



CELEBAL
TECHNOLOGIES

Shop Floor Intelligence

Celebal Tech - Our Specializations and Strengths



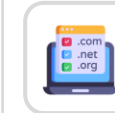
Key Strategic Partnerships



Advanced Specialization



- AI & Machine Learning
- Analytics
- Infra and Database Migration to Microsoft Azure
- Kubernetes
- Cloud Security



Deep Domain Expertise



ISD Approved Partner



Azure Open AI industry driven Co-pilots.



ECIF Green+ AMM + Azure Innovate



AI Solutions To Help Retire AI Design Wins



IP Co-sell Partner with Marketplace Transaction and MACC enabled Solutions

3000+
Employees

1500+
Azure Certification

800+
AI Experience Professionals

250+
SAP Experts

Industries We Serve Globally



Manufacturing



Retail & CPG



Financial Services



Energy & Sustainability



Healthcare & Life Sciences

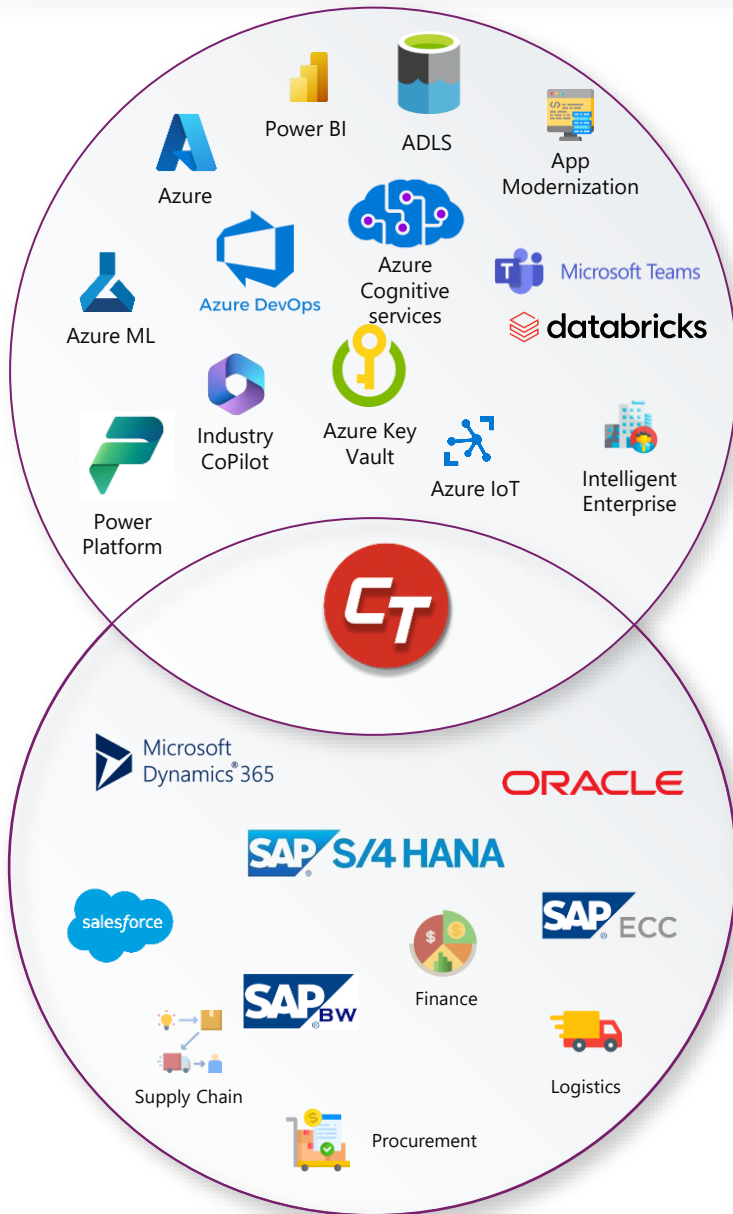


Media & Entertainment

US | INDIA | EUROPE | CANADA | APJ | MIDDLE EAST | AUS



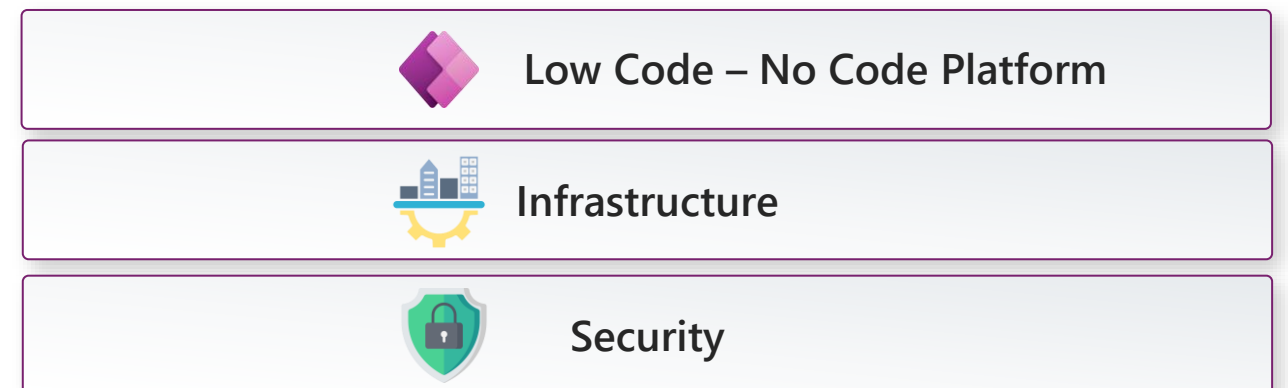
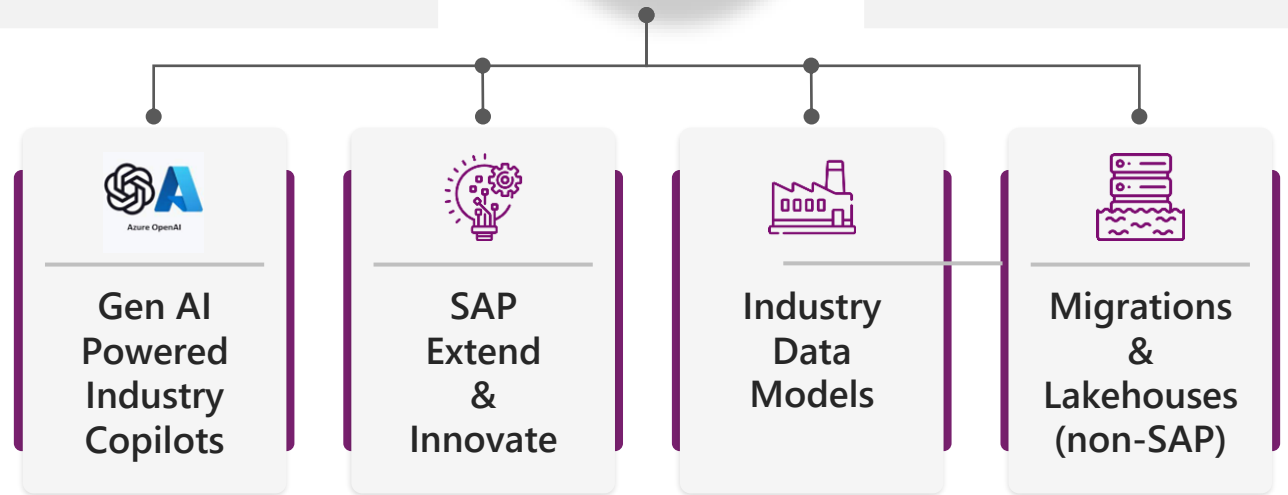
Traditional Enterprise meets Modern Cloud Innovation



- Deep Domain Expertise
- Open AI industry driven Copilots
- Premium Partner for SAP Extend and Innovate
- ECIF Green & Azure Innovate and AMM Cert.



- Partners with Microsoft Research
- IP Cosell Partner with Marketplace Transaction
- MACC enabled Solutions
- ISD Approved Partner



Business Value for Copilot enabled Shop Floor Intelligence

Business Challenge

- Optimizing manufacturing operations
- Maintaining quality standards.
- Fostering continuous improvement.
- Time to Production for Industry standard KPI's
- Time spent in retrieving information
- Long decision-making cycles



Solution

A solution providing 360 view to Empower your shopfloor with persona specific LLMs for accessing SOPs , control plans and machine manual along with Gen AI-powered Industrial analytics to increase visibility, productivity and quality control.

Persona Benefits and Value Creation



Production Head

- Optimal resource allocation
- Streamlined operations



Planner

- Track Production
- Material Visibility



Operator

- Easier Collaboration
- Smooth Operations



Quality Engineer

- Faster Resolution
- Quality Improvement



Maintenance Engineer

- Maintenance Optimization
- Faster response

Solution Content

Playbook

(Unstructured data from document repo)

Document Types

- Quality
- SOP
- Machine Maintenance

Analytics

(SAP data only)

- Production Tracking
- Schedule Adherence
- Decision Support
- Performance Analysis
- Yield Optimization
- Scrap Trend Analysis
- Defect Tracking
- Process Improvement
- Throughput Visibility
- Timely Issue Resolution

(OT/Time series data)

- Machine Start Time
- Machine End Time
- Machine running status
- MTBF
- MTTR

Customer Key Facts



Implementation Window
~ 10 -12 Weeks



Implementation Cost
\$95k - \$105k

ROI



- 15 to 25 % Increase in Production Efficiency
- 10 to 25 % Quality Improvement
- 15 to 30 % Improvement in response time

Dashboards (10) KPIs (46)



Production Performance



Component Consumption



Manhour Visualization

Documents (1000)



SOP



Machine Manual



Control Plan

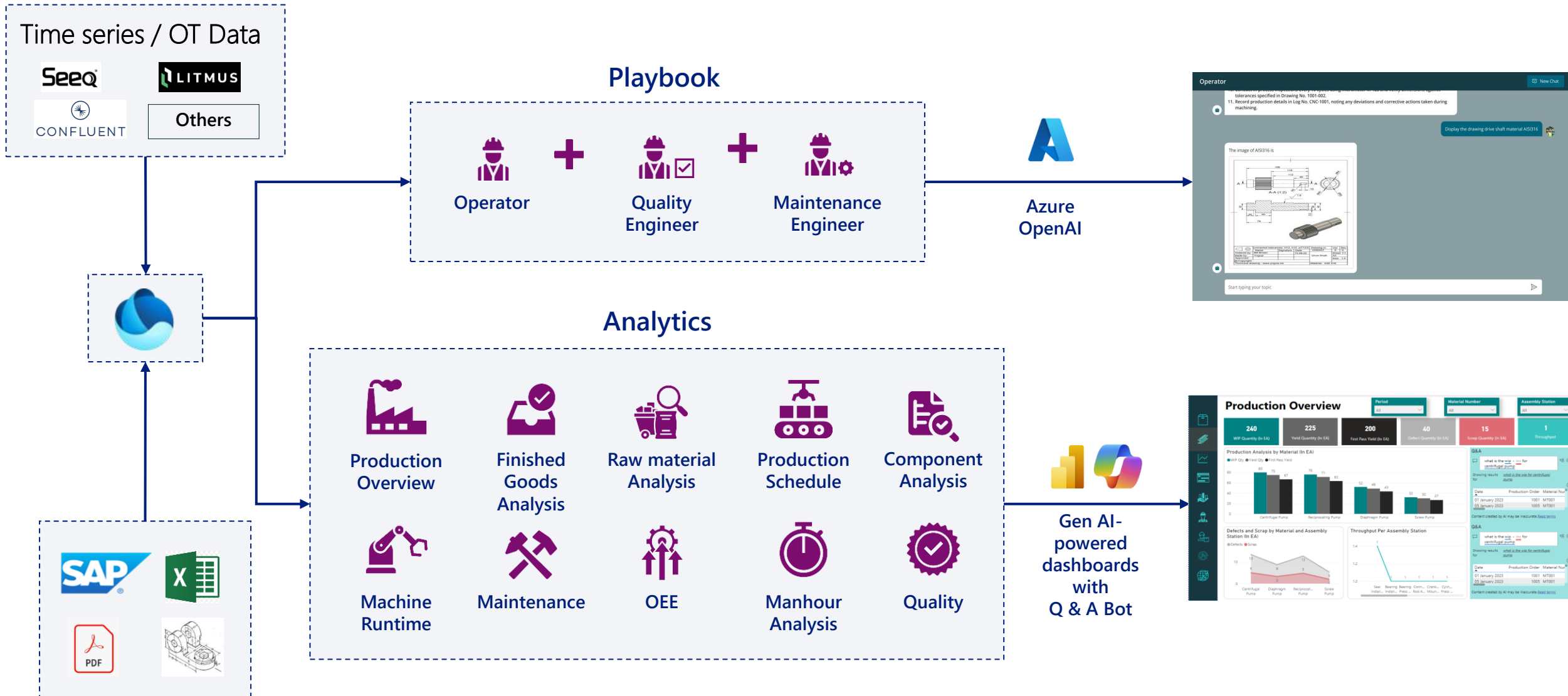


Drawings



Operational Manual

Solution Packaging



Overview of Solution : Copilot enabled Shop Floor Intelligence

	Industry Standard Data Models			Preconfigured Dashboards	Persona Configured Gen-AI Industry LLM			
	Visualization	Solution	Technology	Values	Timeline	ACR	Implementation Cost	ROI
Shop Floor Intelligence Playbook	Web/MS Teams/ Mobile Enabled	Azure Open AI powered Chatbot for Operator, Quality Engineer and Maintenance Engineer	Azure Open AI	<ul style="list-style-type: none"> • Quick SoP Assistance • Instant product inspection checklist access • Quick equipment maintenance guidelines retrieval • Comprehensive quality management access 	~ 10 -12 weeks Assuming readiness as per prerequisites	\$25K to \$30K Per Month	~ \$95K-105K*	<ul style="list-style-type: none"> • 15 to 25 % Production Efficiency • 10 to 25 % Quality Improvement • 15 to 30 % Improvement in Response Time
Shop Floor Intelligence Analytics	Power BI/ Web/ Mobile Enabled	Copilot Enabled Pre-configured Analytics for Production, Quality and Maintenance Support Department	Fabric Power BI Copilot	<ul style="list-style-type: none"> • Production Analysis • Component Composition • Man Hour Analysis • Defect Code Analysis • Machine Breakdown Distribution • Informed Decision Making 				

Analytics Value for Planner

- Planning Support
- Component Analysis
- Production Tracking

KPIs (10)

Forecast FG Quantity

Actual Booking

WIP Quantity

Booking Delta

Forecast Delta

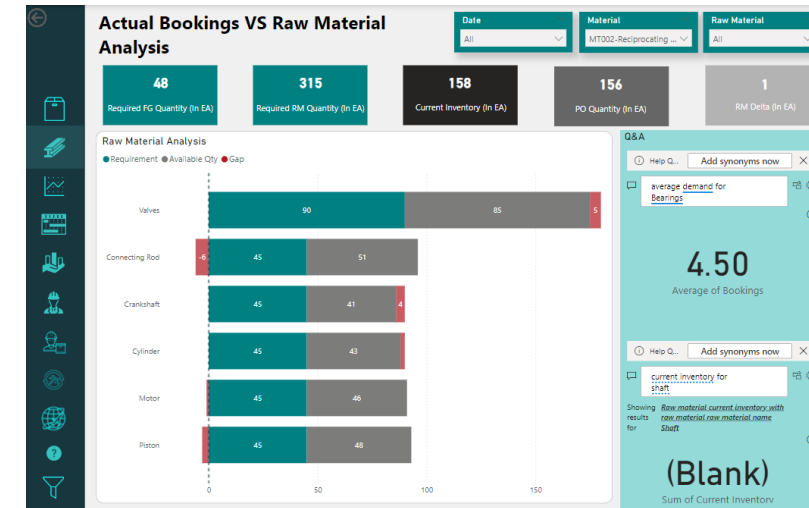
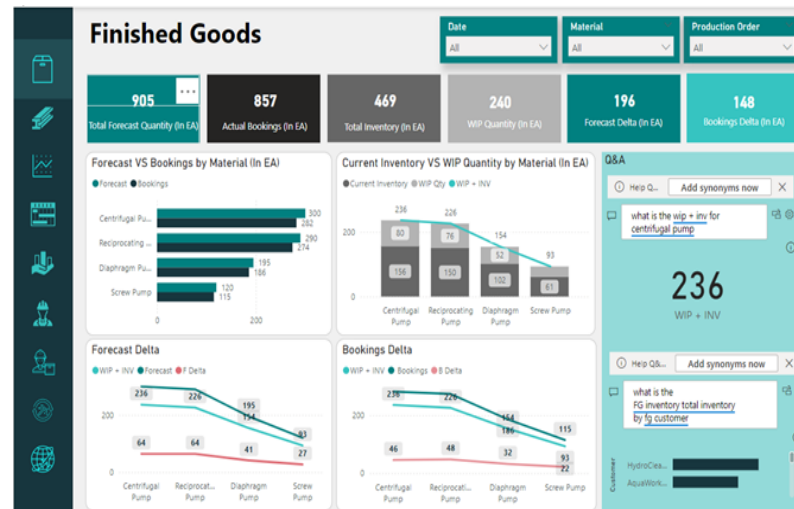
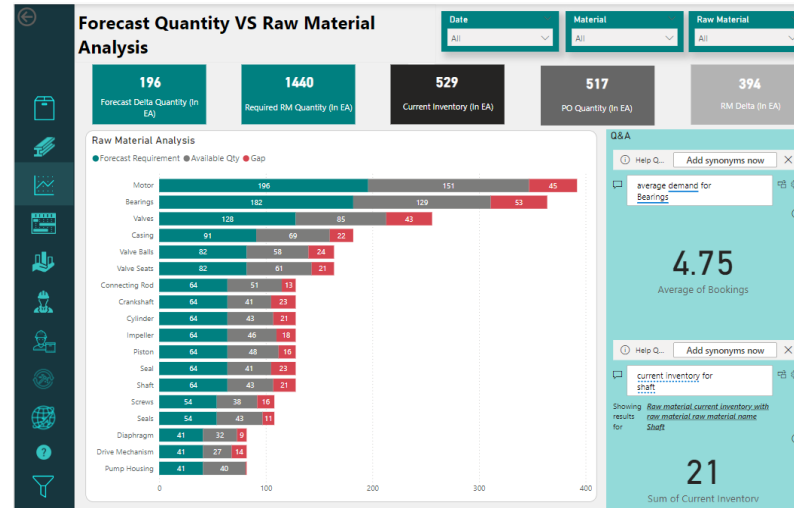
Required RM

RM Delta

RM Inventory

Forecast Delta for RM

RM PO Quantity



Playbook Value for Operator

- Efficient operation guidance access
- Smooth production changeover assistance
- Instant product inspection checklist access

Documents (400)

Machine Operation Guidelines

Material Handling Protocols

Production Changeover Procedures

Workplace Safety Policies

Product Inspection Checklist

Operator New Chat

Tell me SOP for setting of CNC Machine for Part Number 1001

1. Use hydraulic vise XY-2000 to securely mount part number 1001 onto the machine table.
2. Align the workpiece to X= 50 mm, Y= 75 mm, and Z= 20 mm as per Drawing No. 1001-001.
3. Choose carbide end mill cutter, Model No. EM-2345, and insert it into tool holder T-5678.
4. Tighten the tool holder using torque wrench TW-789 to 25 Nm.
5. Load program number 12345-1001 from USB drive "CNC_Programs" into the CNC control system.
6. Verify the program integrity and dimensions against Drawing No. 1001-002.
7. Calibrate tool length offset for EM-2345 by measuring 50mm from the tool tip to the machine reference point.
8. Input the offset value of 50mm into tool offset register TO-1001.
9. Execute program 12345-1001 to commence machining operations for part number 1001.
10. Conduct in-process inspections every 10 cycles using micrometer M-123 and verify dimensions against tolerances specified in Drawing No. 1001-002.
11. Record production details in Log No. CNC-1001, noting any deviations and corrective actions taken during machining.

Start typing your topic

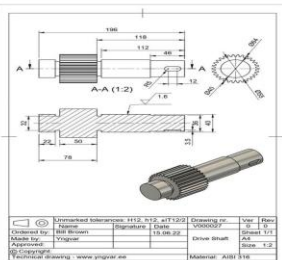
Operator New Chat

tolerances specified in Drawing No. 1001-002.

11. Record production details in Log No. CNC-1001, noting any deviations and corrective actions taken during machining.

Display the drawing drive shaft material AISI316

The image of AISI316 is



Item	CD	Material	Quantity	Unit	Remarks
1	1	AISI 316	1	PC	Shaft
2	2	AISI 316	1	PC	Flange
3	3	AISI 316	1	PC	Bracket
4	4	AISI 316	1	PC	Bracket
5	5	AISI 316	1	PC	Bracket
6	6	AISI 316	1	PC	Bracket
7	7	AISI 316	1	PC	Bracket
8	8	AISI 316	1	PC	Bracket
9	9	AISI 316	1	PC	Bracket
10	10	AISI 316	1	PC	Bracket

Start typing your topic

Production Head Shop Floor Intelligence

KPIs (25)

Total Planned Hours

Skill Matrix

On time Production Rate

Downtime

Scrap Rate

Machine Capacity Utilization

Total Actual Hours

Overtime by Reason

OEE

Delta

WIP Quantity

Availability

Employee Productivity

WIP RM Quantity

Performance

Overtime (in hours)

Target Cycle Time

Quality Score

Overtime %

First Passed Yield

Yield

Throughput

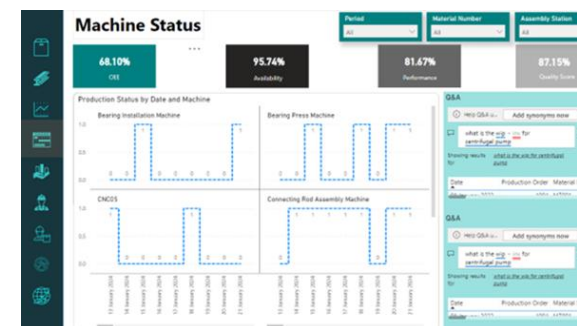
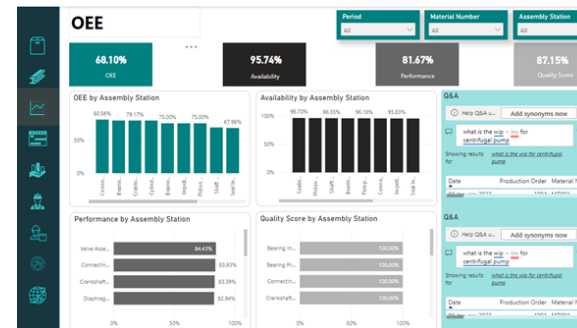
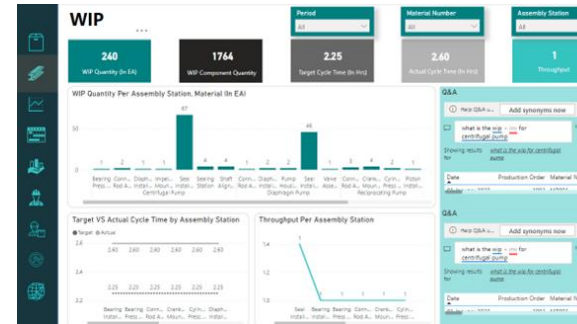
Actual Cycle Time

Order Lead Time

Machine Status

Analytics Value for Production Head

- Enhanced production resource utilization
- Informed Budgeting by Cost Control & Analysis



Playbook Value for Quality Engineer

- Comprehensive quality management access
- Process validation protocol retrieval

Documents (300)

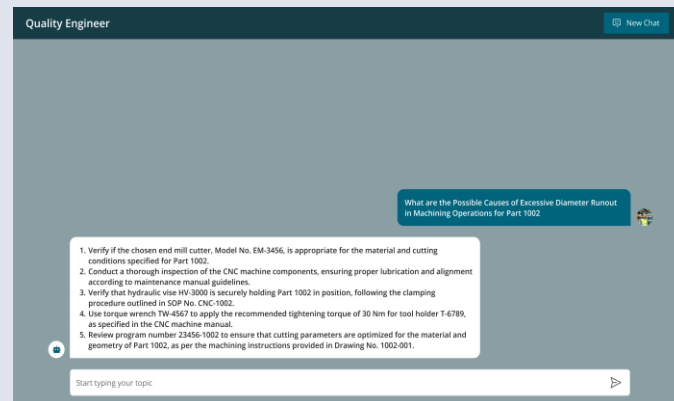
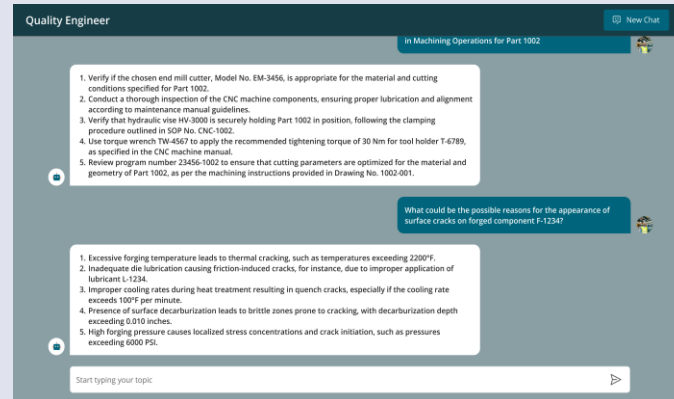
Quality Manual

Quality Control Plan

Inspection and Testing Procedures

Non-Conformance Report (NCR)

Corrective and Preventive Action (CAPA) Plan



Analytics Value for Quality Engineer

- Faster Resolution
- Quality Improvement

KPIs (6)

FG Quantity

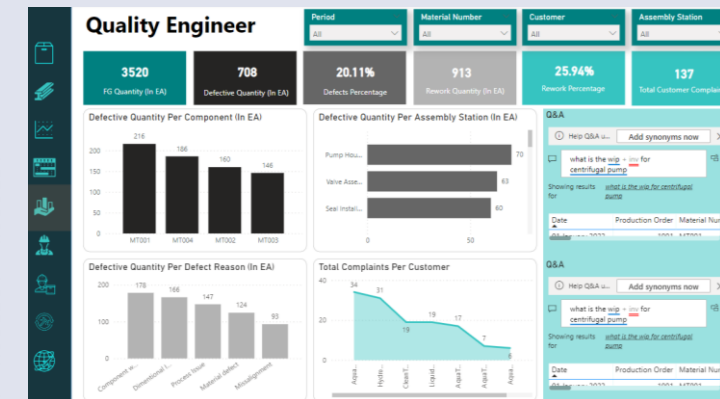
Defective Quantity

Defect %

Rework Quantity

Rework %

Customer Complaint



Playbook Value for Maintenance Engineer

- Equipment maintenance guidelines retrieval
- Troubleshooting manual retrieval support
- Emergency shutdown procedures access

Documents (300)

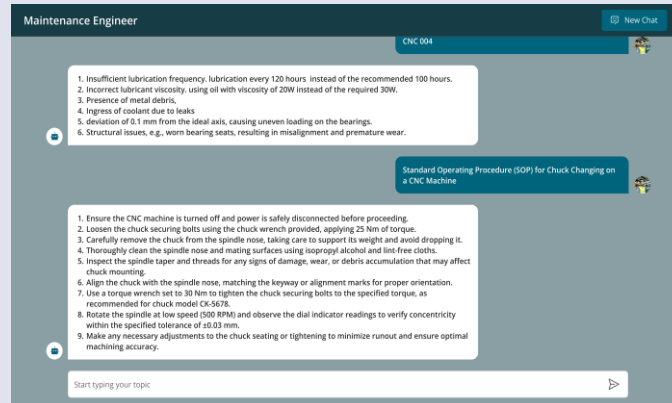
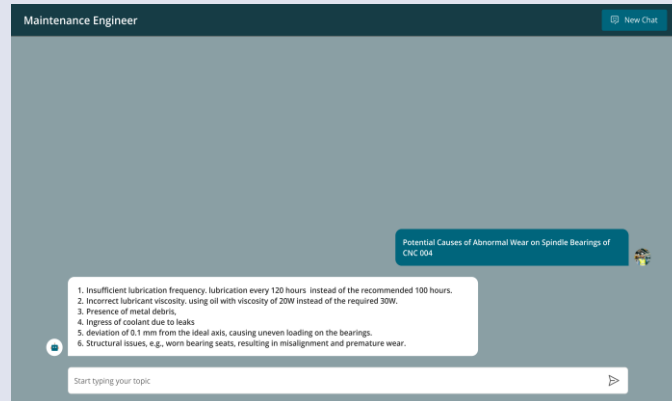
Equipment Maintenance Guidelines

Installation Guide for Machinery

Troubleshooting Manual

Lubrication and Fluid Management Guidelines

Control Panel User Manual



Analytics Value for Maintenance Engineer

- Maintenance Visibility
- Informed Decision Making
- Data-Driven Downtime Reduction

KPIs (5)

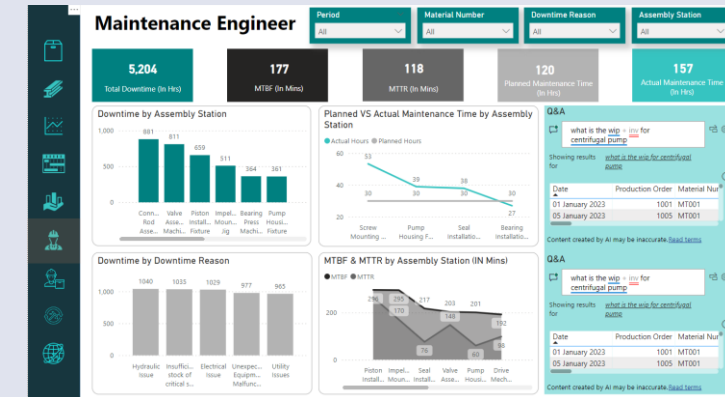
Total downtime

MTBF

MTTR

Planned maintenance time

Actual maintenance time



Data Model : Shop Floor Intelligence Analytics

Tables (11)

AFKO
MSEG
AFRU
PLAF
RESB
MARA
QALS
QMEL
EQUI
OBJK
AFIH

PLAF

- Production Order
- Target Quantity
- Yield Quantity
- Scrap Quantity
- Material Number
- Order Status

RESB

- Raw material consumption

QALS

- Defect Code

QMEL

- Defect Analysis
- Notification

OBJK

- Notification

AFIH

- Breakdown



AFKO

- Production Order
- Date
- Material Number

MSEG

- Confirm Quantity
- Confirm Scrap

AFRU

- Planned Start Date
- Planned End date
- Actual Start date
- Actual End date
- Order Completion time
- Employee ID
- Target Quantity


EQUI

- Machine ID

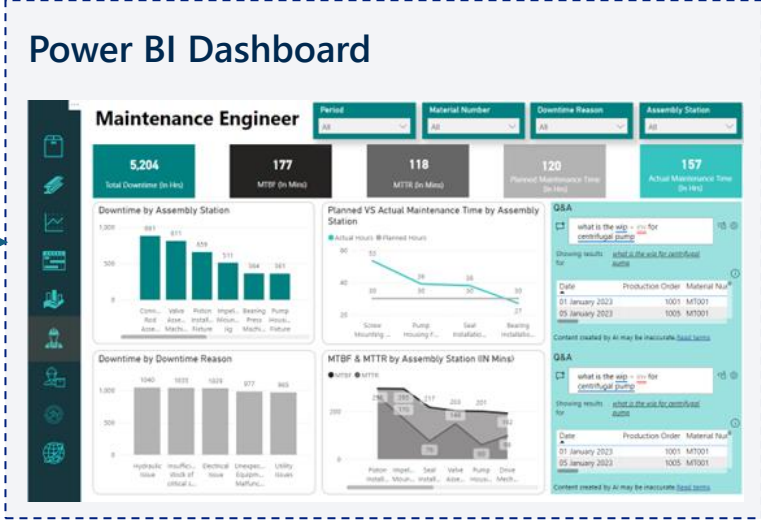
OT Data

- MTBF
- MTTR
- Performance
- Availability
- OEE

Data
pipeline



Fabric One
lake



MTBF

MTTR

Performance

Availability

Quality Score

OEE

KPIs (46)

Through
put %

Planned vs
Yield
Quantity

Scrap
Quantity

Required vs
Inventory

Demand vs
Yield and
FG

Planned vs
Actual
Manhours

QM
Notification
Analysis

Defect Code
Analysis

PM
Notification
Analysis

Break Down
Analysis

LLM : Shop Floor Intelligence Playbook

SOP

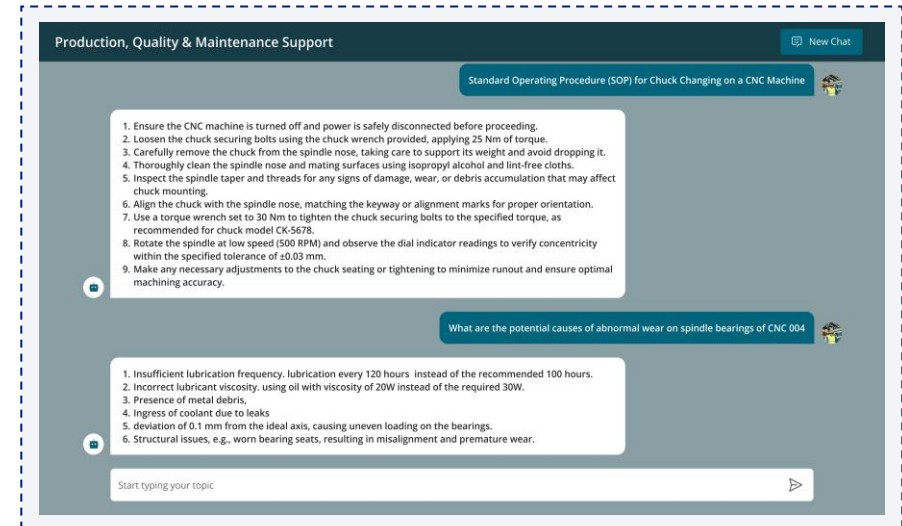
- Machine Operation Guidelines
- Material Handling Protocols
- Equipment Cleaning and Sanitization Protocols
- Production Changeover Procedures
- Workplace Safety Policies
- Recordkeeping Standards
- Training Curriculum and Assessments
- Emergency Response Plans
- Regulatory Compliance Documentation
- Product Inspection Checklist
- Waste Management Guidelines

Quality Management

- Quality Manual
- Quality Control Plan
- Quality Assurance Procedures
- Inspection and Testing Procedures
- Non-Conformance Report (NCR)
- Corrective and Preventive Action (CAPA) Plan
- Root Cause Analysis (RCA) Report
- Quality Audit Checklist
- Supplier Quality Agreement
- Process Validation Protocol
- Statistical Process Control (SPC) Charts
- Product Specification Sheets
- Calibration and Measurement Traceability Records

Machine Manual

- Equipment Maintenance Guidelines
- Machine Operation Manual
- Installation Guide for Machinery
- Maintenance Schedule and Procedures
- Troubleshooting Manual
- Safety Instructions for Machine Operation
- Lubrication and Fluid Management Guidelines
- Electrical Wiring Diagrams
- Control Panel User Manual
- Software Interface Guide
- Machine Setup Instructions
- Emergency Shutdown Procedures
- Warranty Information and Service Contacts
- Regulatory Compliance Certifications and Documentation



Vector
Database

Gen AI

**** Solution limits up to 1000 documents from the above samples**



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TECHNOLOGIES

Thank You