CELEBAL TECHNOLOGIES

MRO Advanced Analytics

Celebal Tech - Our Specializations and Strengths

Key Strategic Partnerships

Microsoft Solutions Partner

SAP Silver Partner

databricks Elite Partner

Red Hat Ready Business Partner

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

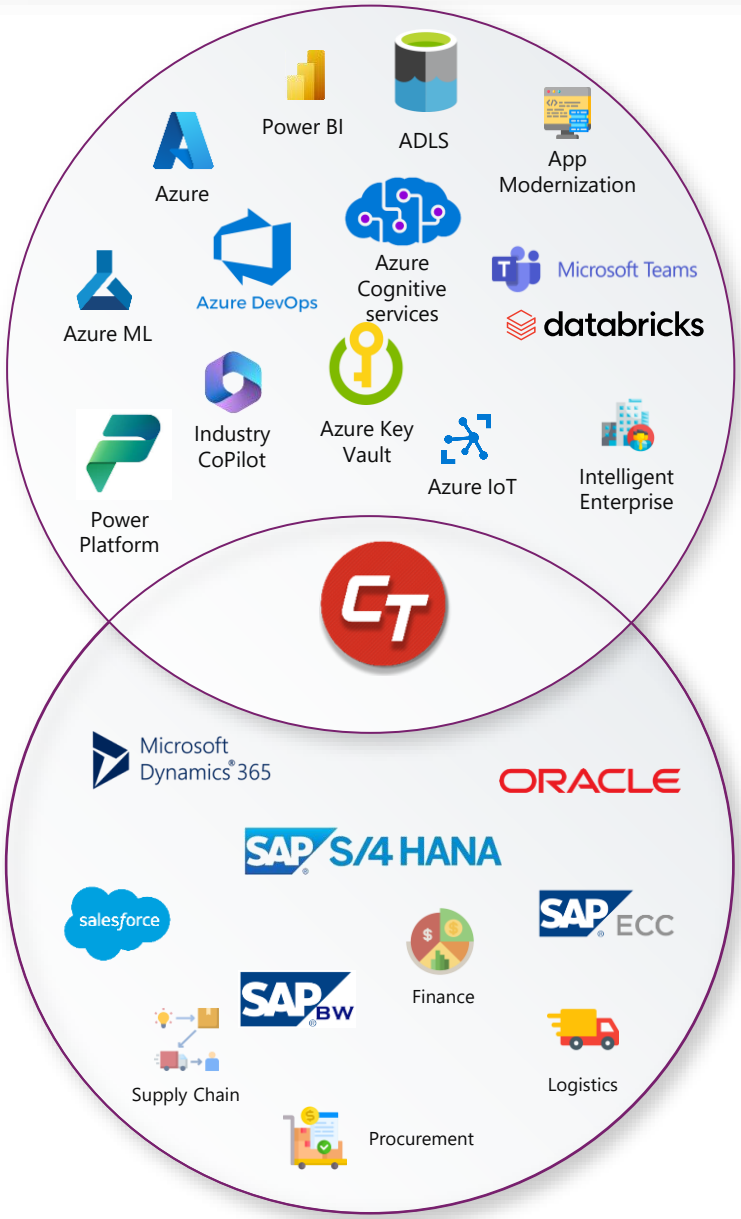
3000+	1500+	800+	250+
Employees	Azure Certification	AI Experience Professionals	SAP Experts

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.

Core Pillars

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

Gen AI Powered Industry Copilots

SAP Extend & Innovate

Industry Data Models

Migrations & Lakehouses (non-SAP)

Low Code – No Code Platform

Infrastructure

Security

Business Value for MRO Advanced Analytics

Customer Key Facts

Implementation Window
~ 13-14 Weeks

Implementation Cost
~ $ 100k -120k

ROI
- **10% to 20%** Reduction in Aircraft on Ground (AoG) periods
- **10% to 15%** Reduction in MRO costs
- **10% to 15%** Reduction in spare part inventory holding costs

Business Challenge

- Extended aircraft downtime and potential flight disruptions due to prolonged reaction time to unscheduled aircraft maintenance events
- Inefficient inventory management resulting in overstocking or shortage of critical spare parts
- Time consuming retrieval of essential MRO document, data and records, affecting maintenance efficiency

Solution

A comprehensive solution to enhance aviation maintenance efficiency and operational effectiveness with our Gen AI powered MRO Advanced Analytics solution featuring pre-configured analytics and playbooks to provide insights and persona specific guidance to streamline unscheduled maintenance responses and accelerate information retrieval empowering aviation technicians and managers transforming MRO process across the organization

Persona Benefits and Value Creation

Aircraft Maintenance Manager (AMM)
Aircraft Maintenance Engineer (AME)
Hangar Manager
MRO Workshop Manager
Technician

- Improves maintenance operations with actionable insights and analytics
- Tracks industry benchmarked KPIs to continuous improvements
- Facilitates rapid response to maintenance needs through efficient information retrieval

Solution Features

Dashboards (7)
- Aircraft Maintenance Monitoring
- Cost Analysis
- Maintenance Activity Performance
- Depreciation Analysis
- Spare Parts Management

KPIs (40)
- OEE
- Total Availability
- MTBF
- MTTR
- Total Downtime

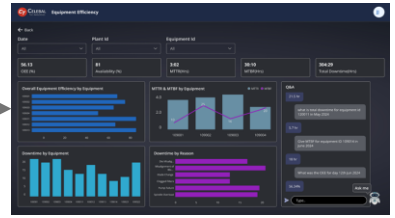
Playbook Documents (300)
- Aircraft Maintenance Manual
- Component Maintenance Manuals
- Digital Maintenance Records
- Illustrated Part Catalog
- Repair Manuals
- Aircraft Logbooks
- Airworthiness Directives

Solution Packaging

Preconfigured Analytics

Equipment Efficiency
Cost Analysis
Maintenance Activity Performance
Depreciation Analysis
Procurement Performance
Supplier Performance
Spare Part Management

Power BI



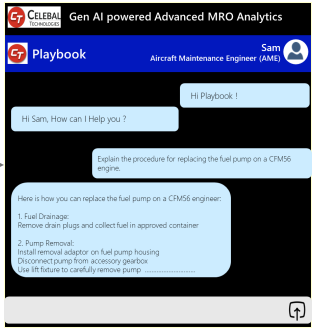
Data Sources

Delta Lake

Playbook

Aircraft Maintenance Manager + Aircraft Maintenance Engineer + Hangar Manager + MRO Workshop Manager + Technician

Azure OpenAI



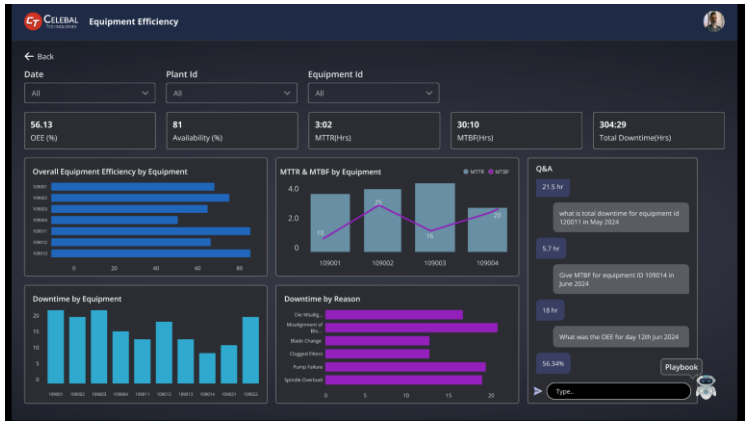
Pre-Configured Analytics

Analytics Value for Manager

- Enhanced Maintenance Resource Utilization
- Informed Budgeting by Cost Control & Analysis

KPIs (40)

OEE	Total Maintenance Cost	Total No. of Service Orders by Equipment	PO Completion % by Equipment
Availability %	Labour Cost Vs Spare Parts Cost by Equipment	Planned Vs Unplanned Service Orders	Avg Order Cycle Time by Equipment (in Days)
MTTR (in Hrs)	Maintenance Cost by Equipment	Book Value by Equipment	Supplier Avg Lead Time
MTBF (in Hrs)	Total No. of Notifications	Accumulated Depreciation Cost by Equipment	Supplier Defect Rate
Total Downtime (in Hrs)	Total No. of Service Orders	Avg PO Cycle Time (in Days)	Supplier On Time Delivery (OTD) %
OEE by Equipment	Order Open %	Total POs	Defect Rate by Suppliers
MTTR & MTBF by Equipment	Order Completed %	Open POs	OTD Rate by Suppliers
Downtime by Reason	Pending Order due to Stock Out	PO Completion %	No. of Defects by Reasons
Total Labor Cost	Outstanding Notifications (OSNO) by Equipment	Open Purchase Requisitions (PR)	Avg Lead Time by Suppliers
Total Spare Parts Cost	Open Rate Vs Completion Rate by Equipment	Closed Vs Open POs by Equipment	Spare Part Inventory Value, Stock and Avg Lead Time



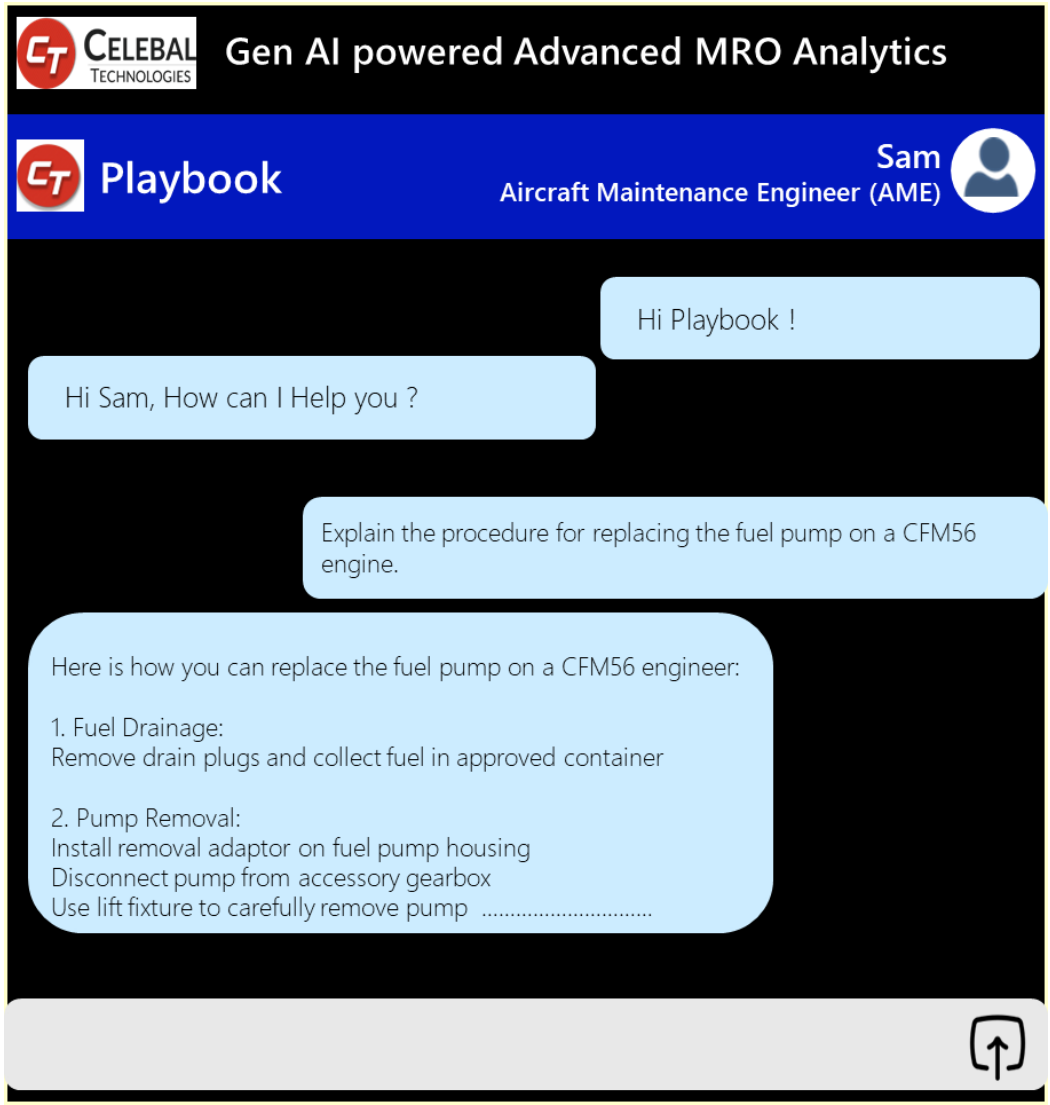
Playbook

Playbook Value for Maintenance Engineer

- Easy Access to Equipment Maintenance Guidelines
- Quick Access to Emergency Shutdown Procedures
- Assistance with Step-by-Step Troubleshooting
- Contextual Guidance for Repairs & Maintenance
- Efficient Search and Retrieval of Maintenance History

Documents (300)

Aircraft Maintenance Manual	Repair Manuals
Component Maintenance Manuals	Aircraft Logbooks
Digital Maintenance Records	Airworthiness Directive
Illustrated Part Catalog	Regulatory Compliance Documents
Maintenance Task Cards	Historical Maintenance Records



Data Model : Pre-configured Analytics

CELEBAL TECHNOLOGIES

Tables (7)

EAML_LOGBOOK
EAML_WORK_ITEM
RESB
EAML_FLIGHT_SCHED
AFIH
QMEL
AFRU

EAML_LOGBOOK (Aircraft Logbook)
- LOG_ENTRY_ID (Logbook Entry ID)
- EQUNR (Equipment Number)
- ENTRY_DATE (Entry Date)
- DEFECT_DESC (Defect Description)

EAML_WORK_ITEM (Work Item Planning)
- WORK_ITEM_ID (Work Item ID)
- EQUNR (Equipment Number)
- PLANNED_START_DATE (Planned Start Date)
- PLANNED_END_DATE (Planned End Date)
- STATUS (Status)

RESB (Reservation/Dependent Requirements)
- RSNUM (Number of reservation/dependent requirements)
- RSPOS (Item number of reservation/dependent requirements)
- MATNR (Material Number)
- BDMNG (Requirement Quantity)

EAML_FLIGHT_SCHED (Flight Schedule)
- FLIGHT_ID (Flight Identifier)
- AIRCRAFT_ID (Aircraft Identifier)
- DEPARTURE_DATE (Departure Date)
- ARRIVAL_DATE (Arrival Date)

AFIH (Maintenance Order Header)
- AUFNR (Order Number)
- QMNUM (Notification Number)
- PRIOK (Priority)
- GSTRP (Basic Start Date)
- GLTRP (Basic End Date)

QMEL (Quality Notification)
- QMNUM (Notification Number)
- QMART (Notification Type)
- QMDAT (Notification Date)
- ERNAM (Created By)

AFRU (Order Confirmation)
- AUFNR (Order Number)
- RUECK (Confirmation Number)
- ISDD (Actual Start Date)
- IEDD (Actual End Date)
- ISMNG (Actual Work)

Data pipeline

Data Lake

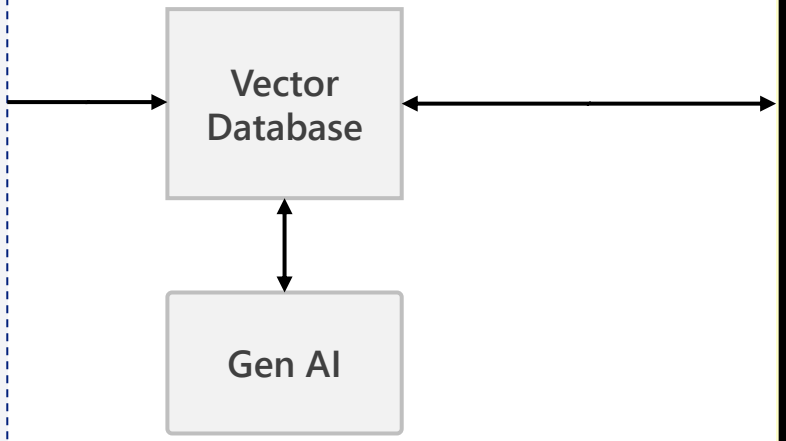
Pre-configured Analytics

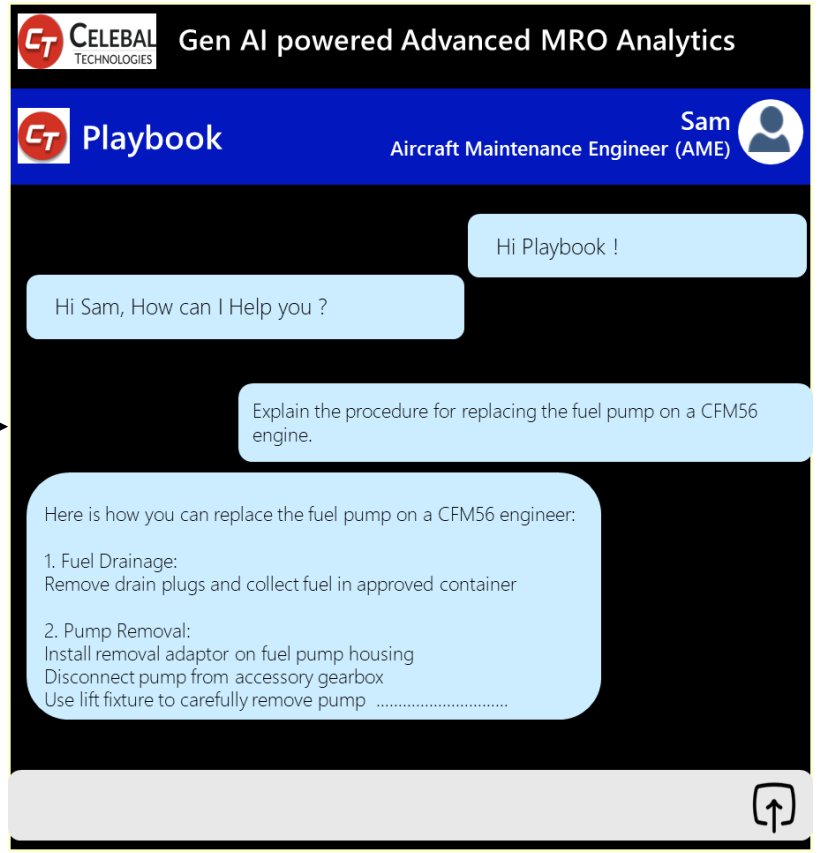
KPIs (40)

OEE	Total Maintenance Cost	Total No. of Service Orders by Equipment	PO Completion % by Equipment	MTTR (in Hrs)
Availability %	Labour Cost Vs Spare Parts Cost by Equipment	Planned Vs Unplanned Service Orders	Avg Order Cycle Time by Equipment (in Days)	MTTBF (in Hrs)

LLM Model : Playbook

- Aircraft Maintenance Manual
- Component Maintenance Manuals
- Digital Maintenance Records
- Illustrated Part Catalog
- Maintenance Task Cards
- Repair Manuals
- Aircraft Logbooks
- Maintenance Release Form/Certificate
- Non-Routine Work Card
- Training Manuals
- Checklists for Inspections, Repairs and Protocols
- Regulatory Compliance Documents
- Standard Operating Procedures (SoP)
- Maintenance Planning Documents
- Inventory and Part Procurement Documents
- Technical Orders (TO)
- Engineering Orders (EO)
- Work Orders
- Service Bulletins
- Airworthiness Directive
- Safety Hazards Documentation
- Performance Report
- OEM Documentation
- Environment & Health Safety Documents
- Industry Standards & Guidelines
- Regulatory Compliance Documents
- Historical Maintenance Records





** Solution limits up to 300 documents from the above samples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Thank You