



Project

**“HeLLO - Heritage energy Living Lab onsite”**

Marie Skłodowska Curie action\_Individual Fellowships Standard

***Focus on the critical issues encountered in the construction of the proposal,  
strategies and evaluation assessment***

*PhD Luisa Dias Pereira*

*Prof. PhD Pietromaria Davoli*

*PhD Marta Calzolari*

*PhD candidate Valentina Frighi*



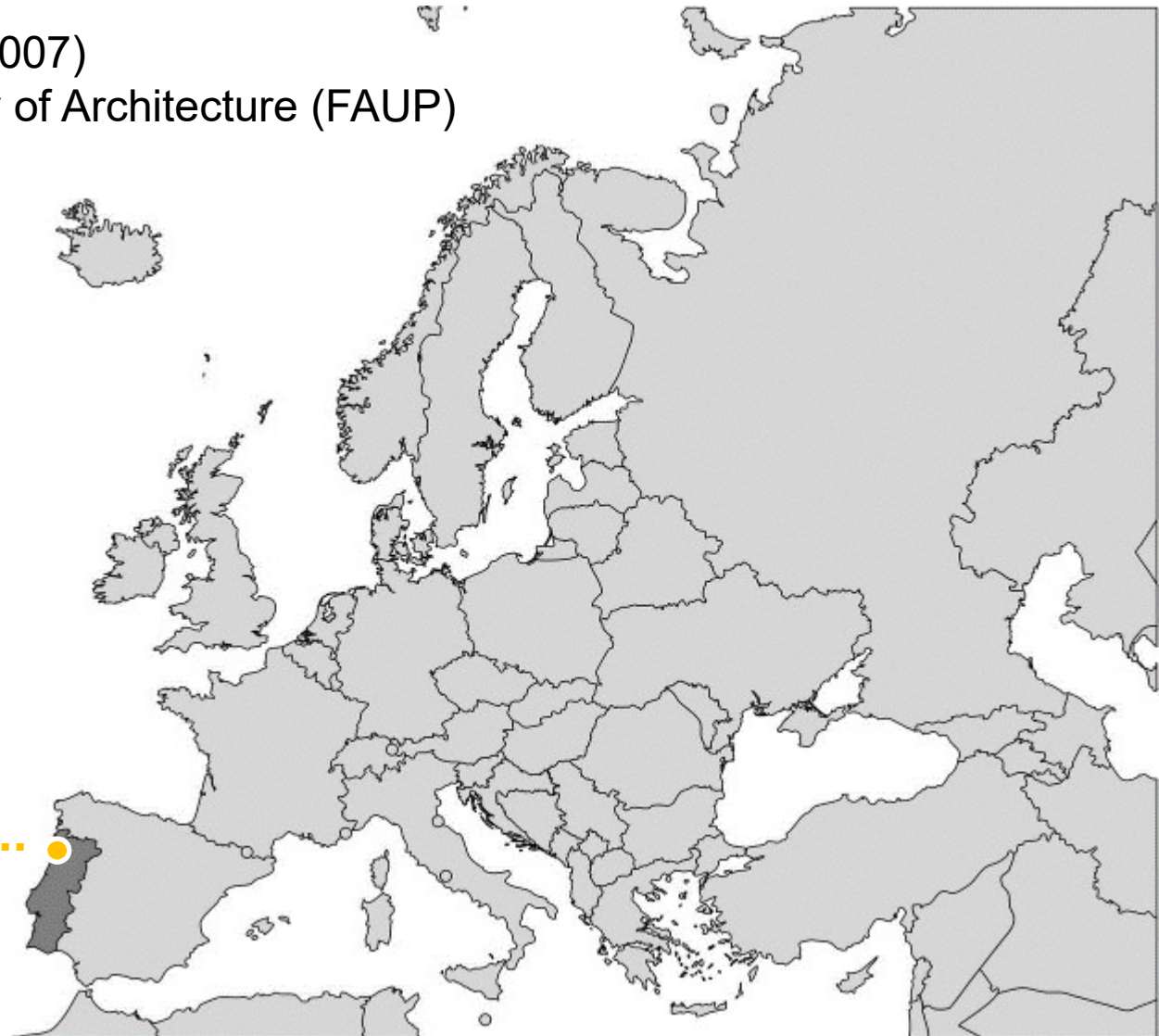
Università  
degli Studi  
di Ferrara



**a>e**  
architettura>energia

# WHO AM I?

**Degree in Architecture (2007)**  
University of Porto, Faculty of Architecture (FAUP)



# WHO AM I?

## **MSc in Energy for Sustainability (2011)**

University of Coimbra, Faculty of Sciences and Technology

Thesis: *Escola Martim de Freitas, IAQ and Energy Audit. An evaluation on Thermal Comfort*

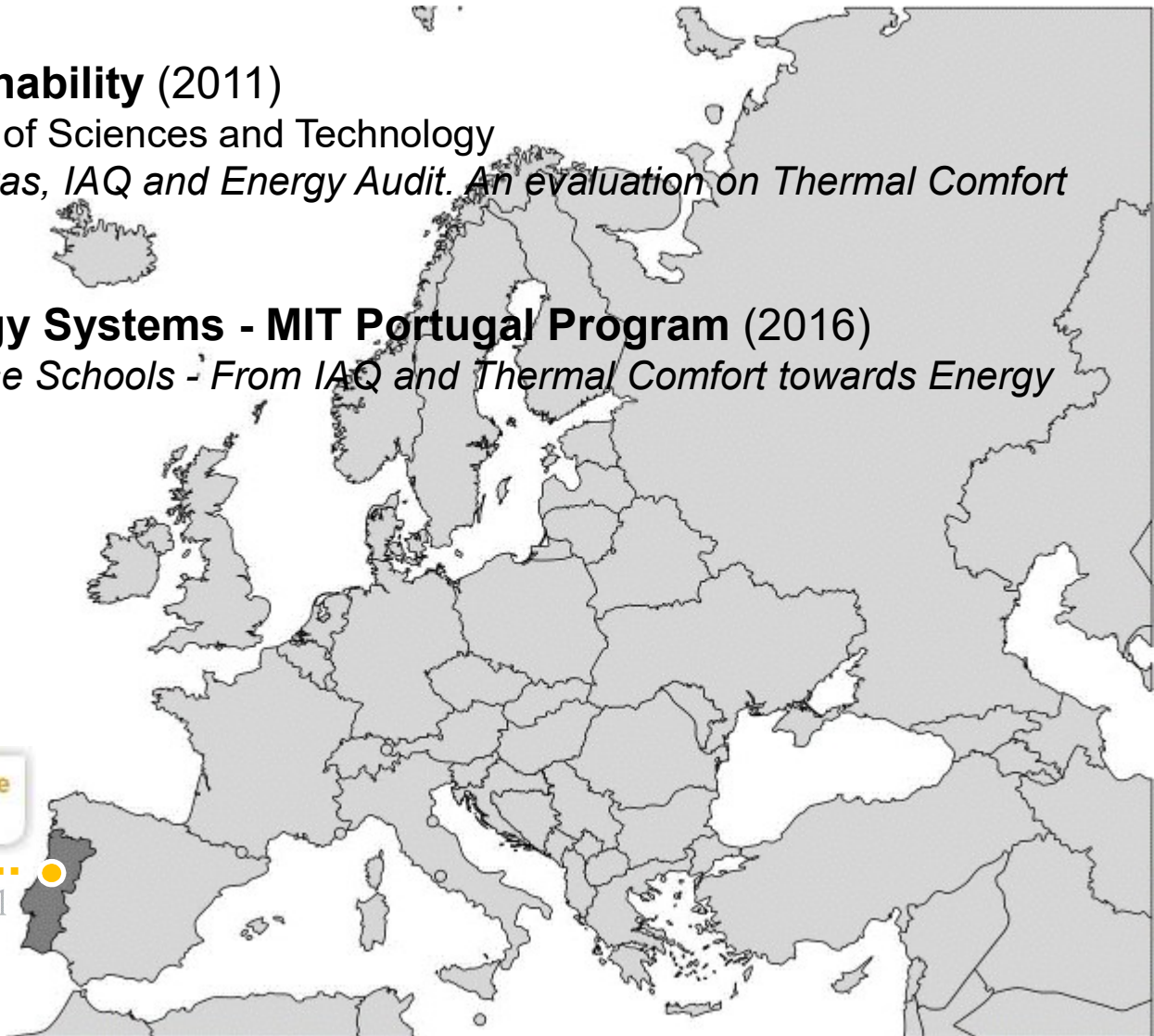
## **PhD in Sustainable Energy Systems - MIT Portugal Program (2016)**

Thesis: *Modernised Portuguese Schools - From IAQ and Thermal Comfort towards Energy Efficiency Plans*



EFS Initiative  
UC

MIT Portugal

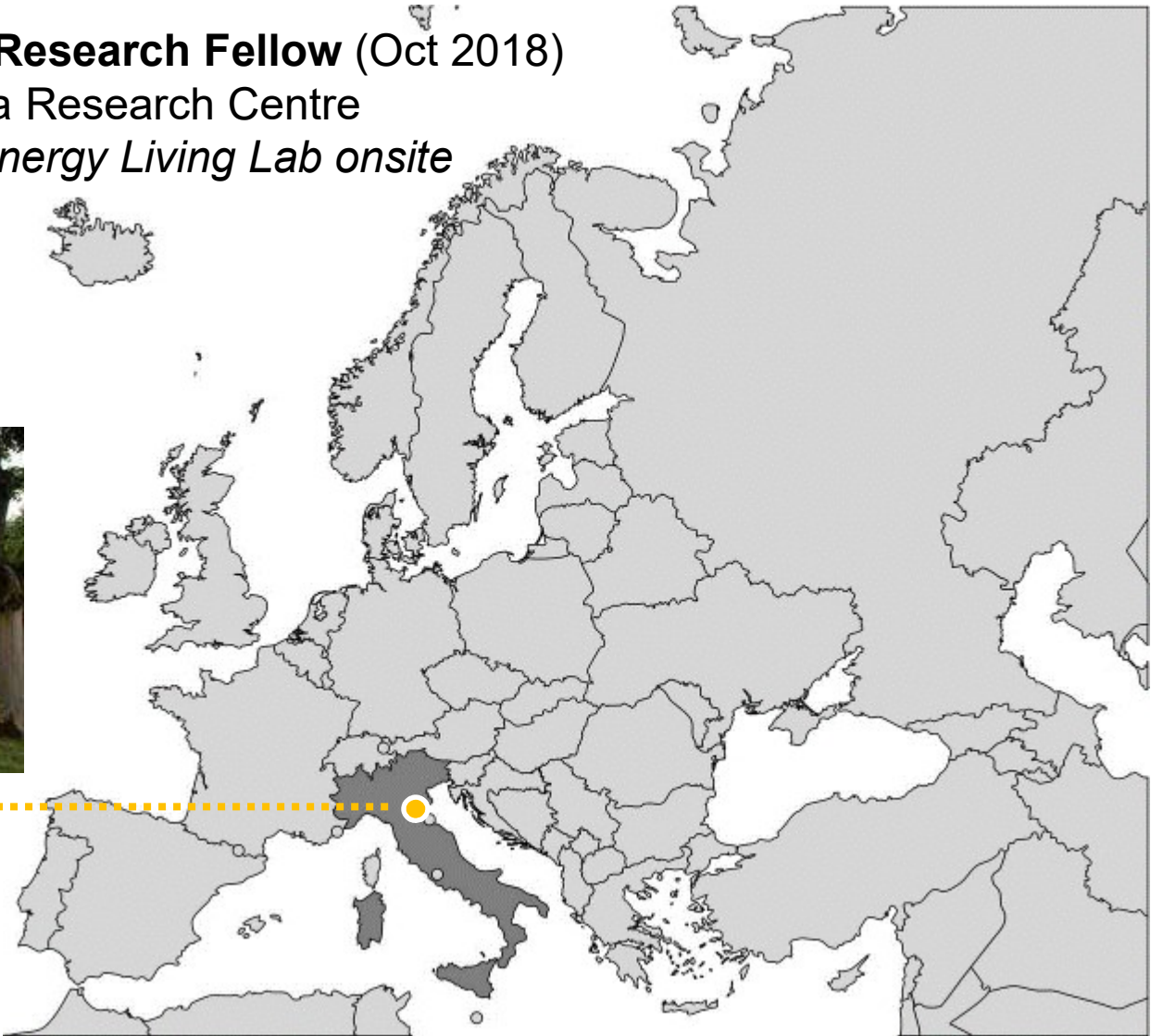


# WHO AM I?

**Marie Skłodowska-Curie Research Fellow (Oct 2018)**

@ DA, Architettura>Energia Research Centre

project *HeLLo – Heritage energy Living Lab onsite*





RESEARCH & INNOVATION  
Participant Portal

European Commission > Research & Innovation > Participant Portal > My Projects

MY AREA HOME FUNDING OPPORTUNITIES HOW TO PARTICIPATE PROJECTS & RESULTS EXPERTS SUPPORT

PIETROMARIA DAVOLI

My Organisation(s)  
My Proposal(s)  
My Project(s)  
My Notification(s)  
My Formal Notification(s)  
My Expert Area

FP7 REF. DOCS H2020 ONLINE MANUAL HOW TO

or EU projects managed via the Participant Portal that have been selected and approved

or manage the following project-related tasks:

- Prepare and sign your grant agreement
- Submit amendments to your grant agreement
- Manage your scientific and financial reports
- View or manage roles and access rights in your projects consortia

If you are LEAR and want to see the full list of your organisation projects, please go to **My Organisations** and click on the action button **VP**. LEAR can only view the list of projects in which their organisation is involved. If you want to see project details, your organisation main contact for this project or the project Coordinator has to give you access rights. For more details see the [H2020 online manual](#).

Legend

- AA Access Amendment
- GP Grant Preparation
- MP Manage Projects
- FR Financial Reporting
- PR Periodic Reporting
- RD Reporting & Deliverables
- PC Project Consortium
- VP View Proposal

Show 10 entries Hide closed projects Search:

ACRONYM	CALL	PROGRAM	PROJECT	PHASE	ACTIONS
HeLLo	H2020-MSCA-IF-2017	H2020	796712	1	PC MP VP

Showing 1 to 1 of 1 entries. PREVIOUS 1 NEXT

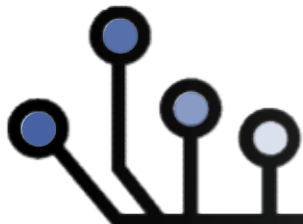
INTRODUCTION  
METHODODOLOGY  
EVALUATION OUTPUT  
CRITICALITIES

## Announcement

### **By-bye, Participant Portal! Hello, Funding & Tenders Portal!**

Dear user of the Participant Portal,

You might have already noticed we are phasing out the Participant Portal and replacing it by the **Funding & Tenders Portal**.





Manage my area | SEARCH FUNDING & TENDERS | HOW TO PARTICIPATE | PROJECTS & RESULTS | WORK AS AN EXPERT | SUPPORT

My Organisation(s)  
GRANTS  
My Project(s)  
My Formal Notification(s)  
My Expert Area

## My Project(s)

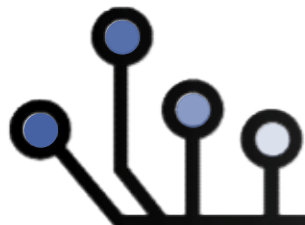
Online manual "Grant management" | IT HOW TO "Grant management"

[More info](#)

Results: 1 | [Download excel list](#) | Search:

ACRONYM	CALL	PROGRAM	PROJECT	PHASE	ACTIONS
HeLLo	H2020-MSCA-IF-2017	H2020	796712	Active	<a href="#">Actions</a>

1 | 10





## MARIE SKŁODOWSKA-CURIE ACTIONS

### Research Fellowship Programme

The Marie Skłodowska-Curie actions support researchers at all stages of their careers, regardless of age and nationality. Researchers working across all disciplines are eligible for funding. The MSCA also support cooperation between industry and academia and innovative training to enhance employability and career development.

Individual  
Fellowships  
(IF)

Innovative  
Training  
Networks  
(ITN)

Research and  
Innovation  
Staff  
Exchange  
(RISE)

Co-funding of  
reg., nat. and  
internat.  
programmes  
(COFUND)

European  
Researchers'  
Night  
(NIGHT)

**European Fellowships:** open to researchers moving within Europe, are held in the EU or associated countries and last for one to two years.

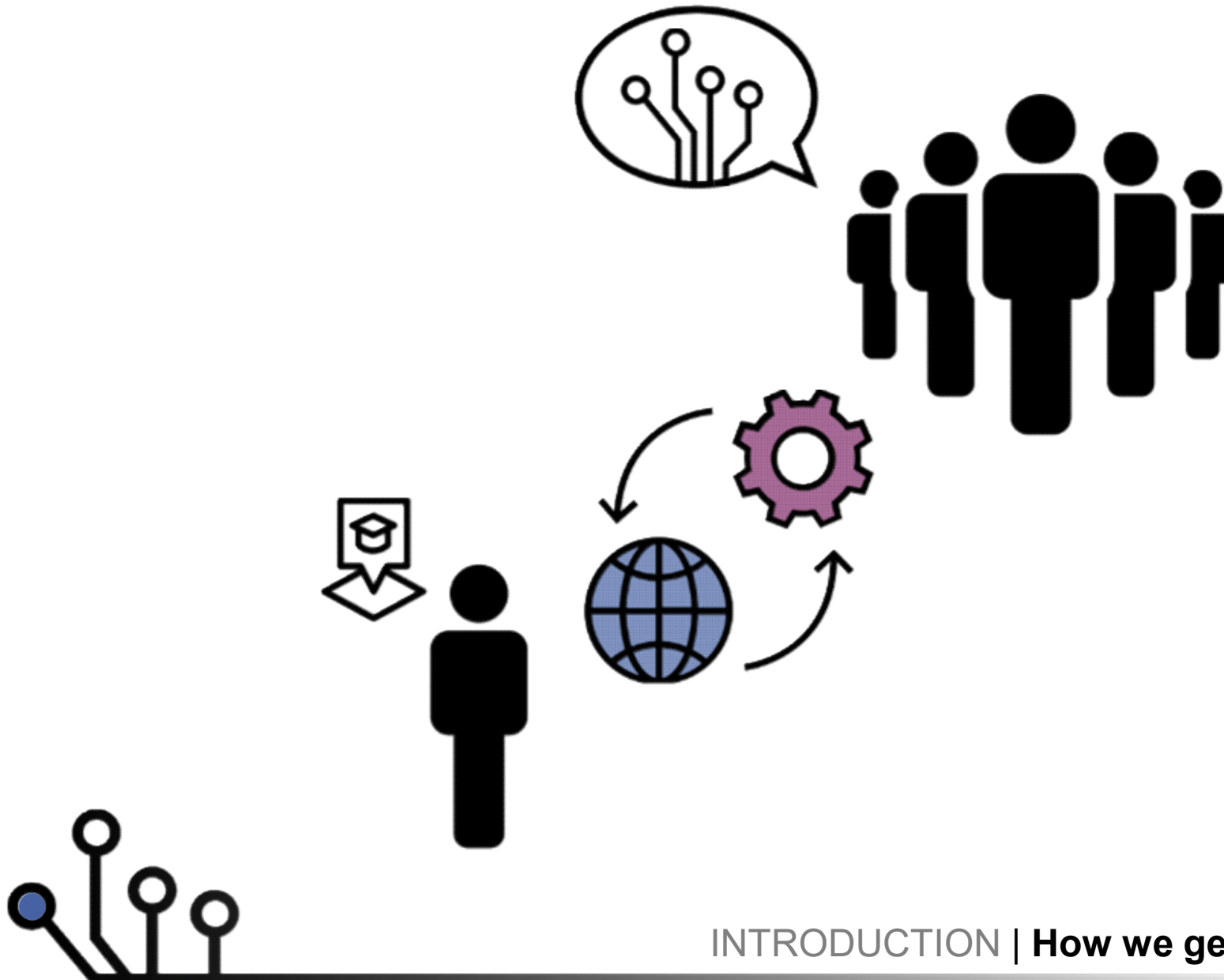
**Global Fellowships:** fund positions outside Europe for researchers based in the EU or associated countries, last between two and three years.

Both types of Fellowship can also include a **secondment period** of up to three or six months in another organisation in Europe.



INTRODUCTION | **Types of actions**



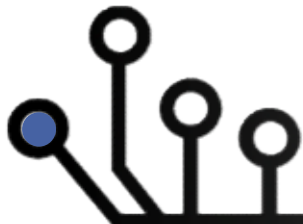


INTRODUCTION | **How we get involved in**

# MARIE SKŁODOWSKA CURIE ACTION Individual Fellowships (IF) \_ EF - ST

## Administrative form (Part A)

- It contains **administrative information** about the proposal, the researcher, the supervisor and the Host Institution.
- It has to be **filled-out online**, directly on the PPSS.
- It basically report **general information** about participants and contracts, budget, ethics and other specific questions.



Horizon 2020

Call: H2020-MSCA-IF-2017  
(Marie Skłodowska-Curie Individual Fellowships)

Topic: MSCA-IF-2017

Type of action: MSCA-IF-EF-ST  
(Standard EF)

Proposal number: 796712

Proposal acronym: HeLLo

Deadline Id: H2020-MSCA-IF-2017

Table of contents

Section	Title	Action
1	General information	
2	Participants & contacts	
3	Budget	
4	Ethics	
5	Call-specific questions	

INTRODUCTION | **Proposal structure / Forms**

# MARIE SKŁODOWSKA CURIE ACTION

## Individual Fellowships (IF) \_ EF - ST

HeLlo - Standard EF

START PAGE

MARIE SKŁODOWSKA-CURIE ACTIONS

Individual Fellowships (IF)  
Call: H2020-MSCA-IF-2017

PART B

"HeLlo"

"Heritage energy Living Lab onsite"

This proposal is to be evaluated as:

[EF-ST]

Part B - Page 1 of 21

### Technical Annex (Part B, 1 and 2)

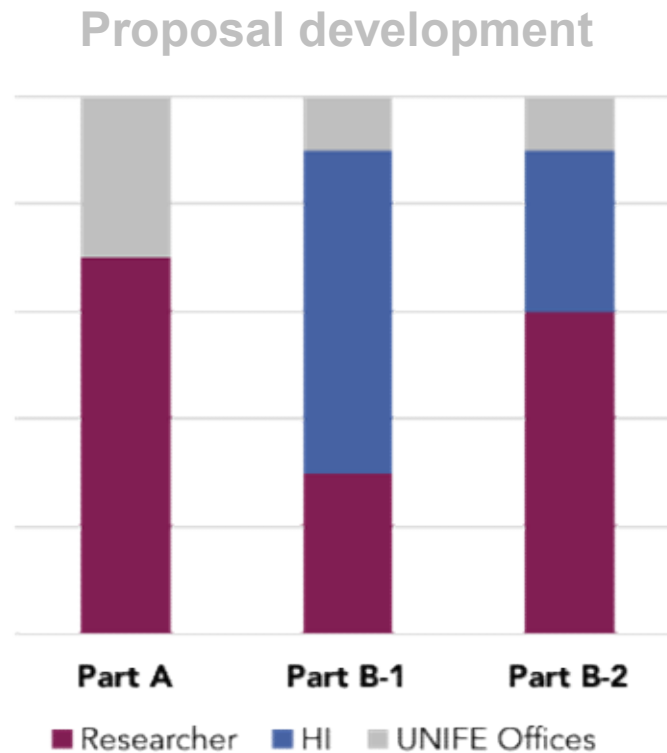
- It contains **technical-scientific information**.
- It has to be downloaded in word format, filled-out in all its parts and further uploaded in the PPSS during the submission phase.
- It is composed of a **Part 1**, which is the main core of the proposal, and of a **Part 2**, which contains the CV of the researcher, the capacities of the participating organization & eventual ethical aspects.



INTRODUCTION | **Proposal structure / Forms**

The **researcher** acted mainly on the PPSS, filling the **Administrative forms, Part A** and dealing with the **Part B-2** of the **Technical Annex**, with the support of the HI and of the University offices.

The **HI** followed all the aspect under its responsibility and helped the researcher in developing the **Part B-1** of the **Technical Annex** during the whole writing phase.



## ● **WORK PROGRAMME, released every two-years**

It contains the **policy context**, the **general objectives** as well as **expected impacts** at each levels of Marie Curie Actions.

## ● **GUIDE FOR APPLICANTS**

It is the actual **reference document for the development of the whole proposal**.

It describes the financing actions, gives instruction about forms compilation, deadlines, procedure and evaluation criteria, provide suggestion to complete Parts A and B and has attached forms template.

## ● **TOPIC CONDITIONS & DOCUMENTS**

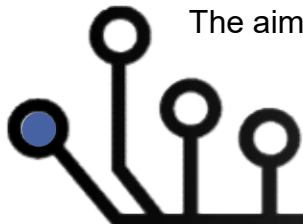
They contain **general and specific eligibility conditions**; **deadlines**, **template for submissions** and **Grant Agreement** and other useful information.

## ● **The European Charter for Researchers & The Code of Conduct for the Recruitment of Researchers**

They constitute the general framework for researchers, employer and financer. The first, declares general principles and expertise that researchers must have and states their rights and responsibilities, while the second states principles and rules that should ensure the transparency of selection/evaluation procedure as well as equal compensation.

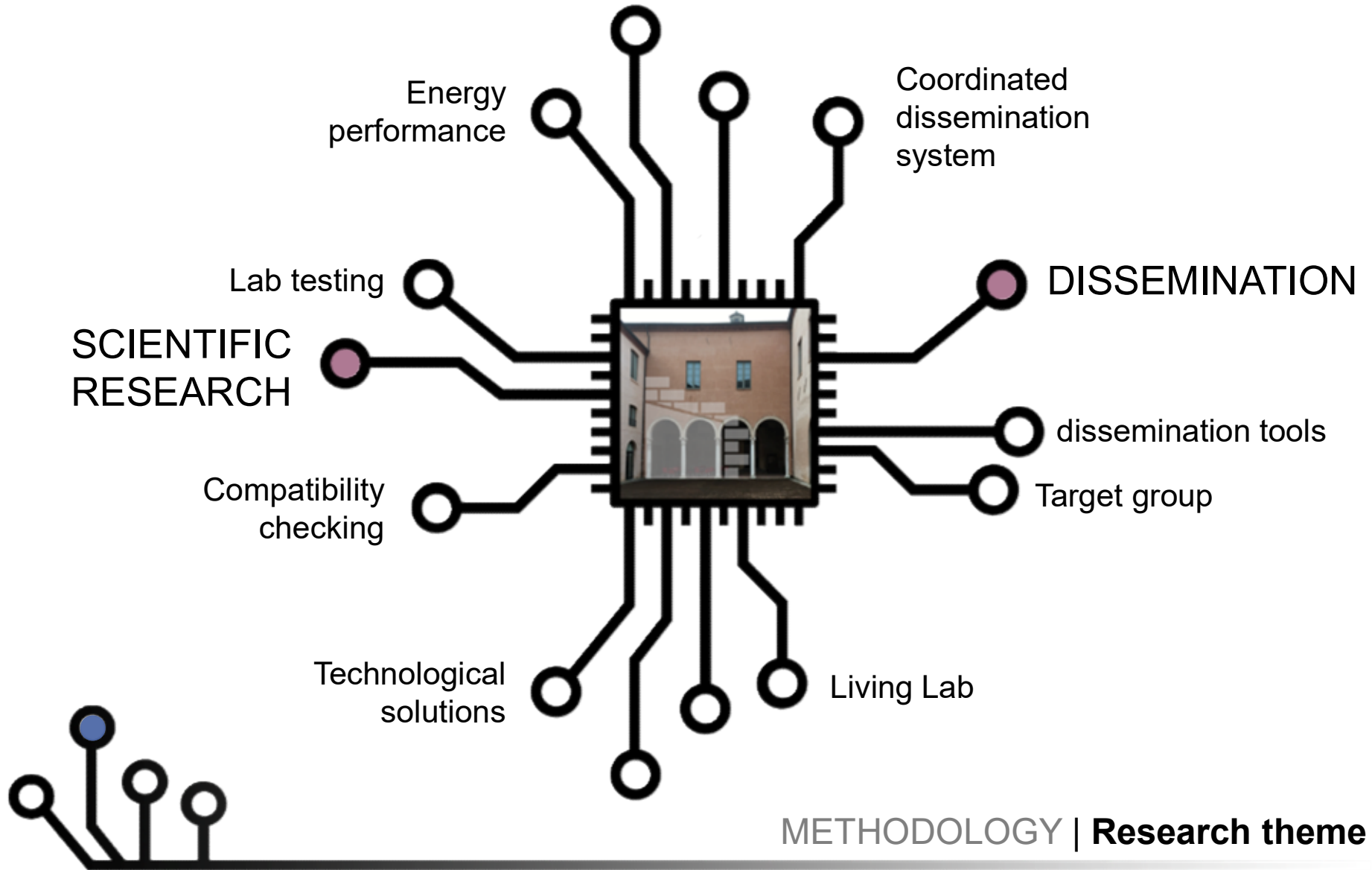
## ● **SELF-EVALUATION FORM**

Available to applicants to arrange an evaluation of their proposal prior to final editing, submission and deadline. The aim is to help applicants identify ways to improve their proposals.

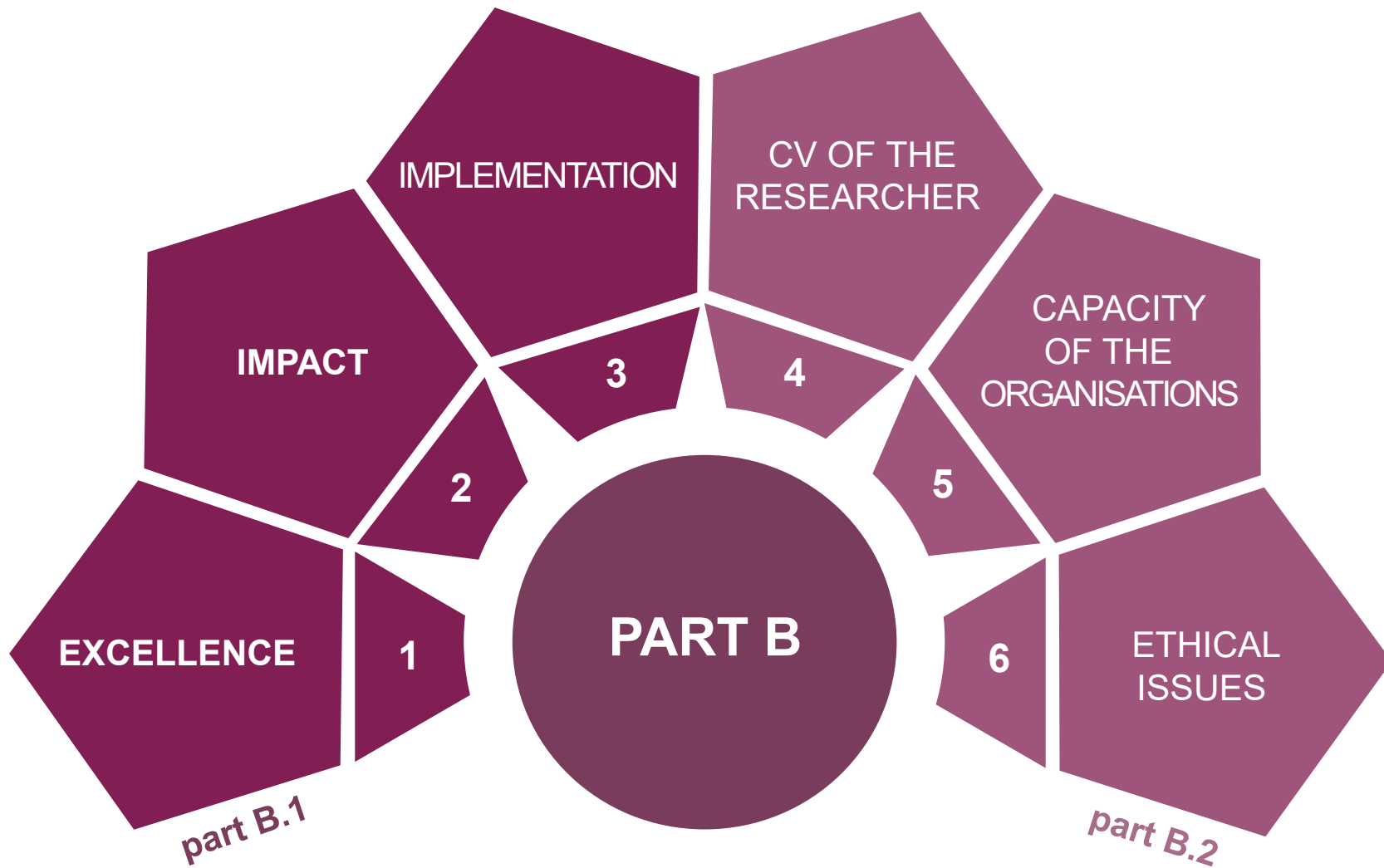




**HELLO** Heritage energy Living Lab onsite



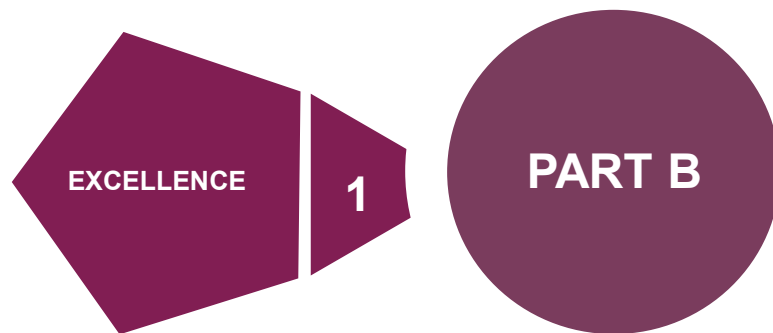
METHODOLOGY | **Research theme**



METHODOLOGY | **Structure PART B proposal**



## PART B.1 – 1. EXCELLENCE



### 1.1 QUALITY AND CREDIBILITY OF THE RESEARCH/INNOVATION ACTION

(LEVEL OF NOVELTY, APPROPRIATE CONSIDERATION OF INTER/MULTIDISCIPLINARY AND GENDER ASPECTS)

1.2 QUALITY AND APPROPRIATENESS OF THE TRAINING AND OF THE TWO WAY TRANSFER OF KNOWLEDGE BETWEEN THE RESEARCHER AND THE HOST

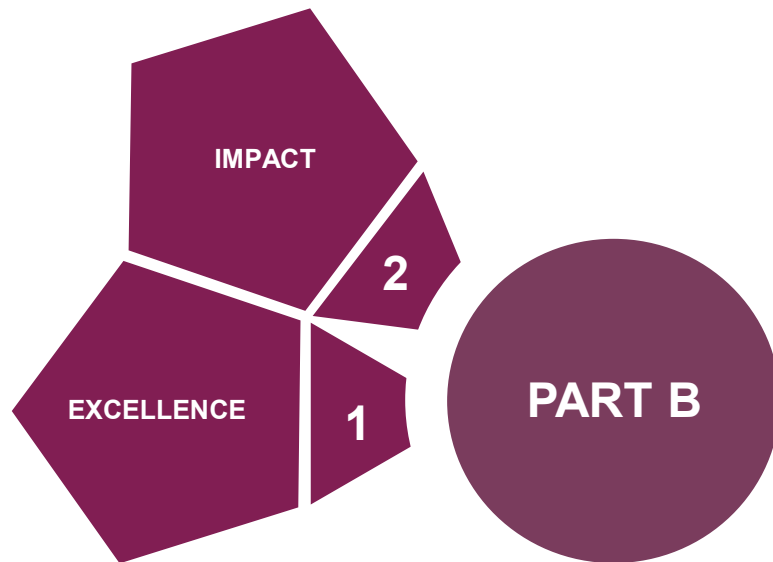
1.3 QUALITY OF THE SUPERVISION AND OF THE INTEGRATION IN THE TEAM/INSTITUTION

1.4 CAPACITY OF THE RESEARCHER TO REACH OR RE-ENFORCE A POSITION OF PROFESSIONAL MATURITY/INDEPENDENCE



METHODOLOGY | **Structure PART B proposal**

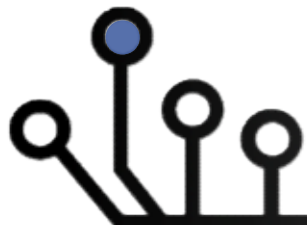
## PART B.1 – 2. IMPACT



**2.1 ENHANCING THE POTENTIAL AND FUTURE CAREER PROSPECTS OF THE RESEARCHER**

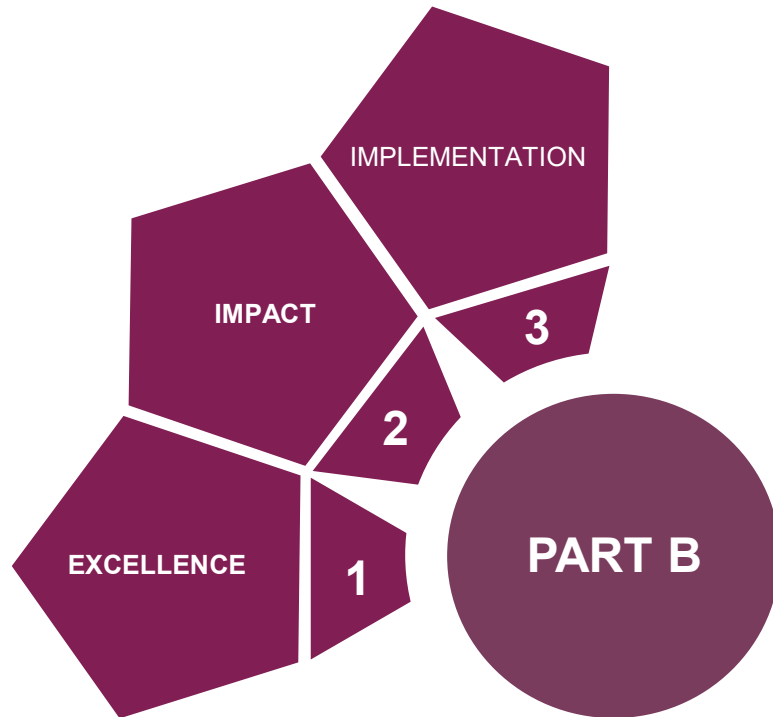
**2.2 QUALITY OF THE PROPOSED MEASURES TO EXPLOIT AND DISSEMINATE THE ACTION RESULTS**

**2.3 QUALITY OF THE PROPOSED MEASURES TO COMMUNICATE THE ACTION ACTIVITIES TO DIFFERENT TARGET AUDIENCES**



METHODOLOGY | **Structure PART B proposal**

## PART B.1 – 3. IMPLEMENTATION



**3.1 COHERENCE AND EFFECTIVENESS OF THE WORK PLAN**

**3.2 APPROPRIATENESS OF THE ALLOCATION OF TASKS AND RESOURCES**

**3.3 APPROPRIATENESS OF THE MANAGEMENT STRUCTURE AND PROCEDURES, INCLUDING RISK MANAGEMENT**

**3.4 APPROPRIATENESS OF THE INSTITUTIONAL ENVIRONMENT (INFRASTRUCTURE)**



METHODOLOGY | **Structure PART B proposal**

1. Quality, innovative - research  
Introduction → mettere link topic Europe (Sugg. Valle)  
 + necessitate interventi politici esistenti → ruolo  
 esempio pubblico → ruolo sociale, culturale ecc  
 dello storico (vd mie tes)  
 que dire qui che in Italia è politica  
 stato del stato → vedere introduzioni forum  
state of the art → cosa emerge / si pu  
 letteratura → linee guida di interventi  
 storico  
 → valutazione stato di fatti  
 → Paper trovati + citati in JRC + lavori Euro  
 lucchi e sue citazioni (ricorda ultima  
 Mibact x evidenze Italia)

Le proposte esempio: Based on the background  
 we formulate five main objectives of the pic  
 1) ... , 2) ...  
 → come in relazione con gli obiettivi lo st

Research methodology and approach → di  
 fast (parte da lui) **SCHEMA RICERCA**  
 Le proposte esempio: in un riquadro ha  
 al modo di raggruppare i risultati ("group  
 an interview"...) → questo relativamente  
 → verifica di poter esplicitare task con  
 agw parte → lui ha fatto ok!  
 [[reference anche in questa parte!!]]  
 Collegare a obiettivi di  
 vantaggi/svantaggi nel metodo + alle an  
 me con

+ ~~accanto~~ specificare bene durata, recondiment e  
 attività  
 → farei piano in 2 fasi  
 1 mese + 2 mesi

1 va a unificare e scegliere  
 strumentazioni, a studiare  
 altri progetti in cui usate x  
 saper capire e selezionare  
 + unire acquisto x  
 strumentazione unica

2 va a fare dei test nel  
 loro laboratorio

3

FOR A BETTER  
 TRANSFER OF  
 KNOWLEDGE BETWEEN  
 SECTORS AND DISCIPLINES

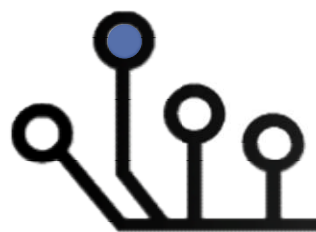
Use Research Skill → quando unpoa direttamente  
 da ricerca + Additional Research Skills x ampliare  
 le proprie competenze in maniera significativa  
 rispetto all'area di competenza +  
Transferable / complementary skills x competenze  
 che potrebbero risultare significative x una carriera  
 anche fuori dall'ambito strutturale a costruttivo

① - materiali concettuali/  
 recupero e storico  
 - in stalla non corretta  
 materiali e tecnica logie  
 - uso di software  
 - predisporre test  
 strumentali  
 - monofrequent groups  
 Queste attraverso dialog  
 con noi + con strumentazione  
 e recondiment +  
 workshop conferenze  
 meeting of students

② - uso di  
 strumentazioni  
 non strutturali  
 a architettura  
 - richiesta funzionalita  
 anche a livello (traspirante)  
 tecnologico  
 - collaborazione pubblica  
 privata  
 - parlare a pubblico esperti  
 e non  
 - dissemination  
 - corsi IUS x di eden  
 funzionalita  
 task Europe - Notte dei ricercatori  
 + un festival (un giorno?)  
 - Pioneer e Astu - corsi lingue?

③ - monofrequent  
 groups per se in  
 un'ed. disciplinosa  
 - la dissemination  
 (rapporti con la  
 stampa e TV) Capadocia  
 - corsi laboratorio  
 parole in pubblico  
 - **VEDERE COSTI  
 POTTERATO**

re@  
 re-mit un po  
 gestire sito  
 web  
 for school  
 lab usano  
 nel campo  
 task Europe - Notte dei ricercatori  
 + un festival (un giorno?)  
 - Pioneer e Astu - corsi lingue?



# METHODOLOGY | Brainstorming

underlined

bold

HeLLo – Standard EF

1. Excellence

1.1 Quality and credibility of the research/innovation action (level of novelty, appropriate consideration of inter/multi-disciplinary and gender aspects)

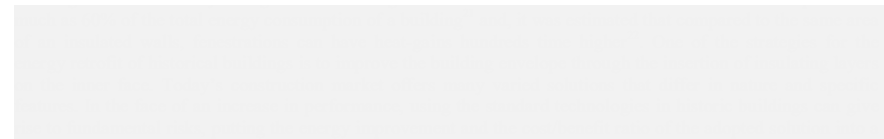
INTRODUCTION: the field of energy refurbishment of heritage buildings, object of this proposal, is one of the priorities of the EU policies to reduce fuel consumption. The EU energy strategies in fact, stress the

for these reasons the general objective of the present research is to make actors of buildings sector aware of strengths and weaknesses of the most common energy retrofit technical solutions when applied to historic buildings, hoping to contribute in the EU refurbishment strategies with issues related to the historic heritage.

The two specific objectives of the HeLLo proposal are: (1) to check the compatibility of some technological solutions for energy refurbishment within historic buildings; (2) to create a structured dissemination programme that opens the doors of laboratory life to the outside of the academic boundaries and raise awareness of the topic.

box

highlighted



crisis - such subject requires specific skills and field survey of the specific energy situation. These actions are not always practicable for economic and technical issues; for this very reason, this research goals aim at giving professionals and common users this valuable information.

Based on the background outlined above, two main purposes for the planned research are formulated: 1) Scientific Research - The project seeks to create a real experimental laboratory in which test and verify the compatibility of some of the building technologies already certified and applied to newly built constructions on the historic building, quantifying its real energy performance (see WP2). 2) Dissemination Programme - Through a project of 'dissemination laboratories' will offer an experimental experience that integrates field experimentation and make known, also out of the academic boundaries, the world of experimentation by telling the practice of the living lab. The innovative approach of the project is related both with the experimental research

IMPACT ON RESEARCHER'S CAREER AND NEW OPPORTUNITIES FOR THE HOST ORGANISATION:

The topic of the planned research has been carefully chosen to complement my existing background. This research is an important step in my career to fulfil my ambition to become an architectural-technology and energy expert. Advancing my skills in these fields will significantly add value to my scientific profile and will help in building my research career. A>E facilities and training programmes for both research and career development, and its particular specialization in the development of buildings environmental sustainability models of intervention, will have high impact on my career by enhancing my profile in this field and increase career possibilities, including leading future research projects within European Universities and research institutions. The strategy adopted in this proposal, including multidisciplinary collaborations with researchers and representatives from academic and not academic sectors will add value to and strengthen my international network of researchers which will likely help find collaborations for future projects.

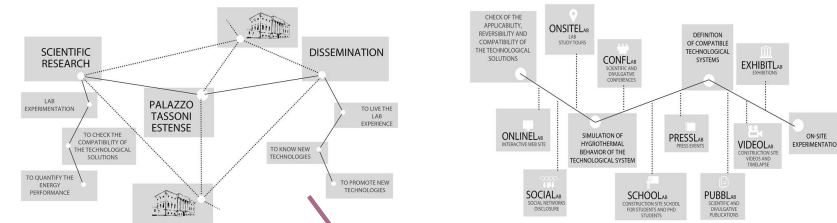


Figure 1. Main research phases and dissemination programme system

image



METHODOLOGY | Graphic advice

# EXCELLENCE

## RELATION WITH EU WORK PROGRAMME DIRECTIVE AND TOPICS

### 1. Excellence

1.1 *Quality and credibility of the research/innovation action (level of novelty, appropriate consideration of inter/multidisciplinary and gender aspects)*

**INTRODUCTION:** the field of energy refurbishment of heritage buildings, object of this proposal, is one of the priorities of the EU policies for reducing fuel consumption. The EU energy strategies in fact, stress the importance of retrofitting existing buildings, starting from the recognition of the “exemplary role of public bodies’ buildings” (art.5 2012/27/UE)<sup>1</sup> to activate, as a consequence, effective strategies in private building stock as well. Existing buildings in EU are, indeed, responsible for 40% of final energy consumption<sup>2</sup> and for 36% of

quality and temperature in such buildings also means preserving the decorative features that make them distinguishable and enhance their architectural quality. Besides the *social and cultural value* of historic buildings, the *specific value of heritage* assets in Italy justifies the fellowship location: according to the Italian *Ministry for*

of new construction. Consequently, energy refurbishment of historic heritage with testimonial value is an asset; for these reasons **the general objective** of the present research is to make actors of buildings sector aware of strengths and weaknesses of the most common energy retrofit technical solutions when applied to historic buildings, with the scope to include in the EU refurbishment strategies also issues related to the historic heritage.

**The two specific objectives of the HeLLo proposal are:** (1) to check the compatibility of some technological solutions for energy refurbishment within historic buildings; (2) to create a structured dissemination programme that opens the doors to laboratory life even outside the academic boundaries to enlarge awareness about the topic.

In fact, reasoning on these kind of buildings implies evident critical questions, such as:

- 1) i
- 2) t
- Fre
- calc
- 3) t
- gen
- 4) t
- pos
- risk
- 5) t
- acc
- adj
- star
- bui

## STATEMENT OF THE OBJECTIVE

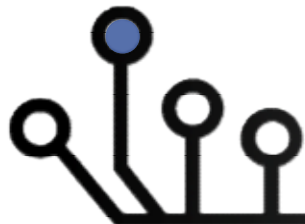
### SPECIFIC OBJECTIVE

CLEAR  
MEASURABLE  
FEASIBLE

EXCELLENCE

1

PART B



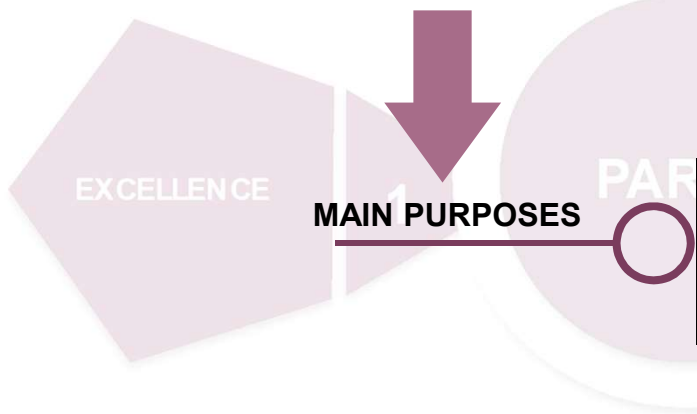
## METHODOLOGY | Proposal

**DEMONSTRATION OF THE SCIENTIFIC BACKGROUND**

advantages to reach for the objectives stated in the H2020 work programme for the upcoming two-year period.  
**STATE OF THE ART:** From the discussion in the existing literature on the theme, two main arguments emerge: 1) studies focused on defining strategies and guidelines for energy refurbishment interventions in historic buildings (i.e. how to intervene) and, 2) researches focused on field performance (i.e. assessment of the real energy behaviour). Concerning 1), several important studies – previously conducted by the secondment – stand out: *3ENCULT*, *EFFESUS*, *histBATec*, *AIDA*, *4RinEU*<sup>10</sup>. Many others could be cited, namely *Energy Heritage*<sup>11</sup> and *Energy Efficiency and Historic Buildings*<sup>12</sup> conducted in the UK, or the studies of Martínez-Molina *et al.* (2016)<sup>13</sup>, De Santoli (2015)<sup>14</sup> or Carbonara (2015)<sup>15</sup>. It is noteworthy that in Italy, even the Ministry of Cultural

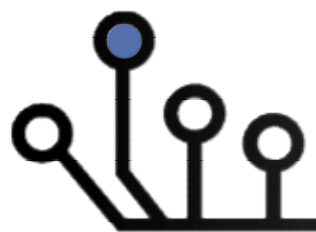
**FOCUSED DESCRIPTION**

**RELATION BETWEEN STATE OF THE ART AND MAIN OBJECTIVE**



**MAIN PURPOSES**

professionals and common users this valuable information.  
Based on the background outlined above, **two main purposes** for the planned research are formulated: 1) **Scientific Research** - The project seeks to create a real experimental laboratory in which test and verify the compatibility of some of the building technologies already certified and applied to newly built constructions on the historic building, quantifying its real energy performance (see WP2). 2) **Dissemination Programme** - Through a project of 'dissemination laboratories' will offer an *experimental experience* that integrates field experimentation and make known, also out of the academic boundaries, the world of experimentation by telling the practice of the living lab. The innovative approach of the project is related both with the experimental research



part and the dissemination. The host and the secondment experience on this topic, ensures both the quality of training and supervision<sup>23</sup> (see sections 1.3 and 1.4).

## TASKS PARTITION

**RESEARCH METHODOLOGY AND APPROACH:** In relation to the objectives, the study will be structured via **five main steps**, based on an interdisciplinary approach:

- (1) *Set-up and Project Management* (WP1), developed mainly by the fellow in collaboration with the supervisor but involving also EURAC (hosting secondment);
- (2) *Research off-site* – *Desk review and virtual simulation*. It corresponds to the study of the existing literature and

## IMPORTANCE OF THE SUPERVISION

already in practice<sup>24</sup>. Together, Prof. Davoli and I will do the literature review and the selection of technologies,

secondment, one at a time.

- (3) *Research on-site* – *Implementation and testing*. It is one of the core steps of this study, as described in WP3.

## TRAINING ROLE

technological solutions by perform an analysis and take up of the data coming from the monitoring campaigns. For the success of this step I will use specific tools and methods which I will learn to apply with the help of both the supervisors and the secondment. In situ tests will be conducted in Palazzo Tassoni Estense in Ferrara, a

## CHOICE OF THE CASE STUDY: POTENTIALITIES AND CRITICALITIES

university community it will have a great impact, not only in other entities alike but also from a social point of view. The choice of the case-study was well thought-out, as such, we are aware of both its potentiality (P) and criticality (C): P – it is a monumental building, therefore a significant and representative example of the characteristics of historic buildings (e.g. thermal inertia, surface mass, bricks). It is architecturally attractive, and with a cultural value for Ferrara. It is to be restructured, therefore, we have less criticalities to deal with; C – there are difficulties of integrating new technologies (e.g. compatibility with worth structures).

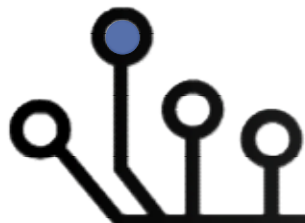
- (4) *Transfer of knowledge* – During this step I will acquire the necessary skills that will enable me to build a

Additionally, research related skills, training in and out academia will occur.

- (5) *Results Dissemination* – As described in WP5, developed through i) a thoughtful schedule, web-site and social

## ORIGINALITY

**ORIGINALITY AND INNOVATIVE ASPECTS OF THE RESEARCH PROGRAMME:** HeLLO will apply an unconventional multidisciplinary robust approach for the assessment of compatible technologies used for the energy retrofit of historic buildings by exploring both field-work and simulation tools, while aiming at a





**REASON TO BE FINANCED**

significant dissemination strategy. The results are expected to be applicable to other contexts and can be useful to increase the knowledge of the energy behaviour of historic buildings, until now difficult to determine based on literature data relating existing non-historic ones. Moreover, traditionally, in Italy this field is entrusted to restorers; nevertheless, today there is a need to expand this vision by associating conservation aspects with those of energy efficiency.

**EXPECTED INNOVATIVE RESULTS**

This research will generate new and original achievements: i) Assessment/analysis of the use of commercial

**INVOLVED EXPERTISE**

developed through the activities carried out within the dissemination programme (see section 2.2, 2.3).

**ROLE OF THE SECONDMENT**

**THE INTERDISCIPLINARY ASPECTS OF THE ACTION:** the proposed research requires methods and insights from different disciplines including statistics, building physics, materials science, engineering and communication. It will draw on the different areas of expertise of senior researchers from Architettura>Energia Research Centre (A>E) and EURAC was chosen by its relevant experience on the topic under investigation, as

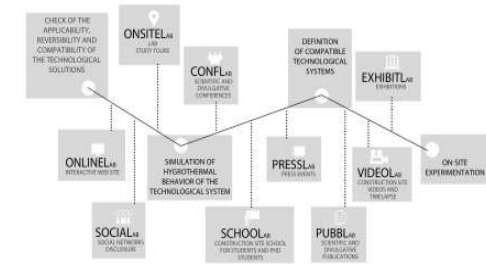
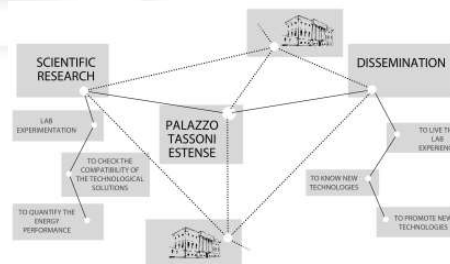
**EXISTING BACKGROUND/ KNOWLEDGE ENHANCEMENT**

learning from this research will be used to inform assessment frameworks to guide technology development.

**IMPACT ON RESEARCHER'S CAREER AND NEW OPPORTUNITIES FOR THE HOST ORGANISATION:**

The topic of the planned research has been carefully chosen to complement my existing background. This research is an important step in my career to fulfil my ambition to become an architectural-technology and energy expert. Advancing my skills in these fields will significantly add value to my scientific profile and will help in building my research career. A>E facilities and training programmes for both research and career development,

possibilities, including leading future new research projects within European Universities and research institutions. The strategy adopted in this proposal, including multidisciplinary collaborations with researchers and representatives from academic and not academic sectors will add value to and strengthen my international network of researchers which will likely help find collaborations for future projects.



**METHODOLOGY | Proposal**

**1.2 Quality and appropriateness of the training and of the two way transfer of knowledge between the researcher and the host**

**HOST STRENGTHS**

A>E is the perfect host to conduct this project. Firstly, it has highly qualified multidisciplinary researchers with

**DIRECT TRAINING**

**KNOWLEDGE EXTENTION**

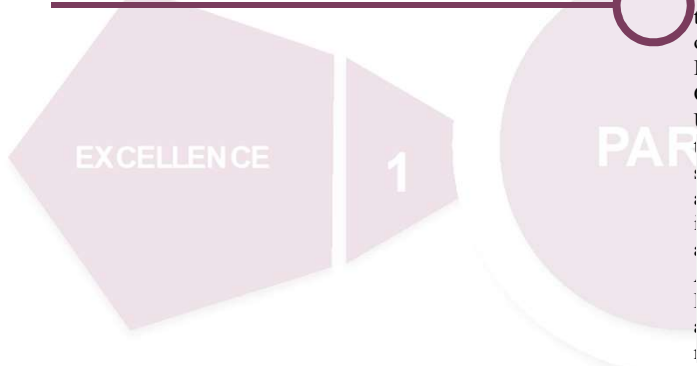
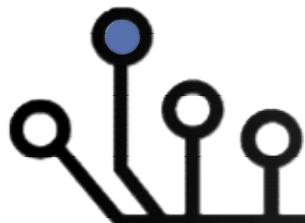
divided in 3 main categories: 1) **Research skills** (training through research): immediate transfer of knowledge through the host institution and secondment and then, through the different research phases; attending courses of Design Builder® and Wufi®/Delphin®; 2) **Additional research skills** a) during the secondment, training on the

**EXPERTISE FOR FUTURE CAREER**

teaching in their MSc programs. 3) **Transferable/complementary skills**: participation in activities regularly organized by UNIFE, such as the courses organized by the ‘University Institute for Higher Studies’, e.g. about: Intellectual Property, Italian Course for Internationals, Research management and funds, Technology transfer, Communication of the scientific research, etc. Other possible courses and activities are those organized by the University Office for International Research within the seminars on European funding and research. At UNIFE

**TRANSFER BETWEEN HOST AND RESEARCHER**

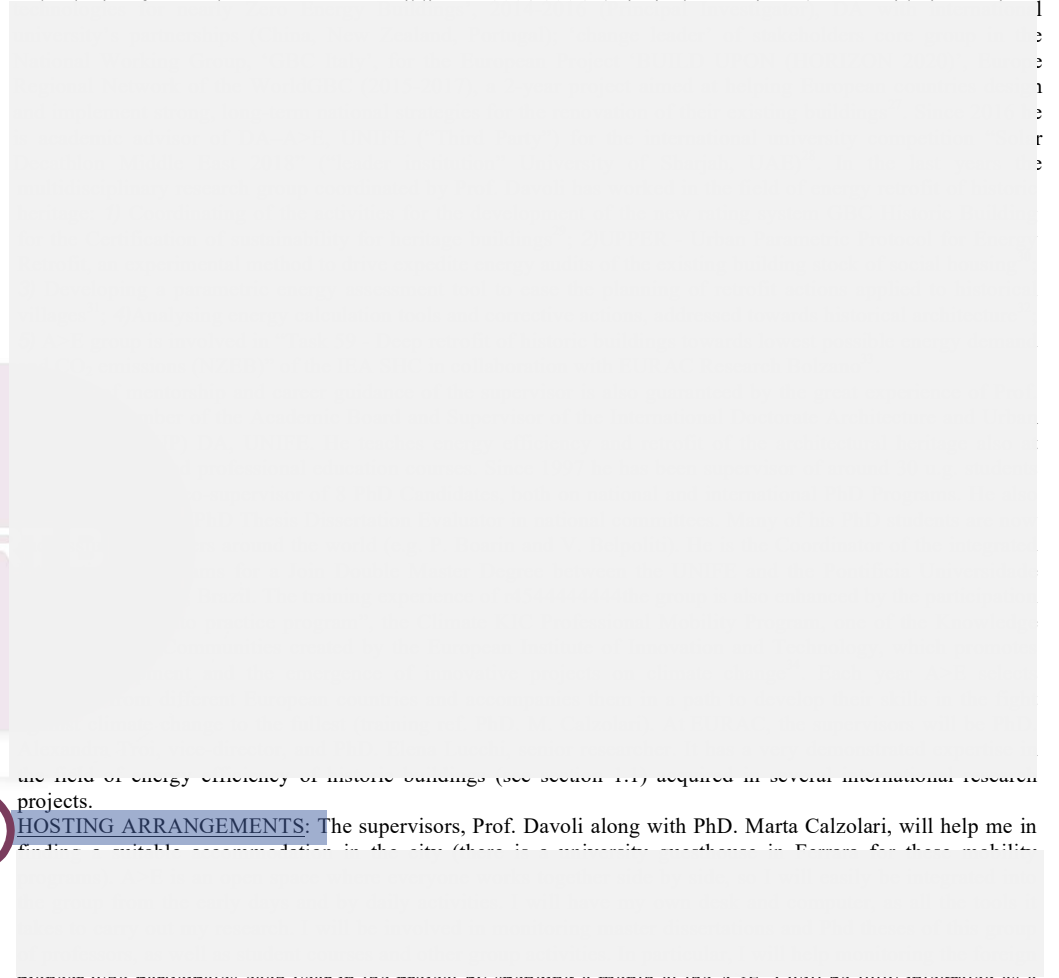
years I will transfer my knowledge to the beneficiary. And where on the one hand A>E already has a strong network with players in the field of energy efficiency in buildings, the fact that I will do two years of practical, highly relevant research in interaction with them will further cement A>E’s relations and reputation with such players, and facilitate future joint projects and project applications between them. Besides, I have my own networks and research groups in Europe that can give A>E additional interactions in this field. I will transfer this knowledge via participation in the group and research meetings (section 1.3) including those with the secondment (section 3.3 Progress Monitoring). In relation to my research, I will also define a series of projects suitable as MSc thesis’ topics for UNIFE, DA students.



1.3 *Quality of the supervision and of the integration in the team/institution*

**SUPERVISOR CV**

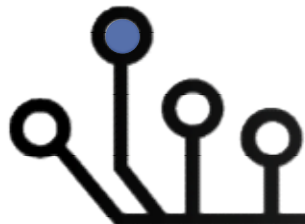
**QUALIFICATIONS AND EXPERIENCE OF THE SUPERVISOR(S):** The supervisor is Pietromaria Davoli, full Professor in Technology of Architecture at UNIFE, DA and Director of A>E, DA. He has over 20 years of experience in technology and sustainability of architecture and significant expertise, having authored over 150 scientific publications. He coordinates and participates in scientific research groups at national and international level, i.e. scientific coordinator of the research ‘Sustainable UNIFE. Energy audit of the building stock of the UNIFE and preliminary retrofit proposals’, DA–A>E, UNIFE<sup>26</sup>; ‘INNO-ZEB\_INNOvative active and passive



**GOOD WELCOME**

the field of energy efficiency of historic buildings (see section 1.1) acquired in several international research projects.

**HOSTING ARRANGEMENTS:** The supervisors, Prof. Davoli along with PhD. Marta Calzolari, will help me in finding suitable accommodation in the site (there is a university apartment in Ferrara for those mobility



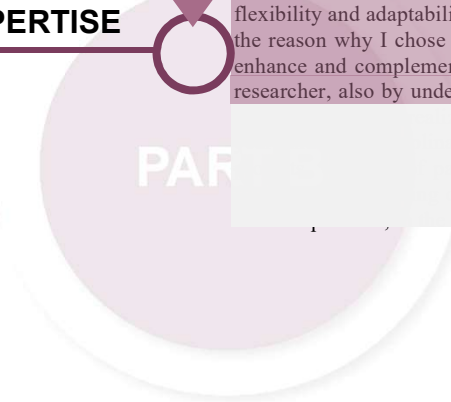
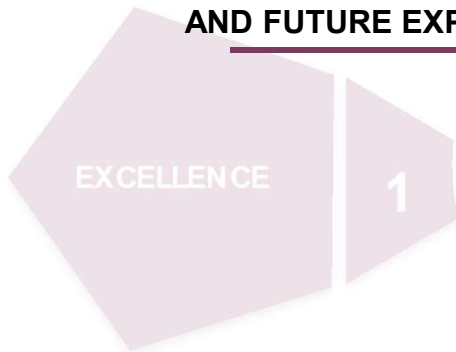
Progress will be monitored in weekly meetings with my supervisors and in the annual report. The meetings will also be useful to figure out possible foreseen risks and to promptly intervene with measurement to reduce them. By participating in the courses organized by UNIFE (see section 1.2), I will meet other young researchers (PhD students or MSCs) of UNIFE and network. In addition, we will work together to find co-funding for research by companies and I will attend all the research meetings, in addition to the meeting reports with the supervisor.

**1.4 Capacity of the researcher to reach or re-enforce a position of professional maturity/independence**

My professional maturity and commitment to research are demonstrated through my professional and academic pathway described in my CV. My first experience as a researcher was premised by my master thesis. After, the will to follow research lead me to apply for a PhD at the MIT Portugal Program. Since then, I have developed an outstanding body of work and international collaborations, being intensively involved in several projects and I have collaborated with 2 research groups: *i*) IEEM-Indoor Environment and Energy Management Competence Centre (IEEM) at TEBE (Technology Energy Building Environment) research group (Department of Energy, Politecnico di Torino) *ii*) Energy, Environment and Comfort working group ADAI (Association for the Development of Industrial Aerodynamics) at the University of Coimbra (UC). I published several papers in ISI-indexed journals and I have actively participated in refereed conferences of high scientific relevance. My enthusiasm for science communication is evident from my participation in public outreach events and conferences, as well as organizing scientific meetings. Since 2014, I integrate a list of auditors of the Portuguese Institute of Accreditation (IPAC) and I am a member of the teaching team of the E-learning course of the UC on Indoor Environmental Comfort in Buildings. Since September 2016 I have co-supervised two master theses. Having finished my PhD for about a year and a half, the application to the MSCA EF is a strategic decision to pursue enhanced training in A>E, a very specialized research centres for the project's topic. The MSCA EF is thus extremely crucial at the current stage of my career. I understand the importance of mobility in research as it shows flexibility and adaptability. I am very keen to experience and learn from high quality research centres and this was the reason why I chose A>E to acquire additional training. This highly prestigious opportunity will allow me to enhance and complement my skills to demonstrate that I am a future leader able to become an independent EU researcher, also by undertaking geographical mobility. I have the strong will, knowledge, persistence, dynamism

**RELATION BETWEEN RESEARCHER CV**

**AND FUTURE EXPERTISE**

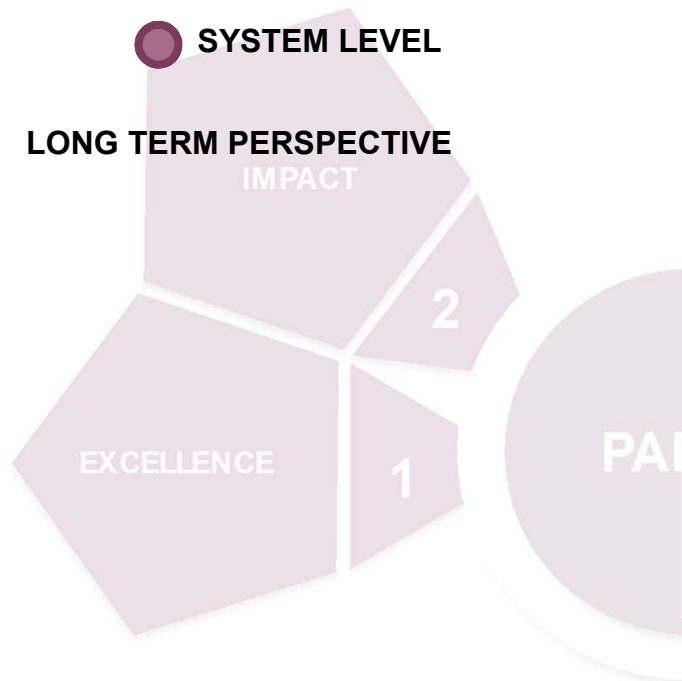


# IMPACT

## SHORT TERM PERSPECTIVE

- RESEARCHER LEVEL
- ORGANIZATION LEVEL
- SYSTEM LEVEL

## LONG TERM PERSPECTIVE



## 2. Impact

### 2.1 Enhancing the potential and future career prospects of the researcher

According to what is stated in the MSCA Work Programme, the research will have several expected impacts at different levels. Especially **at the researcher level**, that means **in a short term perspective**, I will increase my set

**At the organization level** instead, I will give my contribution in enhancing cooperation and reinforcing networks within different institutions among EU; improving, at the same time, communication and mobility between researchers **at system level**, enhancing the quality of research while contributing to EU's competitiveness and growth. Thus resulting in newly acquired competences that will make me, **in a long term perspective**, a world-

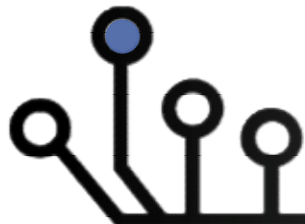
as an application for an ERC grant and an assistant professorship at another globally recognised institution.

### 2.2 Quality of the proposed measures to exploit and disseminate the action results

disseminated as follows:

TARGET GROUP	OBJECTIVES
Scientific community	i) publishing results in high-impact peer-reviewed journals (3 papers) e.g. Energy and Buildings, Journal of Cultural heritage, Building and Environment (or an Italian one e.g. TECHNÉ - Journal of Technology for Architecture and Environment). Whenever possible, findings will be published in refereed journals with open access in compliance with the Horizon 2020 open access policy; ii) Presentation in highly prestigious conferences (1-2 meetings each year during the course of the project), e.g. IAHS World Congress on Housing; iii) Presentation and dissemination of work for scientific debate, e.g., participation in SITdA's activities;
Business and the broader society	i) Make use of existing communication channels to disseminate EU2020 project results; ii) Organization of all the events planned in the Dissemination task of the project (see section 2.3).

The dissemination in EU also ensures that its political actions have been affected by the research's results to influence the future energy efficiency strategies of the Community.



**3.2 Appropriateness of the allocation of tasks and resources**

**WORK PLAN SHORT DESCRIPTION**



will be decided collaboratively before the signing of the grant agreement. The number of WPs to be in number of 5 due to the fact that the research is composed of two main phases, the off-site and the on-site ones. The other WPs have been dedicated to management activities, to the dissemination programme (part itself of the research) and to the transfer of knowledge. The time attributed to each task of WPs is the necessary for the

were defined to reach scientific community, stakeholders and general public. Periodic management reports will ensure the implementation and management of the proposed research plan (WP4).

**3.3 Appropriateness of the management structure and procedures, including risk management**

**General:** During the project I will be appointed under a fixed term employment contract at UNIFE for the duration of the Grant Agreement. UNIFE will ensure that I am covered under the social security provisions and

Conato and PhD student Valentina Frighi (particularly for the issues of technological assessment of material performance and their requirements). **Financial Management:** While the financial department of UNIFE is fully

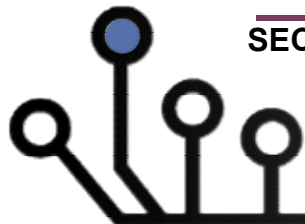
budget for the financial reporting to the EC, I will be assisted by the project officer of the DA and the financial project office of DA. **Progress monitoring:** weekly meetings will be held between me and the Supervisor to closely monitor the progress of the project. Once every year I will have a progress and development interview with my supervisors, for which the Career Development Plan forms the base. During WP 2 PhD. Elena Lucchi from EURAC will join monthly meetings. **Risk management:** Although this is an ambitious project, the scientists

breaks, *ii*) insufficient estimated time, *iii*) problems with the season (anomalous climate trends). One solution can be using the intermediate seasons for monitoring campaigns and to repeat tests which might have not succeeded. As such, the project will be timely executed during the fellowship period.

**3.4 Appropriateness of the institutional environment (infrastructure)**

UNIFE, founded in 1371, is one of the oldest and most renowned Italian universities. It has 42 FP7, (4 as Coordinator), 16 H2020 (1 coordinated by DA, *INCEPTION*), several *LIFE* (1 coordinated by DA, *LIFE-HEROTILE*), 1 as Coordinator and 4 Individual Fellowship MSC, 2 in Grant Preparation phase, several projects funded by other European research programmes; around 800 international cooperation agreements. The academic

**HOST AND SECONDMENT FACILITIES**





Proposal ID 796712

Acronym HeLLo

## Abstract

The energy refurbishment of heritage, field of the HeLLo proposal, is a priority of the EU policies to reduce fuel consumption. Historic buildings constitute a great amount of the EU existing stock, whose richness, coupled with a social and cultural value, especially in the Italian context, justifies the fellowship location. However, the lack of specific tools for the intervention on this kind of buildings and the scarcity of data about their energy state-of-the-art, make them mostly excluded from core strategic plans of the Member States, losing a great chance towards a net zero-energy future.

### OBJECTIVE OF THE PROPOSAL

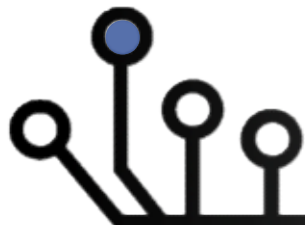
HeLLo aims to identify the most common energy retrofit solutions and increase knowledge of their application in historic buildings, hoping to contribute in the EU refurbishments strategies issued related to the historic heritage. The HeLLo project will focus on the compatibility of technologies already verified and applied to new buildings on historic constructions and, to create a structured dissemination programme that will give life to the 'outreach laboratories'.

### HOW THE OBJECTIVE WILL BE ACHIEVED

Results will be achieved through a twofold strategy: 1) the creation of a true experimental laboratory that will test such technologies and quantifying their real performance; 2) a project of 'dissemination laboratories' that will give an 'experimental experience' that makes known the world of investigation by the practice of the living lab.

### RELEVANCE TO THE WORK PROGRAMME

The achievements of the research are directed to overcome the criticalities related to energy retrofit of historic buildings towards a deep enhancement of EU heritage performance, and to ensure that the EU reaches the objectives set in the H2020 work programme. HeLLo is an important step in my career to fulfil the ambition to become an independent technology and energy expert and getting a tenure track position within EU.



METHODOLOGY | **Abstract**



Proposal ID **796712**

Acronym **HeLLo**

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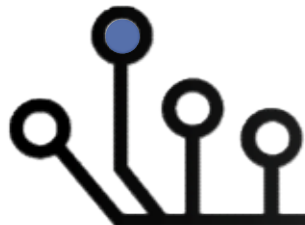
*HeLLo aims at spreading awareness about the most common energy retrofit solutions and increase knowledge of their application in historic buildings, hoping to contribute in the EU refurbishments strategies issues related to the historic heritage. There are two specific objectives: to check the compatibility of technologies already certified and applied to new buildings on historic constructions and, to create a structured dissemination programme that opens the doors of laboratory life to the outside of the academic boundaries.*

### **HOW THE OBJECTIVE WILL BE ACHIEVED**

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HORIZON  
2020

## Heritage energy Living Lab onsite

Fact Sheet

### Objective

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### Project information

## HeLlo

Grant agreement ID: 796712

Status

Ongoing project

Start date

1 October 2018

End date

30 September 2020

Funded under:

H2020-EU.1.3.2.

Overall budget:  
€ 168 277,20

EU contribution  
€ 168 277,20



Coordinated by:

UNIVERSITA DEGLI STUDI DI FERRARA

 Italy



<https://cordis.europa.eu/project/rcn/215475/factsheet/en>

● MAXIMUM LENGHT



● DELIVERABLES & MILESTONES



● DESCRIPTORS



● OPEN DATA PILOT



CRITICALITIES | **Difficulties**

## ● DESCRIPTORS



(Panel: **ENG - Information Science and Engineering**)

*Architecture, smart buildings, smart cities, urban engineering*

*Sustainable design (for recycling, for environment, eco-design)*

*Cultural heritage, cultural memory*

*Diagnostic and implantable devices, environmental monitoring*

*Communication networks, media, including social media, information society*



CRITICALITIES | **Difficulties**

## OPEN DATA PILOT

# Open Research Data Pilot in Horizon 2020 How can OpenAIRE help?

Are you a Researcher, Project Coordinator or Research Manager participating in the EC Open Research Data Pilot in Horizon 2020?

### What is the Open Research Data Pilot?

Open data is data that is free to use, reuse, and redistribute. The Open Research Data Pilot aims to make the research data generated by Horizon 2020 projects open. Starting from 2017 participating in the pilot will be the default option, requirements are:

- Develop (and keep up-to-date) a Data Management Plan (DMP).
- Deposit your data in a research data repository.
- Make sure third parties can freely access, mine, exploit, reproduce and disseminate it.
- Make clear what tools will be needed to use the raw data to validate research results (or provide the tools themselves).

The pilot applies to:

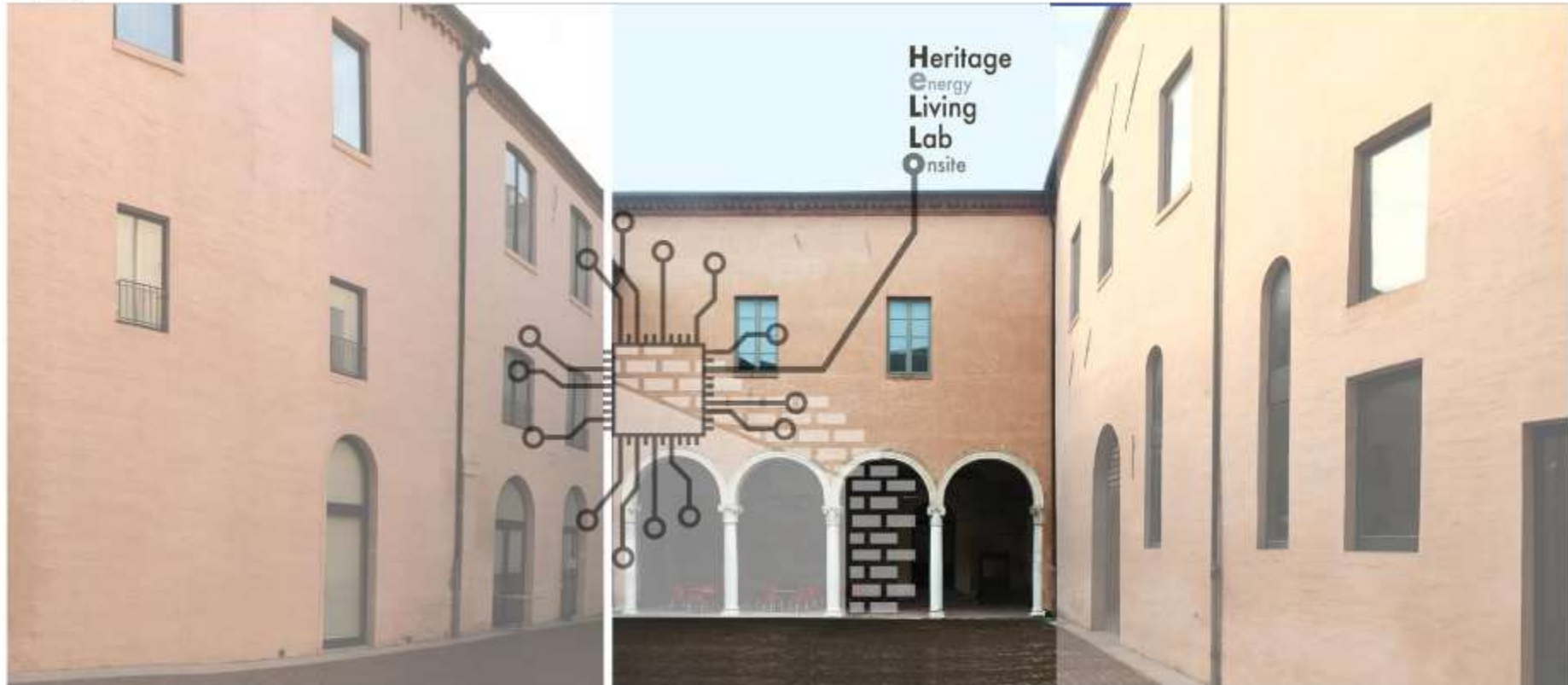
- ▶ the data (and metadata) needed to validate results in scientific publications.
- ▶ other curated and/or raw data (and metadata) that you specify in the DMP.

### What's in it for you?

- Be part of the new era of Open Science, integrating transparency, effectiveness and timeliness into all areas of scientific methods and processes.
- Reach more people, have greater impact.
- Avoid duplication of effort and help preserve data for future researchers.
- Simplify final reporting thanks to an up-to-date DMP.

OpenAIRE

OpenAIRE\_H2020\_FactSheet\_OpenDataPilot.pdf



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