



# CAPABILITY STATEMENT

Founded in 2009, eSonar Inc. is an incorporated small business in St. John's, Newfoundland that specializes in hardware, software, firmware, and PCB design for embedded systems as well as custom engineering design services. We have extensive experience in prototyping, new product development and adoption of modern embedded technologies, both in the hardware and software areas. Our team of P.Eng. certified engineers are ready to assist your team with your ongoing projects, utilize the extended development model to augment your capability, & establish long-term supply-chain relationships.

## Core Capabilities

### Hardware Design

Custom schematic and PCB design, fabrication and testing; Mixed signal designs; Multilayer stackups to six layers; High-speed routing, High voltage routing; Analog circuit design; Power-over-Ethernet design; Power system design, DC motor control design; Magnetics and transformer design; Miniaturization and small form factor design; Low-noise analog front-end design; Analog and digital filter design; Li-ion battery system design; Low-power system design; Software driven power consumption optimization; Design for subsea applications.

### Software Capabilities and Packages

In-house capabilities in embedded Linux; AutoCAD Eagle (3 seats), Altium (one seat); Fusion 360 (3 seats); SolidWorks (one seat); ROS (Robotic Operating System); Google Coral integration; Netburner module integration; Microcontroller firmware design, Languages (C, C++, Python, VHDL, Tcl); CPLD design (Altera Max II); Real-Time Operating System (FreeRTOS); MATLAB (one seat); IDL (one seat); Algorithm development; Qt SDK; Simple GUI development.

### Testing and Prototype Development

Electronics lab services; Prototype assembly and test; Through hole and SMT assembly; Embedded system verification; Prototype analysis; Data analysis; Small-batch PCB fabrication; Third-party systems integration; Concept validation; Subsea hydraulics and linear displacement systems.

### Engineering Team:

**Gary Dinn, P.Eng. Electrical (electronics), 30 years practice subsea & marine instrumentation)**

**Tracie Hughes, P.Eng. Mechanical (systems design), 15 years practice subsea oil & gas**

**Matthew Dinn, P.Eng. Computer (Embedded systems), 10 years practice subsea instrumentation**

### eSonar Inc.

21 Mews Place, St. John's, NL, Canada

P: (709) 726-0338, F: (709) 726-0348

For additional information about eSonar's capabilities, contact our office **(709) 726-0338**, email us at [info@e-sonar.ca](mailto:info@e-sonar.ca), or visit our website at [www.e-sonar.ca](http://www.e-sonar.ca) to learn more.

## Company Information

**Legal Name:** E Sonar Inc.

**BN:** 824104624

**Year of Incorporation:** 2009

**Facilities:** 3500sq.ft. Office and Lab

**NAICS Codes:**

**541710** Research and development in the physical, engineering and life sciences

**541330** Engineering services

**541514** Computer systems design and related services

**541715** Oceanographic research and development laboratories or services

## Historical Projects

**DND IDEaS:** AUV Detection System

**DFO:** Marine Mammal Detection System

**Ashored Innovations:** Rope-on-Command Fishing System Design

**NRC:** Variable Buoyancy System Design

**Marine Industrial Lighting System:** Embedded PoE Smart Marine Lighting

**Notus Electronics:** Embedded Subsea Sonar with Systems Integration

**Smartcone** – Acoustic Theory Validation

**eSonar** – In-house Acoustic Products

A specific IP-focused capabilities list is available for review on execution of NDA.

**Primary Contact:** Gary J. Dinn, P.Eng., CTO and Corporate Director,  
E: [gdinn@e-sonar.ca](mailto:gdinn@e-sonar.ca) P: 709-769-1684 (m)