



Interreg
España - Portugal

Fondo Europeo de Desarrollo Regional



UNIÓN EUROPEA

Una herramienta integrada para la conservación preventiva del patrimonio cultural construido: el proyecto HeritageCare

Maria Giovanna Masciotta // *Miembro integrado ISISE. Universidade do Minho*



Flumen Durus

Uma ferramenta integrada para a conservação preventiva do património cultural construído: o projeto HeritageCare

Maria Giovanna Masciotta // *Membro integrado ISISE. Universidade do Minho*

Colabora:

Organiza / organização

aéice | **DOURO**



ATMRD
Asociación Portuguesa de Municípios e Comunidades do Douro
Associação Portuguesa de Municípios e Comunidades do Douro

aéice | **DOURO**

utad

UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO





“Culture is not inherited, it is conquered”
(Andre Malraux, 1959)

“The way we have lost the habit of maintaining houses is very serious. Basically, it’s a cultural problem (...) If the money could be channelled (...) into creating the habits and culture of maintenance, the problem would be much less serious.”

(Alvaro Siza 2004)



Outline

- ❑ Motivation
- ❑ South-West European Context
- ❑ The HeritageCARE project:
 - The Consortium
 - Objectives & Methodology
 - Implementation & Validation
- ❑ Conclusions and Perspectives





Motivation

Motivation

- ❑ Conservation and systematic maintenance of buildings with cultural and historic value **in the South-West Europe is not a regular activity**
- ❑ **Actions only occur when there is significant visible impact** on the structure, thus considerable investments and time are required to correct the problems
- ❑ **REACTIVE CONSERVATION APPROACH** are scarce and they are mostly addressed to listed constructions



Motivation

- ❑ **Need of an integrated system in support of heritage management in South-West Europe (SUDOE Space) including inspection, diagnosis, monitoring and preventive conservation, and engaging all societal actors**

PROACTIVE CONSERVATION APPROACH





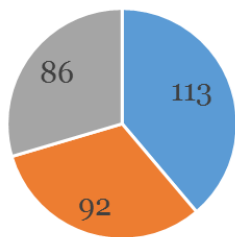
South-West European Context

South-West European Context

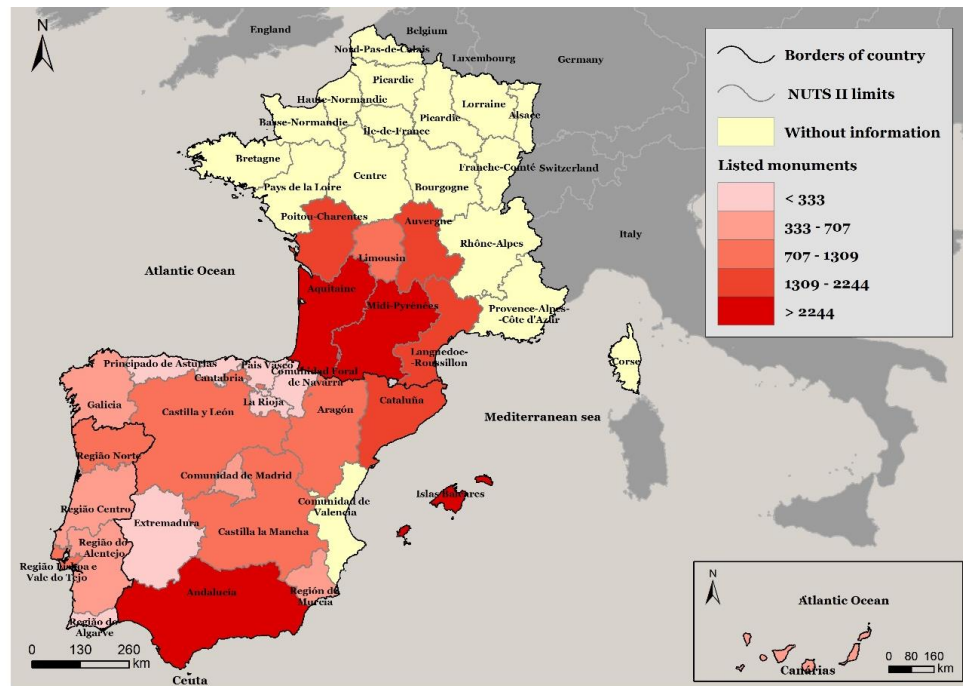
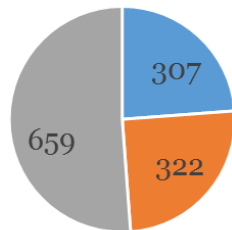
□ SUDOE Space

Population Density
[Inhabitants/km²]

Listed Buildings Density
[Listed Buildings / M. Inhabitants]



■ Portugal ■ Spain ■ France*



Number of Listed Buildings 31.163

Population 77 [M. Inhabitants]

Territory Area 82.4671 [km²]

Population Density 97 [Inhabitants/km²]

Listed Buildings Density 429 [Listed Buildings/M. Inhabitants]

Country	Listed Buildings
Portugal	3.352
Spain	15.058
France (SUDOE)	12.898



The HeritageCARE Project



Monitoring and Preventive Conservation of Historic and Cultural Heritage

Monitorização e Conservação Preventiva do Património Histórico e Cultural

[EN]

The preservation of buildings of historical and cultural value in south-west Europe is currently not a regular organised activity: it only occurs when serious problems arise. In order to face this urgent situation, HeritageCare aims to implement a management system for the preventive preservation of the historical and cultural heritage based on a series of services provided by a nonprofit organisation created in Spain, France, and Portugal. The project will be the first joint strategy of preventive heritage preservation in south-west Europe.

[PT]

Anualmente, a conservação de edifícios com valor histórico e cultural no sudoeste europeu não é uma atividade regular e organizada, e surge apenas quando aparecem graves problemas. Para enfrentar esta situação urgente, HeritageCare pretende implementar um sistema de gestão para a conservação preventiva do património histórico e cultural, baseado num conjunto de serviços prestados por uma entidade sem fins lucrativos criada em Espanha, França e Portugal. O projeto será a primeira estratégia conjunta de conservação preventiva do património no sudoeste da Europa.

Total Budget: 1.686.282,82 €

ERDF Budget: 1.264.712,11 €

Project funded by the Interreg Sudoe Programme through the European Regional Development Fund (ERDF)

Interreg Sudoe



Environment and resource efficiency

www.interreg-sudoe.eu



HeritageCare

Prevention is better than cure!

The HeritageCARE Project

- ❑ Interreg-SUDOE program co-funded by the
- ❑ Total Budget of **1.6 M€** (1.2 M€ ERDF)
- ❑ **3** Countries (Portugal, Spain and South France)
- ❑ Main headquarter is at IB-S (Portugal)
- ❑ Duration of **3 years** (started September 1st 2018)

IB·S

INSTITUTE OF SCIENCE AND INNOVATION
FOR BIO-SUSTAINABILITY



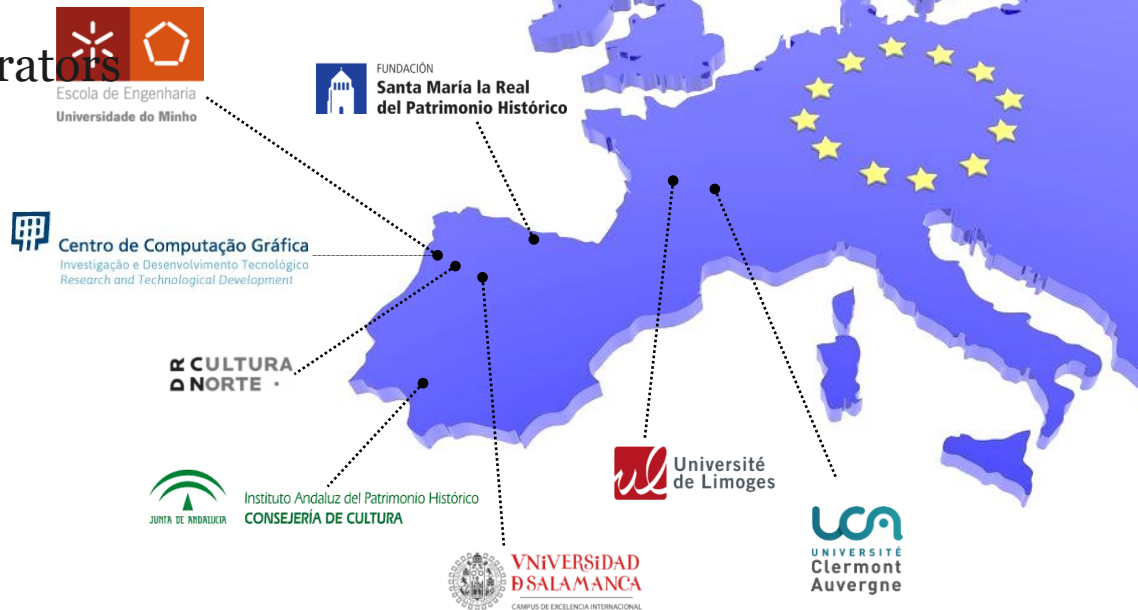
The Consortium

The Consortium

❑ **8 Partners** (3 PT + 3 SP + 2 FR)

❑ **11 Associated Partners**

❑ **27 Researchers and Collaborators**



The Consortium

Santa Maria La Real Foundation (ES)

GECORPA - Grémio do Património (PT)

Louis Gineste (FR)

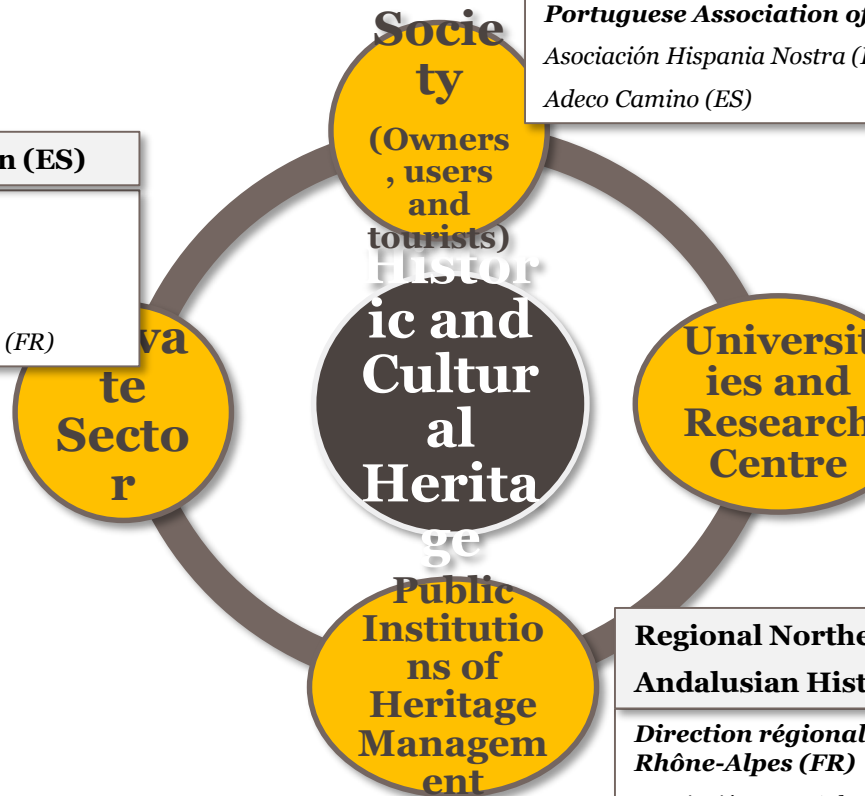
Atelier d'Architecture PANTHEON (FR)

Cabinet d'Architecture Pascal Parmantier (FR)

**All Actors
are involved!**

Partner

Associated Partner



Regional Northern Culture Directorate (PT)
Andalusian Historical Heritage Institute (ES)

Diocese of Braga (PT)

Portuguese Association of Old Houses (PT)

Asociación Hispania Nostra (ES)

Adeco Camino (ES)

University of Minho (PT)

Centre for Computer Graphics (PT)

University of Salamanca (ES)

University Clermont Auvergne (FR)

Ecole Nationale Supérieure d'Architecture de Clermont-Ferrand (FR)

Regional Northern Culture Directorate (PT)
Andalusian Historical Heritage Institute (ES)

Direction régionale des affaires culturelles Auvergne Rhône-Alpes (FR)

Asociación Española de Gestores de Patrimonio Cultural España (ES)

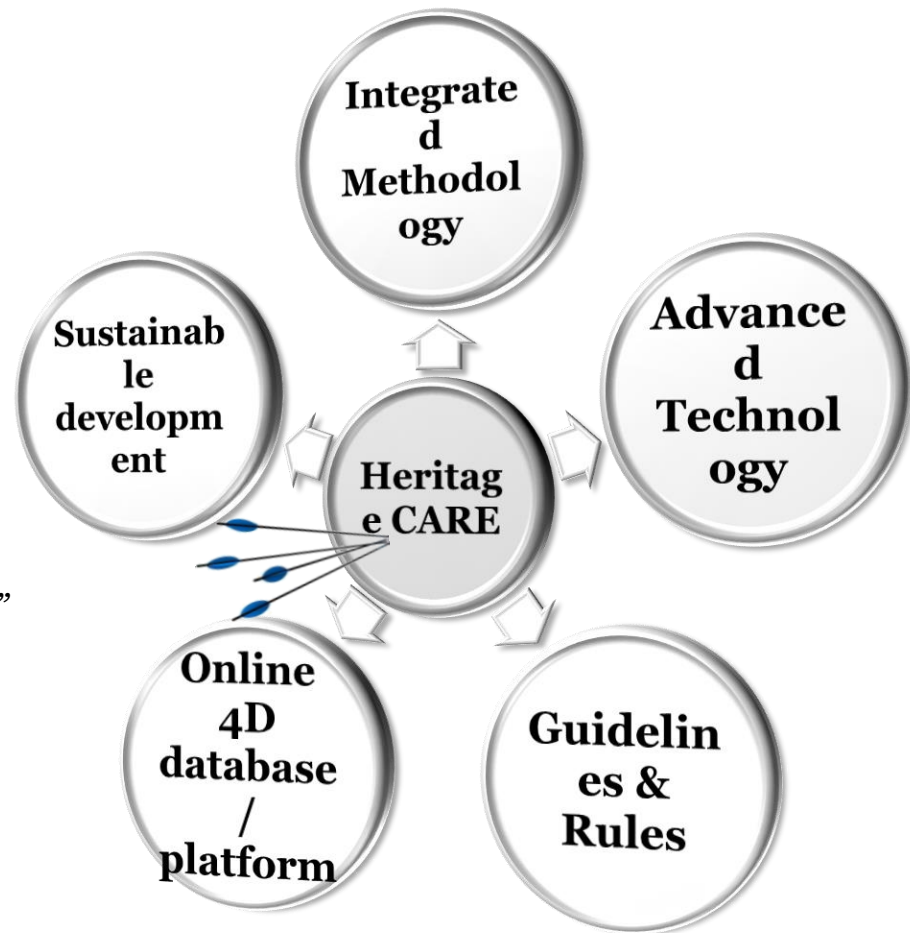


Objectives & Methodology

Project Objectives

- ❑ **Definition of an integrated methodology** for preventive conservation of listed and non-listed heritage constructions
- ❑ **Leverage of advanced technologies** for the implementation of the methodology
- ❑ **Standardization of methods and tools** through the development of rules of “*good practice*”

Short/Medium Term



Ultimate Goal

- ❑ **Raise public awareness** about the societal and economic benefits associated with the adoption of regular preventive conservation actions
- ❑ Creation of a joint **NON-PROFIT self-sustaining ENTITY** that will

use the H
Long Term
& TOOLS!



methodology

**Proactive preventive
conservation methodology**

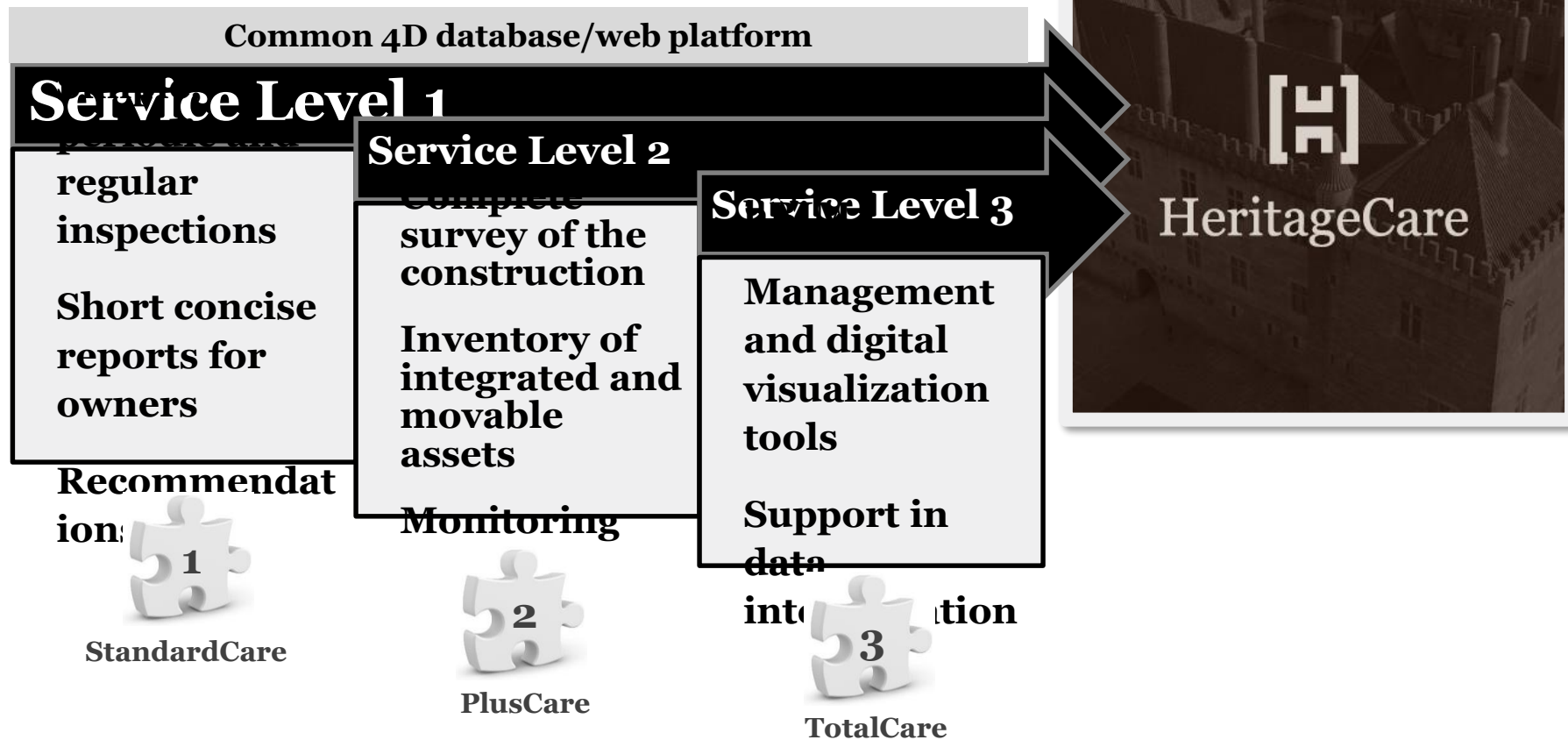


**Traditional & advanced
technologies**



**Creation of a joint NON-
PROFIT self-sustaining
ENTITY**

Methodology of the Project



Methodology of the Project

❑ Multi-level System of Services:

- **LEVEL 1:** qualified teams perform detailed on site inspections at regular intervals with the aid of specific mobile fillable forms
- **LEVEL 2:** more complex information about the heritage buildings and related indoor assets are collected by leveraging advanced recording strategies and integrated into the database.
- **LEVEL 3:** Digital models of the inspected buildings are created and manipulated through the HBIM (Historical Building Information Modelling) to streamline the conservation and management process of complex buildings.



“Clinical picture” of the heritage structure over time

Monumentenwacht (B + NL)



Methodology of the Project



“Clinical picture” of the heritage structure over time

Visual inspections with the help of drones

Mancelos Monastery, Portugal



Fernandes (2016)



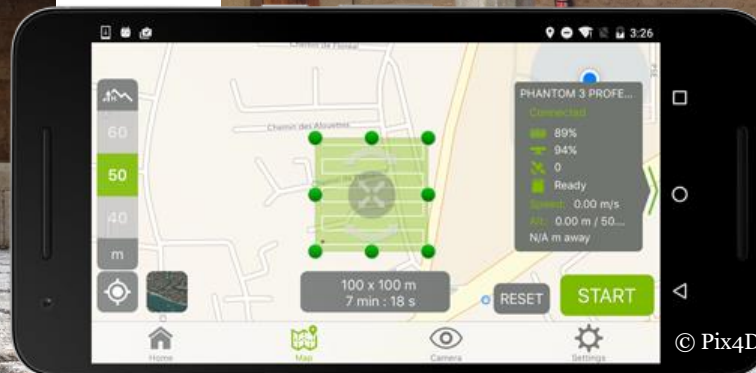
Guimarões Ducal Palace, Portugal



Guimarões Ducal Palace, Portugal



Fernandes (2016)



Fernandes (2016)



Guimarães
Ducal
Palace,
Portugal

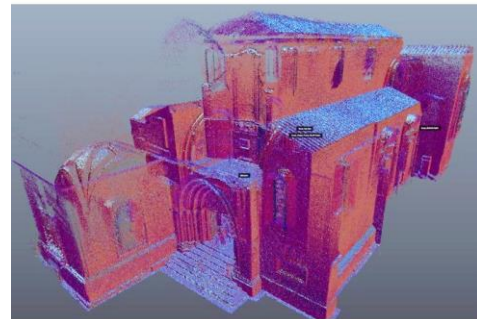
Methodology of the Project

❑ Multi-level System of Services:

- **LEVEL 1:** qualified teams perform detailed on site inspections at regular intervals with the aid of specific mobile fillable forms.
- **LEVEL 2:** more complex information about the heritage buildings and related indoor assets are collected by leveraging advanced recording strategies and integrated into the database.
- **LEVEL 3:** Digital models of the inspected buildings are created and manipulated through the HBIM (Historical Building Information Modelling) to streamline the conservation and management process of complex buildings.



Virtualization of the heritage buildings and heritage inventory (SL1 + SL2)



Methodology of the Project

❑ **Photogrammetry** can be used to reduce time on site...



Virtualization of the heritage buildings and heritage inventory (SL1 + SL2)

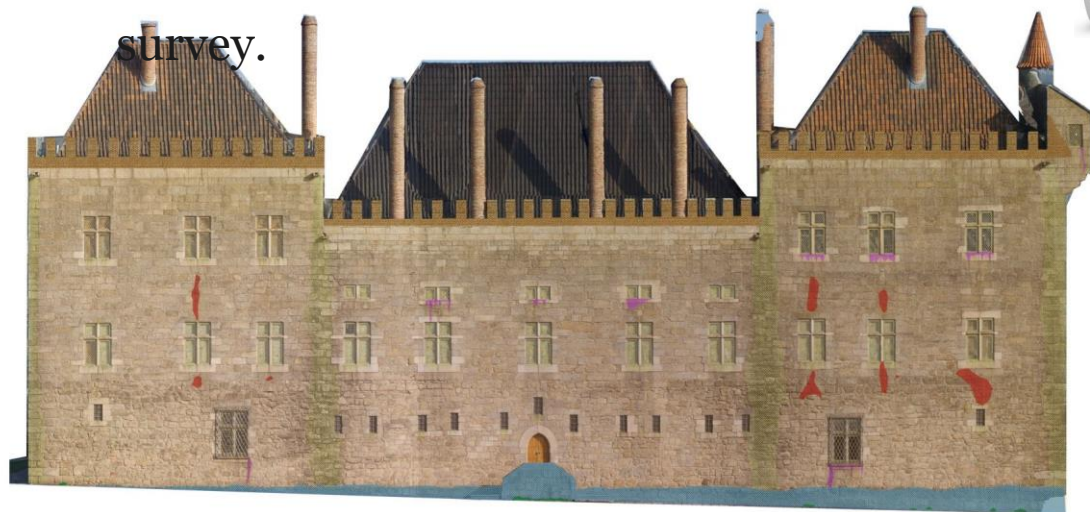













Methodology of the Project

- ❑ ...and to obtain a more accurate damage survey.



Virtualization of the heritage buildings and heritage inventory (SL1 + SL2)



	discoloration		foliose lichen
	rising damp		deposit
	algae		biological colonisation
	vegetation		moss
	stain		splintering
	crustose lichen		

**Damage mapping
over orthophotos**

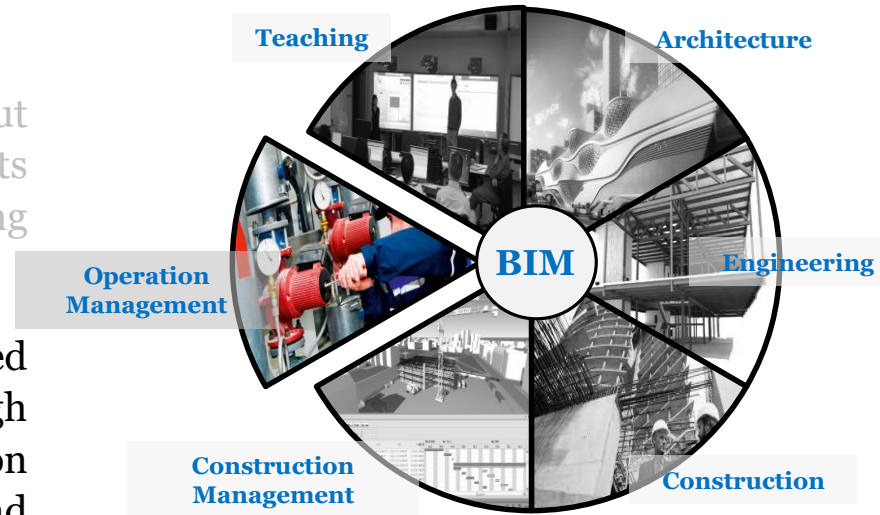
Methodology of the Project

❑ Multi-level System of Services:

- **LEVEL 1:** qualified teams perform detailed on site inspections at regular intervals with the aid of specific mobile fillable forms.
- **LEVEL 2:** more complex information about the heritage buildings and related indoor assets are collected by leveraging advanced recording strategies and integrated into the database.
- **LEVEL 3:** Digital models of the inspected buildings are created and manipulated through the HBIM (Historical Building Information Modelling) to streamline the conservation and management process of complex buildings.



Digitalization, conservation plans, information integration (L1+L2+L3) and management



Methodology of the Project

❑ From the practical point of view **HBIM** is only applicable **for complex and singular monuments with special numbers!**

❑ **E.g. Mafra Convent:**

- > 5.000 doors
- 2.500 windows
- 880 rooms

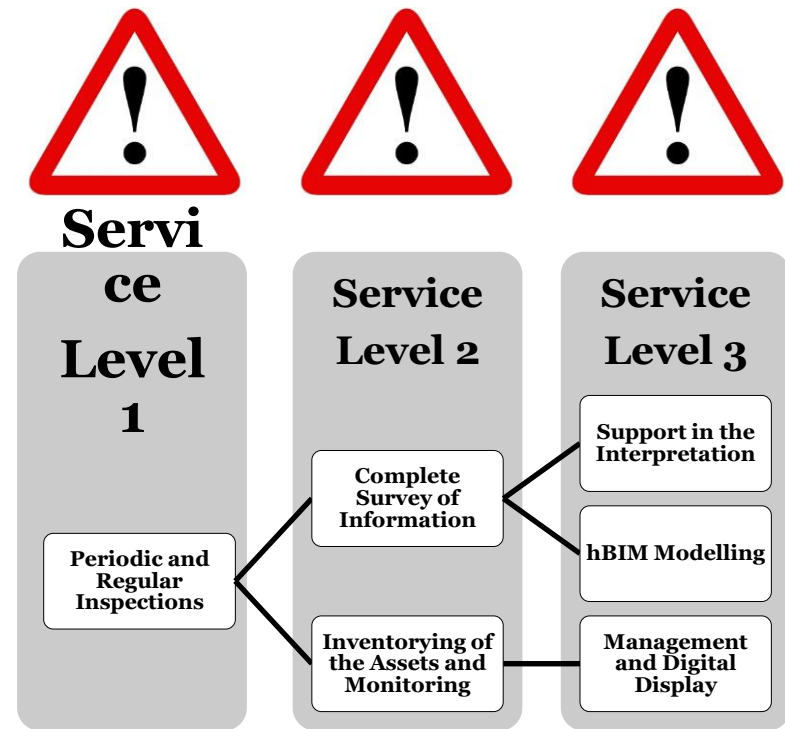


Digitalization, conservation plans, information integration (L1+L2+L3) and management



Methodology of the Project

- ❑ Owners **will be provided with recommendations** about proactive preventive conservation actions to undertake in the short/medium/long term
- ❑ In case of a serious/urgent problem:
 - Owners and heritage national authorities **will be timely alerted**
 - Owners **will be advised** to contact experts to do additional I&D works and to plan the necessary interventions according to best practices





Implementation & Validation

Implementation & Validation

- ❑ The project includes the **implementation of the methodology in 60 case studies** (e.g. churches, chapels, palaces, old houses, etc.)
at no cost for owners during the project time frame



“Clinical picture” of the heritage building over time

60 Case Studies

20 PT + 20 ES + 20 FR



Virtualization of the heritage building and assets inventory (SL1+SL2)

15 Case Studies

5 PT + 5 ES + 5 FR



Information integration and management (SL1+SL2+SL3)

3 Case Studies

1 PT + 1 ES + 1 FR

Implementation & Validation

- ❑ **The Ducal Palace in Guimarães** is the elected building for **Service Level 3 in Portugal!!!**





Conclusions & Perspectives

Conclusions and Perspectives

- ❑ The HeritageCare Project aims to implement a **new methodology for preventive conservation in South-West Europe** that involves all actors directly related to Heritage
- ❑ Despite the economic and cultural challenges, the systematic approach to preventive conservation that is being developed is **essential to support a new model of heritage management** in Portugal, Spain and South of France
- ❑ HeritageCare intends to empower the entire society and **enable**

people to participate in the conservation process of their

own cultural legacy, by demonstrating the long term benefits of



Thanks for your attention!!!

www.heritagecare.eu

heritagecare.portugal@gmail.com

