

PRESS INFORMATION

From TMD Technologies Limited

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TMD announces a ‘world’s first’ in portable cold atom technology

TMD Technologies Limited (TMD), world leading West London based manufacturer of equipment for the high-tech microwave and quantum technologies industries, has announced the gMOT, the world’s first portable grating magneto-optical trap for compact cold atom systems.



Left: TMD’s gMOT, the world’s first portable grating magneto-optical trap for compact atomic clocks, inertial sensors, magnetometers, RF field sensing and gravimeters.

Right: TMD staff on Strathclyde University’s stand at the recent Photonex Exhibition: Jamie Forrest Senior Programme Manager (L) and Dr Edward Boughton, Engineering Manager, Applied Science (R).

In partnership with...

Manufactured by TMD's Quantum Team in close working association with its academic and scientific partners the University of Strathclyde, University of Glasgow and Kelvin Nanotechnology Limited, the gMOT was built and tested at TMD's manufacturing and design facility in Hayes, West London.

Emphasising the importance of this quantum breakthrough, the gMOT was displayed by Strathclyde University on its stand at the recent Photonex Europe exhibition in Coventry, and will be on show on TMD's stand at the prestigious National Quantum Technologies Showcase in London in November.

Said Richard Patrick, TMD's Head of Business Development: "We started working with Strathclyde University some three years ago, on an accelerator account to design compact vacuum cells. This scientific aspect has now become increasingly relevant to compact cold atomic sensor and clock development, and as a result of its work in this important field TMD is now an active member of the National Quantum Technologies Programme." (see below).

Continued Dr Edward Boughton, TMD's Engineering Manager, Applied Science: "The gMOT project has been an exciting challenge for us. We are delighted at the successful outcome and applaud the work of our scientific partners. From TMD's point of view the key to this achievement has been the multi-disciplinary strengths that it possesses – including familiarity with uncommon elements, extensive experience of ultra-high vacuum design, and unbeatable skill at precision assembly of dissimilar materials."

Summing up, Richard Patrick said: "Atomic clocks, in particular, are an important facet of our everyday lives in this fast-expanding quantum world. Atomic clocks

developed in the Quantum 2.0 programme have the potential to provide a valuable alternative and back-up to GNSS (Global Navigation Satellite Systems) – used as either stand-alone timing solutions on a platform or as ‘hold-over’ clocks should the GNSS signal become unavailable, unreliable or degraded.”

UK National Quantum Technologies Programme

The UK National Quantum Technologies Programme is a government initiative involving investment in excess of £600m over 10 years and is aimed at accelerating the translation of quantum technologies into the marketplace. The programme supports investment in research, innovation, and technology demonstration to help UK industry commercialise these new technologies.

TMD Technologies Limited – the leaders in scientific and technical microwave and RF innovation celebrates its 75th Anniversary



TMD's headquarters design and manufacturing facility in West London UK.

With a heritage dating back to the 1940s, TMD Technologies Limited (TMD) is a world class designer and manufacturer of professional microwave and RF products.

At the company headquarters in Hayes, West London it produces specialised transmitters, amplifiers, microwave power modules (MPMs), high voltage power supplies, microwave tubes and transponders for radar, EW and communications applications. A previous twice Queen's Award winner, it also produces a range of advanced instrumentation microwave amplifiers for EMC testing, scientific and medical applications.

TMD Technologies, LLC, USA

TMD Technologies, LLC is the US subsidiary of TMD Technologies Limited. Based in Baltimore, Maryland, it provides complete technical and commercial support to TMD's customers in the USA and offers a comprehensive product repair centre.

The Sales and Business Development team is engaged with promoting the whole range of TMD's products, as well as identifying new business development opportunities in the United States.

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