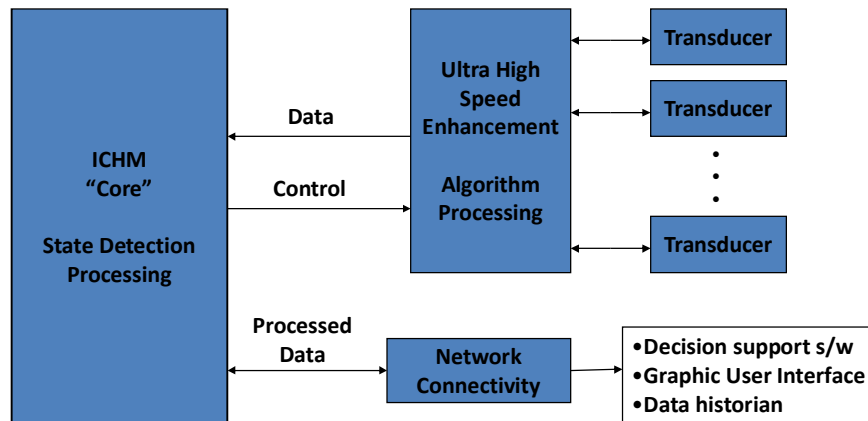


## Structural Integrity Prognostics System (SIPS)

Oceana Sensor Technologies is currently participating as subcontractor to Northrop Grumman on this DARPA research program. The objective of this program is to provide detection of the incidence of impending structural failure in an aircraft. Researchers from a number of universities and industry have been participating in this program in order to describe the material properties and environmental conditions that contribute to failure. There are two major required outcomes identified for this program. One is the assembly of material failure mechanisms, material properties, prognostic algorithms and flight data into a ground-based SIPS system for predicting Remaining Useful Life (RUL) of the aircraft structural element being monitored. The other is the provision of an airborne data acquisition and logging system for obtaining and recording flight data acquired by sensor systems for subsequent downloading and transmission to the ground-based SIPS system. OST is providing the data logger with associated sensors for acquiring strain and other environmental data relating to structural condition for wireless transmission to a wireless-enabled receiver and subsequent transmission to the SIPS system.

## Structural Interrogator

Smart Acquisition Device  
High-Level Hardware Architecture



NOTICE: Proprietary Information  
This document contains information proprietary to Oceana Sensor Technologies. Any replication, release, distribution, or disclosure of any portion or derivative of this document without prior written permission from Oceana Sensor Technologies is strictly prohibited.