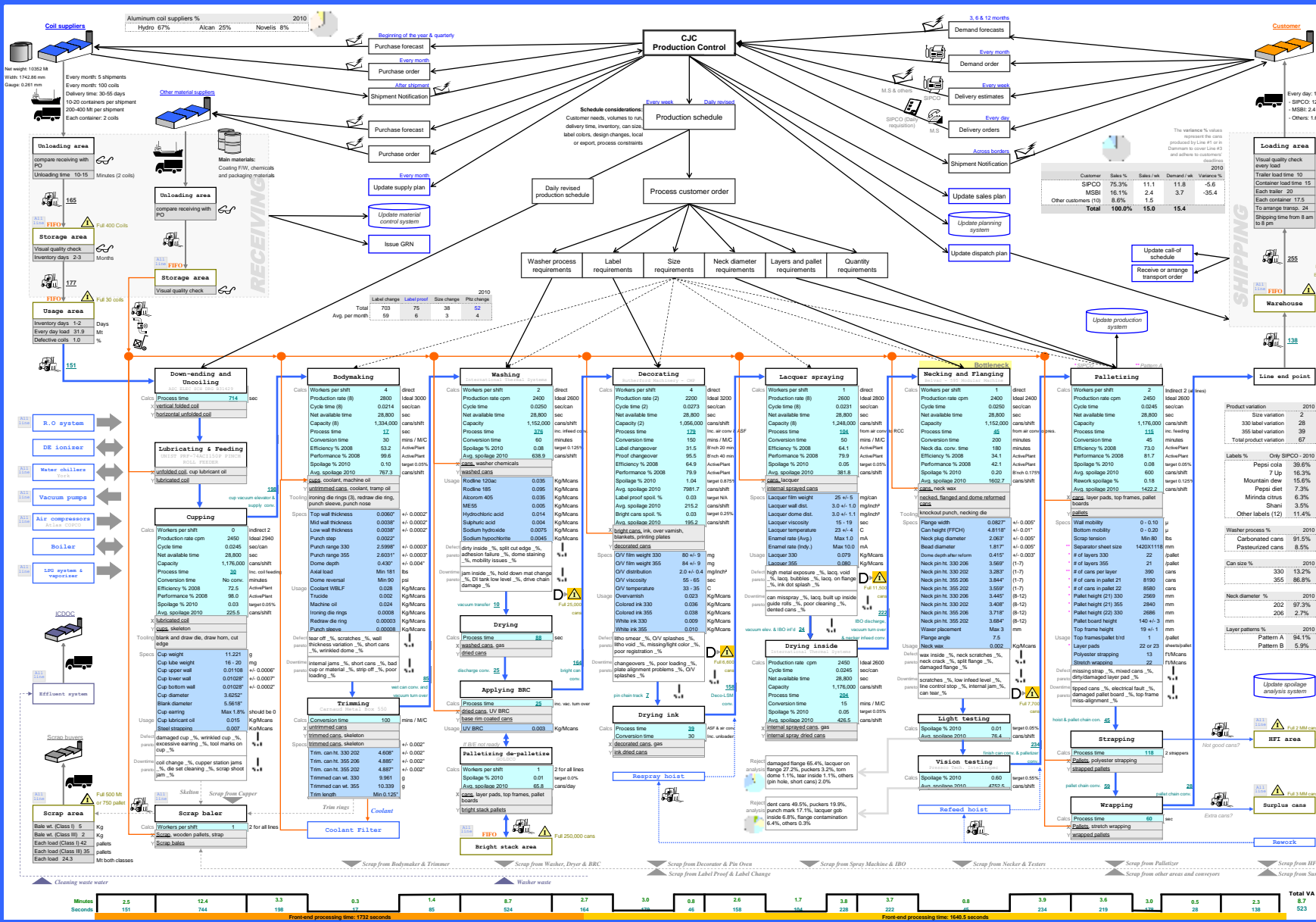


Value Stream Mapping

Current State (Line 3)

Company Name

Plant: Division: Sector: Process: Can Making (2 piece) Process structure: Continuous flow Facility: Line 3 State: Current state Year of study: Version: Detailed Revised: Revision number: 0 Value Stream controller:



VSM Symbols:

- Information flow (manual or electronic)
- Mainline flow / Process flow
- Scrap flow
- Rework flow
- Effluent / waste flow
- Transportation
- Land transportation
- Forklift
- Inventory
- Hi-Di table
- FIFO
- First In First Out
- Email
- Telephone
- Document / Form
- Safety stock / Supermarket
- Push
- Withdraw
- Withdraw Kanban
- Load leveling
- Delay
- Delay time
- Applied to all lines
- Go see / Monitoring
- Decision
- Water burst

VSM Calculations and KPIs:

Work days per year: 340 Full capacity
 Work days per year: 328 Capacity plan 2011
 Work days per week: 7
 Shifts per day: 3
 Hours per shift: 8
 Line break per shift: 6 minutes
 Direct workers / shift: 16 Shifted 7
 Production (2010): 76,524 Millions
 Units per man hour: 3,280 All lines
 Net available time: 21,800 seconds / shift
 PM duty factor: 0,966
 Production rate: 2,024 cars / both factors
 Downtime losses: (System not available)
 Performance losses: (System not available)
 Capacity (vehicle cases): 1,032,000 cars / shift
 Line capacity: 916,363 cars / shift
 Line efficiency: 84,7
 Line efficiency: 89,3 cleaning C/O
 Processing time: 1,107 18,5 minutes
 Conveying time: 1,127 18,6 minutes
 Flow lead time: 2,234 37,2 minutes
 C/O loading time: 665 14,4 minutes
 Palletizing to WH time: 865 14,9 minutes
 Total time: 3,462 61,6 minutes
 Value stream total: 14,3% from usage to shift
 Customer demand: 734,762 cars / shift
 Line average production: 717,857 cars / shift
 Takt time (theoretical): 0,683 minutes / MCars
 Line average spoolage: 19,362 minutes / MCars
 Spoolage: 2,288 minutes / MCars
 Customer complaints: 2 Shifted to 2,3%
 Hold for inspection: 0,11%
 Cost of quality: (System not available)
 Quality losses: (System not available)
 Conversion time (H): 6,7 hours / minutes
 Total queue time: 13,8 minutes
 Stock: 19,8
 Availability %: (System not available)
 Performance %: (System not available)
 Quality %: (System not available)
 OEE %: (System not available)

Efficiency = (Production) / (Nominal production) * Total time frame
 Performance = (Production) / (Nominal production) * (Total Time frame - Fault time)
 MTBF = (Run time + start by time) / (Failure counts)
 MTRR = (Fault time) / (Failure count)
 Uptime = on-demand available MC time expressed as %
 Takt time = Available work time / Customer demand
 Complete rate = the number of cars completed in a specific time period to be compared with takt time