

AUTOMATION

TACOMA brings rapid assisted defect detection to the automotive industry, with other sectors planned for implementation soon after.

ACCURACY

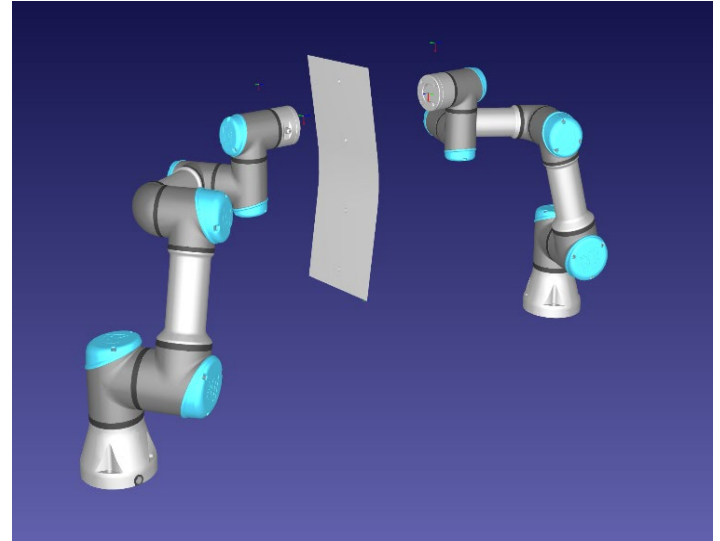
Automated path planning and ultrasonic / X-ray inspection deployed on the TACOMA system delivers accurate and minute defect detection.

SPEED

The automated nature of this solution provides production line speed scanning of parts as they are produced, something highly coveted in the current market.

TACOMA optimises

Rapid Non-Destructive Evaluation System for CFRPs in the Automotive Industry



The TACOMA system uses robotically deployed advanced patented digital radiography along with air-coupled ultrasonic testing (ACUT) for the inspection of carbon fibre reinforced polymer (CFRP) parts.

With governments pledging to reduce emissions, CFRP parts are seen as a great way to lighten the weight of vehicles. Their use requires a comprehensive inspection system that can assess these parts throughout their life cycle.

Robotically deployed inspection techniques ensure that TACOMA meets the needs of the automotive industry in its ever-growing use of CFRP parts.

However, it is not just the automotive sector that looks set to benefit, as there are potential applications in other industries ranging from aerospace to wind power and rail.



Direct Conversion
A VAREX IMAGING COMPANY



Harbourside Business Park, Harbourside Rd, Port Talbot SA13 1SB
 Tel: + 44 (0)1639 873100

CREATING PARTNERSHIPS WITH INDUSTRY LEADERS:

TWI Ltd.

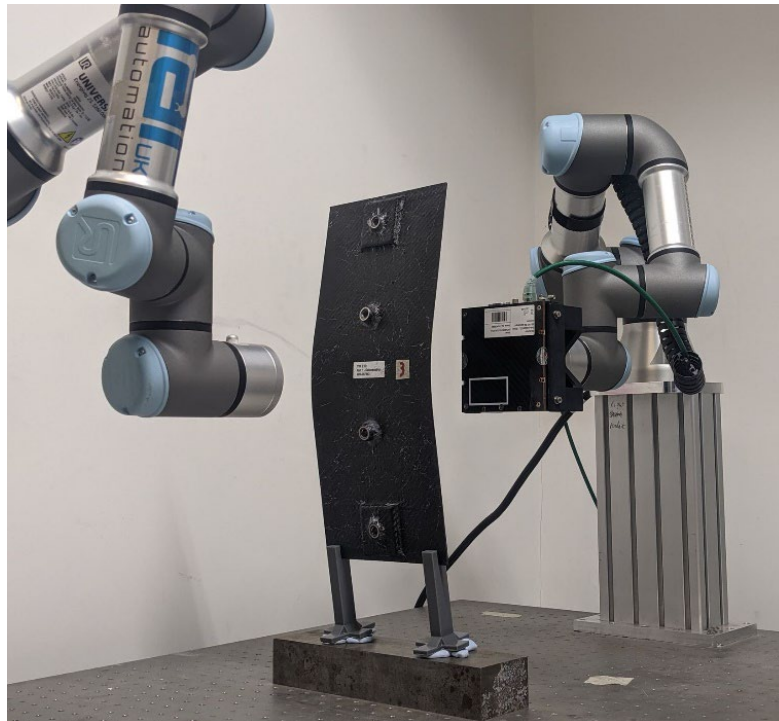
TWI Ltd is a world leading research and technology organisation, providing impartial technical support in welding, joining, material science, structural integrity, NDT, surfacing and packaging. Services include generic research, confidential R&D, technical information, technology transfer, training and qualification.

 www.twi-global.com

Direct Conversion Ltd.

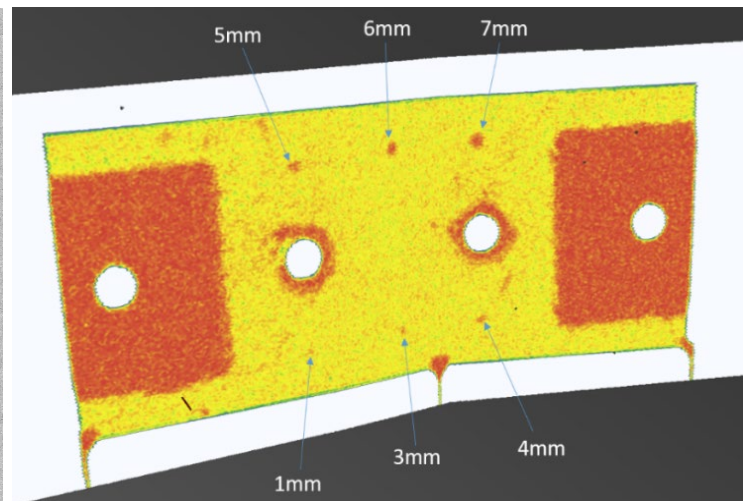
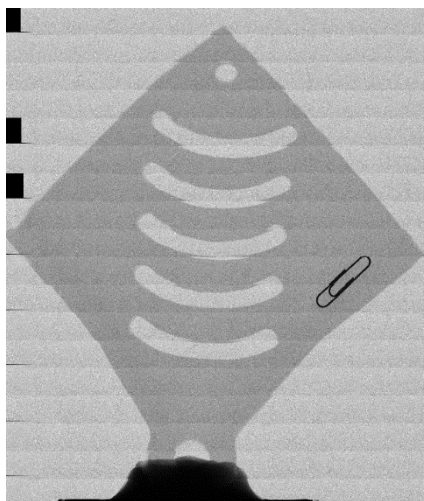
Direct Conversion is the global leader in X-ray detectors for non-destructive evaluation in a range of sectors. It is the world's largest manufacturer of cadmium telluride (CdTe) detectors and their detectors and imaging systems are used across the globe by a broad range of customers, in fields such as dentistry, radiography, engineering, and food production.

 www.directconversion.com



The use both X-ray radiography and ACUT inspection ensures that all defects are detected, including:

- Debonding
- Porosity
- Foreign objects
- Matrix cracks
- Core crush
- Delamination



See above for minute flaws being detected by utilising the 2D radiography (left) and ACUT functionality with assisted defect detection features (right) of the TACOMA system

Acknowledgements:

This work was supported by InnovateUK [105798] and as part of an initiative known as the Advanced Engineering Materials Research Institute (AEMRI), which is funded by the Welsh European Funding Office (WEFO) using European Regional Development Funds (ERDF). Thanks go to American Chemistry Council for their support.



Direct Conversion
A YAREX IMAGING COMPANY



Harbourside Business Park, Harbourside Rd, Port Talbot SA13 1SB
Tel: + 44 (0)1639 873100