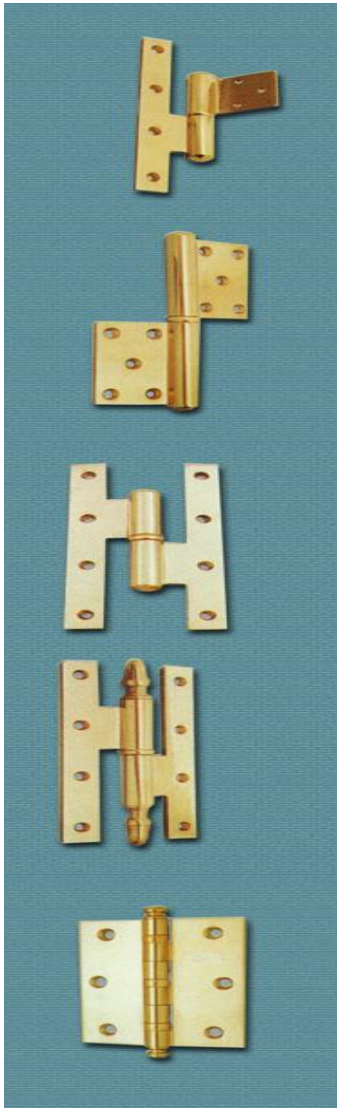
CASE STUDY 3

Example of the application of a

Lean-Manufacturing project

CHANGES IN A COMPANY IN THE WOOD FITTINGS SECTOR



COMPANY AND ENVIRONMENT

Family company engaged in the design, manufacture and marketing of butt and standard hinges for the wood sector.

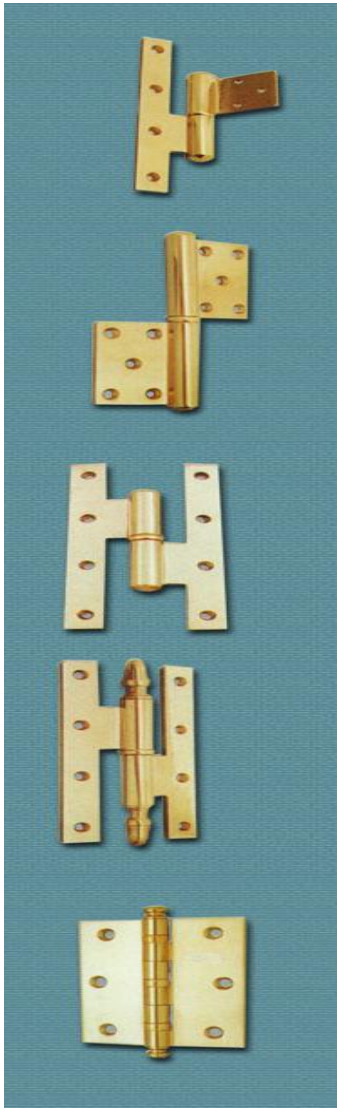
Well-known product thanks to a patent for the bushing-ball system taken out in the eighties.

National sales network with occasional exports to Chile, Mexico, etc.

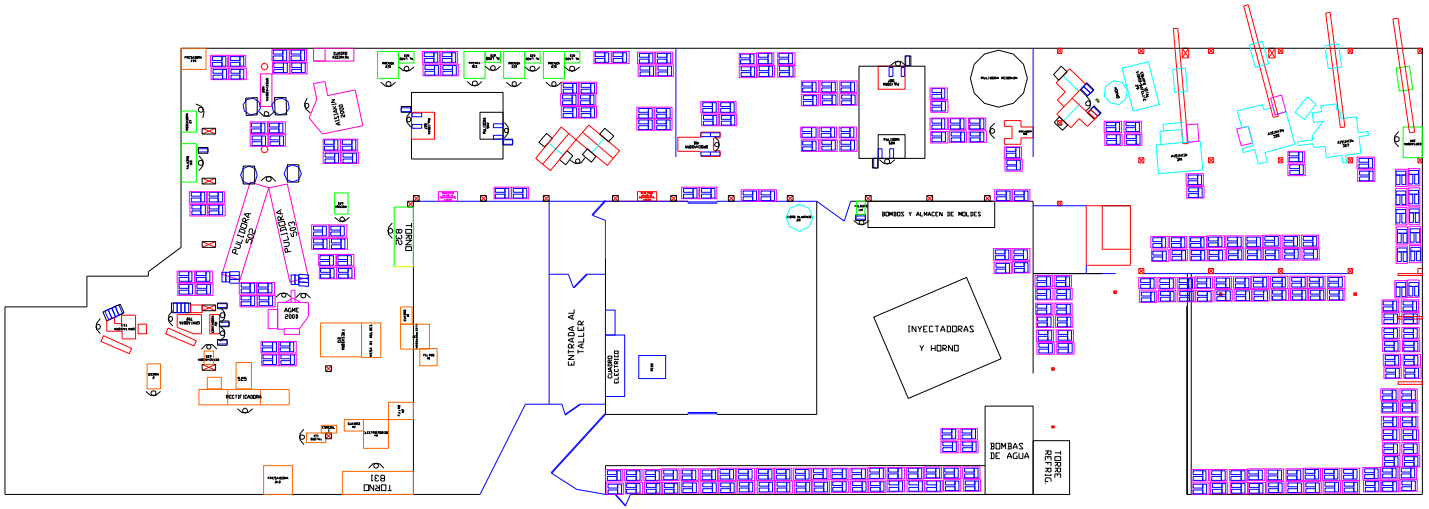
National competition from the same area.

Competitors from low-cost countries, mainly China, who place their products on the market at 75% of the manufacturing costs of this company.

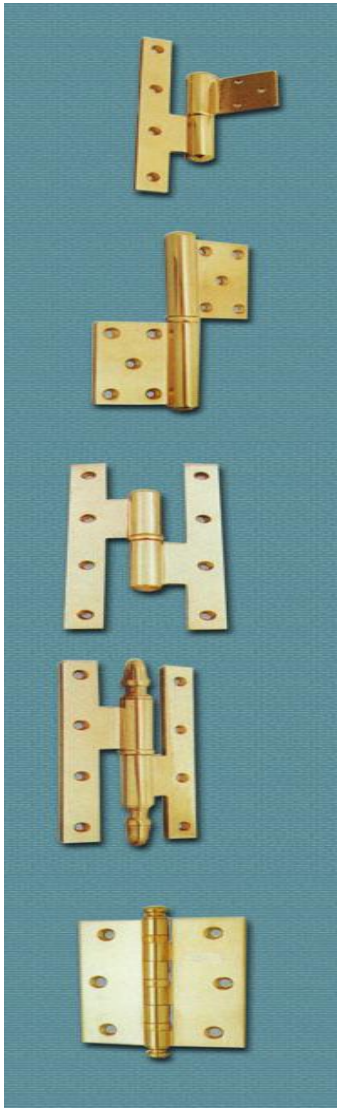
The quality difference is still a factor in their favour, but the gap is getting smaller and smaller.



INITIAL SITUATION: Layout



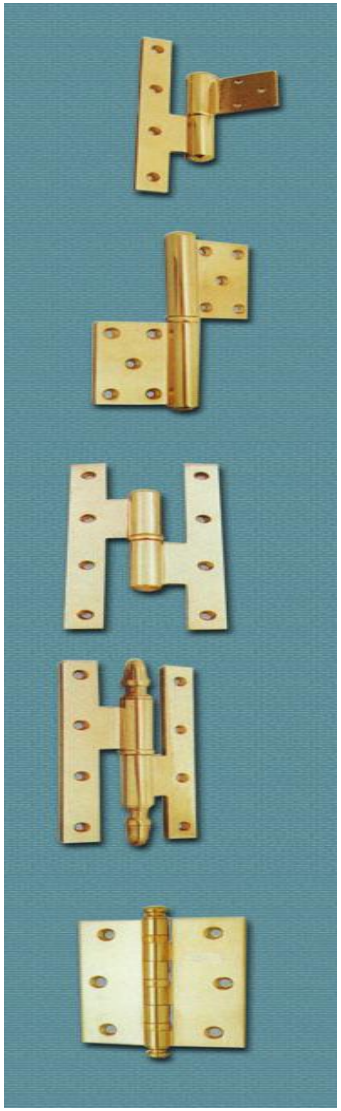
- Functional distribution
- Stock in progress suffocating the plant
- Warehouses on 2nd floor (MP and PT)
- Constant searches for tools and materials
- Very long reference changes
- Very complex visual management
- Strategy: incident management



INITIAL SITUATION: Indicators

The initial situation was characterised by assessing the indicators which were defined:

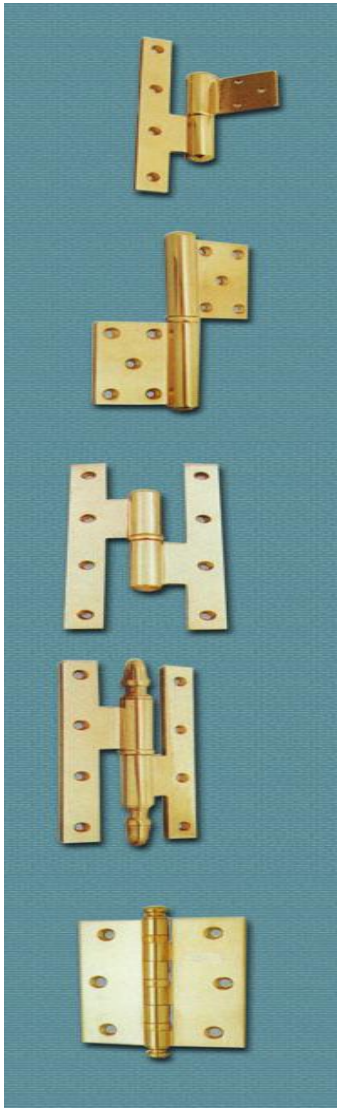
CONCEPT	INDICATOR	VALUE
Flexibility of production system	Lead Time	12 days
Manufacturing costs	% respect to final cost	58%
MOD productivity	Units/HxH	97 units/h*h
Optimisation of resources	M2 of production area	234 m2
Stock management	M2 of warehouses	589 m2
Fixed assets	No.of pallets of product in progress	2,534,400 pallets



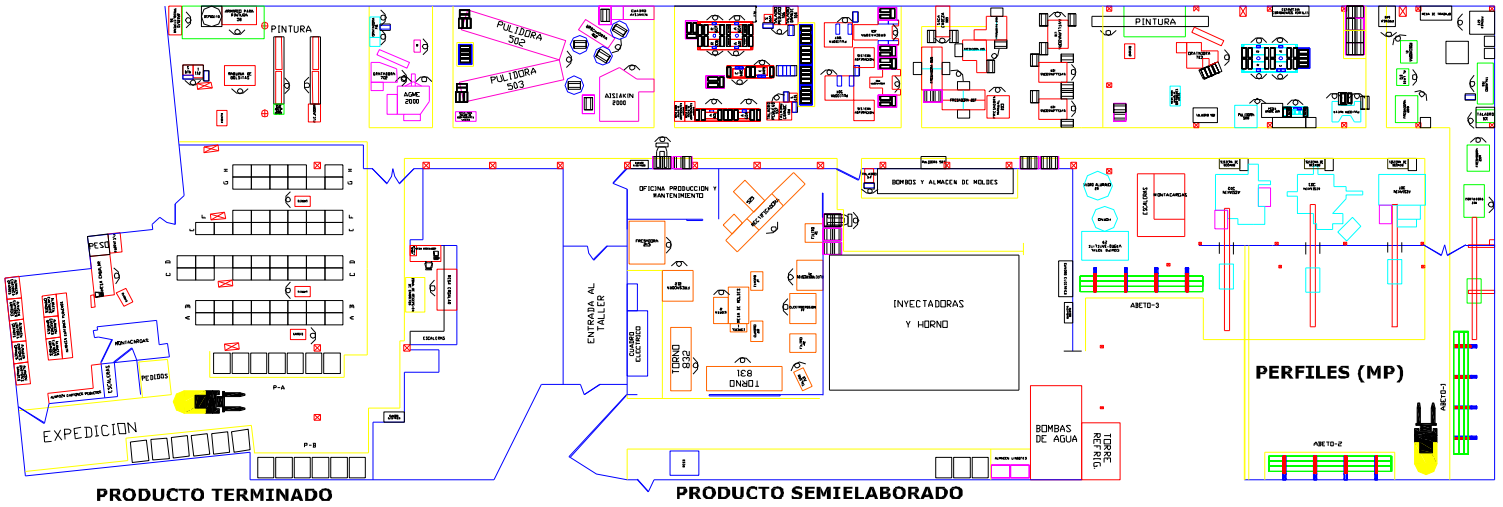
LINES OF WORK

Following an analysis of the current situation defined by the indicators and in accordance with the initial reflections, it is decided to tackle the project through the following lines of work:

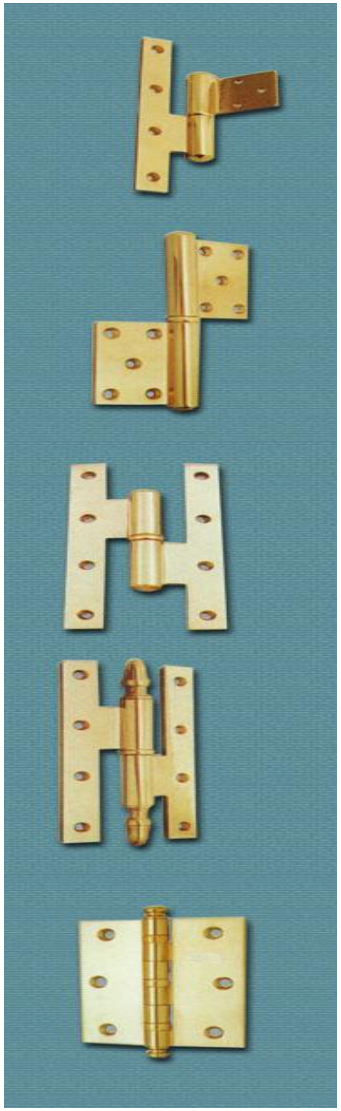
- Division of manufacturing management in 4 families.
- Change from macro lay-out to 3 production lines and 1 flexible cell
- Designation of coordinators for each work area
- Distribution of components, stores in consumption areas, working with the KANBAN system
- Integrate packaging with painting
- Applications of the 5S
- Implementation of SMED change methodology in bottlenecks
- Optimisation of the Maintenance function (preventive)
- Optimisation of warehouses



FINAL SITUATION : Layout



- Division in production lines and flexible cell led by coordinators.
- Drastic reduction in stock in progress: start and finish a reference.
- Bring warehouse down to 1st floor.
- Components integrated into production - KANBAN against shifts.
- 5 S throughout the plant.
- SMED in injectors, cutters, broaching and milling machines.
- Visual planning system



RESULTS: Indicators

The final results can be seen in the following table:

CONCEPT	INDICATOR	INICIAL VALUE	FINAL VALUE	IMPROVEMENT
Flexibility of production system	Lead Time	12 days	3 days	75%
Manufacturing costs	% respect to final cost	58%	48%	17%
MOD productivity	Units/HxH	97 units/h*h	189 units/h*h	95%
Optimisation of resources	M2 of production area	234 m2	166 m2	29%
Stock management	M2 of warehouses	589 m2	121 m2	80%
Fixed assets	No.of pallets of product in progress	2,534,400 shovels	152,500 pallets	94%