Case Study

Radar Control Terminal (RCT) units

ENSIL®

Raytheon

Raytheon

Raytheon Company is a technology and innovation leader specializing in defence, security and civil markets throughout the world. Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems; as well as a broad range of mission support services.

Ensil Experience

Ensil focuses on enhancing mission-critical technologies in the areas of Aerospace, Defence and Medical Diagnostic Equipment. Ensil's Research and Development division's mission is to develop new technologies or improve existing technologies, leveraging its in-house aerospace, defence and medical technology expertise, research and resources.

For over 30 years, a fundamental belief in "Innovation Beyond Imagination" has been part of Ensil's corporate culture. Since its inception, the company has built its brand in the North American Aerospace and Defence industries as a boutique engineering and R&D technology leader that is striving to improve the quality of life of people globally via innovative ideas and technologies.

Initial

In 2005 Raytheon Technical Services Company, now Raytheon Information, Intelligence and Services (Raytheon IIS), approached Ensil regarding the repair of their manufactured Radar Control Terminal (RCT) units. The RCT TRS P/N 13563090-2, a key component in the AN/MPQ-64 Sentinel System, consisted of outdated parts which caused minor to major unit failures.

Ensil repaired the RCT's at every turn, correcting any component with the parts still in circulation (mother boards, displays, power supplies) to provide the client with the best available technology. These repairs were completed to military standards and kept the RCT effective, allowing for the Sentinel radar to remain operational. However, the supply of outdated parts was eventually no longer available.

Ensil offered the best possible solution, utilizing the skills of their knowledgeable engineering staff, they would reverse engineer a new computer to replace the obsolete RCT while maintaining the same form, fit and function.

AN/MPQ-64 Sentinel

Solution

Improving on the original RCT, Ensil would re-engineer the components with modern parts all while maintaining the existing chassis. This reverse engineering would meet mil-spec operational standards and still be fully compatible with the existing Sentinel radar.

Working within Raytheon's timeframe, Ensil developed a production ready prototype which was then tested live by Raytheon and pushed forward to its next step.

Evaluation

During this process Raytheon presented Ensil with a RESA audit. The RESA, Raytheon Enterprise Supplier Assessment, was to guarantee the quality and process of all work. The standard and practice of Ensil was found compliant.

After a second prototype passed inspection a first series production unit was approved by Raytheon. This production unit, and 49 others, were put in to action.

Success

The first series of Ensil's RCT reverse engineering for Raytheon worked so well in the field that an additional 55 units were ordered. These 105 units are currently operational worldwide. Merging Ensil's skill and dedication to more than just a quick repair with Raytheon's need for modern solutions ensured the client top of the line computer and radar defence

*With notes from raytheon.com

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