ACE Automated Analysis of Customers, Configured Engines or Equipment

ADF Propulsion Systems Symposium

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Jon Wingler

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Trusted to deliver excellence
Rolls-Royce introduced automated debris analysis to the market in 1998 – and has been sustaining and growing our debris analysis capability ever since.

Debris Analysis Capability Applications:
- Rolls-Royce RB199 engine in the RAF’s Tornado fighters / bombers
- EJ200 engine in the RAF and RSAF Eurofighters
- RR Adour engine in the RAF and RSAF Hawk
- RR Adour Test Stand in Bristol
- General Electric F110 engine in the F-16
- General Electric F118 engine in the U-2
- Rolls-Royce F402 engine in the US Marine Corp’s AV-8B (Harrier)
- Pratt & Whitney J52 engine in the US Marine Corps and US Navy EA-6B
- Test Stand support for pass-off test for large Civil engines
- Test Stand support for LiftSystem in the F-35B
- Additional test cell locations within General Electric

24 x 7 x 365 direct customer support keeps fleets flying around the world
Next-Generation Automated Debris Analysis

Steps to use Automated Debris Analysis:

1. Capture debris
2. Load to Scanning Electron Microscope (SEM)
3. Enter key engine / equipment information
4. Click “Run Analysis” Against ECF and CCF
5. View your custom reports

Captured debris, up to 30 carbon tabs in a single analysis

Tailorable Rolls-Royce Debris Analysis application simplifies data capture, reports, and decision-making

SEM completes elemental and morphological analyses on demand
How to introduce the capability

1. Customer identifies a product(s) for which to introduce Debris Analysis Capability
2. Create Engine Configuration Files (ECF) Customer Configure Files (CCF)
3. Design Custom Reports
4. Integrate ECF/CCF & Custom Reports with Debris Analysis Application
5. Productionize SEM solution
6. Rolls-Royce Package, Install, and Train
7. Rolls-Royce Ensures System Readiness
Multiple Engines ECF’s can be used

MCD Locations Can be Utilized
Data from ACE

- SEM generates debris data for a sample, identified by:
  - Engine type
  - Specific engine
  - Number of flying hours/Engine hours
  - Aircraft type
  - Customer
  - Etc.
- SEM can be connected to the internet via Ethernet
- SEM can be controlled remotely via VPN
- One customer may have multiple SEMs with data Linked
- Data for an individual SEM is stored locally on the SEM by default for customers that can’t allow for an external interface.
Easy Questions??????????