



**Action Plan of the EMPOWER Project:**  
More Carbon Reduction by Dynamically Monitoring Energy Efficiency

**The Regional Resource Recovery Agency  
of Tuscany - Italy**

## Contents

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## 1 Executive Summary

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### 1.1. Introduction

This Action Plan was drafted as a result of continuous and close work with the stakeholders of the Empower project, first of all the MA, Tuscany Region. Thanks to the Empower project and to the relationships with the European partners we have been able to compare and import methodologies and good practices, which we have included in a path that the Tuscany Region has undertaken for three years.

Monitoring of energy consumption in new innovative ways is one important approach for the public sector, as new ways to obtain funding in order to improve energy efficiency of public buildings.

Empower project found innovative solutions, that offer opportunities to carry out assignments in completely new ways, contributing to efficiency, but also the possibility of better planning and results, especially from the public administration perspective.

This transformation set new requirements and the need for political leadership, change management, new work processes, as well as new working methods. The transformation, that we want to do in Tuscany, require strategy and investments, and this means there is a need to be able to value and to secure the benefits of the solutions developed to make clear priorities and draw conclusions from the changes that are made.

Our action plan will focus on implementing these new methods for coproducing and calculating the qualitative and quantitative effects of the improvement.

- Identify needs
- Develop the solution
- Test it with endusers
- Follow up and analyze the benefits

Monitoring is ultimately about a change of public buildings management where political willing is central to implementing the required changes, meeting the needs of a new reality. For that reason, our coming projects will focus on a strengthened interregional cooperation and also on educating key stakeholders within the public bodies.

ARRR Staff



1.2 Presentation by Valerio Marangolo, Tuscany Region, Programming Officer, Responsible for the management of EU funds

The Tuscany Region has participated in the Empower project, as the main stakeholder, since it started on our territory.

With Empower we interacted to evaluate the projects presented at the POR CREO call, to which the Region has allocated 52 million euros after having initially provided for 32. It was a great economic and addressing effort, to urge local authorities to intervene with projects to make public buildings more efficient.

Thanks to Empower we have emphasized the role of monitoring in the projects presented, to improve them; we generally think of improving the regional strategy by including both a greater commitment to fundraising, and skills and investments in monitoring consumption.

This commitment of the Region is reflected in this Action Plan, of which we share the approach, and in the proposed actions, that we will support.

As in other projects in which the Tuscany Region has participated, the international experience has been of great help.

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REGIONE TOSCANA



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**EMPOWER PROJECT**  
**support to the Action Plan of the Empower project**

For Tuscany Region the Empower Project is part of the shared path to contribute to the achievement of the environmental strategic choices for the next years.

The heart of the new Tuscan plan is fighting the climate change, in view of an evolution of the strategy that identifies the goal of a zero-emission emissions balance by 2050.

Tuscany's strategy on the environment is therefore already clear, on the actions to be taken in the 2050 perspective for a Tuscany that is carbon neutral.

For Tuscany Region Empower helps the path that will allow us to build together an overall sustainability strategy that will make the common heritage of all those contributions, those good practices, those ideas that can come from civil society.

A path that can be built in the bed of a international strategy, which is made up of various regional elements but which can then count on the contribution of the academic world and the various sections of society.

Tuscany therefore takes the challenge of sustainability very seriously and intends to put in place a series of tools aimed at identifying the most useful interventions to achieve the objectives of a development that knows to associate economic growth with the issues of environmental protection and social equity.

Empower Project has had the great merit of stressing public bodies on the importance of monitoring the activities and results obtained in the field of energy efficiency.

The Tuscany Region therefore undertakes to support this Action Plan, which in its actions represents a coherent development with the activities that have so far been carried out.

The councilor for the Environment of Tuscany Region

Federica Fratoni

Florence, 16th January 2020

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## 1 General information

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- Partner organisations: ARRR
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## 2 Policy context

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The Action Plan aims to impact:

- Investment for Growth and Jobs program
- European Territorial Cooperation program
- Other regional development policy instrument

**Name and reference of the policy instrument addressed: Axis 4  
"Support the transition to a low-carbon economy in all sectors" - Action 4.1.1 of the POR**

*Regional Operational Program ERDF 2014-20, Axis 4 - supporting transition towards a low carbon economy in all sectors. Regional Government of Tuscany*

Axis 4

"Support the transition to a low-carbon economy in all sectors" - Action 4.1.1 of the POR

Background

Energy consumption in buildings represents around 40% of total final energy use in Europe. The objective of carbon emission reductions by 20% within 2020, together with the energy dependence from imported fossil fuels offer a solid basis for continued investments in renewable energy infrastructure in Tuscany.

Regional political commitment is clearly stated in the approved POR-CREO 2014-2020 as well as in the Tuscany Regional Energy Plan (PIER) in which goals are specified for each renewable source as well as the relevant incentives that will be offered in order to achieve those goals.

Promotion of renewable energy technologies is supported by specific policies and regulatory frameworks for energy efficiency as well, but it needs to be improved, better specified and promoted.

What needs to be improved in the territorial situation?

In Tuscany problems in energy saving vary between historical buildings, outdated, non-ecologically friendly buildings built from the 2nd world war till the 70's, modern buildings expected to be built with sustainable technologies built from the 1990's onwards.

Together with the existing regulation, inexpensive tools using ICT solutions must be financed and created to empower the Public Administration and decision makers to plan, invest but, above all, monitor the achievement of objectives identified in the OP and fulfil what is established by the Energy Performance Building Directive on the performance of buildings. Thus, the Region can reinforce its role.

It is crucial to reinforce the strategic dimension of the policy and to ensure that EU investment is targeted on Europe's long term goals for growth and jobs.

*Main features of the policy instrument: the regional call relating "POR 2014-2020- Action 4.1.1 - Energy Efficiency Projects of Public Buildings*

POR 2014-2020, Axis 4 focuses on actions to reduce energy consumption and pollutant emissions from industrial enterprises, giving priority to high efficiency technologies. These aims are pursued through two actions: the energy efficiency of buildings and production processes, where almost 80% of the axis's financial envelope is concentrated, also through the introduction of process and product innovations facilitating experimentation and dissemination of renewable energy sources for self consumption.

**To improve the territorial situation related to poor energy efficiency of public buildings with average energy consumption of 160 kWh / sqm (e.g. schools), a specific investment priority was addressed: support to energy efficiency and renewable energies in public infrastructures and buildings.**

**A reduction of energy consumption is necessary because it will reduce costs, carbon emissions and risks.**

**For all these reasons, Tuscany Region, with the AFE (now ARRR) support, published the call relating "POR 2014-2020- Action 4.1.1 - Energy Efficiency Projects of Public Buildings".**

The Tuscany Region with executive decree no. 10360 of 14 July 2017, approved the call for tenders for Por Fesr 2014-2020 - Energy efficiency projects for public buildings: The purpose of the call is to incentivize the realization of projects to improve the energy efficiency of public buildings of Local Authorities and Healthcare Authorities or Hospitals of Tuscany. The call is co-financed by the Regional Operational Program (Por) of the European Regional Development Fund (ERDF) 2014-2020, and in particular by the resources allocated on axis 4 "Supporting the transition to a low-carbon economy in all sectors" - action 4.1.1 of the program.

The call for funds initially amounted to € 8,000,000.00 of which € 4,000,000.00 for Local Authorities (Municipalities, Provinces, Municipal Unions and Metropolitan Towns) and € 4,000,000.00 for Local Healthcare Hospitals on availability of Axis 4 "Support the transition to a low-carbon economy in all sectors" - Action 4.1.1 of the POR.

The funds are Capital grants, destined for local authorities and health agencies and hospitals, up to a maximum of 90% of eligible expenses, for thermal insulation interventions, replacement of frames and fixtures with high efficiency air conditioning, remote control, regulation, management, monitoring and optimization of energy consumption and pollutant emissions, cogeneration and trigeneration, heat pump or solar collector water heaters, and to realize district heating and district cooling networks.

Local authorities and health agencies and hospitals had to submit projects to the offices of Tuscany Region, to form a ranking. The winning projects are financed.

The call was officially closed the 03 of April 2018.

The call has been a great success: 220, between municipalities, other public bodies, health institutions, presented 296 projects for the energy improvement of their buildings.

Of the 296 projects submitted, 243 projects were admitted to the ranking.

The initial allocation of funds has been progressively increased to finance more projects. The Tuscany Region with decree 7873 of 20 May 2019 approved a further scrolling of the ranking of the project applications submitted in response to the 2017 Por Fesr 2014-2020 call for tenders for energy efficiency improvements in public buildings.

The call for tender thus finances up to the 143rd project of the single ranking, reaching a commitment of public contributions of 53.2 million.



## 4. Empower and Tuscany

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### 4.1.1 Intention

The purpose of this regional action plan for Tuscany is to improve monitoring systems and funding through the project Empower, to contribute to the potential of energy efficiency in public buildings. We work to ensure that the Tuscan region makes a public commitment to support a further strategy to improve the energy performance of all its buildings by the end of the legislature (spring 2020). However, we will open a comparison with the same goals with the administration that will be elected in the spring of 2020.

### 4.1.2 Demarcation

Our ambition is that the results of the activities and projects defined below will be important knowledge to take in account in the forthcoming regional policies.

### 4.1.3 Empower

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EMPOWER (More carbon reduction by dynamically monitoring energy efficiency) works on the exchange of good practices on dynamically monitoring energy efficiency in buildings, with special focus on the use of innovative financial instruments, in order to achieve more carbon reduction and to improve low-carbon economy policies.

The project's main objective is to reduce carbon emissions from buildings, particularly in medium-sized schemes, while also supporting jobs and growth in the local economy. We worked to improve regional policies by:

Analysing partners' plans through peer review.

Identifying good practices that will improve these plans, studying them through Study Visits, importing them via special workshops and Regional Action Plans.

Developing cost-effective energy monitoring systems and using these in existing buildings and to attract private investment.

Building the capacity of all relevant public authorities including ERDF Managing Authorities.

The project's main outputs will benefit the building users, key decision-makers, SMEs working in energy, investors. They are:

New projects that innovate by applying cost-effective energy monitoring to reduce energy demand, using new technology.

Improved governance between different levels of government, using the plan–do-act-check principle and providing quality data to attract and reassure commercial investor.

## Stakeholders

The main stakeholder of Empower is **Tuscany Region**, supported by its technical department Environment and Energy.

The public sector could lead the way in the field of energy performance of buildings upgrading its working practices, as established by the Directive 2010/31/EU on the energy performance of buildings. However all actors in the community have a significant role to play, as in all sustainable energy initiatives.

Other stakeholders:

Policy Makers-Decision Makers: to make the transition to a low-carbon economy happen in the future, policy makers have a strong role to play today giving strong positive signals.

Public Administrations – Municipalities: institutional facilitators for a new market based mechanism and manager for the incentives.

Municipalities and Regional Health Service can now play an exemplary role to foster the promotion of audits, smart meters and remote management of public buildings, also thanks to the funds from the regional call.

These stakeholders might implement measures of the action plan.

Buildings Managers: with their role they could be promoter of the actions provided by the project.

SMEs: technology providers.

ESCOs: in some cases, investments can be made through energy service companies.

Banks and other financial institutions: alternative funding opportunity

CET: Tuscan energy consortium, Entity availed of by the Region of Tuscany - Aggregator for the performance of tender procedures for the supply of electricity, natural gas and heating fuels and for energy efficiency measures.

SILFI Firenze, Lighting Company and Smart City Services.

Casa SpA, the Public Company that creates and manages the public residential buildings in the Metropolitan area of Firenze.

University of Firenze, Department of Industrial Engineering.

Municipality of Firenze, European Projects and Smart City Office.

## 5. The lessons applied so far

The improvement of the policy instrument has been envisaged in the period 2018-2021 through the implementation of THE NEW PROJECTS, presented at the Regional call, that meet the requirements of the planned investment priority, capitalizing from the experiences of other partners, through IMPROVED GOVERNANCE to manage ERDFs (using ICT tools and solutions) through IMPROVED GOVERNANCE to manage monitoring and funding in a more strategic way.

Institutionally, ARRR (former AFE) supports Tuscany Region Energy Department to improve the effectiveness and efficiency of investment supported by the ERDFs for the policy instrument proposed, and has to affect other public and private investments and enforce regional policies by promoting a sustainable economy.

Empower has been directly involved in the evaluation of the projects, and next step will be the commitment of the Tuscany Region to consider the monitoring of consumption of its buildings as strategic, and therefore to plan concrete interventions for this purpose.

These goals will be reached in a more effective manner by the implementation of joint actions and policy exchanges and elaborating the lessons learnt from cooperation into proposals for regional actors.

These improvements could give an authentic added value of buildings towards high energy/environmental performance, energy savings, a better implementation of energy policies, a positive attitude towards energy management programmes and smart behavioral change.

All these actions have been proposed to the Managing Authority.

Empower project could not receive the funds for a tender for local authorities, but, thanks to interregional exchanges we appreciated the importance of monitoring and programming, analyzing above all the experiences of Rennes, Santander, Magdeburg; thanks to Empower we influenced the POR, in collaboration with the Tuscany Region, managing authority: consumption monitoring has been made mandatory in all projects to be submitted; not only, Empower was directly involved in improving the evaluation of monitoring inside the winning projects, and till now specifically improving three projects: AUSL NORTH WEST (Livorno Hospital), AUSL Centro (Careggi Hospital), University Hospital Siena.

Thanks to our local GP of Versilia, Green Hospital, Casa SpA, and the study of the Partners GP mentioned above, ARRR helped the implementation of the NEW PROJECTS that meet the requirements of the planned investment priority and that gained the Regional Funds from the call "POR 2014-2020- Action 4.1.1 - Energy Efficiency Projects of Public Premises".

Projects implemented thanks Empower since September 2018, as part of the commitment to improve the regional strategy:

### 1. AUSL NORTH WEST (Livorno Hospital)

The project provides, through the calculation of the energy balance of the structure, to replace the air conditioning systems of the walkways on the first floor with others with systems powered by high energy efficiency electric heat pumps, also distributed on the

ground floor in areas where it is already present heating by radiators.

The calculation takes into consideration the entire structure (first and ground floor) and the "saving" requirement was analyzed on the two floors, providing for the contribution of the ground floor through the construction of aluminum or PVC frames with low emission glass-chamber on original design, as was done in the recent replacements, which can support the heaviness of the double-glazed windows and reconcile the needs of maintenance and containment of energy costs with those of protection of the historical good.

The type of fixture is shown in the details of the attached project and in the technical descriptive documents. On the first floor, instead, the existing aluminum frames will be modified by inserting insulating panels in the opaque infill parts and in the false ceiling, installing, then on the outside, lamellar aluminum sunshades in such a way as to drastically reduce direct radiation and therefore consumption. to the benefit of the overall yield of the new plant.

Intervention 1: installation of insulating panel in mineral wool sp. 5 cm. in the false ceiling of the first floor; Intervention 2: installation of polystyrene insulation panel sp. 1.5 cm in the interspace of the first floor corridor sandwich panel; Intervention 3: replacement of the fixtures on the ground floor with others having a PVC or aluminum frame and double glazing 6/7 + 18 arg + 6/7 SEL; Intervention 4: installation of a new direct expansion heat pump system with ductable indoor units equipped with a heat recovery unit for air renewal

**Empower required and obtained remote control and consumption accounting inside the project.**

## **2. AUSL Centro (Careggi Hospital)**

Replacement of fixtures and installation of an automatic control system for switching lights on and off in toilets

**Empower asked and obtained the inclusion of automatic control systems.**

## **3. University Hospital Siena**

The first project was to install a cogeneration unit as an integrated system that offers an efficient and ecological way to simultaneously produce heat and electricity. The plant consists of a cogenerator with a total power of 1013 electric kW and 1056 thermal kW. The interfacing with the ENEL network will take place by means of a special parallel panel provided by the cogenerator manufacturer able to guarantee the perfect compatibility of the self-produced electrical energy with that of the ENEL network, while for the thermal part the interfacing will occur, in the winter period, with the traditional thermal plant considering the thermal energy of the cogenerators identical to that produced by the traditional boiler; in fact the cogenerator will be placed in parallel with traditional boilers. A special regulation apparatus will allow to operate the different heating machines giving priority to the operation of the cogenerator.

**Empower asked and obtained the Remote management system with control center.**

**ARRR will continue to help the Tuscany Region to evaluate the projects presented and to give indications to improve them, also according to what was learned from the exchanges that took place with the Empower project.**

## 6. SCHEME OF ACTIONS

Thanks to Empower project and exchanges, our Action Plan wants to generally IMPROVE the GOVERNANCE to manage ERDFs (using ICT tools and solutions) and IMPROVE the GOVERNANCE to manage monitoring and funding in a more strategic way.

Source or inspiration from the project (initiative/activity or good practice that inspired the action)	Action	Sub- Action (if Any)	Stakeholders involved	Costs	Financing sources	Timeframe
MBS of Magdeburg, Rennes	Improve the knowledge of public buildings consumption to identify priorities and determine the maximum energy savings potential	Realize with CET (Regional Stakeholder) a new monitoring system concerning Regional Buildings data	Tuscany Region, CET	Euro 25.000,00	CET Funds	31/12/2019
Santander City Control Room	Develop the Smart Control Room of the Firenze metropolitan area in a more integrated system		Silfi, Municipality of Firenze	3.2 million euros	European funding deriving from the H2020 SCC1 Replicate project and from the ERDF funds of the Florence Metro NOP	31/12/2020

## 7. Actions description

### ACTION 1

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#### Implementation of a new monitoring system for regional buildings

##### Background

CET (Tuscany Energy Consortium) is a public company, property of Tuscany Region, Municipalities, Health Public Services, that has the energy efficiency as a target. Among the services carried out by the CET for its members or the affiliated bodies, as provided for annually by the program plan approved by the shareholders meeting, the CET provides assistance for the management and monitoring of the members connection practices (new connections, changes in power, transfers, takeovers, etc.) and carries out checks on the billing issued by the successful bidders of the tender procedures relating to the supply of electricity and natural gas. Assistance and checks are carried out using specific software, called WOM.

##### Details of the Action and sub measures

To improve the data collection service and control the flow in real time the CET has decided to invest 20/25000 euros in the exchange of the server and the software.

The software for the execution of CET services will be the result of a customization of the program based on WOM technology (Work Organizing Management), the professional IT system for checking invoices and managing utilities, already used by the MUNICIPALITY of FLORENCE, TUSCANY REGION, METROPOLITAN CITY OF FLORENCE and other public administrations of Tuscany.

The main features of the WOM application will include:

- management of the Partner CET registry;
- the management of the user database of CET members, about 19,000 of electricity and 4,200 of gas

Relevance to the project: The Cet action is fundamental for the project: with its own funds, this public company will start the automated and centralized collection of some regional buildings. In practice, it will form the first regional data collection system in real time.

##### Exchange of experiences

The international experience gained with the Empower project was one of the reference

points for the design of this action. In Empower we have studied many experiences of monitoring energy consumption, in different situations. Saint Sulpice la Forete's experience has shown us the importance of local reworking of software systems, in that case adapted in a small town. In our case the scale is much greater, but we have been able to appreciate the importance of the close confrontation with universities and software developers to adapt IT systems to specific needs. We also compared the Almada systems, comparable to those implemented in Florence by CasaSpA, the society of the Municipality of Florence that deals with social housing.

We studied the HERB Project, Holistic Energy-efficient Retrofitting of residential Buildings, that was implemented in Almada between 2012 and 2016. It focused on the development and demonstration of energy efficient new and innovative technologies and solutions for retrofitting and performance monitoring of residential buildings in EU countries. In Almada, the demonstration building is located at the parish of Caparica. It is a multiapartment building used for social housing purposes and started off with very low energy standards. The energy refurbishment of this building included roof and external wall insulation; solar thermal and PV hybrid collectors with surface nanocoating; high efficiency double glazing windows; LED lighting; natural ventilation and the installation of a remote monitoring system with sensors for electricity, gas and water consumption, alongside with humidity and temperature sensors.

The need to have data in real time, each in its size; the opportunity to invest in tailor-made IT systems, with the help of local University and the comparison with similar experiences at European level: these are the conclusions we reached thanks to Empower.

We held several exchanges and four meetings about all this topic, attended by Sergio Gatteschi for Empower, and for the CET the administrator Marco Gomboli and the engineers Alessandro Malvezzi, energy expert, and Filippo Stortoni, Information Systems Manager, comparing the monitoring systems of Aint Sulpice, Magdeburg, Almada and Santander, with those that CET will implement.

The meeting were held in CET offices, in Piazza Indipendenza in Firenze, 29.03.2018, 26.04.2018, 10.10.2018, 20.03.2019.

CET also participated in the study visit that Empower performed at Silfi's Control Room, the 29 of May 2018.

### Stakeholders involvement

- stakeholders involved: Tuscany Region, Cet.
- The Tuscany Region is interested in the development of a regional network for consumption monitoring, and is a member of the CET, to which it provides the political guidelines. In this case the political importance of centralized and verifiable monitoring in a short time is fully shared by the Energy office of the Tuscany Region.
- The CET has decided to allocate its own funds to support the structural improvement of

the monitoring system; Cet engineers have directly participated in the software project, giving guidance to the developers. The Cet will manage the data and provide it to the public bodies that own the buildings.

#### Timeframe and costs/funding sources

- Timeframe: Winter 2020
- Costs 20/25.000 Euro
- funding sources: CET Funds.



## ACTION 2

Develop the Smart Control Room of the Firenze metropolitan area in a more integrated system: The New Florence Smart City Control Room will improve the existing CR bringing together in a single place the monitoring functions of the metropolitan area.

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### Background

Silfi ( Acronym for Lighting Company Florence and smartcity services SpA ) is a public society, property of the metropolitan City of Firenze; Silfi is a stakeholder of Empower. The action at Silfi is now to build a new "Smart City Control Room" for the Municipality of Florence and the metropolitan area.

There is currently a Control Room in the city of Florence, which uses well-tested and already active instruments for traffic control and public lighting, with traffic light synchronization systems, with traffic control with sensors and cameras, mobility control electricity and car & bike sharing, public lighting monitoring and its consumption. The ongoing experience of the Silfi Control room is already providing a huge and useful amount of data about traffic and public lighting, including energy consumptions, environmental data on air quality and weather. Two large screens already show all the monitored activities in an office of the Major in Palazzo Vecchio: many decisions can already be taken in real time, and all the municipalities of the metropolitan area of Florence have joined the project.

### Details of the Action and sub measures

The comparison with international experiences (including those of the Empower project), the participation in dedicated European projects, have led the Municipality of Florence towards creation of a **new control room** that receives the data and interfaces with more situations and in a wider area, multiplying its effectiveness. In the new Control Room, all the functions will be transferred to the company that already takes care of the 'smart' part of the city, it will act automatically taking the decisions and reorganizing. The Control Room will monitor traffic, water and electricity services, public lighting, traffic light systems, waste bins, the ZTL and parking . A part is already started with the mobility dashboard: the detection of the transit of vehicles, the level of waste bins, information on air quality, are monitored by sensors and converge in a software that reads these data in an integrated manner. All this will serve as a basis for managing the SCCR

.The main stakeholders and beneficiaries are the municipalities of the Florentine metropolitan

area, the technicians and the energy manager, the citizens. The system used for data collection and processing is an open source system of the University of Florence: Unifi research to make Florence one of the most advanced smart cities in Europe.

The researchers of the DISIT Lab (Distributed Systems and Internet Technology Lab) of the Department of Information Engineering (DINFO), coordinated by Paolo Nesi, participate in the REPLICATE project funded by the Horizon 2020 program.

The project - which will also be developed in Europe by the cities of San Sebastian in Spain and Bristol in England - is coordinated nationally by the Municipality of Florence and sees over 30 partners and the collaboration of important international companies such as Toshiba, Thales, NEC and of Italian companies such as Telecom, Enel, and CNR with the aim of developing smart city technologies in the field of energy, transport and ICT. The DISIT Lab will take care of implementing the technologies in particular in the field of ICT working on automation and data management as well as the interface of the various applications for citizens. 10 million assigned to Florence for the project (30 overall at European level). Of these, half a million will go to DISIT. Empower aims to interface the new control room with energy data from public buildings and will ask for a commitment of public authorities.

- **relevance to the project:** The Action, on which we have achieved important convergences in meetings with stakeholders, is to improve the Smart City Control Room, following the example of that of Santander, with the inclusion in the data collection of data from the water network, from the separate collection of waste, from the energy consumption of public buildings. We visited the Santander Control Room in March 2018, and it has been a great experience for us.
- Santander developed the Smart City Platform & IT office in charge of developing the Integrated City Management, following and updating the guideline included in Santander Smart City Strategic Plan.

We hosted a study visit with Empower Partners in Firenze Control Room the 29 of May 2018, and an Import Workshop with Sonia Muniz from Santander the 12 June 2019. We had a Stakeholder Group Meeting the 29 November 2018 in Municipality of Firenze Offices, with the participation of Alessandra Barbieri, European Planning Service to the Municipality of Florence, that has in charge The Replicate Project. Alessandra Barbieri and Matteo Casanovi, AD of Silfi, participated at the import workshop. Matteo Casanovi participated at the study visit of May 2018.

We must be able to get the authorities that control the Control Room (mainly the Municipality of Florence) committed to improving the current project. A new administration has taken over (there were the elections on 25 May 2019) and we need to resume contacts with political decision makers.

#### Stakeholders involved:

- Silfi, Municipality of Firenze.

- SILFI is the public company that manages the current control room in Florence and has the technical task of: extending monitoring services throughout the metropolitan area of Florence; offer the spaces to host the new control room; implement the hardware and software of the new control room.
- The Municipality of Florence is the leader of the REPLICATE project, and is the beneficiary of the European funds destined for the new control room.

The Municipality of Florence is the body that decides the strategy to implement the control room and the quality of the data to be collected.

#### Timeframe and costs/funding sources

- Timeframe: from spring 2019 to winter 2020.
- Costs: 3.2 million euros
- funding sources: European funding deriving from the H2020 SCC1 Replicate project and from the ERDF funds of the Florence Metro NOP.

#### 7.2 Disseminate the results from the two actions above

The Empower project has already been the subject of dissemination in the meetings with stakeholders, with press release, with the newsletter, and with the major event of 26 March 2019, when over 300 participants in the regional call on energy efficiency of public buildings were informed of the contributions made by Empower. The dissemination activity will continue until the end of the project, in January 2021, also considering the innovations that we will be able to communicate: the political choices of the Region, the first real-time data collections from regional buildings thanks to the CET, the creation and implementation of the new Florentine metropolitan control room.

- Timeframe

4.2.1 Improve the regional strategy	31/05/2020
4.2.1 Realize with CET (Regional Stakeholder) a new monitoring system concerning Regional Buildings data	31/12/2019
4.2.1 Develop the Smart Control Room of the Firenze metropolitan area in a more integrated system	31/12/2020
4.2.1 Disseminate the results from the three actions above	01/01/2021
	31/03/2020

<i>Future projects/Actions Investment Line/Source of funding)</i>	<i>Submitted for funding</i>
	31/03/2019
	30/06/2020

## Monitoring activities in Phase 2

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The monitoring of the activities in phase 2 will be relatively simple: since we have clear and defined goals and times we will have to check that the commitments made are maintained, and in what form.

The Tuscany Region is committed to providing directives to local authorities and health authorities to extend monitor energy consumption and search for funds through various sources. Then we will follow the course of the directives and their publication.

### Action 1

CET has undertaken to develop a centralized system to collect data from regional buildings. Therefore it is necessary to verify that this happens, with what times and with what modalities.

### Action 2

The metropolitan city of Florence is committed to improving and extending her Smart City Control Room. We will therefore have to check which additional data will flow to the Smart City Control Room, and which are effective for energy efficiency.