



São Paulo, Brazil, 10 march 2026

SEMINAR ON ARCHITECTURAL RESTORATION

Carla Tomasi

Experience, research, and innovation
working together to preserve cultural
heritage



Who we are

We are an integrated operational group, formed by **Carla Tomasi S.r.l. and Kermes s.n.c.**, active for over forty years in the field of cultural heritage conservation and restoration.

We share an approach based on **scientific accuracy, philological method and environmental sustainability**, valuing heritage as a form of collective memory and identity.

The synergy of our expertise enables **us to manage complex and multidisciplinary projects** — from **diagnostics to project supervision** — with constant attention **to research and innovation**.



Carla TOMASI

Conservator of Cultural Heritage – Technical Director, Carla Tomasi S.r.l.

Graduate of the Istituto Centrale per il Restauro (Rome, 1981), specialized in stone materials.

She coordinates restoration projects and construction sites in collaboration with public institutions, universities and sector professionals.

She is **President of F.I.N.C.O.** and **Vice President of Confimi Edilizia**, actively committed to promoting a culture of restoration and conservation.

Awards and recognitions:

"100 Italian Architectural Conservation Stories" Award (2020)

MAM – Master of Art and Craft, Libro d’Oro

"Portraits of Women" – Ministry of Foreign Affairs (2021)



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Pietro CORONAS

Conservator of Cultural Heritage – Technical Director, Kermes s.n.c.

Co-founder of **Kermes s.n.c. – Art Heritage Restoration (1988)**.

He works in Italy and abroad on the **conservation of both movable and immovable artworks**, coordinating teams of restorers and specialized technicians.

His activity is divided between **major restoration sites and laboratory work**, involving interventions on wall paintings, canvas paintings and stone materials.

Awards and recognitions:

Premio Rotondi – “Art Savers” (1998)

Commendation from the Italian Ministry of the Interior for the Umbria–Marche emergency (1997)



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Decorated surfaces:
1000 mq

Palazzo delle Poste e Telegrafi, Turin

Decorative elements in litocemento (artificial stone), marble, ceramic and brickwork

RESTORATION OF THE FACADES

BEFORE WORKS - Black crusts from pollution, hydrocarbon deposits, and loss of decorative/ceramic elements.



CERAMIC AND LITOCEMENTO SURFACES

Consolidation, grouting, and reconstruction of ceramic and artificial stone (litocemento) surfaces.



SCULPTURAL LITOCEMENTO

Details of sculptural litocemento (artificial stone) elements before and after restoration works.



MARBLE STATUES BY EDOARDO RUBINO

Close-up and overall view of the female figures carved in marble, located on either side of the main entrance, after the restoration works.



INTERIOR DECORATED SURFACES (1911)

Removal of oxidised coatings and non-original fillings to recover the original material and decorative readability.



INTERIOR DECORATED SURFACES (1911)

Liberty-style decoration featuring a ceiling painting by **Giulio Casanova** and sculptures by **Edoardo Rubino**, complemented by stucco work, wooden boiserie and marble architectural details.



before



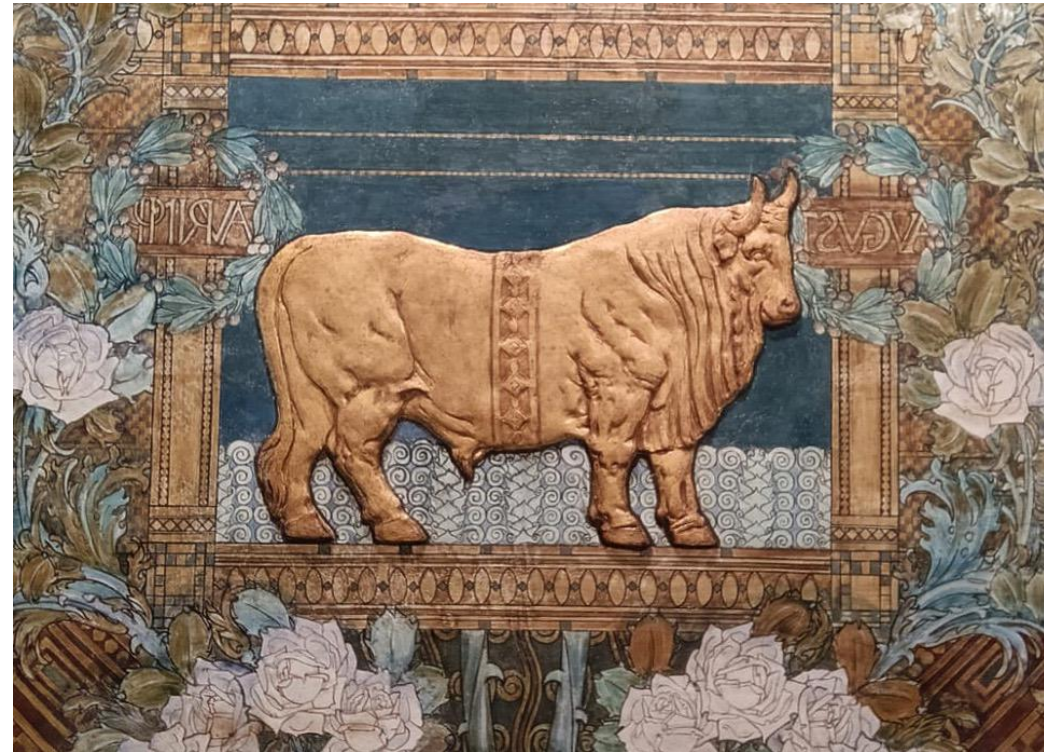
after

VESTIBULE CEILING PAINTING BY GIULIO CASANOVA

Watercolour retouching. Liberty-style decoration characterized by an intricate ornamental pattern and a pronounced *horror vacui*.



before



after



Stucco: **695 mq**
Stones: **120 mq**
Plasters: **100 mq**
Wood: **180 mq**



Villa Pamphili, Rome

Restoration of the facades

RESTORATION OPERATIONS OF DECORATED SURFACES

Stucco restoration operations

Re-adhesion of flakes and small fragments
using Ledan adhesive mortar.

Disinfection of microbial colonies through the
application of a biocide (Liq diluted to 5% in water).



DISINFECTION AND CONSOLIDATION WITH NATURAL PRODUCTS

NopalGel

Product based on prickly pear mucilage used as an additive, it gives plasticity and durability to aerial and hydraulic mortars and plasters.

MICRO-GROUTING GROUTING PLASTIC INTEGRATION

APPLICATION following investigations conducted by the ENEA Laboratory for Observations and Measurements for the Environment and Climate (SSPT-PROTER-OEM)



Agencia Nazionale per le Nuove tecnologie, l'Energia e lo Sviluppo economico sostenibile

SSPT-PROTER-OEM

ENEA
AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE,
L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE

SSPT-PROTER-OEM

NopalGel- Gel di fico d'India fresco

Descrizione del prodotto
Mucillagine ottenuta per processamento (macerazione in acqua in rapporto 1:1) di diadoti di *Opuntia ficus-indica*

Ingredienti
Opuntia ficus-indica, acqua

Istruzioni per l'uso e la manipolazione
Il prodotto può essere maneggiato senza precauzioni particolari. La quantità da utilizzare dipende dalle applicazioni (vedi tabella).
✓ per preparare una malta aerea si consiglia di aggiungere il 2-3% NopalGel al peso del ferrote e della calce (30 ml su 3 kg)
✓ per preparare una malta idraulica si consiglia di usare il 3% di NopalGel in aggiunta alla quantità di acqua utilizzata
✓ come consolidante di intonaci preparare una soluzione di acqua di calce con aggiunta di ENEA Sgr/tero a dosaggio 10% del volume; applicare a spugna
✓ per preparare una malta di intonaco aggiungere 10% di NopalGel al calce e polvere sottile di marmo

Conservazione
Il NopalGel si conserva in frigorifero a 4° C per tre giorni, in freezer a -20° C per 2 mesi.

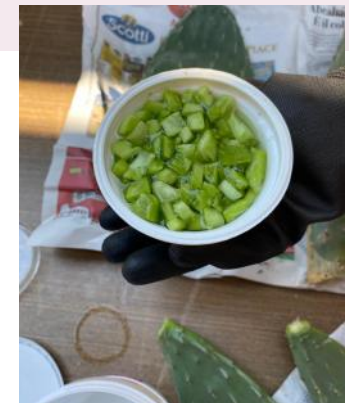


CNR - Istituto Nazionale di Ricerca in Architettura e Storia Urbana
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Sede Legale - Laboratorio Tomasi di Randi, 76 - 00186 Roma - Italia - Tel. +39-06-36271
Dott. Carla Tomasi - E-mail: carla.tomasi@carlatomasi.it

NopalCap

Composed of prickly pear mucilage and chili pepper extract, it maintains the effect of NopalGel while simultaneously reducing the bioreceptivity of surfaces, delaying the colonization of degrading microorganisms.



CONDITION OF THE DECORATED SURFACES, mainly affected by rising damp and exposure to weathering – before and after the restoration work.

before

NORTH
facade



after



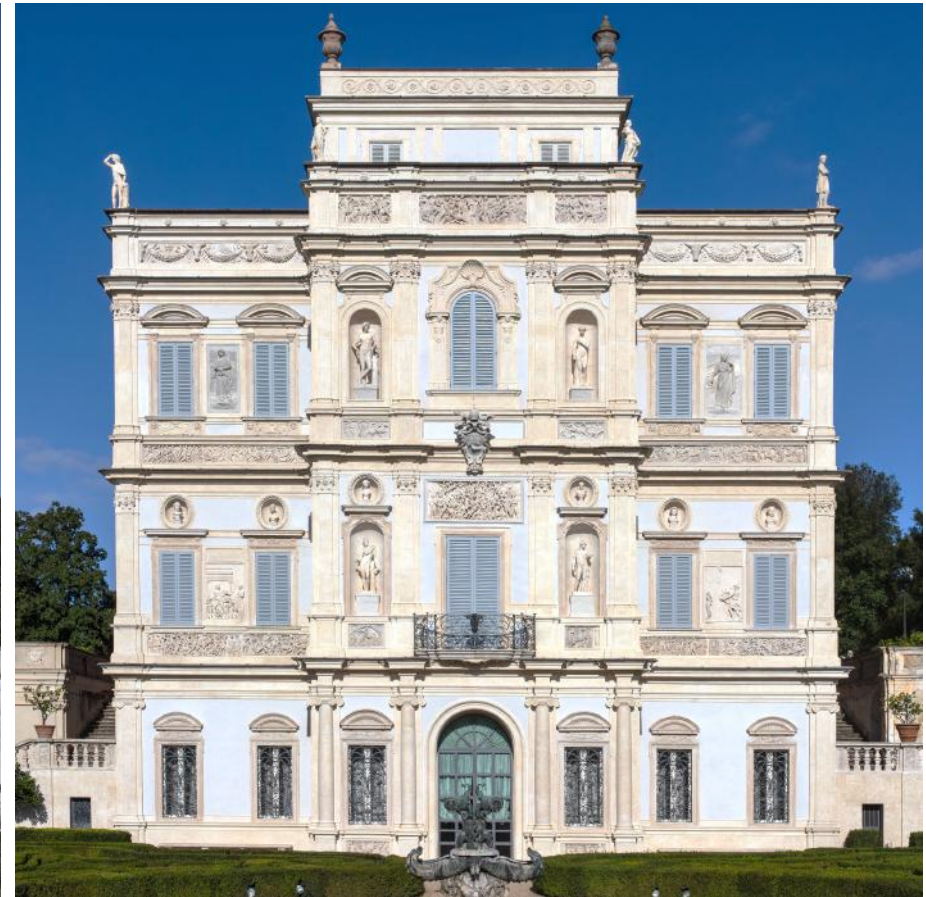
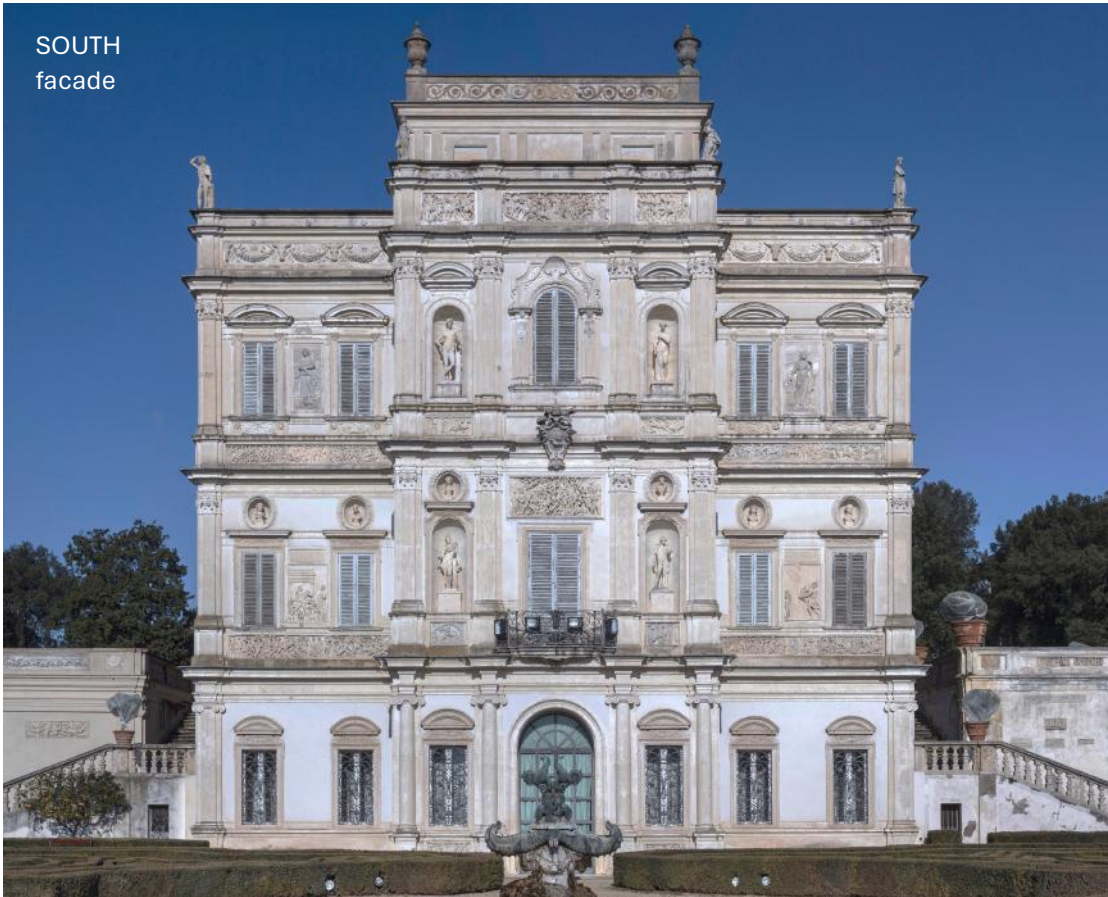
CONDITION OF THE DECORATED SURFACES, mainly affected by rising damp and exposure to weathering – before and after the restoration work.



before

after

SOUTH
facade





Mosaic surface:
40 mq



St. Mark's Basilica, Venice

Medieval mosaic pavement

GRAPHIC MAPPING of the mosaic sections to be detached (left sector)



state of conservation

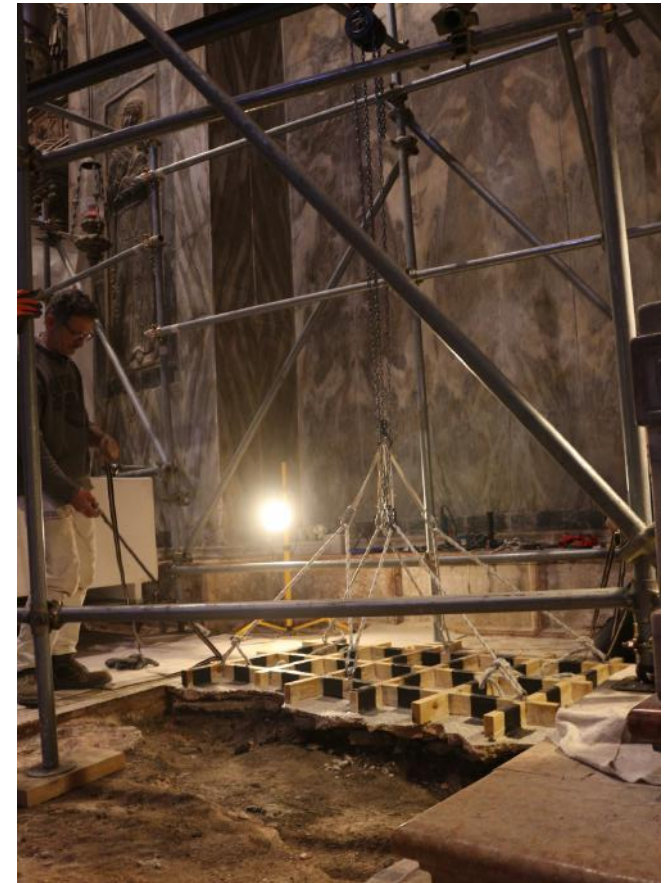
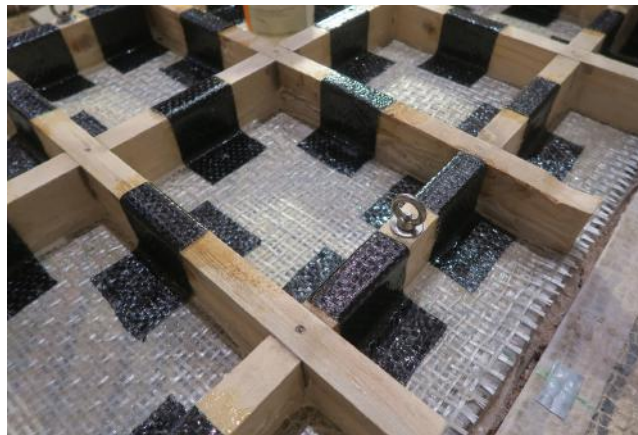


Exceptional water
12/11/2019

DETACHMENT OF THE MOSAIC SECTIONS, including preparatory layers, preceded by facing with Paraloid and reverse-side photographic documentation.



DETACHMENT OF THE LARGE MOSAIC SECTION, including preparatory layers, preceded by facing and reverse-side photographic documentation. A lifting structure was set up to support the operation.



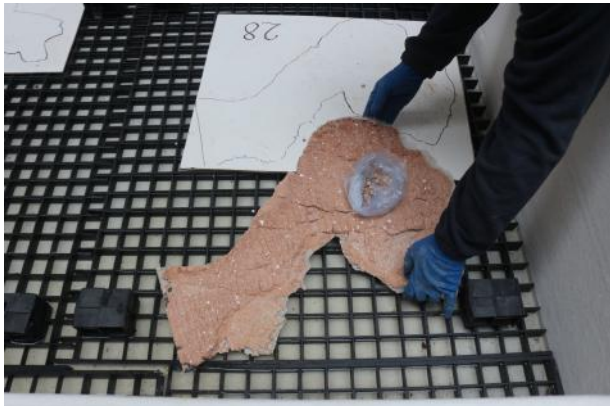
EXCAVATION AND FORMATION OF A WATERPROOF BARRIER

Excavation to remove the underlying soil corresponding to the detached mosaic area, backfilling, and formation of a waterproof barrier.



DESALINATION AND RESTORATION OF THE MOSAIC SECTIONS

Desalination cycles by immersion in deionized water tanks, followed by laboratory restoration.



RESTORATION OF THE 66 DETACHED MOSAIC SECTIONS

Thinning of preparatory layers, positioning of sections on clay, stripping, cleaning, re-staining with starch glue and PVA glue, re-cutting, turning and preparing the back, creating reverse cardboard, filling in large gaps with recycled or new tesserae.



LEFT SECTION

Reassembly of the mosaic sections destined for display on panels.



CHAPEL OF THE HOLY CRUCIFIX

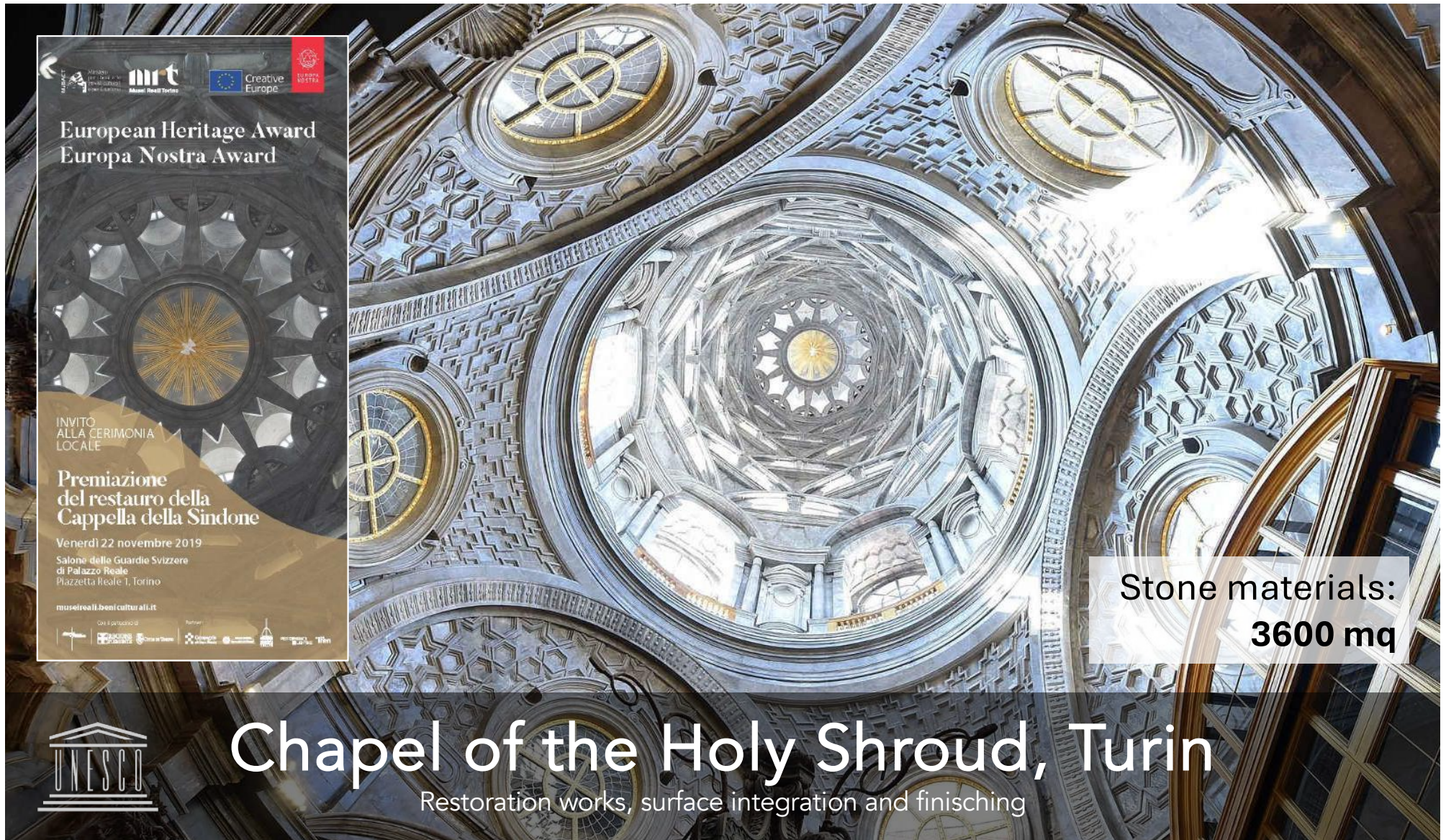
Conservation of the Chapel of the Holy Crucifix

before



after







European Heritage Award
Europa Nostra Award

INVITO
ALLA CERIMONIA
LOCALE

Premiazione
del restauro della
Cappella della Sindone

Venerdì 22 novembre 2019
Salone delle Guardie Svizzere
di Palazzo Reale
Piazzetta Reale 1, Torino

museireali.beniculturali.it

Con il patrocinio di  Partner: 

Stone materials:
3600 mq

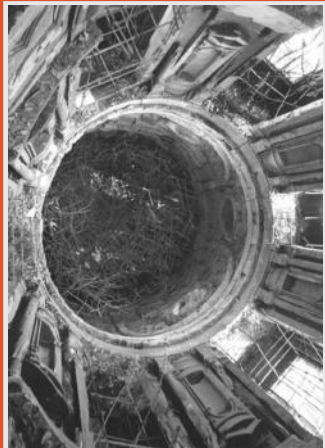


Chapel of the Holy Shroud, Turin

Restoration works, surface integration and finishing

CONDITION BEFORE RESTORATION

Interior surfaces showing severe **marble** detachments and collapses after the 1997 fire; scaffolding structures installed for safety and restoration operations.



View of the chapel after the 1997 fire



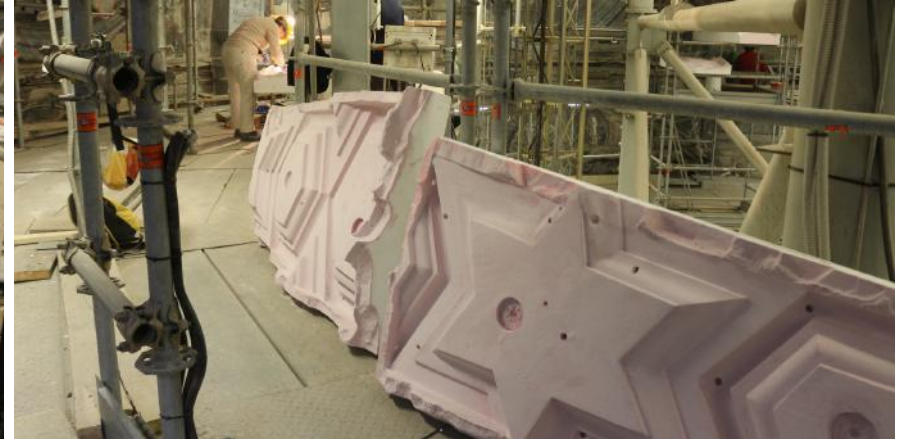
Missing parts:
1.200 mq

VOLUMETRIC INTEGRATION

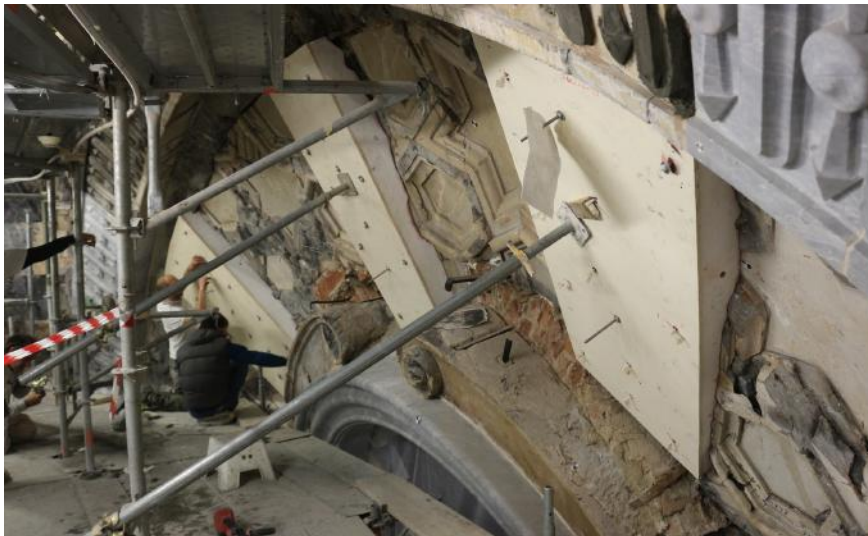
Hi-tech indirect reconstruction method using 3D laser scan, digital modelling and milling to produce lightweight counter-moulds, followed by controlled casting of a custom-formulated mortar through peristaltic pumps



3D Model



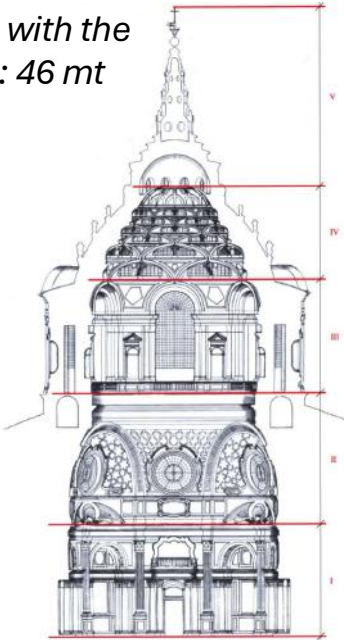
Missing parts:
1.200 mq



AESTHETIC PRESENTATION

Pictorial marble reconstruction and chromatic integration to restore visual continuity to the marble surfaces.

Section with the
4 levels: 46 mt





Wall paintings: **490 mq**
Terracotta statues: **57 mq**



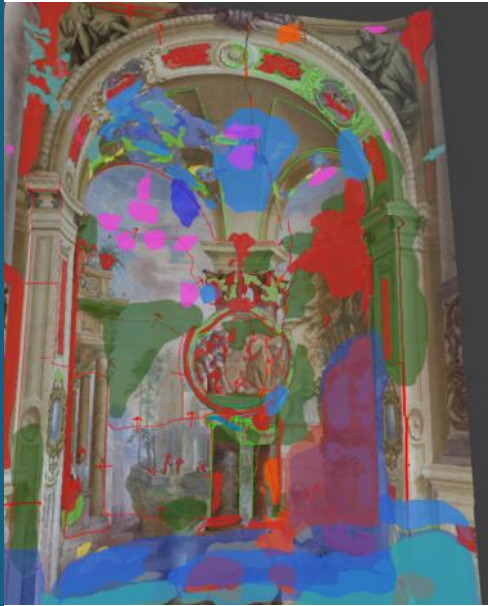
Sacred Mount of Orta and Varallo

Restoration of wall paintings and painted terracotta statues

RESTORATION OF DECORATED SURFACES

before

- 3D model mapping of:**
- construction techniques;
 - state of conservation;
 - previous interventions;
 - conservation and restoration interventions



after

RESTORATION OF DECORATED SURFACES

before



after



INVESTIGATIONS WITH WOOD LAMP

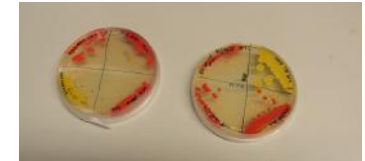
The investigations allow us to punctually analyse the *state of conservation* of the paintings and to investigate the *execution technique*



DISINFECTION AND CONSOLIDATION WITH NATURAL PRODUCTS

LIQ (Trifolio-M) Licorice Leaf Extract

Treatment of biological patinas as a **natural biocide** replacing active ingredients and commercial broad-spectrum biocides. LIQ targets certain classes of autotrophic and heterotrophic microorganisms. It is **derived from licorice plant** pruning waste, making it a completely sustainable and economically advantageous supply chain.



DISINFECTION TREATMENT

APPLICATION following a scientific project conducted by Dr. Anna Rosa Sprocati who, during laboratory testing, verified the effectiveness of LIQ DEC at 1.5%.



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LIQ- Estratto alcolico di foglie di liquirizia (P1-Extract, Trifolio-M)

Descrizione del prodotto
 Estratto grezzo ottenuto dall'infusione in alcool etilico di foglie di Glycyrrhiza glabra (L.) DC, ridotto al 30% con acqua e centrifugato per decantazione parzialmente.

Ingredienti
 Glycyrrhiza glabra, etanolo, acqua.

Struttura per l'uso e la manipolazione
 Il prodotto può essere maneggiato senza precauzioni particolari. La quantità di utilizzazione dipende dalle applicazioni finali:

- ✓ per preparazione soluzioni con effetto biocida, da usare nella fase prebiologica di pulizia e, diluito il prodotto al 5% in acqua e applicato a spray sulle superfici da trattare
- ✓ ripetere il trattamento a distanza di 5-7 giorni per ottenere un effetto inibente duraturo e sotto controllo di qualità
- ✓ per un trattamento di efficacia, usare il prodotto diluito al 1,5% in acqua

Conservazione
 Il LIQ si conserva a temperatura ambiente ed è chimicamente stabile. Per il prodotto diluito è suggerito la conservazione al buio e a 4°C per non più di 2 settimane.



SSPT-PROTER-OEM
 Via dell'Industria 2/Bis, 00144 Roma, Italia
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Fig. 4.1

pro. F. Tasso, N.T. Wood, A.R. Sprocati and L. Bruno. Biocidal Activity of Phytols Used as Phototrophic Biofilms Growing on Stone Surfaces of the Domus Aurea (Applied Sciences 11(02084002):10.3390/app11080504
), G. Migliorini, P. Mancini, F. Tasso (2020) Sustainable restoration through innovation: a proof of concept. In press in "Series of microorganisms in heritage preservation" [E. Joseph, P. Junier (eds.) Springer, ISBN 978-3-030-62411-1

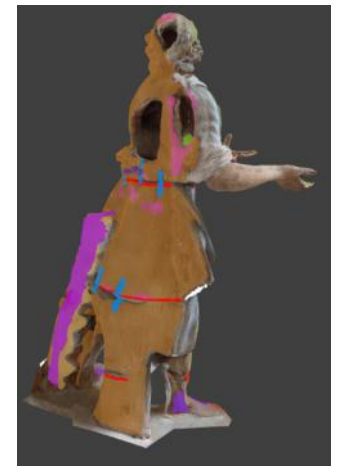
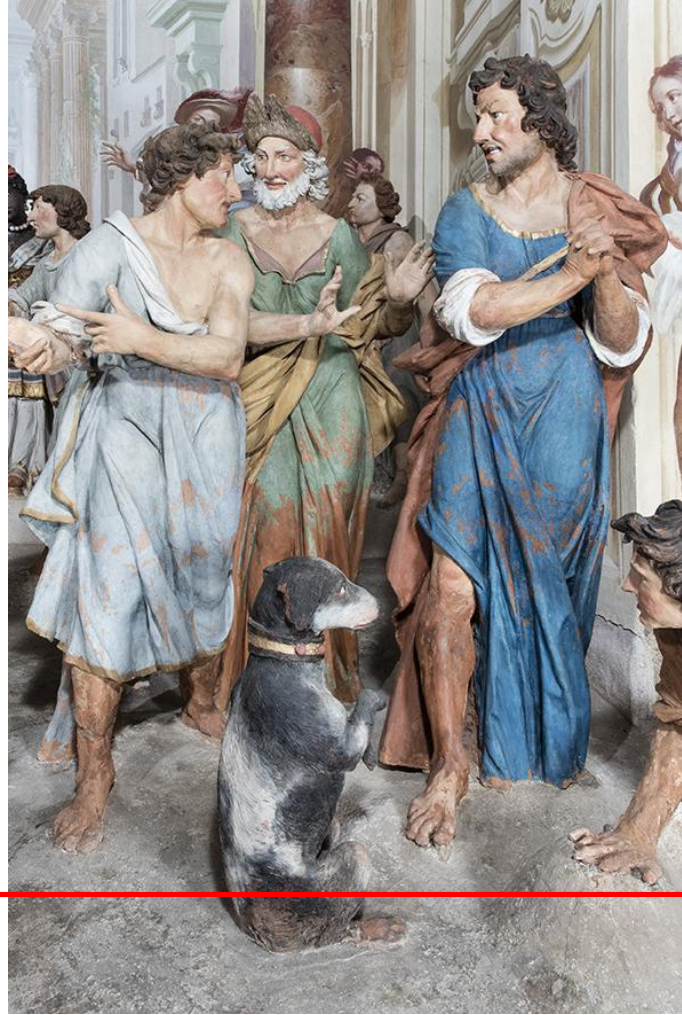


SSPT-PROTER-OEM

RESTORATION OF PAINTED TERRACOTTA STATUES

before

after



SEMINAR ON ARCHITECTURAL RESTORATION

Carla Tomasi S.r.l. - Kermes S.n.c.



CARLA TOMASI S.r.l.
RESTAURO DI OPERE D'ARTE


KERMES SNC
RESTAURO BENI ARTISTICI



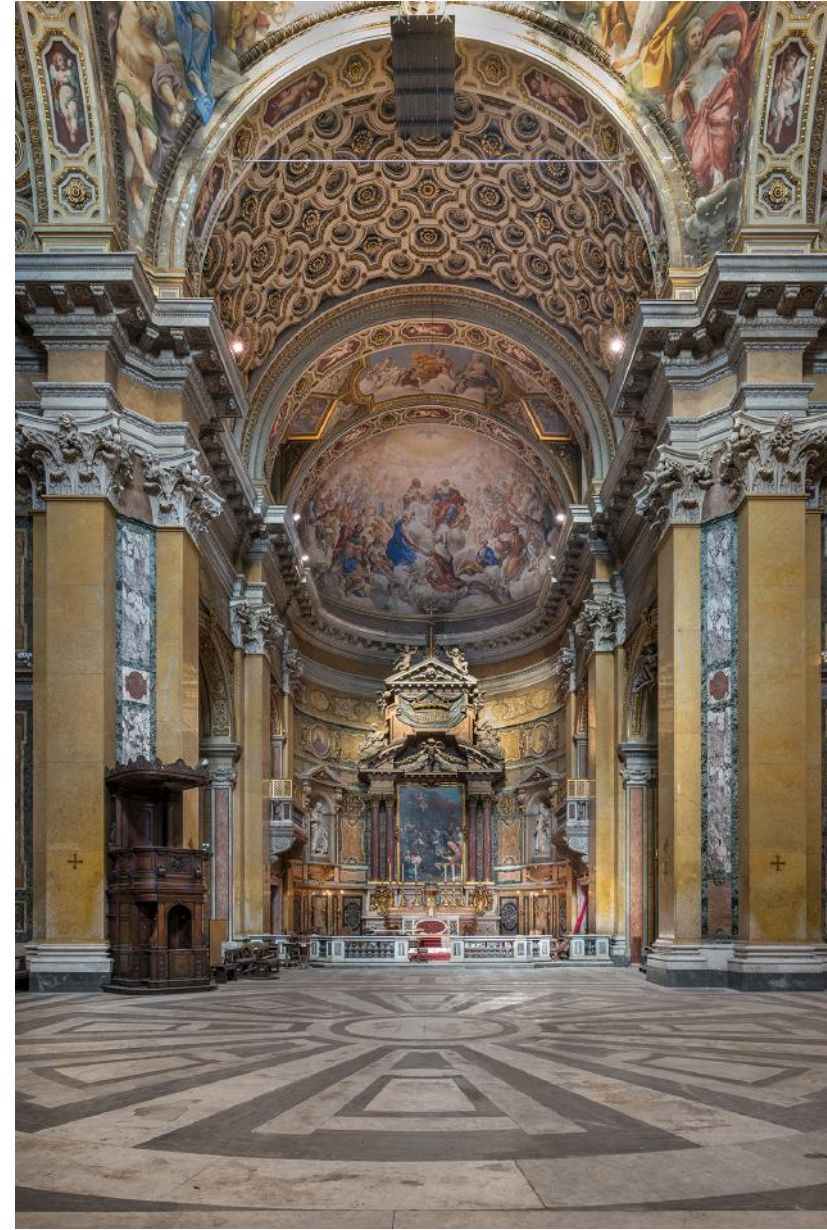
Church of San Carlo ai Catinari, Rome

Completion works, conservation treatment and comprehensive consolidation

Decorated surfaces:
3.600 mq

CHURCH OF SAN CARLO AI CATINARI, ROME

The church has a vast dome whose pendentives were painted by **Domenichino** between 1627 and 1630, depicting the four cardinal virtues (*Prudence, Justice, Fortitude, and Temperance*). The apse dome was painted in 1646 by **Lanfranco** and depicts «*Saint Charles being welcomed into heaven*». On the counterfaçade are two frescoes by **Mattia** and **Gregorio Preti**. The lunettes were painted in the 19th century by **Francesco Coghetti**.



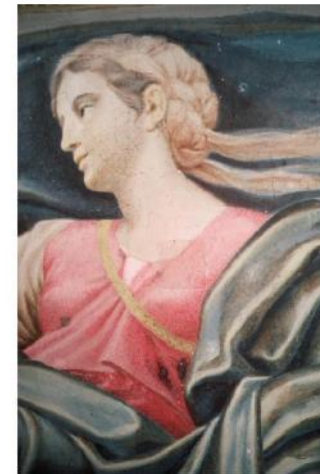
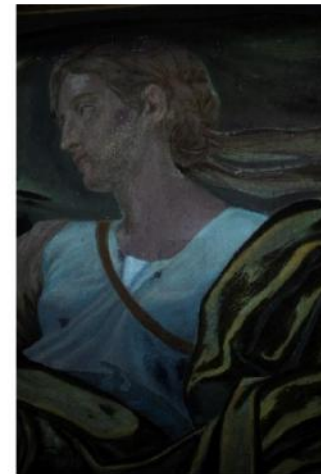
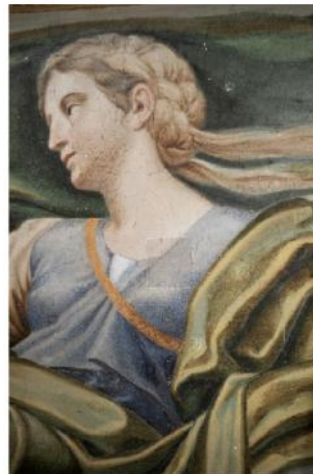
INVESTIGATION PLAN

The investigations allow us to punctually analyse the *state of conservation* of the paintings and to investigate the *execution technique*

Among the non-invasive analytical techniques used, **Raman spectroscopy** is useful for characterizing the palette used by the artist.



Durante l'acquisizione delle immagini multispettrali VIS-UV- IR falsi colori - IR b/n



Imaging multispettrali VIS-UV IR falsi colori - IR b/n

RESTORATION OF THE COUNTER-FAÇADE

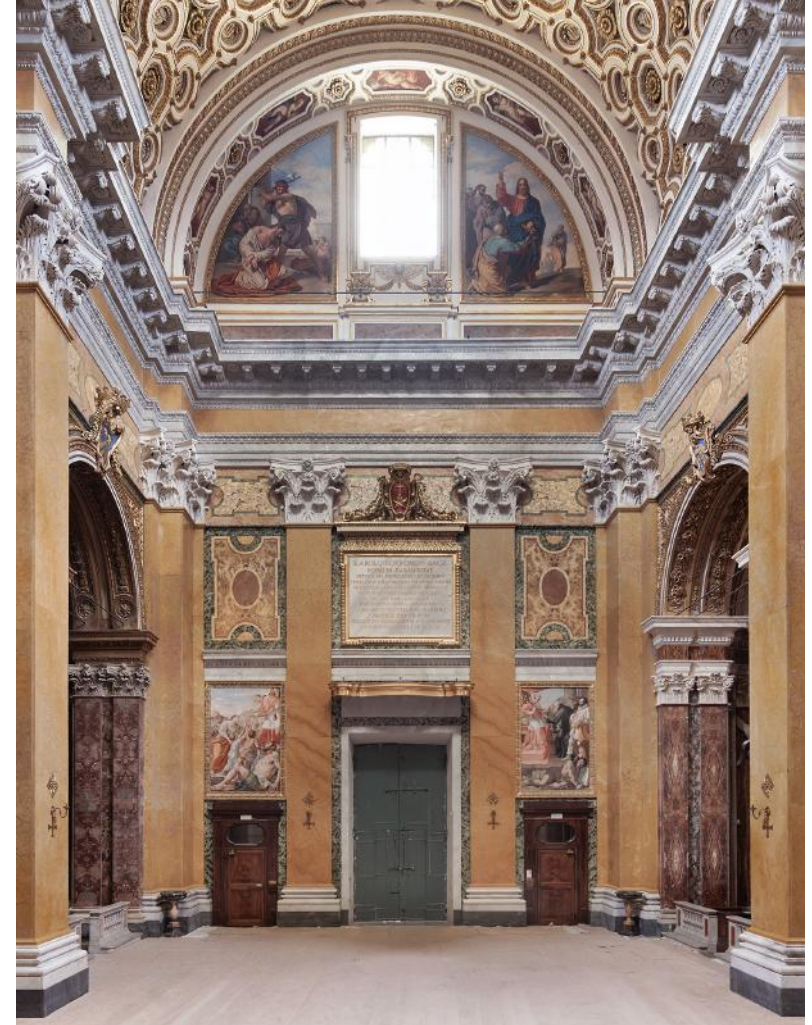
Deep consolidation of mural paintings by injections of lightweight fluid mortar, after applying **menthol** to protect the edges of the paint film along the fracture lines



before



after



RESTORATION OF THE COUNTER-FAÇADE

Wall paintings by F. Coghetti

“Beheading of St. Paul” and “Delivery of the Keys to St. Peter” – “Angels”

before



after



RESTORATION OF DOMENICHINO'S PAINTINGS - "THE CARDINAL VIRTUES"

before



after



SEMINAR ON ARCHITECTURAL RESTORATION

Carta Tomasi S.r.l. - Kermes S.n.c.



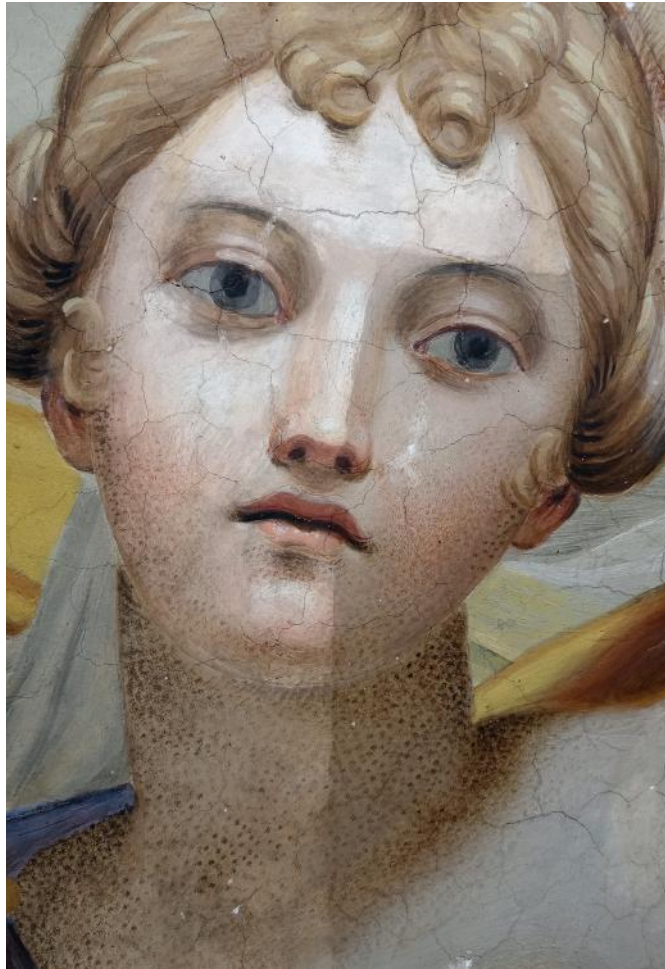
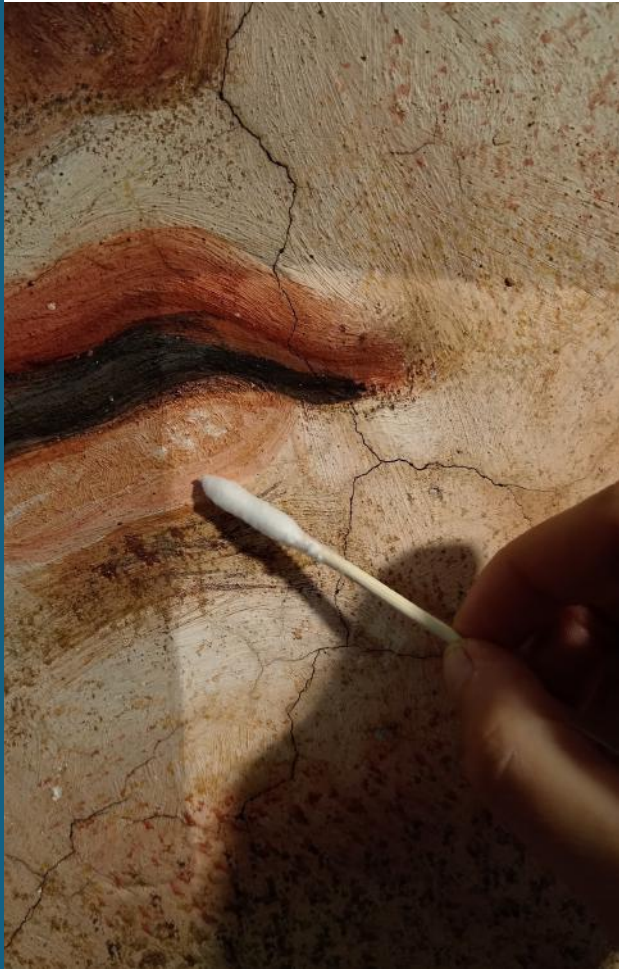
RESTORATION OF DOMENICHINO'S PAINTINGS

Cleaning operations



RESTORATION OF DOMENICHINO'S PAINTINGS

Cleaning operations



RESTORATION OF DOMENICHINO'S PAINTINGS

Aesthetic presentation operations



THANK YOU FOR YOUR ATTENTION



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