

Smart City, Efficienza energetica ed «Internet of Things»- dalla teoria alla pratica



SMART CITY E FINANZIAMENTI EUROPEI IL PROGRAMMA H2020

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- 1. HORIZON 2020**
- 2. I BANDI SMART CITIES H2020 -2014 e 2015:**
 - Energy;
 - Environment;
 - Transport
- 3. LINK.**

1. HORIZON 2020

- E' il nuovo **Programma Quadro di Ricerca e Sviluppo Tecnologico** della UE per gli **anni 2014-2020**. Sulla scia del Settimo Programma Quadro 2007-2013 (7PQ);
- **Ha l'obiettivo di creare uno spazio europeo della ricerca**, mobilitando investimenti privati **in alcuni settori considerati decisivi per la competitività**;
- Rispetto ai precedenti programmi, tuttavia, H2020 **intende adottare un approccio multidisciplinare**, che, attraverso un focus sul valore aggiunto dell'innovazione, possa dare risposte alle sfide sociali;
- Punta a mettere assieme **i tre elementi della catena del valore**,
 - 1. Ricerca,**
 - 2. Sviluppo**
 - 3. Innovazione.**
- **Obiettivo ultimo è colmare il gap UE con USA o Corea e Giappone in termini di ricerca tradotta in innovazione industriale.**

1. I BANDI DI H2020 - SMART CITIES & COMMUNITIES

CHI PUO' PARTECIPARE:

- Qualsiasi Soggetto giuridico, università o centro di ricerca stabilito in uno Stato Membro o associato o in un Paese terzo
- Joint Research Centre
- Organizzazioni internazionali di interesse EU
- Organizzazioni internazionali e soggetti stabiliti in Paesi Terzi
- Soggetti sprovvisti di personalità giuridica purché con responsabilità contrattuale e finanziaria a carico dei legali rappresentati
- Soggetti giuridici non - profit

CONDIZIONI MINIME:

- Almeno 3** Soggetti giuridici
- Ognuno di essi deve essere stabilito in uno Stato Membro** o in un Paese Associato diverso
- Tutti e 3 i Soggetti giuridici devono essere indipendenti l'uno dall'altro

1. I BANDI DI H2020 - SMART CITIES & COMMUNITIES

Cosa è finanziabile e come ?

▪ **Progetti di R&D** → **Contributo UE fino al 100% costi diretti**

flat rate 25% costi indiretti

▪ **Progetti *close to market*** (prototipizzazione, collaudo, dimostrazione, sviluppo sperimentale, progetti pilota, prime applicazioni commerciali)

→ **Contributo UE fino al 70% costi diretti**

flat rate 25% costi indiretti

✓ unico **tasso di rimborso** per tutti i partecipanti e attività

✓ utilizzo di **costi unitari di personale** (compresi proprietari delle PMI che non percepiscono salario) e semplificazione della **registrazione delle ore lavorate** (non è richiesta la registrazione delle ore di lavoro per il personale che lavora esclusivamente per il progetto)

✓ unica *flat rate* per i **costi indiretti**

✓ ottimizzazione del ruolo delle **agenzie esecutive** (+ staff e funzioni ridistribuite)

✓ tempistiche della **valutazione** a **5 mesi** dalla sottomissione della proposta

✓ ***time-to-grant*** di circa **3 mesi**

1. HORIZON 2020

- Ha **una dotazione finanziaria di 70 MILIARDI DI EURO** destinati ad investimenti per la ricerca e l'innovazione e per l'attuazione della strategia Europa 2020 **per una crescita intelligente, sostenibile e inclusiva**.
- Viene attuato nel **periodo di riferimento 2014-2020**.

Il programma presenta una struttura fondata su 3 PILLARS (pilastri):

Excellence Science

riguarda principalmente **la ricerca di base**, che per H2020 rappresenta il fondamento per lo sviluppo tecnologico, le opportunità lavorative e il benessere sociale del futuro. Per questo il programma punta a far nascere, attrarre e trattenere nuovi talenti.

Industrial Leadership

focalizzato sullo **sviluppo di tecnologie chiave** quali ICT, nanotecnologie, ecc, che necessitano però di **investimenti privati nelle loro fasi di R&S, nonché di un numero crescente di PMI innovative** in grado di creare lavoro e crescita.

Societal Challenges

basato sul presupposto che gli obiettivi di Europa2020 non siano raggiungibili senza un'innovazione fondata su un approccio multidisciplinare.

OBIETTIVI:

•Rispondere alle **priorità strategiche** di Europa 2020 ed **affrontare le grandi sfide** condivise dai cittadini europei e di altri paesi

SFIDE:

- 1.Health, demographics change and wellbeing
- 2.Food security, sustainable agriculture, marine and maritime research and the and the bio - economy
- 3.Secure, clean and efficient energy
- 4.Smart, green and integrated transport
- 5.Climate action, resource efficiency and raw materials
- 6.**Inclusive, innovative and reflective societies**
- 7.Secure societies

1. PROMUOVERE L'INIZIATIVA EUROPEA SMART CITIES & COMMUNITIES "SCC"

IL PROBLEMA: Le zone urbane costituiscono uno dei maggiori consumatori di energia nell'UE ed emettono una quota proporzionalmente elevata di gas a effetto serra, generando nel contempo un quantitativo importante di inquinanti atmosferici. Nello stesso tempo queste zone ne subiscono gli effetti ossia una peggiore qualità dell'aria e cambiamenti climatici: hanno quindi il dovere di sviluppare le proprie strategie di mitigazione e adattamento.

L'OBIETTIVO: Trovare **SOLUZIONI ENERGETICHE INNOVATIVE** (efficienza energetica, elettricità e impianti di riscaldamento e raffreddamento), **integrate con i SISTEMI DI TRASPORTO, di TRATTAMENTO DELLE ACQUE E DEI RIFIUTI, nonché SOLUZIONI ICT PER L'AMBIENTE URBANO**, elementi cruciali per la transizione verso una società a basse emissioni di carbonio.

- prevedere **il sostegno a iniziative mirate alla convergenza delle catene del valore industriali** del settore dell'energia, dei trasporti e delle ICT per applicazioni urbane intelligenti.
- **sviluppare e provare estensivamente** nuovi modelli tecnologici, organizzativi, aziendali di pianificazione elaborati in base alle esigenze e ai mezzi delle città e delle collettività.
- supportare la ricerca necessaria per comprendere **le questioni sociali, economiche e culturali** che partecipano a tale trasformazione.

Cfr. Prop. DEC del Consiglio 30.11.2011 COM(2011) 811 def. Programma Specifico di attuazione del Programma Quadro di ricerca e innovazione (2014- 2020) – Orizzonte 2020

I BANDI DI H2020 - SMART CITIES & COMMUNITIES

1. Societal Challenge – ENERGY

CALL FOR SMART CITIES AND COMMUNITIES

▪ **SCC- 1 – 2014/2015:** Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) projects

Enhancing the roll - out of Smart Cities and Communities solutions by stimulating the market demand

▪ **SCC 2 – 2014- 2015:** Development of system standards for Smart cities and Communities solutions

▪ **SCC 3 – 2014:** Establishing networks of Public procurers in local administrations on Smart City solutions

▪ **SCC 4 – 2014:** Establishing a challenge prize competition: Smart solutions for creating better Cities and Communities

I BANDI DI H2020 - SMART CITIES & COMMUNITIES

Societal Challenge – ENVIRONMENT

WASTE 2015

6 a) e 6) b- 2015
Eco innovative solutions
Eco innovative strategies

WATER 2014

4 Dissemination and exploitation, ICT, Knowledge, gaps, research needs etc.

SC5 - 4 - 2015

Improving the air quality and reducing the carbon footprint of European cities

Societal Challenge– TRANSPORT

H2020 - MG - 2014/2015

Sub call di CALL 'MOBILITY FOR GROWTH'

H2020 - GV - 2014/2015

Sub call di CALL 'GREEN VEHICLES'

- **BUDGET:** £ 92,320,000
- **DEADLINE:** 2014.05.07 (17.00 Bruxelles local time)
- **MAIN PILLAR:** SOCIETAL CHALLENGES
- **H2020 - SCC 2 – 2014:** **Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice**
- **H2020 -SCC 4 – 2014:** **Establishing networks of public procurers in local administrations on Smart City solutions**
- **H2020 -SCC 1 – 2014:** **Smart Cities & Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) project**

H2020 - SCC 2 – 2014: Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice

Range di Budget: **EUR 0.5 to 1 million**

Expected impact:

- i) Involvement of society in data management processes of Cities** according to the value of information and improvement of level of trust of citizens;
- ii) Stimulate market** for data-enabled services/solutions (supporting entrepreneurship);
- iii) Improved territorial knowledge** for Smart City planning;
- iv) Recommendations to policy makers** for collecting new sources of data and possibly form the basis for policy recommendations for a ‘Smart City Index‘.

Type of action: Coordination and Support Actions.

H2020 -SCC 4 – 2014: Establishing networks of public procurers in local administrations on Smart City solutions

Range di Budget: EUR 0.1 to 0.15 million

Expected impact:

- i) **boost the market demand for Smart City solutions by increasing consumer awareness about technologies and processes used in implementing Smart City Solutions.**
- ii) **Act as lever through procurement and investment planning tools for local administrations and business, a create better public acceptance and engagement.**
- iii) **Ensure the framework conditions** for the participating organisations for organising joint, cross-border public procurements.
- iv) **Encourage the public procurement bodies** active in Cities and Communities through networks' activities, to increasingly become "launch customers" for innovative Smart solutions which are not yet available on a large-scale commercial basis and which may entail a higher risk than purchasing products that are already commercially widely available.

Type of action: Coordination and Support Actions.

H2020 - SCC 1 – 2014 -2015: Smart Cities & Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) project

Da realizzarsi e coinvolgere:

- 2 – 3 *cities or communities (light house cities or communities)* **and include industry, city planning authorities, SME**
- 2 - 3 *follower cities*. The involvement of the *follower* cities should be relevant (e.g. participating in definition of user requirements and methodology of transferability of solutions, data collection etc.). The follower cities should aim at improving their energy performance or the share of use of renewables (e.g. 60% reduction of primary energy for buildings, 20 - 30 % RES use for electricity as well as for heating and cooling). EU geographical coverage conditions should be also applied.
- **Nell'ambito di un piano urbano integrato ed ambizioso**

H2020 - SCC 1 – 2014 -2015: Smart Cities & Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) project

Range di Budget: **between EUR 18 to 25 million**

Expected Impact:

- i) Integrated solutions** in the energy, transport, and ICT;
- ii) Economic investments with the repayment of implementation costs** in acceptable time lines (to facilitate the bankability of the projects);
- iii) increase the energy efficiency of districts and of cities** and **foster the use of renewables and their integration energy system** and **enable active participation of consumers**;
- iv) increase mobility efficiency with lower emissions of pollutants and CO2**;
- v) reduce the energy costs**;
- vi) decarbonise the energy system while making it more secure and stable**;
- vii) create stronger links between cities in Member States**;

Benefits:

- i) reduction of energy bills for all actors and especially for citizens and public authorities**;
- ii) increase quality of life by creating local jobs (that cannot be delocalised) in cities; increase air quality.**

2015

Budget:£108,180,000

Main Pillar: SOCIETAL CHALLENGES

Deadline:2015.03.03 (17.00 Bruxelles local time)

- **H2020 - SCC 1 – 2014/2015: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) projects;**
- **H2020 - SCC 3 – 2015: Development of system standards for Smart Cities and Communities solutions.**

H2020 - SCC 3 – 2015: Development of system standards for smart cities and communities solutions.

Range di Budget: **between EUR 0.5 to 1 million**

Expected impact:

The project should lead to:

- **accelerating the deployment of Smart Cities and Communities solutions by ensuring the up-scaling of the process and lowering their costs,**
- **enabling the opening of market for multiple actors,**
- **ensuring the front run position for European smart cities solutions, at forefront worldwide.**

Type of action: Coordination and Support Actions

I LINK UTILI

http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/master_calls.html#h2020-scc-2014-2015

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-scc-2014.html>

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-scc-2015.html>

Transport -subcall

- i) H2020 – MG 2014/2015 A1**
- ii) H2020 – GV 2014-2014 A2**

Environment -subcall

- H2020 WASTE -6 a e 6b-2014/2015**
- H2020 WATER -4- 2014/2015**
- H2020 – SC5- 04-2014/2015**

H2020 – SCC 2014 - TRANSPORT

- **H2020 – Green Vehicle 2014-2015 A2**

Topic: Optimised and systematic energy management in electric vehicles

TOTAL CALL BUDGET: £129,000,000

DEADLINE: 2014.08.28 (17.00 Bruxelles time)

MAIN PILLAR: Research and Innovation action

- <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/2602-gv-2-2014.html>

- **H2020 – Mobility for Growth 2014- 2015**

Topic: Users behaviour and mobility patterns in the context of major societal trends

TOTAL CALL BUDGET: £ 23,500,000

DEADLINE: 2014.03.27

MAIN PILLAR: Societal Challenges

- http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2014_singlestage_a.html

6a- Eco innovative solutions + 6b – Eco innovative strategies

SUBCALL - H2020 WASTE 2014-2015 - A resource to recycle, reuse and recover raw materials

TOTAL CALL BUDGET: £54,000,000

DEADLINE:

- **Stage 1. 2014.10.16** (17.00 Bruxelles local time)
- **Stage 2. 2015.03.10**(17.00 Bruxelles local time)

MAIN PILLAR: SOCIETAL CHALLENGES

- <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-waste-2015-two-stage.html>

H2020 – WASTE - 6a- Eco innovative solutions - 6b – Eco innovative strategies

Range di Budget: **between EUR 4 and 5 million**

Expected impact: improvements in the state of the art in:

- Waste management and prevention in urban areas,
- Sustainable urban development and reduction of environmental hazards in cities;
- Participatory and science-based decision-making and planning for waste management, risk prevention and land-use as an integral part of urban development;
- Solutions to promote eco-innovative urban management and re-naturing cities; measurable by qualitative and quantitative indicators;
- Competitiveness of soil-ecology-construction-waste treatment-related industries;
- Environmental resilience in urban areas and quality of life both in Europe and internationally.

Type of action: Research and innovation actions.

H2020 – WATER 4 - 2014 Dissemination and exploitation, ICT, Knowledge, gaps, research needs etc.

**SUBCALL H2020 WATER -2014-2015 Water innovation:
boosting its value for Europe**

TOTAL CALL BUDGET: £15,000,000

DEADLINE: 2014.04.08 (17.00 Bruxelles local time)

MAIN PILLAR: SOCIETAL CHALLENGES

- <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-water-2014-one-stage.html>

H2020 – WATER - 4 -2014 Dissemination and exploitation, ICT, Knowledge, gaps, research needs etc.

Expected impact:

- i) Enhanced science- and evidence-based decision making in the field of water.**
- ii) Application of best management practices and new developments to address needs and opportunities in the water field.**
- iii) Enhanced interface between water and innovation policies.**
- iv) Rapid market uptake of research results in line with the priority areas of the EIP 'Water'.**
- v) A more integrated community of researchers and users extending across disciplines, countries, organisations and sectors.**
- vi) Improved public engagement in research and improved public understanding of the dynamic nature of water systems and the role of innovation in the water sector.**
- vii) Integration of the water and waste sectors into the Smart Cities EIP, reinforcing its ultimate goal of contributing to achieving the 3 bottom line objectives (20-20-20).**

Type of action: Coordination and support actions

H2020 –SCS - 04 Improving the air quality and reducing the carbon footprint of European cities

SUBCALL H2020 –SC5 2014-2015 Growing a low carbon resource efficient economy with sustainable supply of raw material

TOTAL CALL BUDGET: £50,00,000

DEADLINE:

-Stage 1: 2014.10.16 (17.00 Bruxelles local time)

-Stage 2: 2015.03.03 (17.00 Bruxelles local time)

MAIN PILLAR: SOCIETAL CHALLENGES

- <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sc5-2015-two-stage.html>

H2020 – SCS - 04 Improving the air quality and reducing the carbon footprint of European cities

Expected impact:

- **Reduction of the negative effects on health and climate together with the costs associated with air pollution in the EU.**
- Increase compliance with the EU air quality legislation.
- Support to EU air policy at EU and Member State level.
- **Rapid market deployment of technological and non-technological innovative solutions.**
- **Contribution to the goals of the Smart Cities and Communities focus area.**
- **Societal transformation to a green and low carbon economy.** Improved air quality in EU cities in the medium- to long-term.

Type of action: Research and innovation actions

“DOCUMENTO STRATEGICO” INDIRIZZI PER LA SEMPLIFICAZIONE DEI PROGRAMMI OPERATI REGIONALI 2014-2015 A VALERE SUI FONDI STRUTTURALI (Fondo Europeo di Sviluppo Regionale e Fondo Sociale Europeo)” REGIONE L. 2013

MACRO OBIETTIVI STRATEGICI:

- La ricerca e l'innovazione
- La competitività
- L'uso efficiente delle risorse e il passaggio a un'economia a basse emissioni di carbonio
- Le tecnologie dell'informazione e della comunicazione
- Il mercato del lavoro
- L'istruzione e la formazione
- L'inclusione sociale
- Sviluppo urbano: territori, città e comunità intelligenti per il 2020**

→ www.eu.regione.lombardia.it (Programmazione comunitaria 2014-2020)

Grazie per l'attenzione !

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