Plasma And Nano for New Age “soft” conservation

Fact Sheet

Project Information

PANNA
Grant agreement ID: 282998

Status
Closed project

Funded under
FP7-NMP

Overall budget
€ 2 832 072,73

EU contribution
€ 2 136 495

Coordinated by
CONSIGLIO NAZIONALE DELLE RICERCHE
Italy

Objective

The main objective is to develop a novel atmospheric plasma technique for surface cleaning and coating deposition as well as two innovative coatings: a self-diagnostic protective coating and a coating provided with identification marker.

The project aims at integrating the new plasma cleaning/deposition technique and the new coatings in a “full-life” protocol spanning surface cleaning and pre-treatment, deposition of protective and identification coatings, and complete removal of coatings.

The plasma technique is proposed for surface cleaning and coating removal as alternative or complementary to the other non-contact techniques such as laser. This technique is characterized by no thermal heating, selectivity, chemical reduction of oxides, applicability on all substrates and competitive costs.

The self-diagnostic coatings provide a long-lasting solution with an added value of
easy and instant diagnostic of coating functionality through a nano-technological approach, reducing monitoring costs and time with no impact on tourist accessibility. The identification marker coating allows using nanotechnologies to obtain a transparent authenticity proof and cataloguing label. The compatibility of the new materials with the substrates is guaranteed intrinsically by their integration in the “full-life” protocol because it ensures its complete reversibility. The protocol is applicable on all substrate materials principally as preventing conservation, in the project its validation is proposed on metal substrates (silver and bronze) and on mural paintings, limestone and sandstone. The project also aims at implementing a demonstrator of the entire “full-life” protocol, which will be used for training cultural operators in organised events and fairs. An added value is also the strong participation of SME’s as conservation operators and as technological companies, which ensures the possibility of scaling up and placing the new products on the market.

Field of science
/ engineering and technology/materials engineering/coating and films

Programme(s)

Topic(s)

Call for proposal

FP7-ENV-NMP-2011

Funding Scheme

CP - Collaborative project (generic)

Coordinator

CONSIGLIO NAZIONALE DELLE RICERCHE

Address
Piazzale Aldo Moro 7
00185 Roma
Italy

Activity type
Research Organisations

EU contribution
€ 182 895

Website
Contact the organisation
## Participants (9)

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Country</th>
<th>EU contribution</th>
<th>Address</th>
<th>Activity type</th>
<th>Website</th>
<th>Contact the organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VENETO NANOTECH SOCIETA CONSORTILEPER AZIONI</td>
<td>Italy</td>
<td>€ 428 000</td>
<td>Piazza Salvemini 13 35131 Padova</td>
<td>Research Organisations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STIFTUNG PREUSISCHER KULTURBESITZ</td>
<td>Germany</td>
<td>€ 276 400</td>
<td>Von Der Heydt Strasse 16-18 10785 Berlin</td>
<td>Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTESIS HOGESCHOOL ANTWERPEN</td>
<td>Belgium</td>
<td>€ 224 500</td>
<td>Keizerstraat 15 2000 Antwerpen</td>
<td>Higher or Secondary Education Establishments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation</td>
<td>Country</td>
<td>EU Contribution</td>
<td>Address</td>
<td>Activity Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>-----------------</td>
<td>---------</td>
<td>---------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NADIR SRL</td>
<td>Italy</td>
<td>€ 123 600</td>
<td>Via Francesco Zugno 9, 35134 Padova</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CENTER FOR RESTORATION OF ART WORKS OOD</td>
<td>Bulgaria</td>
<td>€ 276 000</td>
<td>Ulica Besarabia 80, 1517 Sofia</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOTEGA Z EOOD</td>
<td>Bulgaria</td>
<td>€ 184 000</td>
<td>Ul Aleko Konstantinov 51 Bx 1 Et 6, 1504 Sofia</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation</td>
<td>Country</td>
<td>EU Contribution</td>
<td>Address</td>
<td>Activity Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LORENZON COSTRUZIONI SRL</td>
<td>Italy</td>
<td>€ 111 100</td>
<td>Via Delle Acacie 3 31053 Treviso</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEMSTREAM BVBA</td>
<td>Belgium</td>
<td>€ 330 000</td>
<td>Drie Eikenstraat 661 2650 Edegem</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIVERSITEIT ANTWERPEN</td>
<td>Belgium</td>
<td></td>
<td>Prinsstraat 13 2000 Antwerpen</td>
<td>Higher or Secondary Education Establishments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>