

# Press Release

Date: December 2013  
Enclosure: pic.  
Reference: PR-0046-CPE-031213-CPE

## CENTRE OF EXCELLENCE IN VIBROMETRY ESTABLISHED



### UK's first robot mounted laser vibrometry facility opening in early 2014

When it opens in May 2014, the Advanced Structural Dynamics Evaluation Collaborative (ASDEC) Research Centre, a joint project between the University of Leicester and Polytec UK, will be the UK's first commercial 3-D non-contact laser vibration scanning measurement and modal-analysis centre. It has been developed specifically to service the automotive, aerospace and space sectors.

Publication free of charge

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ASDEC will be the only such facility in the UK providing 3-D full-field scanning measurement, modal analysis, modeling and certification services. This capability will be provided by the range and spatial resolution of Polytec's laser Doppler systems, enabling automatic 3-D scans of structures at the Centre as well as vibration field scans at end-user sites.

This high-tech non-contact technology enables the diagnostics and large-area dynamic measurements to be performed in hours compared with the longer turn-around times of traditional multi-channel accelerometry. ASDEC is initially funded by a £1 million grant from the UK Government's Regional Growth Fund and by an ERDF structured grant to support Small and Medium Enterprise (SME) access to the Centre. When fully operational, ASDEC is expected to create 250 new jobs in the UK.

The advanced vibration measurement and analysis will cut the time required for new product development, testing - analysis and, ultimately, time to market. For product development, this approach also allows an enhanced upfront pre-test diagnostics, improved Mac address comparison data, early product de-risking, and greatly reduced development time and costs. The ASDEC facility is expected to act as a "catalyst and an entry point" for businesses to access the resources of the University of Leicester and its broad range of additional services, expertise, R&D, facilities, and technologies. Aldo Rona, academic technical lead of the ASDEC project, told said, "ASDEC is part of the University of Leicester. It has start-up funding of £1.5m per year, totaling £5.5m over its first five years' operations. Although we are a start-up centre, we are a secure proposition for client companies because there are structural supports in position around the business proposition."

Joe Armstrong, sales manager of Polytec Limited, said, "We are extremely pleased that the University of Leicester is the first group to make available a robot-mounted laser vibrometer to the UK. This new resource will help UK innovative and cutting edge companies by offering large area structural dynamic measurements with both high resolution and high accuracy for improved finite-element analysis (FEA) validation. For example, it can fully measure and characterize a full body in white for an automotive supplier."

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The location of the ASDEC facility is the Technology Park of [www.mira.co.uk](http://www.mira.co.uk) (formerly the Motor Industry Research Association), an automotive consultancy company headquartered in Nuneaton, close to Leicester.

In September 2013, the ASDEC signed the £700,000 purchase agreement with Polytec for the 3D robot scanning laser vibrometer. Polytec has previously supplied a similar set-up to an academic-industrial-focused partnership project in Germany: a 3D laser vibration analyzer on a robot installed in Waldbronn, which is a similar project for the German automotive industry. Besides the laser itself, Polytec is also providing ASDEC with expertise and support.

The project is associated with University of Leicester's <http://www2.le.ac.uk/colleges/scieng> College of Science and Engineering, which includes the departments of engineering and physics, and the UK's Space Research Centre.

Rona added, "The main purpose of the ASDEC lab is research and technical development. There is no plan to spin it out in the first five years of its operations: we would expect any surplus income to be reinvested in the facilities.

"There is no equivalent robot laser scanning vibrometer elsewhere in the UK. Its key operational element is laser Doppler vibrometry enabling us to measure velocity rather than acceleration.

Typically, other systems that are available use a "comparison" approach –without the vibrometer.

"The application areas are: the design phase, prototype phase and, in the case of space-focused applications, one-off product runs. There will be a team of about eight people, although the lab could be operated by a team of three or four."

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