

Equities

14 August 2011 | 56 pages

The Itinerary: Citi's Global A&D Weekly

Countervailing Winds of Commercial Aero Production Rates

- [Industry Overview](#)
- [Weekly](#)

- **In Focus This Week: Economic Outlook and Aero Production Rates** — In light of the current economic uncertainty, we are taking a look at our commercial aero delivery/production outlook. While we believe there could be some downside to our currently forecasted scenario, there are countervailing winds that could provide support to production rates: constrained supply, large backlog, and replacement demand. Therefore, we remain comfortable with our aircraft delivery forecasts. *Page 3*
- **The Week Ahead** — During a largely quiet week, US-based shipbuilder Huntington Ingalls is hosting a tour of its facilities on Thursday. *Page 7*
- **The Week in Review** — The US "Super Committee" has been selected, while US Army ground-based programs continue to show some signs of weakness. Also, Boeing confirmed it expected to receive 787 FAA certification in August. *Page 9*
- **Recent Publications** — Our US team published a brief update on the debt deal, while Huntington Ingalls reported its 2Q earnings. *Page 9*
- **Core Global A&D Recommendations** — We like Boeing and Bombardier as commercial aero OEs; Goodrich and Meggitt as commercial suppliers; Rolls Royce as an engine-maker; and Lockheed Martin and Raytheon as prime defense companies. *Page 15*
- **The Global A&D Weekly** — Our weekly publication covering the Aerospace & Defense (A&D) industry draws insights and analysis from our global A&D team covering North America, Europe, and Latin America. Inside this report you will find: 1) a weekly focus-item; 2) our global investment thesis; 3) summary of our global coverage universe; 4) company one-pagers; 5) important industry data points and trends; and 6) forward calendars highlighting important industry dates and upcoming Citi-sponsored events.

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Weekly Focus: Countervailing Winds

Negative economic revisions have caused us to reassess our top-down aero demand model. While we see some potential downside risk, in our view there are bottom-up forces supporting increasing rates.

We believe our current delivery forecasts are consistent with a "soft patch" economic scenario, or ~3.5% global GDP growth, as reflected in our macro-driven top-down model provides.

Recent GDP numbers and European uncertainty have called economic growth prospects into some question. Here, we take a look at potential impacts to commercial aero production rates which are currently scheduled to increase ~40% over the next few years. While there exists some downside risk to aircraft production rates from a top-down (economic) perspective, in our view there are bottom-up countervailing forces supporting elevated levels, including constrained supply, large backlog, and replacement demand.

Quantifying Downside Risk to Aircraft Production Rates

Citi's aircraft production forecasts for 2012E show combined Airbus and Boeing deliveries of 1,192 (+15% YoY) and 1,297 in 2013E (+9% YoY) (Figure 72, pg. 45). This is broadly in-line with customer guidance. Given current market uncertainty, we have attempted to assess the potential downside risk to the delivery outlook based on a range of economic scenarios using our top-down GDP based demand model and with reference to history. Our delivery forecasts remain unchanged, as a recession is not Citi's base case economic scenario.

We believe that our aircraft delivery forecasts are consistent with a "soft patch" economic scenario of ~3.5% global GDP growth (Citi's base case economic scenario) particularly given the large order backlog and strong demand for replacement aircraft to replace older, less fuel efficient models. While a "soft patch" scenario is Citi's base case, the European Strategy team argues that share prices appear to be pricing in a mild recession.

Top-Down Demand Model

Our top-down demand model, which estimates demand for new aircraft based on some simple assumptions, suggests that our delivery forecasts reflect somewhere between a "recovery" (~4% GDP growth) and a "soft patch" (~3.5% GDP growth) economic scenario.

Figure 1. Citi Illustrative Top-Down Aircraft Demand Model, 2010A-2013E

	2010A	2011E	2012E	2013E	Comments
In Service Fleet b/f	15,610	16,284	16,980	17,760	
Deliveries	972	1,022	1,120	1,175	2011E deliveries based on Citi Forecasts, 2012E and 2013E are implied.
Retirements	-298	-326	-340	-355	
In Service Fleet c/f	16,284	16,980	17,760	18,580	
Average age (implied)	11.5yrs	11.5yrs	11.5yrs	11.5yrs	
GDP Growth	4.0%	3.4%	3.5%	3.5%	2011E forecast based on Citi's GDP forecast. 2012E and 2013E = "soft patch" scenario.
Multiplier	1.6x	1.6x	1.6x	1.6x	
Traffic Growth	6.3%	5.3%	5.6%	5.6%	Typically 1ppt pa difference between traffic growth and growth in the fleet
LF, Aircraft Size, Distance Adjustment	-2.0%	-1.0%	-1.0%	-1.0%	
Fleet Growth	4.3%	4.3%	4.6%	4.6%	
Delivery Growth	-0.7%	5.1%	9.6%	4.9%	
Retirements	-298	-326	-340	-355	Assume c2% of the fleet is retired pa
% of In Service Fleet b/f	1.9%	2.0%	2.0%	2.0%	
Deliveries per Citi Forecasts	972	1,034	1,192	1,297	
growth			15%	9%	
difference			-6%	-9%	

Source: Citi Investment Research and Analysis

This is not a precise model, but is a useful sanity check to determine whether our delivery forecasts appear reasonable from a macro perspective. This model assumes the following:

Our sensitivity analysis quantifies potential impact to our current delivery forecasts driven weaker GDP expectations alone. We note, however, that there are also non-macro/GDP forces behind build-rates.

- Passenger traffic (RPK) grows at 1.6x global GDP growth. Historically, this has ranged from 1.5x to 2.0x. A 1.6x multiplier from 2012E is consistent with 2011E (based on 5.3% RPK growth per the ICAO and Citi's global GDP growth forecast of 3.4%).
- 2% of the fleet is retired pa. This equates to ~350 aircraft, which is actually slightly below the ~400pa aircraft built on average between 1980 and 1990 that are likely to be retired soon.
- Fleet growth is 1ppt less than passenger traffic growth. This reflects a gradual increase in average aircraft size, load factors and average flight length. In 2010A, passenger traffic rose by 6.3% on 4.3% fleet growth (a 2ppt difference). We believe that this was an atypical year, on account of unusually high load factors across the industry and use 1ppt for 2012E and 2013E.

The demand model shown above (Figure 1) assumes a "soft patch" economic scenario (which is in line with the view of Citi's Economists and Equity Strategists). The table below shows the theoretical aircraft deliveries in 2012E and 2013E under a range of economic scenarios vs. our forecasts.

Figure 2. Aircraft Delivery Sensitivity Analysis in a Range of GDP Growth Scenarios

		2012E	2013E		
Citi Delivery Forecasts		1,192	1,297		
Suggested Deliveries per Demand Model at GDP growth of:				vs. Citi	
1) Recovery:	4%	1,260	1,328	6%	2%
2) Soft Patch:	3.5%	1,120	1,175	-6%	-9%
3) Soft Landing:	2.8%	920	951	-23%	-27%
4) Recession:	1.5%	580	584	-51%	-55%
5) Deep Recession:	0.5%	310	309	-74%	-76%

Source: Citi Investment Research and Analysis

1. **Recovery (~4% GDP growth)** – In a recovery scenario, the suggested deliveries per our demand model of 1,260 and 1,328 are 6% and 2% higher than our published forecasts in 2012E and 2013E, respectively.
2. **Soft Patch (~3.5% GDP growth)** – This is Citi's base case. This suggests that our published Airbus and Boeing forecasts are 6% too high in 2012E and 9% too high in 2013E.
3. **Soft Landing (2.5-3.0% GDP growth)** – This suggests that our delivery forecasts are ~25% too high.
4. **Recession (sub 2% GDP growth)** – This suggests that our delivery forecasts are ~53% too high.
5. **Deep Recession (sub 1% GDP growth)** – This suggests that our delivery forecasts are ~75% too high.

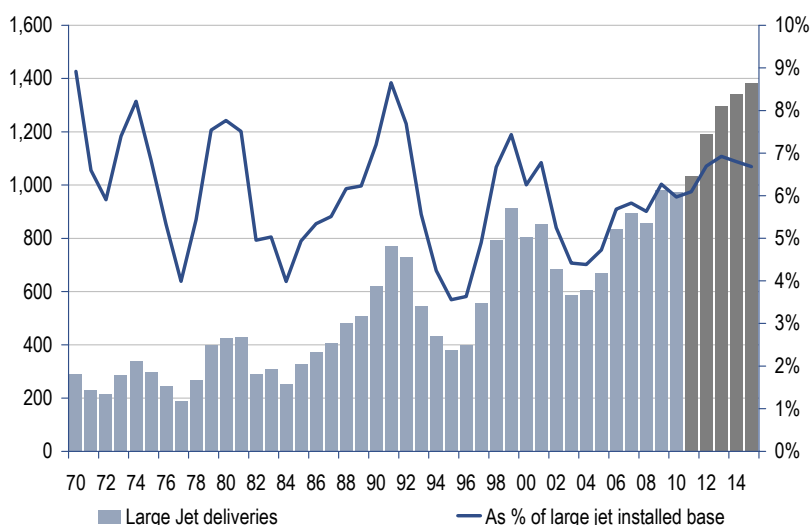
While this is only an illustrative exercise and while the model itself is very sensitive to the chosen input assumptions, we believe that it does highlight significant downside risk to our economic forecasts in a worsening economic scenario.

We regard a 30-40% decline in deliveries, in line with previous downturns, as an absolute worst case scenario.

Delivery Rates in Previous Downturns

While a recession is not our base case scenario, it is worth also examining history to determine the potential downside risk to aircraft deliveries. In previous downturns, aircraft deliveries have fallen by 30-40% over a 3-4 year period, as shown below. We regard this as an absolute worst case scenario.

Figure 3. Airbus and Boeing Deliveries, 1970-2015E

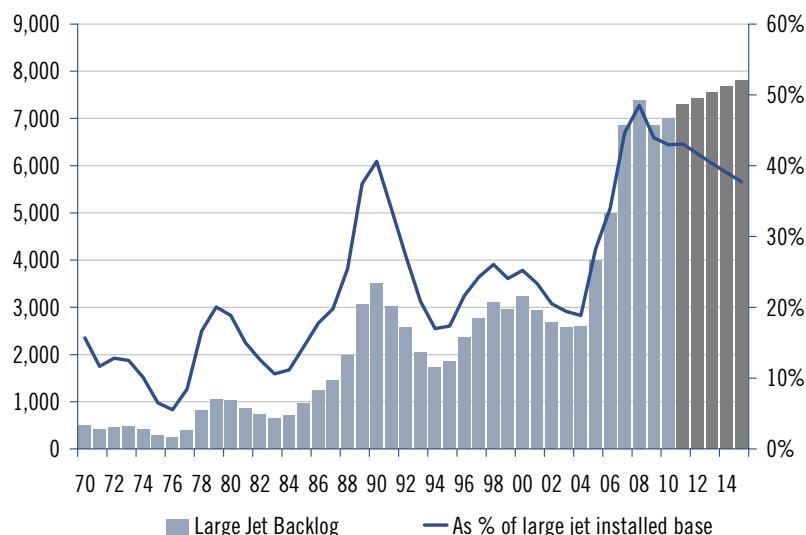


Source: Citi Investment Research and Analysis

We believe resilient production rates in the most recent economic downturn were due to a combination of prudent capacity management, a large order backlog, and emerging market demand.

Rather than falling, deliveries remained flat in the nadir of the last downturn (2010), with growth now projected out to 2014E by the airframers. We believe that the resilience of production rates in the past downturn was a combination of more moderated production in the previous upturn and the large order backlog, driven by emerging market demand. With book-to-bills over 1x, the backlog continues to grow.

Figure 4. Airbus and Boeing Order Backlog, 1970-2015E



Source: Citi Investment Research and Analysis

We believe that a strong backlog and constrained capacity cushion deliveries from falling dramatically in the event of an economic downturn.

In our view, in the last downturn the airframers did an excellent job managing the order backlog to maintain production rates. We believe that the order backlog, which stood at 7,330 aircraft at 30 June (Airbus 3,938 and Boeing 3,392) and represents 6-7 years of production, will again act as a cushion to prevent deliveries from falling dramatically in the event of a downturn.

Furthermore, we believe that replacement demand also helps underpin our delivery outlook, particularly in a high oil price environment. An example is the recent order from AMR for 460 aircraft (260 Airbus and 200 Boeing) scheduled for delivery from 2013 to 2022 to replace the existing fleet of older MD80s, 757s and 767s. Clearly, in a recessionary scenario the ability of airlines to afford new aircraft will be constrained, particularly if fuel prices remain high.

Conclusion

In conclusion, we remain comfortable with our aircraft delivery forecasts, but note that downside risks exists in a "soft landing" or "recessionary" scenario (which is not Citi's base case).

The Week & Month Ahead

Next week is relatively light as the summer wears on.

Figure 5. Week Ahead

Date	Time	Event	Commentary	Ticker
16-Aug-11	4:00 PM ET	PCP Annual General Mtg	n/a	PCP
18-Aug-11	-	HII Facility Tour	HII hosting a tour at its Mississippi facility	HII

Source: Citi Investment Research and Analysis

Figure 6. Month Ahead

Monday	Tuesday	Wednesday	Thursday	Friday
Aug 15	Aug 16	Aug 17	Aug 18	Aug 19
	PCP annual meeting		HII Mississippi facility tour	
Aug 22	Aug 23	Aug 24	Aug 25	Aug 26
Citi-hosted meetings w/ TXT	Citi-hosted meetings w/ GR	Citi-hosted meetings w/ GR		
Aug 29	Aug 30	Aug 31	Sep 01	Sep 02
	Competitor A&D conference starts (estimated)	BBD results		
Sep 05	Sep 06	Sep 07	Sep 08	Sep 09
Labor Day (US)			GD Investor Conference (NYC)	

Source: Companies, Industry Sources, Citi Investment Research and Analysis

Upcoming Citi-Sponsored Events

Please contact your salesperson for further details of these upcoming events.

Figure 7. Citi-Sponsored Events

Date	Description	Location	Companies
Aug 22	Meetings w/ management	Providence, RI	TXT
Aug 23 - 24	Meetings w/ management	Kansas City, MO Denver, CO Texas	GR
Sep 21 - 22	Citi Global Industrials Conference (below)	Boston, MA	GR and others
Oct 10 - 12	NBAA Meetings w/ management	Las Vegas, NV	TBD
Oct 10 - 12	AUSA Army Expo Meetings w/ management	Washington, DC	TBD
Nov 16	Meetings w/ management	Seattle	BA
Nov 15 - 16	Citi Small & Mid Cap Conference (below)	Las Vegas, NV	TBD

Source: Citi Investment Research and Analysis

Citi Global Industrials Conference

Citi Investment Research and Analysis is pleased to announce that we will be hosting a global Industrials Conference at the Seaport Hotel in Boston, MA on September 21st & 22nd 2011. The conference will feature senior leaders of over 50 industrial companies along with industry-specific panel discussions. Sectors included: Multi-Industry, Electrical Equipment, Transportation, Machinery, Construction, Automotive, Aerospace & Defense, and Airlines. This conference is by invitation only. Please find additional information at the conference website, or sign up here: <https://www.citievents.com/Metron/forms/2011GlobalIndustrial.form>.¹

Citi SMID Conference

Citi is hosting its 8th Annual Small & Mid Cap Conference on 15 & 16 November 2011 at the Four Seasons in Las Vegas. In past years, this conference has been attended by 300 to 400 primarily long-only portfolio managers dedicated to small and mid cap investing. We expect this investor segment will be the primary audience at the conference again this year. This event will feature approximately 100 companies under \$5b market cap from all major sectors. The conference will run from approximately 08:00-17:00 on both Tuesday 15 November and Wednesday 16 November. The presentation format for companies will consist of a 35-minute time slot including a Q&A session. During the 35-minute time slot, we encourage companies to present brief opening remarks of 10-15 minutes to allow ample time for Q&A. There will be no breakout sessions or fireside chats.

¹ <https://www.citievents.com/Metron/forms/meetingformfiller.aspx?id=0ada0dc3-0186-446d-b5d7-4c3f39dfc2d0&preview=true>

The Week in Review

We review important A&D headlines and provide quick access to recent research.

Headlines That Got Us Thinking

- **It's a Bird! It's a Plane! No...It's Super Committee!:** The debt deal called for the creation of a Congressional "Super Committee" to find a further ~\$1.5T of deficit reduction over the next 10 years. In a rare instance of Congress getting something done *before* the deadline, all 12 members of the Committee have already been selected (vs. an Aug 16 deadline). The list thus far does not include any defense hawks avowed to protect defense spending, but co-Chair Senator Patty Murray's (D-WA) state counts Boeing as its largest employer). Senator John Kerry (D-MA) is a strong supporter of national security and the troops, as well as Chair of the Senate Foreign Relations Committee. Senator John Kyl (R-AZ) is a missile defense supporter and Raytheon has a large Arizona presence. It's also worth mentioning that he's retiring soon (maybe more open to compromise). Still, the Committee will be highly politicized and chances are slim it will achieve a "grand bargain," i.e. a deal that exceeds the minimum required (\$1.2T) to avoid the triggers. The Committee is officially scheduled to kick off ~Sep 16, but staffs are already ramping up. As a reminder, they have until Nov 23 to propose a deal, and Congress has until Dec 23 to pass it...lest triggers kick in that further reduce discretionary spending caps. More on the caps and their impact on defense budget can be found in [Baselines, Baselines Everywhere - More on the debt deal and its impact on the defense budget](#).
- **737RE clues:** Scott Hamilton of Leeham News reports that the 737RE will look to have a ~10% efficiency improvement vs. the current 737NG. He comments that this implies the RE will have a ~2% advantage vs. the NEO, as opposed to the 8% claimed by Boeing in the media. He continues to point out that the plane will incorporate a CFM LEAP engine that eliminates the need to increase the height of the nose gear, and the overall aircraft will have 90-95% commonality with the NG. Boeing was at a competitor conference last week commenting that it expects to make a decision on its wide-body strategy in the next year or two.
- **Light at the end of the tunnel:** Boeing also announced that it expects FAA certification of the 787 in August, which was essentially a given since the first delivery to ANA is slotted for September. The company reiterated that it also expects to deliver the first 747-8 to Cargolux in September, as well.
- **Uncertainty in Army vehicle portfolio:** The US Army again delayed a meeting to review its vehicle portfolio including Abrams & Stryker (General Dynamics), and the Bradley Fighting Vehicle (BAE Systems). We expect the delay is due to a still undecided strategy for the Army's portfolio. Meanwhile, DoD is reportedly asking GCV teams to extend their pricing terms to September (we believe GCV will be a focus of forthcoming budget decisions). There are 3 bid teams on GCV: SAIC (w/ Boeing, KMW, and Rheinmetall); BAE-Northrop team; GD-Lockheed-Raytheon-MTU Detroit team.

Recent Citi A&D Research

[Baselines, Baselines Everywhere - More on the debt deal and its impact on the defense budget](#)

[Huntington Ingalls Industries \(HII\) - Margin Story Stays on Course; Reducing PT but reiterating Buy](#)

Commercial Aero Order Tracker

Orders took off in June with the A320 leading the way at the Paris Air Show, while AMR's order drove July. We note that AMR's Boeing order for 200 737s has yet to be finalized and is therefore not yet included in totals.

Airbus' strong bookings performance at the Air Show drove the industry's rolling 12m book-to-bill to 2x.

Figure 8. Monthly Gross Orders (Jan-June)

Month	Boeing Total	Airbus Total	Industry Total
Jan-11	34	32	66
Feb-11	21	8	29
Mar-11	98	29	127
Apr-11	2	100	102
May-11	27	7	34
Jun-11	48	601	649
Jul-11	115	145	260
Aug-11	19	105	124
YTD	364	1027	1391

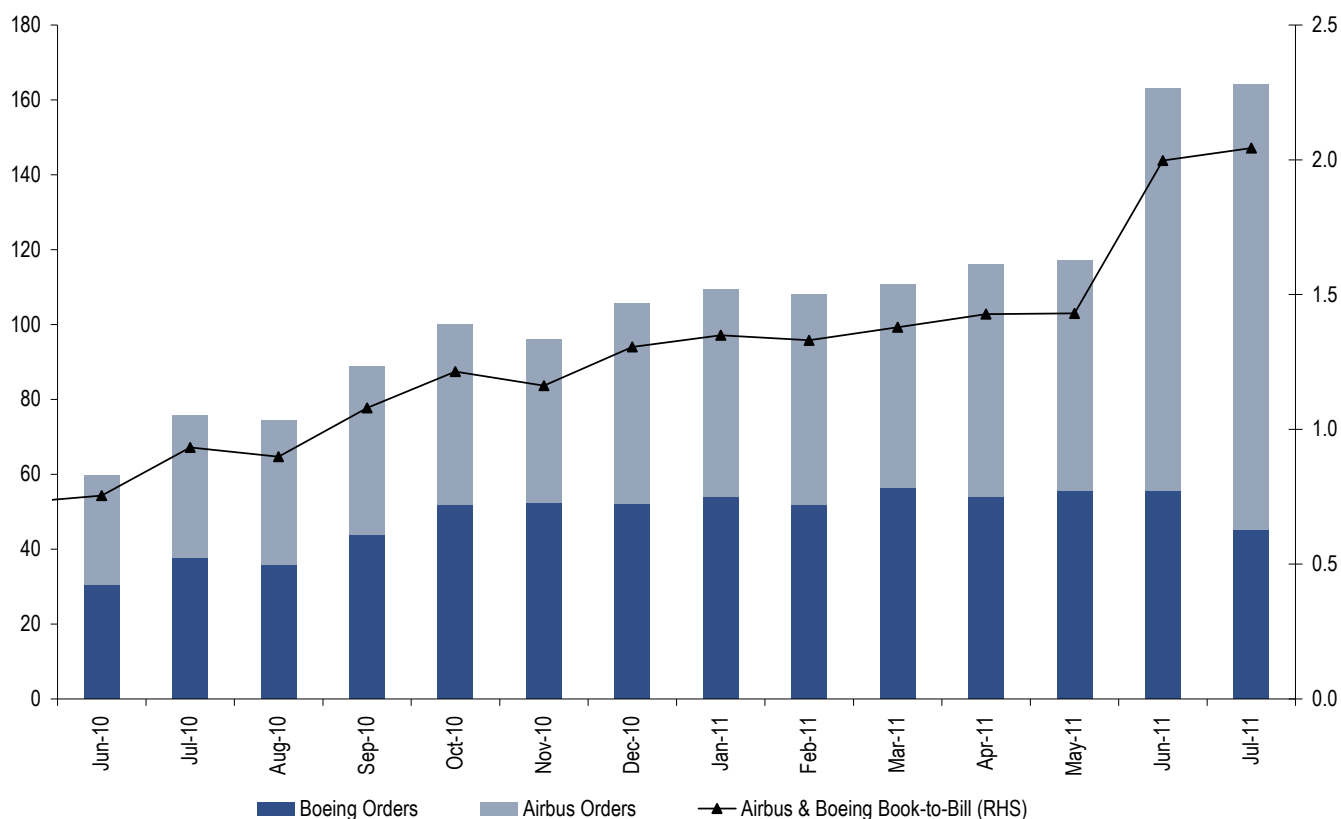
Source: CIRA, Boeing, Airbus, Ascend

Figure 9. Monthly Deliveries (Jan-June)

Month	Boeing Total	Airbus Total	Industry Total
Jan-11	26	33	59
Feb-11	35	40	75
Mar-11	43	46	89
Apr-11	37	48	85
May-11	39	50	89
Jun-11	42	41	83
Jul-11	38	40	78
Aug-11	9	11	20
YTD	269	309	578

Source: CIRA, Boeing, Airbus, Ascend

Figure 10. Rolling 12m Avg. Gross Orders & Book-to-Bill



Source: Citi Investment Research and Analysis, Boeing, Airbus

DoD Contracts Tracker

Announced DoD contract awards are decent indicators of backlog directionality, although the numbers will never match perfectly.

LMT scored the largest deal of the week with \$535m in long lead parts for LRIP 6, which is currently scheduled to include 38 aircraft as well as some initial planes for Italy and Australia.

Below we review announced DoD contract values for our North American defense companies under coverage.

Figure 11. Weekly US DoD Orders (\$m)

Date	BA	GD	LMT	NOC	RTN	TXT	HII	Total
12-Aug-11			7	35	27			69
11-Aug-11	8	54		8	7		57	134
10-Aug-11	9							9
9-Aug-11		13			17			29
8-Aug-11	17		650			17		684
5-Aug-11			7	75	12			93
Total	35	67	663	118	62	17	57	1,018

Source: Citi Investment Research and Analysis, DoD

Figure 12. Running Quarterly Contract Values (\$m)

Quarter	BA	COL	GD	GR	LMT	NOC	RTN	TXT	HII	Total
1Q10	1,437	40	1,426		3,020	745	2,277		163	9,107
2Q10	2,901	60	2,688	21	9,376	1,796	1,897		693	19,432
3Q10	18,665	279	1,173	13	13,852	8,450	4,280	12	122	46,847
4Q10	1,941	95	1,443	42	70,196	1,179	1,105	335	939	77,277
1Q11	10,446	8	1,110	72	4,645	400	1,049	3,745	320	21,794
2Q11	3,840	13	1,362		4,920	1,502	1,752	375	1,530	15,296
3Q11	768	100	563		1,939	1,141	491	662	669	6,333
Total	39,998	595	9,765	147	107,948	15,214	12,852	5,130	4,437	196,085
q/q										
1Q11	438%	(92%)	(23%)	71%	(93%)	(66%)	(5%)	1,018%	(66%)	(72%)
2Q11	(63%)	77%	23%	(100%)	6%	275%	67%	(90%)	378%	(30%)
y/y										
1Q11	627%	(81%)	(22%)	NA	54%	(46%)	(54%)	NA	97%	139%
2Q11	32%	(78%)	(49%)	NA	(48%)	(16%)	(8%)	NA	121%	(21%)

Source: Citi Investment Research and Analysis, DoD
Note: Government runs on a September-end fiscal calendar

2Q11's announced value of DoD contract awards was down 21% y/y, partly driven by LMT which is down 48% y/y. However, we note that \$5b of 2Q10 orders came from a large SOCOM support contract the company won on 21 June 2010. 2Q11 awards were down 30% sequentially, driven by the absence of KC-X, P-8A LRIP, and a V-22 contract worth a total of \$11.6b.

Representing either new agreements or exercised options on old agreements, contract announcements are typically added to backlog (not recorded as sales). Contract award data does not match up perfectly with backlog since companies sell to non-DoD customers and via different processes. But, announced contracts can offer some insight into backlog trends. Commercially focused companies and/or component providers (such as GR, COL, and TXT) are not likely to screen as well as the primes, and contract awards can sometimes be quite lumpy (especially true for HII and GD shipbuilding businesses).

Where Are We in A&D?

Let's quickly catch up on where we are in Global A&D.

Where are we in civil aerospace?

We maintain our positive outlook on the civil aerospace industry due to improving aftermarket and OE demand in large commercial, and a clearing view on bizjets (at least for large cabins).

Airlines continue to look profitable, while passenger traffic continues to grow despite some external shocks (Japan earthquake and MENA instability) and market uncertainty. In our view, BA's decision to compete against the NEO with a re-engined 737 further solidifies customer demand for more efficient aircraft.

The large commercial market continues to buck the typical aerospace recovery cycle trend, with the aftermarket and OE recoveries seemingly moving hand-in-hand as production rates are set to pick up while airlines fly their planes more. Meanwhile, regional and bizjets are following the more traditional path of an aftermarket-led recovery due to increased utilization, with expectations that OEM production rates pick up in 2012 (especially for large cabins).

Where are we in defense?

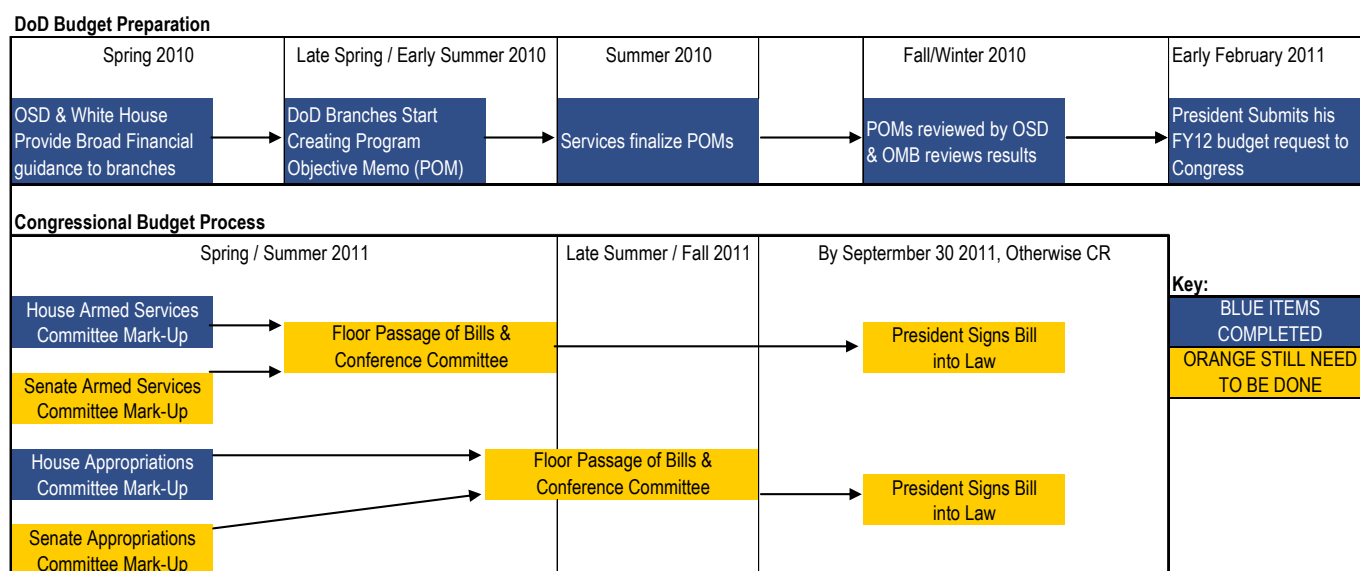
We are roughly half-way through the US DoD budget process, with the various Congressional committees "marking up" the President's request.

In our view, US defense budgets are the primary driver of the global defense market, with the US making up ~50% of world military expenditures. However, this does not imply that as US defense spending goes, so does the market. Global security can be a zero-sum game, so as the US ramps down, foreign buyers typically ramp up (particularly in unstable regions).

With the debt deal done, SASC will likely re-mark the bill to reflect FY12 discretionary caps, while SAC will likely complete its markup in Sep/Oct. We suspect FY12 might come in roughly flat to FY11 (~\$530), while at least a portion of FY12 will be funded under a CR.

Checking in on the FY12 base budget request for \$553b, both House Committees with defense budget purview have "marked up" the President's request. The House Armed Services Committee's (HASC) mark was in-line with the President's Budget request (known as the PB), while the House Appropriations Committee (HAC) cut \$9b from the PB. Meanwhile, the Senate Authorizers (SASC) cut \$6b from the PB, and might be re-marking the bill after the debt deal. We expect the Senate Appropriations Committee (SAC) to mark up the bill in September, with implications it might come in roughly flat to FY11 (\$530b) as part of the 1st tranche of savings.

Figure 13. FY12 Defense Budget Cycle Snapshot



Source: Citi Investment Research and Analysis

Note: Blue items are completed; Orange items still need to get done. SASC has already complete its mark-up, but we expect it will have to do it again now the debt deal's done.

Global Investment Thesis

Key Investment Points

We are constructive on commercial aerospace industry fundamentals given announced OE production rate increases, airline capacity growth, and accelerating demand for aftermarket services. We are also constructive on defense stocks given the disconnect between valuations and likely spending outcomes.

Production rate increases of roughly 40% and continued order demand affords a high degree of visibility.

In our view, current consensus estimates for aftermarket suppliers are too low.

We prefer large cabin suppliers to those addressing the small/mid cabin market.

We are more selective on defense depending given specific end-market dynamics and valuation.

- **High Commercial OE Visibility** – Boeing and Airbus plan to increase production rates by roughly 40% over the next several years and both companies are essentially sold out through 2015. Furthermore, book-to-bill ratios remain well above one as airlines continue to look to replace older, less efficient planes. In our view, this affords investors a good deal of revenue visibility in the near-to-medium-term. That said, we rate Boeing a Buy given high revenue visibility, improving cash flow dynamics, and low consensus expectations for the company's defense business, but rate EADS a Hold given concerns of execution risk on new programs, currency (Euro strength), and persistently high R&D. On the lower end of the commercial aerospace market, we are less constructive considering increasing competition and our view that global demand for sub-100 seat planes is less robust. We consider Bombardier better positioned than Embraer.
- **Accelerating Aftermarket Growth** – We expect aftermarket growth to accelerate in 2011 and 2012 for a good number of companies (platform specific) as airline capacity continues to grow, maintenance work deferred during the recent recession is finally completed, and the bow-wave of planes produced during the 2005/6 timeframe begin to undergo normalized major maintenance work. By our estimate, this should lead to improving profitability for aftermarket suppliers given the high incremental margin levels of this type of work. In our view, these dynamics are not fully reflected in consensus estimates, and as such are constructive on the stocks of aftermarket suppliers such as Goodrich, Meggitt, MTU, and Rolls-Royce.
- **Business Jets Still Awaiting Broad-based Recovery** – Demand for small and mid-sized jets remains tepid given the uncertain macro environment and the relatively high number of used planes available for sale. That said, demand for large cabin planes appears inelastic and growth is set to resume this year. As such, we rate General Dynamics and Bombardier (large cabin) at Buy, and Textron and Embraer (small/mid) at Hold.
- **Defense Stocks Pricing in Too Much Bad News** – At current levels, defense stocks appear to be pricing in negative defense spending growth in perpetuity. In our view, this outlook is misplaced given the persistent threat environment and the sticky nature of defense spending, particularly in the United States. In fact, even the most draconian proposal to date suggests flat nominal defense spending over the next 10 years (i.e. not negative). As such, we have Buy ratings on GD, LMT, NOC and RTN in the United States, while our core recommendations on the European side are BAE (yield and valuation) and Cobham (buybacks, restructuring, disposals).

Valuation

Commercial aerospace companies are trading inline with historic norms given the current timing of the cycle. As such, we do not expect any major changes in valuation levels and/or approaches to this group over the next 12 months.

US defense companies on the other hand are trading at a 30%+ discount to the broader market (vs. the 20% discount at which they traded during historic periods of similar demand and industry structure). In fact, shares appear to be pricing in perpetual declines in defense spending. Given our less draconian view, we believe shares are likely to re-rate to historic levels over time once investor concern about the future trajectory of defense spending abates. In our view, we look to the DoD's Comprehensive Strategic Review (~Sep/Oct) and the delivery of the FY13 budget (Early Feb 2012) as the primary catalysts for this re-rating process.

Key Risks

Key risks include the ability of suppliers to deliver on planned production rate increases and of OEMs on development programs, macro uncertainty, and greater than expected deceleration of defense spending growth by governments globally.

Upcoming Catalysts

We expect to have more clarity on future defense spending levels and 787/747-8 production ramps/accounting blocks by year-end.

(1) September provides some contours for US DoD strategic comprehensive review, creating more clarity around how the Pentagon will find at least \$350b of savings over 10 years; (2) First delivery of the 747-8 and 787 (September); (3) Congressional Joint Committee for deficit reduction reports by Nov 23, and Congress is to pass legislation by Dec 23...lest the automatic spending triggers are tripped (what US Defense Secretary Panetta dubs a "doomsday scenario").

Global Stock Selection & Discussion

In the tables below we sum up our global stock selection. This includes a summary of our core recommendations (i.e. our favorite names), a breakdown of our global coverage, and how our estimates differ from consensus.

Figure 14. Core Global A&D Recommendations and Key Investment Points

Name	Rating	Current Price	Target Price	ETR	Current P/E	Target P/E	Key Investment Points
Boeing	1H	USD 61.75	USD 85	40%	13.1x	15.5x	<ul style="list-style-type: none"> - New planes to drive top-line growth, especially 747 & 787 - Robust backlog and production increases provide earnings visibility - Cash generation to improve over time with development projects winding down, although likely to be somewhat tempered by re-engined 737 program
Bombardier	1H	CAD 5.20	CAD 9.70	89%	11.2x	19.3x	<ul style="list-style-type: none"> - Growing large-cabin bizjet demand - Cseries activity poised to heat up - Growth in emerging market transportation supplementing the Franco-German backbone
Goodrich Corp	1M	USD 87.89	USD 118	35%	16.6x	15.0x	<ul style="list-style-type: none"> - Low double-digit aftermarket growth through 2013E generates 50% incremental margins - OE production ramps support growth albeit at lower margins due to new platforms - Robust defense outlook (single digit growth over next 3-4 years) due to ISR and helo content
Lockheed Martin	1H	USD 69.12	USD 102	52%	8.7x	10.5x	<ul style="list-style-type: none"> - F-35 program to survive and drive longer-term growth - Positive long-term drivers for missile defense - Space business under-appreciated and satellites well-positioned - Robust FCF likely continues, supporting attractive dividends & repurchases
Meggitt	1M	GBP 3.42	GBP 4.45	33%	14.1x	12.0x	<ul style="list-style-type: none"> - Geared to civil aftermarket recovery, esp. business jets - Excellent track record in delivering cost savings and integrating acquisitions - Potential M&A target due to large installed base, strong CF, and high technological barriers - Strong management team
Raytheon	1H	USD 40.76	USD 62	56%	7.5x	10.1x	<ul style="list-style-type: none"> - Significant international exposure (~25%) helps offset weaker domestic demand - Positive long-term drivers for missile defense - Largely program agnostic business model reduces risk - Industry-leading margins
Rolls-Royce	1M	GBP 6.04	GBP 7.40	26%	6.5x	14.0x	<ul style="list-style-type: none"> - Civil aftermarket recovery, rising OE deliveries - Targets to double sales organically every 10 years (7% CAGR) - Strong balance sheet (52p/sh avg net cash at 2010) - Upside from Marine & Energy businesses (\$400bn+ market opportunity over 20 yrs, per RR)

Source: Citi Investment Research and Analysis, FactSet

Figure 15. Global Coverage Summary

Name	Ticker	Rating	Mkt Cap (USD \$m)	Current Price	Target Price	ETR
Buy						
BAE Systems	BA-LON	1H	\$14,394	GBP 2.61	GBP 3.40	38%
Boeing	BA	1H	\$45,762	USD 61.75	USD 85	40%
Bombardier	BBDb.TO	1H	\$7,558	CAD 5.20	CAD 9.70	89%
Chemring Group	CHG-LON	1H	\$1,595	GBP 5.05	GBP 7.50	51%
Cobham	COB-LON	1M	\$3,251	GBP 1.80	GBP 2.55	46%
General Dynamics	GD	1H	\$22,133	USD 61.18	USD 90	50%
Goodrich Corp	GR	1M	\$10,987	USD 87.89	USD 118	35%
Huntington	HII	1M	\$1,367	USD 28.02	USD 35	25%
Lockheed Martin	LMT	1H	\$23,198	USD 69.12	USD 102	52%
Meggitt	MGIT-LON	1M	\$4,323	GBP 3.42	GBP 4.45	33%
MTU Aero Engines	MTX-DE	1M	\$3,386	EUR 45.81	EUR 65	45%
Northrop Corp	NOC	1H	\$14,428	USD 51.89	USD 80	58%
Precision Cast	PCP	1M	\$21,945	USD 152.37	USD 188	23%
Raytheon	RTN	1H	\$14,413	USD 40.76	USD 62	56%
Rheinmetall	RHM-ETR	1H	\$2,793	EUR 49.61	EUR 73.00	51%
Rolls-Royce	RR-GB	1M	\$18,389	GBP 6.04	GBP 7.40	26%
Hold						
DigitalGlobe	DGI	2H	\$913	USD 19.73	USD 30	52%
EADS	EAD-FR	2H	\$24,890	EUR 21.35	EUR 23.80	13%
Embraer SA	ERJ	2S	\$4,419	USD 23.87	USD 35	48%
Finmeccanica	FNC-MIL	2M	\$4,208	EUR 5.12	EUR 8.00	64%
Qinetiq Group	QQ-LON	2H	\$1,260	GBP 1.17	GBP 1.20	6%
Safran	SAF-PAR	2H	\$15,111	EUR 25.49	EUR 26.70	7%
Rockwell Collins	COL	2H	\$7,156	USD 46.57	USD 65	42%
Textron Inc	TXT	2H	\$4,729	USD 17.05	USD 28	65%
Thales	HO-PAR	2H	\$7,333	EUR 25.50	EUR 30.00	20%

Source: Citi Investment Research and Analysis, FactSet

Figure 16. Revenue Estimates: CIRA vs. Consensus

	Citi Revenue Est. (m)			Consensus Revenue Est. (m)		
	2011	2012	2013	2011	2012	2013
BAE Systems	\$20,270	\$20,660	\$21,040	\$20,688	\$21,120	\$21,373
Boeing	\$69,828	\$80,808	\$88,318	\$69,158	\$78,749	\$85,069
Bombardier	-	\$20,108	\$22,456	-	\$18,614	\$20,402
Chemring Group	\$799	\$914	\$985	\$803	\$898	\$943
Cobham	\$1,861	\$1,908	\$1,959	\$1,913	\$1,950	\$1,967
DigitalGlobe	\$341	\$393	\$446	\$338	\$397	\$455
EADS	€ 48,100	€ 52,250	€ 54,650	€ 46,949	€ 50,170	€ 52,864
Embraer SA	\$6,156	\$6,346	\$6,267	\$5,767	\$6,488	\$7,337
Finmeccanica	€ 18,465	€ 18,502	€ 18,859	€ 17,963	€ 18,082	€ 18,577
General Dynamics	\$32,726	\$34,897	\$35,902	\$33,345	\$34,761	\$35,791
Goodrich Corp	\$8,111	\$9,158	\$9,972	\$8,101	\$8,944	\$9,616
Huntington	\$6,498	\$6,576	\$6,808	\$6,628	\$6,746	\$6,803
Lockheed Martin	\$46,803	\$47,949	\$48,533	\$46,673	\$47,595	\$47,842
Meggitt	\$1,444	\$1,607	\$1,716	\$1,408	\$1,612	\$1,700
MTU Aero Engines	€ 2,820	€ 3,054	€ 3,313	€ 2,876	€ 3,105	€ 3,338
Northrop Corp	\$26,982	\$27,456	\$27,927	\$27,002	\$27,278	\$27,200
Precision Cast	-	\$7,427	\$8,844	-	\$7,380	\$8,481
Qinetiq Group	-	\$1,566	\$1,607	-	\$1,596	\$1,628
Raytheon	\$25,842	\$26,661	\$27,231	\$25,754	\$26,227	\$26,317
Rheinmetall	€ 4,520	€ 5,350	€ 5,600	€ 4,530	€ 5,275	€ 5,757
Rockwell Collins	\$4,830	\$5,135	\$5,443	\$4,840	\$5,156	\$5,505
Rolls-Royce	£11,650	£12,610	£13,460	£11,450	£12,281	£13,108
Safran	€ 11,722	€ 12,703	€ 13,595	€ 11,897	€ 13,156	€ 14,396
Textron Inc	\$11,415	\$12,484	\$13,414	\$11,486	\$12,409	\$13,139
Thales	€ 13,400	€ 13,700	€ 14,100	€ 13,263	€ 13,469	€ 13,717

Green = at least 2% above consensus

Figure 17. EPS Estimates: CIRA vs. Consensus

	Citi EPS Est.			Consensus EPS Est.		
	2011	2012	2013	2011	2012	2013
BAE Systems	39.9p	41.9p	42.9p	39.9p	42.4p	43.4p
Boeing	\$4.10	\$4.90	\$6.15	\$4.20	\$5.25	\$6.24
Bombardier	-	\$0.56	\$0.73	-	\$0.46	\$0.59
Chemring Group	59.1p	66.9p	72.8p	59.6p	66.4p	71.9p
Cobham	20.7p	22.7p	24.4p	20.4p	21.7p	23.0p
DigitalGlobe	\$0.18	\$0.78	\$1.25	\$0.18	\$0.83	\$1.33
EADS	€ 0.92	€ 1.74	€ 2.19	€ 0.85	€ 1.70	€ 2.28
Embraer SA	\$2.07	\$2.10	\$2.36	\$2.22	\$2.54	\$3.10
Finmeccanica	€ 1.14	€ 1.22	€ 1.28	€ 0.94	€ 0.86	€ 0.99
General Dynamics	\$7.01	\$7.58	\$8.16	\$7.20	\$7.67	\$8.27
Goodrich Corp	\$5.99	\$6.85	\$8.00	\$6.01	\$6.92	\$7.90
Huntington	\$3.51	\$3.78	\$4.35	\$3.57	\$3.85	\$4.70
Lockheed Martin	\$7.64	\$9.08	\$10.24	\$7.49	\$8.75	\$9.74
Meggitt	31.0p	35.6p	39.5p	30.5p	35.4p	38.7p
MTU Aero Engines	€ 4.01	€ 4.74	€ 5.26	€ 3.80	€ 4.48	€ 5.02
Northrop Corp	\$6.86	\$7.61	\$8.15	\$6.86	\$7.20	\$7.47
Precision Cast	-	\$8.59	\$10.43	-	\$8.71	\$10.44
Qinetiq Group	-	12.4p	13.4p	-	13.2p	14.0p
Raytheon	\$4.99	\$5.71	\$6.55	\$5.01	\$5.54	\$6.23
Rheinmetall	€ 5.43	€ 6.45	€ 6.99	€ 5.78	€ 6.86	€ 7.73
Rockwell Collins	\$4.07	\$4.36	\$4.72	\$4.05	\$4.54	\$5.15
Rolls-Royce	45.1p	52.4p	57.8p	43.8p	49.2p	55.2p
Safran	€ 1.79	€ 2.23	€ 2.64	€ 1.78	€ 2.28	€ 2.70
Textron Inc	\$1.11	\$1.66	\$2.04	\$1.13	\$1.76	\$2.34
Thales	€ 2.53	€ 2.99	€ 3.76	€ 2.52	€ 2.98	€ 3.56

Red = at least 2% below consensus

Source: Citi Investment Research and Analysis Estimates, Thomson

Source: Citi Investment Research and Analysis Estimates, Thomson

Global Comp Table

Figure 18. Global Comps

As of August 13, 2011

	Company Data				Valuation Multiples			Price Performance		
	Citi Rating	Local Crncy	Market Cap (USD)	Dvd Yield (%)	FTM P/E	2012 P/E	EV/ EBITDA	Price (Local)	LTM	52-Week Range (Local)
Large Cap										
BAE Systems PLC (BA-LON)	1H	GBP	\$14,394	6.9%	6.3x	6.0x	3.9x	2.61	(16%)	2.4 - 3.7
Boeing Co. (BA)	1H	USD	\$45,762	2.7%	12.8x	9.8x	7.7x	61.75	(5%)	56.0 - 80.7
EADS (EAD-FR)	2H	EUR	\$24,890	1.0%	15.4x	9.4x	3.1x	21.35	18%	16.6 - 25.4
General Dynamics Corp. (GD)	1H	USD	\$22,133	3.1%	8.1x	7.3x	5.4x	61.18	1%	55.5 - 78.3
Goodrich Corp. (GR)	1M	USD	\$10,987	1.3%	13.4x	11.0x	9.2x	87.89	22%	67.7 - 99.7
Lockheed Martin Corp. (LMT)	1H	USD	\$23,198	4.3%	8.3x	7.1x	5.7x	69.12	(5%)	66.4 - 82.4
Northrop Grumman Corp. (NOC)	1H	USD	\$14,428	3.9%	7.3x	6.9x	4.3x	51.89	1%	48.5 - 70.6
Precision Castparts Corp. (PCP)	1M	USD	\$21,945	0.1%	16.5x	12.9x	12.1x	152.37	29%	111.2 - 171.4
Raytheon Co. (RTN)	1H	USD	\$14,413	4.2%	7.6x	6.5x	5.0x	40.76	(9%)	38.8 - 53.1
Rolls-Royce Holdings PLC (RR-GB)	1M	GBP	\$18,389	-	12.7x	10.9x	6.7x	6.04	11%	5.1 - 6.7
SAFRAN S.A. (SAF-PAR)	2H	EUR	\$15,111	2.0%	12.1x	9.3x	9.6x	25.49	30%	18.6 - 30.5
Average				2.7%	11.0x	8.8x	6.6x		7%	
Boeing + Airbus Average				1.9%	14.1x	9.6x	5.4x		7%	
Defense Average				4.5%	7.55x	6.8x	4.8x		(5%)	
Commercial Average				1.2%	13.8x	10.6x	8.1x		18%	

Note: S&P 500 currently trading at 11.6x FTM P/E

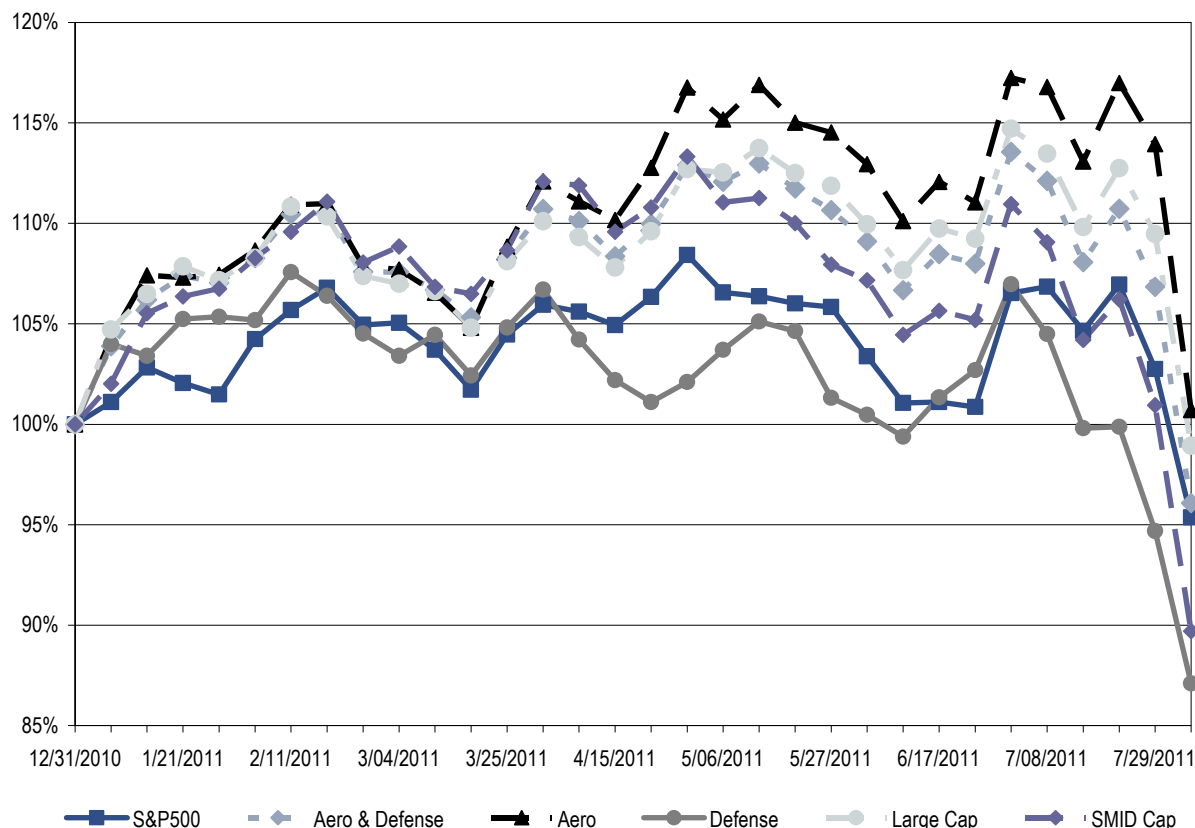
SMID Cap

Alliant Techsystems Inc. (ATK)		USD	\$1,909	1.4%	6.6x	6.1x	5.0x	57.95	(17%)	54.7 - 80.0
Bombardier Inc. (CI B) (BBD.B-TSE)	1H	CAD	\$7,558	2.0%	9.8x	7.3x	6.7x	5.20	13%	4.3 - 7.3
Booz Allen & Hamilton Inc. (BAH)		USD	\$1,955	-	9.4x	8.1x	7.3x	15.52	NA	15.0 - 20.7
BE Aerospace Inc. (BEAV)		USD	\$3,568	-	13.9x	10.6x	9.8x	34.59	26%	25.8 - 42.9
CACI International Inc. (CI A) (CACI)		USD	\$1,484	-	10.4x	9.9x	6.5x	49.27	19%	40.2 - 66.5
Chemring Group PLC (CHG-LON)	1H	GBP	\$1,595	2.5%	7.8x	7.2x	6.8x	5.05	(6%)	4.7 - 7.4
Cobham PLC (COB-LON)	1M	GBP	\$3,251	3.4%	8.5x	8.0x	6.2x	1.80	(17%)	1.7 - 2.5
DigitalGlobe Inc. (DGI)	2H	USD	\$913	-	34.8x	14.3x	7.3x	19.73	(33%)	18.0 - 33.2
Embraer S/A ADS (ERJ)	2S	USD	\$4,419	-	10.1x	7.8x	5.8x	23.87	(7%)	21.0 - 35.4
Esterline Technologies Corp. (ESL)		USD	\$2,075	-	12.3x	10.8x	9.0x	67.91	45%	43.6 - 82.3
Finmeccanica S.p.A. (FNC-MIL)	2M	EUR	\$4,208	8.0%	6.2x	5.1x	4.3x	5.12	(39%)	4.6 - 10.1
FLIR Systems Inc (FLIR)		USD	\$3,779	1.0%	14.7x	11.2x	9.3x	23.66	(12%)	22.3 - 37.3
GeoEye Inc. (GEOY)		USD	\$730	-	13.8x	11.2x	6.0x	32.89	(11%)	29.5 - 47.5
Harris Corp. (HRS)		USD	\$4,668	3.1%	7.1x	5.9x	5.4x	36.70	(16%)	34.3 - 53.4
Huntington Ingalls Industries Inc. (HII)		USD	\$1,367	-	7.6x	5.8x	11.3x	28.02	NA	26.5 - 42.7
Iridium Communications Inc. (IRDM)		USD	\$530	-	10.2x	6.6x	4.2x	7.24	(23%)	6.8 - 10.3
L-3 Communications Holdings Inc. (LLL)		USD	\$7,270	2.6%	7.7x	7.2x	5.7x	68.98	(2%)	64.1 - 88.6
Loral Space and Communications Inc. (LORL)		USD	\$1,181	-	6.5x	6.0x	10.6x	55.71	15%	45.7 - 85.2
ManTech International Corp. (CI A) (MANT)		USD	\$826	2.4%	9.2x	9.3x	5.0x	35.07	(4%)	33.5 - 46.3
Meggitt PLC (MGIT-LON)	1M	GBP	\$4,323	2.8%	10.2x	9.0x	8.9x	3.42	27%	1.2 - 4.0
MTU Aero Engines Holding AG (MTX-DE)	1M	EUR	\$3,386	2.4%	10.9x	9.1x	5.8x	45.81	3%	39.8 - 56.6
Moog Inc. (CI A) (MOG.A)		USD	\$1,583	-	11.8x	10.1x	7.6x	37.78	19%	30.0 - 46.5
Orbital Sciences Corp. (ORB)		USD	\$840	-	13.1x	12.7x	6.4x	14.37	10%	12.7 - 19.4
QinetiQ Group PLC (QQ-LON)	2H	GBP	\$1,260	1.4%	8.7x	8.1x	5.6x	1.17	7%	1.0 - 1.4
Rheinmetall AG (RHM-ETR)	1H	EUR	\$2,793	3.0%	7.6x	6.2x	6.6x	49.61	10%	41.9 - 66.9
Rockwell Collins Inc. (COL)	2H	USD	\$7,156	2.1%	10.4x	9.1x	7.6x	46.57	(16%)	43.8 - 67.3
SAIC Inc. (SAI)		USD	\$5,058	-	9.8x	9.2x	5.1x	14.32	(9%)	13.7 - 17.7
Spirit AeroSystems Holdings Inc. (CI A) (SPR)		USD	\$1,808	-	7.9x	5.9x	7.2x	15.26	(24%)	14.3 - 26.5
Thales S.A. (HO-PAR)	2H	EUR	\$7,333	2.0%	9.5x	7.3x	9.5x	25.50	(1%)	24.4 - 30.5
Triumph Group Inc. (TGI)		USD	\$2,396	0.3%	10.6x	8.4x	7.6x	48.84	42%	32.5 - 54.8
Textron Inc. (TXT)	2H	USD	\$4,729	0.5%	11.3x	7.3x	12.5x	17.05	(6%)	16.2 - 28.9
Average				1.3%	10.6x	8.4x	7.2x		(0%)	
Defense Average				1.7%	9.0x	8.0x	6.3x		(6%)	
Commercial Average				0.7%	11.3x	8.8x	8.4x		12%	

Source: Citi Investment research and Analysis and FactSet

Sector Performance

Figure 19. Global Stock Performance YTD



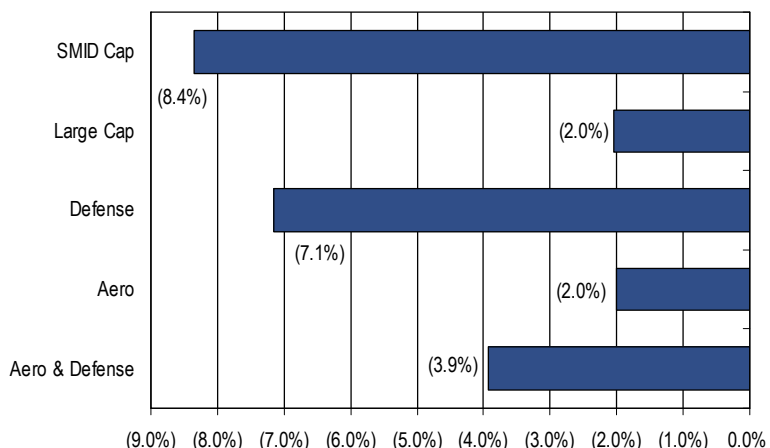
Source: Citi Investment Research and Analysis, FactSet

Aero includes: BA, EADS, GR, PCP, RR, SAF, BBD, BEAV, ERJ, ESL, FLIR, MGGT, MOG.A, SPR, TGI, TXT

Defense includes: BAE, GD, LMT, NOC, RTN, COL, ATK, BAH, CACI, COB, DGI, FNC, GEOY, HRS, IRDM, L3, LORL, MANT, ORB, QQ, RHM, SAIC, HO

Figure 20. Trailing Month Performance vs. S&P 500

Defense has underperformed the market over the last month due to budget uncertainty in DC. The economically-linked aerospace industry is also seeing pressure on reduced growth expectations.



Source: Citi Investment Research and Analysis, FactSet

Company One-Pagers

On the following pages we provide write-ups on each of the companies under CIRA coverage, including a discussion of key investment points, valuation, risks, and upcoming catalysts. They are presented in alphabetical order as follows:

Company	Page
BAE Systems	20
Boeing	21
Bombardier	22
Chemring	23
Cobham	24
Digital Globe	25
EADS	26
Embraer	27
Finmeccanica	28
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Rheinmetal AG	39
Rockwell Collins	40
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BAE Systems

(BAES.L; £2.61; 1H); PT = £3.40

Key Investment Points

- **Discount to US peers** – BAE derives ~50% of its sales from the US (and less than 30% from the UK), with US based defense budgets projected to grow +2.5% p.a. to 2016. BAE's P/E discount to US primes therefore appears incongruous.
- **Saudi** – The UK's government-to-government agreement to modernize Saudi armed forces offers BAE exposure to this fast growing Middle East market. BAE stands to benefit from Saudi Typhoon ramp-up & sizeable support activity on Tornados.
- **Readiness & sustainment** – BAE derives 47% of its sales from Readiness & Sustainment which is unlikely to be impacted by program cuts.
- **Key BAE programs safe** – Eurofighter & JSF are unlikely to be axed due to their strategic importance. Eurofighter down-select in India is further good news.
- **Strong balance sheet and FCF** – Minimal net debt and strong FCF offer scope for EPS enhancing acquisitions or equity buyback.
- **Attractive valuation** – BAE's current low P/E reflects investor concerns over growth. Stock offers attractive (and secure) DPS yield and DPS growth.

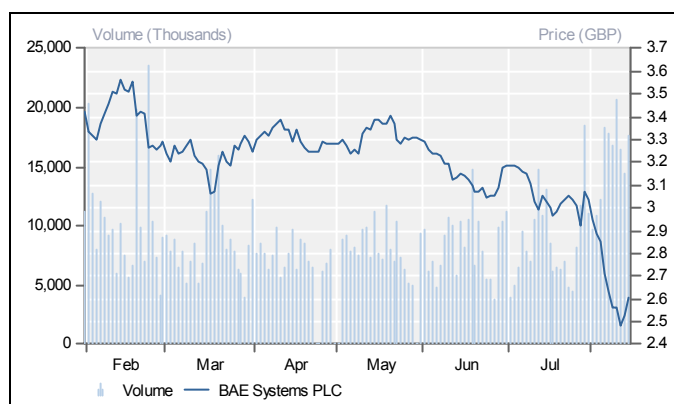
Key Risks

- **Challenging UK outlook** – The SDSR announced a number of major program cuts, but budgets still appear stretched and the MOD looks likely to endure a sustained period of austerity.
- **Middle East unrest** – Could slow BAE's Saudi business
- **Acquisition risk** – BAE could be tempted to buy growth through acquisitions. We would prefer it to retire equity.

Valuation

Our Target Price of 340p is based c8.1x 2012E EPS, which is a 15% discount to the current 2012E P/E of the FTSE100. This is in-line with BAE's long-run average historical discount to the market and offers 21% ETR at the current share price.

Figure 21. Recent Stock Performance



Source: FactSet

Figure 22. CIRA vs. Consensus Estimates

£millions	2011E	2012E	2013E
Citi			
Revenue	£20,270	£20,660	£21,040
EPS	39.9p	41.9p	42.9p
Consensus			
Revenue	£20,688	£21,120	£21,373
EPS	39.9p	42.4p	43.4p

Source: Citi Investment Research and Analysis, Thomson

Boeing

(BA.N; US\$61.75; 1H); PT = \$85

Key Investment Points

- **Improving revenue and earnings visibility** – Revenue visibility is improving for the near-to-medium term given plans to increase production rates by roughly 40% over the next several years. Earnings visibility, meanwhile, is also improving given the ramping production rate ramps and the wind down of development costs associated with the 787 and 747-8.
- **Improving cash flow visibility** – We believe the wind-down of the 787 development program will release working capital and support robust free cash flow at least through 2013, although the 737 re-engineing will somewhat temper any near-term "R&D holiday."
- **Defense opportunities** – Strong positions on in-demand military helos (Chinooks, Apaches) and in the international defense market, set the defense unit up as an attractive, albeit slower growing, complement to the stronger commercial side.

Key Risks

- Intrinsically risky commercial aerospace industry subject to external shocks.
- Challenging development programs in pressured budgetary environment can eat into profitability.

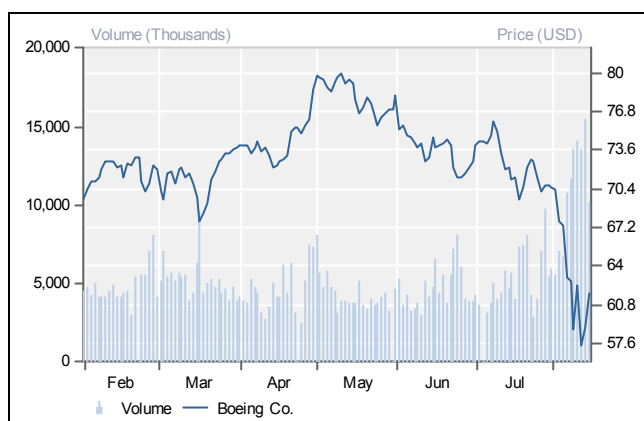
Valuation

Shares trade at ~18x, the mid-point of the company's 2011 guidance. Our target price of \$85 uses a 15.5x multiple applied to our FTM EPS estimate one year from now of \$5.49

Upcoming Catalysts

- 1) Winning one or more major international competitions for fighter jets; 2) first deliveries of 747-8 (mid-2011) and 787 (3Q11); 3) execution of the FCF story through continued positive cash generation; 4) a decision on the future of the 777 and further details of the new 737RE program; 5) Dubai Air Show (13 Nov).

Figure 23. Recent Stock Performance



Source: FactSet

Figure 24. CIRA vs. Consensus Estimates

\$millions	2011E	2012E	2013E
Citi			
Revenue	\$69,828	\$80,808	\$88,318
EPS	\$4.10	\$4.90	\$6.15
Consensus			
Revenue	\$69,158	\$78,749	\$85,069
EPS	\$4.20	\$5.25	\$6.24

Source: Citi Investment Research and Analysis, Thomson

Bombardier

(BBD:TO; C\$5.20; 1H); PT = C\$9.70

Key Investment Points

- **Large cabin business jets main boost to aerospace** – Looking at the largest (highest margin, highest deposit requirement) segment of the global business jet market, we see Bombardier as well-positioned to capitalize on the ongoing rebound in wide-body business jet demand (particularly from customers in emerging Asia and the middle east). This area, (not commercial aerospace) actually reflects the “lion’s share” of Bombardier aerospace’s operating cash flow.
- **Now also time to watch the CSeries** – At the time of publication, Bombardier had notched a CSeries firm from its 7th customer, while the program has also found a launch customer (on top of an LOI from Korean Air). As we move through the next two years, we see Bombardier capturing some share of the (ca. 110-140 seat) global commercial narrow-body market (specifically among that segment of the market not currently served by Airbus).
- **What about trains?** – We believe that Bombardier’s (rolling stock, systems & signaling, etc.) transportation segment has been “great for business.” Representing roughly one-third of consolidated EBITDA, we see Bombardier continuing to add new business to this segment, with a current (record) transportation backlog of US\$34bn.

Key Risks

- **CRJs** – We see some risk that ongoing tepid CRJ demand could lead to a production cut (and at least some negative headline risk).
- **Retaliation by other OEMs** – Competitor “noise” regarding CSeries efficiency, or lack of market share, could have a negative impact on the stock.

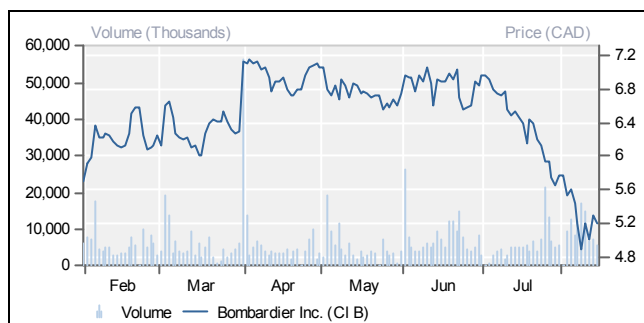
Valuation

We value Bombardier at a target price of C\$9.70 using a blend of 9.25x forward EV/EBITDA (75% weight) and a 19.25x P/E (25%).

Upcoming Catalysts

Additional CSeries order wins (let’s watch Delta, others), in addition to earnings surprises, could drive the stock higher. Conversely, any *new concerns* about Republic’s ability/willingness to take delivery on its CSeries order could be negative.

Figure 25. Recent Stock Performance



Source: FactSet

Figure 26. CIRA vs. Consensus Estimates

\$millions CAD	2011	2012E	2013E
Citi			
Revenue	-	\$20,108	\$22,456
EPS	-	\$0.56	\$0.73
Consensus			
Revenue	-	\$18,614	\$20,402
EPS	-	\$0.46	\$0.59

Source: Citi Investment Research and Analysis, Thomson

Chemring

(CHG.L; £5.05; 1H); PT = £7.50

Chemring is covered by Citi's UK SMID Analyst, Hugo Mills. He can be reached at hugo.mills@citi.com.

Key Investment Points²

- **Strong growth profile** – Continued strong demand for counter IED products, sole provider of countermeasures for Typhoon and JSF, strong demand for munitions from non-NATO countries & a record order book underpin management target for 10-15% organic growth medium term. Chemring targets 40% group revenues from non-NATO in 5 years (vs. 25% now).
- **Acquisition potential** – Chemring's niche positioning and strong revenue growth profile could be attractive to the large defense primes faced with anemic growth outlook. Chemring's own track record with acquisitions is strong (19 acquisitions since 2006). Post equity placement, it will have £140-150m to spend on acquisitions which could be 8% EPS accretive if done at similar multiples as in the past
- Better than average growth prospects (10-15% organic growth medium term vs. low single digit growth for primes) are not adequately reflected in valuations.

Key Risks

- Defense budgets remain under pressure in the US and UK which could delay/curtail potential orders. A more rapid US withdrawal from Afghanistan than currently planned could reduce earnings. A short order cycle means potential delays in budget approvals would impact Chemring sooner than the larger primes.
- Despite record order book, visibility is limited to 12-18 months. But, the consumable nature of CHG's products ensure repeat orders within ~1-2 years

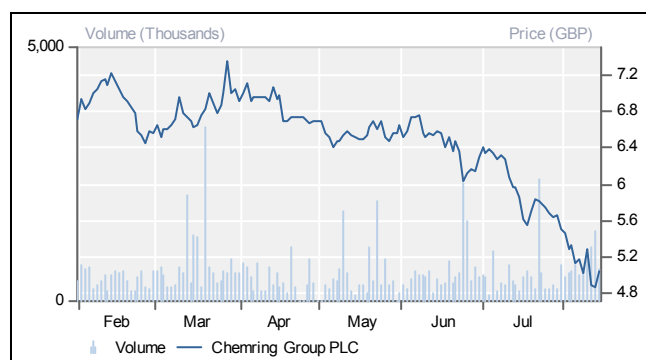
Valuation

We rate Chemring Buy/High Risk with a 750p target price based on FY12E EV/EBIT of 10.0x. Our DCF, based on 9.3% WACC and 2% terminal growth rate, suggests fair value of 757p

Upcoming Catalysts

IMS (September 2011)

Figure 27. Recent Stock Performance



Source: FactSet

Figure 28. CIRA vs. Consensus Estimates

£millions	2011E	2012E	2013E
Citi			
Revenue	£799	£914	£985
EPS	59.1p	66.9p	72.8p
Consensus			
Revenue	£803	£898	£943
EPS	59.6p	66.4p	71.9p

Source: Citi Investment Research and Analysis, Thomson

² See initiation piece for more: [Chemring Group \(CHG.L\) - Niche winner](#)

Cobham

(COB.L; £1.80; 1M); PT = £2.55

Key Investment Points

- **Positioned in faster growing market sub-segments civil upside** – We believe Cobham can outgrow the overall defense market thanks to its positions in faster growing sub-segments (such as C4ISR). One third of Cobham is commercial, which should cease to be a drag on growth from 2H11.
- **Strong financial track record** – Has consistently posted double-digit EPS growth since 1990 & has a strong cash conversion record (84% since 2000).
- **Disciplined acquirer** – Cobham has done 54 acquisitions since 2001 with strong financial discipline (EPS accretive in year 1, payback by year 3).
- **Potential M&A target** – As a mid-cap & on account of its positioning in attractive C4ISR markets, Cobham could be an attractive takeover target, we believe.
- **Cost cutting, disposals, buybacks** – Whilst management cannot materially influence top line growth, it has announced buybacks, the disposal of non-core and non-performing assets, and a cost cutting initiative (Excellence in Delivery).

Key Risks

- **Lack of organic growth** – Given no organic growth since 1H09, Cobham has de-rated significantly and may not be able to justify its valuation premium.
- **Restructuring** – It is unclear how much of the benefits of the Excellence in Delivery restructuring program will be retained by shareholders and how much will be given back to customers in terms to stimulate demand.
- **Valuation premium to Primes** – Given limited organic growth, there is a risk that Cobham's P/E premium to its peers may diminish.
- **US procurement delays** – Orders could continue to be impacted by US procurement delays from last year.

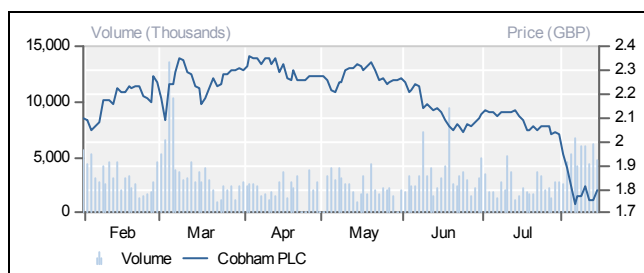
Valuation

Our 255p TP is based on FY11E P/E of 12x vs. its long-run historical P/E of 13.5x (reflecting lower assumed EPS growth), but is still a higher P/E than we use to value European defense peers, reflecting its relatively superior EPS growth & cash conversion, good execution and track record of beating analysts' expectations.

Upcoming Catalysts

3Q11 IMS (9 Nov)

Figure 29. Recent Stock Performance



Source: FactSet

Figure 30. CIRA vs. Consensus Estimates

£millions	2011E	2012E	2013E
Citi			
Revenue	£1,861	£1,906	£1,959
EPS	20.7p	22.7p	24.4p
Consensus			
Revenue	£1,913	£1,950	£1,967
EPS	20.4p	21.7p	23.0p

Source: Citi Investment Research and Analysis, Thomson

Digital Globe

(DGI.N; US\$19.73; 2H); PT = \$30

Key Investment Points

- **Solid revenue visibility baked in** – The Summer 2010 signing of the Enhanced View (EV) contract clarified 10 years revenues, worth \$3.55b. In our view, this opportunity is already reflected in DGI shares.
- **Growth relies on fuzzier "product-based" opportunities** – DGI is looking for 20% annual growth over the long-term from its more commercially focused product-based services, which leverage existing satellite capabilities to provide the customer with a more valuable product. However, these markets are nascent and have been lagging expectations of late. In our view, it is not clear when and how the company will be able to sustain these types of growth rates over the longer-term from these markets, and as such view the valuation risk/reward on shares to be fairly balanced at this point.

Key Risks

- Developing commercial opportunities could be more expensive than anticipated, eating into expected margin trajectory.
- EV contract subject to federal government budget pressures.
- Satellite development subject to cost and schedule over runs, and launch failure.

Valuation

Shares are trading at a ~20% premium to the defense space, roughly in line with DGI's closest competitor. We believe DGI deserves to trade at a premium given its exposure to a relatively robust reconnaissance market, but we believe shares are fairly valued given potential risk/reward.

Upcoming Catalysts

(1) Information services acquisition could drive confidence in new company strategy; (2) New customer announcements over the next few months (especially DAP); (3) 3Q11 earnings in ~October as we look for further detail on renewed DAP focus and new CEO Jeff Tarr's strategy.

Figure 31. Recent Stock Performance



Source: FactSet

Figure 32. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$341	\$393	\$446
EPS	\$0.18	\$0.78	\$1.25
Consensus			
Revenue	\$338	\$397	\$455
EPS	\$0.18	\$0.83	\$1.33

Source: Citi Investment Research and Analysis, Thomson

EADS

(EAD.PA; €21.35; 2H); PT = €23.80

Key Investment Points

- **Recovering book-to-bill** – With 730 orders won at the 2011 Air Show, Airbus orders have exceeded expectations YTD, with book-to-bill >1x. Historically this has been a good time to buy air framer stocks.
- **Improving traffic & airline profitability** – Airline fundamentals continue to be supportive and underpin Airbus backlog deliverability & demand for new aircraft.
- **Rising aircraft production rates** – A320 rates projected to go up from 34/month to 42/month by 4Q12, with high incremental margins. A330 rates are also rising and A380 losses projected to close out by 2014/2015.
- **Shallower cycle** – Production rates this cycle have been much stronger than expected as a result of moderated deliveries in the upturn, the large order backlog, and export credit agency backstops.
- **Beneficiary of strong US dollar** – Material transactional FX exposure. 8% mid-cycle margin possible at \$1.20/€. Significant hedging limits short term impact.

Key Risks

- **Program risks** – With three aircraft programs (A400M, A350, A320NEO) concurrently under development, program risk remains high. Airbus' development track-record is not encouraging.
- **New market entrants** – Airbus/Boeing duopoly in the narrow body sector could be challenged over longer-term by Bombardier C-series & Chinese C919.
- **Complex shareholding, government stake** – This limits EADS' ability to restructure business and increases potential for government interference.

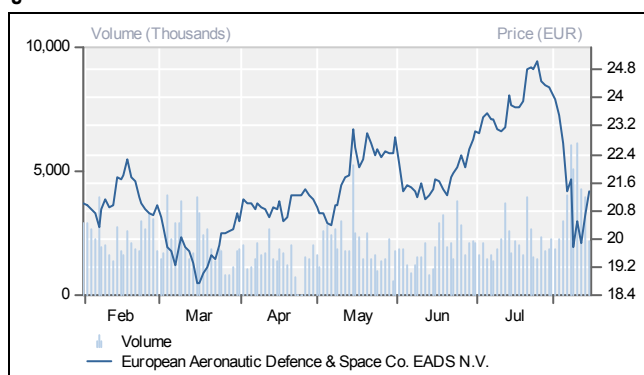
Valuation

Our €23.80 TP is based on the average of a number of valuation methodologies, rounded, assuming a 6.0% mid-cycle margin (FX assumption of \$1.40/€), including EV/Sales (€27.30/sh at 0.6x EV/Sales), mid-cycle PE (€26.10/sh at 11.1x mid-cycle EPS), DCF (€22.70/sh assuming 9.5% WACC & 2.4% LT growth), and SOTP (€19.20/sh based on peer average multiples). Our TP implies 13.4x 2012E P/E vs. EADS' long-run average 1-year forward P/E of c13x.

Upcoming Catalysts

Dubai Air Show (w/c 13 Nov); 3Q11 results (10 Nov)

Figure 33. Recent Stock Performance



Source: FactSet

Figure 34. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 48,100	€ 52,250	€ 54,650
EPS	€ 0.92	€ 1.74	€ 2.19
Consensus			
Revenue	€ 46,949	€ 50,170	€ 52,864
EPS	€ 0.85	€ 1.70	€ 2.28

Source: Citi Investment Research and Analysis, Thomson

Embraer

(ERJ.N; US\$23.87; 2S); PT= \$35

Key Investment Points

- **Upgraded Embraer from Sell To Hold** — We continue to see competitive (and other) headwinds face Embraer's core commercial and bizjet segments. However, we now consider the stock more reasonably valued. Since the market's close of 2/3/11 (through the close of 7/19/11), Embraer's ADR's declined -16%, versus US dollar returns of +5.4% for rival Bombardier and -5.7% for Brazil's Bovespa. Therefore, the above risks now seem to be somewhat more priced in.
- **Politicians and planes shouldn't mix (but they do)** — We have long expressed our concern about commercial jet orders generated by politicians. While Embraer landed Chinese orders following President Rousseff's official state visit to that country, why should we believe that China and Russia will not support their indigenous OEMs, as the latter look to expand within their mammoth home markets? At the same time, it would be folly on our part to ignore (what seems to be) the Brazilian government's tacit support of Embraer.
- **Smaller bizjets not as good** — We do not understand why anyone should be forecasting a hockey stick-style recovery on the lowest end of the market, in light of relatively high global inventory levels, and debt crises and high unemployment in the US and EU. That being said, we expect recovery (but a slow one).

Key Risks

- **Competition** — New aircraft such as the CSeries, SSJs (Sukhoi) and ASJs (COMAC) threaten to erode EJet market share. Moreover, the COMAC-Bombardier alliance presents greater challenges in the Chinese market.
- **Order concentration** — Recent problems with JetBlue highlight the risks of having large portions of backlog concentrated around just a few customers

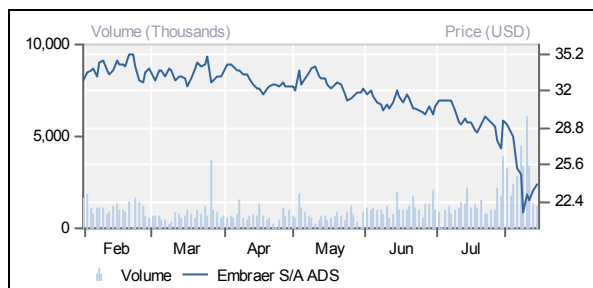
Valuation

We arrive at a target of US\$35/ADR. We arrive at this target using a blend of 9.5x 2011E EV/EBITDA (80% weight), and 0.63x EV/firm order backlog range (20%).

Upcoming Catalysts

Negative catalysts could include tepid delivery reports, as well as increasing (global) inventory levels of narrow-body business jets. Conversely, a large E195 order from a "new" customer could act as a positive catalyst.

Figure 35. Recent Stock Performance



Source: FactSet

Figure 36. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$6,156	\$6,346	\$6,267
EPS	\$2.07	\$2.10	\$2.36
Consensus			
Revenue	\$5,767	\$6,488	\$7,337
EPS	\$2.22	\$2.54	\$3.10

Source: Citi Investment Research and Analysis, Thomson

Finmeccanica

(SIFI.MI; €5.12; 2M); PT= €8.00

Key Investment Points

- **Defensive characteristics** – FNC offers significant EM exposure, a large order backlog (2.5yrs revenue) spread across several programs (JSF, Eurofighter, C27J, helicopters), and >1.0x book-to-bill.
- **Potential disposals** – Eventual full disposal of non-core Energia & Breda could crystallize SOTP upside.
- **Excellent helicopter offering** – FNC has an excellent helicopter offering both in military and civil segments.
- **Funding secure** – FNC's leverage of 1.4x 2010A ND/EBITDA is high vs. peers, but there are no immediate refinancing requirements, with an average debt maturity of >11 years.
- **Cost saving** – FNC has a cost saving plan in place, albeit bottom-line benefits are likely to be limited.

Key Risks

- **Slow progress in non-core disposals** – The disposal of a 45% stake in Energia was at a lower than expected valuation and a full IPO looks unlikely in the near future.
- **Stretched balance sheet, poor cash conversion** – FCF/EBITDA conversion has averaged 47% since 2001. Relatively indebted at c40% Net Debt:Equity.
- **Continuing losses at Ansaldo Breda** – Despite restructuring efforts.
- **Increased export competition** – Plus consequent pricing pressure.
- **787 execution risks** – Issues with FNC's workmanship on 787.

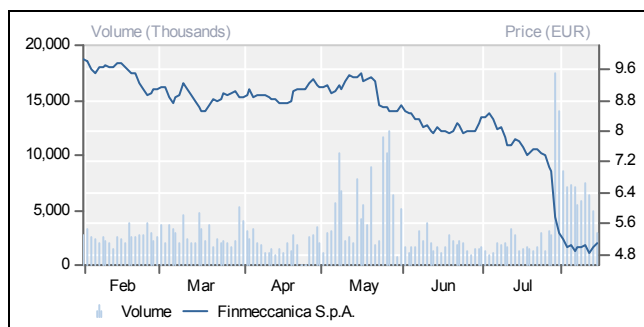
Valuation

Our €8.00TP is based on on 6.0x 2012E EV/EBIT and implies 6.6x 2011E P/E. We believe SoTP is appropriate for Finmeccanica given its conglomerate nature and significant financial leverage.

Upcoming Catalysts

3Q11 results (3 November 2011)

Figure 37. Recent Stock Performance



Source: FactSet

Figure 38. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 18,465	€ 18,502	€ 18,859
EPS	€ 1.14	€ 1.22	€ 1.28
Consensus			
Revenue	€ 17,963	€ 18,082	€ 18,577
EPS	€ 0.94	€ 0.86	€ 0.99

Source: Citi Investment Research and Analysis, Thomson

General Dynamics

(GD.N; US\$61.18; 1H); PT = \$90

Key Investment Points

- **Gulfstream playing in the right place** – GD's bizjet portfolio plays in the more attractive top end of the market. As such, we expect Gulfstream to see resilient demand for existing models, with growth anchored by the new G650 over the long run.
- **Defense business looks resilient** – We believe recent DoD announcements have reset budget expectations to more realistic levels thus eliminating a potential leg down in estimates and share performance.
- **Mix shift overtime likely leads to valuation re-rating** – Shares of GD currently demand a defense industry multiple of ~10x. However, we expect investors to increasingly apply a sum-of-the-parts valuation and re-rate shares as the aerospace segment contributes more profit (19% in 2009A growing to ~30% in 2013E). As such, we use an 11.3x multiple to set our target price.

Key Risks

- While our numbers currently bake in a 6-month delay in G650 deliveries due to a test plane crash in April, the company still expects 12 deliveries in 2H11. If the FAA certification drags on longer than anticipated, the company may be forced to reduce 2011 guidance.
- Combat systems business exposed to pressured tactical and Army budgets which could create more of a downside than currently anticipated.

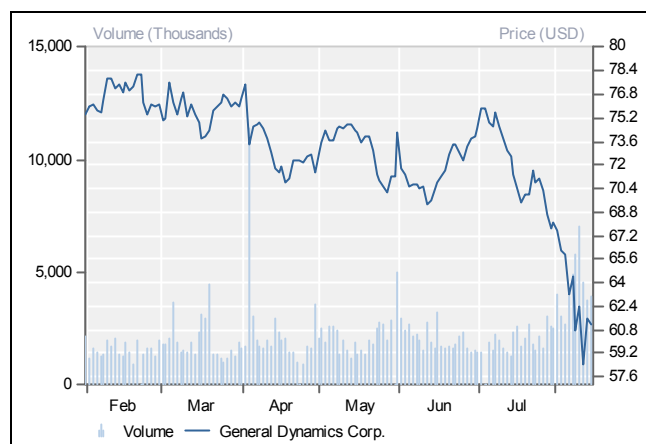
Valuation

We apply a blended defense/commercial multiple of 11.3x (vs. 10-yr avg. of 14x) to our FTM EPS to arrive at our price target

Upcoming Catalysts

FAA certification of G280 and G650 solidifies confidence in new bizjet platforms and their ability to deliver on time.

Figure 39. Recent Stock Performance



Source: FactSet

Figure 40. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$32,726	\$34,897	\$35,902
EPS	\$7.01	\$7.58	\$8.16
Consensus			
Revenue	\$33,345	\$34,761	\$35,791
EPS	\$7.20	\$7.67	\$8.27

Source: Citi Investment Research and Analysis, Thomson

Goodrich

(GR.N; US\$87.89; 1M); PT = \$118

Key Investment Points

- **Attractive OE positioning** – Comprising 82% of GR's OE sales, the large commercial makers are looking to increase production rates at a 10% CAGR from 2010-2013E.
- **Aftermarket offers margin expansion opportunity** – We expect aftermarket growth to accelerate in 2011 (+10%) and 2012 (+11.5%) as airline capacity continues to grow, maintenance work deferred during the recent recession is finally completed, and the bow-wave of planes produced during the 2005/6 timeframe begin to undergo normalized major maintenance work. In our view, this should lead to improving profitability for Goodrich, but these dynamics do not appear to be fully reflected in consensus estimates
- **Defense & space outperforms the market** – GR's positive positioning on ISR, helicopters, and fixed wing retrofits, supports our thesis that its defense business can grow in the high single, to low double, digits in 2011, and sustain mid to high single digit growth for the next 3-4 years. In our view, JSF production ramps present further upside, although only over the longer term.

Key Risks

- Weak economies could push airlines back into the red and put a damper on spending on aftermarket services.

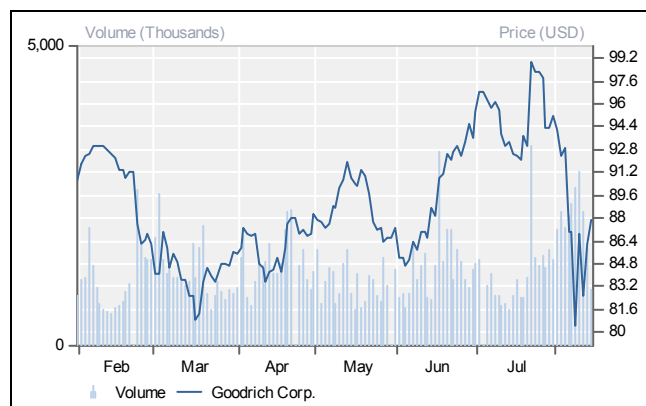
Valuation

Our target price is derived by applying a 10x EV/EBITDA multiple to our FTM EBITDA estimates and dividing the resultant equity value by shares outstanding. This equates to ~15x our FTM EPS estimates vs. 14x for the S&P 500. In light of the fact that we expect GR to participate in the early phases of the aerospace recovery cycle, we consider this premium to be appropriate.

Upcoming Catalysts

- 1) Continued commercial traffic growth;
- 2) Further narrow-body production rate increases;
- 3) Clarification of 737RE strategy and potential GTF engine orders.

Figure 41. Recent Stock Performance



Source: FactSet

Figure 42. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$8,111	\$9,158	\$9,972
EPS	\$5.99	\$6.85	\$8.00
Consensus			
Revenue	\$8,101	\$8,944	\$9,616
EPS	\$6.01	\$6.92	\$7.90

Source: Citi Investment Research and Analysis, Thomson

Huntington Ingalls Industries

(HII.N; US\$28.02; 1M); PT = \$35

Key Investment Points

- **Strong revenue visibility, albeit at zero growth** – The US Navy's 30-year shipbuilding plan lays out long-term goals and supports relatively steady acquisition of HII's core products over the next few decades: carriers, submarines, and amphibious ships.
- **Broken margins create room for improvement** – Some poorly priced ships in the backlog (LPDs 22-25 at zero margin) and Mother Nature (Hurricane Katrina) conspired to create underperforming segment margins of 4.4% in 2010 vs. GD's 10%. Re-baselining contracts, consolidating facilities, and instilling more discipline in yards should contribute to margin improvement over time.
- **Cash generation likely allows for improved net debt position** – We expect near-term cash headwinds from restructuring costs to abate, especially in 2013-14 when we expect the company to be able to begin collecting on these costs. This should allow for leverage ratios to improve and opens the potential to see a dividend over the longer run.

Key Risks

- Higher than estimated closure costs at Avondale could prompt further charges.
- Fiscal pressures prohibit the Navy from maintaining an 11-carrier fleet.

Valuation

Our target price is derived by applying a 8.6x multiple to our FTM EPS est. 12 months from now. This P/E valuation is in line with the defense industry having historically traded at a ~25% discount to the market during a similar defense budget environment.

Figure 43. Recent Stock Performance



Source: FactSet

Figure 44. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$6,498	\$6,576	\$6,608
EPS	\$3.51	\$3.78	\$4.35
Consensus			
Revenue	\$6,628	\$6,746	\$6,803
EPS	\$3.57	\$3.85	\$4.70

Source: Citi Investment Research and Analysis, Thomson

Lockheed Martin

(LMT.N; US\$69.12; 1H); PT = \$102

Key Investment Points

- **F-35 Joint Strike Fighter (JSF) still the fighter of choice** – Despite headline risk due to ongoing government reviews and shifting international orders, the jet remains the fighter of choice for the Air Force, Navy, Marines, and international allies.
- **Strategically aligned platforms** – Includes air transport (C-130), communications (SBIRS, AEHF), smaller naval vessels (LCS), and missile defense (Aegis, PAC-3, THAAD). We believe these end-market exposures help insulate LMT's portfolio from broader domestic cuts, with potential upside from international demand for C-130s, F-16s, F-35s, and THAAD.
- **Resilient cash flow and dividend** – The defense business model continues to provide strong cash generation, supporting LMT's industry-leading dividend yield. The company also commits to returning at least 50% of operating cash flow to shareholders; this has been closer to 70-80% over the past three years.

Key Risks

F-35 is a favorite target of fiscal hawks considering its record price tag and historical cost over-runs.

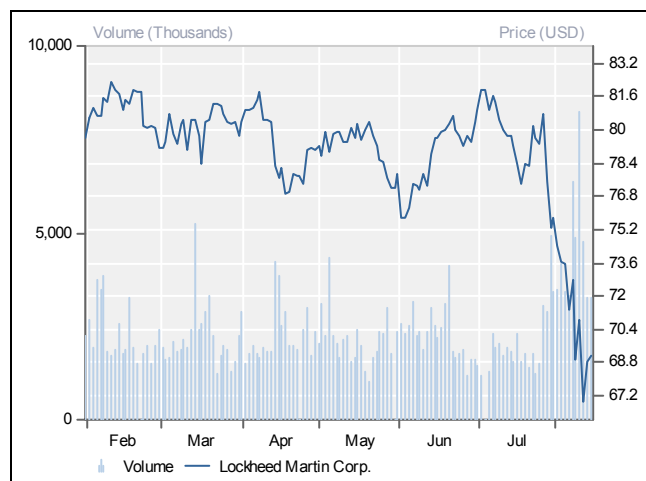
Valuation

Our target price applies a 10.5x multiple to our FTM EPS 12 months from now estimate, in line with the defense sector historically trading at a 25% discount to the market during an era of stable demand following a build-up.

Upcoming Catalysts

- 1) DoD comprehensive strategic review to be roll out in September will help inform plans to reduce defense spending over the next decade;
- 2) Defense Acquisition Board meeting in the fall re-baselines F-35 costs/quantities.

Figure 45. Recent Stock Performance



Source: FactSet

Figure 46. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$46,803	\$47,949	\$48,533
EPS	\$7.64	\$9.08	\$10.24
Consensus			
Revenue	\$46,673	\$47,595	\$47,842
EPS	\$7.49	\$8.75	\$9.74

Source: Citi Investment Research and Analysis, Thomson

Meggitt

(MGGT.L; £3.42; 1M); PT = £4.45

Key Investment Points

- **Significant aftermarket exposure** – Almost 2/3rd of MGGT's civil aerospace business is aftermarket exposed, which is expected to benefit from ongoing traffic recovery. Meggitt also has significant exposure to recovery in business jet traffic.
- **Cost control** – Through restructuring, MGGT has exceeded its previous peak margin in FY10 despite flat volumes.
- **Potential M&A target** – MGGT could be an attractive acquisition target due to high technological barriers to entry, a large installed base, and strong free cash flows. Meggitt's CEO is also approaching retirement age.
- **Strong management team** – Both CEO Terry Twigger and CFO Stephen Young are well regarded having guided MGGT through the recent downturn.
- **Undemanding valuation** – Valuation is undemanding on P/E and FCF yield metrics vs. civil aerospace peers and in comparison with its own history.

Key Risks

- **Defence business at risk from budget cuts** – c45% of sales from defense.
- **Challenging OE outlook for business jets** – Recovery not expected until 2012; G650 development challenges could create additional headwinds.
- **Acquisition risk** – Meggitt has historically made a large acquisition every 4-5 years; risk of over-payment.
- **High balance sheet gearing** – vs. peers at c2x ND/EBITDA in 2010A.
- **Accounting** – MGGT is sometimes criticized for high levels of net capitalized R&D lowering cash conversion.

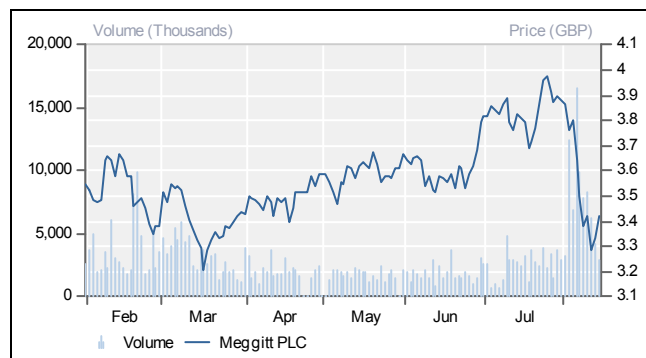
Valuation

Our TP is based on 12x 2012E EPS, inline with MGGT's long run historical average P/E rating and implies a 2012E EV/EBITA of 10x.

Upcoming Catalysts

3Q11 interim statement (4 November 2011)

Figure 47. Recent Stock Performance



Source: FactSet

Figure 48. CIRA vs. Consensus Estimates

£millions	2011E	2012E	2013E
Citi			
Revenue	£1,444	£1,607	£1,716
EPS	31.0p	35.6p	39.5p
Consensus			
Revenue	£1,408	£1,612	£1,700
EPS	30.5p	35.4p	38.7p

Source: Citi Investment Research and Analysis, Thomson

MTU Aero Engines

(MTXGn.DE; €45.81; 1M); PT = €65

Key Investment Points

- **Recovering civil aero aftermarket business** – MTU derives 58% of sales from aftermarket, of which 19% are high margin OEM spares and the remainder MRO.
- **Positions on new growth platforms** – Airbus & Boeing deliveries look set to rise significantly from 2012E. MTU is well positioned on A380, A320, NEO & 787.
- **Geared Turbofan exposure** – MTU has a 15% stake in the Pratt & Whitney geared turbofan engine, which has been designated by Airbus as lead engine for the A320 NEO.
- **Upside risk to management guidance** – Management guidance has historically been conservative. We see upside risk to FY11 guidance & consensus estimates.
- **Strong balance sheet** – MTU has minimal net debt, which we believe offers opportunities for EPS enhancing acquisitions or increased shareholder returns.

Key Risks

- **Defense business at risk from German budget cuts** – Potential downside risk to guidance of -10% in FY11 and our assumption of flat thereafter.
- **Ramp up in Civil OE activity could pressure margins** – Pricing on new OE engines could be weak if Pratt aggressively pursues market share on the NEO.
- **Significant transactional FX exposure** – MTU's civil aero business has \$ sales and € costs. Hedging mitigates the impact of currency movements in the short-term, but valuation remains sensitive.

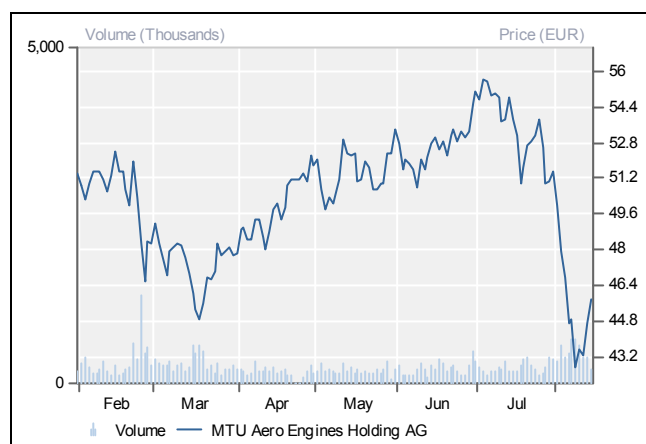
Valuation

Our TP of €65 is based on 10x 2012E EV/EBIT, in line with the historical average for the sub-sector. This implies 13.7x 2012E P/E and 12.4x 2013E P/E.

Upcoming Catalysts

9M11 results (26 October 2011)

Figure 49. Recent Stock Performance



Source: FactSet

Figure 50. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 2,820	€ 3,054	€ 3,313
EPS	€ 4.01	€ 4.74	€ 5.26
Consensus			
Revenue	€ 2,876	€ 3,105	€ 3,338
EPS	€ 3.80	€ 4.48	€ 5.02

Source: Citi Investment Research and Analysis, Thomson

Northrop Grumman

(NOC.N; US\$51.89; 1H); PT = \$80

Key Investment Points

- **Digging in the right spots** – NOC is uniquely positioned on two long-term growth areas (a rarity in the defense space): 1) fighter jets via LMT's JSF (20% content) and BA's F/A-18 (40% content); and 2) UAVs via RQ-4 Global Hawk, its BAMS derivative, Firebird/scout, and UCAS. We admit that JSF and RQ-4 both suffer from headline risk making for short-term turbulence, but we still believe they are the platforms of choice for joint operations and international partners.
- **Bottom-line & cash story** – NOC is a self-professed bottom-line story, with a resilient portfolio anchored by the above-mentioned platforms, boosted by margins that can grow based on continuing cost reduction and portfolio right-sizing. Furthermore, recent announcements indicate that dividends and buybacks will be a priority area for NOC going forward.

Key Risks

- Lowest international exposure of the primes (10%) makes NOC more vulnerable to domestic fiscal pressures.
- Shifting strategic priorities and fiscal pressure could preclude expected sales on headline aeronautics programs.

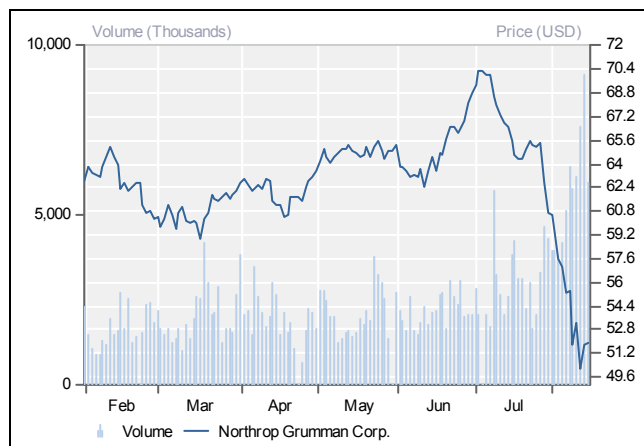
Valuation

Our target price applies a 10.1x multiple to our FTM EPS estimates, in line with the defense sector historically trading at a 25% discount to the market during an era of stable demand following a build-up.

Upcoming Catalysts

- 1) Resolution of JSF LRIPV and F-18 MYP, expected any day; 2) DoD comprehensive strategic review to be completed by the fall will help inform the President's plan for achieving \$400b of security savings over the next 12 years;
- 3) Defense Acquisition Board meeting in the fall re-baselines F-35 costs/quantities.

Figure 51. Recent Stock Performance



Source: FactSet

Figure 52. CIRA vs. Consensus Estimates

\$millions	2011	2012E	2013E
Citi			
Revenue	\$26,982	\$27,456	\$27,927
EPS	\$6.86	\$7.61	\$8.15
Consensus			
Revenue	\$27,002	\$27,278	\$27,200
EPS	\$6.86	\$7.20	\$7.47

Source: Citi Investment Research and Analysis, Thomson

Precision Castparts

(PCP.N; US\$152.37; 1M); PT = \$188

Key Investment Points

- **Attractive content across the aerospace spectrum** – Aero OEM production rate increases, improving energy consumption, and a recovery in industrial markets (auto, machinery, & construction) allow for robust late cycle growth.
- **Secular trends offer long-term growth** – Emerging market exposure in energy production, particularly in India, should allow for sustainable long-term secular growth. Low natural gas prices and erosion of nuclear power demand could lead to increased use of Industrial Gas Turbines (IGTs), while inquiries into oil and gas applications for seamless pipe are growing.
- **Attractive incremental margins** – The company made significant capacity investments during the last cycle, and current utilization is now at 70-80%. We estimate PCP could add up to \$1.5b in sales with little additional capex or overhead, and expect margins to be able to sustain above prior peak levels.

Key Risks

- Narrow customer base with 14% of sales to GE, 8% to UTX and Rolls respectively, and a significant portion to Boeing, levered to what can be a volatile aero industry.
- Fiscal pressures preclude new builds of defense platforms, potentially pressuring PCP's 12% sales exposure to military customers.

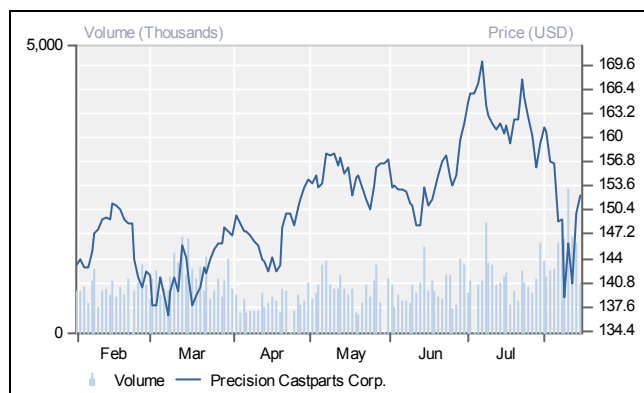
Valuation

Our target price is derived by applying a 17.5x multiple to our FTM EPS estimates vs. the 14x FTM P/E for the market. We consider this premium appropriate in light of the fact that the company is likely to participate in the early phases of aircraft production ramps and an increase in energy market demand.

Upcoming Catalysts

- 1) 1st delivery of 747-8 and then 787 (Aug/Sep);
- 2) Increased utilization of nat gas plants given attractive pricing and erosion in nuclear power demand;
- 3) Acquisitions build confidence in further sales and EPS growth.

Figure 53. Recent Stock Performance



Source: FactSet

Figure 54. CIRA vs. Consensus Estimates

\$millions	2011E	2012E	2013E
Citi			
Revenue	-	\$7,427	\$8,844
EPS	-	\$8.59	\$10.43
Consensus			
Revenue	-	\$7,380	\$8,481
EPS	-	\$8.71	\$10.44

Source: Citi Investment Research and Analysis, Thomson

QinetiQ

(QQ.L; £1.17; 2H); PT = £1.20

Key Investment Points

- **Restructuring upside** – CEO Leo Quinn, formerly of Delarue, aims to cut costs, improve working capital & lower ND/EBITDA. Agreement has been reached with UK employees to lower redundancy costs and Net Debt/EBITDA target has already been achieved ahead of plans.
- **All new management team** – None of the original IPO management team remain, with a new CEO (Leo Quinn) and CFO (David Mellors).
- **Robust UK managed services business** – Support service type business (including the LTPA contract to manage weapons testing ranges) should remain resilient amidst defense spending constraints.
- **Attractive US services business** – Systems Engineering and Mission Solutions consulting businesses have offered double-digit growth historically, but growth has now slowed.
- **Selected interesting product lines** – QQ's US products business includes TALON and Dragon Runner robots, LAST and Q-Nets armor and EARS sniper detection which have robust demand. Upside exists from Optasense.

Key Risks

- **Stretched balance sheet** – Although Net Debt: EBITDA now is within LT target of 2.0x (covenant 3.5x), questions remain on whether it is sustainable.
- **US in-sourcing & slower growth** – US consulting, previously a double-digit growth area, has contracted as a result of in-sourcing and government cutbacks.
- **Tough UK environment** – With UK budgets squeezed by commitments to large weapons programs and increased competition for services contracts

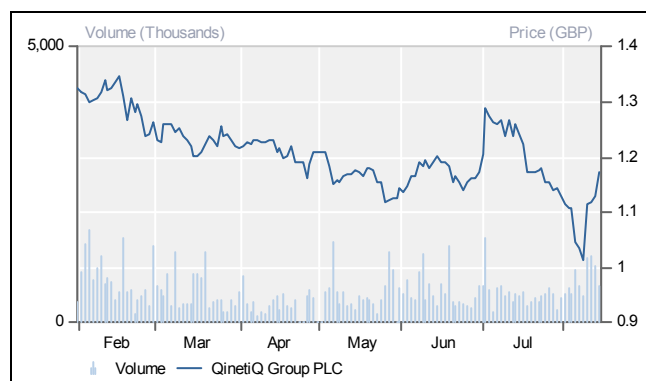
Valuation

Our TP of 120p is based on a P/E of c9x applied to our FY13E EPS forecast of 13.4p. QQ arguably offers valuation upside from deleveraging.

Upcoming Catalysts

1H12 results (23 November 11)

Figure 55. Recent Stock Performance



Source: FactSet

Figure 56. CIRA vs. Consensus Estimates

£millions	2011	2012E	2013E
Citi			
Revenue	-	£1,566	£1,607
EPS	-	12.4p	13.4p
Consensus			
Revenue	-	£1,596	£1,628
EPS	-	13.2p	14.0p

Source: Citi Investment Research and Analysis, Thomson

Raytheon

(RTN.N; US\$40.76; 1H); PT = \$62

Key Investment Points

- **Defending against fiscal pressures** – RTN's diversified product mix (> 8,000 programs & no single program comprising more than 5% total revenue) provides insulation from program cuts. Further strength comes from industry-leading international exposure (23% vs. peers at 10%). Also, RTN is well-positioned in a budget constrained environment that puts a premium on upgrading platforms.
- **Leading margins** – Last year, RTN posted margins of 12%, ~200 bps above competitors' given its mature portfolio and strong international exposure. We still expect this trend to continue due to product mix and a keen focus on program performance improvement.
- **Strong balance sheet drives s/h returns** – By our estimate, net debt to EBITDAP ratio is likely to fall to 0.1x for 2011 driven by strong FCF over 2H11. We expected this free cash to continue to be deployed back to shareholders, with the board recently boosting the dividend by 15%. From 2007-10, RTN returned 100% of operating CF to shareholders through dividends and share repos, a trend we expect to persist.

Key Risks

- International delays preclude growth and backlog targets for 2011.
- Still has \$70m in receivables tied to UKBA project that could be written down.

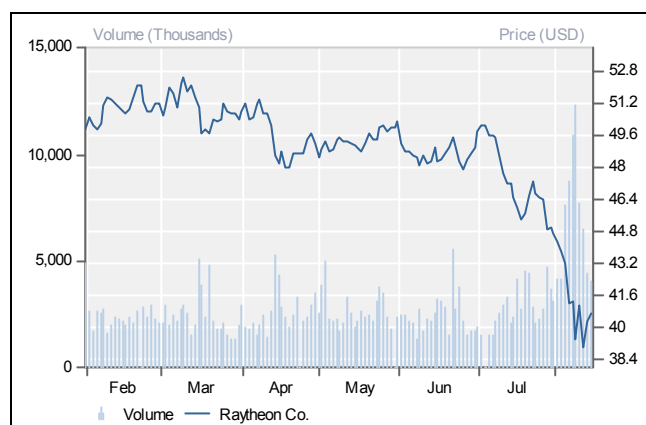
Valuation

Our target price applies a 10.5x multiple to our FTM EPS 12 months from now estimates, in line with the defense sector historically trading at a 25% discount to the market during an era of stable demand following a build-up.

Upcoming Catalysts

- 1) International contract announcements solidify confidence in 2H11's ramp; 2) 3Q11 earnings offers insight on status of international orders and efforts to bring book-to-bill above 1x for 2011.

Figure 57. Recent Stock Performance



Source: FactSet

Figure 58. CIRA vs. Consensus Estimates

\$millions	2011E	2012E	2013E
Citi			
Revenue	\$25,842	\$26,661	\$27,231
EPS	\$4.99	\$5.71	\$6.55
Consensus			
Revenue	\$25,754	\$26,227	\$26,317
EPS	\$5.01	\$5.54	\$6.23

Source: Citi Investment Research and Analysis, Thomson

Rheinmetal AG

(RHM.G.DE; €49.61; 1H); PT = €73

Key Investment Points

- **Recovering autos business** – Following a tough year in 2009, RHM's autos business is seeing an impressive recovery, with profits leveraged into recovery.
- **Resilient defense business** – Niche defense business continues to deliver 6-8% sales growth, with good medium-term earnings visibility.
- **Cost control** – Restructuring in Autos has significantly lowered the breakeven profit level and generated working capital improvements.

Key Risks

- **Defense business at risk from budget cuts** – German defense budgets look under pressure, in common with the rest of Europe. The Puma program could potentially be at risk of cancellation. RHM is looking more to export markets for growth, but competition is intensifying. RHM's target of 8% pa growth to 2012E could prove demanding.
- **Acquisition risk** – RHM has pursued a policy of acquisitive growth in its defense business. There is a risk associated with integrating new acquisitions and of overpaying, although RHM's track record is good.
- **Autos business faces low cost competition** – Whilst some products have a high technology content (e.g. pistons, emissions regulation systems, lightweight engine blocks, pumps), there is a chance that some more commoditized products may face increase competition from abroad.

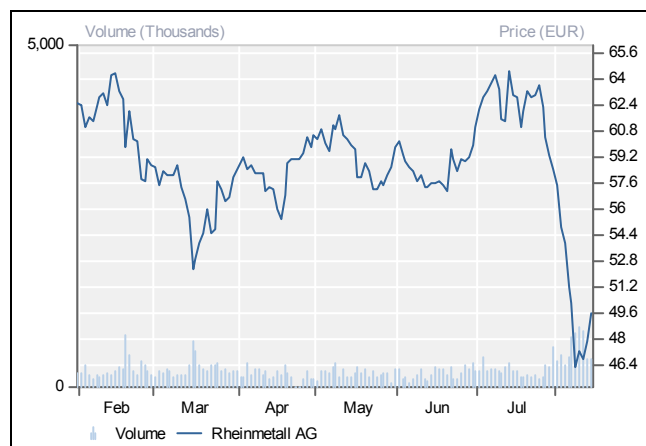
Valuation

Our one-year TP of €73 is based on SOTP valuation. We value RHM's automotive business at 0.7x 2012E EV/Sales and defense at 7.0x FY12E EV/EBIT. Our SoTP also includes a 10% conglomerate discount given the limited synergies between autos & defense.

Upcoming Catalysts

3Q11 results (11 November 11)

Figure 59. Recent Stock Performance



Source: FactSet

Figure 60. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 4,520	€ 5,350	€ 5,600
EPS	€ 5.43	€ 6.45	€ 6.99
Consensus			
Revenue	€ 4,530	€ 5,275	€ 5,757
EPS	€ 5.78	€ 6.86	€ 7.73

Source: Citi Investment Research and Analysis, Thomson

Rockwell Collins

(COL.N; US\$46.57; 2H); PT = \$65

Key Investment Points

- **Mixed market share dynamics** – In our view, new air transport platforms (including 787 and 747-8) and new business jet wins (including Bombardier Global 5000 and Global Express) set COL up to see its OE business outgrow the market in 2011 and 2012. Lacking a recovery in light bizjets, however, it will be difficult to maintain outperformance in 2013 onwards.
- **New competitor could pressure top-line** – Garmin's entry into the avionics market could pressure COL's position, especially in light of the fact that we expect Cessna to refresh some of its lighter fleet over the next few years.
- **Shares fully valued** – Shares trade at ~13.5x 2012 EPS est., in line with where we would expect to see a commercially-driven company with 60% defense exposure (slight discount to commercial but premium to defense names). As such, we believe shares are already pricing in many of the positive developments on the horizon and are therefore fairly valued given potential risk/reward.

Key Risks

- COL growth trajectory put in jeopardy by unclear recovery in light bizjet market and rising competition for in-flight navigation systems (from Garmin).
- Majority (60%) defense exposure impedes commercial growth.

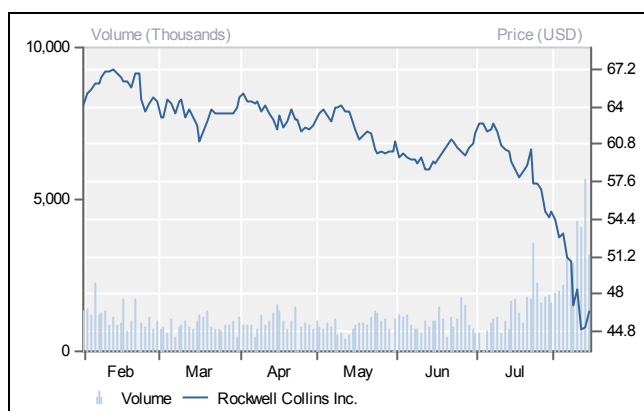
Valuation

We believe COL should trade at a premium to defense stocks given the company's "commercially-driven" defense business (80% of contracts are fixed-price), higher margin levels, and 40% exposure to the commercial aerospace market. As such, we apply a multiple of 14x (in line with the average 2-year S&P 500 FTM PE multiple) to our FTM EPS estimates one year from now to arrive at our price target.

Upcoming Catalysts

- 1) Summer and fall DoD budget action sheds light on JTRS; 2) Uptick in light bizjet demand and OE production rates.

Figure 61. Recent Stock Performance



Source: FactSet

Figure 62. CIRA vs. Consensus Estimates

\$millions	2011E	2012E	2013E
Citi			
Revenue	\$4,830	\$5,135	\$5,443
EPS	\$4.07	\$4.36	\$4.72
Consensus			
Revenue	\$4,840	\$5,156	\$5,505
EPS	\$4.05	\$4.54	\$5.15

Source: Citi Investment Research and Analysis, Thomson

Rolls Royce

(RR.L; £6.04; 1M); PT = £7.40

Key Investment Points

- **Significant aftermarket exposure** – RR derives c28% of its group revenue from Civil Aero aftermarket, which is expected to benefit from rising traffic. Long term “power by the hour” servicing contracts smooth cash flows and profits and offer good long-term visibility.
- **Strong position on wide body engines** – RR has c50% share on wide body engines, with positions on all major growth platforms (787, A350, A380). Narrow body exposure through stake in IAE partnership, which has c25% market share.
- **Sales could double in a decade** – RR believes that it could double sales organically in a decade (7% CAGR) through the doubling of installed thrust.
- **Upside from Marine and Energy** – RR sees \$320bn market in Marine & \$120bn in Energy over 20yrs.
- **Proposed Tognum acquisition** – Tognum is strategically complementary to Marine & Energy activities & could be 5-7% EPS accretive from 12E.
- **Significant net cash** – RR has c£1.5bn in net cash (83p/share).

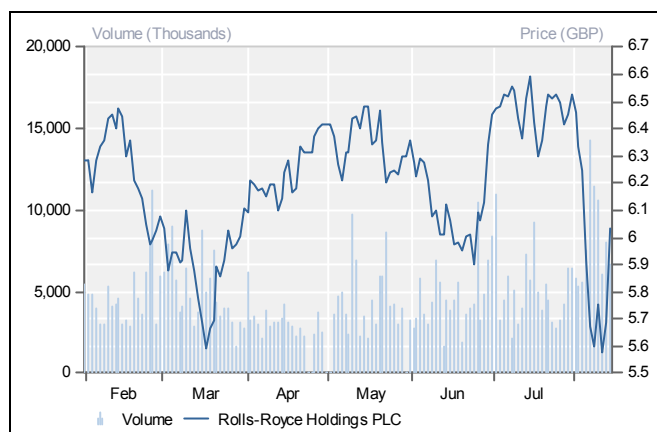
Key Risks

- **Development risks on new engines** – Potential delays in A350XWB (first delivery 2013) where RR is sole source engine supplier. Rolls Royce must also offer a redesigned engine for the larger A350XWB-1000 variant, necessitating additional R&D.
- **Accounting & disclosure** – Criticized for capitalizing loss on engines sold into Total Care contracts and high net capitalized R&D.
- **Not present on new narrow body aircraft** – RR has chosen not to participate in the A320NEO, on account of concerns over the program's longevity if Boeing develops an all new 737 in c.2020.

Valuation

Our 1-year TP of 740p is based on a 14x 2012E P/E, which is higher than its long-run average (12x) due to strong EPS growth & stronger balance sheet.

Figure 63. Recent Stock Performance



Source: FactSet

Figure 64. CIRA vs. Consensus Estimates

£millions	2011E	2012E	2013E
Citi			
Revenue	£11,650	£12,610	£13,460
EPS	45.1p	52.4p	57.8p
Consensus			
Revenue	£11,450	£12,281	£13,108
EPS	43.8p	49.2p	55.2p

Source: Citi Investment Research and Analysis, Thomson

Safran

(SAF.PA; €25.49; 2H); PT = €26.70

Key Investment Points

- **Large & growing base of CFM56 engines** – SAF has c75% market share on narrow-body aircraft. Next-gen LEAP-X is present on A320 neo & C919 aircraft.
- **Significant aftermarket exposure** – 45% of CFM installed base yet to have received first service, with higher revenues from later engines offering a positive mix effect. However, newer engines also need servicing less frequently.
- **Fast growing security business** – Three large acquisitions in 3-years. Double-digit market growth expected with strong positions in biometrics and detection.
- **Beneficiary of strong US dollar** – Significant transactional FX exposure. We expect a cumulative c€345m EBIT benefit 11-13E.
- **Safran+ cost-cutting plan** – Margins have positively surprised, with €100m in savings already delivered.
- **Strong balance sheet** – Small net cash position in 2010A and €1.1bn in undrawn credit facilities.

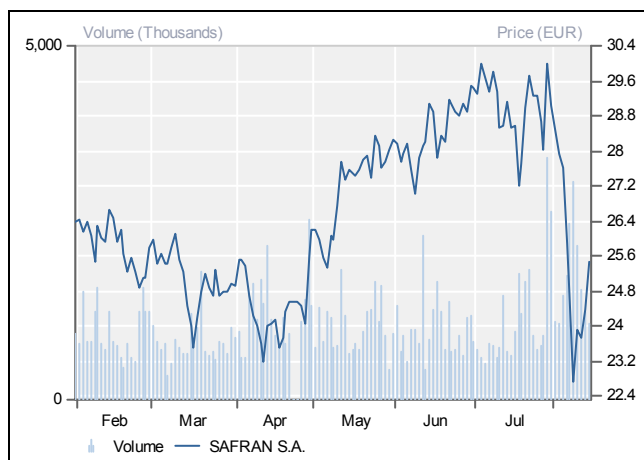
Key Risks

- **Acquisition risk** – Strong growth expected from Security acquisitions may not materialize; interested in buying Zodiac, albeit it has backed off for now.
- **Defense business at risk from budget cuts** – Although relatively small at 11.5% of 2010A sales.
- **30% French government stake** – Limits ability to restructure, risk of government interference.

Valuation

Our 1-year TP of €26.70 is based on a c.12x 2012 P/E, which is similar to the target multiple used to value other aftermarket-exposed civil aerospace peers.

Figure 65. Recent Stock Performance



Source: FactSet

Figure 66. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 11,722	€ 12,703	€ 13,595
EPS	€ 1.79	€ 2.23	€ 2.64
Consensus			
Revenue	€ 11,897	€ 13,156	€ 14,396
EPS	€ 1.78	€ 2.28	€ 2.70

Source: Citi Investment Research and Analysis, Thomson

Textron

(TXT.N; US\$17.05; 2H); PT = \$28

Key Investment Points

- **Commercial aero takes some work** – Although Cessna is working to reduce its cost base, robust demand still isn't materializing for small bizjets, while the segment is only getting busier with new entrants (i.e. Embraer), forcing TXT to maintain elevated R&D through 2013. In addition, Cessna has limited pricing power with both customers and suppliers. Meanwhile, Bell requires further R&D through 2013 to regain lost market (from 55% peak down to 15%).
- **Defense pressures partly mitigated by UAV & helo** – While slowing op tempo pressures armored vehicle and precision weapon sales, we expect Bell military and UAVs to provide a backstop to an otherwise pressured defense business.
- **Cyclical recovery potential given auto exposure** – We expect an uptick in auto production to drive growth in the industrial segment (60% of sales comprised by auto supplier Kautex) which saw its historic lows in 2009.
- **Shares fully valued** – Shares trade at a 22% premium to the market, vs. historically trading at a 6% premium. We don't believe the business to be in particularly better shape today such that it deserves to trade beyond avg. levels.

Key Risks

- Unimpressive small bizjet demand, overcapacity, and new entrants drive further underperformance at Cessna.
- The expensive V-22 Osprey is often mentioned as a potential target for budget cuts/cancellation.

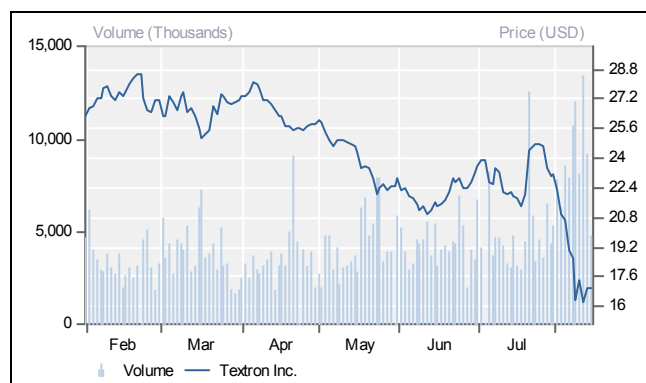
Valuation

We apply 15.5x multiple to our FTM EPS estimate one year from now, in line with where TXT has historically traded. In our view, it is inappropriate to use valuation from the last up-cycle (~17x) since Cessna and Bell fundamentals have changed.

Upcoming Catalysts

Cessna expected to unveil new product(s) at October 10 bizjet trade show (NBAA).

Figure 67. Recent Stock Performance



Source: FactSet

Figure 68. CIRA vs. Consensus Estimates

\$millions	2011E	2012E	2013E
Citi			
Revenue	\$11,415	\$12,484	\$13,414
EPS	\$1.11	\$1.66	\$2.04
Consensus			
Revenue	\$11,486	\$12,409	\$13,139
EPS	\$1.13	\$1.76	\$2.34

Source: Citi Investment Research and Analysis, Thomson

Thales

(TCFP.PA; €25.50; 2H); PT = €30

Key Investment Points

- **Restructuring upside** – Management aims to raise margins from 3-4% currently to those achieved by European peers (9-11%).
- **CEO Luc Vigneron brings restructuring experience** – Vigneron raised Nexter's margins from negative to positive 10-12% over a 10-year period, and was put in place as Thales CEO after Dassault bought Alcatel stake.
- **Some exposure to civil/commercial recovery** – A diversified mix of businesses, with exposure to civil aerospace (avionics, in flight entertainment) and commercial recovery (rail signaling, ticketing).

Key Risks

- **"Slow burn" restructuring story** – Benefits unlikely before 2014E, interim progress hard to gauge.
- **Limited bottom-line benefits** – Majority of savings to go in R&D, better pricing to stimulate demand/win mkt. share.
- **Challenging demand outlook** – Budget pressures in Europe, increasing competition in export markets.
- **Low visibility on further potential contract provisions** – Relatively poor disclosure generally, particularly on contract charges.
- **French govt. stake (27%)** – Risk of government interference.

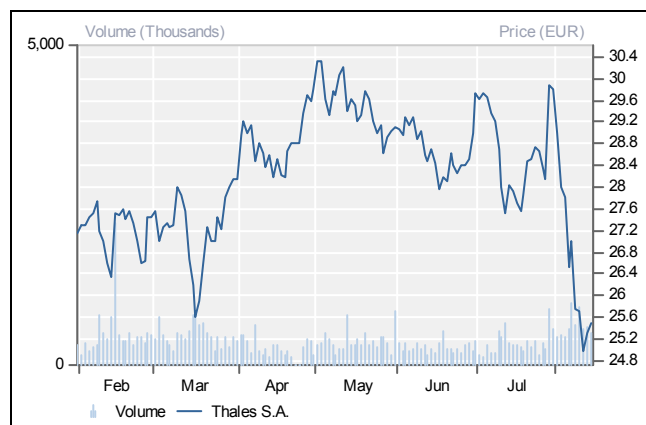
Valuation

Our TP of €30 is based on a 10.5x P/E multiple applied to a theoretical mid-cycle EPS of €3.47 (based on a long-run EBIT margin assumption of 8%), discounted by 20% to reflect risks associated with restructuring & the fact that Thales looks unlikely to return to mid-cycle margins before 2013, in our view.

Upcoming Catalysts

3Q11 sales (8 November 2011)

Figure 69. Recent Stock Performance



Source: FactSet

Figure 70. CIRA vs. Consensus Estimates

€millions	2011E	2012E	2013E
Citi			
Revenue	€ 13,400	€ 13,700	€ 14,100
EPS	€ 2.53	€ 2.99	€ 3.76
Consensus			
Revenue	€ 13,263	€ 13,469	€ 13,717
EPS	€ 2.52	€ 2.98	€ 3.56

Source: Citi Investment Research and Analysis, Thomson

Citi Commercial Aero Forecasts and Data

In our view, the long-term outlook for aircraft demand remains appealing. Based on assumed global GDP growth of 4%, we expect ~5% annual growth in the global fleet of commercial airlines and also ~5% annual delivery growth. The implied deliveries in 2011E of 1,146 and 1,200 in 2012E are very similar to our actual forecasts of 1,034 and 1,192, respectively. The demand model assumes passenger traffic growth at 1.5x GDP (the lower end of the historical range of 1.5-2.0x) and that 2% of the global fleet are retired each year. It is not a precise model, but it is supportive of continued delivery growth nonetheless.

Our delivery estimates are 10% and 1% below our demand forecast for 2011E and 2012E, respectively, signaling macroeconomic support for our delivery outlook.

Figure 71. Commercial Aero Demand Forecast

	2011E	2012E	2013E	2014E	2015E
In Service Fleet b/f	16,284	17,100	17,960	18,860	19,800
Deliveries	1,146	1,200	1,260	1,320	1,390
Retirements	-330	-340	-360	-380	-400
In Service Fleet c/f	17,100	17,960	18,860	19,800	20,790
Average age (implied)	11.4yrs	11.4yrs	11.3yrs	11.2yrs	11.2yrs
GDP Growth	4.0%	4.0%	4.0%	4.0%	4.0%
Multiplier	1.50x	1.50x	1.50x	1.50x	1.50x
Traffic Growth	6.0%	6.0%	6.0%	6.0%	6.0%
LF, Aircraft Size, Distance Adjustment	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Assumed Fleet Growth	5.0%	5.0%	5.0%	5.0%	5.0%
Implied Delivery Growth	17.9%	4.7%	5.0%	4.8%	5.3%
Retirements	-330	-340	-360	-380	-400
as % of In Service Fleet b/f	2.0%	2.0%	2.0%	2.0%	2.0%
Implied Delivery Demand (# aircraft)	1,146	1,200	1,260	1,320	1,390
Citi Delivery Forecasts (# aircraft)	1,034	1,192	1,297	NA	NA
Delivery vs. Demand forecast	(9.8%)	(0.7%)	2.9%	NA	NA

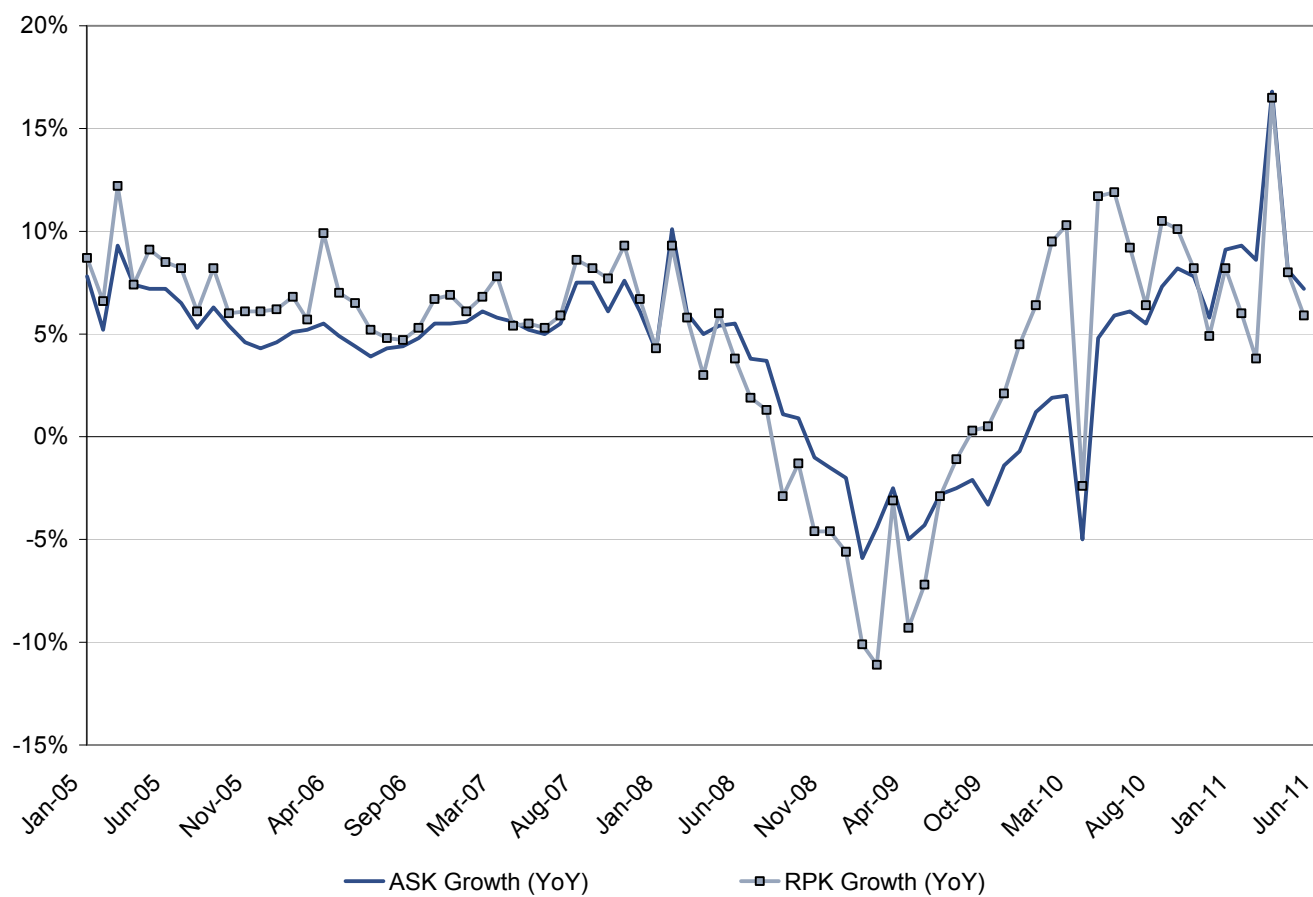
Source: Citi Investment Research and Analysis

Figure 72. Commercial Aero Delivery Forecast

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011E	2012E	2013E
737NG	223	173	202	212	302	330	290	372	376	375	414	452
747	27	19	15	13	14	16	14	8	0	16	24	24
767	35	24	9	10	12	12	10	13	12	13	24	24
777	47	39	36	40	65	83	61	88	74	74	84	100
787	0	0	0	0	0	0	0	0	0	16	55	84
Other	49	26	23	15	5	0	0	0	0	0	0	0
Boeing	381	281	285	290	398	441	375	481	462	494	601	684
% Y/Y Change	-28%	-26%	1%	2%	37%	11%	-15%	28%	-4%	7%	22%	14%
A320	236	233	233	289	339	367	386	402	401	424	458	472
A330/A340	58	64	75	80	86	79	85	86	91	91	102	105
A350	0	0	0	0	0	0	0	0	0	0	0	0
A380	0	0	0	0	0	1	12	10	18	25	30	35
Other	9	8	12	9	9	6	0	0	0	0	0	0
Airbus	303	305	320	378	434	453	483	498	510	540	591	613
% Y/Y Change	-7%	1%	5%	18%	15%	4%	7%	3%	2%	6%	9%	4%
Narrow	508	432	458	516	646	697	676	774	777	799	872	924
Wide	176	154	147	152	186	197	182	205	195	235	319	372
Total	684	586	605	668	832	894	858	979	972	1,034	1,192	1,297
Narrow	-22%	-15%	6%	13%	25%	8%	-3%	14%	0%	3%	9%	6%
Wide	-13%	-13%	-5%	3%	22%	6%	-8%	13%	-5%	21%	36%	17%
% Y/Y Change	-20%	-14%	3%	10%	25%	7%	-4%	14%	-1%	6%	15%	9%

Source: Citi Investment Research and Analysis, Boeing, Airbus

Figure 73. Global Traffic and Capacity (January 2005 – June 2011)



Source: IATA

Business Jet Data

In our view, the bizjet market continues to see separation between the more robust large-cabins and less certain SMID-cabins. Large-cabin sales are expected to pick up this year thanks to some new products hitting the market; mid-cabin production is not expected to begin recovering until late next year; and there continues to be limited visibility on the small-cabins.

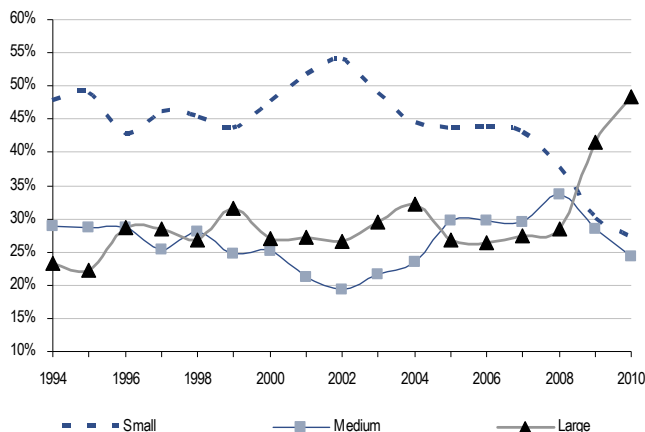
This bizjet market segmentation supports our Buys on General Dynamics and Bombardier, our Holds on Textron and Embraer.

Figure 74. BizJet Market Segmentation

Cabin Size	Small				Medium		Large		
Range	Very Short		Short	Short Medium	Medium	Long	Very Long	Ultra Long	
Weight	Micro	Very Light	Light	Light Medium	Medium	Medium Heavy	Heavy	Very Heavy	
Bombardier			Learjet 40 Learjet 40XR	Learjet 45 Learjet 45XR	Learjet 60XR Learjet 85	Challenger 300	Challenger 605	Global 5000	Express XRS Global 7000 (2016) Global 8000 (2017)
Embraer	Phenom 100		Phenom 300			Legacy 450 & 500/550 (2013)	Legacy 600 Legacy 650		
Dassault (Falcon)						SMS (delayed)	2000EX 2000DX 2000LX	900EX 900DX 900LX	7X
Gulfstream					G150	G200 G250 (2012)	G350	G450	G500 G550 G650 (2012)
Hawker		Premier I	200	400XP	750 900XP	4000			
Cessna	Mustang	CJ1+ CJ2+	CJ3 CJ4 Encore+	XLS+	Sovereign	Citation X Citation Ten (Dec 2011)	Columbus (cancelled)		

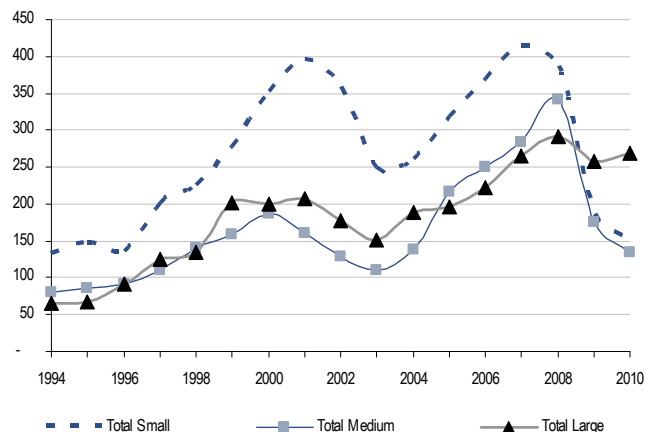
Source: Company Information, Citi Investment Research and Analysis
Note: GD still expects 1st G650 deliveries to happen in 2011.

Figure 75. Delivery Market Share (1994-2010)



Source: Citi Investment Research and Analysis, GAMA

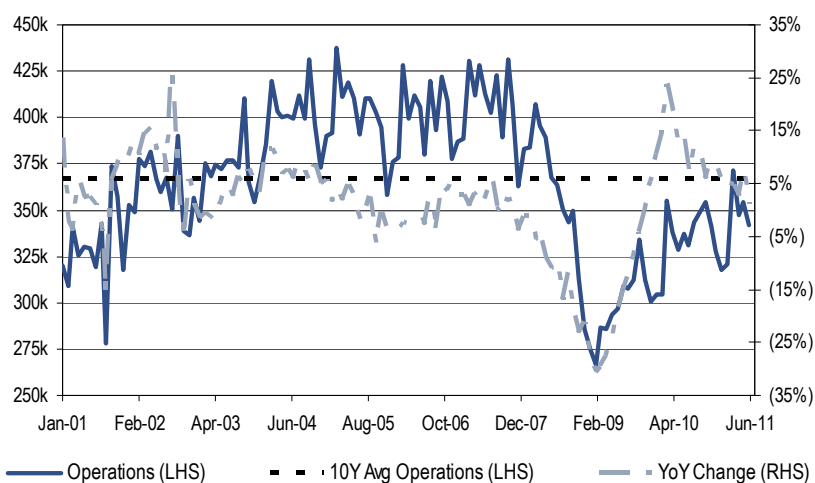
Figure 76. Delivery Quantities (1994-2010)



Source: Citi Investment Research and Analysis, GAMA

Despite a positive growth trajectory, business jet operations are still below their 10-year average, and y/y comparables are becoming increasingly difficult.

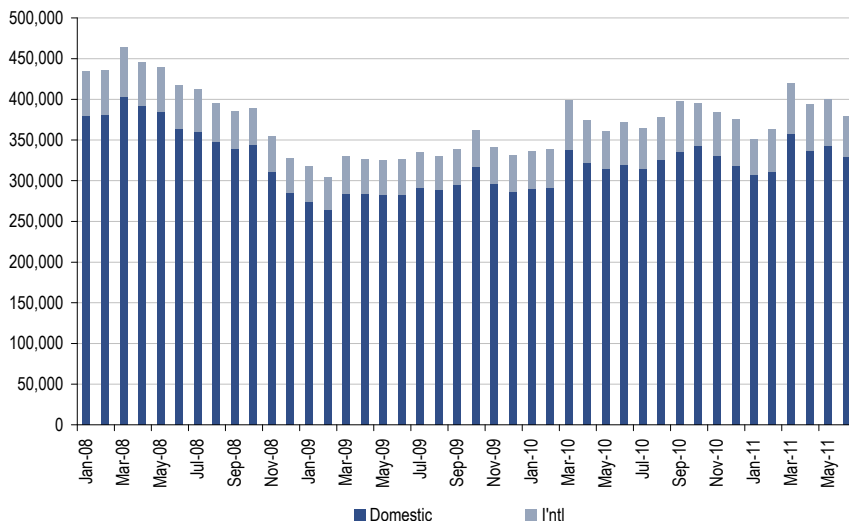
Figure 77. Business Jet Operations (2001-Present)



Source: Citi Investment Research and Analysis, FAA

Total bizjet operations are still below their 2008 peaks, although international bizjet activity has outgrown domestic US.

Figure 78. Biz Jet Operations (Arrivals + Departures)



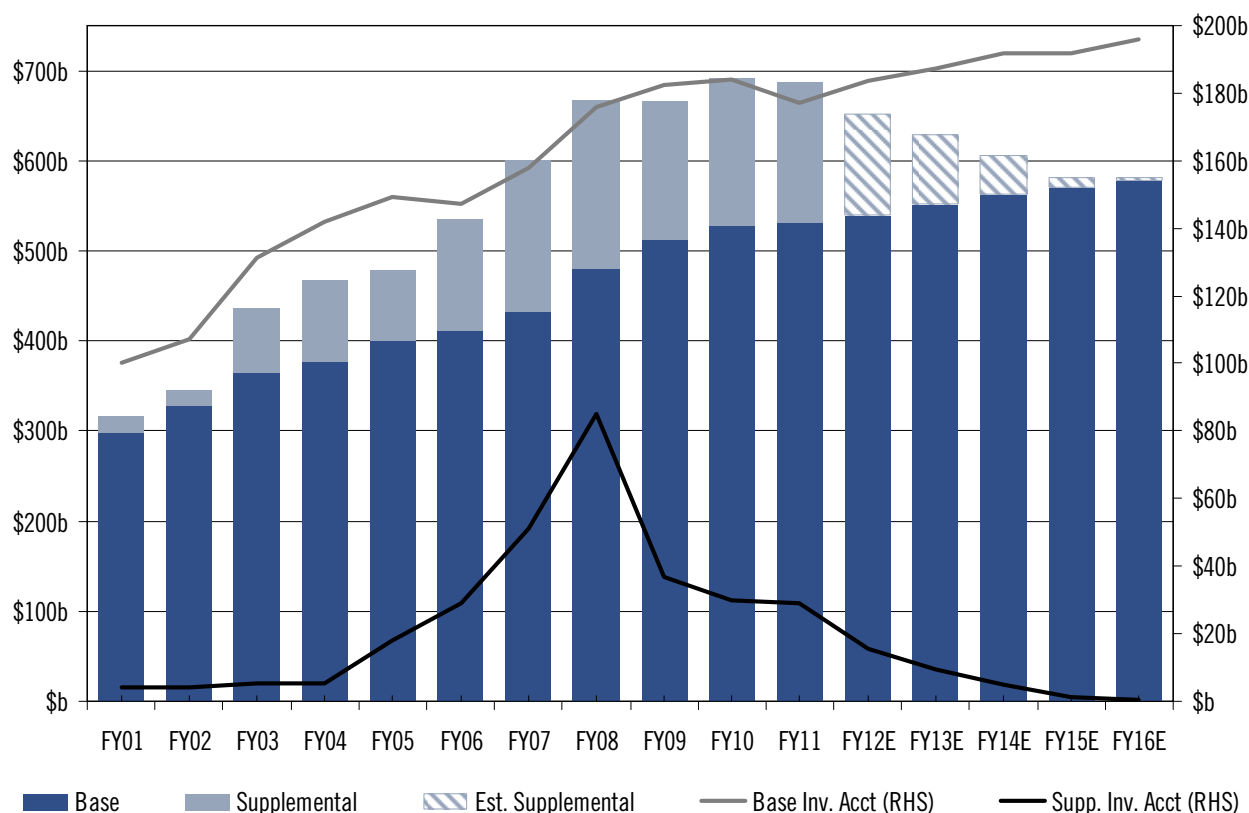
Source: Citi Investment Research and Analysis, FAA

Defense Budget Forecasts and Data

Our current defense budget forecast reflects a ~\$350b reduction plan over the next 10 years, with 33% of the savings allotted to the investment accounts. This could change pending the DoD's comprehensive strategic review and Congressional Joint Committee's actions come November/December.

Our supplemental forecast reflects the President's June proposal to remove 10k troops by the end of 2011, and another 23k by September 2012 (the end of FY12). We then assume a more rapid withdrawal of troops than that seen during the Iraq drawdown (25% reduction in FY12, 45% in FY14, 75% in FY15, and 80% in FY16).

Figure 79. US DoD Budget and Investment Account Forecasts (Current \$m)



Source: Citi Investment Research and Analysis

Figure 80. DoD Investment Accounts FY01-FY16E

	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12E	FY13E	FY14E	FY15E	FY16E
Procurement (current \$b)																
Base	58	58	73	77	80	77	82	99	102	104	102	110	114	121	124	130
Supplemental	5	5	6	6	17	27	50	82	35	29	28	14	9	5	1	0
Total	63	63	78	83	97	104	132	181	137	133	130	124	123	126	125	130
R&D (current \$b)																
Base	42	49	58	65	69	71	76	77	80	80	75	73	73	71	68	66
Supplemental	0	0	0	0	1	1	2	3	2	1	1	0	0	0	0	0
Total	42	49	58	64	70	72	77	80	82	81	76	74	73	71	68	66
Investment Account (Procurement + R&D)																
Base Inv. Acct (RHS)	100	107	131	142	149	147	158	176	182	184	177	184	187	192	192	196
Supp. Inv. Acct (RHS)	4	4	5	5	18	29	51	85	37	30	29	15	9	5	1	0
Total	104	111	137	148	167	176	209	261	219	214	206	199	197	197	193	196
as % of total budget	33%	32%	31%	32%	35%	33%	35%	39%	33%	31%	30%	31%	31%	33%	33%	34%

Source: Citi Investment Research and Analysis

Although domestic defense budgets are likely flattish over the out-years due to fiscal pressures, we note that demand is growing in the Middle East and Asia/Pacific, presenting Western defense companies with new sales opportunities.

Figure 81. Middle East Defense Budget Forecast (ex-Iran, Syria), \$m

	2010E	2011E	2012E	2013E	2014E	2015E
Saudi Arabia	43,749	47,101	48,497	49,935	51,416	52,940
UAE	16,740	18,023	18,557	19,108	19,674	20,258
Israel	13,495	11,800	12,800	12,800	12,800	13,800
Egypt	4,013	3,200	3,200	3,200	3,200	3,200
Iraq	4,156	10,500	12,500	12,500	13,500	13,500
Other GCC	7,687	8,276	8,522	8,774	9,034	9,302
TAM Mid East	\$89,841	\$98,900	\$104,076	\$106,317	\$109,624	\$113,000
y/y growth	4.5%	10.1%	5.2%	2.2%	3.1%	3.1%

Source: Citi Investment Research and Analysis, SIPRI, Forecast International

Figure 82. Asia/Pacific Defense Budget Forecast (ex-China), \$m

	2010E	2011E	2012E	2013E	2014E	2015E
Japan	51,029	51,452	51,878	52,307	52,740	53,177
India	40,000	42,504	45,164	47,991	50,995	54,187
South Korea	24,059	27,304	29,130	30,065	31,029	32,025
Australia	27,000	25,650	24,368	24,851	25,344	25,847
Taiwan	9,324	9,438	9,553	9,670	9,788	9,908
Singapore	7,762	7,994	8,233	8,479	8,733	8,994
Pakistan	4,716	4,791	4,868	4,945	5,024	5,104
Other	19,463	20,369	21,317	22,309	23,347	24,434
TAM Asia	\$183,354	\$189,502	\$194,511	\$200,618	\$207,001	\$213,676
y/y growth	6.8%	3.4%	2.6%	3.1%	3.2%	3.2%

Source: Citi Investment Research and Analysis, SIPRI

Figure 83. Select International Defense Pipeline

Opportunity	Quantity	Value (\$m)	Timing	Potential Company/Platform
AIR				
Australia UAV	7	TBD	TBD	TBD
Australia Maritime Patrol	TBD	TBD	TBD	BA P-8 (no commitment)
Australia Helo	24	3,000	2011	Sikorsky/LMT MH-60R Seahawk
France Unmanned Air System	TBD	TBD	2011	TBD
India Lift + Patrol	10 - 16	4,100	2011	BA C-17
India Combat Helo	22	TBD	2011	TBD
India Heavy Lift Helo	15	TBD	2011	TBD
India Tanker	6	2,000	TBD	A330, IL-78
India Trainer	57	750	2010	BAE Hawk
India Maritime Patrol	4	TBD	2011	BA P-8I
India Lift	45	TBD	2011	Multirole Transport Aircraft (MTA) (JV btw Russia & India)
Indonesia Trainers	16	400	2011	KAI T-50
Iraq Trainers	24	1,520	2010-11	BAE Hawk, LMT/KAI T-50, Alenia M-346
Israel Lift	9	1,900	2010	LMT C-130J
Israel Trainer	TBD	TBD	2011	Alenia, KAI
Kuwait Lift	1	400	2011	BA C-17
Kuwait Tanker	3	245	2010	LMT C-130J
Poland Trainers	16	TBD	2011-12	Alenia M346, KAI/LMT T-50, Patria Mk51
Qatar Lift	TBD	TBD	TBD	BA C-17
Saudi Helo	132	30,000	2010	BA Apache & UTC Black Hawk
Saudi Lift	TBD	TBD	TBD	BA C-17
Sweden Helo	15	546	2011	Sikorsky UH-60M, Eurocopter EC725
Taiwan Helo	30	TBD	2011	BA Apache Block III
Thailand Helo	3	235	2011	Sikorsky UH-60M BlackHawk
Tunisia Lift	2	TBD	1Q10	LMT C-130J
Turkey Helo	14	1,200	2010-11	BA CH-47
Turkey Helo	109-300	4,000-10,000	2011	Agusta T-129, Sikorsky T-70
UAE Lift	12	TBD	TBD	LMT C-130
UAE Trainers	48	> 1,000	2011	Alenia M-346, KAI/LMT T-50
FIGHTER				
Australia Fighter	100	TBD	TBD	LMT F-35
Brazil FX-2 Fighter	36	4,750	2012	BA Super Hornet, Saab Gripen, Dassault Rafale
Brazil F-XBR	TBD	TBD	2019	TBD
Bulgaria Fighter	8	TBD	2012	EADS, Gripen, LMT
India Fighter (MMRCA)	126	10,500	2012	Dassault Rafale, Eurofighter Typhoon
India Fighter	270	12,000	2011	Su-30MKI
India Fighter (5G)	> 300	25,000	2011	Fifth Generation Fighter Aircraft (FGFA) (JV btw Russia & India)
Iraq Fighters	18	4,200	2012	LMT F-16
Israel Fighters (bridge to F-35)	18+	TBD	2011	BA F-15 or LMT F-16
Israel Fighters	20	2,750	2010	LMT F-35
Japan F-X Fighter	50	6,000-10,000	2011	Eurofighter, BA Super Hornet, LMT F-35 (F-35 reportedly out)
Japan F-XX Fighter	200-250	TBD	2020	TBD
Korea F-X Phase III	60	9,000	2012	LMT F-35, BA F-15, Eurofighter Typhoon, T-50 PAK-FA
Kuwait Fighters	36	4,400	2011	Dassault Rafale (likely 14-28 quantity), Saab Gripen, BA F-18
Libya Fighters	12-15	1,000	2010	Sukhoi Su-35/30
Oman Fighters	18-24	2,200 - 3,500	2011	Eurofighter Typhoon, LMT F-16
Qatar Fighters	24-36		2012	LMT F-35, BA F-15, BA Super Hornet, Eurofighter, Rafale
Saudi Fighters	84	30,000	2010	BA F-15
Singapore Fighters	TBD	TBD	2013	LMT F-35
Switzerland Fighters	22	TBD	TBD	Saab Gripen, others
Syria Fighters	TBD	1,000	2010	MiG-29
Taiwan Fighters	66	> 3,100	TBD	LMT F-16
Thailand Fighter Upgrade	18	700	2011	LMT F-16, NOC components
Turkey Fighters	30	1,800	2010	LMT F-16
Turkey Fighters	100	> 13,000	2012-20	LMT F-35
UAE Fighters	60	6,250	2011	LMT F-16, Dassault Rafale, BA Super Hornet
Vietnam Fighters	12	~2,000	2010	Su-30MKK
MISSILE				
India Missiles	150 upgrades	TBD	2010-11	MBDA
Japan Missile Defense	TBD	TBD	TBD	RTN NCADE
Kuwait Missile Defense	209	900	2011	RTN/LMKT Patriot
Poland Missile Defense	TBD	TBD	TBD	RTN/LMT Patriot
Qatar Missile Defense	TBD	TBD	TBD	RTN/LMT Patriot
Saudi Missile Defense	TBD	1,700	2011	RTN/LMT Patriot Upgrades
Syria Air Defense	TBD	TBD	2010	Pantsir, Buk M2
Taiwan Missile Defense	TBD	TBD	2011	RTN/LMT Patriot
Taiwan Missile Defense	4	1,100	2H10	RTN/LMT Patriot
Turkey Missile Defense	13	7,800	2010	RTN/LMT Patriot
UAE Early Warning	TBD	1,000	2010-11	NOC E-2D
UAE Missile Defense	TBD	4,600	2011	LMT/RTN THAAD
UAE Missile Defense	TBD	3,300	2H10	RTN/LMT Patriot

Source: Citi Investment Research and Analysis

Appendix A-1

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