



GM reconfigures maintenance rules to increase throughput by 5%

Doing more for less is becoming the new corporate mantra across the globe as business leaders are challenged to find smarter and more efficient ways of working.

SIMUL8 helped GM do exactly this. By developing **smarter maintenance rules** GM **increased throughput by 5%** to meet an increase in demand, without increasing costs.



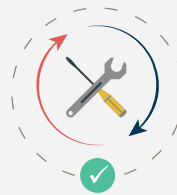
Using SIMUL8, General Motors achieved:



*Increased throughput
by 5% to meet
demand without
increasing costs*



*Discovered removing
excess system
carriers actually
increased capacity
in the line*



*Redistributed
maintenance
to improve up-
time at critical
bottlenecked areas*



*Experimented with
their ideas in a risk
free environment to
find best solution*

The Challenge

GM Holden, a subsidiary of GM, is Australia's largest automotive company and is GM's niche manufacturer of rear wheel drive 6 & 8 cylinder vehicles. This includes all production processes through plastics component manufacturing, stamping, sheet metal and body fabrication, paint and vehicle assembly.

SIMUL8 software was used to create a virtual simulation of the complex assembly line process that involved four body styles being produced on the line and different variants and customer options for each body style on a Just In Time basis.

The team replicated the increase in workload through the simulation and could actually see **bottlenecks building up** at certain parts of the process. So, using this information, they **experimented** with different ways to remove the bottlenecks and increase throughput.

Working within the simulation numerous scenarios were quickly tested to measure their impact on throughput and, it was found that **redistributing maintenance resource** to improve uptime at critical bottlenecked areas was the most effective approach.

*"Vehicle manufacturing is a highly competitive industry and we need to remain **flexible** to cope with fluctuations in demand. SIMUL8 has been a **highly effective tool** for us in achieving that flexibility."*

Joy Boath, Virtual Manufacturing Engineer, GM Holden



*"We **increased throughput** without increasing overheads. Using SIMUL8 lets us stay **flexible** when planning resource to cope with demand fluctuations."*

Joy Boath, Virtual Manufacturing Engineer, GM Holden

Reducing Maintenance Costs


GM Holden found that redistributing maintenance resource to improve uptime at critical bottlenecked areas was most effective. They reduced their maintenance costs and saved on the expense of hiring new production workers, allowing them to remain flexible to return to lower production rates if demand slowed down.

Decreasing capacity to increase throughput

The real bonus came in discovering that an excess of carriers in the system was actually causing a blocked effect. Removing 2 carriers actually increased throughput by 5%. These carriers could then be used for spares, further improving production rates.

GM's next SIMUL8 project

SIMUL8 continues to be a **highly effective tool** for GM Holden. They are planning on using it to help with the introduction of a second car line, which will introduce two new body styles and associated variants. SIMUL8 will also be used to help plan out the third shift re-introduction.



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