



# HORIZON 2020

## Il nuovo quadro europeo di ricerca e Innovazione

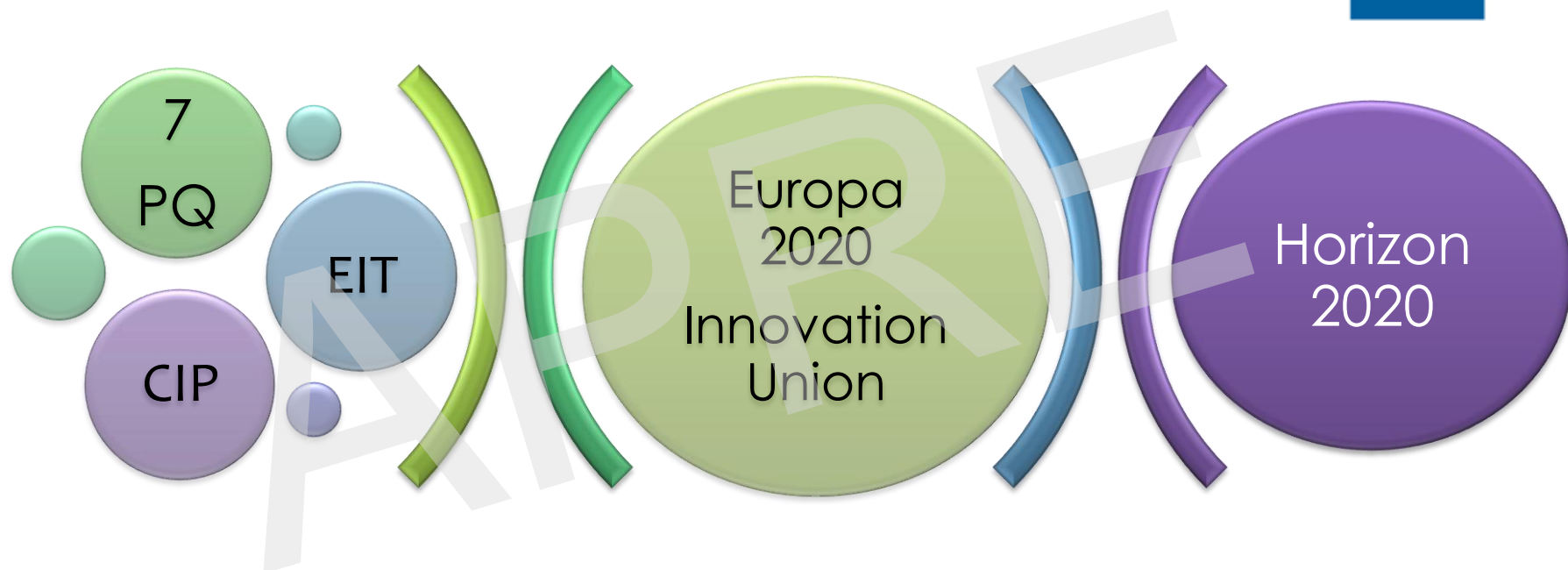
Università degli Studi Roma Tor Vergata  
20 Novembre 2013

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# Verso Horizon 2020



2007 - 2013



2014 - 2020





# PROGRAMMA DEL CORSO

1. Il contesto internazionale e strategico verso Horizon 2020:  
Europa 2020 e Innovation Union
2. Horizon 2020: architettura
3. Horizon 2020: implementazione
4. Il nuovo Research Participant Portal
5. Regole di Partecipazione e criteri di valutazione

# Europa 2020 e Innovation Union



Enterprise  
Europe  
Network

part of the European Union



RINA



**29 % GDP**



**24 % R&D**



**7 % Population**

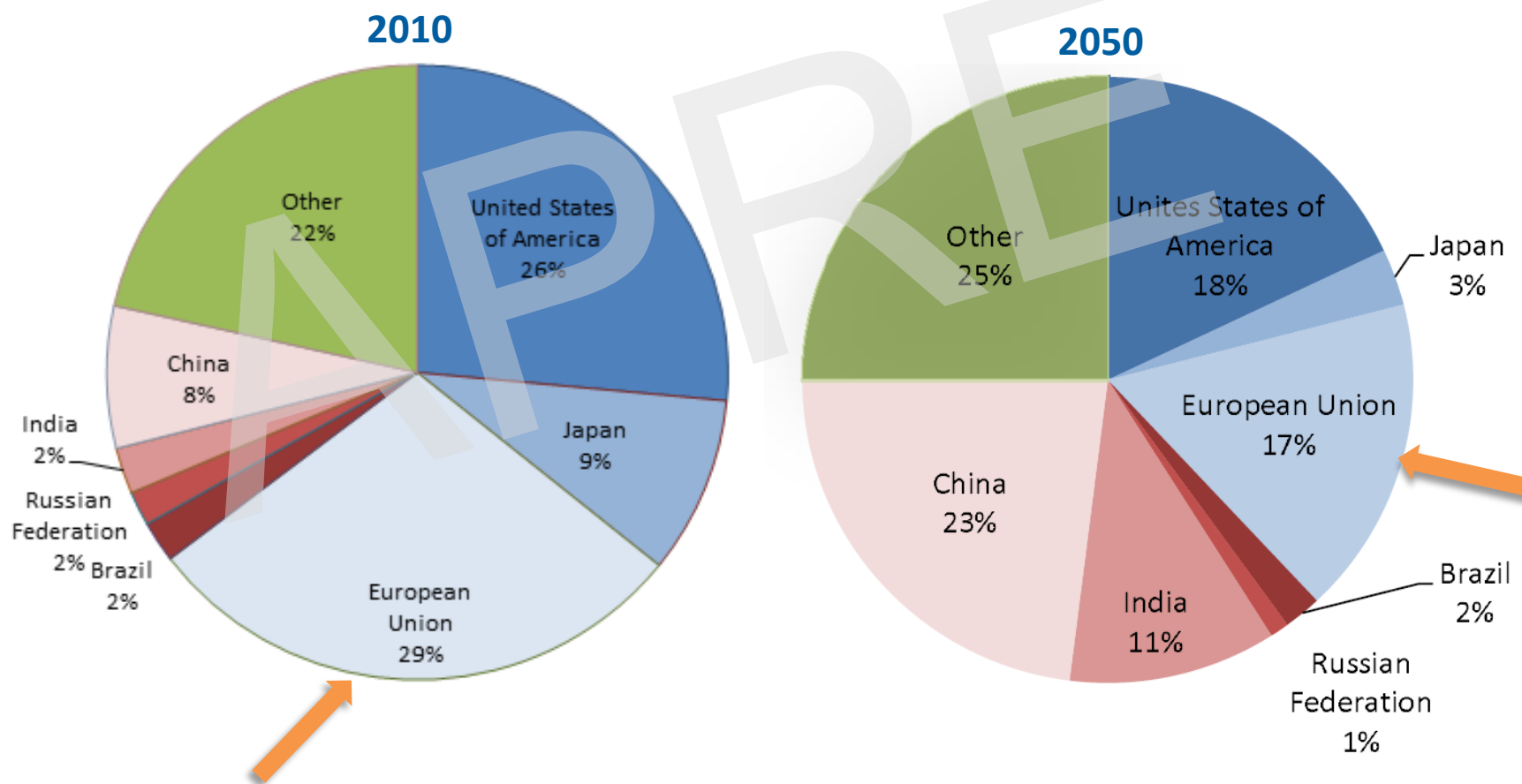


**32 % Pub - Pat**





## Scenari 2010 - 2050

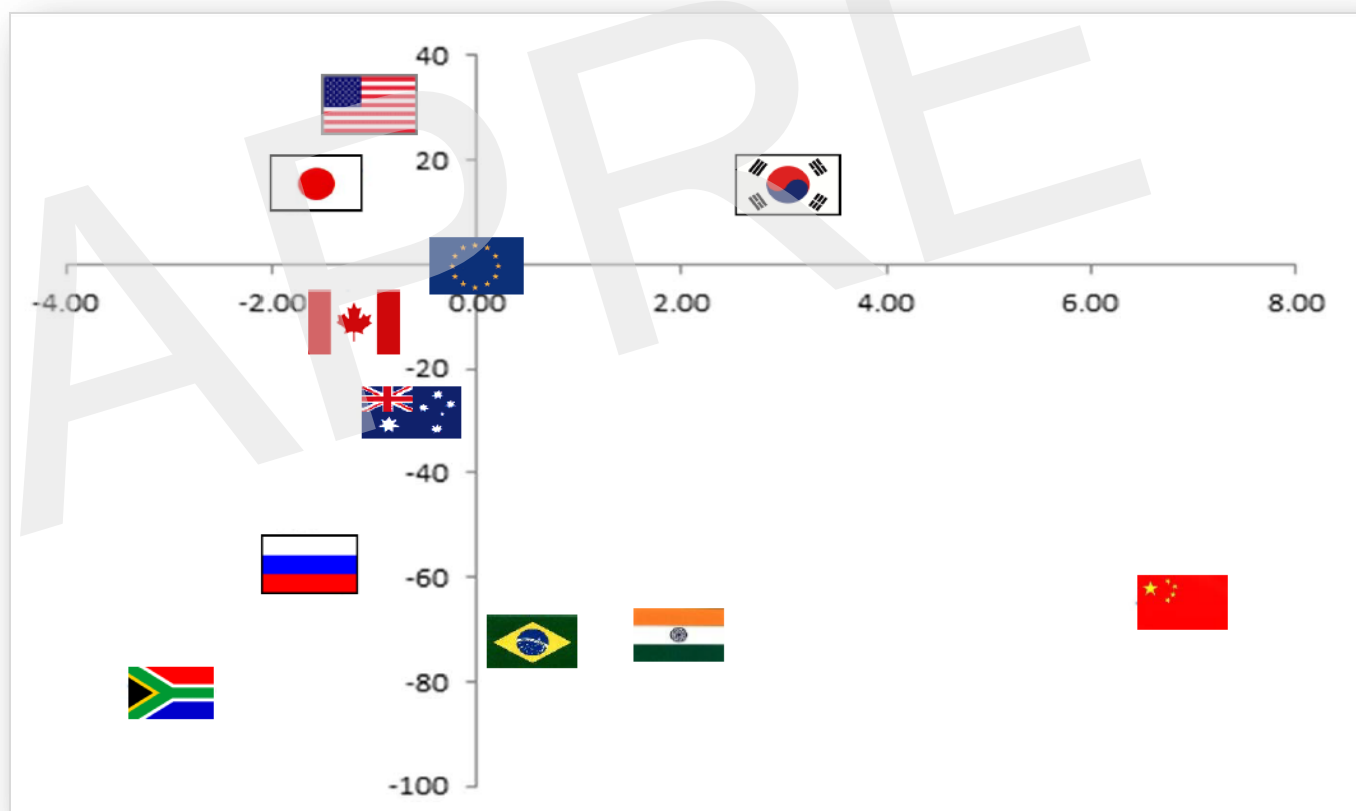


World GDP (constant USD), Source: Global Europe 2050



## Innovation performance nel mondo

Innovation performance lead/gap vis-à-vis the EU (as % of EU performance)



Average annual innovation performance growth lead/gap vis-à-vis the EU (in %)





# Multipolar world in research and innovation /1

Multipolar world in all sectors and also in science

**80%** of *researchers* work outside Europe

**69%** of patent applications are made outside Europe



**75%** of GERD is executed in other parts of the world  
(Gross Expenditure on Research and Development)

EU's world share in GERD has diminished by **7.6%**  
over the previous 6 years

EU's world share of patent application has declined **14.2%**  
over the previous 6 years





## Multipolar world in research and innovation /2

EU-27 is the largest producer of scientific publications in the world (EU 37%, US 31%)

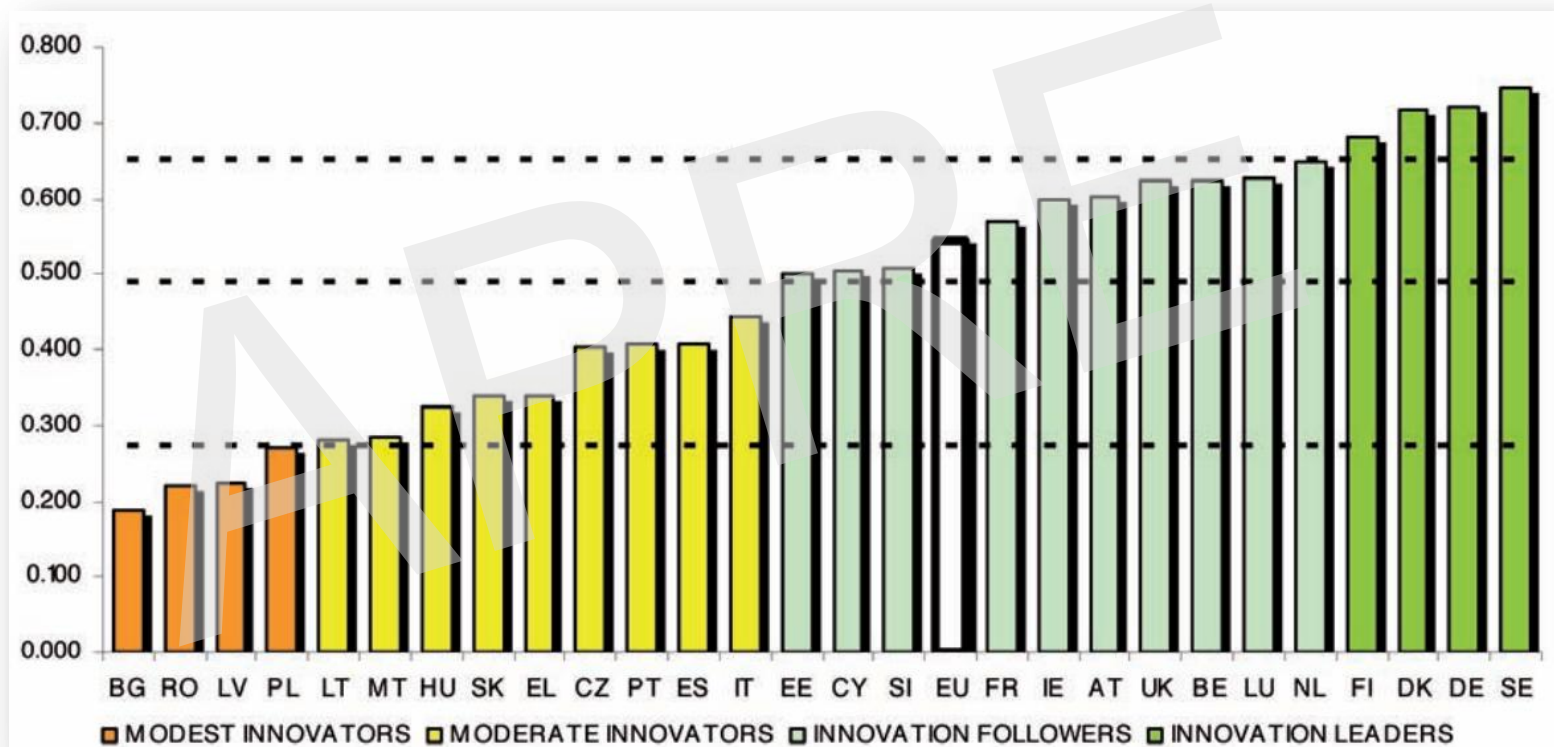
However the EU contributes less than the US to high impact publications (US 1.45%, EU 0.97% - contribution to the 10% most cited publications)

China's share of world scientific publications has more than doubled within six years and is now larger than that of the Japanese





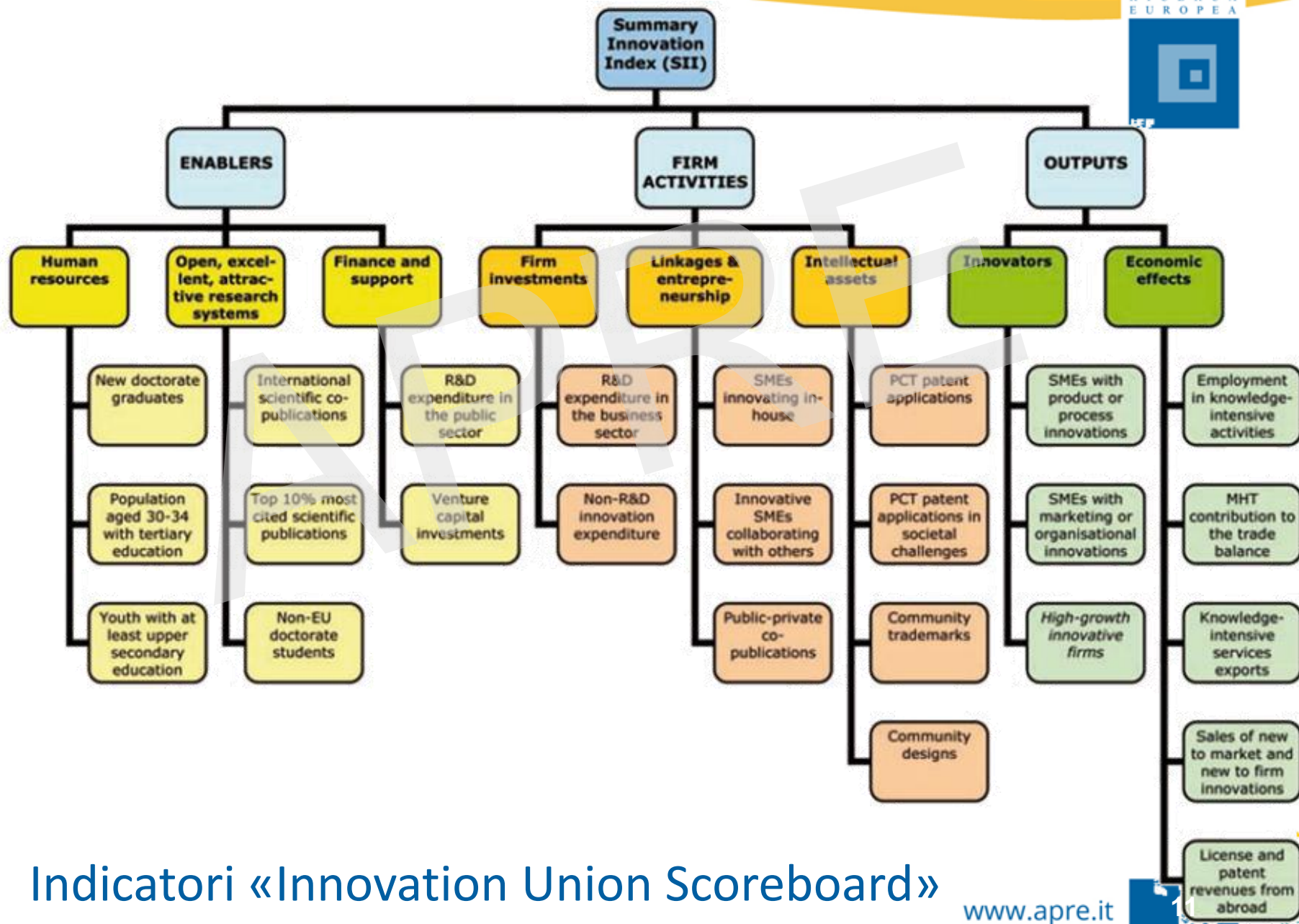
## Stati membri UE: innovation performance



Indicatore generale composto da 24 indicatori – valori compresi tra 0 e 1

\*Innovation Union Scoreboard 2013

[http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index\\_en.htm](http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm)



Indicatori «Innovation Union Scoreboard»



# Cosa condividono gli innovation leaders?

- ottime performance in spese correlate a Business R&D

Spese



- ottime performance in altri indicatori legati ad attività di business

Business



- punteggi alti in co-pubblicazioni scientifiche sia pubbliche che private per milione di abitanti (= correlazione tra scienza e impresa)

Pubblicazioni



- ottima commercializzazione del loro know-how tecnologico (es. indicatore License and patent revenues from abroad)

Know-how



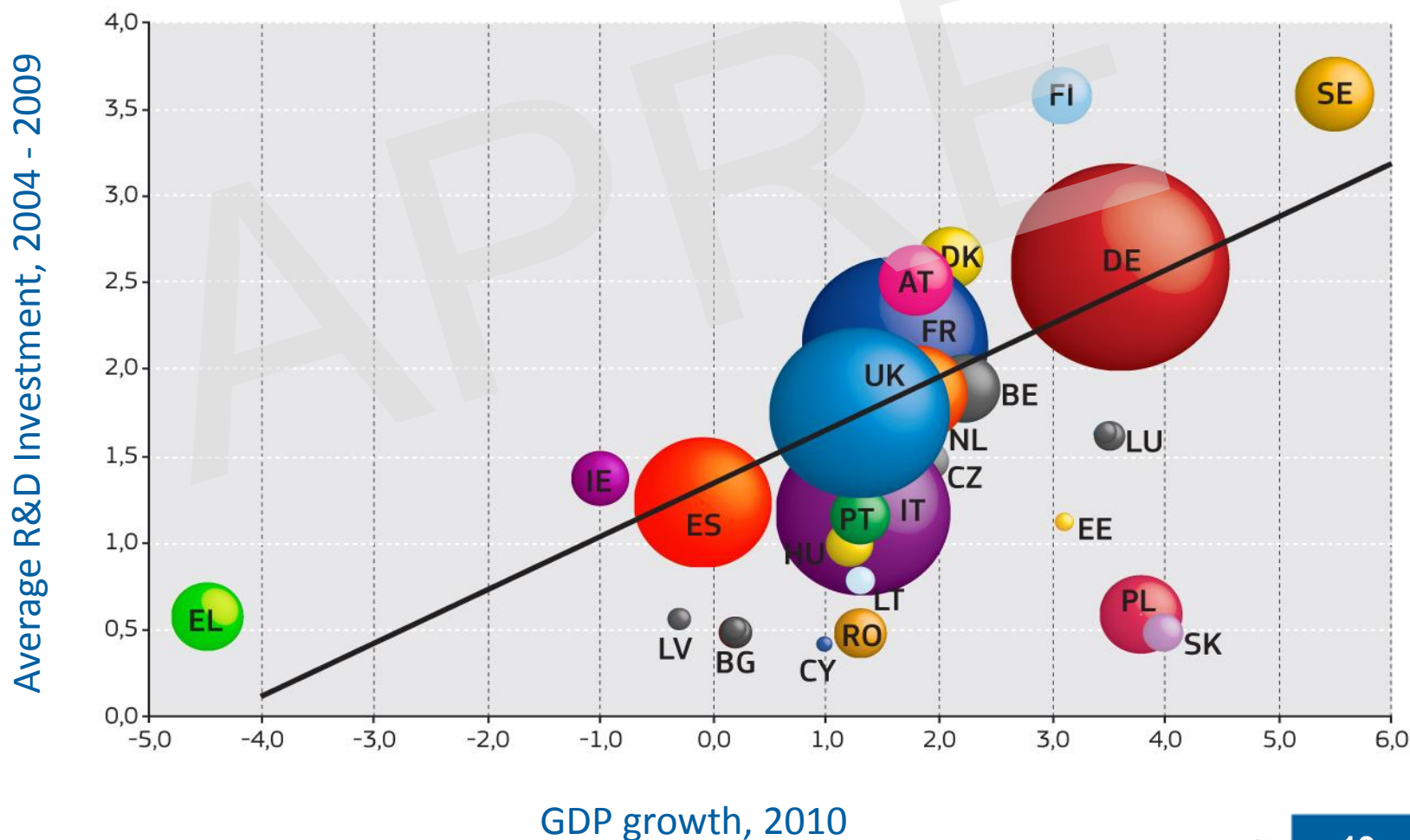
- sistema nazionale di ricerca e innovazione ben bilanciato (= solo piccole variazioni nelle performance relative alle varie dimensioni dell'innovazione)

Sistema R&I





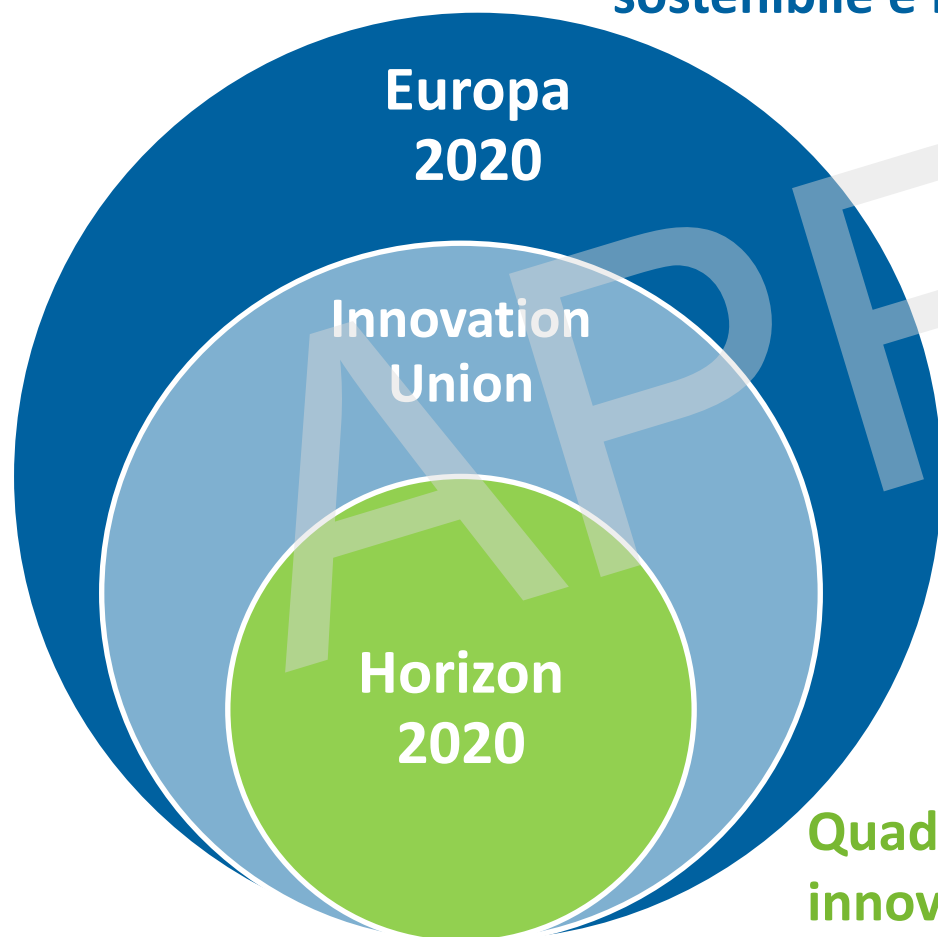
## Che relazione tra R&D e crescita?







## 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)



# "Innovation Union and Horizon 2020: ways to excellence in science, competitive industries and a better



Maire Geoghegan-Quinn  
European Commissioner for Research, Innovation and Science  
Febbraio 2012







# Europa 2020 - 5 obiettivi

## OCCUPAZIONE

75% of the population aged 20-64 should be employed

## R & INNOVAZIONE

**3% del PIL dei Paesi EU investito in R&D**

A reduction of CO2 emissions by 20%

## CLIMA / ENERGIA

A share of renewable energies up to 20%

An increase in energy efficiency by 20%

## FORMAZIONE

The share of early school leavers should be under 10%

At least 40% of the younger generation should have a degree or diploma

## POVERTA'

20 million fewer people should be at risk of poverty



## Le 7 “Flagship Initiatives”

Smart Growth	Sustainable Growth	Inclusive Growth
<p><b>Innovation</b></p> <p>« <u>Innovation Union</u> »</p>	<p><b>Climate, energy and mobility</b></p> <p>« Resource efficient Europe »</p>	<p><b>Employment and skills</b></p> <p>« An agenda for new skills and jobs »</p>
<p><b>Education</b></p> <p>« Youth on the move »</p>	<p><b>Competitiveness</b></p> <p>« An industrial policy for the globalisation era »</p>	<p><b>Fighting poverty</b></p> <p>« European platform against poverty »</p>
<p><b>Digital society</b></p> <p>« A digital agenda for Europe »</p>		



# La Innovation Union/1

1. Training researchers	2. University ranking system	3. Developing new curricula	4. ERA Framework	5. European Research infrastructures	6. Programmes focusing on EU2020	7. Involvement of SMEs in R&I
8. Forum on Forward Looking Activities	9. EIT to expand its activities	10. New financial instruments for private finance	11. Free Venture Capital funds	12. Cross-border matching of innovative firms	13. Review of State aid R&D&I	14. EU Patent
15. Screening of key regulatory frameworks	16. Modernise standard-setting	17. Pre-commercial and public procurements	18. Eco-innovation action plan	19. European Design Board	20. Open access	21. Knowledge transfer
22. European market for patents and licensing	23. Safeguard of IPRs	24. Smart Specialisation	25. Focus on Innovation in the next Structural Funds	26. European Social innovation pilot	27. Research programmes on public sector and social innovation	28. Partners consultation on knowledge economy
29. European Innovation Partnerships	30. Policies for researchers to reside in Europe	31. Scientific cooperation with third countries	32. International agreements on research infrastructures	33. MS to carry out self assessments	34. New indicator for fast-growing companies and monitoring	



# La Innovation Union/2

## RAFFORZARE LA BASE DI CONOSCENZE E RIDURNE LA FRAMMENTAZIONE

- Promuovere l'eccellenza nel campo dell'istruzione e dello sviluppo delle competenze
- Costruire lo Spazio europeo della ricerca
- Concentrare gli strumenti di finanziamento dell'Unione sugli obiettivi prioritari dell'Unione dell'innovazione
- Promuovere l'Istituto europeo di innovazione e tecnologia (EIT) in quanto modello per la gestione dell'innovazione in Europa



## PORTARE LE BUONE IDEE AL MERCATO

- Potenziare l'accesso ai finanziamenti per le imprese innovative
- Realizzare un mercato unico per l'innovazione
- Promuovere l'apertura e trarre vantaggio dal potenziale creativo europeo



# La Innovation Union/3

## MASSIMIZZARE LA COESIONE SOCIALE E TERRITORIALE

- Diffondere uniformemente i vantaggi dell'innovazione in tutta l'Unione
- Aumentare i vantaggi di natura sociale

## UNIRE LE FORZE PER REALIZZARE PROGRESSI DECISIVI: EIP

## POTENZIARE GLI EFFETTI ESTERNI DELLE NOSTRE POLITICHE

- Riformare i sistemi che si occupano di ricerca ed innovazione
- Misurare i progressi compiuti



# Innovation Union: dove siamo?

## Proposte presentate

(include 6 legislative)

- ERA communication (#4)
- Horizon 2020 (#6)
- EIT Strategic Innovation Agenda (#9)
- Venture capital passport (#11)
- Unitary patent (#14)
- Standards (#16)
- Public procurement (#17)
- Eco-innovation Action Plan (#18)
- Structural Funds (#24/#25)
- Preparazione della proposta su headline indicator (#34)

## Lavoro in Partnership

### 5 nuove piattaforme e forum

- European Forum on Forward Looking Activities (#8)
- European Creative Industries Alliance (#19)
- European Design Leadership Board (#19)
- Smart Specialisation Platform (#24)
- European Innovation Partnerships (#29)

## Sperimentazione di nuove idee

### 6 'pilot initiatives' già lanciate

1. Knowledge Alliances (#2)
2. University ranking (#2)
3. Regulatory screening (#15)
4. Support mechanism for procurement of innovative products and services (#17)
5. European Social Innovation pilot (#26)
6. European Public Sector Innovation Scoreboard (#27)



APRE

## Il semestre europeo

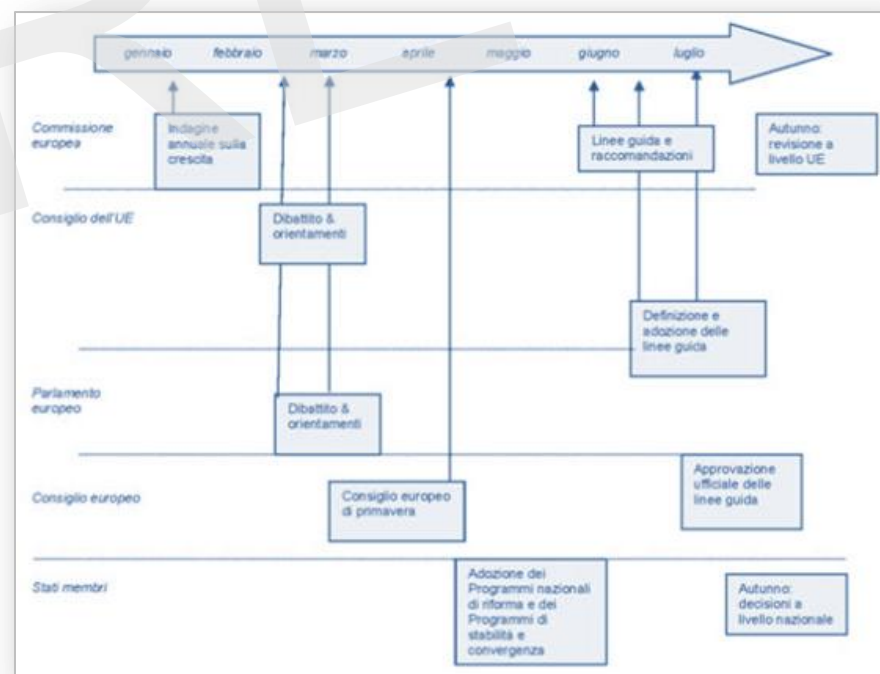


# The European Semester/1

- Ciclo annuale di coordinamento delle politiche economiche durante il quale si analizzano i programmi di riforme strutturali ed economiche di ciascun paese dell'UE rivolgendo poi loro raccomandazioni per i mesi successivi
- Nasce al fine di coordinare e riunire i sforzi individuali degli stati membri in termini di impatto sulla crescita così come definito dagli obiettivi di Horizon 2020



allineamento “Patto di stabilità o convergenza - PSC” e del “Piano Nazionale Riforme - PNR”





# The European Semester/2

## NOVEMBRE 2012: 3RD ANNUAL GROWTH SURVEY

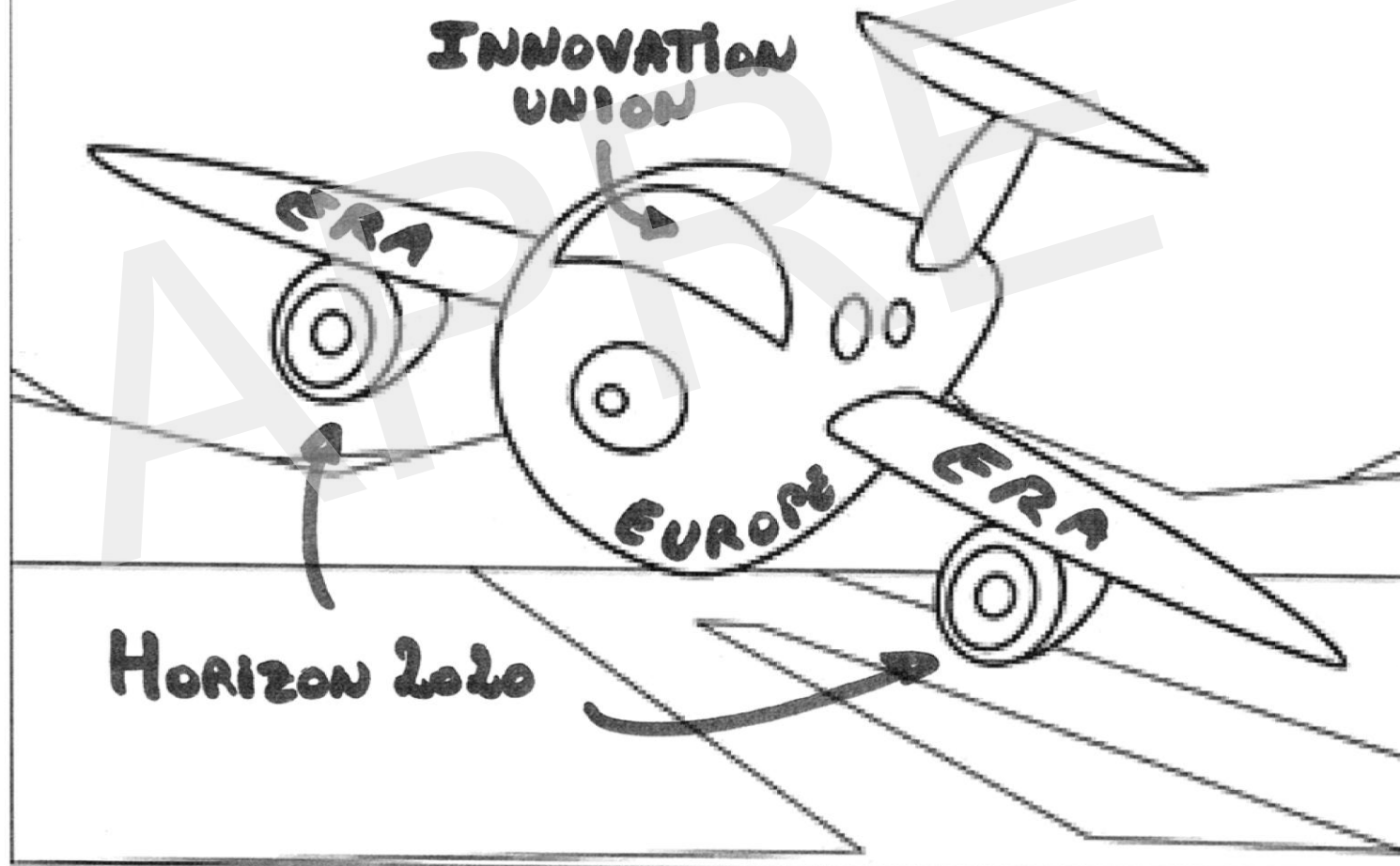
### Priorità 1: "perseguire un consolidamento fiscale differenziato e orientato alla crescita"

- Il consolidamento fiscale deve preservare le future fonti di crescita: Istruzione R&D; Innovazione; Smart research infrastructure;
- attraverso Stability and Convergence Programmes orientati alla crescita;

### Priorità 3: "Promuovere la crescita e la competitività dell'immediato e per il futuro"

- Stimolare l'innovazione, promuovere le nuove tecnologie e aumentare gli investimenti pubblici e privati in R&S







APRE

## European Innovation Partnership



# Le European Innovation Partnerships (EIP)

- Affrontare un **societal challenge** → focus tematico
- Innalzare il livello di **competitività** europea
- Colpire la **frammentazione** di programmi e risorse e stabilire priorità
- Ridurre il **time-to-market** delle nuove scoperte R&D

ATTRAVERSO

**azioni lungo l'intera Research & Innovation chain**

(semplificando e coordinando iniziative e strumenti esistenti, focus su demonstration, regolamentazioni e standard, mobilitando stakeholder...)





## Le European Innovation Partnerships (EIP)/2

- Previsti dall'iniziativa «**Innovation Union**», una delle 7 Iniziative faro della nuova Strategia Europa 2020
- L'intento é di mettere alla prova un nuovo approccio per ricerca e innovazione in Europa
- Finalizzati ad una **specifica problematica**, concentrandosi sui benefici per la società
- Intervengono **su tutta la catena della ricerca e dell'innovazione**. Le partnership riuniscono tutti gli operatori rilevanti a livello di Unione, nazionale e regionale
- Servono a razionalizzare, semplificare e coordinare meglio iniziative e strumenti esistenti integrandoli all'occorrenza con nuove attività
- Ad oggi esistono **cinque** EIP



# Quale EIP?

Active &  
Healthy  
Ageing



Agricultural  
Productivity &  
Sustainability



Raw Materials



Smart Cities &  
Communities



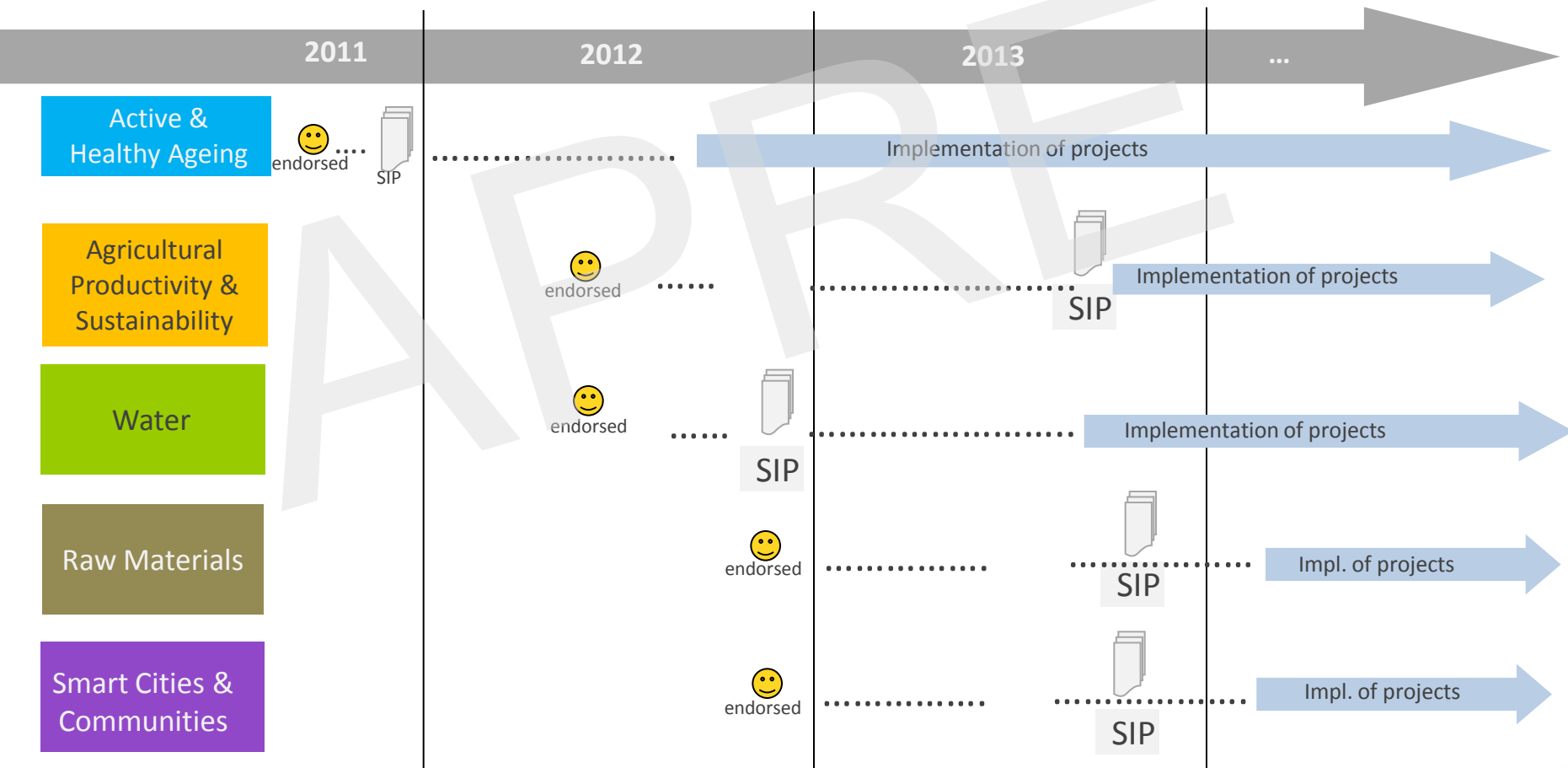
Water







# Il piano temporale delle EIP



SIP = Strategic Implementation Plan



# La Pilot EIP “Active and Healthy Ageing”

**Target entro il 2020:**

Aggiungere **2 anni di vita sana** alla media europea



## Pillar I

Prevenzione,  
screening e diagnosi  
precoce

## Pillar II

Care & cure

## Pillar III

Invecchiamento  
attivo e vita  
indipendente

STRATEGIC  
IMPLEMENTATION  
PLAN



## Added Value

- Collaborative innovation
- Building synergies

### Improving

health & quality of life of European citizens, incl. older people

### Supporting

long-term sustainability & efficiency of Europe's health and social care systems

### Fostering

competitiveness & markets for innovative products & services = growth and jobs

A TRIPLE WIN  
FOR EUROPE



APRE

... per finire



European Commission

INNOVATION UNION

A Europe 2020 Initiative

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**Innovation Union means**  
*More jobs, improved lives, better society*

**European Innovation Partnerships**

European Innovation Partnerships (EIPs) are a new approach to EU research and innovation. EIPs are challenge-driven, focusing on societal benefits and a rapid modernisation of the associated sectors and markets.

EIPs act across the whole research and innovation chain, bringing together all relevant actors at EU, national and regional levels in order to: (i) step up research and development efforts; (ii) coordinate investments in demonstration and pilots; (iii) anticipate and fast-track any necessary regulation and standards; and (iv) mobilise 'demand' in particular through better coordinated public procurement to ensure that any breakthroughs are quickly brought to market. Rather than taking the above steps independently, as is currently the case, the aim of the EIPs is to design and implement them in parallel to cut lead times.

EIPs streamline, simplify and better coordinate existing instruments and initiatives and complement them with new actions where necessary. This should make it easier for partners to co-operate and achieve better and faster results compared to what exists already. Therefore, they build upon relevant existing tools and actions and, where this makes sense, they integrate them into a single coherent policy framework. Flexibility is important; there is not a 'one-size-fits-all' framework.

EIPs are launched only in areas, and consist only of activities, in which government intervention is clearly justified and where combining EU, national and regional efforts in R&D and demand-side measures will achieve the target quicker and more efficiently.

European Innovation Partnership

**Active & Healthy Ageing**

European Innovation Partnership

on Agricultural Sustainability and Productivity

Proposed European Innovation Partnership

**on Smart Cities and Communities**

European Innovation Partnership

on **Water**

European Innovation Partnership

**Raw Materials**

[http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=eip](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=eip)



# Informazione e monitoraggio on-line

The Innovation Union  
Information and  
Intelligence System



<http://i3s.ec.europa.eu/>