Prototype Manufacturing Solutions

Design & prototyping services that address specific manufacturing needs

Concurrent Technologies Corporation (CTC) provides a wide range of prototyping solutions to meet our clients' specific product and manufacturing needs. Our highly skilled technical staff utilizes the best engineering concepts to address requirements. They develop physical, numerical, and scale manufacturing process prototypes that are evaluated, tested, and refined to meet performance and design objectives. These prototypes are often used in scale-up for low-rate or mass production.

To support CTC's prototype fabrication, our Environmental Technology Facility includes a machine shop that houses fully equipped machining, welding, and metrology capabilities to fabricate prototype components and structures. Those components are then transported to the nearby high bay areas for fabrication into larger structures.

Benefits:

- Enables the technical team to explore ideas and exchange feedback with clients to quickly demonstrate a part, system, or process
- Identifies and addresses problems early in the manufacturing process
- Improves the accuracy of system requirements and functionality
- Ensures that the solution performs as expected
- Confirms how the final solution will look and function
- Helps the developer estimate baseline costs, timescale, and resource requirements for low-rate or mass production

CTC Concurrent Technologies Corporation

CTC's quality management systems are certified to the ISO 9001:2015 (Quality) and 14001:2015 (Environmental) standards, and to AS9100D:2016 (Quality-Aerospace-Related Products).

Carriage, Stream, Tow, and Recovery System

Advanced Light Tactical Trailer

C-5 Aircraft Prototype Door

continued

Prototyping Solutions

U.S. Army Photo.

Design and Prototype

CTC has executed ground vehicle research activities in combat vehicle mobility, composite armor vehicles, and more

CTC's ground vehicle experience provides our clients with resources to design and develop hulls, chassis, suspension components, and sub systems for both manned and unmanned platforms. CTC also performs hybrid power train integration, including energy storage and alternative fuel systems for military and commercial vehicle platforms. Efforts have been focused on prime movers, tow vehicles, trailers, and off/on road manned and unmanned systems.

System Prototyping

CTC has developed a wide range of mechanized and non-mechanized tools

CTC developed easy-to-use, small, lightweight, power-assisted tools to reduce the amount of time and effort required to pull cable on a surface ship. The prototype tools have been used at Ingalls Shipbuilding to install larger diameter cables on DDG and LHA class ships. Ingalls plans to use the tools for its future ship construction. A 20% labor savings is expected.

Core Capabilities

- CTC's customized engineering designs identify solutions to reduce manufacturing costs for our clients by developing more efficient and dependable options. Our in-house machining and fabrication services enhance CTC's ability to produce full-size prototypes.
- In order to develop mechanized tools that effectively address shipyard manufacturing issues, CTC employs an iterative prototype approach, leveraging internal, industry, and shipyard expertise throughout the process.
- Our clients consider us engineering experts who provide support in conceptual and detailed design, material selection, analysis, meeting performance requirements, and transitioning from prototyping to full-scale manufacturing of their weapon systems.

Prototype Services

Along with comprehensive design and analysis services, CTC is capable of producing complete system prototypes for test and evaluation. In-house machining and fabrication services enhance CTC's ability to produce prototypes and gain further insight into product deficiencies. Our rapid prototyping services feature a Rapid Prototype Machine (RPM), which is used to build scaled or full-size models, allowing the product to be evaluated prior to manufacture.

A partial listing of CTC's prototyping processes/methods:

- CNC Milling
- CNC Turning
- Wire EDM
- All Major Arc Welding Processes
- Friction Stir Welding
- Virtual Prototyping
- Secure Prototyping
- Rapid Prototype Parts of PC/ABS Plastic
- Reverse Engineering and Inspection
- Component and Material Testing
- Metal Additive Manufacturing/3D Printing
- Metal Additive Manufacturing Repair and Cladding

Contact

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