

Wipro Smart-twin



An Operational Digital Twin

What is it?

- An operational digital twin is a virtual model of a real-life asset, or process, and their impact on your business
- It accurately reflects the state of your **PAST, PRESENT & FUTURE** operations, and ties it to your **Business Economics**
- It is powered by data

What it will drive?

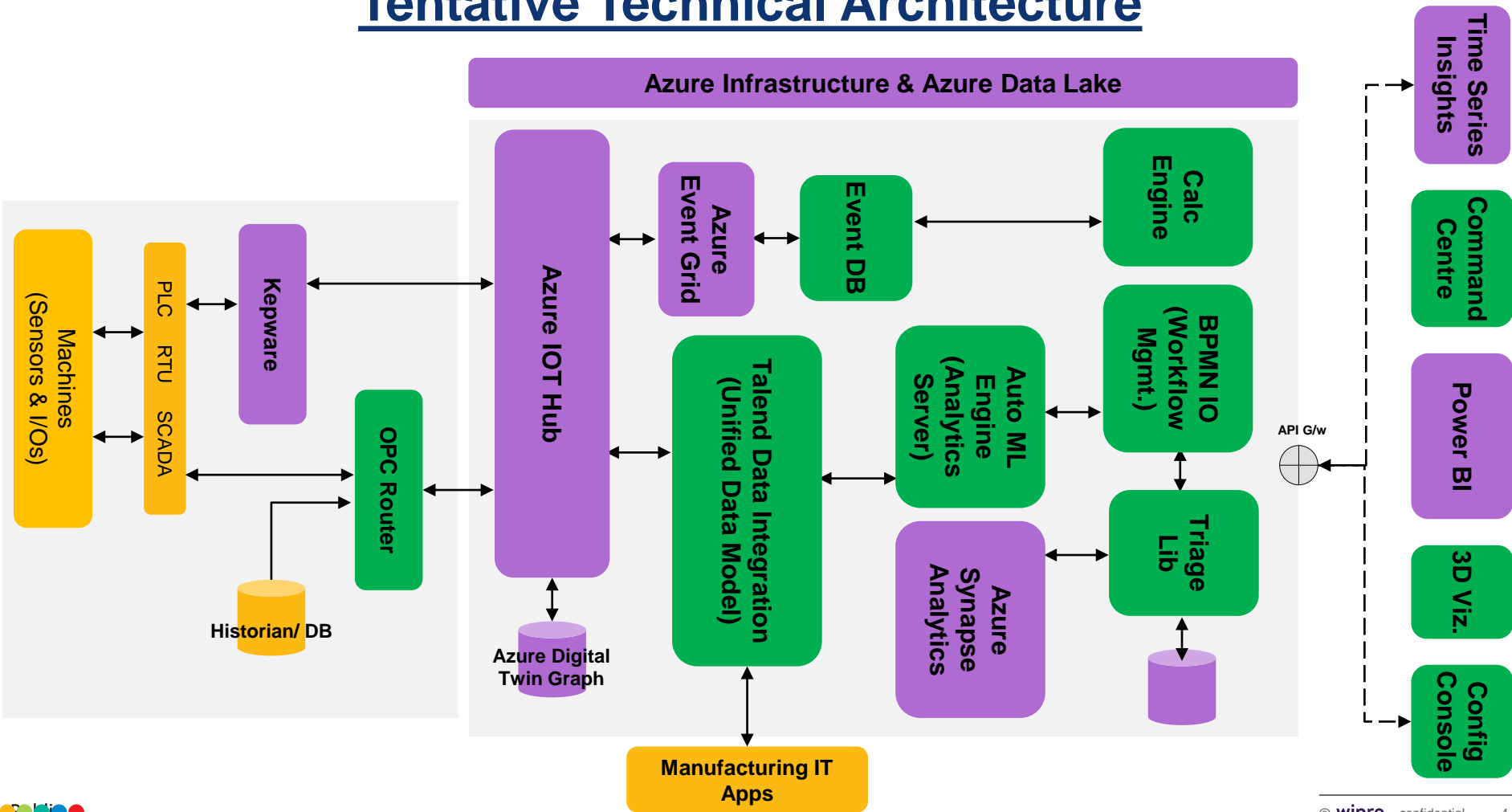
Closed Loop Performance Management

- Faster Responses to adverse events
- Operational Process Streamlining & Optimization
- Digitization of Operations
- Predictive Maintenance
- Transparent access to contextual data, insights, & knowledge

Benefits you can expect

- **Increase Equipment OEE and Extend Equipment Life**
- **Reduce turn-around time of operational processes**
- **Improve workforce productivity and efficiency**

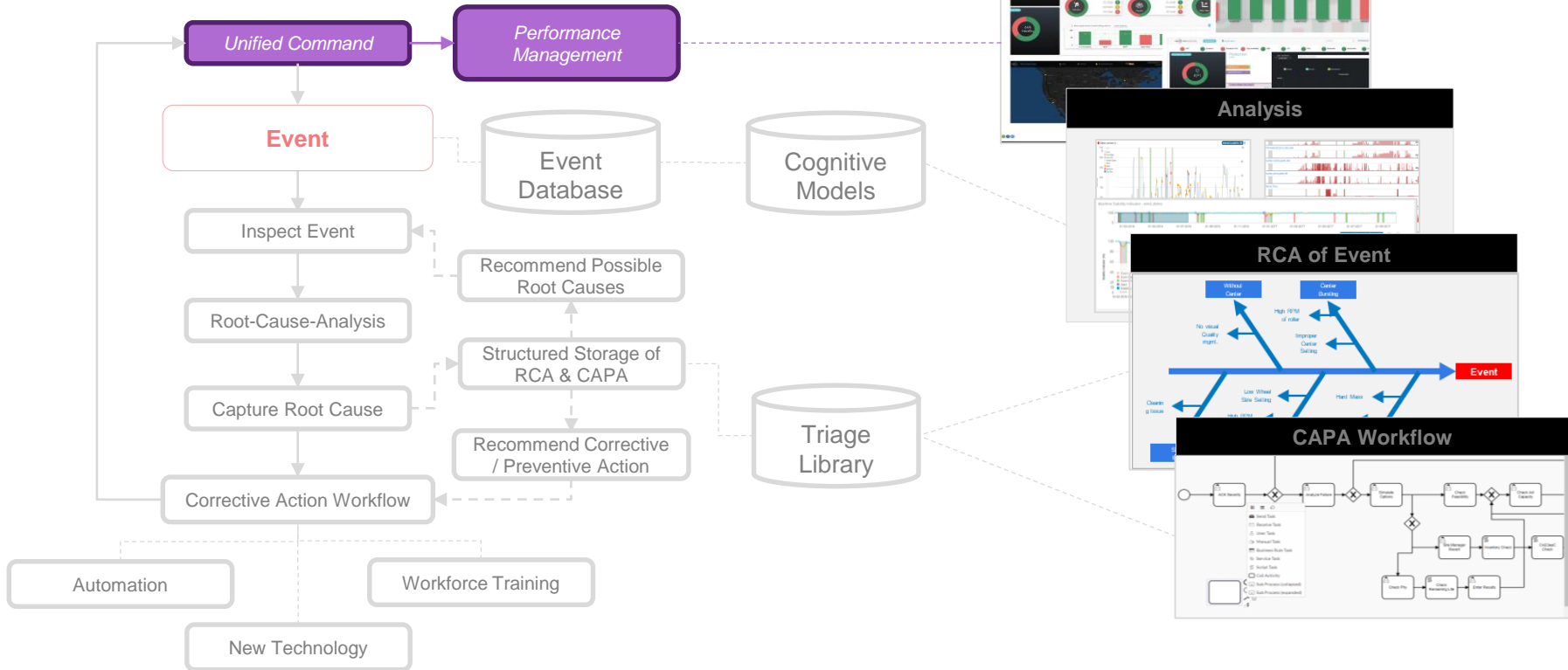
Tentative Technical Architecture



Closed Loop Performance Management



MONITOR



Establish an Integrated Operations Command Center

MONITOR

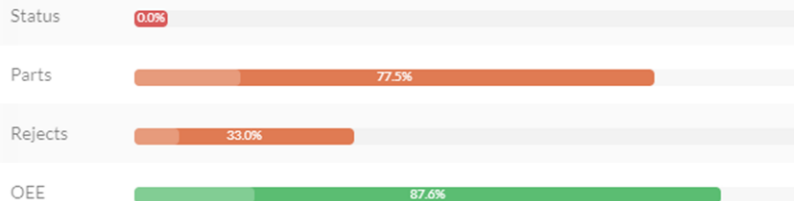
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MFG / Plant1 / Line1

Search Assets...

Line1



Propert... ▲ Code ▲ Status ▲ Priority ▲ Details ▲ Time ▼

Output	Extruder:C...	active	high	Chained - E...	158436474...

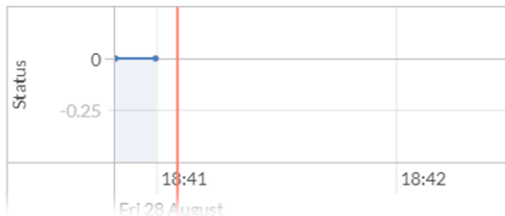
First Prev 1 Next Last

Alarms

Events

Stamper

0 1



Extruder

4 2



Capping

0 0

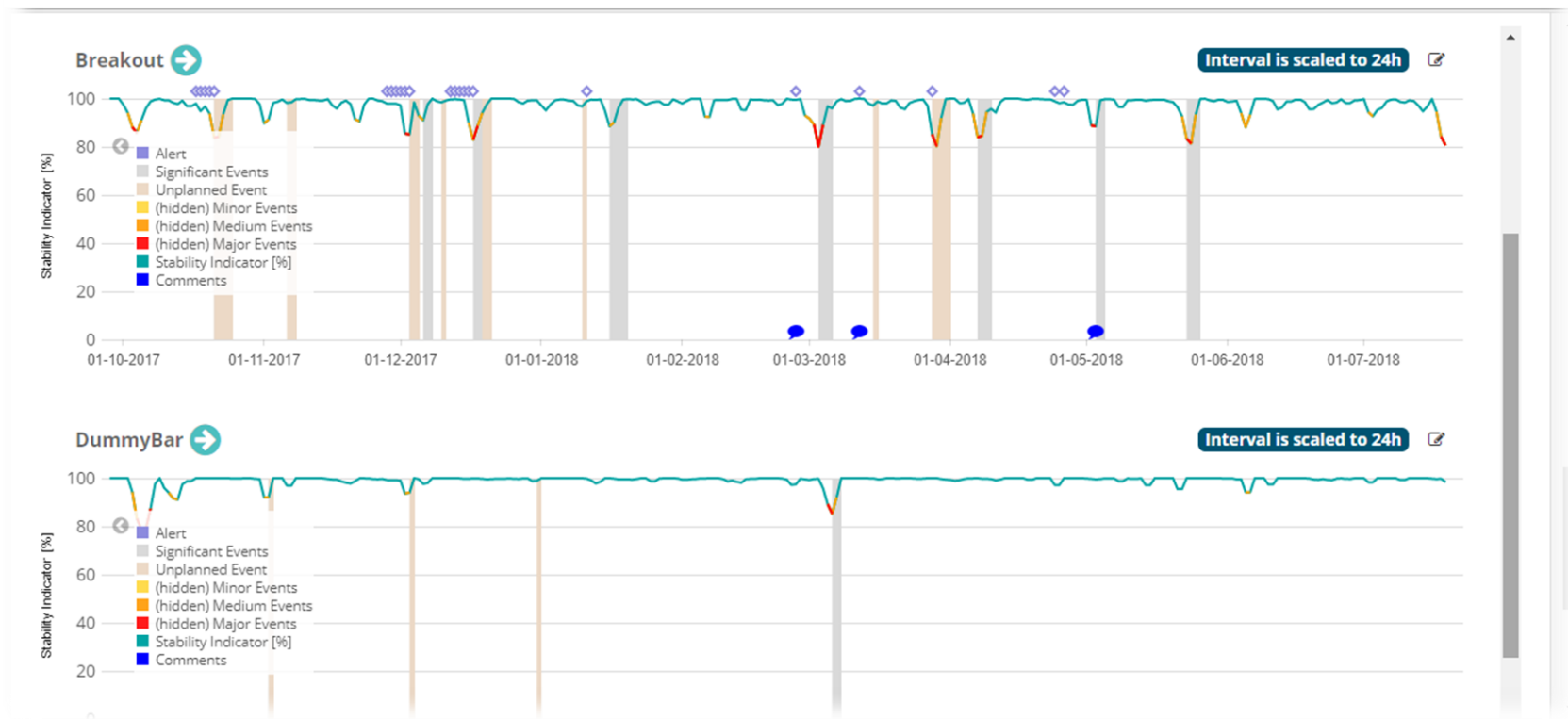


Cognitive dashboards customized to the requirements of different user group

DETECT

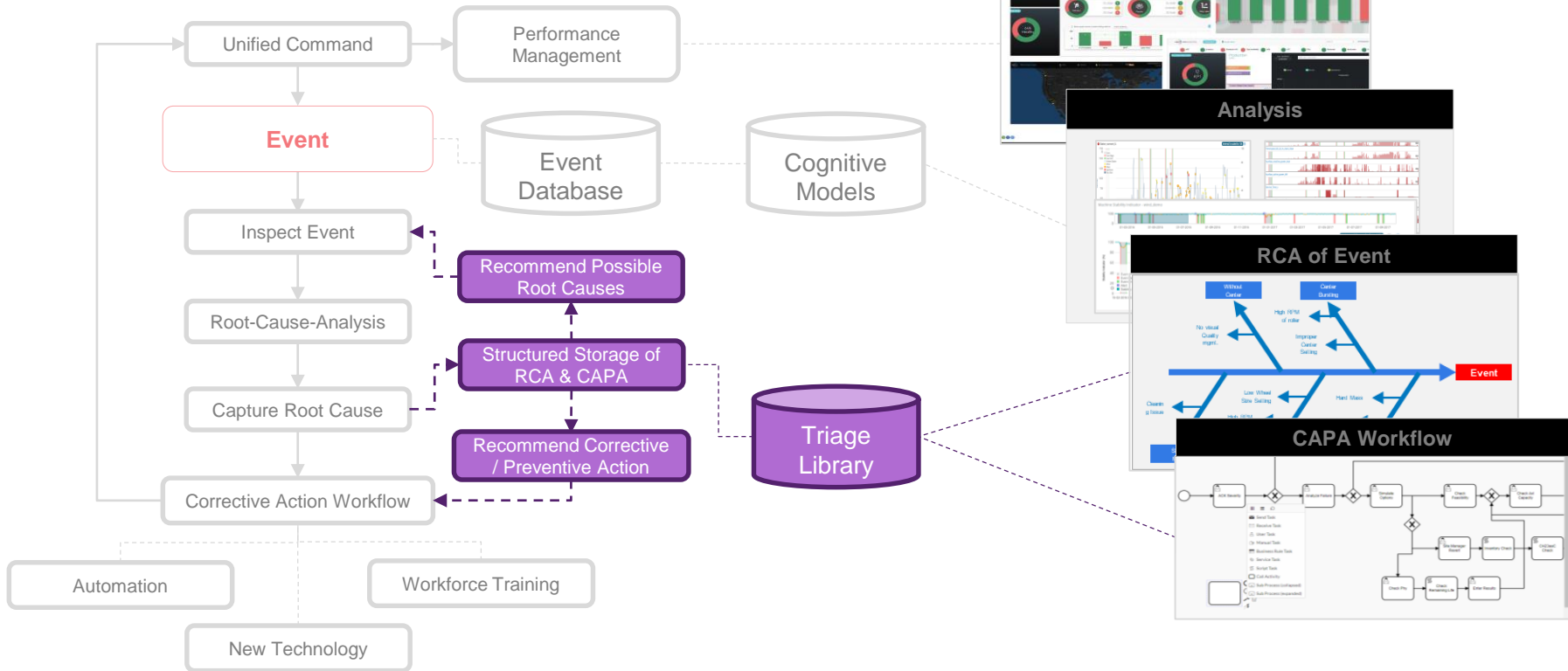
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Equipment health & stability indicator built using automated machine learning

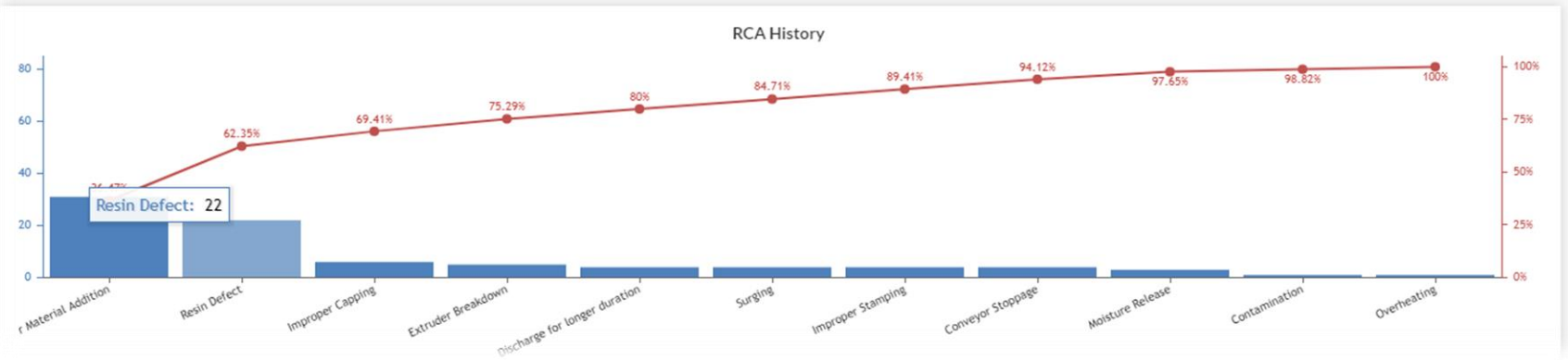
INSIGHT



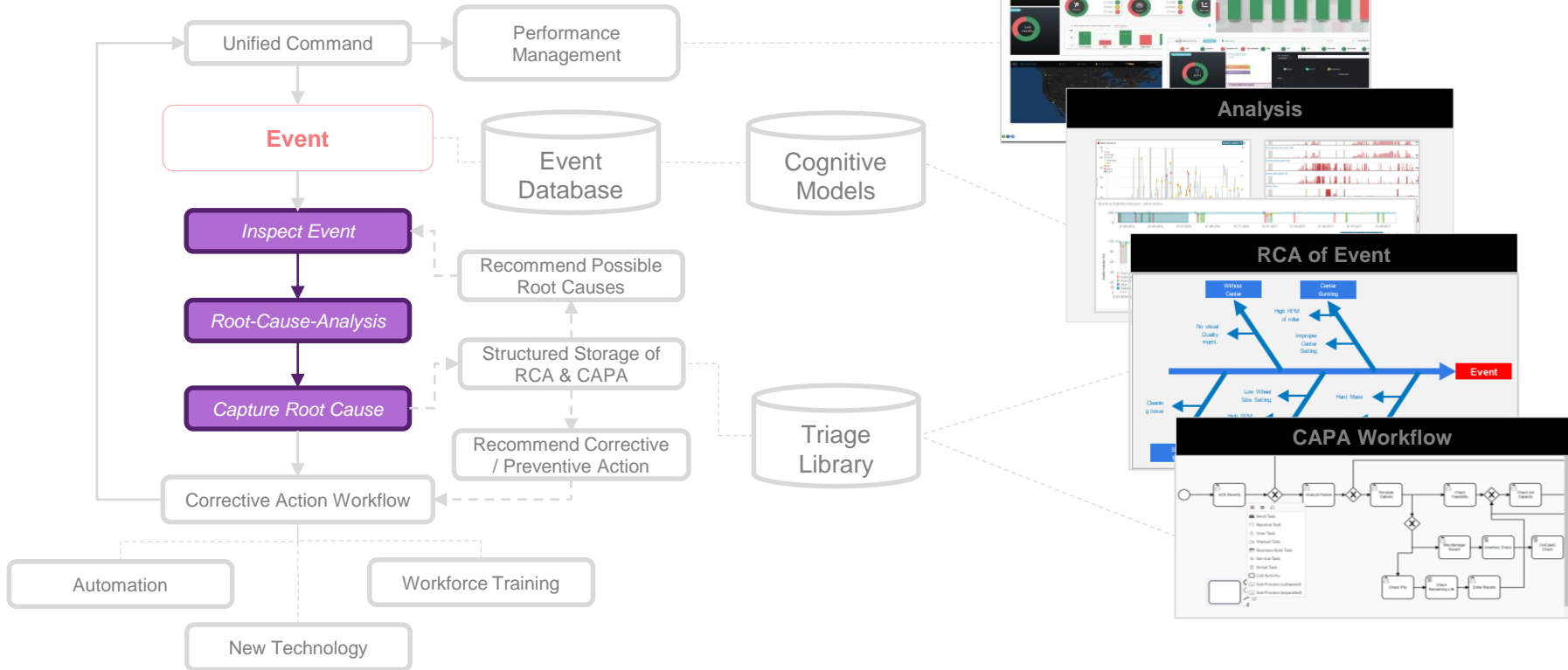
Institute an enterprise wide transparent knowledge-base

RCA_0015	Quality Issue in Extruder	Extruder	Quality	✗	Fishbone
RCA_0016	Quality Issue in Extruder	Extruder	Quality	✗	Fishbone
RCA_0017	Quality Issue in Extruder	Extruder	Quality	✗	Fishbone
RCA_0018	Quality Issue in Extruder	Extruder	Quality	✗	Fishbone

First Prev 1 2 3 4 Next Last



ANALYZE



Contextualized real-time data, engineering data and transactional data

ANALYZE

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Root Cause Analysis

Details

RCA Details

Impact

Trend & Forecast

Asset Type

Name*

RCA_0013

Category*

Operational

Asset Name

Extruder

Description

Quality Issue in Extruder

Impact*

High

KPI

Quality

RCA History

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Summary

RCA Summary

Next >

Load Template

Improper Material Addition

Check incoming batch quality

Resin Defect

Create New SOP

Operator Training

Guided flow to capture root-cause of an event with contextualized data

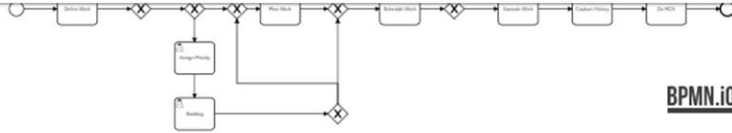
The image displays a collage of data visualization and analysis tools. At the top, a dashboard with various charts (bar, line, pie) and a map. Below it, a black box labeled "Analysis" containing a complex diagram with a central blue arrow pointing right towards a red "Event" box. The diagram branches into "Internal Cause" and "External Cause" at the top, and "Change in State", "Loss of Skill (Capability)", and "Human Error" at the bottom. A legend on the left lists various test types. Below the "Analysis" box is another black box labeled "CAPA Workflow" containing a flowchart with decision points and a legend for test types.



ACT

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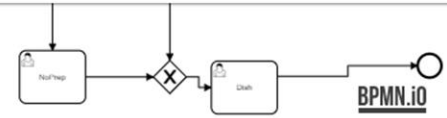


View

Model

List

Start



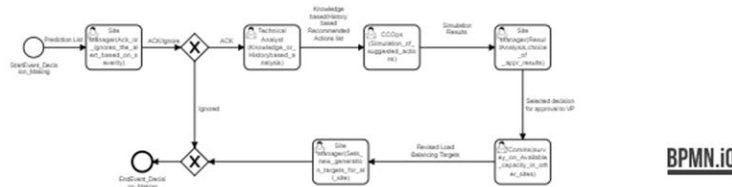
View

Model

List

Start

DecisionMaking_Process



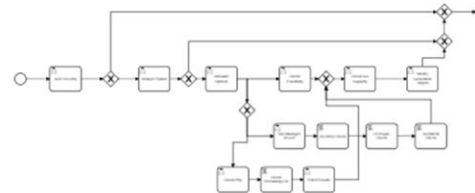
View

Model

List

Start

FP_v2



View

Model

List

Start

FireHydrantInspection



Process_1



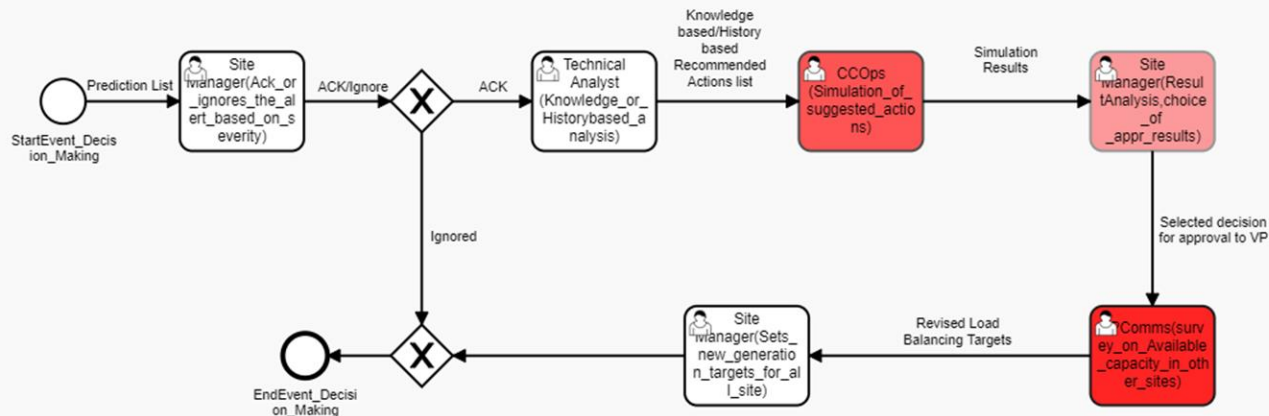
Close the performance management loop with an automated workflow

and OPTIMIZE

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Process Name
DecisionMaking_Process



BPMN.io

Task Statistics

Task Name	Task Count	Average Duration (s)
CCOps (Simulation_of_suggested_actions)	57	1641123.8683157892
Site Manager(Ack_or_ignores_the_alert_based_on_severi...	66	772823.5750151516
Site Manager(ResultAnalysis,choice_of_appr_results)	50	1110724.2818200001

Optimize Operational Processes with insights on Process Bottlenecks



Thank You.

