AJW Group is a world-leading independent specialist in the supply, exchange, repair and lease of modern commercial airframe and engine spare parts.

Through innovative and tailored services, the company delivers highly effective supply chain, asset management and channel partner solutions to transform aviation efficiency.

- Supporting more than 1,000 airlines in 117 countries
- Renowned for our 24/7/365 AOG logistics and customer service
- Incorporating one of the world’s leading MRO facilities - AJW Technique
- 6 x winner of the MRO Global ‘Parts Supplier of the Year Award’ including 2018
- Consistent 20% growth in group revenue over 10 years
- Over 750 staff globally

An aviation story since 1932

- Company founded
- Focus on Boeing and Airbus Engines and C&E support
- Introduction of Power-by-the-Hour contracts
- Founding of AJW Technique (Component MRO)
- Industry leading total support, supply chain contract with easyJet
- Major OEM repair contract won with Bombardier
AJW Technique is our industry leading MRO facility. Located in Montreal, the purpose built 160,000 sq.ft. facility strives to incorporate cost and reliability innovations to all aspects of the MRO Cycle.

Key Differentiators
- Comprehensive licencing agreements from all major OEMs ensuring access to latest technical publications
- Repairs backed up by exchange ready inventory
- Total cost/DMC approach to increasing unit life on-wing
- Flexible commercial terms delivering repair programmes tailored to flight profiles

Capabilities
- Avionics
- Hydraulics
- Pneumatics
- Fuel
- Power generation
- Safety slides
- IDG
- Galley
- Electromechanical & Lighting
- 80% of ATA chapters covered

Certifications
FAA/TCCA, EASA, CAAC, DGCA, HKCAD, ANAC, CAAS
What is Predictive Maintenance?

Through detection of a developing system or component failure, corrective action is taken before causing an operational disruption.

What is Predictive Maintenance?

Predict when & why a system will fail

Awareness of system failure and why it failed

Confirm failure, troubleshoot & fix

Avoid OI events occurring by transferring unscheduled into scheduled events

Anticipate OI events and resolve at lowest cost
What are the primary benefits?

Through detection of a developing system or component failure, the benefits listed can be achieved by taking corrective action before causing an operational disruption.
Further benefits

- Reduced MEL limitations
- Avoid incorrect component removals
- Avoid risk of customer discomfort
- Delay reduction
- Reduced maintenance costs (parts & labour)
- Reduced fuel costs
- Avoid High NFF & early removals
- Reduced MEL limitations

Other benefits being enjoyed by Operators through Predictive Maintenance
Who takes the benefits? … and in what order?

- **Passengers**: Comfort, less disruption
- **Airlines**: Profitability, brand
- **OAMs**: After market offerings
- **OEMs**: Component repair market share
- **IT providers**: New service offerings
- **MRO’s**: Untapped opportunities?
Areas not being leveraged

- Alignment of OAMs & OEMs in sharing Predictive Maintenance data
- Standards, ownership, integration and sharing of data
- Competing technology between suppliers
- Optimisation of inventory levels
- Smart workscoping for Predictive Maintenance component removals
- Optimisation of workscapes for NFF
- Predictive Maintenance component removals translated into soft lifing concepts
Alignment of AOMs & OEMs in sharing Predictive Maintenance data

- Competing technology between suppliers
- Standards, ownership, integration and sharing of data
Predictive Maintenance can cause the effects of too much or too little inventory.

- Earlier / later removals will impact MTBUR.
- Higher / lower / seasonal rates of removals will impact component OOST.
- Test / repair / overhaul specifications will impact OOST.

Optimised inventory levels
Component workscoping

Are component workscopes for Predictive Maintenance removals being optimised through smart workscoping?

Engine Start Valve - Spring tension deterioration through detection of valve opening time. Is it appropriate to perform standard CMM repair / overhaul specification?

ACM or Avionics Cooling Fan - Bearing Health Monitoring allows early vibration detection which avoids potential smoke in cabin / diversion events. Also avoids high cost repair of other failed ‘piece parts’. OEMs recommend overhaul, but is full O/H actually required?
Smart Workscoping

- Transferring Predictive Maintenance into soft life offerings
- Quick and efficient solutions from internal research
- MRO influence often forces OEM to align
Components in scope

New Technology aircraft (787, A350, A320 NEO, 737 MAX) have taken the number of PM capable components to a new level.

A320 example:

57 Component / system combinations

ATA 21 - Skin Air Inlet/Outlet Valve, Temp Sensor, Bypass Valve, Pack Performance Monitoring, Flow Control Valve, Cabin Leak, Ram Air Flap Actuator, Avionic Cooling Fan

ATA 24 – IDG Oil / Temp / Failure Prediction

ATA 30 - Nacelle / Wing Anti-Ice Valve

ATA 29 - Hydraulic Reservoir Level Monitoring / Temp, Hyd Pump, Hyd Press Switch / Transducer, Accumulator Servicing

ATA 34 – Rad Alt, AoA Sensor, Pilot Probe, IRS Drift

ATA 49 – APU Oil Cooler, Air Intake Flap Actuator, Starter Motor, APU Gen

ATA 32 – Brake Temp, L/G Extension / Retraction / Prox Sensor / Shock Absorber, Brake Servo / Selector Valve, NWS Drift / Vibration, Direct Drive Valve, Brake Press Transducer, Tachometer, Park Brake Control Valve

ATA 27 Flap/Slat Prox Sensor

ATA 36 – PRV, HPV, Bleed Pressure Sensor, Over Temp Failure, Cross Bleed Valve, Over Pressure Valve

ATA 75 - Nacelle High Temp

ATA 77 – Engine Vibration Monitoring

ATA 79 Oil Overconsumption, Oil / Fuel Filter Clogging

ATA 28 – Fuel Pump, Recirc Valve, Single / Twin Motor Actuator
Various actions will support full Predictive Maintenance benefits being leveraged

Industry issues to be addressed

- Operator / OEM / MRO views?
- Data sharing standards
- Data ownership standards
- NFF / FOF standards
- CMM consideration for PM
- ATA 200 inventory modelling
- Worksop & invoice data standards
Finding the sweet spot
Thank you

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