

#innovacion
#financiacion
#asesoramiento
#internacionalizacion



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Asamblea General Suschem-España
Ministerio de Ciencia, Innovación y Universidades.
Junio 2019



Más allá de 2020: Horizonte Europa



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Dirección de Programas de la UE
CDTI



DISCLAIMER



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- Flashing images
- Loud noises
- Fast-Paced Humour
- "Random" humour (whatever that means nowadays)
- Gore
- Language unsuitable for children
- Adult humour

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(I know this may be a bit of messing with you, but I am not at all of my subscribers will want to watch my videos, but there are others (including certain family members) that don't like my videos and complain or look down upon them regardless of how many times I strongly advise them that they should not watch the majority of my videos as I enjoy making them for a different intended audience.)

I hate constantly placing warning labels on my videos, as if you see this message and the disclaimer of the content listed above Please take heed, don't subscribe and stop watching my videos. (Sincerely, John D. aka: DaveyD)



TOWARDS FP9: EVOLUTION OF FRAMEWORK PROGRAMMES



Commissioner Davignon –
1984...FP1, ind. compet.



Commissioner Busquin –
FP6...ERA



Commissioner Potocnik –
FP7...ERC



Commissioner Geoghegan-Quinn –
Horizon 2020...R&I



Commissioner Moedas
– **30s, EIC,...**

Open Science

- ✓ Open Access
- ✓ Open Data and European Open Science Cloud
- ✓ Research Integrity
- ✓ Inclusiveness & Citizen Science



Open Innovation

- ✓ European Innovation Council
- ✓ Venture capital funds of funds
- ✓ Pro innovation Regulatory Environment
- ✓ Boosting Private Investment
- ✓ Maximizing Impact of EU funding

Open to the World

- ✓ Leading & working with multilateral initiatives & international organisations
- ✓ Better framework conditions for scientific cooperation
- ✓ Science diplomacy and synergies with the EU's external policies

"I am convinced that the core values of Horizon 2020 and its successor have to be:"

EXCELLENCE

OPENNESS

IMPACT



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¿Evolución o Revolución?



Horizonte Europa



Es la propuesta de la CE para un programa de investigación e innovación con un presupuesto de ¿100.000 M€ ? para siete años (2021-2027)



Reforzar la base científica y tecnológica de la UE



Acelerar la capacidad de innovación europea, su competitividad y la creación de empleo



Avanzar en las prioridades de la ciudadanía y dar soporte a nuestro modelo socioeconómico y nuestros valores

€ 4.1 billion are proposed to be allocated for defence research, in a separate proposal for a European Defence Fund

Horizonte Europa:

Invirtiendo en I+D para dar forma al futuro

- La visión:
 - " una Europa que protege,
una Europa que empodera,
una Europa que defiende"
Jean-Claude Juncker
- Afrontar el Cambio Climático
(35 % objetivo presupuestario)
- Contribuir a alcanzar los Objetivos de Desarrollo Sostenible
- Acelerar la competitividad y el crecimiento de la Unión



Credits: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Horizonte Europa y Presupuesto MFP

Propuesta CE

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

In billion euro, current prices

I. SINGLE MARKET, INNOVATION AND DIGITAL €187.4

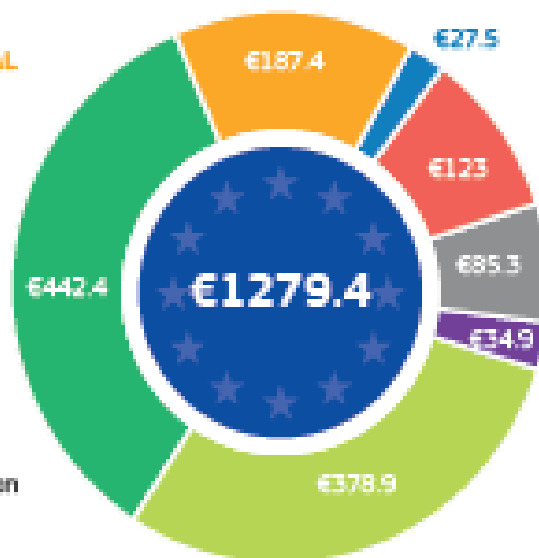
- 1 Research and Innovation
- 2 European Strategic Investments
- 3 Single Market
- 4 Space

II. COHESION AND VALUES €442.4

- 5 Regional Development and Cohesion
- 6 Economic and Monetary Union
- 7 Investing in People, Social Cohesion and Values

III. NATURAL RESOURCES AND ENVIRONMENT €378.9

- 8 Agriculture and Maritime Policy
- 9 Environment and Climate Action



V. SECURITY AND DEFENCE €27.5

- 12 Security
- 13 Defence
- 14 Crisis Response

VI. NEIGHBOURHOOD AND THE WORLD €123

- 15 External Action
- 16 Pre-Accession Assistance

VII. EUROPEAN PUBLIC ADMINISTRATION €85.3

- 17 European Public Administration



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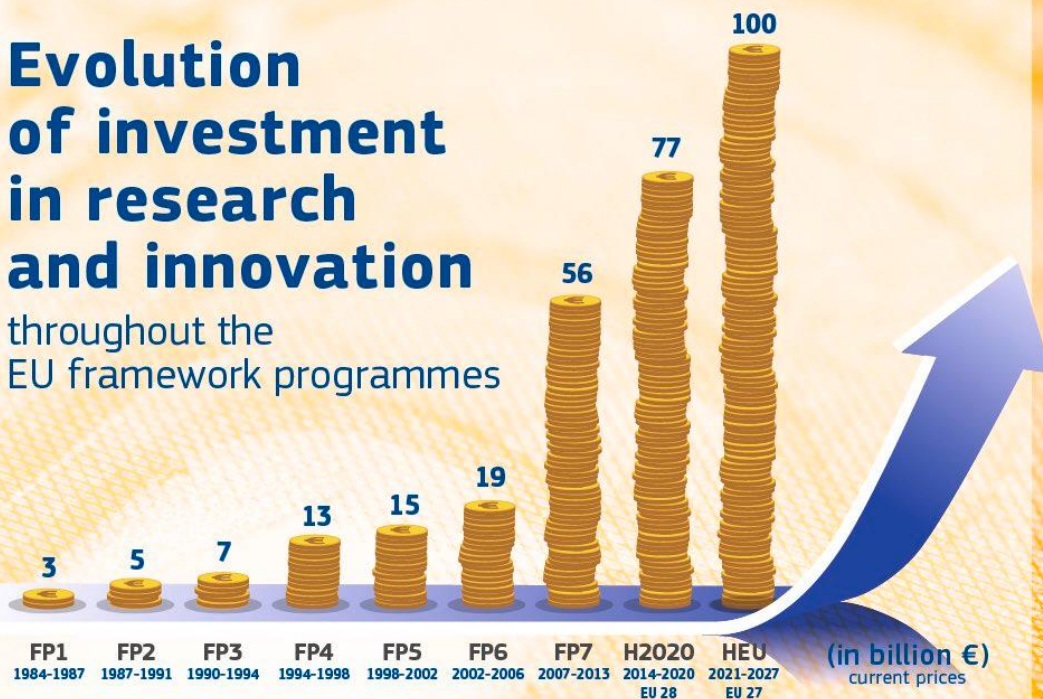


Horizon Europe

Propuesta CE

Evolution of investment in research and innovation

throughout the
EU framework programmes



#HorizonEU #InvestEUresearch #EUBudget



European
Commission



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Horizonte Europa: situación actual

Latest steps towards the agreement between the Council and European Parliament

- **19 March** – Text agreed between the institutions
- **27 March** – Coreper approves common understanding on the Regulation
- **2 April** – ITRE votes on the partial agreement on both documents
- **9 April** – Exchange of views on the Specific Programme legal base
- **15 April** – Council adopts partial general approach on the Specific Programme (Council decision)
- **17 April** – The European Parliament votes on both texts



Last trilogue, 19 March

Issues still open: Budget, synergies and third country association



Documentos

ACUERDO

- Common Understanding - Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing **Horizon Europe** - the Framework Programme for Research and Innovation, laying down its **rules for participation and dissemination**

<https://data.consilium.europa.eu/doc/document/ST-7942-2019-INIT/en/pdf>

- Partial General Approach - Proposal for a DECISION OF THE COUNCIL on establishing the **specific programme** implementing Horizon Europe - the Framework Programme for Research and Innovation

<https://data.consilium.europa.eu/doc/document/ST-8550-2019-INIT/en/pdf>

Principios del Programa

1. Focus on **civil applications**
2. Balance between lower and higher TRLs thereby covering the **whole value chain**.
3. **Cooperation** with third countries and international organisations and initiatives.
4. Assist widening countries to increase participation in HE and to promote broad **geographical coverage**.
5. **Synergies** with other EU programmes.
6. **Simplification**.
7. Contribute at least 35% of the expenditure to **climate objectives**.
8. Co-creation and co-design through **engagement of citizens** and civil society.

Horizonte Europa



Pilar 1 Excelencia científica

Consejo Europeo de Investigación (ERC)

Acciones Marie Skłodowska-Curie (MSCA)

Infraestructuras de Investigación



Pilar 2 Desafíos mundiales y competitividad industrial europea

Clústeres

- Salud
- Cultura, creatividad y sociedad inclusiva
- Seguridad civil para la sociedad
- Mundo digital, industria y espacio
- Clima, energía y movilidad
- Alimentación, bioeconomía, recursos naturales, agricultura y medio ambiente

Centro Común de Investigación (JRC)



Pilar 3 Europa innovadora

Consejo Europeo de Innovación (EIC)

Ecosistemas europeos de innovación

Instituto Europeo de Innovación y Tecnología (EIT)

Ampliar la participación y reforzar el Espacio Europeo de Investigación

Ampliar la participación y difundir la excelencia

Reformar y mejorar el sistema europeo de I+i



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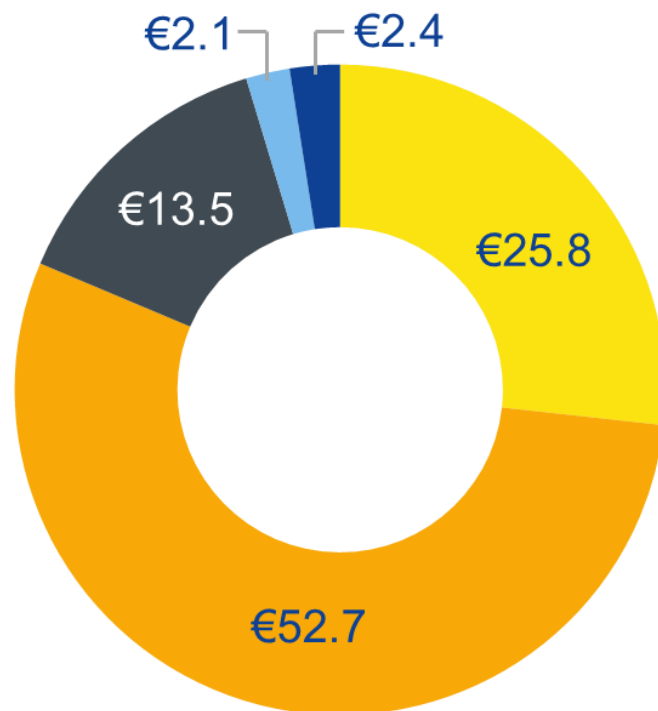


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Budget: €100 billion*

Propuesta CE



€ billion
In current prices

- Open Science
- Global Challenges & Ind. Competitiveness
- Open Innovation
- Strengthening ERA
- Euratom

* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.

Clúster 1: Salud

Salud a lo largo de todo el ciclo vital

Determinantes ambientales y sociales de la salud

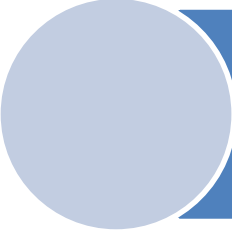
Enfermedades no transmisibles y enfermedades raras

Enfermedades infecciosas, incluidas las enfermedades asociadas a la pobreza y desatendidas

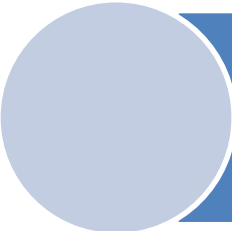
Herramientas, tecnologías y soluciones digitales para la salud y la asistencia, en particular la medicina personalizada

Sistemas de atención sanitaria

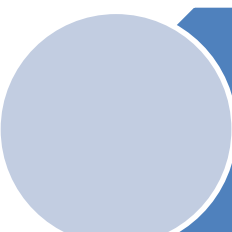
Clúster 2: *Cultura, creatividad* y sociedad inclusiva



Democracia *y gobernanza*

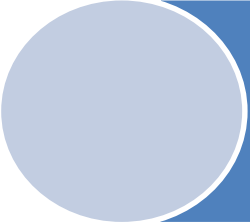


Patrimonio cultural

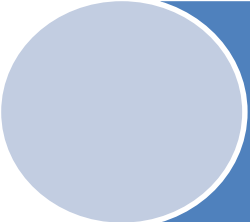


Transformaciones sociales y económicas

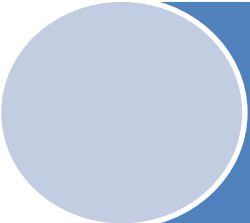
Clúster 3: Seguridad *civil* para la sociedad



Sociedades resistentes a las catástrofes



Protección y seguridad



Ciberseguridad

Clúster 4: Mundo digital, industria y *espacio*

Tecnologías de fabricación

Tecnologías digitales clave

Tecnologías facilitadoras emergentes

Materiales avanzados

Inteligencia artificial y robótica

Internet de nueva generación

Computación avanzada y macrodatos (Big Data)

Clúster 5: Clima, energía y movilidad

Ciencias y soluciones climáticas

Suministro de energía

Sistemas y redes de energía

Edificios e instalaciones industriales
en la transición energética

Comunidades y ciudades

Competitividad industrial en el transporte

Un transporte y una movilidad limpios,
seguros y accesibles

Clúster 6: Alimentación, *bioeconomía*, recursos naturales, *agricultura y medio ambiente*

Observación del medio ambiente

Biodiversidad y recursos naturales

Agricultura, silvicultura y zonas rurales

Mares, océanos y *aguas interiores*

Sistemas alimentarios

Sistemas de innovación de base biológica
en la bioeconomía de la UE

Sistemas circulares

Business as usual?

Areas of Intervention (EC proposal, 07062018)

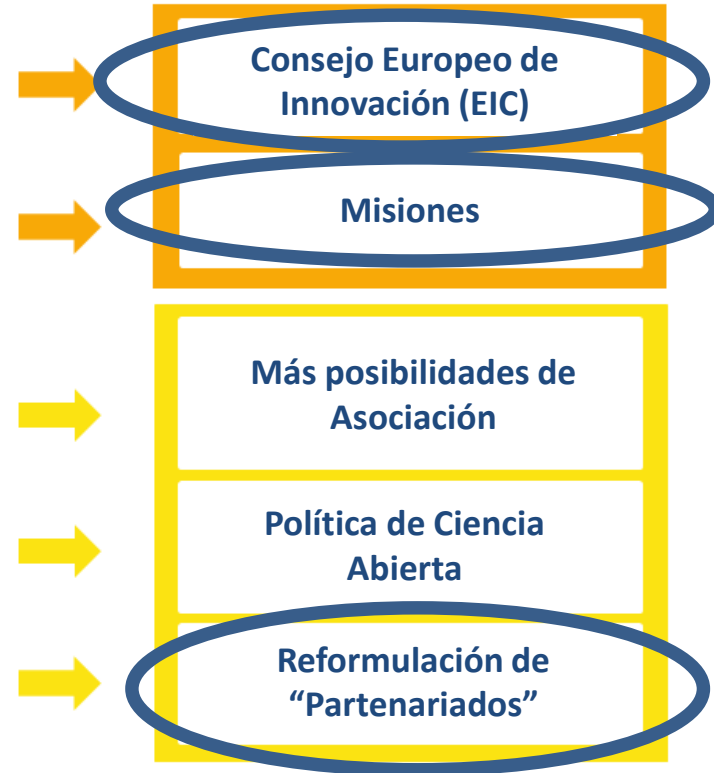
Health	Inclusive and Secure Society	Digital and Industry	Climate, Energy and Mobility	Food and Natural Resources
Health throughout the Life Course	Democracy	Manufacturing Technologies	Climate Science and Solutions	Environmental Observation
Environmental and Social Health Determinants	Cultural Heritage (en H2020 entre SC5 Y SC6)	Key Digital Technologies	Energy Supply	Biodiversity and Natural Capital
Non-communicable and Rare Diseases	Social and Economic Transformations	Advanced Materials	Energy Systems and Grids	Agriculture, Forestry and Rural Areas
Infectious Diseases	Disaster-resilience Societies	Artificial Intelligence and Robotics	Buildings and Industrial Facilities in Energy Transition	Sea And Oceans
Tools, Technologies and Digital Solutions for Health and Care	Protection and Security	Next Generation Internet	Communities and Cities (incluyendo Ciudades Sostenibles, en SC5 en H2020)	Food Systems
Health Care Systems	Cybersecurity	Advanced Computing and Big Data	Industrial Competitiveness in Transport	Bio-based Innovation Systems
		Circular Industries (incluyendo Raw Materials, en SC5 en H2020)	Clean Transport and Mobility	Circular Systems (incluyendo Agua)
		Low-carbon and Clean Industries	Smart Mobility	
		Space	Energy Storage	

Horizonte Europa – Novedades

Lecciones aprendidas durante la evaluación intermedia de H2020

-  Apoyar la innovación disruptiva
-  Mejorar el impacto en la sociedad
-  Reforzar la Cooperación Internacional
-  Reforzar la apertura
-  Racionalizar el entorno de la financiación

NOVEDADES EN
HORIZONTE EUROPA



Horizonte Europa – Novedades

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NOVEDADES EN HORIZONTE EUROPA





European Innovation Council

The EIC will support innovations with breakthrough and disruptive nature and scale up potential that are too risky for private investors.

European
Innovation Council

**Helping innovators create markets of the future,
leverage private finance, scale up their companies,
Innovation centric, risk taking & agile, pro-active
management and follow up**

Two complementary instruments bridging the gap from idea to investable project

Pathfinder: grants
(from early technology
to pre- commercial)

Accelerator:
grants & blended finance
(from pre-commercial
to market & scale-up)

Horizonte Europa – Novedades

Lecciones aprendidas durante la evaluación intermedia de H2020

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NOVEDADES EN HORIZONTE EUROPA





Missions: definition

Art. 2 of the FP/RfP Regulation:

- A portfolio of excellence-based and impact driven **R&I actions** across disciplines and sectors, intended to:
- Achieve, within a set timeframe, a **measurable goal** that could not be achieved through individual actions
 - Have **impact on society and policy making** through science and technology, and
 - Be **relevant** for a significant part of the European population and a wide range of European **citizens**.



Misiones

Art. 7 of the FP/RfP Regulation

- Pilar 2 - Desafíos mundiales y competitividad industrial
- Planes estratégicos o WP: misiones, objetivos, presupuesto, alcance, indicadores, hitos
- Máximo 10% presupuesto anual del Pilar 2 para convocatorias específicas para misiones en los 3 primeros años, después podría incrementarse
- Revisión no más tarde de 2023: creación de nuevas misiones, continuación, terminación, reorientación

“Missions are programmed within Pillar 2 but may benefit from actions carried out within other parts of the programme”

Areas for possible Missions

Adaptation to Climate Change, including Societal Transformation

Cancer

Healthy Oceans, Seas, Coastal and Inland Waters

Climate-Neutral and Smart Cities

Soil Health and Food

Horizonte Europa – Novedades

Lecciones aprendidas durante la evaluación intermedia de H2020

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NOVEDADES EN HORIZONTE EUROPA

Consejo Europeo de Innovación (EIC)

Misiones

Más posibilidades de Asociación

Política de Ciencia Abierta

Reformulación de “Partenariados”



European Commission



New approach to partnerships: why?

Partnership approaches	Public-public partnerships (P2P)	Public-private partnerships (PPP)	EIT-KICs*	FET Flagships**
Implementation modes	ERA-NET-Cofund, EJP Cofund, Article 185, Joint Programming Initiative (JPI)	Contractual Arrangement (cPPP) Article 187	H2020 Grant agreements for different types of actions Framework Partnership Agreements (FPA)	
Currently active R&I Partnerships (Horizon 2020)	a) ERA-NETs: ~70 b) EJP Cofund: 5 c) Article 185: 6 d) JPIs***: 10	a) JUs: 7 (+HPC) b) cPPPs: 10	a) KICs: 6 (+ 2 until 2020)	a) FET-Flagships: 2 (+Quantum)
Financial contribution from H2020, estimated)	2.500 M€ (3,1% of H2020 budget)	13.450 M€ (17,5% of H2020 budget)	2.400 M€ (3,1% of H2020 budget)	1.000 M€ (1,3% of H2020 budget)

*EIT-KICs: Knowledge and Innovation Communities (KICs) of the European Institute for Innovation and Technology (EIT)

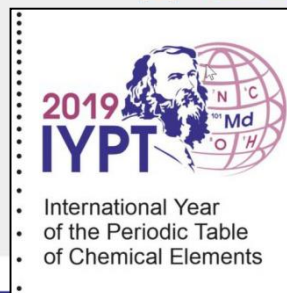
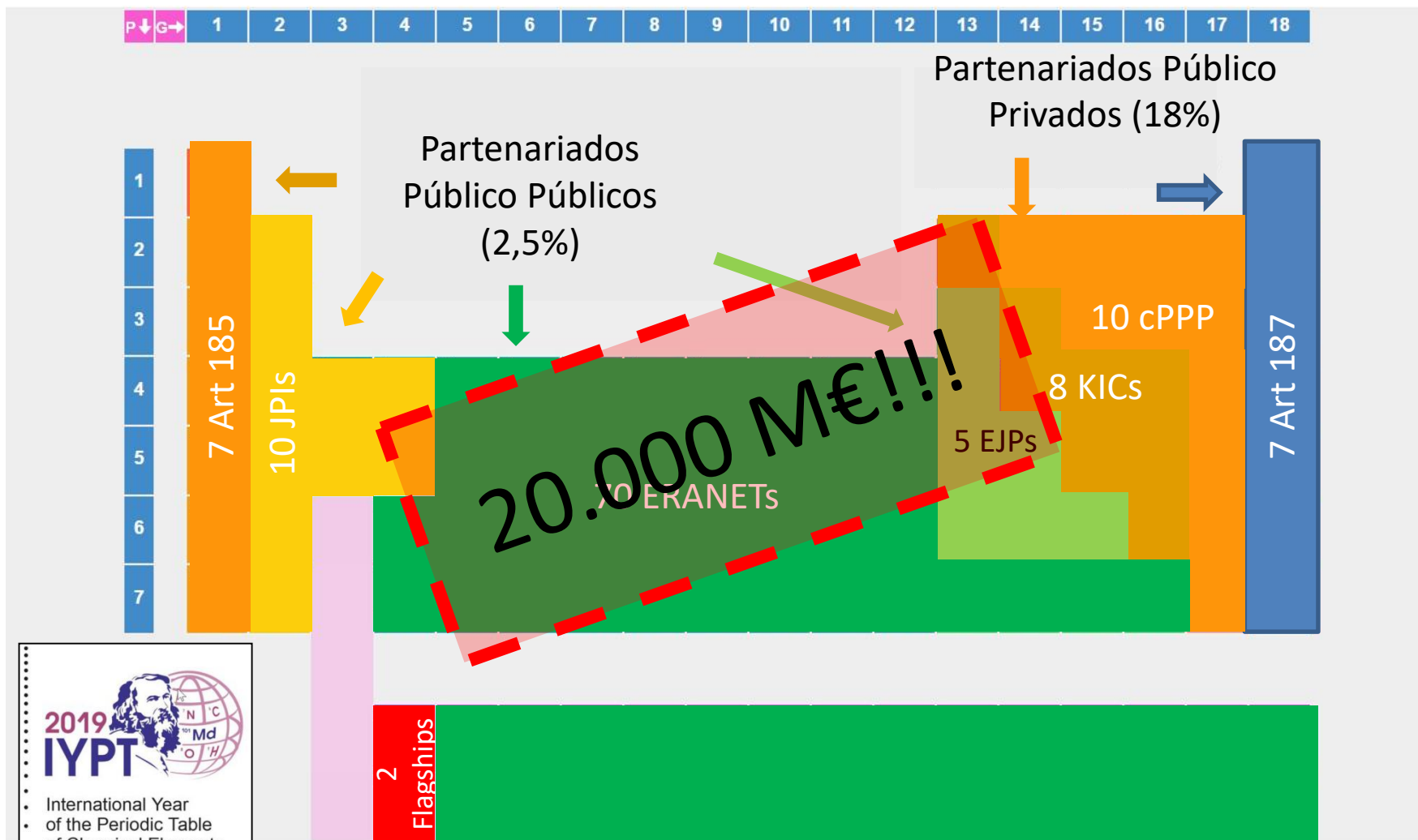
**FET-Flagships: Flagships of the Future and Emerging Technologies programme (FET)

*** JPIs: Joint Programming Initiatives are no EU level instruments but included here as they receive EU support via ERA-NETs and/or CSAs

Presentación oficial HEU, Comisión Europea

Tabla periódica

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Horizonte Europa – Novedades



New approach to European Partnerships

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- More strategic and impact driven
- Simple architecture and toolbox
- Coherent life-cycle approach
- Rationalisation and reform of existing landscape

Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded

Based on a joint programme agreed by partners; commitment of partners for financial and in-kind contributions & financial contribution by Horizon Europe

Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Presentación Comisión Europea, mayo 2019



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European Partnerships **Areas** (Art. 185 / Art.187 TFEU)

Faster development and safer use of **health innovations** for European patients, and **global health**.

Advancing key digital and enabling technologies and their use, including but not limited to novel technologies such as Artificial Intelligence, photonics and quantum technologies.

European leadership in **Metrology** including an integrated Metrology system

Accelerate competitiveness, safety and environmental performance of EU **air traffic, aviation and rail**.

Sustainable, inclusive and circular **bio-based solutions**

Hydrogen and sustainable **energy storage** technologies with lower environmental footprint and less energy-intensive production.

Clean, connected, cooperative, autonomous and automated solutions for future **mobility** demands of people and goods.

Innovative and R&D intensive **small and medium-sized enterprises**.

European Partnerships...last minute

- Máximo 50% presupuesto Pilar 2
- Marco Común de criterios de selección, implementación y finalización.
- Lista de candidatos de la Comisión: 45 + 3
- Más relevantes para la Industria Química
 - SPIRE....ó **Carbon Neutral and Circular Industry (CP)**
 - BBI....ó **Circular Bio-based Europe (I)**
 - FCH...ó **Clean Hydrogen (I)**
 -¿sólo?

Clean Steel – Low Carbon
Steelmaking

Chemicals risk
assessment

Batteries: Towards a competitive
European industrial batterie value
chain

Towards zero-emission
road Transport

Water4all: Water
security for the
planet

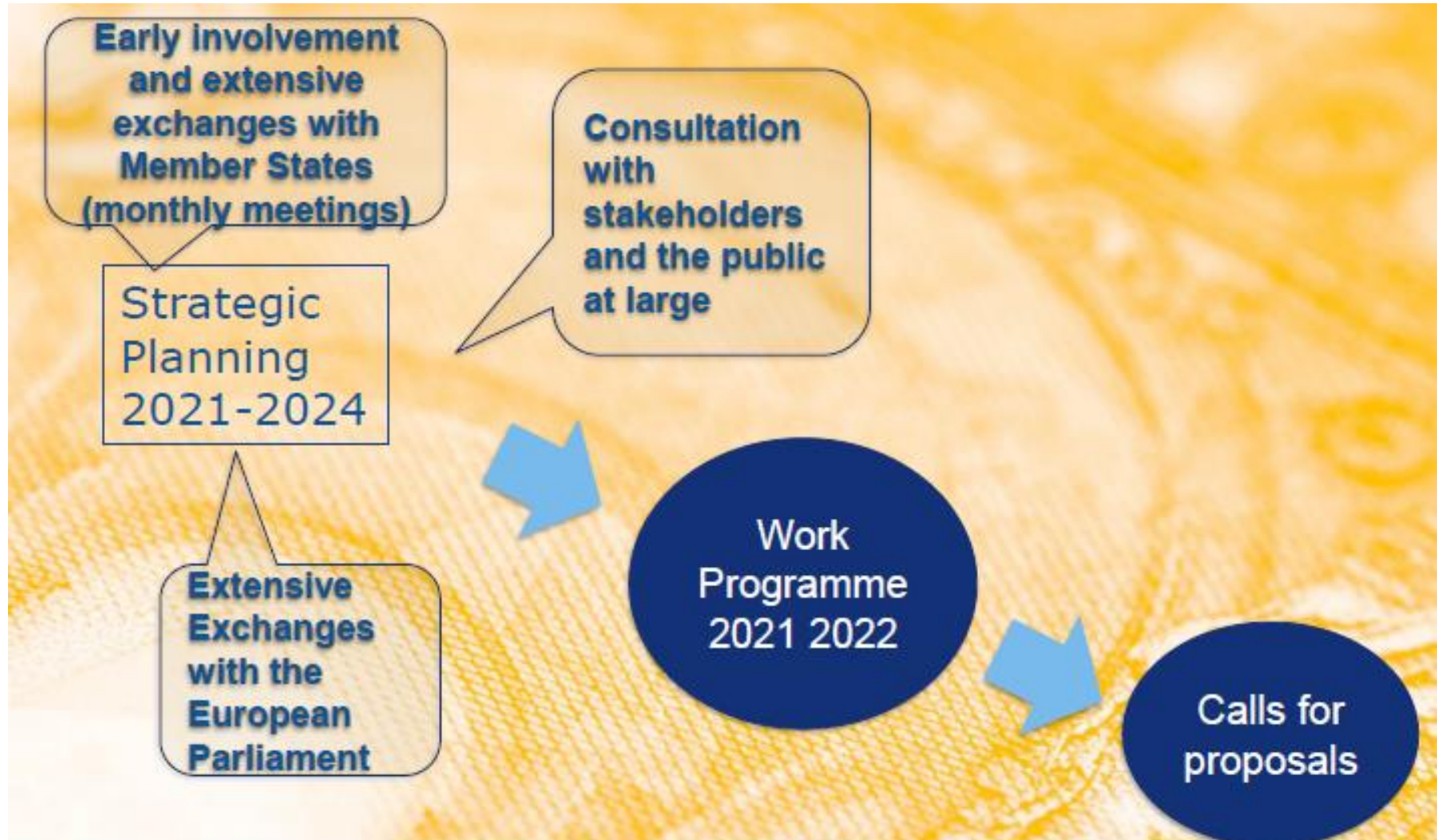
Safe and Sustainable Food System for
People, Planet & Climate

Towards more sustainable
farming: agro-ecology
living labs and research
infrastructures

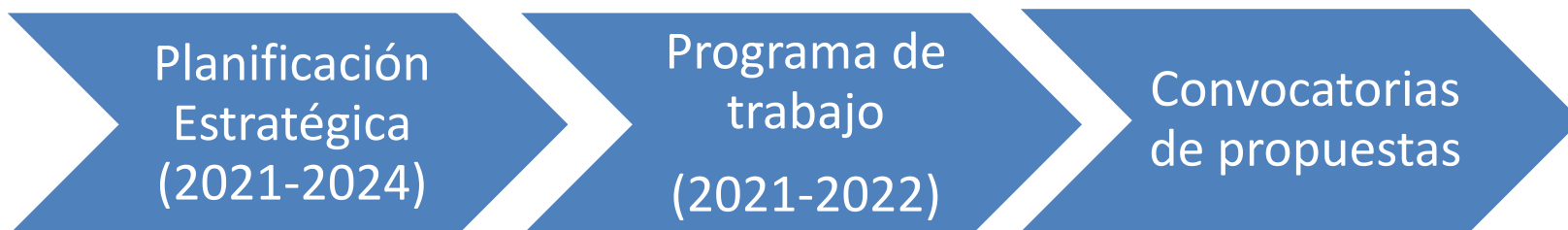
Clean Energy
Transition

Towards more sustainable farming:
agro-ecology living labs and research
infrastructures

Strategic planning



Calendario preliminar



- Mayo 2019: Consulta EEMM y preparación del documento de consulta
- Junio 2019: Consulta pública (web)
- Verano 2019: Análisis de la consulta
- Septiembre 2019: “24-26 R&I Days” – *co-design sessions*
- Finales 2019 - principios 2020: adopción del 1er. Plan Estratégico
- 2020: Inicio preparación borradores WP 2021-2022



EUROPEAN RESEARCH & INNOVATION DAYS

24 → 26
SEPTEMBER

**20
19**

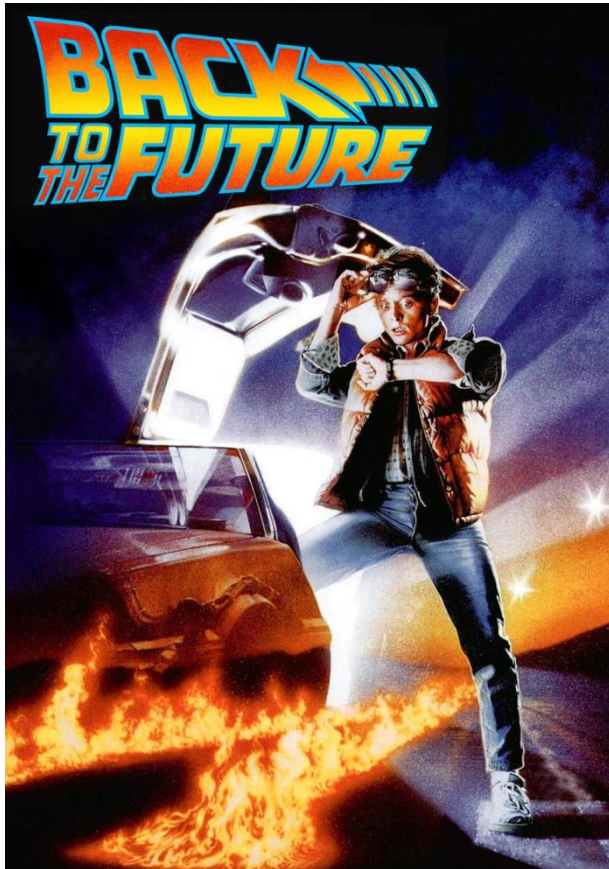
KANAL ♡ CENTRE POMPIDOU
Brussels, BELGIUM

#RiDaysEU
@EUScienceInnov

¿Evolución o Revolución?



...pero no podemos olvidar!





+ info sobre programas y ayudas
para la
internacionalización de la I+D+I española

www.eshorizonte2020.es - www.cdti.es



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