



IPERION HS



E-RIHS

EUROPEAN RESEARCH INFRASTRUCTURE
FOR HERITAGE SCIENCE

Integrating **P**latforms for the **E**uropean **R**esearch Infrastructure **O**N **H**eritage **S**cience (**IPERION HS**)

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Heritage Science: Dynamic and Vibrant Environment



Cultural Heritage and Heritage Science at Horizon Europe

THREE PILLARS FOR IMPLEMENTATION



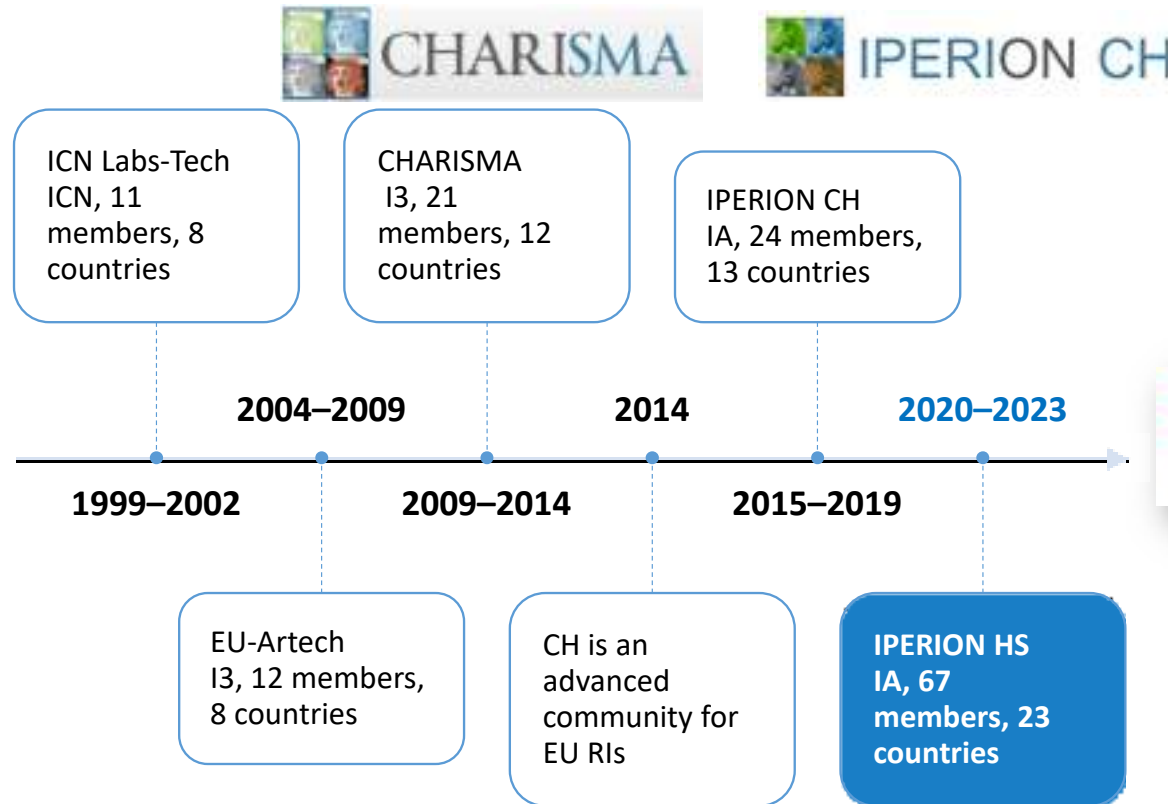
....Horizon Europe - Cluster 2

- For the **first time ever**, an R&I framework programme includes Cultural Heritage as a **Destination Area**. Particularly, **Cluster 2**, strands a new sectoral approach on cultural heritage R&I, including the specific needs of cultural and creative industries/sectors. Research and innovation actions will be designed in a holistic manner in order to cover a wide range of domains of tangible, intangible, Arts and CCIs cultural heritage.

Cluster 2 will include activities on protection, restoration, safeguard and valorisation of Cultural Heritage, as well as on innovation and competitiveness of and with the CCIs.

Building E-RIHS - European Research Infrastructure for Heritage Science

20 years of European Cooperation



**Preparatory phase:
2017–2020**



IPERION HS overview



IPERION HS is a project funded by the European Commission under Grant Agreement n.871034



Type of action

H2020-INFRAIA-2019-1



Partners

23 countries (24 partners, 43 third parties)

IPERION HS

■ IPERION HS access providers

■ IPERION HS partners



Duration

42 months (2020 - 2023)

Objective

IPERION HS aims at establishing and operating an integrating activity for a distributed pan-European research infrastructure (RI), opening key national research facilities of recognised excellence in Heritage Science.

IPERION HS is part of the E-RIHS community



ON

Heritage Science

www.iperionhs.eu



IPERION HS Transnational access

- Transnational services offered free of charge to a wide range of high-level scientific instruments, methodologies, data and tools for the advancement of knowledge and innovation in Heritage Science
- Accessed through collaborative proposals selected by a panel of international and independent experts



More than **180** services (54 service providers from 23 countries)

SERVICE PLATFORMS



ARCHLAB

Access to physical and digital (offline) data collections in European museums or conservation institutes, such as objects, technical images, samples



FIXLAB

Access to key fixed facilities for heritage science research, e.g. particle accelerators, neutron and laser sources and other non-transportable research facilities.



MOLAB

Access to a comprehensive selection of mobile analytical instrumentation for in-situ measurements (close-range and remote sensing) on objects,

OPEN CALLS



<https://www.iperionhs.eu/iperion-hsaccess/>

<https://www.iperionhs.eu/catalogue-of-services/>



IPERION HS Academy



HS Academy



- **Webinars**
- **Doctoral training school**
- **Onsite training camps**
- **HS Training modules**

<https://www.iperionhs.eu/webinar-series/>



E-RIHS European Research Infrastructure for Heritage Science

- Project of the European Strategy Forum for Research Infrastructures (in its roadmap **since 2016; preparatory phase 2017-2020**)
- A distributed **research infrastructure** for heritage interpretation, conservation, documentation and management – 100 facilities, 29 countries,...
- Offers access to **advanced tools and services** to an **interdisciplinary community** of researchers in Heritage Science
- Impact on **society and economy**



www.e-rihs.eu

“Excellence in research requires excellent infrastructures, for data collection, management, processing, analysing and archiving; this is the case in all disciplines”; Science Europe, 2013



E-RIHS access platforms



ARCHLAB

access heritage archives and collections



DIGILAB

data and tools for heritage research



FIXLAB

access LSF and advanced laboratories



MOLAB

mobile instruments for in-situ diagnostics



Data Management

- Data types
- Institutional repositories
- Metadata
- Licenses

OPEN and FAIR Data

DIGITAL.CSIC
CIENCIA ABIERTA

Experiences of DIGITAL.CSIC in integration with European research infrastructures

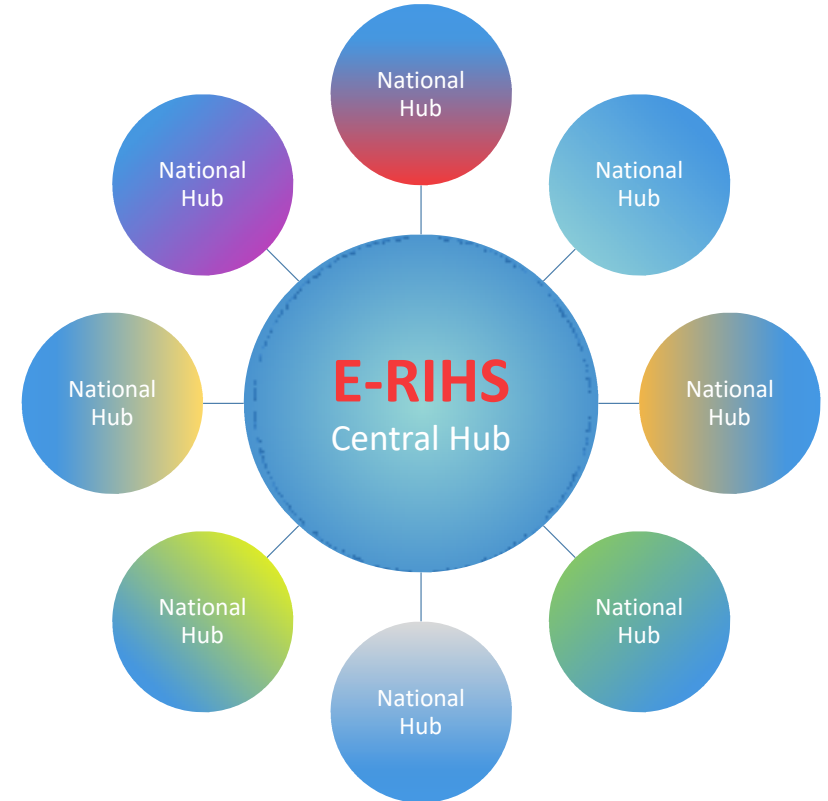
Isabel Bernal
DIGITAL.CSIC Technical Office
IIBO, CSIC



E-RIHS Structure



- a Central Hub – to be seated in Florence – will be the unique access point of the RI
- National Hubs will organise facilities at national level
- NHs will be responsible for committing the national in-kind contribution to **E-RIHS**





PTI-PAIS collaborates with the Spanish Node of E-RIHS



The Spanish Node of E-RIHS







IPERION HS



E-RIHS

EUROPEAN RESEARCH INFRASTRUCTURE
FOR HERITAGE SCIENCE

Thank you for your attention!

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PTI-PAIS Members

**16 Participating CSIC's Research Groups
(~ 100 researchers)**

Arquitectura y Materiales, **ARCH&MAT-IETcc**

Cultura Material y Patrimonio, **CERVITRUM-IH**

Centro Nacional de Aceleradores, Unidad de investigación en Técnicas de Análisis con Haces de Iones, **IBA-CNA**

Corrosión Atmosférica y Conservación Patrimonio Cultural, **CAPAC-CENIM**

Laboratorio de Arqueología y Arquitectura de la Ciudad, **LAAC-EEA**

Laboratorio Láser de Ciencia de Patrimonio, **LLHS-IQFR**

Microbiología Ambiental y Patrimonio Cultural, **MAPC-IRNAS**

Petrología Aplicada a la Conservación del Patrimonio, **PAP-IGEO**

Técnicas Espectroscópicas Aplicadas al Estudio de Materiales del Patrimonio, **TEAMPATRI-IEM**

Tecnologías Semánticas y Patrimonio Cultural, **TSPC-INCIPIT**

Análisis del patrimonio material subacuático, procedencia y contexto histórico, **IH**

Prevención del biodeterioro en objetos y arquitecturas patrimoniales, **INMA**

Arqueomagnetismo: aplicación a la caracterización de yacimientos arqueológicos, **IGEO**

Aplicación de métodos láser al patrimonio cultural, **INMA**

Estudios de materiales vítreos aplicados al Patrimonio cultural, **ICV**

Análisis geoambiental en medios hipogeos, **AGMH-MNCN**

39 Associated Entities:

Restoration and heritage management companies, museums, public institutions, universities, educational centers, professional associations

PTI-PAIS: Transfer to boost the cultural industries sector

Transmit advances in Heritage Science



Collaboration in excellence projects



pti-pais@iqfr.csic.es

<https://pti-pais.csic.es/>



Education and training



Access to research services and infrastructures



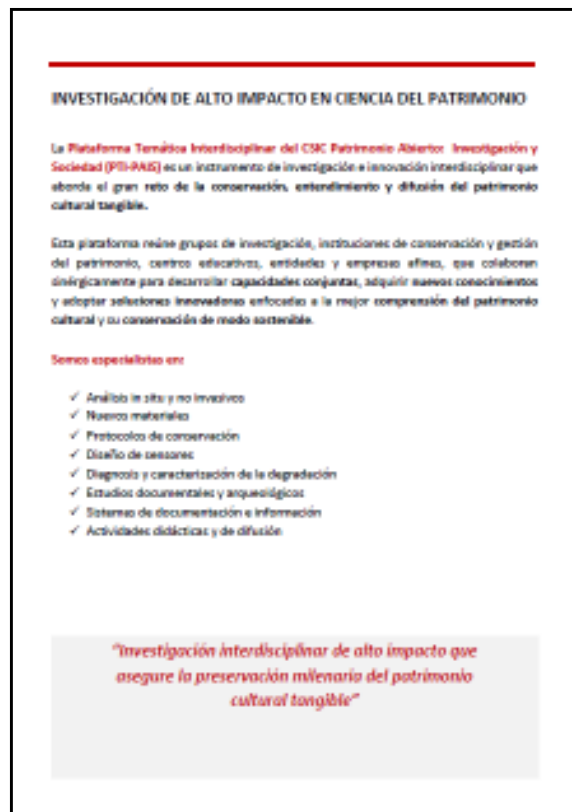
Dissemination of research activities, training, calls, etc.





PTI-PAIS: Advanced technologies at the service of cultural industries

Catalogue of services



<https://pti-pais.csic.es/servicios-ofertados/>

Reunion



Fairs





PTI-PAIS in IPERION HS

Transnational Access

FIXLAB

Laser laboratory for Heritage Science, LLHS-IQFR

- Raman Spectroscopy
- Laser Induced Breakdown Spectroscopy (LIBS)
- Laser Induced Fluorescence (LIF)
- Non Linear Optical Microscopy (NLOM)
- Laser cleaning

MOLAB

Atmospheric Corrosion and Cultural Heritage Conservation, CAPAC-CENIM

Electrochemical impedance spectroscopy



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