



# BLOCK & TACKLE

Leveraging Process *for* Results

APQC'S 2012 Process Conference & Training  
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The Houstonian Hotel, Club & Spa - Houston, Texas

APQC®



# Creating and Managing an Accountable Process Management Infrastructure

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**APQC Conference  
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# Agenda

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- Introduction
- Case Study
- Table exercise



# The Boeing Company

## Overview



# What We Do Today

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- Design, assemble and support commercial jetliners
  - Boeing 7-series family of airplanes lead the industry
  - Commercial Aviation Services (CAS) offers broad range of services to passenger and freight carriers
- Design, assemble and support defense systems
  - World's largest designer and manufacturer of military transports, tankers, fighters and helicopters
  - Support Systems provides services to government customers worldwide
- Design and assemble satellites and launch vehicles
  - World's largest provider of commercial and military satellites; largest NASA contractor
- Integrate large-scale systems; develop networking technology and network-centric solutions
- Provide financing solutions focused on customer requirements
- Develop advanced systems and technology to meet future customer needs

**Connect and protect people globally**

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Boeing Commercial Airplanes – Engineering

Airplane Systems Process Management Infrastructure

# **CASE STUDY**

# Problem Statement

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Who is responsible for process-related...

- questions?
- problems?
- improvements?

# What did we have?

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## **Situation**

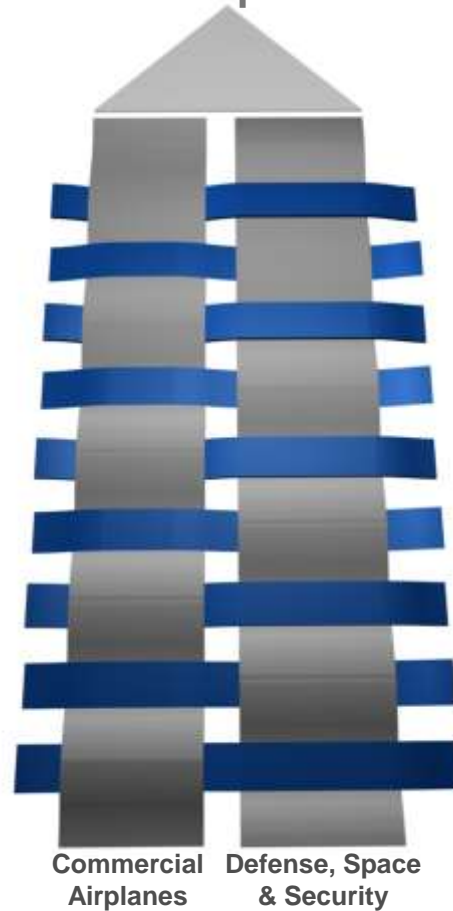
- Long-standing organization
- Old process documents
- Director-level approval



# How We Are Organized

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World-class performance



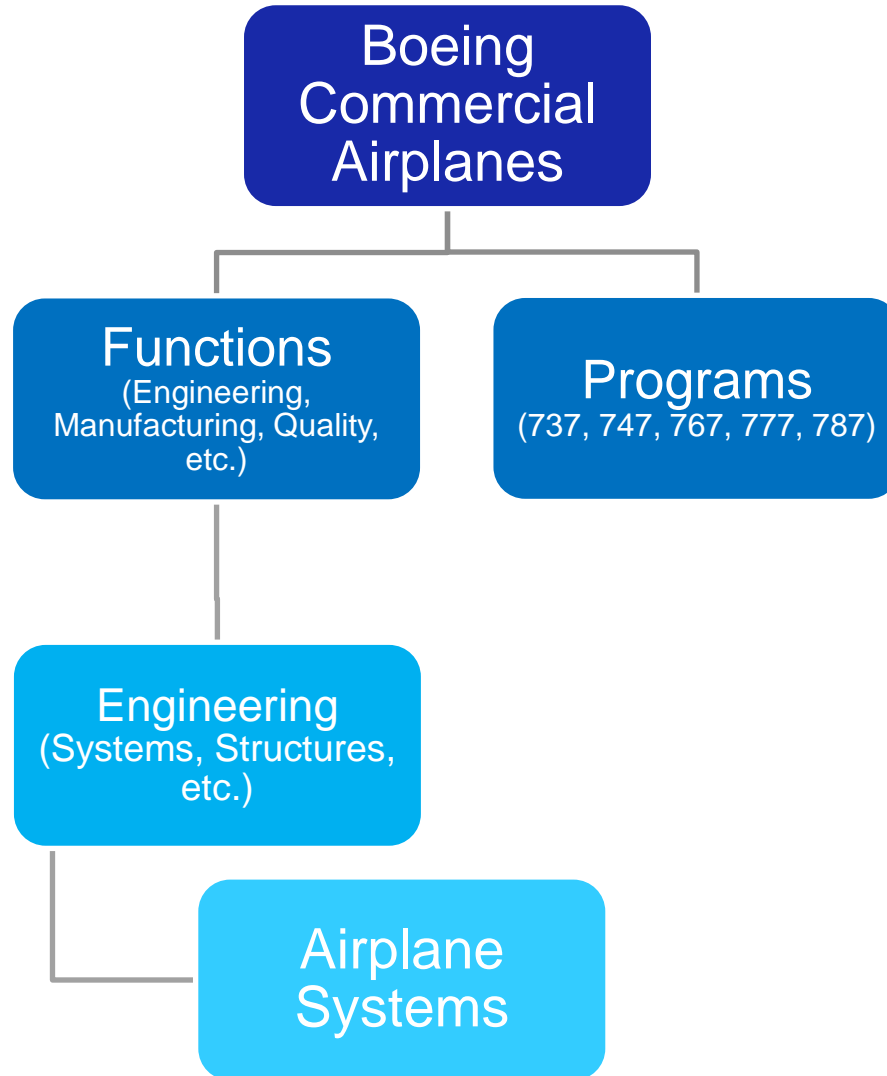
## Corporate functions:

- Business Development and Strategy
- Communications
- Engineering, Operations and Technology
- Finance/Shared Services Group/Boeing Capital Corp.
- Human Resources/Administration
- International
- Law
- Office of Internal Governance
- Government Relations

**Two businesses supported by nine corporate functions**

# Boeing Commercial Airplanes

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# Airplane Systems Organization

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Airplane Systems  
Engineering  
Organization

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graph TD; A[Airplane Systems Engineering Organization] --- B[Systems Equipment Groups]; A --- C[Electrical Wiring Groups];
```

**Partners:**

737 Systems Leader

747/767/777 Systems Leader

787 Systems Leader

Fleet Support Systems Leader

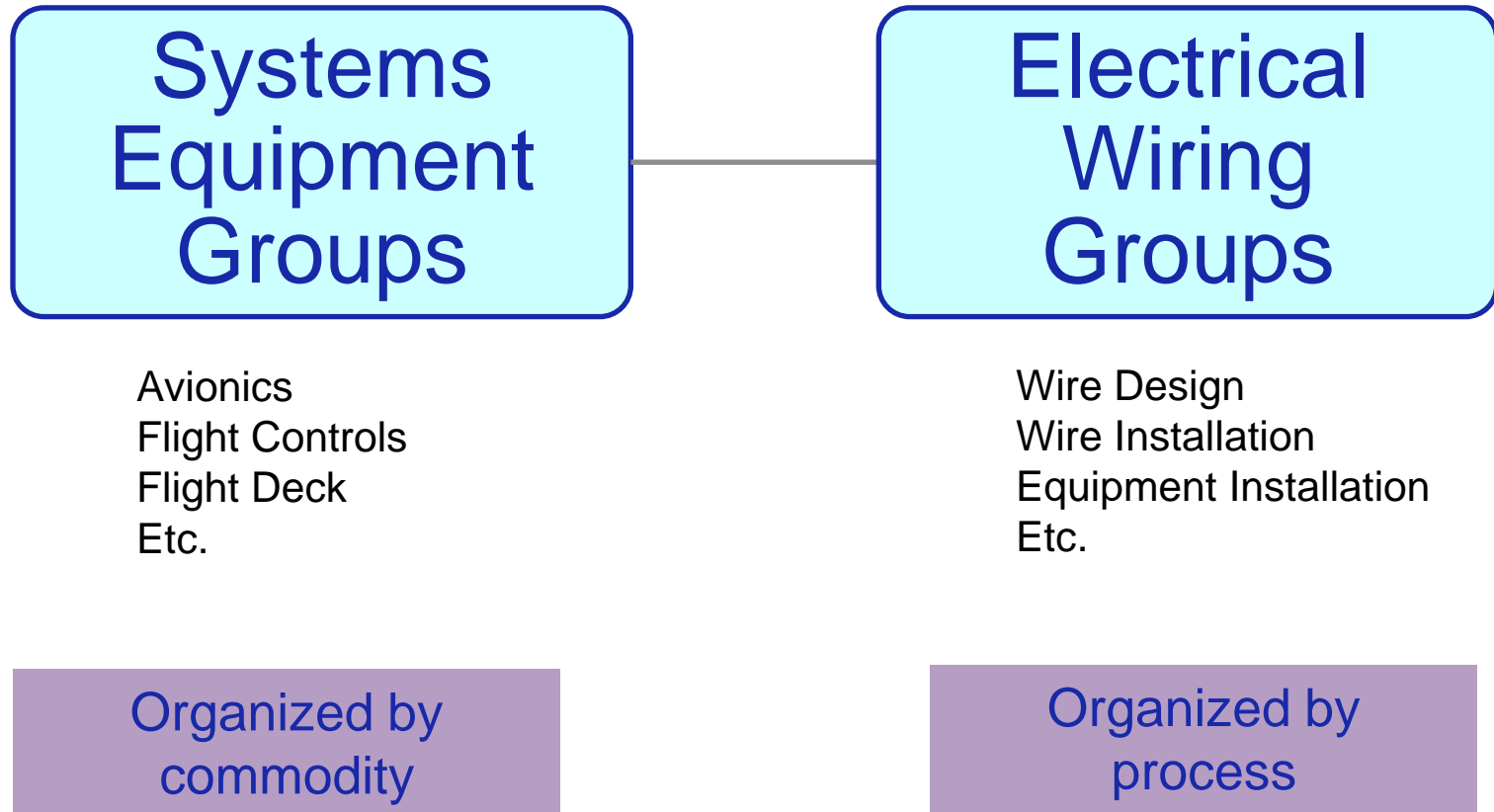
Product Development Systems  
Leader

Systems  
Equipment  
Groups

Electrical  
Wiring  
Groups

# Airplane Systems Organization

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# Airplane Systems Process Inventory

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## Documents

- Doc 1 – Electrical Wire Design process
- Doc 2 – Electrical Wire Installation process
- Doc 3 – Systems Design process
- Doc 4 – Systems Test process
- Doc 5 – Systems Drawing Release process
- Etc.

## Internal Products / Services

- Schematics
- Installation Drawings
- Part Standards
- Tests
- Etc.

# What did we need?

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- **A way to manage our processes**
  - Process framework
  - Business products / services mapped to framework
  - Process board structure

# Process Framework Characteristics

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## ■ Characteristics

- Stable over time
- Common across units of the business
- Aligned to a streamlined set of processes
- Aligned to the value stream
- Enables us to manage statement of work

# Process Categories

First we identified our categories of work (for Systems equipment groups) and subcategories of skills or interests...

**Product  
Development  
Process  
Management  
Boards**

**Hardware Product Development  
Software Product Development  
Verification/Validation**

**Production  
Process  
Management  
Boards**

**Systems Production  
Hard Parts Production  
Loadable Software  
Production**

**Safety/  
Certification  
Process  
Management  
Board**

**Safety &  
Airworthiness**

**Fleet Support  
Process  
Management  
Board**

**Fleet Support**

Start with a Process Framework



# Process Ownership

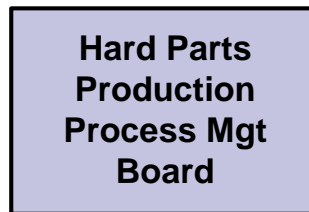
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**..and we assigned ownership of specific process deliverables to each process board.**

Example: Production Process Deliverables



Process Deliverables:  
**Schematics**  
**System Tests**  
*Work statements*



Process Deliverables:  
*Installation Drawings*  
*Part List*



Process Deliverables:  
**Loadable Software Parts**

NOTE: Airplane Systems does not own the process for deliverables in black italics.

# Process Management Boards

Systems Process Management Boards							
	Production Process Management Boards			Development Process Management Boards		Certification	Fleet Support
<b>Board:</b>	Systems Production	Hard Parts Production	Software Production	Software Development	Hard Parts Development	Safety & Airworthiness	Fleet Support
<b>Leader:</b>	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
<b>Focals:</b>	Focal	Focal	Focal	Focal	Focal	Focal	Focal
<b>Team Members:</b>							
Avionics	Supervisor		TBD	Supervisor	Supervisor	Supervisor	Supervisor
Cabin Systems	Supervisor		Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
Environmental Controls	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
EE Subsystems	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
Flight Controls	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
Flight Deck	Supervisor	Supervisor			Supervisor	Supervisor	Supervisor
Other Organizations	Test Group focal	Technical Design focal			Procurement	Certification	Service Engineering
	Wire Design focal				Sys. Engrg		

Then we assigned management representatives to the process boards from each Systems group.

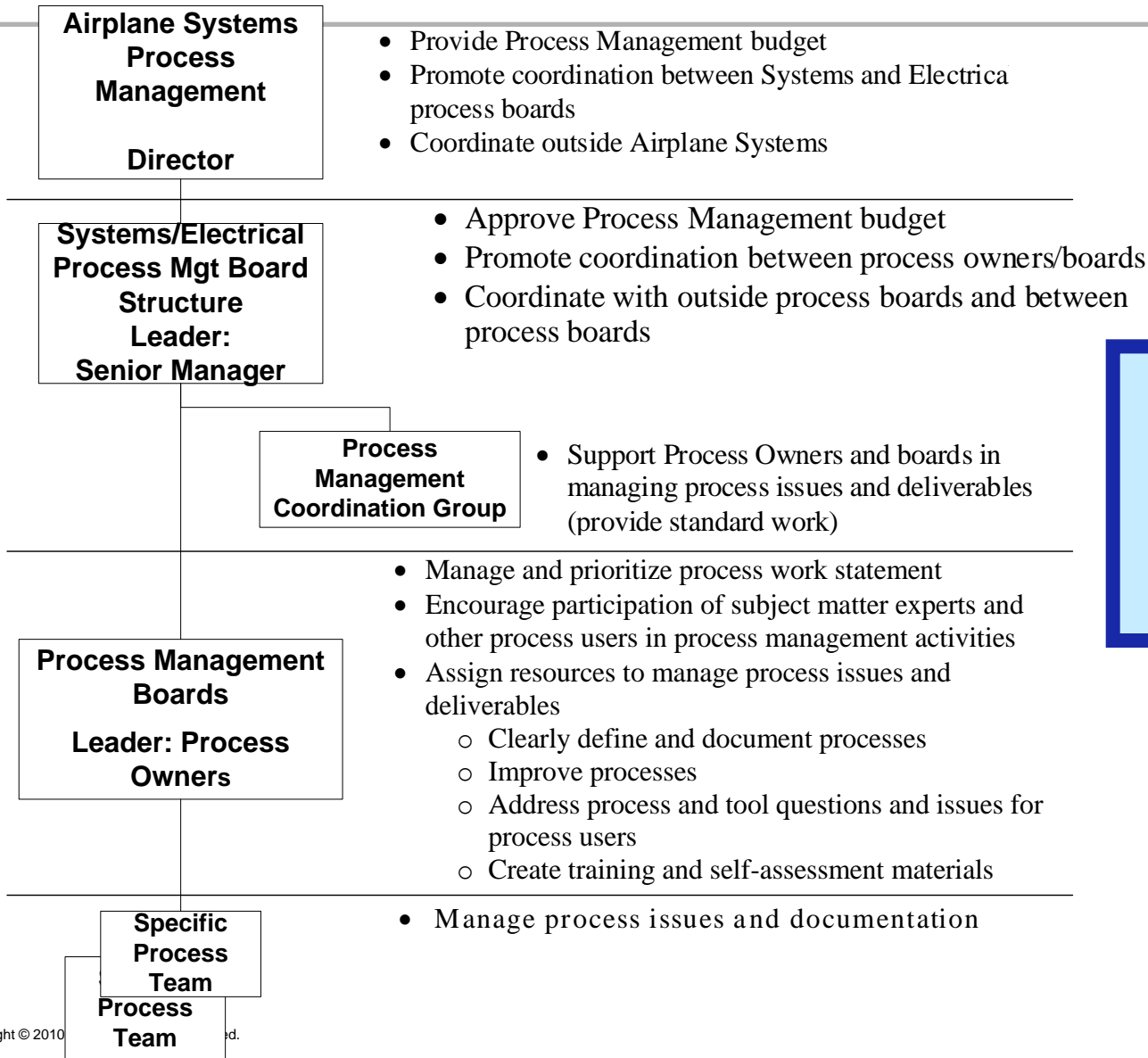
# How did we get there?

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## ■ **Authority and a plan**

- Gain sponsorship
- Define responsibilities
- Ensure accountability

# Process Board Responsibilities



**We defined process responsibilities at each level.**

# Resources for Process Users

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- For a process question, consult:
  - “Ten-Minute trainer” on the web
  - Local expert
  - Formal process documentation
  - Online process viewer (authoritative)
- For a process issue or suggestion:
  - Management representative for functional group takes the issue to Process Management Board, which will address it
  - Submit issues through online process viewer

**The goal is for everyone  
to have access to  
process help.**

# Process Owner Reviews

**We discuss progress with our process owners,...**

## **Individual Process Owner Meeting Agenda**

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Purpose is to review progress on the process board. It is meant to be an informal discussion to understand current status and identify any areas where help is needed. Each quarter the process coordination team will meet with each process owner.

### Agenda

- Review issue status log
- Review overall work statements and priorities
- Discuss board operations and membership support (Are you getting the support you need? Do you need help?)
- Review budget consumption

## **Group Process Owner Meeting Agenda**

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### Recognition

- Individual recognition
- Team recognition

### Strategy

- discuss process survey results and actions
- Communication ideas/suggestions?
- Program plan draft

### Infrastructure

- Introduce new process owners
- Budget charts
- Training plans overview

### Architecture

- Document updates and web links
- Current year priorities
- Performance
- Status on metrics research
- Avionics measurement activities (like ranking the processes)

### Performance

- Process metrics review

# Process Survey (excerpt)

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**...we monitor our progress with an employee process survey...**

Infrastructure questions (multiple choice):

- If you want to change a process document, who has authority to make the change?
- How often have you participated in Process Management activities in the last four months?
- How would you find the most recent version of your procedures and instructions?
- Who would you ask if you had a question or an issue with your process?

# Process Maturity Matrix

	Level 1	Level 2	Level 3	Level 4	Level 5
Has the process infrastructure been documented?	<ul style="list-style-type: none"> <li>A common view of the process infrastructure does not exist</li> </ul>	<ul style="list-style-type: none"> <li>A high-level view of the process infrastructure is documented</li> </ul>	<ul style="list-style-type: none"> <li>A more detailed view of the process infrastructure is documented</li> </ul>	<ul style="list-style-type: none"> <li>The process infrastructure depicting both horizontal and vertical integration is documented</li> </ul>	<ul style="list-style-type: none"> <li>The process infrastructure becomes documented as the management system for managing processes</li> </ul>
Has the process infrastructure been communicated?	<ul style="list-style-type: none"> <li>Little or no general knowledge of the process infrastructure exists</li> </ul>	<ul style="list-style-type: none"> <li>Few people are aware of the process infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Most people and/or teams are aware of the process infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Most people and teams are aware of how the infrastructure is organized and know how to evoke it</li> </ul>	<ul style="list-style-type: none"> <li>Process focus has replaced functional focus in all communications</li> </ul>
Have process responsibilities been documented? Are people rewarded for their performance?	<ul style="list-style-type: none"> <li>RAAs of the roles in the process infrastructure do not exist</li> </ul>	<ul style="list-style-type: none"> <li>People with roles depicted on the high-level view of the process infrastructure understand their RAAs</li> </ul>	<ul style="list-style-type: none"> <li>People and teams with roles depicted on the detailed view of the process infrastructure understand their RAAs</li> </ul>	<ul style="list-style-type: none"> <li>RAAs for people &amp; teams are documented, understood and being followed</li> </ul>	<ul style="list-style-type: none"> <li>People &amp; teams are rewarded based on their performance to their RAAs</li> </ul>
Is the infrastructure integrated with the org structure?	<ul style="list-style-type: none"> <li>No connection exists between the current process infrastructure and the 'Working Together' model</li> </ul>	<ul style="list-style-type: none"> <li>People on the high-level view of the process infrastructure can also 'see' themselves in the 'Working Together' model</li> </ul>	<ul style="list-style-type: none"> <li>People and teams on the detailed view of the process infrastructure can also 'see' themselves in the 'Working Together' model</li> </ul>	<ul style="list-style-type: none"> <li>The connection between the process infrastructure and the 'Working Together' model is seamless</li> </ul>	<ul style="list-style-type: none"> <li>The process infrastructure has integrated all of the roles on the 'Working Together' model</li> </ul>

...and we track our process infrastructure maturity.



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*Your Company – Your Department*

*Your Organization's* Process Management Infrastructure

# TABLE EXERCISE

# Problem Statement

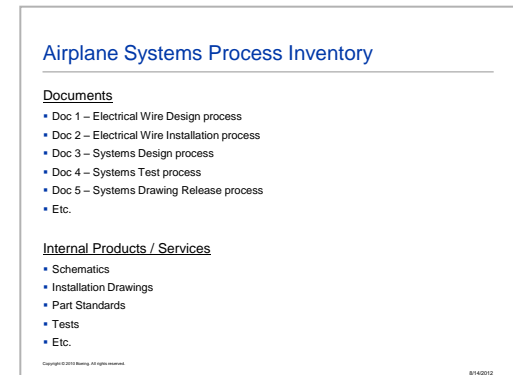
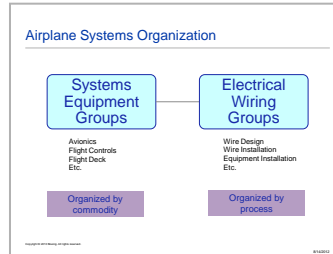
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- Are there struggles determining who is responsible for process issues, questions, and improvements?
- Can you update processes efficiently?
- Do process users have a voice in process changes?

# What do you have?

## Situation

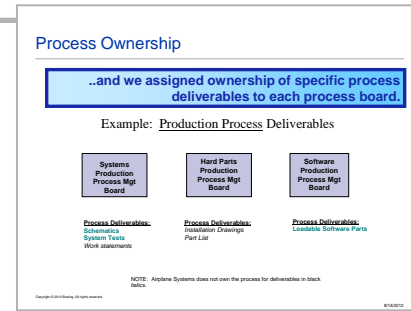
- How are you organized?
- For what scope of the organization can you manage processes?
- How do you maintain processes today?
- Do you have existing process inventory?\*
- What are the internal business products / services that your organization provides?\*



# What do you need?

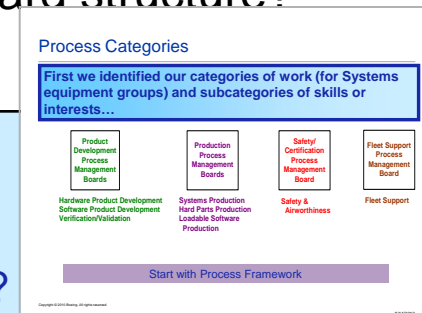
## ■ A way to manage your processes

- Do you have a process framework?
- Can you map your internal business products / services to the framework?
- How does your framework relate to a possible process board structure?



## Considerations for process infrastructure:

- Will the alignment change over time?
- Is the influence from different units of the business the same?
- Will the alignment enable identification of common processes for different units?
- Does the structure support alignment with the value stream?
- Will the alignment enable accountability for statement of work?
- Others?



# How will you get there?

## ■ Authority and a plan

- Who needs to sponsor your process management activity? Can it be delegated from the organization leader?
- What support will your process management boards need?
- What responsibilities will you assign to each role?
- How will you hold each role accountable for their responsibilities? How often?

