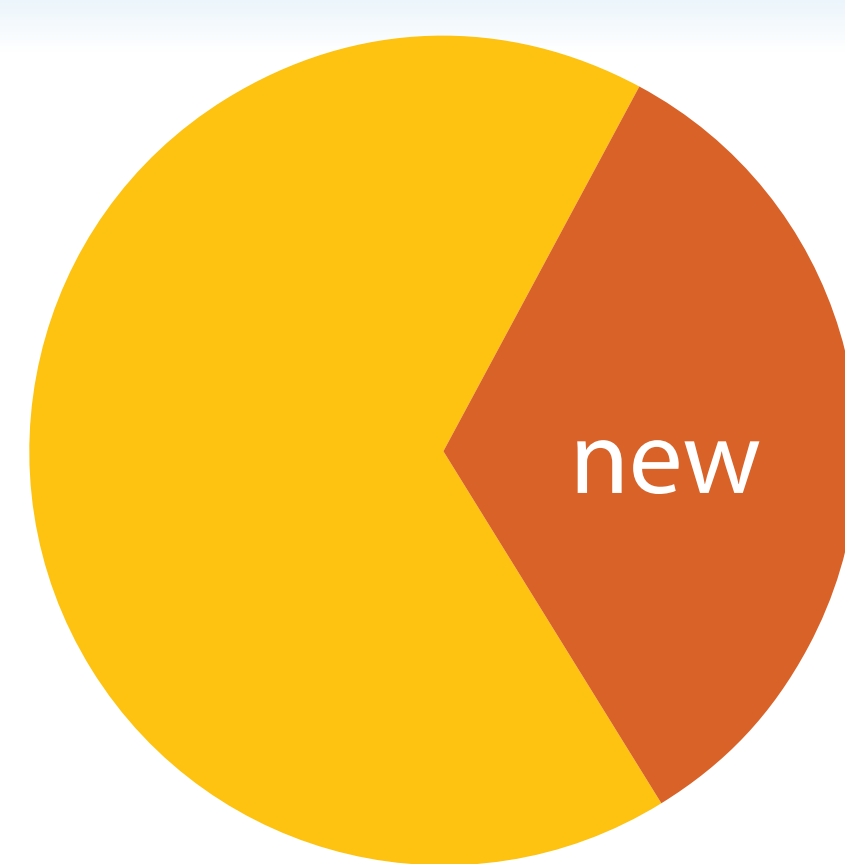


The benefit and impact of online tools for microscopy and microanalysis training and education in core facilities.

3000+ researchers per annum using the AMMRF



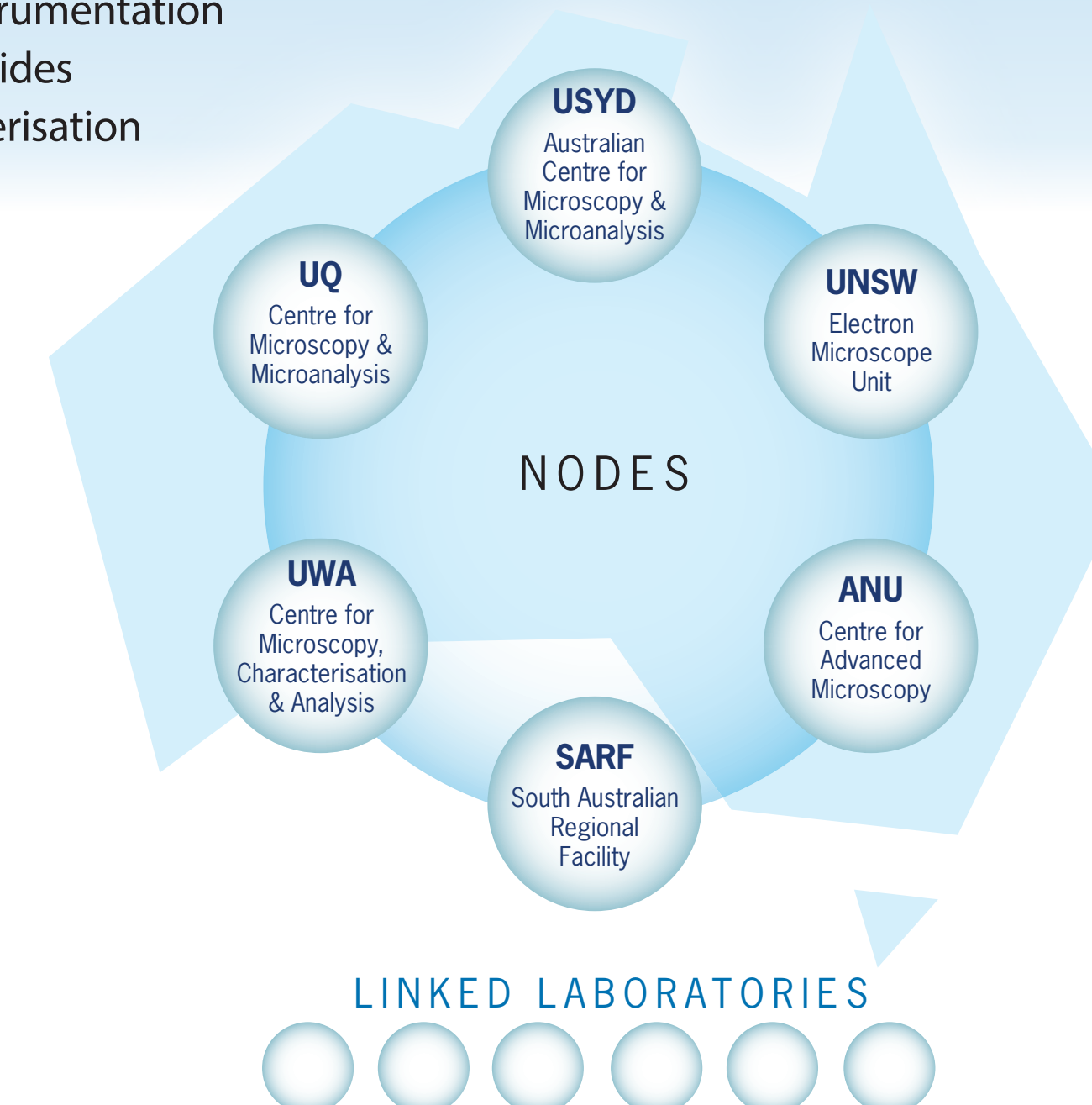
1/3 are new users requiring training

training challenges

Conventional group or one-to-one training with the instrument has limitations:

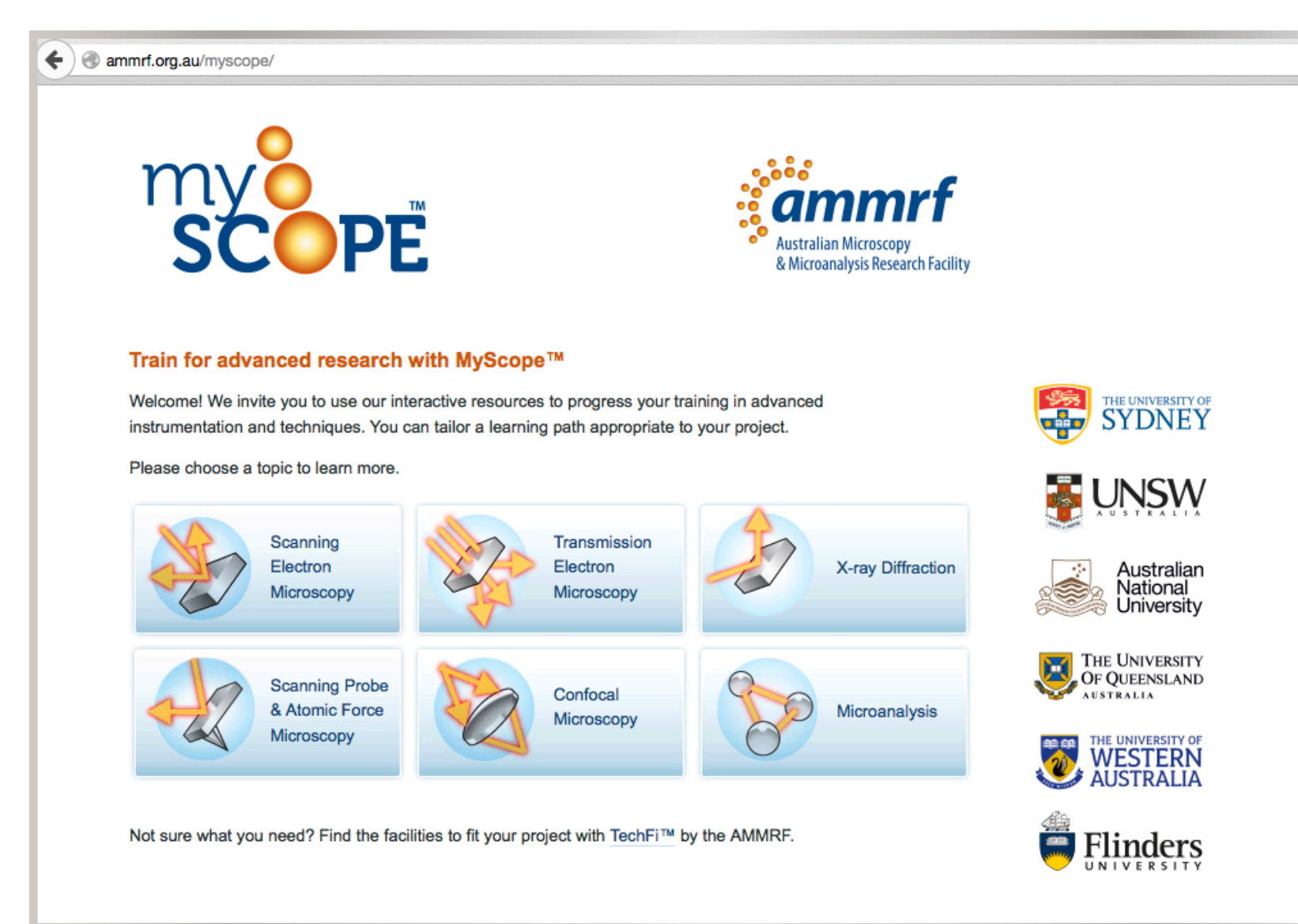
- core facilities need to balance the beam-time of expensive, complex instrumentation between active research and training new users, who will ultimately perform research
- limited specialist staff and time are available to train researchers
- diversity of the researchers and their projects

The Australian Microscopy & Microanalysis Research Facility (AMMRF) is a national grid of instrumentation and expertise that provides nanostructural characterisation capability and services: from widely used optical, electron, X-ray and ion-beam techniques to world-leading flagship platforms.



MyScope™ training for advanced research

ammrf.org.au/myscope

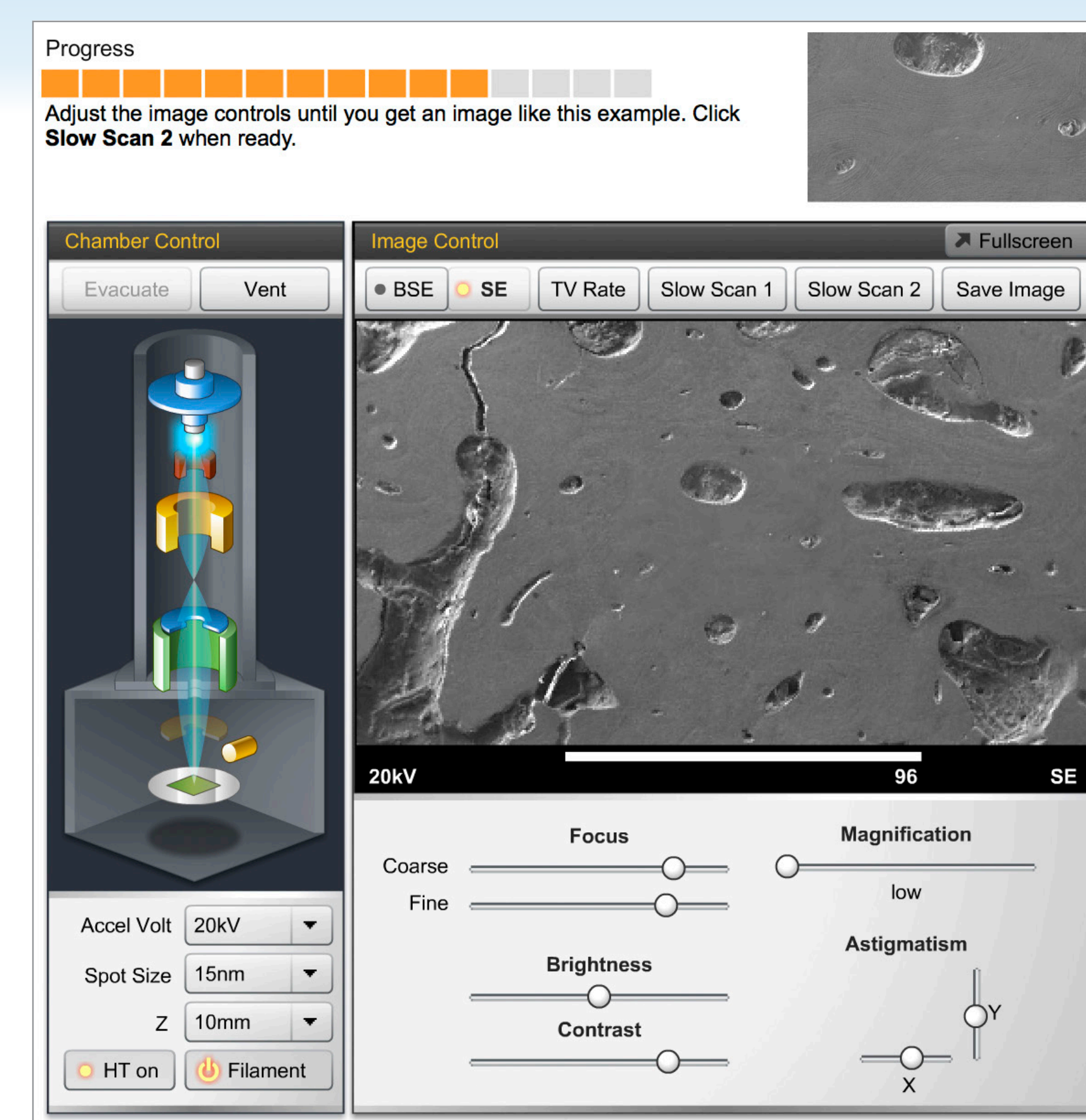


100,000+ visits per annum from **100+** countries

MyScope flexible online modules are designed to address microscopy training challenges with:

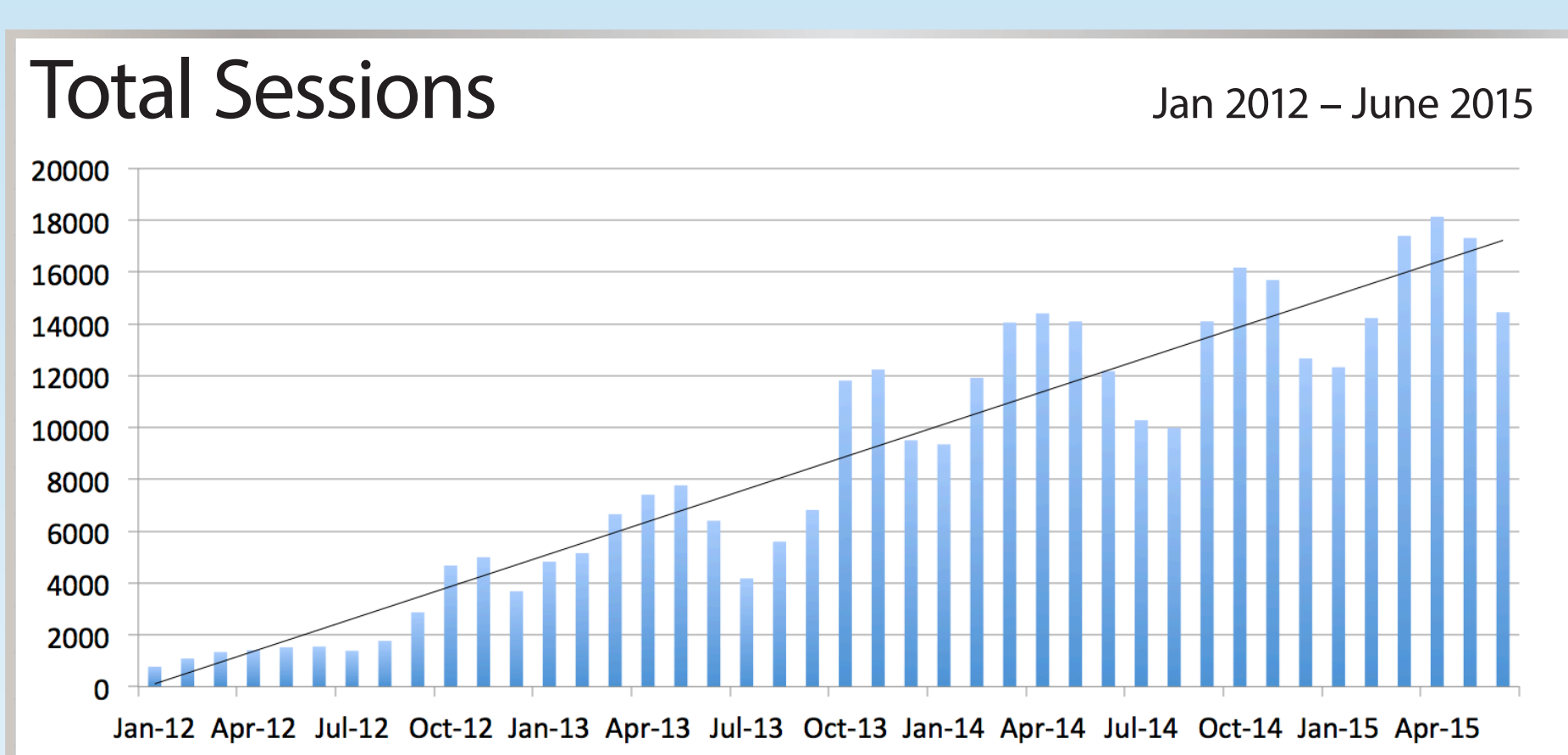
- interactive questionnaires to help the user make choices and tailor their learning environment
- resource customisation for academics and trainers
- self-guided tutorials with animations and videos
- glossary of specialist language
- virtual instruments familiarise users with microscopes
- competency tests ensure readiness for hands-on learning

virtual instrument



effectiveness & impact

The impact and effectiveness of MyScope has been growing since it was launched in November 2011.



28% increase in acquisition of appropriate knowledge with use of MyScope before hands-on learning

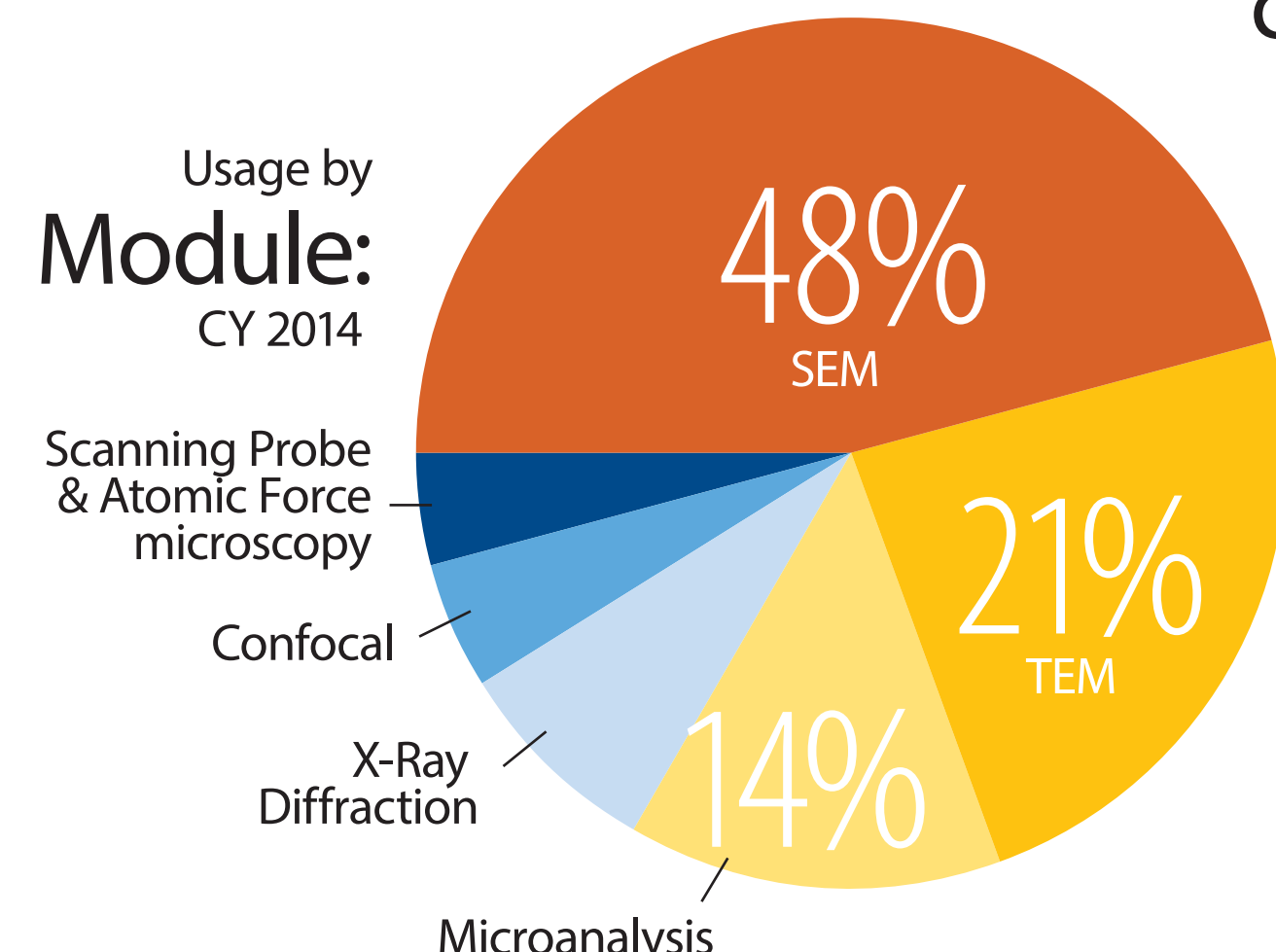
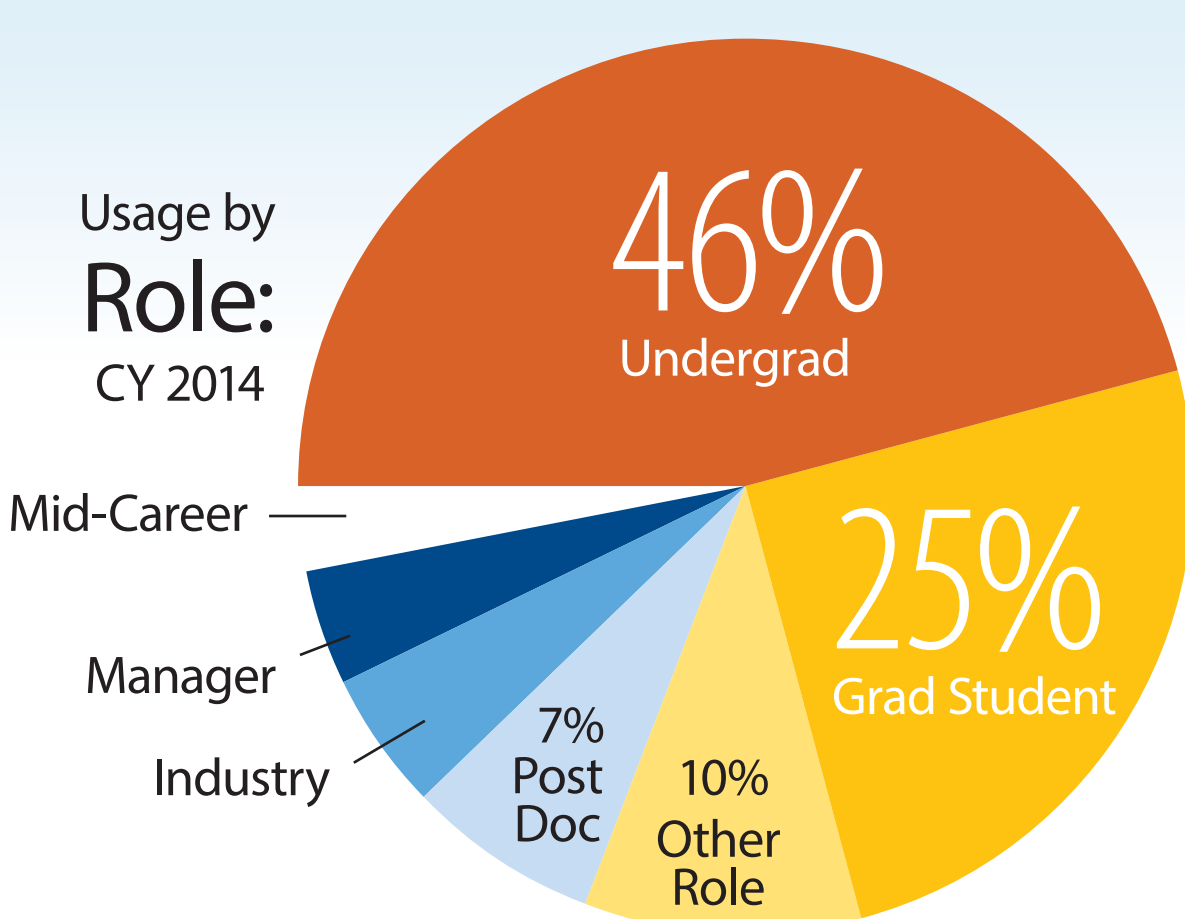
(Mann-Whitney test; $W = 225.0$; $P = 0.007$; $N = 20$ exposed vs. 19 non-exposed students)

66% of final year biomedical students felt MyScope was useful in assisting in-class research projects

A chi-square goodness-of-fit test demonstrated a significant difference from equal proportions: $X^2 = 5.59$; $P = 0.018$; $N = 58$.

Initial observations show:

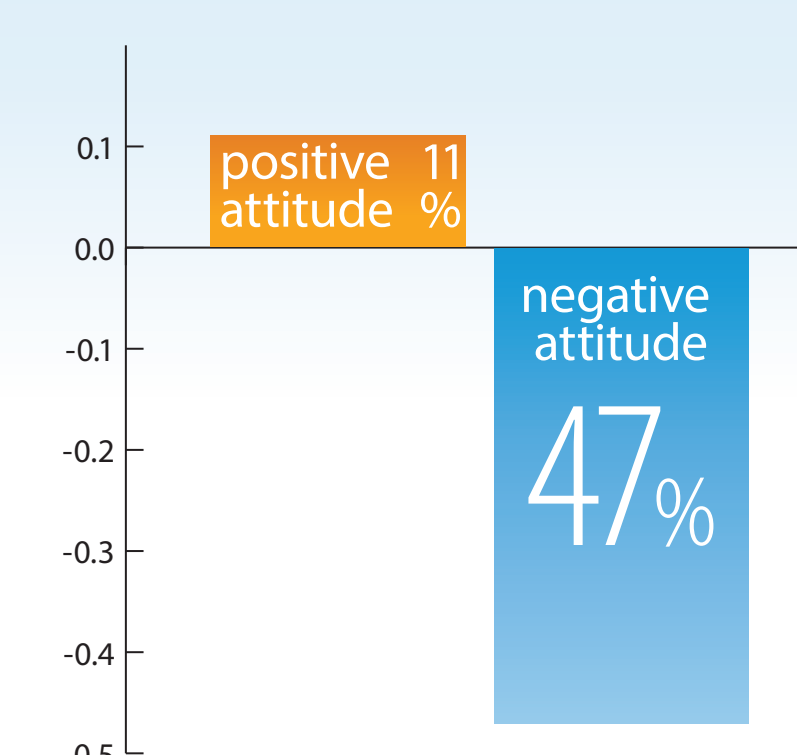
- on-instrument training reduced by one-third
- users building competency and confidence more quickly
- the balance between instrument availability for research versus new researcher training is improved



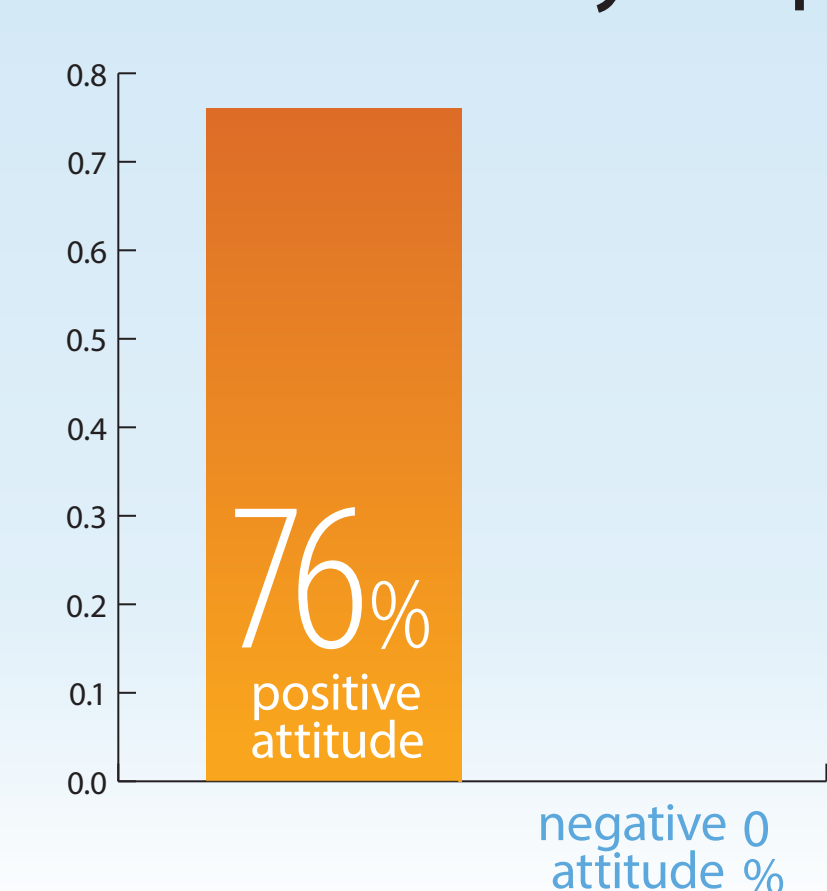
attitudes towards online learning

MyScope enhances positive attitudes towards online learning. It engenders positive attitudes towards online assessment and enhances knowledge.

students who have not used MyScope



students who have used MyScope



A five-point Likert-type scale assessment protocol was used to assess student attitudes. Data sets were significantly different: Mann-Whitney test; $W = 331.0$; $P = 0.003$; $N = 21$ and 20.

