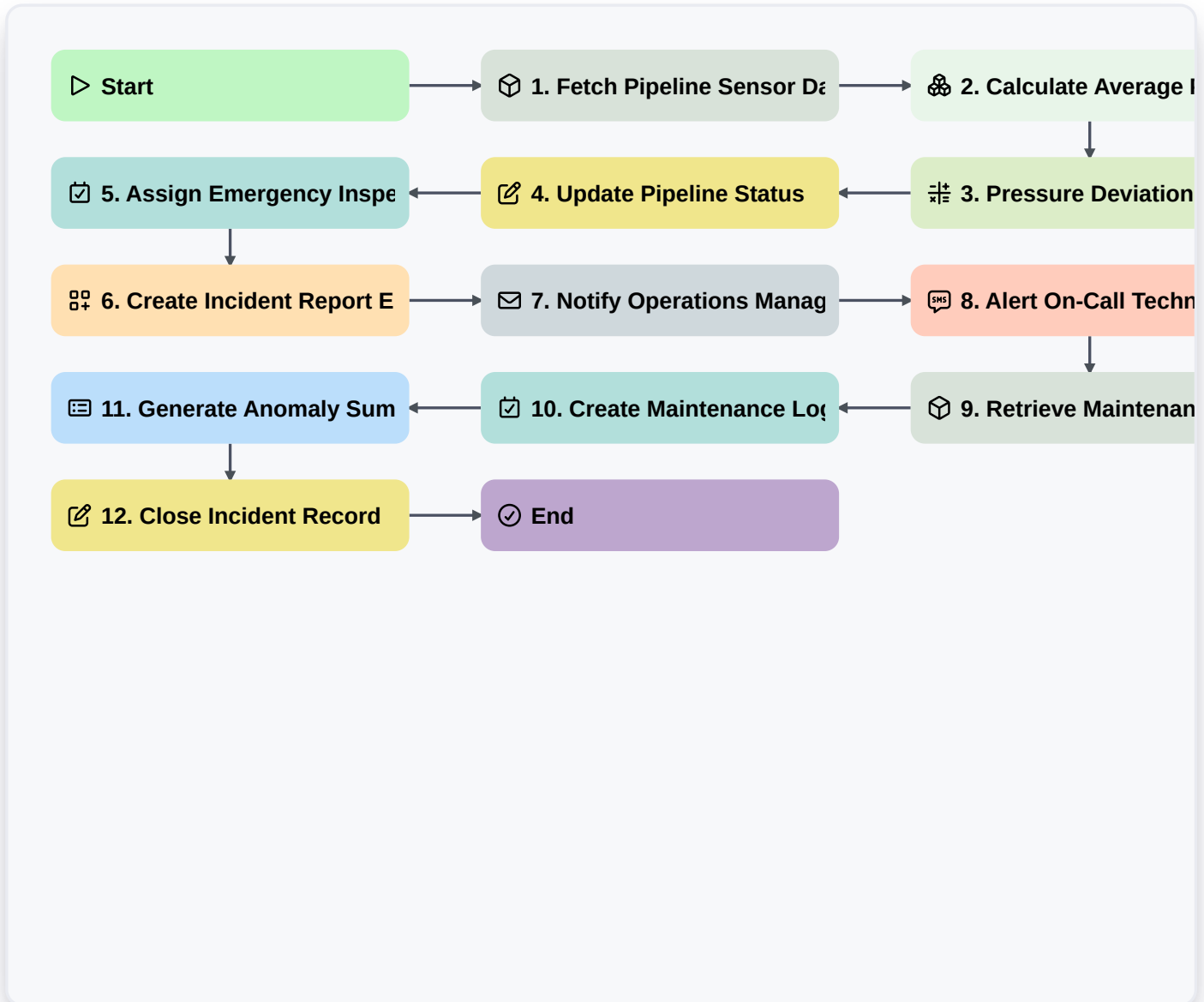


Natural Gas Pipeline Monitoring Process



Start

Start of the Workflow/Process.

1. Fetch Pipeline Sensor Data

Retrieve real-time pressure, temperature, and flow rate readings from the pipeline sensor data model.

2. Calculate Average Pressure

Calculate the average pressure across all sensors in a specific pipeline segment to identify trends.

3. Pressure Deviation Analysis

Compare current average pressure against the predefined safety threshold to detect anomalies.

4. Update Pipeline Status

Update the 'Status' field in the Pipeline Master record to 'Alert' if deviation is detected.

5. Assign Emergency Inspection Task

Create a high-priority task for the Field Engineer to perform a physical site inspection.

6. Create Incident Report Entry

Generate a new entry in the Incident Log data model containing the sensor anomaly details.



✉ **7. Notify Operations Manager**

Send an automated email alert to the Operations Manager regarding the detected pressure anomaly.

📱 **8. Alert On-Call Technician**

Send an urgent SMS to the technician on duty to ensure immediate response.

📦 **9. Retrieve Maintenance History**

Fetch the last 5 maintenance records for the affected pipeline segment to check for recurring issues.

📅 **10. Create Maintenance Log Task**

Create a task for the technician to document findings and complete the inspection checklist.

📄 **11. Generate Anomaly Summary Report**

Generate a PDF report summarizing the sensor data, the deviation detected, and the action taken.

✍️ **12. Close Incident Record**

Update the Incident Log entry status to 'Resolved' once the inspection task is completed.

🏁 **End**

End of the Workflow/Process.