

ENVIRONMENT KNOW-HOW

How technology can help African airlines to meet the environmental regulatory burden

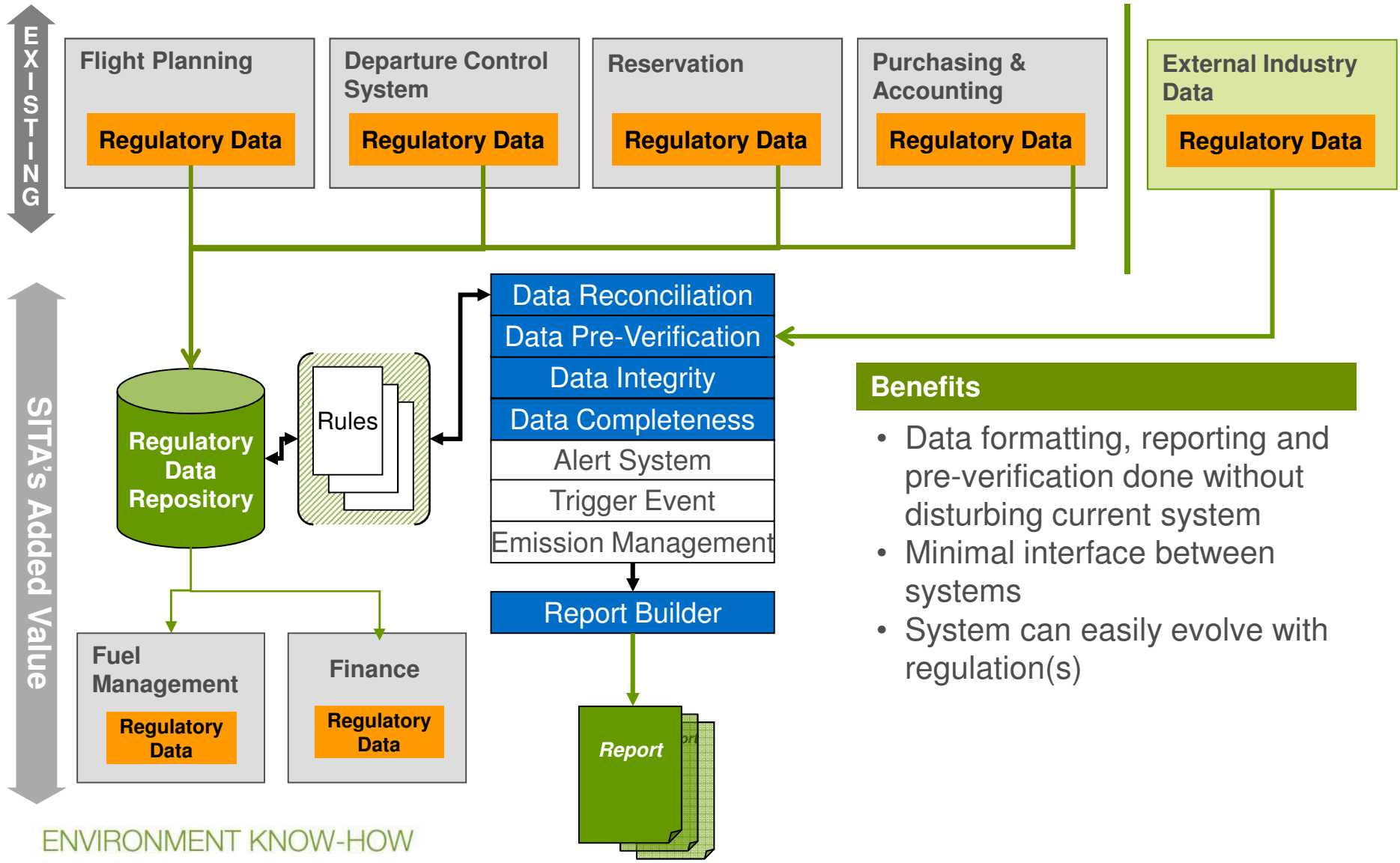


Sam Munda

Sales Director, Sub-Saharan Africa



AEM IT Architecture



Benefits

- Data formatting, reporting and pre-verification done without disturbing current system
- Minimal interface between systems
- System can easily evolve with regulation(s)

Functionality Overview of AEM



Data Collection

Input

- Automatic or manual
- Gateways for
 - Weight & Balance, Fuel

Check

- ✓ Duplicating
- ✓ Data cleansing
- ✓ Identifying missing data

Output

- Regulatory Reports
- Dashboard for data completion
- Internal reports (e.g. rerouting, exemptions,...)



Data Quality

- Data check using secondary sources of internal and/or external data

Checks for TK

- DCS or alternative sources
- Aircraft Configuration

Checks for Emissions

- Fuel supply chain
- External emissions calculator

Outputs

- discrepancies



Reporting

- Produce reports requested by regulators.
- Produce internal reports to help airlines troubleshoot their problems with TK and emissions data (completeness, accuracy)

Outputs

- Reports in PDF which can be downloaded from SITA customer portal

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AEM service outputs - Reports

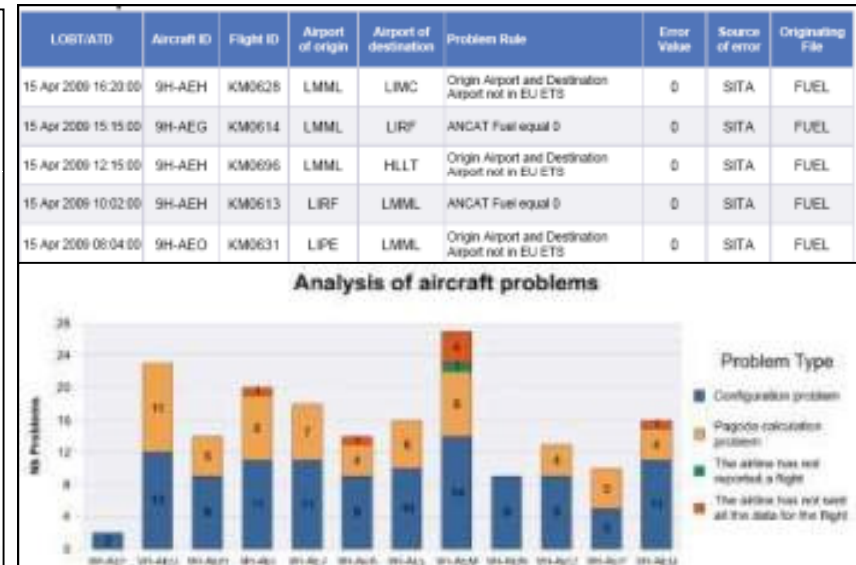
- Emission & TK reports
- Data verification reports

Number of flights: 620

7. Emissions data

(a) Operations:

Parameter	Units							TOTAL	Notes
Source stream (fuel type)		Aviation	Business	Paraffin	Jet Fuel	Oil	Gasoline	Gas	
Emission sources using each type of source stream (Generic aircraft types as in section 5.4)									
Fuel consumption	Kerosene								
Net Carbonic Value of the Fuel	Tonnes	106			108	106			
Emission Factor		3.1	3	1	3.75	3.3	0		
Carbonic Factor		1		1	1	1			
Total aggregated CO2 emissions from all eligible flights	ktCO2								This spreadsheet provides information on the emissions of CO2 from flights. It is based on the data provided by the airlines and is subject to change as more data is received. The data is presented in a way that allows for comparison of emissions between different airlines and different flight types. The data is presented in a way that allows for comparison of emissions between different airlines and different flight types. The data is presented in a way that allows for comparison of emissions between different airlines and different flight types.
of which departure MS is the same as arrival MS (domestic flights)	ktCO2								
of which all other flights (international flights both intra and extra EU)	ktCO2								



AEM service outputs - Dashboards



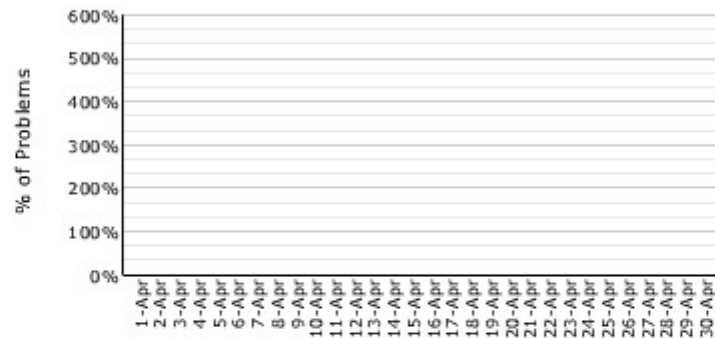
Airlines

- Air Mauritius
- Air Madagascar
- Air Namibia
- Air Seychelles
- EgyptAir
- Kenya Airways
- Royal Air Maroc
- Air Algérie
- South African Airways
- TAAG
- Tunis Air

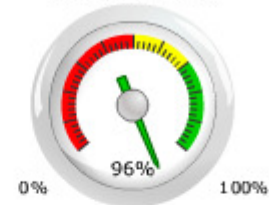
Status of the Problems Reported by SITA MRV Solution

Records Having Problems

Daily % of total



Records Passing



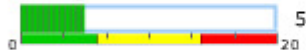
Pending Problems



Measured Vs Calculated Data



Configuration Problem



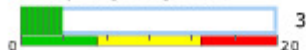
Data Missing



No Flight Data

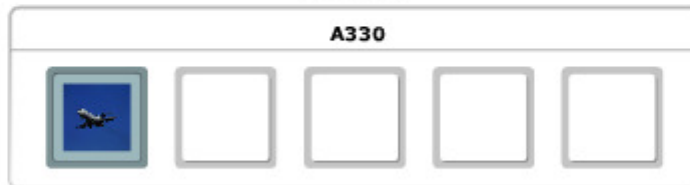


Calculation Problem



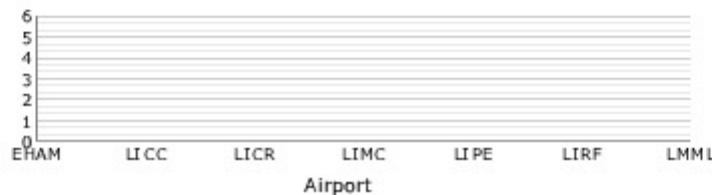
Aircraft

A330



Fuel Data

Fuel Data Missing by Airport



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Case Example and Way Forward

- The full AEM services were selected by the AACO, the Arab Air Carriers Organization, it included:
 - Consulting for the preparation of the Monitoring Plans
 - Consulting for the automation of the processes
 - Collection, validation, repair cycles of the required data
 - Preparation/submission of the reporting
- Their selection of SITA was based on the need for a community solution rather than each member developing its own system.
- 12 carriers have signed for the service

- **We encourage African Airlines with EU activity/plans to approach SITA so that we can help them to meet the environmental regulatory burden**

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