

PRESS INFORMATION

National Quantum Technologies Showcase
QE II Conference Centre, London
November 15th 2019

22 October 2019

On Stand DS3 at the National Quantum Technologies

Showcase 2019:

‘TMD announces the world’s first portable grating magneto-optical trap for portable cold atom technology’

TMD Technologies Limited (TMD), world leading West London based manufacturer of equipment for the high-tech microwave industry, will once again be exhibiting at the upcoming National Quantum Technologies Showcase in London on the 15th of November 2019.

TMD’s participation in this landmark event highlights its on-going and substantial investment in the development of cutting-edge quantum-enabled technology under the UK National Quantum Technologies Programme (UK-NQTP).

A world’s first...

This investment has resulted in significant technological developments and in this, its 75th Anniversary Year, TMD has announced the gMOT, the world’s first portable grating magneto-optical trap for compact cold atom systems - shown very recently on the Strathclyde University stand at the Photonex Europe 2019 exhibition in Coventry.

Said Richard Patrick, TMD's Head of Business Development: " The gMOT was 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, and was assembled and tested at TMD's manufacturing and design facility in Hayes, West London.



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's Quantum Technology team

... and more to come!

As well as showing the gMOT at the Quantum Show in London in November, TMD will also be discussing other technology aspects of the Quantum Programme that its team is working on with additional partners including Chronos and the University of Bath.

TMD - in at the start

Involved from their inception, TMD has been a key player in the research, development and manufacture of compact frequency-stabilised lasers, hollow-core fibre-based atomic clocks, and compact magneto-optical traps (MOTs).

These technologies have wide reaching applications in both the defence and civilian markets and could either enhance current quantum sensing technologies, produce state-of-the-art portable atomic clocks, atomic clock components and future precision navigation and timing (PNT) systems, or create completely new capabilities altogether.

TMD on show

At the National Quantum Technologies Showcase 2019, TMD will be exhibiting:

- * Compact magneto optical traps – *key component for cold atom experimentation and sensor development (gMOT).*
- * Demonstration clock – *a live demonstration of the FEMTO-AAD facility.*
- * Rubidium and caesium filled hollow core fibres – *key components for the quantum fibre clock (FEMTO-2ND / QFC).*
- * Rubidium filled miniature cells – *key component for frequency-stabilised laser packages, which themselves form a key component of many systems.*

TMD and its academic and industry partners – a formidable combination in quantum technology

TMD is currently partnering with Kelvin Nanotechnology, the University of Strathclyde and the University of Glasgow to develop compact, portable magneto optical traps (gMOT).

The company is also working with the University of Bath and Chronos Technology under funding from the Defence Science and Technology Laboratory (Dstl) to develop rubidium and caesium hollow-core fibre based portable atomic clocks (*QFC*).

National Quantum Technologies Programme

The National Quantum Technologies Programme is a UK 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 to commercialise these new technologies.

TMD representatives in attendance at the National Quantum Technologies Showcase:

Richard Patrick, Head of Business Development

Dr Edward Boughton, Engineering Manager, Applied Science

Paul Osborn, Development Engineer, Applied Science

Jamie Forrest, Senior Programme Manager

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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