

## Acuros<sup>®</sup> CQD<sup>®</sup> SWIR Camera Applications Note

SWIR Application Note - 007

### High Resolution Infrared Reflectography of Painting Underdrawings

Infrared reflectography of paintings is used to make underlying layers clearly visible in contrast. IR radiation penetrates the front layers of the painting and is reflected by the primer. The under drawing, which is made with carbonaceous colorants on the primer, absorbs IR radiation and shows a strong contrast. The 2 MP sensor of the camera in combination with a lens with a short minimum working distance allows the realization of a very high resolution, which is important for the possibility to evaluate the signature. The effective achievable resolution is therefore dependent on both components, sensor and lens.

**Infrared reflectography of head detail from „Verkuendigung“  
(Berner Nelkenmeister, around 1495, Kunstmuseum Bern).**

**Image Credit:**  
HKB Bern, M. Kueffner



Visible Camera: Sony 7R iii  
Lens: Sony SEL-90M28G,  
90mm/ f2.8, Macro OSS FE)



SWIR Camera: Acuros CQD 1920  
Lens: EO 50mm/ f2.15 SWIR  
Filter: Thorlabs 1000nm LP

The Acuros<sup>®</sup> CQD<sup>®</sup> 1920 SWIR Camera includes: 1920x1080, 2.1Mp resolution, 58 fps, 70dB dynamic range, 15µm pixel pitch, 400-1700 nm spectral range, GigE or USB3 Vision interface.

