



Saint Bavo's Cathedral – [www.artinlanders.be](http://www.artinlanders.be) – photographer: Hugo Maertens

## Restoration and research of the upper register of the interior of the Ghent Altarpiece (Saint Bavo's Cathedral, Ghent)

### First results promise stunning outcome

Ghent, Tuesday March 26, 2024

Since 2 May 2023, the **upper panels of the interior of the Ghent Altarpiece** are being restored at the **Museum of Fine Arts (MSK)** in Ghent. This is the third and final phase of the large-scale conservation-restoration campaign of the altarpiece of the **Adoration of the Mystic Lamb** by the **Royal Institute for Cultural Heritage (KIK-IRPA)** ([Annex 1](#)). Seven panels are being treated: the three central panels with the enthroned figures of the Virgin Mary, the Deity and John the Baptist, and four side panels with the Singing Angels and Music-making Angels and Adam and Eve ([Annex 5](#)).

In recent months, the KIK-IRPA team have been removing non-original varnishes and have carried out a thorough examination of the paint layers underneath. Currently, following the advice of the international commission of experts ([Annex 2](#)), they have started **removing 16th-century overpaints**. It is already evident that this third phase of the restoration, carried out under the eyes of the public at the MSK ([Annex 3](#)), will yield **results as stunning as those of the previous phases**, in which the exquisite details of the Van Eyck brothers' original paint layers were brought back to life ([Annex 4](#)). Phase 3 is likely to be completed by spring 2026.

The progressive removal of the thick, discolored varnish layers on the Adam and Eve panels has again revealed the extraordinary virtuosity of the Van Eyck brothers. The exceptionally fine details and subtle color nuances can now be fully admired, while the three-dimensionality of the figures becomes fully apparent. The nearly completed varnish removal on the press brocades of Mary, the Deity and John the Baptist already provides



enormous gains at this stage of the treatment: the three monumental, central figures now stand out more sharply against the background and regain their volume and spatial presence. Moreover, the shimmer of the gold leaf can again be experienced and admired.

With the removal of the 16th-century overpaints on the singing and music-making angels and on the panels with John the Baptist, Mary and the Deity, the conservators recover the transparent layers, soft modulations and deep shadows so characteristic of the Van Eyck brothers. While uncovering the original paint layers of the cloaks on the central panels, which are heavily overpainted, the meticulous brushwork of the original folds is gradually revealed, and the original bright and intense colors resurface ([Annex 7](#)).

The removal of 16th-century overpaints will take many more months. The progress of the project is being followed closely by the international commission of experts ([Annex 2](#)). After overpaint removal, the conservator-restorers will meticulously retouch the old damages in the Van Eyck brothers' paint layers with reversible materials. At the end of the treatment, the seven panels will receive a new layer of varnish.

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### Contact information

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Images of the Ghent Altarpiece and of its restoration (overview at the end of this file) are available through [info@artinflanders.be](mailto:info@artinflanders.be)

Further on in this press kit you will find detailed information on phase 3, as well as appendices.

Information on phases 1 and 2 and older press files on the restoration of the Ghent Altarpiece can be found on [www.kikirpa.be](http://www.kikirpa.be).

<https://www.kikirpa.be/en/press/restauratie-van-het-lam-godsveelluik>

### Quotes

Flemish Minister of Culture:

“The first results of the third phase of the restoration are very promising. The original Eyckian layers are carefully freed from overpaint by the conservators of KIK-IRPA. The restoration is accompanied by state-of-the-art scientific research and the entire project is closely followed by an international committee of experts. We look forward to revealing the fully restored Ghent Altarpiece to the public.”

Flemish Minister of Immovable Heritage:

“In recent years, substantial investments have been made for the restoration and opening up of both the cathedral, with its brand-new visitor center, and the Ghent Altarpiece. For this third and final phase, the Flemish government is providing a significant sum of 1.5



million euros. I am convinced that these investments are more than worth it. With the conservation-restoration we are putting Flanders even more firmly on the map as a unique heritage region that delights residents, entrepreneurs and tourists.”

Dr. Hélène Dubois, restorer from KIK-IRPA and project leader:

“Our expertise in the complex issues surrounding the Ghent Altarpiece, both in terms of execution and scientific research, is unique. It enables us to guarantee the material and visual coherence of the entire altarpiece after restoration. The treatment of these very diverse panels, with beautiful life-size figures and varying treatment issues, is a veritable challenge.”



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## Phase 3 so far (May 2023-March 2024)

### Observing every detail

The conservation-restoration of the Ghent Altarpiece is carried out by a team from the Royal Institute for Cultural Heritage (KIK-IRPA), consisting of experts in various scientific disciplines. The restorers, several of whom are art historians with a series of scientific publications to their name, have extensive experience in the research and complex treatment of 15th-century Flemish paintings. For the third phase, some ditto experts in polychrome sculpture were also included in the team. The chemists at KIK-IRPA closely involved in the project may equally call themselves specialists in the field. Photography and scientific imaging are carried out by highly skilled colleagues. In addition, the team works closely with colleagues from various universities, museums and other scientific institutes. An interdisciplinary approach, the continuous documentation, analysis and interpretation of all visual, material and historical data, and the collaboration between different specialists, in order to achieve in-depth knowledge and the best possible treatment of the artwork, is inherent to the Institute’s DNA ([Annex 3](#)).

The seven panels of the upper register of the opened Ghent Altarpiece were transferred from Saint Bavo’s Cathedral in Ghent to the restoration studio at the Museum of Fine Arts on 2 May 2023. Once there, an extensive documentation campaign began to fully document and examine each panel and its state of conservation. Sophisticated technologies were employed: from high-resolution photographs and close-up images, to scans with microscopes, to images obtained with ultraviolet, infrared and X-rays, allowing underlying layers to be captured in detail. Using a macro X-ray fluorescence scanner (MA-XRF scans), the AXIS research group from the University of Antwerp could detect the chemical elements in the paint; which is key information for the conservator-restorers ([Annex 6](#)).

## Varnish removal and examination of the paint layers

After this extensive documentation and research stage, the team of conservator-restorers started the process of varnish removal. They removed old varnishes, which covered the paint layers like a thick yellow veil. This revealed the rich color brilliance of the paintings. Fine nuances and details became visible again and the depth of the composition has been recovered.

Next, the experts could examine the actual paint layers and identify area by area where overpaints or retouchings were present. Any fragile areas or places where the paint layer no longer properly adhered were consolidated. The conservator-restorers studied each surface under the microscope. They supplemented their observations with the results of scientific imaging, lab analyses, and documentation on the restoration history of the Ghent Altarpiece.

Thanks to this interdisciplinary approach of KIK-IRPA, it was established that the cloaks of the three central figures (the Virgin Mary, the Deity and John the Baptist) are almost completely covered with 16th-century overpaints ([Annex 7](#)). They were overpainted to freshen the colors and to mask local damages. As during the first and second phases of the restoration of the Ghent Altarpiece, a small number of well thought-out test windows were made, removing the overpaints in very small areas. This was important to get a good idea of the condition of the original paint layers underneath, and to determine whether it was technically possible to safely remove the old overpaints in all areas. Under no circumstances will an overpainting be removed if this could damage the original paint.

## Removal of old overpaints

The in-depth analysis of the material condition was presented to the international commission of experts at the end of November 2023. This commission plays a crucial role: it provides advice and guidance on the restoration project of the Ghent Altarpiece ([Annex 2](#)). The conservation-restoration team continuously hold informal discussions - among themselves and with colleagues, chemists, art historians and other scientists. Additionally, these exchanges continue during scheduled meetings with the full international commission of experts. Before each meeting, the conservation-restoration team writes a report informing the commission of all its discoveries and its progress. This report highlights the crucial choices for treatment for which the committee's advice is necessary to make broad-based decisions.

During the meetings with the international commission, the paintings are closely studied. The conservator-restorers share their observations and go over possible options for treatment with the international experts. Any potential drawbacks that each of the actions might produce are also weighed up. At the end of each meeting, a synthesis report is drawn up with advice for the authorities involved.

Based on the convincing and promising results that emerged from the scientific research and test windows, the international experts gave, at the end of November 2023, a unanimously positive advice for removing the 16th-century overpaints and uncovering the original paint layers of the Van Eyck brothers, as was done during phases 1 and 2. The test windows proved that the original layers are in a relatively good state of preservation. After additional positive advice from the National Advisory Board and the Topstukkenraad, the decision to expose the original Eyckian layers as much as possible during this phase of the restoration, was endorsed by the church administration and the Flemish government.

The team of conservator-restorers have been working since December 2023 to remove the 16th-century overpaints. They are being removed millimeter by millimeter under a stereo microscope by using a surgical scalpel. A well-trained hand and visual familiarity with the structure and composition of the overpaints and the original paint layer are indispensable for this work. The presence of old non-original varnish layers between the original and the overpaint makes safe removal of the overpaints technically possible.

### **Current results**

On the side panels with Adam and Eve, the thick, sometimes opaque layers of old varnish have been removed, as have retouchings. These paintings are very well preserved. Without the varnish, the extraordinary virtuosity of the Van Eyck brothers again stands out. The subtle suggestion of depth, the three-dimensionality of the figures, and their individuality can be fully experienced again. The exceptionally refined details of their faces and hair have become apparent.

Non-original layers of varnish have also been completely removed from the side panels with the singing and music-making angels and from the central panels with the Virgin Mary, the Deity and John the Baptist, except for a few small areas on the press brocades. In the cloaks of the three central figures, the team have already started removing extensive overpainting. Gradually, the deep shadows, meticulous brushwork and delicate nuances of color, which are so distinctive of the Van Eyck brothers, are once again becoming noticeable, as for example in the green cloak of John the Baptist. In some places, the uncovered original 15th-century paint layers show wear, but their splendor will become fully apparent after meticulous retouching of the minuscule paint losses.

Some areas require further investigation, for example the tiled floors in the three central panels that have been overpainted. The results of the research will be presented at the next meeting of the international commission of experts later this year.

### **Press brocades**

Upon the start of the third phase of the conservation-restoration of the Ghent Altarpiece, attention was already drawn to the specific challenge posed by the treatment of the press brocades. The cloths of honor in the background of the three central panels are imitations of expensive silk fabrics, namely gold brocade. They consist of motifs in relief and have a complex composition that includes tin foil, gold leaf and then layers of paint. The fact that these various materials degrade in different ways makes their restoration very complex.

Large areas of the press brocades have since been cleared of the thick discolored varnish layers. This has greatly improved the readability of this delicate and illusionistic relief decoration, and we can once again experience the glimmer of the gold leaf. The retouchings and overpaints will be studied in detail, and the team will examine whether these additions can be safely removed. The results of this study, and possible treatment proposals, will be presented to the members of the international commission who will then offer their advice on what should ideally be done next.

## Annex 1: the project and its funding

The conservation treatment of the Ghent Altarpiece is a project commissioned by the church administration of Saint Bavo's Cathedral in Ghent. Its first two phases (2012-2016 and 2016-2019) were financed by the Flemish government and the Baillet Latour Fund and carried out by KIK-IRPA.

The research by KIK-IRPA, with contributions from the universities of Ghent and Antwerp, was additionally supported by the Gieskes-Strijbis Fund (Amsterdam).

On 9 August 2022 and 12 May 2023 respectively, the Flemish ministers of Immovable Heritage and of Culture approved the third and final restoration phase of the Ghent Altarpiece. It covers the upper register of the inner panels of the artwork. The file was put out to tender at the European level and again awarded to the Royal Institute for Cultural Heritage (KIK-IRPA) of Belgium.

80% of the funding for this phase comes from the Flemish government, of which 40% from the Department of Culture, Youth and Media (Topstukkenfonds) and 40% from the Flanders Heritage Agency (total: €1,500,000). The remaining 20% will be borne by the church administration and is co-financed by the Baillet Latour Fund.

Project	Conservation of the Ghent Altarpiece by the Van Eyck brothers
Commissioner	Church administration of Saint Bavo's Cathedral, Ghent
Project manager	Architectenbureau Bressers bvba
Contractor	Royal Institute for Cultural Heritage (KIK-IRPA), Brussels
Cost of phases 1 and 2	2.189.514,88 €
Estimated cost phase 3	1.969.713,64 €
Public subsidy	Flemish Region (Flanders Heritage Agency) Flemish Community (Department of Culture, Youth and Media)
Sponsor	Baillet Latour Fund
Sponsor additional research	Gieskes-Strijbis Fund, the Netherlands
Location	Museum of Fine Arts Ghent (MSK)
Conservation studio	City of Ghent, sponsored by ArcelorMittal, Meyvaert Glas and the Baillet Latour Fund
Subcontractors	ASAJAG, Collection Care Mobull, Eeckman Art & Insurance, Meyvaert Glas
Scientific research	KIK-IRPA, Ghent University, University of Antwerp
Touristic-educational program	Provincie of East-Flanders, Flemish Region, Flanders Heritage Agency, MSK, KIK-IRPA
Substitute panels (photos)	KIK-IRPA



The Adoration of the Mystic Lamb (1432) is considered one of the most important masterpieces of Western European painting. Not only is it protected as a masterpiece because it is considered rare and indispensable for the Flemish Community due to its unique artistic and cultural-historical significance, but it also enjoys protection as a cultural asset that is an integral part of Saint Bavo's Cathedral in Ghent.

The conservation and restoration campaign ensures that the altarpiece will be restored to its full glory and preserved for future generations. The treatment of the polyptych takes place in three phases: the closed polyptych was treated during the first phase (2012-2016), the lower register of the open polyptych during the second (2016-2019) and the upper register of the open polyptych during the third phase (2023-2026).

The restoration is a prime occasion for the material-technical study of the retable, making an invaluable contribution to the knowledge of the Van Eyck brothers' oeuvre. Only now, after centuries of being hidden under thick discolored layers of varnish and overpainting, can their original work finally be studied.

Given the global importance of restoring one of the absolute masterpieces of the Flemish Primitives, a transparent working method and free availability of information are of paramount importance. Through the disclosure on the website Closer to Van Eyck ([clostovaneyck.kikirpa.be](http://clostovaneyck.kikirpa.be)), researchers and interested parties can gain more insight into the original painting technique, the genesis of the masterpiece, and the restoration treatment. The restoration and the results of the research of phases 1 and 2 were published extensively in scientific articles and books. Bi-monthly information sessions are organized at the MSK, during which the restoration team presents the progress of the treatment to the public.

The conservation-restoration treatment is supervised by an international commission of experts who advise the church administration and the Flemish government during the decision-making process. In addition, the treatment is regularly presented to other advisory boards (national experts and Topstukkenraad) and to steering committees that meet monthly, during which members also visit the conservation studio to observe and discuss the progress of the restoration panel by panel.

## Annex 2: the international commission of experts

An international commission of widely respected experts (art historians, chemists, conservator-restorers) with expertise in Van Eyck and 15th-century painting, is convened at important decision-making moments during the project (about 3 to 4 times per phase). It issues recommendations to the National Advisory Board, the church administration (Cathedral Council) and the Flemish government.

What follows is a statement from the international commission, presented by expert Dr. Melanie Gifford. Following the statement you will find a list of all members of the commission.

### Ghent Altarpiece Restoration Project

#### International Commission of experts - statement

##### Dr. Melanie Gifford

I'm speaking to you as a member of the International Commission of experts advising on the Ghent Altarpiece conservation and restoration project. The members of our committee have a range of specialties: we are art conservators, art historians and conservation scientists and almost all of us have particular experience in studying, analyzing or preserving paintings by Jan van Eyck. Some of us have conserved other works by Van Eyck – carefully removing discolored varnish and old repaints left by earlier restorers to uncover the artist's original brushstrokes. Others have carried out scientific analysis of Van Eyck's paintings – learning through technical imaging and microscopic analysis how the artist built up his paintings. Others have mounted exhibitions and published scholarly books and papers, sharing Van Eyck's art with lay audiences and exploring its nuances with specialists. All of us are deeply, personally familiar with the ways Van Eyck created his remarkable paintings.

Our group's experience has been built in many international museums, including, for example, the National Gallery, London; the Kunsthistorisches Museum, Vienna; the Gemäldegalerie, Berlin; the Metropolitan Museum of Art, New York; the National Gallery of Art, Washington; the Groeningemuseum in Bruges ; the Gemäldegalerie Alte Meister, Dresden; the Louvre, Paris; the Suermondt-Ludwig Museum Aachen ; and the Royal Museums of Fine Arts, Antwerp and Brussels. Members are also based in universities, including Queen's University, Canada; Princeton University, United States; and the Universities of Brussels, Leuven and Ghent.

In our advisory role, we consult throughout the project with the remarkably skilled and deeply experienced conservation-restoration team from KIK-IRPA. We meet with the team roughly once a year (or more often, if needed) to share our experience and to discuss treatment decisions in real time. Decision-making in this project is a very collaborative process. During the normal course of their work, the team constantly discusses the project – among themselves and with their scientific and art historical colleagues. In these informal settings, they regularly share their observations and explore possible approaches to the treatment. In the more formal setting of the scheduled meetings, these discussions continue with the International Commission of experts. Before each meeting, the conservation-restoration team shares an advance report with our committee, updating us on all their discoveries and the progress they have made since our last meeting. In particular, this advance report highlights the crucial treatment choices that we'll need to address at our next meeting.





The day of the International Commission's meeting always has a packed – and exciting – schedule. As we gather over coffee, we catch up with colleagues and eagerly anticipate the new discoveries we're about to share. Our formal meeting begins with a detailed update from the conservation-restoration team. Then, for the rest of the morning, we spend an extended period in the studio with the paintings themselves. Here we study the altarpiece closely, often with magnification and comparing the paintings to technical images. Clusters of committee members form and reform as people crisscross the studio, moving from painting to painting. The team points out their latest findings on each painting and we consider the evidence of tiny cleaning tests. We discuss, we argue, we make discoveries – it's always exhilarating. In the afternoon, we return to the studio for a group discussion centered on the paintings themselves, not PowerPoint images. Commission members ask more questions about the discoveries the team has made and challenges they have faced; they share from their own experiences with examples of similar challenges and how they have met them. Together, we weigh the possibilities and the potential drawbacks of each course of action. Together, we plan the next stages of the treatment. At the end of the day, the members of the commission make a preliminary synthesis of our discussions and recommendations. Together, we confirm our approval of the work that has been completed and our agreement on our recommendations for the next steps.

After the day of the meeting, our deliberations continue. There is a period of reflection and emailed discussion as the entire commission prepares a statement that distills our findings. We finish by offering our recommendations to the Steering Committee, the Advisory Board, and the Cathedral Council, who then authorize the guidelines for the next stage of the project.

I hope it's obvious from what I've said so far: conservation-restoration treatments are not undertaken lightly. But a decision like the one faced in the treatment of the Ghent Altarpiece – whether to remove the work of early restorers – is never, ever, an easy or obvious choice. While it was clear that the 19th- and 20th-century varnish and restorations that had darkened over the years could be safely removed, the decision to remove older overpaint required long consideration. Careful examination and detailed analysis of every painting in the altarpiece was required before we came to agreement in Phase 1 of the project, and again for Phase 2 and Phase 3, that the 16th-century overpaint might be removed. First, the advance research showed that the overpaint had been added long after Van Eyck's lifetime, after layers of dirt and old varnish had built up on the paint surface – and that this overpaint covered up a great deal of the original paint. Crucially, cleaning tests showed that it would be possible to remove the overpaint safely without damaging the original paint. Finally, the examination and analysis showed that the original paint was in good condition. This is essential, because we know that sometimes such extensive overpaint was added to hide severe damage in the original paint. But we were delighted to learn that removing the overpaint would uncover only limited old damages that are typical in a work of this age. Because today's art conservators approach their work in a completely different way than the restorers of earlier centuries, who painted over the original paint surface when they tried to "refresh" the altarpiece, we knew that the conservation-restoration team would inpaint only the areas of lost paint. They would work with easily reversible materials, guided by the evidence of the original paint nearby.

For centuries, the world has treasured the Ghent Altarpiece for its innovative and beautiful design. But until now, in many parts of the altarpiece we have not been able to see the actual paint surface. Once we realized that in many areas we were not looking at the delicate paint strokes of the Van Eyck brothers, but at a 16th-century *reinterpretation* of the



paintings, we came to agreement. In each phase of the project, the International Commission, with the Steering Committee, the Advisory Board and the Cathedral Council, have fully supported the work of our colleagues on the KIK-IRPA conservation team. It is essential to take off as much of the overpaint as can be removed safely and no overpaint should be removed if it risks damage to the original paint. A visual work of art must be seen to be understood. We believe that removing the overpaint to uncover the original paint can open a new era of scholarship, recognizing the individual gifts of both Hubert and Jan van Eyck.

The opportunity to see the Van Eycks' subtle brushwork after it had been hidden for almost 500 years has astonished the art world. Today, high-resolution images available on the website, "Closer to Van Eyck," make it possible for anyone to compare the paintings as they looked before the restoration and after the overpaint had been removed to reveal the original. Those of us who have witnessed this transformation as members of International Commission have been deeply moved. I will never forget a meeting during the first phase of the project where, for the first time, we were shown small areas where the restorers had made test cleanings. In the portrait of the altarpiece's donor, Joos Vijd, the paint surface that we had seen all our lives depicted the folds of the red coat with simple gradations from lighter to darker red. But as we looked closely through the tiny opening in the overpaint to see the original paint below, we recognized Van Eyck's unmistakable brushstrokes below the surface. Just as in the *Virgin of Canon van der Paele* and other works that we know so well, a fine line of reflected half-light glimmered within the shadowed fold.

For each of us who serve on the International Commission of experts advising on the Ghent Altarpiece conservation-restoration project, this work is an honor and a responsibility that we take seriously. We have immense respect for the skill, knowledge and experience of the KIK-IRPA team, which we have seen at first hand over so many years now. At each of our meetings with the team, we feel profound admiration for their remarkable work as they uncover the masterpiece that is the Ghent Altarpiece. At each meeting, we see the potential for remarkable results to come and we fully support the work of each new stage of the project.

We are deeply grateful for the leadership of the Cathedral Council and the Flemish government, and for the additional support of The Baillet-Latour fund and the Gieskes-Strijbis fund, which is vital for this undertaking. We look forward to the further discoveries that we know will be made in this final phase of the program to conserve the Ghent Altarpiece.

### **Members of the international commission for the restoration of the Ghent Altarpiece (phase 3):**

Dr. Maryan Ainsworth, Art Historian, formerly Curator of Paintings, The Metropolitan Museum, New York.

Till-Holger Borchert, Art Historian, Director, Suermondt-Ludwig-Museum, Aachen.

Dr. Veronique Bücken, Art Historian, Curator of Paintings, Royal Museum of Fine Arts of Belgium, Brussels.



Dr. Lorne Campbell, Art Historian, formerly Curator, National Gallery, London.

Sophie Caron, Art Historian, Curator of Paintings of the 15<sup>th</sup> and 16<sup>th</sup> century, Musée du Louvre, Paris.

Christina Ceulemans, Art Historian, formerly Director, KIK-IRPA.

Livia Depuydt, Conservator-Restorer, Head of Conservation-Restoration of Paintings, KIK-IRPA.

Bart Devolder, Conservator-Restorer, Head of Conservation, Princeton University Art Museum, USA.

Jill Dunkerton, Conservator-Restorer, National Gallery, London.

Susan Farnell, Conservator-Restorer, independent, Flemish Primitives specialist.

Dr. Melanie Gifford, Independent researcher, Conservator-Restorer and Art Historian, formerly National Gallery of Art, Washington.

Dr. Babette Hartweg, Conservator-Restorer, Head of Conservation-Restoration of Paintings, Gemäldegalerie, Berlin.

Lizet Klaassen, Conservator-Restorer and Art Historian, Royal Museum of Fine Arts Antwerp.

Prof. dr. Maximiliaan Martens, Art Historian, Professor Art History, Ghent University.

Dr. Uta Neidhardt, Art Historian, Curator of Dutch and Flemish Paintings, Gemäldegalerie Alte Meister Staatliche Kunstsammlungen, Dresden.

Elke Oberthaler, Conservator-Restorer, Head of Conservation-Restoration of Paintings, Kunsthistorisches Museum, Vienna.



Em. prof. dr. Catheline Périer-D'leteren, Art Historian, Université Libre de Bruxelles.

Marika Spring, Chemist and Conservator-Restorer, Principal Scientific Officer, National Gallery, London.

Prof. dr. Ron Spronk, Art Historian, Professor Art History, Queen's University Ontario / Radboud Universiteit Nijmegen.

Em. prof. dr. Jørgen Wadum, Art Historian and Conservator-Restorer, formerly Head of Conservation-Restoration of Paintings, National Museum of Denmark, Copenhagen / Professor Conservation-Restoration, University of Amsterdam / Independent research consultant.

Prof. dr Lieve Watteuw, Art Historian and Conservator-Restorer, Professor Art History, KULeuven, member of the Topstukkenraad.



### **Annex 3: KIK-IRPA, MSK and Saint Bavo's Cathedral**

#### **Royal Institute for Cultural Heritage (KIK-IRPA), Brussels**

The Royal Institute for Cultural Heritage (KIK-IRPA) is dedicated to the study and conservation of the artistic and cultural heritage of Belgium, both in the field of Art History and Heritage Sciences. The building that houses KIK-IRPA was the first in the world to be designed, in 1962, to accommodate the interdisciplinary approach to the preservation of art works. The three departments of the Institute, which are home to art historians, photographers, chemists, physicists and conservator-restorers, operate in close collaboration.

The 'Documentation' department, which is concerned with art historical research and inventories of works of art, has one of the world's leading photographic libraries in the field (around 900,000 photographs, of which 650,000 can now be downloaded free of charge from the KIK-IRPA website). The Centre for the Study of the Flemish Primitives is a research unit specialized in 15th-century painting of the Southern Netherlands. In addition, the department house a library and archives containing documentation in the fields of art history and conservation-restoration.

In the laboratories, researchers use hi-tech instruments (such as the X-ray fluorescence spectrometer or scanning electron microscope) to study techniques, materials and damages, and for the dating of art works. In another lab section, methods and materials to manage and restore monuments are developed and tested.

The 'Conservation and Restoration' department, which contains 10 conservation studios and to which the Preventive Conservation unit was added, deals with the conservation and restoration of paintings, sculptures, gold and silver, textiles, glass, and decorative finishes of historical monuments.

[www.kikirpa.be](http://www.kikirpa.be)

#### **The Ghent Altarpiece at the MSK, Ghent**

The conservation treatment of the Ghent Altarpiece is carried out in three phases. The treatment takes place in two exhibition galleries of the Museum of Fine Arts in Ghent. The space was redesigned as a conservation studio with a glass wall that allows visitors to view the treatment in progress.

[www.mskgent.be](http://www.mskgent.be)

#### **The Ghent Altarpiece at Saint Bavo's Cathedral, Ghent**

At Saint Bavo's Cathedral visitor center, visitors can admire the restored panels of the Ghent Altarpiece and several other authentic art treasures in all their splendor. Using augmented reality glasses, visitors can travel deep into the past in the cathedral crypt and experience the eventful history of the Adoration of the Mystic Lamb and Ghent Cathedral as if they were there themselves. Both the masterpiece and the imposing building come to life in full glory.

[www.sintbaafskathedraal.be](http://www.sintbaafskathedraal.be)

## Annex 4: summary of phases 1 and 2

The stunning results of the completed phases (1 and 2) were met with great acclaim both nationally and internationally. During the first phase, the side panels of the closed altarpiece and their accompanying original frames were restored (2012-2016). During the second phase (2016-2019), the lower register of the opened altarpiece was treated, including the frames.

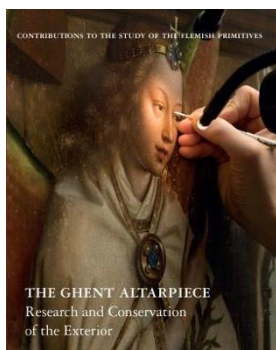
During the treatment of the eight panels of the closed altarpiece (phase 1), it became clear that the condition of the paintings was more complex than expected: after extensive research with state-of-the-art technologies, it could be determined that approximately 70% of the paint surface and frames had been overpainted. Laboratory analysis of the pigments and additives in the paint layers in combination with art historical studies have indicated that the panels were overpainted during an extensive restoration campaign during the first half of the 16th century. On the advice of the international commission of experts, it was decided to remove the overpaint and expose the beautiful original paint layers by the Van Eyck brothers. Extra funding was made available for this. The decision to remove the 16th-century overpaint was carefully considered and fully supported by all involved. The treatment revealed the vibrancy, richness of detail and beautiful color nuances of the original. Furthermore, the team was able to demonstrate the authenticity of the famous quatrain on the frames and reveal their beautiful original polychromy.

At the start of the restoration of the lower register of the opened altarpiece (phase 2), it became apparent that old overpaint was present on those panels as well. Research showed that here too the overpaints covered large parts of the underlying, relatively well-preserved original paint layer and that it was technically possible to safely reveal the original. After positive advice from the international commission of experts and the Topstukkenraad, the Flemish government granted additional funding for an extensive restoration of the panels of phase 2. The old 16th-century overpaint was then removed, which on the central panel of the Adoration made up approximately half of the surface. The polychromy of the frames was also treated. The result of this restoration phase was widely praised: the beauty of this masterpiece is truly astonishing.

For more information on the first two phases, we refer to previous press kits on the KIK-IRPA website: <https://www.kikirpa.be/en/press/restauratie-van-het-lam-godsveelluik>

Scientific publications about the research and restoration are also available:

### ***The Ghent Altarpiece. Research and Conservation of the Exterior***



The scientific results of phase 1 of the restoration were published in the book *The Ghent Altarpiece. Research and Conservation of the Exterior*, edited by KIK-IRPA's Centre for the Study of Flemish Primitives and led by Bart Fransen and Cyriel Stroo.

Hardback, ca. 450 p.

*Contributions to the Study of the Flemish Primitives*, vol. 14

ISBN 978-2-930054-38-4

Available from Brepols Publishers and free to download on the Closer to Van Eyck website

## ***The Ghent Altarpiece. Research and Conservation of the Interior: The Lower Register***



All the discoveries and the progress of the second phase of the restoration (the treatment of the lower register of the opened altarpiece) are described in the book *The Ghent Altarpiece. Research and Conservation of the Interior: The Lower Register*. The restoration team, labs and imaging specialists at KIK-IRPA, together with scientists from the AXIS and ARCHES research groups (University of Antwerp), contributed to this richly illustrated scientific publication.

A publication of KIK-IRPA, with the support of the Fondation Périer-D'leteren, available from Brepols and free to download from the Closer to Van Eyck website

**Treatment reports of phase 1 and phase 2 are available on *Closer to Van Eyck*.**

<https://clostovaneyck.kikirpa.be/ghentaltarpiece/#home/sub=documents>

<https://www.kikirpa.be/en/publications/the-ghent-altarpiece-research-and-conservation-of-the-exterior>

<https://www.kikirpa.be/en/publications/the-ghent-altarpiece-2>

## Annex 5: the seven panels of phase 3

The seven panels of the upper register of the opened altarpiece have been undergoing a specialized restoration treatment since 2 May 2023. These panels show substantial differences, both at the pictorial level and in terms of their material and restoration history.

The **three central panels**, the enthroned Virgin Mary, the enthroned Deity and the enthroned St. John the Baptist, were confiscated in 1794 and taken to Paris to remain at Musée Napoléon until 1815 before being returned to the cathedral in 1816. The conservation issues of these panels are largely similar to those of the first and second phases of the project. Many retouches and overpaints are present. During their stay in Paris, the panels were shortened at the top.

A major restoration challenge are the **press brocades**, present in the background of the three central panels. They are thin, rectangular leaves of tin foil, which are pressed into an engraved mould, creating relief. After this, they are gilded and painted. They mimic expensive, exclusive silk fabrics or brocades. Press brocades were used on both paintings and sculptures. The press brocades on the Ghent Altarpiece are extensively overpainted. Their complex composition with diverse materials, each with their specific degradation issues, makes their restoration especially intricate.

The **side panels** consist of Adam and Eve and the singing and music-making angels. These panels equally have their own specific material history and conservation issues. The **singing and music-making angels**, along with the other side panels of the altarpiece, except Adam and Eve, were sold to an art dealer in 1816. They eventually ended up in the royal collection in Berlin in 1821. In 1894, they were sawn in half in their thickness and cradled to allow all the painted surfaces to be displayed simultaneously. After World War I and the Treaty of Versailles, the panels were returned to the cathedral in 1920 as compensation for war damages. The paint layers of these panels show many drying cracks. Many compositional changes were made in the original paint layers.

The panels of **Adam and Eve** remained in Belgium and were placed in the Royal Museums of Fine Arts of Belgium (KMSKB) in 1861. In 1921, they were given in perpetual deposit to Saint Bavo's Cathedral, and from then on the Ghent Altarpiece was again displayed in its entirety in the cathedral. The frames and wooden supports of the panels with Adam and Eve were treated during the first restoration phase.



## Annex 6: macro X-ray fluorescence scanning (MA-XRF)

This technique makes it possible to detect the different chemical elements in the paint layer and capture this in a visual image. Using this information, certain pigments can be identified and we get a picture of underlying paint layers and the material condition of the painting. This method is non-invasive and does not affect the condition of the paint layers.

### **Scientific research and chemical imaging of the upper register of the opened Ghent Altarpiece by the University of Antwerp**

#### **Prof. dr. Koen Janssens**

During the summer of 2023, the panels of the upper register of the opened Ghent Altarpiece were examined with Macroscopic X-ray fluorescence (MA-XRF) by the University of Antwerp. This generated detailed element maps of all the panels, including the Virgin Mary, the Deity and St. John the Baptist. The two panels with singing and music-making angels were also examined. Using these distribution maps, it is possible to get an overview of the pigments used by the Van Eyck brothers 'in every square millimeter' of the panels.

Gold leaf was used extensively in these panels to depict the niches behind the Holy figures, but also for the cloths of honor against which they were positioned. Here, a recurring relief pattern based on tin brocades was used (called "press brocades"). Among other studies, the MA-XRF images indicate that the condition of the press brocades is very complex, with different damage patterns and old restorations.

The chemical distribution maps reflect the composition of the paint on the surface and any later additions, but sometimes also show compositional changes. For instance, in the panel of the music-making angels, a hand was made visible again. The underdrawing of the left hand of the harp-playing angel had been detected in infrared reflectography images and in X-radiography much longer ago; via MA-XRF, it could now be more clearly indicated that in an early phase of the Ghent Altarpiece, this hand was also part of the painted composition. This is one of many changes observed in the two panels representing angels. This information is of great use to conservators during cleaning and during the removal of non-original layers of paint.

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Prof. Koen Janssens, tel +32 474 46 55 32, [koen.janssens@uantwerpen.be](mailto:koen.janssens@uantwerpen.be)

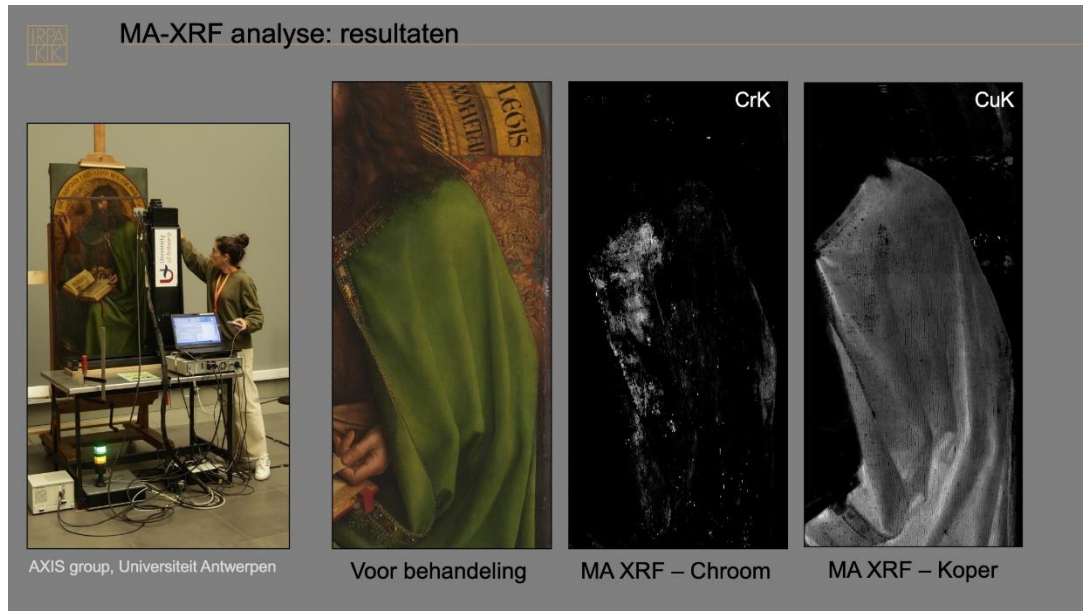
Prof. Geert Van der Snickt, tel +32 494 62 44 73, [geert.vandersnickt@uantwerpen.be](mailto:geert.vandersnickt@uantwerpen.be)



**University of Antwerp**  
**ARCHES | Antwerp Cultural  
Heritage Sciences**

## Annex 7: case study cloak St. John the Baptist

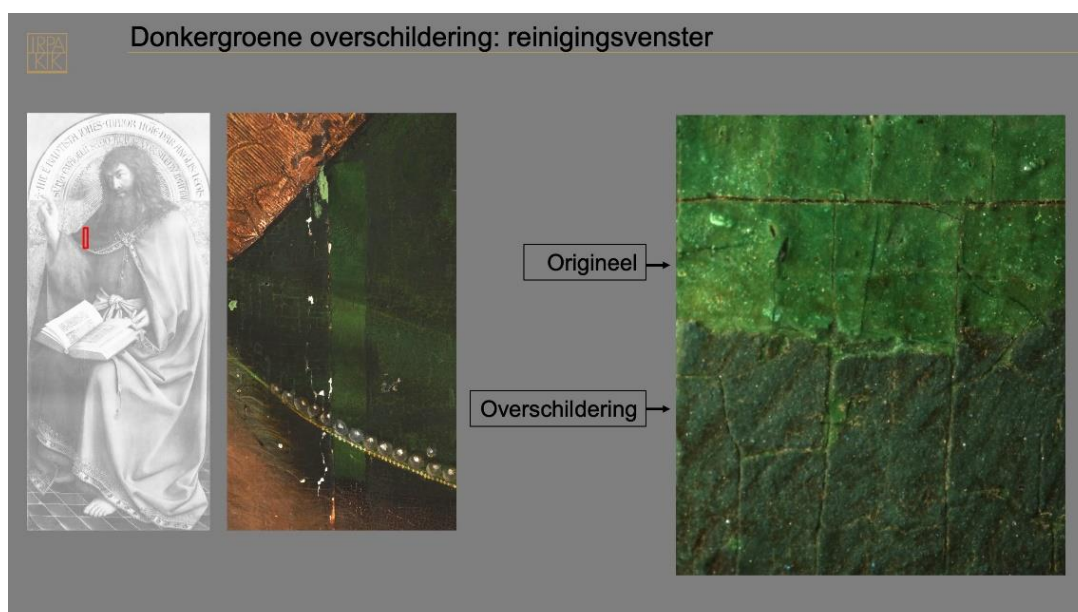
### Identification of 19th-century overpaint



As seen under the stereomicroscope, the retouchings and overpaint on the right side of Saint John's cloak have a grainy texture and matt green color. They cover a smooth, bright green original glaze. The MA-XRF map of chromium (Cr) shows a large concentration of chromium in these matt green layers. Chromium pigments were only introduced in the 19th century, indicating that these layers are non-original 19th-century additions.

The MA-XRF map of copper (Cu) illustrates the good condition of the original paint layers, containing copper green, showing only a little wear and a few small areas of paint loss.

### Test window



As during the first and second phases of the project, a few small, well-considered test windows were made in which the old overpaint was removed, to get a better idea of the state of the original paint layers and to check whether it is technically possible to safely remove the old overpaints.

The test window in the green cloak of Saint John the Baptist shows a well-preserved original drapery with intense green transparent layers and soft modulations, present beneath the dark overpaint on the left side of his cloak.

### Analysis of 16th-century overpaint (pigment posnjakite)



Analysis of the dark green overpaint on Saint John's cloak confirmed the presence of the pigment **posnjakite**. This is a green pigment used almost exclusively in the 16th century, and only highly exceptionally in the 15th century. It has not been found in any of Jan van Eyck's paintings. Posnjakite was also present in the 16th-century overpaint that was removed from the meadow on the Adoration of the Lamb, and in the green putty used to fill old damages before the overpaint was applied.

## List of images (images are available on request via [info@artinflanders.be](mailto:info@artinflanders.be))

**F3P1\_Foto 1:** Upper register of the open retable (before restoration).

Credit line = The Ghent Altarpiece, Jan and Hubert Van Eyck, Saint Bavo's Cathedral Ghent, [www.artinflanders.be](http://www.artinflanders.be), photo Hugo Maertens



**F3P1\_Foto 2:** L: Adam before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinflanders.be](http://www.artinflanders.be), foto KIK-IRPA



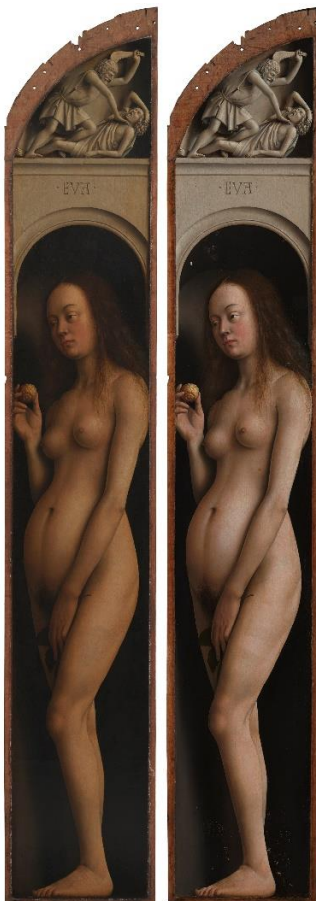
**F3P1\_Foto 3:** L: Detail head of Adam before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 4:** L: Eve before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 5:** L: Detail head of Eve before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 6:** L: Musician Angels before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 7:** L: Virgin Enthroned before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



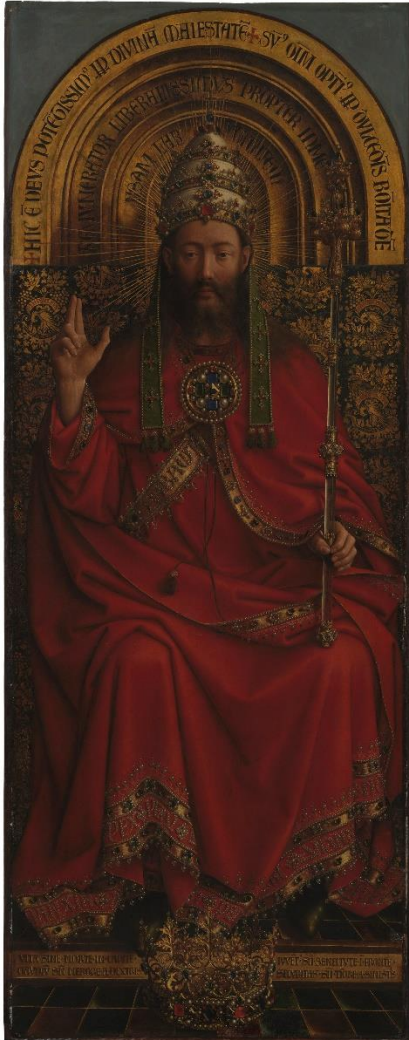
**F3P1\_Foto 8:** L: Detail Virgin Enthroned before treatment / R: after varnish removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 9:** The Deity Enthroned before treatment

Credit line = Sint-Baafskathedraal Gent, [www.artinflanders.be](http://www.artinflanders.be), foto KIK-IRPA



**F3P1\_Foto 10:** L: Detail The Deity Enthroned before treatment / R: during overpaint removal

Credit line = Sint-Baafskathedraal Gent, [www.artinflanders.be](http://www.artinflanders.be), foto KIK-IRPA





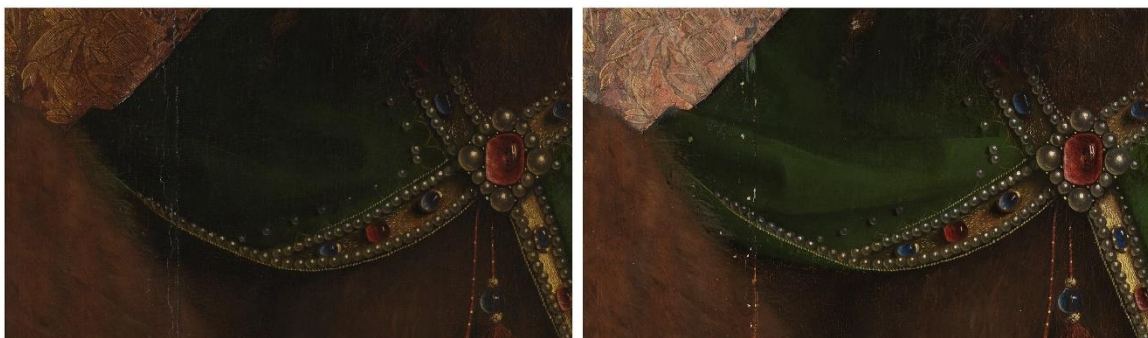
**F3P1\_Foto 11:** St. John the Baptist Enthroned before treatment

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



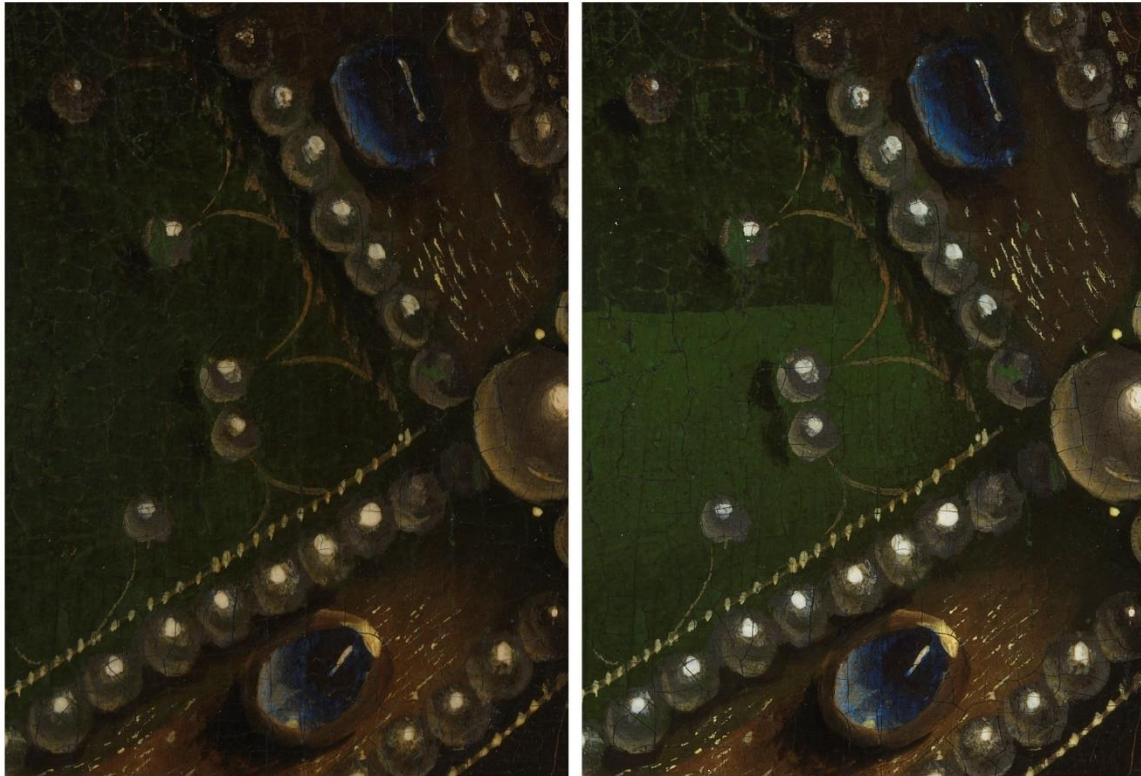
**F3P1\_Foto 12:** L: Detail Saint John the Baptist before treatment / R: during overpaint removal

Credit line = Sint-Baafskathedraal Gent, [www.artinlanders.be](http://www.artinlanders.be), foto KIK-IRPA



**F3P1\_Foto 13:** L: Detail Saint John the Baptist before treatment / R: during overpaint removal

Credit line = Sint-Baafskathedraal Gent, [www.artinflanders.be](http://www.artinflanders.be), foto KIK-IRPA



**F3P1\_Foto 14:** International commission of experts, with the KIK-IRPA team, and observers, November 2023.

Credit line = © KIK-IRPA, Brussels



**F3P1\_Foto 15:** During varnish removal

Credit line = © **Martin Corlazzoli**



**F3P1\_Foto 16:** During varnish removal

Credit line = © **Martin Corlazzoli**



**F3P1\_Foto 17:** During varnish removal

Credit line = © KIK-IRPA, Brussels



**F3P1\_Foto 18:** During overpaint removal

Credit line = © KIK-IRPA, Brussels



**F3P1\_Foto 19:** During varnish removal

Credit line = © KIK-IRPA, Brussels



**F3P1\_Foto 20:** During overpaint removal

Credit line = © KIK-IRPA, Brussels



**F3P1\_Foto 21:** The conservation studio at the Museum of Fine Arts Ghent

Credit line = © **KIK-IRPA, Brussels**



Images are available on request via [info@artinflanders.be](mailto:info@artinflanders.be)