PROCRAFT
PROtection & Conservation of Heritage airCRAFT

CULTURAL HERITAGE
A CHALLENGE FOR EUROPE

PROCRAFT Kick-off meeting

Presentation of planned activities

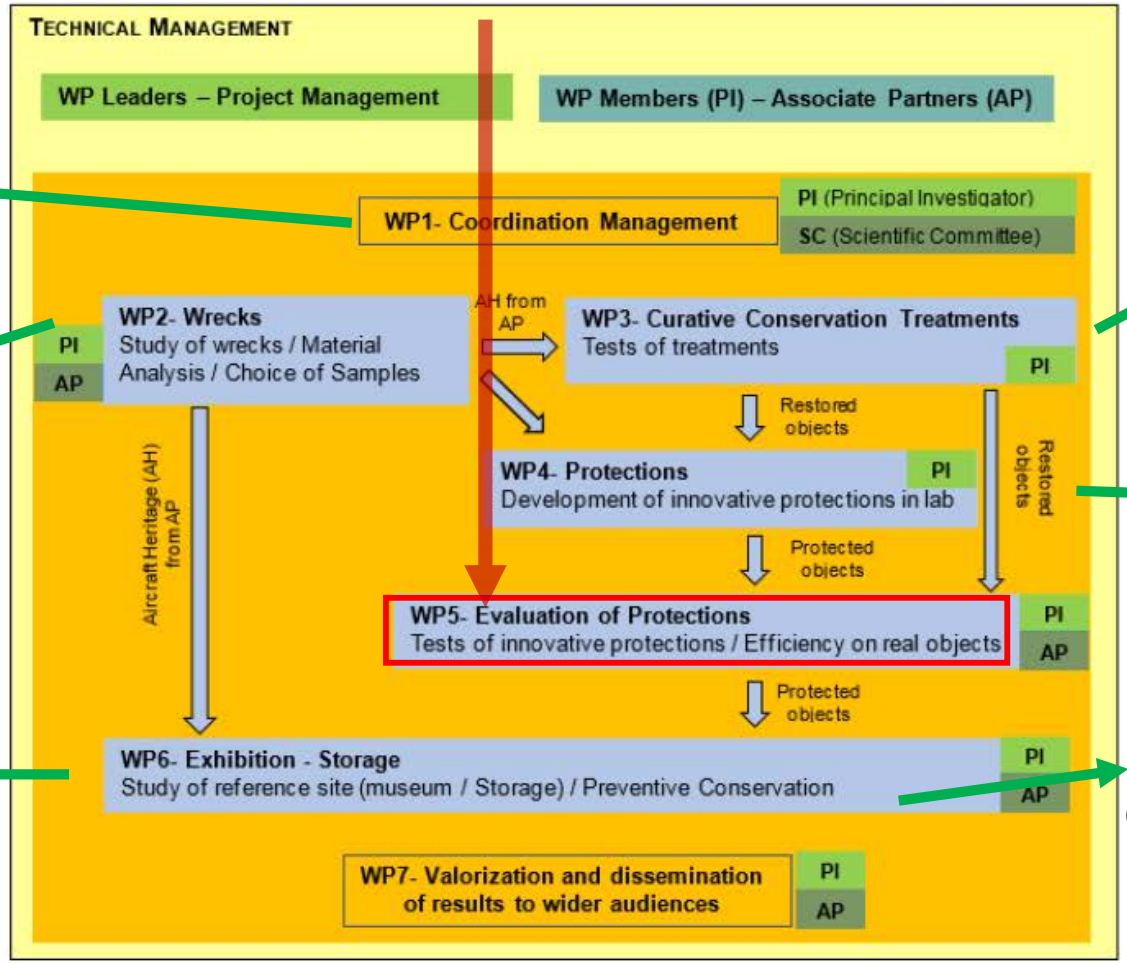
Cristina Chiavari
(cristina.chiavari@unibo.it)
Elena Bernardi
(elena.bernardi@unibo.it)
Carla Martini
(carla.martini@unibo.it)
Cecilia Velino
(cecilia.velino2@unibo.it)

Online, November 5th 2020
Kickoff Meeting

Role of UNIBO

LEADER

- **WP5**: protective coating assessment



WP1-Involved

Project coordination

WP2-Involved

Support for wrecks characterization

WP6-Involved

Exchange of knowledge and transfer of results

WP3-Involved

Support in view of WP5

WP4-Involved

Support in view of WP5

WP7- Involved

Communication and Dissemination

Role of UNIBO

WP5: protective coating assessment *(from M20 to M36)*

OBJECTIVES:

- Evaluation of protection of the innovative protective coatings on original substrates through accelerated ageing tests;
- Identification of advantages and limits of innovative protection;
- Comparison between innovative and traditional protective coatings

Project phase / Duration of the project (in months)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	29	30	31	32	33	34	35	36
WP5 - Protection Part II - Coating protective assessment (M20 – M36)																																			
Task 5.1: Application of protective coatings on selected substrates and pre-exposure characterization																																			
Task 5.2: Exposure of treated samples to accelerated artificial ageing in outdoor and semi-confined conditions																																			
Task 5.3: Characterization of aged surfaces (post-exposure)																																	D5.1 M5.1		
Task 5.4: Comparison of the best innovative protection with conventional protections used in CR																																			D5.2

WP5 overview

- **Task 5.1** *(Task leader: UNIBO)*

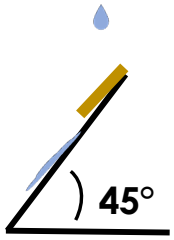
  - Application of the best performing coating on original substrates selected in WP3

  - Characterization of coated samples before exposure in order to define their chemical and morphological properties. A combination of microscopic, spectroscopic and profilometric techniques will be used (SEM/EDS/μ-Raman, FIB/FEG-SEM, XRD, XPS, TOF-SIMS, surface tension and colour measurements)

WP5 overview

- **Task 5.2** *(Task leader: UNIBO)*
  - Accelerated ageing of both coated and non-coated samples

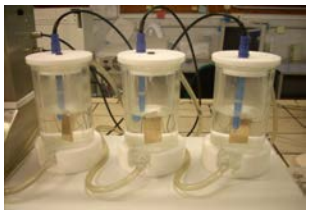
Climatic chambers
(T, humidity, UV)



Artificial rain testing devices

Dropping test
(runoff rain)

Wet&Dry
(stagnant rain)



  - Monitoring of surface evolution and dissolved metal ions to investigate the overall corrosion process

Profilometry and gravimetry (surface)

Microscopic and spectroscopic characterization (surface)

Dissolved metal ions (collected ageing solutions)

WP5 overview

- **Task 5.3** *(Task leader: UNIBO and CEMES)*

  - Assessment of the coatings influence on surface by surface and cross section investigations. Results will be compared to pre-exposed samples (T5.1)

    - Identification of the best protective coating based on its protective efficiency and surface modification.

- **Task 5.4** *(Task leader: AA)*

  - Protection of real wrecks with the best innovative protection as well as with conventional protections used in CH

    - Monitoring the evolution of protection during and after project by indoor and outdoor exposure.

      - Characterization of protections by visual observations and *in-situ* electrochemical measurements