

Project case review

Zenon

Zenon was set-up over twenty years ago to develop a world-class research centre in robotics with the aim of promoting automation and robotic technologies to Greek industry. Two decades on, it operates across a broad range of industry sectors specialising in data collection, image archiving, industrial robotics, computer vision and computer integrated manufacturing.

Filmfree and Zenon

Zenon was engaged in the project to develop automated defect recognition software for digital radiographic examination of welds for the oil & gas, petrochemical, power generation and rail industries.

Project benefits

Zenon says that the main benefit of this project has been the development of software for detecting and classifying defects in digital X-ray images. This software is marketable as a library and as part of other digital inspection systems. It also complements the robotics system for X-ray inspection by offering a high added value back-end.

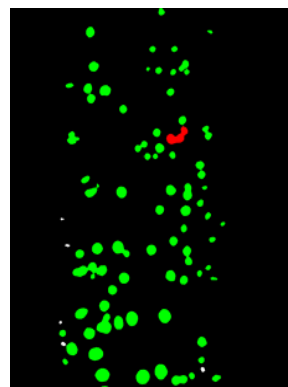
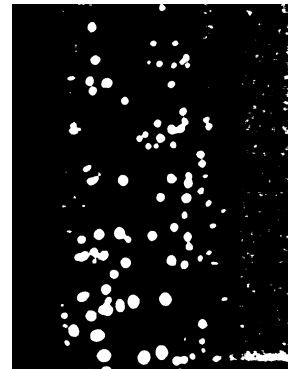
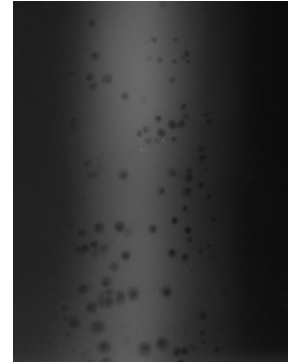
In Zenon's opinion, Filmfree has made significant advances in state-of-the-art digital radiographic imaging; interpretation of the digital radiographic images; and identification of defects in material and welds.

Direct benefits to Zenon include new sales in software and integrated systems for radiographic inspection; increase in staff numbers with further recruitment expected; enhanced knowledge of NDT techniques; and opportunities to develop relationships with key scientists and industry involved in NDT.

The future

Zenon plans to -

- Investigate ways of creating a digital radiographic image processing system for defect identification with an operator-friendly interface.
- Explore methods of integrating the image interpretation system with a control system for a modular X-ray system developed as part of another project.
- Improve classification using other sets of orthogonal functions in support of vector machine classifiers.



Automated detection and classification of flaws in a weld