



e-Enabled Business Solutions - *Going to the Next Level*



**LIFECYCLE
SOLUTIONS**

Lynne Thompson
Director - Maintenance Engineering

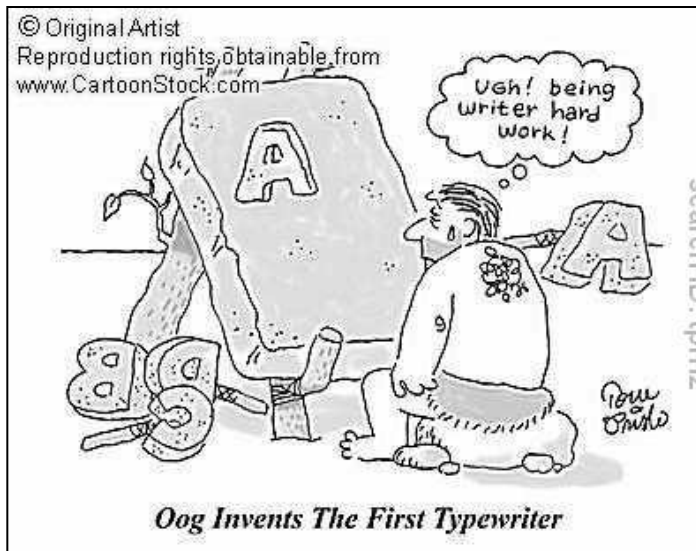
May 2010

We're Working to Make the Airlines Successful

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Early days of technical writing



Production of Support Documents

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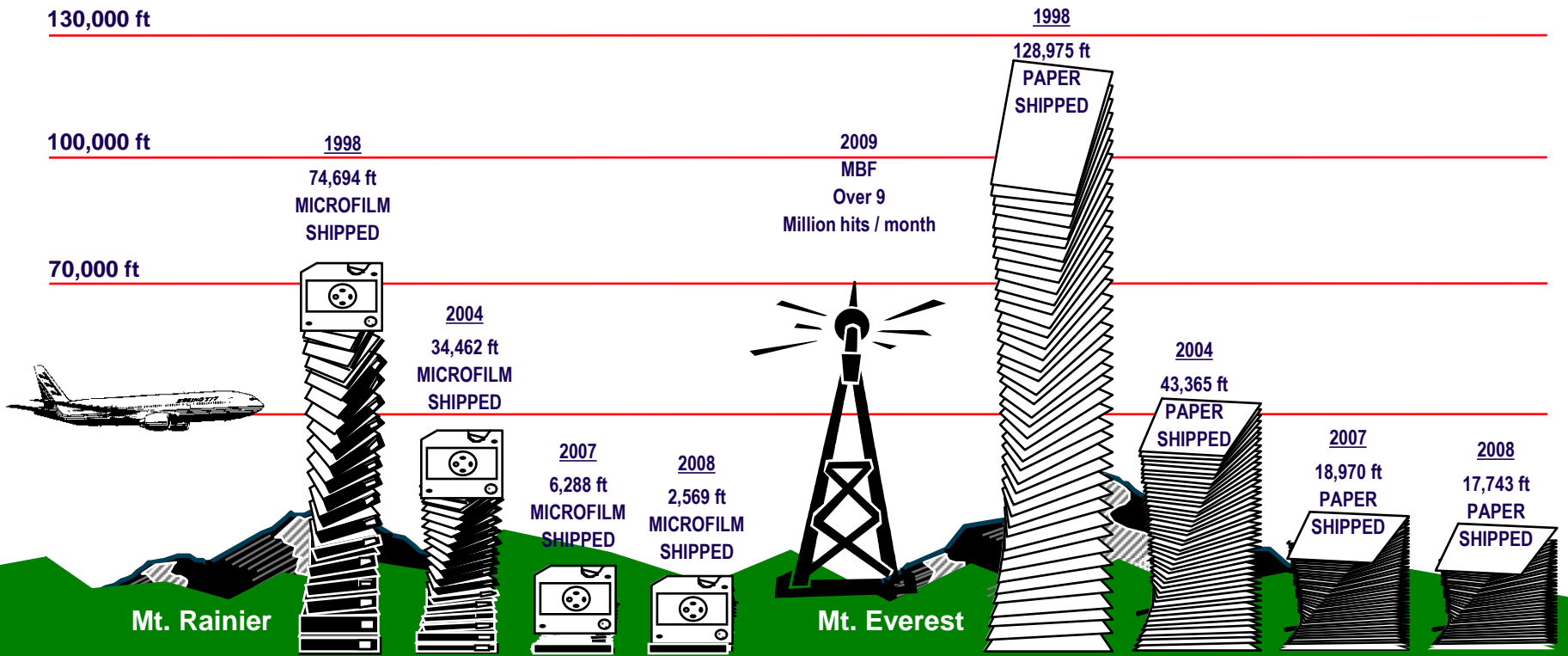
Maintenance Data Delivery

1998
7,287 Airplanes
638 Operators

2008
10,752 Airplanes
1,130 Operators

- Maintain 2,532 Active Manuals for:
707/720, 727, 737, 747, 757, 767, 777
- Maintain 43,071,266 Different Pages in These Manuals
- Revise Most of These Manuals Every 120 Days

- Maintain 5,500 Active Manuals for:
707/720, 727, 737, 747, 757, 767, 777, 787, P8A
- Maintain 184,068,439 Different Pages in These Manuals
- Revise Most of These Manuals Every 120 Days

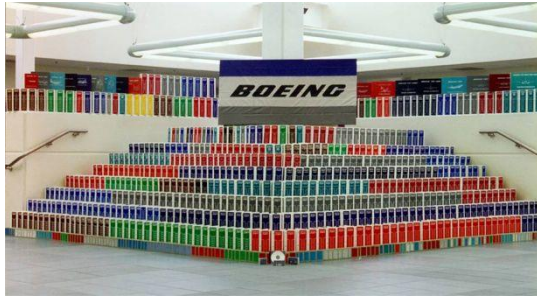


*Does not include Douglas products

- **Airline Operations & Maintenance Control**
- **Line Maintenance**
 - **Aircraft operator and 3rd Parties**
- **Heavy Maintenance**
 - **Aircraft operator and 3rd Parties**
- **Airline Engineering (includes Airline Technical Publications)**
- **Regulatory Agencies**
- **OEM Engineering and Field Support**
 - **Includes Engine Manufacturers and other suppliers**
- **Aircraft Modification (Usually not aircraft operator)**
- **Tooling Suppliers**
- **Aircraft Owner (Leasing Companies)**

Technical Support Information Evolution

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Manuals



Micro film



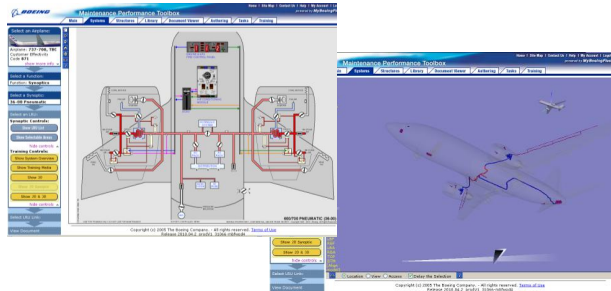
Disks / CD's



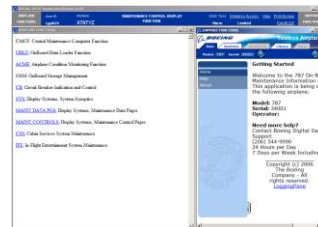
PMA



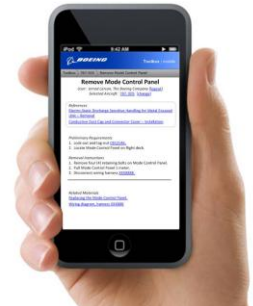
MyBoeingFleet.com
Celebrating 10 Years!



Toolbox

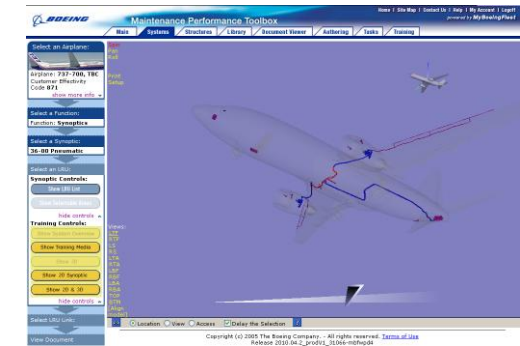
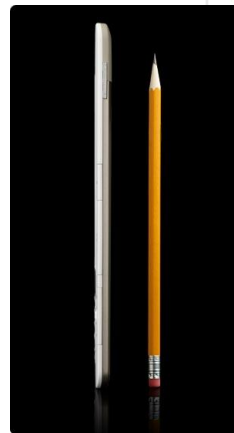
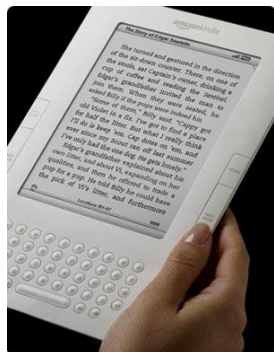
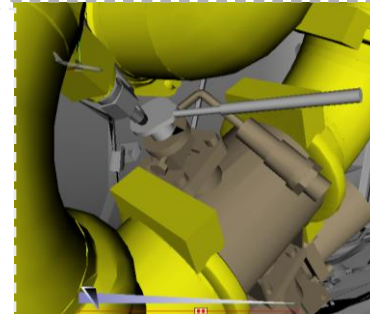
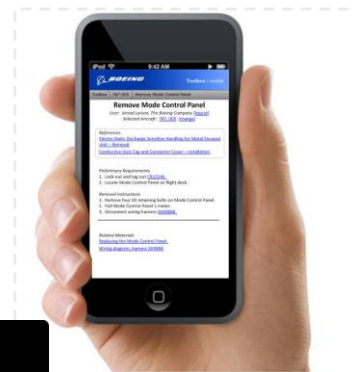
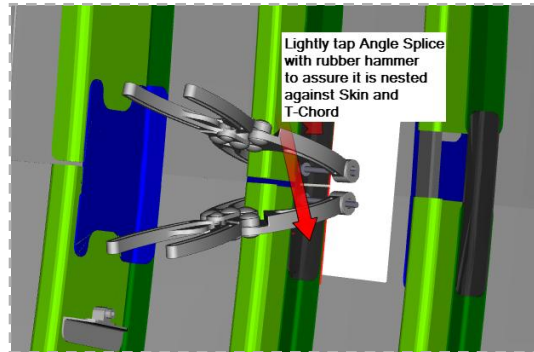
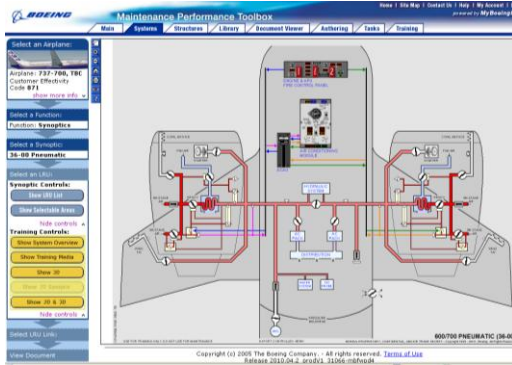


**787 CMC Linked to
Toolbox**



Technologies Advancing Rapidly

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Information Targeted:

- System Description Section (AMM part 1)
- Aircraft Maintenance Procedures (AMM part 2)
- Fault Isolation Procedures (FIM)
- Wiring Diagrams (WDM)
- System Schematics (SSM)
- Illustrated Parts Data (IPD/IPC)
- Service Bulletins (SB)

Criteria For Selection:

- Instructions for Continued Airworthiness
- Level of customization
- Frequency of revision
- Volume of data
- Linkage to other manuals
- Available Today in ATA Spec 2200 SGML
- S1000D Support

Technical Data Usage throughout the Airplane Life Cycle

Aircraft Introduction

- *Training*
- *Configuration*
- *Parts Provisioning*



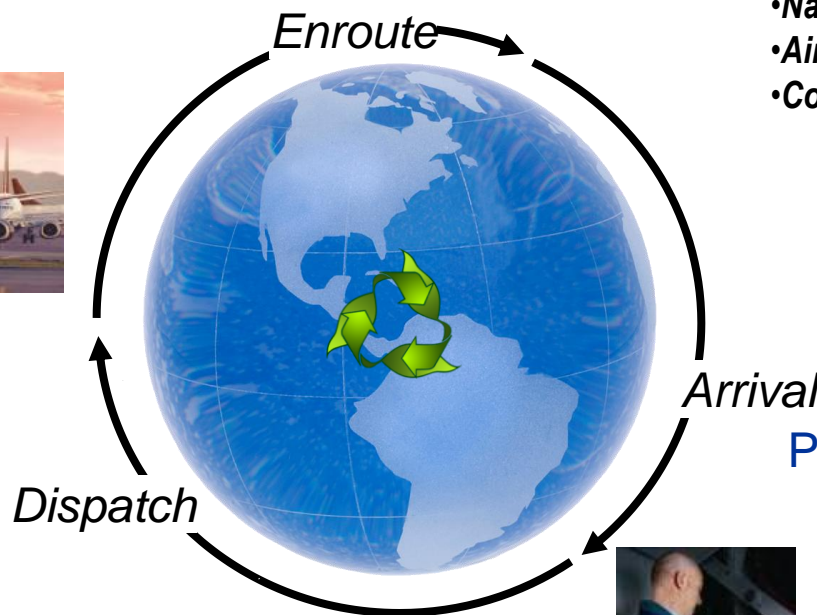
Flight Operations

- *Navigation*
- *Airplane Performance (fuel burn)*
- *Consumption History*



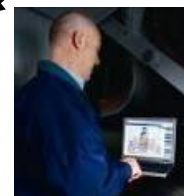
Aircraft Transition

- *Configuration Mgmt*
- *Performance History*
- *Maintenance History*



Planned & Unscheduled Maintenance

- *Troubleshooting & Documentation*
- *Optimized Maintenance*
- *Reliability*
- *MR&O ERP Integration*
- *Supply Chain Management*

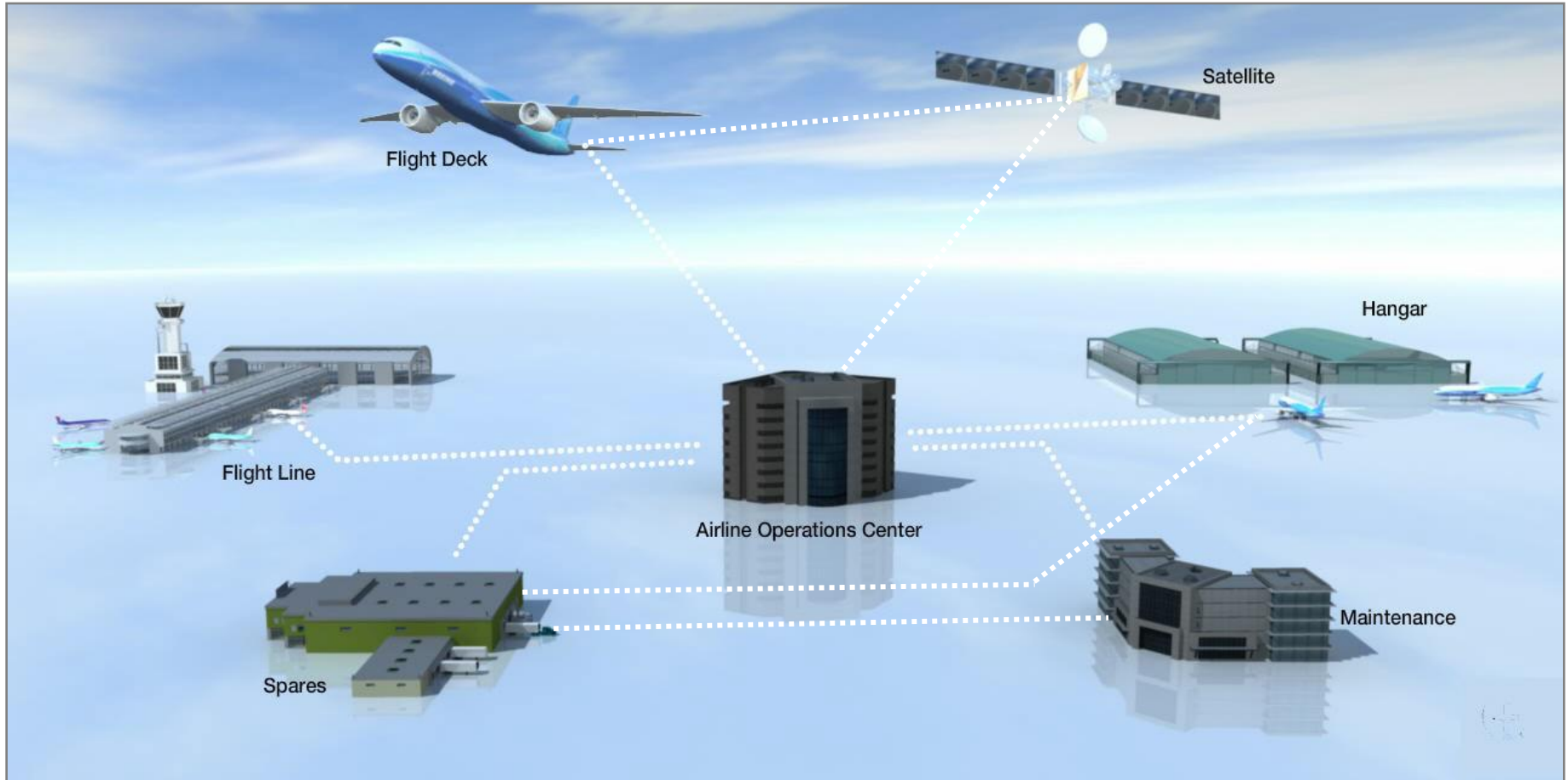


Aircraft Upgrades

- *Airplane MODs*
- *Passenger to Freighter Conversions*



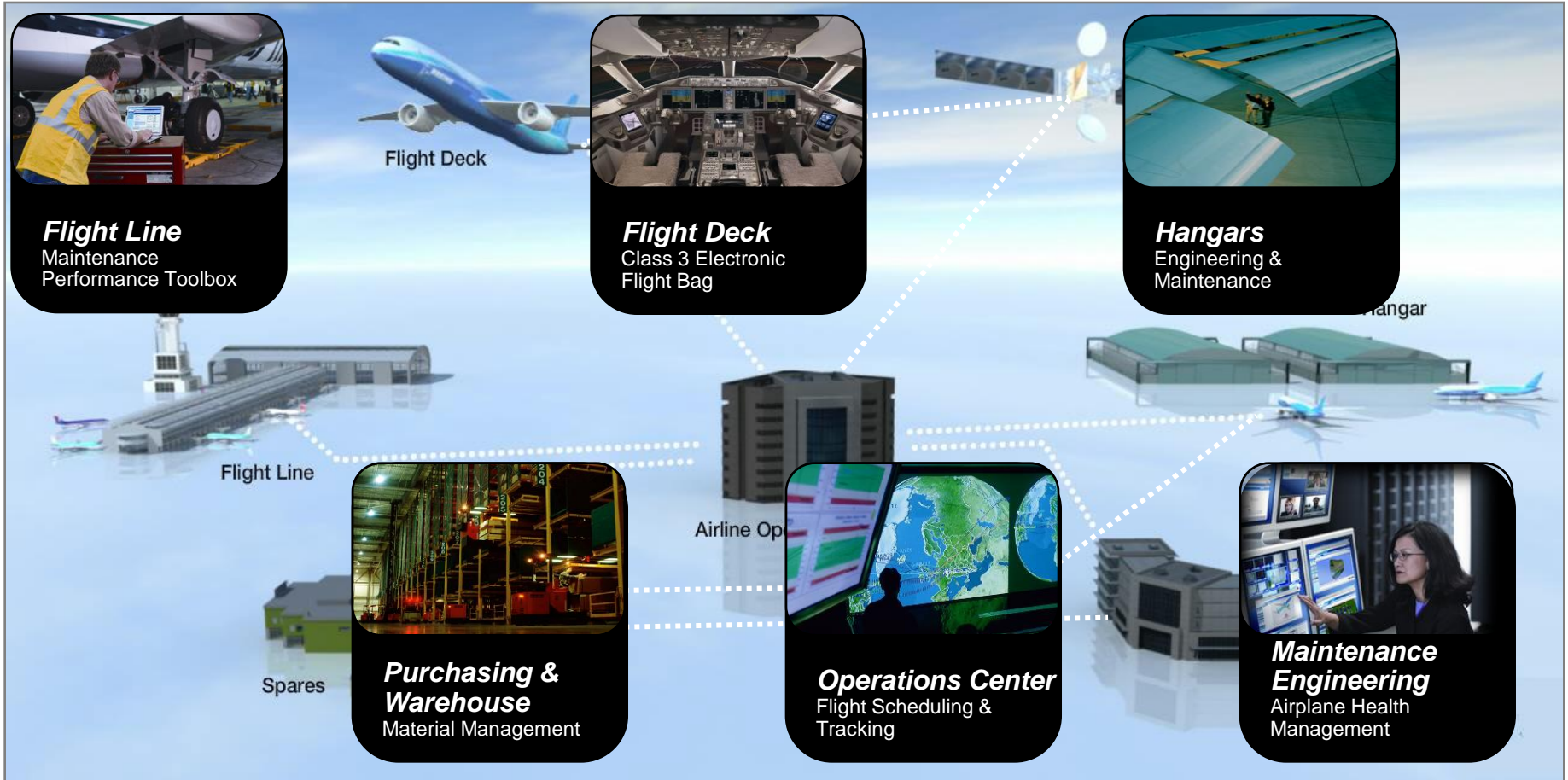
Integration and Connectivity Are Key



The real-time connectivity of the airplane to the ground, the delivery of information across the enterprise...

Changing Data into Useful Information

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...and the strategic use of this information through sophisticated applications and software to improve efficiency and increase airplane availability and reliability.

- **Airplane technology progresses in long steps**
 - Aerodynamic
 - Propulsion
 - Structure
 - Fleet replacement cycle
- **Industry needs efficiency improvements now**
- **e-Enabled systems can provide that efficiency and can be implemented now**
 - Point solutions to start
 - Electronic Performance Support Systems - EPSS
 - Advance to Integrated solutions

Layered Architecture: Built on Standard Technologies

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Systems Engineer,
Technician,
Maintenance

Structural Engineer,
Inspector,
Maintenance

Trainee, Instructor

Material Manager,
Technician,
Maintenance

Maintenance
Planning

Applications

AHM

IETM

Logbook

e-Training

JeppPlan

Web Portals

Information

XML

ATA
Standards

S1000D

CGM
U3D

Fleet
Knowledge

Trends

Technology
Platforms

Web
Services

PKI
SAML

7X24
Ops

Content
Acceleration

Airplane Open
Network

Global
Infrastructure

IP Network

SatCom

WorldWideWeb

Wireless

Investment to capitalize on emerging opportunities

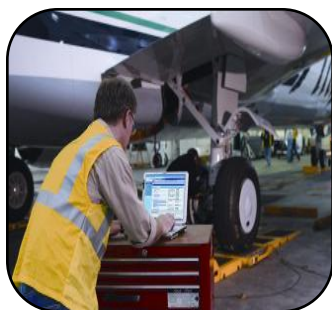
Value of e-Enabled is ...

- The **right** information to the **right** people at the **right** time for better decision making .. **In a usable format!**
- Optimized operations, safety, security, regulatory compliance, and passenger/cargo experience



Improved Operational Performance

“The Right People” Users of the Technical Data



MyBoeingFleet Persona

Sam Argyle

Title: Lead Maintenance Technician
Organization: Maintenance
Company: Tex Aviation
Type of company: MRO
Location: El Paso, Texas

Sam Argyle is a certified aviation mechanic in his early 40s. He enjoys outdoor activities such as hiking and camping, and often flies his own small plane to remote canyons in the southwestern United States and northern Mexico. He thrives in an environment that others might consider distracting. After leaving the Air Force, he joined Tex Aviation, where he has worked for the past eight years.



Work Environment

Sam works at Tex Aviation, which is located on Zane Gray Street, adjacent to El Paso International Airport. His desk abuts a corrugated metal wall, adjacent to a six-bay hangar that, at the moment, contains two 737-800s and an A-320. His personal computer and 17-inch monitor sit atop a metal table that is strewn with papers. Next to Sam's computer sits a PDA and a white, plastic radio tuned to a country western station. Shop tables line the wall, and mechanics periodically stop at a slant board to pick up work packages before approaching the planes. The pace of work is generally brisk.

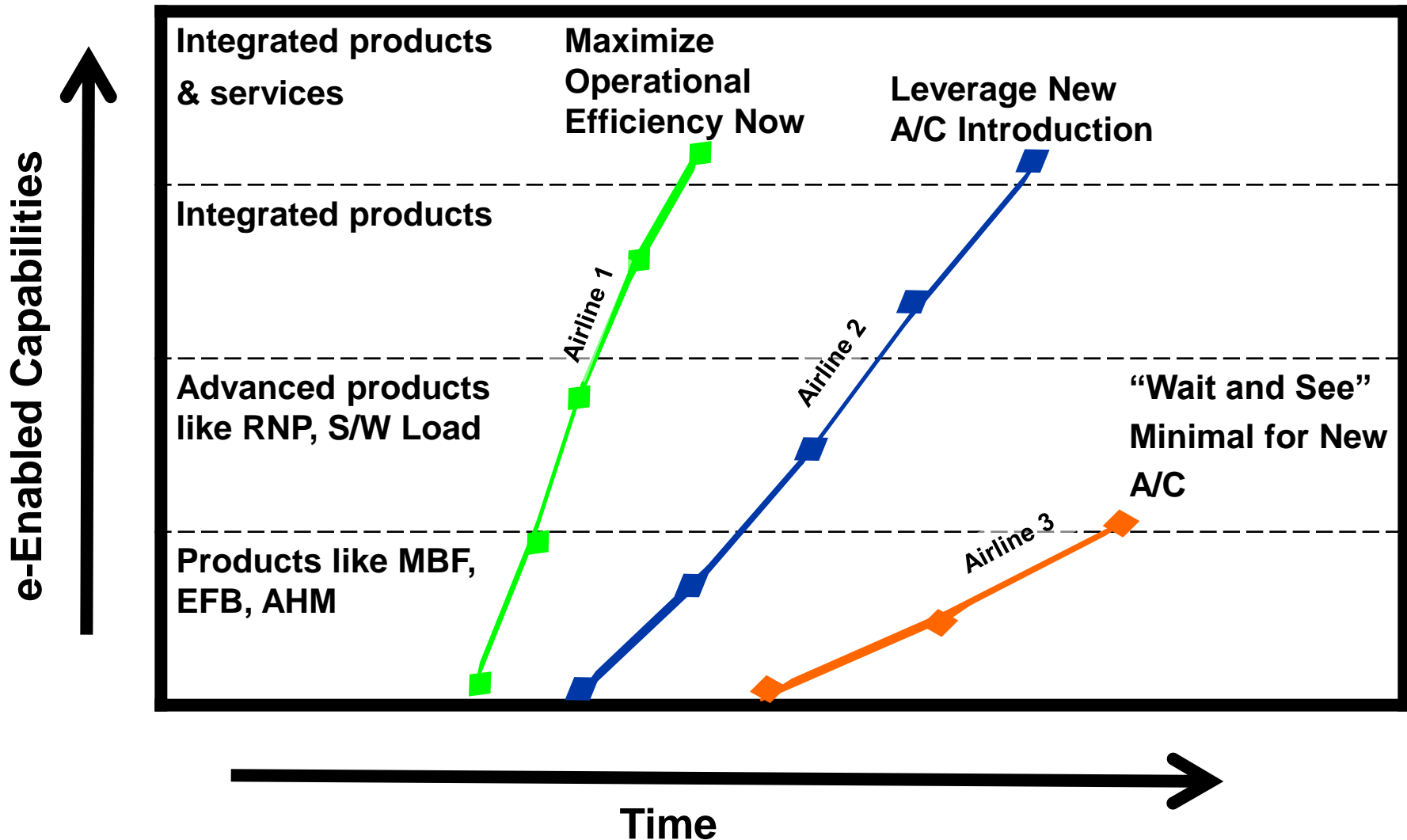
Florescent lamps hang from the high ceiling. The sound of tools being used in the hangar can reverberate through the office.



Systems Engineer,
Technician,
Maintenance

The eEnabled Future

How Will You Move Forward?



- The information age is upon us
- Definition of e-Enabled: Improving Operational Performance with the Right Information at the Right Time within the Aviation System – it must meet the users need!
- Connectivity and Integration are Key to e-Enabled
- Boeing transitioning to common platforms for e-Enabled airplanes
- Customers have a choice on whether to implement e-Enabled to increase operational performance or wait until new aircraft drives change

Thank You!