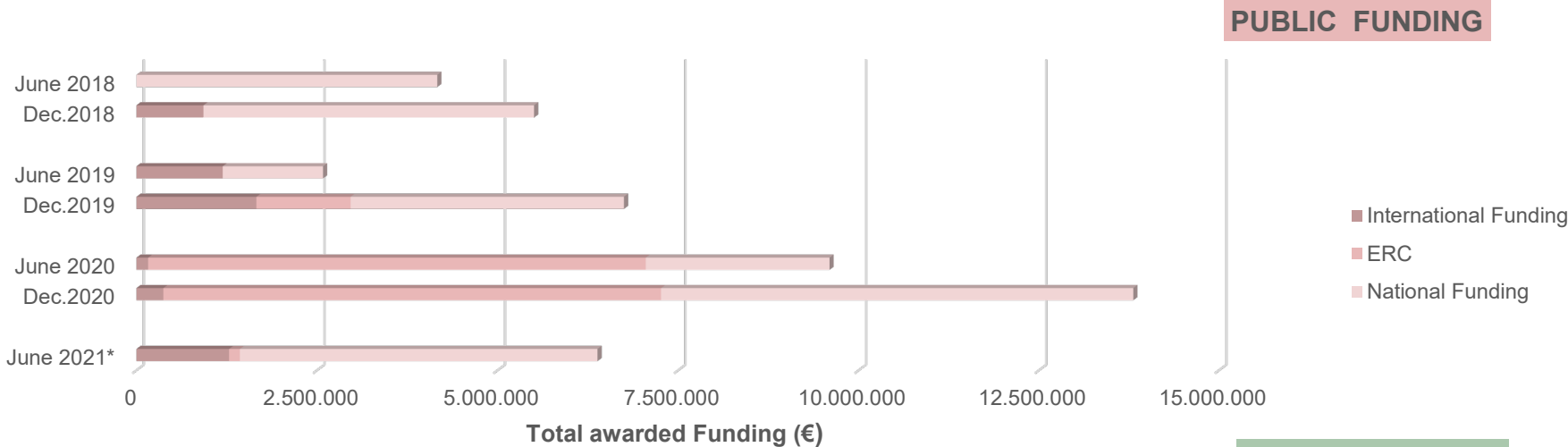
With the support of:





CNIO external funding

(competitive calls & contracts with private companies)



* Provisional data in June 2021: it includes last publication of call resolutions of AEI, La Caixa Foundation, FBBVA, CM, etc.