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## MFAH TESTS GREENART PRODUCTS ON RAW CANVAS

Conservators at the Museum of Fine Art Houston are putting GREENART's sustainable cleaning products to the test on mid-century paintings on raw canvas.

EU's GREENART Project is, at its core, a case of research in action — expert scientists working in labs to develop new, ecologically sustainable products for the conservation of cultural heritage. But what makes GREENART unique is that its story does not end at the research phase. The project's goal is to develop products that can actually be introduced to the market. To have relevance within the global art conservation field, these products must not only be environmentally friendly, but they must also be as effective or more effective than the non-sustainable products already in use — some of which have been embraced by conservators for centuries.

Real-world product testing is therefore crucial to the GREENART project. Rather than relying on in-house testers or institutions that are also receiving funding from the EU, GREENART made the decision to invite multiple independent institutions around the world to test their products. Some of these institutions, in particular, have no financial or political stake in the project, so are free to give honest, direct feedback about whether their products work or not. The scientists at GREENART can then use that feedback to make their products as good as they can be.

Soraya Alcalá is a Conservator of Paintings and head of the paintings lab at the Museum of Fine Arts Houston (MFAH) in Texas and through her existing relationship with the Center for Colloid and Surface Science (CSGI), the MFAH Conservation Center became involved with the GREENART project.

The interest in CSGI's work on clearing gels
— specifically developed for the unique needs

of art conservation — aligned with the MFAH team's commitment to exploring innovative, conservationfocused materials. Unlike traditional materials often borrowed from other industries, these gels were designed with the complexities of cultural heritage in mind.

MFAH is involved in several work packages, focusing on the assessment of new cleaning, consolidating and coating formulations. Something she appreciates about the way the project leaders have approached the testing phase, is that the museum was asked to take the lead. "The project leaders asked, 'what problems do you have?'" Alcalá says.

MFAH team thus set out to find conservation problems they were currently facing. This was no easy task. MFAH is an encyclopaedic museum, meaning they have items from all over the world that span more than 5,000 years of artmaking. They ultimately decided to focus on how to clean paintings executed on raw canvas. They chose to start with a selection of works by Morris Louis and Kenneth Noland.

Louis and Noland were early protagonists within a mid 20<sup>th</sup> century movement called the Washington Color School. They copied a technique innovated by Helen Frankenthaler known as "soak-stain". It involves allowing pigments to soak into canvas that has not previously been treated with gesso or another priming layer. Soak-stained paintings almost take on the aesthetic of watercolours on paper. The paint essentially stains the surface, becoming integrated with the fibres in a way that is fundamentally different from paintings on gessoed canvases.

"We had a very complex case study, Alcalá says. The cleaning of raw canvas is an issue that a lot of other institutions have too and there is currently no product on the market that can help achieve the desired result."

MFAH team — Per Knutås, Head of the Conservation Department; Silvia Russo, Conservation Scientist; and Soraya Alcalá — collaborated with the Peggy Guggenheim Collection GREENART team, including Luciano Pensabene, Head of Conservation, and Maria Laura Petruzzellis, Paintings Conservator, to create a series of mock-ups for parallel testing. The goal was to determine which combination of gel and cleaning fluids was most appropriate for this case study. By conducting the tests simultaneously, we were also able to assess the influence of the individual conservator as a variable in the cleaning treatment.

MFAH created mockups as diligently as possible so they were true to the original works, using old canvases and paints from the era. "But there

were still challenges, Alcalá says, because even if you can replicate the original artwork, it is impossible to copy the exact types of degradation that the painting has gone through over more than half a century."

"After a thorough and systematic series of tests on mock-ups, we had enough information to begin testing on the original work — starting in a discreet area, such as the tacking edges of the painting, Alcalá explains. It was still a daunting process, especially at the beginning, since we were not yet familiar with the new products. CSGI was looking for our most honest feedback so they could refine the materials to perform at their best. We carried out the tests, assessed the results and shared our observations with them. They responded by saying, 'Okay, we can improve this aspect or that one.' Based on our input, they are now working to further adapt the materials to meet our specific needs."

"One of the biggest questions we kept coming back to, says Alcalá, was what does 'green' even mean in this context?"

It is not a simple answer. The definition of "green" is still evolving, and within the project, a specialised group of experts in Life Cycle Assessment (LCA) is working through a detailed protocol to measure the environmental impact of these new materials. "So, it is not just a label — we are trying to base these decisions on data," she explains.

At the same time, there is a practical side to all of this. Many of the materials conservators rely on have been in use for decades, even

centuries. They might not be perfect and they were not necessarily designed for conservation, but conservators know how they behave. "It takes time — and a lot of testing — for a conservator to feel comfortable replacing something they trust with something completely new," Alcalá says.

Still, the motivation is there.

"Not only there is a shared understanding of the importance of achieving more sustainable and safe conservation practices, but everyone involved in this project came in knowing that if we want things to change, we have to be part of that change," she adds. "It is not just about accepting new materials—it is about helping design them so they actually meet our needs and our standards."

So in other words, regardless of how the term "green" is precisely defined, the philosophy behind sustainability is inherently important to people in the art conservation field. That is their professional raison d'être — to sustain cultural heritage for as long as possible. So if the new products are indeed more environmentally friendly, conservators who otherwise might have been reluctant to switch will adapt simply because it fits the underlying philosophy of their work.

Alcalá has seen firsthand the willingness of other conservators to get behind the idea of sustainable products. She has participated in numerous workshops and presentations that have attracted hundreds of conservators from around the world. She says the participants are showing a high

We, as cultural heritage conservators, must not just acknowledge the issue but actively embrace sustainable thinking and work practices. It is not just a professional statement; it is a commitment that the conservation community needs to embrace to the extent of its possibilities. —  $Soraya\ Alcal\acute{a}$ 













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