

## EQUITY REPORT AIRBUS GROUP

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## Index

Recommendation.....	1
Executive summary .....	2
Airbus Group Company Overview.....	3
Airbus Group faces increasing competitive landscape in the A&D industry .....	5
Drivers and trends of Airbus’ commercial aerospace business .....	7
Key drivers for Airbus value creation and the industry .....	7
Trends driving the commercial aerospace industry .....	9
Airbus’ Space and Defence business.....	10
Airbus Helicopter business.....	11
Macroeconomic trends and model imperatives .....	12
Valuation .....	14
Discounted Cash Flow Valuation .....	14
Multiples valuation .....	20
Financials .....	22
Bibliography .....	26
Appendices .....	27

## List of Tables and Figures

Figure 1- Airbus vs. Boeing backlog (order) battle development, 2011-2016, Sources: Boeing, Airbus, Statista .	5
Figure 2 – Global leading A&D manufacturers 2015 by sales in USD mn, Source: Statista, 2016.....	5
Figure 3 – Overview European and Main Global Competitors of Airbus Operating Business, Sources: Own research, Statista, Airbus.....	6
Figure 4 – Global backlog breakdown development by OEM, 2004 vs. 2015, Sources: Airbus, Boeing, Bombardier, Flightglobal, 2016.....	6
Figure 5 – List of leading airlines by RPK bn, Source: Statista, 2016.....	8
Figure 6 – Air passenger traffic from 1995 to 2035, by region (in billion RPKs), Source: Statista, 2016.....	8
Figure 7 – Projected aircraft deliveries from 2016 to 2035, Source: Statista, 2016.....	8
Figure 8 – Change in military spending 2006-2015, Source: Statista, 2016.....	10
Figure 9 - The 15 countries with the highest military spending worldwide in 2015 (in USD bn), Source: Statista, 2016.....	10
Figure 10 – Deliveries developments by helicopter type, Source: Airbus Helicopters, Analyst research.....	12
Figure 11 – 2015 market share Airbus Helicopters in civil and military market, Source: Airbus Helicopters.....	12
Figure 13 - Backlog development at Airbus from 1998 to 2015, Source: Airbus company filings.....	12
Figure 12 – Worldwide air traffic passenger revenue from 2004 to 016 in USD bn, Source: Statista.....	12
Figure 14 - Average annual Europe Brent crude spot price and 24M MA from 1990 to 2015 in USD per barrel	12
Figure 15 – Comparison global GDP growth and airline traffic growth (in RPK), Source:Statista, Airbus, Flightglobal, Analyst assumptions.....	13
Figure 16 – Crude oil prices per barrel and moving average between 1980 and 2015, Source: Statista.....	13
Figure 17 – Enterprise Value and sensitivity analysis, Source: Analyst assumptions, Airbus company filings ...	20
Table 1 – Overview key financial metrics.....	2
Table 2 – Revenue split and year-on-year growth of three major business units.....	3
Table 3 – Geographic revenue split at Airbus Group, 2012 to 2016.....	4
Table 4 – Income statement with revenue division breakdown, Source: Airbus Group Annual reports 2012 to 2016, Source: Airbus company filings, Analyst assumptions.....	15
Table 5 - PP&E breakdown through base forecast D&A and Capital Expenditure as % of revenues forecast, Source Airbus company filings, Analyst assumption and research.....	18
Table 6 – Forecasting operating working capital items and business unit breakdown, Sources: Analyst assumptions, Airbus company filings.....	19
Table 7 – Multiples of comparable companies in Commercial Aerospace and Defence and Space, Source: Bloomberg.....	21

**AIRBUS GROUP (EADSY, AIR.PA)**  
 Industrials | Aerospace & Defence  
 Analyst: Josephine Kittner

Dec 27, 2016

## Recommendation

Our Airbus Group (AIR:PA) buy recommendation derives mostly from strong backlog performance in 2016 with above industry average revenue growth rate expectations and better than expected management execution risks. While reported Q3 '16 results were less than expected, delivery rates and deals closed increased again towards the end of the year, leading the market with a very positive tendency for 2017. The current target price is set at EUR 64.54, resulting into an expected return over a period of 12 months of 16.6%. Airbus restructuring announcement further strengthened the management's proactive steps towards a concentration on its well performing core business: commercial aircraft manufacturing.

### Positive

- Commercial Aerospace markets see a strong upward trend due to increasing passenger numbers and number of newly arising aviation mega cities for next decade, especially in markets with high GDP and population growth, such as Asia-Pacific, Latin America, and the Middle East. Airbus is expected to capture growth in terms of sales of new aircraft and replacements, leaving the market at a current 50-50 weight.
- Helicopters business shows stable revenues and market leadership in the commercial helicopters segment is preserved for the FY 2016.
- Airbus closes an historic aircraft order contract end of 2016 with Iranian Air after receiving necessary export permissions from US export agency. The order encompasses 100 new aircrafts with 46 single-aisle aircrafts. Together with strong backlog value, 2016 prepares Airbus for a strong 2017.

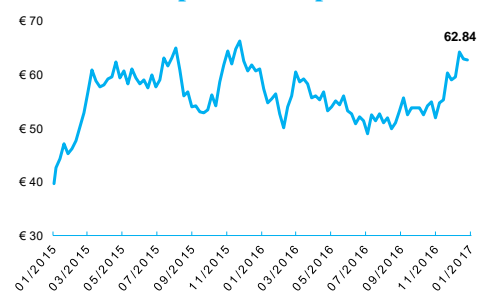
### Negative

- This year Airbus faced increased execution risks due to longer backlog periods and operational problems to finalize the new engine option program for the A320 family of Airbus Commercial Aerospace. Coupled with decision to cut the A380 lossmaking program, high penalty payments for the long-term delivery delay of the A400M, and construction issues for the A350 XWB, the pressure on Airbus rises to avoid similar challenges in the future and to increase build rates.
- Low oil prices, the increasing dollar appreciation, and low financing costs render airline financing as a high risk for Airbus, especially considering the historically high backlog value and average backlog length. As soon as prices increase more and financing becomes more expensive, Airbus could face a strong cancellation wave.

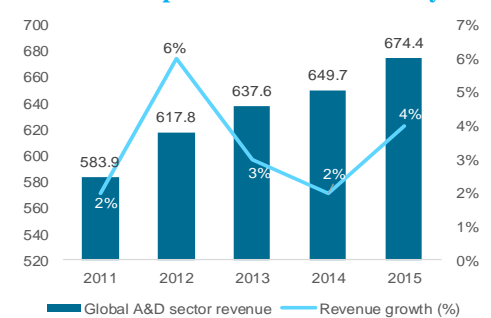
<b>Stock Rating</b>	<b>Buy</b>
Consensus	Buy
<b>Industry</b>	<b>Positive</b>
Vs. FY 2015	Unchanged
<b>Price Target</b>	<b>EUR 64.54</b>
Current Stock Price	EUR 60.02

<b>52-week range (EUR)</b>	<b>48.07 - 62.83</b>
<b>Market Cap (EUR mn)</b>	<b>46,410</b>
<b>Outstanding shares (mn)</b>	<b>772.712</b>

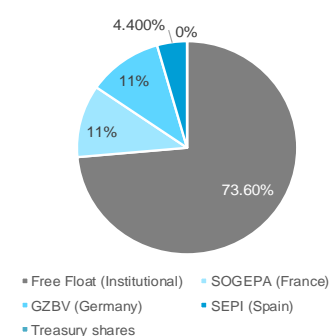
### AIR:PA stock price development



### Global Aerospace & Defence industry



### Shareholding structure



**AIRBUS GROUP** (EADSY, AIR.PA)  
 Industrials | Aerospace & Defence  
 Analyst: Josephine Kittner

Dec 27, 2016

## Executive summary

The purpose of this report is to provide a comprehensive business and financial analysis of Airbus Group and deliver an investment recommendation based on the current price and the expected return for the period of the next 12 months. The expected upside is 16.6% for the 12 next months' period. In order to derive the target price of the business, we applied a sum-of-the-parts DCF valuation for the two parts we defined: Airbus Commercial Aerospace/HQ, and Defence & Space combined with the Helicopters business unit. The valuation results were confirmed by a multiple based valuation. Overall, we observed the potential for positive growth for all three business units, in particular, for the revenue driving Airbus Commercial Aerospace.

Airbus Commercial Aerospace was determined as the main revenue contributor within the Group by currently contributing more than 70% to total revenues. Despite the challenges associated with an appreciating dollar, low interest rates and fluctuating oil prices, we follow the market dynamics and forecast very attractive revenue growth for the next 5 years. We strongly believe that Airbus is taking the right steps towards eliminating execution risks and towards slowly increasing build rates and operating margins to decrease high average backlog periods. CA has excellent market opportunities in the Middle East, Asia Pacific and Latin America, where welfare increases and air traffic demand grows. Given Airbus' leading market position in aircraft manufacturing, we expect Airbus to outperform the Aerospace & Defence industry in the coming years.

Airbus Defence & Space saw some major hiccups this year caused by A400M delivery delays that the company has been dragging along for several years. We observed how D&S revenues decreased this year due to significant penalty payments to Germany. This weakened the business for the A400M once more. The remaining business demonstrated positive trends and could grow. We expect D&S sales to stagnate more in the future, partly due to the fierce competition and competitive advantages of US companies within that business. Airbus Helicopters shows stable, yet low growth but retains its market leadership in the commercial helicopter business. The general outlook is more conservative motivated by decreasing order intakes.

Our **target price** for Airbus (AIR.PA) was set at EUR 64.54 for the FY 2016.

## Key financial metrics

Income statement						
in EUR mn	2014A	2015A	2016F	2017F	2018F	CAGR
Sales	60,713	64,450	65,682	69,662	73,968	5.1%
EBITDA (adj)	5,999	6,487	5,569	6,076	6,409	1.7%
EBIT	3,849	4,021	3,625	4,016	4,225	2.4%
Net income (adj)	2,208	2,534	2,111	2,256	2,415	2.3%
EPS (adj) (in EUR)	2.82	3.23	2.73	2.89	3.08	2.3%
Diluted shares (mn)	784.3	783.9	772.7	781.5	783.5	0.0%

Margins and returns						
in %	2014A	2015A	2016F	2017F	2018F	Avg
Sales growth	5.5%	6.2%	2.0%	6.1%	6.2%	5.2%
EBITDA margin	9.8%	9.7%	8.5%	8.7%	8.7%	9.1%
EBIT margin	6.3%	6.2%	5.5%	5.8%	5.7%	5.9%
ROIC	15.9%	15.1%	10.3%	9.9%	9.6%	12%
ROA	2.4%	2.5%	1.9%	2.0%	2.1%	2%
ROE	23.8%	35.7%	37.1%	33.8%	30.4%	32%
ROCE	7.9%	7.6%	6.4%	7.1%	7.1%	7%

Balance sheet and cash flows						
in EUR mn	2014A	2015A	2016F	2017F	2018F	CAGR
Tangible fixed assets	16,388	17,193	18,154	19,172	20,136	5.3%
Intangible fixed assets	12,758	12,555	12,555	12,555	12,555	-0.4%
Cash & cash equivalents	7,271	6,590	4,950	3,337	6,892	-1.3%
Short & long-term debt	7,351	9,125	11,319	11,319	11,319	11.4%

Operating ratios						
in %	2014A	2015A	2016F	2017F	2018F	Avg
FCF/NI	2.55	1.58	0.35	0.20	2.34	1.40
R&D/Sales	5.6%	5.4%	5.5%	5.5%	5.5%	5.5%
Capex/Sales	4.2%	4.5%	4.4%	4.4%	4.3%	4.4%
D&A/sales	3.5%	3.8%	3.0%	3.0%	3.0%	3.2%

Table 1 – Overview key financial metrics

Source: Airbus company data, Analyst research & assumptions

## Airbus Group Company Overview

Airbus is a multinational company that operates globally in the Aerospace & Defence (A&D) market. Airbus Group encompasses three major business units, Airbus Commercial Aerospace (CA), Airbus Helicopters and Defence & Space (D&S). In 2015, the Group generated annual revenues of EUR 64,5bn (2014: EUR 60,7bn), showing a compounded annual growth rate (CAGR) of 4% since 2012. From its three divisions, Airbus CA remains the leading revenue driver contributing to 70% to annual Group revenues with an increasing trend, followed by D&S services that currently generate around 20% of revenues and Helicopters generating the final 10%. Formerly named EADS (European Aeronautic Defence and Space Company), Airbus Group changed its name in 2013 to better reflect the importance and historical strength of the CA division (named Airbus) within the company. Airbus CA aircraft product portfolio currently encompasses three commercial aircraft families (A320, A330, and A340), the newest aircraft A350XWB, and the jumbo jet A380, as well as one freighter aircraft model. The aircraft families differ in fuel-efficiency, size (narrow and wide body aircraft), and passenger capacity (100-400).

Income Statement in m EUR	2012a	2013a	2014a	2015a	2016f	2017f	2018f	2019f	2020f
<b>Revenues</b>	<b>56,480</b>	<b>57,567</b>	<b>60,713</b>	<b>64,450</b>	<b>65,682</b>	<b>69,662</b>	<b>73,968</b>	<b>78,423</b>	<b>83,167</b>
YoY% growth	15.0%	1.9%	5.5%	6.2%	2.0%	6.1%	6.2%	6.0%	6.0%
<b>Airbus</b>	<b>36,999</b>	<b>38,561</b>	<b>41,531</b>	<b>45,090</b>	<b>47,345</b>	<b>50,659</b>	<b>54,205</b>	<b>57,999</b>	<b>62,059</b>
% of revenues	65.5%	67.0%	68.4%	70.0%	72.1%	72.7%	73.3%	74.0%	74.6%
<b>Airbus Helicopters</b>	<b>5,724</b>	<b>5,811</b>	<b>5,996</b>	<b>6,153</b>	<b>6,215</b>	<b>6,277</b>	<b>6,528</b>	<b>6,789</b>	<b>7,060</b>
% of revenues	10.1%	10.1%	9.9%	9.5%	9.5%	9.0%	8.8%	8.7%	8.5%
<b>Airbus Defence &amp; Space</b>	<b>13,154</b>	<b>12,739</b>	<b>12,728</b>	<b>12,917</b>	<b>11,833</b>	<b>12,425</b>	<b>12,922</b>	<b>13,309</b>	<b>13,709</b>
% of revenues	23.3%	22.1%	21.0%	20.0%	18.0%	17.8%	17.5%	17.0%	16.5%
<b>Other / HQ / Consolidated</b>	<b>603</b>	<b>456</b>	<b>458</b>	<b>290</b>	<b>290</b>	<b>302</b>	<b>314</b>	<b>326</b>	<b>339</b>
% of revenues	1.1%	0.8%	0.8%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%

Table 2 – Revenue split and year-on-year growth of three major business units  
Source: Airbus company data, Analyst research & assumptions

In October 2016, Airbus Group announced a major restructuring plan which will merge the company's headquarters with the Airbus Commercial Aircraft unit in order to lever efficiencies after encountering difficulties in maintaining and improving operating margins at Airbus. We regard this as a positive change for Airbus, helping the Group to refocus on its growing core business, commercial aircraft manufacturing, and increase cost efficiencies and profitability which suffered heavily since 2015. The latter was mostly due to major failure of the jumbo jet A380. Restructuring changes have already been accounted for in the valuation model by considering Airbus CA and the headquarters as one part in the the sum-of-the-parts valuation. While in terms of backlog and sales the Commercial Aerospace industry is dominated by Boeing (market leader) and Airbus, its other business units D&S as well as Helicopters operate in a denser and more competitive landscape, competing against market giants such as Textron and Lockheed Martin, but also Boeing. It is noteworthy, that Airbus was originally founded as

European Aeronautic Defence and Space (EADS), a consortium of several European aerospace companies, with the objective of competing against strong US competitors such as Boeing and Lockheed Martin in all branches of the aerospace and defence industry. The battle was clearly won from a commercial aerospace perspective, since Airbus established itself as the real European counterpart to the traditional market leader Boeing. The remainders of the former EADS construct can be recognized in today's shareholding structure, where the French, German and Spanish government form a blocking minority with a combined share of 26.4% of the company (see Recommendation).

Despite market entry of Original Equipment Manufacturers (OEMs, explained below), Airbus is expected to maintain a leading market position for at least the next 10 years. However, we saw D&S revenues declining again this year contributing to only 18% of the increased revenues, compared to a more than 23% share in 2012. This negative trend is also reflected in the forecast of the D&S division, which result in a CAGR of only 1% from 2012 to 2020.

The Helicopters business seems more stable and shows steady, yet low growth rates at only 1% for the financial year 2016 (vs. 2.6% in 2015). In comparison, D&S is expected to experience a true revenue dip until end of 2016, mostly due to delicate A400M delivery delay issues and penalty payments thereof.

Geographic revenue split	2012a	2013A	2014A	2015A	2016F
<b>Europe</b>	<b>21,006</b>	<b>20,724</b>	<b>20,254</b>	<b>20,060</b>	<b>19,705</b>
% of revenues	37.2%	36.0%	33.4%	31.1%	30.0%
% yoy growth		-1.3%	-2.3%	-1.0%	-1.8%
<b>Asia-Pacific</b>	<b>18,344</b>	<b>18,997</b>	<b>19,379</b>	<b>18,755</b>	<b>19,705</b>
% of revenues	32.5%	33.0%	31.9%	29.1%	30.0%
% yoy growth		3.6%	2.0%	-3.2%	5.1%
<b>North America</b>	<b>7,681</b>	<b>8,635</b>	<b>9,731</b>	<b>10,217</b>	<b>9,524</b>
% of revenues	13.6%	15.0%	16.0%	15.9%	14.5%
% yoy growth		12.4%	12.7%	5.0%	-6.8%
<b>Middle East</b>	<b>5,413</b>	<b>5,181</b>	<b>6,520</b>	<b>8,612</b>	<b>9,852</b>
% of revenues	9.6%	9.0%	10.7%	13.4%	15.0%
% yoy growth		-4.3%	25.8%	32.1%	14.4%
<b>Latin America</b>	<b>3,540</b>	<b>4,030</b>	<b>3,844</b>	<b>4,096</b>	<b>4,598</b>
% of revenues	6.3%	7.0%	6.3%	6.4%	7.0%
% yoy growth		13.8%	-4.6%	6.6%	12.2%
<b>Other countries</b>	<b>496</b>	<b>882</b>	<b>985</b>	<b>2,710</b>	<b>2,299</b>
% of revenues	0.9%	1.5%	1.6%	4.2%	3.5%
% yoy growth		77.8%	11.7%	175.1%	-15.2%

Table 3 – Geographic revenue split at Airbus Group, 2012 to 2016  
Source: Airbus company data, Statista, Analyst assumptions

expected to follow this trend to a certain extend during the forecasting period (until 2020). In accordance to what the market tells us in the form of new contracts formed, we observe strong revenue growth in Asia, Middle East and Latin America. The increase comes from a positive trend in sales numbers of Airbus CA to Middle Eastern and Asian airlines companies, that heavily invest in fleet expansion and attract and retain customers by offering mostly long-distance, high quality aircraft flights.

Airbus Group operates and sells aircrafts globally on all continents. Europe and North America are still the strongest markets for Airbus in terms of percentage of revenue contribution. Nonetheless, both geographical areas have been in decline in terms of revenues this year.

In case of Europe the growth rate has even been negative since 2013 and is

For 2016, the yearly backlog battle between Boeing and Airbus seems to have been won by Boeing, but the outlook is in favour of Airbus in 2017, due to the expected resolution of many manufacturing execution problems, facilitating more deliveries in the coming year. Nonetheless, the delivery targets for commercial aircrafts have not been met for all aircraft families/types. Airbus Group recently announced the increase of the annual delivery target from 650 aircraft to 670 aircrafts for 2017 onwards. This is supposed to send a positive signal to

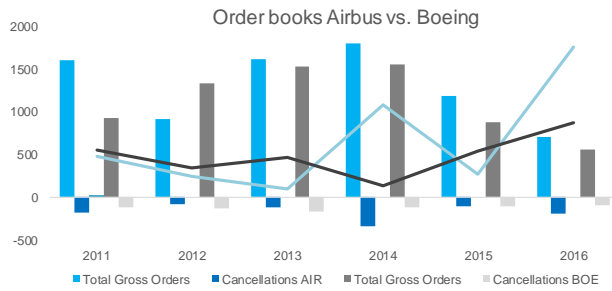


Figure 1- Airbus vs. Boeing backlog (order) battle development, 2011-2016, Sources: Boeing, Airbus, Statista

investors and stakeholders, that the company expects to increase production efficiencies after some important production and delivery delays, mostly in the A350 XWB program and in the provision of the new engine option (neo) upgrade for the A320 family, which had caused many customers to convert orders within the A320 family to the current engine option (ceo).

### Airbus Group faces increasing competitive landscape in the A&D industry

The industry of Aerospace and Defence in which Airbus Group operates varies entirely from the other two divisions in terms of competitive landscape. Within the A&D industry, Airbus additionally faces an increased competitive influence of technology-focused, multinational OEMs, such as BAE Systems, Safran, or L-3 Communications.

The A&D industry competition map (Figure 3) distinguishes between commercial aircraft jet manufacturers for passenger and freight transport (commercial aerospace) and defence and space technologies, services and aircraft manufacturers (encompassing helicopters for commercial and defence use). Figure 2 shows the explained market split with leading listed European and other global market leaders. Generally speaking, the US market is financially the most active and risk-prone market. Therefore, US companies tend to outperform European competitors on a pure multiple basis and in terms of market value. This is also reflected in the regression of comparable companies' stock returns on the Euro STOXX 50

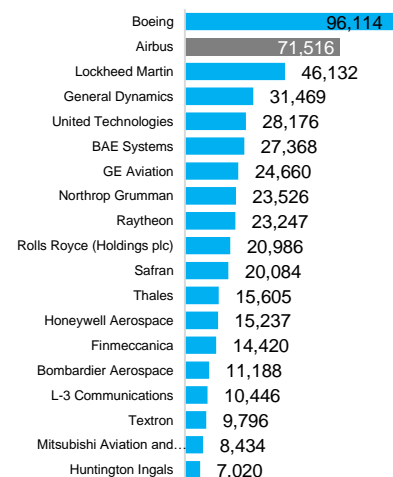


Figure 2 – Global leading A&D manufacturers 2015 by sales in USD mn, Source: Statista, 2016



index benchmark to derive market riskiness based unlevered betas for Airbus, reflecting lower market returns for the European market (see Appendix 5).

On both global and European level, we observe a trend towards OEMs disrupting the current market structure and gaining an increased market share, in particular in the commercial aerospace business. On European level, Airbus competes against a variety of OEMs from France, the UK and Germany that are operating as components and engines manufacturers as well as technology providers in both fields, commercial aircraft manufacturing and space & defence.

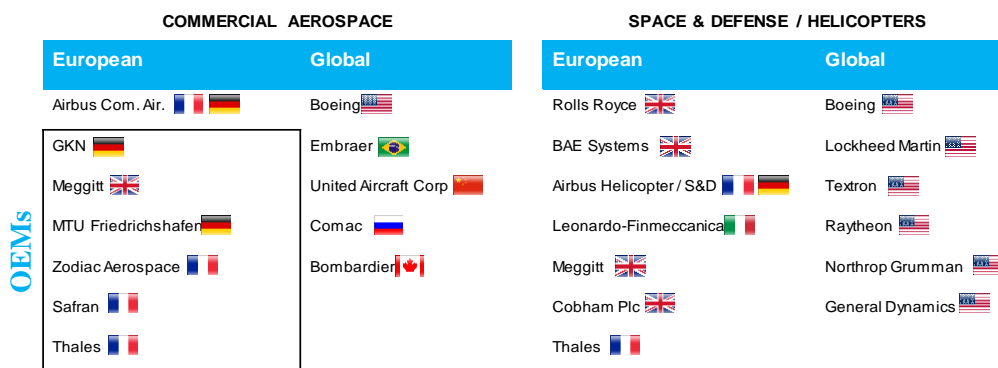


Figure 3 – Overview European and Main Global Competitors of Airbus Operating Business, Sources: Own research, Statista, Airbus

Historically, The Boeing Company (Boeing) and Airbus have formed a strong duopoly position in the commercial aircraft manufacturing market. Only in the last years, this duopolistic market position began to break with OEMs obtaining direct market share. Especially Bombardier (CAN), The Commercial Aircraft Corporation of China, Ltd. (Comac, CN), and United Aircraft Corporation (Irkut, RUS) managed to capture first significant market shares in terms of backlog.

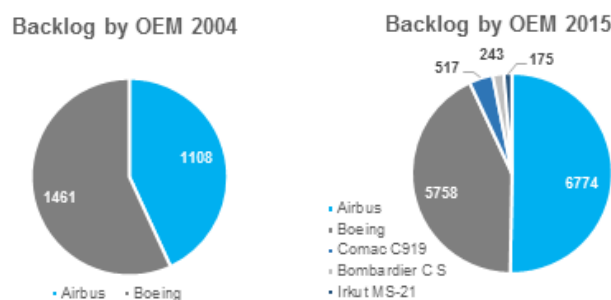


Figure 4 – Global backlog breakdown development by OEM, 2004 vs. 2015, Sources: Airbus, Boeing, Bombardier, Flightglobal, 2016

The latter puts pressure on both Airbus and Boeing to fast forward production rates, decrease inefficiencies and delays, but also to be aware of the importance of technological advances and innovation within the A&D industry. The industry-wide importance of more technological

integration proved to be a hot topic during the Farnborough Airshow<sup>1</sup> in July this year, where new systems and applications were presented with the objective to make use of the high amount of data generated by each aircraft in use and finally, convert this data into useful information that can help improve aircraft operations for airlines and manufacturers.

## Drivers and trends of Airbus' commercial aerospace business

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Airbus Group is the world's second largest manufacturer and seller of commercial aircraft in terms of backlog and annual sales right behind the US American Boeing Company. Within the Aerospace and Defence market, Airbus holds a solid position and competes against industry giants General Dynamics, Lockheed Martin and Textron.

### Key drivers for Airbus value creation and the industry

As in every business sector, the aerospace and defence industries entail some key value drivers which drive success and failure. Especially in terms of valuation and ratio analysis, these key value drivers play a major role. While asset-light businesses, such as technology companies and services companies, potentially face higher margins and are more agile given the higher flexibility in their business model, asset-heavy industries, such as Airbus' aerospace and defence industry, need to be looked at from a different perspective. Especially the backlog analysis is a milestone for the success of each company within these industries.

Another key value driver for Airbus' commercial aerospace business is the revenue per passenger kilometre (RPK), which measures air traffic revenue performance. International airline companies are Airbus main customers and derive most of their own business value from this key value driver. The ratio also enables companies and analysts to track air traffic growth. RPK is calculated by multiplying the number of revenue-paying passengers of an airline by the distance in km that was travelled. While this perimeter of air traffic may not be directly used to forecast revenues of aircraft manufacturers such as Airbus Group, it serves as an excellent indicator for airline market growth and performance, which eventually and next to other things determine Airbus revenues. Figure 6 highlights the strong trend towards increased air passenger traffic by comparing the actual increase from 1995 to 2015 with the expected increase until

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<sup>1</sup> The Annual Farnborough Airshow is the largest international professional and public exhibition and fair of leading international industry participants. The Airshow is a highlight for investors and analysts as well, since crucial market insights are given and the show's outcome in terms of order value stipulate an important sign for the industry performance expectations. This year orders and upgrades for commercial and military aircraft, engines and other components and services were made for as much as USD 124bn (Source: Farnborough Airshow)

2035. Especially Asia Pacific and Europe will observe a significant increase in RPK in domestic air traffic. Unsurprisingly, there is a similar regional representation when looking at the worldwide leading airlines ranking by RPK in 2015 (see Figure 5). This list is headed by North American, Middle Eastern, European and Asian airline companies. Both Europe and Asia Pacific are expected to more than double their RPK until 2035 up to RPK 3.3bn and RPK 6.3bn

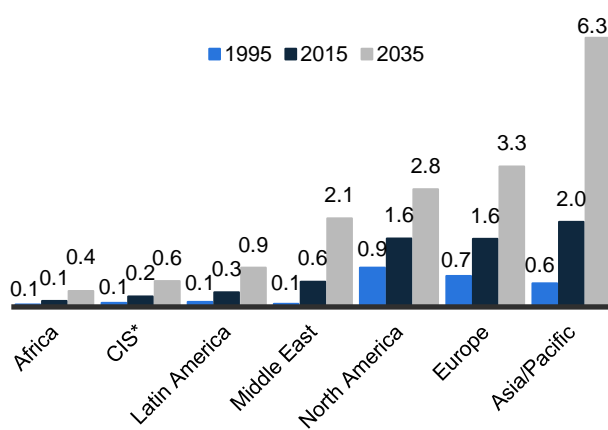


Figure 6 – Air passenger traffic from 1995 to 2035, by region (in billion RPKs), Source: Statista, 2016

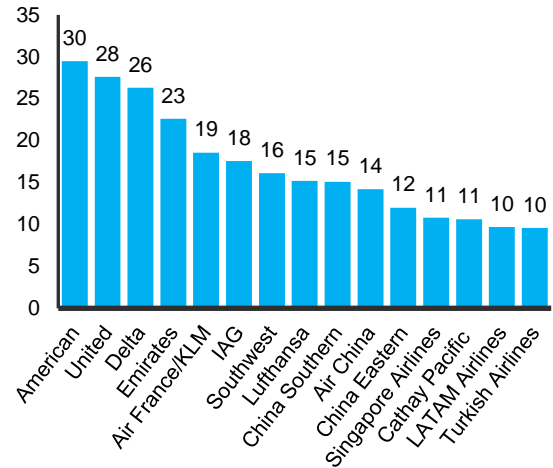


Figure 5 – List of leading airlines by RPK bn, Source: Statista, 2016

respectively.

Due to the expected increase in RPK, the growth of the middle class and of the general population, as well as the increased amount of aviation mega cities in the Middle East, Europe and Asia, the averaged compounded annual growth rate (CAGR) of 179 passenger air traffic flows is high at 5.5% for the period 2015-2025. It is to note that expected year-on-year growth rates of Airbus are likely to be higher than the CAGR until 2020, which is why we assume an annual overall revenue growth rate of over 6% per annum for those years. The main driver for the increased demand in air travel is the welfare growth in Asia Pacific and the Middle East. Apart from that only an estimated 6% of the worldwide population took an airplane in 2015, leaving room for additional demand once welfare and global connectivity reach higher levels.

Likewise, air freight traffic is expected to increase over the next ten years at a CAGR of 4.8%. However, since Airbus only sells one cargo freighter, the A330-200 Freighter, at comparably high cost (average price per unit in 2016 was USD 235m), we do not expect Airbus to benefit from air cargo growth.

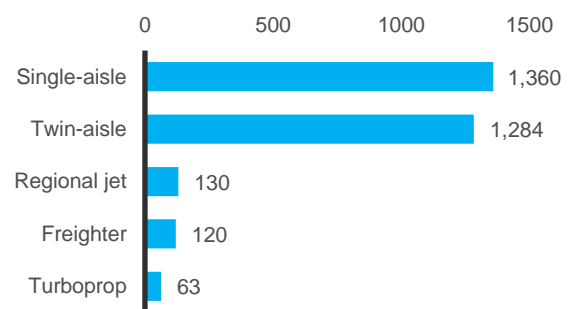


Figure 7 – Projected aircraft deliveries from 2016 to 2035, Source: Statista, 2016

## Trends driving the commercial aerospace industry

The commercial aerospace subsector encompasses passenger air transport as well as air cargo transportation. Both business pillars are supposed to double in terms of annual passenger number as well as commercial passenger and cargo aircraft fleet. We observe that the commercial aerospace market shows some positive growth trends in 2016, which are causing high expectations on sales growth and operational earnings growth. This trend is fuelled by several aspects, being mostly the commercial airlines' hunger for innovative, fuel-efficient airplanes of the next generation as well as the obvious annual increase in air passenger transport. The industry is characterized by high needs for technological and material novelties increasing efficiencies and aircraft performance on a constant basis while improving the ecological footprint of the environmentally heavy industry.

According to the Global Market Forecast 2016-2035 study, annually published by Airbus, the amount of aviation mega cities, defined as cities with over 10,000 daily long-haul passengers, will increase from 55 cities in 2015 to over 78 cities in 2025 and 93 in 2035. These so-called mega cities will mostly be located in Asia Pacific, Europe, and the Middle East and will drive a big part of the future's air travel – a trend that can already be observed now with expanding high-class airlines from the Middle East and big air travel terminals such as Singapore for international travel. Airbus' order book is reflecting this trend with major Asian and Middle Eastern airlines, such as Emirates, being the primary clients for high quality, technologically advanced and capable aircraft. At the same time, the global estimated proportion of the middle class will increase to up to 55% of the total population in 2035, compared to 38% in 2015. Together with increased purchasing power of the middle class, counting as households with an annual income between \$20,000 and \$150,000, travelling for both leisure and business purposes will increase. The latter phenomena might also increase air cargo demand through globally steered necessity of production components and goods.

Currently, there is a concern in the commercial aerospace market that OEMs are oversupplying the market at between 1% to 2% (equalling approx. 300 aircraft), as build rates and deliverables increased significantly during the last 5 years. Experts are afraid that this oversupply will exceed demand and unbalance the velocity of deliverables. Even though, both Airbus and Boeing levelled up their build rates, they are still dependent on airlines' demand in fleet replacement which grows at lower rates. Now that Airbus announced to cut back wide body aircrafts, e.g. A380, build rates are expected to decrease again, in particular, due to slow economic growth and low oil prices.

## Airbus' Space and Defence business

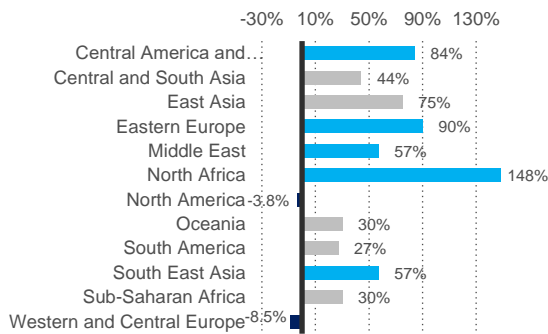


Figure 8 – Change in military spending 2006-2015, Source: Statista, 2016

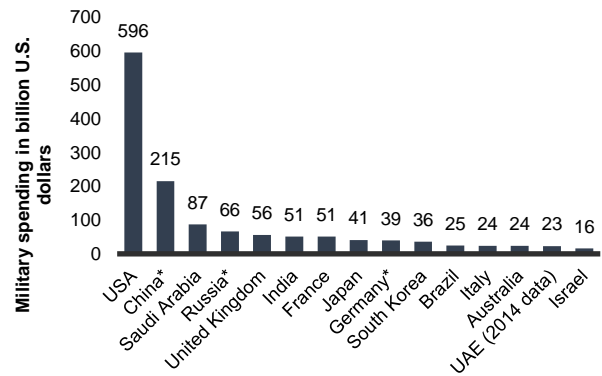


Figure 9 - The 15 countries with the highest military spending worldwide in 2015 (in USD bn), Source: Statista, 2016

Airbus Defence and Space (D&S) is the second largest business unit of Airbus Group, generating average annual revenue of EUR 12,000mn (accounting for slightly over 20% of Group revenues). Airbus offers satellites and launcher systems, combat aircraft, missile systems, radar, defence electronics, and unmanned aerial systems.

As was previously explained, the main value driver for demand in solutions and aircraft products in the space and defence section is the level of global military spending, as these are mostly financed by governments (federal ministries of defence) or specialized agencies and institutions such as the CIA. 2016 and 2015 market results for the defence market were strongly hit by the major decrease in military spending in the USA, which decreased by -4% since 2006. The USA has historically shown to be the country with the highest military spending worldwide consequently driving the industries revenues. Through the major cut rates (4% alone equal around USD 25bn which need to be compensated for), the defence industries performance observed a major hiccup. Together with the decline in Western and Central European military spending, the defence industry faces challenges. Revenues of major defence market participants were driven by emerging countries and their governments, such as the Middle East (Saudi Arabia, UAE, Israel), North Africa (148% increase in military spending since 2016), Central Europe as well as Central America and Asia Pacific. Notably, Airbus Space & Defence sales are not comprehensively altered by the US Department of Defence (DoD) spending trends, as the DoD does not engage in relevant with business with Airbus Group. In 2016, contract awards from the DoD went to market leaders Lockheed Martin, Boeing, General Dynamics and BAE Systems. The envisaged upgrade of Boeing and BAE Systems warning and survivability systems, worth USD 4bn, is currently threatened by the President-Elect Donald Trump expressed intentions to cut the program, as he considers it being pricey. This is perceived as

very negative news after his election fuelled hopes for DoD budget increases after large cut rates in the past years.

Discussed military budgets are strongly influenced by the number of ongoing military missions to engage and minimize aggressive conflicts or wars, the level of political instability in a country and the level of involvement of countries not forming a direct part in these conflicts. In times of wide spread war climate, the demand for defence aircraft and technology is rising.

Airbus Space and Defence is less influenced by US movements as main customers are European with the German government currently being the leading customer. Ever since the official split from aerospace electronic systems provider BAE Systems in 2006 (used to be 20% minority stakeholder in EADS), it is also important to notice the rising competition between the two companies through higher bargaining power on BAE's end and increasing prices for electronic systems.

In the beginning of this year, we observed yet more unsatisfying news regarding the A400M airlifter. The airlifter has been designed for tactical, long-distance military and humanitarian logistics missions, specifically ordered by the European NATO countries (Belgium, France, Germany, Luxemburg, Spain, Turkey and the UK) and Malaysia in 2005. Demand was consequently strong with European governments and currently the order book entails 174 aircrafts, but only 34 have been delivered so far. Due to several technical and organizational reasons, the program is years behind its delivery schedule. Especially Germany, the largest customer for the A400M, has been waiting extendedly for delivery and claimed for damages exceeding EUR12.7m this summer, due to deliveries that should have been placed earlier this year and in the coming years. Out of the 17 aircrafts the state of Germany should have received by now, only seven were delivered. Due to the technical development challenges, costs increased significantly and prices rose from initially EUR 153m to EUR 181m per airlifter. We expect that D&S will remain strong as a segment. However, large orders for military aircraft and systems are more likely to be retained by larger US and, for instance, Russian competitors were the overall demand is expected to increase due to political changes and increased willingness to interfere in the global instability caused by wars and other conflicts.

### **Airbus Helicopter business**

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Airbus Helicopters shows to be stabilizing and was able to marginally grow again in terms revenues also driven by a drop in oil and gas prices. Overall deliveries continue to fall compared to the last years. From 503 deliveries in 2011 it gradually decreased the annual number of

deliveries. Helicopters revenues continue to be split 50-50 between its civil and military helicopters, of which 55% stem from European and Middle Eastern countries, 25% from Asia Pacific and 20% from North and South America. Airbus Helicopters continues to be world market leader in the civil market with 45% of market share. It faces more challenges in the military market where it competes against a variety of companies in a larger overall market (see Figure 11). For the valuation of Airbus, it was also therefore chosen to value it as one part together with Airbus D&S, since both business units compete against the same market players.

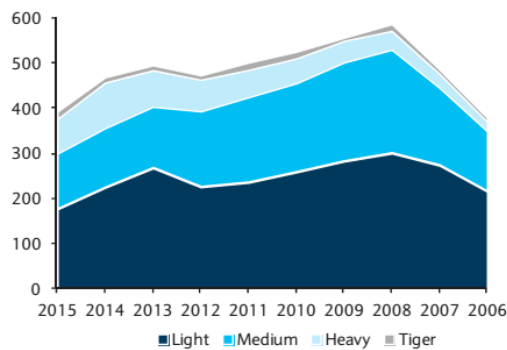


Figure 10 – Deliveries developments by helicopter type, Source: Airbus Helicopters, Analyst research

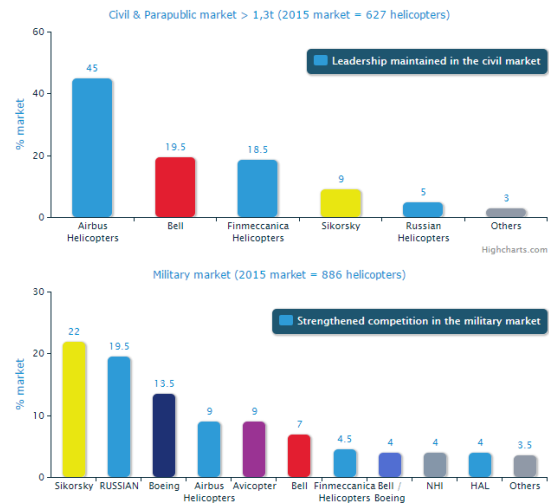


Figure 11 – 2015 market share Airbus Helicopters in civil and military market, Source: Airbus Helicopters

### Macroeconomic trends and model imperatives

The market for commercial aircraft is highly driven by oil price developments and financing cost trends. Airlines constantly seek for a trade-off between decent financing costs and operational costs. Commercial aircrafts are expensive and airlines tend to order them in bulks, hence exposing them as a business to huge financing (and operational) risks. In a somewhat sustainable low interest rate environment, as it was the case for the last years, buying new aircrafts is much more attractive for airlines, as they assume that financing quotes will stay as low as they were 2 or 3 years ago. This is one reason why backlog has increased so significantly,

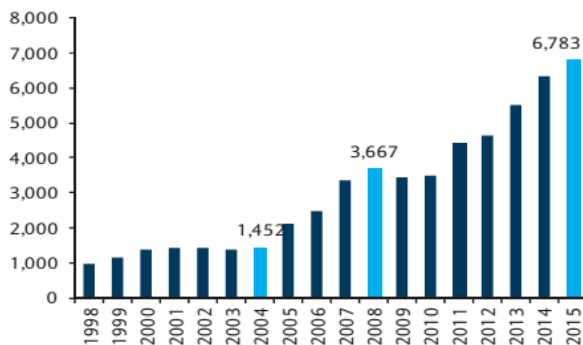


Figure 12 - Backlog development at Airbus from 1998 to 2015, Source: Airbus company filings

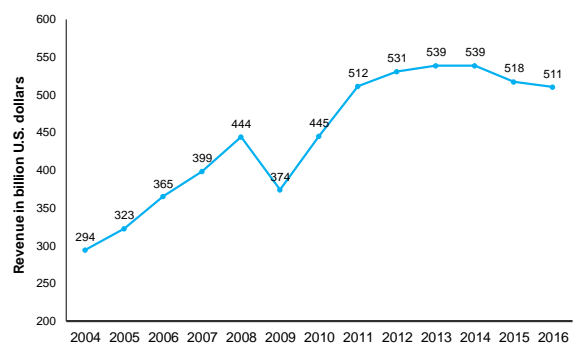


Figure 13 – Worldwide air traffic passenger revenue from 2004 to 2016 in USD bn, Source: Statista

especially between 2008 and now, filling order books of Airbus and Boeing up to almost unsustainable levels (see Figure 13). Simultaneously, fuel prices rocketed since the financial crisis hit the global markets in 2008. This led to huge operating losses in the books of international airlines which led airlines to exploit the cheap financing situation even more, to

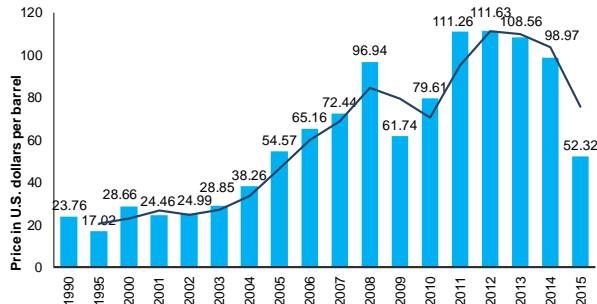


Figure 16 – Crude oil prices per barrel and moving average between 1980 and 2015, Source: Statista

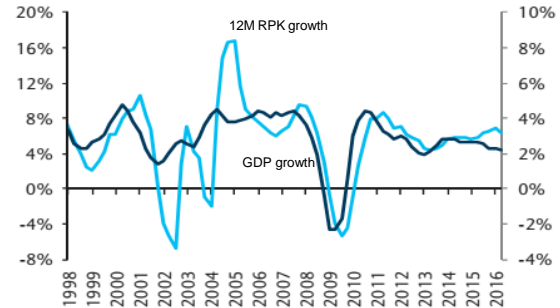


Figure 15 – Comparison global GDP growth and airline traffic growth (in RPK), Source: Statista, Airbus, Flightglobal, Analyst assumptions

quickly buy more modern and fuel efficient aircrafts that will compensate for the pressure on prices and operating margins. As soon as the oil prices dropped again from 2015 until now, airlines became even more incentivized to buy aircraft cheaply now, bringing order backlog of Airbus and Boeing to where they are today. As Figure 16 shows, while oil crude prices may be sustainable at low levels, this will fuel air traffic growth even more and increase demand for jet kerosene products. Beyond that, these movements justify the current ratio of 60-40 between new aircraft order and replacement aircraft orders.

Industry voices raise their concern that the order books that were filled under these low interest rate conditions will not be sustainable due to the buying motives explained before. However, we now observe that financing costs are slowly rising - the Federal Reserve raised the policy rates by 0.25% after a long time of historical lows. Higher financing costs will alter airlines' decisions in buying new aircraft and replacing old ones and might lead to high order cancellation ratios within the next years.

Another trend that afflicts the A&D industry is the continuing appreciation of the dollar which is tried to be eased by slowly increasing borrowing rates in the US. Since all major aircraft manufacturers and OEMs state their prices in dollars to provide globally levelled and comparable playing field, especially companies outside the United States suffer from price increase due to currency appreciation. Only from 2013 to 2015 average prices published in the annual Airbus aircraft price list increased by 7%. This will continue to have an impact on future prices that Airbus sets and will potentially also increase manufacturing costs, as OEMs will be forced to increase their prices accordingly, especially those located in emerging markets where the dollar appreciation hits even harder. At the same time, we observe that the average backlog



period is strongly increasing and momentarily peaks at 9 years (compared to normal backlog periods of between 2 to 5 years). These seven years in Airbus' order books do not account for major delays in production demonstrating more inherent exchange rate and financing risks that Airbus as a manufacturer, but also airlines as clients and the industry suppliers suffer from. We just observed these dynamics this year in the many up and downgrades within the A320 family engine option upgrade context.

Airlines historically financed new aircrafts through either loans or leases (operating or financing). Lately, leasing has become an even more attractive financing option and currently leasing agencies hold over 21% of the total backlog value and continue to grow. Given that the backlog value has increased so significantly to over USD 2.5 trillion, the assessment of financing vulnerability of airlines and leasing agencies has become increasingly important. Judging only by the credit rating of airlines customers (limited to those rated by agencies), around 12% of the total backlog value, equalling USD 225bn, is based on orders by airlines with extremely low creditworthiness (rating off BB or lower). Consequently, airline financing which is influenced by overall access to low interest rate loans and leasing agreements, and strongly exposed to changes in exchange rates, oil prices and policy interest rates, is one of the high risks of the entire commercial aircraft manufacturing industry.

## Valuation

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Airbus Group was valued using two different valuation methods: the discounted cash flow (DCF) valuation, based on a sum of the parts valuation, and the multiples-based, market-oriented valuation approach. Both valuation models provide appropriate valuations that already price in the many high risks, mainly caused by execution uncertainty, exchange rate fluctuations, oil price fluctuations and the general dynamics of cyclical businesses. While a DCF valuation will always end up providing a lower valuation than market-driven multiples-based valuations, we consider the DCF method the most appropriate method for the business of Airbus Group in order to capture all movements in its heavy balance sheet correctly, through adequate and company adjusted forecasts.

### Discounted Cash Flow Valuation

Since on average 70% of total Group revenues are generated by Airbus CA, the business unit was valued separately from the rest of the Group (see Table 4). Additionally, the company announced a restructuring this year which will merge the CA business with the headquarters (HQ), which supports the argument that the CA division is the most important value driver for

Income Statement in EUR mn	2012A	2013A	2014A	2015A	2016F	2017F	2018F	2019F	2020F
<b>Revenues</b>	<b>56,480</b>	<b>57,567</b>	<b>60,713</b>	<b>64,450</b>	<b>65,682</b>	<b>69,662</b>	<b>73,968</b>	<b>78,423</b>	<b>83,167</b>
YoY % growth	15.0%	1.9%	5.5%	6.2%	2.0%	6.1%	6.2%	6.0%	6.0%
<b>Airbus</b>	<b>36,999</b>	<b>38,561</b>	<b>41,531</b>	<b>45,090</b>	<b>47,345</b>	<b>50,659</b>	<b>54,205</b>	<b>57,999</b>	<b>62,059</b>
% of revenues	65.5%	67.0%	68.4%	70.0%	72.1%	72.7%	73.3%	74.0%	74.6%
<b>Airbus Helicopters</b>	<b>5,724</b>	<b>5,811</b>	<b>5,996</b>	<b>6,153</b>	<b>6,215</b>	<b>6,277</b>	<b>6,528</b>	<b>6,789</b>	<b>7,060</b>
% of revenues	10.1%	10.1%	9.9%	9.5%	9.5%	9.0%	8.8%	8.7%	8.5%
<b>Airbus Defence &amp; Space</b>	<b>13,154</b>	<b>12,739</b>	<b>12,728</b>	<b>12,917</b>	<b>11,833</b>	<b>12,425</b>	<b>12,922</b>	<b>13,309</b>	<b>13,709</b>
% of revenues	23.3%	22.1%	21.0%	20.0%	18.0%	17.8%	17.5%	17.0%	16.5%
<b>Other / HQ/ Consolidated</b>	<b>603</b>	<b>456</b>	<b>458</b>	<b>290</b>	<b>290</b>	<b>302</b>	<b>314</b>	<b>326</b>	<b>339</b>
% of revenues	1.1%	0.8%	0.8%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
<b>Costs of Goods Sold</b>	<b>(48,582)</b>	<b>(49,613)</b>	<b>(51,776)</b>	<b>(55,599)</b>	<b>(56,487)</b>	<b>(59,700)</b>	<b>(63,390)</b>	<b>(67,209)</b>	<b>(71,274)</b>
% of revenues	86.0%	86.2%	85.3%	86.3%	86.0%	85.7%	85.7%	85.7%	85.7%
<b>Gross Margin</b>	<b>7,898</b>	<b>7,954</b>	<b>8,937</b>	<b>8,851</b>	<b>9,195</b>	<b>9,962</b>	<b>10,577</b>	<b>11,215</b>	<b>11,893</b>
% of revenues	14.0%	13.8%	14.7%	13.7%	14.0%	14.3%	14.3%	14.3%	14.3%
<b>Operating expenses</b>	<b>(6,029)</b>	<b>(5,880)</b>	<b>(5,992)</b>	<b>(6,111)</b>	<b>(6,203)</b>	<b>(6,579)</b>	<b>(6,985)</b>	<b>(7,406)</b>	<b>(7,854)</b>
% of revenues	3.0%	2.8%	2.5%	2.5%	2.3%	2.3%	2.3%	2.3%	2.3%
<b>R&amp;D expenses</b>	<b>(3,160)</b>	<b>(3,118)</b>	<b>(3,391)</b>	<b>(3,460)</b>	<b>(3,607)</b>	<b>(3,825)</b>	<b>(4,062)</b>	<b>(4,306)</b>	<b>(4,567)</b>
% of revenues	5.6%	5.4%	5.6%	5.4%	5.5%	5.5%	5.5%	5.5%	5.5%
Share invest. profits under equity method	241	434	840	1,016	633	633	633	633	633
<b>Reported EBITDA</b>	<b>4,163</b>	<b>4,435</b>	<b>5,935</b>	<b>6,222</b>	<b>5,569</b>	<b>6,076</b>	<b>6,409</b>	<b>6,800</b>	<b>7,243</b>
EBITDA margin	7.4%	7.7%	9.8%	9.7%	8.5%	8.7%	8.7%	8.7%	8.7%
One-off transactions	376	558	64	265	0	0	0	0	0
<b>Normalized EBITDA</b>	<b>4,539</b>	<b>4,993</b>	<b>5,999</b>	<b>6,487</b>	<b>5,569</b>	<b>6,076</b>	<b>6,409</b>	<b>6,800</b>	<b>7,243</b>
EBITDA margin adj.	8.0%	8.7%	9.9%	10.1%	8.5%	8.7%	8.7%	8.7%	8.7%
Depreciation	2,053	1,927	2,150	2,466	1,944	2,060	2,184	2,359	2,571
<b>EBIT</b>	<b>2,486</b>	<b>3,066</b>	<b>3,849</b>	<b>4,021</b>	<b>3,625</b>	<b>4,016</b>	<b>4,225</b>	<b>4,441</b>	<b>4,672</b>
% of revenues	4.4%	5.3%	6.3%	6.2%	5.5%	5.8%	5.7%	5.7%	5.6%
Interest income	237	161	142	183	142	107	107	107	107
Interest expense	(522)	(493)	(462)	(551)	(684)	(848)	(848)	(848)	(848)
Other financial result	(168)	(278)	(458)	(319)	(306)	(306)	(306)	(306)	(306)
<b>EBT</b>	<b>2,033</b>	<b>2,456</b>	<b>3,071</b>	<b>3,334</b>	<b>2,778</b>	<b>2,968</b>	<b>3,177</b>	<b>3,394</b>	<b>3,624</b>
Income taxes	(438)	(477)	(863)	(800)	(667)	(712)	(763)	(814)	(870)
<b>Net income</b>	<b>1,595</b>	<b>1,979</b>	<b>2,208</b>	<b>2,534</b>	<b>2,111</b>	<b>2,256</b>	<b>2,415</b>	<b>2,579</b>	<b>2,754</b>

Table 4 – Income statement with revenue division breakdown, Source: Airbus Group Annual reports 2012 to 2016, Source: Airbus company filings, Analyst assumptions

the Group. Consequently, we used a sum-of-the-parts approach for the DCF valuation. While Airbus CA and HQ were considered to be one “part”, the Airbus business units D&S and Airbus Helicopters were considered the second “part”. As was explained beforehand, both units compete against very similar market competitors, may face a similar market environment and have similar key value drivers. At the same time, Airbus Helicopters contributes only c. 10% to total revenues and lacks adequate comparables in terms of business model and size, and finally, Airbus Group annual reports provide only little information on both divisions, Helicopters and S&D. Within the revenue forecast model, it is assumed that both divisions will decrease their contribution to total Group sales to 25%. This is mostly due to a lower CAGR (1% between 2015 and 2020) in the Aerospace and Defence sector, slowing down the business and its revenue contribution to 16.5% in 2020.

Airbus Helicopters is expected to contribute slightly to total revenues in the future (9.5% in 2015 to 8.5% in 2020) but shows a stable CAGR of 3%. The main driver of future revenue growth of the Group is the overperforming Airbus Commercial Aerospace division which is expected to outperform RPK growth (worldwide CAGR c.5.5%) and demand growth until 2020 with a CAGR of 7% (CAGR 2012 to 2015 was 7%). This expected outperformance is based on the still predominant industry position, especially in terms of backlog (see Appendix8), as well

as its increased backlog volume causing high amounts of revenues for the next five years when deliveries take place. For 2016 we accounted for a small drop in YoY growth rates to only 2% which was caused by operational issues in the A350 XWB program, the “ceo” to “neo” upgrade failures within the A320 family as well as the operational issues arising from A400M delays and penalty payments. Based on historic averages, Airbus headquarters will grow at a CAGR of 3%, which is lower than the annual growth before but captures relevant value increases from consolidations, joint ventures and group activities.

For the terminal value (TV), we assumed a 2% growth rate in revenues and operating costs, which covers the average global inflation rate and GDP growth and reflects a realistic growth scenario for a mature company like Airbus.

The underlying business model of Airbus is built on the sale of highly complex products that are large in size, consistent of uncountable heavy components, lengthy manufacturing processes and finally, high in price. The entire A&D industry, especially the parts of it concentrating on aircraft manufacturing, derives its main value from aircraft order backlog value and finally, the ability to convert these orders into deliveries in a timely and resource-efficient manner. Historically, the industry shows low operating profit margins ranging between 5% and -1% during the period of 2004 and 2013. Since 2014 the A&D sector experiences an upward shift bringing operating profit margins to as much as 8%, while overall operating profit values are increasing. Airbus is still not able lock-in such levels of operating profit margins due to high levels of COGS that amount to approx. 86% of revenues (8-year average since 2012). As only minor efficiency-increases are to be expected from the restructuring, for instance through employee cut rates and some cost synergies between the HQ and Airbus Commercial Aerospace, a decline of 0.3% (equalling EUR 200m savings) in annual COGS to a 85.7% of revenues was assumed for the forecasting period. Consequently, gross margin levels off at 14.3% over the 5-year forecasting period, a margin that is competitive with Boeing's performance. This will cause operating margins to increase slightly up to 5.7% on average for the next 5 years.

Just like in the pharmaceutical industry, aircraft development programs require large amounts of upfront research and development (R&D) expenses and other capitalized development costs, which are considered operating expenses. In the case of Airbus, R&D costs range between 5% and 6% of total revenues every year and value between USD 3.5bn (2015) and USD 4.5bn (2020). For the 5-year forecasting period, it was assumed that these costs will be constant at annual 5.5% of revenues, since Airbus programs need to spend capital to develop competitive, innovative and technologically complex and efficient aircraft products. Even if we assume that

loss-making programs, e.g. the A380 wide-body aircraft are cut, R&D costs are required at constant operational level. These costs are often offset only after years of development, when delivery delays already occurred. The latter are mostly due to delays or technical flaws of supplier components. The execution risk lies in the challenge of turning pricy aircraft programs into actual deliverable aircrafts that have impeccable functionalities and that are delivered in a timely manner. Furthermore, these executions risks are influenced by the macroeconomic market dynamics, namely increases in oil prices, global GDP level developments and economic crises as well as the political environment. This is the reason why Airbus's business model is so dependent on operating working capital and other working capital like items. These encompass the typical changes in inventories, trades receivables and payables, but also the change in other current assets and liabilities, provisions and most of all advance payments. The latter are the main upfront cash inflow that Airbus CA receives and holds as current and non-current other liabilities. Advance payments are typically determined based on the level of completion method, where a customer pays a certain amount every time a certain level of manufacturing was completed. To forecast advance payments based on current and non-current other liabilities, we computed historical revenue turnovers (as %) and took the historical average but only of the last three years as this captures the ratio growth better. From 2016 to 2018 non-current other liabilities form 21.1% of revenues, and from then on slightly decrease to merely 20.4% of revenues, since long-term advance payments should slightly decrease due to commercial aircraft market dynamics explained before. Current other liabilities will remain constant at 42.3% of revenues for the 5-year forecasting horizon due to expected manufacturing efficiencies.

All other current assets and liabilities, except for the operating working capital items explained below, were forecasted by taking their averaged historical revenue turnover (in %) and maintain the average level for the forecasting period of 5 years.

In terms of free cash flow and working capital forecast for the two "parts", all non-cash other items similar to operating working capital were attributed to the Commercial Aerospace business unit, as the vast majority of items are a 100% addressable to the aircraft manufacturing business unit. The risk profile is also more adequate when allocating these non-cash operating working capital items to the Commercial Aerospace/HQ part, as cash flows are discounted at a higher WACC.

Non-current assets that were not property, plant and equipment (PP&E) or strategic investments were forecasted based on straight-line projections, hence maintained constant. PP&E was forecasted by applying the simple BASE analysis, as can be seen in Table 5. In the balance sheet, constant annual investment property value of EUR 66m was added to ending balance PP&E. We expect Capital Expenditure (Capex) to growth with sales for the next years. We forecasted Capex based on average historical revenue turnover of each division until 2018 (Airbus Commercial Aerospace already decreases turnover by 0.2% in 2018), and projected Capex straight-line after that. Depreciation and Amortization grow initially at the same rate as Capex, and were then set to grow faster at 6%, 8% and 9% for 2018 to 2020 respectively. This change was modelled to imitate a more natural development of Airbus in terms of Capex and D&A, which will eventually equal one another in a mature and established company that does

III. PP&E Breakdown	2012	2013	2014	2015	2016	2017	2018	2019	2020
Starting PP&E		14,974	15,585	16,321	17,127	18,088	19,106	20,070	20,861
[+] CAPEX		2,918	2,548	2,924	2,904	3,079	3,148	3,150	3,150
[-] Depreciation		2,053	1,927	2,150	1,957	1,944	2,060	2,184	2,571
Ending PP&E		14,974	15,585	16,321	17,127	18,088	19,106	20,861	21,440
<b>Depreciation and amortization</b>		<b>1,927</b>	<b>2,150</b>	<b>2,466</b>	<b>1,944</b>	<b>2,060</b>	<b>2,184</b>	<b>2,359</b>	<b>2,571</b>
Operating expenses Amortization/Imp.			419	485	452	452	452	452	452
Cost of sales			43	24	24	24	24	24	24
Depreciation		1,927	1,688	1,957	1,468	1,584	1,708	1,883	2,095
Depreciation and amortization	2,053	1,927	2,150	2,466	1,944	2,060	2,184	2,359	2,571
<i>D&amp;A as % Capex</i>	<i>62.8%</i>	<i>66.0%</i>	<i>84.4%</i>	<i>84.3%</i>	<i>66.9%</i>	<i>66.9%</i>	<i>69.4%</i>	<i>74.9%</i>	<i>81.6%</i>
Airbus	1,225	1,208	1,419	1,608	1,401	1,498	1,600	1,744	1,918
Airbus Helicopters	134	136	157	159	184	186	193	204	218
Airbus Defense & Space	627	521	540	654	350	367	382	400	424
Other / HQ / Consolidated	67	62	34	45	9	9	9	10	10
CAPEX in tangibles and intangibles	(3,270)	(2,918)	(2,548)	(2,924)	(2,904)	(3,079)	(3,148)	(3,150)	(3,150)
<i>CAPEX as % revenues</i>	<i>5.8%</i>	<i>5.1%</i>	<i>4.2%</i>	<i>4.5%</i>	<i>4.4%</i>	<i>4.4%</i>	<i>4.3%</i>	<i>4.0%</i>	<i>3.8%</i>
Airbus	(2,321)	(2,116)	(1,713)	(2,001)	(2,039)	(2,230)	(2,219)	(2,219)	(2,219)
Airbus Helicopters	(323)	(279)	(303)	(280)	(263)	(279)	(296)	(296)	(296)
Airbus Defense and Space	(657)	(466)	(497)	(552)	(563)	(570)	(634)	(635)	(635)
Other / HQ	31	(57)	(35)	(91)	(40)	0	0	0	0

Table 5 - PP&E breakdown through base forecast D&A and Capital Expenditure as % of revenues forecast, Source Airbus company filings, Analyst assumption and research

not invest more than it depreciates and amortizes in the long-term every year. For the terminal value projections, we assumed that depreciation grows by 2% in perpetuity and that Capex is 102% of the depreciation in the TV to spend slightly more than what is amortized and depreciated.

Airbus Group does not state the precise split of operating working capital (inventories, trade receivables, and trade payables) between the three business units, hence assumptions on how to split them adequately were made on basis of the general business model propositions and information provided on in-year changes in the financial statements (see Table 6). Group inventories, payables and receivables were forecasted on basis of averaged historic ratios of revenues, which were then used as a constant revenue turnover ratios for the 5-year forecasting period. Through the storage and acquisition of huge components, engines and technological

devices, Airbus CA owns most of the inventories which partly also reflect backlog and delays in delivery (if the inventories are stuck in the warehouses of Airbus). The share on the basis of which the business unit specific split was made is shown in orange. Trade payables and trade receivables were forecasted based on the divisions' averaged contribution to revenues over time. CA covers 72% of receivables and payables, D&S 18% and Helicopters 10%.

All other non-current assets and liabilities, not previously explained were projected to be constant over the next years.

<b>Inventories</b>	<b>22,201</b>	<b>24,023</b>	<b>25,355</b>	<b>29,051</b>	<b>33,481</b>	<b>33,438</b>	<b>33,341</b>	<b>35,350</b>	<b>37,488</b>	<b>% share</b>
Airbus (Commercial Aircraft Jets)	18,871	20,420	21,552	24,693	28,459	28,422	28,340	30,047	31,865	85%
Airbus Helicopters	2,220	2,402	2,536	2,905	3,348	3,344	3,334	3,535	3,749	10%
Airbus Defense & Space	1,110	1,201	1,268	1,453	1,674	1,672	1,667	1,767	1,874	5%
Other / HQ / Consolidated	0	0	0	0	0	0	0	0	0	0%
<b>Trade receivables</b>	<b>6,183</b>	<b>6,628</b>	<b>6,798</b>	<b>7,877</b>	<b>7,640</b>	<b>7,990</b>	<b>8,484</b>	<b>8,995</b>	<b>9,539</b>	
Airbus (Commercial Aircraft Jets)	4,452	4,772	4,895	5,671	5,501	5,753	6,109	6,476	6,868	72%
Airbus Helicopters	587	630	646	748	726	759	806	855	906	10%
Airbus Defense & Space	1,113	1,193	1,224	1,418	1,375	1,438	1,527	1,619	1,717	18%
Other / HQ / Consolidated	31	33	34	39	38	40	42	45	48	1%
<b>Trade liabilities</b>	<b>9,271</b>	<b>9,668</b>	<b>10,183</b>	<b>10,864</b>	<b>11,762</b>	<b>11,640</b>	<b>12,360</b>	<b>13,104</b>	<b>13,897</b>	
Airbus (Commercial Aircraft Jets)	6,675	6,961	7,332	7,822	8,469	8,381	8,899	9,435	10,006	72%
Airbus Helicopters	881	918	967	1,032	1,117	1,106	1,174	1,245	1,320	10%
Airbus Defense & Space	1,202	1,740	1,833	1,956	2,117	2,095	2,225	2,359	2,501	18%
Other / HQ / Consolidated	84	48	51	54	59	58	62	66	69	1%

Table 6 – Forecasting operating working capital items and business unit breakdown, Sources: Analyst assumptions, Airbus company filings

In order to value the two parts, we computed the unlevered free cash flows for both “parts” (see p. 26 on the sum-of-the-parts valuation for more details) and discounted them at the business unit's specific WACC. For that purpose, we selected a small number of comparable companies and a market benchmark, the Euro STOXX 50<sup>2</sup>, and regressed the company's past 5 year weekly returns on the market returns. This provided us with the levered betas for our comparable companies. After unlevering the comparable company betas by using their company specific debt-to-equity ratio, we took the average of the betas and relevered it at the Airbus specific debt-to-equity ratio. Applying the CAPM asset pricing model, we were able to compute two industry specific costs of equity. These are based on the market risk premium of 7.01% and the assumed risk free rate of 1% (based on the expected long-term policy rate of German 10-year Government Bunds) and the industry specific Airbus betas<sup>3</sup>. The cost of equity for DA/HQ is 7.46% and 6.47% for D&S/Helicopters. The company has 88% equity and 12% debt. Given that the units rely on group financing, we assumed that the debt-to-equity structure does not change between units, which would have been done ideally.

<sup>2</sup> See Appendix 1 and 2 for the Euro STOXX 50 moving average and the index composition.

<sup>3</sup> The asset beta for Airbus CA was 1.013 and for D&S and Helicopters it was 0.852. The difference in the betas reflects the different levels of risks of each “part” compared to the market riskiness. For a detailed overview of the beta regression see Appendix 5.

The enterprise value of each part was determined by discounting the unlevered free cash flows back to today at the respective WACC<sup>4</sup>.

Off-balance sheet operating leases were capitalized at the Group’s cost of debt (3.5%, based on historic financial statement information) and corrected for their tax effect, which arises from their debt-like nature (interest trigger tax shield). After summing both “part’s” respective enterprise values (EV), we obtain a total EV after capitalized leases of EUR 62.8bn for Airbus Group. We subtract financial debt net of cash, under-funded pension fund accounts and add back the minority interests in order to obtain the final equity value of Airbus Group which equals EUR 49.9bn.

<b>Sum of parts EV after capitalized leases</b>	<b>62,798</b>							
[-] Net financial debt	(6,369)	TV growth	WACC Airbus CA					
[-] Unfunded pension funds	(6,567)			6.5%	7.0%	7.5%	8.0%	8.5%
[+] Minority interests	8		1.5%	68,779	63,284	58,709	54,839	51,524
<b>Equity value Airbus Group</b>	<b>49,870</b>	2.0%	75,155	68,557	<b>63,165</b>	58,674	54,876	
		2.5%	83,140	75,034	68,559	63,266	58,858	
<b># shares outstanding 27-12-2016</b>	<b>772.71</b>		WACC Airbus D&S/Helicopters					
<b>Target share price</b>	<b>64.54</b>	TV growth		5.5%	6.0%	6.5%	7.0%	7.5%
			1.5%	65,986	64,330	63,044	62,017	61,176
			2.0%	66,148	64,469	<b>63,165</b>	62,123	61,271
		2.5%	66,310	64,607	63,285	62,229	61,366	

Figure 17 – Enterprise Value and sensitivity analysis, Source: Analyst assumptions, Airbus company filings

The target price is obtained by dividing the fair equity value by the total number of diluted shares outstanding (EUR 49.9bn / 772.71m). Our determined target price is EUR 64.52 (vs. actual market price of EUR 60.02) reflecting expected upsides.

In the sensitivity analysis, we tested the EVs sensitivity to different WACCs and different terminal value growth rates. We observe that the EV is much more sensitive to changes in the WACC or TV growth rate within the Airbus Commercial Aerospace division cash flows than in the D&S/Helicopters “part”.

### Multiples valuation

We conducted a multiple valuation based on 2016 year-to-date multiples. For the Commercial Aerospace industry, it was complicated to find true comparables to Airbus. Since the market has been so characterized by the Boeing–Airbus duopoly, hardly any company has a similar size and business model. In addition, the only companies that could have served as comparables were Comac, Bombardier and United Aircraft Corporation. However, here revenues from aircraft sale were either still minor compared to the overall company size, or the company was not publicly listed hence had no comparable market information and values.

<sup>4</sup> The fully elaborated WACC computation with all steps and assumptions is set out in Appendix 6.

Regarding the Defence & Space and Helicopters business it was, however, much easier to find international companies. Nonetheless, the suitability to compare to the D&S and Helicopters division of Airbus is limited due to its size within Airbus Group as well as the comparably low global market share (except for the commercial Helicopter business, where Airbus Helicopters is market leader). Nonetheless, we retrieved and computed relevant data for a set of multiples to value the divisions.

2016 YTD multiples					2016 YTD multiples				
Commercial Aerospace	EV/Sales	EV/EBITDA	EV/EBIT	P/E	D&S / Helicopters	EV/Sales	EV/EBITDA	EV/EBIT	P/E
Boeing Company	0.98x	13.89x	19.22x	23.40x	Lockheed Martin	1.79x	13.23x	15.88x	18.63x
Embarer	0.68x	11.62x	-	46.20x	Textron	1.10x	9.42x	13.13x	16.87x
Zodiac Aerospace	1.53x	19.05x	29.55x	41.56x	General Dynamics	1.42x	9.53x	10.61x	14.80x
Thales	1.23x	10.70x	15.05x	21.45x	Rolls-Royce	1.01x	3.27x	7.64x	92.43x
Airbus	0.81x	11.52x	14.63x	18.62x	Safran	1.07x	7.40x	11.94x	-
					Leonardo-Finmeccanico	1.61x	8.63x	11.39x	18.60x
					Airbus	0.81x	11.52x	14.63x	18.62x

Max	1.53x	19.05x	29.55x	46.20x	Max	1.79x	13.23x	15.88x	92.43x
Average	1.10x	13.82x	21.28x	33.15x	Average	1.33x	8.58x	11.77x	32.27x
Median	1.10x	12.76x	19.22x	32.48x	Median	1.26x	9.02x	11.67x	18.60x
Min	0.68x	10.70x	15.05x	21.45x	Min	1.01x	3.27x	7.64x	14.80x

Table 7 – Multiples of comparable companies in Commercial Aerospace and Defence and Space, Source: Bloomberg  
Based on the 2016 revenues, which were derived from Q3 2016 financial reports and current trading information as of 27<sup>th</sup> December, we obtained a market derived valuation of the two businesses. For the CA division, we recommend using the EV/EBITDA multiple range, as depreciation and amortization expenses are very different between companies and the EV/EBIT multiples show that Airbus is entirely outperformed, even by Boeing. Price-to-earnings is not adequate due to different leverage level. The range for the EV/EBITDA multiple-based EV is EUR 36.3bn to EUR 73.1bn for Airbus CA, providing an average EV of EUR 50.1bn (compared to an EV of EUR 52.5bn for Airbus CA and HQ with DCF valuation). However, the result might be distorted due to the high Zodiac Aerospace EV/EBITDA multiple.

For the valuation of the D&S unit and Airbus Helicopters, we will use the EV/EBIT, given that the financing structure and the business models are more comparable, and asset derived D&A play a smaller role. The average EV for the D&S/Helicopter multiple valuation range (EUR 19.1bn to EUR 9.2bn), is EUR 14.1bn, compared to EUR 10.7bn.

Based only on multiples averages the total EV of Airbus Group is EUR 64.3bn and the equity value is EUR 51.3bn, resulting in a target share price of EUR 66.39 (compared to EUR 65.01 in the DCF valuation).



## Financials

## Income Statement division split

Income Statement in EUR mn	2012A	2013A	2014A	2015A	2016F	2017F	2018F	2019F	2020F
<b>Revenues</b>	<b>56,480</b>	<b>57,567</b>	<b>60,713</b>	<b>64,450</b>	<b>65,682</b>	<b>69,662</b>	<b>73,968</b>	<b>78,423</b>	<b>83,167</b>
YoY % growth	15.0%	1.9%	5.5%	6.2%	2.0%	6.1%	6.2%	6.0%	6.0%
<b>Airbus Commercial Aerospace</b>	<b>36,999</b>	<b>38,561</b>	<b>41,531</b>	<b>45,090</b>	<b>47,345</b>	<b>50,659</b>	<b>54,205</b>	<b>57,999</b>	<b>62,059</b>
% of revenues	65.5%	67.0%	68.4%	70.0%	72.1%	72.7%	73.3%	74.0%	74.6%
<b>Airbus Helicopters</b>	<b>5,724</b>	<b>5,811</b>	<b>5,996</b>	<b>6,153</b>	<b>6,215</b>	<b>6,277</b>	<b>6,528</b>	<b>6,789</b>	<b>7,060</b>
% of revenues	10.1%	10.1%	9.9%	9.5%	9.5%	9.0%	8.8%	8.7%	8.5%
<b>Airbus Defence &amp; Space</b>	<b>13,154</b>	<b>12,739</b>	<b>12,728</b>	<b>12,917</b>	<b>11,833</b>	<b>12,425</b>	<b>12,922</b>	<b>13,309</b>	<b>13,709</b>
% of revenues	23.3%	22.1%	21.0%	20.0%	18.0%	17.8%	17.5%	17.0%	16.5%
<b>Other / HQ / Consolidated</b>	<b>603</b>	<b>456</b>	<b>458</b>	<b>290</b>	<b>290</b>	<b>302</b>	<b>314</b>	<b>326</b>	<b>339</b>
% of revenues	1.1%	0.8%	0.8%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
<b>Costs of Goods Sold</b>	<b>(48,582)</b>	<b>(49,613)</b>	<b>(51,776)</b>	<b>(55,599)</b>	<b>(56,487)</b>	<b>(59,700)</b>	<b>(63,390)</b>	<b>(67,209)</b>	<b>(71,274)</b>
% of revenues	86.0%	86.2%	85.3%	86.3%	86.0%	85.7%	85.7%	85.7%	85.7%
Airbus Commercial Aerospace	(31,825)	(33,233)	(35,418)	(38,898)	(40,716)	(43,414)	(46,453)	(49,705)	(53,185)
Airbus Helicopters	(4,924)	(5,008)	(5,113)	(5,308)	(5,344)	(5,379)	(5,594)	(5,818)	(6,051)
Airbus Defense & Space	(11,315)	(10,979)	(10,854)	(11,143)	(10,176)	(10,648)	(11,074)	(11,406)	(11,748)
Other / HQ / Consolidated	(519)	(393)	(391)	(250)	(249)	(258)	(269)	(280)	(291)
<b>Gross Margin</b>	<b>7,898</b>	<b>7,954</b>	<b>8,937</b>	<b>8,851</b>	<b>9,195</b>	<b>9,962</b>	<b>10,577</b>	<b>11,215</b>	<b>11,893</b>
% of revenues	14.0%	13.8%	14.7%	13.7%	14.0%	14.3%	14.3%	14.3%	14.3%
<b>Operating expenses</b>	<b>(6,029)</b>	<b>(5,880)</b>	<b>(5,992)</b>	<b>(6,111)</b>	<b>(6,203)</b>	<b>(6,579)</b>	<b>(6,985)</b>	<b>(7,406)</b>	<b>(7,854)</b>
Operating expenses excl. R&D expenses	(2,869)	(2,762)	(2,601)	(2,651)	(2,596)	(2,753)	(2,924)	(3,100)	(3,287)
Airbus Commercial Aerospace	(1,879)	(1,850)	(1,779)	(1,855)	(1,871)	(2,002)	(2,142)	(2,292)	(2,453)
Airbus Helicopters	(291)	(279)	(257)	(253)	(246)	(248)	(258)	(268)	(279)
Airbus Defense & Space	(668)	(611)	(545)	(531)	(468)	(491)	(511)	(526)	(542)
Other / HQ / Consolidated	(31)	(22)	(20)	(12)	(11)	(12)	(12)	(13)	(13)
<b>Selling expenses</b>	<b>(1,192)</b>	<b>(1,140)</b>	<b>(1,063)</b>	<b>(1,065)</b>	<b>(1,085)</b>	<b>(1,151)</b>	<b>(1,222)</b>	<b>(1,296)</b>	<b>(1,374)</b>
% of revenues	2.1%	2.0%	1.8%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
<b>Administrative expenses</b>	<b>(1,677)</b>	<b>(1,622)</b>	<b>(1,538)</b>	<b>(1,586)</b>	<b>(1,511)</b>	<b>(1,602)</b>	<b>(1,701)</b>	<b>(1,804)</b>	<b>(1,913)</b>
% of revenues	3.0%	2.8%	2.5%	2.5%	2.3%	2.3%	2.3%	2.3%	2.3%
<b>R&amp;D expenses</b>	<b>(3,160)</b>	<b>(3,118)</b>	<b>(3,391)</b>	<b>(3,460)</b>	<b>(3,607)</b>	<b>(3,825)</b>	<b>(4,062)</b>	<b>(4,306)</b>	<b>(4,567)</b>
% of revenues	5.6%	5.4%	5.6%	5.4%	5.5%	5.5%	5.5%	5.5%	5.5%
Airbus Commercial Aerospace	(2,438)	(2,433)	(2,667)	(2,702)	(2,813)	(2,983)	(3,167)	(3,358)	(3,561)
Airbus Helicopters	(306)	(306)	(325)	(325)	(347)	(368)	(391)	(414)	(439)
Airbus Defense & Space	(381)	(344)	(360)	(344)	(394)	(418)	(444)	(470)	(499)
Other / HQ / Consolidated	(35)	(35)	(39)	(89)	(53)	(57)	(60)	(64)	(68)
Share invest. profits under equity method	241	434	840	1,016	633	633	633	633	633
<b>Reported EBITDA</b>	<b>4,163</b>	<b>4,435</b>	<b>5,935</b>	<b>6,222</b>	<b>5,569</b>	<b>6,076</b>	<b>6,409</b>	<b>6,800</b>	<b>7,243</b>
EBITDA margin	7.4%	7.7%	9.8%	9.7%	8.5%	8.7%	8.7%	8.7%	8.7%
One-off transactions	376	558	64	265	0	0	0	0	0
<b>Normalized EBITDA</b>	<b>4,539</b>	<b>4,993</b>	<b>5,999</b>	<b>6,487</b>	<b>5,569</b>	<b>6,076</b>	<b>6,409</b>	<b>6,800</b>	<b>7,243</b>
EBITDA margin adj.	8.0%	8.7%	9.9%	10.1%	8.5%	8.7%	8.7%	8.7%	8.7%
<b>Depreciation</b>	<b>2,053</b>	<b>1,927</b>	<b>2,150</b>	<b>2,466</b>	<b>1,944</b>	<b>2,060</b>	<b>2,184</b>	<b>2,359</b>	<b>2,571</b>
<b>EBIT</b>	<b>2,486</b>	<b>3,066</b>	<b>3,849</b>	<b>4,021</b>	<b>3,625</b>	<b>4,016</b>	<b>4,225</b>	<b>4,441</b>	<b>4,672</b>
% of revenues	4.4%	5.3%	6.3%	6.2%	5.5%	5.8%	5.7%	5.7%	5.6%
Airbus Commercial Aerospace	1,183	1,662	1,682	1,765	2,019	2,334	2,517	2,718	2,935
Airbus Helicopters	207	339	477	426	392	396	399	403	406
Airbus Defense & Space	879	808	1,516	1,193	808	881	906	920	932
Other / HQ / Consolidated	217	257	174	638	406	405	403	400	398
<b>Interest income</b>	<b>237</b>	<b>161</b>	<b>142</b>	<b>183</b>	<b>142</b>	<b>107</b>	<b>107</b>	<b>107</b>	<b>107</b>
<b>Interest expense</b>	<b>(522)</b>	<b>(493)</b>	<b>(462)</b>	<b>(551)</b>	<b>(684)</b>	<b>(848)</b>	<b>(848)</b>	<b>(848)</b>	<b>(848)</b>
<b>Other financial result</b>	<b>(168)</b>	<b>(278)</b>	<b>(458)</b>	<b>(319)</b>	<b>(306)</b>	<b>(306)</b>	<b>(306)</b>	<b>(306)</b>	<b>(306)</b>
<b>EBT</b>	<b>2,033</b>	<b>2,456</b>	<b>3,071</b>	<b>3,334</b>	<b>2,778</b>	<b>2,968</b>	<b>3,177</b>	<b>3,394</b>	<b>3,624</b>
Income taxes	(438)	(477)	(863)	(800)	(667)	(712)	(763)	(814)	(870)
<b>Net income</b>	<b>1,595</b>	<b>1,979</b>	<b>2,208</b>	<b>2,534</b>	<b>2,111</b>	<b>2,256</b>	<b>2,415</b>	<b>2,579</b>	<b>2,754</b>
Equity owners of the parent	1,197	1,473	2,343	2,696	2,113	2,258	2,417	2,581	2,756
Non-controlling interests	1	10	7	2	2	2	2	2	2
<b>Effective tax rate</b>	<b>21.5%</b>	<b>19.4%</b>	<b>28.1%</b>	<b>24.0%</b>	<b>24.0%</b>	<b>24.0%</b>	<b>24.0%</b>	<b>24.0%</b>	<b>24.0%</b>
<b>Dividend</b>	<b>(369)</b>	<b>(467)</b>	<b>(587)</b>	<b>(945)</b>	<b>(584)</b>	<b>(624)</b>	<b>(668)</b>	<b>(713)</b>	<b>(762)</b>
Payout Ratio	23.1%	23.6%	26.6%	37.3%	27.7%	27.7%	27.7%	27.7%	27.7%
Dividend income from investments	6	49	55	54					
Other non-operating income	184	272	330	474					
Other expenses	(229)	(259)	(179)	(222)					
<b>Total gain/loss from non-operating act.</b>	<b>(39)</b>	<b>62</b>	<b>206</b>	<b>306</b>					

## Balance sheet division split

BALANCE SHEET in mio €	2012A	2013A	2014A	2015A	2016F	2017F	2018F	2019F	2020F
<b>Non-current assets</b>	<b>46,005</b>	<b>45,526</b>	<b>48,420</b>	<b>53,438</b>	<b>56,515</b>	<b>58,165</b>	<b>59,763</b>	<b>61,186</b>	<b>62,398</b>
Intangible assets	12,271	12,500	12,758	12,555	12,555	12,555	12,555	12,555	12,555
PP&E	14,974	15,654	16,388	17,193	18,154	19,172	20,136	20,927	21,506
Strategic investments	3,584	3,858	3,391	1,326	1,794	2,427	3,060	3,692	4,325
Other investments & LT financial assets	1,965	1,756	1,769	2,492	3,515	3,515	3,515	3,515	3,515
Non-current other financial assets	1,386	2,076	586	1,096	1,114	1,114	1,114	1,114	1,114
Non-current other assets	1,413	1,651	1,822	2,166	2,273	2,273	2,273	2,273	2,273
Deferred tax assets	4,425	3,733	5,717	6,759	7,450	7,450	7,450	7,450	7,450
Non-current securities	5,987	4,298	5,989	9,851	9,660	9,660	9,660	9,660	9,660
<b>Current assets</b>	<b>42,985</b>	<b>44,748</b>	<b>46,932</b>	<b>50,565</b>	<b>53,162</b>	<b>51,856</b>	<b>55,809</b>	<b>59,636</b>	<b>64,573</b>
Inventories	22,201	24,023	25,355	29,051	33,481	33,438	33,341	35,350	37,488
Airbus Commercial Aerospace	18,871	20,420	21,552	24,693	28,459	28,422	28,340	30,047	31,865
Airbus Helicopters	2,220	2,402	2,536	2,905	3,348	3,344	3,334	3,535	3,749
Airbus Defense & Space	1,110	1,201	1,268	1,453	1,674	1,672	1,667	1,767	1,874
Other / HQ/ Consolidated	0	0	0	0	0	0	0	0	0
Trade receivables	6,183	6,628	6,798	7,877	7,640	7,990	8,484	8,995	9,539
Airbus Commercial Aerospace	4,452	4,772	4,895	5,671	5,501	5,753	6,109	6,476	6,868
Airbus Helicopters	587	630	646	748	726	759	806	855	906
Airbus Defense & Space	1,113	1,193	1,224	1,418	1,375	1,438	1,527	1,619	1,717
Other / HQ/ Consolidated	31	33	34	39	38	40	42	45	48
Current portion of other LT financial assets	271	132	167	178	648	648	648	648	648
Current other financial assets	1,444	1,591	1,164	1,402	1,094	1,094	1,094	1,094	1,094
Current other assets	1,934	1,960	2,389	2,819	2,930	2,930	2,930	2,930	2,930
Current tax assets	450	628	605	860	901	901	901	901	901
Current securities	2,331	2,585	3,183	1,788	1,518	1,518	1,518	1,518	1,518
Cash and cash equivalents	8,171	7,201	7,271	6,590	4,950	3,337	6,892	8,200	10,455
Assets and disposals classified as held for sale			750	1,779	1,197	1,197	1,197	1,197	1,197
<b>Total assets</b>	<b>88,990</b>	<b>90,274</b>	<b>96,102</b>	<b>105,782</b>	<b>110,873</b>	<b>111,218</b>	<b>116,768</b>	<b>122,019</b>	<b>128,168</b>
<b>Equity to equity owners of parent</b>	<b>10,260</b>	<b>10,864</b>	<b>7,061</b>	<b>5,966</b>	<b>7,493</b>	<b>9,125</b>	<b>10,872</b>	<b>12,738</b>	<b>14,731</b>
Capital stock	827	783	785	785	785	785	785	785	785
Share premium	7,253	5,049	4,500	3,484	3,484	3,484	3,484	3,484	3,484
Retained Earnings	753	2,167	2,989	6,316	7,843	9,475	11,222	13,088	15,081
Accumulated other comprehensive income	1,511	2,915	(1,205)	(4,316)	(4,316)	(4,316)	(4,316)	(4,316)	(4,316)
Treasury shares	(84)	(50)	(8)	(303)	(303)	(303)	(303)	(303)	(303)
<b>Non-controlling interests</b>	<b>16</b>	<b>42</b>	<b>18</b>	<b>7</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>
<b>Total equity</b>	<b>10,276</b>	<b>10,906</b>	<b>7,079</b>	<b>5,973</b>	<b>7,501</b>	<b>9,133</b>	<b>10,880</b>	<b>12,746</b>	<b>14,739</b>
<b>Non-current liabilities</b>	<b>32,343</b>	<b>33,017</b>	<b>40,846</b>	<b>46,700</b>	<b>47,777</b>	<b>46,775</b>	<b>47,684</b>	<b>48,076</b>	<b>49,045</b>
Non-current provisions	9,411	9,604	10,400	9,871	10,139	10,139	10,139	10,139	10,139
Long-term financing liabilities	3,312	3,804	6,278	6,335	8,825	8,825	8,825	8,825	8,825
Non-current other financial liabilities	7,454	7,154	9,922	14,038	11,077	11,077	11,077	11,077	11,077
Non-current other liabilities	10,496	10,764	12,849	14,993	15,721	14,719	15,628	16,020	16,989
Deferred tax liabilities	1,459	1,454	1,130	1,200	1,802	1,802	1,802	1,802	1,802
Non-current deferred income	211	237	267	263	213	213	213	213	213
<b>Current liabilities</b>	<b>46,371</b>	<b>46,351</b>	<b>47,497</b>	<b>52,878</b>	<b>54,649</b>	<b>54,364</b>	<b>57,258</b>	<b>60,251</b>	<b>63,439</b>
Current provisions	5,940	5,222	5,712	5,209	5,066	5,066	5,066	5,066	5,066
Short-term financing liabilities	1,463	1,826	1,073	2,790	2,494	2,494	2,494	2,494	2,494
Trade liabilities	9,271	9,668	10,183	10,864	11,762	11,640	12,360	13,104	13,897
Airbus Commercial Aerospace	6,675	6,961	7,332	7,822	8,469	8,381	8,899	9,435	10,006
Airbus Helicopters	881	918	967	1,032	1,117	1,106	1,174	1,245	1,320
Airbus Defense & Space	1,202	1,740	1,833	1,956	2,117	2,095	2,225	2,359	2,501
Other / HQ/ Consolidated	84	48	51	54	59	58	62	66	69
Current other liabilities	29,697	29,635	30,529	34,015	35,327	35,164	37,338	39,587	41,982
Liabilities classified as held for sale	0	0	680	231	946	946	946	946	946
<b>Total liabilities</b>	<b>78,714</b>	<b>79,368</b>	<b>89,023</b>	<b>99,809</b>	<b>103,372</b>	<b>102,085</b>	<b>105,888</b>	<b>109,273</b>	<b>113,429</b>
<b>Total equity and liabilities</b>	<b>88,990</b>	<b>90,274</b>	<b>96,102</b>	<b>105,782</b>	<b>110,873</b>	<b>111,218</b>	<b>116,768</b>	<b>122,019</b>	<b>128,168</b>

## Other items &amp; forecasts

I. Pension Plans	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Pension Funded Status</b>									
Fair Value of Plan Assets	6,588	6,473	7,395	6,972	6,857	6,857	6,857	6,857	6,857
Defined Benefit Obligation	12,612	12,282	14,962	13,839	13,424	13,424	13,424	13,424	13,424
<b>Under-Funded Pension Plans</b>	<b>-6,024</b>	<b>-5,809</b>	<b>-7,567</b>	<b>-6,867</b>	<b>-6,567</b>	<b>-6,567</b>	<b>-6,567</b>	<b>-6,567</b>	<b>-6,567</b>
II. Operating leases	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Operating Leases (Rental Expense) Schedule</b>									
Rental Expense - Year 1	69	84	69	62	62	62	62	62	62
Rental Expense - Years 2 - 5	219	174	142	98	98	98	98	98	98
Rental Expense Beyond Year 5	44	13	2	0	0	0	0	0	0
<b>Future Min Oper Lease Obligations</b>	<b>332</b>	<b>271</b>	<b>213</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>
III. PP&E Breakdown	2012	2013	2014	2015	2016	2017	2018	2019	2020
Starting PP&E		14,974	15,585	16,321	17,127	18,088	19,106	20,070	20,861
[+] CAPEX		2,918	2,548	2,924	2,904	3,079	3,148	3,150	3,150
[-] Depreciation	2,053	1,927	2,150	1,957	1,944	2,060	2,184	2,359	2,571
Ending PP&E	14,974	15,585	16,321	17,127	18,088	19,106	20,070	20,861	21,440
<b>Depreciation and amortization</b>		<b>1,927</b>	<b>2,150</b>	<b>2,466</b>	<b>1,944</b>	<b>2,060</b>	<b>2,184</b>	<b>2,359</b>	<b>2,571</b>
<b>Operating expenses Amortization / Impairment</b>			<b>419</b>	<b>485</b>	<b>452</b>	<b>452</b>	<b>452</b>	<b>452</b>	<b>452</b>
<b>Cost of sales</b>			<b>43</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>
<b>Depreciation</b>		<b>1,927</b>	<b>1,688</b>	<b>1,957</b>	<b>1,468</b>	<b>1,584</b>	<b>1,708</b>	<b>1,883</b>	<b>2,095</b>
IV. Working Capital Ratios	2012	2013	2014	2015	2016	2017	2018	2019	2020
Days of Sales Outstanding (DSO)	40.0	42.0	40.9	44.6	42.5	41.9	41.9	41.9	41.9
Inventory Turnover	2.2	2.1	2.0	1.9	1.7	1.8	1.9	1.9	1.9
Days of Payables Outstanding (DPO)	69.7	71.1	71.8	71.3	76.0	71.2	71.2	71.2	71.2
V. Debt/Equity Ratios									
<b>Total debt (ST + LT)</b>	6,369								
<b>Total equity (BV)</b>	5,966								
<b>Total equity (MV)</b>	46,410								
<b>D/E</b>	0.14								
<b>D/EV</b>	0.12								
<b>E/EV</b>	0.88								
						<b>31.12.15</b>	<b>27.12.16</b>		
						<b># shares outstanding</b>	773.85	772.71	
						<b>current market share price</b>	59.97	60.06	
VI. Returns/operating performance metrics	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Returns</b>									
ROIC		12.5%	15.9%	15.1%	10.3%	9.9%	9.6%	9.3%	9.0%
ROA		2.2%	2.4%	2.5%	1.9%	2.0%	2.1%	2.2%	2.2%
ROE		18.7%	24.6%	38.8%	31.3%	27.1%	24.1%	21.8%	20.0%
ROCE		7.0%	7.9%	7.6%	6.4%	7.1%	7.1%	7.2%	7.2%
<b>Operating performance</b>									
Capex/Sales		5.1%	4.2%	4.5%	4.4%	4.4%	4.3%	4.0%	3.8%
R&D/Sales		5.4%	5.6%	5.4%	5.5%	5.5%	5.5%	5.5%	5.5%
D&A/Sales		3.3%	3.5%	3.8%	3.0%	3.0%	3.0%	3.0%	3.1%
Capex/D&A		1.51	1.19	1.19	1.49	1.49	1.44	1.34	1.23

## Sum-of-the-parts DCF valuation

Airbus Commercial Aerospace										
	Forecasting period / future FCF									
	2012A	2013A	2014A	2015A	2016F	2017F	2018F	2019F	2020F	TV
EBIT	1,400	1,919	1,856	2,402	2,425	2,739	2,919	3,119	3,333	3,400
[+] Non-deductible GW	0	0	0	0	0	0	0	0	0	0
EBITA	1,400	1,919	1,856	2,402	2,425	2,739	2,919	3,119	3,333	3,400
[-] Tax (MTR)	336	461	445	577	582	657	701	748	800	816
NOPLAT	1,064	1,458	1,411	1,826	1,843	2,082	2,219	2,370	2,533	2,584
[+] Depreciation/Amortization	1,292	1,270	1,453	1,653	1,410	1,507	1,610	1,754	1,929	1,967
Dec / (inc) in OWC		(1,621)	(882)	(3,430)	(2,943)	(305)	246	(1,538)	(1,637)	(1,670)
[+] Δ Trade receivables		(323)	(123)	(782)	172	(254)	(358)	(371)	(394)	(402)
[+] Δ Inventories		(1,549)	(1,132)	(3,142)	(3,766)	37	82	(1,707)	(1,818)	(1,854)
[-] Δ Trade payables		251	373	494	651	(88)	522	540	575	586
[+] Δ Advance payments		353	737	3,959	2,139	(6)	2,730	2,275	2,974	1,781
Δ Current and non-current provisions		(525)	1,286	(1,032)	125	0	0	0	0	0
Δ Other current assets		(440)	(183)	891	67	0	0	0	0	0
Δ Other current liabilities		(147)	2,242	1,671	(99)	(1,159)	354	366	389	397
[-] Capital Expenditure		(2,173)	(1,748)	(2,092)	(2,079)	(2,230)	(2,219)	(2,219)	(2,219)	(2,007)
<b>Free Cash Flows to the Firm</b>		(1,824)	4,315	3,446	463	(111)	4,938	3,008	3,969	3,053
<b>Free Cash Flow after tax</b>					<b>463</b>	<b>(111)</b>	<b>4,938</b>	<b>3,008</b>	<b>3,969</b>	<b>3,053</b>
Operating Leases					144	144	144	144	144	144
Tax effect leases					26	26	26	26	27	27
Operating leases after tax					118	118	118	118	117	117
<b>Free Cash Flow after tax, lease adj.</b>					<b>581</b>	<b>7</b>	<b>5,056</b>	<b>3,125</b>	<b>4,086</b>	<b>3,170</b>
Periods					0.25	1.25	2.25	3.25	4.25	4.25
Airbus Commercial Aircraft WACC		7.46%			7.46%	7.46%	7.46%	7.46%	7.46%	7.46%
TV growth rate		2.00%			2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Discount factor					0.98	0.91	0.85	0.79	0.74	13.48
<b>Discounted FCF after tax, lease adj.</b>					<b>570</b>	<b>7</b>	<b>4,300</b>	<b>2,474</b>	<b>3,010</b>	<b>42,743</b>
Leasing discount rate		3.50%			3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount factor					0.99	0.96	0.93	0.89	0.86	0.86
Capitalized operating leases after tax					117	113	109	105	101	101
EV before capitalized leases		53,104								
Capitalized leases		(647)								
<b>EV after capitalized leases</b>		<b>52,457</b>								

Airbus D&S/Helicopters										
	Forecasting period / future FCF									
	2012a	2013a	2014a	2015a	2016f	2017f	2018f	2019f	2020f	TV
EBIT	1,086	1,147	1,993	1,619	1,200	1,277	1,306	1,323	1,339	1,365
[+] Non-deductible GW	0	0	0	0	0	0	0	0	0	0
EBITA	1,086	1,147	1,993	1,619	1,200	1,277	1,306	1,323	1,339	1,365
[-] Tax (MTR)	261	275	478	388	288	306	313	317	321	328
NOPLAT	825	872	1,515	1,230	912	970	992	1,005	1,017	1,038
[+] Depreciation/Amortization	761	657	697	813	534	553	574	604	642	655
Dec / (inc) in OWC		181	(105)	(664)	(352)	(123)	77	(237)	(252)	(257)
[+] Δ Trade receivables		(122)	(47)	(297)	65	(96)	(136)	(141)	(150)	(153)
[+] Δ Inventories		(273)	(200)	(554)	(665)	7	14	(301)	(321)	(327)
[-] Δ Trade payables		576	142	187	247	(34)	198	205	218	222
[-] Capital Expenditure		(745)	(800)	(832)	(825)	(849)	(929)	(931)	(931)	(949)
<b>Free Cash Flows to the Firm</b>		965	1,307	547	268	551	714	442	476	486
<b>Free Cash Flow after tax</b>					<b>268</b>	<b>551</b>	<b>714</b>	<b>442</b>	<b>476</b>	<b>486</b>
Operating Leases					16	16	16	16	16	16
Tax effect leases					3	3	3	3	3	0
Operating leases after tax					13	13	13	13	13	16
<b>Free Cash Flow after tax, lease adj.</b>					<b>282</b>	<b>565</b>	<b>727</b>	<b>455</b>	<b>489</b>	<b>502</b>
Periods					0.25	1.25	2.25	3.25	4.25	4.25
D&S/Helicopters WACC		6.47%			6.47%	6.47%	6.47%	6.47%	6.47%	6.47%
TV growth rate		2.00%			2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Discount factor					0.98	0.92	0.87	0.82	0.77	17.15
<b>Discounted FCF after tax, lease adj.</b>					<b>277</b>	<b>522</b>	<b>631</b>	<b>371</b>	<b>375</b>	<b>8,606</b>
Leasing discount rate		3.50%			3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount factor					0.99	0.96	0.93	0.89	0.86	0.86
Capitalized operating leases after tax					13	13	12	12	11	14
EV before capitalized leases		10,782								
Capitalized leases		(74)								
<b>EV after capitalized leases</b>		<b>10,708</b>								

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