

### Training Title

**SPARES OPTIMISATION & COST REDUCTION TECHNIQUES (Including 25 Step Reduction Program)**

### Training Duration

**5days**

### Training Venue and Dates

REF RM012	Spares Optimization & Cost Reduction Techniques	5	20-24 January, 2025	\$6,500	Stockholm, Sweden
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Training will be held at any of the 4 or 5-star hotels. The exact venue will be informed of later.

### Training Fees

- \$6,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch.

### Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

### TRAINING OVERVIEW

#### TRAINING DESCRIPTION:

Most companies do a bad job of managing their inventory effectively. There are many reasons for this, but it usually starts with bad submission of vendors recommended spare parts data, poor cataloguing and selecting initial spares. From our experience this is not limited to any one industry. Irrespective of the industry, e.g., Oil and gas, mining, power, food & drink, electronics, semi-conductor plants, all do a bad job of managing spares leading to excess costs. This practical 3-day workshop covers aspects related to reducing inventory and costs of spare parts and is supported by case studies, software and practical exercises to aid understanding. This workshop focuses on reducing the inventory, which is an area often overlooked. There are very few courses conducted that deal with the practical issues of spares cataloguing, optimizing spares and stock reduction. After this course, delegates will leave the workshop with tools and techniques that they can immediately apply in their own companies and start to reduce costs. An Excel Analysis worksheet containing all formulae will be provided to conduct an audit of current inventory parameters. Two analysis techniques will be covered: first using probability for normal operating and consumable spares and the second using simulation (modelling) techniques for high value spares with logistic issues.

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## **TRAINING OBJECTIVE:**

As a result of attending this workshop the participants will understand:

- How to achieve consistent cataloguing
- The different costs associated with spares management.
- The techniques to improve reliability resulting in less spares usage.
- How to select the right inventory policy for fast- and slow-moving parts.
- Good practices related to SPIR forms.
- How to evaluate safety stocks scientifically.
- How to determine how many to buy.
- Strategies to minimize stock.
- How to justify the financial case for high value spares.
- How to measure inventory performance.
- What can be done in-house and what can be done with specialist software.

## **TRAINING METHODOLOGY**

A highly interactive combination of lecture and discussion sessions will be managed to maximize the amount and quality of information, knowledge and experience transfer. The sessions will start by raising the most relevant questions and motivate everybody to find the right answers. The attendants will also be encouraged to raise more of their own questions and to share developing the right answers using their own analysis and experience.

All attendees receive a course manual as a reference.

This interactive training workshop includes the following training methodologies.

30% Lectures

30% Workshops and work presentation

20% Group Work & Practical Exercises

20% Videos & General Discussions

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## **WHO SHOULD ATTEND:**

Maintenance Managers, Engineers CMMS super users, Warehouse Managers & Supervisors, Project Engineers, Spares & Inventory Personnel, Purchasing & Logistics, Cost Controllers

## **DAILY SCHEDULE**

Course Introduction

*DMCT/OL/9/18(Rev3Dt:23/9/18)*

### Topic 1: Introduction to Spares Management

- ✓ Delegates' issues
- ✓ Common issues in inventory management with real examples
- ✓ Where we incur excess costs
- ✓ Benefits of improved inventory management
- ✓ Terms and definitions used in the workshop.

### Topic 2: Recommended Spare Parts List (RSPL) from Vendors

- ✓ RSPLs, their purpose and why they are submitted incorrectly, principles good spares cataloguing to ensure zero duplicates, and ease of searching.
- ✓ A critical review of a typical RSPL form and the associated procedures sent to vendors.
- ✓ Examples of good and bad RSPL
- ✓ 10 rules for effective use of RSPL
- ✓ Proposed improved format for an electronic RSPL.

### Topic 3: Effective Cataloguing

- ✓ Introduction and detailed examples of an 8-step cataloguing process, i.e.
- ✓ Defining naming formatting
- ✓ Developing spare type guides to ensure consistent part naming.
- ✓ Developing rules for Mfg.'s Part/Nos, dimensions, abbreviations
- ✓ Define strategies i.e., who to buy from OEMs, Vendors, specialist company.
- ✓ Develop a set of cataloguing best practice manuals.
- ✓ Create upload file and quality checks.
- ✓ Benefits of commercial cataloguing software
- ✓ Many examples collected from our numerous studies will be shown.

### Topic 4: Inventory Cost Reduction Program

- ✓ Introduction to a 25-step inventory reduction program, tactics including, but not limited to:
- ✓ Audit CMMS spares data quality
- ✓ Challenge the decision, whether to stock and who pays.
- ✓ Establish spare criticality and service levels.
- ✓ Apply the 80-20 rule to AIV, Item Cost, Stock Holding Cost
- ✓ Identify duplicates line items.
- ✓ Reduce internal lead times to reduce stock holding costs.
- ✓ Standardization
- ✓ Different strategies, min-max, reorder point control, constant vendor delivery
- ✓ Replace OEM
- ✓ List issues and plan.

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**Topic 5: Discussion on Spares Costs**

- ✓ Different costs used in the stock management process, e.g., buying, holding cost, item cost, issue cost, penalty cost, average stock level costs, annual issue value.

**Topic 6: Introduction to Reliability Theory**

- ✓ Normal & Poisson distribution
- ✓ Weibull parameters for high value spares
- ✓ Explanation of service levels
- ✓ Importance of the P-F
- ✓ How to estimate annual usage using MTBFs or reliability data sources

**Topic 7: Challenge Vendors Recommended Quantities**

- ✓ How to calculate estimated annual demand rates based on spare reliability.
- ✓ Case studies where actual consumption has exceeded initial estimates.

**Topic 8: When to order? (Setting of Re-Order Points, Safety Levels)**

- ✓ Different approaches to set safety stock.
- ✓ Using the Poisson distribution to set re-order points based on lead time, annual usage and criticality and the typical issue quantity.
- ✓ Different replenishment strategies such as ROP control, Min-Max and Constant Vendor Delivery
- ✓ Exercise - setting re-order levels using formula based on the Poisson cumulative probability tables.

**Topic 9: How many to order?**

- ✓ How to determine the economic order quantity using both a formula and a tabular approach
- ✓ The effects of ordering too many or too few
- ✓ Evaluating whether discounts are worth accepting for higher quantities.
- ✓ What to do if the EOQ is not practical

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**Topic 10: Auditing current inventory Parameters effectiveness.**

- ✓ Introduction to 25 inventory formulae, use an Excel worksheet to seek opportunities to reduce stock levels and stock holding costs.
- ✓ Metrics include service levels; safety stock, ROP, Average stock levels, no of years of stock, Annual Issue Rates, and Value, Stock holding value all calculated at line-item level.
- ✓ Demonstration of an MS Access based application to simplify the analysis.

**Topic 11: Database Solutions**

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- ✓ Demonstration of an MS Access Based Application to simplify the analysis.

**Topic 12: Evaluate Policies for Insurance Spares**

- ✓ Introduction to Monte-Carlo simulation and penalty costs to evaluate policies for insurance spares.

**Topic 13: Alternative Strategies**

- ✓ Sometimes the ROP/EOQ strategy is not appropriate, discussion on other options.
- ✓ Min-Max policy
- ✓ Constant Vendor Delivery

**NOTE:**

**Pre & Post Tests will be conducted.**

**Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.**



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