

PROCESS OPTIMIZATION THAT **DELIVERS RESULTS**

HIGH-PRECISION DISCRETE MANUFACTURING
WORKFLOW REDESIGN



Lean Six Sigma



BPMN



Simulation



Data-Driven

Faster cycle time.
Streamlined flow.
Higher output.

Business Context & Project Driver

A sequence-constrained process limited throughput. The project set out to restore efficiency and cut cycle time from 6 to 4 weeks.



Global changes, supply chain disruptions and evolving market demands created significant **manufacturing challenges** for production planning and on-time delivery.

KEY CONSTRAINTS



Time constraints



Cost pressure



Quality targets



Delivery commitments



CRITICAL ISSUE

A sequence-constrained manufacturing process was limiting throughput and extending cycle time.

6 → 4

weeks target cycle time

4

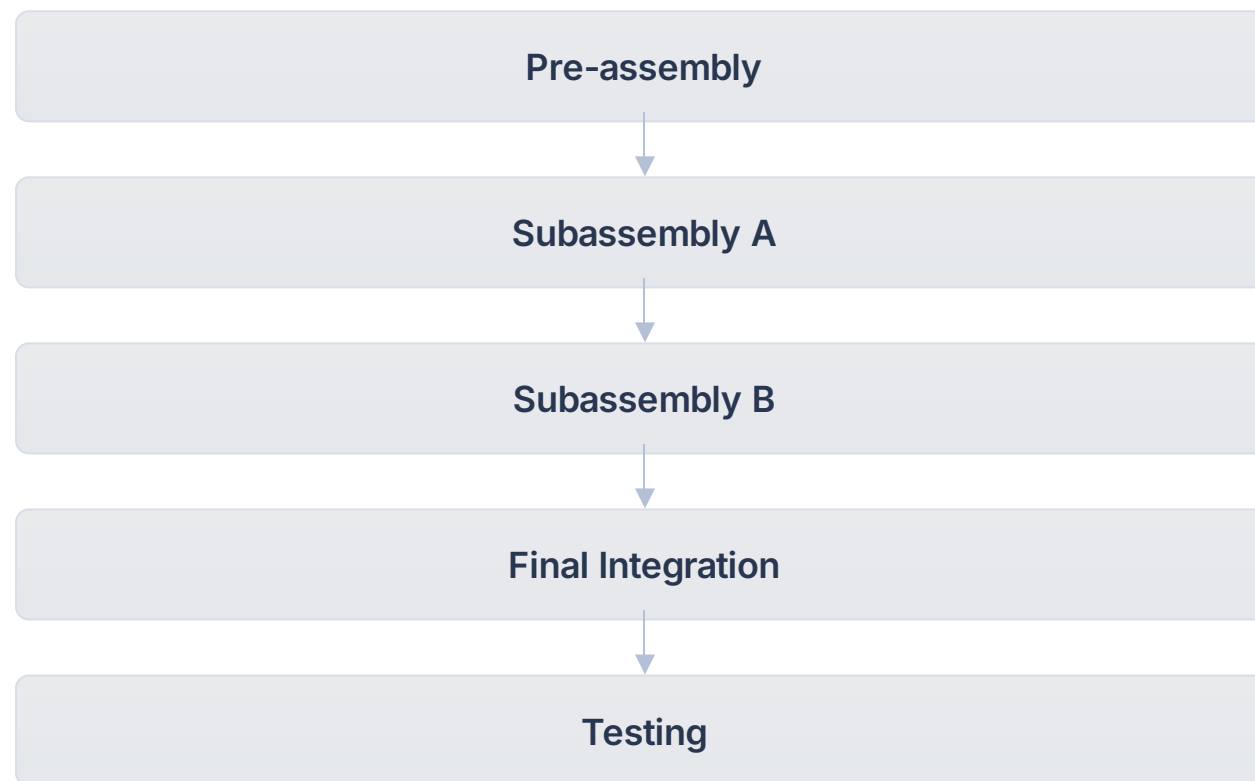
business constraints identified

Workflow Redesign **AS-IS vs TO-BE**

Sequential steps restructured to run in parallel, validated across three optimization models.

AS-IS (CURRENT)

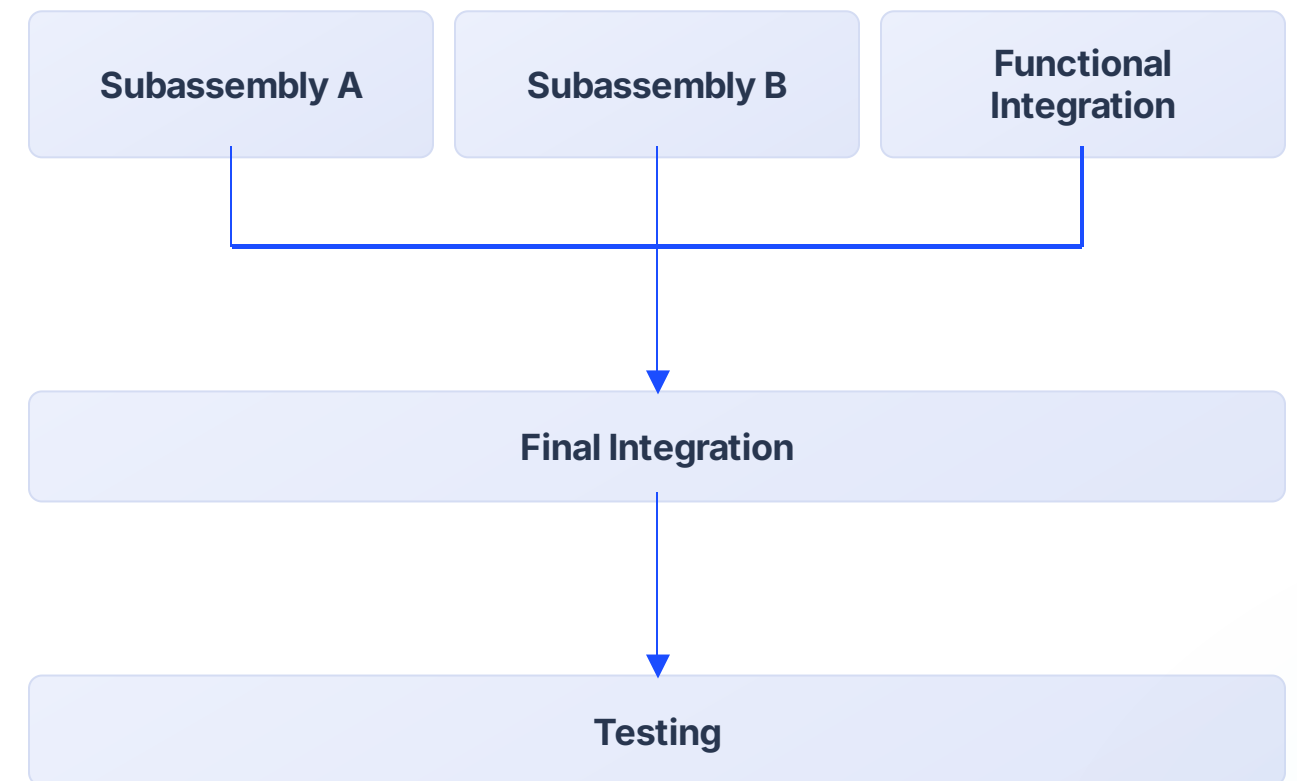
SEQUENTIAL FLOW



Idle time, blocked capacity, delayed output, inefficient resource utilization.

TO-BE (OPTIMIZED)

PARALLEL FLOW (OPTIMIZED)



Parallel execution reduced waiting time and cycle time significantly.

Results & Impact

The redesigned workflow was projected to cut cycle time by 33% and lift annual output by around 59%.

BEFORE VS AFTER COMPARISON

METRIC	BEFORE	AFTER
Cycle Time	6 weeks	4 weeks
Throughput	Constrained	Optimized
Flow Efficiency	Low	High
Process Stability	Variable	Stable

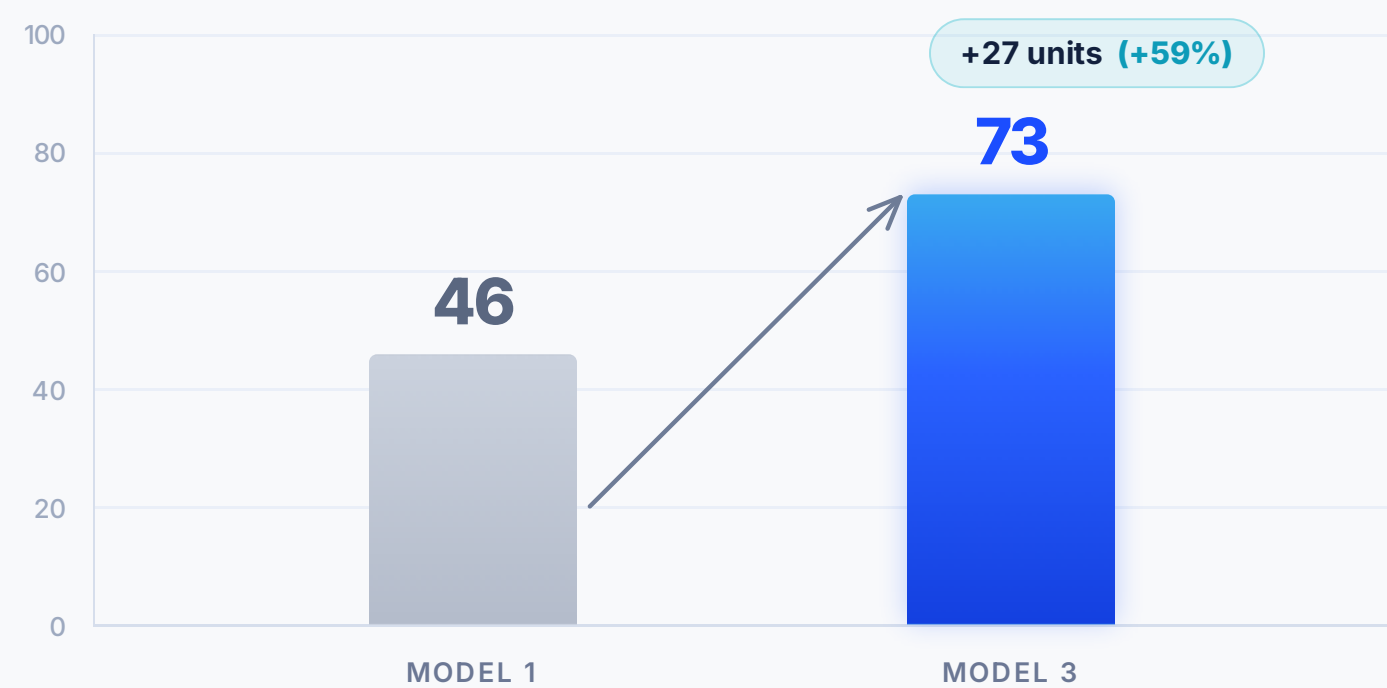
33%

projected cycle time reduction

+59%

higher annual output

ANNUAL OUTPUT COMPARISON (UNITS)





PROJECTED IMPROVEMENT

Redesigned workflow projected a 33% reduction in cycle time and a step change in delivery performance.

Business Value

What the redesign delivers: higher throughput, fewer constraints, faster delivery, and a more scalable setup.



01

INCREASED OUTPUT

Higher throughput and better resource utilization.



02

REDUCED CONSTRAINTS

Eliminated main bottlenecks and idle time.



03

FASTER DELIVERY

Shorter cycle times and quicker response to demand.



04

IMPROVED EFFICIENCY

Lower cycle time, cost savings and improved performance.



05

STRONGER COMPETITIVENESS

Quicker response, better quality, scalable growth.

Faster cycle time.
Streamlined flow. Higher output.

33%
CYCLE TIME

+59%
OUTPUT

6 → 4
WEEKS