

MRO Critical Spares Optimisation

Preventing excessive downtime, minimising lead time and boosting your competitive advantage in the most cost effective way

Rendezvous Hotel Melbourne

16th & 17th March 2010

“Productivity is never an accident. It is always the result of a commitment to excellence, intelligent planning, and focused effort.”

Paul J. Meyer

Millions of dollars can be spent on materials to support maintenance activities. Improving and optimising your MRO spares management has become critical to control operational cost and remain your competitiveness.



Your renowned course leader:

**Carter McNabb Partner
GRA Australia**

Carter is a founding partner of GRA, an expert consulting firm specialising in demand, inventory and supply chain optimisation. Carter has consulted extensively in the United States, Latin America, Asia and Australia to manufacturing, distribution, retailing and aftermarket organisations. He also authors and runs the 'Managing Supply Chain Inventory' and 'Network Modelling' courses within Monash University's Supply Chain & Logistics Masters Program and delivers courses in Forecasting and Inventory Management.

Some organisations Carter has provided training and consulting services for:

- The Australian Defence Forces
- Toyota
- Cummins Engine
- The Super Cheap Auto Group
- Wesfarmers Industrial & Safety
- Cadbury Schweppes
- Honeywell
- QANTAS
- Amcor Fibre Packaging
- Honda Australia
- OneSteel
- Nestlé Australia
- Australia Post
- Repco

Course approach:

This course aims to provide audiences with

- A clear methodology applicable to all relevant organisations
- Industry standard terminology and content
- Methodology and tools that are consistent with the entire business case

Pre-course questionnaire

To ensure that you gain maximum benefit from this event, a detailed questionnaire will be sent to you to establish exactly what your training needs are. The completed forms will be analysed by the course trainer. As a result, we ensure the course is delivered at an appropriate level and that relevant issues will be addressed. The comprehensive course material will enable you to digest the subject matter in your own time.

Key benefits and learning outcomes:

- **Exploring** the best demand planning strategies to minimise downtime and loss of production
- **Tackling** the issues with procuring spares from overseas
- **Improving** your lead time management
- **Optimising** inventory management and minimising hidden costs
- **Handling** obsolete and surplus stock

Testimonial from one of Carter's clients:

"We saved \$14m in six months. We're used to being promised these kinds of numbers; we are just not used to having them delivered."

Wing Commander

Royal Australian Airforce (RAAF)

Testimonials from similar past events:

"marcus evans is a very good course organiser and able to group all people all over the world. Good networking for all of us."

Murphy Oil Sarawak

"There is a good interaction among the participants and a good exchange of information."

Pilipinas Shell Petroleum Corp

"Gives new insight to warehouse design and planning based on actual case."

Petronas Ammonia Sdn Bhd

"A well presented set of foundational knowledge and information on inventory management."

Intel Technology Asia

"The event have provoked a new perspective of the inter-phase between operations, maintenance and engineering departments."

Nigerian National Petroleum

"It was indeed a very good opportunity to get some clarifications on maintenance misunderstanding concepts."

Oman Polypropylene

marcus evans training courses are thoroughly researched and structured to provide intense and intimate practical training to your organisation. Our format:

- Pre-course questionnaires
- An in-depth tailored programme to address market concerns
- Diverse real life case examples
- Comprehensive course documentation
- Interactive roundtable discussion and breakout sessions

Media Partner



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Tuesday 16th March 2010

Session One

Exploring advanced spares management methodologies

An ineffective spares management process will result in at least 15% - 35% of asset down time, often due to the lack of necessary parts and materials to perform repairs correctly and quickly the first time. To help participants successfully address these challenges, a range of different maintenance philosophies and strategies will be explored

- Utilise Operational Equipment Effectiveness (OEE) disciplines to benchmark your current performance
- Employ Level of Repair Analysis (LORA) to determine what to do in-house and what should be outsourced
- Evaluate your 'maintain' and 'replace' strategies via Life Cycle Costing (LCC) methodologies
- Employ Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR) data to determine whether you should overhaul the item to 'as new' or wait until failure and then respond very quickly
- Determine your approach in terms of your maintenance philosophies. For example, if you have a 'preventive' maintenance approach, is it based on inspection and/or condition monitoring, or is it based on time or duty cycle overhauls?

Once these maintenance philosophies and strategies have been explored, specific management methodologies and techniques will be discussed in the following sessions

Spares demand planning

Session Two

Predicting demand to minimise operational asset downtime and loss of production

- Too much vs. not enough inventory
- Planning for obsolescence
- Ensuring effective and efficient communications between the supply and maintenance personnel to ensure that the correct decisions are made
- Exploring innovative forecasting techniques and tools

Session Three

Strategies to manage accurate spares demand planning and forecasting

Long lead times, unpredictable demand spikes, ever-changing prices and low usage rates, thus making them difficult to secure in a timely manner, have often influenced spares.

- Planning projected delivery dates properly to prevent critical maintenance need for spares
- Tracking spares movement history to plan for delivery lead time
- Time Phased Replenishment Planning (TPRP)

Session Four

Determining the range and quantities of spares initial provisioning

- Identifying and differentiating provision strategies for critical, non-critical and consumable spares
- Building your spares management on consumption rate and procurement lead time via Re-order Level (ROL)
- Establishing Proper Order Quantities for slow-moving and normal spares

Session Five

Managing repairable & rotatable items

- Distinguishing between repairable and rotatable items
- Appointing single entry point to provide easy information access of spares repaired and returned
- Setting up inventory information system for repair history to make repair/replace decisions
- Calculating spares values after repair-and-return to store
- The application of Life Cycle Costing (LCC)

MRO spares supply chain management

Session Six

Tackling the issues with procuring spares from overseas

- Key areas to consider when sourcing spares from overseas
- Long waiting period to get the spares delivered
- Irresponsive overseas OEMs

Session Seven

Strategic lead time management

- Actively managing your spares inventory levels
- Lead time analysis: To stock or not to stock?
- Examining the factors that are lengthening lead times
- Achieving higher productivity than competitors
- Creating a responsive chain

About your course leader:

Carter McNabb Partner
GRA Australia

Carter McNabb is a founding partner of GRA, an expert consulting firm specialising in supply chain strategy, planning & execution. With a 12-year history and a team of 40 professionals, GRA is Australia's premier supply chain consultancy and services clients throughout the Asia Pacific region.

GRA's clients include:

- | | |
|----------------------------------|-------------------------|
| • The Australian Defence Forces | • QANTAS |
| • Toyota Australia | • Amcor Fibre Packaging |
| • Cummins Engine | • Honda Australia |
| • The Super Cheap Auto Group | • OneSteel |
| • Wesfarmers Industrial & Safety | • Nestle Australia |
| • Cadbury Schweppes | • Australia Post |
| • Honeywell | • Repco |

For the last 17 years, Carter has helped Maintenance, Repair & Overhaul (MRO) organisations in North America, Asia and Australia deliver rapid and sustained inventory reductions, service level improvements and supply chain cost reductions through the practical application of advanced forecasting, inventory and supply chain optimisation processes, techniques and systems.

He has worked within Retail, Distribution, Manufacturing and Service / Repair organisations in industries ranging from Fast Moving Consumer Goods (FMCG) to Auto Parts to Defence at both the strategic and operational levels, and his focus areas include:

- | | |
|--|------------------------------|
| • Service Parts & Rotable / Repairable Item Management | • Sourcing & Procurement |
| • Maintenance, Repair & Overhaul (MRO) Supply Chain Management | • Warehousing & Distribution |
| • Demand Management | • Transportation |
| • Production | |
| • Inventory | |
| • Strategy, Planning & Execution | |

In addition to his extensive industry experience, Carter also authors and delivers Masters courses entitled "Managing Supply Chain Inventory" and "Supply Chain Network Optimisation" within Monash University's Logistics & Supply Chain Management Post Graduate Program. He presents in Melbourne University's Annual Logistics & Supply Chain Management Executive Development Program, as well.

With a series of published articles and white papers, press quotes and frequent speaking engagements; Carter is a recognised expert in the field. Importantly, he brings a healthy blend of theory and practical, proven experience to the subject of demand, inventory and supply chain optimisation.

Programme schedule

Day one & day two

0830	Registration & coffee
0900	Morning session begins
1030	Morning refreshments and networking breaks
1100	Training resumes
1300	Networking luncheon
1400	Afternoon session begins
1530	Afternoon refreshments and networking breaks
1600	Training resumes
1730	Course concludes

marcus evans would like to thank everyone who has helped with the research and organisation of this event, particularly the trainer, who has kindly committed and supported the event.

Wednesday 17th March 2010

Session One

Critical spares management as a preventive measure against excessive asset downtime

- Connecting spares management with your asset maintenance practices and requirements
- Pinpointing spares turnover rate by specific spare parts to obtain spares prioritisation
- Collaborating with your maintenance team to decide adequate stock level
- Applying algorithms to calculate critical stock levels
- Utilising preventive and reactive maintenance stocking considerations

Cost saving strategies

Session Two

Gaining practical insights into the true inventory costing

The costs of holding spares must be accounted as part of the decision-making operating process, as the true carrying cost can be as high as 30% - 40% of the purchase cost per item per year.

- Estimating the value of spares
- Identifying and calculating the hidden inventory costs
- Exploring the best practice methods to reduce inventory cost

Session Three

Minimising spares inventory cost

- Avoiding the excessive cost associated with reactive measures
- Optimisation of spares across multiple locations
- Reduce dependence on high-cost or hard-to-get spares
- Employing better techniques in live data procurement
- Adopting advanced data migration strategies

Session Four

Evaluating cost saving considerations to reduce inventory expenditure wastage

To reduce these growing costs, spares inventories must be kept low while accommodating cost saving considerations that are up to standard service level and low stockouts. Here, we look into what other efforts can be made to curb or control unnecessary costs of spares inventories

- Standardising your assets so that spares can be shared between the warehouses
- Locating your spares warehouses at key areas to easy accessibility
- Consolidating spares and suppliers to keep the number of your suppliers low and gain better prices and service
- Scheduling consignment arrangements to occur at the same time

Inventory Management

Session Five

Spares inventory optimisation

- Ensuring the replenishment of spares in inventory maintains the reliability level in your plant
- Preventing overstocking and deficiency
- Minimising individual spares inventory problems using multi replenishing schedules
- Finding the required spares more quickly and easily from storage

Session Six

Utilising the most advanced stocking strategies to fit different spares management needs

- ABC analysis cycle counting
- JIT (Just-In-Time)
- Dual re-order points
- Economic order quantity
- Two-bin method
- Forward exchange practices
- Vendor Managed inventory
- Consignment stock from the OEM

Session Seven

Handling obsolete and surplus stock to release much needed space in your spares inventory

Over time, stores accumulate spares that are no longer needed. Whether managers realise this or not, keeping unnecessary spares is costly. Spares overhead is probably the highest cost, as it becomes dead capital for the business. This session explores the need for spares managers to look at recuperating their non-moving (excess, slow-moving, dead, obsolete etc.) stock

- Evaluating total cost of holding spares in storage to ascertain lost capital
- Identifying and retrieving your obsolete and surplus spares to dispose and save money at least once a year
- Recouping your initial capital expenditure by returning to vendors for credit
- Organising a periodic disposal plan to release obsolete and surplus stock in inventory

Why you cannot miss this event

In the increasingly competitive market environment, today's organisations are striving to boost their productivity while reducing cost. Spare parts optimisation is one of the most common, but complex and expensive problems in many organisations. Poor MRO spares management can result in expensive downtime, and potentially hazardous operations.

It is very common that for every spare used, five or more parts are held in stores, which perhaps may not be used. At the same time, ordering more than needed (for 'just-in-case' scenarios) have been occurring problems for them, mainly due to improper or lack of confidence in forecasting its spares requirements. It is not unusual to see an average of 20-30% of maintenance people's time to be used for finding parts and material. Many have found that due to improper planning, 60% to 80% of their maintenance expenditures are accounted by spare parts consumption yearly.

This course will provide an excellent opportunity to gain strategic insights into the proven methodologies and in-depth processes for establishing effective and sustainable spares management within.

Who must attend

Presidents, Senior Vice Presidents, Vice Presidents, Directors, Assistant Directors, General Managers, Senior Managers, Managers, Heads of Departments, Supervisors, Engineers and Executives from the following job areas:

- | | |
|----------------------------|------------------------------|
| • Supply Chain | • Commercial |
| • Spares Management | • Maintenance |
| • Material Planning | • Warehousing / Inventory |
| • Purchasing / Procurement | • Industrial Engineering |
| • System Engineer | • Operations / Plant Manager |
| • Quality Control | • Store Manager |
| • Finance | |

From the following industries:

- | | |
|------------------------------|--------------------------------|
| • Oil and Gas | • Chemicals and Petrochemicals |
| • Energy and Utilities | • Mining |
| • Telecom | • Food & Beverages |
| • Steel | • Cement |
| • Aluminium | • Automotive |
| • Electrical and Electronics | • Pharmaceutical / Medical |
| • Heavy Industries | • Heavy Manufacturing |
| • Airlines | • Transport & Logistics |
| • Defence | |

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