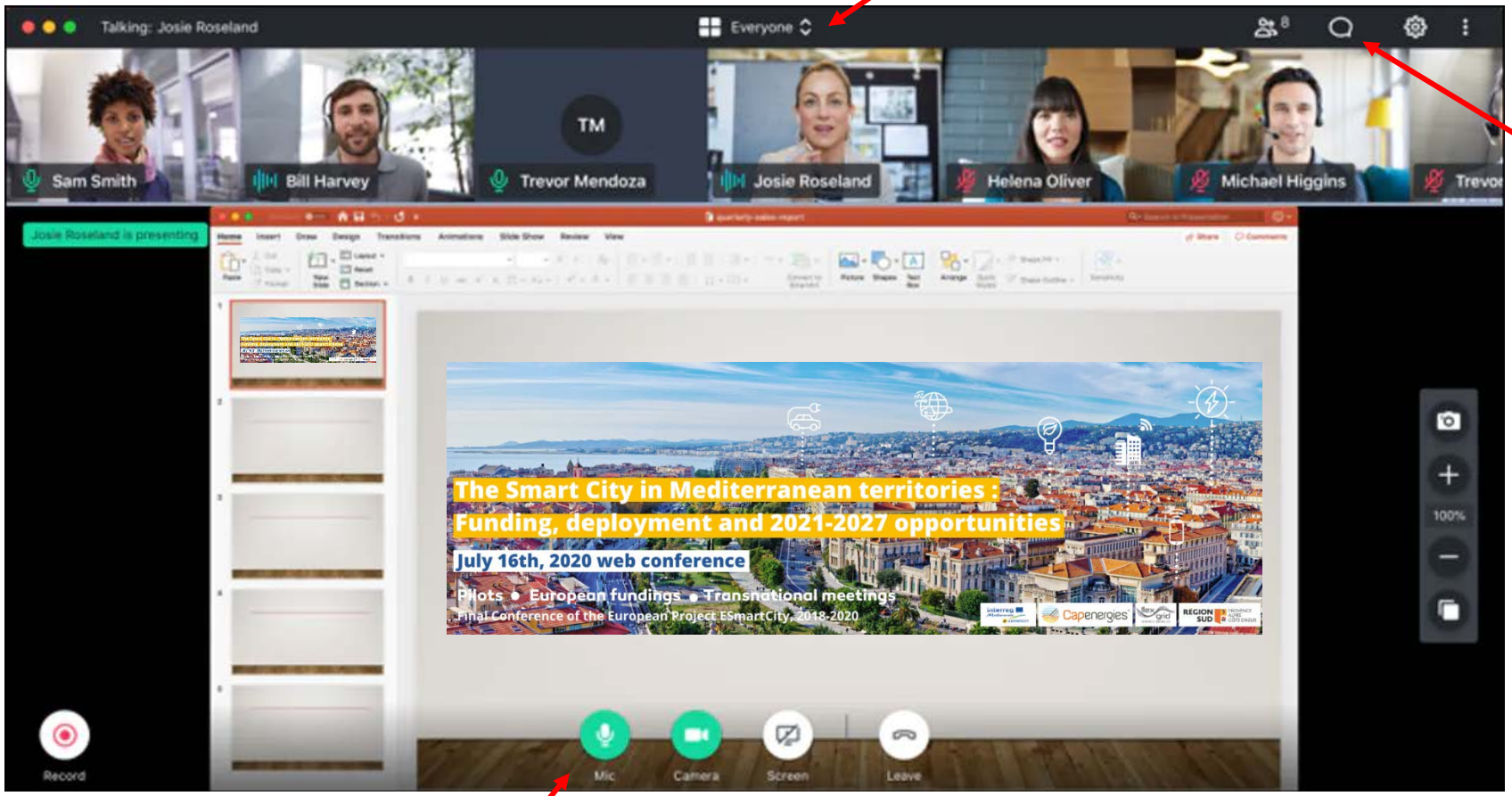
Interreg Mediterranean

EUROPEAN UNION

Esmartcity

GoToMeeting Functionalities

Chose your layout : Speaker Talking/Intervenant



Chat – Ask questions

?

Turn OFF your microphone and your camera

ESmartCity - Final Conference

Enabling Smarter City in the MED Area through Networking

AGENDA

10:00 Welcome Speech

10:10 Introduction and Event Opening

10:20 Discover MED local pilot experimentations results on smarter public lighting and more efficient public buildings

10:40 Capitalization of MED experiences through policy recommendations

11:00 Green Growth in the MED area and resilience of territories

11:10 Interreg MED programme for 2021-2027

Interreg Mediterranean EUROPEAN UNION

ESMARTCITY

Enhancing Community Resilience through Energy Efficiency: Good practices and future MED project opportunities for territories, university and industry

Welcome Speech

Anne-Marie Perez
Chief Executive Officer
Capenergies
France

Aix-en-Provence

The Camp innovation center

Aix-en-Provence City center

Welcome Speech

Anne-Marie Perez
Chief Executive Officer
Capenergies
France

Introduction & event opening

Iris Flacco
Manager of Department of Energy Policy, Air Quality, National Environmental Information System and Mining Resources of the Territory, Abruzzo Region, Italy

Lead Partner of ESmartCity Project

…..***Premise***

- Thanks to all project partners for the great job carried out in the framework of Esmartcity project
- Reflection on the state of global emergency due to Covid-19 and post Covid restart
- Use of lesson learnt from Esmartcity project

Project co-financed by the European Regional Development Fund

Esmarcity project - funded by the INTERREG MED programme

The Challenge:

A city is smart when investments in human and social capital and traditional and modern communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources through participatory governance.

Duration: 30 months (01/02/2018- 31/07/2020)

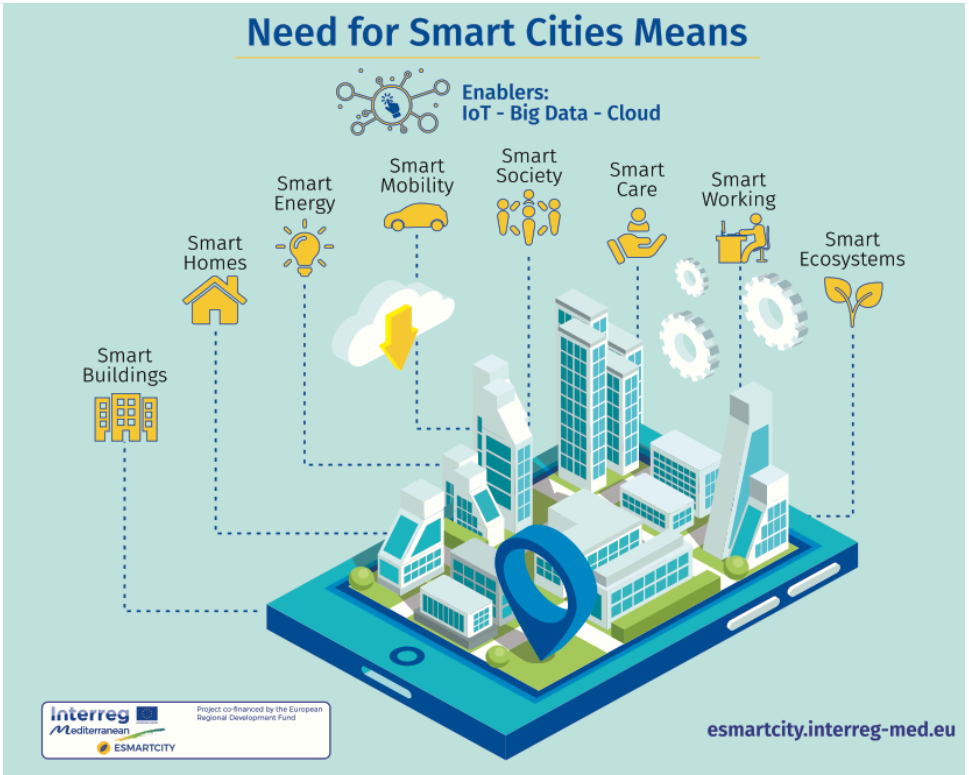
Project budget: 2,5 million euro

Project co-financed by the European Regional Development Fund

The main objective of the project is to improve the innovation ability of the MEDiterranean cities, through:

- the creation of the **innovation ecosystems** involving Citizens, Businesses, Research and University and Public Authorities
- the application of the **Smart City** concept which transformed digital technologies into better **public services for citizens**, better use of resources and **less environmental impact**.

Project co-financed by the European Regional Development Fund



Partnership:

4 Territorial Authorities,

Regione Abruzzo (IT) LEAD PARTNER
Western Greece Region(GR)
Città metropolitana di Milano (IT)
City Development Agency East Sarajevo (BH)

3 research institutes/universities

Politecnico di Milano(IT)
Athena Research and Innovation Center (GR)
Inria - Rhône-Alpes Isère (FR)

3 Energy Agencies

Energy Agency of Granada (SP)
Energy and Environment of Arrábida (PT)
Capenergies - Aix en Provence (FR)

To achieve this objective, the project involves also the executions of **pilot interventions** using ICT technological infrastructures to provide specific applications and services to the citizens of the area of the energy efficiency and intelligent public lighting.

PILOT Project

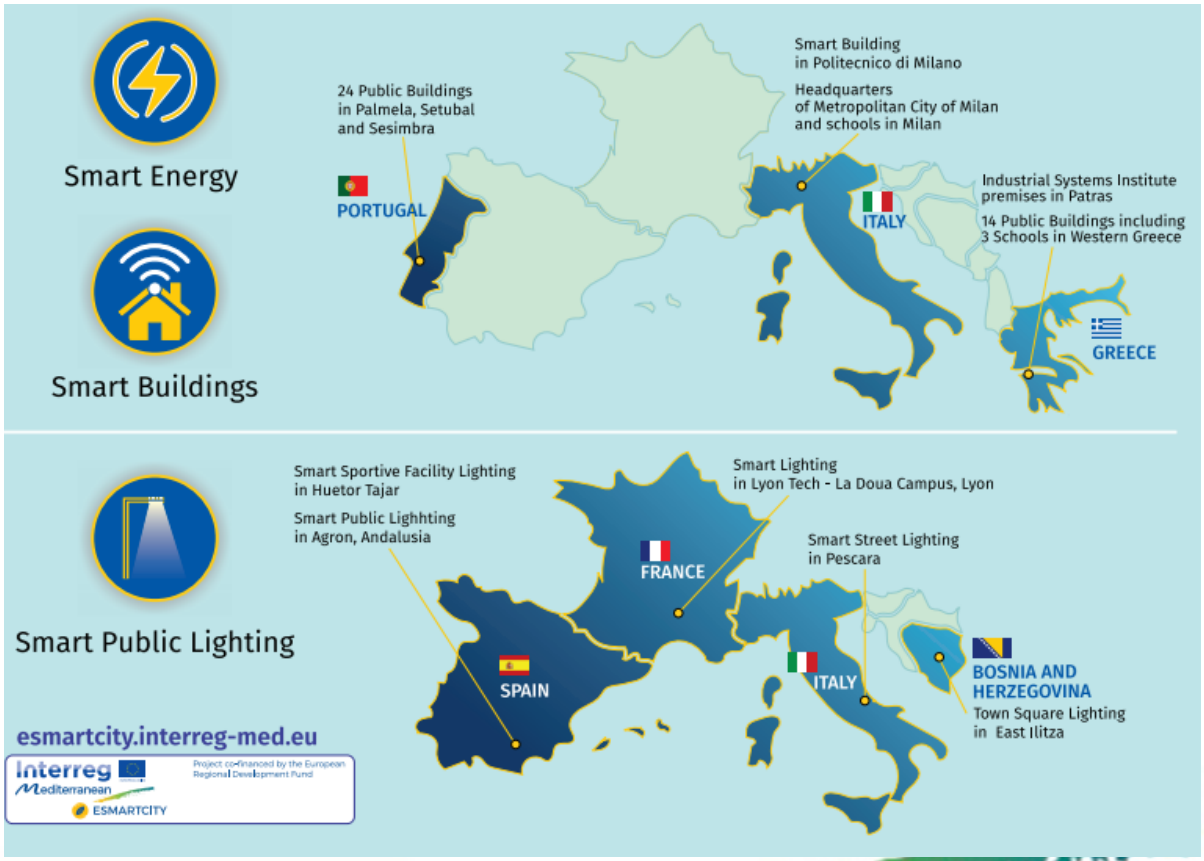
Among its Esmarcity activities 9 pilot projects has been implemented in the project partners areas, focused on on two different themes: ***energy efficient buildings and smart public lighting.***

Pilot deployments with reference to **energy efficient buildings** include the following regions and localities:

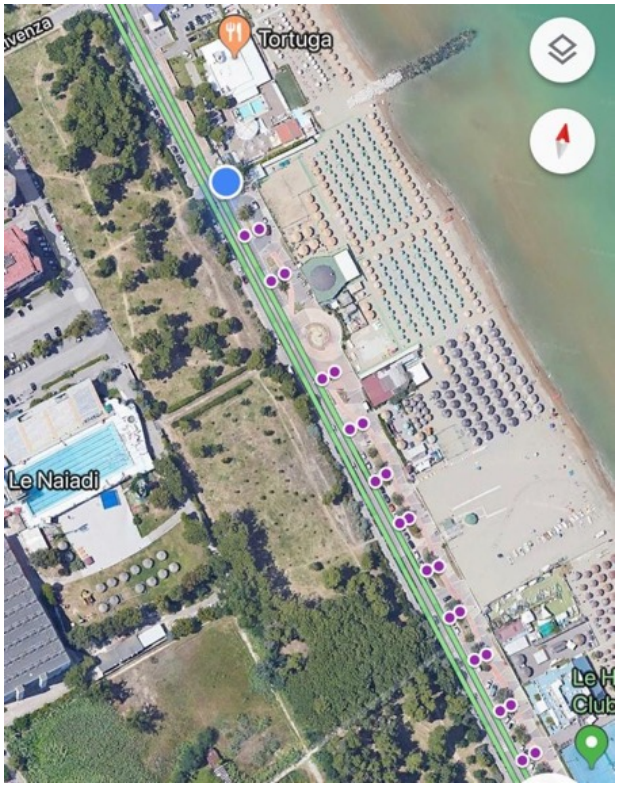
- *Western Greece (EL): Patras, Messolonghi, Pyrgos*
- *Lisbon (PT): Palmela, Setubal, Assembra*
- *Lombardy (IT) : Milano*

Pilot deployments with reference to **smart public lighting** include the following regions and localities:

- *Abruzzo (IT) : Pescara*
- *Auvergne-Rhône-Alpes (FR) :Lyon*
- *Andalusia (ES) :Huetor Tajar*
- *Bosnia and Herzegovina :East Ilidza*



Project co-financed by the European Regional Development Fund



Pilot project in Pescara

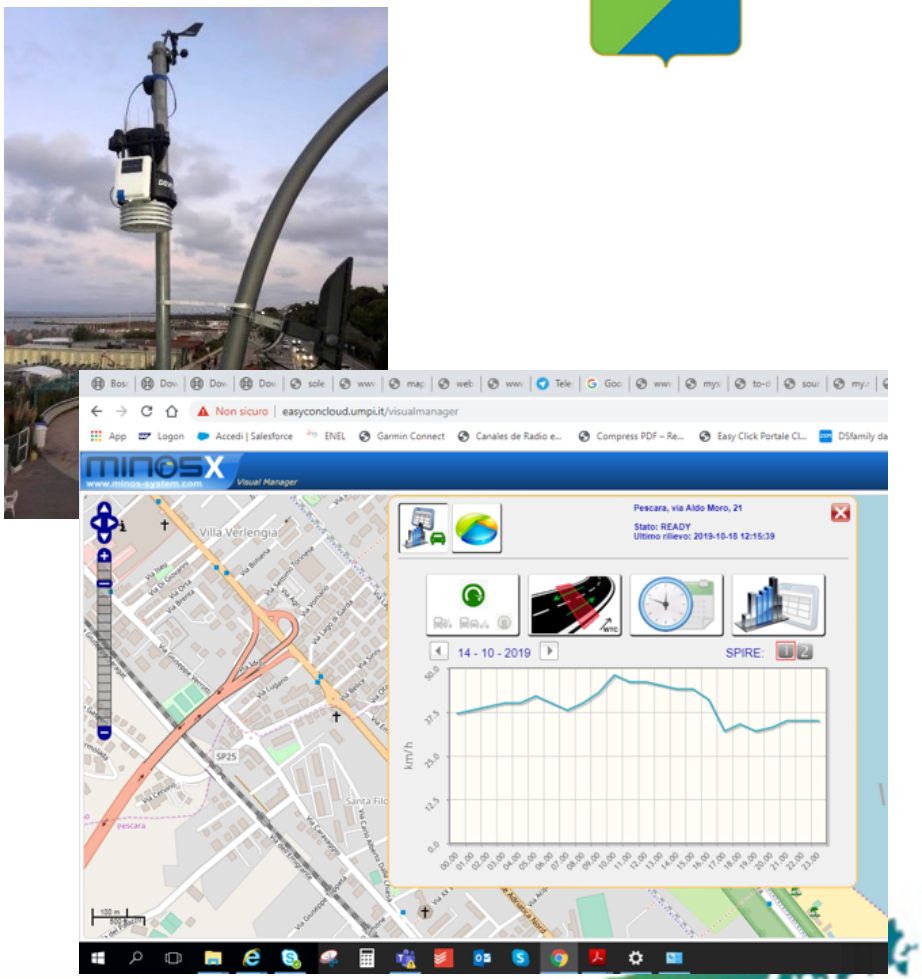
The Abruzzo Region has promoted the realization of a project in the city of Pescara, aimed at developing energy efficiency of public lighting through innovative technologies capable of reducing consumption and at the same time detecting environmental factors (wind, air, fine dust and smog level).

Project co-financed by the European Regional Development Fund

Pilot project tin Pescara

In detail:

- *25 lighting poles with a remote control unit for each light point, which allows the management of the lamp and the connection to other light points*
- *data collection unit of the sensor and light points network, which allows dialogue with the control management center*
- *1 weather station for measuring meteorological parameters, solar and ultraviolet radiation*
- *traffic analysis devices for adaptive lighting management*
- *surveillance cameras operating with PLT devices*



Project co-financed by the European Regional Development Fund

Interreg Mediterranean ESMARTCITY

EUROPEAN UNION

Capacity Building events

In the framework of the project Regione Abruzzo organized and joined capacity building events, disseminating the project among international, national, regional and local puplic autoritiehs, businnes, SMEs and general public such as

- Assembly of european regions plenaries 25th September 2019
- Urban Promo – Torino November 2019 : " *Overcoming barriers to living: cities accessible to everyone* "
- Cop25 Madrid 5th December 2019: " *Sustainability, adaptation and resilience - The strategy of Abruzzo, Marche and Umbria regions - Case study: Interreg Med Esmartcity project with focus on the Pescara pilot project* "

Project co-financed by the European Regional Development Fund

Capacity Building events

- Pescara 19th December 2019 (Organized by CNA Abruzzo (SME fedaration): *"Esmartcity - Networks for sustainability: from fashion to transport, business-friendly smart cities»*
- National workshop 11th June 2020: *" Towards Regoinal Action Plan on Green Public Procurement "*

Project co-financed by the European Regional Development Fund

THANK YOU VERY MUCH
FOR YOUR ATTENTION !

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Chiara Barchiesi chiara.barchiesi@regione.abruzzo.it
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ww.regione.abruzzo.it

Project co-financed by the European Regional Development Fund

Esmartcity Working and Living Scenarios

https://www.youtube.com/watch?v=cyRa8g7XnLc

Youtube channel of the ESMARTCITY MED Project

MED local pilot experimentations results on smarter public lighting and efficient public buildings

Adrijana Rac, Project Coordinator
City Development Agency East Sarajevo
Bosnia

Smarter public lighting in ESMARTCITY

Pescara, Italy

- Public Streets

Lyon, France

- University Campus

Huetor Tajar and Argon, Spain

- Sport centers + public

East Ilidza, Bosnia and Herzegovina

Public Streets

Pescara, Italy

Variables about lighting system:

- energy parameters (active, reactive energy and frequency),
- voltage and current parameters on 3 phases,
- power consumption parameters.

Variables about smart system:

- traffic analysis parameters (vehicle speed, counting and type),
- environmental parameters (temperature internal and external, humidity internal and external, wind speed, wind direction, atmospheric pressure, rain parameters and other parameters).

Lyon, France

No actual control of the lighting system

These devices can only monitor the environment to help and decide the relevance of installing a smart lighting system.

Variables measured:

Presence, luminosity, sound level, temperature, humidity, air pressure

Huetor Tajor, Spain

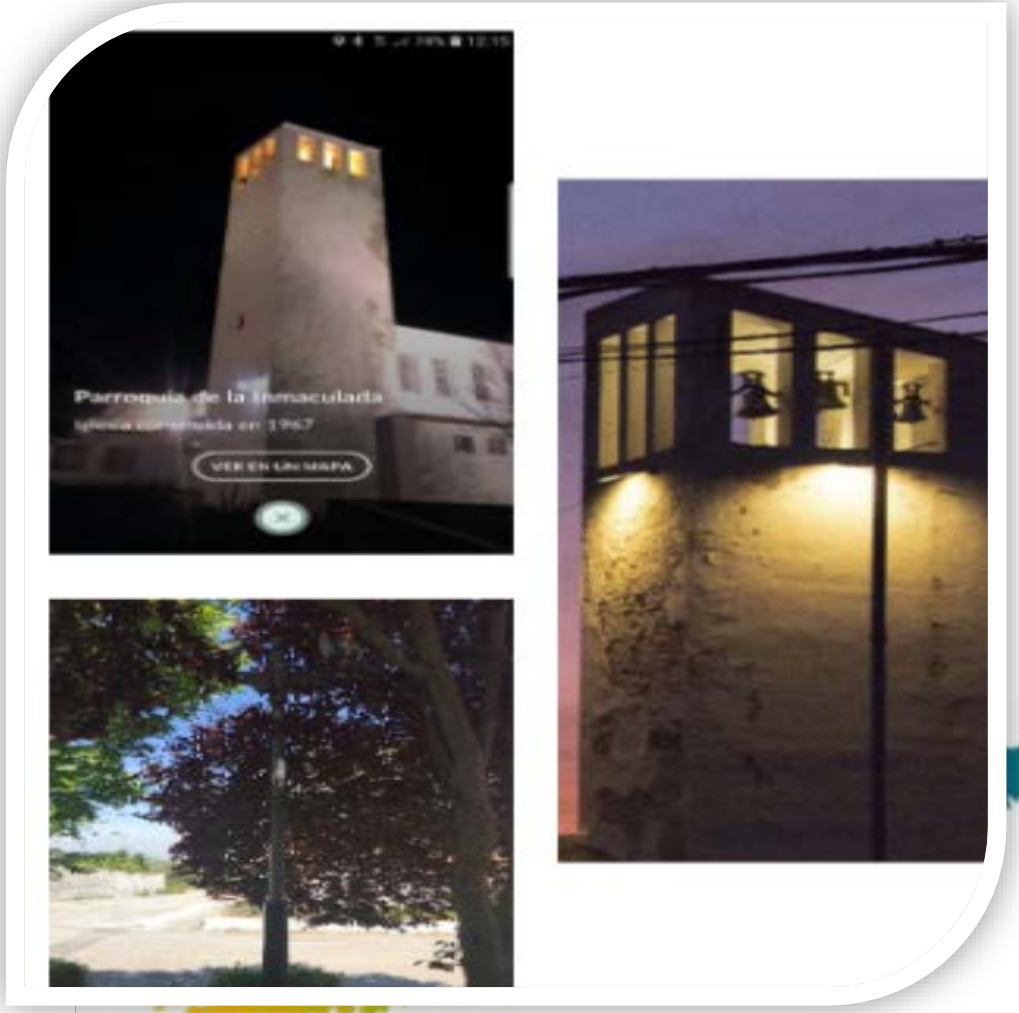
- Change of municipal sports ground lighting with energy efficiency and managed through a remote management software.

Variables measured:

- Measurement of PM, Temperature and Relative Humidity.
- Air quality qualitative index.
- Count of the number of people going into and out of the sports facilities, and occupancy.

Agron Municipality, Spain

- Change of part of the existing public lighting, in the church area and on the main streets, with energy efficiency and night sky protection criteria, managed through a remote management software.



Variables measured:

- Measurement of PM2,5, PM10,
- Temperature and
- Relative Humidity.

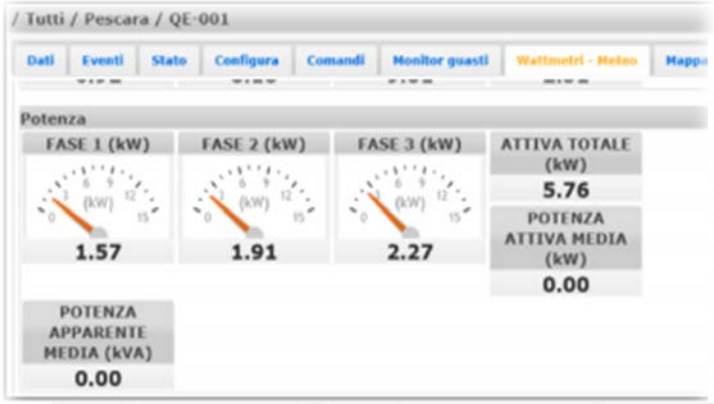
East Ilidza, Bosnia and Herzegovina

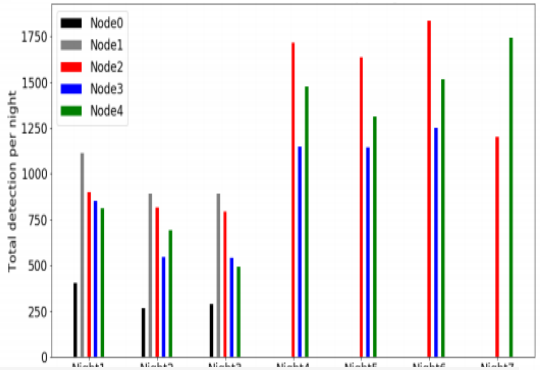
- The existing system is enhanced with intelligent light controllers that enable intelligent control of the lamps, remote monitoring and control.
- **Variables measured:**
- energy consumption and estimates energy savings
- calculates the estimation of number of kilograms of CO_2 saved as an equivalent of the saved energy.
- measurement of air quality by air quality sensor, based on $PM_{2.5}$ particles level.

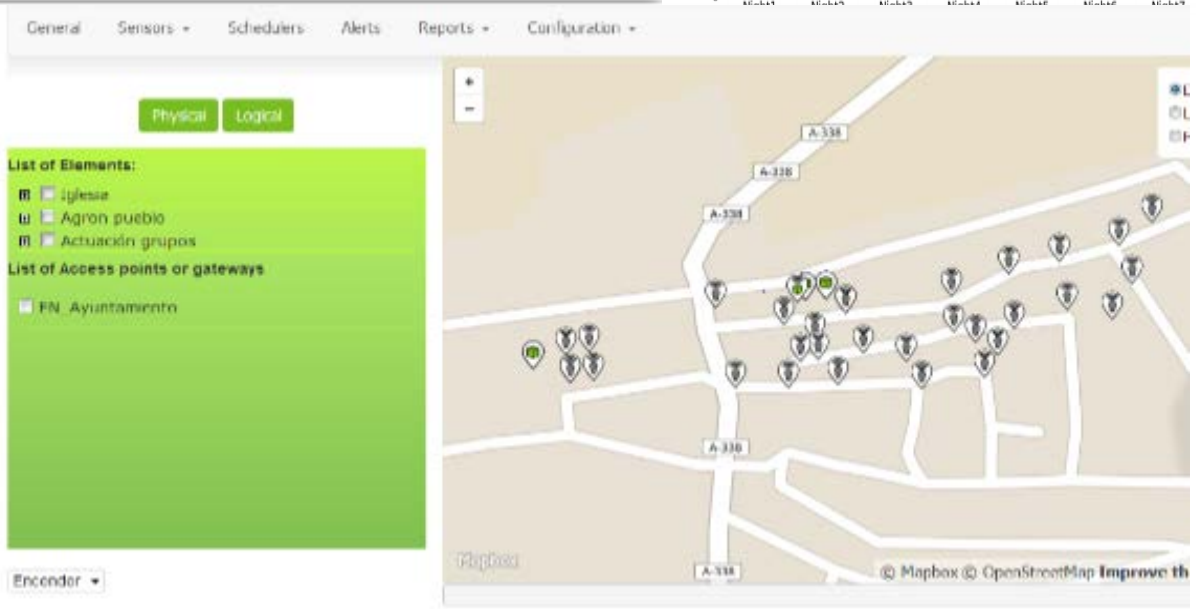
Costs

- The total economic benefits of implementing smart street lighting pilots are 3.855,06€
- Despite the high development costs of the pilots projects due to its small scale and the methodological approaches developed, the global payback time (15 years) amortizes the investment made
- Half of the procurement processes developed were normal public procurement procedure (50%) and the other half were green procrement

Technical approach







The systems installed:

- Are able to support relevant variations in data flow in 70% of the cases;
- Allow new devices or its reallocation;
- Are based on open communication protocols;
- 100% of them deliver all the information needed for new devices implementation;
- Only 20% depend 100% on the communication network for its proper functioning.

Indicators and control performance

- These pilots cover an illumination area of 16.000 m^2, and 81 streetlight points.
- It is possible to ensure the good quality of the public lighting reducing the average amount of light (average reduction of 5,18 lux), controlling the amount of light available accordingly to the real needs.
- The reduction of power installed due the conversion to LED bulbs is 10,1 kW. Adding the light control, we obtained savings of 60% of energy consumed.

- Two control strategy where used in street lighting systems. On the one hand, the reduction steps in the light flux according to operating hours, for instance:
  - From 23:00 to 1:00, reduction of 20%
  - From 1:00 to 2:30, reduction of 50%
  - From 2:30 to 5:00, reduction of 30%
- On the other hand, the control of the lighting level according to presence sensors.

Impacts of pilot activities on the involved sites

- It is possible to ensure the good quality of the public lighting reducing the average amount of light, controlling the amount of light available according to the real needs.
- The smart city installations have an enormous potential to be used for educational and training proposals.
- Parameters related to smart light solutions such as light pollution control, sleep quality or level of illumination are well-considered by citizens even recognizing that these effects still have potential for improvement.

Conclusion

- **Smart City concept** transforms digital technologies into better public services for citizens, better use of resources and less environmental impact by managing more efficient systems integrated in a smart mode (that includes smart metering and additional services).
- If smart cities want to solve city challenges, their best first step is to involve all **stakeholders** in the community (Quadruple Helix) to explore the complexity of the issues they face and involve them in collaborative decision making and future planning of their city.

Thank you for your attention!

www.esmartcity.interreg-med.eu/

Luca Ferrarini, Full Professor
Politecnico di Milano, Italy

Local pilots on efficient public buildings

- Smart City Paradigm is largely technology-pushed
- Smart City enabling technologies are mature enough
  - Embedded devices
  - Ubiquitous networking infrastructure
  - IoT
- Esmartcity approach: not to choose a specific technology, but experiment many technologies, better fitting local needs

Pilot Demonstration

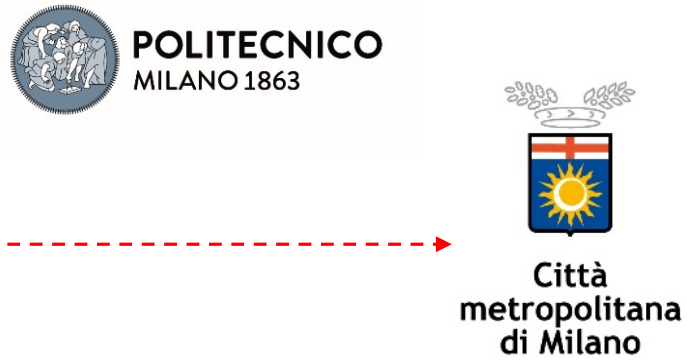
- Smarter Energy Efficient Building Pilots in:
  - Milan, Italy
  - Western Greece
  - Palmela, Setubal and Sesimbra, Portugal

Pilot Demonstration

- Smarter Energy Efficient Building Pilots in:
  - Milan, Italy
    - Politecnico di Milano classroom building
  - Western Greece
  - Palmela, Setubal and Sesimbra, Portugal

Pilot Demonstration

- Smarter Energy Efficient Building Pilots in:
  - Milan, Italy
    - Politecnico di Milano classroom building
    - Metropolitan City Headquarters + High school
  - Western Greece
  - Palmela, Setubal and Sesimbra, Portugal



Pilot Demonstration

- Smarter Energy Efficient Building Pilots in:
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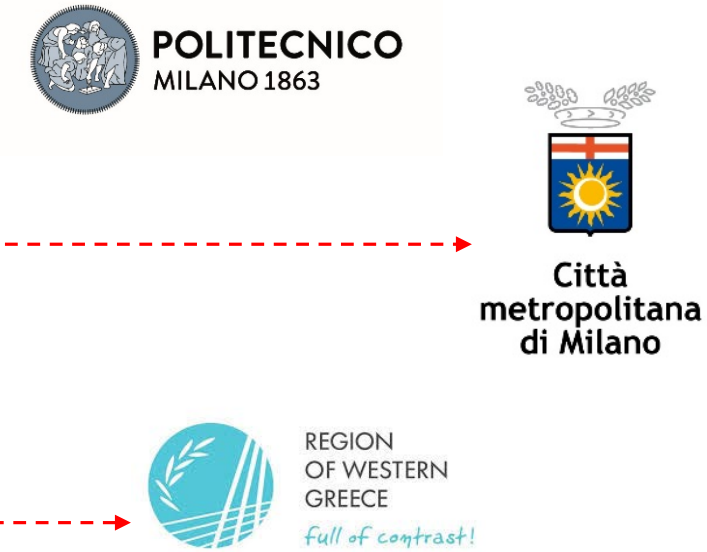


Pilot Demonstration

- Smarter Energy Efficient Building Pilots in:
  - Milan, Italy
    - Politecnico di Milano classroom building
    - Metropolitan City Headquarters + High school
  - Western Greece
    - Research labs at ISI
    - Regional buildings of RWG
  - Palmela, Setubal and Sesimbra, Portugal
    - Variety of regional buildings

POLITECNICO MILANO 1863

Città metropolitana di Milano

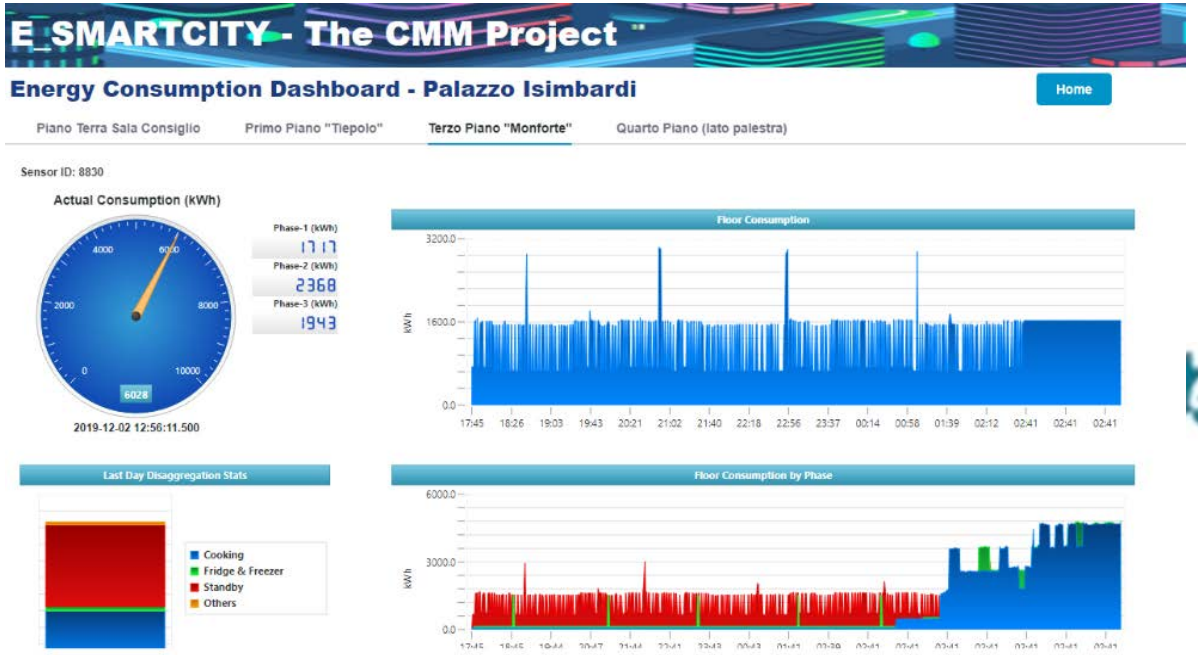
INDUSTRIAL SYSTEMS INSTITUTE

REGION OF WESTERN GREECE
full of contrast!

AENA
AGÊNCIA DE ENERGIA E AMBIENTE DA ARRÁBIDA

Pilot Demonstration

Città Metropolitana Milano, Italy



Pilot Demonstration

Città Metropolitana Milano, Italy

Energy Monitoring

- n. 8 three-phase sensors at the Zappa-Cremona School (4 + 4)
- n. 5 three-phase sensors at Isimbardi Palace + n. 2 single-phase sensors

Multi-building Fiber Optic Monitoring

- n. 2 classrooms (5B and 2E) at the Scuola Zappa-Cremona thus configured:
  - n. 2 deformation sensors + n. 1 deformation sensor with thermal sensor + n. 1 external temperature sensor + n. 1 inclination sensor
- N. 3 halls of Isimbardi Palace
  - Sala Giunta (Fresco by Tiepolo) ▪ n. 1 deformation sensors with thermal sensor + n. 1 deformation sensor + n. 2 deformation sensors in bare fiber for fresco wall + n. 2 temperature sensors in bare fiber for fresco wall + n. 1 humidity sensor for fresco wall
- Presidency Room: n. 1 deformation sensor with thermal sensor + n. 1 deformation sensor
- Presidency waiting room ▪ n. 1 deformation sensor with thermal sensor + n. 1 deformation sensor

Air monitoring and purification

- n. 2 environmental sensors at the Cremona School and air purification systems

Pilot Demonstration

Palmela, Setúbal & Sesimbra, Portugal

Town hall – Palmela

Municipal Culture Hall –
“Casa da Baía”, Setúbal

Municipal Library and theatre –
“Cineteatro João Mota”, Sesimbra

24 Municipality buildings integrated into the same online monitoring platform

Pilot Demonstration

Palmela, Setúbal & Sesimbra, Portugal

24 Buildings:

- 4 public markets
- 3 city halls
- 3 office buildings
- 5 culture houses /cinemas/theatres
- 7 schools and libraries
- 7 public sport halls/ swimming pools

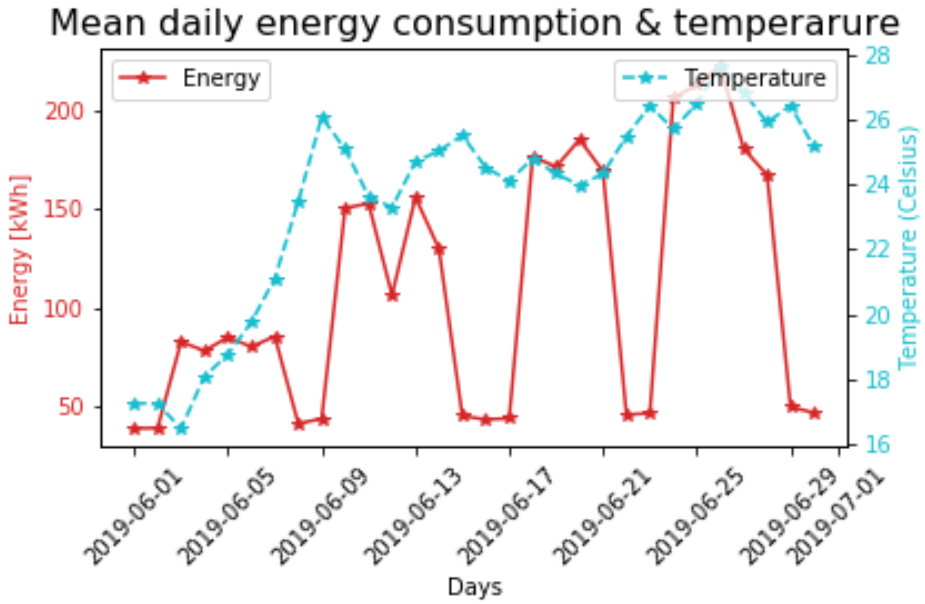
Installation of 24 Smart Energy Metering Systems for energy consumption in 24 public buildings + integration, in the same IT platform, of consumption data for 5 other buildings.

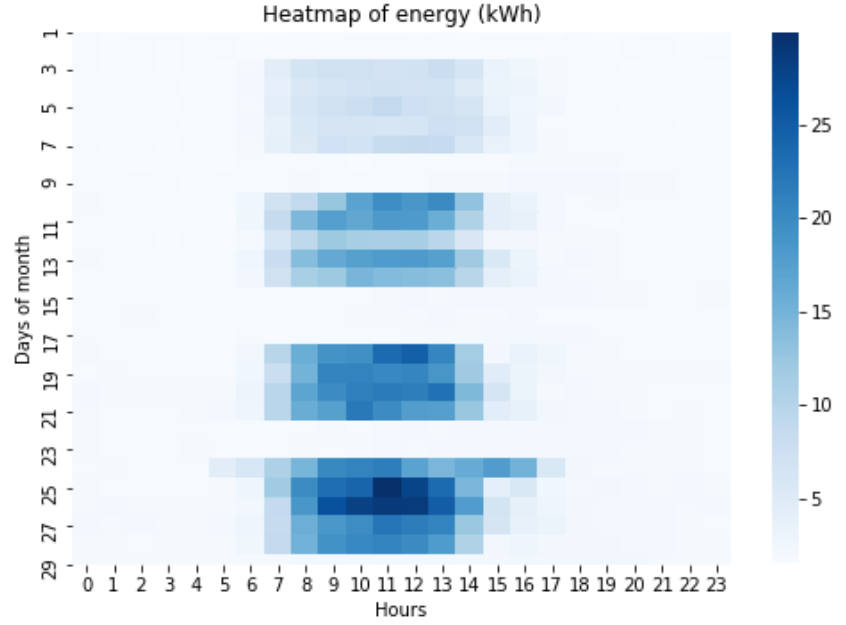
Pilot Demonstration

Region of Western Greece, Greece

Messolonghi

Pyrgos





Pilot Demonstration

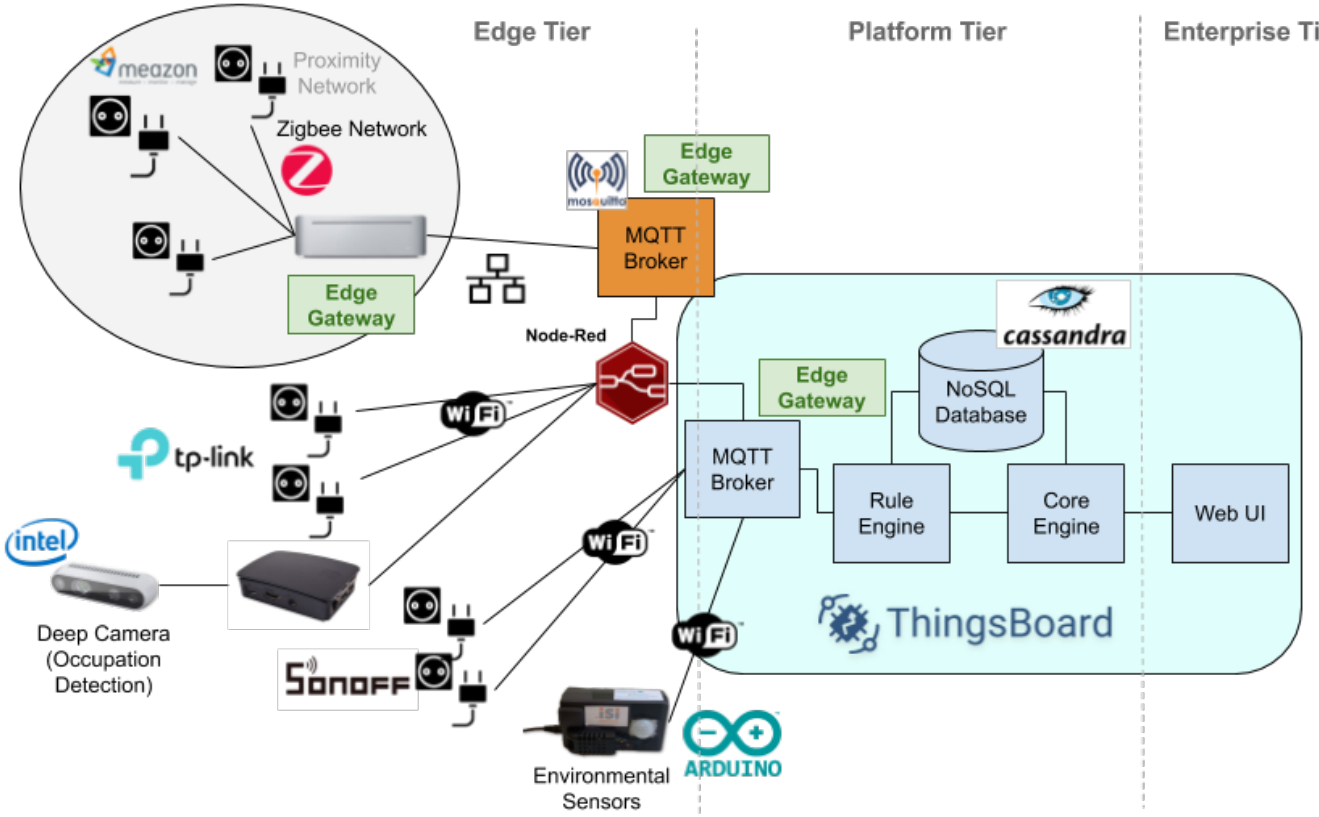
Region of Western Greece, Greece

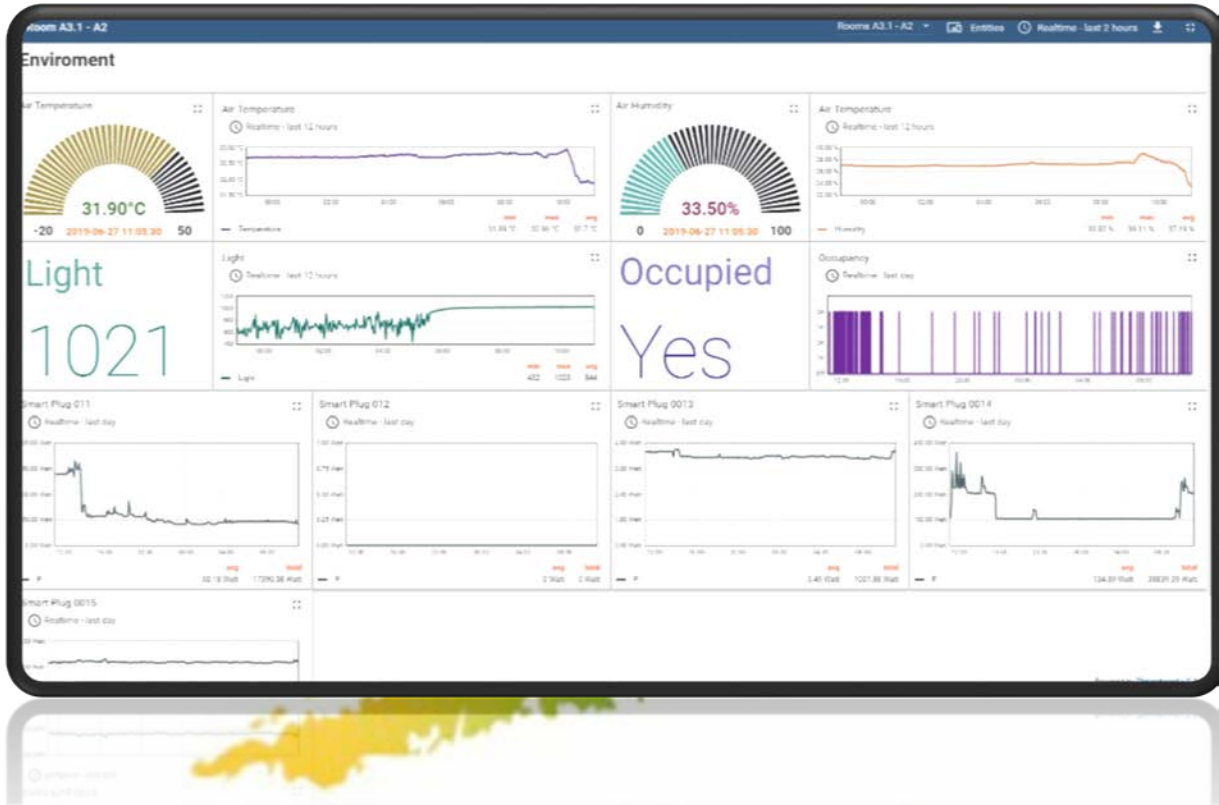
Messolonghi and Pyrgos

- 14 buildings: 11 public buildings of RWG , 3 schools
- 28 smart energy meters
- Computational and networking infrastructure (servers 1, gateways 15) based on ZigBee
- 6 types variables monitored and analyzed (active power, reactive power, voltage, current, frequency, energy consumption) + with **exogenous information** such as **temperature/humidity**
- **Real-time monitoring** platform.
- Data analysis, **heat maps of the energy consumption, comfort level estimation**.

Pilot Demonstration

Patras Science Park, Greece





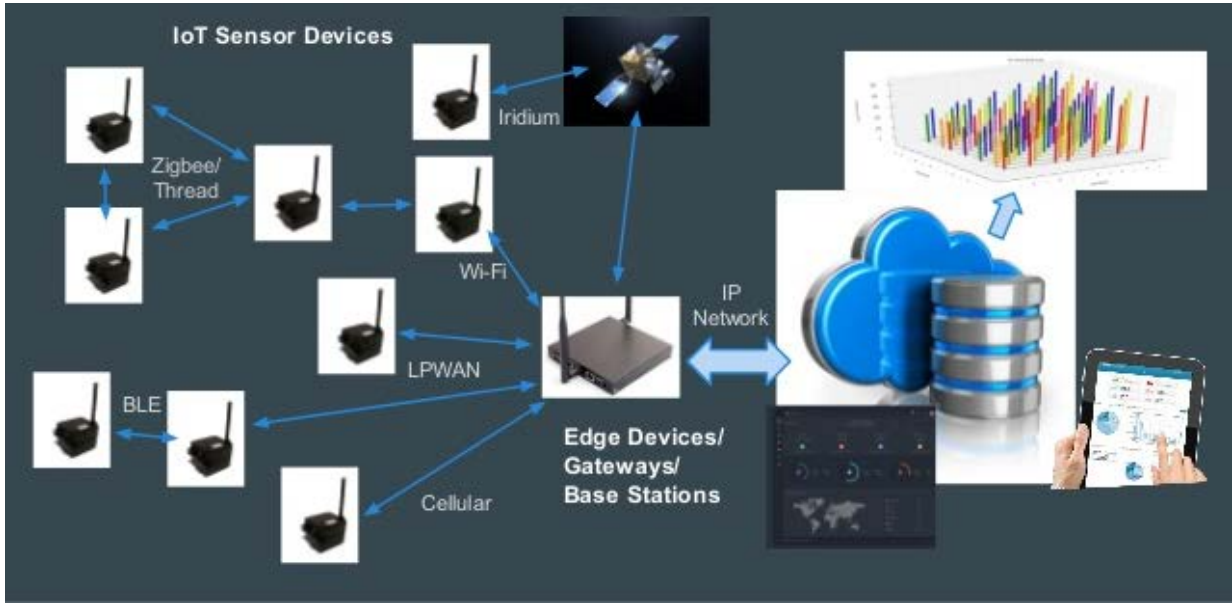
Pilot Demonstration

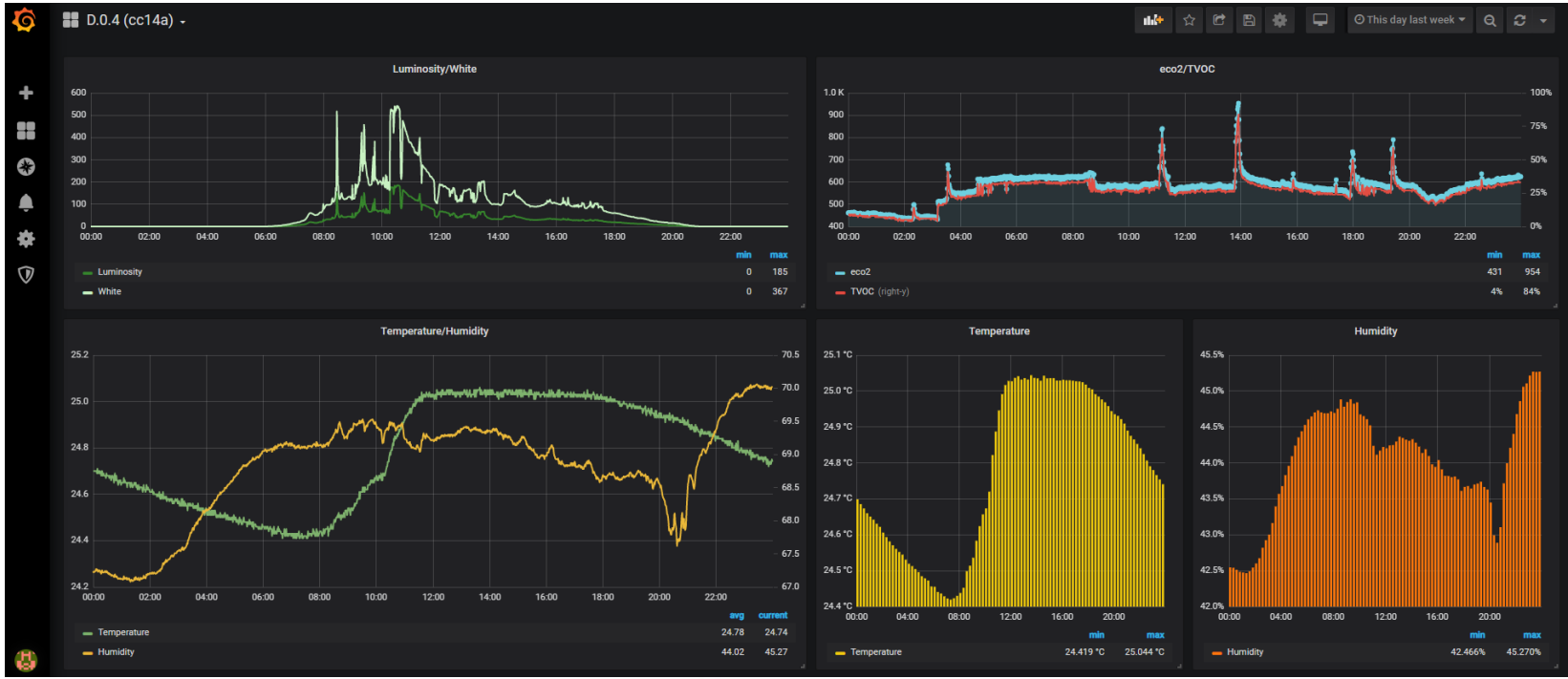
Patras Science Park, Greece

- 300 sqm of research facilities (offices, labs)
- 94 smart IoT devices installed (34 smart plugs, 25 smart switches, 35 sensors)
- Computational and networking infrastructure created (servers 2, embedded systems 65, gateways 3)
- 5 groups of variables monitored and analyzed (power consumption, lighting, humidity, temperature, human presence)
- 1 AI proposed method for energy load profile management

Pilot Demonstration

Politecnico di Milano, Italy





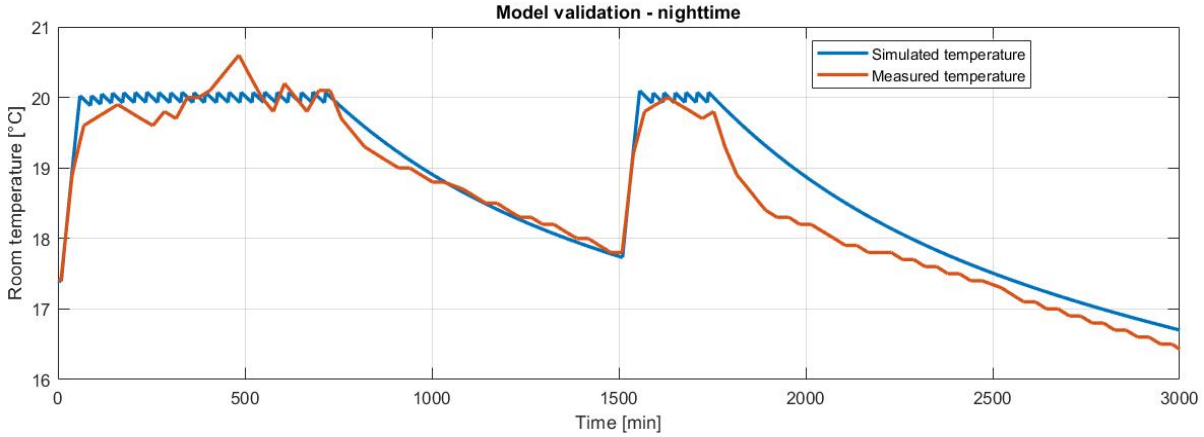
Pilot Demonstration

Politecnico di Milano, Italy

- 14 monitored and controlled classrooms,
- Subject to an inconstant occupancy profile;
- 1350m2 in rooms and 1150m2 common spaces (volume 26000m3)
- HVAC system:
  - 2 heat pumps + 2 air handling units + solar panels + tank
  - fan coils + radiators + air recycling fans
- IoT thread-based mesh sensor network:
  - Temperature
  - Humidity
  - Presence
  - Air Quality (CO2, VOC)
  - Mini Thermal Camera for people counting

Pilot Demonstration

$$\begin{cases} C_Z \dot{T}_Z = P_{FC} + U_{DISP}(T_W - T_Z) + \#_{PPL} * P_{INT} + u_R * V_{TOT} * c_{p,air} * (T_{air} - T_Z) \\ C_W \dot{T}_W = U_{DISP}(T_Z - T_W) + U_{DISP}(T_{EXT} - T_W) \\ \dot{V}_{CO2} = \#_{PPL} * P_{CO2} - \frac{V_{CO2}}{V_{TOT}} * u_R * (nV_{TOT}) \end{cases}$$



Energy-side: exploit heat-pumps variable COP

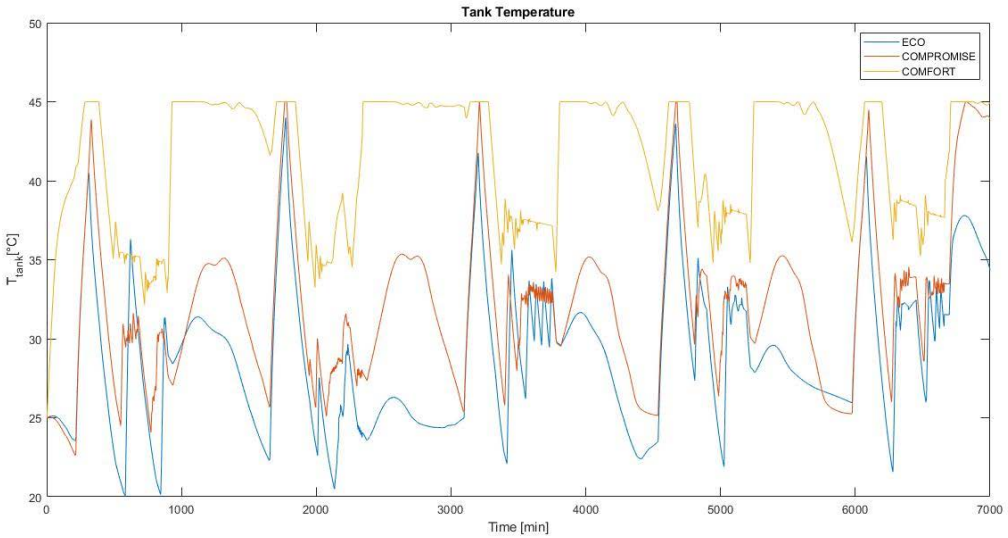
$$sf = p_0 + p_1 * T_{env} + p_2 * T_{env}^2 + p_3 * T_{env}^3$$

$$COP = \frac{sf}{(1 + \frac{T_{tank} - 35}{58.82})}$$

Non-linear Model Predictive Control (NMPC):

$\approx 14{,}7\%$ *Consumption reduction*

$\approx +1{,}07$ *Average COP increase*



Conclusion

Efficiencient buildings

- The total amount of monitored buildings is 47:
  - 14 Schools;
  - 14 Offices;
  - 2 Libraries;
  - 4 Sport facilities;
  - 3 Swimming pools;
  - 10 Other buildings;
- 3.093 permanent users and are monthly visited by 132.385 persons (pre-COVID…).
- 271 physical variables are monitored.
- A wide variety of technologies tested and documented

Conclusion

Open Challenges

- Technical challenges
  (realtime communication, application variability, integration needs)
- Involvement challenges
  (Lack of engagement of public administrations, citizens, academia, SME's)
- Smart-city-culture challenges
  (introduction of ICT practices)

Solution

- Enhancement of innovative potential of SMEs
- Green Paper on Innovation Policy Change
- Smart City Protocol

Luca Ferrarini

Politecnico di Milano

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POLITECNICO
MILANO 1863

Capitalization of MED experiences through Policy Recommendations

Athanasios Kalogeras
Research Director at the
Industrial Systems Institute,
Research Center Athena
Greece

Enhancement of innovative potential of SMEs and Upgraded Cluster

Smart City Market

projected size of

€ 410.80 billion

in 2027

2020 – 2027
at a CAGR of

24,7%

EU public authority annual expenditure of **€ 1.8 trillion** **14% of EU GDP**

Key Drivers

Public sector initiatives

Pull

Push

Innovation and Technologies

IoT, Cloud/Edge, Cyber Physical Systems, Digital Twin, Big Data, AI

Source: Grand View Research Inc

Project co-financed by the European Regional Development Fund

Smart City Challenges

60% of global population living in cities by **2030**

+1,500,000 urban population every **week**

Urbanization

Cities account for **60% - 80%** of world annual energy needs

Quest for Environmental Sustainability

Diversity
- Healthcare
- Transport
- Water
- Security
- Energy
- Public administration
- Democratization

Technology
- Openness of data / infrastructures
- Standardization
- Break the silos between domains
- Data privacy / security

Investment
- Pilot projects
- Build Operate Transfer
- Build Operate Manage
- Build Operate Own

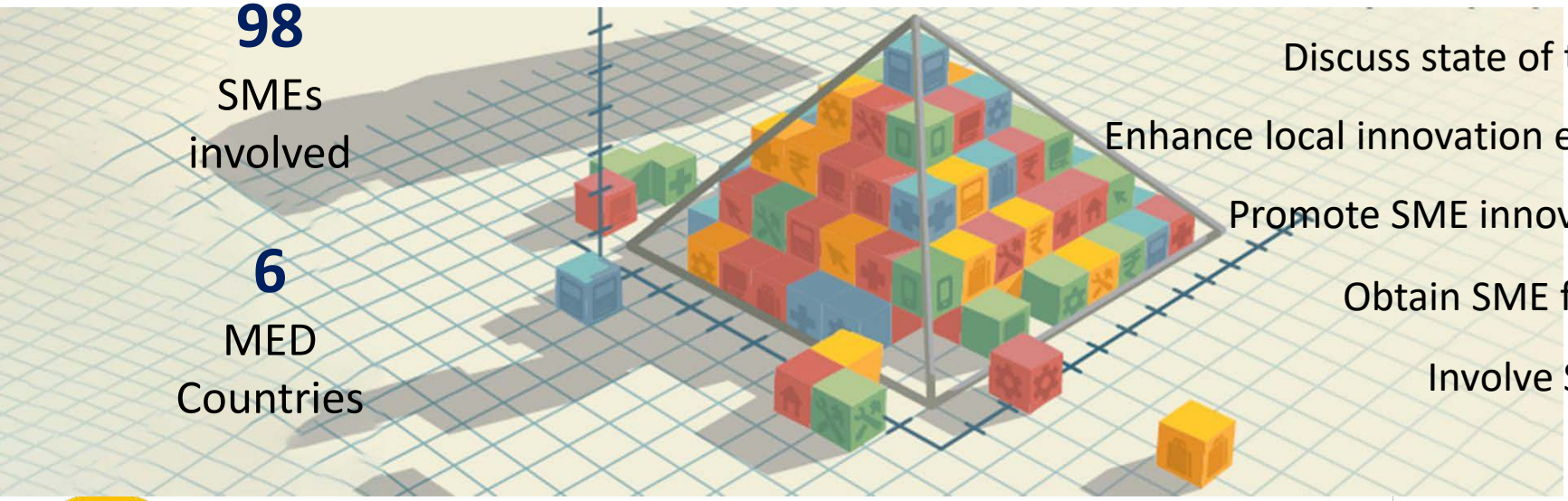
Project co-financed by the European Regional Development Fund

Esmartcity Capacity Building

10
Capacity Building Workshops for SMEs

98
SMEs involved

6
MED Countries



Targets

Transfer knowledge and lessons learnt during pilot testing

Enhance SME capacities to foster Smarter Cities

Help SMEs answer Green Public Procurement calls

Discuss state of the art: open data, IoT, data analytics…

Enhance local innovation ecosystems

Promote SME innovative solutions towards public authorities

Obtain SME feedback

Involve SMEs in experimentation and co-creation

Project co-financed by the European Regional Development Fund


ESMARTCITY DATATHON
ESMARTCITY DATATHON
Patras, Jul 15, 2019


East Sarajevo, Jul 22, 2019


Patras, Sep 26, 2019


Granada, Oct 7, 2019


Projeto-piloto ENA
Setubal, Oct 10, 2019


Aix-Marseille, Nov 25, 2019


Nice, Nov 22, 2019


Pescara, Dec 19, 2019


Milan, Feb 12, 2020


A
G
Milan, May 13, 2020

One Datathon

An **Innovation Contest** based on **Open Data** from **Pilots** in Western Greece aiming at innovative apps / services **breaking the silos** between application domains

Esmartcity ISI Living Lab dataset

Esmartcity RWG 14 building dataset

Gaia 3 elementary school dataset

Sense.city initiative dataset

Prize #1: **inMyPlace** -> Real-estate evaluation app utilizing Esmartcity energy consumption data, weather data and sense.city data

Prize #2: **Energy Consumption Prediction** -> Esmartcity energy consumption data

High Impact Prize: **SmartSense** -> e-health app utilizing Esmartcity energy consumption data, Gaia data, weather data, patient file data for customized patient notification

10 Mentors

5 Sponsors

11 Supporters

7 Contestants

5 Judges

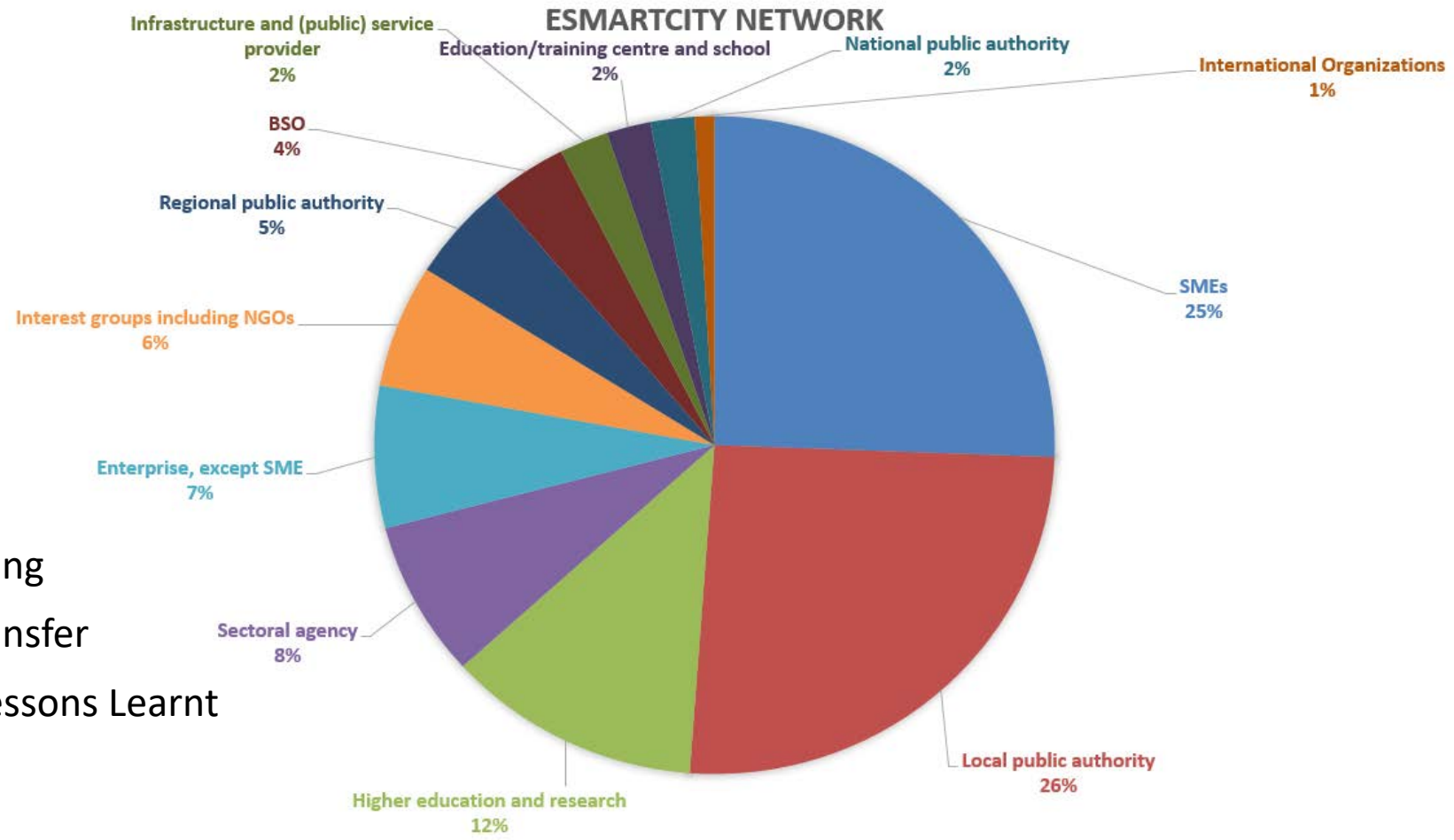
Our network

438
Stakeholders

More than
250,000
public

1
Energy Cluster Upgraded

- Capacity Building
- Technology Transfer
- Pilot Testing Lessons Learnt



Project co-financed by the European Regional Development Fund

Thank you for your attention

Project co-financed by the European Regional Development Fund

Dr. Maria Makri
Chemical Engineer
Manager of Dept. Technical Applications
of Directorate of Industry, Energy and
Natural Resources
REGION OF WESTERN GREECE

REGION
OF WESTERN
GREECE
full of contrast!

What about the Green Paper?

- Recorded and systematised **knowledge** on relevant topics as **Digitalization**, **Open Data** and **Green Procurement**
- Collected **good practices** from Esmartcity implementation and from around Europe
- **Proposals for policy improvement/change** in the partner territories existing policies, strategies and structures
- **Recommendations for Innovation Policy Change**

Translated in local languages of ESMARTCITY partnership for better diffusion

Project co-financed by the European Regional Development Fund

Policy Recommendations [1/2]

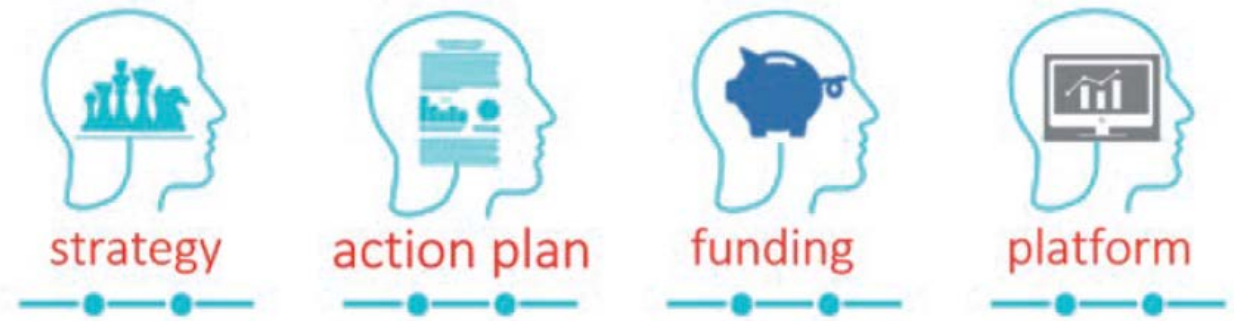
- ✓valorizing knowledge gained during **ESMARTCITY** and its **pilot results**
- ✓being complementary to the recommendations of the **Interreg MED Green Growth Community**
- ✓for Smart Cities, Smart Buildings, Smart Public Lighting, Digitalization, Open Data, Green Procurement and CE
- ✓**relevance** to UN **Sustainable Development Goals** and European Cohesion Policy Framework **(2021-2027)**

Source: UN in collaboration with Project Everyone

Project co-financed by the European Regional Development Fund

Policy Recommendations [2/2]

- ✓using indications about the ***recommendation type*** and the ***policy level*** at which they refer to, as well as using hashtags of key words related with the thematic topic



9 Recommendations

Project co-financed by the European Regional Development Fund

9 Recommendations

#1: Open Innovation Platform

#2: Green and Circular Economy

#3:Green Smart Public Building and Smart Lighting

#4: Advance in Digitalization

#5: Innovative Green Products and Services

#6: Green Public Procurement

#7:Life Cycle Costing

#8: Develop Capacities for GPP and LCC

#9: Public Procurement of Innovation and Pre-Commercial Procurement

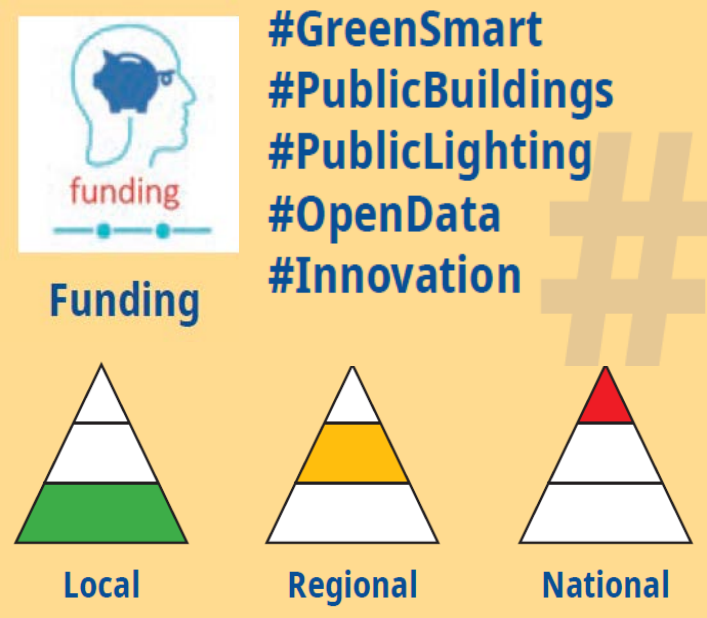
Translated slides of recommendations in greek, portuguese, spanish, italian, bosnian,french and published in social media

Project co-financed by the European Regional Development Fund

9 Recommendations

How are they presented in Green Paper?

i.e. #3 Inclusion of Green Smart Public Buildings and Smart Public Lighting in national funding schemes, ROPs, RIS3 and local Action Plans



Actors

National governments, regional governments, local governments, enterprises, business associations, researchers

Expected results

Greener and SmarterPublic Buildings and Lighting led by Open Data and innovative applications

Connection with 2021-2027 cohesion policy framework

Project co-financed by the European Regional Development Fund

PO1 - a smarter Europe – innovative and smart industrial transformation

PO2 - a greener, low carbon Europe–clean and fair energy transition, green and blue investment, circular economy,climate adaptation and risk prevention

2021-2027 ERDF and CF related Policy Objectives and Specific Objectives

Policy Objective (PO)		Specific Objective (SO)	
		b1	promoting energy efficiency measures
		b2	promoting renewable energies
		b3	developing smart energy systems, grids and storage at local level

Relevant ESMARTCITY Policy Recommendation(s)

#3 Inclusion of Green Smart Public Buildings and Smart Public Lighting in national funding schemes, ROPs, RIS3 and local Action Plans.	
#3 Inclusion of Green Smart Public Buildings and Smart Public Lighting in national funding schemes, ROPs, RIS3 and local Action Plans.	

European
Regional Development Fund

Interreg Mediterranean
EUROPEAN UNION
ESMARTCITY

REGION OF WESTERN GREECE
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Project co-financed by the European Regional Development Fund

Smart City Protocol acceptance by regional / local authorities in the partner territories

Gino Verocchi
Project Coordinator
Abruzzo Region
Italy

REGIONE ABRUZZO

https://esmartcity.interreg-med.eu/index.php?id=12805

Smart City Protocol

a driver for Regional and Local innovation policies implementation.

Gino Verrocchi
Project Coordinator

ROP - Regional Operational Programmes

EU Regions detailed plans to:

- set out how money from the European Structural and Investment Funds (ESIF) will be spent in the next Period 2021-27;
- specify which of the 2021-27 Cohesion Policy's 5 Policy Objectives will be addressed through the funding available

Esmartcity Policies Recommendations

Innovation Policy Changes built on the best practices and lessons learned

Addressed to Regional and Local Public Authorites

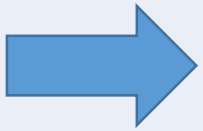
How to reinforce innovation policies and promote

- **Resilient economy**
- **Social cohesion**
- **Climate changes**

Smart City Protocol

Which 2021 2027 ERDF ROP's actions can be improved by the recommended Innovation Policy Changes.

First step: Selection of the most appropriate **Intervention Fields** enforced by each **recommendation**

ESMARTCITY		EU 2021 2027 Cohesion Policy			
Policy Recommendations		Policy Objective		S O	Interv. Fields
		CODE	title	n°	n°
9		PO1	Smarter Europe	4	23
		PO2	Greener Europe	7	27
		PO3	A more connected Europe	4	34
		PO4	A more social Europe	11	43
		PO5	Europe closer to citizens	2	4

Smart City Protocol

Which 2021 2027 ERDF ROP's actions can be improved by the recommended Innovation Policy Changes.

Second step:

Individuated		Country's Investment Guidance on Cohesion Policy Funding	
Intervention fields		Investment Priority	ROP Specific Actions

Smart City Protocol

Partner country	Policy Reccom	ROP Actions
	n°	n°
Greece	4	11
Italy	5	15
France	4	9
Spain	5	15
Portugal	5	11

REGIONE ABRUZZO

Interreg Mediterranean EUROPEAN UNION ESMARTCITY

Ευχαριστω για την προσοχη σας

Thanks for your attention

Green Growth in the MED area and the resilience of territories

Mercè Boy-Roura,
EU Project Manager at BETA Tech. Center / UVic-UCC
Interreg MED Green Growth coordinator

Project co-financed by the European Regional Development Fund

A project labelled by the UfM

Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط

Green Growth in the MED area and the resilience of territories

16/July/2020

THE MED
GREEN GROWTH
COMMUNITY

RESILIENT OF TERRITORIES

Challenges in MED territories:

Climate change and environmental protection

Food security

Demographic pressure & urbanization

Inclusivity

Territorial governance

Resilience to crises

THE MED GREEN GROWTH COMMUNITY

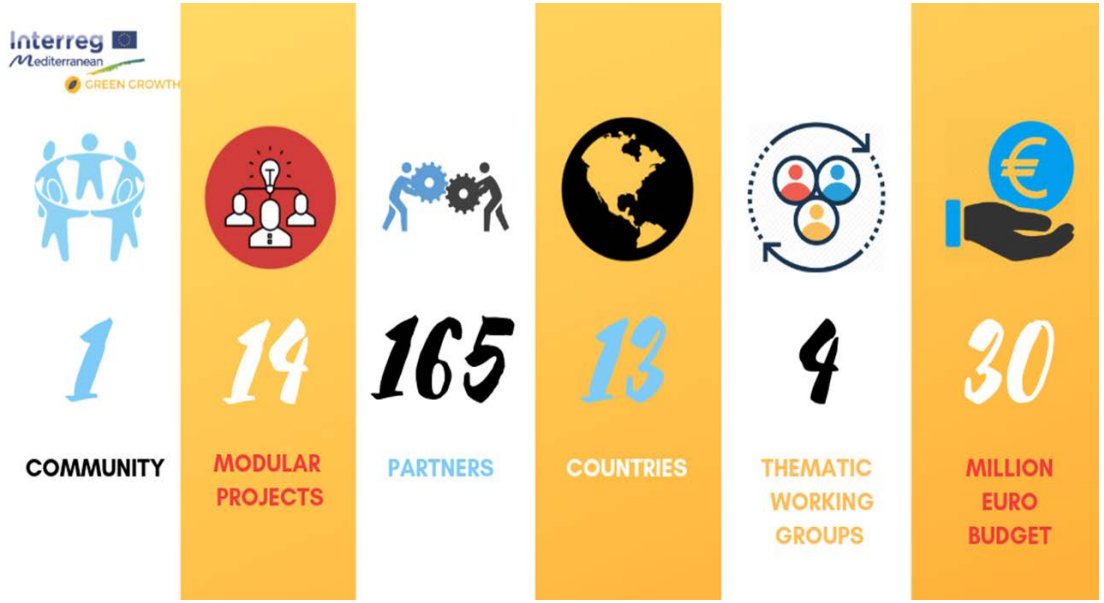
Interreg Mediterranean ESMARTCITY

WHO WE ARE

Interreg MED Green Growth community

A thematic **community** of 14 projects promoting a **sustainable development** in the **Mediterranean** by enhancing cross-sectoral **innovation** practices through an integrated and territorially-based cooperation approach.

The **Union for the Mediterranean** (UfM) labelled the Green Growth Community in October 2019, acknowledging its potential to support the transition to a **green and circular economy** and to deliver concrete benefits to the citizens of the Mediterranean region.



Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط

THE MED
GREEN GROWTH
COMMUNITY

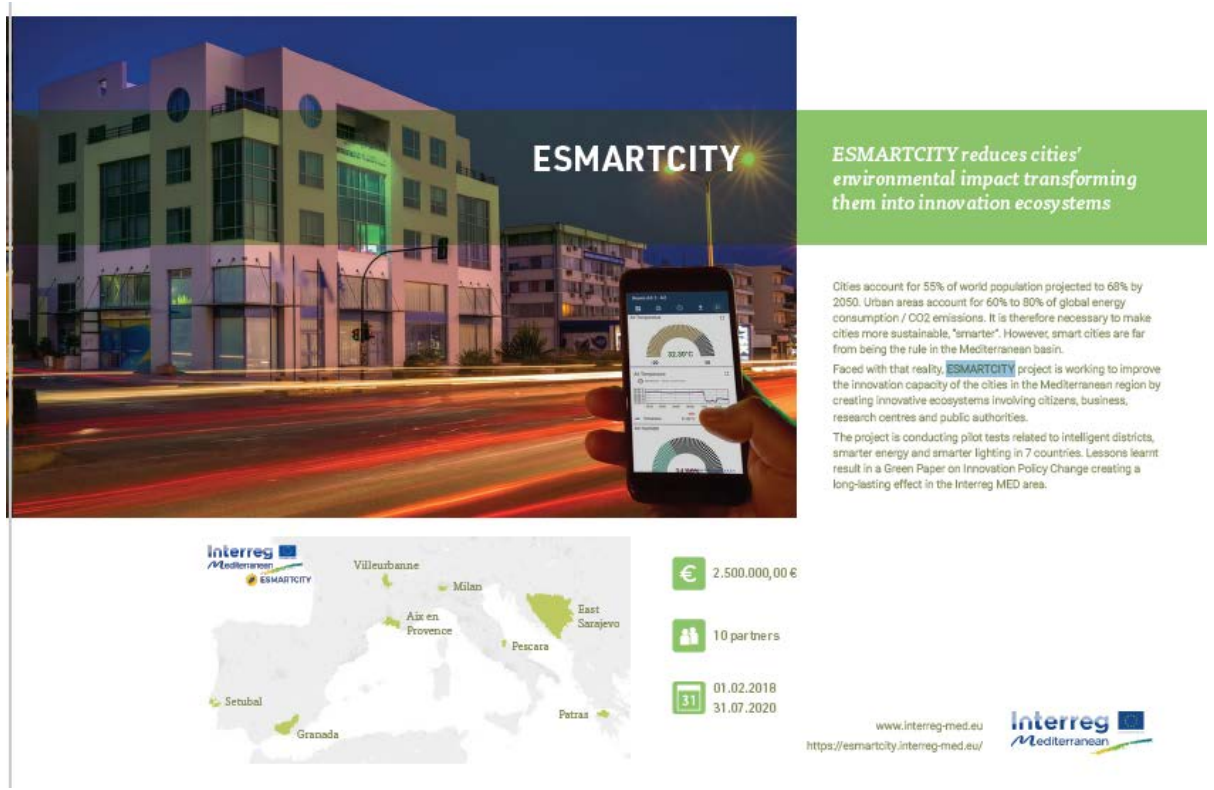
Interreg
Mediterranean
ESMARTCITY

WHAT WE DO

- Support communication activities and promotion of projects;
- Organise events to create synergies among projects and identify opportunities;
- Increase transferring and replication potential of results at other territories;
- Promote capitalization of results at policy level among different interest groups at the European and Mediterranean levels

THE MED GREEN GROWTH COMMUNITY

Interreg Mediterranean ESMARTCITY



[Access to publication]

THEMATIC AREAS

AGROFOOD

ECO-INNOVATION

SMART CITIES

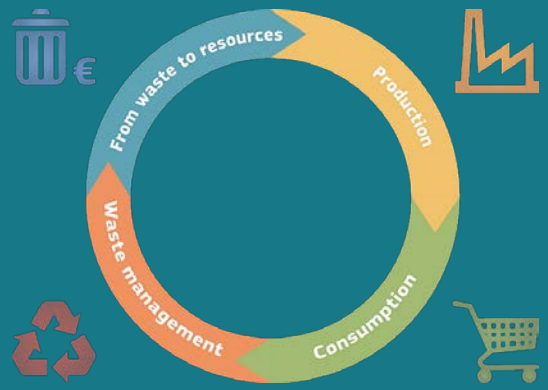
WASTE MANAGEMENT

GREEN GROWTH FINANCE

THE MED
GREEN GROWTH
COMMUNITY

Interreg
Mediterranean
ESMARTCITY

THEMATIC WORKING GROUPS ON CIRCULAR ECONOMY



RESOURCE EFFICIENCY

MAIN TARGETS

Energy efficiency
Sustainable production and consumption
Eco-Innovation and Zero-km Products Market Uptake
Greener Supply Chains
Food Safety

PROJECTS

Camarg
Esmartcity
Madre
Med Greenhouses
Pefmed
Reinwaste

COMPANIES WORKED WITH	PILOTS AND CASE STUDIES	COUNTRIES TARGETED
180	44	9

GREEN AND SMART PUBLIC SERVICES

MAIN TARGETS

- Capacity Building of Public Authorities and SMEs
- Urban Information and Communications Technologies

PROJECTS

Esmartcity
Graspinno
Greenmind

COMPANIES WORKED WITH	PILOTS AND CASE STUDIES	COUNTRIES TARGETED
180	44	9

WASTE PREVENTION AND MANAGEMENT

MAIN TARGETS

- Bio, Organic and Inorganic Waste
- Key Enabling and Best Available Technologies

PROJECTS

Reinwaste
Re-live Waste

COMPANIES WORKED WITH	PILOTS AND CASE STUDIES	COUNTRIES TARGETED
90	4	5

COMPETITIVENESS AND INNOVATION

MAIN TARGETS

- Technological and Methodological Innovation
- Green Jobs
- Patents
- Industrial Symbiosis

PROJECTS

Aristoil
Creainovation
Embrace
Finmed
Graspinno
Greenomed
Reinwaste

COMPANIES WORKED WITH	PILOTS AND CASE STUDIES	COUNTRIES TARGETED
2000	102	11

THE MED GREEN GROWTH COMMUNITY

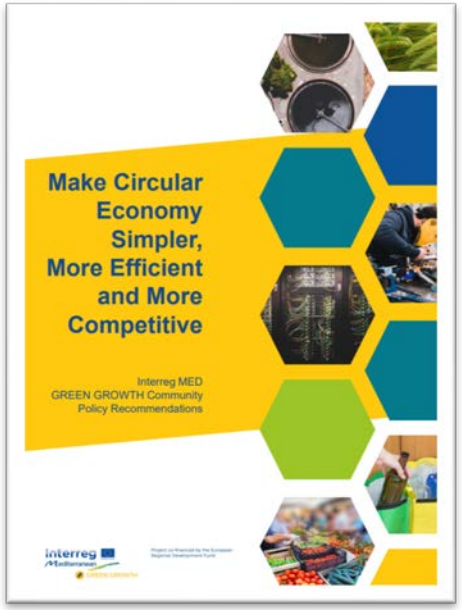
POLICY OUTCOMES

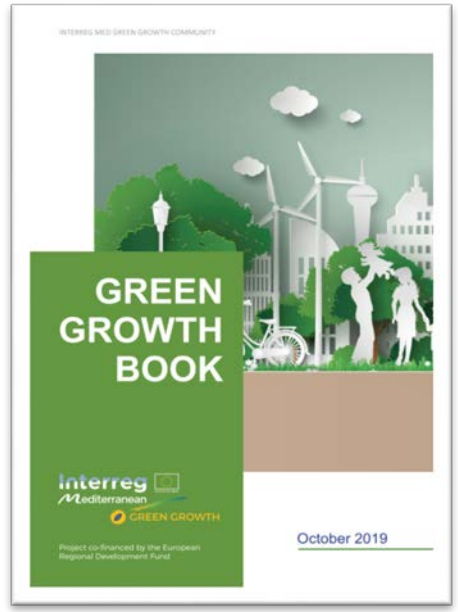
Interreg MED Green Growth community

The **Thematic Working Groups** represented the main context for the synthetisation and capitalisation of the main outcomes of the 14 modular projects that allowed the creation of 4 **policy initiatives**:

- **White papers**
- **Policy recommendations**
- **Legal recommendations**
- **MED Green Growth book**

https://interregmedgreengrowth.eu/





THE MED GREEN GROWTH COMMUNITY

White Paper #2: Towards Circular Towns and Cities

Objective: Promoting Green and Smart Public Services within Mediterranean Municipalities to move towards a CE

Challenges addressed:

- Limited integration between environmental and economic criteria in public procurement
- Need for enhanced capacities among private actors related to eco-innovation and green energy to participate in green e-tenders
- Lack of mobility data at the city level due to a reluctance toward data sharing and high costs for data aggregation and management.

Solutions provided:

- An electronic platform that integrates and standardises three existing tools for green public procurement management
- The promotion of open data and infrastructures as a way to help cities address challenges to maintenance and upgrading
- The promotion of "green and smart mobility" as an industry with high growth potential and the ability to drive economic development.

THE MED GREEN GROWTH COMMUNITY

https://interregmedgreengrowth.eu/white-papers/

Modular Projects (Green Growth Community)

- GREEN MIND, ESMART CITY, GRASPINNO

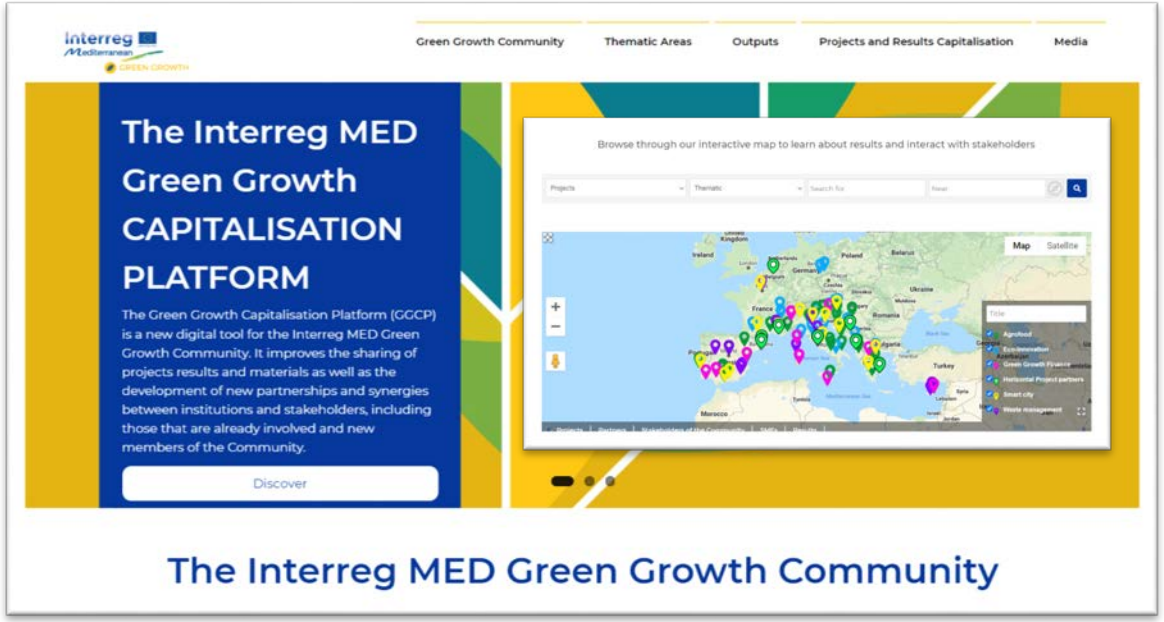
Interreg Mediterranean ESMARTCITY

NEXT STEPS

- Reinforce the **collaboration** across value chains to maximize the capitalization of experiences for a more **innovative** and **environmentally-friendly business sector** (trainings, business forums, learning visits, etc.)
- Facilitate the creation of multi-stakeholder shared **actions plans** promoting the **transfer** of concrete results into **policy framework** (regional workshops, policy papers, advocacy activities, etc.)
- Achieve maximum geographical coverage of territories and actors in the Mediterranean region, including the **southern shore of the Mediterranean** (collaboration with UfM and other initiatives such as SwitchMED, WES, The Next Society, etc.).

THE MED GREEN GROWTH COMMUNITY

https://interregmedgreengrowth.eu/



Follow us on:

@MED_GreenGrowth

Interreg Mediterranean GREEN GROWTH

Partners:

Beta Biodiversitat, Ecologia i Tecnologia Ambiental i Alimentària UVIC Universitat de Vic Universitat Central de Catalunya

REVOLVE

CUEIM Consorzio Universitario di Economia Industriale e Manageriale

dynamicvision consulting & communication services

ERRIN European Regions Research and Innovation Network

ANIMA Investment Network

CENER Center for Energy, Environment and Resources

Interreg MED Green Growth community coordinator

BETA Technological Center
University of Vic – Central University of Catalonia (UVic-UCC)

Project Manager Mercè Boy Roura merce.boy@uvic.cat

Financing opportunities in the Mediterranean 2021-2027

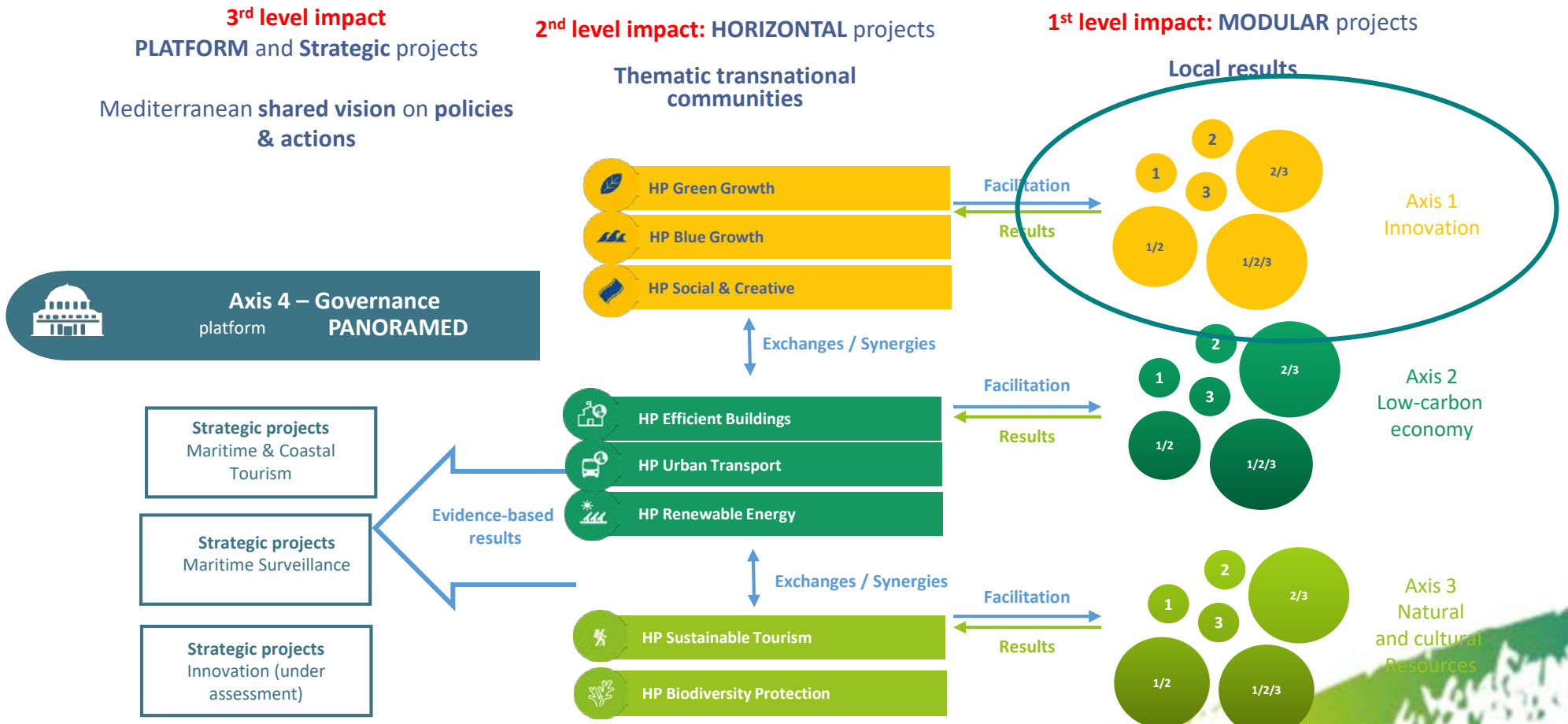
Ludivine Lavoine
Interreg Med Joint Secretariat

Interreg Med Programme 2014-2020

- **13** countries **: 10** EU MS **+ 3** IPA countries
- **TOTAL** including national co-financing ≈ **276 M€**
- **ERDF** funds: ≈ **224 M€**
- **IPA** funds: ≈ **9 M€**

- **Public** and **private** actors (SMEs)
- Co-financing rate between **50% and 85%**

Interreg MED Programme Architecture



Approved projects so far

Interreg Mediterranean EUROPEAN UNION
ESMARTCITY

- Green Growth — 16 projects
- Blue Growth — 12 projects
- Social & Creative — 13 projects
- Urban transport — 9 projects
- Renewable Energies — 8 projects
- Efficient buildings — 12 projects
- Biodiversity Protection — 17 projects
- Sustainable tourism — 24 projects
- Governance — 5 projects

880 beneficiaries

95 modular projects

8+8 Horizontal projects

1 Platform project

4 Strategic projects

=

116 approved projects

Complementarity as key word of 2014-2020 period

2021-2027
in the Mediterranean area

2021-2027 key concepts:

climate change /impact / Mediterranean resources/ sustainable growth/ citizens

climate friendly economy

competitive innovation ecosystem

efficient resources use and management

circular economy sectors

green infrastructures,

Restoration of polluted/overused environment

adaptation and resilience

connection of urban and hinterland areas

planning and financing for climate change

connectivity of natural ecosystems

resilience of natural habitats

Prevention of environmental risk

2021-27 orientations for Med area

PO 1: a smarter Europe by promoting innovative and smart economic transformation

PO 2 “a greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management”

2021-27 Programme architecture

3 levels of actions:

- Programme Governance: Crosscutting (multilevel governance): whole main MED area
- Project's governance : Horizontal projects
- Territorial governance : Modular projects

New concept of territorial sub areas

Thank you!

Ludivine LAVOINE

Financial officer / Responsable financier

Interreg MED Programme - Joint Secretariat

Tel.: +33.(0)4.88736362

Mail : llavoine@maregionsud.fr

www.interreg-med.eu

2nd part this afternoon…

14:00 - Economy, Green Deal and Digital Age: Prepare your territory, university and industry for Europe's top 3 priorities for 2021-2027

15:30 - BtoB meetings with the Euro-Mediterranean Smart City ecosystem

THANK YOU

Interreg Mediterranean EUROPEAN UNION ESMARTCITY

REGIONE ABRUZZO

iSi INDUSTRIAL SYSTEMS INSTITUTE

INSA INSTITUT NATIONAL DES SCIENCES APPLIQUÉES LYON

rais City Development Agency East Sarajevo

Capenergies

Città metropolitana di Milano

Diputación de Granada Avanzamos junt@s

aeg

ENA AGÊNCIA DE ENERGIA E AMBIENTE DA ARRÁBIDA

REGION OF WESTERN GREECE full of contrast!

POLITECNICO MILANO 1863