



News Release

For Immediate Release:

CPI TMD TECHNOLOGIES PROJECT AWARDED MORE THAN £4 MILLION TO DEVELOP COMPACT, HIGH-PRECISION INERTIAL GUIDANCE SYSTEM

HAYES, England – 31 August 2023 – A team of industry and research partners led by the TMD Technologies Division of Communications & Power Industries (CPI) has been awarded more than £4 million by Innovate UK’s SBRI Quantum-enabled positioning, navigation and timing systems competition, which issues contracts for pre-commercial procurement of innovative solutions, enabled by quantum technologies, to public sector challenges. Under this contract, CPI TMD Technologies and its partners will develop exceptionally high-precision quantum-enabled positioning, navigation and timing systems that can be used to identify an object’s exact position in time and space without the use of satellite signals.

This “quantum inertial sensor” will be based on CPI TMD Technologies’ existing quantum technology, including the compact grating magneto-optical trap (gMOT) subsystems and Calcium Ion Frequency Source (CIFS) clock, which provides unprecedented precision and accuracy in timekeeping. Unlike the global positioning system (GPS), which relies on the transmission and receipt of external signals, these quantum systems provide timing and positioning data through internal synchronization. This allows the systems to calculate accurate time and positioning data through dead reckoning, rather than by depending on satellite signals. As a result, the inertial guidance system is useful in locations and situations where satellite signals are impractical, such as underground transit systems, and for defence and military end uses.

“As a manufacturer of microwave technologies, CPI TMD Technologies has long focused on finding innovative solutions to challenging requirements in the defence, communications and industrial markets and putting them into production. For the past several years, we have turned that focus on helping move the promise of quantum technology from theoretical lab work to practical technology and products that can address real-world challenges. We are excited by the progress being made on cutting-edge quantum technology in conjunction with our business and university partners. The work that this team is

poised to do on compact, high-precision inertial guidance systems will help revolutionize the use and accuracy of positioning systems in situations where the use of satellite signals is not ideal,” said Dave Brown, president of CPI TMD Technologies Division.

CPI TMD Technologies’ partners on this project include Alter Technology UK Ltd., Chronos Technology Ltd., Covesion Ltd., Fraunhofer UK Research Ltd., Imperial College London, NLA International Ltd., RedWave Labs Ltd. and University of Strathclyde, Glasgow. CPI TMD Technologies’ work on this multi-year contract will be carried out at its facilities in Hayes, Middlesex, England.

About Communications & Power Industries

Communications & Power Industries (CPI) is a global manufacturer of electronic components and subsystems focused primarily on communications and defence markets. With a heritage of technological excellence that spans decades, CPI develops, manufactures, and globally distributes innovative and reliable technology solutions used in the generation, amplification, transmission, and reception of microwave signals for commercial and military applications. Learn more about CPI at www.cpii.com.

About CPI TMD Technologies Division

With a heritage dating back to the 1940s, CPI TMD Technologies 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. CPI TMD Technologies is also making ongoing and substantial investment in the development of quantum-enabled technology under the UK National Quantum Technologies Programme (UK-NQTP).

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