



# Production planning

*Manufacturing management*

# Introduction

# need for production planning

- ◆ Effective utilisation of resources
- ◆ Achieving production objectives
- ◆ Obtaining the uninterrupted production flow
- ◆ Supplying good quality products

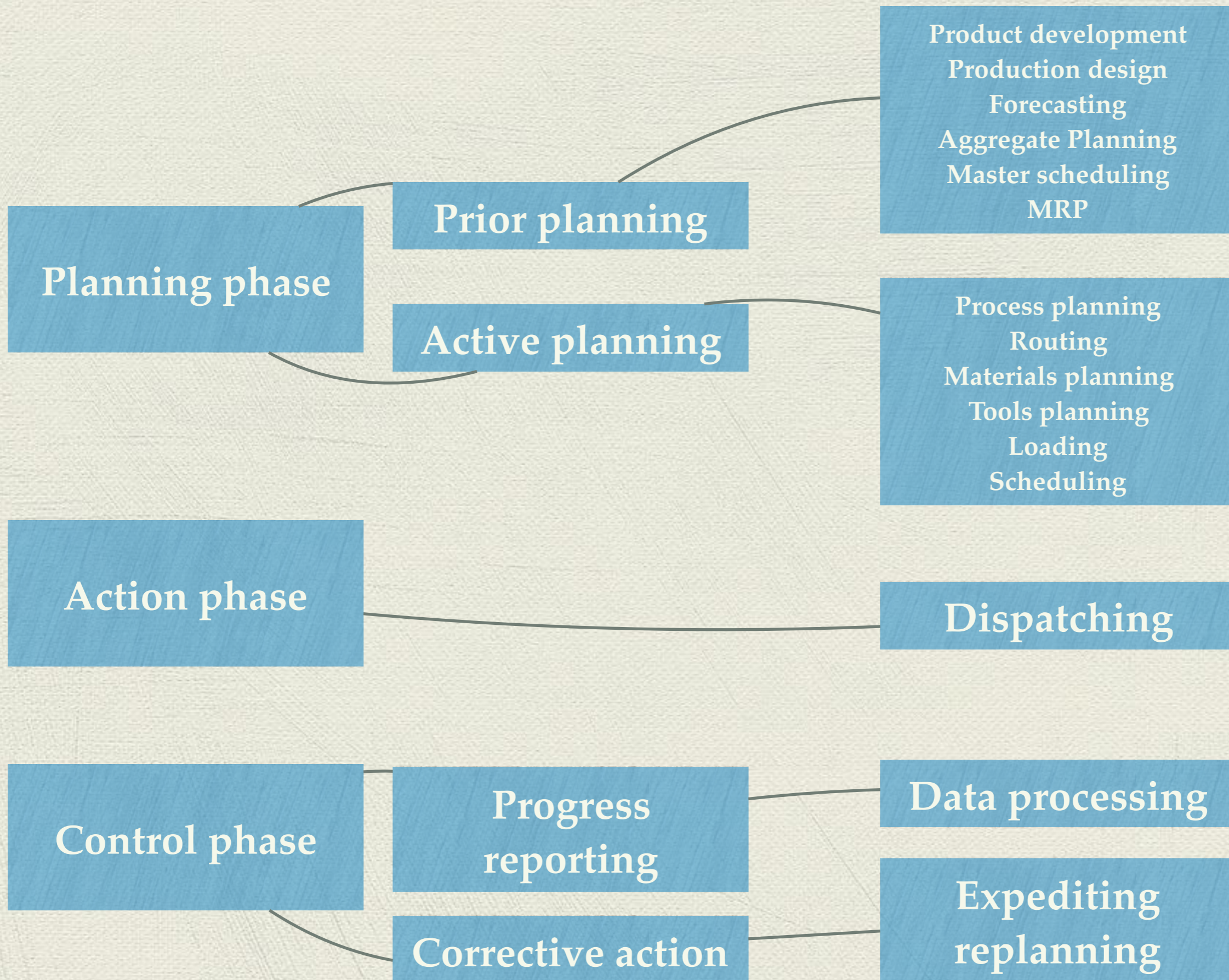


“Production planning is the determination, acquisition and arrangement of all facilities necessary for future production of products”

*–Ray Wild*

# Factors which affects production system

- ◆ Non-availability of materials (due to shortage, etc.
- ◆ Plant, equipment and machine breakdown
- ◆ Changes in demand and rush orders
- ◆ Absenteeism of workers
- ◆ Lack of coordination and communication between various functional areas of business.



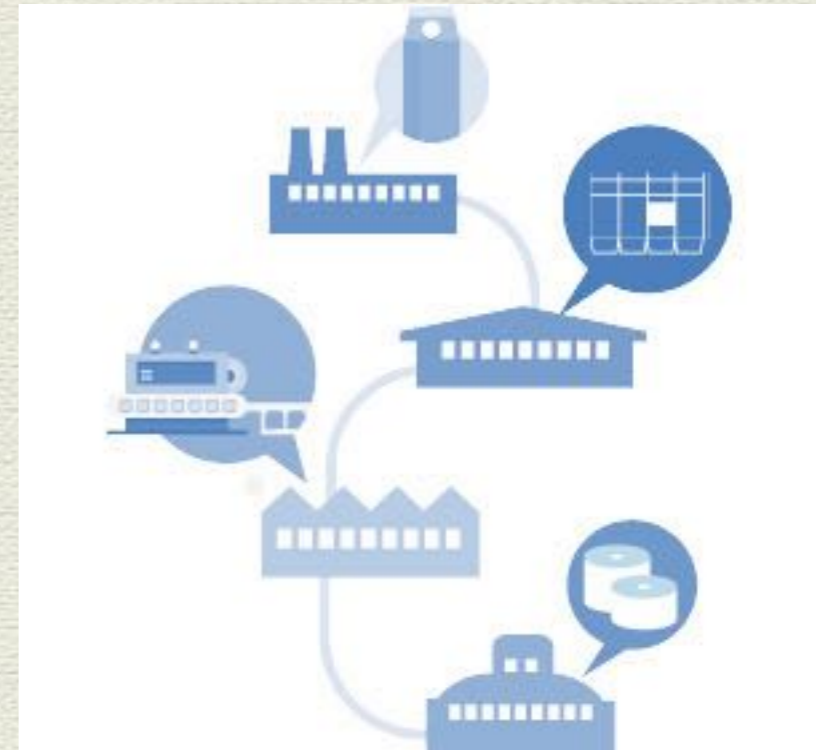
# Planning phase

**Planning** is an exercise of intelligent anticipation in order to establish how an objective can be achieved or a need fulfilled in circumstances, which are invariably restrictive.

# Action phase



# Control phase



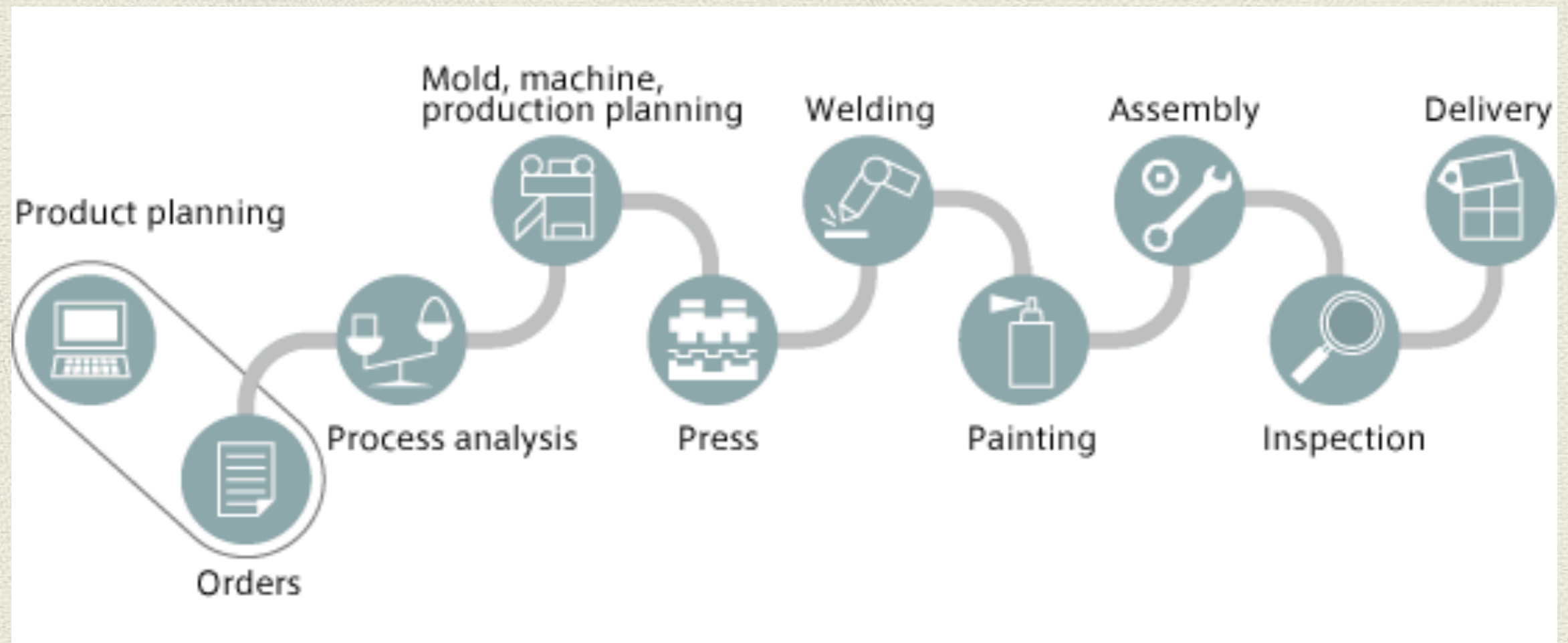
- Progress reporting
- Corrective action

# Functions of production planning

- ◆ Pre-planning
- ◆ Planning
- ◆ Control



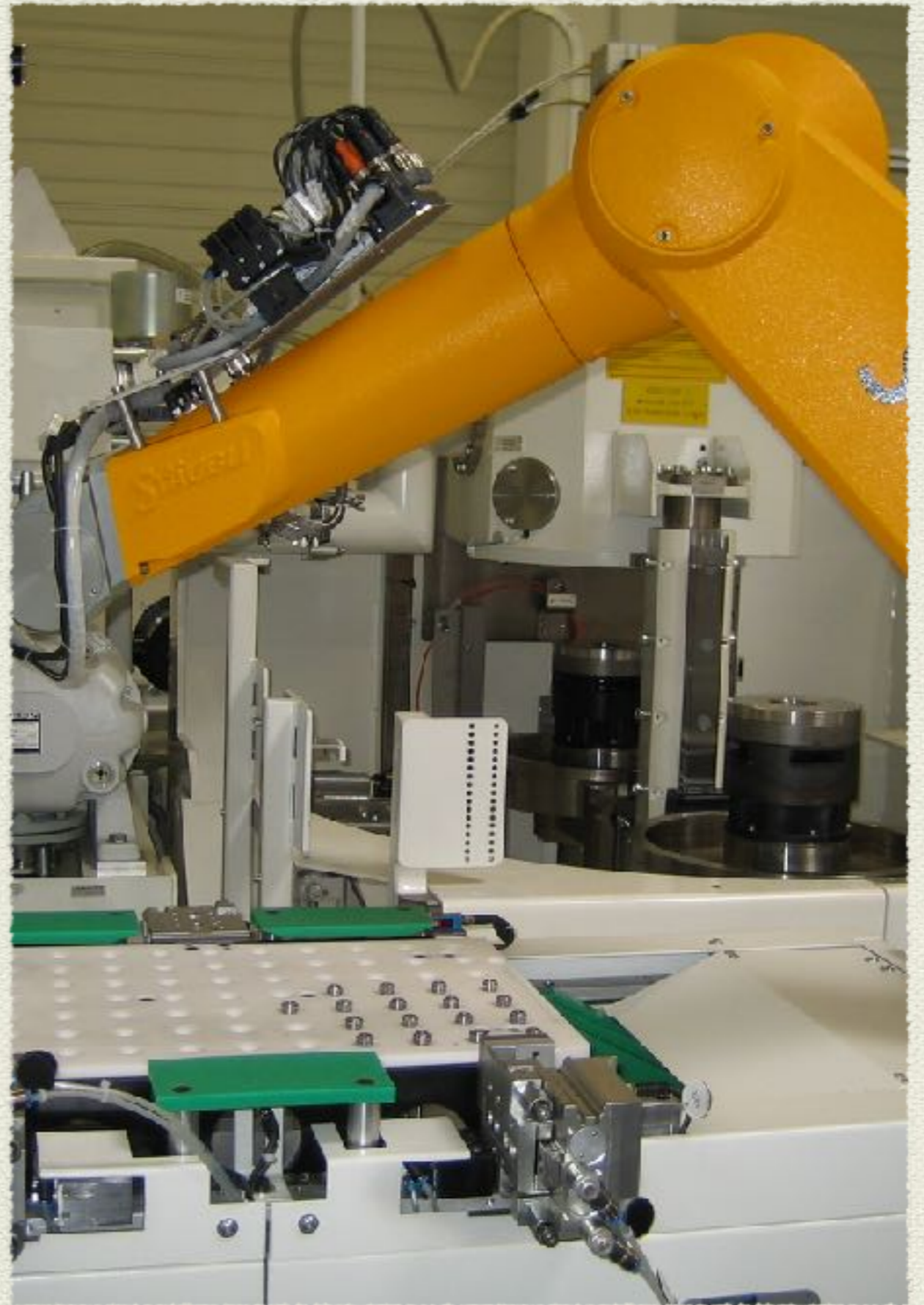
# Parameters for production planning and control



# Materials



# Machines and equipment



# Methods



# Process planning



# Estimating



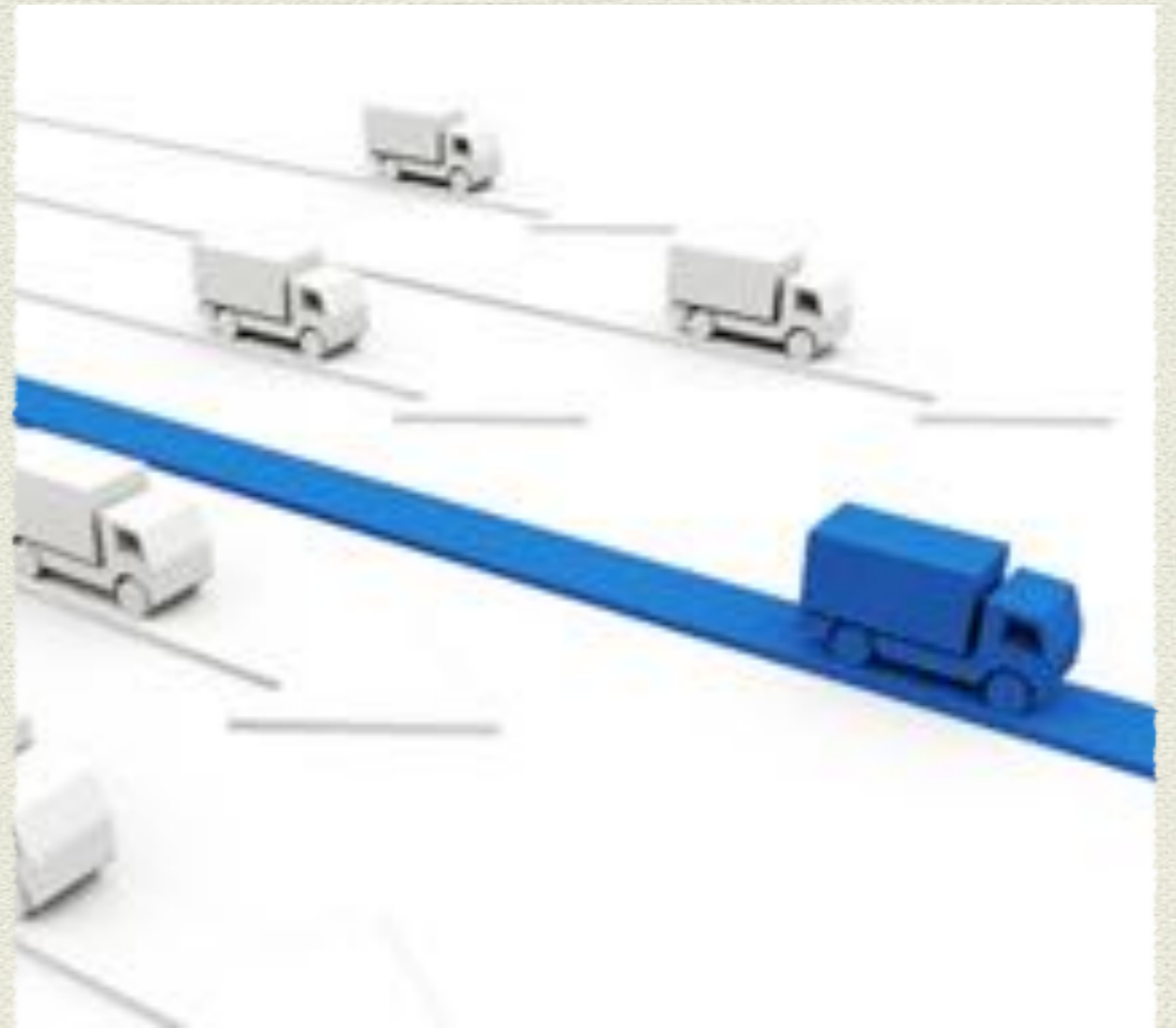
# Loading and scheduling



# Dispatching



# Expediting



# Inspection

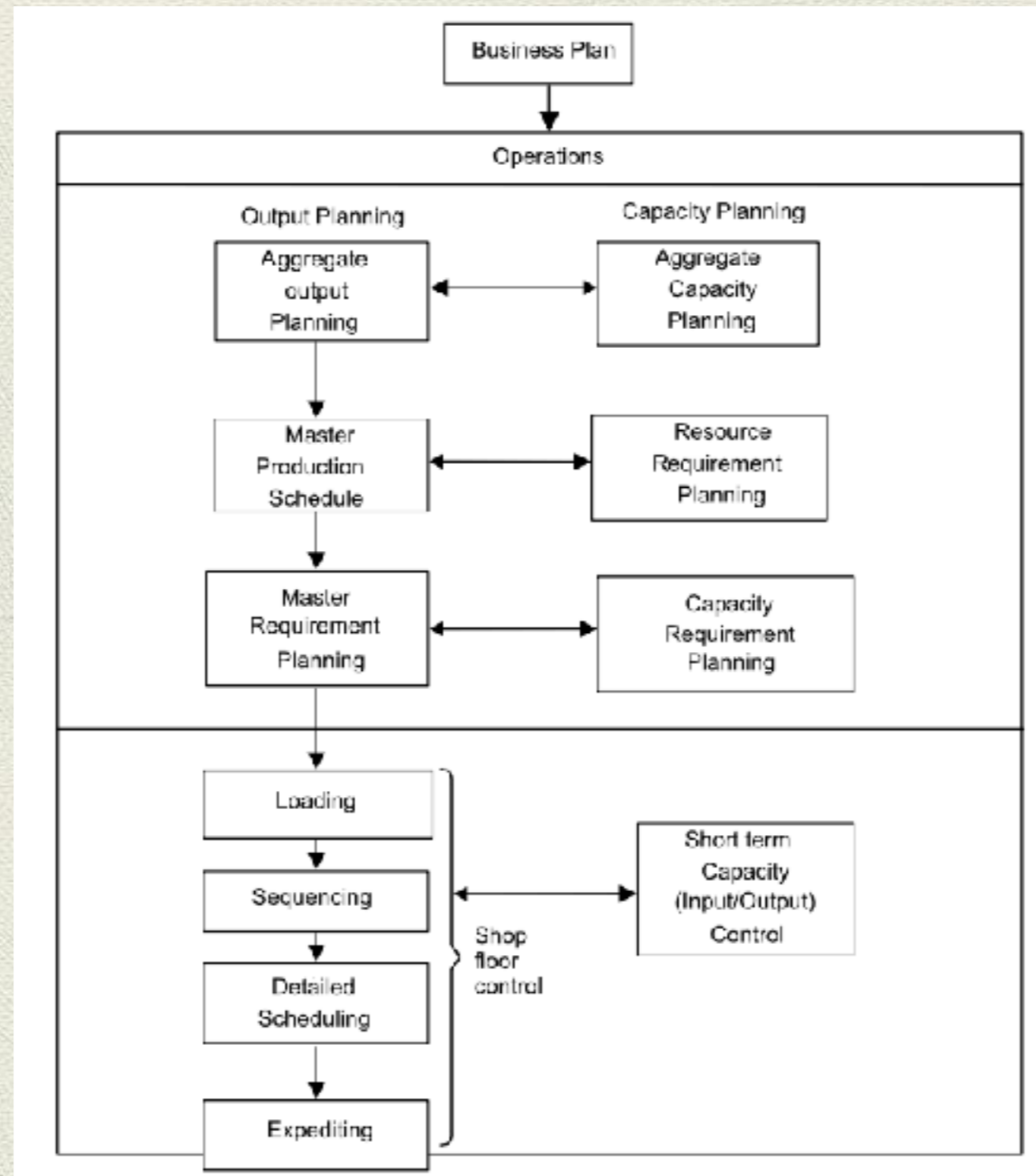
**INSPECTION**

**PASSED**  
 **FAIL**



# Evaluation





Operation planning and scheduling system

# Material Requirement Planning (MRP)

# Objectives of MRP

- ◆ Inventory reduction
- ◆ Reduction in manufacturing lead time
- ◆ Realistic delivery commitments
- ◆ Increased efficiency

# MRP System

- ◆ Master Production Schedule
- ◆ Inventory Status File
- ◆ Bill of Materials

# Scheduling

# Principles of scheduling

- ◆ optimum task size
- ◆ optimum production plan
- ◆ optimum sequence

# Scheduling strategies

- ◆ detailed scheduling
- ◆ cumulative scheduling
- ◆ cumulative detailed
- ◆ priority decision rules

# Scheduling methodology

- ◆ Gantt charts and boards
- ◆ Priority decision rules
- ◆ Mathematical programming methods
  - ◆ Linear programming
  - ◆ PERT / CPM network model

◆ Thank you