

## ELEMENT IN DIGITAL RADIOGRAPHIC TESTING

### OUR SERVICES

Element's industry-leading laboratories host the latest digital radiographic testing equipment that can quickly and efficiently identify weaknesses in your materials. Our experts use this powerful non-destructive testing method in the aerospace, energy, and manufacturing sectors to make certain your products are compliant and fit for purpose.

Digital radiography is used for non-destructive testing and examination of the internal features of a product, to characterize materials properties, and to identify defects. It is an advanced form of conventional 'film' radiography: instead of creating an image on radiographic film, an x-ray image is displayed directly onto a computer screen.

### DIGITAL RADIOGRAPHIC TESTING METHODS

Element's digital radiography test methods capture inclusions digitally using Digital detector arrays (DDA) and reusable imaging plates, as opposed to traditional methods using x-ray film. We use three main test methods for digital radiographic testing:

- **Computed radiography.** The simplest digital radiography method, the item is exposed by x-ray tubes in cabinets, the imaging plate (IP) captures the image, and the IP is digitally scanned for display onto a high-resolution viewing monitor.
- **Digital radiography** uses digital detector arrays with specialized x-ray tubes. The detector is rigid, exposure times are 70-90% shorter, and labor costs are significantly reduced.
- **Computed tomography** is an extension of DDA technology. It uses an automated detector motion to gather thousands of images at various angles to create a 3D image.

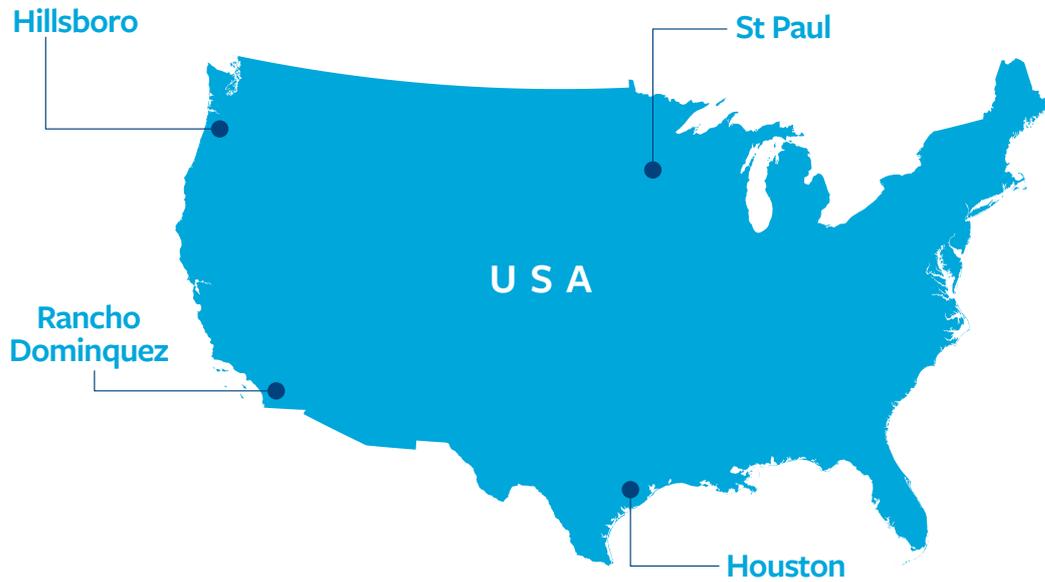
Our global experts are Level 3 qualified and on hand, ready to recommend the most suitable testing methods for your upcoming projects.



### ADVANTAGES OF USING DIGITAL RADIOGRAPHY

Digital radiography testing provides excellent image quality and a high probability of detection (POD). It is more economical than conventional radiography techniques; no film or developing costs are required, and plates can be re-used. Images are stored digitally and can be sent electronically by senior technicians to customers to view, saving valuable processing time. Due to the elimination of film, digital radiography is also more environmentally friendly and can lead to more attractive pricing.

ELEMENT LOCATIONS



COMPUTED RADIOGRAPHY (CR)

**USA**

- Hillsboro
- Rancho Dominguez
- Houston
- St Paul

**EUROPE**

- Dudley
- Sheffield
- Cradley Heath
- Worcester

DIGITAL DETECTOR ARRAYS (DDA)

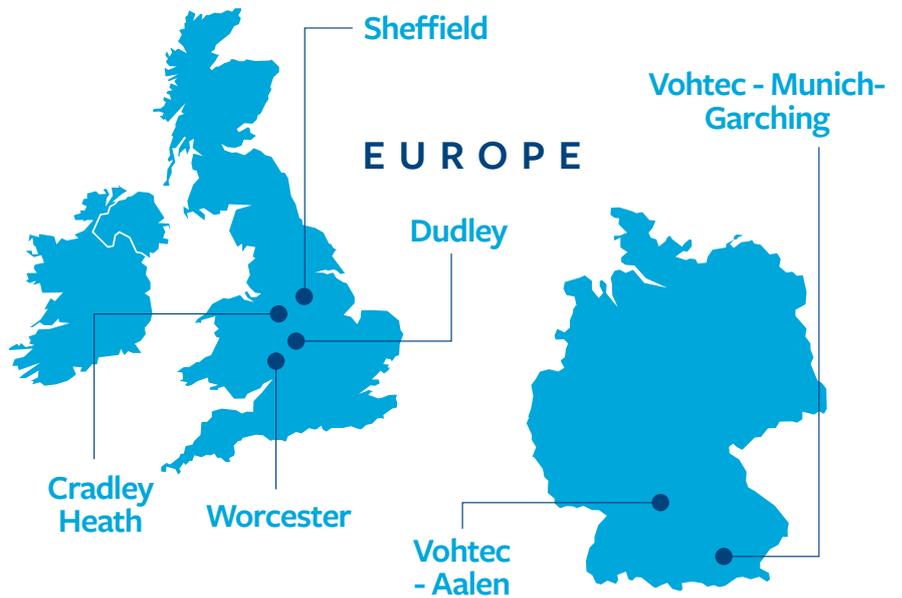
**EUROPE**

- Vohtec - Munich-Garching

COMPUTED TOMOGRAPHY (CT)

**EUROPE**

- Vohtec - Aalen



TRUST THE CERTAINTY OF  element

We are Element, one of the world's leading independent providers of testing, inspection and certification services to a diverse range of industries, where failure "in service" is simply not an option. Everything we do is aligned to deliver one thing for our customers – Certainty.

We exist to help all of our customers to make certain that the materials and products that they make are safe, quality, compliant and ultimately fit for purpose using our 200 years of testing experience and our global testing capabilities.