

TECHmission

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("Commitment to customer's mandate,
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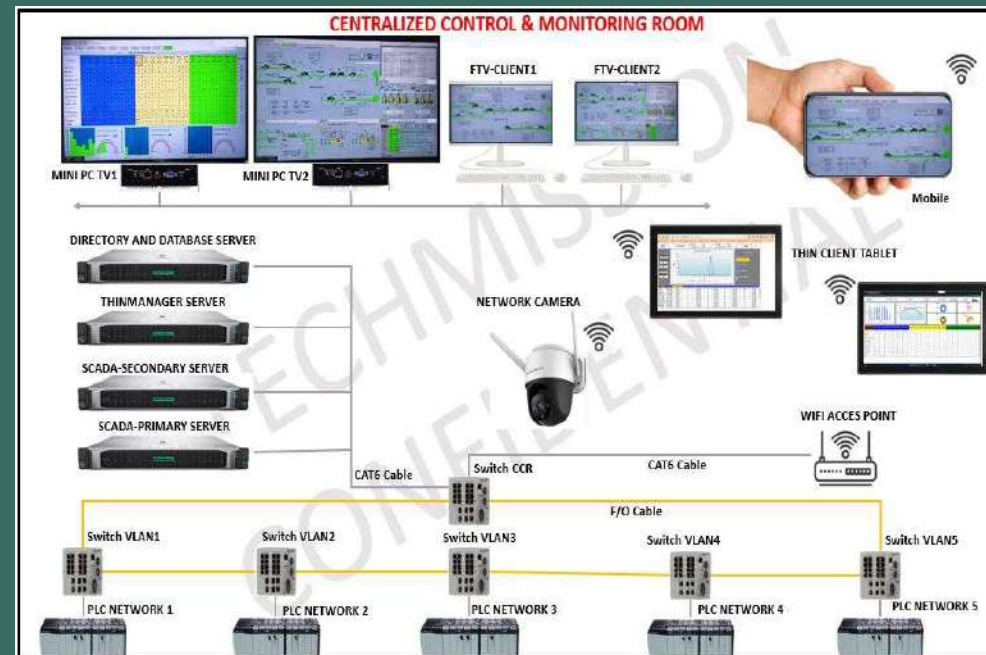


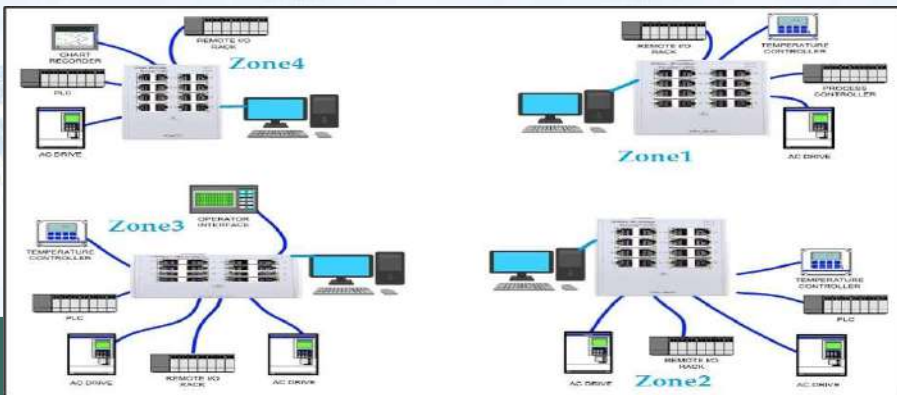
Reference Case: Success Story

CENTRALIZED CONTROL & MONITORING ROOM

(Empowering Progress with Intelligent Automation) Preface:

In a modern automobile manufacturing facility, the Centralized Control Room (CCR) serves as the nerve center—monitoring robotic systems, assembly lines, and quality control checkpoints. As a salutation, we built a robust digital backbone for an automotive and Tyre industry plant in Pune (MH), enabling seamless real-time monitoring, data analytics, and informed decision-making across the entire operation.





CHALLENGES IN THE EXISTING INDUSTRIAL PLANTS

Challenges in the Existing Setup:

- **Network Overload:** Broadcast storms caused by all devices on the same subnet.
- **Security Gaps:** Lack of isolation between corporate and industrial networks.
- **Bandwidth Bottleneck:** Office and industrial traffic sharing the same lines.
- **Troubleshooting Limitations:** A single VLAN created plant-wide issues.
- **Communication Delays:** Isolated zones led to miscommunication and delays.

Key Problems:

- **Undetected Failures:** Zone failures went unnoticed, impacting operations.
- **Disrupted Operations:** Breakdown events triggered isolated "Pause" modes.
- **Reduced Productivity:** Delays negatively affected OEE (Overall Equipment Effectiveness).
- **Manual Maintenance:** Preventive maintenance lacked automation and was prone to errors.
- **Limited Monitoring:** No remote performance monitoring for management oversight.
- **Absence of Alerts:** Real-time breakdown notifications were missing.
- **Data Gaps:** Lack of historical data for in-depth performance evaluation.

OUR SOLUTION



BACKGROUND:

Indian automotive paint shops previously lacked real-time visibility and had fragmented, reactive performance tracking, prompting our client to seek a scalable, centralized solution for real-time monitoring of all plant zones, performance analysis, quick decision-making with alerts, and predictive/preventive maintenance.



SOLUTION:

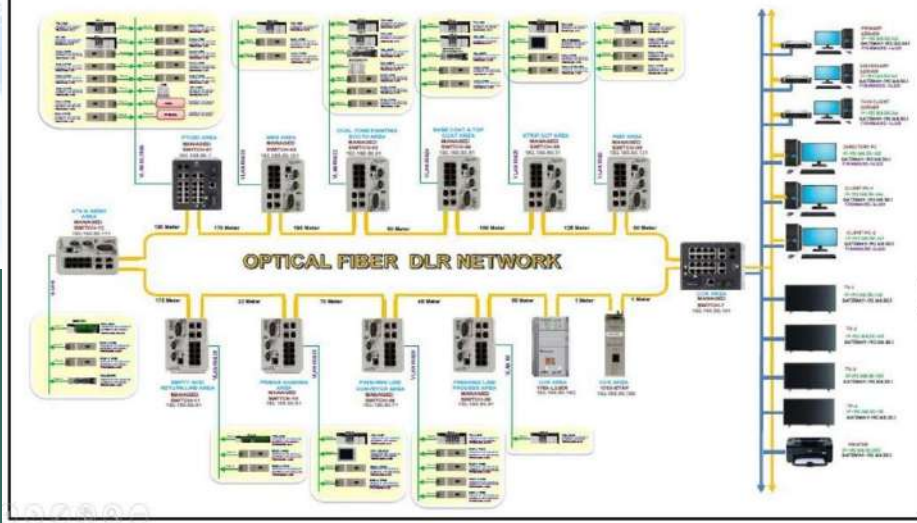
- **Network Upgrades:** Fiber optic backbone, Ethernet field devices, Network VLANs for traffic control and centralization.
- **Application Enhancements:** Integrated with Rockwell's FactoryTalk ThinManager, FactoryTalk View SE Server and Client for centralized management and visualization.



OUTCOME:

Enabling real-time, zone-wise monitoring of paint shop operations—improving visibility, coordination, and decision-making through a centralized control room (CCR).

PAINT SHOP NETWORK CONFIGURATION



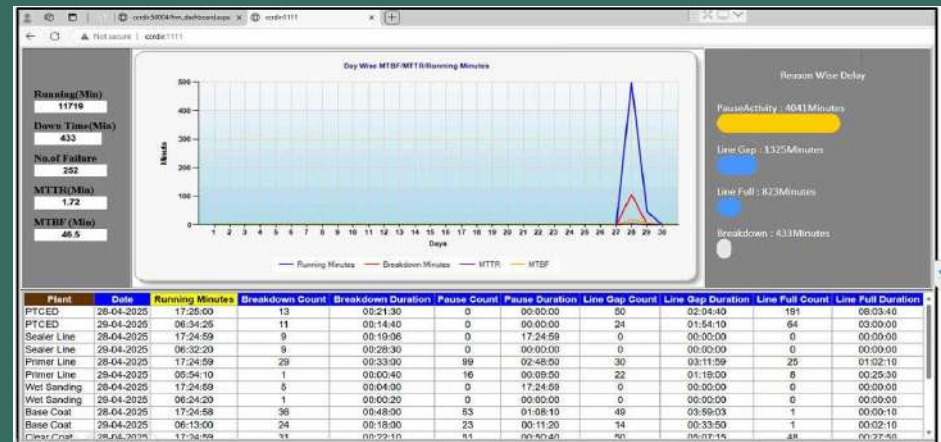
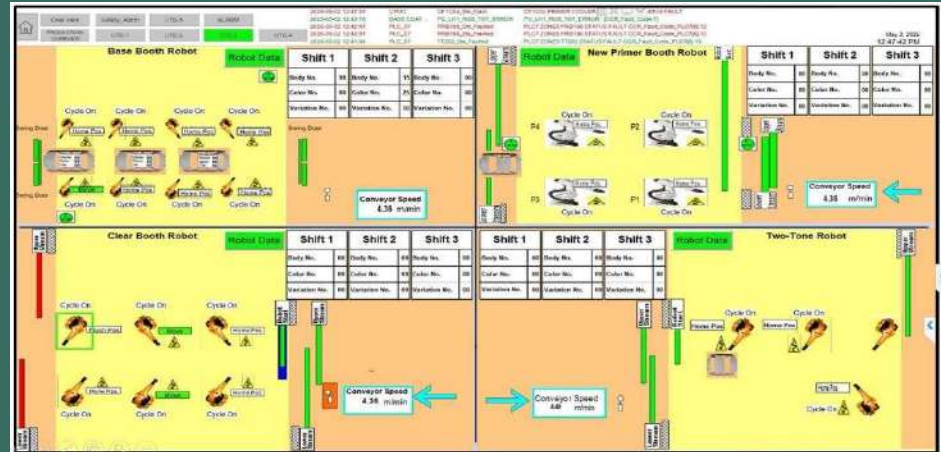
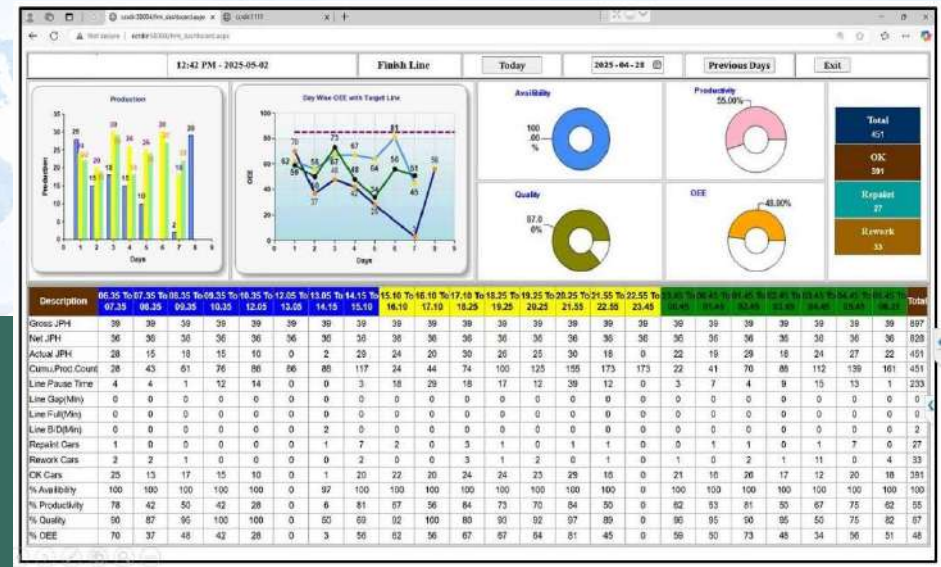
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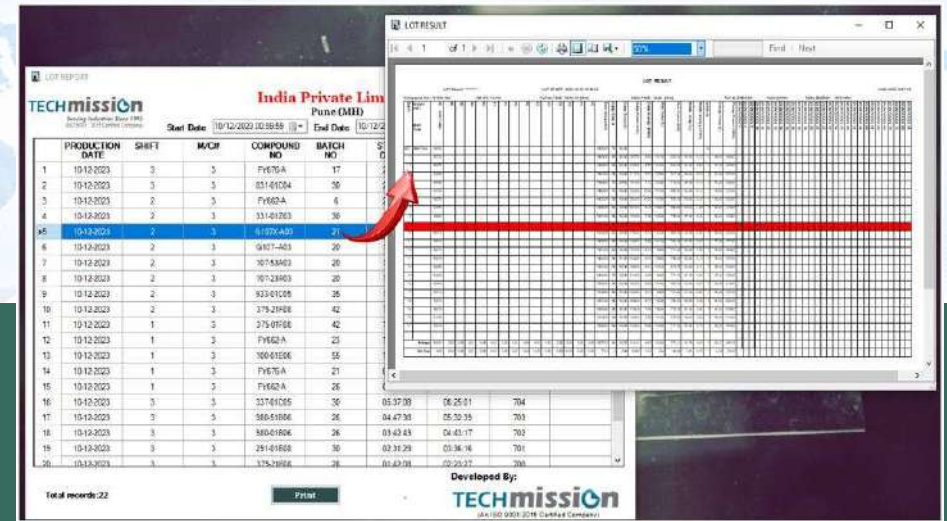
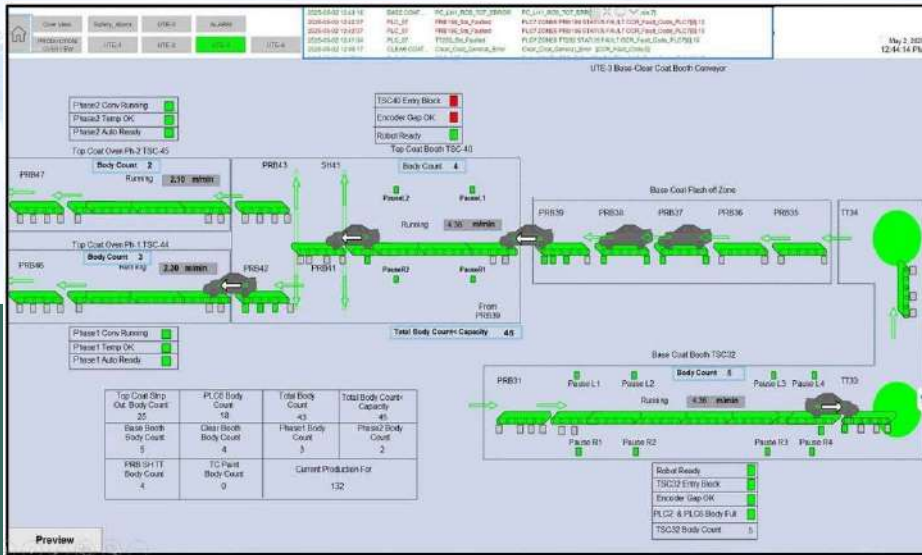
NETWORK OPTIMIZATION:

We have optimized the plant's network by centralizing all zone communications through advanced network management techniques, ensuring seamless access to all automation devices across the facility. This approach enhances efficiency, improves control, and allows for real-time monitoring of all operational zones.

KEY DELIVERABLES:

- **OOE Monitoring:** Real-time availability, performance, and quality tracking.
- **Preventive Maintenance:** Scheduled maintenance with real-time updates.
- **Emergency Work Orders:** Digital handling of urgent tasks with secure access.
- **Alarm Application:** Integrated critical alarm tracking.
- **MTTR/MTBF:** minimizing downtime.
- **CCTV Surveillance:** Real-time monitoring and secure access.





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RESULT & BENEFITS:

- **Network::** 60% Less Network Congestion
- **Stronger Security :** with network separation and access control
- **Faster Troubleshooting:** via VLAN-based diagnostics
- **Reliable Communication:** for SCADA, Thin Manager, and real-time systems.
- **Higher Uptime:** through predictive maintenance and quicker recovery

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FINAL IMPACT:

- **Faster Troubleshooting:** Quicker fault resolution improved uptime
- **+5% Productivity:** Better visibility and recovery reduced process delays
- **OEE Gains:** Less idle time and rework, better equipment utilization
- **Reduced Downtime:** Predictive maintenance and real-time alerts
- **Performance Boost:** Enhanced control and coordination across the plant

