

**Air Transportation Research International Forum**

# **Market Outlook**

## **The Commercial Aviation Supply Chain**

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President

Seattle, Washington  
October 2, 2003



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Our practice includes: arranging the sale of companies, advising acquirers, and providing investment advice to fund managers.

**Objectivity. Clarity. Client success.**

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# Outline

- **Market Overview**
- **Review**
- **Recovery Drivers**
  - **Supply Chain Consolidation**
- **Outlook**



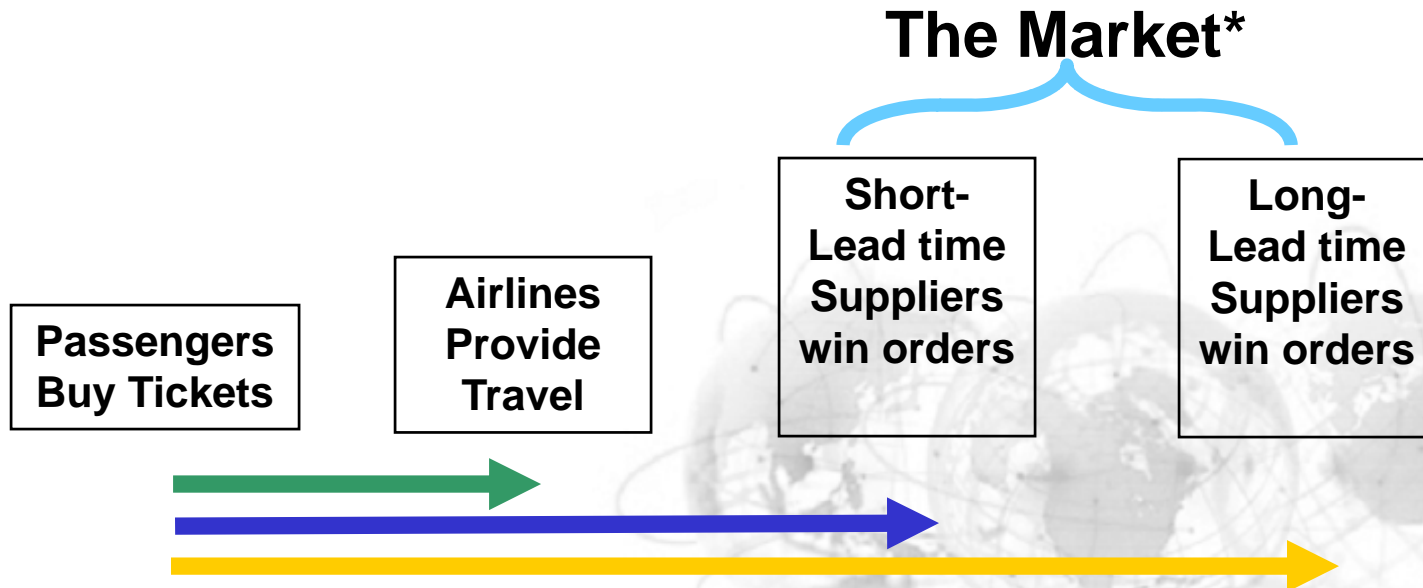
# Market Overview



# Market Overview

## The Market:

“Companies that derive a substantial portion of their annual revenue from the commercial aviation supply chain”

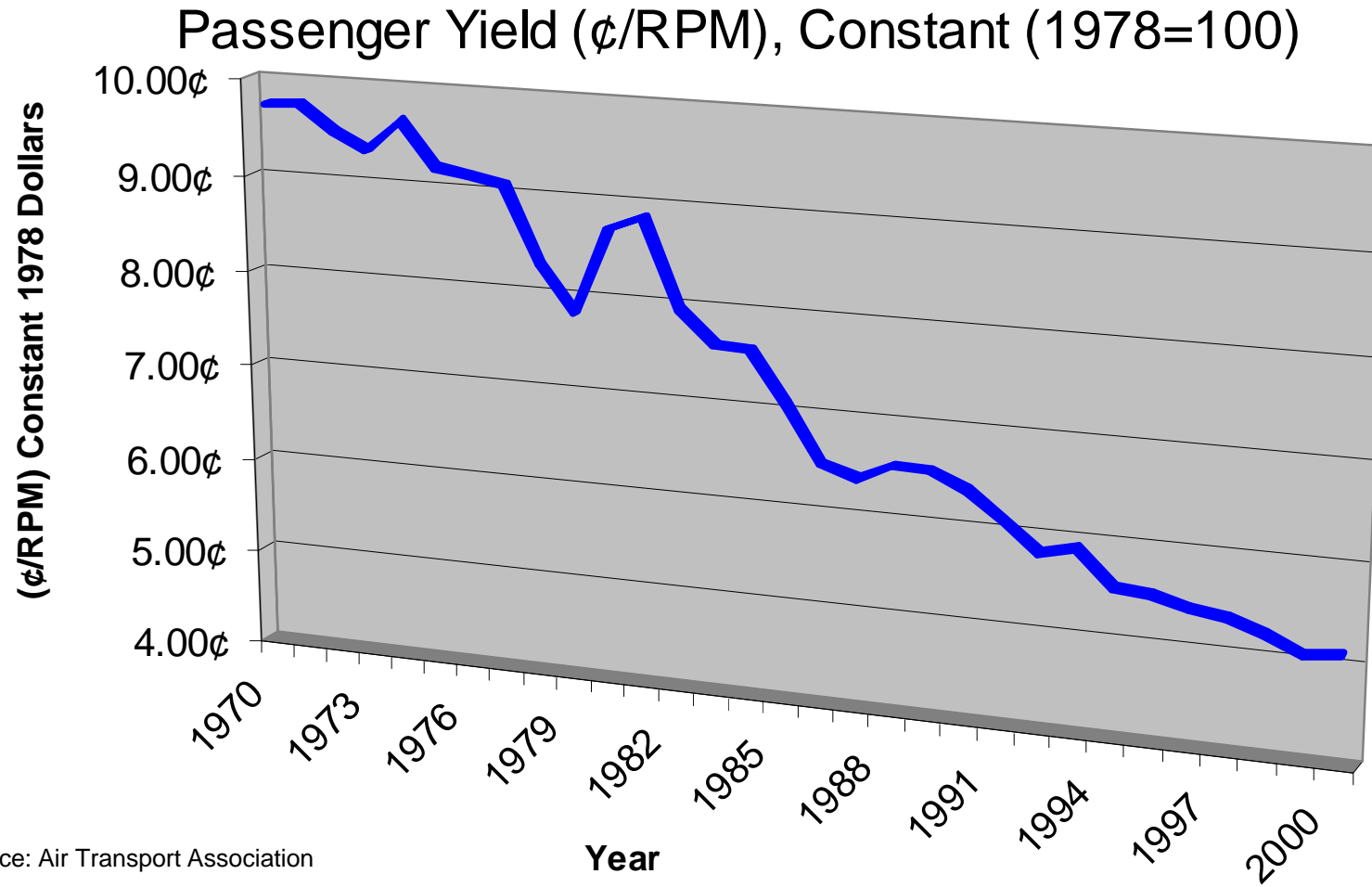


*\* This is a total market perspective; specific company market share shifts (such as between Airbus and Boeing) are not part of this analysis.*

# Review

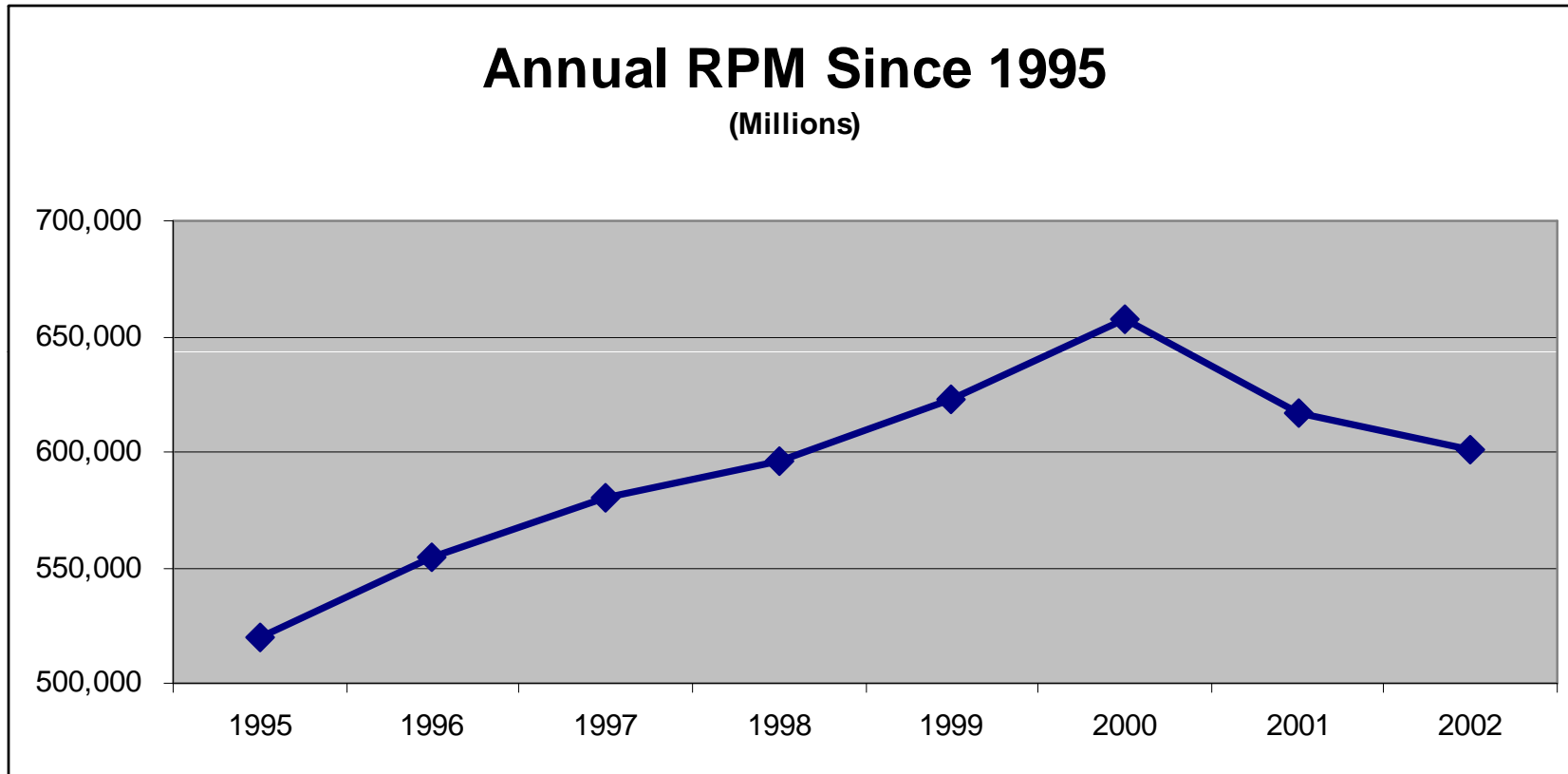


# Review



Source: Air Transport Association

# Review



**This cycle began long before 9/11.**

Source: Air Transport Association

# Review

- **Falling traffic, depressed yields and rising fuel prices push airlines to the brink and some file bankruptcy**



**AIR CANADA** 

 **U·S AIRWAYS**

- **Intense pressure on the entire commercial aviation industry**

**Throughout the industry:  
From the airlines to the bottom of the supply chain**

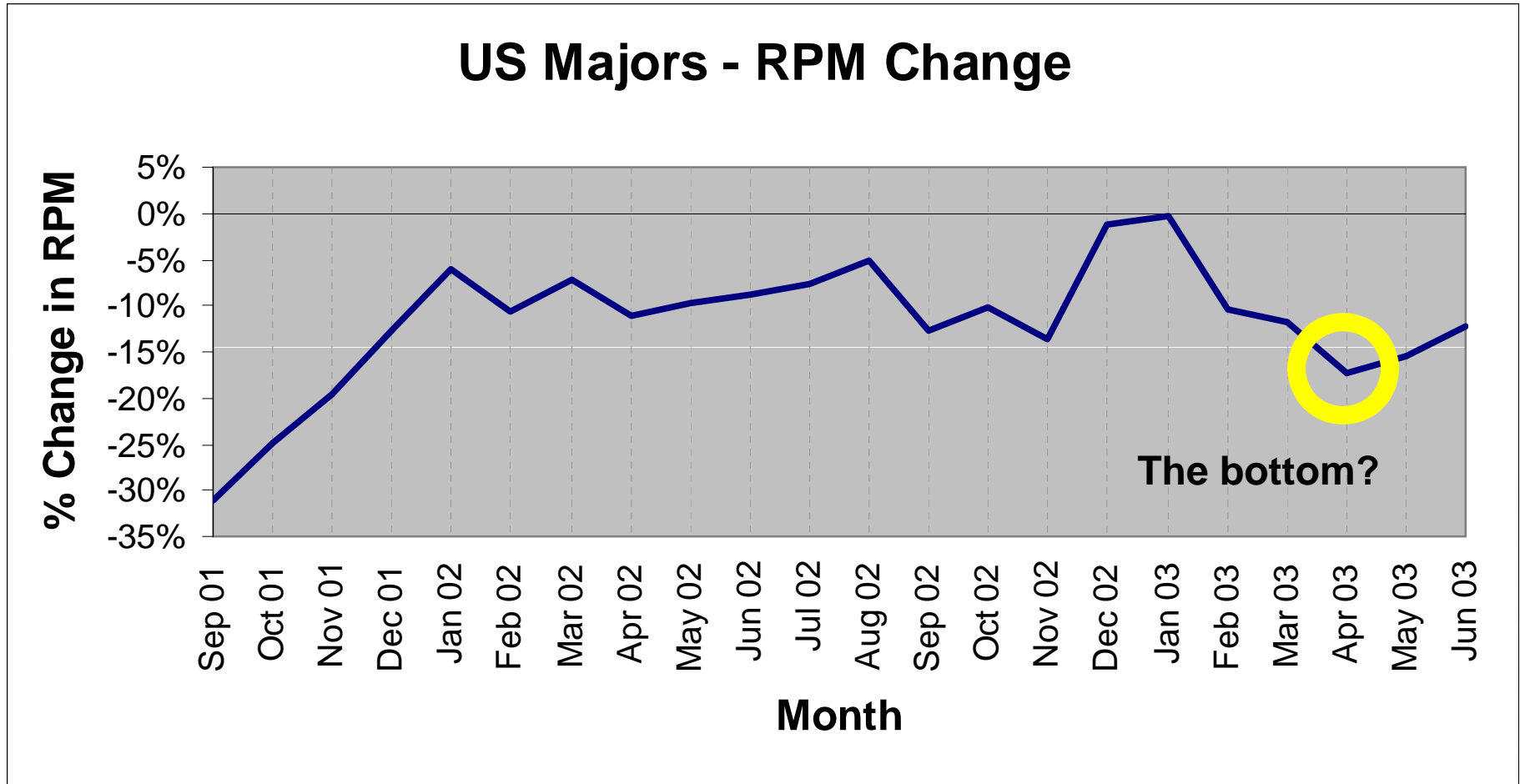
# Review

- **But...in this turmoil, some are showing healthy profits.**
  - How?
  - Fancy accounting or good business?



**Companies providing perceived value can be profitable – even in a recession.**

# Review



\*Month to month change from year 2000.

# Review

## April 2003: Runner-up for the title

**“Worst Month in the History of Commercial Aviation”**

- **SARS**
  - Asia-Pacific RPKs down 45%\*
- **US War with Iraq:**
  - April US traffic down ‘another’ 7%\*\*
  - April US Yields down ‘another’ 4%\*\*

*\*Year over year; Source: International Air Transportation Association*

*\*\* Year over year; Source: Air Transport Association*

# Recovery Drivers

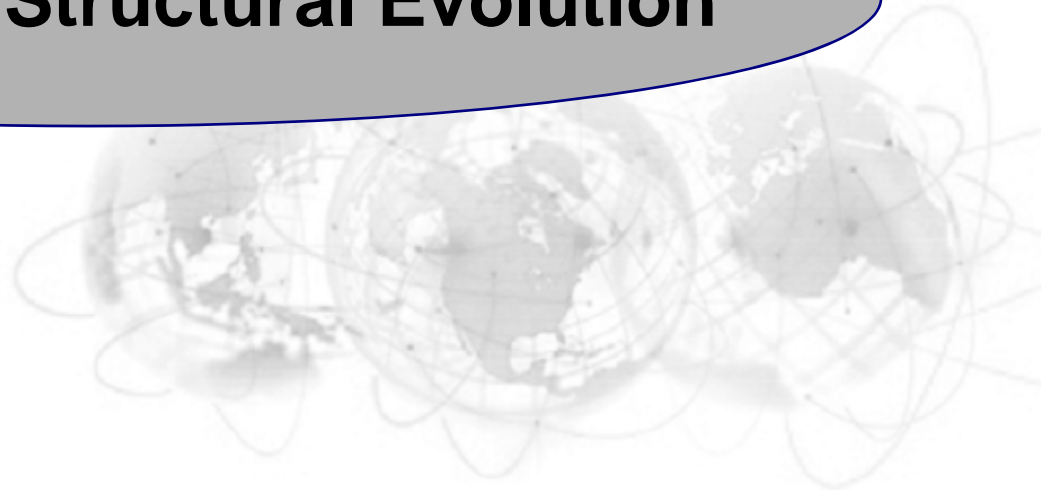


# Recovery Drivers

Two factors will aid a recovery of the market:

**1) Traditional Cyclical Recovery**

**2) Continuing Structural Evolution**



# Recovery Drivers

**Expanding global airline privatization and deregulation has resulted in a slow but steady structural shift in the airline industry and its supply chain forcing suppliers to offer:**

- Better technologies**
  - Reductions in weight and fuel burn
  - Rising mean failure targets
  
- Better manufacturing practices**
  - Faster
  - Smarter
  - Cheaper
  
- Better customer support**
  - Reduced inventory carrying costs



# Recovery Drivers

- **OEMs are relentlessly driven to reduce costs**
  - In 1989, Boeing employed 27,000 machinists at Renton, Everett and Auburn.
  - In 2003, Boeing will produce roughly the same number of aircraft with 15,000\* machinists
- **There is tremendous opportunity for leverage in the management of suppliers**



*\*Seattle Times, March 9, 2003*

# Recovery Drivers

**Airlines are putting intense pressure on the OEMs, which are in turn putting unbearable pressure on OEM suppliers.**

**Suppliers are finding it extremely difficult to remain profitable under these conditions.**

**This is driving suppliers to merge and consolidate in order to:**

- 1. Rationalize operations and reduce costs**
- 2. Seek substantial market share in their sphere of influence in an effort to provide some level of resistance to OEM demands for perpetual cost concessions**

# Latest Wave of Consolidation

12 months ending August 31, 2003 (TTM)



# Year in Review

## 1. M&A activity\* continued at a healthy pace

- TTM: \$6.8 Billion announced
- TTM year prior: \$4.3 Billion announced

## 2. Negligible 0.02 increase in valuations (Revenue multiple)

- TTM: 1.18
- TTM year prior: 1.16

Note: Valuation metrics, including price/revenue ('multiples'), should be used for comparison purposes only. Reliable valuations are derived from discounted cash flow analysis.

*\* Dollar value calculated as total consideration, including assumed debt and market value of stock consideration for publicly announced mergers and acquisitions of companies classified by Alderman & Company as deriving a significant portion of their annual revenues in commercial aviation market using source data obtained under contract from Infobase Publishers.*

# Year in Review

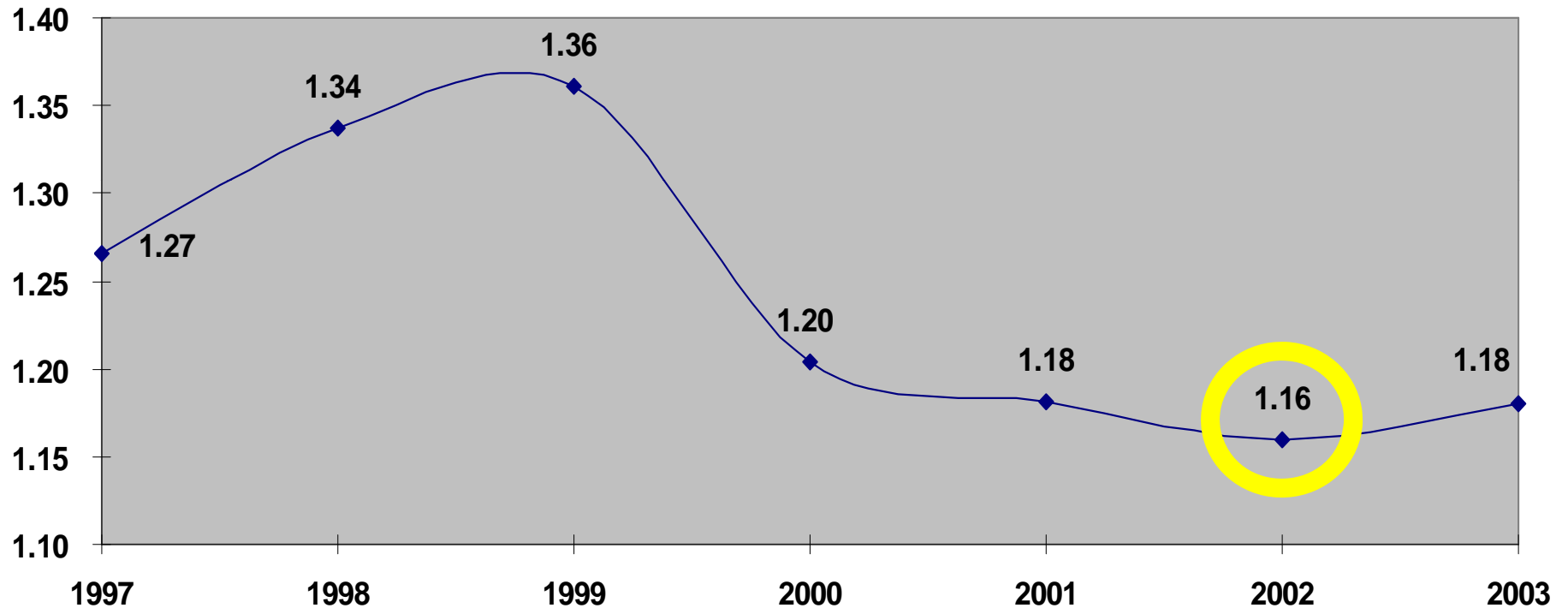
## 3. TTM Summary

- **\$6.82 Billion total value announced**
- **Three deals greater than \$1 Billion each**
- **Most active quarter was Q4 2002 – \$3.5 Billion**
- **Activity slowed in Q2 2003 due to War and SARS**
- **Almost all deals were on horizontal lines by suppliers**



# Year in Review

## Revenue Multiples August 31 TTM



*\*Dollar value (calculated as total consideration, including assumed debt and market value of stock consideration) divided by revenue, for publicly announced mergers and acquisitions of companies classified by Alderman & Company as deriving a significant portion of their annual revenues in commercial aviation market. Source data for 2001-2003 obtained under contract from Infobase Publishers; prior year data obtained through independent research by Alderman & Company.*

# M&A Activity Detail



# Review: Q4 2002

## A very active quarter

Price (US\$M)	Rev. Rev.	Rev. Multiple	Company Acquired	Buyer	Description
1,500	1,100	1.36	TRW Aeronautical Systems	Goodrich Corp.	Flight and engine controls
<b>657</b>	<b>500</b>	<b>1.31</b>	<b>Fairchild Fasteners</b>	<b>Alcoa, Inc.</b>	<b>Fasteners Manufacturer</b>
430	928	0.46	SR Technics Ltd.	3i Group PLC	Aircraft heavy maintenance
<b>416</b>	<b>253</b>	<b>1.64</b>	<b>Invensys Sensor Systems</b>	<b>Honeywell</b>	<b>Sensors and controls</b>
300	ND	NA	FlightSafety Boeing Training [50%]	Boeing Co.	Training
<b>165</b>	<b>155</b>	<b>1.06</b>	<b>Thomson Industries, Inc.</b>	<b>Danaher Corp.</b>	<b>Motion control and actuation</b>
19	ND	NA	Shannon Aerospace Ltd.	Lufthansa Technik AG	Heavy Maintenance
<b>15</b>	<b>ND</b>	<b>NA</b>	<b>Haley Industries Ltd.</b>	<b>Magellan Aerospace Corp.</b>	<b>Light alloy aerospace foundry</b>
11	7	1.61	BVR Aero Precision	Esterline Technologies, Inc.	Actuation and avionics
<b>10</b>	<b>6</b>	<b>1.67</b>	<b>Brenner Tool and Die, Inc.</b>	<b>Curtiss-Wright</b>	<b>Shot Peening &amp; Peen Forming</b>
1	4	0.13	Southern Stretch Form & Fabrication	LMI Aerospace, Inc.	Stretch Forming
<b>ND</b>	<b>104</b>	<b>NA</b>	<b>Facilities of Fairchild Dornier</b>	<b>RUAG Aerospace</b>	<b>Component manufacturing</b>
ND	ND	NA	Brice Manufacturing	TIMCO	Seat manufacturer and Repair stations
<b>ND</b>	<b>ND</b>	<b>NA</b>	<b>Thales Aeronautical Services</b>	<b>SAS Flight Support</b>	<b>Navigational services</b>
ND	ND	NA	Thermal Equipment Corp.	Aeroform Ltd.	Manufacturer of Autoclaves
<b>ND</b>	<b>ND</b>	<b>NA</b>	<b>Mechanical Products Aerospace</b>	<b>Eaton Corp.</b>	<b>Circuit control and protection devices</b>
<b>\$ 3,524</b>	<b>\$2,781</b>	<b>1.20</b>			

- **Q4 '02 volume close to total volume for previous year**
  - \$3.5 Billion total value announced vs. \$4.3 Billion total prior TTM

# Review: Q4 2002

## Deal of the quarter:

- **Goodrich acquisition of TRW Aeronautical (Lucas)**
  - Gives Goodrich leading position in actuation market

## Runners up:

- **Alcoa \$657 Million acquisition of Fairchild Fastener**
  - Alcoa builds large position in fastener market
- **3i's \$430 Million acquisition of SR Technics**
  - Sizable and aggressive move in traditionally low margin business

# Review: Q1 2003

## An active quarter

Price (US\$M)	Rev.	Rev. Multiple	Company Acquired	Buyer	Description
840	1,200	0.70	Torrington Co.	Timken Co.	Bearings
<b>188</b>	<b>100</b>	<b>1.88</b>	<b>Goodrich Avionics Systems</b>	<b>L-3 Communications Corp.</b>	<b>General Aviation Avionics</b>
108	ND	NA	Fairchild Dornier 328Jet	AvCraft Aviation	328Jet production line
<b>52</b>	<b>ND</b>	<b>NA</b>	<b>Norco, Inc.</b>	<b>TransDigm, Inc.</b>	<b>Electromechanical actuators</b>
42	60	0.70	Spokane Fabrication Ops	Triumph Group, Inc.	Component Manufacturing
<b>12</b>	<b>10</b>	<b>1.26</b>	<b>Collins Technologies</b>	<b>Curtiss-Wright Corp.</b>	<b>Flight and engine controls</b>
6	5	1.14	Advanced Material Process Corp.	Curtiss-Wright Corp.	Shot Peening
<b>ND</b>	<b>30</b>	<b>NA</b>	<b>Megatech Electro, Inc.</b>	<b>Teleflex, Inc.</b>	<b>Electronic and electromech. components</b>
ND	16	NA	Metalcraft Technologies, Inc.	Management Group	Component Manufacturing
<b>ND</b>	<b>12</b>	<b>NA</b>	<b>Atlas-Aero Corp.</b>	<b>Semco Instruments, Inc.</b>	<b>Electrical Harnesses</b>
ND	ND	NA	Baker Electronics, Inc.	Honeywell	Liquid crystal flat-panel displays
<b>ND</b>	<b>ND</b>	<b>NA</b>	<b>SEAL Laboratories</b>	<b>Management</b>	<b>Failure Analytics</b>
ND	ND	NA	BBA Luton Engineering	Gulfstream (General Dynamics)	Corporate Repair Station
<b>ND</b>	<b>ND</b>	<b>NA</b>	<b>FLS Aerospace Copenhagen</b>	<b>Northstar Aerospace (Denmark)</b>	<b>Heavy Maintenance</b>
<b>\$ 1,248</b>	<b>\$ 1,433</b>	<b>1.14</b>			

# Review: Q1 2003

## Deal of the quarter:

- **Timken acquisition of Torrington**
  - Gives Timken near-unchallenged position in aerospace bearings market

## Runners up:

- **Triumph \$42 Million acquisition of Boeing Spokane fabrication facility**
  - Small dollars but big strategic move
  - Boeing to sell-off/outsource more?
- **Avcraft acquisition of Dornier 328jet line**
  - De-consolidation
  - Re-start of a company that had been forced to exit the market

# Review: Q2 2003

## Volume falls dramatically

Price (US\$M)	Rev.	Rev. Multiple	Company Acquired	Buyer	Description
147	ND	NA	DeCrane Specialty Avionics	Odyssey Investment Partners	Flight deck displays and comm.
<b>88</b>	<b>52</b>	<b>1.71</b>	<b>Weston Group</b>	<b>Esterline Technologies, Inc.</b>	<b>Sensors for large engines</b>
35	ND	NA	Premier Turbines, Inc.	BBA Group	Engine repair and overhaul
<b>17</b>	<b>26</b>	<b>0.64</b>	<b>E/M Coatings</b>	<b>Curtiss-Wright Corp.</b>	<b>Coatings</b>
15	16	0.99	GenMech Aerospace	SPX Corp.	Component Manufacturing
<b>15</b>	<b>20</b>	<b>0.75</b>	<b>United Aircraft Products</b>	<b>Triumph Group, Inc</b>	<b>Mfg. and repair of heat exchangers</b>
15	ND	NA	Fairchild Metroliner	M7 Aerospace	US Metroliner repair facility
<b>7</b>	<b>17</b>	<b>0.40</b>	<b>Spirent Aviation Information Systems</b>	<b>Teledyne Technologies, Inc.</b>	<b>Data acquisition devices and displays</b>
ND	ND	NA	Driessen Rijswijk	Composite Partners Int'l	Interior composite components
<b>ND</b>	<b>ND</b>	<b>NA</b>	<b>Cenco, Inc.</b>	<b>Techspace Aero (Snecma)</b>	<b>Turbine engine test cells</b>
<b>\$ 338</b>	<b>\$ 130</b>	<b>0.90</b>			

- Only \$0.3 Billion in total announced value
- Fall due in large part to SARS and US war with Iraq

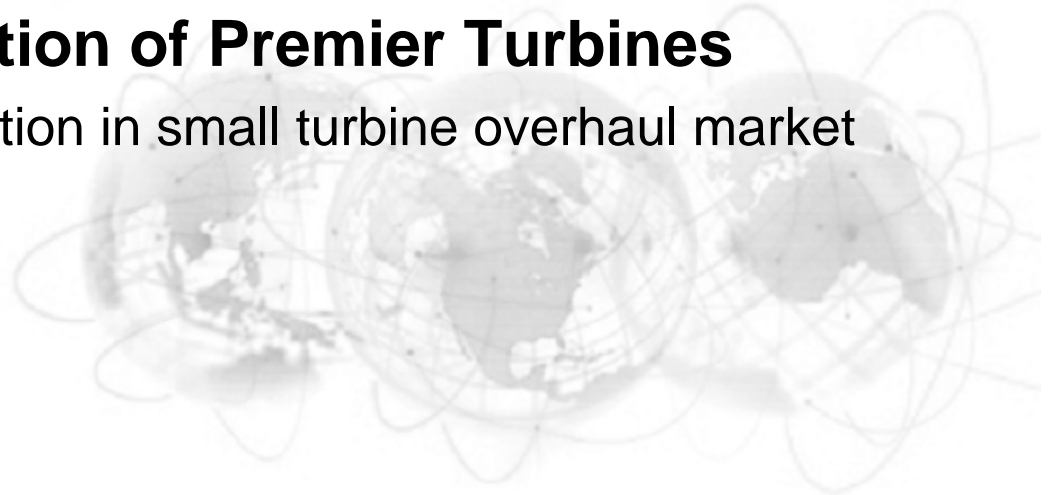
# Review: Q2 2003

## Deal of the quarter:

- **Esterline Technologies acquisition of Weston Group**
  - Big multiple: high end of range - 1.71 x Revenue

## Runners up:

- **BBA Group acquisition of Premier Turbines**
  - Advances BBA's position in small turbine overhaul market



# Review: Q3 2003 (1<sup>st</sup> half )

## Slow down or up-tick?

Price (US\$M)	Rev.	Rev. Multiple	Company Acquired	Buyer	Description
1,100	281	3.92	TransDigm, Inc.	Warburg Pincus LLC	Actuation, Batteries and Fasteners
<b>537</b>	<b>1,740</b>	<b>0.31</b>	<b>Fiat Aerospace</b>	<b>Finmeccanica &amp; Carlyle Group</b>	<b>Engine and accessory components</b>
38	ND	NA	UPS Aviation Technologies, Inc.	Garmin International, Inc.	General Aviation Avionics
<b>15</b>	<b>ND</b>	<b>NA</b>	<b>UCAR Composites, Inc.</b>	<b>GrafTech International Ltd</b>	<b>Mfg. of graphite and related composites</b>
10	ND	NA	Midcoast Aviation	Signature Flight (BBA Group )	FBO, Corporate Repair Station
<b>9</b>	<b>ND</b>	<b>NA</b>	<b>NMF Group</b>	<b>GAMESA</b>	<b>Metal finishing and surface treatment</b>
<b>\$ 1,708</b>	<b>\$ 2,021</b>	<b>2.11</b>			

- **Slow down?**

- Only 6 announced deals

- **Up-Tick?**

- Healthy run rate - \$6.8 Billion; high multiple - 2.11

# Review: Q3 2003 (1<sup>st</sup> half)

## Deal of the quarter:

- **Warburg Pincus acquisition of Transdigm**
  - Successful 'roll-up' by Odyssey
  - 'Off the charts' multiple: 3.92 x Revenue
  - Private equity firm wins deal over strategic buyers

## • Runner up:

- **Finmeccanica & Carlyle Group acquisition of Fiat Aerospace**
  - Big players with huge resources
  - Private equity firm involvement

# Outlook



# Outlook

*Assuming stable world events and a recovering economy we expect to see:*

## **2004**

1. Increasing global RPM
  2. Increases in orders for parts and services in the “short lead time” category: MRO, interiors, tires, brakes, etc.
  3. Continued extensive M&A activity throughout the entire commercial aviation supply chain with material positive results for:
    - Reductions in excess capacity
    - Lower costs
    - Better customer service
- 

# Outlook

*Assuming stable world events and a recovering economy we expect to see:*

## **2005**

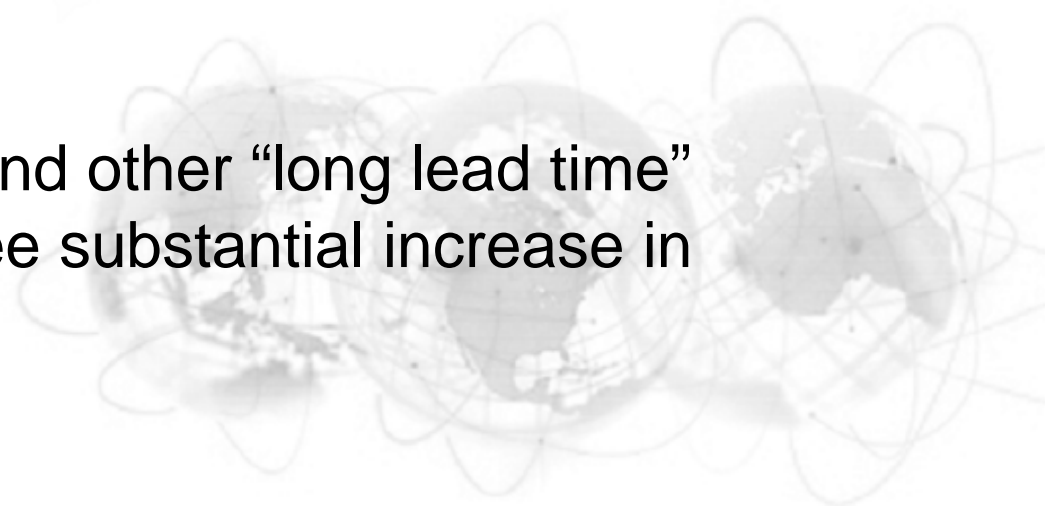
1. Healthy recovery in business travel, better match of aircraft capacity and supply, along with substantial relief on yield pressure
2. Return to net global airline profitability
3. Continued extensive M&A activity in the commercial aviation supply chain with material positive results for:
  - Reductions in excess capacity
  - Lower costs
  - Better customer service

# Outlook

*Assuming stable world events and a recovering economy we expect to see:*

## **2006**

1. Airlines build cash balances and begin placing new orders
2. Suppliers to OEMS and other “long lead time” category suppliers see substantial increase in demand



# Objectivity. Clarity. Client success.

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