Manufacturing Success
Microwave and Microelectronics

Mission Systems provides manufacturing and through-life support services of highly complex electronic integrated systems, sub-systems and modules for high integrity applications.

We produce complex microwave and millimetre wave modules for avionics defence systems, missile seekers, decoy systems, phased array radar systems, satellite communications and commercial applications.

Delivery of the Typhoon DASS suite highlights more than 30 years of expertise in microwave and microelectronics manufacture.

With up to millimetre wave microwave technology capabilities, our continuous improvement approach provides real cost benefits to customers – from rapid prototyping to high volume production. Automated pick and place, wire bonding, laser processes, epoxy dispensing and automatic test facilities are examples of our commitment to investing in our capabilities.

We offer a complete solution from thin film substrate manufacture to microelectronic assembly and test. By overseeing the whole process, we can meet the highest standards required in the aerospace, space, defence and commercial markets. Our complete solution is enhanced by microwave packaging and environmental stress screening capabilities.

Our extensive thin film capability underpins our expertise in microelectronics. From initial machining to thin film processing, we can process various materials including Quartz, Alumina and RT Duroid.

We employ highly efficient processes such as high speed diamond dicing, laser machining and various metallisation and sputtering processing technologies. Our comprehensive range of schemes includes plated via’s and edge wraps.

We believe that the very best results came from working in partnership with our customers. Our industry-recognised design guidelines booklet reflects this philosophy, helping design engineers achieve best practice solutions.

As a leading supplier of thin film technology, we have delivered new capabilities in the space flight and emerging E-Scan radar arenas thanks to our continual process improvement programmes.

Our Capabilities
Thin-film substrate machining and metallisation

a dependable partner of choice for microwave and millimetre wave capabilities
Our Capabilities
Microwave and microelectronic assembly

BAE Systems was the first company in Europe to gain AS 9100 Aerospace, Space and Defence approval.

This combined with our ISO 9001 Quality Management System including TickIT for software design offers a comprehensive quality system solution for our customers.

In addition our ISO 14001 Environmental Management System and OHSAS 18001 Occupational Health & Safety Management System ensure a safe and healthy working environment for our employees.

Our Capabilities
Module build and test

We have an extensive heritage in delivering mission system electronics for major aerospace, avionics, land and naval programmes. This, combined with our competencies in electromechanical, fibre optics, printed electronic circuits (PEC’s), and environmental screening, provides a comprehensive capability in complex electronic assemblies and integration.

With proven RF capability in millimetre wave weapons guidance, avionics, radar, battlefield systems and communications. Our module and Line Replaceable Unit (LRU) manufacturing processes are comprehensive and robust. Our experienced engineers add real value to customer concepts, through Design for Manufacture (DFM) consultation and regular group workshops.

The success of our partnering approach is best demonstrated by the Brimstone programme. BAE Systems reduced the number of mechanical parts, increased production yields and delivered direct savings to our customer.

This extensive capability delivers real advantage to new programmes such as medical, automotive and security imaging applications.

“BAE Systems was instrumental during the DfM stage in realising multiple build process improvements which increase production efficiency and save the Brimstone programme over £3.5m”
MBDA - Brimstone Programme Manager

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Newly refurbished Clean Room (Oct-09)
Thin film substrate in detail
Automated epoxy dispensing, pick and place capability, fine wire and tape bonding process technologies deliver higher yield efficiencies. This is achieved by ensuring greater accuracy and repeatability when placing components and interconnecting microwave circuits.

Encompassing all aspects of substrate and component attachment, our 2000m² class, 10,000 (ISO-7) clean room facility enables us to deliver high volume, prime programmes.

Automated manufacturing processes, combined with our EIA and IPC trained technicians, deliver real benefits in varying economies of scale, from prototypes to high volume series production.

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Our Capabilities
Laser Welding and Environmental Stress Screening

Our complete microelectronics solution includes a comprehensive hermetic packaging and environmental stress screening capability. By understanding harsh and demanding environmental conditions, we offer hermetically sealed packages giving longevity to system performance.

A proven manufacturing environment for microwave design packages requires substantial support and infrastructure in test and environmental screening. Our customers benefit from our experience in delivering millimetre wave technology in high volumes, tested to the highest standards. Our extensive knowledge de-risks the customers' programme transition from design to manufacture.

Adding Value to your Business

Design
Our manufacturing arm has access to highly skilled design resources to undertake design and consultancy work packages.

Design for Manufacture
Using our industry-recognised design guidelines, we work with our customers at concept stages, helping achieve the most cost-effective design solutions. Our Design for Manufacture (DFM) methods and tools ensure a robust and repeatable product.

Prototyping
Our facilities and capabilities take your product from paper to reality. We offer valuable consultancy in preparation for production.

Through-life Support
We offer through-life support capability services for customers’ products - both in-house and in-field maintenance, spares, repairs and upgrades.

We pride ourselves on enhancing our customers’ performance