

Measured progress

NPL Training's measurement training courses were launched in September 2006. Andrew Allcock visited NPL, London, to hear about progress to date and the push for wider uptake

A training initiative was launched by NPL Training (National Physical Laboratory) in late summer 2006 to help drive up industry's measurement skills. NPL Training offers the UK's only independent national measurement training programme for manufacturers, although it is not the training provider.

At the launch of the initiative in August last year, its then leader, Dr Emma Mulligan, explained the need: "There has been feedback from industry over the last 18 months to two years about the decline in measurement skills. There has been a decline in apprenticeships and people are not being taught measurement from first

Course modules and costs

Level 1 is a four-day course made up of four modules. Level 2, also complete and about to be further piloted, is a five-day course comprising six modules. Level 3, now work in progress, has selectable modules from a minimum of one up to all eight, four of which will be defined and verified by spring 2008. Level 4 is more of a thesis-based Masters course. "These people will be metrologists on the same level as those at NPL itself, but it will be 2009 before Level 4 is available," Mr Nash underlines. The cost for Level 1 is £624 and for Level 2 the charge is £935.

Course content/design is driven through committees which have both users and deliverers as members. Additional modules are already targeted.

NPL Training is also able to offer Accreditation of Prior Learning, which might allow individuals to obtain a certificate with no, or with minimal additional training.

principles anymore.

"Sophisticated equipment in industry eliminates the thinking; you push a button and you get an answer, so we have lost the questioning culture in terms of

measurement. We recognise this, industry recognises it – and so do the measurement equipment OEMs who have been working quite hard to fix the problem themselves."

Hexagon Metrology's aftermarket business development manager, Ian

Wilcox, added: "Talking to our customers, it is clear that the skills we take for granted within our organisation are draining away within industry."

In August 2007, Paul Nash was appointed NPL Training sales manager to develop the market for the training framework (see box item page 22).

With over 20 years' experience in the

manufacturing and metrology industry, Mr Nash is a former director of HK Technologies and divisional manager of the industrial metrology department of Carl Zeiss and has run his own Mantech Sales, Rugby, metrology firm.

He reiterates the problem: "From apprenticeships right through to engineering graduate level education there seems to be a complete lack of practical training in dimensional measurement, including geometric tolerancing and geometric product specification. Rolls-Royce has been very strongly behind the initiative because it recognised this.

"You'd be amazed at how many are not aware of the principle of uncertainty or gauge R&R (repeatability and reproducibility) and how to develop a 'budget' for uncertainty," he adds.

There are four levels of training (see box item page 21). These are broadly defined as measurement user, measurement applier, measurement developer, and measurement definer. Some 200 to 300 people have so far gone through the Level 1 course and received the nationally recognised NPL Training

The training framework

The training framework under which the dimension measurement regime is being rolled out sees NPL Training produce the training material, for which it takes responsibility, ensuring it meets national and international standards. Training is then delivered by third party providers who are trained and accredited by NPL Training which also audits the trainers' assessment of individuals. Those trained and assessed obtain a certificate from NPL Training. This route means that those taking the dimensional measurement modules have a nationally recognised qualification; "the only national recognised qualification, in fact," says Mr Nash.



certificates. It is expected that progression on to Level 2 will be high, around 80 per cent – while Mr Nash suggests 30–40 per cent from Level 1 will progress through to Level 3. However, only about 2 per cent are expected to attempt Level 4 which could involve a long period at university or at NPL.

At the launch in 2006, only the first module was available; now NPL Training is set to roll out the second module. "Until August 2007 we had piloted a number of courses at Level 1 in blue-chip companies such as Rolls-Royce, Airbus, RAL and AWE. We have completed and verified Level 2, have run some pilot courses, and are ready to roll out this material to the same companies that piloted the previous module.

"The main objective now is to take Level 1 out to a wider audience than the blue-chips and a wider manufacturing community," Mr Nash explains. "Level 1 is now well proven. We have had fantastic feedback from those attending; we had a 96 per cent positive feedback from Rolls-Royce, for example. We are very pleased that the quality of the training is perceived this well." And while the focus has been on the aerospace sector, Mr Nash also believes that the same issues occur in the automotive sector, so this will also be a target for the future.

The Level 1 programme is currently being delivered by dimensional measurement technology OEMs, training

providers, FE colleges and universities. Hexagon, Mitutoyo, Coventry University (West Midlands Manufacturing Measurement Centre) and Leeds College of Technology are all current deliverers. However, it is envisaged that companies could deliver the course to their own apprentices.

GETTING IN ON THE ACT

For small companies, which perhaps could not fill a training provider's course in total, a calendar is now being put together highlighting course availability in various locations over the year – www.npl.com/training, or call NPL Business Development Group at NPL on 020 8977 3222).

There are already local initiatives offering support to smaller companies. In the West Midlands. For example, the West Midlands Manufacturing Advisory Service operates a CMM club (www.mas-wm.org.uk). Comprising a handful of like-minded SMEs, membership of the club entitles support for two employees from each company in obtaining Level 1 dimensional measurement training.

Mr Nash believes pressure from the blue-chips down the supply chain will prompt more and more smaller companies to undertake training. Indeed, while NPL Training can provide the training materials and framework services, it cannot, at the end of the day, create the demand. □