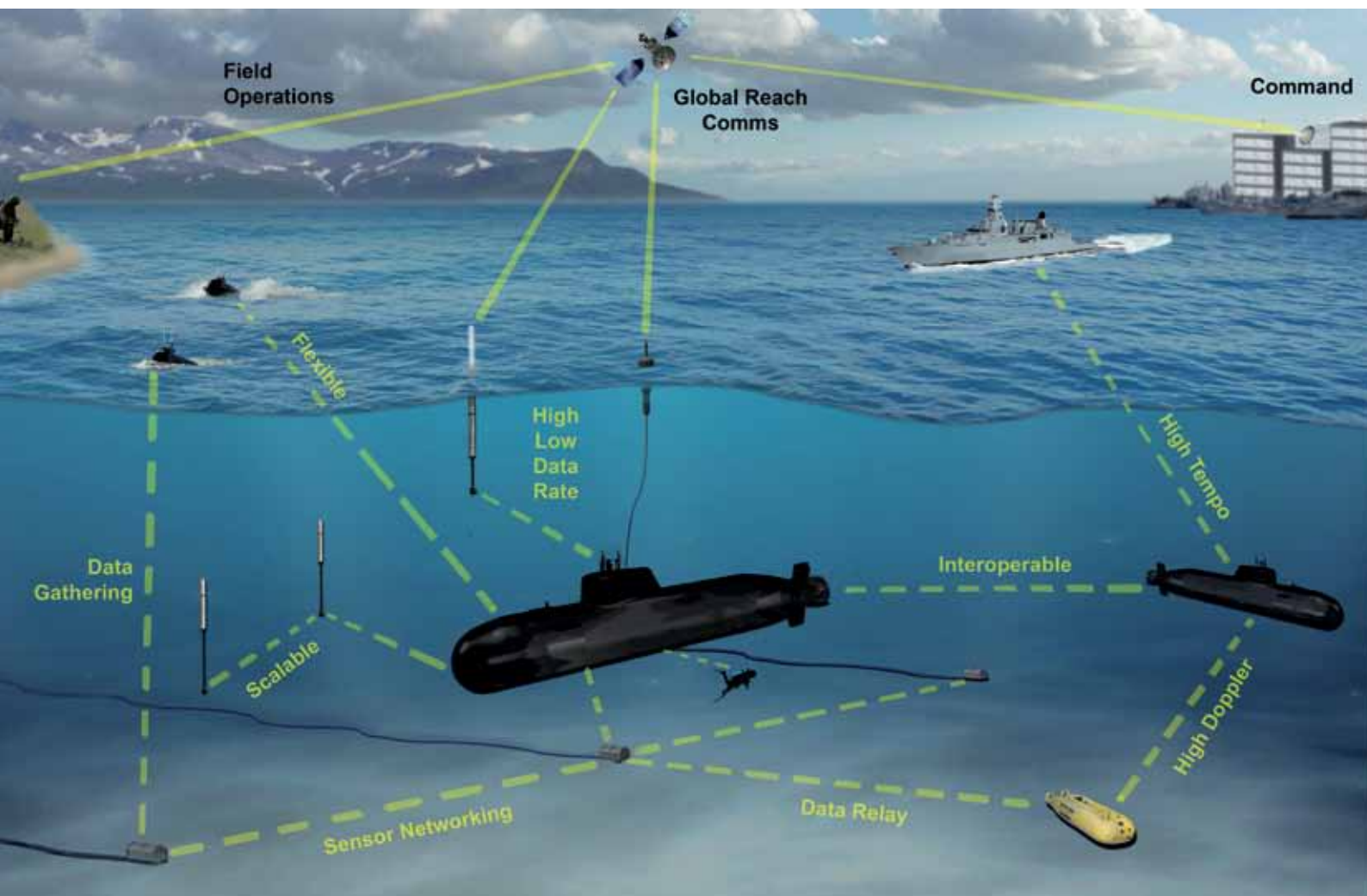


Enabling Underwater Networking



- Modular and configurable payload solutions
- Suitable for manned, unmanned, moving and static platforms
- Robust underwater acoustic communications (ACOMms) providing data, video, text and voice
- Gateway Buoy solutions to link underwater and above water battlespace
- Tethered and reelable solutions for communications at speed and depth
- Recoverable high data rate solutions

Providing robust, stealthy inter-platform communications network solutions

Historically the underwater battlespace has remained isolated from above water, to preserve the stealth advantage that operations within it provide.

The vision of enabling the underwater environment with information networks has remained just that, a vision. Until now.

Atlas Elektronik UK offer a full range of products and services to make this

vision a reality – whether providing a submarine platform with on demand communications, or providing connectivity to a suite of data gathering nodes.

Combining its expertise in both technology and the underwater environment allows Atlas Elektronik UK to provide you with the tools that will make best use of both your underwater and above water assets.

Underwater AComms and Gateway Buoys

Robust and reliable – the enabler of the underwater network vision

- Low and high data rates – from commands and status to real time colour video transmission
- Deep water and inshore
- Long range
- Underwater positioning
- Configurable payloads – your data, your protocols, your networks
- Modular design – supports integration of additional sensors
- Solutions for the full range of underwater inhabitants – manned, unmanned, static and mobile
- Gateway Buoys – bi-directional above water and underwater link
- 100mm diameter submarine launched Gateway Buoys – low cost global communications to submerged assets



Robust, reliable remote communications are critical to successful underwater networking. Supported by decades of research into acoustic propagation underwater, Atlas Elektronik UK have successfully developed the solution.

Coupling wideband signal designs and receiver processing with sonar expertise Atlas Elektronik UK have demonstrated:

- Extremely robust low data rate long range communications
- Real time video telemetry

Latest developments include that of a 100mm diameter Gateway Buoy, intended for launch from a submarine's Submerged Signal Ejector (SSE). Designed to house a range of communications payloads the Gateway Buoy not only offers low cost global communications to a submarine platform, but can also be exploited for ad-hoc submarine and emergency communications. In addition, its modular re-useable design lends itself to configuration for remote data gathering.

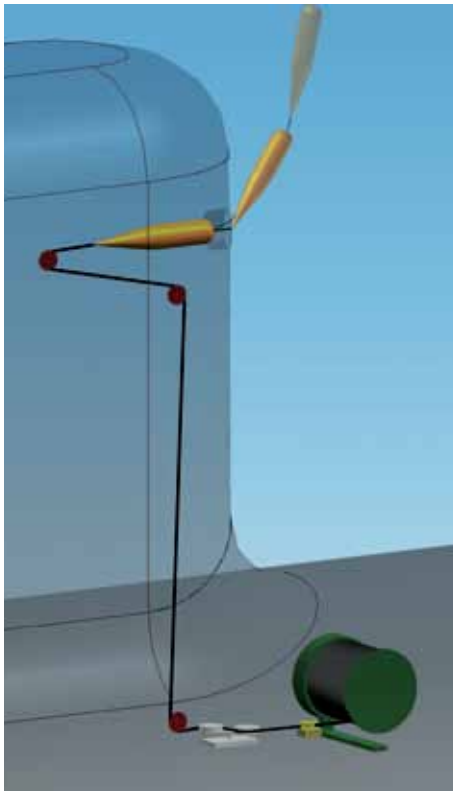
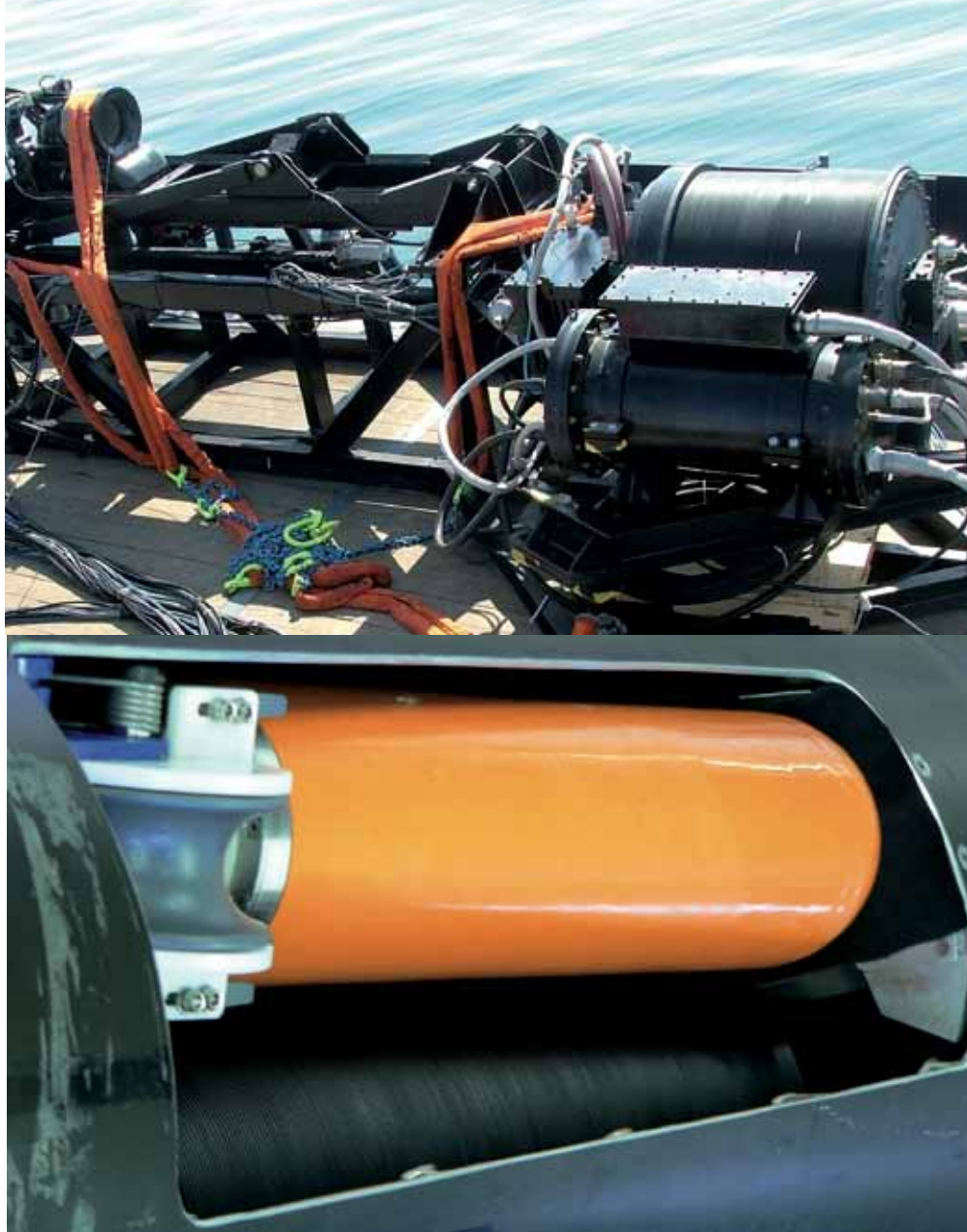
Inherent to the AComms technique is also the provision of accurate ranging and position fixing, enabling precise relative manoeuvres between enabled platforms.

With a proven track record, established techniques and dedicated products Atlas Elektronik UK can enable your underwater networking vision.

Reelable and Recoverable Tethered Systems

Providing on demand communications without compromising operations

- Covert low tension deployment
- Precise electric drive control systems
- High speed recovery, 6m/s line speeds
- Towed and tethered buoy solutions
- Miniaturised handling systems: integration into unmanned vehicles and seabed platforms
- Hydrodynamic and tether modelling, design, and manufacturing
- Modular buoy designs for integration of a range of communications payloads



Tethered and towed communications buoys remain the primary tool in providing on demand communications to submarine platforms. Based on decades of experience Atlas Elektronik UK have demonstrated the next generation technology necessary for the future underwater battlespace.

Atlas Elektronik UK provide successful reliable systems by adopting a whole system view of the development, enabled by our world leading expertise in:

- Cable design and manufacture
- Precise electric drive control systems
- Payload dynamics
- Concept of operations

A range of extremely low tension cable deployment and high speed recovery methods provides systems with unparalleled surface stability and the host submarine with stealthy connectivity during operations.

Developing the technology further has led to systems for static platforms, and miniaturised systems for use with unmanned vehicles.

All designs support the integration of your own preferred communications bearer, ensuring that you maintain control of your networks.

With a core set of technology and expertise Atlas Elektronik UK will have the solution to enabling your underwater network and integrating it with the above water space.

About Atlas Elektronik UK

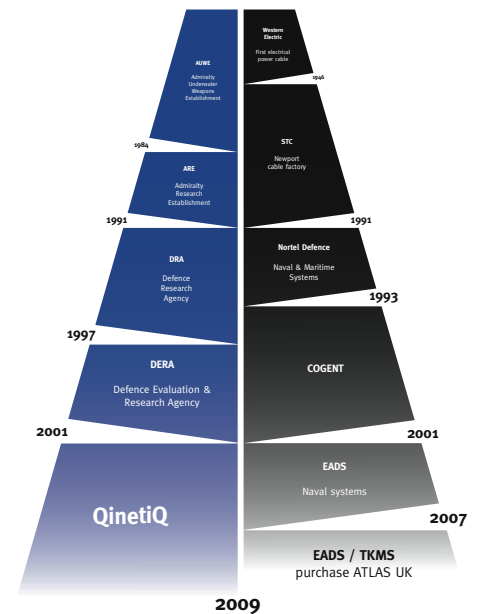
Systems for a sound future

- Unparalleled heritage in underwater technology
- Member of ATLAS Group of companies
- Providing customers with a distinct technology advantage enabled by our integrity, capacity for innovation, and domain expertise

Atlas Elektronik UK has offices in two main locations – Newport in South Wales, and Winfrith on the South coast of England.

The Newport business was developed out of the Naval Systems Division of EADS Defence and Security Systems, formerly part of Standard Telephone and Cables, while has a naval equipment history extending back well over 100 years.

The Winfrith business (formerly QinetiQ Underwater Systems) has been at the forefront of UK naval scientific research and development for over sixty years both as the Admiralty Underwater Weapons Establishment (AUWE) Portland and then as a significant part of the Defence Evaluation & Research Agency (DERA) until its privatisation as QinetiQ in 2001. The breadth and depth of expertise at these sites underpins Atlas Elektronik UK's world class capability and unique range of skills, expertise and facilities.



ATLAS Elektronik GmbH, the parent company of Atlas Elektronik UK, is a dynamic global defence group and a world leader in the provision of naval combat systems, maritime services and equipment.

The complimentary heritage, expertise and technologies of the ATLAS companies provide customers with sound options – be they already proven in the global market, or based on the cutting edge technologies under development on our research programmes.



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