



Imagine the Impact

We deliver product design and engineering consulting solutions that drive innovation and provide measurable results. From developing advanced products and technologies to accelerating time to market, we create breakthrough solutions by combining focused creativity and experienced insight.

Boston Engineering has the expertise to lead the entire development process — from product ideation to supply chain development. And we can jumpstart a project in any development phase. We also look beyond specific product requirements to anticipate market needs. This includes implementing new features for business-level initiatives such as the Internet of Things (IoT), big data, and e-healthcare.

We take pride in improving the way that people work and live by advancing healthcare and scientific discovery while increasing safety and market innovation.

Technologies & Expertise

Boston Engineering's specializations include:

- **System-level Engineering:** Integrate hardware and software for maximum product performance. And our collaborative design process accelerates and enhances the final product.
- **Robotics:** Accelerate innovation in unmanned systems (land and marine) and special tactical equipment.
- **Embedded Electronics:** Leverage electro-mechanical hardware and software to establish real-time monitoring and control of devices and processes. The result is new levels of product performance and reliability.
- **Motion Control:** Deliver flexibility and precision for custom motion-control engineering applications through our products and services.
- **Product Design for Manufacturing & Assembly:** Address manufacturability throughout our process to create products within specified cost, performance, and production volume requirements.
- **Supplier Development:** Apply our supply chain experience and global manufacturing network to optimize the production phase.

Our Four-phase Innovation Process

By approaching projects holistically, we ensure that each phase aligns closely with product goals. And we eliminate emerging project concerns before they become costly, time-consuming problems:

1. **Research & Specification:** Define the product's functionality, look and feel, and manufacturability — including parts, materials, and potential suppliers.
2. **Technical Feasibility & Concept Design:** "Stress test" assumptions early during the product life cycle to separate strong ideas from also-rans. Conduct in-depth risk assessments.
3. **Engineering Design Development:** Apply analytical rigor to evaluate how product specification changes impact functionality, performance, reliability, and cost.
4. **Design Verification & Validation:** Ensure product design meets specifications. Also document how the product addresses marketplace and user requirements.

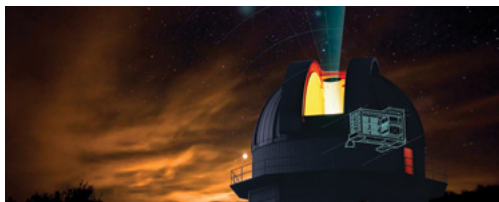
Markets & Practices

Consumer Products



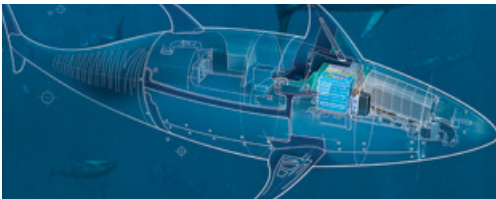
Combine the industrial design and product engineering expertise to innovate products across consumer categories. Also enable high-volume production (100+ million units annually).

Industrial & Commercial



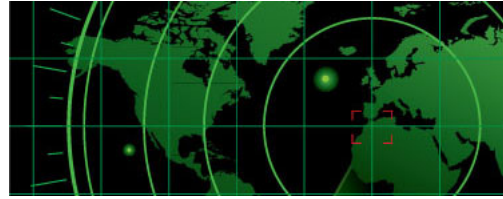
Build on our extensive track record in this sector, which includes product innovation in semiconductor equipment, fluid metering, clean technology, and analytical instruments.

Sponsored Research & Development (R&D)



Commercialize engineering solutions developed with public and private-sector organizations.

Defense & Security



Create an added level of protection for homeland security and national defense. We solve complex development challenges within schedule and budget constraints.

Medical Devices



Pioneer new capabilities for Fortune 500 companies and enterprising startups. Backed by ISO 13485 certification, we elevate healthcare capabilities and minimize risk.

Product Development Systems Services



Deliver expert consulting and technology integration services to optimize product development teams.

PTC Value-added Reseller

As the Northeast's largest PTC VAR, we offer PTC sales, training & support, and additional solutions for companies to enhance their product development and innovation.

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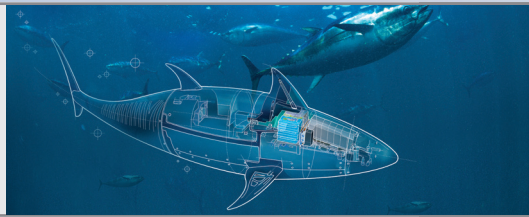
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Boston Engineering's Advanced Systems Group (ASG)

Innovation is central to advancing national security, scientific discovery, and economic growth. New capabilities can improve intelligence to government and commercial organizations, increase responsiveness, and provide new levels of safety and security.

Our Capabilities

Boston Engineering's Advanced Systems Group (ASG) develops game-changing robotics – with a special emphasis on unmanned underwater vehicles (UUVs) and special tactical equipment. Boston Engineering drives the product innovation process from ideation to development.

We optimize our solutions for real-world applications by working extensively with soldiers, first responders, and other users as we develop and enhance new technologies.

Our federal agency experience includes:

- Office of Naval Research (ONR)
- Department of Homeland Security Science and Technology Directorate (DHS S&T)
- Naval Sea Systems Command (NAVSEA)
- U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC)
- Defense Advanced Research Projects Agency (DARPA)
- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Navy Naval Air Systems Command (NAVAIR)

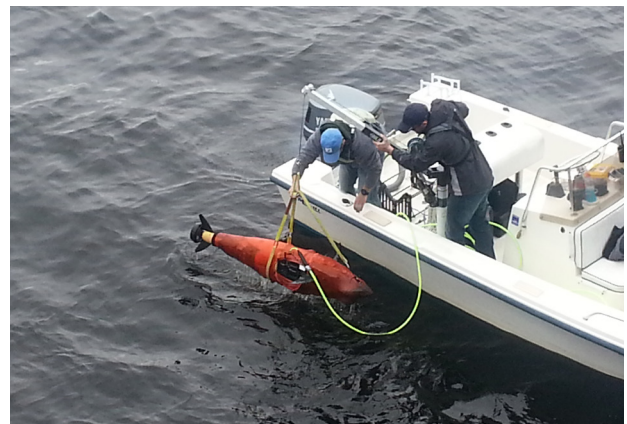
Marine Robotics Innovation

Traditional UUVs and autonomous underwater vehicles (AUVs) can have limited effectiveness in complex environments. Boston Engineering's autonomous UUV capabilities are increasing mobility and enabling diverse applications by employing various payloads.

Our UUV technology replicates the dynamics of biological fish to maneuver more effectively – and in more challenging areas – than other marine technology solutions.

Funding primarily from ONR and DHS S&T supports two related UUV products:

- **GhostSwimmer™** is a stealthy, biomimetic AUV used for military missions including surveillance, waterborne mine countermeasures, and other defense and homeland security initiatives.
- **BIOSwimmer™** is a biologically-inspired UUV with broad commercial and homeland security applications that include inspecting ships, securing ports, and conducting marine maintenance operations.



Additional Products and Solutions



- **V-Wing™** is a stable, towed underwater depressor that transports instruments and sensors thousands of feet under water, and transmits data via a connected cable. Broad V-Wing applications include underwater mapping, research, and oceanography.
- **MANEUVER™** is an easily integrated, high-performance hydrodynamic control surface technology that can improve maneuverability, efficiency, or noise characteristics of underwater and surface vehicles.
- **R-LUCID™** is a robot-linked user control and interface design that maximizes robot-operator team effectiveness, accelerates operator training, and provides a means for predicting and developing effective human-robot interfaces.
- **AURIS™** is a modular add-on system for unmanned ground vehicles (UGVs) that can

open doors autonomously and then conduct in-room operations after ingress. AURIS removes soldiers and first responders from potentially dangerous situations while maintaining the capability of their COTS UGV equipment.



Protecting Harbors and Ships with UUV Innovation

Boston Engineering's UUV technology replicates the dynamics of biological fish to provide a flexible hull along with advanced propulsion and turning methods.

These design and engineering capabilities also enable GhostSwimmer and BIO-Swimmer to move more rapidly, more accurately, and in more challenging areas than other marine technology solutions.

Our UUV technologies are cost effective and can be modified to support evolving military, homeland security, and maritime maintenance applications.

About Boston Engineering

Boston Engineering improves the way that people work and live through product innovation and novel engineering. We manage the entire product development process — from ideation to supply chain development. Certified for ISO 9001 and ISO 13485, our industry expertise includes consumer products, defense & security, medical devices, robotics, and industrial & commercial products. We are also the Northeast's largest PTC software reseller.



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