



FISHING CATCH MONITORING SUSTAINABILITY MANAGEMENT

“ Using our extensive knowledge of the marine ecosystem, computing and compliance, we navigated all our customer’s challenges to design a bespoke a solution capable of operating at maximum reliability in hostile environments and extreme temperatures. ”

Joe Phelps,
Senior Sales and Marketing
Manager, Captec Americas



THE CUSTOMER

A marine company specialising in sustainability management, programme development and reporting services. This application focuses on improving the sustainability of fishing by monitoring critical catch parameters such as size and species of fish caught, with the aim of managing fish stocks more sustainably. A certified, compact and highly reliable computing platforms is integral to running the customer’s fishing catch monitoring software in hostile marine conditions.

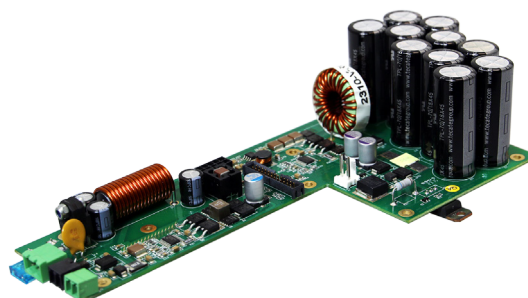
THE CHALLENGES

The customer needed a design partner with in-depth knowledge of specialist computing platforms and marine compliance to:

- Provide certification and compliance to EN 60945 to operate reliably in a power topology with high inductive loads from marine equipment
- Operate reliably across a wide and extreme temperature range
- Achieve resilience to extreme shock and vibration experienced onboard smaller fishing vessels
- Effectively manage power spikes and outages which is crucial to maximising uptime and data integrity
- Equip platforms to support multiple I/O requirements including GPS, video cameras and multiple equipment sensors
- Make data recorded by the customer’s software physically retrievable for land analysis

THE SOLUTION

- Through consultation with the customer, we advised on a bespoke industrial computer specification certified to marine standard EN 60945
- Using advanced design capabilities, we designed the computer to meet the stringent EMC, thermal and shock & vibration requirements of EN 60945
- Computer system designed and tested to a wide operating temperature range of -15°C to $+55^{\circ}\text{C}$, supported by a customised PSU with a thermal warm up system to prevent damage to components
- An innovative 9-36v power supply design with integrated supercaps delivers a reliable power source in the event of brownouts and spikes within the onboard electricity supply
- Custom circuit boards enable the customer to meet all the I/O requirements of interconnectable systems, including sensors and cameras
- A removable hard disk drive allows catch information to be physically retrieved and analysed to meet ethical fishing requirements and improve sustainability



THE OUTCOME

- Custom computer design with integrated protection systems designed specifically for the environmental challenges of the marine application
- Custom chassis delivers optimal robustness and minimises space required onboard vessels
- Fully protected system ensures uptime and availability of critical systems for catch data collection and reporting
- Protection of juvenile fish through rapid identification of size and species, resulting in less dead catch that can be returned safely to the sea
- Compatibility for international use ahead of legislation to protect fish stocks, safeguarding the future of the industry and ultimately, the planet



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