

Process Capability & Launch Readiness Copilot

Phase 2 Tech Insights & Recommendations
EPD 522 Capstone Project
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Business Context:

- Engineers manually extract data and run capability analysis
- Process behavior and capability are interpreted differently across teams
- Leadership receives inconsistent summaries for launch decisions

Relevance:

- Slow response to quality risks
- Increased chance of misinterpreting unstable processes
- Limited ability to scale reviews across processes

Pilot Purpose Anchor

Decision Boundary:

Is this process stable and capable enough to support a product launch or volume ramp?

System Constraints:

- Does not approve launches
- Does not automate corrective actions
- Does not replace engineering judgment

Pilot Scope used for evaluation

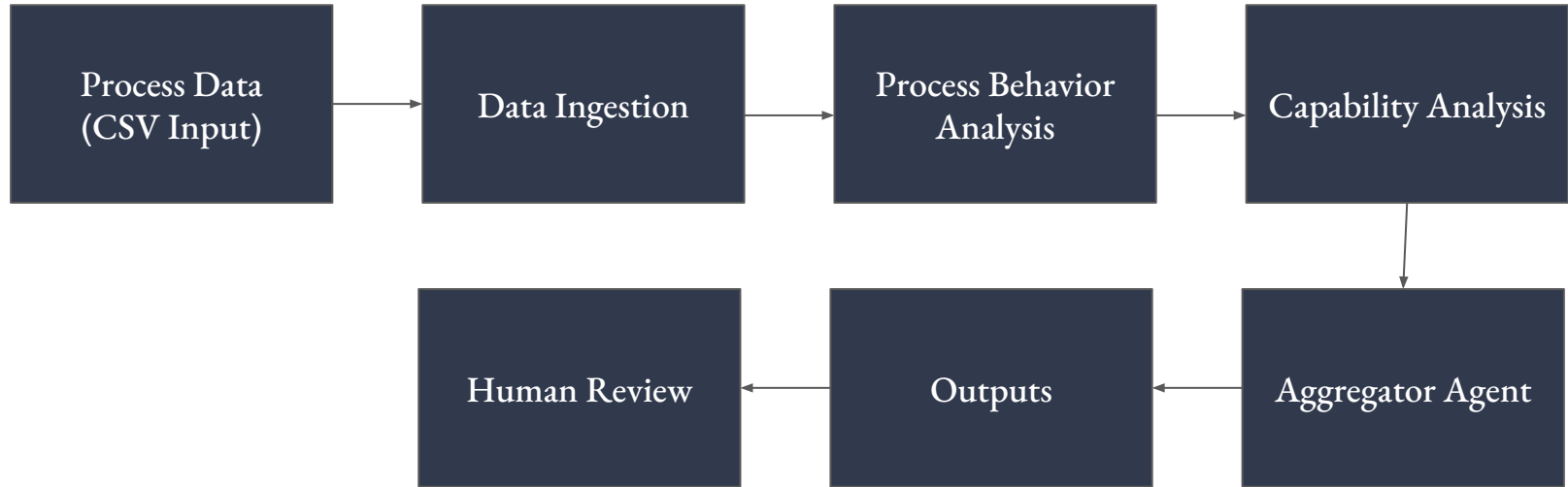
In Scope:

- One product family
- One critical process characteristic
- Two representative datasets
- Structured engineering and management outputs

Out of Scope:

- Production system integration
- Autonomous decisions
- Automated process changes

Implemented Workflow

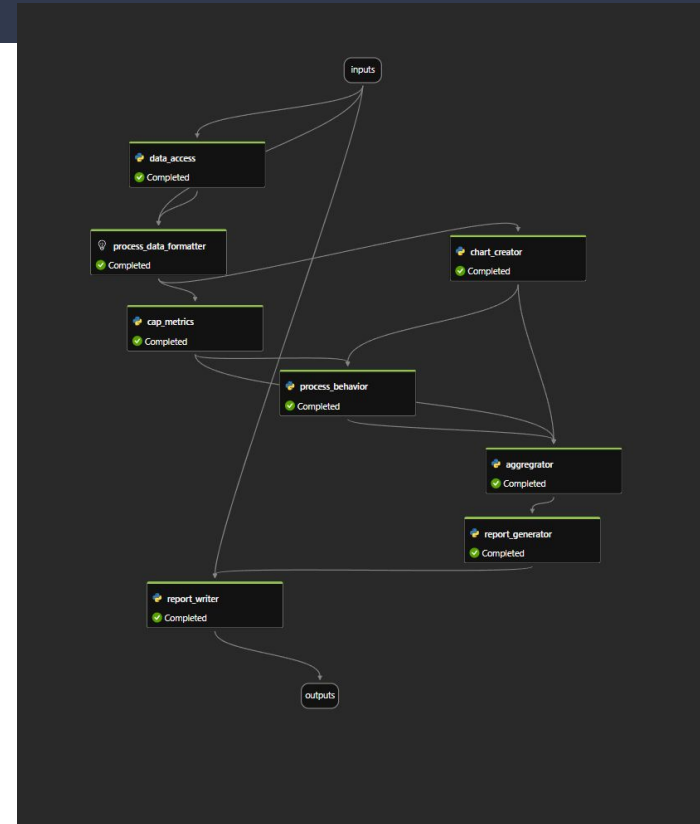


Key Principle:

- Behavior evaluated before capability

Implemented AI Design

- Tools handle all numeric calculations
- AI focuses on interpretation and communication
- Internal capability guidelines used as reference



Test Scenarios

Home > processapbjamalapuram | Containers >

process-data-jama

Container

Search Add Directory Upload Change access level Refresh Delete Copy Paste Rename Acquire lease Break lease Edit columns

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

process-data-jama

Authentication method: Access key (Switch to Microsoft Entra user account)

Add filter

Search blobs by prefix (case-sensitive)

Only show active blobs

Showing all 2 items

<input type="checkbox"/> Name	Last modified	Access tier	Blob type	Size	Lease state
<input type="checkbox"/> Hot_Metal_Delivery_Times.csv	12/16/2025, 3:57:21 PM	Hot (Inferred)	Block blob	865 B	Available ...
<input type="checkbox"/> Hot_Metal_Delivery_Times_OOC.csv	12/17/2025, 12:09:41 AM	Hot (Inferred)	Block blob	867 B	Available ...

Scenario 1

(Hot_Metal_Delivery_Times.csv):

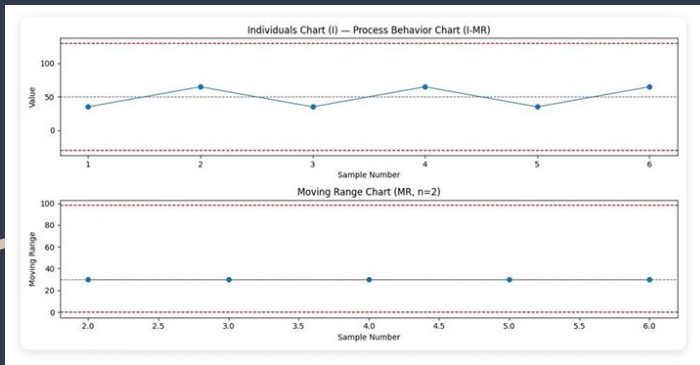
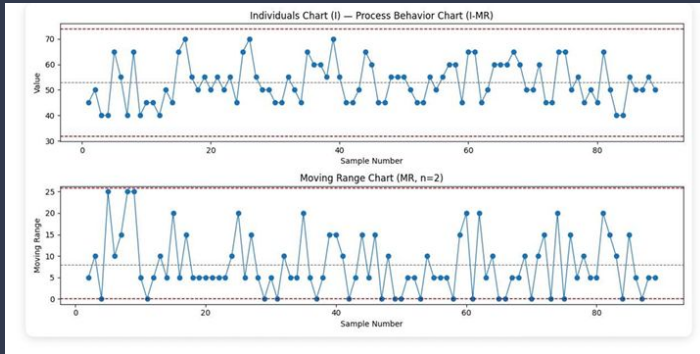
- Stable process behavior
- Misconfigured specification limits
- Capability metrics flagged as invalid

Scenario 2

(Hot_Metal_Delivery_Times_OOC.csv):

- Unstable process behavior
- Capability conclusions deferred

Key Results & Limitations



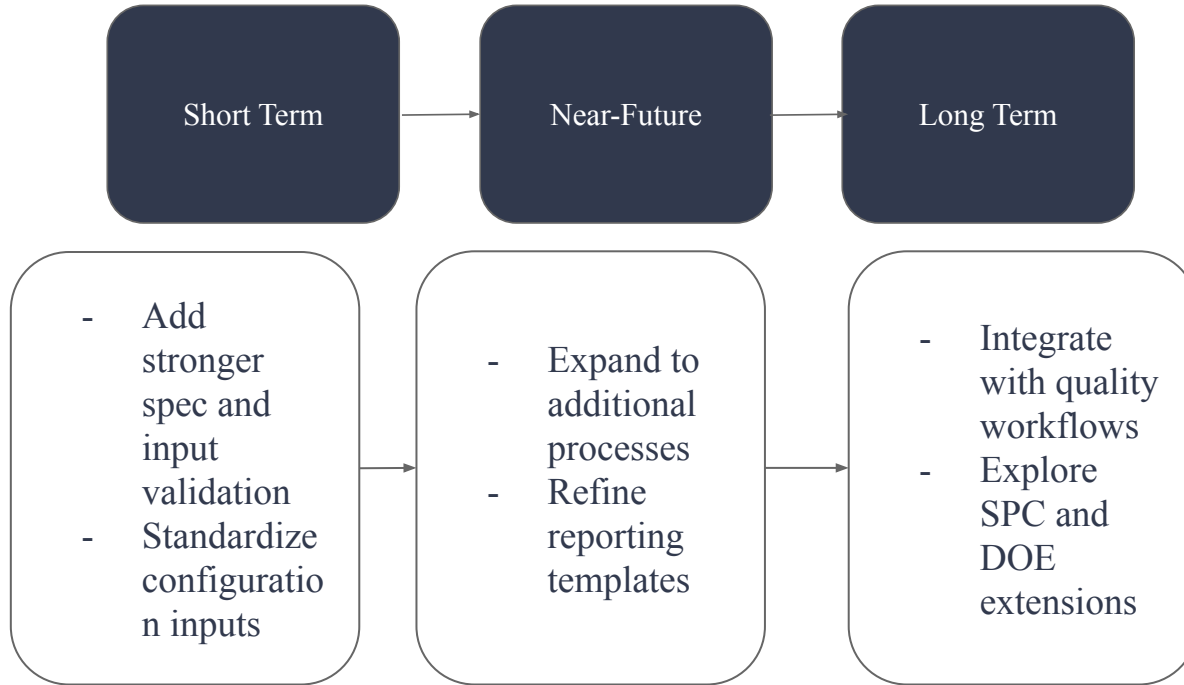
Results

- Stability enforced before capability
- Reports explained assumptions clearly
- Executive summaries were readable

Limitations

- Spec configuration strongly affects results
- Input quality drives output quality
- More validation needed

Next Steps & Final Recommendation



Final Recommendation:

- Proceed with modifications; Validation needed before scaling

Thank You

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