

EVOLUCIÓN DE LOS PROGRAMAS EUROPEOS DE I+D+I A PARTIR DE 2021

Dr. Marina Martínez García

Programme Officer H2020

Spanish Officer for Science and Technology, **SOST-CDTI**

División de Programas Europeos, CDTI E.P.E

Ministerio de Economía, Industria y Competitividad



Preparing FP9

Designing the successor to
the Horizon 2020
research and innovation
framework programme



IN-DEPTH ANALYSIS

EPRS | European Parliamentary Research Service
Author: Vincent Bollion
Members' Research Service
April 2018 — PE 620.215

EN

- ✓ **Apr-2018** → Overview of the preparatory work conducted by the EC for the next framework programme for research and innovation, “Horizon Europe”.
- ✓ **02-May-2018** → EC proposal for the EU budget 2021-2027 → **1.279 B€**
- ✓ **07-Jun-2018** → **EC proposal for “Horizon Europe” structure...** to be discussed by EU Council and EU Parliament onwards!

Sobre presupuestos...

A MODERN EU BUDGET FOR A UNION THAT PROTECTS, EMPOWERS AND DEFENDS



'Today is an important moment for our Union. The new budget is an opportunity to shape our future as a new, ambitious Union of 27 bound together by solidarity. With today's proposal we have put forward both a vision for the kind of Union we want, as well as a pragmatic plan for how we can make it happen. For the first time in our history, a rule of law mechanism will ensure sound financial management of the Union's budget and protect taxpayer's money. The ball is now in the court of Parliament and Council and I believe we should aim to have agreement before the European Parliament elections next year.'

Jean-Claude Juncker, President of the European Commission, 2 May 2018

'This budget proposal is truly about EU added value. We invest even more in areas where one single Member State cannot act alone or where it is more efficient to act together - be it research, migration, border control or defence. And we continue to finance traditional - but modernised - policies, such as Common Agricultural Policy and Cohesion Policy, because we all benefit from the high standard of our agricultural products and regions catching up economically.'

Günther H. Dettinger, Commissioner for Budget & Human Resources, 2 May 2018



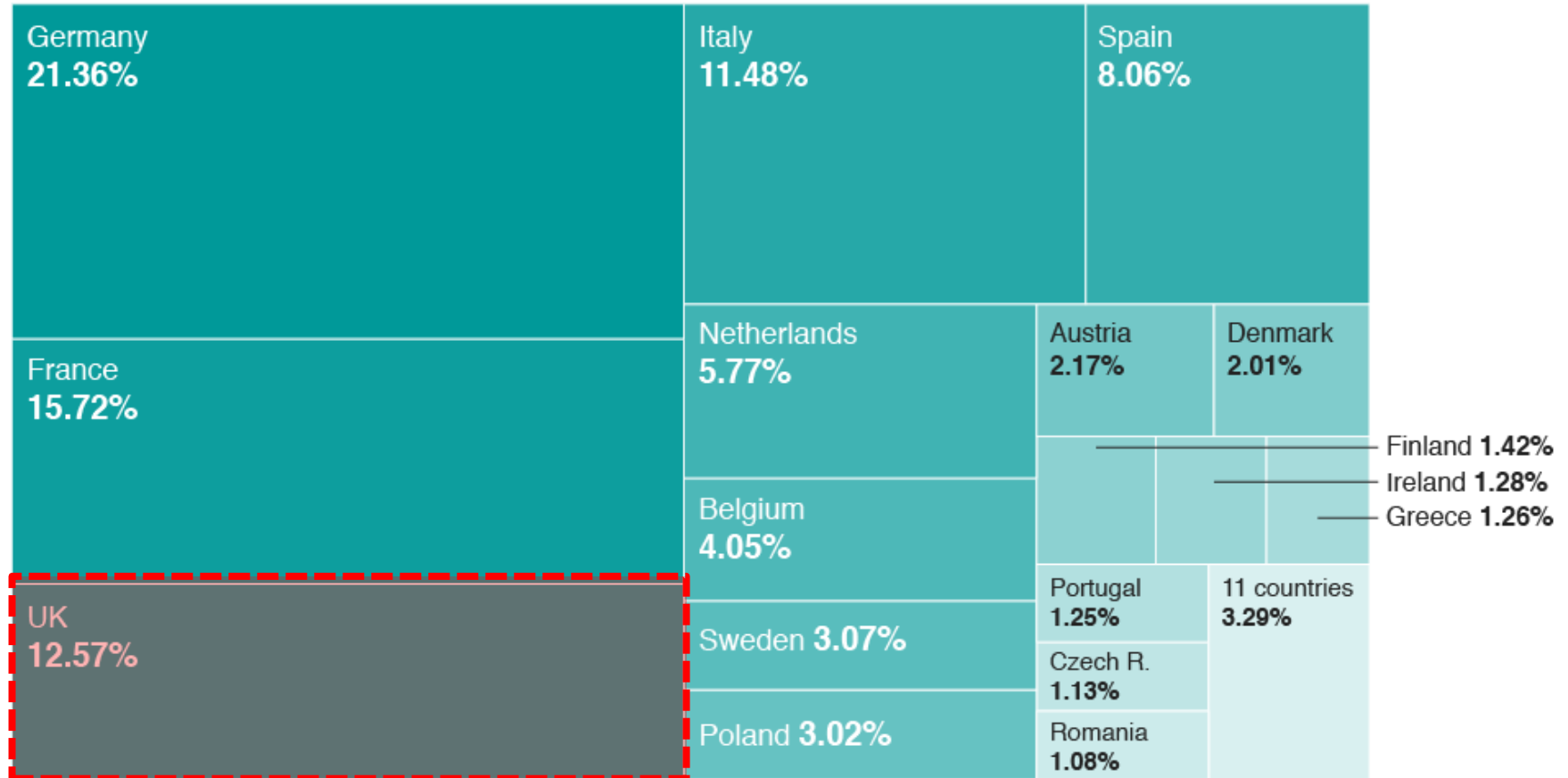
Presentation of the new budget for the EU 2021-2027 on 02-May-2018.

- ❑ **Increases** → **Research and innovation**, young people, the digital economy, border management, security and defence... For instance, the budget of Erasmus+ and the European Solidarity Corps will be doubled.
- ❑ **Savings** → Common **Agricultural Policy** and **Cohesion Policy** is moderately reduced - both by around 5% - to reflect the new reality of a Union at 27.
- ❑ **New revenues** → Focussed in:
 - ❑ **Modernise existing own resources** → Among others, the simplification of the VAT (Value Added Tax-based) own resource.
 - ❑ Introduce a **basket of new own resources** consisting of:
 - ❑ A 3% call rate applied to the new **Common Consolidated Corporate Tax Base**;
 - ❑ A 20% share of the auctioning revenue of the **European Emissions Trading System**;
 - ❑ National contribution on the basis of the amount of **non-recycled plastic packaging waste** in each Member State.



Some boundary conditions...

2015 EU budget 145bn euros: Contributions by country (%)

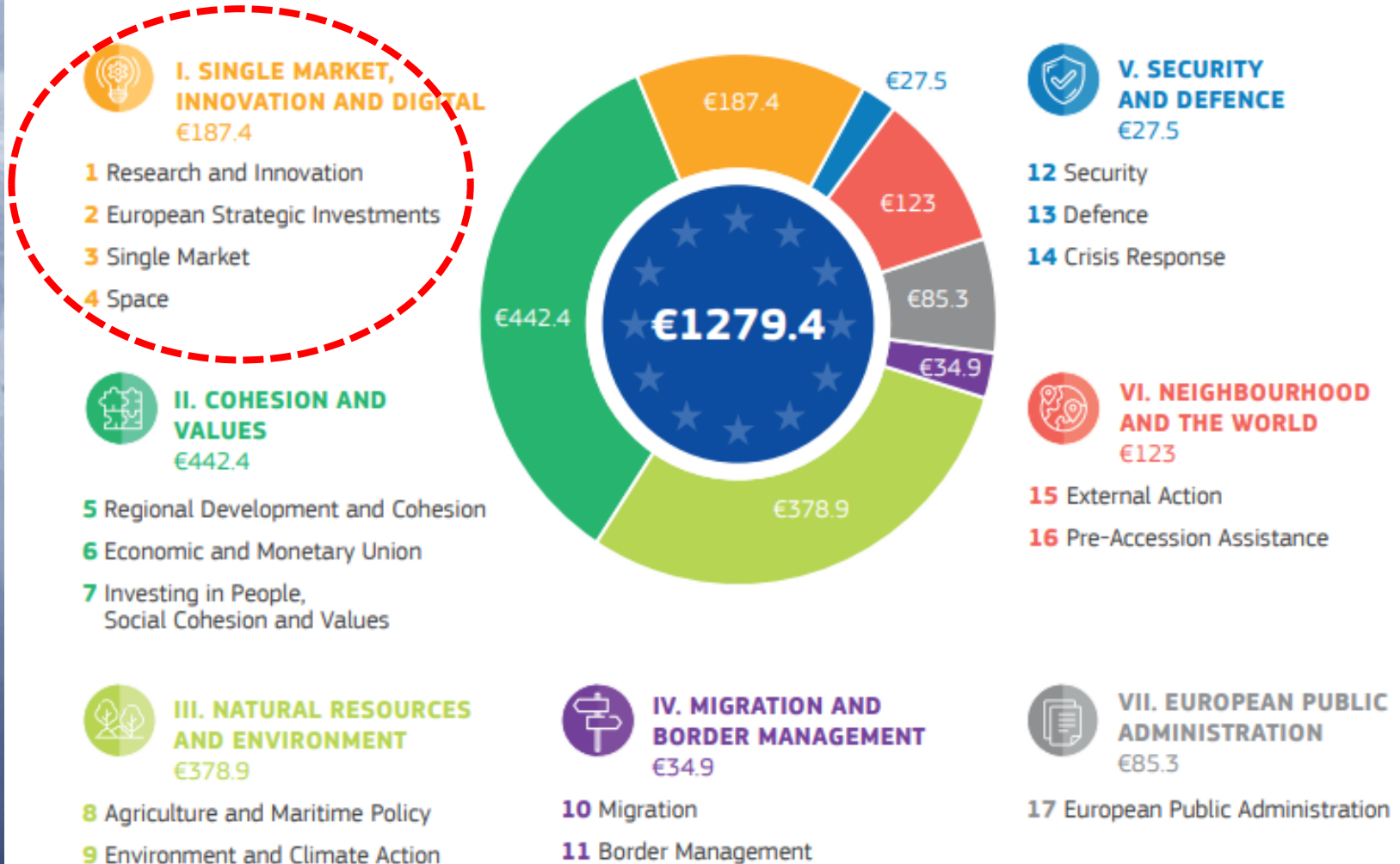


Source: European Commission/HM Treasury

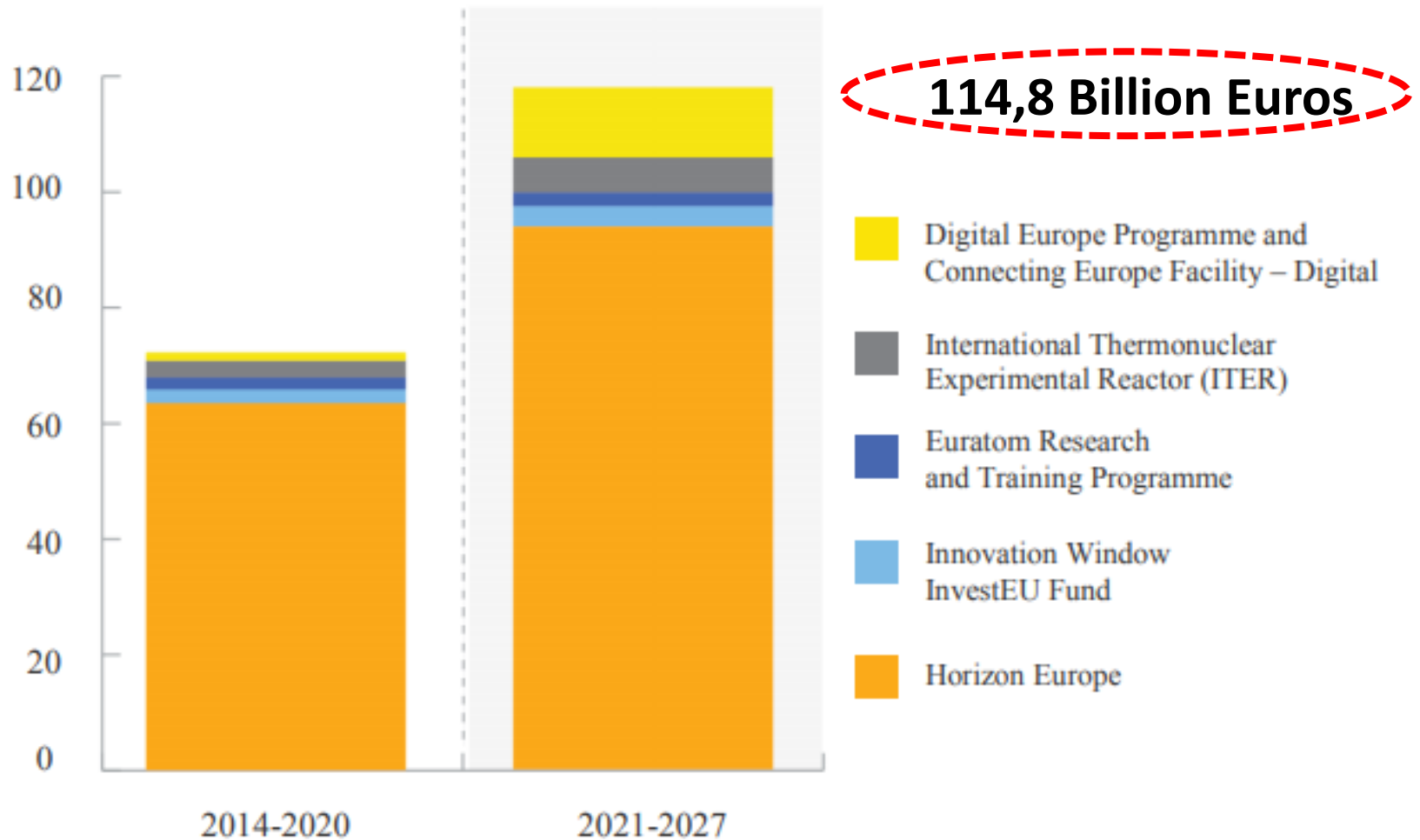
New MFF for the EU...

THE NEW MULTIANNUAL FINANCIAL FRAMEWORK 2021 - 2027 A BUDGET FOR A UNION THAT PROTECTS, EMPOWERS AND DEFENDS

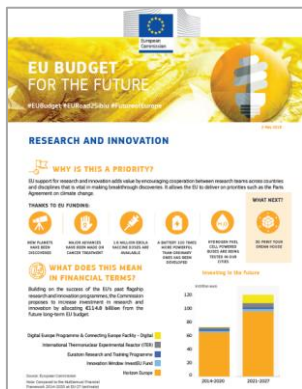
In billion euro, current prices



... and the budget for R&D&Innovation...



*Current billion Euros



... Pistas sobre la estructura de “Horizon Europe” 2021-2027

Horizon Europe, with a budget of **€97.6 billion**, is the biggest ever research and innovation funding programme. It is designed around three pillars:

- the **Open Science pillar** supports researchers through fellowships and exchanges as well as funding to projects defined and driven by researchers themselves, through the European Research Council and the Marie-Sklódowska-Curie actions.
- The **Global challenges pillar** directly supports research relating to societal challenges, setting EU-wide missions with ambitious goals around issues that worry us daily such as such as the fight against cancer, clean mobility and plastic-free oceans. Industrial leadership will be prominent within this pillar and throughout the programme as a whole.
- The **Open Innovation pillar** aims to make Europe a front runner in market-creating innovation. A **European Innovation Council** will offer a one-stop shop for high potential and breakthrough technologies and innovative companies with potential for scaling up.

Open Science

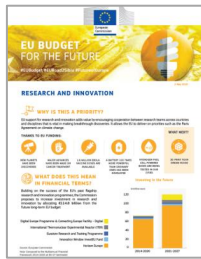
Global challenges

Open Innovation



**HORIZON
EUROPE**

To highlight...



- **InvestEU** provides an EU guarantee mobilise public and private financing in the form of loans, guarantees, equity or other market-based instruments, to strategic investments in the support of Research and Development through a dedicated investment window. With a contribution from the EU budget of €15.2 billion, InvestEU will mobilise more than **€650 billion** of additional investment across Europe.
- **EU Cohesion Policy** plays an important part of the EU funds for Research & Innovation through an increased focus on innovation and Smart Specialisation strategies. The “Seal of Excellence” allows projects successfully evaluated under Horizon Europe to be funded at regional level under the European Structural and Investment Funds.
- The new **European Defence Fund**, with an overall budget of **€13 billion**, will boost Europe’s ability to protect and defend its citizens. It will offer EU funded grants for collaborative projects which address emerging and future defence and security threats and bridge technological gaps.
- **ITER, the International Thermonuclear Experimental Reactor**, is a first-of-a-kind, long-term project to build and operate a reactor to test the feasibility of fusion as an energy source. **€6 billion** will be allocated to it.
- The **Euratom** Research and Training Programme funds research and training on the safety of nuclear energy production.
- The new **Digital Europe Programme**, with **€9.2 billion** aims to bring the benefits of the digital transformation to all European citizens and businesses. The programme will boost frontline investments in high-performance computing and data, artificial intelligence, cybersecurity and advanced digital skills. It will promote large-scale deployment of digital technologies across economic sectors and it will support the digital transformation of public services and businesses.

Análisis previos...

Mid-term evaluation of H2020... Lessons learnt

- ❑ **Invest more ambitiously** in research and innovation programmes to address the current situation described as an underfunding of the programme.
- ❑ **Continue simplification** in the implementation of the programme.
- ❑ **Strengthen support to breakthrough, market-creating, innovation** with the creation of the European Innovation Council and more flexibility in the programme.
- ❑ **Create greater impact and more outreach** with increased citizen involvement for the co-design and co-creation of the programme and by introducing research and innovation missions.
- ❑ **Increase synergies with other EU programmes and policies** from the programme design stage by making co-funding schemes more flexible and improving the compatibility of rules between EU programmes.
- ❑ **Strengthen international cooperation** in order to reverse the negative trend observed with Horizon 2020.
- ❑ **Reinforce programme openness**, making all publications openly accessible and all data findable, accessible, interoperable and reusable.
- ❑ **Rationalise the EU funding landscape** by redefining instruments and funding schemes.



Interim Evaluation of H2020... HLG of Independent experts



impact of EU Research and Innovation Programmes

1. To formulate a vision for future EU Research and Innovation (R&I)
2. Draw strategic recommendations on maximising the impact of EU R&I programmes in the future, i.e. how to fulfil that vision.

[Report public presentation on 03-Jul-2017, BRU](#)



Interim Evaluation of H2020... HLG of Independent experts

- 1. Prioritise R&D&I** in EU and national budgets → Action: **double the budget** of the post-2020 EU research and innovation programme.
- 2. Build a true EU innovation policy that creates future markets** → Action: Foster ecosystems for researchers, innovators, industries and governments; promote and invest in innovative ideas with rapid scale-up potential through a European Innovation Council.
- 3. Educate for the future** and invest in people who will make the change → Action: **modernise**, reward and resource the **education** and training of people for a creative and innovative Europe.
- 4. Design the EU R&I programme for greater impact** → Action: make the future programme's pillars driven by purpose and impact, fine-tune the proposal evaluation system and increase flexibility.
- 5. Adopt a mission-oriented, impact-focused** approach to address global challenges → Action: set research and innovation missions that address global challenges and mobilise researchers, innovators and other stakeholders to realise them.



Interim Evaluation of H2020... HLG of Independent experts

6. Rationalise the EU funding landscape and achieve **synergy with structural funds**
→ Action: cut the number of R&I funding schemes and instruments, make those remaining

Reinforce each other and make synergy with other programmes work.

7. Simplify further → Action: become the most attractive R&I funder in the world, privileging impact over process.

8. Mobilise and **involve citizens** → Action: stimulate co-design and co-creation through citizen involvement.

9. Better align EU and national R&I investment →
Action: ensure EU and national alignment where it adds value to the EU's R&I ambitions and missions.

10. Make international R&I cooperation a trademark of EU research and innovation → Action: open up the R&I programme to association by the best and participation by all, based on reciprocal co-funding or access to co-funding in the partner country.

11. Capture and **better communicate impact** →
Action: brand EU research and innovation and ensure wide communication of its results and impacts.



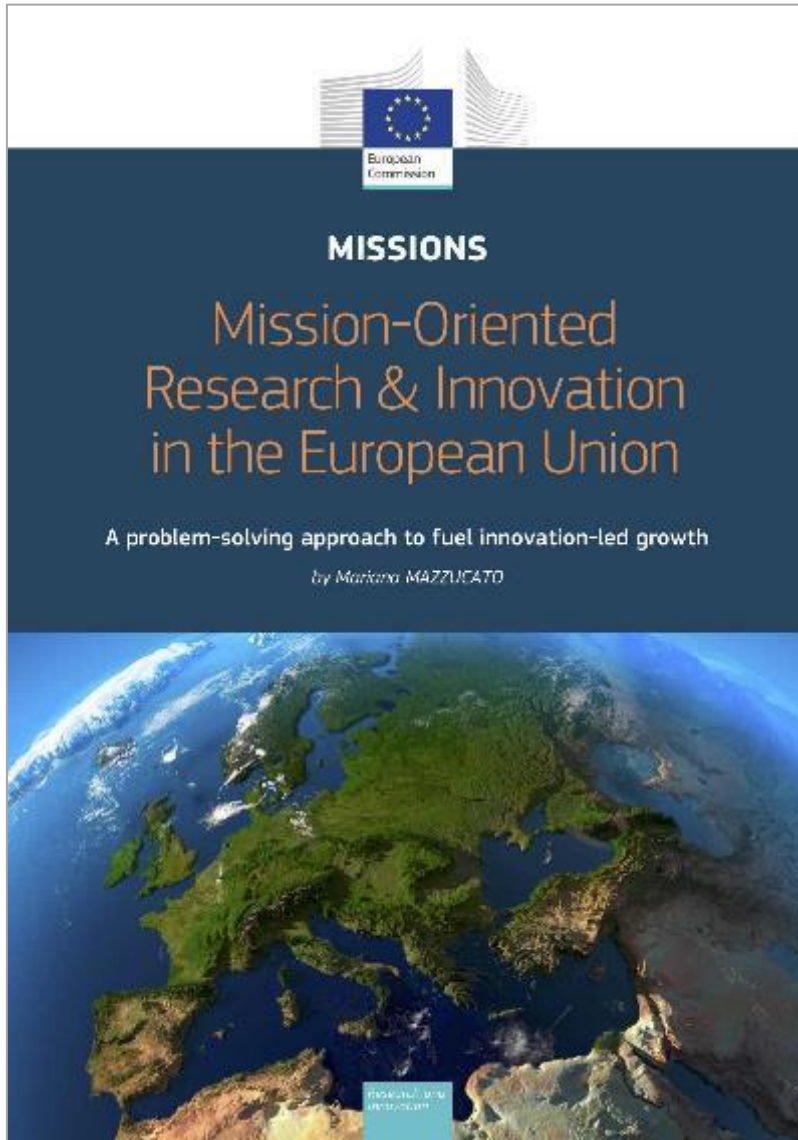
Beyond the Horizon: foresight in support of future EU Research and Innovation Policy (BOHEMIA)

Report in 3 phases performed by several R&D&Innovation Stakeholders in EU aiming to support the deliberations on future Commission proposals for FP9.

- ❑ **Phase 1:** A literature review and synthesis into a set of scenarios that aim to sketch possible future settings and boundary conditions for the development of future R&I policy and funding. → Completed.
- ❑ **Phase 2:** The second phase involves a Delphi survey to gain new insights into future technologies, societal issues, and R&I practices. → Completed.
- ❑ **Phase 3:** It will involve analysis and the deriving of policy recommendations, building on the scenarios, the results of the Delphi and on consultation and public engagement with the findings. → **Final report before the end of 2017.**



**Proponiendo cosas más
concretas... “Misiones”**



Prof. Mariana Mazzucato presented her report on “Mission”s on 22-Feb-2018.

The report describes key criteria to select missions and important factors for implementation.

<https://publications.europa.eu/s/fDzP>

Why “missions” in Horizon Europe...

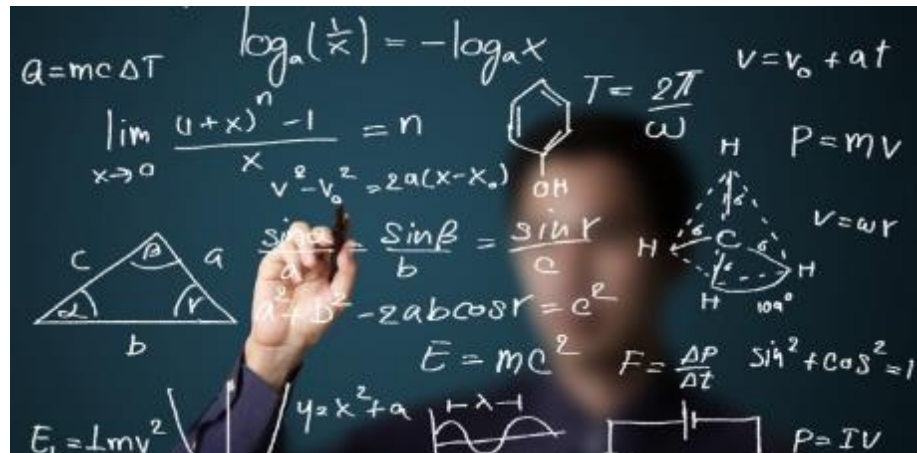
- ❑ Need of concentrate Innovation and economic growth towards clear and indentifiable targets and *directions*.
- ❑ Solving complex societal challenges through openness, collaboration & competitiveness, using dynamic co-investment along the entire innovation chain.
- ❑ Change begins at home → New way of connecting research, science and innovation funded under H2020. → in “Horizon Europe” there will be a link among missions and the European Research Council and European Innovation Council.

The Apollo 'Man on the Moon' mission



Boundary conditions for “missions” in Horizon Europe...

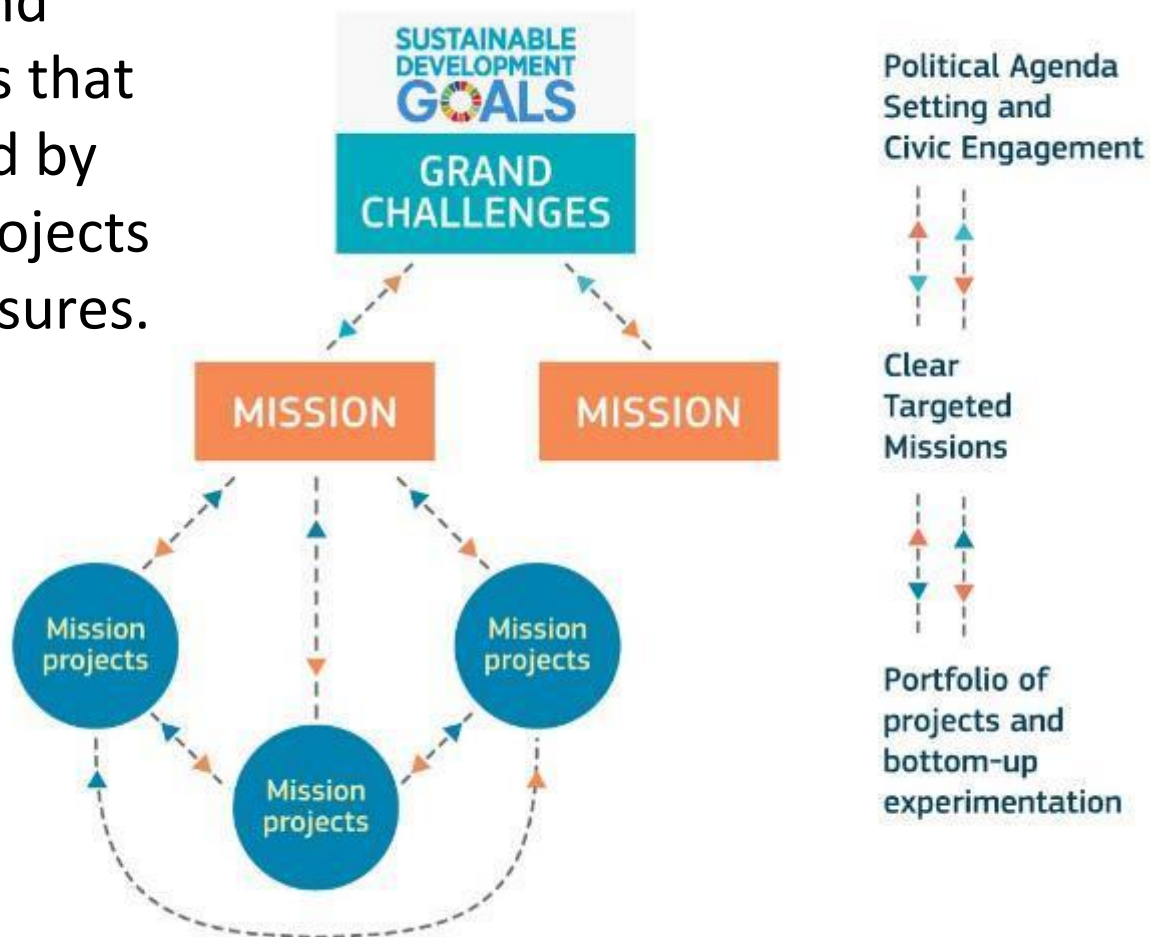
- ❑ **Societal Relevance** → EU added value - Improve society's welfare.
- ❑ No 'One Size Fits All' → **Flexibility** is needed in how a mission is defined.
- ❑ **Granularity** → Between the mission, a project and a “Global challenge”.
- ❑ Fostering **Experimentation** → Mission success depends on bottom-up processes that nurture innovation.
- ❑ New conversations between **fundamental and applied research**.



Boundary conditions for “missions” in Horizon Europe...

About the “granularity”... → The 'granularity' of European research and innovation missions sits between broad challenges and concrete projects.

Missions set clear and ambitious objectives that can only be achieved by a portfolio of R&I projects and supportive measures.



Key criteria for selecting a “mission” in Horizon Europe...

1. Bold, inspirational with wide societal relevance
2. A clear direction: targeted, measurable and time-bound
3. Ambitious but realistic research and innovation actions
4. Cross-disciplinary, cross-sectoral and cross-actor innovation
5. Multiple, bottom-up solutions.



Key factors for implementing a “mission” in Horizon Europe...

- Engagement of diverse national and regional stakeholders
- Measurement and impact by goals and milestones
- A portfolio of instruments to foster bottom-up solutions
- Flexibility, pro-active management and building in-house capabilities



Who to select a “mission” in Horizon Europe...

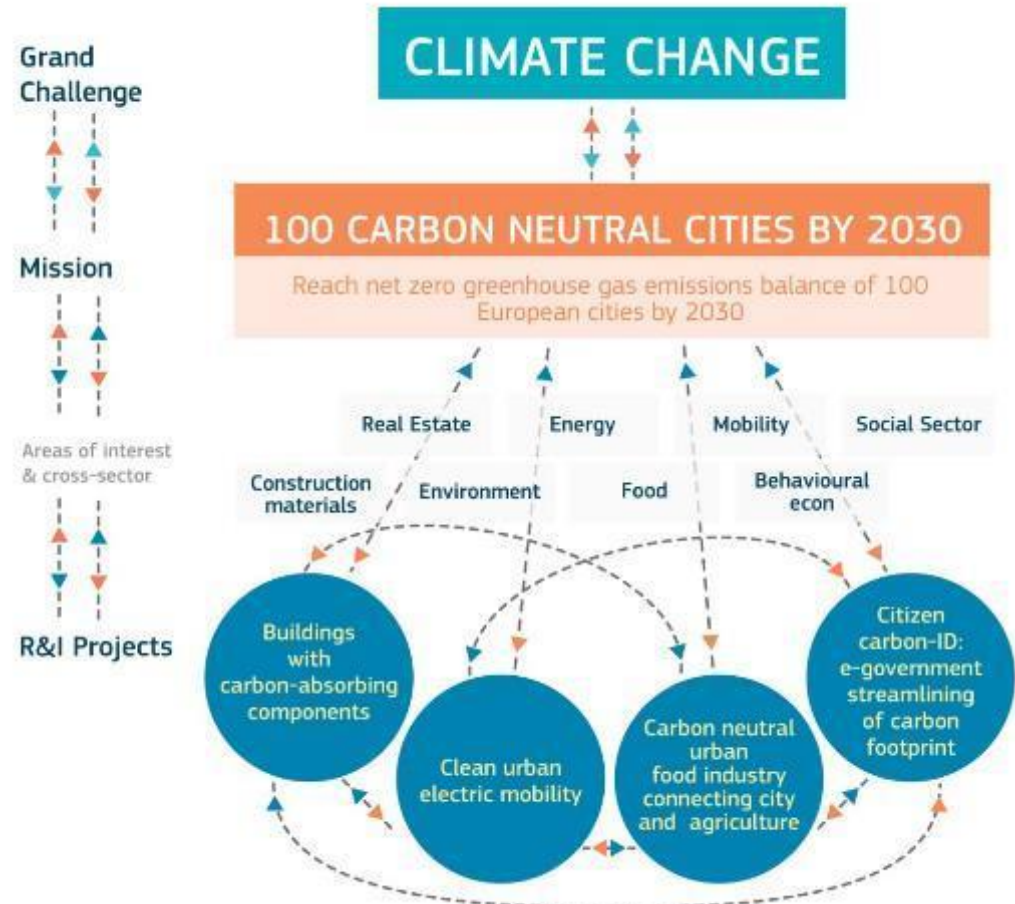
- Public participation in the selection process of missions
- Public inclusion in the implementation
- Citizens as active participants in missions



Examples of potential “mission” in Horizon Europe...

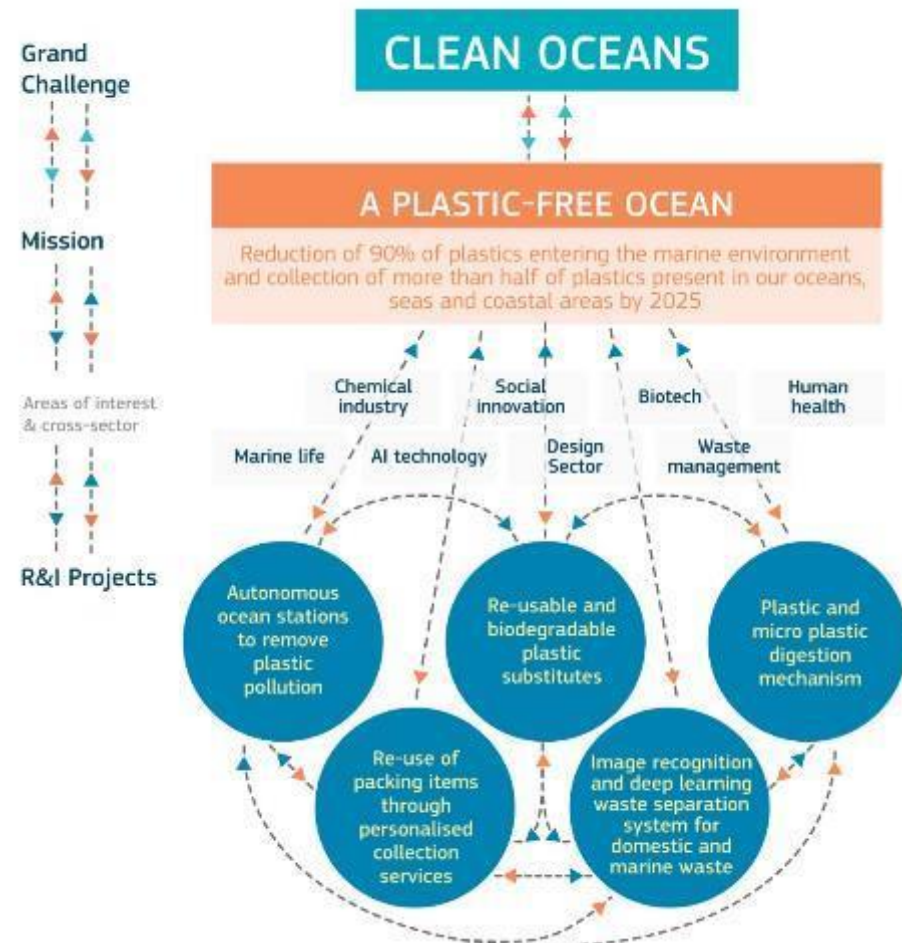
100 Carbon Neutral Cities by 2030

- ❑ Impact 40% of European citizens
- ❑ 100 cities by 2030
- ❑ R&I in Construction materials – mobility – citizen carbon-ID
- ❑ Urban planning-energy efficiency – mobility-behavioural economics
- ❑ Simultaneous Projects running to achieve the goals!



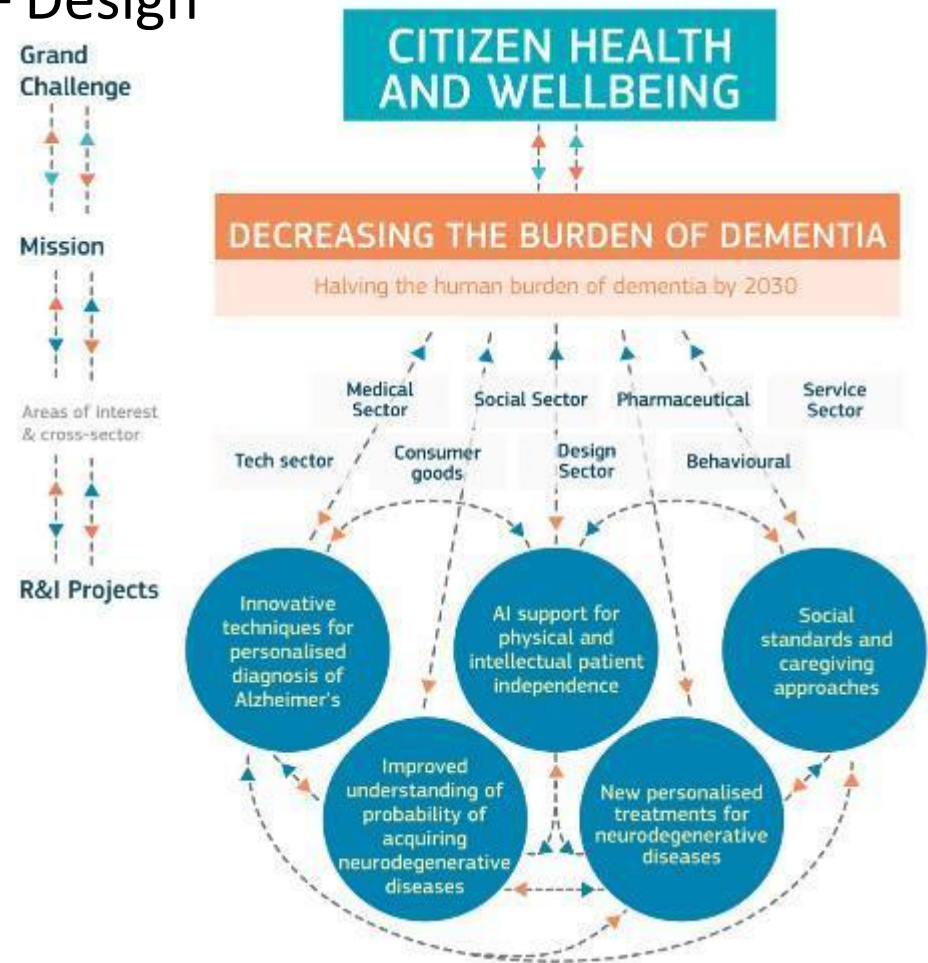
Examples of potential “mission” in Horizon Europe... A Plastic-free Ocean

- ❑ Solve 25 mil tons of European plastic waste
- ❑ Stop 7.2 mil tons and collect 2 mil tons of plastic by 2025
- ❑ R&I in plastic chemistry-packaging – collection stations
- ❑ Chemical – biotech – marine life – waste
- ❑ Simultaneous Projects running to achieve the goals!



Examples of potential “mission” in Horizon Europe... Decreasing the burden of Dementia

- ❑ Currently 10.5 mil Europeans affected
 - ❑ Reduce by 50% the progression of the disease by 2030
 - ❑ R&I on brain-science – treatments – artificial intelligence
 - ❑ Medical – Tech – Social – Design
 - ❑ Simultaneous
- Projects running to achieve the goals!



**Proponiendo cosas más
concretas...**

European Innovation Council

¿Por qué un Consejo Europeo de Innovación?



"Europe has **excellent science**, but we lack disruptive **market-creating innovation**. This is what is needed to turn our best ideas into new jobs, businesses and opportunities."

¿Cómo se ve la innovación desde el mercado?

Efficiency innovation (more with less)



Sustaining
innovation
(increase share)

Market creating
innovation

The key questions in market-creating innovation*?

*According to Peter Thiel and Clayton Christensen Institute

1) Do you have a breakthrough-enabling technology?

2) What else you need in the boundaries of your business?



Detroit Electric , 1911

3) Is the timing right for this business?

4) How you see yourself in 10 years?
(proprietary tech-network effect-
economy of scale-brand)

The key questions in market-creating innovation*?

*According to Peter Thiel and Clayton Christensen Institute

5) Do you have something no-one else has?

6) How do you relate your cost and your value?



7) Can you sell and market your product/service?

8) Do you have the right people on board?

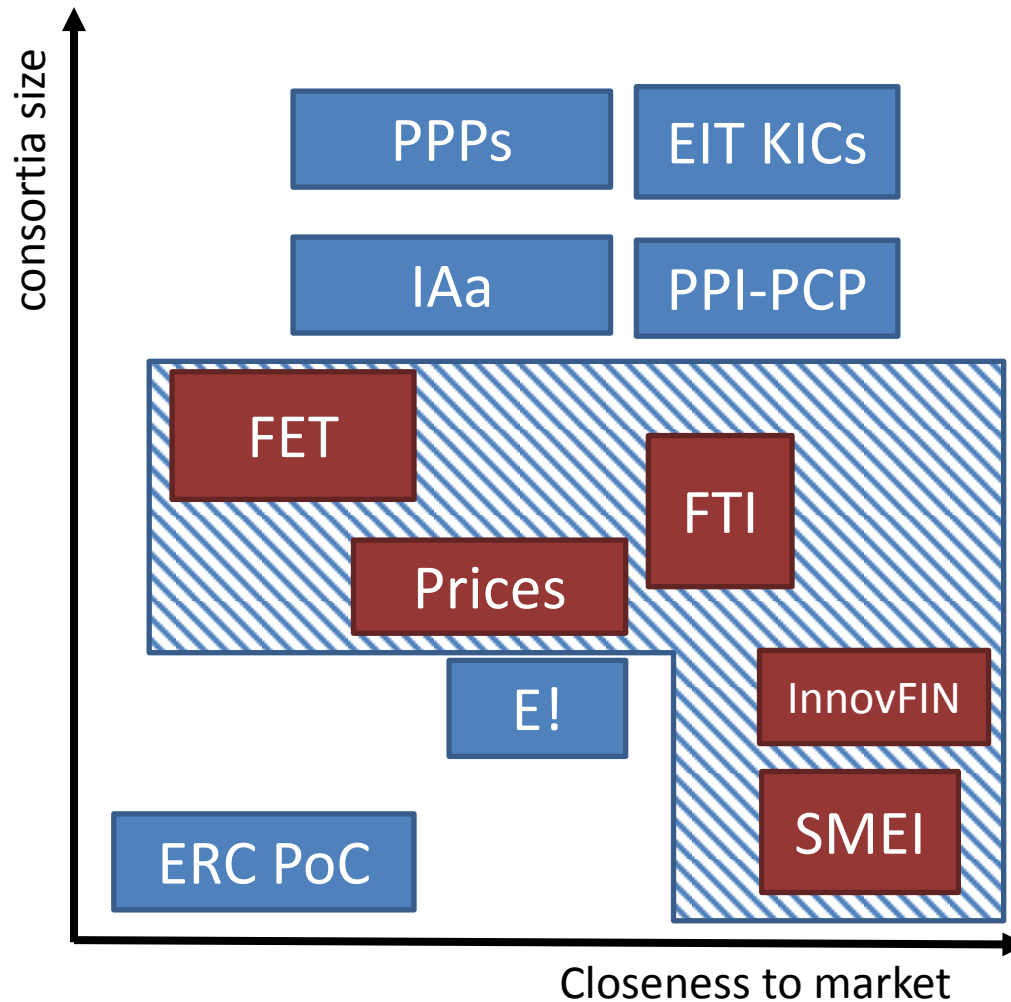
The key questions in market-creating innovation*?

*According to Peter Thiel and Clayton Christensen Institute

9) Have you already identified the “new market” to dominate?



Cuáles son las herramientas del EIC 2018-2020?



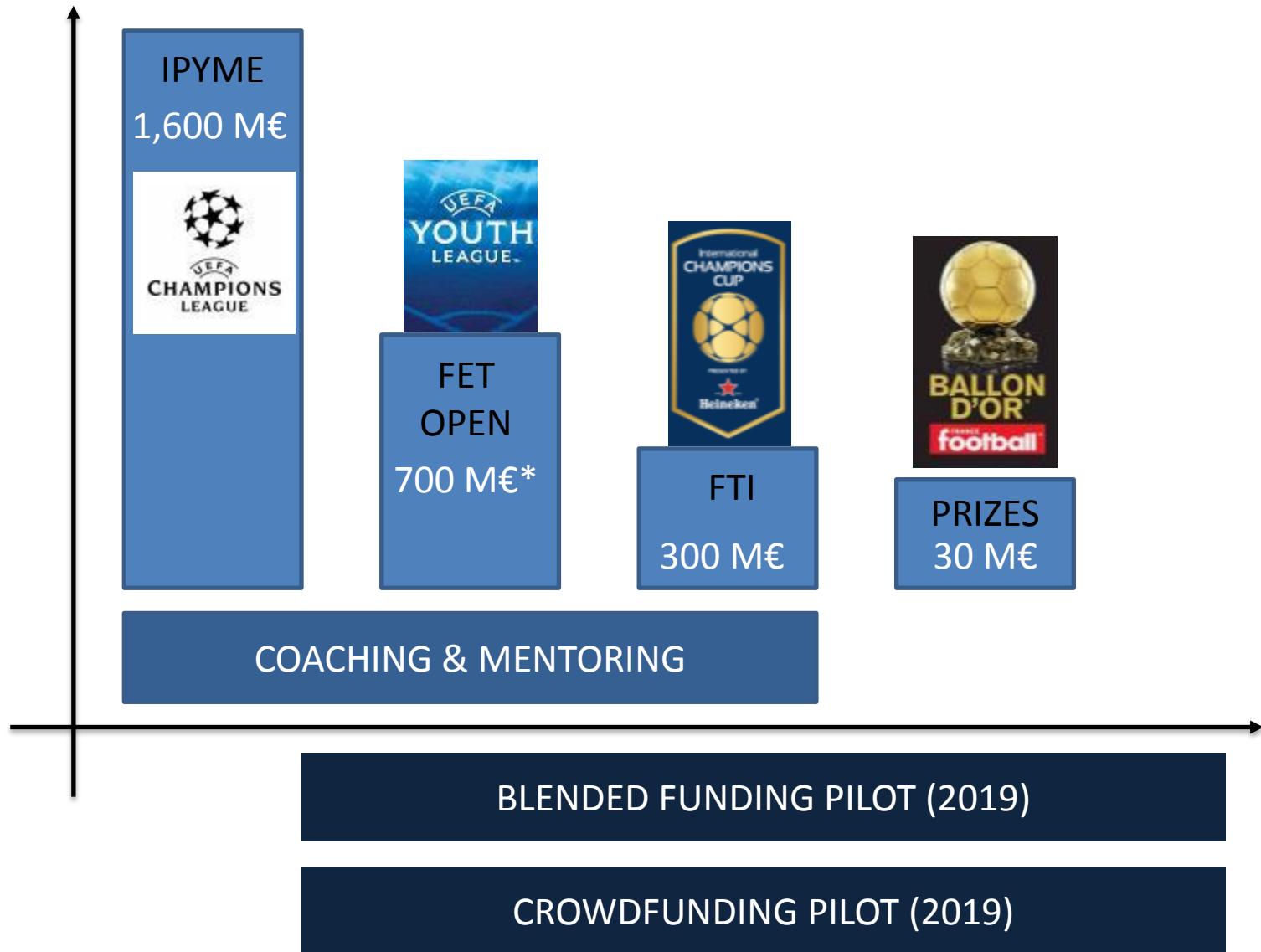
“Redefiniendo” y agrupando los instrumentos existentes

Dándoles mayor visibilidad y mejor accesibilidad

Extendiendo servicios de valor añadido

Testando la viabilidad de nuevos instrumentos mixtos

EIC 2018-2020: 3000M€ para generar “impacto”



Technology Readyness Level - TRL

RIA
FET-OPEN

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab

IA
SMEs & FTI

- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – system prototype demonstration in operational environment
- TRL 8 – system complete and qualified
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space).

PCP

CSA → Networks of excellence, events and conferences, studies, recommendations, etc...
NO RESEARCH AT ALL!!

**Unas palabras sobre...
SMEs Instrument!**

El instrumento PYME de H2020 acelera empresas (no proyectos)



...SOLUTIONS!
We provide complete Property
Management, Leasing and Real
Estate **Services** for Residential
and Commercial Properties.

concept cond
lovely kitchen
room w/ firepl

...TMENT
Both units
nd 1 bath.
completely
currently
ants are
ach unit is
\$450.

**Se buscan PYME dispuestas
a crear y liderar nuevos
mercados
Se ofrece subvención al 70%
hasta 2,5M€ + world-class
business coaching+ service
pack**

HOUSE F
2 bed/2 bath op
condo comes with
charming living ro
Now olny Sale

★ CALL M

IS
ns on | 2 Family (DUPLEX)- Both units
ypes: | have 2 bedrooms and 1 bath
n | Property has

★
The
Bedr
dress
OW

Fase 1: Analizar la viabilidad del negocio

50,000€ subvención + 3 días de “business coaching”.



Mercado, modelo de negocio, ambición

Fase 2: Demostrar la viabilidad del negocio

0,5-2,5M€ subvención + 12 días de “business coaching”.



Demos, Ready to market, certificación, explotación, escalado...

Fase 3: Soporte para llegar al mercado...



Clientes, inversores y mercados lejanos...



- **Description:** Instrumento for innovative SMEs aiming to growth and to go International.
- **Funding:** Upto **70%** of the eligible costs
 - Phase-1 → Lump Sum of 50 k€ and duration of 6 months
 - Phase-2 → 0,5-2,5 M€ EC requested and project upto 2 years
 - Phase-3 Commercialisation → No funding only support in mentoring, training, by the EEN.
- **Eligibility:** ONLY SMEs from the MMSS or Associated countries.

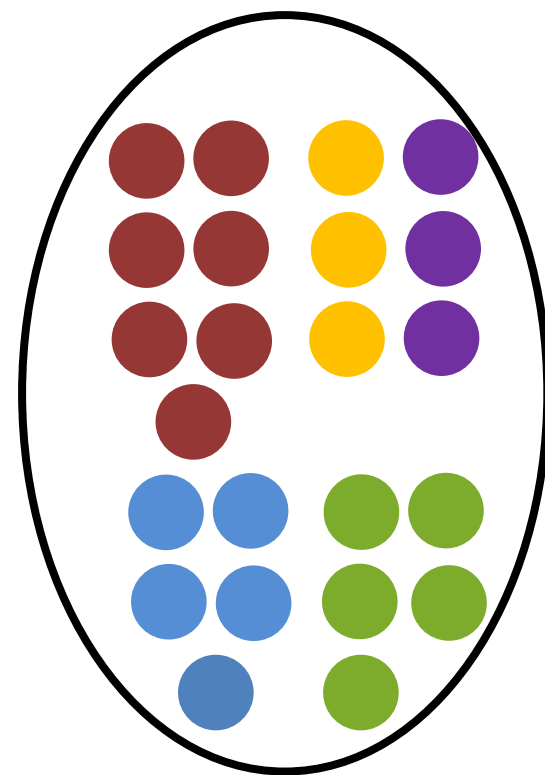
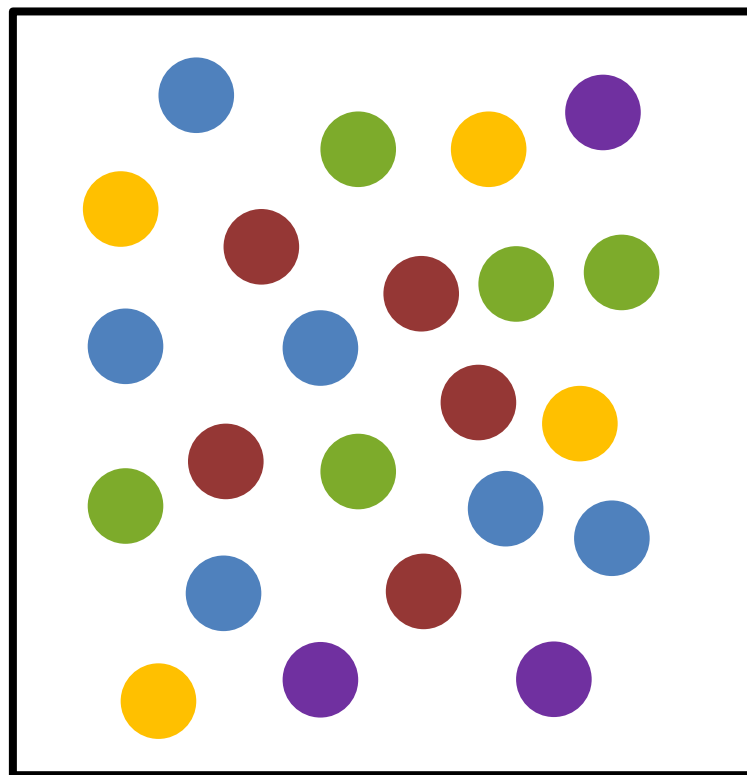
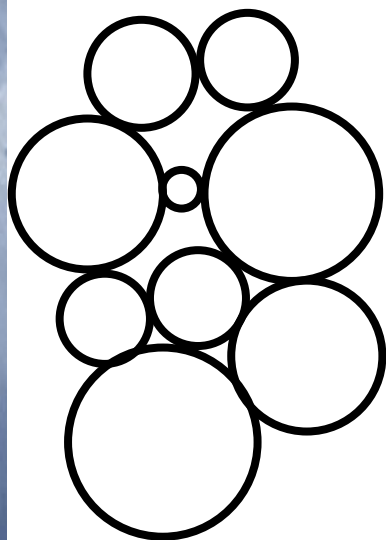
NB: *3 cut-off a year and NO TOPICS (bottom-up)*

Evaluation has changed onwards 2018 for the PHASE-2 projects!!!

Hearings in Brussels in front of a bussiness oriented panel...

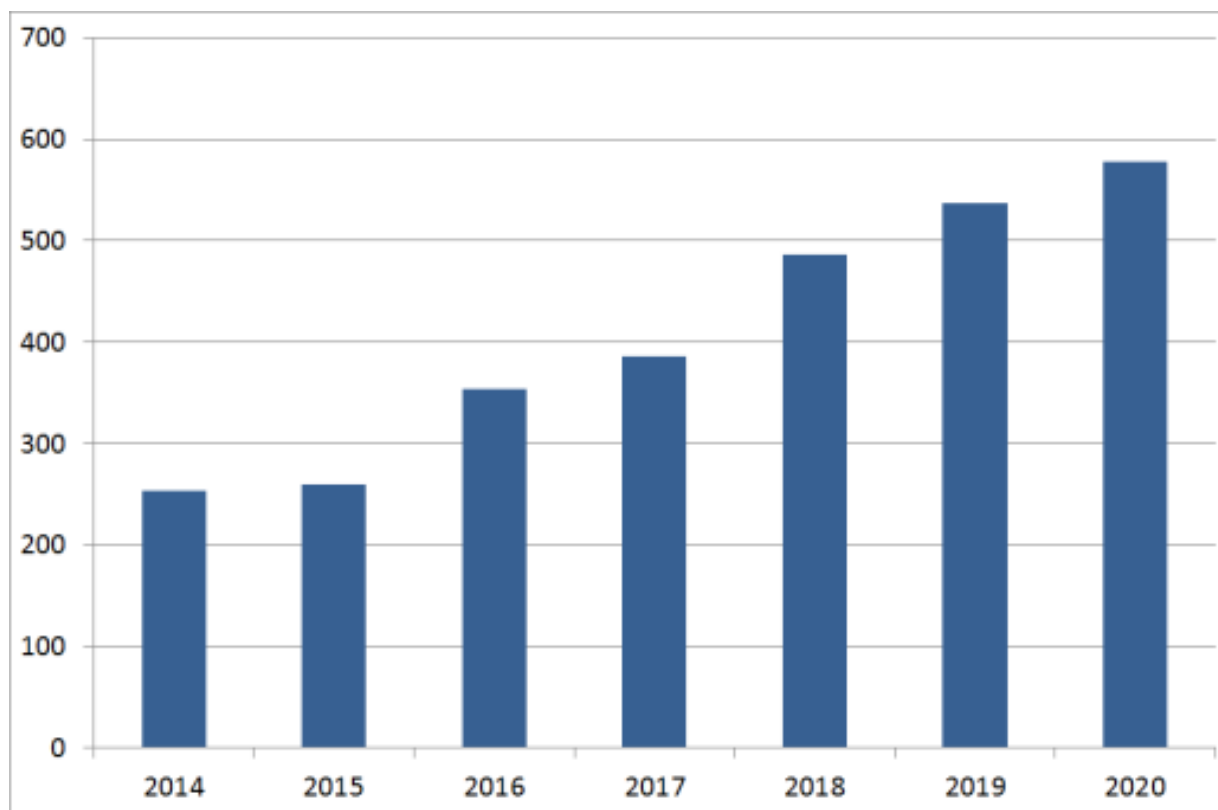
Desaparecen los topics... pero aparecen las keywords

<https://ec.europa.eu/easme/sites/easme-site/files/eic-pilot-sme-instrument-keywords.pdf>

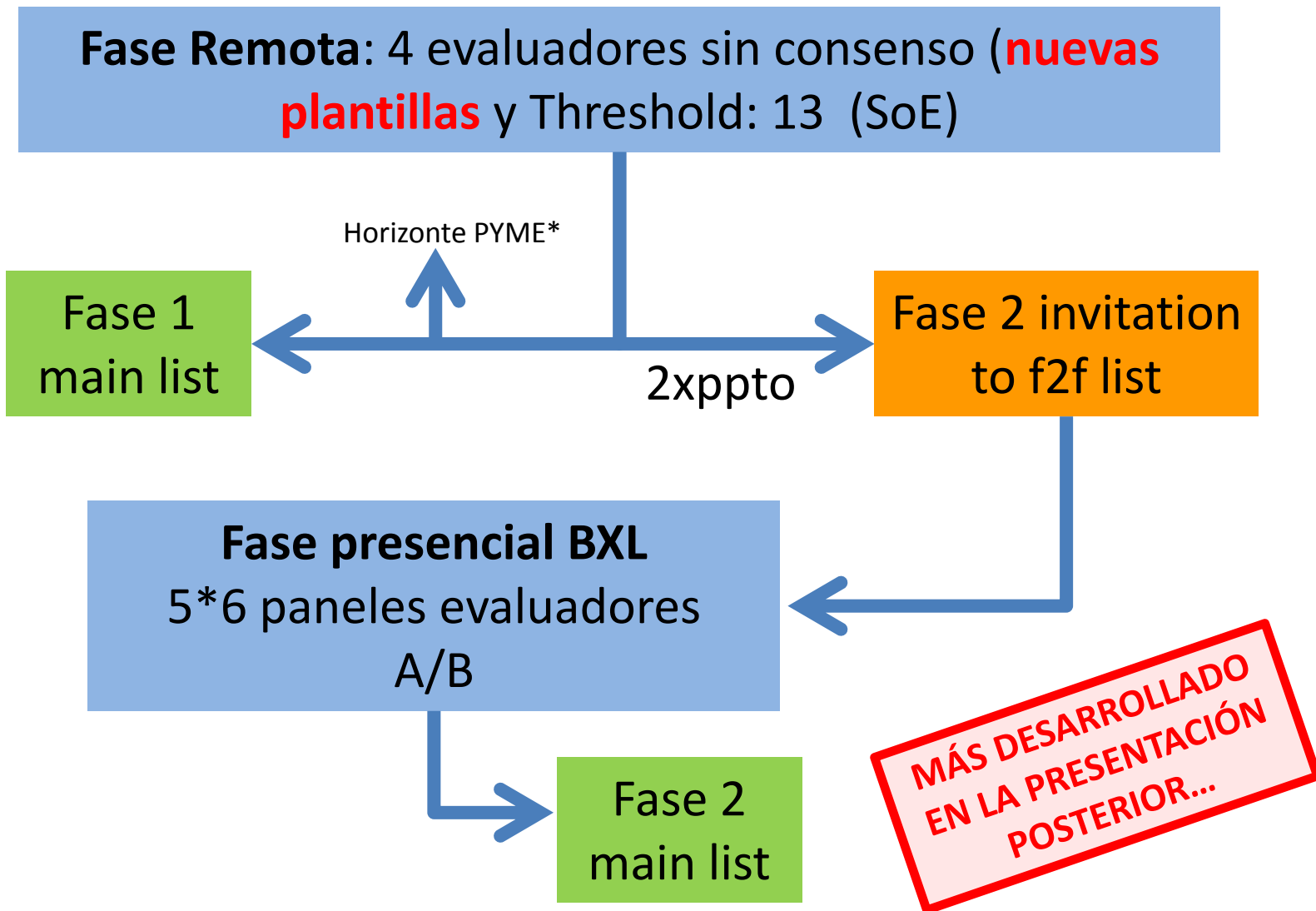


Se mantiene los cortes y aumenta el presupuesto...

	Fase 1	Fase 2
2018	08/02, 03/05, 05/09, 07/11	10/01, 14/03, 23/05,10/10
2019	13/02, 07/05, 05/09, 06/11	09/01, 03/04, 05/06, 09/10
2020	12/02, 06/05, 02/09 , 04/11	08/01, 18/03, 19/05, 07/10



La evaluación se convierte en más “VC alike”



La evaluación remota pone énfasis en el impacto

Threshold: 13/15



Impact (8, 50%)

Will to pay

Target customers

Market conditions

Scale-up potential

Aligned strategy

EU dimension, FTO

Commercialization plan

Excellence (5, 25%)

High risk-high potential

Mature status (TRL 6)

Beyond SoA

Objectives-approach-impact consistency

Viability (risk vs opportunities)

Implementation (3, 25%)

Resources

Workplan

Team

La entrevista de Bruselas...



1 semana/cut-off : 12-16 Feb; 16-20 Abr; 25-29 Jun; 12-16 Nov



Max. 3 pax /propuesta. No puede ser personal externo



<https://ec.europa.eu/easme/sites/easme-site/files/eic-pilot-sme-instrument-pitch-deck-templates.pdf>



La entrevista de Bruselas...

EBN AMONG THE TOP-LEVEL EXPERTS AT THE EIC EVALUATING EUROPEAN SMES!

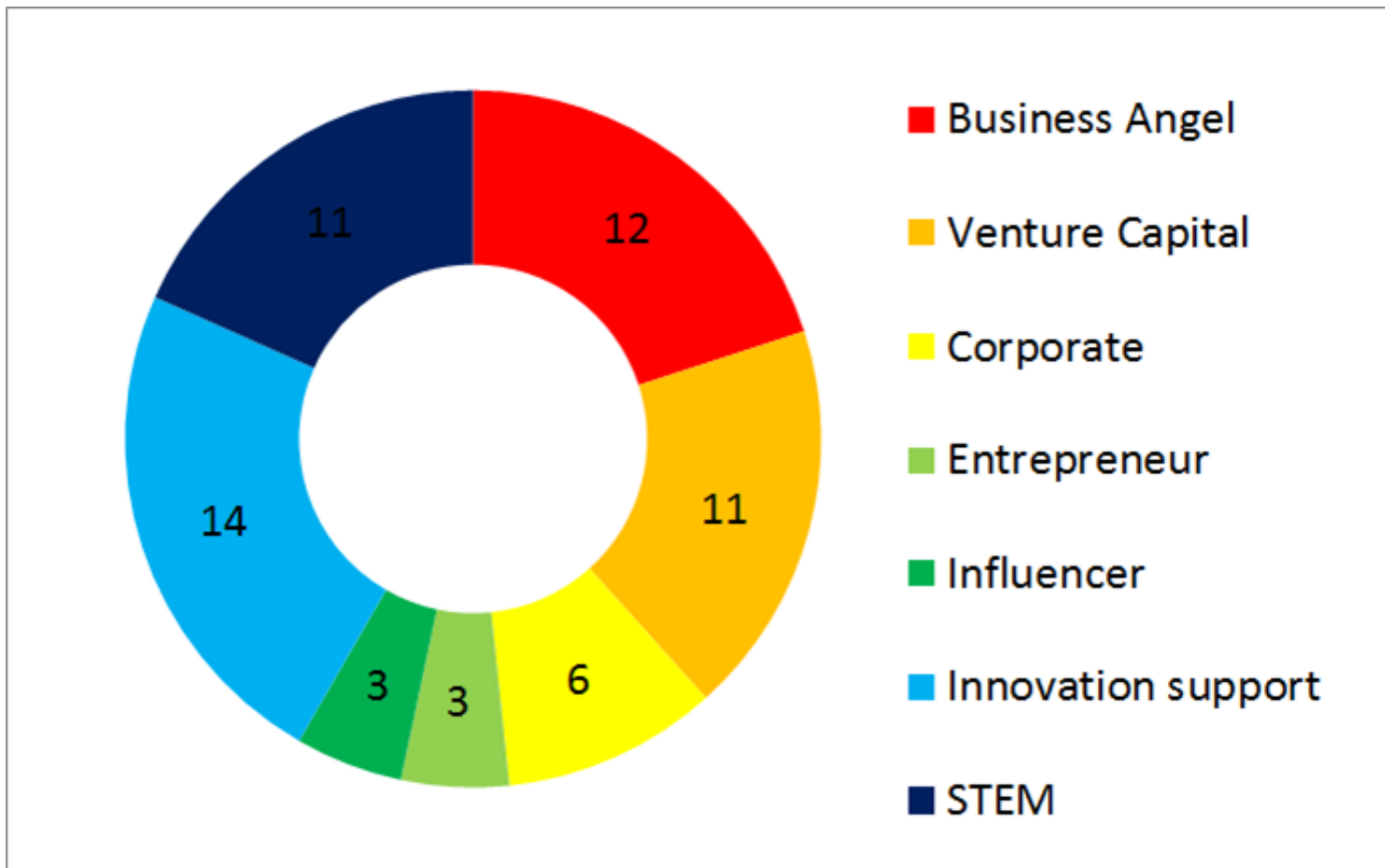
EBN CEO **Javier Echarri**, **Cristina Fanjul Alonso**, Managing Director of EBN Member CEEI de Asturias and EBN Board Member, **Iris Öhrn**, Investment Advisor at EBN Member Business Region Göteborg AB and **Anna Amati**, co-Founder and Owner of EBN Member META Group, are among the 87 experts at the European Innovation Council (EIC) selected to evaluate the SMEs that applied for funding under the SME Instrument.



The experts, among them business angels, investors, incubator managers and other players in the innovation ecosystem, will judge the SMEs that passed the initial selection stage for Phase 2 awards of the SME Instrument which supports the companies in turning their business concepts into market-ready products, services or processes.

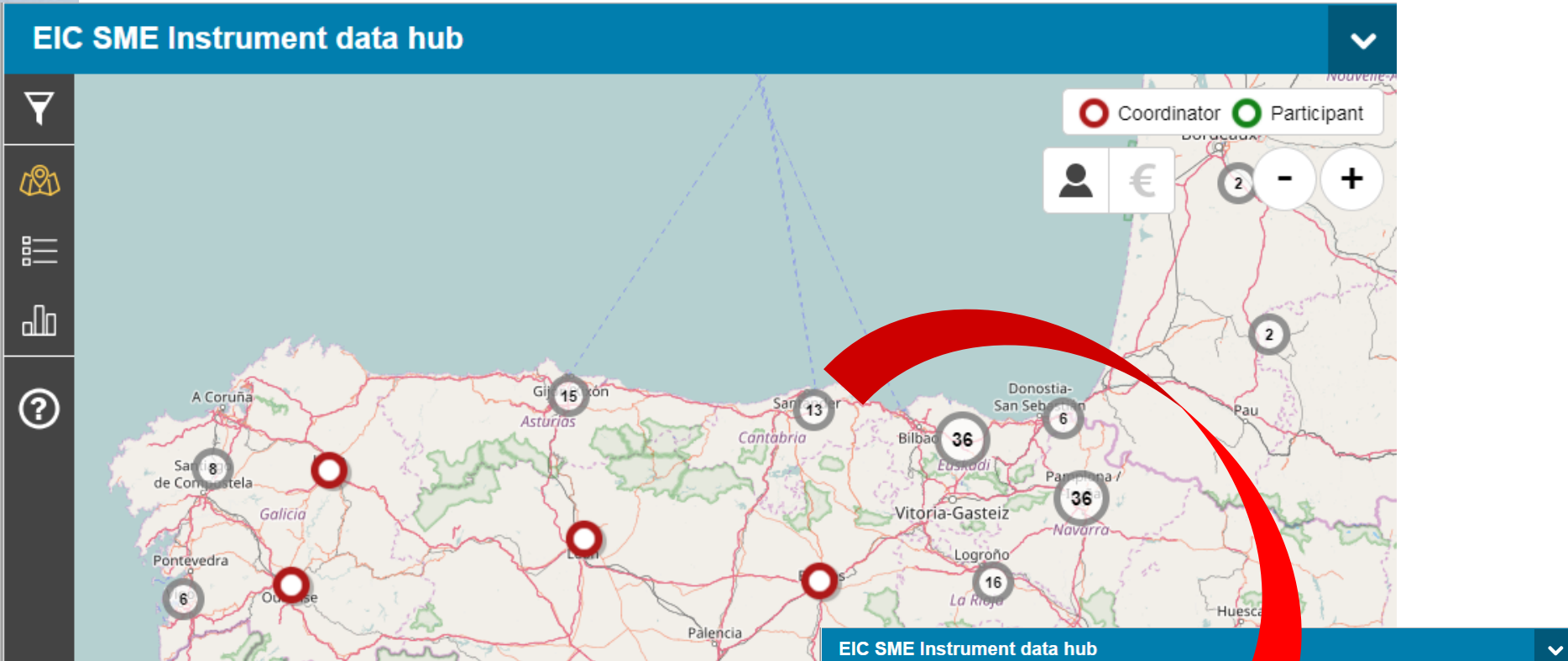


La entrevista de Bruselas: Tu audiencia de 6



<https://ec.europa.eu/easme/en/evaluations-eic-pilot>

Base de datos de proyectos ganadores...



<https://sme.easme-web.eu/>

EIC SME Instrument data hub

RODECAN SL [Direct link](#) ✕


<http://www.rodecan.com>

Project: Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Project Acronym: ELOXIRAS

Project Phase: Phase 2

Recirculating aquaculture systems (RAS) operate by filtering and removing water pollutants from the fish tanks so it can be reused. Since its introduction, RAS production has increased in volume and species with a CAGR of 14%/year, and has a worldwide market estimated in €6.4 billion. Marine RAS is expensive to purchase and operate, and requires high biomass culture density (kg/m³) that implies fast accumulation of toxic metabolized compounds in low water volume, implying significant volumes of fresh water. Thus, RAS end-users need cost-efficient technologies that can work in

Last update: 18/03/2018 [Embed this app in your website - Disclaimer](#) [Leaflet | OpenStreetMap, Credit: EC-GISCO, © EuroGeographics for the administrative boundaries](#)  Powered by EASME

Los “must” de las nuevas templates...

Executive Summary

Dilio, Casi 300



¿Quien soy?- ¿En qué soy bueno?- ¿Donde está el negocio?- ¿Como apporto valor?- ¿Qué necesito superar?-¿Cómo lo voy a hacer?

Los “must” de las nuevas templates...

1. Excellence

- Problem and challenge.
- Approach.



Los “must” de las nuevas templates...

2. Impact

- Entering the market
- Business model and plan
- IPR
- Financing



Jordan Belfort, El lobo de Wall

Los “must” de las nuevas templates...

3. Implementation

- Team
- Work packages, deliverables, milestones, risks (tables)



Máximo Décimo Meridio. Gladiator

Los “must” de las nuevas templates...

4. Company (or, if applicable: members of the consortium)
5. Ethics and security (if applicable)



Simulacros de entrevista CDTI

Para PYME que reciban la carta de ir a la entrevista de ph2 a BXL



CDTI

Contacta CDTI



Jueves antes de la semana de entrevistas (**8 feb, 12 abril, 21 jun, 8 nov**)
Entrevistas individuales agendadas en 2 paneles



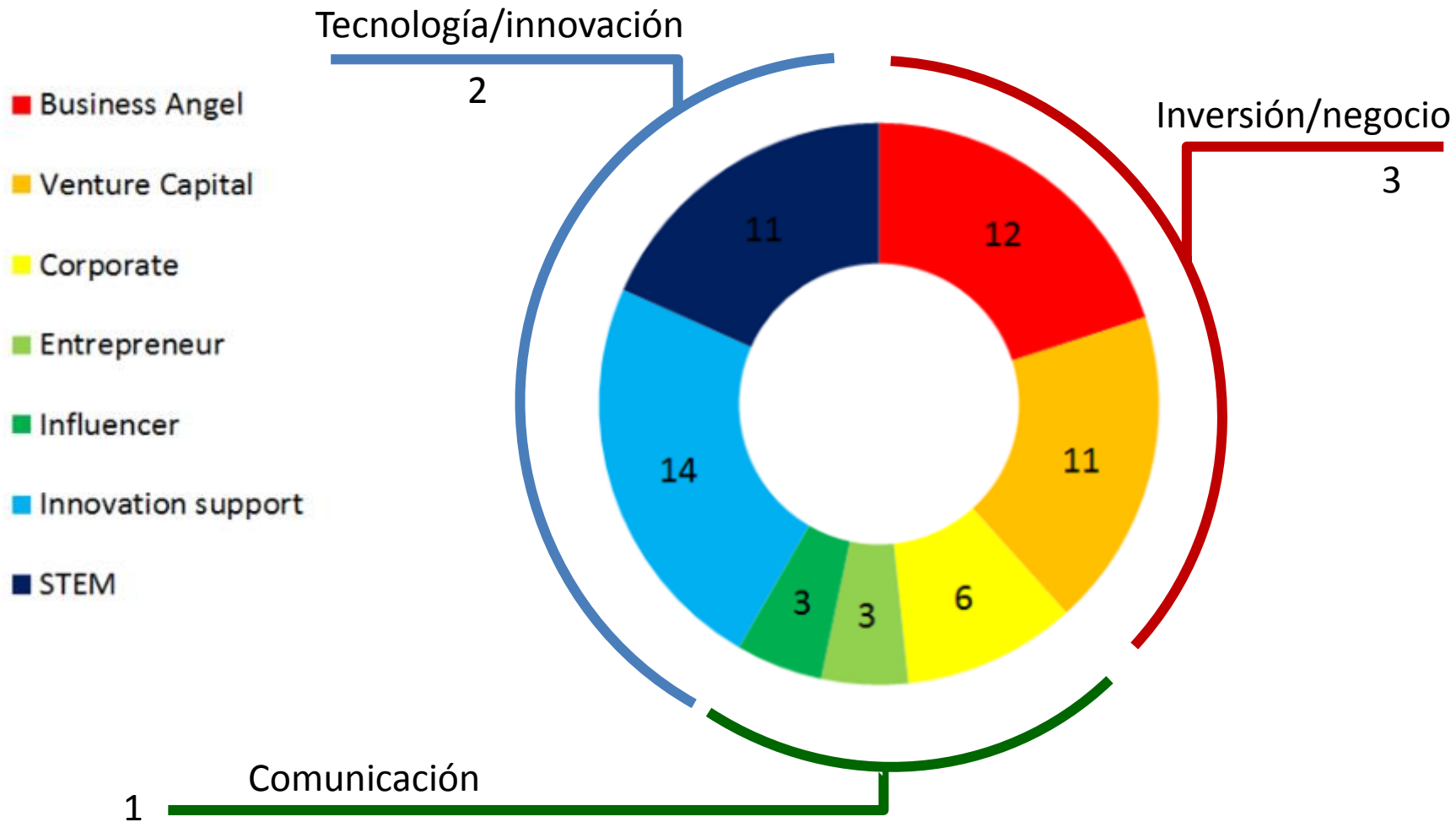
Sin limitación, con moderación



El pitch dech de BXL + executive summary



El simulacro de entrevista de CDTI: tu audiencia

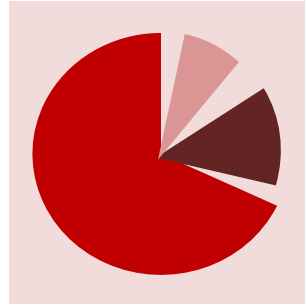


Herramientas de negocio descargables

Disponibles en: <http://goo.gl/xRV7kV>



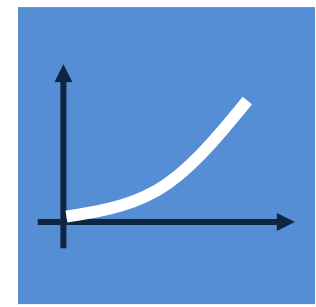
Value proposition tool



Market analysis & competitors



Revenue & pricing models



Financial models



1. Excellence



2. Impact

Desde CDTI...

Servicios que se mantienen

Revisión de propuestas gratuitos + talleres de propuestas regionales



Luis Guerra
luis.guerra@cdti.es



Esther Casado
esther.casado@cdti.es

Desde CDTI... Servicios que se mantienen



Unas palabras sobre...

Fast Track to Innovation, FTI

Fast Track to Innovation (FTI)

- **Description:** Small collaborative project (3-5 partners of ≈ 2 M€ EC requested) aiming to **bring to market an innovative solution/product in less than 3 years**. No basic research but innovation, development, integration, test at real scale, market approach, etc
- Industrial focus: **From TRL ≥ 6 \rightarrow Final TRL = 9**
- **Funding:** Upto **70%** of eligible costs (100% for non-profit)
- **Eligibility:** All public or private entity. Min 3 entities from 3 MMSS or associated countries and, at least, 60% of Budget going to industry.
- Coordinator NO start-up (economic check compulsory).

NB: 3 Cut-offs a year and fully bottom-up.

**FIRST Cut-OFF 2018 = 21-Feb-2018 en evaluación...
&
Next ones on 31-May-2018 & 23-Oct-2018**

FTI 2018-2020: 300M€ para ganarse un “hueco”

FTI targets relatively mature, ground-breaking new technologies, concepts, processes and business models that need final development to be able to **shape a new market** and achieve wider deployment.

Consortios de 3 a 5 socios de EM o AC con mayoría industrial (en nº o >60% ppto)

Contribución EC <3M€

Innovation Action, (TRL 6)

Time 2 Market: 36 meses.

	2018	2019	2020
FTI	21/02	21/02	19/02
	31/05	23/05	09/06
	23/10	22/10	27/10



FTI 2018-2020: Criterios de evaluación

Threshold: 13/15



Impact (8, 50%)

Target market

Industrial partners growth

Market analysis-regulation

Business frame-Commercialization plan

ROI-financing plan

Other impacts

Excellence (6, 25%)

Objectives-Credible uptake

TRL & potential revolution

EU leadership

T2M 36 months

Value for money

Implementation (3, 25%)

Work plan

Consortium logic

Governance structure

Base de datos de proyectos ganadores...

HORIZON 2020 Fast Track to Innovation 2015-2016

Project Acronym	Project Title	EU Contribution	Role	Business Name	Beneficiary	Web	Country
June 2016 cut-off							
AXONE	Commercial multiple electrode lead technology for cardiac disease	2,694,187.50 €	Coordinator	LIVANOVA	SORIN CRM SAS	www.livanova.com	FR
			Partner	HERAEUS	HERAEUS DEUTSCHLAND GMBH & CO KG	www.heraeus.com	DE
			Partner	UNIVERSITEIT MAASTRICHT	UNIVERSITEIT MAASTRICHT	http://www.maastrichtuniversity.nl	NL
			Partner	CHU-ROUEN	CENTRE HOSPITALIER UNIVERSITAIRE DE ROUEN	http://www3.chu-rouen.fr/internet	FR
BioDie2020	Demonstration of new, challenging and high FFA waste oil and fat feedstock in biodiesel process with improved costs, conversion and high fuel quality	2,119,087.01 €	Coordinator	ARGENT	Argent Energy (UK) Limited	www.argentenergy.com	UK
			Partner	BDI	BDI - BIOENERGY INTERNATIONAL AG	www.bdi-bioenergy.com	AT
			Partner	STG	STAGECOACH BUS HOLDINGS LIMITED	www.stagecoachbus.com	UK
			Partner	LJMU	LIVERPOOL JOHN MOORES UNIVERSITY	http://www.ljmu.ac.uk	UK
			Partner	Quantis	QUANTIS SAS	www.quantis-inf.com	FR
BIOMULCH	Integrated solution for innovative biodegradation control of agricultural plastic mulches	1,613,667.50 €	Coordinator	MORERA & VALLEJO INDUSTRIAL SL	Morera & Vallejo Industrial SL	www.morerayvallejoindustrial.es	ES
			Partner	FKUR KUNSTSTOFF GMBH	FKUR KUNSTSTOFF GMBH	www.fkur.com	DE
			Partner	THATCHTEC BV	THATCHTEC BV	www.thatchtec.nl	NL
			Partner	CETEC	ASOCIACION EMPRESARIAL DE INVESTIGACION CENTRO TECNOLÓGICO DEL CALZADO Y DEL PLÁSTICO DE LA REGIÓN DE MURCIA ASOCIACION PARA EL DESARROLLO DEL SISTEMA PRODUCTIVO VINCULADO A LA AGRICULTURA ONUBENSE	www.cicalzado.org	ES
			Partner	ADESVA		WWW.CITADESVA.COM	ES
Cold Energy	Industrialization and path to commercialization of a patented innovative industrial kit to modify COLD cycle in order to drastically reduce ENERGY consumption	2,409,386.26 €	Coordinator	TURBOALGOR SRL	TURBOALGOR SRL	http://www.angelantoniceantech.com/Product/Prodotti	IT
			Partner	AVL SCHRICK GMBH	AVL SCHRICK GMBH	www.avl-schrick.com	DE
			Partner	ENELSI	ENEL-SI SRL	http://www.enelgreenpower.com	IT
			Partner	Amorino	-18° sas	www.amorino.com	FR
			Partner	AGRICOLA PAGNAN SRL	AGRICOLA PAGNAN SRL	http://www.pagnan.com/en_index.php	RO
FIBFAB	INDUSTRIALIZATION OF BIOBASED TEXTILE FABRICS FOR CLOTHING APPLICATIONS	1,376,040.00 €	Coordinator	AIMPLAS	AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLÁSTICOS Y CONEXAS CENTRO SCIENTIFQUE & TECHNIQUE DE L'INDUSTRIE TEXTILE BELGE	www.aimplas.net	ES
			Partner	CENTEXBEL		www.centexbel.eu	BE
			Partner	D.S. FIBRES NV	D.S. FIBRES NV	http://www.dstextileplatform.com	BE
			Partner	Yünsa	Yünsa Yünli Sanayi ve Ticaret AŞ	www.yunsa.com.tr	TR
			Partner	SINTEX	SINTEX, a.s.	www.sintex.cz	CZ

http://ec.europa.eu/research/participants/portal/doc/call/h2020/ftipilot-01-2016/1730116-201606cutoff_fti_en.pdf

NEWS | 27 February 2018 | Brussels, Belgium

EIC Fast Track to Innovation: 138 proposals seek funding under the first cut-off of the year

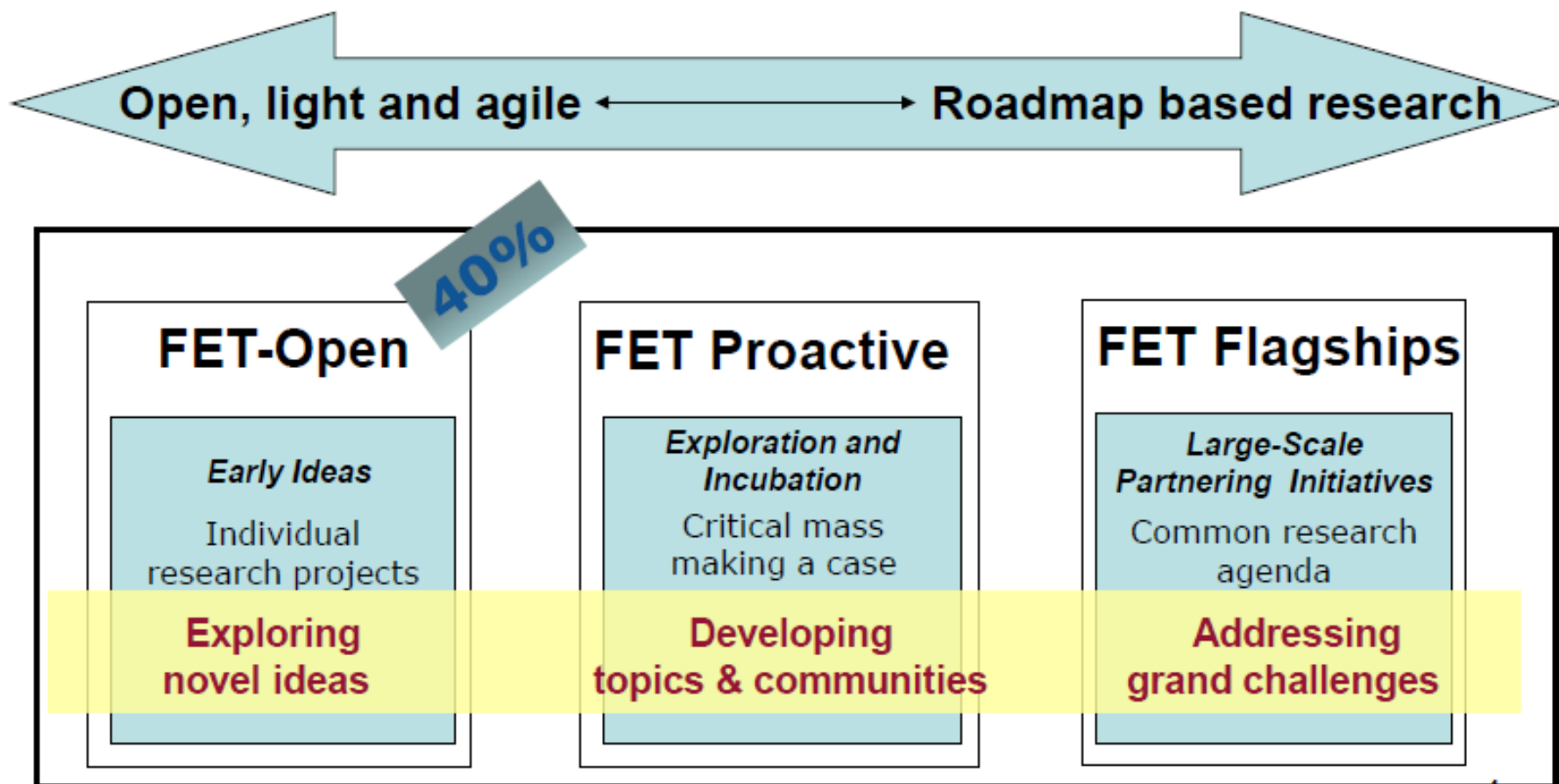


FIRST Cut-OFF 2018 results (21-Feb-2018) in May-2018...

Unas palabras sobre... FET Open

El contexto de la familia FET...

FET: three complementary lines of action



El contexto de la familia FET...

**FET: Novel ideas for radically new technologies
visionary thinking
... but very concrete mission**



€ 2.6 billion to initiate radically new lines of technologies

- collaborative research
- extend Europe's capacity for advanced and paradigm-changing innovation.
- foster scientific collaboration across disciplines on radically new, high-risk ideas

FET-Open : novel ideas for radically new technologies

“FET-Open is open!”

- No thematic restriction, no emphasis on any subject
- New areas: space research, medicine, energy...
- Successful FET project result is a proof of a concept in a lab
- Bottom-up, but targeted - not blue sky research
- Collaborative research

FET-Open Research and Innovation Actions

Early stages of R&I on any new technological possibility

Scope defined by FET gatekeepers

Expected impact

- **Establish baseline of feasibility and innovation potential**
- **European thought-leadership and future leaders**
- **New R&I practices**

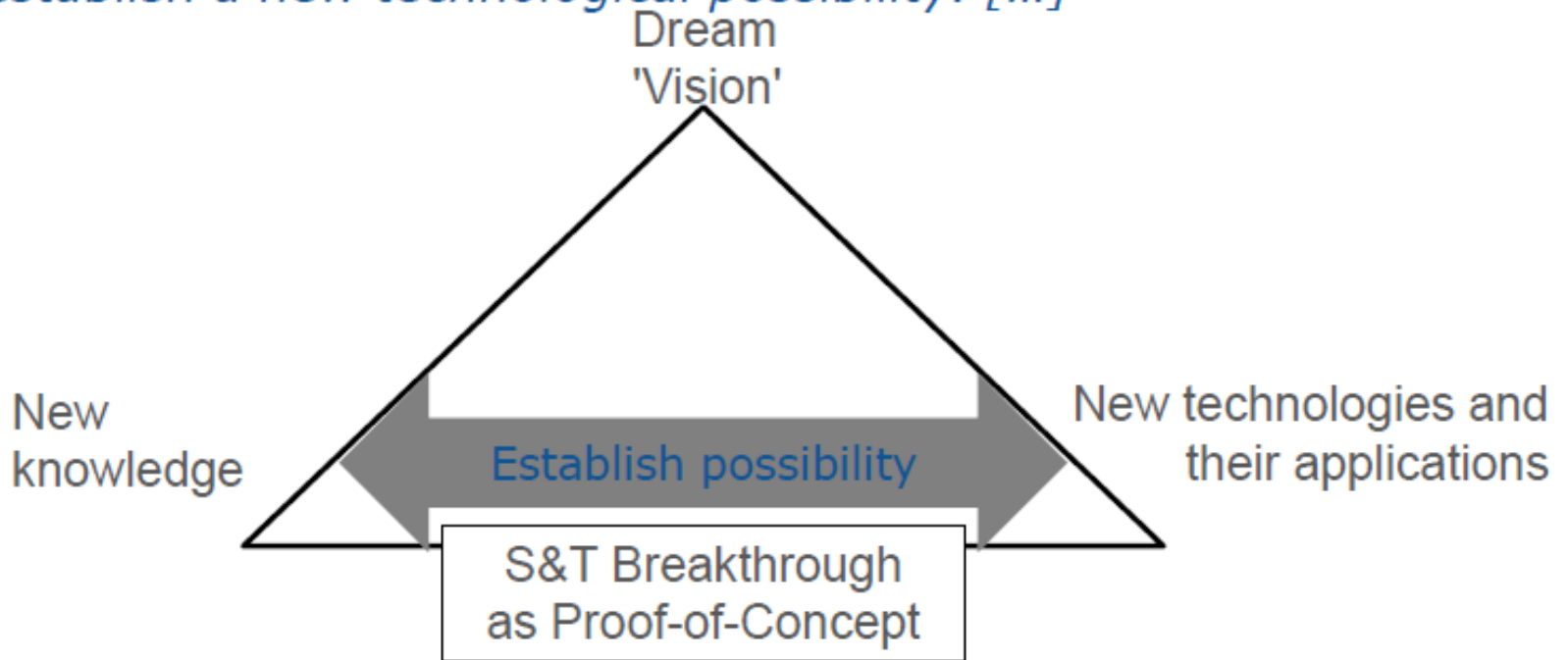
FET-Open RIA: supporting early-stages of research to establish a new technological possibility.

- Collaborative projects up to € 3 Mio funding (indicative)
- Single step submission, '1+15' pages
- Early stages of R&I on any new technological possibility
- Scope defined by FET gatekeepers
- Proposals evaluated and ranked in one single interdisciplinary Panel

FET-Open Research and Innovation Actions

Scope:

This topic supports the early stages of research to establish a new technological possibility. [...]

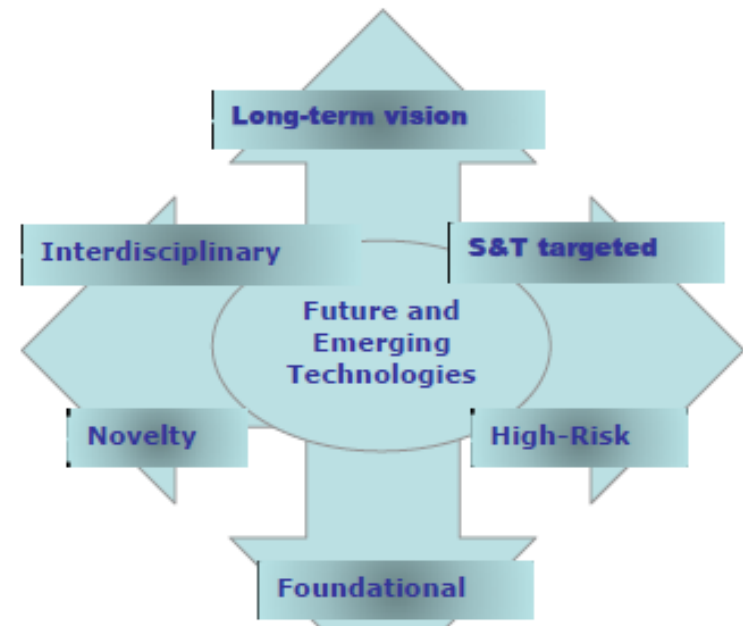


FET-Open Research and Innovation Actions

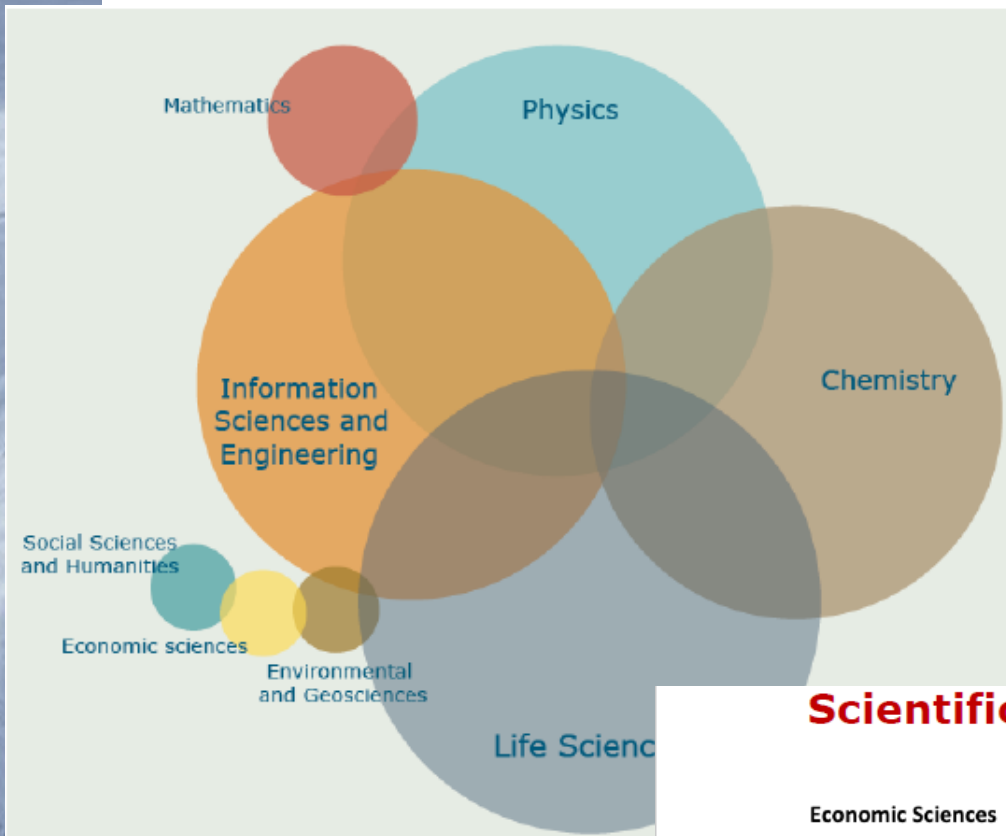
Scope:

[...] Proposals are sought for **collaborative research with all of the following characteristics** ('FET gatekeepers'):

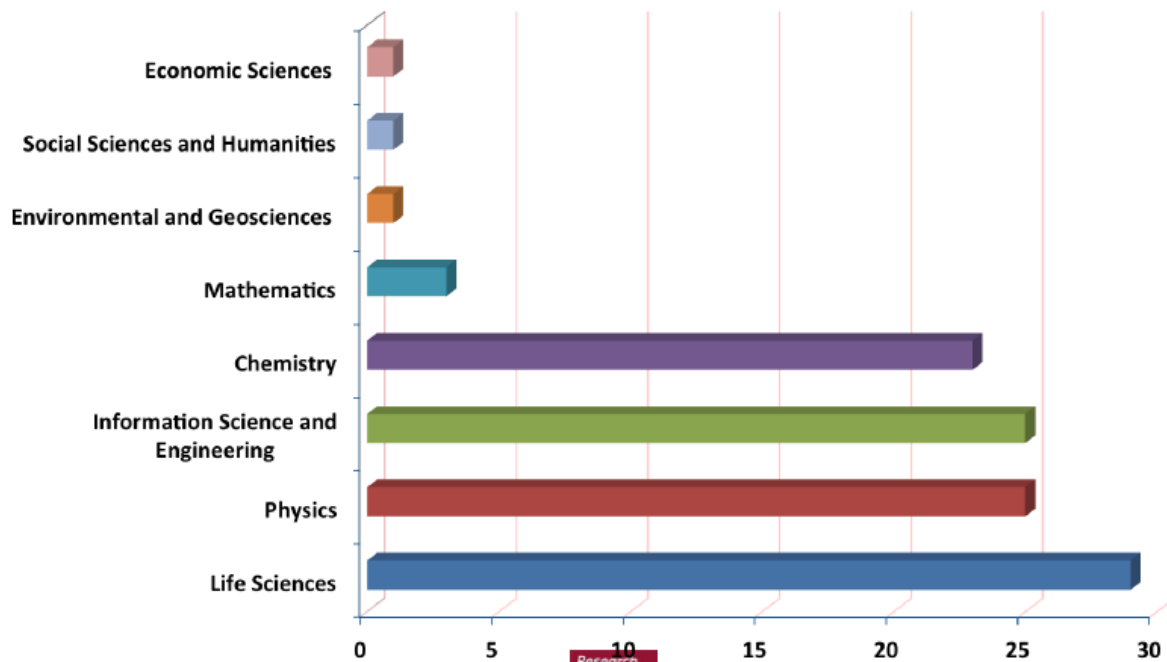
- Long-term vision
- Breakthrough scientific and technological target
- Novelty
- Foundational
- High-risk
- Interdisciplinary



Hasta el momento...



Scientific disciplines of retained proposals



Criterios de evaluación...

Excellence	Impact	Implementation
<ul style="list-style-type: none"> <input type="checkbox"/> Clarity and novelty of long-term vision, and ambition and concreteness of the targeted breakthrough towards that vision. <input type="checkbox"/> Novelty, non-incrementality and plausibility of the proposed research for achieving the targeted breakthrough and its foundational character. <input type="checkbox"/> Appropriateness of the research methodology and its suitability to address high scientific and technological risks. <input type="checkbox"/> Range and added value from interdisciplinarity, including measures for exchange, cross-fertilisation and synergy. 	<ul style="list-style-type: none"> <input type="checkbox"/> Importance of the new technological outcome with regards to its transformational impact on technology and/or society. <input type="checkbox"/> Impact on future European scientific and industrial leadership, notably from involvement of new and high potential actors. <input type="checkbox"/> Quality of methods and measures for achieving impact beyond the research world and for establishing European though leadership, as perceived by industry and society. 	<ul style="list-style-type: none"> <input type="checkbox"/> Soundness of the workplan and clarity of intermediate targets. <input type="checkbox"/> Relevance of expertise in the consortium, <input type="checkbox"/> Appropriate allocation and justification of resources (person-months, equipment).
<p>Threshold: 4/5 Weight: 60%</p>	<p>Threshold: 3,5/5 Weight: 20%</p>	<p>Threshold: 3/5 Weight: 20%</p>

Un ejemplo...

Starlab Neuroscience

LUMINOUS®

THE LUMINOUS PROJECT

EU H2020 FET Open Project

G.Ruffini, Starlab / Neuroelectrics

The Science of Consciousness, Tucson 2016



Horizon 2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme Euratom research and training programme 2014-2018 under grant agreement Number 686764

vision

Consciousness will someday be electromagnetically measured and altered. Likewise the associated needed insights will prove crucial to the development of cognitive sciences.

our questions

What is consciousness?

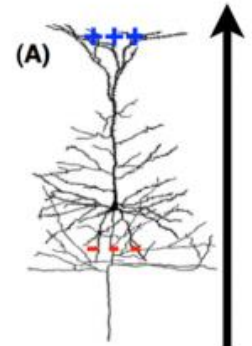
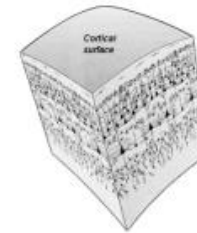
Can it be measured?

Can it be altered through electromagnetic brain stimulation?

Transcranial current stimulation



NE®



Transcranial Magnetic Stimulation (TMS)



División
Programas de la UE

Apoyo e información...

Tecnologías Futuras y Emergentes (FET)	Nicolás OJEDA	+34 91 603 77 80	nicolas.ojeda@oficinaeuropea.es	Oficina Europea. FECYT, MINECO
	Severino FALCÓN	+34 91 603 79 59	fet.h2020@mineco.es	MINECO
	Pablo FERNÁNDEZ	+ 34 934054203	pablo.fernandez.gonzalez@upc.edu	UPC



nicolas.ojeda@oficinaeuropea.es

**Unas palabras sobre...
Inducement Prices**

What are inducement prizes?

- ❑ A novel funding instrument, different from e.g. grants (the usual way to co-fund research projects).
- ❑ Prize contests address **technological and/or societal challenges**.
- ❑ A **target** is specified through **award criteria**.
- ❑ The reward goes to the contestant who (first/best) reaches the target.





RESEARCH & INNOVATION

Horizon Prizes

European Commission > Research & Innovation > Horizon Prizes

Home About The Prizes Awarded Prizes



What are Horizon Prizes

Horizon Prizes are 'challenge' prizes (also known as 'inducement' prizes) offering a cash reward to whoever can most effectively meet a defined challenge. The aim is to stimulate innovation and come up with solutions to problems that matter to European citizens.
[Read more](#)



Social Corner

Tweets

Funding Insight
@Funding_Insight

How do you bag a
@EU_Commission #HorizonPrize?
@AntoanetaRoussi talks to
@HaleemaShakur about what
worked for her in her career. Great
tips incl keeping yr funder
informed, bring in expertise, and
write accessibly, think strategically
researchprofessional.com/0/r/fun

<https://ec.europa.eu/research/horizonprize/index.cfm>

<https://ec.europa.eu/research/horizonprize/index.cfm>

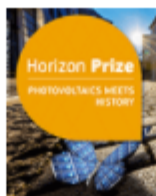
Open Horizon Prizes

Zero power water monitoring



The call for submissions for the Zero Power Water Monitoring prize will run from 19 December 2017 until 11 September 2018 >>

Photovoltaics meets history



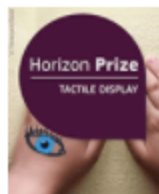
The Photovoltaics meets history prize contest has been launched with a deadline for submissions on 26 September 2018 >>

Seamless authentication for all



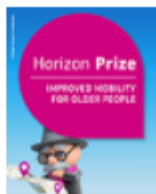
The Seamless authentication prize contest has been launched with a deadline for submissions on 27 September 2018 >>

Tactile display



The call for submissions for the Tactile display prize will run from 17 April 2018 until 27 November 2018 >>

Social Innovation



This Horizon prize for social innovation has been launched with a deadline for submissions on 28 February 2019 >>

CO₂ reuse prize



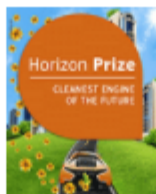
The CO₂ reuse contest has been launched with a deadline for submissions on 3 April 2019 >>

Low carbon hospital



The Low carbon hospital contest has been launched with a deadline for submissions on 3 April 2019 >>

Cleanest engine of the future



The Cleanest engine contest has been launched with a deadline for submissions on 20 August 2019 >>

Ejemplo: Seamless Authentication for all...

The advertisement features the European Commission logo at the top. A large orange circle on the left contains the text 'Horizon Prize' and 'Seamless authentication for all'. The central graphic shows a hand holding a smartphone displaying a lock icon, with the text 'Can you crack the challenge?' overlaid. Various icons representing smart objects and connectivity are scattered around the phone. At the bottom, an orange banner contains the text 'SEAMLESS AUTHENTICATION FOR ALL' and 'Solve the need for a simple, secure and privacy-friendly authenticating method for everyone and their smart objects.' To the right, a green box says 'COMPETE, INNOVATE & WIN' and another green box says '€ 4 million*'. A small green box at the bottom right says 'Contest is open!'.

The challenge

Develop innovative ways to enable **everyone** with their **linked smart objects** to be able to easily prove in the cyberspace their **identities**, their **mutual relationships**, **privileges** and **rights**.

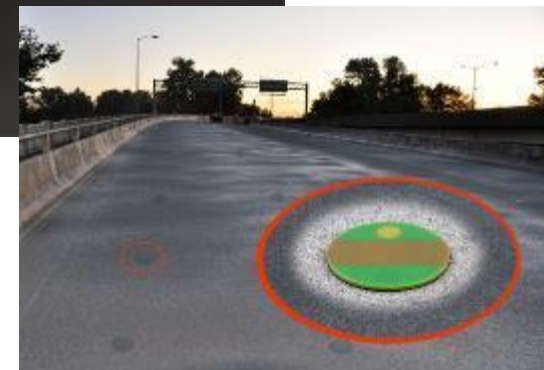
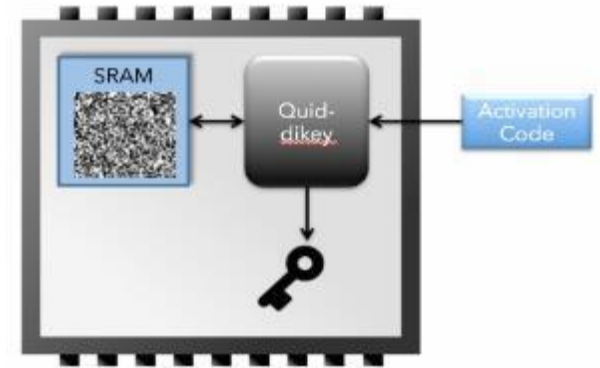
In other words we need **innovative (group) authentication** where connectivity will become an opportunity and not a burden to people.

Ejemplo: Seamless Authentication for all...

Authentication of People



Authentication of Objects



Ejemplo: Seamless Authentication for all...

Characteristics of the solution

- Inclusive (appropriate for **all citizens**)
- Easy to use,
- Reliable,
- Robust against cyber-attacks,
- Privacy-aware
- Compatible
- Affordable
- Open



Ejemplo: Seamless Authentication for all...

2. PRIZE AMOUNT

A total budget of 4.000.000 EUR is available for this prize, offering 3 (three) awards as follows:

- 2.800.000 EUR for the winner(s).
- 700.000 EUR for the 1st runner-up.
- 500.000 EUR for the 2nd runner-up



Ejemplo: Seamless Authentication for all...

Scoring Matrix

Criterion	Threshold	Maximum points
1. Significant contribution	18	23
2. Usability	6	8
3. Reliability	5	8
4. Security	11	14
5. Privacy and data protection	10	13
6. Applicability	5	8
7. Compatibility	5	8
8. Affordability	5	8
9. Openness	6	10
Total	71	100

Ejemplo: Seamless Authentication for all...

Planning & Contacts

Opening of the submission	28/09/2017
Closing date for submission	27/09/2018 at 17:00 CEST
Evaluation and solution demonstration	11-12/2018
Prize award	12/2018

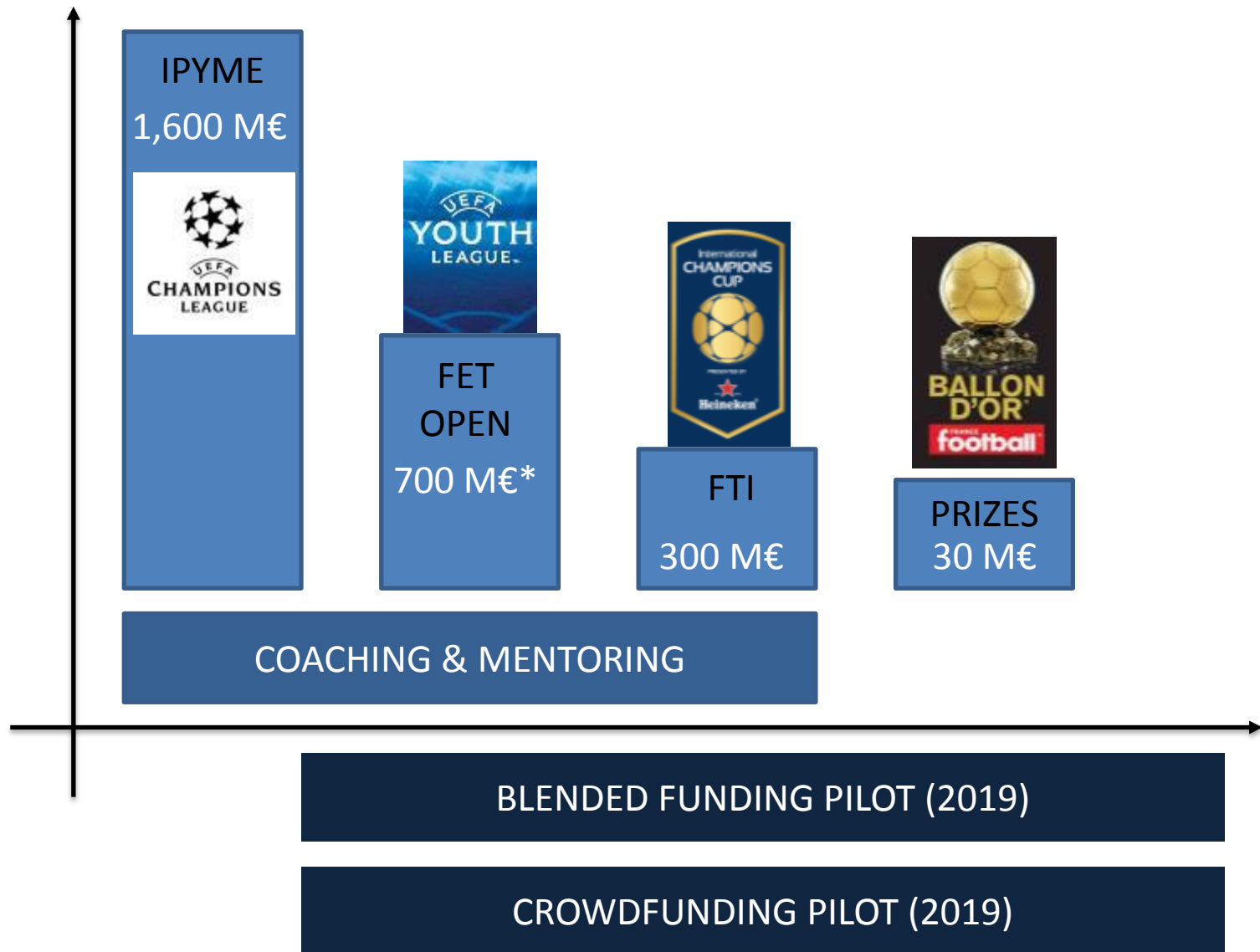
CNECT.H1 – Cybersecurity and Digital Privacy

<https://ec.europa.eu/digital-single-market/en/news/eur-4-million-innovators-online-authentication>

conect-a2-prize@ec.europa.eu

Evolución del EIC en “Horizon Europe”...

Evolución de las herramientas del EIC...



El EIC en Horizon Europe...

European Innovation Council (EIC): High Level Group of Innovators



Nicklas Bergman



Martin Bruncko



Paddy Cosgrave



Gráinne Dwyer



Hermann Hauser



Marjolein Helder



Taavet Hinrikus



Ingmar Hoerr



Bindi Karia



Jana Kolar



Carlos Oliveira



Jim
Hagemann Snabe



Kinga
Stanisławska



Constantijn
van Oranje



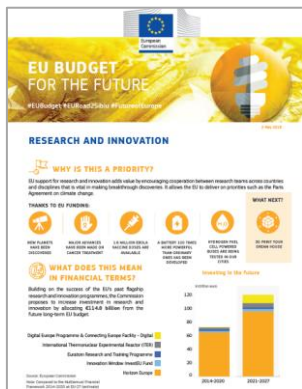
Roxanne Varza

El HLG de innovadores hace recomendaciones y mantiene un rol consultivo durante el diseño del futuro EIC...

Principales características

- ❑ EIC será el pilar innovación de FP9
- ❑ Su **objetivo principal** será mejorar la integración y “magnificar” las actuaciones a nivel nacional/regional,
- ❑ Se traslada el **enfoque** desde instrumentos CE hacia **necesidades de los innovadores/emprendedores/empresas**
- ❑ Prioritarias las **innovaciones disruptivas** pero seguirá apoyando también las **innovaciones incrementales**
- ❑ Apoyará el **ciclo completo** desde el *early stage* al *scale up*,
- ❑ **Ventanilla única para la innovación** (*one entry point & first come/first served principle*)

Volviendo al principio...



Pistas sobre la estructura de “Horizon Europe” 2021-2027

EC proposal by 07-Jun-2018

Horizon Europe, with a budget of **€97.6 billion**, is the biggest ever research and innovation funding programme. It is designed around three pillars:

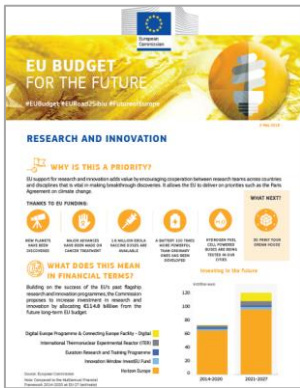
- the **Open Science pillar** supports researchers through fellowships and exchanges as well as funding to projects defined and driven by researchers themselves, through the European Research Council and the Marie-Skłodowska-Curie actions.
- The **Global challenges pillar** directly supports research relating to societal challenges, setting EU-wide missions with ambitious goals around issues that worry us daily such as such as the fight against cancer, clean mobility and plastic-free oceans. Industrial leadership will be prominent within this pillar and throughout the programme as a whole.
- The **Open Innovation pillar** aims to make Europe a front runner in market-creating innovation. A **European Innovation Council** will offer a one-stop shop for high potential and breakthrough technologies and innovative companies with potential for scaling up.

Open Science

Global challenges

Open Innovation





Pistas sobre la estructura de “Horizon Europe” 2021-2027

EC proposal by 07-Jun-2018



Many thanks for your attention...

Dr. Marina Martínez-García
H2020 Programme at SOST-CDTI office
marina.cdti@sost.be

*Agradecimientos:

Dr. Luis J. Guerra (CDTI) por el material para esta presentación
Dr. Valerio Abbadessa (ENEA) por material sobre Misiones & Horizon Europe