

A close-up, low-angle shot of a robotic arm in a factory. The arm is metallic and has a glowing red ring light at its end. The background is dark and industrial, with some blurred lights. The overall color palette is dominated by blues and greys, with the red light providing a strong contrast.

CASE STUDY

# AI-Enabled Vision Inspection and Processing Unit



## Clientele

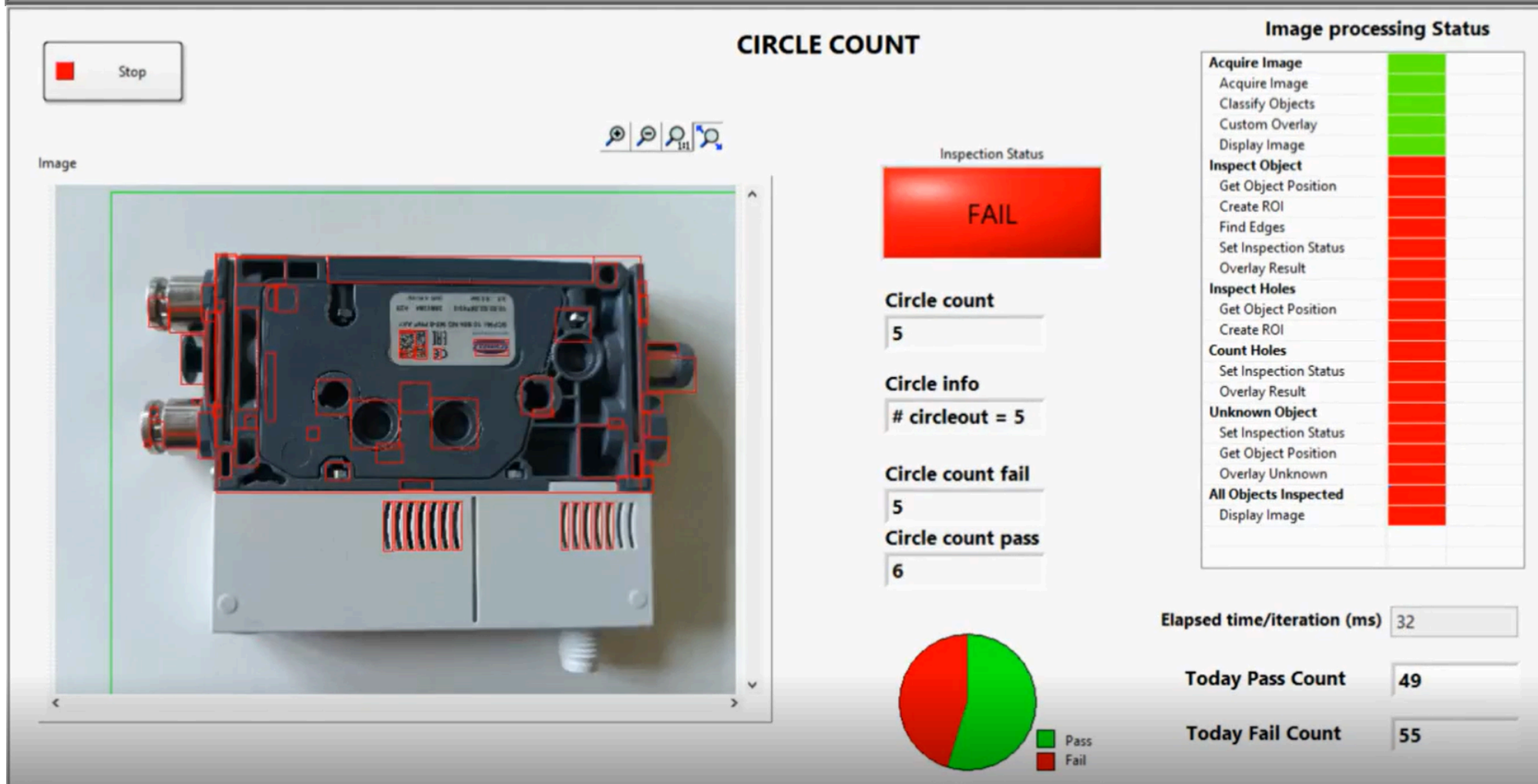
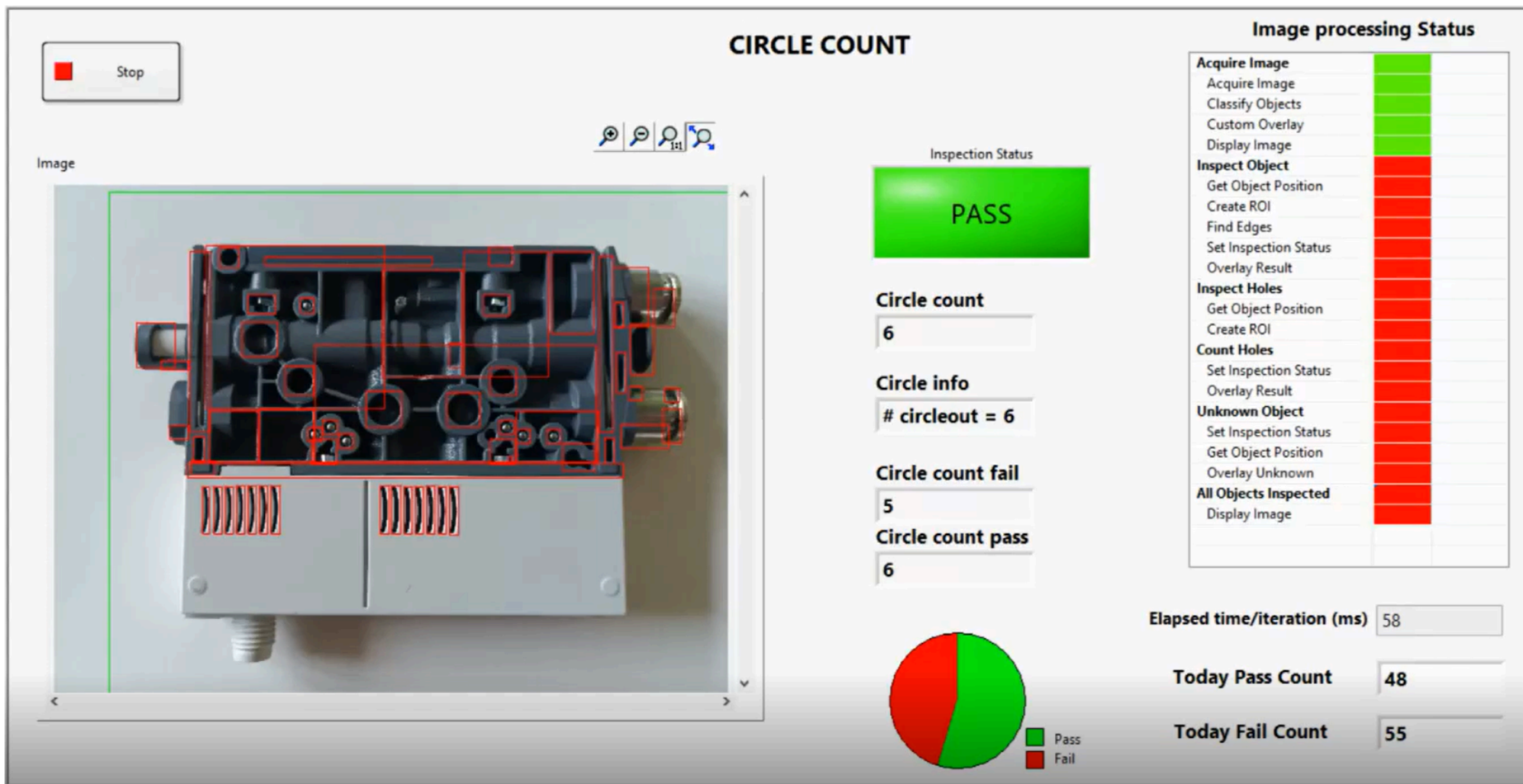
Our client, a major integrated steel plant, faces challenges with manual surface inspection of steel plates at the New Plate Mill (NPM), RSP. This process is time-consuming, error-prone, and lacks timely feedback for defect containment. To address this, our client plan to introduce a laser-based 3D camera system for automated defect identification, enhancing efficiency and accuracy.

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## Dilemma encountered

- Traditional methods struggled to detect subtle defects, risking non-compliance.
- Human inspectors faced fatigue and subjective judgment issues.
- Advanced technologies are vital for enhancing detection and quality assurance in metal manufacturing.



# Key Features

- Enhanced Product Quality: Vision Inspection System improved defect detection, ensuring higher product quality.
- Increased Efficiency: Automated inspections saved time and labor, boosting production rates.
- Cost Reduction: Minimized defects saved costs on scrap materials and rework.
- Improved Safety: Reduced human error enhanced workplace safety.
- Data-driven Decision Making: Real-time insights facilitated proactive decision-making in manufacturing.

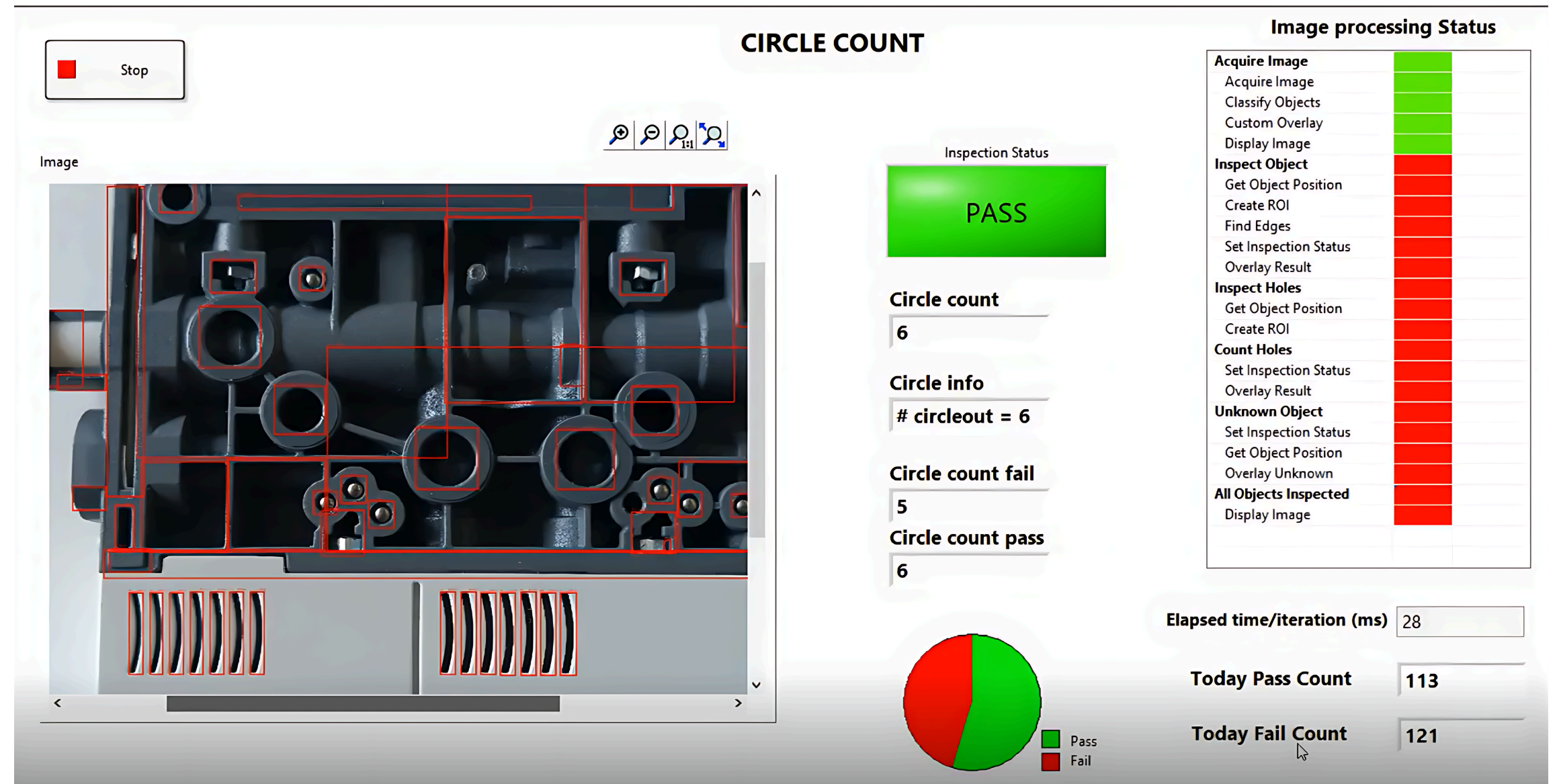
# Benefit

The integration of a Vision Inspection System revolutionized metal manufacturing, enhancing product quality, efficiency, and customer satisfaction. Automated inspections and advanced defect detection gave the company a competitive edge, cutting costs and improving safety.



# Functions

- The Vision Inspection System plays a crucial role in metal manufacturing by detecting defects and ensuring product quality.
- Its versatility allows it to inspect surface defects in metal components with precision, ensuring that only flawless products reach the market.
- Beyond surface defects, the system verifies dimensional accuracy and geometric tolerances, ensuring compliance with industry standards.
- Tailoring the system to specific manufacturing processes enhances its effectiveness, making it adaptable to various stages of production.
- By delivering reliable and consistent results, the Vision Inspection System contributes significantly to the success and competitiveness of metal manufacturing industries.



**Get In Touch**

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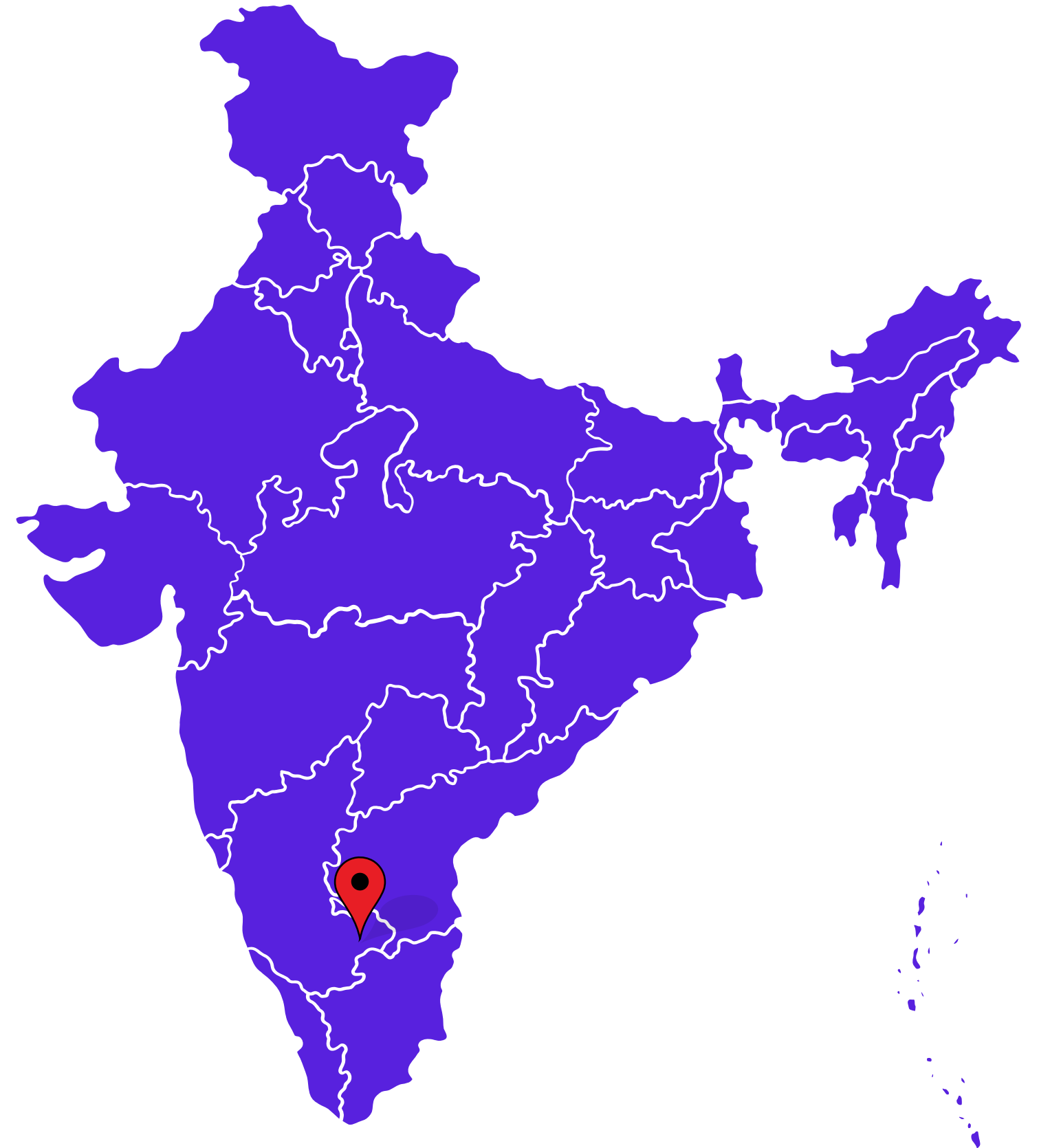
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