



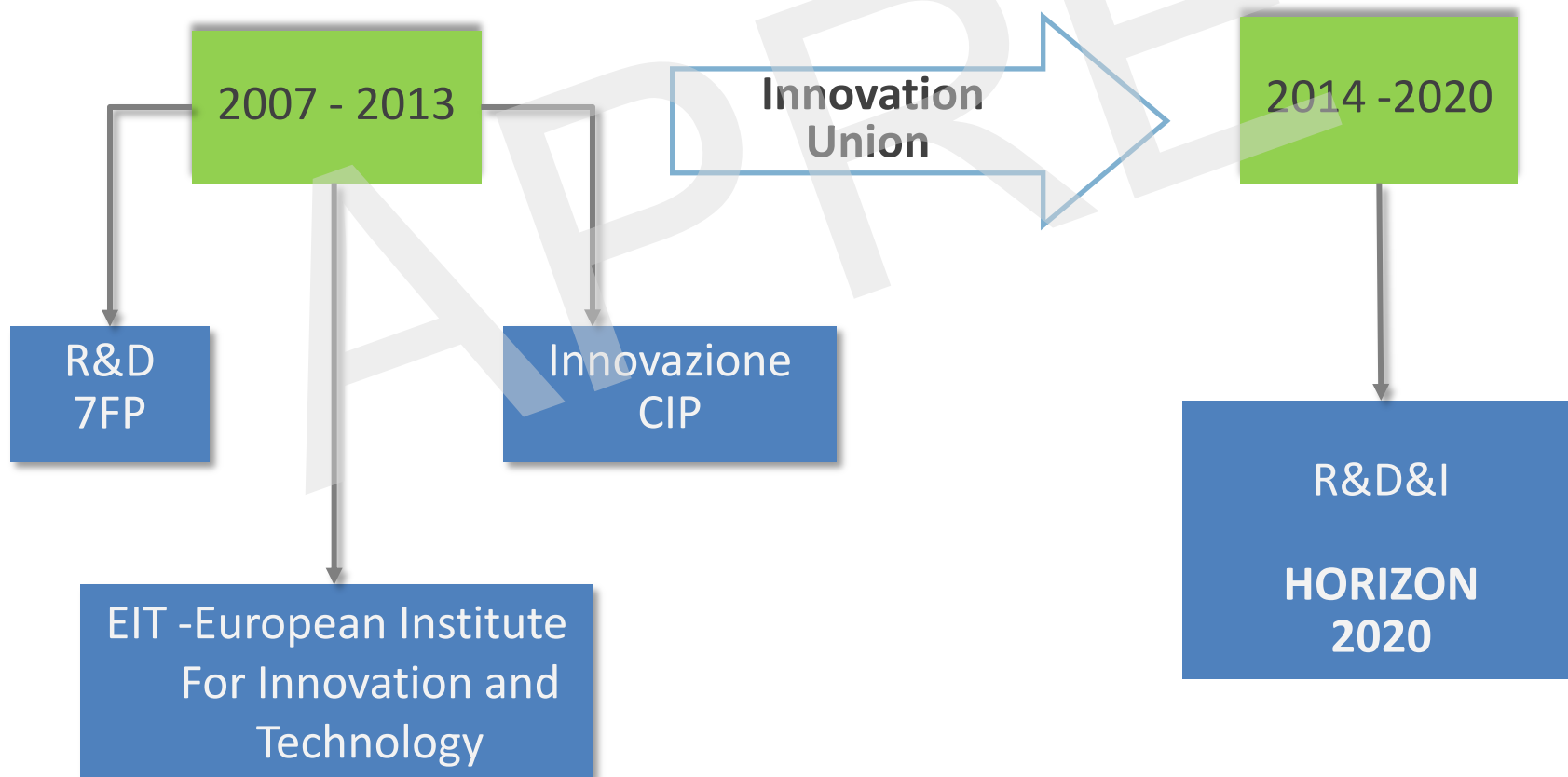
Horizon 2020

La proposta della Commissione e
aree di attività

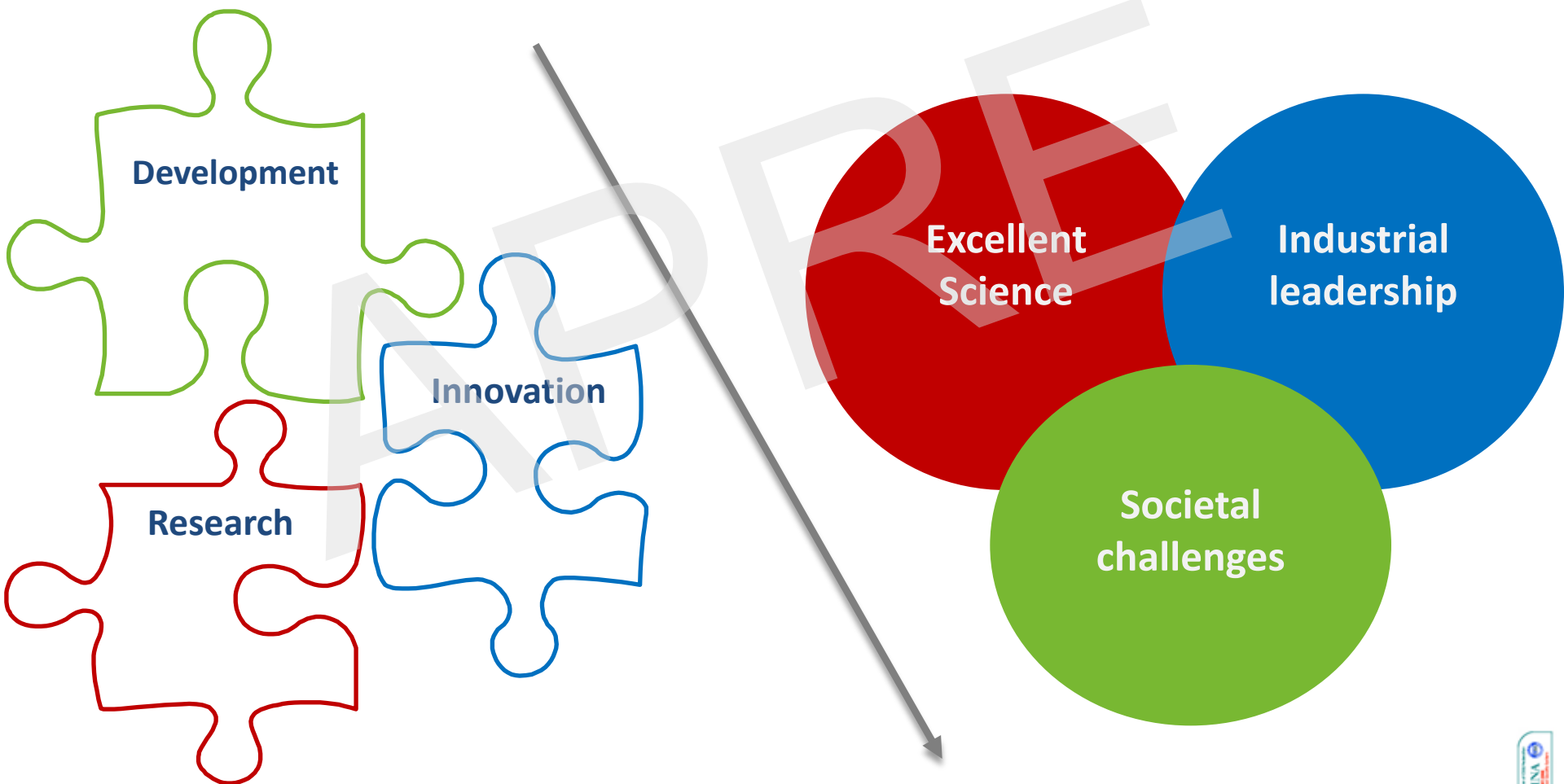
PARTE I



Verso un unico programma R&D&I

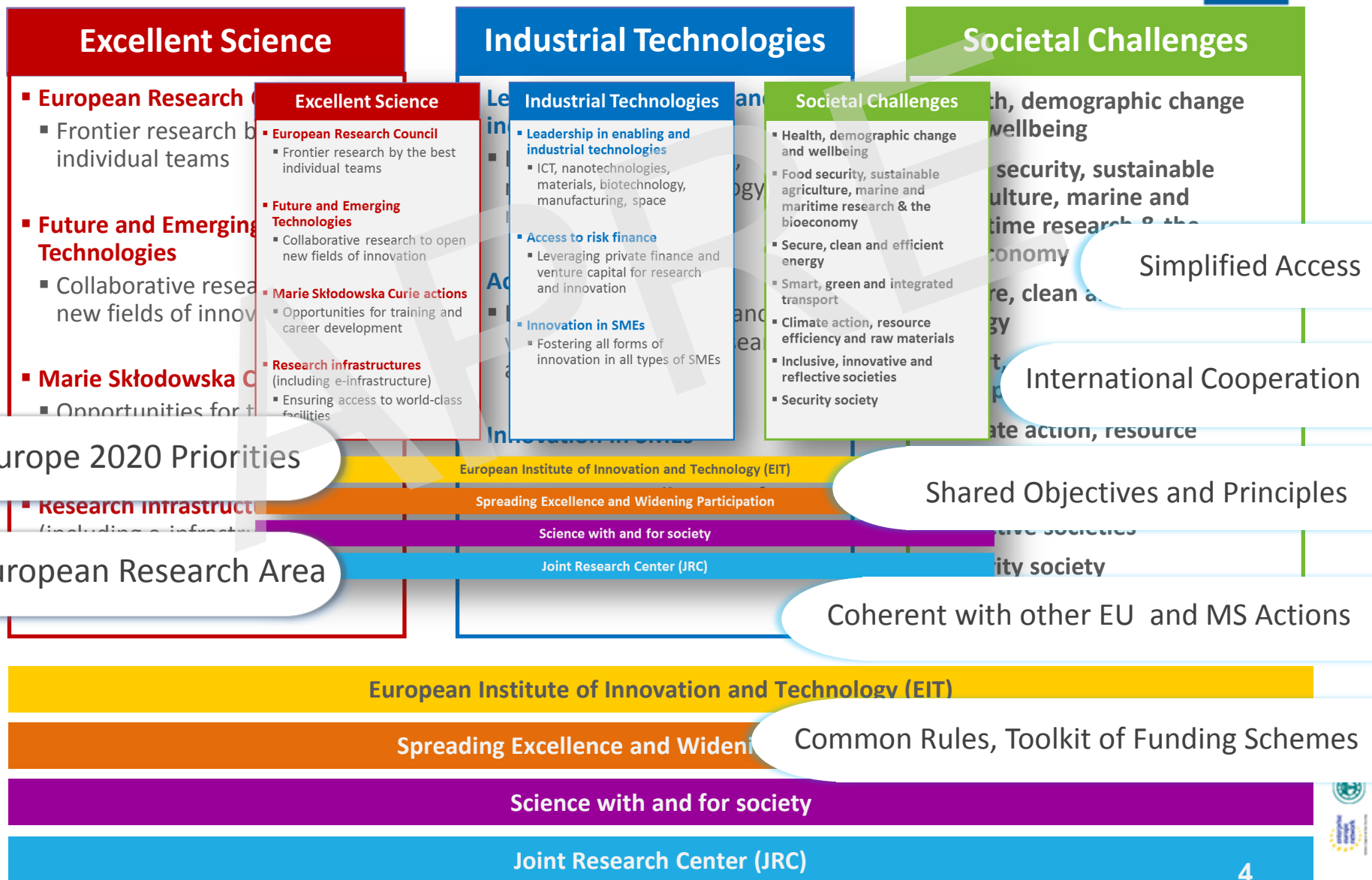


Un progetto in Horizon 2020...



...a stronger, clear focus

Struttura del programma



Caratteristiche

- Un **singolo programma** che riunisce tre iniziative fino ad ora separate
- **Value chain** che va dalla ricerca di frontiera , allo sviluppo tecnologico, dimostrazione, valorizzazione dei risultati e innovazione
- **Innovazione**, in tutte le sue forme
- Focus su **societal challenges**
- **Accesso semplificato** per le imprese, le università, etc in tutti gli stati europei
- Sinergie con i **Fondi Strutturali**

Cosa cambia?

7PQ

- Linear thematic calls
- Research plan
- Focus on R&D
- Quantity driven
- Resource intensive
- Linear approach (project design)
- Focus on output



Horizon 2020

- Challenge based calls (inter-pillars)
- Business plan
- Focus on added value of Innovation
- Demand/value driven
- Brain intensive (engineering)
- Synergistic approach (*programme engineering* -SF)
- Focus on outcome





THEMATIC
BASED

NEW CONCEPT

CHALLENGE BASED -
SYSTEMIC

Budget proposto

 <p>European Commission</p>	Commissione Europea 80 miliardi €
 <p>EUROPEAN PARLIAMENT</p>	Parlamento Europeo 100 miliardi €
 <p>CONSILIUM</p>	Consiglio Europeo 70 miliardi €

Accordo sul Budget

*28 Giugno 2013

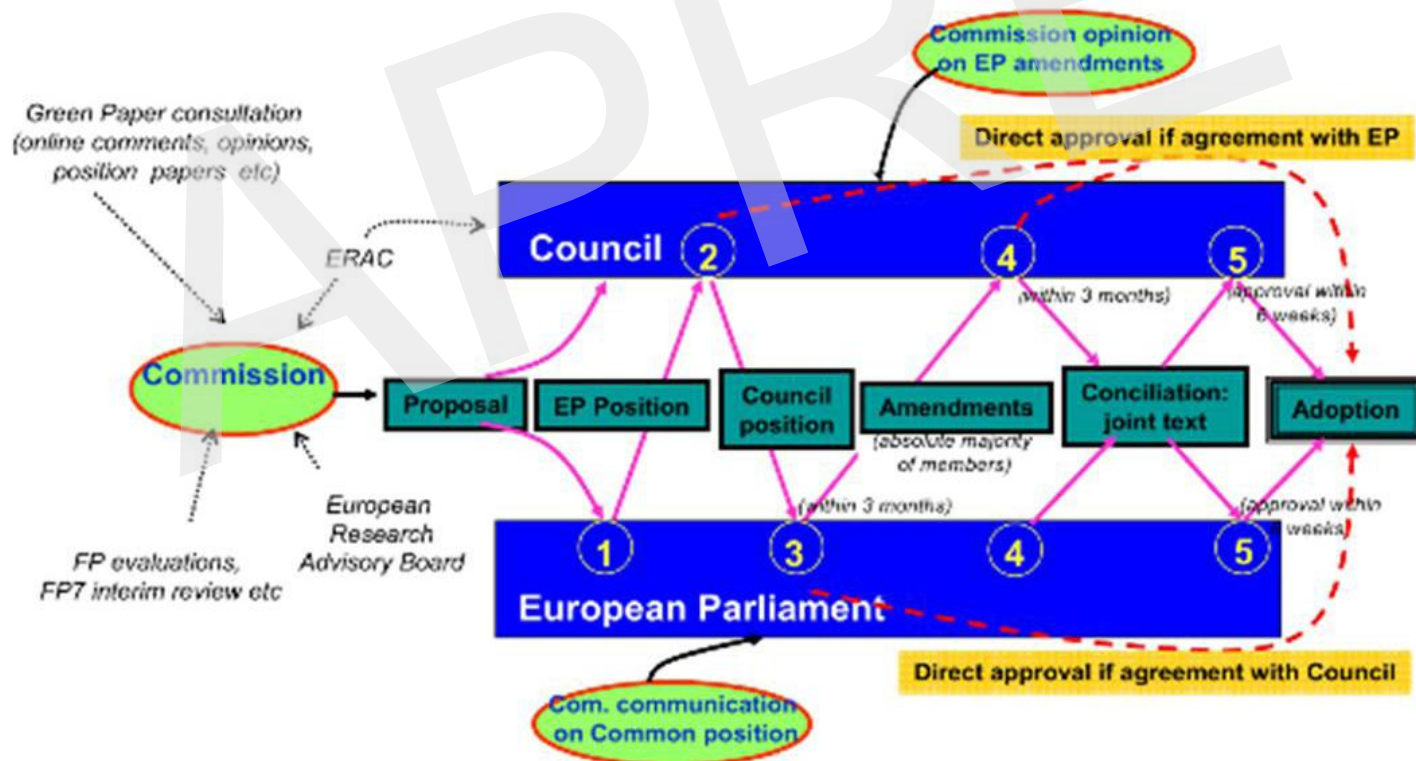


70,2 Miliardi di €
(incluso EURATOM)













Quadro finanziario pluriennale
2014/2020 - MFF

Il processo di adozione

The “Ordinary legislative procedure” (ex “co-decision”)



CALENDARIO

	TIMING	SOGGETTI COINVOLTI
Proposta Commissione sul Quadro Finanziario Pluriennale 2014-2020 Link	6 Luglio 2011	
Proposta Commissione su Horizon 2020	30 Novembre 2011	
 Regolamento che istituisce il Programma Quadro di R&I - Horizon 2020 Link		
 Regole di partecipazione e di diffusione Link		
 Programma specifico recante attuazione di Horizon 2020 Link		
Partial General Approach del Consiglio sul Programma Quadro Link	Maggio 2012	
Partial General Approach del Consiglio sulle regole di partecipazione e di diffusione Link	Ottobre 2012	
Voto al Parlamento Europeo del Comitato ITRE (documento del Trilogo) Link	Novembre 2012	
Partial General Approach del Consiglio sul Programma Specifico Link	Dicembre 2012	
Consiglio Europeo sul Quadro Finanziario Pluriennale Link	7-8 febbraio 2013	
Voto in plenaria del PE sul Quadro Finanziario Pluriennale Link	13-14 marzo 2013	
Voto in plenaria del PE su H2020 * <i>interrogazioni</i>	10 – 13 giugno 2013	
Adozione della posizione comune del Consiglio sul Quadro Finanziario Pluriennale	27-28 giugno 2013	
Conciliazione tra PE e Consiglio sul regolamento di H2020	9 Luglio 2013	
⇒ Parlamento Europeo: adozione del regolamento di H2020	20 -21 Novembre 2013	
⇒ Consiglio Europeo formale: adozione del regolamento di H2020	10 Dicembre 2013	
⇒ Lancio di H2020 e dei primi bandi	11 Dicembre 2013	

Accordo sul Budget

*28 Giugno 2013

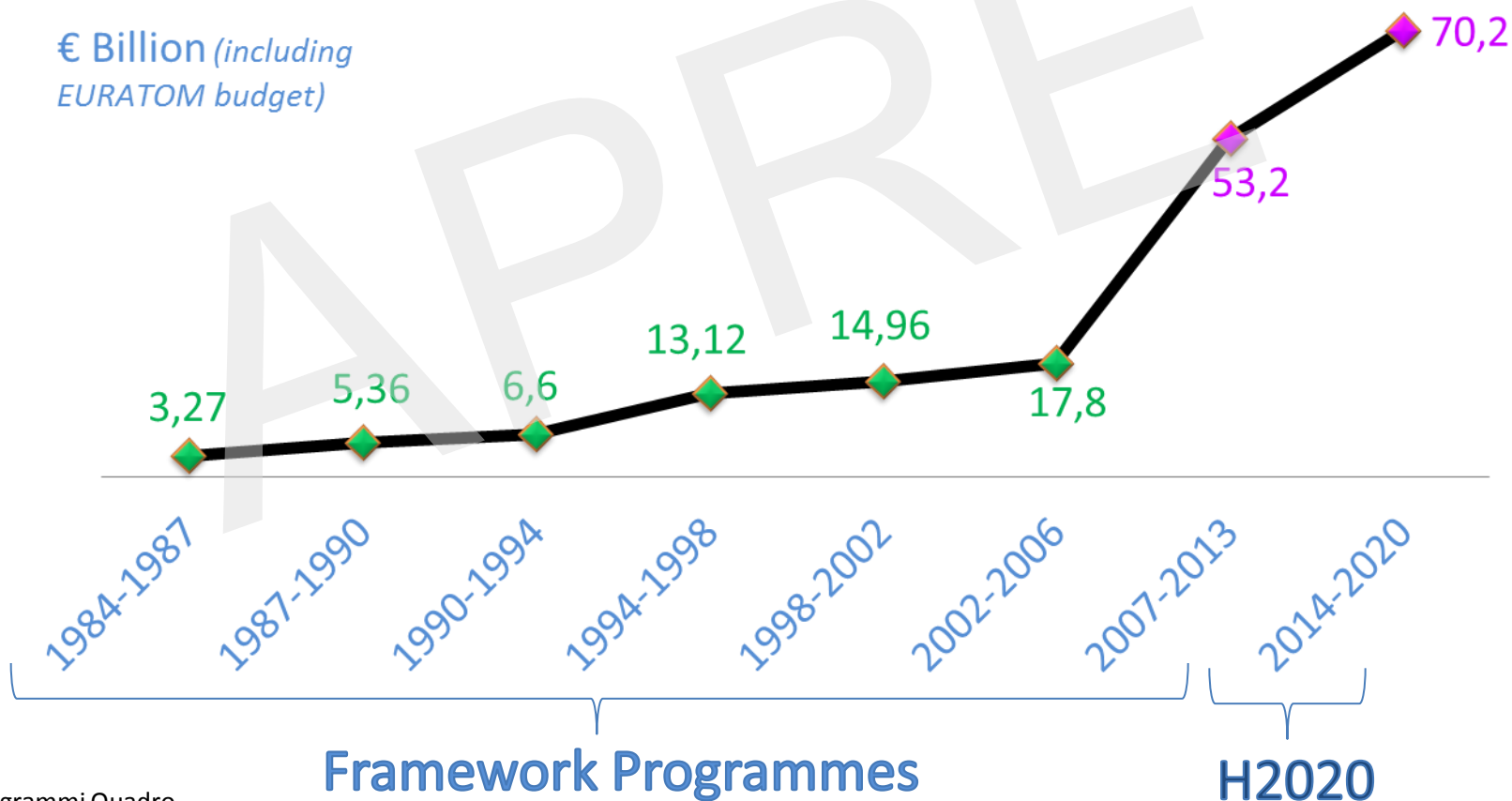


70,2 Miliardi di €
(incluso EURATOM)

Quadro finanziario pluriennale
2014/2020 - MFF

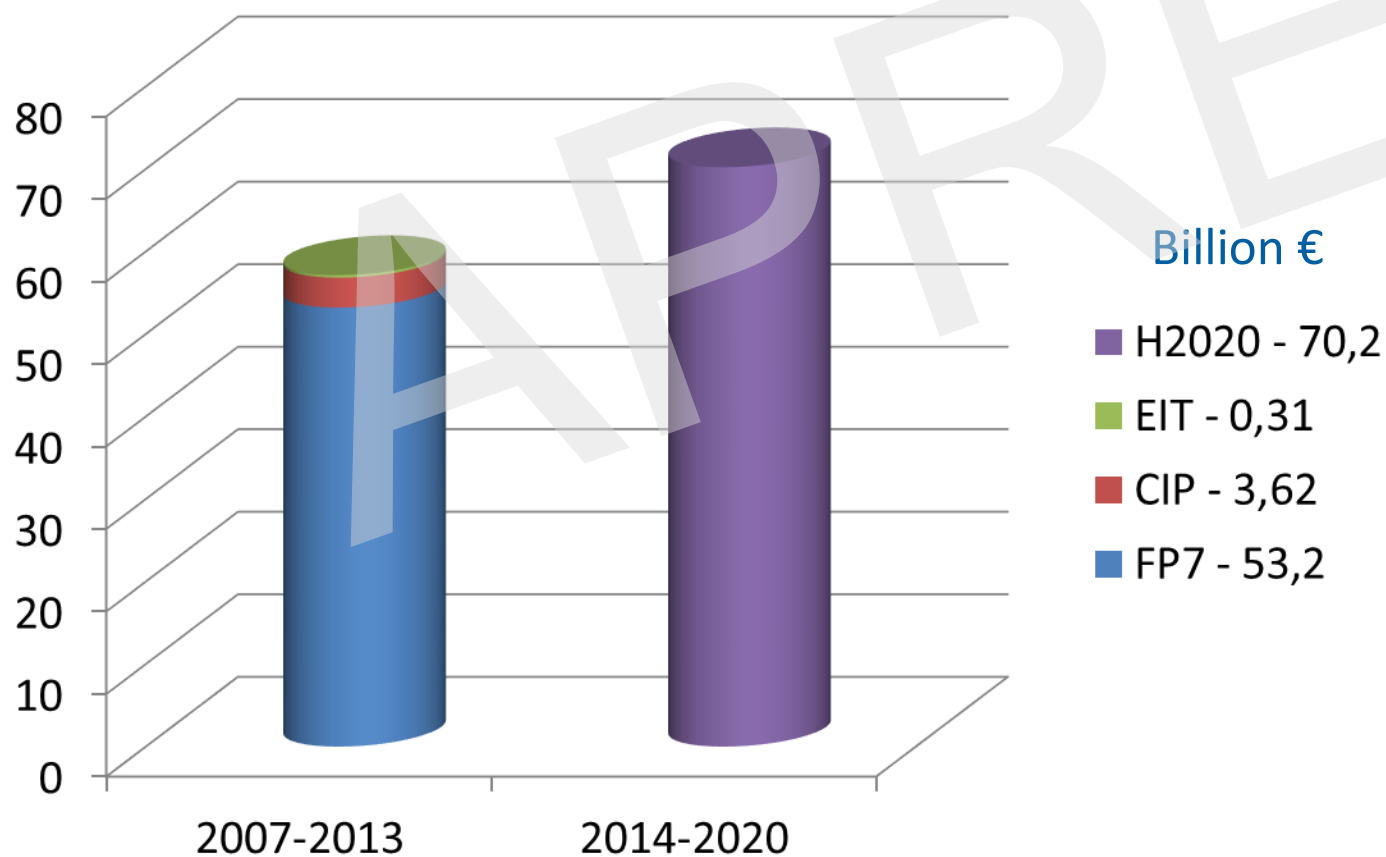
Budget da FP1 a Horizon 2020

€ Billion (including
EURATOM budget)

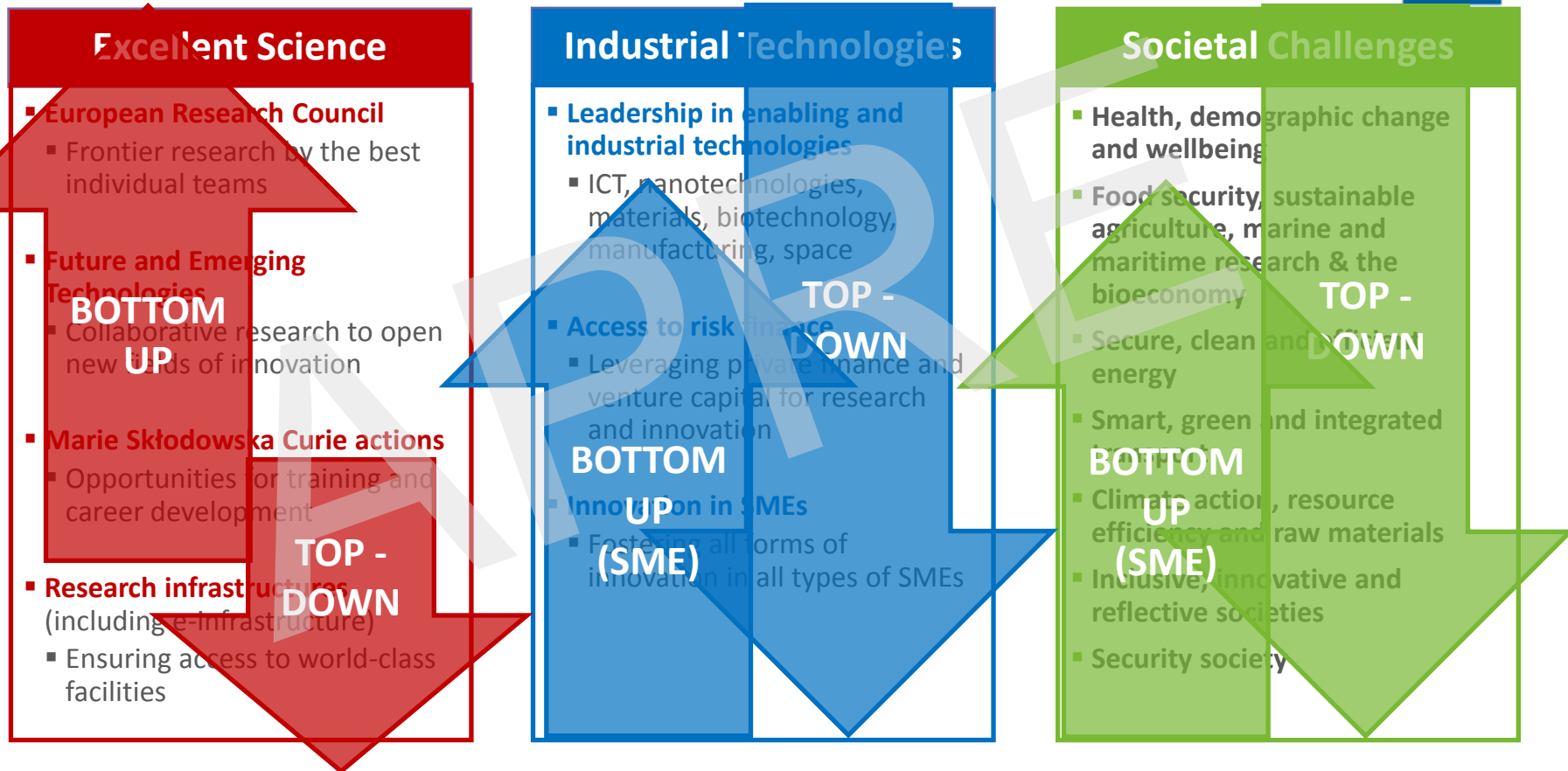


- Programmi Quadro quadriennali e quinquennali
- Programmi Quadro settennali.

Budget: past & present



Struttura del programma



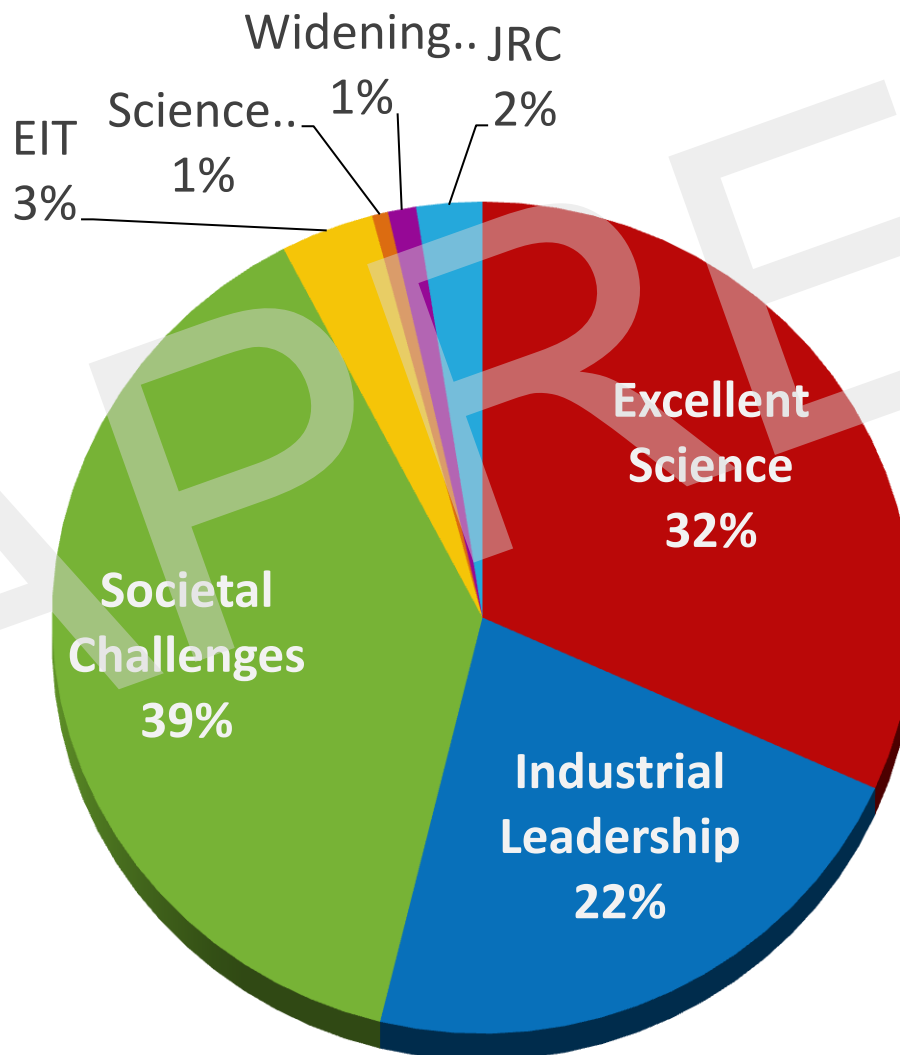
European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

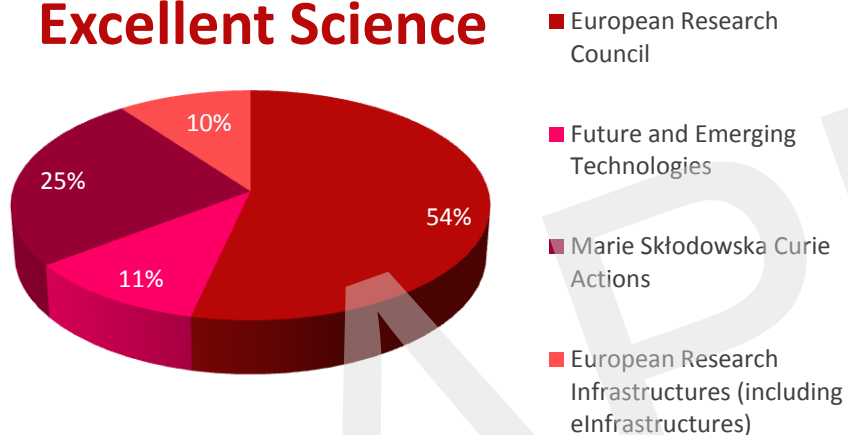
Ripartizione finanziaria



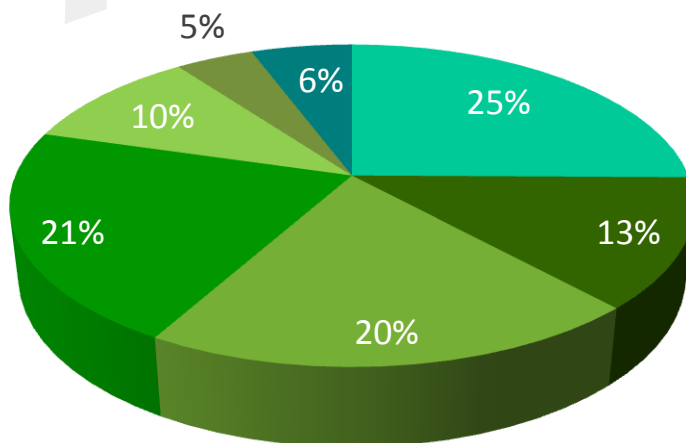
* proposta del Trilogo del 27-06-13

Il budget per le attività

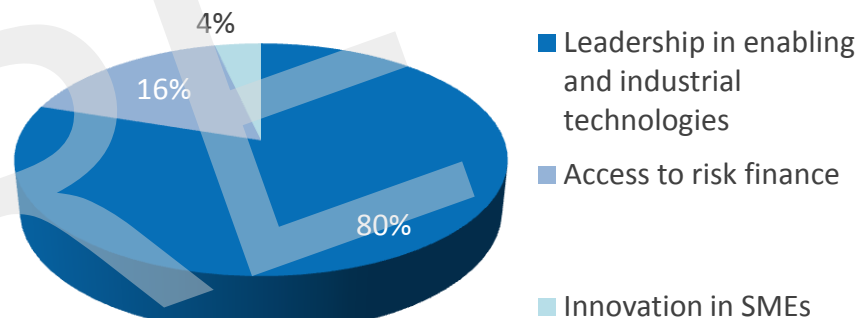
Excellent Science



Societal challenges



Industrial Leadership

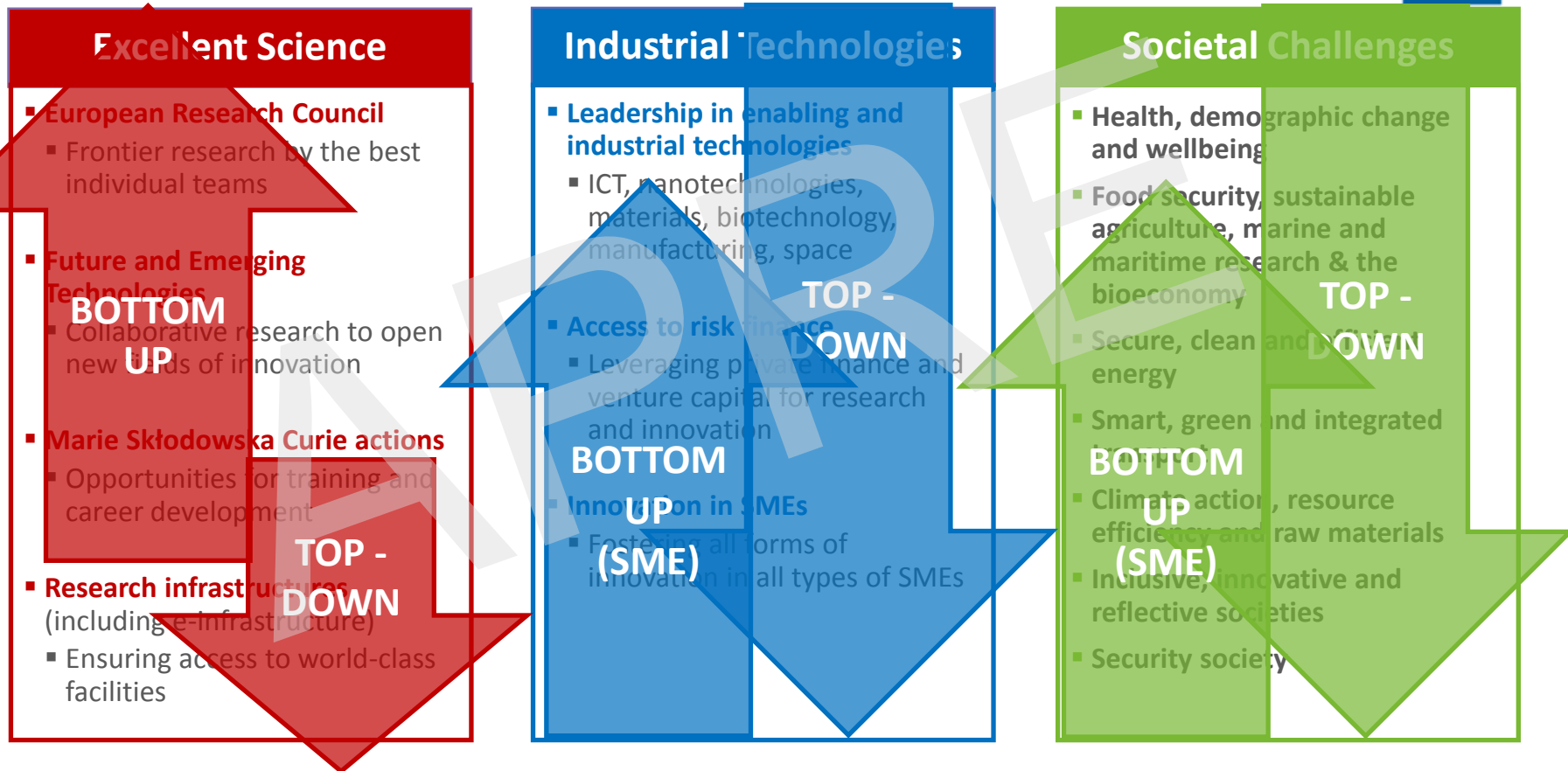


- Health, demographic change and wellbeing
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy:
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, environment, resource efficiency and raw materials
- inclusive, innovative and reflective Societies
- Secure Societies

II budget per le attività /2

	Compromise % 27.06.13	Million € (27.06.13)
I. Excellent Science, of which:	31,73%	21.609
1. ERC	17,00%	11.577
2. FET	3,50%	2.384
3. MS Curie Actions	8,00%	5.448
4. Research Infrastructures	3,23%	2.200
II. Industrial Leadership, of which:	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
II.I Societal Challenges, of which:	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
Secure, clean and efficient energy	7,70%	5.244
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
Spreading Excellence and Widening Participation	1,06%	722
Science with and for society	0,60%	409
European Institute of Innovation and Technology - EIT	3,52%	2.397
JRC Non-nuclear	2,47%	1.682
EURATOM		2.098
Total	100,00%	70.200

Struttura del programma



European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

1° PILLAR

EXCELLENT SCIENCE



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**
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- **Inclusive, innovative and reflective societies**
- **Security society**

European Institute of Innovation and Technology (EIT)

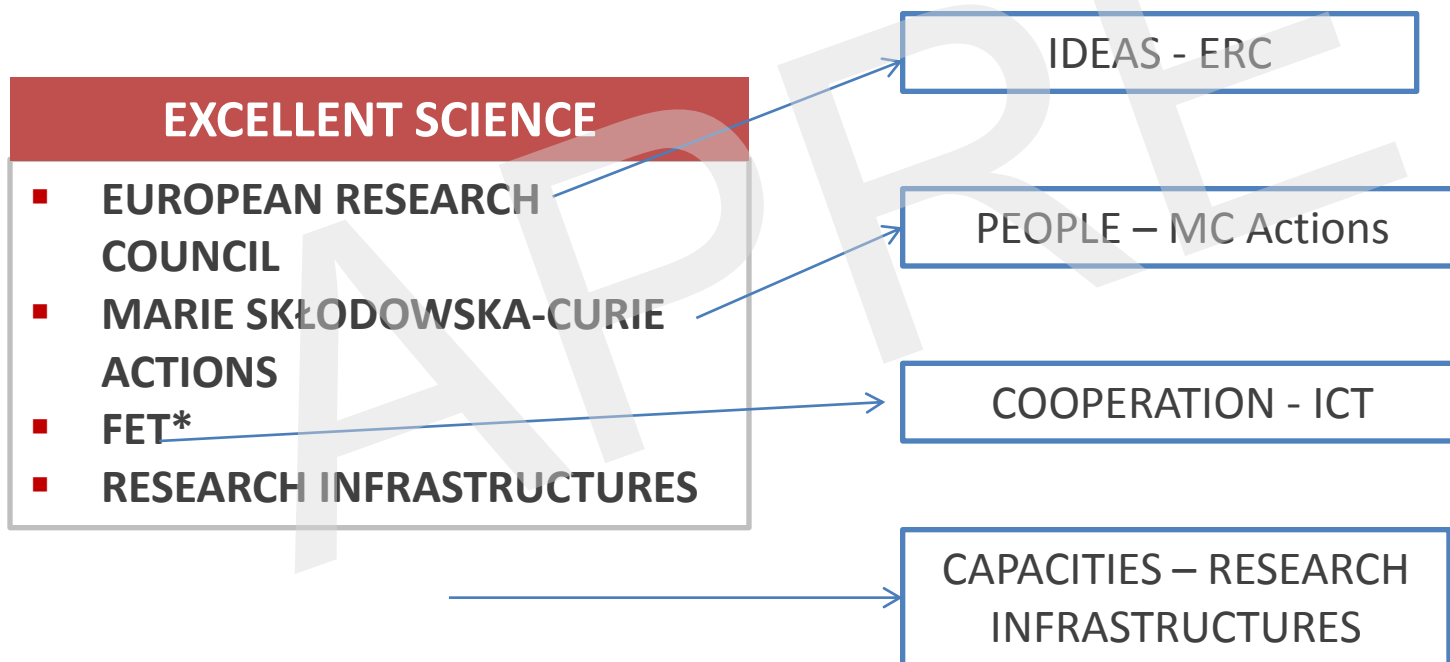
Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

H2020

FP7



*Le FET, che nell' FP7 riguardavano solo ICT, in H2020 saranno trasversali ad altre tematiche.

Excellent Science/1

Razionale:

- La Scienza di Eccellenza è alla base delle tecnologie di domani, del lavoro e del benessere
- L'Europa ha bisogno di formare, attrarre e trattenere i ricercatori talentuosi
- I ricercatori necessitano l'accesso alle migliori infrastrutture

Excellent Science /2



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.

Excellent Science /1

Budget proposto (milioni di €)



22.274 M €

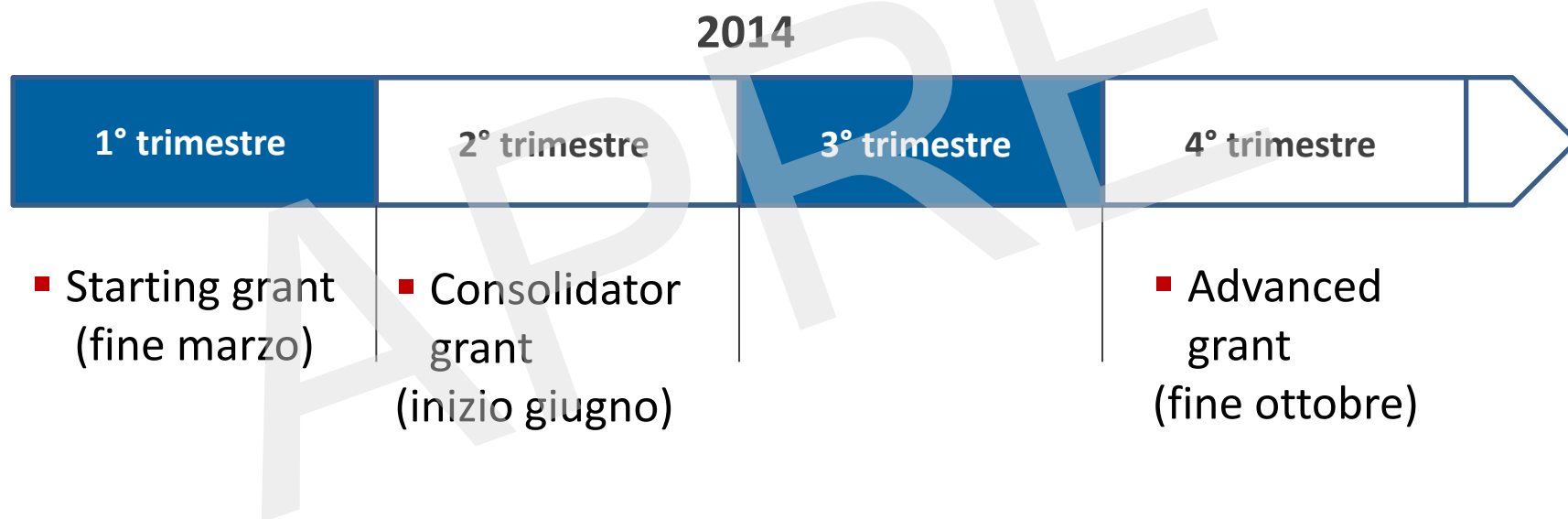
	EC	EP	Compromise 27.06.13
European Research Council	15.008	13.268	11.934
Future and Emerging Technologies	3.505	3.100	2.457
Marie Skłodowska-Curie Actions	6.503	5.572	5.616
Research Infrastructures	2.802	2.478	2.267

Consiglio Europeo della Ricerca

- Nella proposta non sono evidenziati gli schemi di finanziamento
- ERC organo indipendente
- Schemi

FP7	Eleggibilità
ERC Starting	2-7 anni dal phd
ERC Consolidator	7-12 anni dal phd
ERC Advanced	Almeno 10 anni di esperienza on ricerca
ERC Sinergy	<ul style="list-style-type: none"> • Da due a quattro PI • transdisciplinarietà
ERC Proof of Concept	Per grantees finanziati

ERC: Calls 2014*



- Synergy grant: no call nel 2013 e 2014
- Proof of Concept: 1 call con doppia scadenza nel 2014 (inizi di aprile e di ottobre)

*proposta ERC, da approvare

FET – Future and Emerging Technologies

- Expanded from ICT to be used as cross-cutting instrument
- Supports frontier research: alternative ideas, concepts or paradigms of risky or non-conventional nature

FET Open

fostering novel ideas. Collaborative research for embryonic, high risk visionary science and technology

FET Proactive

Nurturing emerging themes and communities

FET Flagship

Tackling grand interdisciplinary science and technology challenges

Marie Skłodowska-Curie Actions - MSCA

ITN

(including EID and IDP)



**Innovative
Training
Networks (ITN)**

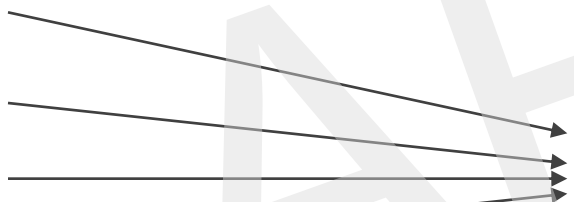
Doctoral and initial training of researchers proposed by international networks of organisations from public and private sectors

IEF

IOF

IIF

CIG

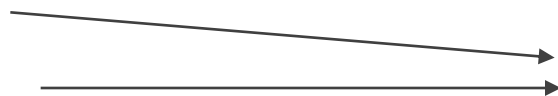


**Individual
Fellowships
(IF)**

Individual fellowships for most promising experienced researchers to develop their skills through international or inter-sector mobility

IAPP

IRSES



**R&I Staff
Exchange
(RISE)**

International and inter-sector cooperation through the exchange of research and innovation staff

COFUND



COFUND

Co-funding of regional, national and international programmes

Research Infrastructures

1. Developing the European RIs for 2020 and beyond

- Developing **new world-class RIs**
- **Integrating and opening national and regional RIs of pan-European interest**
- Development, deployment and operation of ICT based **e-Infrastructures**

2. Fostering the **innovation** potential of RIs and their **human resources**

3. Reinforcing European RI **policy** and **international cooperation**



2° PILLAR

INDUSTRIAL LEADERSHIP



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)
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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**
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European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

H2020

FP7

INDUSTRIAL LEADERSHIP

- ICT
- NANOTECHNOLOGIES
- ADVANCED MATERIALS
- MANUFACTURING
- BIOTECHNOLOGY
- SPACE

COOPERATION - ICT

COOPERATION - NMP

COOPERATION - HEALTH

COOPERATION - KBBE

COOPERATION - SPACE

Industrial Leadership/1

Budget proposto (milioni di €)



15.507 M €

	EC	EP	Compromise 27.06.13
Leadership in enabling and industrial technologies (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	15.580	13.781	12,355
Access to risk finance Leveraging private finance and venture capital for research and innovation	4.000	3.538	2.590
Innovation in SMEs Fostering all forms of innovation in all types of SMEs	700	619	561

Industrial Leadership/2

Per incoraggiare investimenti in R&I in Europa, promuovendo 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

Industrial Leadership/2

Razionale:

- Gli investimenti strategici nelle tecnologie-chiave (es. tecnologie industriali avanzate, microelettronica) rafforzano l'innovazione nei settori già maturi e in quelli emergenti
- L'Europa ha bisogno di attrarre ulteriori investimenti privati in ricerca e innovazione
- L'Europa necessita di un numero maggiore di PMI innovative capaci di stimolare la crescita e creare posti di lavoro

€ 3.510 M €

Nanotechnologies

Next generation nanomaterials, -devices, -nanosystems
Ensuring safe development & application + societal dimension
Efficient synthesis and manufacturing of nanomaterials, - systems
Developing capacity-enhancing techniques, measuring methods

Advanced Materials

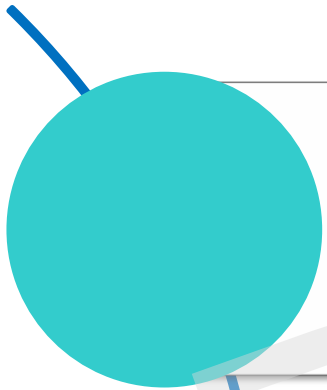
Materials development & transformation
Mgmt of materials components
Materials for sustainable and for creative industries
Metrology, characterisation, standardisation, quality control
Optimisation of the use / substitution of materials

Advanced Manufacturing & Processing

Factories of the future
Energy-efficient buildings
Sustainable technologies in energy-intensive process industries
New, sustainable business models

* Area attività: Proposta Commissione Europea

€ 7.027 M €



ICT

- New generation components & systems
- Next generation computing
- Future internet
- Content technologies & information mgmt
- Advanced interfaces and robots

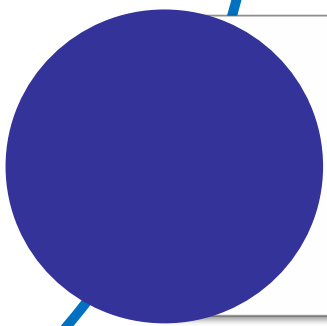
€ 470 M €



Biotechnology

- Boosting cutting-edge biotech as future innovation drivers
- Biotechnology-based industrial processes
- Innovative and competitive platform technologies

€ 1.347 M €



Space

- Enabling European competitiveness & independence in space activities
- Enabling future space missions
- Enabling exploitation of space data
- Enable European participation in global space endeavours

* Area attività: Proposta Commissione Europea

COSA SONO LE KET?

Key Enabling Technologies

Tecnologie "ad **alta intensità di conoscenza** e associate ad elevata intensità di **R & S**, a **cicli d'innovazione rapidi**, a consistenti spese di investimento e a **posti di lavoro altamente qualificati**. Rendono possibile **l'innovazione nei processi, nei beni e nei servizi** in tutti i settori economici e hanno quindi rilevanza sistemica. Sono **multidisciplinari**, interessano tecnologie di diversi settori e tendono a convergere e a integrarsi. Possono aiutare i leader nelle tecnologie di altri settori a trarre il massimo vantaggio dalle loro attività di ricerca“

Photonics

Manufacturing

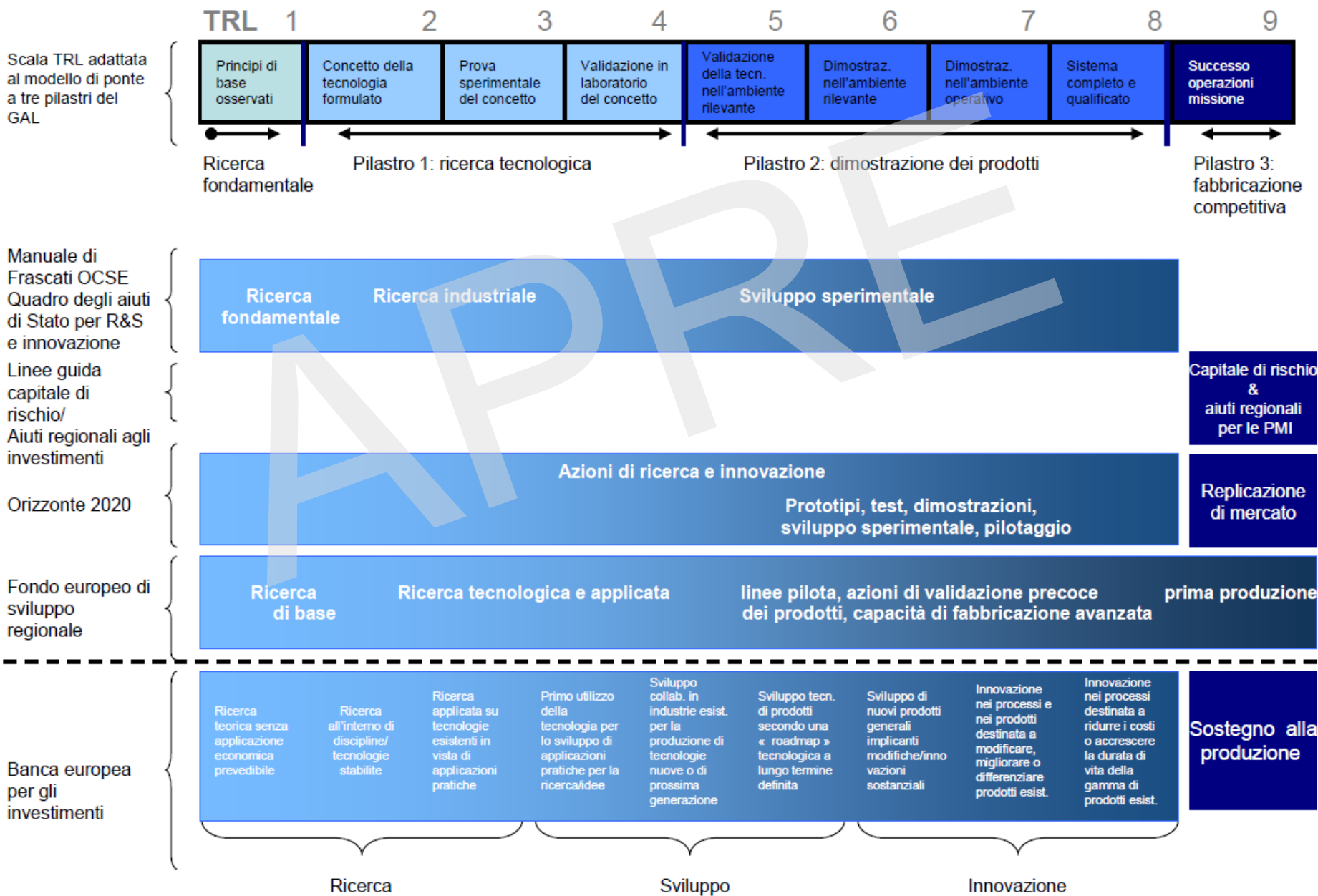
Biotechnology

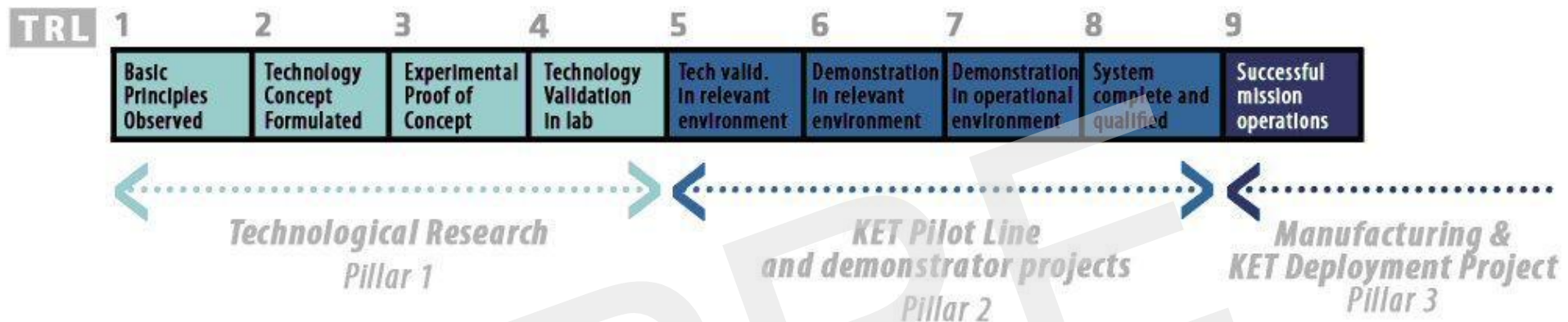
Advanced Materials

Micro/Nanoelectronics

Nanotechnologies

* Current situation of key enabling technologies in Europe, SEC (2009)





TRL 1 – basic principles observed

TRL 2 – technology concept formulated

TRL 3 – experimental proof of concept

TRL 4 – technology validated in lab

TRL 5 – technology validated in relevant environment (industrial environment in the case of key enabling technologies)

TRL 6 – technology demonstrated in relevant environment (industrial 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)

TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

Access to Finance

- Per aziende innovative
- Strumenti finanziari in partenariato con l'European Investment Bank
- Debt instrument & Equity instrument

€ 2.590 M €

Innovation in SME

- Eurostars
- EEN
- Azioni di coordinamento e supporto

€ 561 M €



3° PILLAR

SOCIETAL CHALLENGES



Struttura del programma

Excellent Science

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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)

SOCIETAL CHALLENGES

- Health, Demographic Change and Wellbeing;
- Food Security, Sustainable Agriculture, Marine and Maritime Research & the Bio-economy;
- Secure, Clean and Efficient Energy;
- Smart, Green and Integrated Transport;
- Climate Action, Resource Efficiency and Raw Materials;
- Inclusive, Innovative and Reflective Societies;
- Secure Societies.

COOPERATION

HEALTH

KBBE

ENERGY

TRANSPORT

ENVIRONMENT

SSH

SECURITY

INTERNATIONAL COOPERATION

Societal challenges/1

Budget proposto (milioni di €)



26,240 M €

	EC	EP	Compromise 27.06.13
Health, demographic change and wellbeing	9.077	8.033	6.606
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	4.694	4.152	3.405
Secure, clean and efficient energy	6.537	5.782	5.244
Smart, green and integrated transport	7.690	6.802	5.605
Climate action, resource efficiency and raw materials	3.573	3.160	2.724
Inclusive, Innovative and Reflective Societies	4.317	3.819	1.158
Secure Societies			1.498

Societal challenges/2

Razionale:

- Le preoccupazioni condivise dai cittadini e dalla società e gli obiettivi politici dell'agenda europea (clima, ambiente, energia, trasporti, ecc) non possono essere affrontati o raggiunti senza innovazione
- Le soluzioni brillanti derivano da collaborazioni multidisciplinari, dove giocano un ruolo di primo piano anche le scienze sociali e umane
- Le soluzioni promettenti devono essere testate, dimostrate e progressivamente sviluppate

1. Health, Demographic Change And Wellbeing



- 1.1. Understanding health, wellbeing and disease
- 1.2. Preventing disease
- 1.3. Treating and managing disease
- 1.4. Active ageing and self-management of health
- 1.5. Methods and data
- 1.6. Health care provision and integrated care

SC1 Health, Demographic Change And Wellbeing

**CALLS -
FOCUS AREA
WP 2014 - 15**



PERSONA- LISING HEALTH AND CARE

** Understanding health, ageing and disease

** Innovative treatments and technologies

** Effective health promotion, disease prevention, preparedness and screening

** Improving diagnosis

** Advancing active and healthy ageing care

** Integrated, sustainable, citizen-centred

** Improving health information, data exploitation and providing an evidence base for health policies and regulation

2. Food Security, Sustainable Agriculture, Marine And Maritime Research And The Bio-economy



2.1. Sustainable agriculture & forestry

2.2. Sustainable and competitive agri-food sector for a safe and healthy diet

2.3 Unlocking the potential of aquatic living resources

2.4 Sustainable and competitive bio-based industries and supporting the development of a European bio-economy

SC2 - European Bioeconomy Challenges:

Food Security, Sustainable Agriculture and Forestry, Marine and Maritime and Inland Water Research

FOCUS AREA
2014 -2015:



Sustainable
Food
Security

Blue
Growth



General call

*Agriculture and
forestry, Agri-food
sector for a safe and
healthy diet, aquatic
living, bio - based
industries*

3. Secure, Clean And Efficient Energy



- 3.1. Reducing energy consumption and carbon footprint by smart and sustainable use
- 3.2. Low cost, low carbon electricity supply
- 3.3. Alternative fuels and mobile energy sources
- 3.4. A single, smart European electricity grid
- 3.5. New knowledge and technologies
- 3.6. Robust decision making and public engagement
- 3.7 Market uptake of energy innovation

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

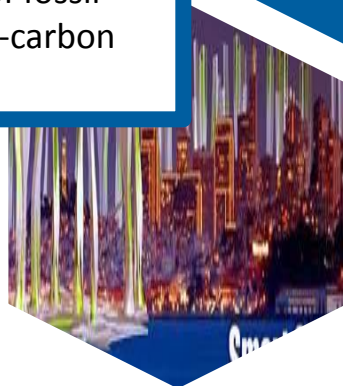
ENERGY
EFFICIENCY

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

COMPETITIVE
LOW – CARBON
ENERGY



SMART CITIES
AND
COMMUNITIES



4. Smart, Green and Integrated Transport



4.1 Resource efficient transport that respects the environment

4.2. Better mobility, less congestion, more safety and security

4.3. Global leadership for the European transport industry

4.4 Socio-economic and behavioural research and forward looking activities for policy making

SC4 Smart, Green and Integrated Transport

**CALLS -
FOCUS AREA
WP 2014 - 15**



MOBILITY
FOR
GROWTH

AVIATION
RAIL
ROAD
WATERBORNE
URBAN
MOBILITY

LOGISTICS
INTELLIGENT
TRANSPORT
SYSTEMS
INFRASTRUCTURE
SSH

GREEN
VEHICLES

SMALL
BUSINESS
AND FAST
TRACK
INNOVATION
FOR
TRANSPORT

5. Climate Action, Resource Efficiency and Raw Materials



5.1. Fighting and adapting to climate change

5.2. Protecting the environment, sustainably managing natural resources, water, biodiversity and ecosystems

5.3. Ensuring sustainable supply of non-energy & non-agricultural raw materials

5.4. Enabling the transition towards a green economy and society through eco-innovation

5.5. Developing comprehensive and sustained global environmental observation and information systems

SC5. Climate Action, Resource Efficiency and Raw Materials

CALLS - FOCUS AREA WP 2014 - 15

- Fighting and adapting to climate change
- Protecting the environment, sustainably managing natural resources, water, biodiversity and ecosystem
- Ensuring the sustainable supply of non-energy and non-agricultural raw materials
- Enabling the transition towards a green economy through eco-innovation
- Developing comprehensive and sustained global environmental observation and information systems
- Cultural Heritage

WASTE

SUSTAINABLE
DEVELOPMENT
& CLIMATE
ACTION

WATER

6. Europe in a changing world – Inclusive, Innovative and Reflective societies



- 6.1. Inclusive societies
- 6.2. Innovative societies
- 6.3 Make use of the innovative, creative and productive potential of all generations
- 6.4 Ensure societal engagement in research and innovation
- 6.5 Promote coherent and effective cooperation with third countries
- 6.6 Reflective Societies – cultural heritage and European identity



SC6 Europe in a changing world – Inclusive, Innovative and Reflective societies

**CALLS -
FOCUS AREA
WP 2014 - 15**



**OVERCOMING
THE CRISIS:**
NEW IDEAS,
STRATEGIES AND
GOVERNANCE
STRUCTURES FOR
EU

**YOUNG
GENERATION**
IN AN
INNOVATIVE
INCLUSIVE AND
SUSTAINABLE
EUROPE

**EUROPE AS
GLOBAL
ACTOR**

**NEW FORMS
OF
INNOVATION**

**REFLECTIVE
SOCIETIES:**
CULTURAL
HERITAGE AND
EUROPEAN
IDENTITIES

7. Secure Societies – Protecting Freedom And Security of Europe and its Citizens



- 7.1 Fight crime, illegal trafficking and terrorism, including understanding and tackling terrorist ideas and beliefs
- 7.2 Protect and improve the resilience of critical infrastructures, supply chains and transport modes
- 7.3 Strengthen security through border management
- 7.4 Improve cyber security
- 7.5 Increase Europe's resilience to crises and disasters
- 7.6 Ensure privacy and freedom, including in the Internet and enhance the societal dimension legal and ethical understanding of all areas of security, risk and management
- 7.7 Enhance standardisation and interoperability of systems, including for emergency purposes
- 7.8 support the Union's external security policies, including conflict prevention and peace-building

SC7 Secure Societies: Protecting Freedom And Security of Europe and its Citizens

CALLS - FOCUS AREA WP 2014 - 15



- Crisis Management and Civil protection with a view to strengthening prevention and preparedness against natural and man-made disasters by underpinning an all-hazard approach to risk assessment across the EU
- ...developing solutions, for climate change adaptation in areas affected by natural disasters
- Critical Infrastructure Protection...
- Communication Interoperability facilitating disaster management...
- Ethical/Societal Dimension.

FIGHT
AGAIN
CRIME AND
TERRORISM

DISASTER-
RESILIENCE:
SAFEGUARDING
AND SECURING
SOCIETY,
INCLUDING
ADAPTING TO
CLIMATE
CHANGE



SECURITY:
CYBERSECURI
TY, PRIVACY
AND TRUST

BOARDER
SECURITY
AND
EXTERNAL
SECURITY

AZIONI ORIZZONTALI



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)

Azioni ulteriori

Budget proposto (milioni di €)

	EC	EP	27/6
EIT – European Institute of Innovation and Technology			2.397
JRC – Joint Research Centres			1.682
Science with and for Society			409
Spreading Excellence and Widening Participation		790	722
Euratom			2.098

2.397 M €



EIT



H2020 KICs – Knowledge and Innovation Communities

1 ST WAVE: 2014	Innovation for healthy living and active ageing
	Raw materials – sustainable exploration, extraction, processing and recycling
2 ND WAVE: 2016	Food4future
	Added value manufacturing
3 RD WAVE 2018	Urban mobility

+

Climate change KIC - ICT KIC - Sustainable Energy KIC

722 M€



Spreading Excellence and Widening Participation

Horizon 2020 introduces specific measures for spreading excellence and widening participation through engaging those who commit less in the EU research and innovation effort. This will greatly enhance competitiveness.

SPREADING EXCELLENCE AND WIDENING PARTICIPATION

TEAMING &
TWINNING

ERA CHAIRS

POLICY SUPPORT
FACILITY
(COST Action)

TEAMING AND TWINNING: create new Centres of Excellence and expertise and encourage pan-European networking among researchers with a strong focus on excellence and innovation. They will build on knowledge transfer and, exchange of best practice between research institutions, building on the strengths of leading partners.

SPREADING EXCELLENCE AND WIDENING PARTICIPATION

ERA CHAIRS: bring outstanding researchers to universities and other research institutions that have high potential for research excellence. On their side, institutions should mobilise support from different funding sources, including from the European Structural and Investment Funds, to invest in facilities and infrastructures in the context of Smart Specialisation Strategic Policy Frameworks and commit to institutional change and a broader support to innovation.

A **POLICY SUPPORT FACILITY:** inform better the formulation and optimisation of research and innovation policies in low performing Member States and regions aiming to make them more competitive at European level by offering expert advice to public authorities. Efforts to improve the international experience and networking capacities of peripheral institutions will be made by stimulating their participation with cross-border science networks through dedicated *COST* activities, connecting unexploited pockets of excellence throughout Europe.

409 M€



Science with and for society

"Science with and for Society shall build effective cooperation between science and society, recruit new talent for science and pair scientific excellence with social awareness and responsibility"

SCIENCE WITH AND FOR SOCIETY

- Call for **making Science Education** and careers attractive for **young people**;
- Call for **promoting Gender equality** in **Research and innovation**;
- Call for **integrating Society** in **Science and Innovation**;
- Call for **developing Governance** for the advancement of **Responsible Research and Innovation**;
- Call for **Strategic Activities**: networking and sharing knowledge about Science with and for Society

1.682 M €



JRC -Joint Research Centre

1. The Institute for Reference Materials and Measurements (IRMM)
2. The Institute for Transuranium Elements (ITU)
3. The Institute for Energy and Transport (IET)
4. The Institute for the Protection and Security of the Citizen (IPSC)
5. The Institute for Environment and Sustainability (IES)
6. The Institute for Health and Consumer Protection (IHCP)
7. The Institute for Prospective Technological Studies (IPTS)

