haute école
neuchâtel berne jura
arc conservation restauration
neuchâtel

Espace de l'Europe 11 | CH-2000 Neuchâtel
+41 32 930 19 19 | www.he-arc.ch

ENDLESS METAL

European Network for the Dissemination of portable, low-cost, minimally invasive, easy-to-sue and easily accessible analytical tools to meet the needs of metal heritage conservation

OBJECTIVES

Metal is a material that is widely represented in archaeological, historical, artistic and technical collections. Any conservation intervention on it, due to the forms of corrosion developed, must be preceded by an in-depth diagnosis of the material in question, which requires costly analytical techniques, rarely accessible to the professionals concerned. As a result, the diagnoses carried out are often not sufficiently backed up scientifically, which leads to erroneous assessments of the alteration observed. The ENDLESS Metal project aimed to provide conservation professionals with portable, low-cost, minimally invasive, easy-to-use and easily accessible analytical tools, which can be used individually or in combination, and which allow them to judiciously and efficiently collect all the information necessary for a rapid and accurate diagnosis: – DiscoveryMat, an application for the analysis of metal and alloy compositions, enabling the professionals/institutions to refine their expertise regarding the objects they are responsible for and thus to preserve them more effectively; – MiCorr, an application for understanding the corrosion structures present on heritage metals and essential for establishing appropriate conservation strategies; – Pleco, an instrument for identifying corrosion products formed on the surface of metals and allowing their transformation (by reduction) to stabilise or clean metal surfaces.

These three tools provide qualitative results that are considered to be largely sufficient in the vast majority of cases to which conservation professionals are exposed. Their great originality is that they are participatory and work by comparison with databases enriched by users in a process of pooling and sharing, specific to the open data strategy being developed. They thus give access to in-depth characterisation of materials close to those studied, provided that the databases cover a broad spectrum of materials usually encountered in heritage collections.

FUNDING

COST Innovation Grant CIG16215

CHEF DE PROJET

christian.degrigny@he-arc.ch

PARTENAIRES

National Museum of Slovenia (Ljubljana, Slovenia)

Conservation department at National Maritime Museum (Gdansk, Poland)

Laboratory Materia Viva (Toulouse, France)

University of Porto (Porto, Portugal)

H.A. Studio Restaurare (Timisoara, Romania)

Abbaye de St Maurice (St Maurice, Switzerland)

DURÉE

12 mois
01.01.2023-31.12.2023

Espace de l'Europe 11 | CH-2000 Neuchâtel
+41 32 930 19 19 | www.he-arc.ch

ENDLESS METAL

European Network for the Dissemination of portable, low-cost, minimally invasive, easy-to-sue and easily accessible analytical tools to meet the needs of metal heritage conservation

PROGRAM

The ENDLESS Metal team worked on five axes:

1. the adoption of the tools by conservation professionals (curators and collection managers, conservation scientists, conservators) via training schools (TS);
2. their integration into conservation protocols;
3. their optimisation through critical feedback from users, enrichment of each database and short-term scientific missions (STSMs) on unresolved issues;
4. the validation of the potentials of each tool or their combined use through a representative case study; and
5. their dissemination via networking activities of the COST programme.

The interdisciplinary ENDLESS Metal team approached these axes from all possible angles in order to demonstrate how DiscoveryMat, MiCorr and Pleco can help conservation professionals better fulfil their mission.

RESULTS

- Training of professionals: around 100 in total all around EU through training schools (Neuchâtel, Ljubljana, Porto, Vienna and Warsaw) and additional training sessions (workshops) ;
- Enrichment of the databases of the three tools ;
- Optimisation of the functionality of the tools at a lower cost ;
- The technical performance of each tool was validated through short term scientific missions and the additional value of their combination was demonstrated during the case study in Timisoara ;
- Large dissemination through videos (5), newsletters (3), a dedicated webpage and publications (Techné, Araafu conference).