**MHX System Workflows, Critical Flows, Alerting Plan**

**MHX Core Value**

* **For All Personas:** Ensure efficient and effective communication of machine health issues to enable users to understand and respond to problems.
* **For Corporate/Site Managers:** Ensure value visualization pages are consistently operational.

### **Critical Workflows for Anomaly Detection & Alerting**

The following workflows are identified as critical, requiring monitoring and alerting on anomalies:

1. **Detections Flow**
   * **Receiving New Detections from AI**
     + Monitor: NSQ backlog (detection.propagated)
     + Happy path logs / all logs for the nsq handlers - 99% success rate (Dedicated logs to be added) ([Eyas Mattar](mailto:emattar@augury.com)[Barak Solomon](mailto:bsolomon@augury.com))
   * **Smart Threshold Calculation** ([Eyas Mattar](mailto:emattar@augury.com)[Barak Solomon](mailto:bsolomon@augury.com))
2. **Machine Health Changes**
   * **Manual MHI Change - By Analyst**
     + API success rate (99%) for /sessions/:id/results
     + NSQ backlogs for machine.status.changed, effective\_result.new
     + Happy path logs / all logs for the nsq handlers - 99% success rate (Dedicated logs to be added)
3. **Inbox Flow**
   * **Unsnooze Ticket** - ([Eyas Mattar](mailto:emattar@augury.com)[Barak Solomon](mailto:bsolomon@augury.com))
   * **Automatic Ticket Opening** - ([Eyas Mattar](mailto:emattar@augury.com)[Barak Solomon](mailto:bsolomon@augury.com))
     + NSQ backlog (detection.publish.inbox)
4. **Baseline Process**
   * **Machines Finishing Baseline (Inbox Ticket Reopened)** - ([Eyas Mattar](mailto:emattar@augury.com)[Barak Solomon](mailto:bsolomon@augury.com))
5. **Notification Mechanism**
   * **Email Notifications** -
     + - Redis alerts (@Infra)
       - Event-handler logs for processing tasks (hourly checks)
       - SendGrid error logs
       - Potential API-based email status checks (TBD)
   * **SMS Notifications** -
     + - Event-handler logs (start/end points with hourly checks)
       - Twilio error logs
       - Potential API-based SMS status checks (TBD)
6. **CMMS Flows**
   * **Health Changes via Webhooks & APIs** - API success rate (99%) for /v1/machines/:id/statuses
     + webhook handler logs.

### **System Monitoring Metrics**

* **CPU Usage:** Alert if above 95% of the limit.
* **Memory Usage:** Alert if above 95% of the limit.
* **Data Retrieval APIs:** Maintain at least 99% success rate.

**Applies to:**

* Machine Events
* Hierarchy Insights
* Inbox Tickets
* Detections
* Features
* Aggregated Updates