

SSM 67 - LOGISTICS IN MANUFACTURING MANAGEMENT

Production is one of the most basic and important functions of human activity. It creates the wealth of nations and is central to many business strategies. Planning and co-ordination is vital, as production can be a high cost operation within the business.

Do companies suffer from material and component shortages? Do these prevent you from achieving your high customer service objectives? Do you have to constantly re-plan production? Is the output from your MRP system too nervous? Do your planners and buyers fail to process all the action messages before the next MRP run? Is there a general lack of understanding of where the messages and the plans have come from, and how to react? MRP helps you to address all these issues. If your company answers "yes" to some, or all, of these questions, then this workshop is for you.

MRP evolved in the late 1960's out of dissatisfaction with traditional planning methods, and of the beginning of access to commercial computers. The early pioneers got the logic just about right – an early example of right first time? – and the heart of the calculation has not changed. Huge systems to handle Enterprise Resource Planning, ERP, and Supply Chain Management have evolved over the succeeding years, but the essential logic of the MRP calculation is still there, somewhere at the heart of all these systems. MRP 'touches' many people in the organisation – sales and marketing, finance, planning, materials management, purchasing, production, engineering, stores, supply chain and more – so a wide range of people need to understand MRP.

Best practice material planning provides the essential foundation of balancing supply and demand to implement successful ERP and Supply Chain systems. Without the foundation of good material control it is almost impossible to achieve the full benefits of lean and agile manufacturing.

This workshop is intended to provide the delegate with a thorough understanding of Material Requirements Planning, MRP, and where it fits in today's organisations.

WHO SHOULD PARTICIPATE?

This course is intended for both personnel working within a production environment or alternatively non-production personnel, who would benefit from an overview of the concepts and an update of current best practice. It will also be of value for organisations that currently sub-contract out activities, but still require knowledge of production concepts.

Primarily this should be those who provide input to, and process the output from, the MRP process. Who provides input? This includes master schedulers, stores people who look after the inventory numbers, the logistics people, production and purchasing people who look after open orders and the parameters of batch sizes and lead times, and engineering people who look after routings and bills of material. Who processes the output? This includes the production and purchasing people who plan and release the plans – planners and buyers.

Who else would gain from a better understanding of MRP? Demand managers, who manage the demand from customers, through the sales and marketing organisation; those involved with

higher level business processes, such as Sales and Operations Planning, and Business Planning; financial people who need to manage the aggregate value of inventory, both now and into the future; supply chain professionals, materials managers, logistics managers; and last, but by no means least, senior management who need an understanding of some of the planning and control logic at the heart of their business.

What will they learn?

Participants will complete the programme having explored classifications of production and how they fit into the Supply Chain. They will understand a framework which encompasses the five key aspects of production and how they work. Finally, effective measurement techniques will be explored and focus given to improving performance.

This course is also intended to provide the delegates with a thorough understanding of Material Requirements Planning, MRP, and where it fits in today's organisations.

Workshop Objectives and learning outcomes

- To fully understand what MRP is
- To see where MRP sits in integrated systems, such as Manufacturing Resource Planning, MRPII, ERP, Supply Chain Management, and other techniques, such as Advanced Planning and Scheduling, APS
- To appreciate the inputs to, the logic of, and the outputs from MRP
- To understand how to set up and use MRP in practice
- To realise all the potential impacts of MRP upon the business
- To recognise the importance of MRP in the 21st century

Workshop Competencies

Delegates will be able to differentiate between traditional inventory replenishment mechanisms and MRP. They will be able to focus upon the primary inputs to the MRP process. They will be able to perform manual MRP calculations, just as the software does, so that they can better understand how the results are arrived at. They will know how to handle those outputs. They will know what is needed for a successful MRP implementation. They will realise the benefits that can be achieved. They will appreciate the potential impact upon the business.

COURSE CONTENTS

Session 1: Introduction to MRP

- Personal introductions
- What issues and problems do you see?
- Think about 5 lessons to be learnt
- Evolution of MRP and beyond
- Reorder point, periodic review, joint replenishment
- Material Requirements Planning, MRP
- Manufacturing Resource Planning, MRPII
- Enterprise Resource Planning (ERP)
- Supply Chain Management
- Just in time, lean, agile manufacturing

Session 2: The Master production Schedule, MPS, and other demand

- Inventory, stock on hand
- Open orders – purchased, manufactured
- Planning parameters - order policies, lead times, safety stock, modifiers
- Bills of material, recipes, formulae, parts lists

Session 3: Keep the projected available balance \geq safety stock

- The outputs from MRP
- Action messages
- Proposed purchase orders
- Planned manufacturing orders

Session 4: More order policies

- Using routings to calculate manufacturing lead times
- The MPS

Session 5: Working with MRP in practice

- MRP and lean working together
- MRP for planning
- Lean, agile, JIT for execution
- The latest advances
- Planning materials and capacity together
- Advanced methodologies, APS
- Optimisation
- Conclusions
- Course evaluation and summary