Q. Which TFD Tool Should I Use?
A. An Integrated Supportability Workbench for Logistic Decision Support

The *TFD Supportability Workbench* includes a suite of tools to meet all these needs to:

- Plan the right Support Solution using *EDCAS*
- Optimize the Spares Solution using *Tempo* anticipating changes over time
- Develop a detailed Life-Cycle Cost across all resources using *MAAP*
- Explore 'what if' scenarios using *mPOWER*
- Monitor, control and sustain In-service Support using *SCO*
- Plan future support capability for aero-engines and other serialized lifed components using *SIM*
- All supported by the *TFD data Vault (TFD dV)*

The *TFD Supportability Workbench* is based upon the central core of the TFD dV as the single dependable source of trusted logistic data. The workbench provides tools to both plan support packages (including all the necessary resources to achieve the maximum or required output for minimum cost), and to control support performance to achieve in-service KPI's; despite real word events and changing scenarios.

EDCAS (Equipment Designer's Cost Analysis System) is used to:

Select the best design for new equipment based on Life-Cycle Cost

Understand the impact on supportability and cost of part and configuration design trade-offs

Define the best repair strategy

Understand the cost and logistics performance of design alternatives

It provides a rapid, intuitive tool to answer many design and supportability questions - to establish the expected system availability, LOR policy, spares analysis and LCC. *EDCAS* can:

Cost the best design for new equipment

Define the best level of repair strategy for the support solution

Understand the impact on supportability and cost of part and configuration design trade-off

Understand the logistics of design alternatives

Using EDCAS reduces LCC

Tempo is used to:

- Develop optimum spares scales to meet fleet availability targets where:
  - The operational usage or fleet disposition changes over time through fleet expansion, re-basing, re-role or run-down
  - Equipment design changes over time, because of obsolescence, modifications, upgrades, or reliability improvement programs
  - Support arrangements change over time as maintenance and repair policies, contractors, their performance and price evolve
  - While minimizing wasted investment in stock with a short useable life

A spares solution optimized in Tempo is superior to one provided by steady-state tools because it:

- Explicitly handles inevitable changing scenarios
- Avoids the errors implicit in steady-state models, including over-stocking of life-limited and long-lead time parts
- Maximize return on investment and avoids waste from market-driven obsolescence
- Optimizes procurement timing to match fleet build-up, re-basing and run-down for lowest cost
- Deals explicitly with time, eliminating the drudgery of hand-made multi-period calculations

Tempo is the next generation Inventory Optimisation Tool

MAAP is used to:

Estimate Through-Life Cost (TLC)

- Optimize all the support resources, not just spares, to deliver system availability
- Identify the drivers of support cost and performance
- Evaluate the benefits of support improvements before committing to them
- Evaluate how to cut costs, while minimizing the loss of capability

The power of *MAAP* is considerably enhanced using the associated suite of utilities collectively called *mPOWER*. This suite enables identification of the support cost drivers and quantification of the benefits of potential remedial action.

Together, **MAAP** and **mPOWER** are extremely powerful tools to identify and optimize the support performance and cost drivers of a system. They can provide:

- TLC Estimates
- Optimize all the support resources for system availability
- Identify support cost and performance drivers
- Evaluate the benefits of support improvements
- Maximize cost savings while minimizing capability loss

MAAP & mPOWER - the answer to multi-resource planning, optimization & continuous improvement

SIM provides:

- Through-life management planning
- Operational and maintenance planning
- Total asset visibility
- Inventory and multi-resource optimization
- Modification change management
- Exhaustive resource analysis and reporting

SIM – a modelling platform for systems with life-limited, serial tracked parts

SCO (Support Chain Optimization) is used to:

- Identify the parts in a support package which will run out in sufficient time to take effective action
- Identify the remedial actions that will prevent future support system default
- Prioritize the remedial actions by cost and the lead time needed to take action
- Justify the business cost benefits of early action
- Predict future support package performance.

SCO provides continuous availability-based inventory optimization that sustains mission capability at lower cost by preserving the initial benefits of a system-based optimization and avoiding normally unseen in-service inventory cost growth of typically of 25-33%.

SCO provides near real time intervention advice to restore and sustain optimum system performance
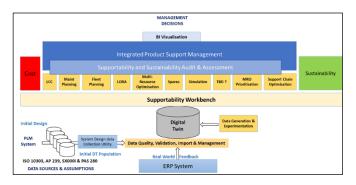
The **TFD dV** is used to:

- Collate the data needed for logistics analysis and modelling for multiple systems
- Provide a controlled data store
- Centrally manage logistic data
- Protect investment in trustworthy data

The **TFD dV**:

- Was specifically designed and evolved over 30+ years to support logistic support decisions
- Contains logistic support data in its appropriate context for dependable reuse
- Enforces data quality during data entry and protects it subsequently from corruption through over-writing by automated uploads
- Drives the **TFD Supportability Workbench**
- Can also drive Third-Party analysis tools

The TFD dV is a comprehensive, robust, common source repository for logistic data

The **TFD Supportability Workbench** provides tools for use from initial design through to optimizing in-service system operation.

SIM is used for fleets of serialized lifed parts, such as aeroengines to:

- Optimize operational planning and fleet life profile
- Optimize maintenance planning of scheduled, unscheduled, hard and Minimum Issue Life
- Quantify repair process capacity for part failure (MTBF), FOD, secondary and subsidiary damage
- Optimize logistic resources (spares, people and support equipment) by location and time period

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