



# Horizon 2020

La proposta della Commissione e  
aree di attività

Gloria PEASSO

*National Contact Point*  
"Energy"

# APRE - Ente di ricerca no profit

Nasce come “Task Force” del Ministero dell’Università e della Ricerca.

**24** anni di  
esperienza



## MISSION

- Promuovere e Supportare la **Partecipazione Italiana** ai programmi europei di ricerca su sviluppo e innovazione
- Migliorare la “**Qualità**” della partecipazione italiana nei programmi europei di ricerca su sviluppo e innovazione.



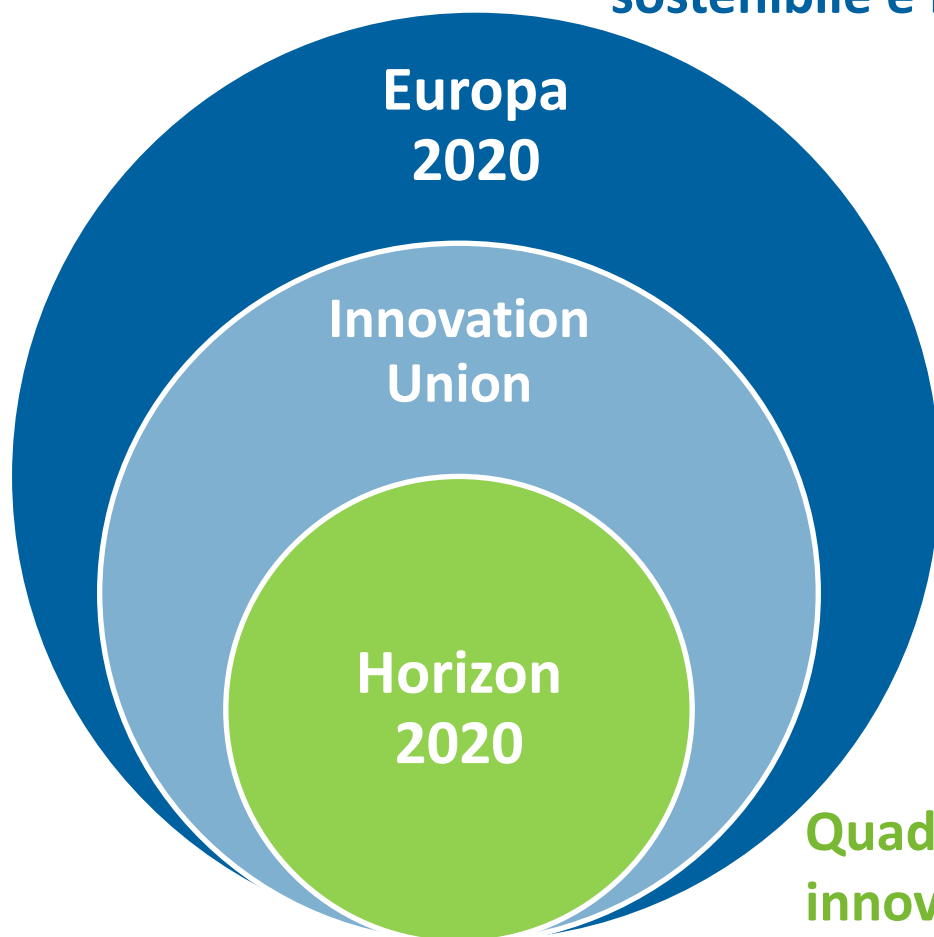
[COSA è APRE?]

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

# HORIZON 2020



## Strategia per una crescita intelligente, sostenibile e inclusiva



Iniziativa faro di sostegno alla  
ricerca e all'innovazione

Quadro strategico comune su ricerca e  
innovazione (2014- 2020)

# Struttura del programma

## Excellent Science

- **European Research Council**
  - Frontier research by the best individual teams
- **Future and Emerging Technologies**
  - Collaborative research to open new fields of innovation
- **Marie Skłodowska Curie actions**
  - Opportunities for training and career development
- **Research infrastructures** (including e-infrastructure)
  - Ensuring access to world-class facilities

## Industrial Technologies

- **Leadership in enabling and industrial technologies**
  - ICT, nanotechnologies, materials, biotechnology, manufacturing, space
- **Access to risk finance**
  - Leveraging private finance and venture capital for research and innovation
- **Innovation in SMEs**
  - Fostering all forms of innovation in all types of SMEs

## Societal Challenges

- **Health, demographic change and wellbeing**
- **Food security, sustainable agriculture, marine and maritime research & the bioeconomy**
- **Secure, clean and efficient energy**
- **Smart, green and integrated transport**
- **Climate action, resource efficiency and raw materials**
- **Inclusive, innovative and reflective societies**
- **Security society**

European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

# Caratteristiche

- Un **singolo programma** che riunisce tre iniziative fino ad ora separate: Il Settimo Programma Quadro (**7° PQ**) + Il Programma quadro per la competitività e l'innovazione (**CIP**) + L'Istituto europeo di innovazione e tecnologia (**EIT**)
- **Value chain** che va dalla ricerca di frontiera , allo sviluppo tecnologico, dimostrazione, valorizzazione dei risultati e innovazione
- **Innovazione**, in tutte le sue forme
- **Accesso semplificato** per le imprese, le università, etc in tutti gli stati europei

# Accordo sul Budget

\*28 Giugno 2013

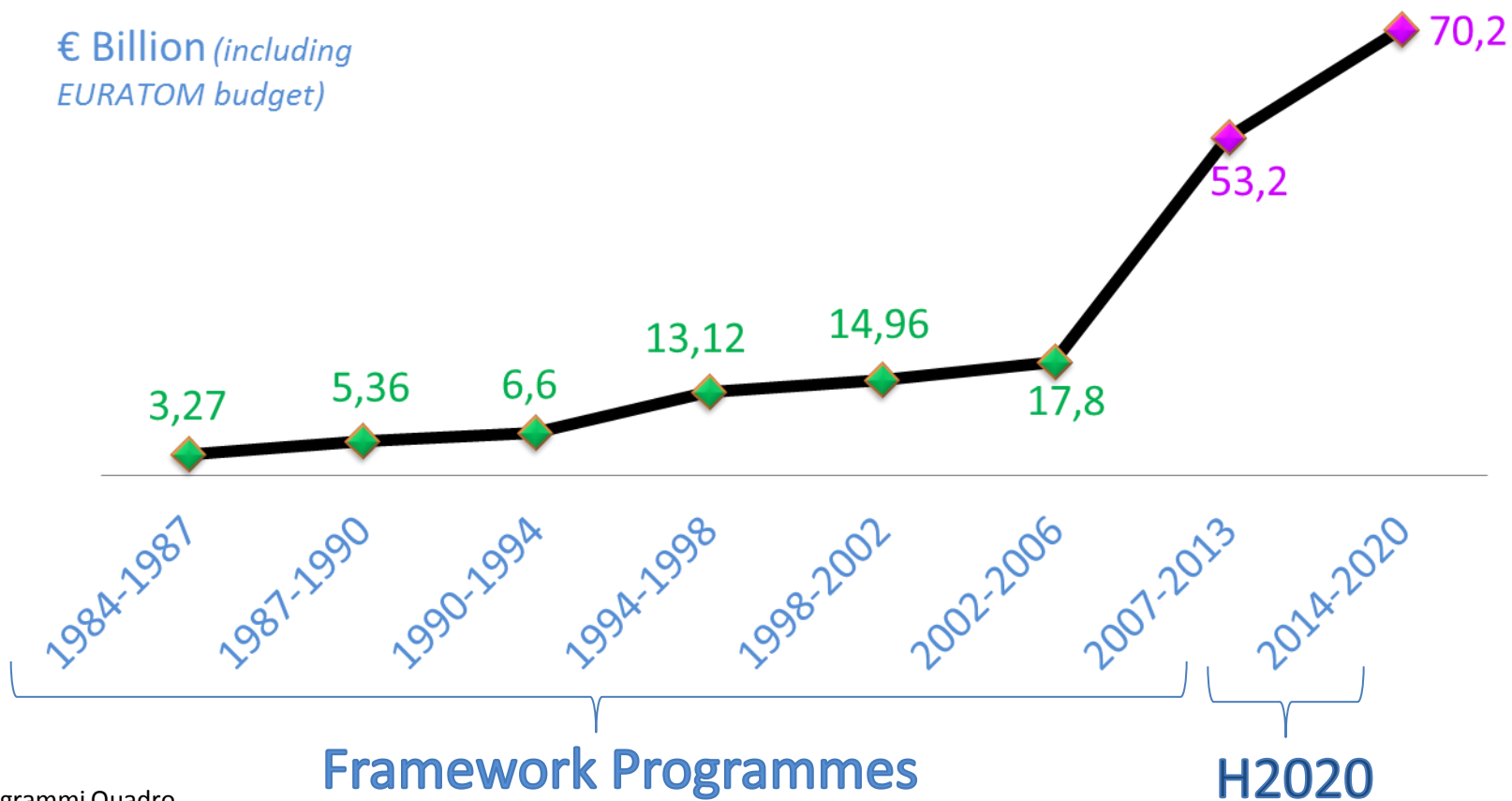


**70,2 Miliardi di €\*  
(incluso EURATOM)**

Quadro finanziario pluriennale  
2014/2020 - MFF

# Budget da FP1 a Horizon 2020

€ Billion (including  
EURATOM budget)



- Programmi Quadro quadriennali e quinquennali
- Programmi Quadro settennali.



	Compromise % 27.06.13	Million € (27.06.13)
<b>I. Excellent Science, of which:</b>		
1. ERC	31,73%	21.609
2. FET	17,00%	11.577
3. MS Curie Actions	3,50%	2.384
4. Research Infrastructures	8,00%	5.448
	3,23%	2.200
<b>II. Industrial Leadership, of which:</b>	22,09%	15.044
Leadership in Enabling and Industrial Technologies	17,60%	11.986
Access to Risk Finance	3,69%	2.513
Innovation in SME's	0,80%	544,81
<b>II.I Societal Challenges, of which:</b>		
	38,53%	26.240
Health, demographic change and well being	9,70%	6.606
Food security, sustainable agriculture, marine and maritime research & the bio economy	5,00%	3.405
<b><u>Secure, clean and efficient energy</u></b>	<b><u>7,70%</u></b>	<b><u>5.244</u></b>
Smart, green and integrated transport	8,23%	5.605
Climate action, resource efficiency and raw materials	4,00%	2.724
Europe in a changing world – Inclusive, innovative and reflective society	1,70%	1.158
Secure societies – Protecting freedom and security of Europe and its citizens	2,20%	1.498
<b>Spreading Excellence and Widening Participation</b>	1,06%	722
<b>Science with and for society</b>	0,60%	409
<b>European Institute of Innovation and Technology - EIT</b>	3,52%	2.397
<b>JRC Non-nuclear</b>	2,47%	1.682
<b>EURATOM</b>		2.098
<b>Total</b>	<b>100,00%</b>	<b>70.200</b>



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Per sostenere le migliori idee e sviluppare competenze, per fare dell'Europa un polo di attrazione per i migliori ricercatori mondiali

**European Research Council:** progetti di ricerca di frontiera

**Future and Emerging Technologies:** ricerca nelle aree più promettenti nel campo delle tecnologie di domani; **(Science)**

Azioni **Marie Skłodowska-Curie** per attrarre e sostenere ricercatori e la loro mobilità;

**Infrastrutture di Ricerca** adeguate, meno care e diffuse in Europa.

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# Industrial Leadership

Per incoraggiare investimenti in R&I in Europa, promovendo alcune priorità per ogni forma di business

- **Leadership in enabling and industrial technologies** - soprattutto Key enabling technologies (Information and Communication Technologies (ICT), Nanotechnologies, Advanced materials, Biotechnology, Advanced Manufacturing and Processing) & Space;
- **Access to finance** per aziende innovative, strumenti finanziari in partenariato con l'European Investment Bank; Debt instrument & Equity instrument
- **Innovation in SME**  
Support to innovative SMEs

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# ENERGY-CHALLENGE

## MAIN CHALLENGES:

### 3. Secure, Clean And Efficient Energy



**Support the transition to a reliable, sustainable and competitive energy system by:**

- Reducing energy consumption and carbon footprint
- Boosting development of renewable and alternative energy technologies and their integration in the energy system
- Making the grid more flexible (inclusion of new energy sources, lowering costs of necessary infrastructure upgrades)

**Increase the competitiveness of European industry**

Addressing the whole supply chain  
Increase energy efficiency in industry  
Decrease energy costs

# SC3. Secure, Clean And Efficient Energy

## CALLS - FOCUS AREA WP 2014 - 15



- Renewable electricity and heating/cooling
- Modernising the single European electricity grid
- Providing the energy system with flexibility through enhanced energy storage technologies
- Sustainable biofuels and alternative fuels for the European transport fuel mix
- Enabling the sustainable use of fossil fuels in the transition to a low-carbon economy

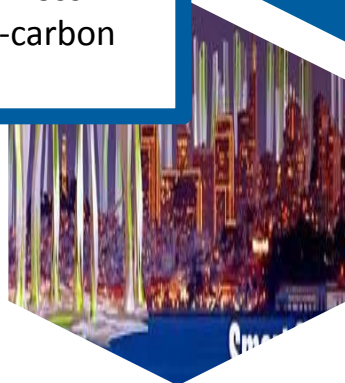
ENERGY  
EFFICIENCY

- Buildings and consumers
- Heating and cooling
- Industry and products
- Finance for sustainable energy

COMPETITIVE  
LOW – CARBON  
ENERGY



SMART CITIES  
AND  
COMMUNITIES





**Smart Cities** - Sustainable development of urban areas is a challenge of key importance and requires new, efficient, and user-friendly technologies and services, in particular in areas of energy, transport, and ICT.

## Evolution of calls

### 7th Framework Programme (FP7)

### Horizon 2020

2012

2013

2014/2015

1. City Action Plans

Demonstration Only

Demonstration Only

2. Demonstration

Buildings

Energy

Buildings

Heating & Cooling

Transport

OR Heating & Cooling

AND

AND

OR Smart Grids

Smart Grids

ICT



# Horizon 2020 Work Programme 2014-2015

## Lighthouse projects

- *Low energy districts*
- *Integrated infrastructures*
- *Sustainable urban mobility*

## Conditions

- *Consortia: industry & cities*
- *2-3 cities involving 2-3 follower cities*
- *Part of ambitious urban plan*
- *Funding from other parts secured*
- *Affordable solutions*



## Next steps

- **First calls for proposals under Horizon 2020**  
*11 December 2013*
- **Deadline for applications → Smart Cities**  
*7 May 2014*

***MORE INFO about ENERGY 2014-2015 DRAFT PROGRAMME:***  
**[http://ec.europa.eu/research/horizon2020/index\\_en.cfm?pg=h2020-documents](http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents)**

Gli schemi di finanziamento

# IMPLEMENTAZIONE DI H2020



# IMPLEMENTAZIONE Work Programmes H2020

- **STRATEGIC PROGRAMME:** A multi-annual approach (3 years) to help applicants plan ahead. *(note: this could be subject to the vote of Programme Committee)*
- **WORK PROGRAMMES:** 3 Work Programmes (biannual) during the course of H2020 and 1 final Work Programme for the last year to bridge to the next programme after 2020
- **FLEXIBILITY IN ORGANISING CALLS:** one call in each WP with two deadlines; or two calls with two deadlines; or continuously open calls *(under discussion)*
- **SYNERGIES:** Horizon 2020 will follow closely the emerging Smart Specialisation flagship priorities and will support them through the Horizon 2020 Work Programmes”

# Limited set of possible FOCUS AREAS 2014 -2015

- Personalizing health and care
- Sustainable food security
- Blue growth: unlocking the potential of the oceans
- Smart cities and communities
- Competitive low-carbon energy
- Energy Efficiency
- Mobility for growth
- Digital security
- Waste: a resource to recycle, reuse and recover raw materials
- Water innovation: boosting its value for Europe
- Overcoming the crisis: new ideas, strategies and governance structures for Europe
- Disaster-resilience: safeguarding and securing society, including adapting to climate change

# Tipologie di progetti collaborativi (1)

## R&I Actions

Basic research, applied research, technology development and integration, and testing e validation on a small scale prototype in a laboratory or simulated environment

## Innovation Actions

Prototyping, testing, demonstrating, piloting, large - scale product validation and market replication

# Tipologie di progetti collaborativi (2)

## R&I Actions

Funding rate: 100%

TRL\*: 1 – 5/6 + clinal  
trials in phases 1 to 3

## Innovation Actions

Funding rate:  
70%/100%

TRL: 6 to 7/8 or 9



# TRL\* ANNEX: TECHNOLOGY READINESS LEVEL

## TRL 0: Idea

Unproven idea or concept where no peer reviewed analysis or testing has been performed.

## TRL 1: Basic Research

The initial scientific research has been completed. The basic principles of the idea have been qualitatively postulated and observed. The process outlines have been identified. No experimental proof and detailed analysis are yet available

## TRL 2: Technology formulation

The technology concept, its application and its implementation have been formulated. The development roadmap is outlined. Studies and small experiments provide a "proof of concept" for the technology concepts.

## TRL 3: Applied Research

The first laboratory experiments have been completed. The concept and the processes have been proven at laboratory scale, table-top experiments. Potential of materials and up scaling issues have been identified.

## TRL 4: Small Scale Prototype Development Unit (PDU)

The components of the technology have been identified. A PDU has been built a laboratory and controlled environment. Operations have provided data to identify potential up scaling and operational issues. Measurements validate analytical predictions of the separate elements of the technology. Simulation of the processes has been validated. Preliminary LCA and economy assessment models have been developed.

### TRL 5: Large Scale Prototype Development Unit

The technology has been qualified through testing in intended environment, simulated or actual. The new hardware is ready for first use. Process modelling (technical and economic) is refined. LCA and economy assessment models have been validated. Where it is relevant for further up scaling the following issues have been identified: Health & safety, environmental constraints, regulation, and resources availability.

### TRL 6: Prototype System

The components and the process have been up scaled to prove the industrial potential and its integration within the energy system. Hardware has been modified and up scaled. Most of the issues identified earlier have been resolved. Full commercial scale system has been identified and modelled. LCA and economic assessments have been refined.

### TRL 7: Demonstration System

The technology has been proven to work and operate a pre-commercial scale. Final operational and manufacturing issues have been identified. Minor technology issues have been solved. LCA and economic assessments have been refined.

### TRL 8: First of the kind commercial System

The technology has been proven to work at a commercial level through a full scale application. All operational and manufacturing issues have been solved.

### TRL 9: Full commercial application

The technology has been fully developed and is commercially available for any consumers.

## SOGGETTI GIURIDICI PARTECIPANTI (art.6)/ ELEGGIBILITA' PER IL FINANZIAMENTO (art.9)

### CHI PUO' PARTECIPARE?

- **QUALSIASI SOGGETTO GIURIDICO**, UNIVERSITA' O CENTRO DI RICERCA STABILITO IN UNO STATO MEMBRO O ASSOCIATO\* O IN UN PAESE TERZO
  - **JRC** (Joint Research Centre)
- **ORGANIZZAZIONI INTERNAZIONALI DI INTERESSE EU**
- **ORGANIZZAZIONI INTERNAZIONALI E SOGGETTI** STABILITI IN **PAESI TERZI** IN AGGIUNTA ALLE CONDIZIONI MINIME

\* Albania, Bosnia-Herzegovina, Croazia, Islanda, Israele, Liechtenstein, Serbia, Svizzera, Ucraina, Macedonia, Montenegro, Kosovo, Albania, Bosnia-Herzegovina, Croazia, Islanda, Israele, Liechtenstein, Serbia, Svizzera, Ucraina, Macedonia, Montenegro, Kosovo

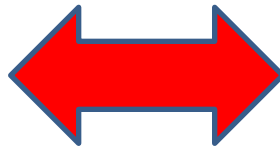
### CHI PUO' RICEVERE IL FINANZIAMENTO?

- **QUALSIASI SOGGETTO GIURIDICO**, UNIVERSITA' O CENTRO DI RICERCA STABILITO IN UNO STATO MEMBRO O ASSOCIATO\* O IN UN PAESE TERZO
  - **JRC** (Joint Research Centre)
- **ORGANIZZAZIONI INTERNAZIONALI DI INTERESSE EU**
- **ORGANIZZAZIONI INTERNAZIONALI E SOGGETTI** STABILITI IN **PAESI TERZI** NON ICPC SOLO ECCEZIONALMENTE SE PREVISTO DAL WP/ACCORDO BILATERALE oppure SE ESSENZIALE PER L'AZIONE

**NESSUNA VARIAZIONE RISPETTO A FP7!!!**

POSSIBILITA' DI **JOINT CALL** CON I PAESI TERZI E LE ORG. INTERNAZIONALI

## CRITERI DI SELEZIONE E ATTRIBUZIONE (Art. 14)



TRE CRITERI

ECCELLENZA

QUALITA' E EFFICIENZA  
DELL'ATTUAZIONE

**NESSUNA VARIAZIONE RISPETTO A FP7!!!**

- POSSIBILI BANDI CON **PROCEDURA DI PRESENTAZIONE A DUE STEP**
- **ECCELLENZA**, UNICO CRITERIO PER LE AZIONI ERC
- PESO PONDERATO CRITERIO '**IMPATTO**' NELLE INNOVATION ACTION

# Eventi

- **Giornata Informativa Europea (iscrizioni chiuse, ma si può seguire in streaming**

[http://ec.europa.eu/research/conferences/2013/energy\\_infoday/infoday\\_energy\\_en.htm](http://ec.europa.eu/research/conferences/2013/energy_infoday/infoday_energy_en.htm) )

5 Dicembre 2013, Bruxelles

- **Brokerage Event ENERGY consortia (iscrizioni chiuse)**

6 Dicembre 2013, Bruxelles

- **Giornata Informativa Nazionale (iscrizioni aperte:**  
<http://apre.it/eventi/2013/2-semestre/giornata-energy> )

16 Dicembre 2013, Roma

# Horizon 2020 Energy – First Call!

## Infoday & Brokerage Event

5th/6th December 2013, Brussels, Belgium



6<sup>th</sup> December 2013 Brokerage Event organized by the NCP-Network



### FOCUS

The event will target a wide spectrum of companies, universities and researchers from Europe and beyond and will foster the creation of consortia for the upcoming Horizon 2020 Energy calls on the 3 Focus areas.

- Energy Efficiency
- Competitive Low Carbon Energy
- Smart Cities and Communities

Furthermore other energy related topics are also highly welcome!

### YOUR ADVANTAGES

- Present your innovative ideas/technologies and call the attention of cooperation partners!
- Meet prospective cooperation partners in a **SINGLE** day – reduce the amount of time and money for finding new partners
  - The event is free of charge, registration mandatory.
- Deadlines: 18<sup>th</sup> November - registration of cooperation profiles  
20<sup>th</sup> November – 1<sup>st</sup> December - selection phase for bilateral meetings

**[www.b2match.com/energycall2014](http://www.b2match.com/energycall2014)**



# Punto di Contatto Nazionale

– Chiara Pocaterra

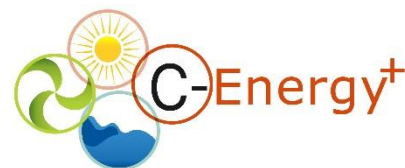
[pocaterra@apre.it](mailto:pocaterra@apre.it)

– Gloria Peasso

[peasso@apre.it](mailto:peasso@apre.it)

La rete dei NCP


[www.c-energyplus.eu](http://www.c-energyplus.eu)



# Per maggiori informazioni:

[http://ec.europa.eu/research/horizon2020/index\\_en.cfm](http://ec.europa.eu/research/horizon2020/index_en.cfm)

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 **RESEARCH & INNOVATION**  
Horizon 2020


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**COUNTDOWN**  
**291**  
DAYS  
Before Horizon  
2020 launch

**HORIZON 2020**  
THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

<p><b>What is Horizon 2020?</b></p> <ul style="list-style-type: none"> <li>• The EU Framework Programme for Research and Innovation</li> <li>• Official documents</li> <li>• Questions &amp; Answers</li> </ul>	<p><b>What's in Horizon 2020 for me?</b></p> <ul style="list-style-type: none"> <li>• Excellent Science</li> <li>• Competitive Industries</li> <li>• Better Society</li> </ul>	<p><b>Why Horizon 2020?</b></p> <ul style="list-style-type: none"> <li>• Europe 2020</li> <li>• Public consultation</li> <li>• Successful EU research</li> </ul>
<p><b>What's next?</b></p> <ul style="list-style-type: none"> <li>• A time line for Horizon 2020</li> <li>• Calendar of events</li> <li>• Experts for Advisory Groups <span>NEW</span></li> </ul>	<p><b>What's your view?</b></p> <ul style="list-style-type: none"> <li>• Video testimonials</li> </ul> <p> Marinella Tabet</p>	<p><b>Press corner</b></p> <ul style="list-style-type: none"> <li>• Press materials</li> <li>• Country profiles and featured projects</li> <li>• Videos by theme</li> </ul>





# GRAZIE PER L'ATTENZIONE!

## APRE

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