IMAGING

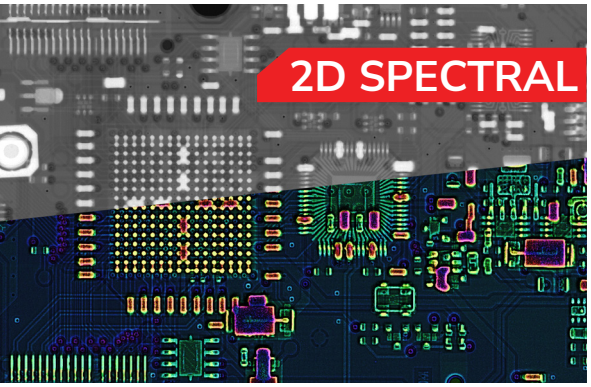
ADVACAM

Imaging the Unseen

STOP GUESSING, START IMAGING

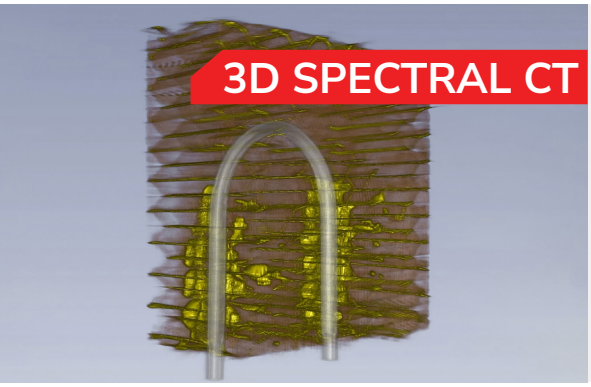
Discover versatile photon-counting technology for material-sensitive, noiseless and precise scanning

VARIETY OF METHODS



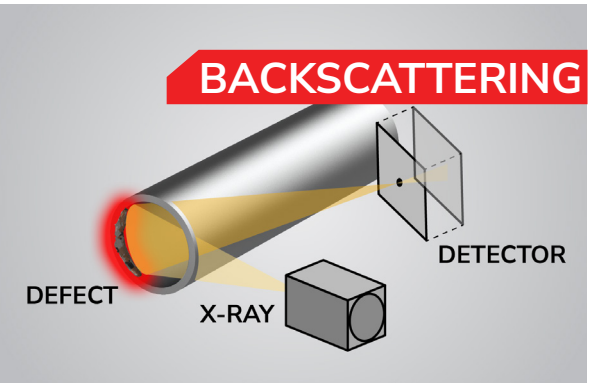
TELL APART THE ELEMENTS

Do you need to determine your sample's material composition? Minerals, alloys, polymers, electronics, batteries, or pigments? Our approach can determine the energy spectrum. It brings unprecedented image quality and new possibilities, such as material-sensitive X-ray imaging, like the one you can see on this circuit board.



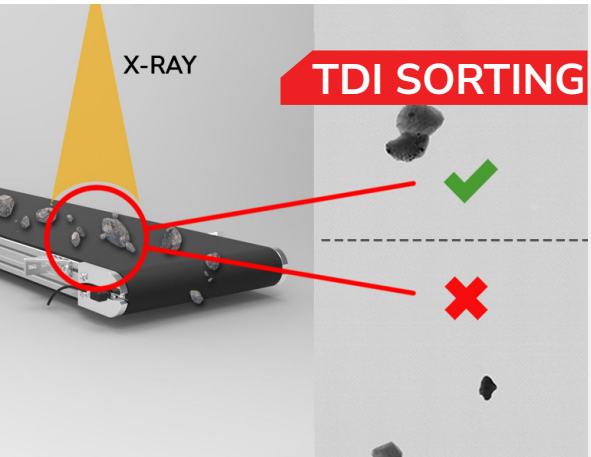
INSPECT YOUR STRUCTURES IN 3D

Data measured by our detectors allows us to reconstruct 3D images using computed tomography. In this reconstructed image we can do material decomposition. As seen on the image, different materials such as glue, metal pipe and composite are visible.



DO YOU HAVE JUST SINGLE-SIDE ACCESS?

Backscattering is a novel method to obtain 3D information on parts with access only from one side, the X-ray tube and detector are both on the same side of the sample. For instance, the material reduction of pipes or corrosion under insulation can be inspected.



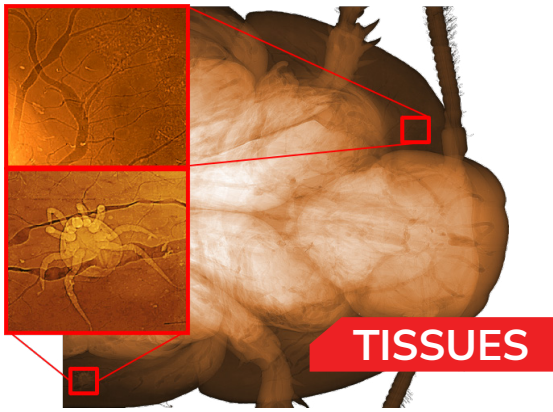
INSPECT LARGE OR MOVING OBJECTS

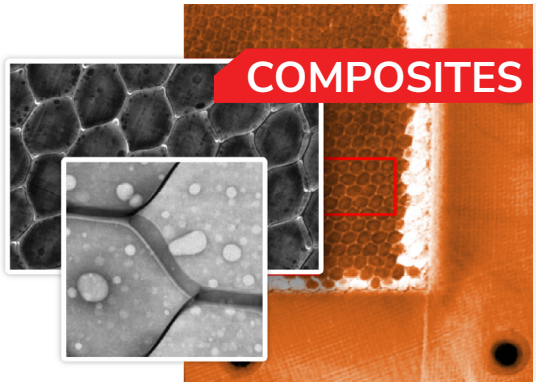
Thanks to our devices' high dynamic range and excellent resolution, we can scan and identify large areas using a small sensor. This can be used in the medical field, non-destructive testing, or material analysis. Take a fast conveyor belt carrying mined minerals—we can identify the composition of every rock before it reaches its destination.

VARIETY OF MATERIALS

SEE EVERY SINGLE HAIR

The exceptional sensitivity and dynamic range of photon counting detectors make them helpful in imaging low X-ray-attenuating objects, such as tissue. This precision is particularly beneficial in bio-related applications, where even the smallest details, such as a tiny mite on a cockroach, are revealed.



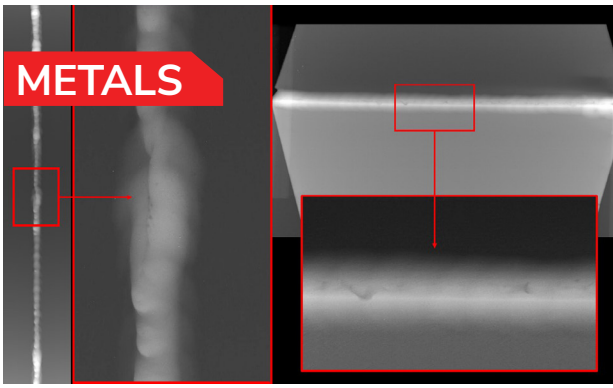


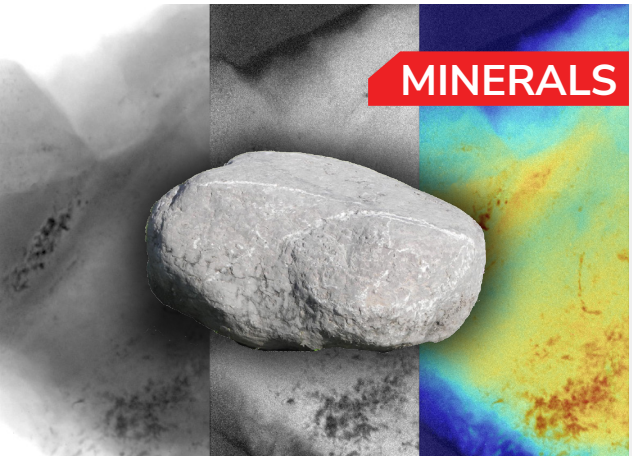
FIND FLAWS IN LIGHT MATERIALS

The single-photon X-ray imaging technology significantly enhances NDT capabilities for composite and other light materials. That makes detecting defects, impurities, or cracks extremely easy.

IS IT WELDED PRECISELY?

Inspect samples made of heavy and highly absorbing materials like stainless steel. Unlike traditional X-ray imagers, our detectors are fully digital with an energy discriminator and counter in each pixel. That allows noiseless and fast imaging.





IS THAT ORE VALUABLE OR NOT?

We have the ability to create detailed maps of ore distribution within a piece of rock in real time. You can pinpoint the precise locations of valuable substances such as gold, silver, zinc, or copper. Not just on the surface but throughout the entire volume of the mineral.

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Example of detector suitable for imaging applications

WidePIX L 1x10

Readout Chip:	Medipix3
Readout Speed:	Up to 80 fps
Count Rate:	Up to 250 million hits/mm^2/s
Number of Pixels:	655 360
Dual Threshold:	Yes
Threshold Step Resolution:	0.1 keV
Spectral Imaging:	Yes
Temp. stabilizing:	Required
Pixel Pitch:	55 µm
Time-Delayed-Integration:	Yes, hardware triggered

Our detectors in action with RadalyX robotic CT

ADVACAM's detectors are ready for integration into advanced imaging setups. The best example of this is the RadalyX system by Radalytica.

The major advantage of the robotic system is that it can be moved to any large object to be inspected. This is in sharp contrast to standard industrial CT systems, where the sample has to fit inside the CT gantry.

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