How RFID Enables Dependable Management and Traceability of Aircraft Parts

Mark Brown
Fujitsu America, Inc.
Who we are

Japan’s largest IT services provider and No. 3 in the world *

We do everything in ICT. We use our experience and the power of ICT to shape the future of society with our customers

Over 170,000 Fujitsu people support customers in more than 100 countries

*2011 IT Services Vendor Revenue.
Source: Gartner, "Market Share: IT Services, 2011" 9 April 2012
### Fujitsu at a glance

**Headquarters:**
Tokyo, Japan

**Established:**
1935

**Principal Business Areas:**
- Technology Solutions
- Ubiquitous Solutions
- Device Solutions

**Employees:**
173,000 worldwide

**Net Sales:**
$54,482 million

**Net Income:**
$521 million

**R&D Expenditure:**
$2,907 million  
(Approx 5.3% of Sales)
Fujitsu AIT Solutions Overview
What is AIT?

Automated Identification Technology (AIT) is a suite of technologies and devices such as 2D-code (UID) and RFID that identify individual items automatically and capture/aggregate/transfer data to the systems.

Capabilities

- Store and manage several data on devices
- Enables a dramatic improvement in efficiency of maintenance operations
Fujitsu AIT Solutions Features

Fujitsu integrates following AIT products/software as one-stop shop solution provider.

- AIT Readers
- AIT tags (Custom Tags)
- Fujitsu AIT Middleware
  - Data Exchanger & Adaptor
- AIT applications
  - SAP
  - Oracle
- Existing ERP Systems
- AIT Cloud Service

Fujitsu integrates following AIT products/software as one-stop shop solution provider.
## AIT Tags

<table>
<thead>
<tr>
<th>High-capacity metal mounting Tag</th>
<th>Low-memory Tag</th>
<th>Seat Cover Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>World’s highest capacity 64KB</td>
<td>Roll type tag for label printer</td>
<td>□ Sustain wash cycles</td>
</tr>
<tr>
<td>8KB</td>
<td>Security Tag Flame-resistant tags</td>
<td>□ Complete Flexibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Heat-seal Capability</td>
</tr>
</tbody>
</table>
AIT Readers

Handheld Readers

- **Worldwide UHF**
  - Motorola MC9190Z
  - Intermec IP30/CN3

Fixed Readers

- **Worldwide UHF**
  - Motorola FX7400
  - Intermec IF61

Fujitsu LIFEBOOK PC/PRIMERGY Server

AIT Cloud Service

*All company or product names mentioned herein are trademarks or registered trademarks of their respective owners.*
Fujitsu AIT Middleware

- Provides global interoperability among multiple devices and industry formats
- Enables RFID tags to be formatted by global Industry standard such as ATA Spec2000 Chapter 9-5, and data to be read from and written to tags in accordance with this format
- Allows the system to be easily expanded to operate as a common infrastructure for the entire industry.
Innovative Management Utilizing AIT

Data Utilization Solutions

Analysis

Part data repository

Legacy database

Data Utilization Infrastructure Service

Parts Supplier

Manufacturer

Operator (ex. Airlines)

Parts Maintenance Company

Manufacturer

Parts Supplier

Operator (ex. Airlines)

Parts Maintenance Company

Inventory optimization

Traceability

Real Time Location

Operation Planning

WORLD’S LARGEST RFID EVENT
Target Industries for Fujitsu AIT Solution

- **Defense**
  - Maintenance history for Aircrafts, Ships, Tanks, Transportation vehicles.

- **Railway**
  - Dispatch control of containers
  - Passenger train
  - Maintenance history

- **Maritime**
  - Maintenance history of parts

- **Logistics**
  - Containers, pallets Location control

- **Power/Utilities**
  - Nuclear power
  - Tool Management

- **Manufacturing**
  - Automotive
  - Aviation
  - Petrochemical

Fujitsu AIT solution improving decision making
Fujitsu: An Exclusive Partner for Boeing RFID Integrated Solutions

- Boeing offers RFID Integrated Solutions which enables greater efficiency in aircraft maintenance operations based on Automated Identification Technologies.

- Fujitsu provides Boeing with a “one-stop shop” AIT solution that includes AIT devices, device readers and middleware as an exclusive partner.

- The Boeing offering has been released on 22 Feb, 2012 and it is available for Boeing and non-Boeing fleets.

RFID IS Promotion Video: http://www.boeing.com/Features/2011/05/bca_radio_frequency_05_17_11.html
Fujitsu AIT Solutions for Aircraft Parts Suppliers
Fujitsu Solutions for Aviation Industry

For Airline (and MRO)
- Boeing RFID Integrated Solutions powered by Fujitsu

For Parts Supplier
- Fujitsu AIT Solutions for Aircraft Parts Suppliers
Fujitsu Solutions for Aircraft Parts Supplier

- Enable Parts Marking & Lifecycle Management
  - Using the pre-formatted template, parts suppliers can read/write their parts information such as birth record or serial number in compliance with ATA Spec 2000
Lifecycle Management utilizing AIT

- Delivers enhanced management of individual parts and accurate traceability throughout each part’s lifecycle

- Manufacturer
  - Supplier
  - Warehouse
  - Assembly
  - Operator

- Part Fabrication
- Logistic
- Production
- Final Assy
- Maintenance

- Birth Record
- Receiving
- Tool Management
- Configuration Management
- Asset Management & MRO

- Supply Chain Tracking
- Logistic / Warehouse Management

WORLD’S LARGEST RFID EVENT
Fujitsu in Defense
Fujitsu’s Global Defense Business

- 3,800 staff worldwide
- Operating in 36 countries
- Linked in to a Global Community
- $1.2Bn global turnover, profitable and growing
- Multiple Centres of Excellence (CoE)
  - Japan
  - United Kingdom
  - Australia
- Leveraging Global Solutions and Partnering to deliver defense services, technologies and solutions.
AIT Applications for Defense

- AIT Cloud Service
- ERP System
- Data Exchanger & Adaptor
- AIT Readers
- AIT tags (Custom Tags)
- Defense Applications

Fujitsu AIT Middleware
Use Case: Tool Tracking for Defense

To know which tools are at or on which plane, stock tools according to plane type,

To reduce management time and increase effectiveness

Mobile Tool Crib

Rag Disposal  War Wagon  Entrance Readers  Perimeter Readers
Conclusion

• Fujitsu has a complementary offering to Boeing RFID IS products
• Fujitsu offers high memory tags
• Development underway for other industry segments
• AIT is creating new business information for managing process performance throughout the supply chain
• Solution for managing assets “Through Life”
Thank You