

# Pinnacle Motors Slashes Unplanned Downtime by 27% in Just 3 Months

## Accelerating Agile Performance and Production



One of Pinnacle Motors' greatest strengths has been its ability to engineer adaptable vehicle platforms for multiple major auto brands. This flexibility made them a preferred manufacturing partner and fueled years of rapid growth.

But as demand surged and manufacturing technology advanced, Pinnacle's legacy systems began to show their limits. Inefficiencies—long changeover times, rising rework costs, and inconsistent production schedules—threatened to stall momentum. The company needed a smarter, more scalable manufacturing strategy to stay ahead.

### Solution

Pinnacle set out to modernize its operations through AI and automation. The team deployed robotics to manage high-precision, repetitive tasks, integrated AI-driven quality control, and implemented predictive maintenance tools. These upgrades were introduced with minimal disruption and further strengthened Pinnacle's long-standing commitment to quality and consistency.

### Results

Within just three months of implementing their smart manufacturing solutions, Pinnacle Motors saw a dramatic improvement in key operational metrics. **Rework costs dropped by 25%**, driven by AI-enhanced quality control that flagged issues early and reduced the volume of defective components reaching final assembly. Predictive maintenance algorithms **helped curb unplanned downtime by 27%**, allowing Pinnacle to maintain consistent production schedules and meet aggressive delivery timelines without overextending its workforce.

Productivity across assembly lines surged as robotic systems took over repetitive, precision-based tasks—freeing skilled workers to focus on higher-value activities. **Changeover times between vehicle models were reduced by more than 50%**, enabling faster adaptation to shifting customer demand and tighter product launch cycles. This new level of flexibility contributed to a **15% increase in on-time delivery performance**, strengthening the company's reputation with key automotive partners.

The transformation also had a powerful impact on workplace culture. With automation reducing exposure to hazardous tasks, **safety incidents fell by 40%**. An internal employee survey revealed a **22% increase in job satisfaction**. Team members expressed confidence in the new technology and welcomed the shift toward roles that leveraged their judgment and creativity.

### About

Pinnacle Motors is a mid-sized automotive production company based in the heart of Michigan's industrial belt, employing over 2,200 workers in the greater Detroit area.

A trusted name in the industry for more than sixty years, Pinnacle is known for producing durable, high-quality vehicles and serves as a key supplier and assembler for several major U.S. auto brands. In 2019 alone, the company manufactured over 7 million vehicles—a testament to its scale, consistency, and long-standing commitment to excellence.

To learn more about Pinnacle's operations and production capabilities, visit [www.pinnaclemotors.com](http://www.pinnaclemotors.com).

Slash downtime. Boost output.  
Learn more about these results.

Fuel Your Growth

To overcome production bottlenecks and reclaim its position at the forefront of automotive manufacturing, Pinnacle Motors partnered with RoboTech Automotive Solutions to lead a smart factory overhaul. The initiative focused on end-to-end automation, data-driven decision-making, and advanced safety protocols—empowering Pinnacle to exceed its own expectations for quality, speed, and efficiency.

## Enhanced Worker Collaboration and Safety

RoboTech deployed next-generation collaborative robots (cobots) across Pinnacle's key production zones, especially in areas prone to fatigue-related errors like welding, assembly, and material handling. These robots worked alongside human operators, taking on repetitive, high-risk tasks with precision. Equipped with sensors and machine vision, they made real-time corrections—cutting errors by 30% and contributing to a 40% drop in safety incidents.

"As a result of RoboTech, high-risk processes became safer and more reliable almost overnight," said Andrew Webb, Pinnacle Motors Detroit Production Supervisor.

## AI-Powered Process Optimization

Pinnacle leveraged RoboTech's AI engine for real-time insights into machine performance, inventory, and workflow efficiency. Predictive maintenance tools flagged wear before failures occurred, helping reduce downtime. Machine learning algorithms dynamically adjusted production sequences based on demand and resource availability, maximizing output while minimizing waste. AI also enhanced inspection protocols, detecting subtle defects that previously went unnoticed and driving rework rates down across multiple lines.

## Flexible Manufacturing Systems

Introducing a modular, reconfigurable manufacturing setup allowed Pinnacle to pivot between models with minimal delays. Engineers used programmable logic controls (PLCs) to test new line configurations virtually before rollout. This flexibility cut changeover times by 55%, enabling faster model launches and more agile response to market shifts.

Overall, RoboTech's solution not only modernized Pinnacle's production floor—it laid the foundation for scalable innovation, operational resilience, and long-term growth.

"RoboTech's automation solutions have revolutionized our production process," said Webb. "We're achieving goals we once thought impossible in a fraction of the time."



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Andrew Webb  
Production Supervisor  
Pinnacle Motors Detroit

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