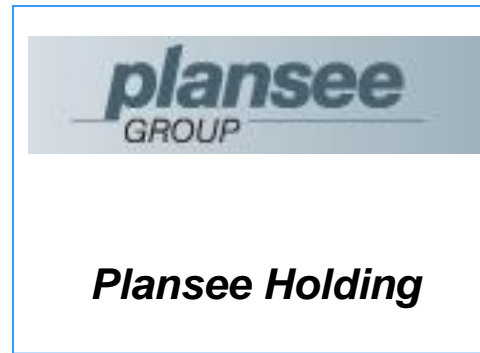


# PLANSEE - Holding

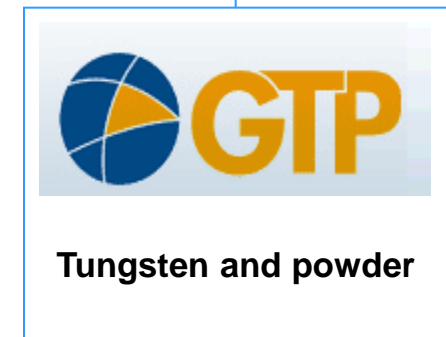
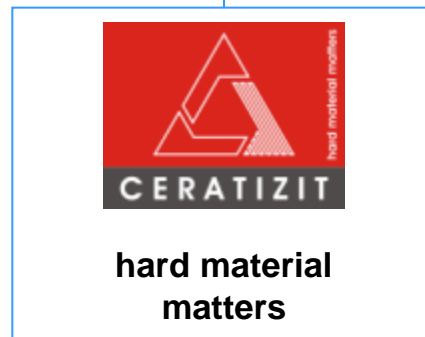
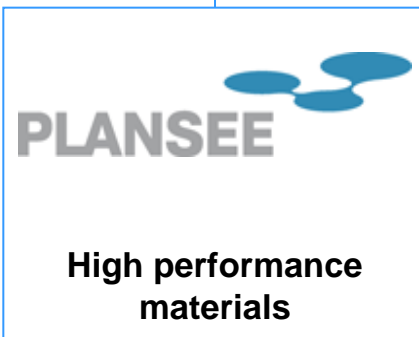


100%

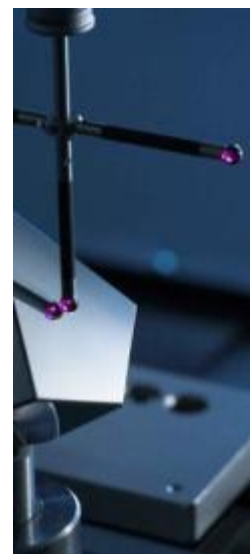
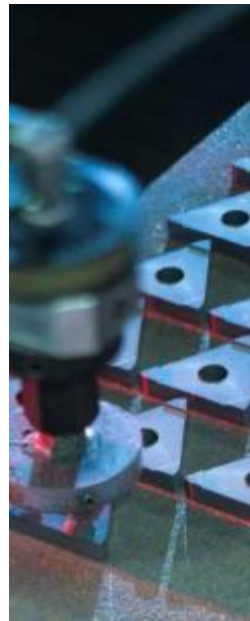
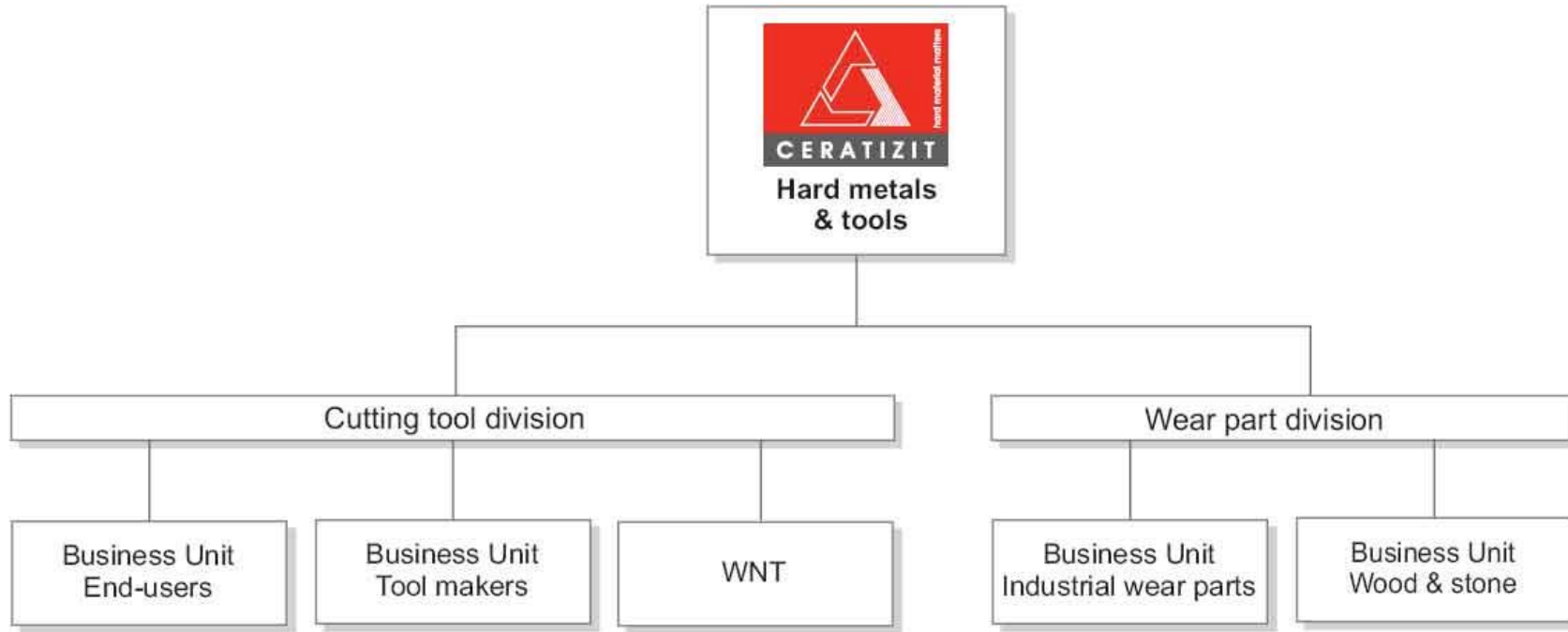
50%

50%

100%



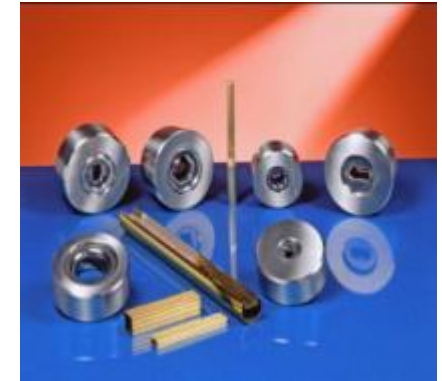
# CERATIZIT - structure / organigramm



## F1 – Cold heading dies



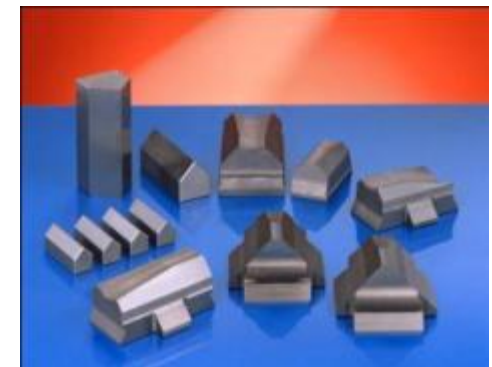
## F2 – Drawing dies



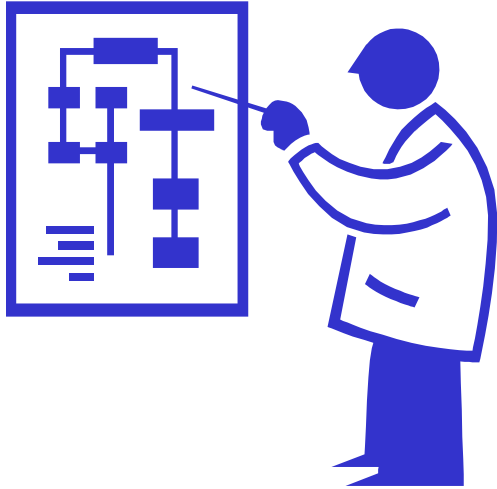
## F3 – Fastening Industry



## F4 – special metal forming

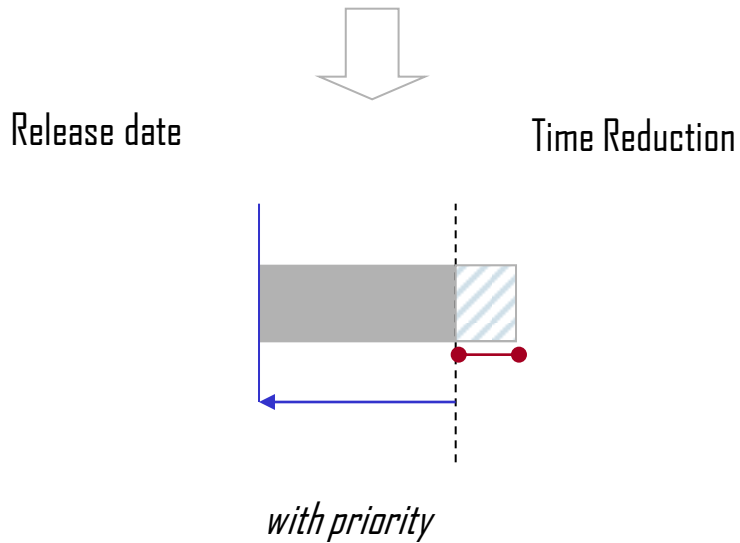
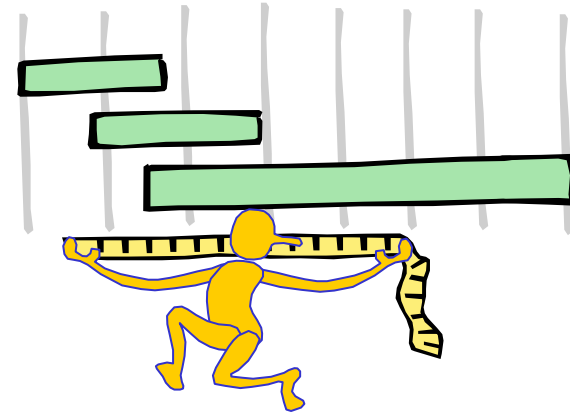
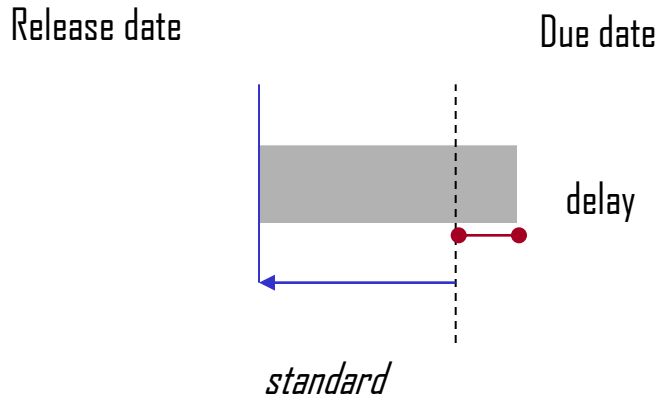


# Identified Dysfunctions

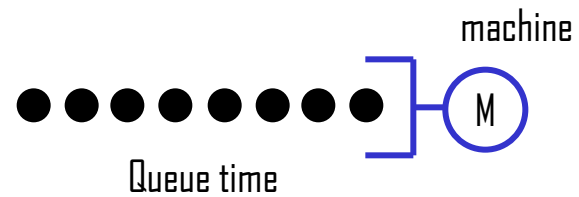


- Not updated process standard times
- High variability of processes due to lack of standardization
- Not efficient estimation of the order delivery dates
- Very low levels of capacity control
- Long lead times
- High values of tardiness
- Low service levels

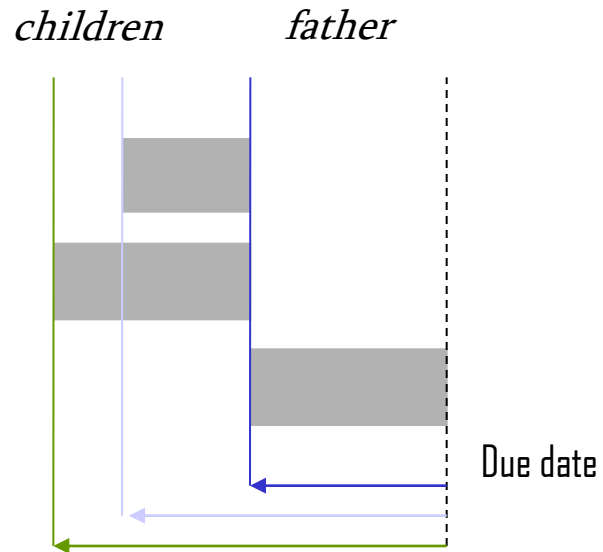
# Estimation of order delivery dates



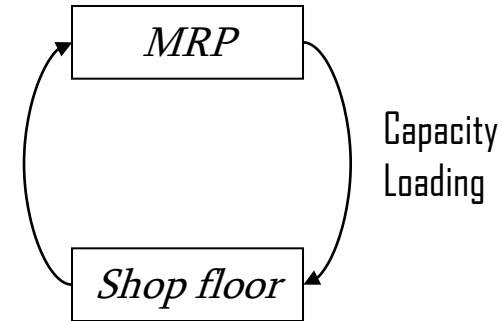
All orders are managed with highest priority



# Lack of production control



Modified  
Lead times



waiting times increase with the  
machine loading

- The MRP in the company works assuming infinite production capacity
- The MRP in the company assumes constant lead times
- Lead times are not updated
- No tool for shop floor control

# Production capacity control



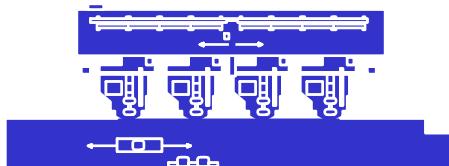
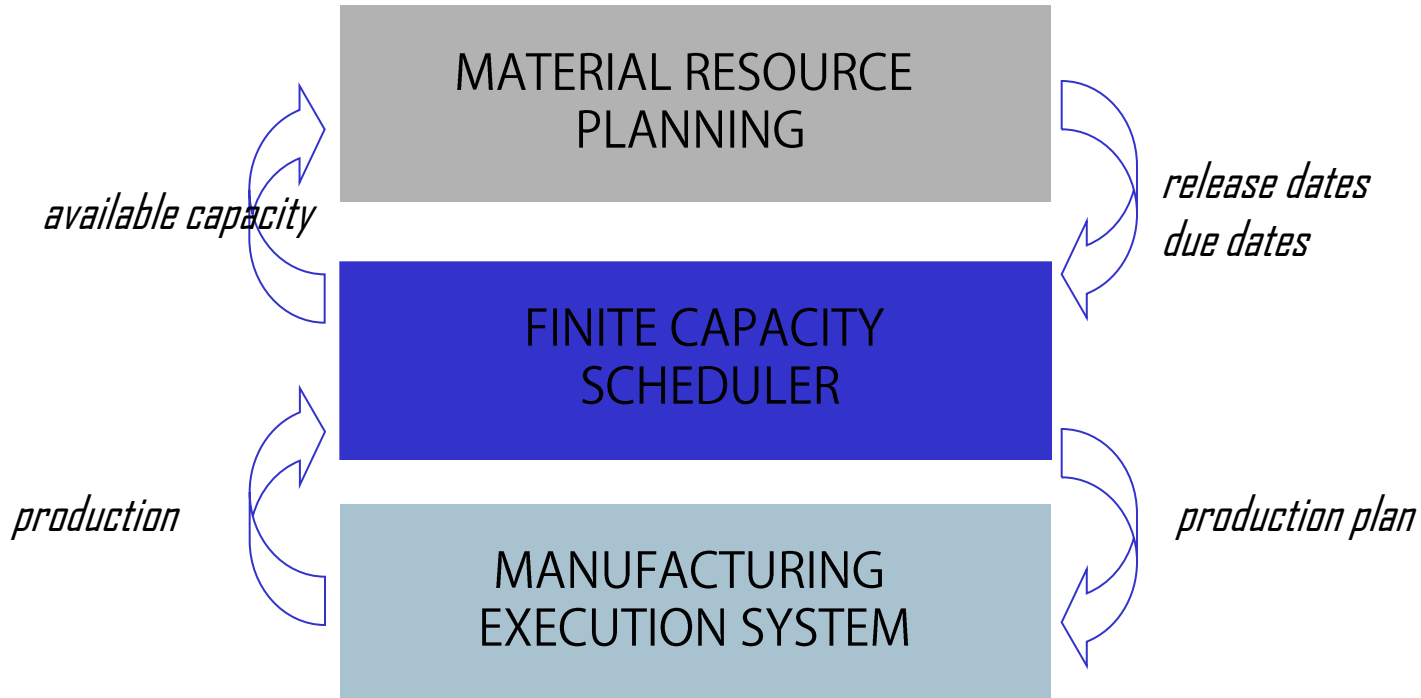
What piece will make the machine produce tomorrow ?

Code	Description	May	June	July	August	September	October	November	December	January
A1	Production flow analysis	■								
A2	Data collection	■	■	■						
A3	Definition of production objectives and constraints	■				■				
A4	Customization/development and testing of the TPS optimization algorithms			■	■	■	■	■		
A5	Customization of the TPS data base						■	■		
A6	First installation								■	
A7	Tuning and final installation									■
A8	Re-engineering of production planning processes	■								

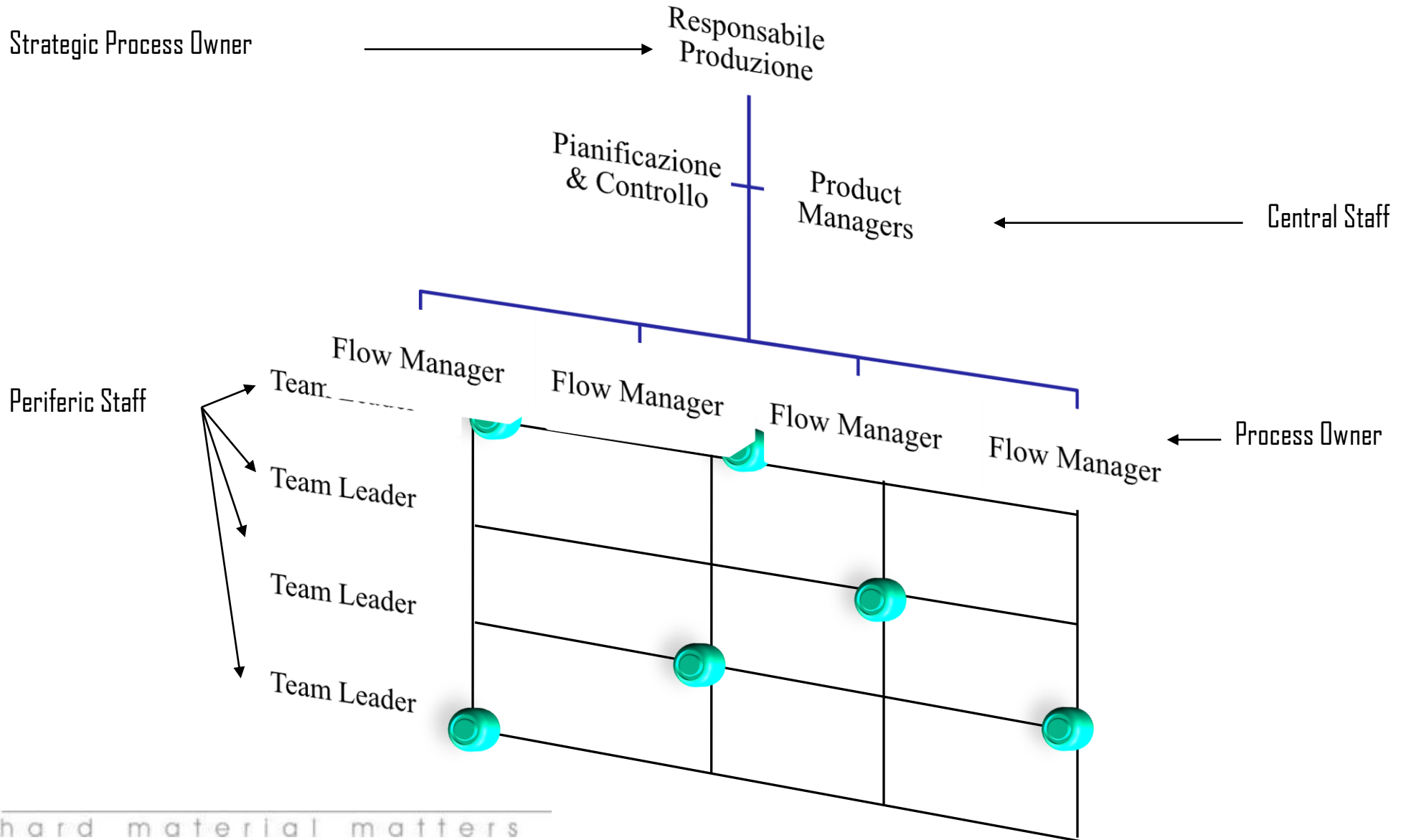
# TPS Project



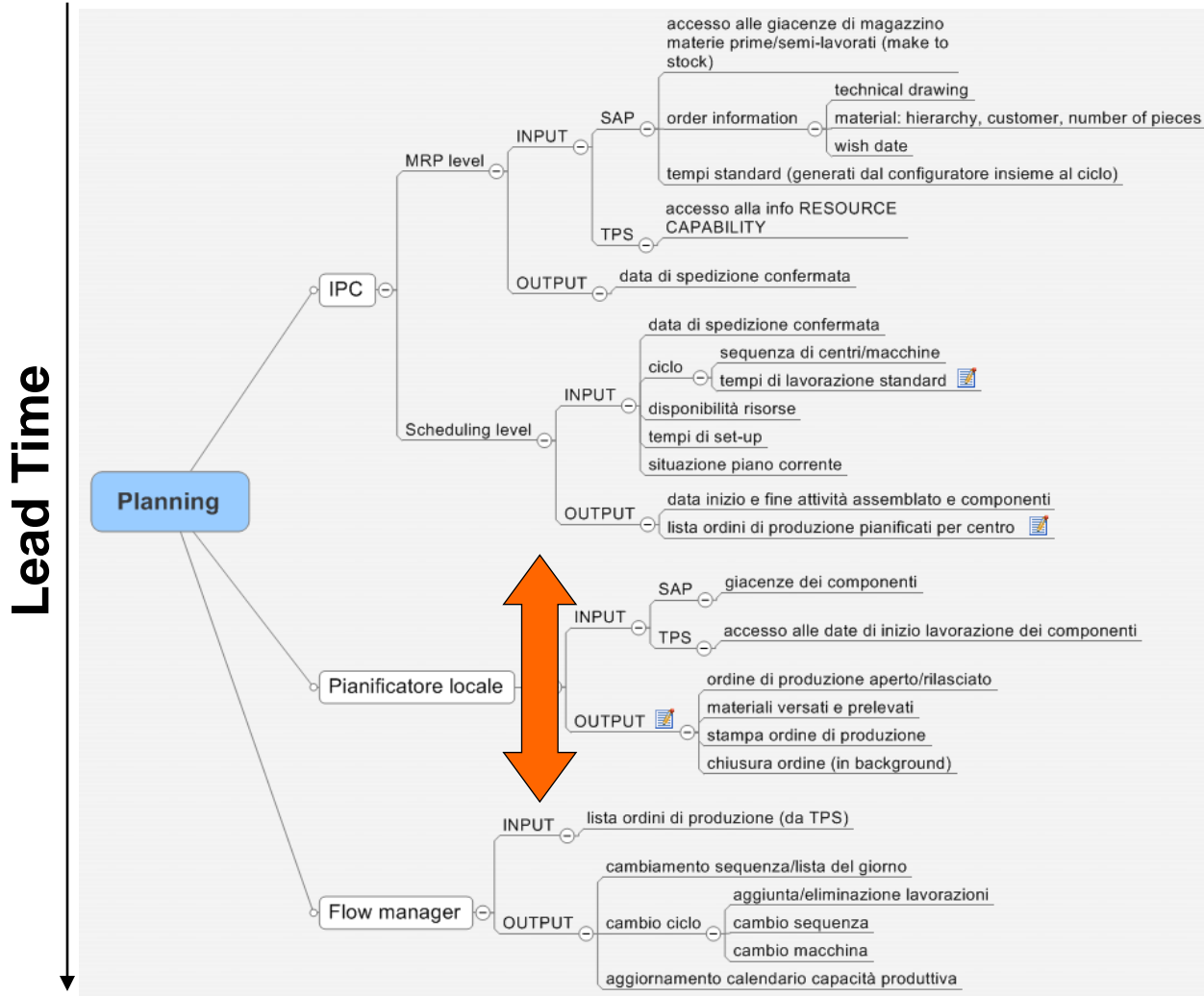
# TPS project



# AO - Business Unit Organisation



# A8 - Re-engineering of production planning process



## Lean Organization Office

- Job Enrichment
- Job Enlargement
- Reduction Hierarchical Levels
- Reduction Lead Time

# AO - Business Unit Organisation



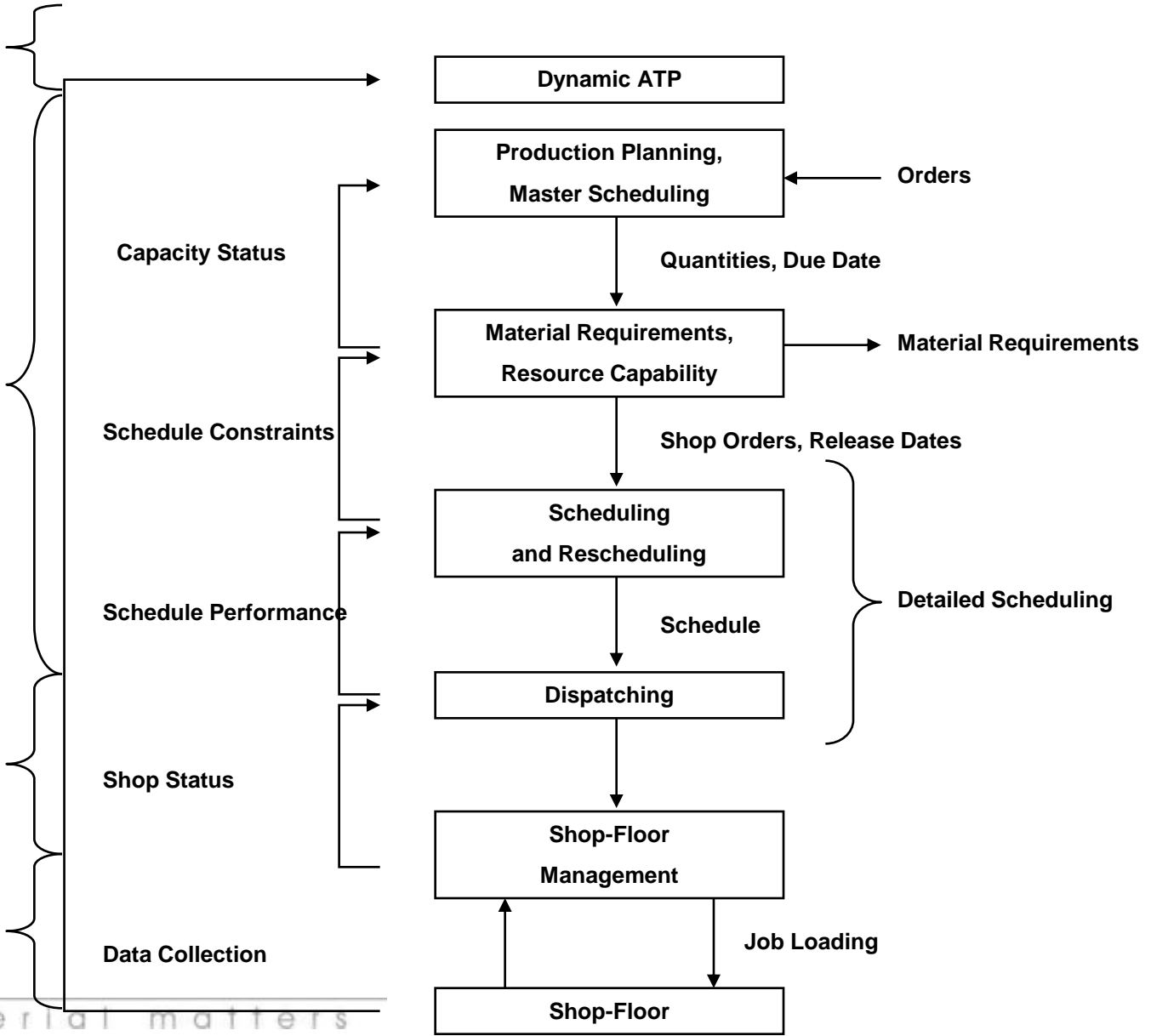
CUSTOMER SERVICE

PLANNING MANAGER

FLOW MANAGER

TEAM LEADER

Lead Time




SAP + TPS

SAP

SAP + TPS

Detailed Scheduling

TPS



TPS (APS)  
Advance Planning Scheduling

SAP (ERP)  
Enterprise Resource Planning

- **Central Planner:** assign the workload to centers (group of affine machines) on the basis of the due date, availabilities and customer priorities. If some technological info is available also a specific machine is chosen
- **Flow Manager:** modifies the assignment made by the central planner between some predefined range (2 days)

# Problems



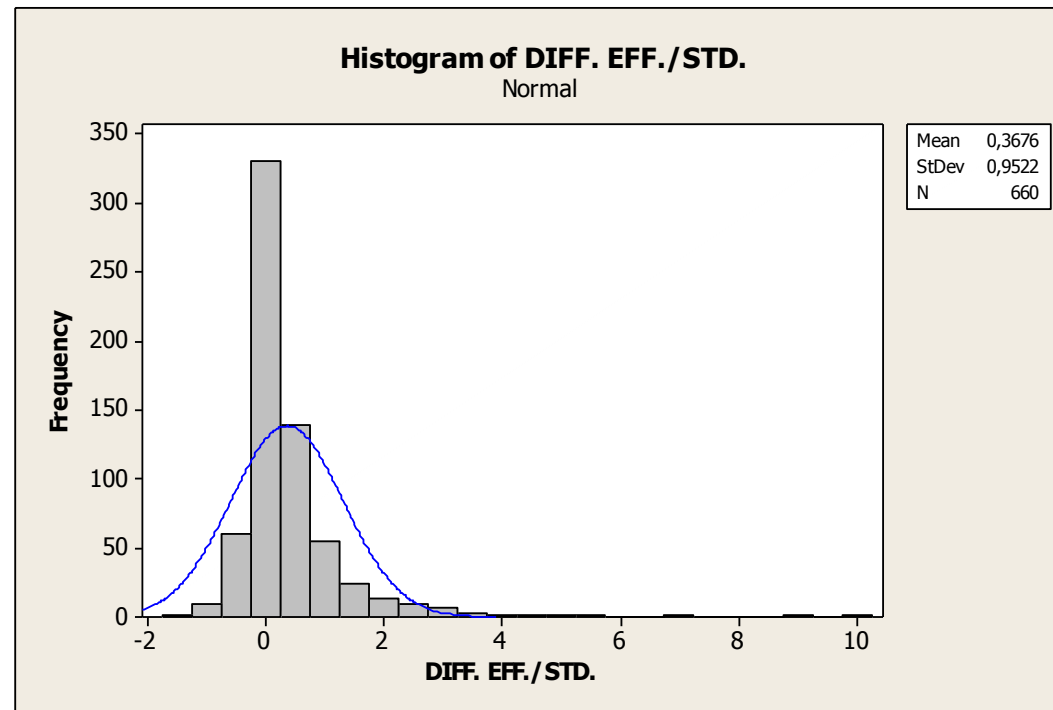
- The product information stored in the company ERP does not contain enough technological information
- Machine operators are the only persons able to assign properly a product to a machine
- Decision making: one central manager, local managers, flow managers

# Solution: details

- Customer priorities are assigned by the marketing staff (yearly)
- Product & machine technological characteristics
- Third suppliers of components & processes
- Center modeling
- Finite capacity machines
- Batch working machines
- Release dates
- Finite number of tasks (of the same order) scheduled in a time window
- Integration with the company ERP
- Continuous update (15 mins)

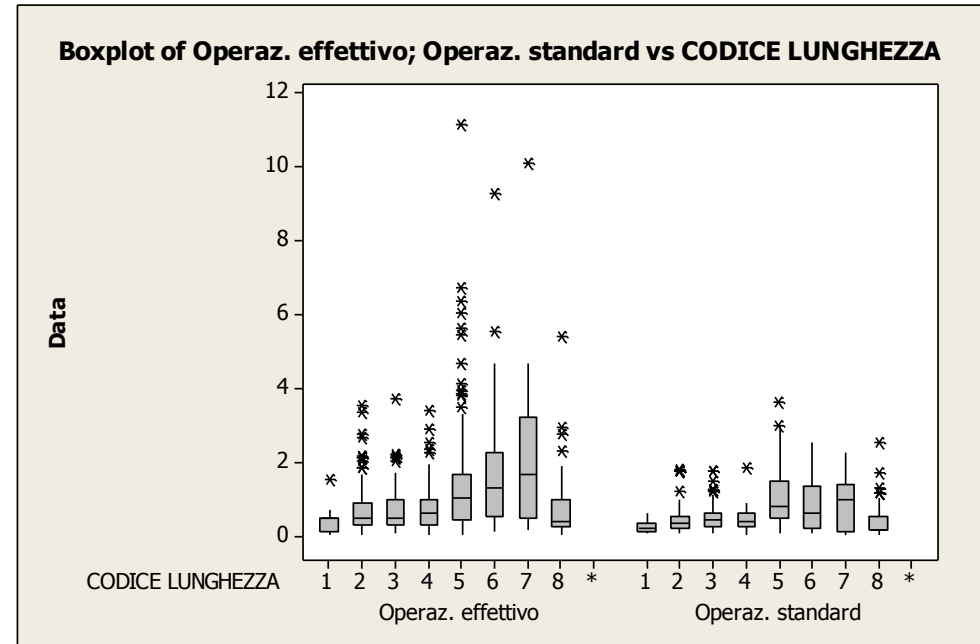
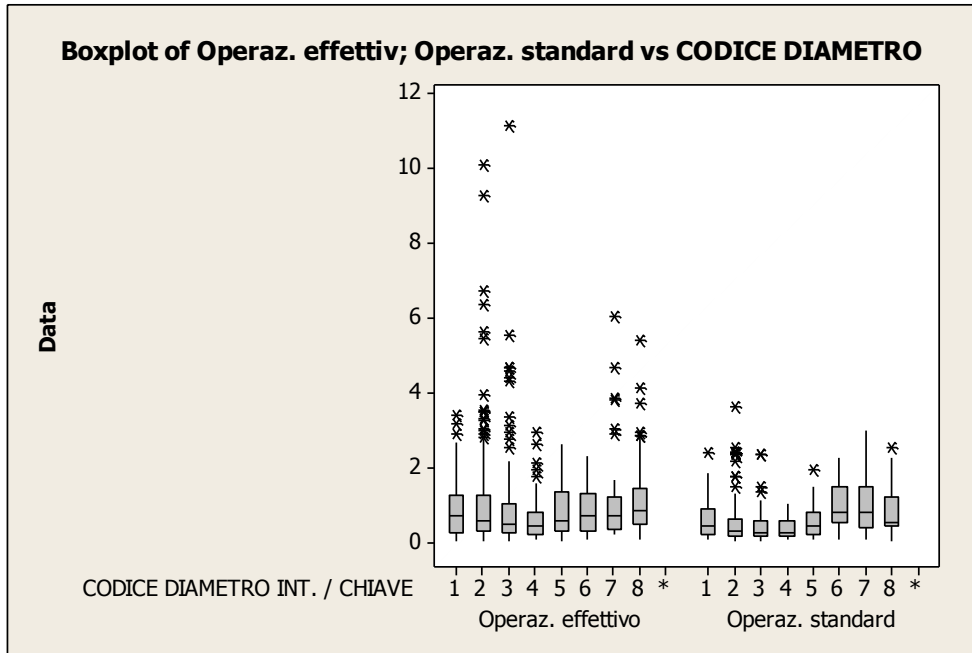


**Goal:** to derive a procedure for estimating standard times in Ceratizit processes





**Goal:** to derive a procedure for estimating standard times in Ceratizit processes



**Goal:** to derive a procedure for estimating standard times in Ceratizit processes

