



\$2.95 Million Dollar Savings

Transforming Operations
with Digitalization





Smarter Systems, Stronger Operations

Ingenics led a digital transformation for an automotive client, replacing manual Excel reports and shared folders with cloud-based analytics and shop floor applications. Using Agile methods and tools like Azure DevOps, Apache Spark, and Databricks, our data analyst team streamlined operations and enabled data-driven collaboration across engineering, supply chain, and quality.



Customer Challenges

Digital Maturity Gaps

Downtime

Missing takt at stations can trigger a PNR sequencing problem along the assembly line, potentially leading to 4 to 6 hours of downtime per month, resulting in a revenue loss of \$1,000,000

Quality Issues

Each month, about 10 vehicles require rework due to incorrect front door installation. Implementing automated quality checks in the preassembly area alone could result in savings of \$120k in man-hours, not including rework.



Production Line Inefficiency

The objective of achieving 8 jobs per hour remained unattainable due to persistent issues with cycle times across multiple stations in the body shop. The difficulty in pinpointing bottlenecks is due to a lack of data-driven analysis on station performance.

Supply Chain Disruptions

Due to the nature of the long overseas supply chain (about 50 days), quick and cost-effective recovery actions were not possible if a parts shipment was delayed, or the parts were poor quality. For sidewall panels alone, this led to expedited air freight costs of about \$115,000 annually.

Strategic Initiatives

- Developed a mobile app for conducting audits on the shop floor, allowing auditors to capture visual evidence of the "before" and "after" conditions during the audit.
- The tool can clearly assign responsibilities for audits and corrective actions, ensuring that everyone knows their role
- Enabled tracking of audits and findings via a real-time data analytics dashboard.
- Auditors can directly input data on tablets or mobile devices, significantly speeding up the audit process.

Replaced manual, paper-based processes with a fully digital system, resulting in savings of approximately **\$34,000** annually.



Audit & Workflow Management

Power Automate Email Automation



Implemented an automated email system summarizing invoice details, generating time savings of approximately **\$18,000** annually.

- Automated daily invoice processing, eliminating 2.5 hours of manual work per week.

- Delivered significant client savings through reduced labor costs, improved equipment efficiency, and decreased inventory.
- Heatmap analysis identifies inefficiencies to optimize routes, reduce bottle-necks, and improve space utilization.
- Value stream mapping and single-piece flow analysis pinpoint waste (e.g., unnecessary transportation, waiting) for targeted elimination.
- Visualizes delays in order processing, handling, and replenishment for smoother flow.
- Streamlined order picking, handling, and transportation from warehouses to production lines.
- Used Lean tools like value stream mapping and single-piece flow analysis to identify inefficiencies.

Heatmap analysis led to route optimization and bottleneck reductions, saving approximately **\$97,000** annually.



Intralogistics Lean Time Analysis

Strategic Initiatives

Customized Internal Performance App



Provided application support in three languages (English, German, Spanish), leading to savings of approximately **\$26,000** annually.

- Evaluated automotive client's production shop performance using qualitative and quantitative internal metrics.
- Compared production sites to identify and implement best practices globally.

- Developed a model to forecast corrosion risks during part shipments to mitigate material shortages, considering historical data in logistics, quality, and weather.
- Adjusted shipment priorities based on risk assessments, reducing scrap and logistics costs.

Implemented pre-port quality checks, yielding a potential savings of approximately **\$100,000** annually.



Proactive Corrosion Management

Body Shop Missing Stamps



Resulted in approximately **\$31,000** in cost savings annually.

- Addressed quality control gaps by automating VIN tracking and missing quality checks that are required.
- Provided engineers with a real-time list of priority issues, reducing manual data retrieval efforts by sending automated alerts when critical issues arose

- Automated parts tracking for nine JIS part suppliers, reducing manual labor by 20 person-hours per week.
- Implemented custom Power BI dashboard reporting updated every 10 minutes, displayed on dockside TVs for real-time material transparency.

Achieved labor savings valued at approximately **\$70,000** annually.



JIT/JIS Status Automation

Innovation That Delivers

**\$2.95
million**

in efficiency savings
were delivered by
Ingenics for our
automotive customer.



23,504

person-hours were saved
across global production
sites by reducing manual
processes, optimizing
workflows, and leveraging
cloud-based digital tools.

Our digital solutions boost transparency,
efficiency, and empower data-driven decisions
for ongoing improvement and competitive edge.

Ready to Take Action?

Ingenics remains committed
to digital transformation,
ensuring that our clients
achieve sustainable success
through cutting-edge
technology and innovation.



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