



Outlook For Aerospace Raw Materials *Flying Into Headwinds*

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Pittsburgh, PA

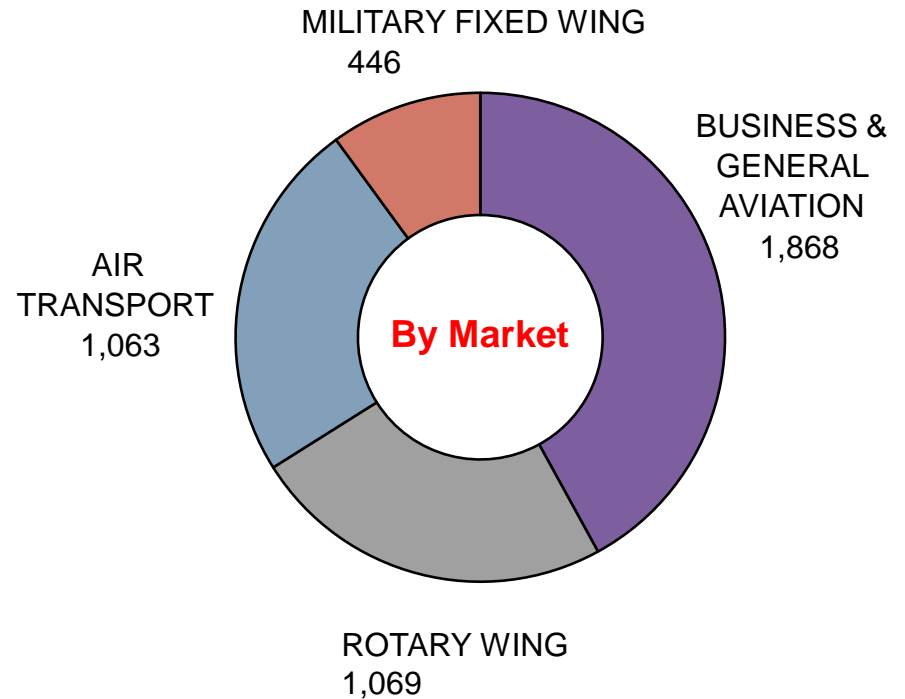
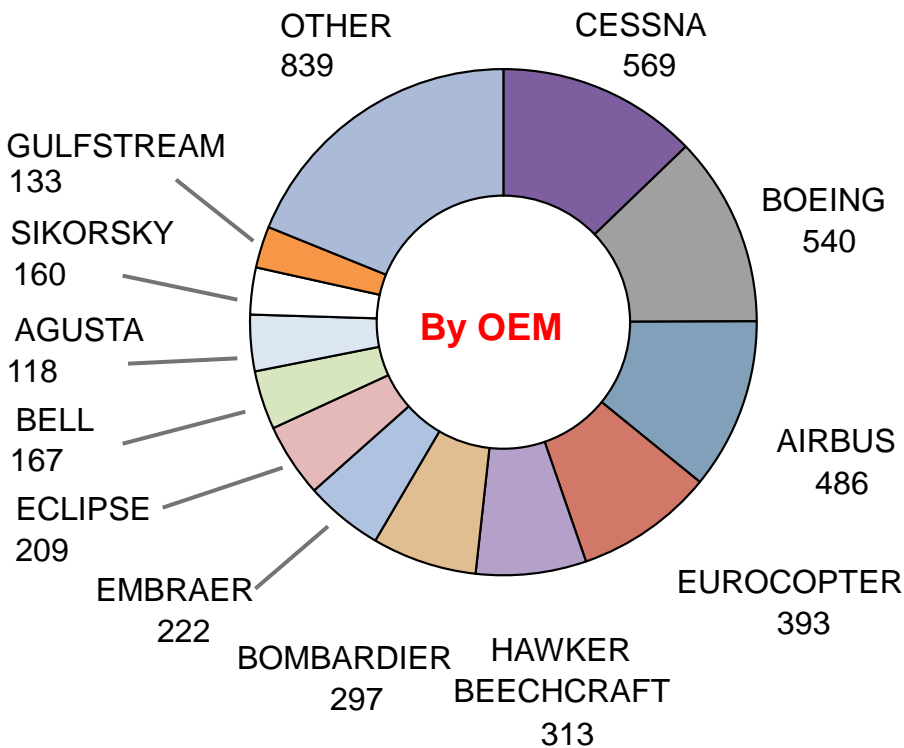
3rd Annual AMM Aerospace Metals Conference

AeroStrategy
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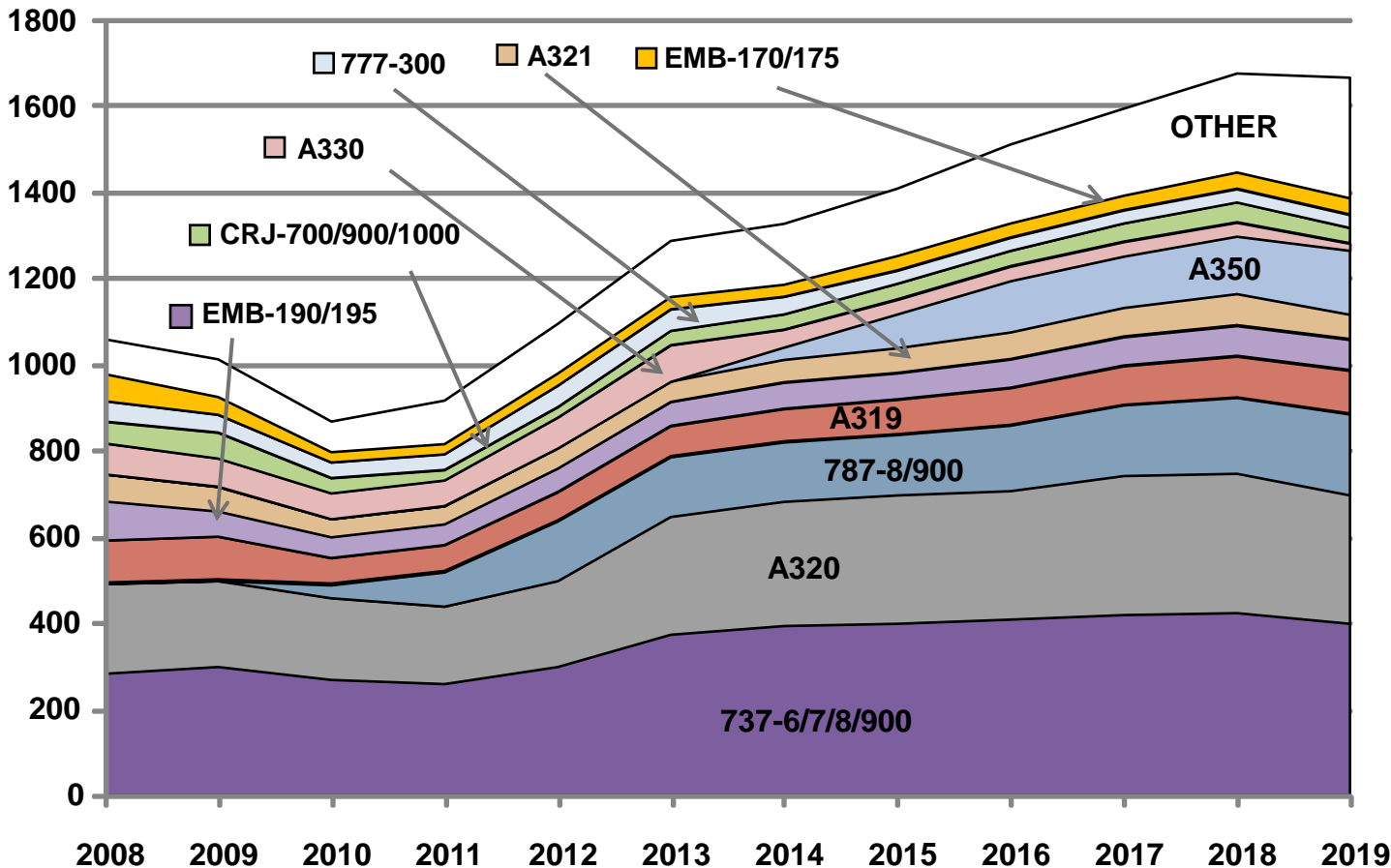
The Aerospace Industry Is Coming Off A Strong 2008, With Nearly 4,500 Aircraft Deliveries...

2008 Aircraft Production 4,446 Units



...However The Air Transport Production Outlook Has Deteriorated As A Result Of The Global Recession...

Air Transport Aircraft Production Market Forecast 2008-2019



- The global economic recession will lead to a contraction of global air transport capacity in 2009
- This slowdown, coupled with deteriorating airline balance sheets and a credit crisis, will lead to a downturn in deliveries
- AeroStrategy projects air transport deliveries to approach 850 units by 2010

Production Rates Of Several Aircraft Programs Will Have A Critical Impact On Raw Material Demand

Air Transport Aircraft Production Market Forecast 2008-2014

Aircraft Family	2008	2009	2010	2011	2012	2013	2014
A320 Family	386	370	299	289	319	398	422
737-6/7/8/900	284	300	270	260	300	375	395
A330	72	66	60	60	72	85	41
EMB-190/195	92	60	50	50	55	55	60
CRJ-700/900/1000	50	60	35	24	24	33	35
EMB-170/175	64	42	25	25	30	30	30
777-300	47	41	36	36	49	49	40
777-200	14	31	20	20	23	23	22
A380	12	20	20	24	24	32	32
EMB-135/140/145	6	12	10	10	12	12	0
747-400	14	8	0	0	0	0	0
A340-500/600	10	7	5	4	0	0	0
787-8/900	0	0	30	80	139	139	139
A350	0	0	0	0	0	0	30
747-8	0	0	4	12	24	24	24
C110/130	0	0	0	0	0	0	2
ARJ	0	0	2	15	16	16	20
MRJ	0	0	0	0	0	0	9
SUPERJET	0	0	6	12	12	15	15
787-300	0	0	0	0	0	5	15
767	10	0	0	0	0	0	0
A340-200/300	2	0	0	0	0	0	0
Grand Total	1063	1017	872	921	1099	1291	1331

A320 and B737

More than 50% of total unit production; rates likely to be cut further in 2010/2011

B777

Boeing just announced production rate cut from 7 to 5 per month in mid-2010

B787-8/900 and A350

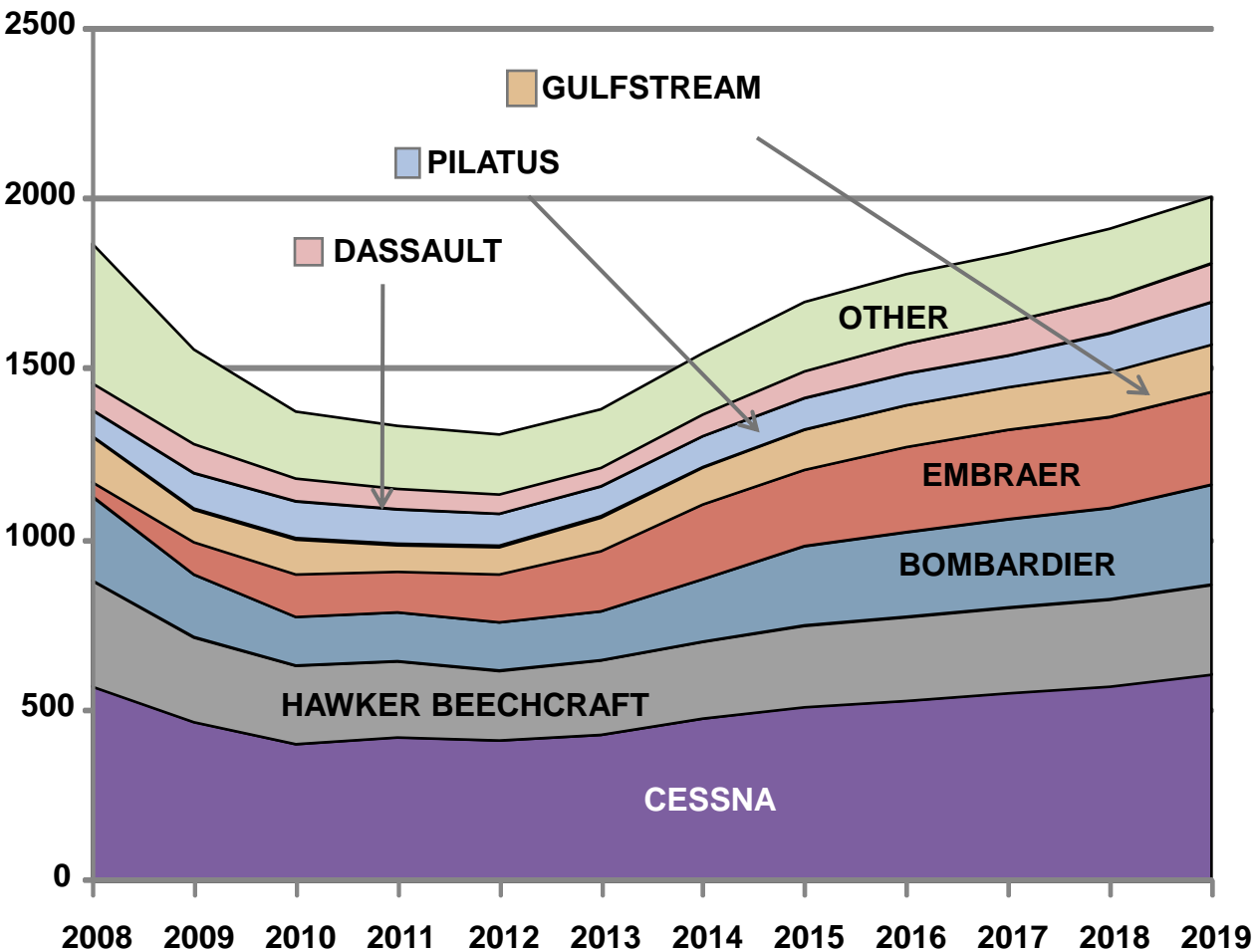
Major users of Ti and composites; will OEMs hold thier schedules?

C-Series

Will introduce significant demand for Al-Li; will Bombardier execute on its 2013 introduction plan?

...And The Business Aviation Sector Could See A Production Rate Decrease Of Up To 40% From The 2008 Peak

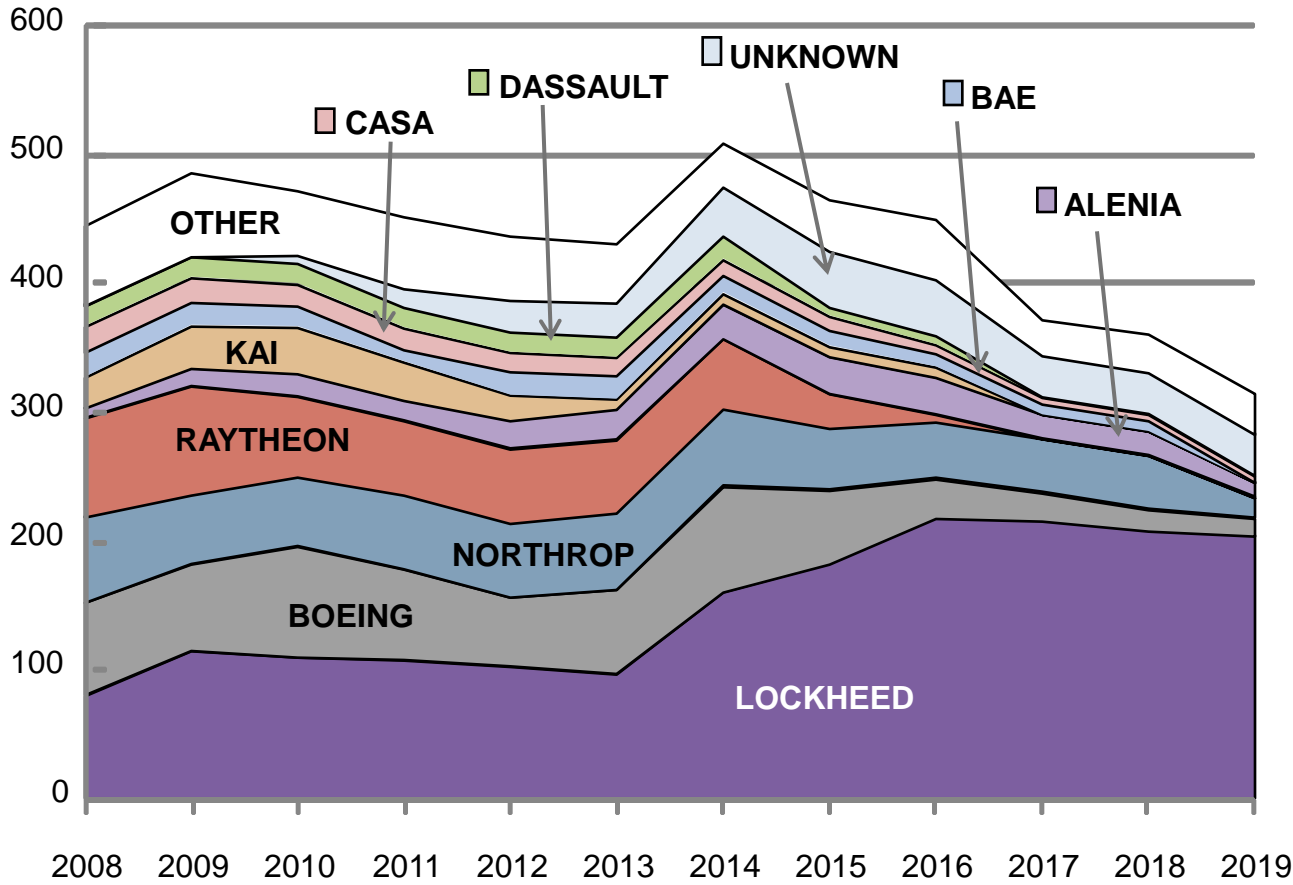
Turbine-Powered Business & General Aviation Production Forecast



- The business aviation sector will experience the steepest decline in productiondespite a 2008 backlog of 5,000 aircraft
- Most OEMs have announced production cutbacks of 20-30% in early 2009
- AeroStrategy expects more production rate decreases to follow

In Contrast, Military Aircraft Production Is Expected To Be Relatively Steady

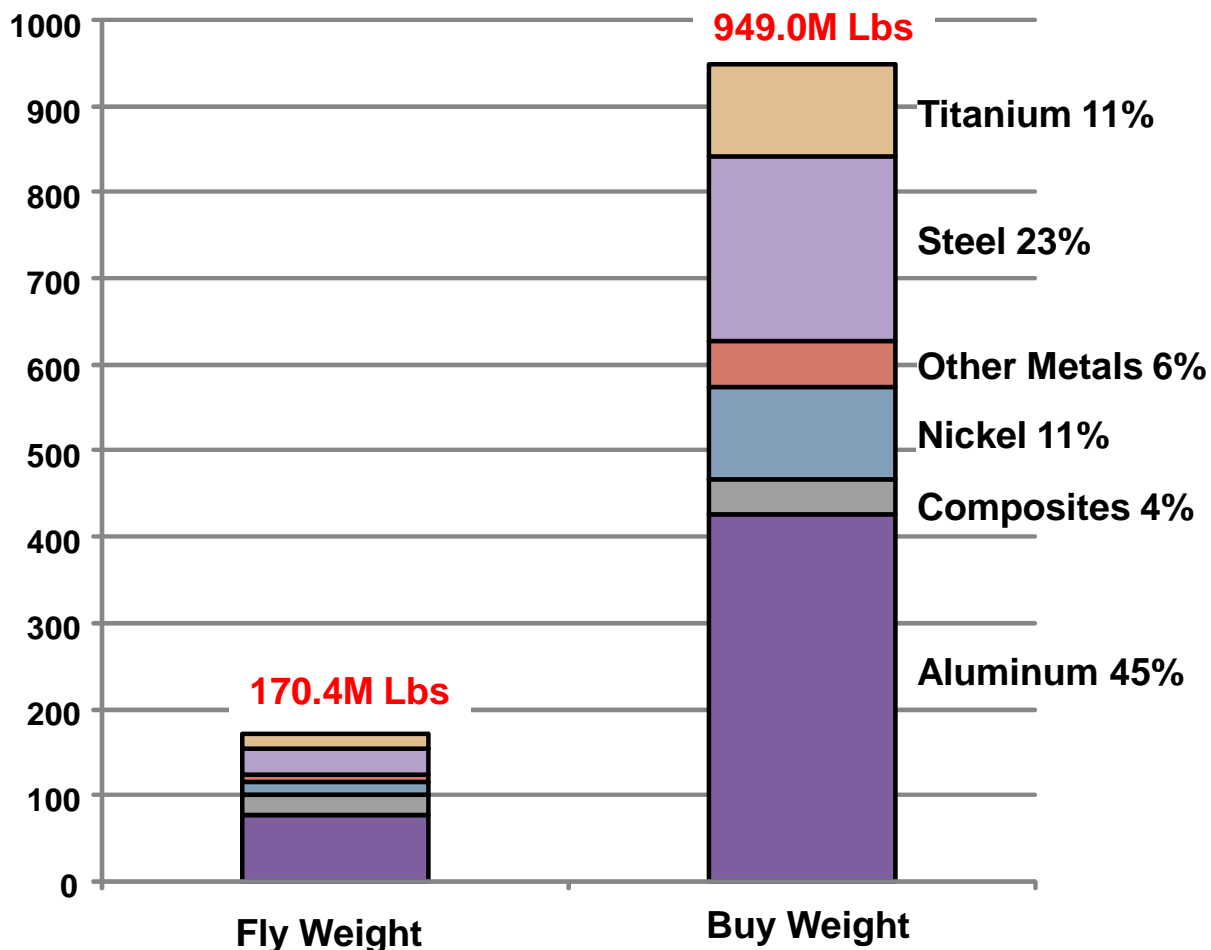
Military Aircraft Production Forecast 2008-2019



- Unit military aircraft production should be relatively flat over the next three-five years
- A major wildcard is the A400 transport, which could be delayed to 2014....or beyond
- The OSD recently announced plans to cap F22 production and accelerate the F35 program; the U.S. Congress is likely to modify this plan

The Current Buy Weight For The Aerospace Industry Is Approximately 950 Million Pounds

2008 Aerospace Raw Material Demand (M Lbs)*

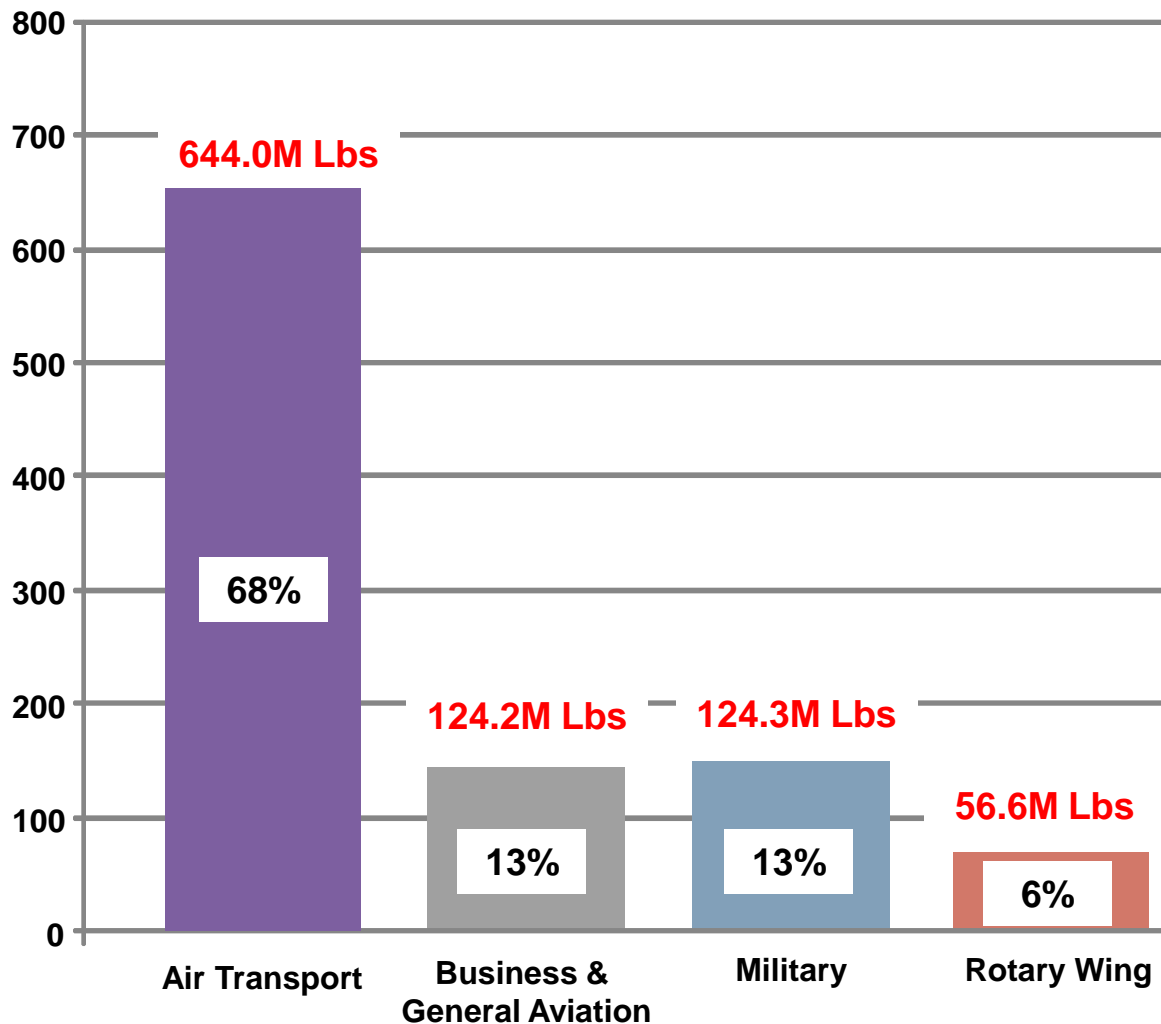


- The total buy weight is 950 million lbs based on a "fly weight" of 170 million lbs
- Aluminum accounts for 45% of demand, followed by steel (23%), titanium (11%), and nickel (11%)
- Composites are just 4% of buy weight, aided by relatively low revert levels for composite production

* Based on 2009 production rates; assumes 12 month lag between aircraft production and material demand from mill

The Air Transport Sector Accounts For 70% Of Total Aerospace Material Demand

2008 Aerospace Raw Material Demand (M Lbs)*

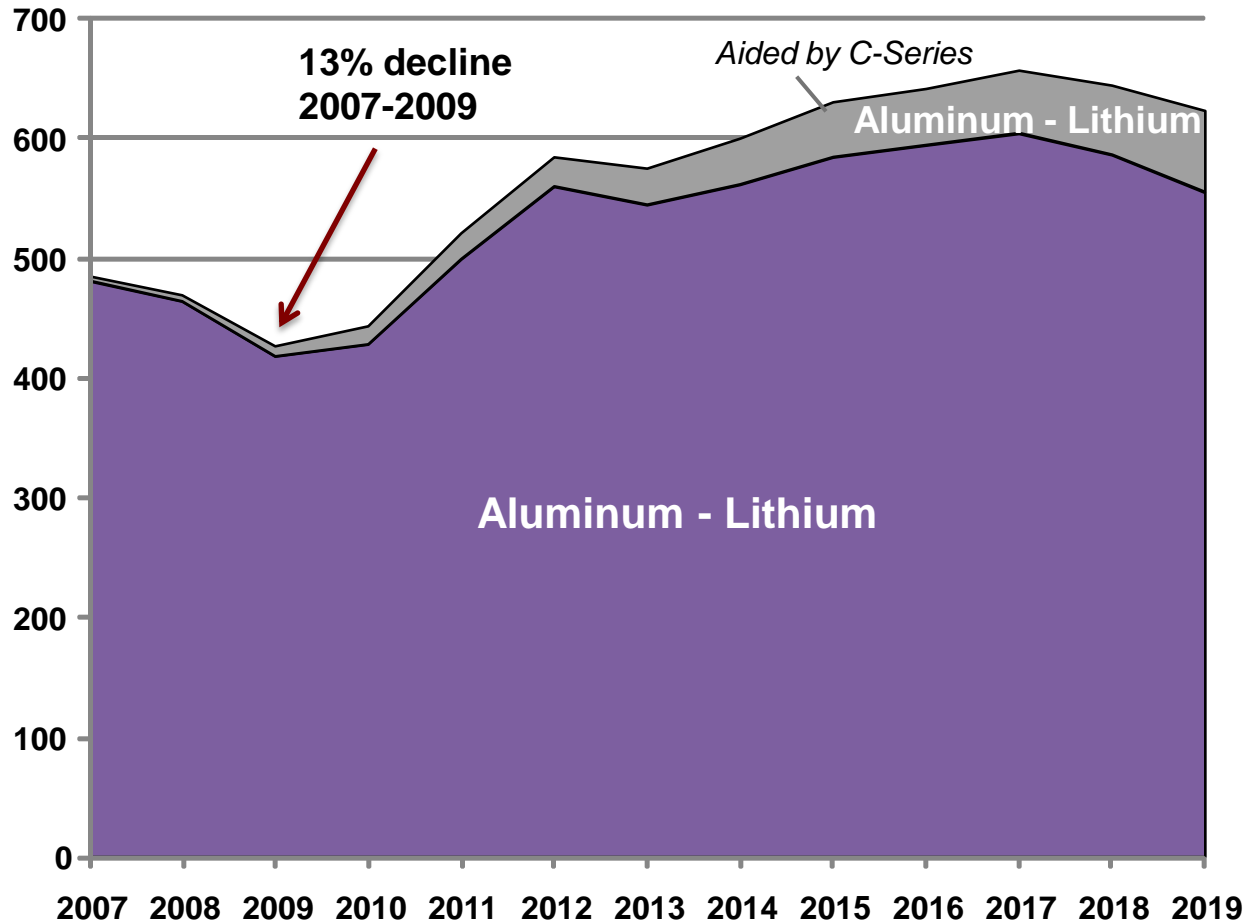


- 68% of total raw material demand is from the air transport sector
- The declining business & general aviation sector accounts for 13% of demand – the same as military fixed wing
- Rotary wing is just 6% of total demand
- Overall, the aftermarket accounts for an estimated 7% of demand

* Assumes 12 month lag between aircraft production and material demand from mill

Aluminum Demand Has Declined By 13% From The Prior Aerospace Production Peak

Aerospace Buy Weight - Aluminum & Al-Li* (M Lbs)

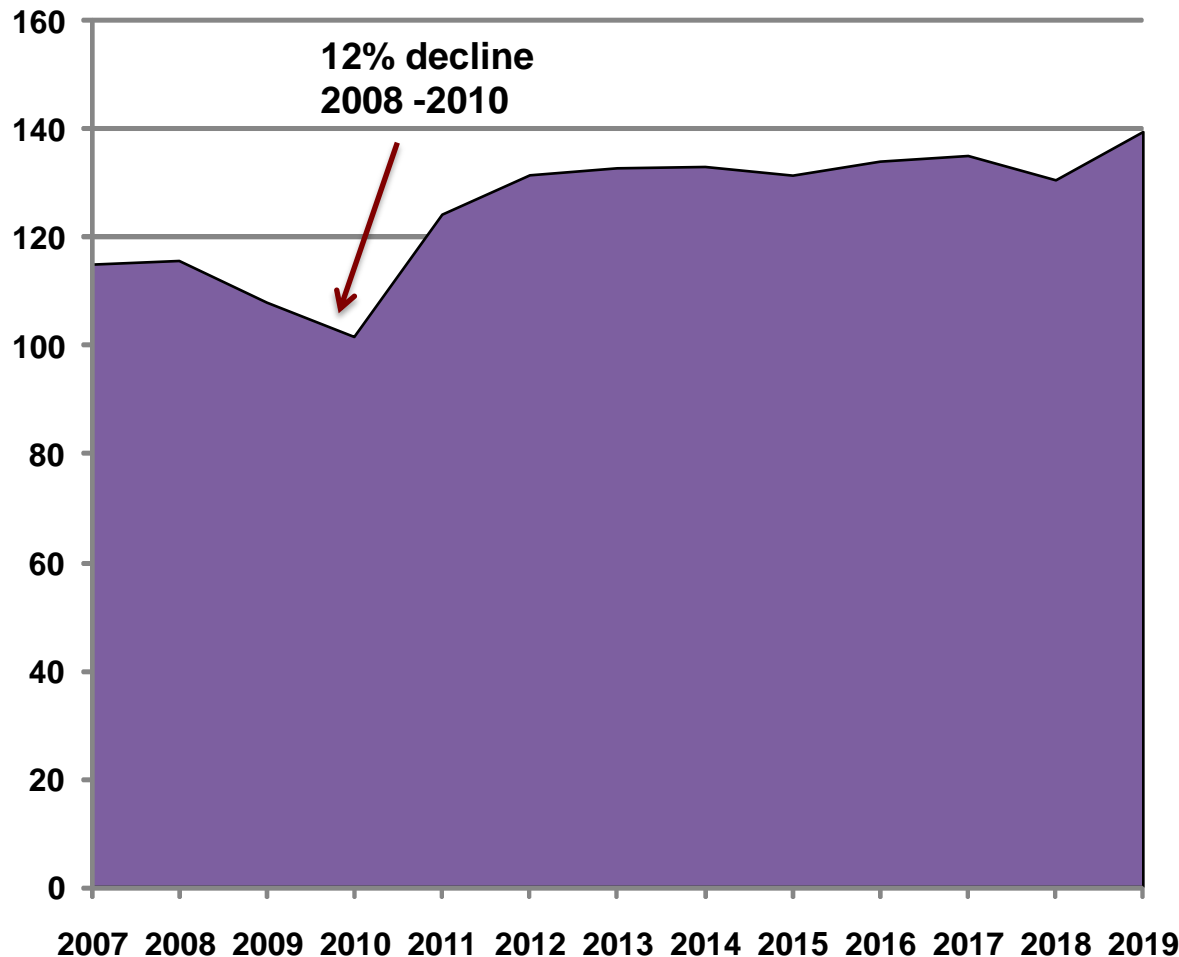


- Aggregate aluminum demand will fall below 420 million lbs – a 13% decline from the prior peak
- Additionally there is several months of excess Al inventory in the supply chain that must be burned off
- AeroStrategy forecasts Al demand will approach 600 million lbs by 2013 as air transport production rates renew growth

* Assumes 12 month lag between aircraft production and material demand from mill

Nickel Demand Will Decline To 100 Million Lbs By 2010 Before Returning To Growth

**Aerospace Buy Weight – Nickel Alloys*
(M Lbs)**

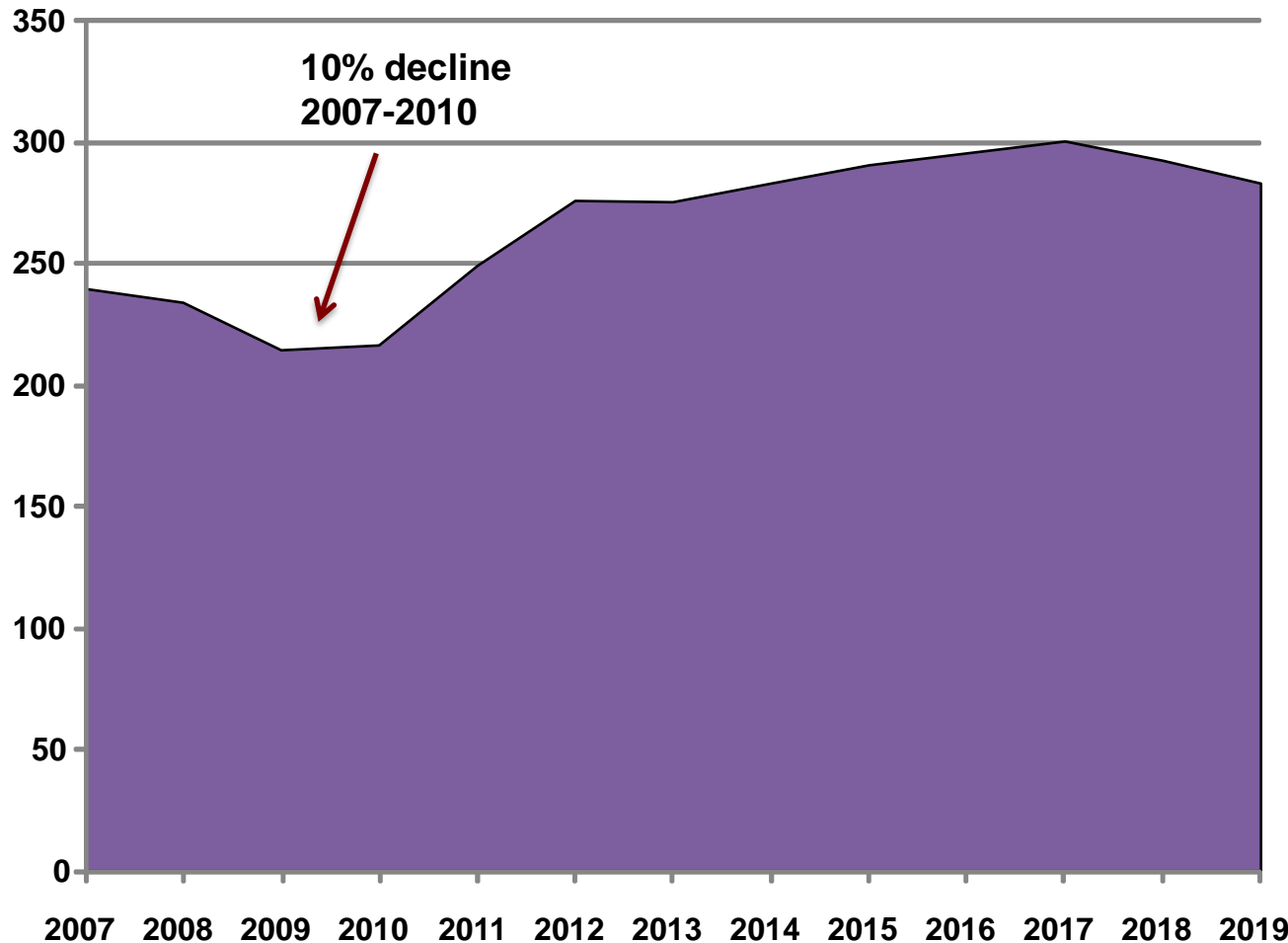


- Nickel alloy demand will decline by 12% by 2010 to 101 million lbs
- Like aluminum, there is also excess inventory in the supply chain
- Aftermarket accounts for about 15% of total nickel alloy demand and is less cyclical than production

* Assumes 12 month lag between aircraft production and material demand from mill

Steel Alloy Demand Will Follow A Similar Pattern To Other Materials

**Aerospace Buy Weight –Steel Alloys*
(M Lbs)**

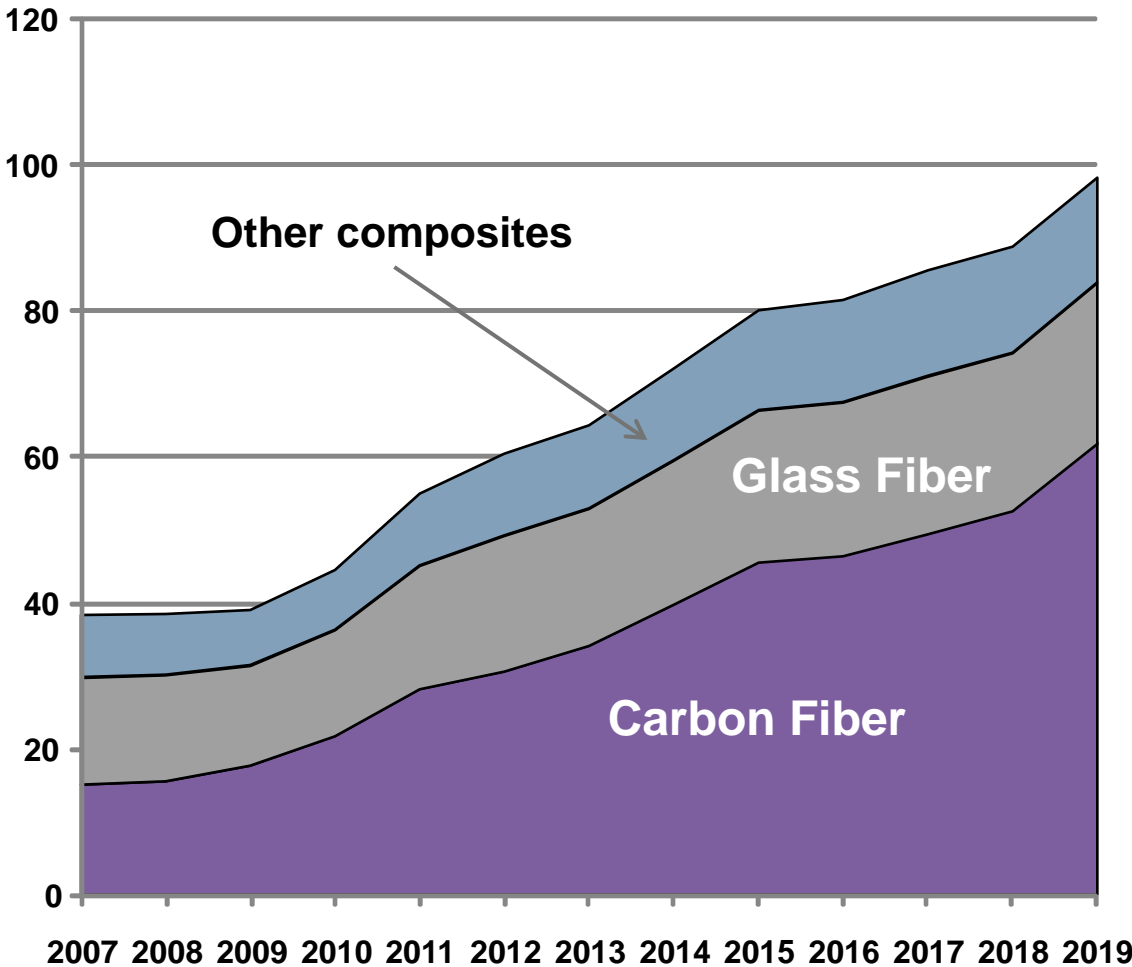


- Steel alloy demand will decline from 240 to 215 million lbs by 2010
- Demand should recover early next decade and exceed 250 million lbs by 2012

* Assumes 12 month lag between aircraft production and material demand from mill

Composites Demand Will Remain Steady In 2009 And Will Double By 2015

**Aerospace Buy Weight – Composites*
(M Lbs)**

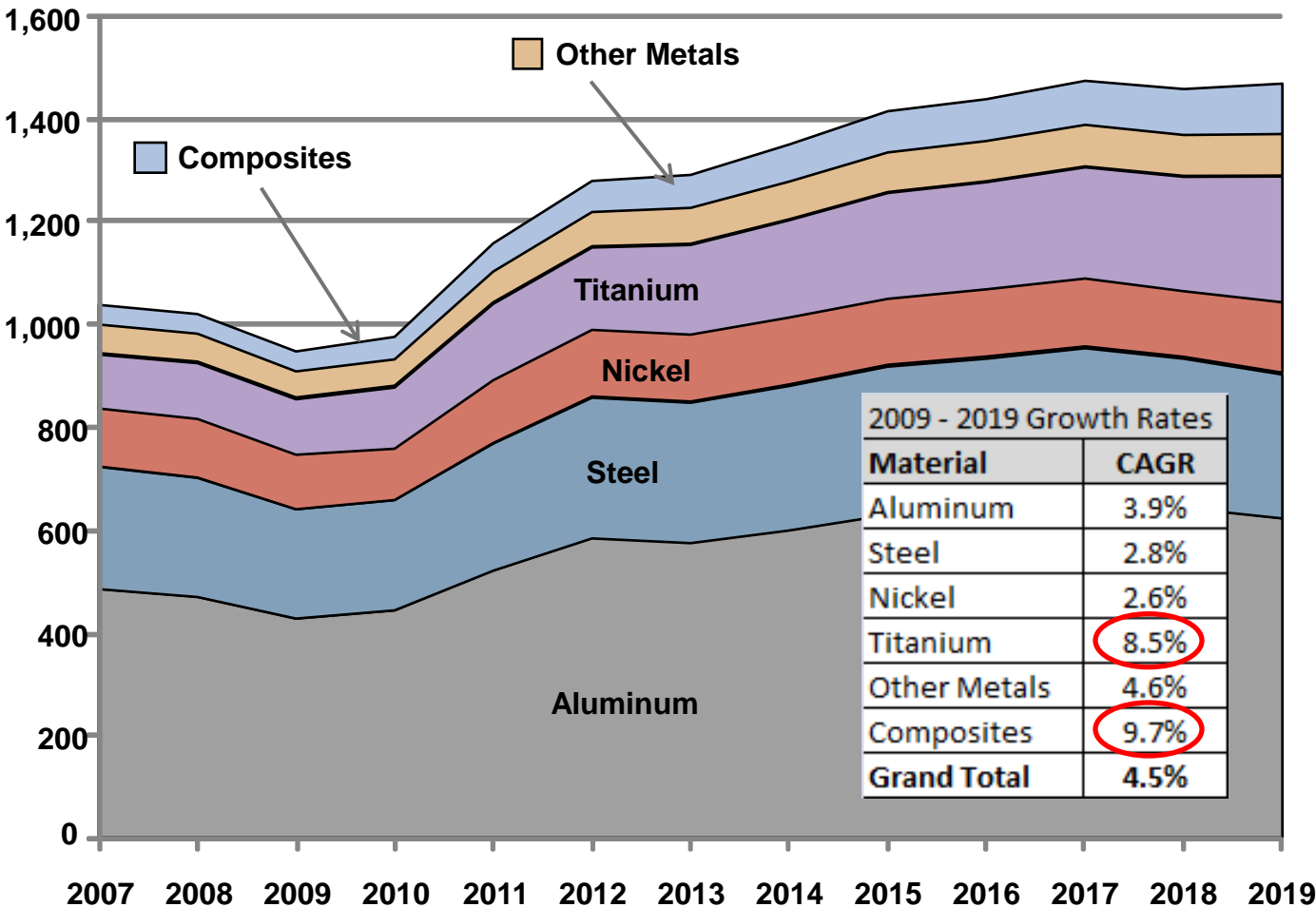


- Aggregate aerospace composites demand is 40 million lbs
- Increasing composites penetration will offset production rate declines; demand will remain steady before increasing in 2010 as the B787 comes on line
- Composites demand is expected to double by 2015, underpinned by carbon fiber composites

* Assumes 12 month lag between aircraft production and material demand

Aggregate Aerospace Material Demand Will Recover And Reach 1.2 Million Lbs By 2012; Overall Growth Will Be 4.5%

**Aerospace Buy Weight - All Materials*
(M Lbs)**



- Demand is forecast to recover from the 2009/2010 trough to exceed 1.2 billion lbs by 2012
- Titanium and composites will be the two fastest growing material categories
- Aluminum will remain a growth market despite growing encroachment from composites

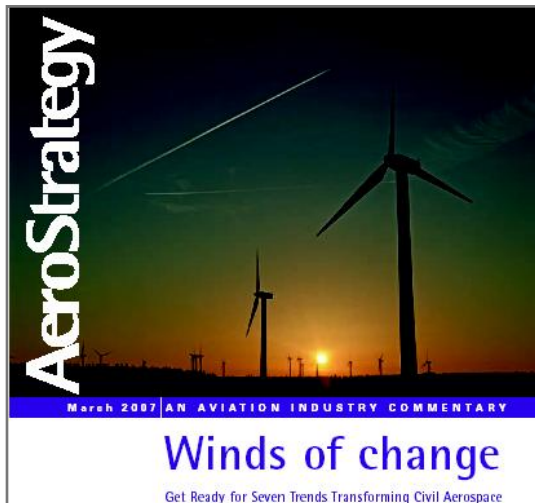
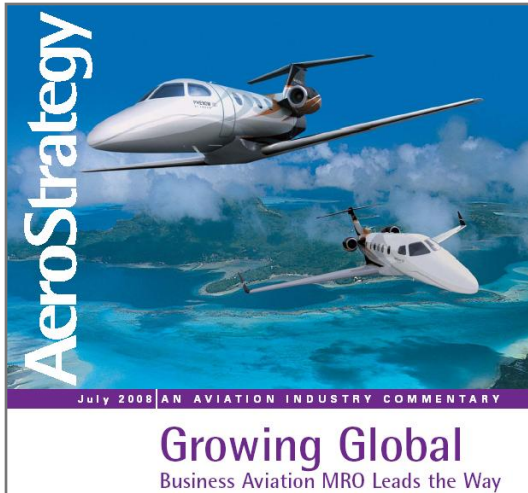
* Assumes 12 month lag between aircraft production and material demand from mill

In Summary....



- Aircraft production is declining as a result of the global recession and the financial crisis; the business & general aviation sector will be hit the hardest
- Total aerospace material “buy weight” is 950 million lbs in 2008; 45% is aluminum
- The air transport sector accounts for 68% of raw material demand
- Demand for several key metals will decline 10-13% compared to the recent production peak
- Total raw material demand is projected to increase at a 4.5% CAGR through 2019; titanium and composites will grow the fastest

Thank You For Your Attention



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