

# Process Capability & Launch Readiness Copilot

Phase 1 Strategic Pilot Proposal  
EPD 522 Capstone Project  
Praharshith Jamalapuram 9082624322 | 16th Dec'25

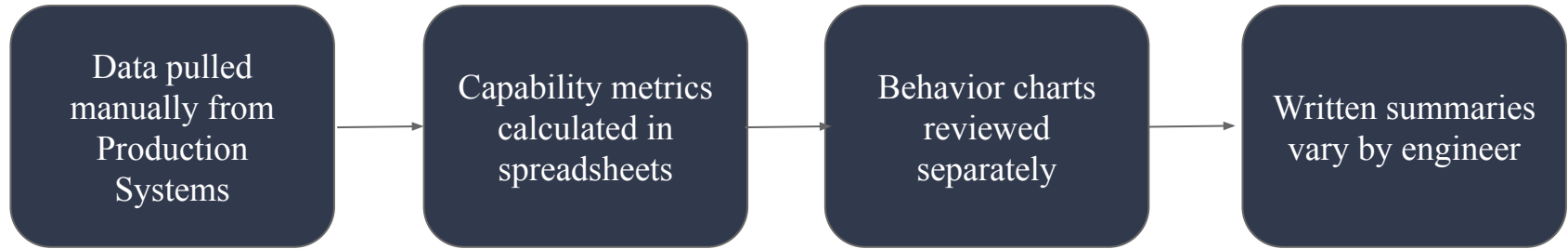
## Pain Points:

- 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

# Current Approach & Gaps



Key Gaps: Time Intensive; Hard to scale; Inconsistent interpretation

# Pilot Purposes

## Primary Problem Question:

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

## System's Limitations:

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

# Pilot Scope

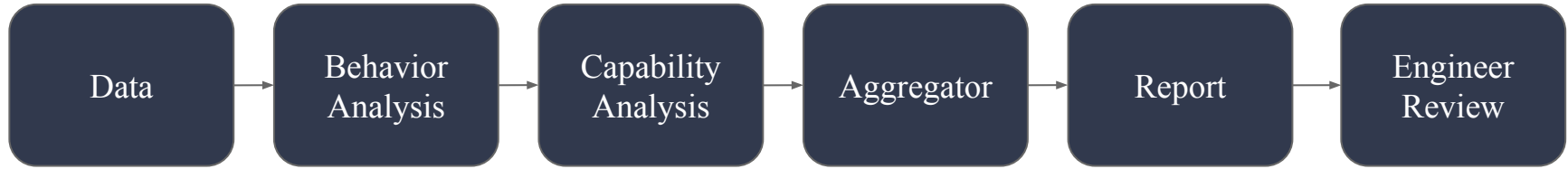
## In Scope:

- 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

# Solution Approach & Principle



## Key Principle:

- Mirrors how engineers already work
- Improves consistency and speed

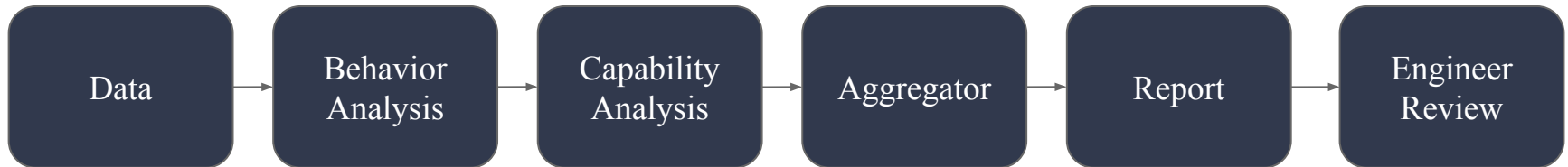
# Conceptual AI Design

## Why Agentic AI:

- Separates analysis from interpretation
- Uses tools for calculations
- Uses AI for explanation and reporting

## Design Choice:

- Numbers come from deterministic tools
- AI focuses on context, clarity, and communication



# Benefits

- Faster and more consistent reviews
- Reduced manual reporting effort
- Clearer summaries for leadership
- Scalable pattern for future processes
- Foundation for responsible AI adoption



# Risks & Mitigations

## Key risks

- Misinterpretation of results
- Over trust in AI outputs
- Data configuration errors

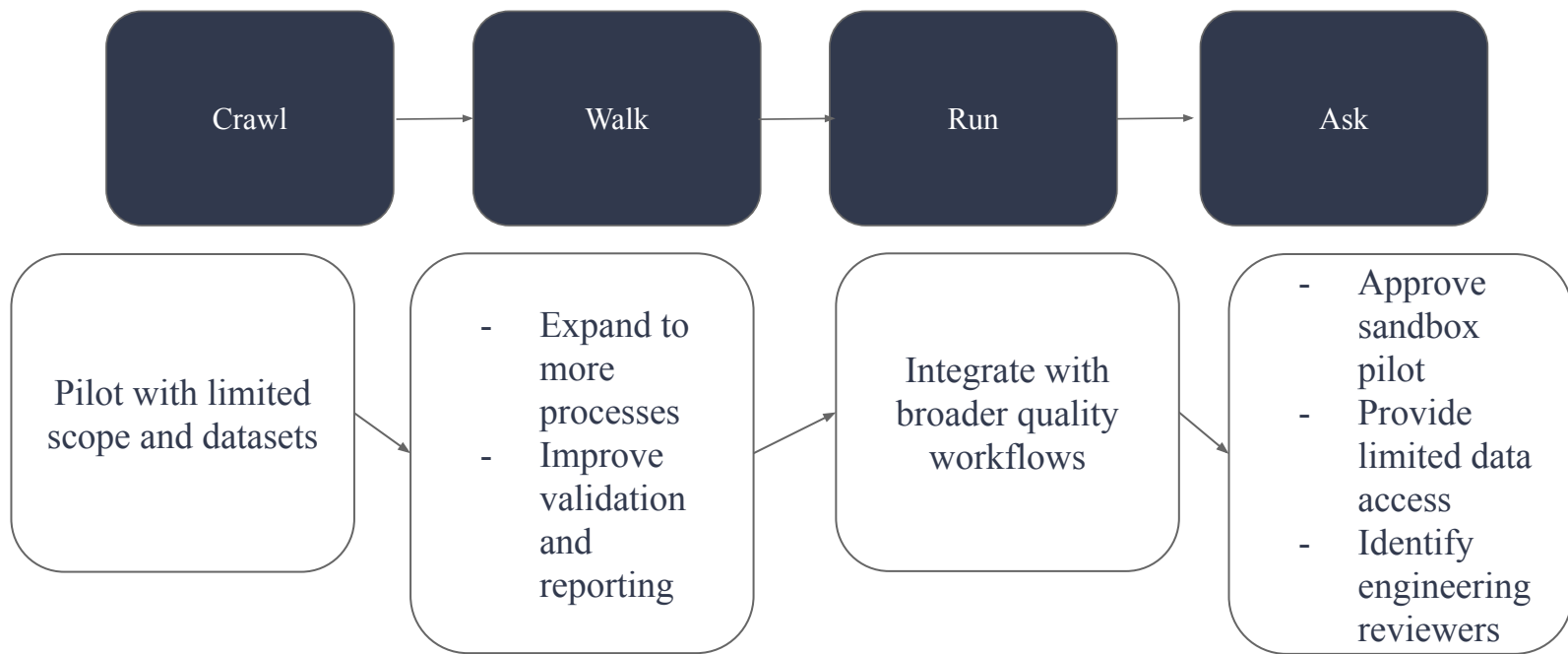
## Mitigations

- Tool based calculations
- Explicit human review
- Conservative interpretation rules

# Risk Controls

- Engineers review all outputs
- Stability is checked before capability interpretation
- Clear warnings when assumptions are violated
- Prevents over reliance on AI
- Preserves accountability
- Builds trust with engineering teams

# Roadmap & Ask



# Thank You

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