

## LASER TECHNOLOGY

### General Description

SELEX Galileo maintains a strong heritage in the development and production of laser systems for air, land and sea applications. The Company was selected in 2003 to design and manufacture the Laser Designator and Range Receiver (LDRR) for the F-35 Joint Strike Fighter (JSF) Electro-Optical Targeting System (EOTS) and maintains a philosophy of continuous product improvement which has led to selection in 2008 for the supply of both the Laser Transceiver for the Arrowhead MTADS upgrade programme and the laser for the Advanced Litening Laser Designator (ALLD) for the Northrop Grumman Litening G4 pod.

SELEX Galileo has designed, developed and manufactured military laser designator, rangefinder and receiver systems for more than 40 years and continues to invest in developing the technologies, designs, facilities, processes and skill necessary to remain at the forefront of military laser supply.

The Company's portfolio of advanced laser products is designed to meet the requirements of high performance targeting systems, helicopter and Unmanned Aerial Vehicle (UAV) payloads and InfraRed (IR) countermeasures.

### Proven Product

SELEX Galileo was selected by Lockheed Martin Missile Fire and Control for a High Energy LRFD, as part of Lockheed Martin's ATP program for the US Air Force's F-15 and other fixed wing attack aircraft. SELEX Galileo is the world leader in the design and manufacture of High Energy LRFD systems, which are built at its Laser Centre of Excellence in Edinburgh, Scotland.

A High Energy LRFD (Laser Range Finder Designator) has been developed for Lockheed Martin Missile Fire & Control and the JSF team, and is designed to form an integral sub-system within the Electro Optical Targeting System of the F-35 Joint Strike Fighter. The first laser was designed, manufactured and delivered to schedule in February 2005. SELEX Galileo has commenced the low rate initial production I & II (LRIP) with the first production standard system delivery in January 2009. Over the next 15 years, SELEX Galileo will supply the JSF and Lockheed Martin team with more than more than 3000 LRFDs in support of the program.

### Advantages

SELEX Galileo has pioneered the use of solid state lasers into the military laser market in the late 70's and has worked with diode pumped solid state lasers for over 12 years. The use of this technology to deliver enhanced performance over flash-lamp based systems resulting in lower cost of ownership.

As suppliers of full military systems, the Company's experience in detailed design of complex systems enabling it to integrate the laser and associated sensing systems in the optimum configuration.

### Product Features

- Compact and lightweight laser transmitter/ receiver modules
- Diode-pumped laser technology - high efficiency and minimal cooling for a given output energy
- Single-band or dual-band (switchable) for tactical/ eye-safe operations

- Good beam quality - low divergence and highly uniform beam profile
- High Mean Time Before Failure (MTBF) resulting in low maintenance costs
- Modular design for simple re-configuration, packaging and acquisition costs

### **Laser Centre of Excellence**

Opened in May 2004, the laser centre of excellence has been designed based on extensive research into manufacturing best practice within the defence and commercial sectors.

The Centre is certified to ISO Class 8, and covers an area in excess of 2000 square metres. Using specialised laminar flow optical workstations, this standard can be raised to the ultra-clean ISO Class 5. Modular construction techniques have been utilised to provide flexible manufacturing space and to allow for future growth.

### **Current Contracts:-**

- To supply of High Energy LRFD to Lockheed Martin on the Sniper Targeting Pod and the Joint Strike Fighter (JSF) Electro Optical Targeting System (EOTS)
- For the supply of the LRFD for the Northrop Grumman Advanced Litening Laser Designator
- To supply future LRFD Lasers to the M-TADS system for Boeing's Apache Helicopter.
- Suppliers of Laser Spot Trackers for Raytheon's ATFLIR Targeting Pod.

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