

COMPUTED RADIOGRAPHY IN THE ART INDUSTRY

We have met Thierry Radelet, founder of an Art Analysis & Restoration Laboratory based in Torino, Italy. Mr. Radelet was born in 1972 in Huy, Belgium, and moved 25 years ago to Italy for a business opportunity.



Impassioned by paintings and art in general, he went to Italy a first time when he was 20. When he turned 23, he started to study "Art restoration" in the city of Firenze, Italy. He never got back to Belgium after that, Italy being a gold mine for the Art Business. During the year 2000 he created his own company, specialized in paintings analysis and restoration.

Over the years, he extended his activities to other art pieces (bronze & wooden statues for example), thanks to state-of-the-art equipment acquired (infrared cameras, X-ray fluorescence, thermography and of course digital radiography). He offers services to private customers willing to analyze a just acquired object, but also for public museums' art pieces and architectural wonders. Currently, his company employs 7 people who are active for restoring paintings, but also analyzing art pieces worldwide.

10 years ago, he purchased his first Computed Radiography (CR) scanner: HD-CR 35. "We have opened wider our range of applications and increased drastically the quality and efficiency of our work. I've been able to deliver a very high quality of image with CR, never equaled before. The main advantage is the wide dynamic range. The contrast is so good that we are able to literally see through all layers of a painting in one single shot, for example."

However paintings analysis and restoration is not the only field of his work. His major accomplishment was the complete analysis of the "Porta del Paradiso" in Firenze, Italy. Those "Paradise doors" are worldwide known, and located on the

east facade of the "Battistero". Made of 10 cm thick golden bronze, the analysis of those heavy pieces was possible with CR Scanner using 35 x 43 cm imaging plates (CRIP, high sensitive) and a 300 kV X-ray generator. He needed 400 exposures in total to completely analyze the doors. They previously tried with traditional radiography. "Variation in thicknesses made it difficult and much information was lost. We've decided to shoot at lower power to have underexposed images, to not burn the thinner parts. We've then used the powerful software filters to see all layers."

Computed Radiography is also much used to analyze paintings and search for fake items. "It's easy to identify lead and titanium pigments with CR. A lot of private customers come to us to let their paintings be checked and make sure they're not counterfeit." For paintings, CR is a real asset compared with flat panel, because IP's are thinner and easier to position between the painting itself, and the wooden frame. They're also lighter, which has been a real asset when Thierry and his team have X-rayed the wooden structure of the "Church of the Nativity" in Bethlehem. "We have x-rayed the whole structure to understand the way they built it during 4th century. We've learned a lot of things about it and their construction methods."

As DÜRR NDT, we're proud of this partnership, and of being able to say that our equipment has x-rayed some the most famous pieces of art worldwide. Among others "The Last Supper" from Leonard de Vinci, but also "Quarto Stato", a 545cmx295cm painting from Giuseppe Pellizza, and the Bronze Statue "Vittoria Alata di Brescia," x-rayed from inside and outside.



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