

# Undersea Systems & Sustainment Engineering Department Rapid Prototyping and Fabrication Technology Division

### **Rapid Prototyping and Fabrication Technology Capabilities**

#### **Machining**

- Computer Numeric Controlled (CNC) 5-axis milling
- CNC Lathes including live tooling & 60-inch capacity
- 12+ Machining Centers with numerous skilled CNC Programmers & Machinists

#### **Fabrication & Welding**

- · Sheet metal fabrication, waterjet
- · NAVSEA certified Weld program

#### Paint, Coatings, & Marking

- Painting, powder coating, ink stamping, laser marking, custom stencils, silk screening etc.
- TYPE II & III anodize plating, alodine and selective plating
- Cold, Thermal, and Plasma Spray

#### **Undersea Cable Fabrication & Repair**

- Encapsulation of undersea components
- Electrical & Hydro testing
- · Composites repair
- Injection molding
- Vacuum forming

#### **Quality Management System**

- ISO 9001:2015 Compliant
- Full-time Quality Manager with autonomous QA Inspectors

#### **Inspection & Quality Assurance**

- Mechanical & Electronics inspection capabilities
- PCB X-ray inspection
- Multiple Coordinate Measuring Machine (CMM) systems
- Nondestructive Testing (Visual, Magnetic Particle, Liquid Penetrant and Ultrasonic)
- · Climate-controlled inspection facilities

#### **Electronics Manufacturing & Integration**

- PCB Circuit Card Assembly Fabrication
- Cable Fabrication
- Thermal Testing/Custom Testing
- Production Engineering Support, Custom Engineered Solution, Design Engineering, Reverse Engineering (X Ray/CT)
- PCB Rapid Prototyping
- Assembled Replacement Integrated Circuits

#### **Systems Assembly**

- Aerospace electromechanical assemblies
- Sustainment & refurbishment of existing Navy/DoD electromechanical systems
- Semi-automated threaded fastener assembly/installation

#### **Additive Manufacturing**

- Laser Powder Bed Fusion Metal printing (EOS M290) printing; 316L, 17-4 PH, Inconel 625, Inconel 718
- Fuse Deposition Modeling, large format polymer printing (Stratasys F900mc; ASA, ABS-ESD7, PC-ABS, Ultem 9085, Ultem 1010)
- Polymer Laser Powder Bed Fusion (SLS Vanguard Si2, Nylon 11)
- Polymer Multi-Jet Fusion (HP MJF 4200; Nylon 12)

## Planning, Project Management, & Engineering

- Planner/Estimators & Project Managers
- Engineering personnel specializing in design for manufacturing, affordability, procedure development
- Reverse Engineering and 3D scanning with ATOS 5 structured light scanning
- Software tools (Solidworks, Mastercam, etc.)

#### **Support Services**

- Personnel supporting machine repair/maintenance, transportation, material inventory, & material issuance
- Procurement specialist utilizing numerous DON contract vehicles