

innovators
engineers
technologists

Engineered technology, designed & built for defence & aerospace applications

Martech, part of the CodaOctopus Group of Companies, specialise in the design, development and manufacture of custom technology for challenging applications in defence and aerospace.

With over 20 years' experience in developing technology for cutting-edge research through to legacy system replacement, Martech's skills and expertise encompass electronic and mechanical system design, sonar, control & instrumentation, signal conditioning, and special test solutions.

With roots in UK defence research, Martech works with many leading defence primes and tier-1 suppliers on a diverse range of end applications including military air, sea & land, commercial marine & subsea and other similarly demanding industries. With in-house manufacturing capabilities, Martech are able to provide a complete turn-key service from concept through to prototype and beyond to production and long term support, and are viewed by many of our clients as a vital part of their technical resource.

Capabilities

- Σ Electronic systems design
- Σ Software, embedded firmware and FPGA
- Σ NI Lab-View and bespoke solutions
- Σ 3D CAD modelling & mechanical design
- Σ Electronic & mechanical system assembly
- Σ Cable assemblies & wiring looms
- Σ ISO 9001 accredited

Applications

- Σ Special test equipment for production line, field and trials testing
- Σ Obsolete technology replacements and reverse engineering
- Σ Military Vehicle Systems
- Σ Subsea and harsh environment
- Σ Control and Instrumentation
- Σ Sonar and signal processing

Defence Research • Naval Systems • Aerospace • Sonar & Acoustics • Military Vehicles

Project Examples

Military Vehicle Test Console

During manufacture of a military vehicle the prime contractor identified a need to undertake additional testing of sub-systems prior to final integration. Designed to be used in a production line environment, the test consoles allow all features of the vehicle cab to be exercised and the wiring validated prior to mating with the chassis. This includes all driver controls as well as more complex subsystems with CANbus.

Tracked Vehicle Suspension Controller

Used on a tracked military vehicle being manufactured for the UK Ministry of Defence, the controller allows remote selection of different suspension settings for different scenarios. As the vehicle is designed for use in war-zones the controller needs to be extremely rugged and tolerant to a wide range of failure modes including complete loss of one or more of the four suspension units under control, short circuit or high voltage applied to its inputs and outputs

Aerospace Sensor Production Line Testing

Used in the production of aircraft gas sensors the Martech developed test system automates and optimises complex test procedures reducing test time from five to three hours. Designed and developed to a detailed customer specification and to comply with exacting aerospace testing requirements, the special test equipment can test up to 6 units at once, in any combination, detecting failures as they occur and recording the results in spreadsheet format.

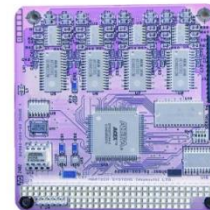
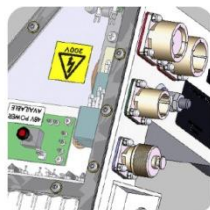
Ship's Telegraph

Currently in service on a UK Navy vessel, Martech developed a complete form, fit & function redesign of a legacy ship's telegraph used to send commands from the bridge to the engine room. Employing LEDs and digital technology to replace incandescent bulbs and switches, the unit is more reliable and offers greater capabilities. Whereas the original unit simply illuminated bulbs the new systems sends digital messages between units and incorporates self test modes as well as enhanced usability, but operates on the existing ships wiring.

Manufacturing

Whether for quantities of 1, 50 or 500, Martech is equipped to undertake the assembly and test of electronic and electro-mechanical systems, and deliver direct to end users on behalf of customers. Specialising in low volumes and prototypes, we are happy to build very low volumes, and manage all supply chain requirements for both electronic and mechanical components.

As part of the CodaOctopus Group, Martech also develops and manufactures products for our sister company, sold into the marine technology sector for geophysical survey, sub-sea construction and port security world-wide.



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