



# VERSION 8

OPUS10™ is the number one tool for optimizing spares and logistics support organizations. In version 8, further improvements have been made to usability, analysis efficiency and ability to interface with external data bases. The enhancements also include a new, task based model for corrective maintenance as well as new functionality for phase scenario modeling.

## KEY ENHANCEMENTS

TASK BASED MODEL FOR CORRECTIVE MAINTENANCE

INTERACTIVE & FLEXIBLE RESULT PRESENTATION

PHASE SCENARIO MODELLING

EXTERNAL CONTROL

IMPROVED MODELLING OF MINIMAL STOCK

EXPORT TO EXCEL WITH XML OR ODBC

AUTOSAVE

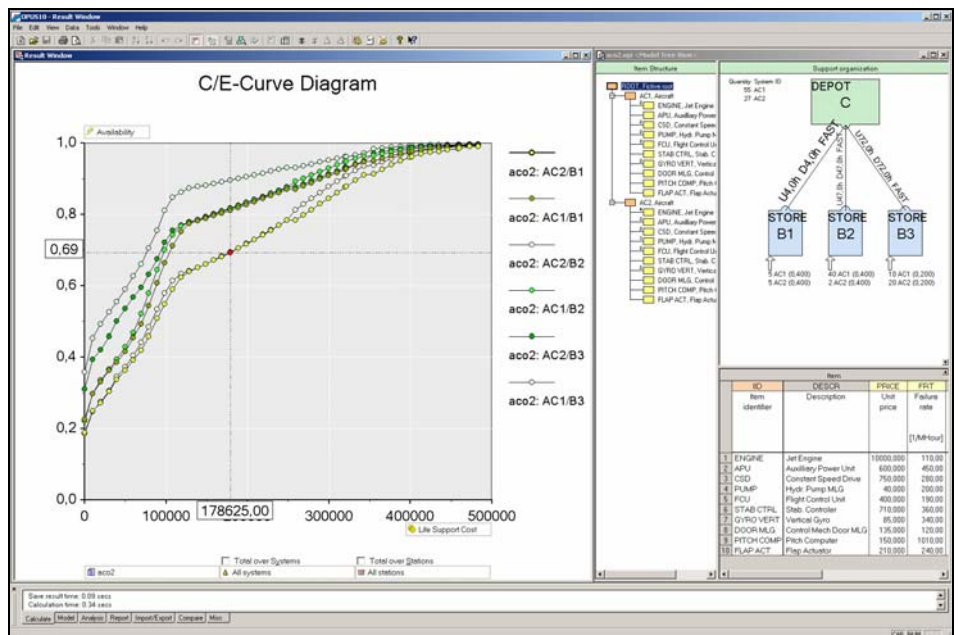
ENDURANCE MODELLING W/O TRANSITION EFFECTS

### OPUS10 IN BRIEF

OPUS10 is the preferred choice by demanding customers all over the world when it comes to cost effective dimensioning of spares assortments and logistic support organizations. It is a strategic/tactical optimization and analysis tool that facilitates maximum availability of technical systems at minimum overall cost.

In comparison with conventional methods and tools, the fully system based approach and

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NEW OPUS10 RESULT VIEW ABOVE SHOWS INDIVIDUAL CURVES FOR EACH SYSTEM TYPE AND EACH LOCATION. USING DROP DOWN MENUS AND CHECK BOXES, THE USER MAY TAILOR SCOPE AND APPEARANCE OF THE RESULTS

## TASK BASED MODEL FOR CORRECTIVE MAINTENANCE

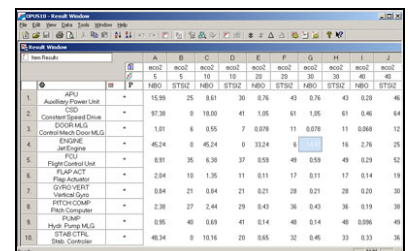
With the introduction of a task based model for corrective maintenance, the flexibility and interfaceability of OPUS10 is further improved. It offers the option to describe corrective maintenance in relation to failure modes and frequencies, in addition to the existing (and still available) approach with items and failure rates. In the new flexible task model, each item may have several failure modes and each failure mode can have individual repair/resupply data and a specific sequence of tasks to be performed on the system or item. Failure modes may also be linked to *positions* and the maintenance tasks may then differ for an item depending on its position in the system.

Last but not least, the task model simplifies data-transfer from/to external databases, which are often task based.

If desired, any existing traditional OPUS10 files can be converted to be task oriented using a built-in tool.

## INTERACTIVE RESULT PRESENTATION

The result view has been extended and improved to make it easier and more efficient to use.



NEW TABULAR RESULT VIEW SHOWING NBO AND STOCK SIZE PER ITEM FOR DIFFERENT POINTS

With its new interactive features and flexible tabular view, most results



can be reviewed and analysed directly in the result view, without needing to generate a report.

By default, the Cost/ Efficiency diagram shows total results for all systems and locations. Now new options have been added. The scope may for example be limited to only show results for a subset of system types and/or locations. It is also possible to show individual curves per system type and location in the same diagram (see above).

In the new flexible tabular result view (see above), results can be filtered, sorted, aggregated and organized in different ways to get the best possible overview. It is also possible to compare results from different scenarios (or solution points) side-by-side in one table.

## PHASE SCENARIO MODELING

Fleet build-up, system phase out, or any other kind of stepwise up or downsizing of a system fleet and/or its support organization cause specific challenges when dimensioning spares and other resources.



SCENARIO WITH THREE PHASES. ONE RESULT CURVE FOR EACH PHASE. INPUT TABLE WITH PHASE SPECIFIC LIMITATIONS

With the new phase scenario model in OPUS10 version 8 it is possible to model scenarios with a sequence of phases, which for example, differ in number of systems in operation and number of operation sites. Phases may also have differences in the support organization, item types or system types. The calculation produces a set of optimal spares solutions, one for each phase.

## EXTERNAL CONTROL

Activation and control of OPUS10 can now be done from external applications. Using command prompt options it is possible to initiate execution of basic operations like for example:

- Open an input file, run optimization and generate report

- Import data from an external database
- Run several cases in a batch sequence

## IMPROVED MODELING OF MINIMAL STOCK

For scenarios that include minimum stock requirements, OPUS10 version 8 includes two new dynamic stock restrictions:

- *Minimal stock per item* is set per item as a total sum of all stock locations included.
- *Minimal probability of no backorder* is set per location (or per item per location). This dynamic restriction considers not only the stock level at the location itself, but indirectly also at supporting locations

ITEM TABLE WITH MINIMAL STOCK INPUT

As in previous versions, minimal Stock level can also be set per item and stock location.

## EXPORT TO EXCEL WITH XML OR ODBC

In previous OPUS10 versions import from Microsoft Excel has been possible through ODBC. With the new version, it is also possible to export to Excel using either ODBC or XML.

## AUTOSAVE OF INPUT FILE

To avoid loss of data, there is a new feature that automatically saves the input files currently open in the editor

## ENDURANCE MODELING WITHOUT TRANSITION EFFECTS

Endurance is the ability to sustain performance while being cut off from the support organization. With the new option, endurance periods can start "fully stocked". By default OPUS10 otherwise assumes that endurance scenarios are preceded by steady state, and that all items in the resupply loop at endurance start time are lost.

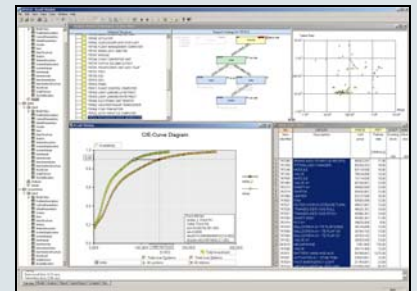
## OPUS10 IN BRIEF

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comprehensive functionality in OPUS10 makes it possible to increase overall system performance while decreasing spares investment with 20-50%.

The flexible OPUS10 model accommodates any technology or support organization. There is virtually no limit to the number of levels in the material breakdown structure (multi-indenture) or support organization (multi-echelon).

The model may include repairable, discardable and partly repairable items with appropriate and integrated optimization algorithms for each type. Preventive and corrective maintenance may be modeled simultaneously. It is also possible to allow lateral support with backorder priority and other specific conditions and restrictions.



The core objective of OPUS10 is optimizing the assortment and allocation of spares, but it is also an ideal tool for:

- Evaluating alternative support solutions
- Evaluating alternative configurations from a supportability perspective
- Calculating Life Support Costs (LSC)
- Comparing different maintenance and supply concepts
- What if and sensitivity analysis

In addition, the integrated LORA XT (Location of Repair Analysis) module is a very powerful tool for deciding optimal repair location(s) as well as for repair/discard analysis of items. It is the only tool on the market that performs LORA calculations simultaneously with the spares optimization, providing optimal solutions even for that complicated trade off.