Company Name:
PT Andi Ichsan

Industry:
Smart Manufacturing and Industrial Automation

Company Overview:
PT Andi Ichsan is an Indonesian industrial manufacturing company specializing in precision automotive components and smart factory solutions. The company operates several production plants across Java and Sumatra and has recently begun modernizing its digital operations to compete with international suppliers.

Business Goals:
Their strategic focus is to increase production efficiency, reduce downtime, and gain deeper insights into machine performance through IoT data analytics. PT Andi Ichsan aims to move from reactive maintenance to fully predictive maintenance across all factory lines while strengthening product traceability and supply chain visibility.

Technology Environment (Current State):
The company has embraced Google Cloud as the backbone for its connected factory platform. Most workloads revolve around data collection from machines, edge computing, and centralized monitoring dashboards.

- **Cloud IoT Core** connects thousands of sensors and PLCs (Programmable Logic Controllers) from production lines to Google Cloud for telemetry and status data.
- **Cloud Pub/Sub** streams this data in real time to downstream systems for analysis.
- **Cloud Functions** handles event-driven logic such as triggering alerts when temperature or vibration thresholds are exceeded.
- **BigQuery** stores historical IoT data for trend analysis and reporting.
- **Cloud Run** hosts lightweight internal APIs that power their production dashboards and data visualization apps.
- **Cloud Monitoring** and **Cloud Logging** are in place for tracking application and device health, though the teams use them mainly for reactive issue resolution rather than proactive insights.
- **Looker Studio** provides management dashboards showing production KPIs and machine uptime percentages.

Pain Points:
PT Andi Ichsan's engineers find it difficult to integrate advanced analytics and machine learning into their existing pipelines. Their IoT Core implementation lacks edge intelligence — most computations still happen centrally, creating latency for time-sensitive operations. Additionally, their DevOps team struggles to maintain consistent deployment practices across multiple factories. Data governance is minimal, leading to access control risks when new sites come online.

Future Plans:
They intend to enhance real-time decision-making by bringing intelligence closer to factory floors

through edge AI. They also plan to unify their IoT data model across all sites, automate predictive maintenance, and adopt modern CI/CD pipelines for cloud applications. The leadership team wants to explore sustainability metrics (such as power efficiency and carbon footprint tracking) using cloud-based analytics.

Key Stakeholders:
The CIO leads the digital transformation initiative and oversees infrastructure modernization. The Head of Operations focuses on predictive maintenance and production optimization. The Plant IT Managers at each site handle device connectivity and on-premise networking.