

# NPL and Arden Photonics use phone camera technology for compact laser measurement device

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This is the BQM-50 laser measurement device. Credit: Arden Photonics

The Arden Photonics BQM-50 Beam Propagation Analyser Compact, based on a prototype developed by the National Physical Laboratory (NPL), offers customers a quicker and easier way of characterising laser beams to optimise their performance.

Lasers are widely used in many areas of science, industry and medicine, to cut and measure. Characterisation of [laser beams](#) is needed to ensure that they are accurate, safe and produce the right effect. As the need for more precise and cleaner cuts in medical and industrial applications increases, measuring laser beams to very high accuracy becomes more and more important as the power or energy of a laser needs to be focussed on to smaller targets.

Whilst products are already available for measuring laser beam quality, they can be slow, cumbersome and difficult to set up, making them impractical for increasingly compact laser equipment. Using commercially-available liquid lens technology developed for mobile phone cameras, NPL produced a much smaller and more manageable prototype, able to easily characterise laser beams without sacrificing accuracy. This new compact laser measurement device has been taken into production by Arden Photonics as the BQM-50. The device uses a low-profile, high pixel-density camera and is compact and light enough to be bolted onto equipment- removing the need to interrupt operation to measure the beam.

The BQM-50 is ideal for measuring lasers used in applications such as surveying, medical diagnosis, precision measurement, scanning and Laser Radar (LIDAR). It also is an important tool for laser safety classification, allowing retinal hazard to be assessed.

Simon Hall from NPL, who developed the prototype said: "Using commercially available technology allows us to dispense with the slow, bulky and expensive movement slides usually required to measure lasers. The BQM-50 can measure laser beams quickly and effectively- just as you can zoom in and out in milliseconds on your phone camera."

David Robinson, Managing Director of Arden Photonics said: "By partnering with NPL and taking the BQM-50 into production, we can

offer customers a more flexible and usable solution, at lower cost than other products on the market. This will have a huge implications for the measurement of beams used in a wide range of applications, from [laser eye surgery](#) to measuring car doors on a production line. "

The partnership between NPL and Arden Photonics is part of NPL Technology Applied - a co-branding scheme for instrumentation and software technology developed by NPL and incorporated into commercial products.

Provided by National Physical Laboratory

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