Our team

James Essien is a mechanical design engineer with vast years of experience in high pressure piping and vessel systems, subsea and topside applications, quality control, systems integrity and production engineering. Managed several projects for topside, subsea and onshore installations around the globe such as INPEX Ichthys gas field, Australia and TAQA Tern Alpha platform, North Sea, UK.

Akram Zitoun is a Marie Curie Early Stage Researcher. He has a broad knowledge in transducer designing and data acquisition and optimization. His work in TWI includes electromagnetism, guided wave generation and post processing. He also specialise in NDT and SHM applied to the Aerospace field.

Dr Jialin Tang is a Project Leader at TWI having extensive experience in structural health monitoring techniques including acoustic emission and guided wave techniques. Her activities in the section includes managing collaborative projects, liaising with clients on technology requirements and managing prototype condition monitoring system development.

Main Contact

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GRAPHOSITE

A Graphene Sensor for Defect Detection and Predictive Maintenance in Composite Materials

www.graphosite.co.uk

TWI

TWI Ltd

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Innovate UK

GRAPHOSITE is an **Innovate UK** Project, Ref: 104266

Who we are

TWI is one of the world's foremost independent research and technology organisations, with expertise in materials joining and engineering processes as applied in industry. TWI specialises in innovation, knowledge transfer and in solving problems across all aspects of manufacturing, fabrication and whole-life integrity management.

Established in Cambridge, UK in 1946, the organisation has gained a first-class reputation for service through its teams of respected consultants, scientists, engineers and support staff. With around 800 employees, it works with over 1800 Industrial Member companies in over 70 countries.

TWI currently operates from 54,000 square metres (581,000 square feet) of manufacturing, testing and training space; five UK and 13 overseas facilities serve both its Industrial Membership and its training and examination needs. A successful international Training and Examinations programme sees around 25,000 students trained each year in welding and inspection technologies.

Our products and services

TWI carries out confidential research contracts for industrial members and has an extensive programme of core research and collaborative projects that is conducted. TWI's experts can offer consultancy on all aspects of fabrication and performance of structures including expert witness and arbitration services.

The Condition and Structural health monitoring (CSM) section at TWI provides complete monitoring solutions for a broad range of markets. Including aerospace, offshore structures, oil and Gas storage tanks, wind turbines, cranes, pipeline pigging (use of devices known as pigs that perform maintenance operations without stopping the flow of the product in the pipeline), surface transportation, systems and bridges. CSM can advise on complex installation such as wind turbines that present challenging requirement through the use of multidisciplinary strategies and instruments in order to detect assess and prevent failure.

CSM's offering varies from remote condition monitoring of components and structures, advanced analysis and validation of monitoring strategies, embedded software development and hardware development using analog devices, accelerometers, acoustic emission and magnetic sensors.