

Effective Planning of Materials 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, 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

Personal Impact

The workshop will expose delegates to a number of key principles that should have an impact upon their ongoing view of the business. These will include such concepts as the paramount need for accurate data, the requirement for discipline in everyone's daily job life, the demand for everyone to have ongoing education and training to grow them in their jobs, the activities in planning an MRP project, and what must be put in place to achieve a successful MRP implementation, and thus to deliver justifiable business benefits.

Organisation Impact

MRP is a calculator at the heart of the business. If these calculations work, and are continuously improved, and the output is able to be trusted, and to be readily worked upon, then people will become more effective and efficient in their jobs. If the numbers at the heart of integrated systems are right, then the overall systems can deliver more benefits to the organisation. MRP originally evolved as a better way to plan inventory replenishment, to reduce total inventory.

This result should still be achievable today. It also sets the basic dates which influence the scheduling of production and purchasing. MRP is just one element of an integrated planning and control system; as a whole the business can start with good MRP, and then move on.

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.

Workshop Methodology

The workshop will provide a theoretical description of what MRP is, and how it works. The theory will be related to practice. Delegates will work through practical calculations, and consider the practical impacts of changes. Multi-choice quiz questions will be used to reinforce delegates' knowledge and understanding.

Duration: 5 Days

Course Content

1st Session: 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

2nd Session: 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

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

The outputs from MRP

Action messages

Proposed purchase orders

Planned manufacturing orders

4th Session: More order policies

Using routings to calculate manufacturing lead times

The MPS

5th Session: 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

Important Remark: This training programme can be taken both as a short professional course and, or, can be taken as part of the ***Chartered Institute of Logistics and Transport qualification programme at Certificate Level.***