



OWN THE TECHNICAL BASELINE™



THE NEXT GENERATION IN SUSTAINMENT ENGINEERING

Weapons systems program managers and portfolio managers must manage to avoid cost overruns, schedule delays, system performance problems, and sustainability issues. For most programs, transparency into the technical baseline is critical to a healthy system.

Riverside Research has provided systems engineering, operations, and sustainment support to programs like these for more than 40 years, resulting in dozens of comprehensive, in-depth sustainment, modernization, and engineering reports on multiple systems. Recognizing that generating these reports was both manpower-intensive and had to be repeated frequently to maintain the baseline, we invested in a tool suite to create a dynamic, global view of a system's sustainment needs. Own the Technical Baseline™ (OTB) rapidly ingests diverse data sets such as maintenance logs or integrated parts lists to provide a comprehensive and dynamic understanding of system sustainment costs and risks. OTB is the ultimate enabler for "owning the technical baseline."

MAXIMIZE PERFORMANCE; MINIMIZE TOTAL COST OF OWNERSHIP

The OTB tool suite is built on open source, commodity platforms such as the DoD's Infrastructure as a Service (IaaS) solution—MilCloud. This platform provides flexibility to be primarily vendor agnostic by allowing it to ingest data across varying standards and databases with simple interfaces to the data storage device or artifact. Once the data is ingested, the application services are easily added and configured based on user requirements.

- Quickly organize and categorize documents providing gap analysis for configuration baselines
- Up-to-date forecasts for ownership costs and sparing outlooks as new data is loaded into the tool suite
- Reduce system engineering review times by utilizing requirement assessment tools
- Perform Integrated Parts List (IPL) data gap and critical parts analysis
- Visualize relationships of documents, requirements, and parts across the technical baseline for new insights



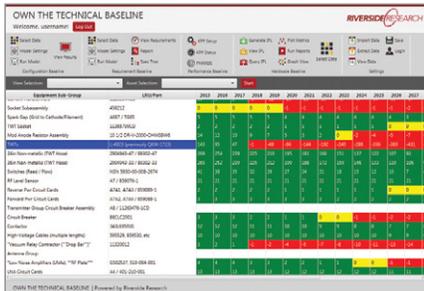


DEEP UNDERSTANDING OF SYSTEM DESIGN AND PERFORMANCE

The starting point for owning the technical baseline is the evaluation of all system engineering data. This includes:

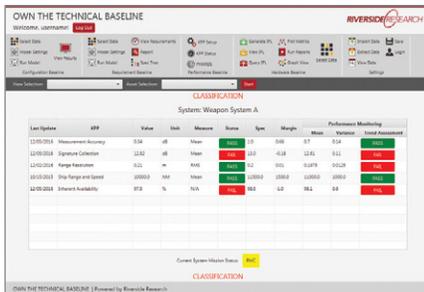
- Requirements and design artifacts
- Hardware drawings and parts databases
- Development test and operational data
- O&M and vendor manuals
- Training packages and lesson materials

After ingesting these data artifacts or databases, OTB will extract data, add metatags, and provide ability for quality assessments. The overall view illustrates to the user where the gaps are, status of delivery, and health of their configuration baseline.



ROBUST, DETAILED RELIABILITY MODELS

Reliability, Maintainability, and Availability (RMA) are constantly changing as the system ages or components are upgraded. OTB contains high fidelity RMA models for all the systems it supports, down to the component level. Anytime its failure database is updated, the tool suite automatically re-computes predicted component life, evaluates spares availability, and identifies when the system will become degraded or non-operational.



SYSTEM PERFORMANCE TRENDS

In order to be able to assess the health of a system, there must be established quantifiable-key performance parameters. The metrics from these parameters are collected periodically to assess health. OTB brings in the analysis tools and results for easy searching and immediate feedback on the current state of the system. By retaining all previous data, it can identify downward trends that can potentially prevent catastrophic failures if detected early enough.

WHAT IS "OWNING THE TECHNICAL BASELINE"?

"Program managers and personnel have sufficient technical knowledge of their engineering development programs to ensure program success by making informed, timely, and independent decisions to manage cost, schedule, and performance risk while ensuring disciplined program execution. Owning the technical baseline allows the Air Force to respond knowledgeably and have minimal disruption to mission success."

—Workshop Report *Owning the Technical Baseline for Acquisition Programs in the U.S. Air Force*, 2015