



Task Force

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Flying Forward

Direction

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New Platform

New Market
Direction

Realization of
Vision 2016



New
Manufacturing
Process

New Core
Competency

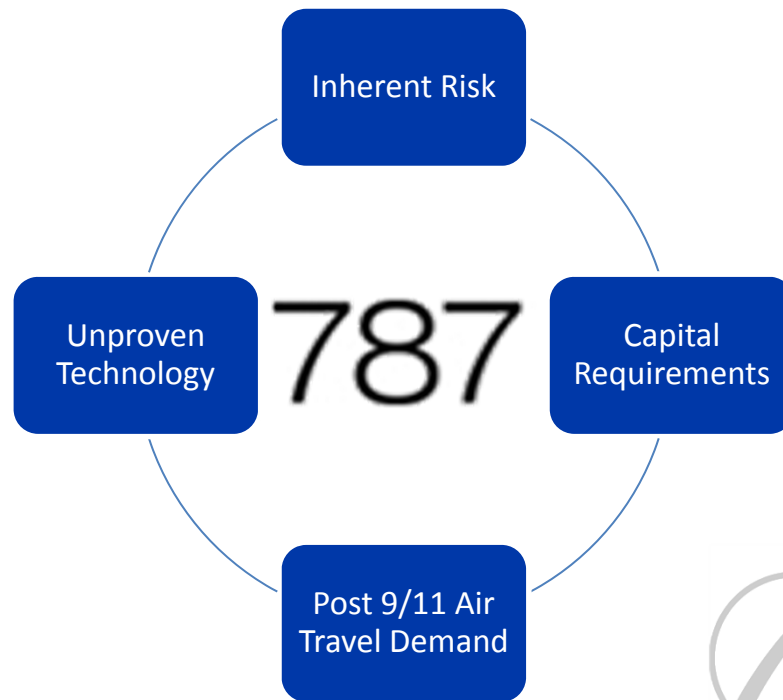


Method

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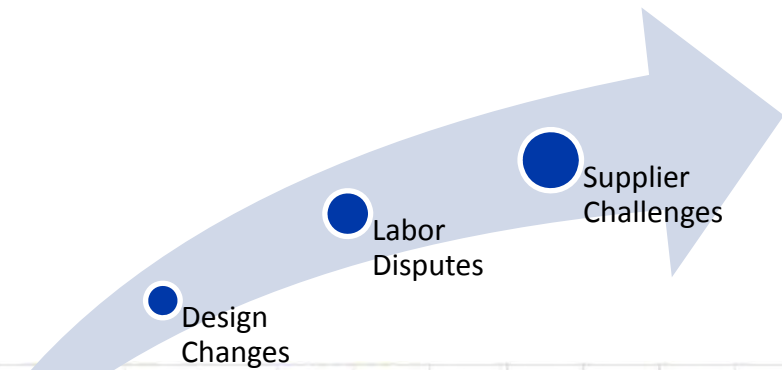


Most appropriate action for situation...



Challenges

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Challenges in 787 delivery have:

- Shaken stakeholder confidence
- Caused negative financial impact





Build Customer Confidence

- Total Quality Management (TQM) across the supply chain



Leverage 787 Experience

- Integrate proven composite and leading edge technologies from 787
- 737 modernization





Building Customer Confidence

Leveraging the 787 Experience

Financials

Timeline

Conclusion





Building Customer Confidence



Material shortages

Titanium Fasteners

Supplier Issues

Timeliness

Quality

Communication

Design and Process Changes

Traveled work changes production process

Changes in Manufacturing Processes



Goal

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ing Confidence

Leveraging 787

Financials

Timeline

Conclusion



Timely delivery of future 787
without delay or quality
issues



- 1) Restore customer confidence
- 2) Dissuade cancellations
- 3) Attract latent orders

Supply Chain Options

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Status Quo

Continue current system

Eliminate Suppliers

- Design & Manufacture in-house

Vertically Integrate

Acquire all Suppliers

Change Suppliers

- Eliminate and replace problem suppliers

Additional Financial Incentives

Rewards or Fines

Comprehensive Supplier Management System

- Ensuring quality management processes at each level of production



Supply Chain Options

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Option	Timeliness	Quality	Communication
Status Quo	+/-	+/-	+/-
Eliminate Suppliers	+	+/-	+
Vertically Integrate	+	+	+
Change Suppliers	+/-	+/-	+/-
Additional Financial Incentives	+	+	+/-
Comprehensive Supplier Management System	+	+	++

“People working together as a global enterprise for aerospace leadership”

Strategies

Healthy Core
Businesses
Leverage strengths
into new products
and services
Open new frontiers

Core Competencies

- Detailed customer knowledge and focus
- Large-scale systems integration
- Lean enterprise

Values

- Leadership
- Integrity
- Quality
- Customer satisfaction
- People working together
- Diversity and involvement
- Enhancing shareholder value

on 2016 Alignment

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Vertical
Integration

- Compromises lean enterprise
- Inhibits ability to open new frontiers
- Inhibits large scale systems integration
- **Rank: 3**

Additional
Financial
Incentives (+/-)

- Compromise long term supplier relationships
- May compromise quality
- **Rank: 2**

Comprehensive
Supplier
Management
System

- Potential complete alignment with Vision 2016
- **Rank: 1**



Successful Supply Chain Mgmt

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Conclusion



Agility

- Responding quickly to changes in supply or demand



Adaptability

- Evolving to changing markets



Alignment

- Align the interests of all participating firms in the supply chain

Supply Chain Option Analysis

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Building Confidence

Leveraging 787

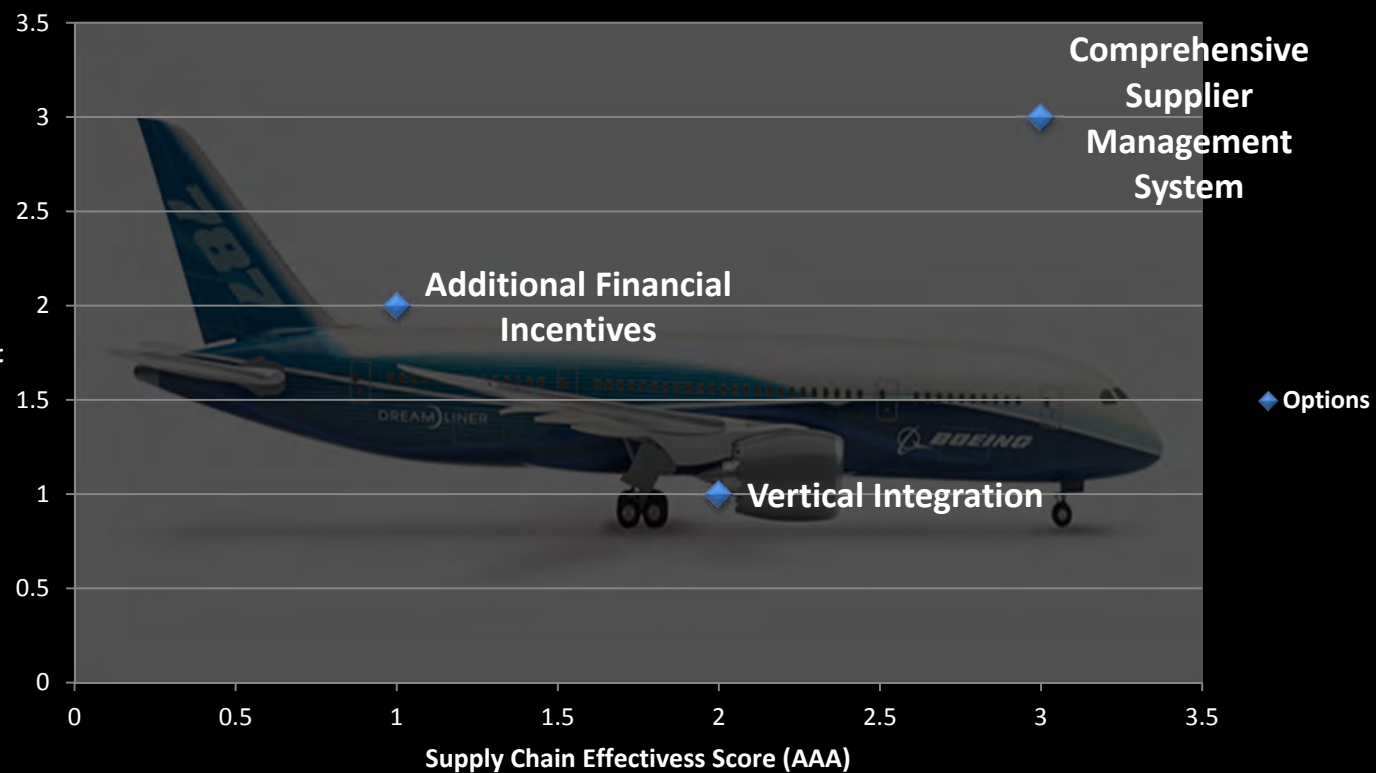
Financials

Timeline

Conclusion

Supply Chain Analysis

on 2016 Alignment



Short Term Recommendations

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Restoring Confidence

Leveraging 787

Financials

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Implement a system to ensure quality management at every level of production



Timely delivery of future 787 without delay or quality issues



- 1) Restore customer confidence
- 2) Dissuade cancellations
- 3) Attract latent orders

Quality Management in SCM

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Leveraging 787

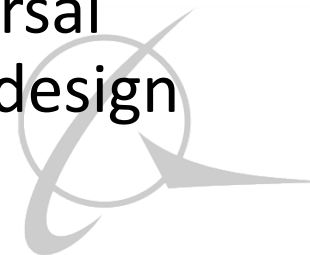
Financials

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Conclusion

TQM is enabled across entire supply chain

- Allows Boeing and suppliers to identify areas of improvement in processes
- Creates consistent documentation and communication “language”
 - Enables compliance
- Enables smooth and universal implementation of future design changes



Process for Implementation

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Building Confidence

Leveraging 787

Financials

Timeline

Conclusion

Requirements and quality standards are negotiated

Common process information is shared and standardized across all suppliers

- Boeing Production System “Best Practices”

Common data management systems are consolidated for information sharing

- Design (Dassault systems)
- Work instructions
- Quality documentation



General Benefits of TQM

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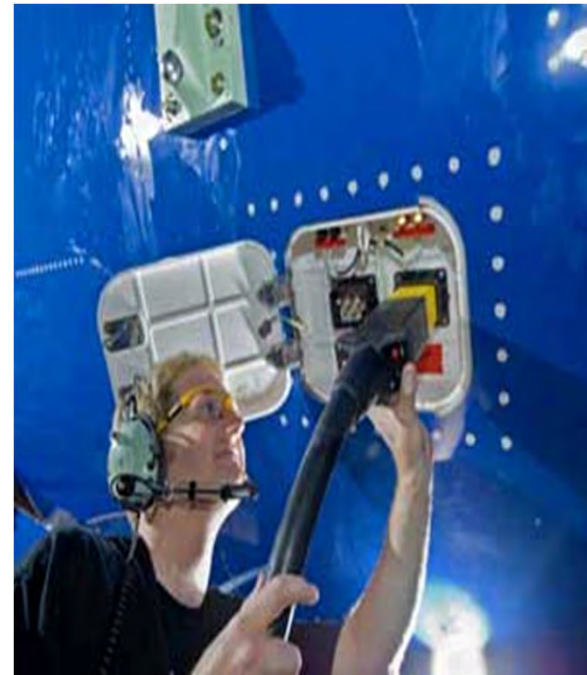
Conclusion

Boeing

- Improved alignment & quality assurance
- Easier implementation of design changes
- Less waste, lower costs

Suppliers

- Truly positioned as “Partner”
- Clear product requirements
- Improved access to information





Leveraging the 787 Experience



Looking Ahead to 2026

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Building Confidence

Leveraging 787

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Boeing

- 16 years of experience
- Expertise in composite technology
- Established network of strategic suppliers
- Aging 777 & 737 legacy (aluminum) lines

Market

- New green technologies
- Growing demand for single aisle aircraft (113% 2008-2028)
- Airbus = main competitor due to increased barriers to entry

on 2016 → 2026

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Aligning our Vision for the Future



Strategies



Core Competencies



Values



on 2016 → 2026

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Strategies

- Healthy Core Businesses
Leverage strengths into
new products and
services
- Open new frontiers

Core Competencies

- Detailed customer
knowledge and focus
- Large-scale systems
integration
- Lean supply chain

Push out 787
technologies

Leverage
composite
products &
production

Adoption &
implementation
of green tech. &
innovation



Long-Term Goal

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- 1) Build Upon our Experiences
- 2) Become a Leader in Innovation and Technology



Maintain Superior Market Position



g Term Options

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New Composite
Single Aisle
Aircraft (737
modernization)

Non-Composite
Single Aisle
Legacy

Status Quo

New Composite
Twin Aisle
Aircraft

Non-Composite
Twin Aisle
Legacy

Market Demand

Leveraging of Composite Tech.

Favorable Environmental Impact

Utilizing Strategic Partners

Best Response to Competitive Threats



Composite Option Matrix



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Option	Market Demand	Leveraging of composite technology	Best Response to comp. threats	Favorable Environmental Impact	Utilizing Strategic Partners	Ranked Total
single aisle 787 composite	1	1	1	1	1	5
twin aisle 787 composite	3	1	3	1	1	9
single aisle legacy (non-composite)	2	2	2	3	5	14
single aisle legacy (composite)	4	2	4	3	5	18
status Quo	5	3	5	2	3	18

Composite Option Matrix



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Option	Market Demand	Leveraging of composite technology	Best Response to comp. threats	Favorable Environmental Impact	Utilizing Strategic Partners	Ranked Total
single aisle 787 composite	1	1	1	1	1	5
787 twin aisle composite	3	1	3	1	1	9
single aisle legacy (787-composite)	2	2	2	3	5	14
787 twin aisle legacy (787-composite)	4	2	4	3	5	18
Status Quo	5	3	5	2	3	18

Recommendations

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Modernization of the 737 Line (Single Aisle, Composite Aircraft)



Satisfy Growing Demand for Single Aisle Aircraft



Push our 787 Composite Technology



Leverage our Green/Fuel Efficiency Models



What is the modernized 737?

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Conclusion

Culmination of Boeing's Prior Experience

- Proven 787 composite technology
- Proven manufacturing processes
- Superior supply chain support

Direct answer to increasing demand

Response to changing customer needs

Implementation of developed clean technologies



Modernization Benefits

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“Right-Sized”
capacity

Increased
lifespan

Decreased
maintenance
costs

Decreased
fuel costs

Familiar layout



Applying Lessons Learned

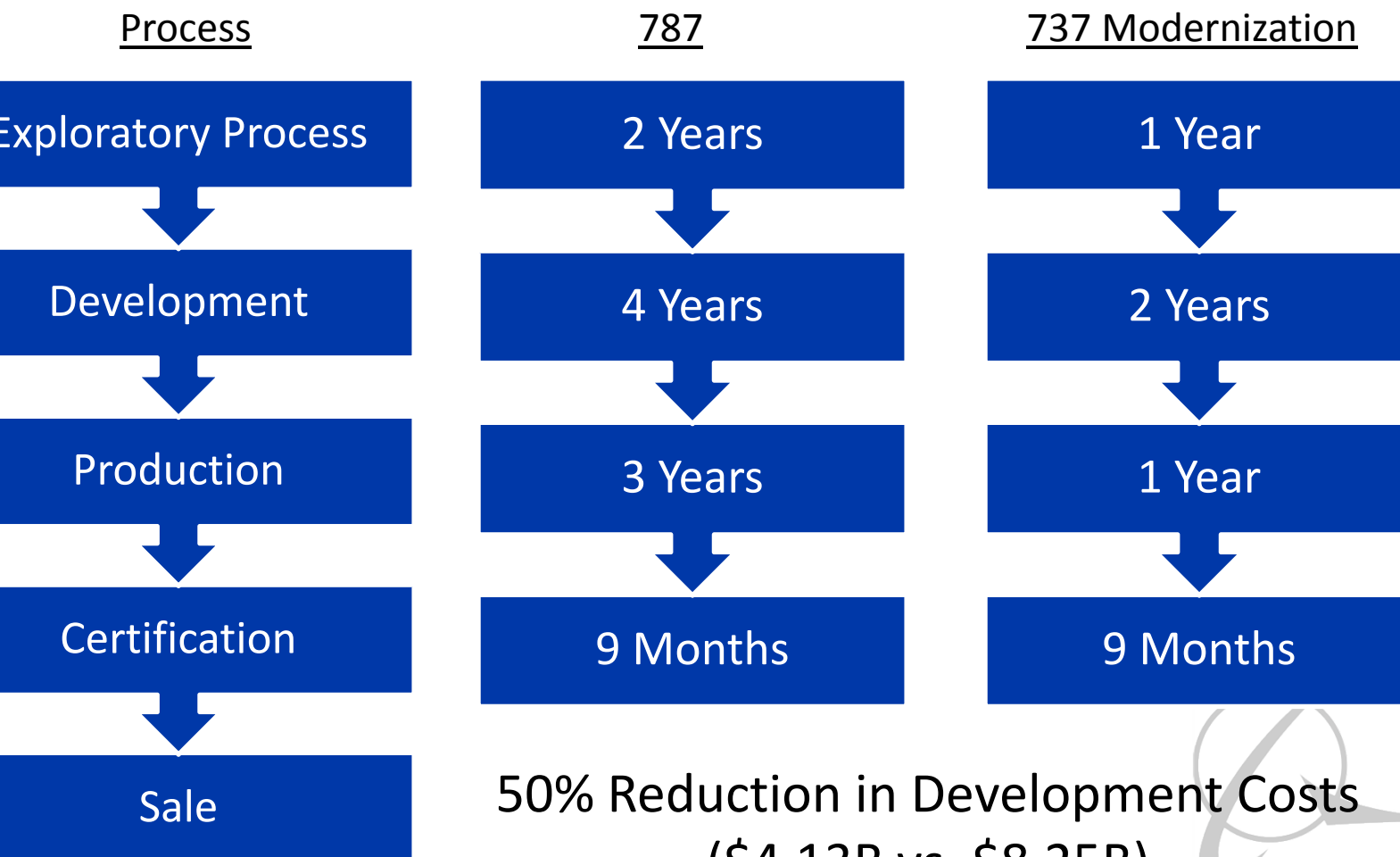
Building Confidence

Leveraging 787

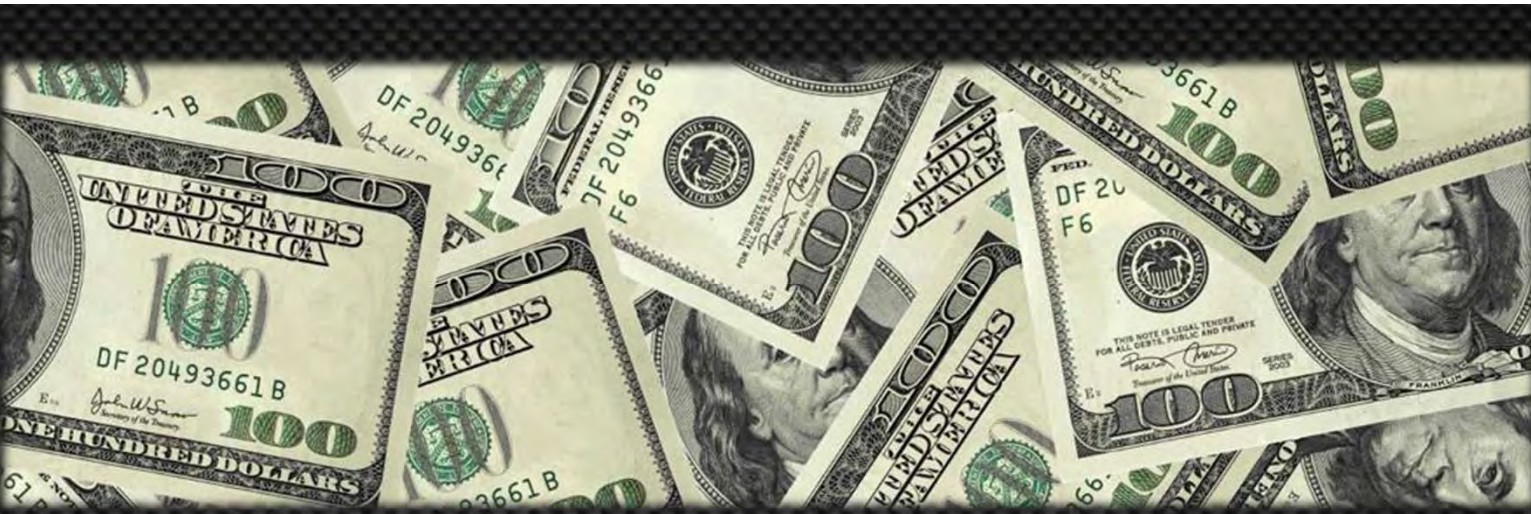
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50% Reduction in Development Costs
(\$4.13B vs. \$8.25B)



Financial Implications



ding Customer Confidence

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ing Confidence

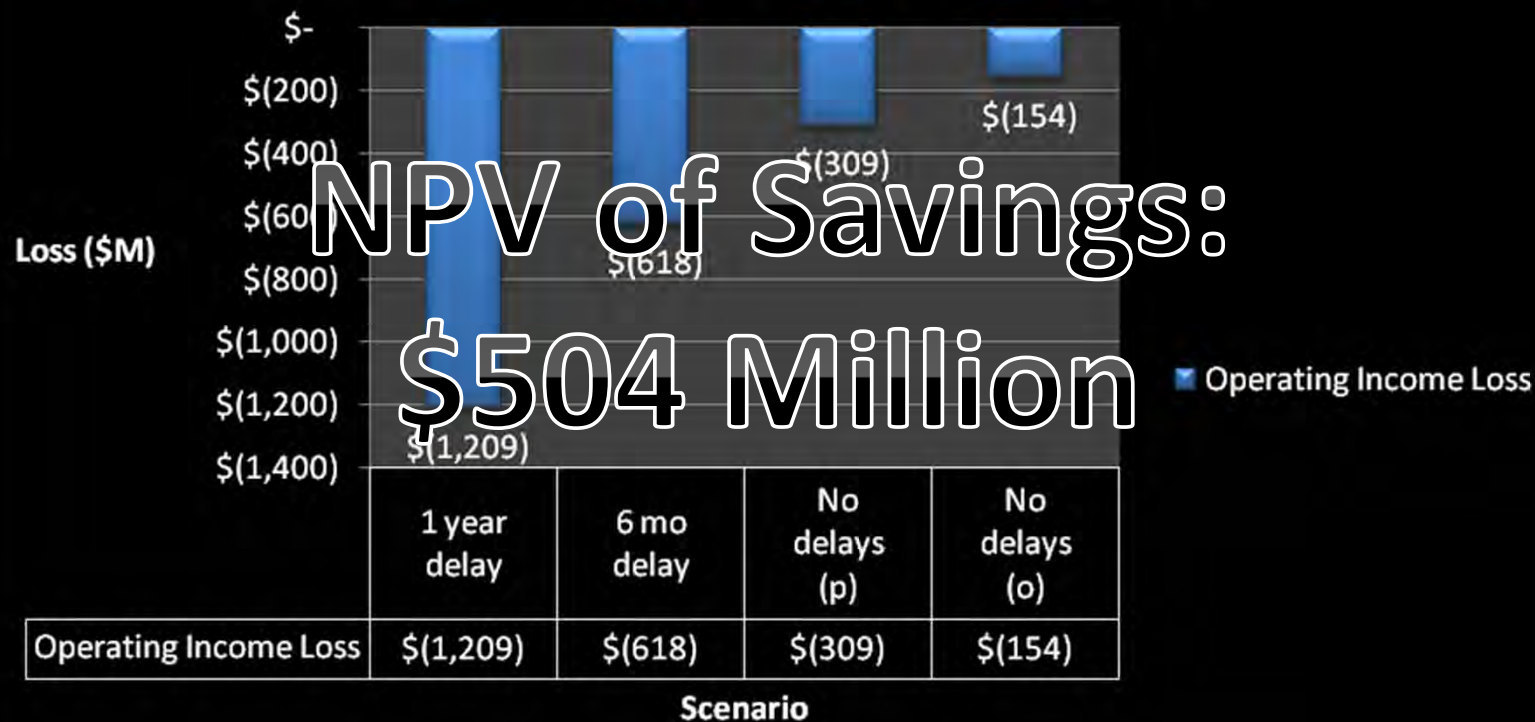
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Potential Operating Income Loss



Modernization

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NPV of 737 Modernization:

Development Cost
\$4 Billion

Initial Delivery
• Early 2020
\$504 Million
• 12/year in 2020

Target Manufacturing Rate
• 120/year by 2024



21	22 <small>Cicilia Knut</small>	23 <small>Kliment</small>	24 <small>Gadrun Rune</small>
	29 <small>Suse</small>	30 <small>Andreas Anders</small>	1
6			

Timeline



TMQ/SCM Timeline

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2010

2011

2012

2013

2014

2015

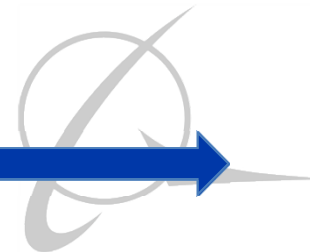
Begin offering
supplier system
subsidies

Assemble
engineering
comparison team

Deploy supplier
standards task
force

Implement
supplier systems
training teams

Evaluate
TMQ/SCM
Processes



Modernization Timeline



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2015

2016

2017

2018

2019

2020

Explore customers needs for 737

Develop 737 model and production capabilities

Begin production phase

Obtain flight certification

Delivery

Conclusion

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New Platform

New Market
Direction

Realization of
Vision 2016



New
Manufacturing
Process

New Core
Competency





Thank You

Title Slide	-Leveraging the 787 Experience
New Direction	-Looking ahead to 2026
New Method	-Vision 2016-2026
New Challenges	-Vision 2016-2026 cont.
Recommendations	-Our Long Term Goal
Agenda	-Long Term Options
Building Customer Confidence	-Criteria
Situation	-737 Composite Option Matrix
Travelled Work Implications	-737 Composite Option Matrix Pt. 2
Our Goal	-Recommendations
Supply Chain Options	-What is the modernized 737?
Supply Chain Options pt. 2	-737 Modernization Benefits
Vision 2016	-Apply Lessons Learned
Vision 2016 alignment	-Financial Implications
Supply Chain Option Analysis	-Building Customer Confidence
Supply Chain Option Analysis Pt. 2	-737 Modernization
Short Term Recommendations	-Timeline
Process for Implementation	-TQM/SCM Timeline
An Example of Boeing TQM	-737 Modernization Timeline
Overall Benefits of TQM	-Conclusion

Appendix

- Cost of Capital
- 787 Potential Revenue Loss
- 787 Potential Op. Income Loss
- 787 Delay Scenarios
- 787 Price and Margin Data
- 787 TQM/SCM Cost Information
- TQM/SCM NPV
- Modernized 737 NPV
- 737 Development and Sales
- Strategic Objectives



Cost of Equity Capital

Inputs:

Risk Free Rate:	3.87%	10-Year US T-Bond Rate
Beta:	1.28	Google Finance
Return on Market	10.92%	15yr Annualized return of S&P 500

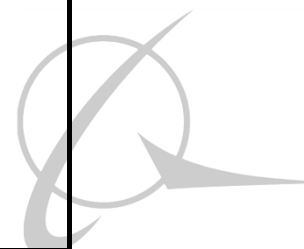
K(e): 13%

Weighted Average Cost of Capital (WACC)

Inputs:

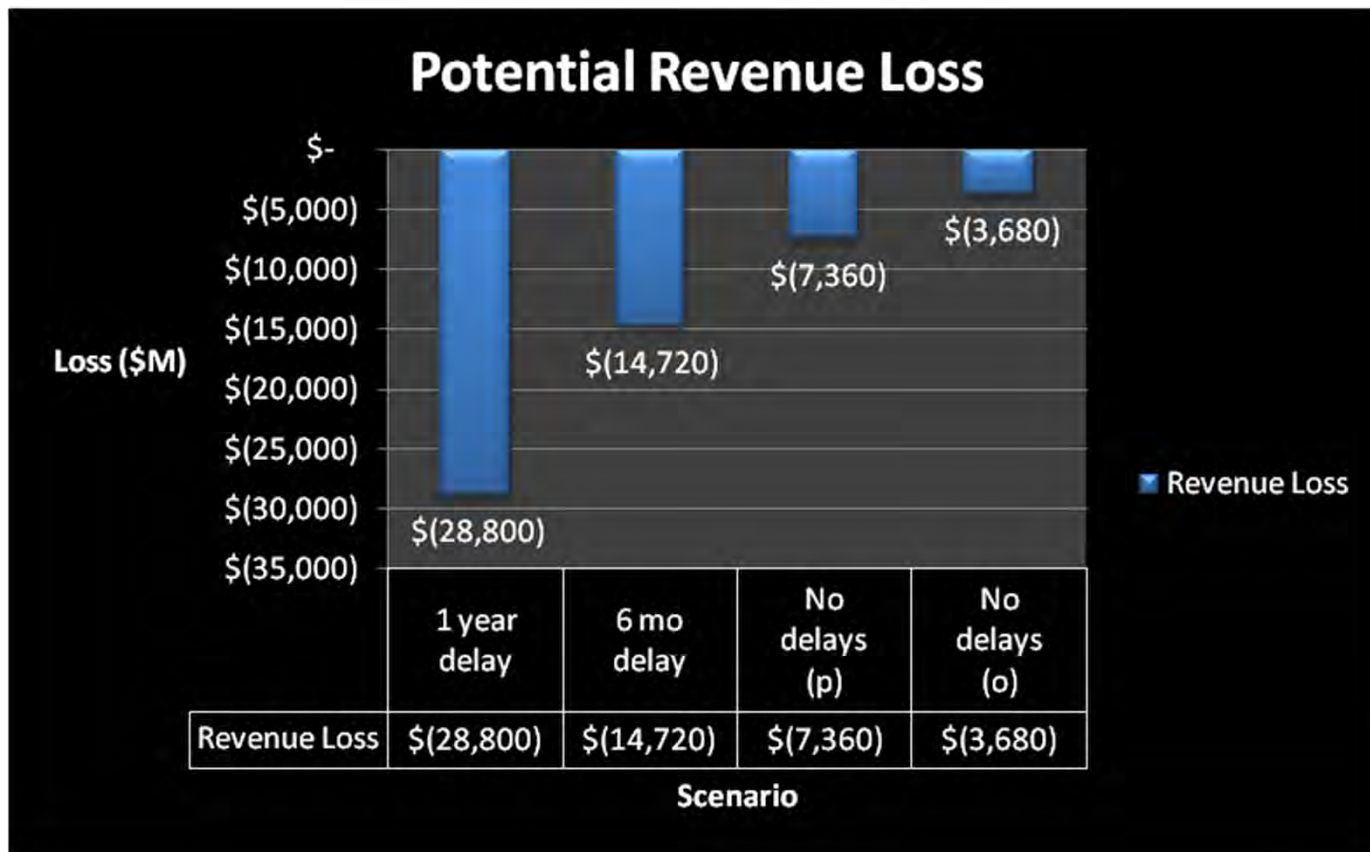
Total Debt:	\$ 12.924	(B) As of YE2009
Total Equity:	\$ 2.225	(B) As of YE2009
Cost of Debt:	5.86%	
Cost of Equity:	12.89%	See above
Tax Rate:	35.00%	2009 US Federal Tax Rate

K: 5.14%



Potential Revenue Loss

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Potential Op. Income Loss

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Potential Operating Income Loss



Delay Scenarios

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Scenario	1 year delay	6 mo delay	No delays (p)	No delays (o)
Cancelled Orders	180	92	46	23
Revenue Loss	\$ (28,800)	\$ (14,720)	\$ (7,360)	\$ (3,680)
Operating Income Loss	\$ (1,209)	\$ (618)	\$ (309)	\$ (154)

Potential TQM Savings	\$ 977	\$ 386	\$ (232)
Average Savings	\$ 681		

Orders and deliveries by year

	2004	2005	2006	2007	2008	2009	2010	Total
orders	56	235	157	369	93	-59	15	866
deliveries	-	-	-	-	-	-	-	-



Price & Margin Data

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	2008
Unit Sales	481
Commercial Aircraft Revenue	\$ 28,263
Earnings from Operations (EBIT)	\$ 1,186
Operating Margin	4.20%

787 Sale Price	\$ 160
787 Unit Operating Margin	\$6.71

Cancelled Orders to Date	92
Revenue (\$)	\$ 14,720
EBIT	\$ 617.70



TQM/SCM Cost Information

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Human Resources

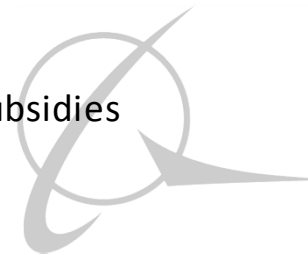
	<u>Units</u>	<u>Cost/Unit</u>	<u>Total Cost</u>
Supplier standards task force	30	\$ 70,000	2,100,000
Engineering liason team	12	\$ 110,000	1,320,000
Supplier systems training team	120	\$ 60,000	7,200,000
		Total Recurring Cost	10,620,000

Systems Integration

Supplier systems subsidies	90	\$ 1,000,000	\$ 90,000,000
		Total Cost	\$ 90,000,000

Assumptions

25% of supplier base will require systems implementation subsidies



M/SCM NPV



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Net Present Value

(Million USD)

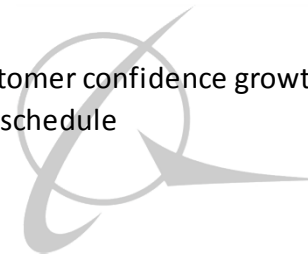
	2010	2011	2012	2013	2014	2015	
Year	0	1	2	3	4	5	
Order Cancellation Savings	\$ -	\$ 681.48	\$ 204.44	\$ 61.33	\$ 18.40	\$ 5.52	a
SCM Implementation Costs	\$ 100.62	\$ 10.62	\$ 7.97	\$ 5.97	\$ 4.48	\$ 3.36	b
Δ EBIT	\$ (100.62)	\$ 670.86	\$ 196.48	\$ 55.36	\$ 13.92	\$ 2.16	
Δ Taxes	\$ (35.22)	\$ 234.80	\$ 68.77	\$ 19.38	\$ 4.87	\$ 0.76	
Δ Net Income	\$ (65.40)	\$ 436.06	\$ 127.71	\$ 35.98	\$ 9.05	\$ 1.40	
Δ Capital Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Δ Working Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Net Cash Flow	\$ (65.40)	\$ 436.06	\$ 127.71	\$ 35.98	\$ 9.05	\$ 1.40	
Cost of Capital	5.14%	5.14%	5.14%	5.14%	5.14%	5.14%	
Discount Rate	N/A	95.11%	90.46%	86.03%	81.82%	77.82%	
PV of CF	\$ (65.40)	\$ 414.73	\$ 115.52	\$ 30.96	\$ 7.40	\$ 1.09	

NPV:

504.30

Footnotes:

- a Assuming 70% annual customer confidence growth
- b See implementation cost schedule



Modernized 737 NPV



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Net Present Value

(Million USD)

	2015	2016	2017	2018	2019	2020
Year	5	6	7	8	9	10
Modernized 737 Sales Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 960.00
COGS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 845.76
Gross Margin	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 114.24
R&D Expenses	\$ 300	\$ 700	\$ 950	\$ 1,200	\$ 980	\$ 50.00
Δ EBIT	\$ (300.00)	\$ (700.00)	\$ (950.00)	\$ (1,200.00)	\$ (980.00)	\$ 64.24
Δ Taxes	\$ (105.00)	\$ (245.00)	\$ (332.50)	\$ (420.00)	\$ (343.00)	\$ 22.48
Δ Net Income	\$ (195.00)	\$ (455.00)	\$ (617.50)	\$ (780.00)	\$ (637.00)	\$ 41.76
Net Cash Flow	\$ (195)	\$ (455)	\$ (618)	\$ (780)	\$ (637)	\$ 42
Cost of Capital	5.14%	5.14%	5.14%	5.14%	5.14%	5.14%
Discount Factor	0.78	0.74	0.70	0.67	0.64	0.61
PV of CF	\$ (152)	\$ (337)	\$ (435)	\$ (522)	\$ (406)	\$ 25

NPV:

1,012.72

Budget Overrun Factor

0.00% (54.5% Overbudget limit)

Break Even (years)

4.68

Revenue Delays

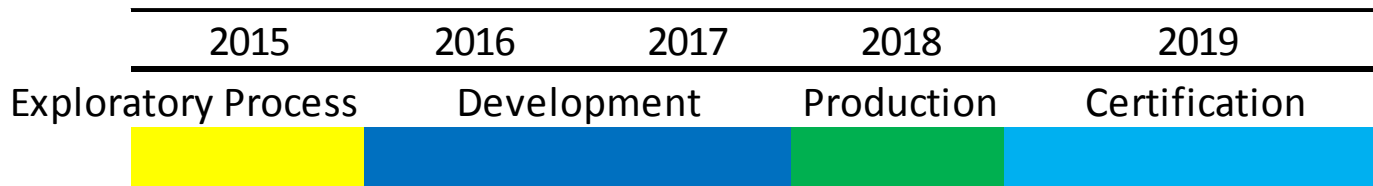
0 Years

(8 year limit)

Development & Sales



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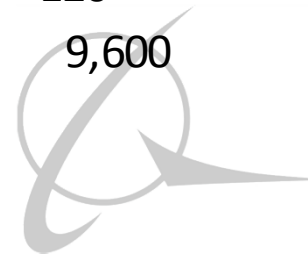
Development Costs \$ 300 \$ 700 \$ 950 \$ 1,200 \$ 980

2020	2021	2022	2023	2024	2025
------	------	------	------	------	------

Unit Sales

12	35	65	95	120	120
\$ 960	\$ 2,800	\$ 5,200	\$ 7,600	\$ 9,600	\$ 9,600

Revenues (@ \$80M)



Strategic Objectives

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Appendix

Growth

Continuously improve customer satisfaction and preference for Boeing

Invest in market leading products, services, and solutions

Become a trusted lifetime service provider and advance into adjacencies

Grow customer base and market share over time

Sustain a compelling value premium

Enhance global influence through global presence

Capitalize synergies across the enterprise

Productivity

- Be a recognized leader in the environment
- Skilled and motivated team
- **Implement Boeing Production System**
- **Achieve continuous quality and productivity improvement through lean**
- **Develop and enhance relationships (suppliers, employees and communities)**
- Ensure that technology, processes, and tools are off the critical path
- Efficiently produce through cycles

Porter's Five Forces

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Appendix

Threat of New Entrants: Low

• Extremely high barriers to entry due to fierce competition
• High costs of acquiring distribution channels
• High capital requirement

Threat of Substitute Products: Low

- Since each part of plane is highly specified, proprietary information reduces threat of substitutes
- Supplier contracts

Buyer Power: Medium

- More buyers than sellers
- Though there is one main competitor from whom customers can buy planes from, contracts are often arranged
- Differentiation between a Boeing aircraft and an Airbus aircraft is high

Supplier Power: Medium

- Suppliers are given autonomy to design its specific parts
- There are substitutes available for suppliers though

Rivalry Between Existing Firms: High

- Though there is only one main competitor, the competition is fierce
- Products are made to "counteract" the moves of other company
- Industry growth rate is slow as a whole but innovation can put a company ahead
- Governmental subsidies help foster this rivalry

Abu Dhabi (This needs to be clarified)

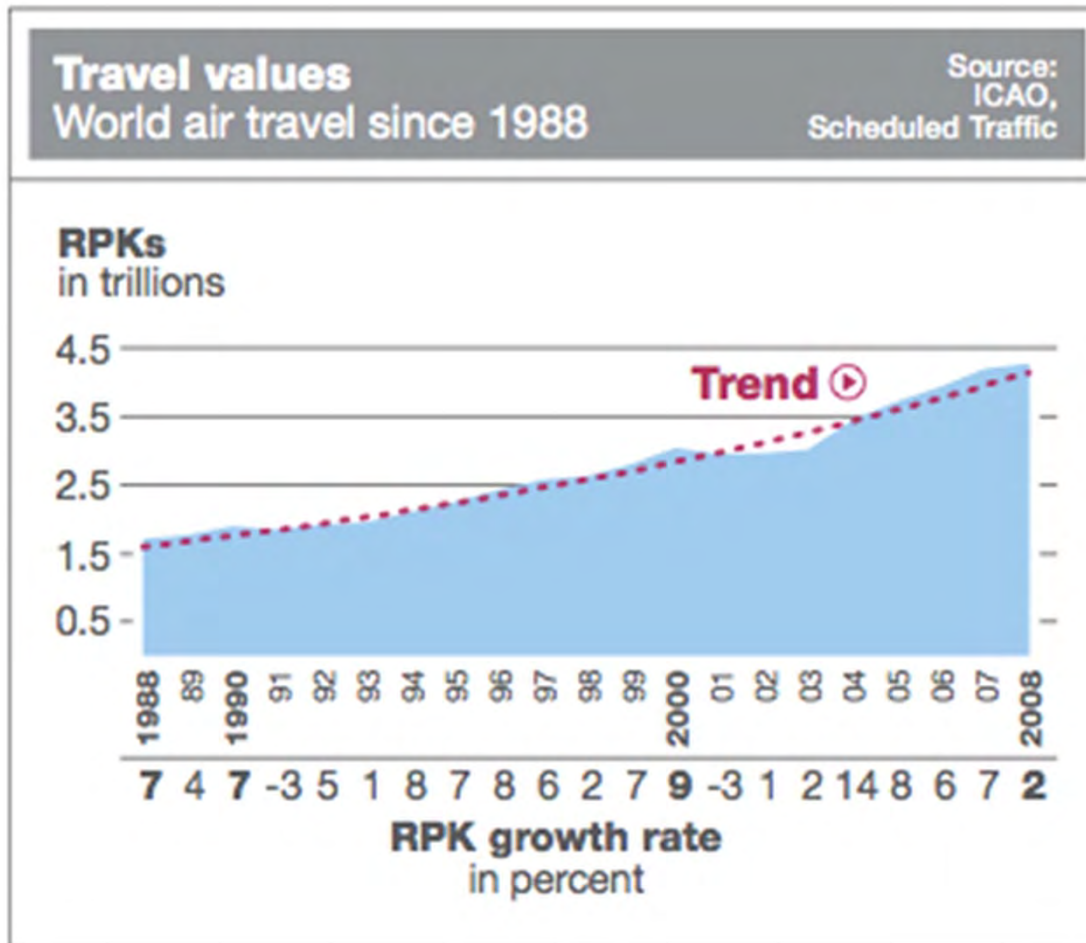
- Ethiad Airways
- Honeywell
- Madsar Institute



Growth '88-'08

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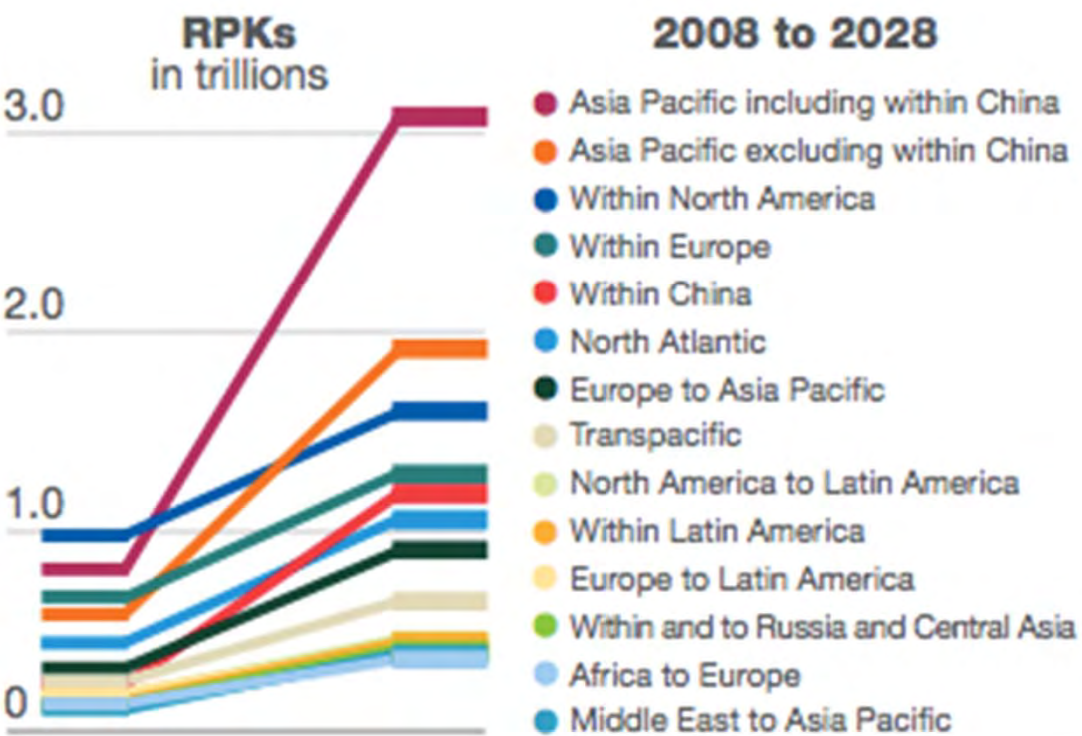
Airplanes in service 2008 and 2028			Demand by size 2009 to 2028		
Size	2008	2028	Size	New airplanes	Value (\$B)
Large	870	1,070	Large	740	220
Twin aisle	3,510	8,080	Twin aisle	6,700	1,510
Single aisle	11,360	24,230	Single aisle	19,460	1,420
Regional jets	3,060	2,220	Regional jets	2,100	70
Total	18,800	35,600	Total	29,000	3,220



Demand by Region

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Demand diversity Passenger traffic development



Traffic Growth by Region

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Demand diversity Annual traffic growth



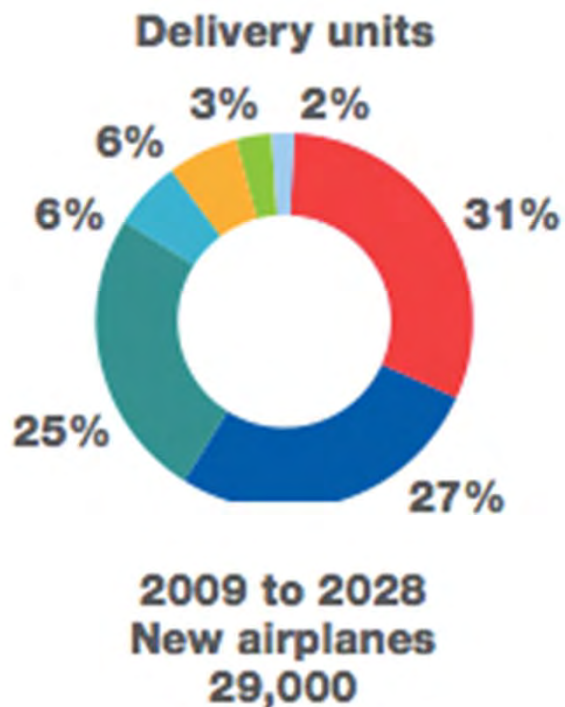
Deliveries by Region

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New airplanes Deliveries by region

Region	New airplanes
Asia Pacific	8,960
North America	7,690
Europe	7,330
Middle East	1,710
Latin America	1,640
Russia and Central Asia	1,050
Africa	620
Total	29,000



Traffic Growth Rates

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Travel values Airline traffic growth rates

2008 to 2028

	Africa	Latin America	Middle East	Europe	North America	Asia Pacific
Asia Pacific	9.2%	9.1%	6.3%	5.5%	4.9%	6.9%
North America	7.4%	4.7%	6.9%	4.6%	2.5%	
Europe	5.4%	4.3%	5.5%	3.4%		
Middle East	6.1%	-	6.2%			
Latin America	5.5%	6.4%				
Africa	6.4%					



SWOT Analysis: Boeing Company

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Appendix

Strengths:

- Supply chain
- Innovation/ability to adapt to shifts in market demand
- Corporate culture
- Strong engineering

Weaknesses:

- Bureaucratic processes due to size of company
- Economic fluctuation can sometimes dictate performance from quarter to quarter

Opportunities:

- Transitioning from manufacturing to innovation
- Expanding niches in the commercial industry
- Become a market leader in innovation
- Green technology

Threats:

- Competitive market
- Economic weakness
- Global supply chain does not perform efficiently

OT Analysis: 787

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Strengths:

- Innovative
- Aligns with airlines goals
- Green Product
- Well received upon announcement
- High Reward Product

Weaknesses:

- New, expensive materials required
- High Risk Product

Opportunities:

- New market expansion
- Green Opportunity
- Foundation for a new generation within Boeing
- Create a new name for Boeing as an Innovator

Threats:

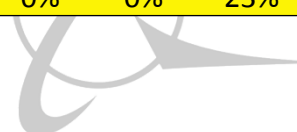
- Airbus A350
- Missing the market direction, (hub and spoke, rather than point to point)
- Terrorist Events
- Economic Weakness
- Delayed Production

Single Aisle & Large Aircraft Growth



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	Asia Pacific	China	Oceania	NE Asia	SE Asia	SW Asia	North America	Europe	Middle East	Latin America	Africa	Russia & Central Asia	World
in 2008													
	400	80	40	130	130	20	140	190	70	10	20	40	870
Single Aisle	2,330	1,010	270	250	490	310	3,780	2,970	370	880	410	620	11,360
in 2028													
	500	120	40	110	220	10	120	230	150	10	20	40	1,070
Single Aisle	7,230	3,300	580	610	1,450	1,290	6,980	5,620	750	1,900	720	1,030	24,230
Aisle Growth	210%	227%	115%	144%	196%	316%	85%	89%	103%	116%	76%	66%	113%
Growth Rates	25%	50%	0%	-15%	69%	-50%	-14%	21%	114%	0%	0%	0%	23%



Supply Chain Options Analysis

Appendix

Option	Timeliness	Quality	Communication
Business Quo	Uncertainty in supplier delivery might remain	Uncertainty in quality might remain	Miscommunications with suppliers may continue
Dominate Suppliers	Complete control over timeliness	Complete quality control	Elimination of miscommunication
Partially Integrate	Potential control over timeliness	Potential control of quality	Elimination of excess miscommunication
Engage Suppliers	Best: Uncertainty remains Worst: additional uncertainty introduced	Best: Uncertainty remains Worst: additional uncertainty introduced	Best: Uncertainty remains Worst: additional uncertainty introduced
Additional Financial Incentives	Potential timeliness improvement	Potential quality improvement	Marginal communication improvement
Comprehensive Supplier Management System	Timeliness improvement	Quality improvement	High potential communication improvement

Process for Implementation

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TIMELINE INFO

Exact requirements and quality standards are negotiated (Now - 6 months)

Common process information is shared and standardized across all suppliers (Now - 1 year)

- Boeing Production System “Best Practices”

Common data management systems are consolidated for information sharing (Now - 1 year +)

- Design (Dassault systems)
- Work instructions
- Quality documentation



Supply Chain Improvements

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Boeing Benefits

- Improved supply chain alignment
- Constant process improvement (lean)
- Increased awareness of supplier processes
- Easier implementation of design changes
- Higher assurance of quality
- Less waste, lower costs

Supplier Benefits

- Truly positioned as “Partner”
- Clear product requirements
- Constant process improvement (lean)
- Improved access to information
- Less waste, lower costs

Development Process

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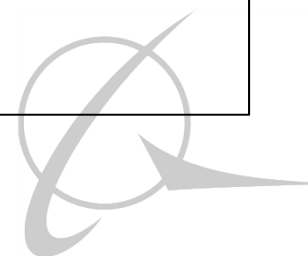
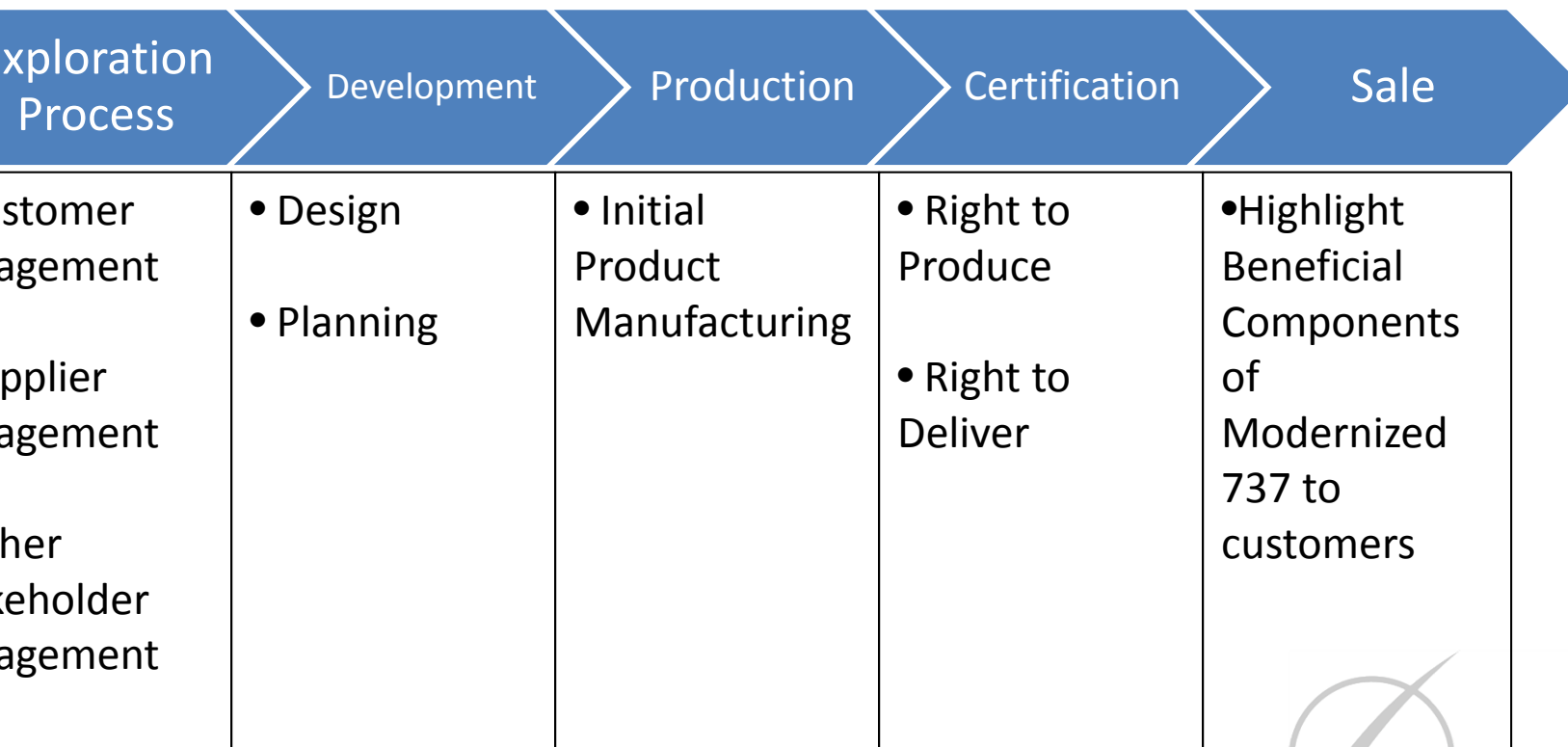
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Competitors

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2013
Mitsubishi
Regional Jet



2015 TBD
Bombardier C
Series Aircraft



TBD 中国航天
China Aerospace
Science & Technology
Corporation

2010

2015

2020

2025

2013
Airbus A350 Launch



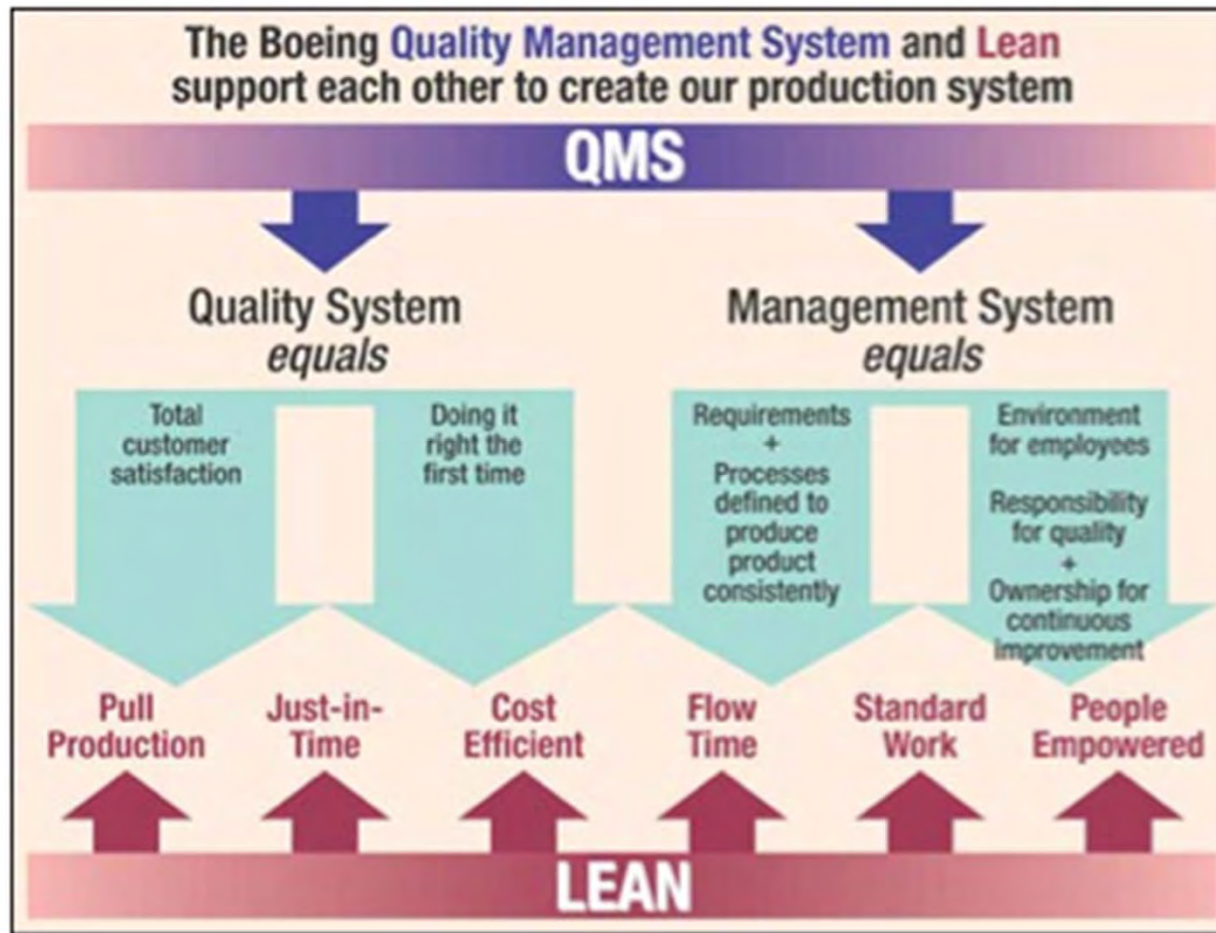
No Additional Competitor Threats

- Airbus A350 is our sole competitor in composite airline market
- Boeing has constructed a new barrier to entry
- Re-cemented our position in the market



S Diagram

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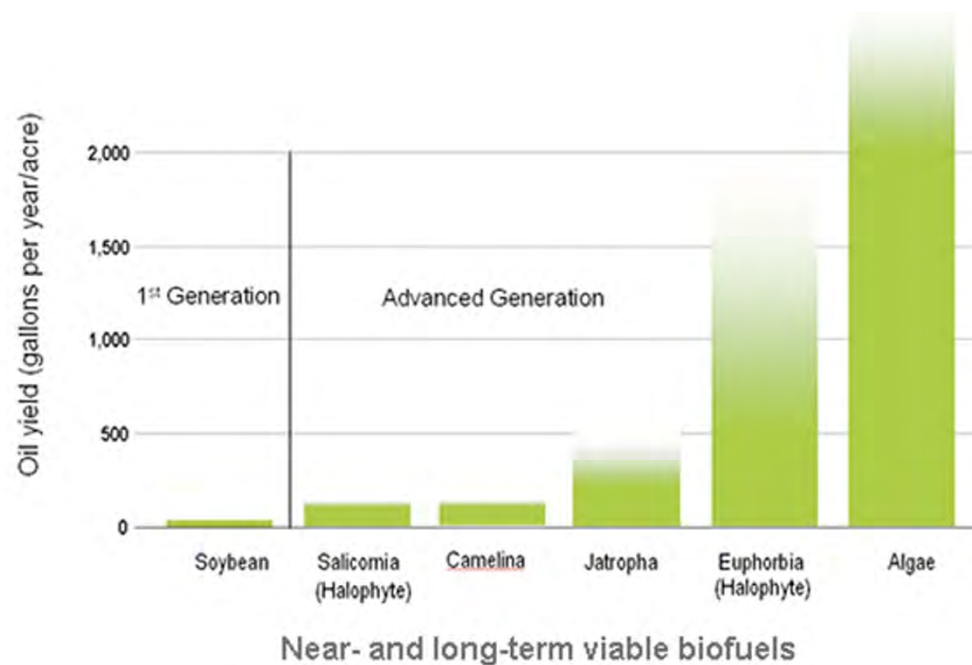


Abu Dhabi

- Boeing
- Etihad Airways
- Honeywell
- Madsar Institute

Goal: Achieve 7% target of renewables by 2020

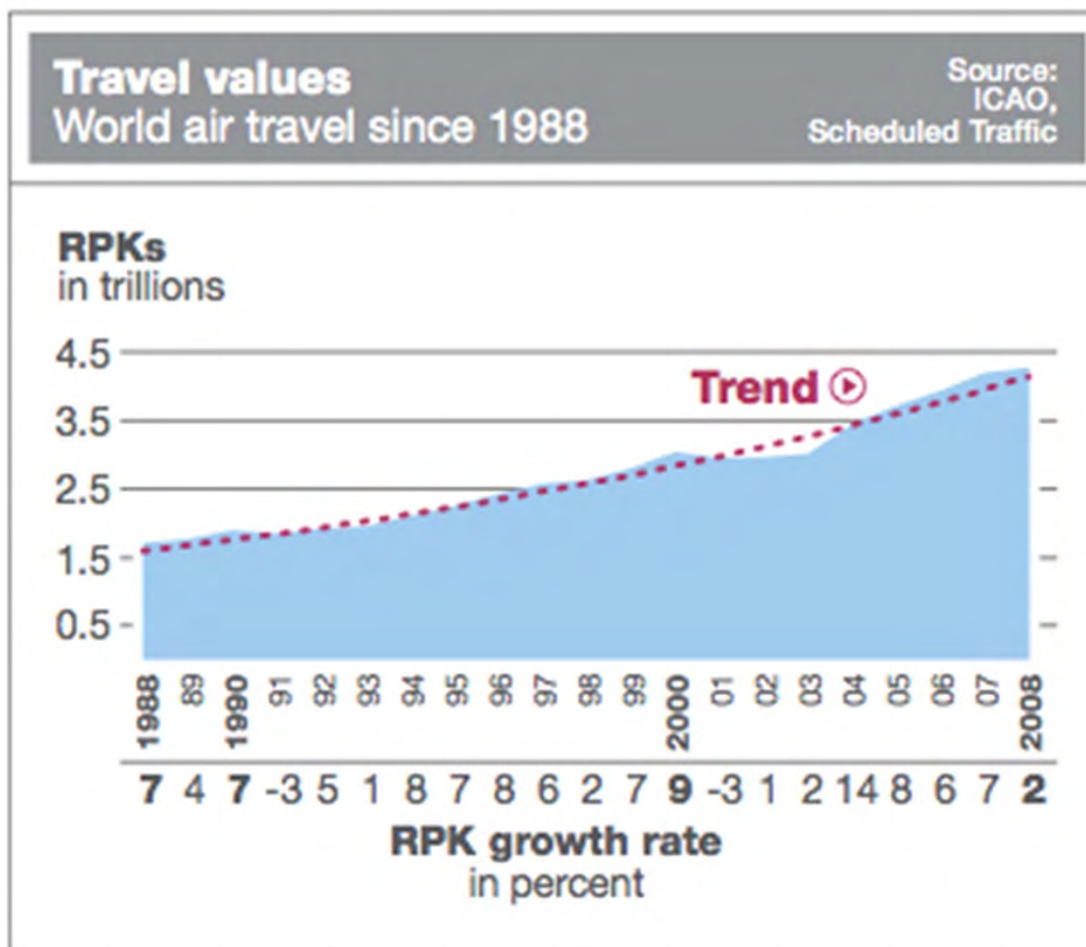
• Utilize Saltwater Farming Practices



Travel Values RPK Growth

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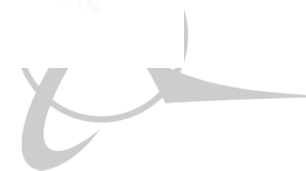
Demand for Titanium

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Table 6.1
Future Scenarios of World Titanium Demand in 2010

	Demand Sector	Scenario		
		Base	Optimistic	Pessimistic
Compounded annual average growth rate of each market segment (%)	Aerospace	15	20	10
	Industrial	5	7	3
Titanium demand in 2010 (base year 2005 demand = 100)	Aerospace	201	249	161
	Industrial	128	140	116
	Total demand	159	187	135

NOTE: The CAGR of each market segment in the table is calculated for 2005–2010, with 2005 as the base year.



ing Order and Deliveries

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Orders and Deliveries



Orders through April 13, 2010	737	747	767	777	787	Total
2010 Net Orders	70			9	15	94
Ethiopian Airlines	10					10
British Airways	2					2
British Airways	20					20
Identified Customer(s)	3			12		15
United Airlines					25	25
Delta Air Lines	40					40
2010 Gross Orders	75			12	25	112
Changes	-5			-3	-10	-18
2010 Net Orders	70			9	15	94
	737	747	767	777	787	Total



Subsidies US/EU Update

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March 23, 2010 WTO panel called on the European Union to end illegal subsidies to Airbus

Airbus says ruling rejects most U.S. claims

Civil aviation market worth \$3 trillion over next 20 yrs

WTO to rule on EU countersuit on aid to Boeing by end of June

Airbus believes ruling would not affect funding for the A350

- only covered aid up to 2006
- Washington will likely argue a precedent was set



y not 777?

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Market demand lagging compared to single aisle aircraft

Focus for the short to mid term should be on 787

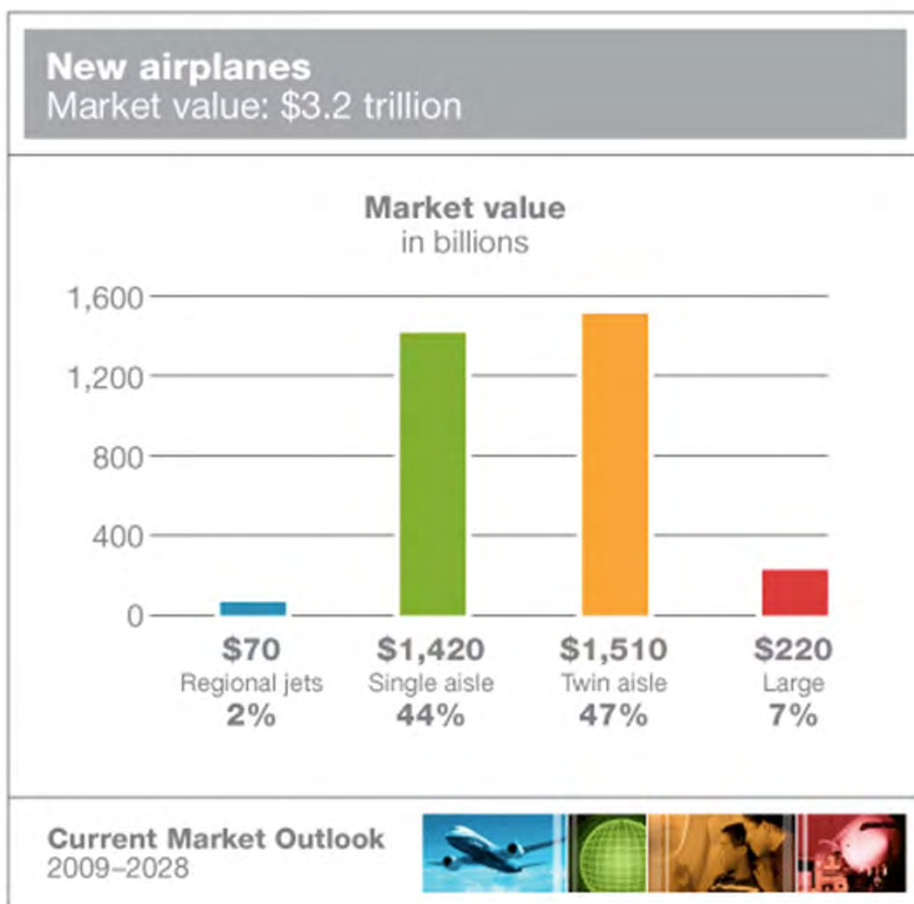
Timing is right for modernization of 737, which requires our focus



New Airplane Market Value

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Pros:

- Should see strong growth in 787
- Potential of new 737 or 777

Cons:

- Strike could be very damaging
- Labor costs expected to go higher in a time before CapEx increase



Pros:

- Growth expected to be strong
- Continued demand for 737's and 787's should drive need for manufacturing

Cons:

- Key area of time for Boeing to show its effective supply chain



Pros:

- Should have good evidence for manufacturing comparisons
- Planning of new 777 will create negotiating power

Cons:

- Extended timeframe leaves us vulnerable to possible economic fluctuations
- Public Relations concerns as we move to assembly, rather than manufacturing



Pros:

- Expected to have a strong core business
- Continued demand for 737's, 777's and 787's should drive need for manufacturing

Cons:

- Key area of time for Boeing to show its global supply chain can efficiently and effectively expand



negotiating Position 2028

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Pros:

- Projected strong growth into 2028 and beyond should provide good financial footing

Cons:

- Public Relations Concerns



Example of Boeing TQM

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Engineering definition created (design)

New engineering definition created to “build-in” quality

Manufacturing process is defined

Documentation of problem and repairs are communicated to final customer (airline)

Mechanics perform work to specification

Inspectors assure compliance with engineering definition

- Problems are documented and communicated to engineering
- Production process is reviewed and changed if problems continue



Mitsubishi Regional Jet

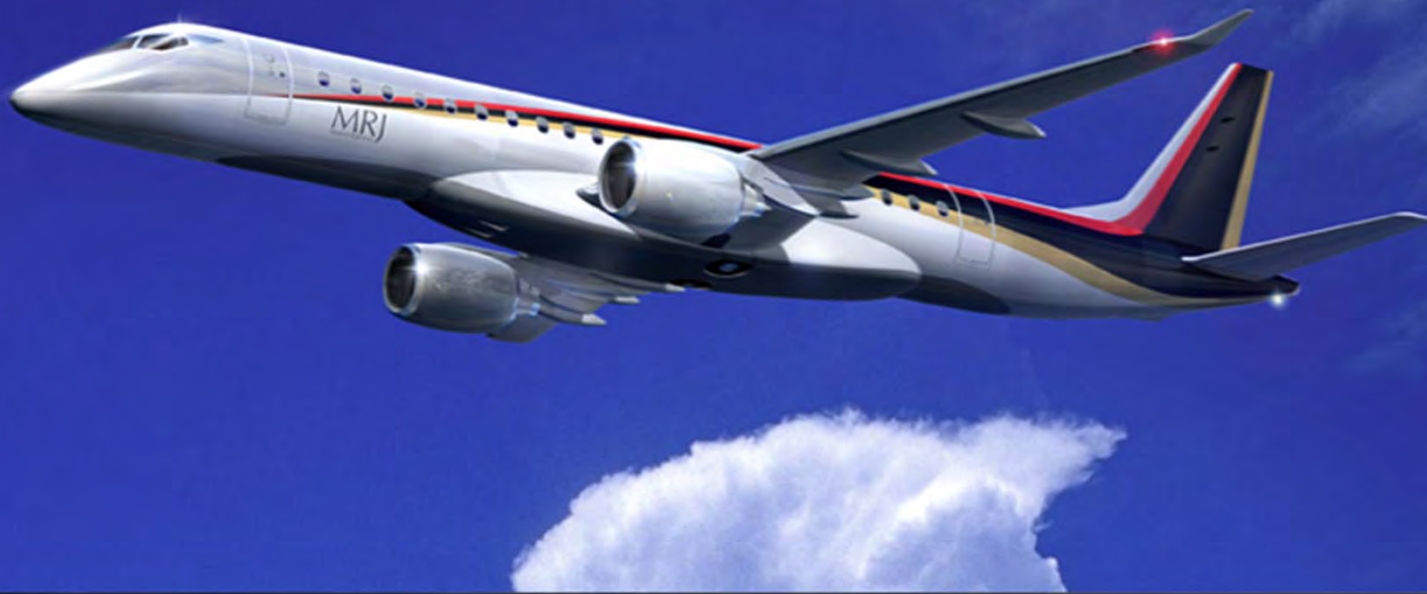
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▶ Japanese

Flying into the future.

Mitsubishi Regional Jet, a new concept from Japan
for the skies of the world.



Travel Work Implications

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Supplier unable to complete component

Component is shipped

Upon arrival, engineering assesses needed work

Resources are committed to correcting supplier product

Travel work interrupts normal critical-path processes

Supply Chain Option Analysis

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Option	Agility	Adaptability	Alignment	Overall Score	Ranking
rtical Integration	3	2	5	3.7	2
Additional Financial Incentives	4	3	2	2.7	3
omprehensive Supplier Management System	2	4	5	4.1	1
Weights	20%	30%	50%	100%	

Necessity for Quality Assurance

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Why it wasn't possible in the past

- New suppliers
- Supplier learning curve
- New technology
- Material shortages

Why it's essential now

- Prevent cancellations
- Reputation at stake
- Emerging competitors
- Suppliers are now in a position to implement changes

