



Dynamics in Control

With decades of experience in delivering marine solutions and services to national procurement agencies, shipbuilders and systems integrators – Stirling Dynamics has the knowledge, skills, and capability to help solve our customer's most complex underwater problems.

From early concept, to first of class and batch development; Stirling has built an enviable reputation in submarine autopilots within platform management systems (PMS). Our advanced steering, diving, and hover solutions are active across a diverse range of platforms from diesel-electric patrol to the nuclear-powered fleet submarines for the Royal Navy.

Our advanced modeling and simulation capability allows us to evolve our understanding of naval architecture into synthetic vessel and environment models that underpin our safety assured software control solutions. Once deployed, Stirling Dynamics provides a full range of support services, including system commissioning, at-sea trials support and post-trial performance tuning.

Innovation drives our solutions; Stirling Dynamics is actively collaborating with our partners to explore the future marine environment to further augment existing systems and systems of greater autonomy.

Naval Architecture

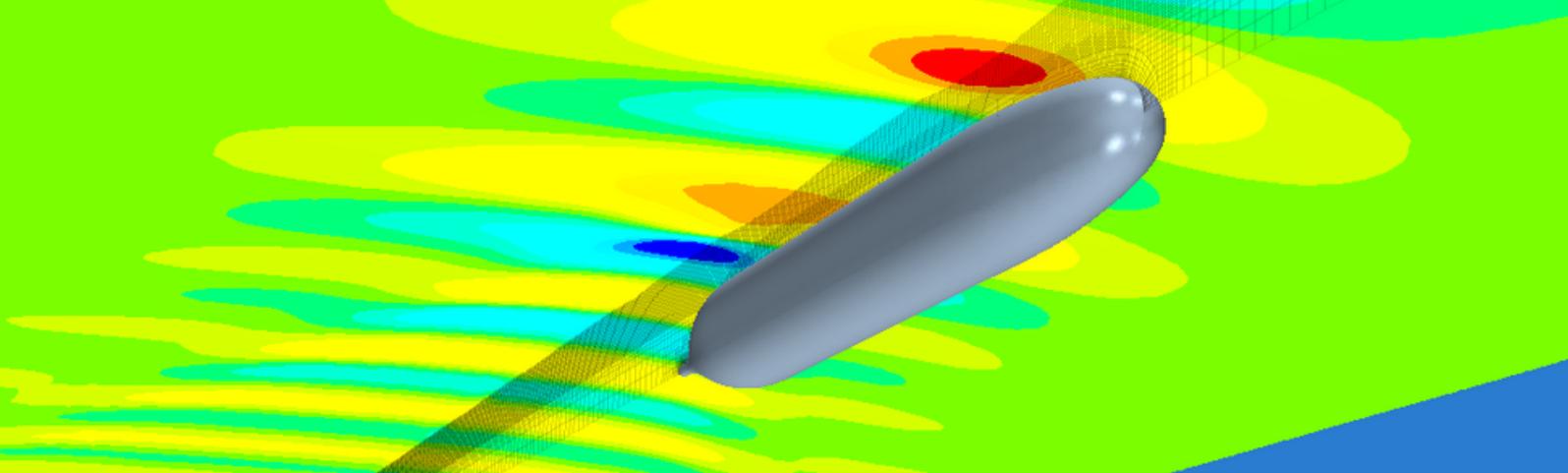
Our submarine naval architecture expertise is highly sought after with regard to hydrodynamic, hydrostatic, floatation, and stability analysis. We can assist in the pre-design analysis and performance assessment of underwater bodies, through to the development of control systems, operator advice, and training.

Platforms

- Royal Navy SSN Class - Autopilot
- Trafalgar Class - Slow Speed Control
- Swiftsure Class - Slow Speed Control
- U209 - Autopilot
- U212A - Autopilot
- U214 - Autopilot
- Dolphin AIP - Autopilot
- Jangbogo III - Concept Studies

Capabilities

- Initial feasibility and concept studies of marine platforms and submerged bodies
- Functional, performance and safety requirements capture of marine systems
- Hydrodynamic, hydrostatic, floatation and stability analysis (surface and submerged)
- Vessel dynamics and environmental modeling and simulation
- Model-based algorithm solution development of marine control systems
- Development of real-time safety-critical software to EN61508 and Do-178B/C
- System integration and commissioning, including sea trials support and algorithm tuning at sea



Submarine Autopilot and Control

The stability, control and safety of the most recent Royal Navy submarine during steering, diving and hover operations have been Stirling Dynamics' responsibility since the first of class and continue to this day. In delivering EN61508 compliant systems, Stirling Dynamics has demonstrated its capability to offer high-integrity and safe systems to the marine market.

Legacy System Evolution

Adept at assessing platform performance of legacy systems to offer replacement solutions during mid-life upgrades or as part of technology insertion and obsolescence programmes.

Stirling Dynamics offers on-platform data capture of key dynamic characteristics, shore-based data analysis and synthetic replication of the legacy system. This permits the establishment of a performance baseline prior to Stirling Dynamics offering a system evolution solution.

Support to In-Service and Training

We support our customers in maintaining and enhancing our products; offering our analytical services at any stage of the equipment life and supporting the operators in getting the best performance from our (and others) equipment.

Our synthetic dynamic simulators of the plant and environment are used in several reference platforms and training systems – bringing a real-time response to a real-time command. In addition, our training solutions can simulate supporting electrical, mechanical, hydraulic and communication protocols.

Evolving with Change

We support our customers through an ever-changing naval landscape. From the workplace to the battlespace, our mission drives us to continually develop our capabilities; striving to be at the forefront of technologies that supports our customers and the challenges that they face.



Operators Worldwide

- Royal Navy
- Portuguese Navy
- German Navy
- Hellenic Navy
- Turkish Navy
- Israeli Navy
- Indian Navy
- South Korean Navy

Specialisms

- Submarine control systems design
- Modeling of surface and submerged bodies
- Boat modeling and reverse engineering

Head Office

Stirling Dynamics,
230 Bristol Business Park,
Stoke Gifford,
Bristol, UK
BS16 1FJ
Tel: +44 (0) 117 915 2500
Email: enquiries@stirling-dynamics.com
Web: stirling-dynamics.com