

**ARGYLL  
RUANE**

**FMC, TFM, TFM<sub>i</sub><sup>TM</sup>  
& RELATED  
TECHNOLOGIES.**



In collaboration with:



# COURSE OVERVIEW

New ultrasonic techniques enable previously undetectable defects to be discovered. These techniques are especially useful in safety critical sectors, such as petrochemical, power generation and nuclear industries, where early defect detection is paramount.

Advanced techniques are often used to gather as much information as possible about defects to better understand how a fault has occurred, re-engineer parts, or adapt processes to prevent future occurrences of a defect. As a training provider, it is important that our courses remain current and relevant to industry requirements.

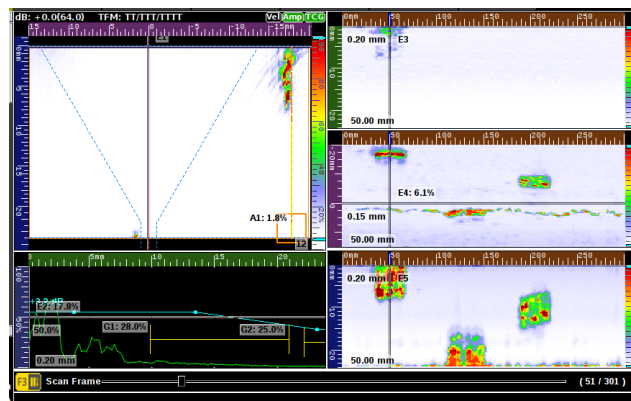
Working in collaboration with Holloway NDT & Engineering, we have developed a course to provide an overview of the theory and practical use of Full Matrix Capture (FMC), Total Focusing method (TFM), Intermodal Total Focussing Method (TFMi™) and other related technological advancements associated with the Phased Array Ultrasonic Testing (PAUT) technique.

Students will gain an understanding of the advantages and disadvantages of using the different techniques when compared with PAUT and be shown examples of suitable applications to enable them to make informed choices on which technique to use.

Using Sonatest's latest Veo3 instrument and UTstudio+ software, students will be shown how to set up the equipment to collect and analyse data from a variety of defective test pieces.

## Who is the course for?

- Suitable for individuals who have knowledge and experience of Phased Array and Ultrasonic inspection techniques
- Phased Array and Ultrasonic Technicians, Technical Managers, and Engineers



Intermodal TFM (TFMi™) scan image of a Toe Crack defect in a 24mm thick weld imaged on a Sonatest Veo3.

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A thorough understanding of the applied physics of ultrasonic testing is as important as the techniques themselves. The course has been designed to educate and demonstrate the possibilities of TFM and TFMi™ for practical applications in real world environments.

- Paul Holloway, President of Holloway NDT & Engineering Inc.

## Course content

Across this four-day course, candidates will acquire theoretical knowledge of various aspects of these innovative advanced ultrasonic testing techniques.

The course has been written with references to standards such as BS ISO 23864, BS ISO 23865 and ASME Section V Article 4.

On completion, students will receive a certificate of training.

The course content includes:

- **Day 1:** Recap of Phased Array principles & Phased Array set up
- **Day 2:** An introduction to Full Matrix Capture (FMC) and Total Focusing Method (TFM)
- **Day 3:** Phased Array and Total Focusing Method data collection  
Exploration of the various TFM modes
- **Day 4:** Introduction to TFMi<sup>TM</sup> and data collection using TFMi<sup>TM</sup>  
Advantages of TFMi<sup>TM</sup> and how it can be utilised with other methods

## Duration & cost

4 days classroom training

£2,510 + VAT

## Train with us

Contact the team today for available course dates and to book your place:

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[argyllruane.imeche.org](http://argyllruane.imeche.org)



“““

Jordan is an excellent trainer with a deep understanding of advanced ultrasonic inspection techniques. After seeing how these new techniques can inspect a variety of samples, I believe TFM and TFMi<sup>TM</sup> will go a long way in providing us with clearer images of indications we see ultrasonically in our highly critical forgings for the defence sector.

- Student feedback, October 2022



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