

# North Bristol's Military-Industrial Complex

**Babcock International Group plc** is a British multinational corporation which specialises in Marine Technology, Defence & Security and nuclear facilities. It has a **Marine Facility in Bristol** with a dedicated equipment management operations centre. It controls the Navy's nuclear facilities at Rosyth shipyard and Faslane nuclear submarine base and operates Devonport Dockyard. It has £millions worth of contracts with the MOD to support and maintain warships, submarines and naval bases. It is responsible for 100% submarine refits; 75% surface fleet refits, and 50% fleet maintenance work. Babcock won a £15 million contract to design part of the in-service support for new successor nuclear submarines. The first submarine is due to be delivered in 2028.

Babcock have three locations in Bristol: Bristol business Park, Ashton Vale and Keynsham

**QinetiQ** Building 240 , The Close , Bristol Business Park , is a British multinational defence technology company headquartered in Farnborough, Hampshire. It was part of the former UK government agency, Defence Evaluation and Research Agency (DERA) which was privatised in June 2001. Qinetiq has a 25-year Long Term partnering Agreement with the MoD to **provide test and evaluation services and manage military ranges** and is a major stakeholder in the **UK Defence Technology Centre**, Shrivenham, which places military research contracts on behalf of the MoD. Qinetiq has a 15-year **Maritime Strategic Facilities Agreement** with the MoD to provide strategic maritime facilities and capabilities, including hydromechanic facilities at Haslar, biomedical facilities on the UK's South Coast, and submarine structures, survivability and shock testing facilities at Rosyth.

Qinetiq has recently built a new **laser test facility 'Dragonworks'** in Farnborough to test the UK's directed energy weapons.

**Miro Technologies Inc. (Boeing subsidiary of Tapestry Solutions)** 330 The Crescent, Bristol Business Park is a leading provider of advanced software solutions for aftermarket defence logistics. Miro has a multi-year contract award from **Boeing Defence UK Ltd. (BDUK)** for the replacement of the **Base Inventory Management System for the UK Ministry of Defence Air environment**. Miro also serves as subcontractor to BDUK in the fulfilment of the **Future Logistics Information Services** delivery partner contract recently awarded to BDUK by the MOD.

Miro's technology has been deployed in combat by the UK Ministry of Defence in both **Iraq and Afghanistan** over the last decade.

**Leonardo S.p.A**, formerly Finmeccania is an Italian global high-tech company and one of the key players in aerospace, defence and security.

Leonardo Security Operations Centre, 430 Bristol Business Park, is the headquarters for **Security and Information Systems** division in the UK, with its staff of 150 mainly focused on cyber security, with a small population of Simulation & Training specialists.

**SEA**, Building 450, Bristol Business Park (owned by Thales Alenia Space since 2014) has been awarded a further order by BAE Systems to provide its **External Communications System** for the second stage of the common External Communications System (cECS), for the Royal Navy. SEA is already committed to providing the External Communications System (ECS) for **five new build Astute-class submarines**.

**Raytheon UK** is a subsidiary of Raytheon Company. They are a prime contractor and major supplier to the UK Ministry of Defence including mission systems integration in defence and national

and cyber security Their UK's weapons mission capability encompasses two key areas: Complex Weapons Systems, based in Harlow in South East England and Weapons Sub Systems, based in Glenrothes, Scotland. They supply weapons such as the Paveway bomb, Paveway IV bomb and Phalanx close-in missile defense system., also subsystems for Raytheon programmes such as the Tomahawk missile, Excalibur projectile, Javelin weapon system, Paveway bomb, TOW missile, RAM guided missile system and AMRAAM missile.

**Paveway Guided bombs currently used Yemen, Syria and Iraq. Past use: Afghanistan, Iraq and Libya**

**Bristol office is Argentum House 510 Bristol Business Park,**

**Thales** is a leading international electronics and systems group, addressing defence, aerospace and security markets worldwide.

Cambrai House accommodates several **Thales UK-led land systems** project teams, including some of the **Future Rapid Effect System (FRES) System of Systems Integrator (SOSI)** team (a joint undertaking with partner Boeing Defence UK) supporting the wider FRES IPT based at MoD Abbey Wood, and the **Future Integrated Soldier Technology (FIST)**

**Thales Naval**, Building 550, Bristol Business Park. About 60 people work on above water systems, the **Future Aircraft Carrier project** and other major programmes.

**Thales Alenia Space**, 660 Bristol Business Park, is a joint venture between Thales 67% and Leonardo 33%. They design, operate and deliver satellite-based systems (including for the military).

**Boeing Defence UK**, 630 Bristol Business Park, is a subsidiary of Boeing US, the world's largest aerospace company and leading manufacturer of commercial jetliners, defense, space and security systems. **Bristol University** partners with Boeing on a number of engineering programs which focus on aerospace, civil and mechanical developments, including unmanned aerial vehicles.

**Lockheed Martin Corporation** is an American global aerospace, defense, security and advanced technologies company. Lockheed Martin's facilities in Bristol form part of the company's **Space Systems** business and play an essential role in ensuring the operational readiness of the United Kingdom's **strategic nuclear deterrent** at Her Majesty's Naval Base, Faslane. In delivering this capability, the team in Bristol works closely with colleagues on the Clyde, Scotland, as well as Plymouth, Devon and draws upon a long track record of providing **engineering maintenance and support for the Royal Navy's Vanguard class submarines and their weapon systems.**

**Bristol Robotics Laboratory**, established in 2004, is the largest academic centre for multi-disciplinary robotics research in the UK and is the result of a collaboration between the University of Bristol and the University of the West of England, Robotics research and the development of intelligent autonomous systems, such as unmanned aircraft, are vital to many major UK industries including oil and gas exploration, nuclear energy, railways, road transport, healthcare and defence. Their partners are BAE Systems, Schlumberger, National Nuclear Laboratory, Sellafield Ltd, Network Rail, SCISYS, Defence Science and Technology Laboratory and the UK Space Agency.

**Hewlett Packard** Long Down Ave, Stoke Gifford, Bristol has supplied solutions and systems to the MOD for the last 40 years. Many of their personnel are ex-military, or have worked on military bases throughout the UK and some are deployed on operations in direct support of the Armed Forces. In addition to providing the technology, essential to the preparation and deployment of frontline troops, HPE works side by side with our Armed Forces to devise and establish new IT services.

They provide computer technology to Israeli Army and check points

**LSC Group**, Fox Den Road , Stoke Gifford , Bristol , form part of the **Attack Helicopter** Integrated Logistic Support Team (ILST) based at MoD Abbey Wood near Bristol.

**British Apaches used in Afghanistan, Iraq, Libya and now by the Saudis in Yemen**

**Ascent Flight Training** is a Bristol-based **military aircraft training systems developer** for the UK Ministry of Defence (MoD). The company, a 50/50 joint venture between **Babcock** and **Lockheed Martin**, is responsible for delivering the **UK Military Flying Training System (UKMFTS)** through to 2033, in partnership with the MoD. In 2016 they received an additional £1.1 billion investment from MoD. They train Saudi pilots.

**MOD Abbey Wood** is a purpose-built site that houses the Ministry of Defence Defence Equipment and Support procurement organisation. The building project involved over 130,000 m<sup>2</sup> of buildings including offices, restaurants, library, sports facilities, training rooms, auditoria and conferences rooms, support facilities and a crèche together with landscaping and external works on a 98-acre (400,000 m<sup>2</sup>) site. The facility was opened in 1996. Abbey Wood is the largest MoD site in the UK. Managed by US companies – Bechtel (navy and RAF) and CH2M Hill (army and joint command)

**Defence Equipment and Support** (DE&S) a 'bespoke trading entity', Manages a vast range of complex projects to buy and support all the equipment and services that the Royal Navy, British Army and Royal Air Force need to operate effectively. They work closely with industry, including through partnering agreements and private finance initiatives

**Airbus Group SE** is a European multinational aerospace and defence corporation. The Filton site is located on the former **Bristol Aeroplane Company**. The site is responsible for the design of the **wing structure, fuel systems and landing gear integration**. Some manufacturing also takes place in Filton, including the **wing assembly for the A400M. Aerodynamics work, research and testing is also carried out.**

**GKN** Golf Course Lane Now taken over by Melrose 'asset stripper' in hostile bid. GKN specialises in electron beam welding. Contracts include Lockheed Martin **F-35 Lightning II** - Aircraft Structural Components: Precision machined titanium structures for aft & tail sections (for BAE) and Airbus **A400M Outer wing box flaps.**

**MBDA** Golf Course lane - Systems and Software Departments

**Merger of guided missile division of Airbus, Leonardo and BAE Systems (2001)**

April 2017: MOD contract for £539 million for state-of-the-art **Meteor, Common Anti-air Modular Missile (CAMM)** and **Sea Viper** missile systems. Stevenage, Henlow, Bristol and Bolton. (for Queen Elizabeth aircraft carrier)

2016 - Contract worth over £400M with MBDA for the Weapon Development Phase of the **SPEAR** air to surface, precision strike missile. Stevenage, Bristol and Lostock.

**Brimstone Missile – Current use Iraq, Syria and Yemen. Past use: Afghanistan, Iraq and Libya**

**Storm Shadow - Current use Iraq, Syria and Yemen. Past use: Afghanistan, Iraq and Libya**

**Sea Ceptor** (2012) MBDA Filton awarded a £483m Ministry of Defence contract to work on the new Sea Ceptor Royal Navy defence system. Filton facility and its production bases in Stevenage, Herts, and Loughton.

Head of **Dragonfire Consortium** developing UK's first Laser Directed Energy Weapons (LDEWs), Design stage in Bristol. Part of **Team Tempest** – new combat aircraft: Missiles to include LDEWs and hypersonic missiles.

## **GCS Vehicles & Defence Information Training & Services (BAE)**

New Filton House Golf Course Lane. **Global Combat Systems Vehicles** produces and supports main battle tanks, infantry fighting vehicles, armoured engineer vehicles, armoured all-terrain vehicles and military bridging vehicles. Examples include the **Challenger 2 main battle tank** and the **CV90 infantry fighting vehicle** family.

**Challenger** – past use **Iraq** with depleted uranium munitions

**BAE Systems** 20 New Filton House, Golf Course Lane, is a British multinational defence security and aerospace company. It is involved in many major defence projects, including:

**Air:** the **Lockheed Martin F-35 Lightning II**, the **Eurofighter Typhoon**, **Tornado fighter-bomber**, **Hawk aircraft**. **Team Tempest** - advanced combat air systems and integration Unmanned potential.

**Naval:** The **Astute-class submarine** and the **Queen Elizabeth-class aircraft carriers**; **Type 45 air defence destroyer** and **T 26 Global Combat ship** plus design for Australian navy under **SEA 5000** (future frigate program); Lead partner in the **Successor program** to replace Vanguard nuclear deterrent submarines, and **Archerfish Mine Neutralisation System**

**Land:** BAE Systems Land and Armaments manufactures the **M2/M3 Bradley fighting vehicle** family, the **US Navy Advanced Gun System (AGS)**, **M113 armoured personnel carrier (APC)**, **M109 Paladin**, **M777 howitzer**, the British Army's **Challenger II**, **Warrior Tracked Armoured Vehicle**, **Panther Command and Liaison Vehicle**, and the **SA80** BAE Systems is the predominant supplier to the UK Ministry of Defence (MoD).

**Typhoon and Tornado** currently used in **Iraq, Syria and Yemen (Saudi Arabia)**

**Past use: Iraq, Afghanistan and Libya**

**Rolls Royce** (Gypsy Patch Lane, Bristol) is the second largest provider of defence aero engines in the world. It is also well established in the marine sector - designing vessels and integrating power systems. Rolls Royce has a growing presence in civil nuclear power and over 50 years of powering nuclear submarines. It currently has a £200m contract for the **Successor submarine's power plant**.

**Bristol contracts:** £79bn contract (December 2015) to support and maintain the 'Adour' engines that power the **Hawk aircraft**. The testing and repairs of the engines will take place at RAF Valley and in Filton, Bristol, providing 40 jobs across both sites; **C-130 Hercules transport aircraft** - work on the AE 2100 engines to be carried out by Rolls-Royce in Bristol, Brize Norton and Indianapolis; Contract to supply MT30 gas turbines for the first three Royal Navy **Type 26 Global Combat Ships**; Maintains, repairs and overhauls the TP400 engine, which powers the **Airbus A400M** military transport plane; **Typhoon** EJ200 engine assembled at the Rolls-Royce facility in Bristol; **Tornado:** £690 million contract to support RB199 engines for Tornado; Working on a new power Liftsystem for the **F-35** to enable short take-off and vertical landing operations. Rolls Royce recently opened the LiftWorks facility in Bristol. The site will support more than 100 jobs in the area.

**Team Tempest:** advanced power and propulsion systems.