



AeroSpace Technology of Korea

COMPANY REPORT #19-03

Bloomberg Code 067390 KS / Reuters Code 067390.KS

BUY**MAINTAIN**

Machinery

CP (Mar. 25) KRW13,800**TP** (6 months) **KRW20,000****Upside** 44.9%**[Analyst]****Eoyeon Hwang**

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KOSPI	2,144.86p
KOSDAQ	727.21p
Market cap	KRW218.7bn/USD191.8mn
Par value	KRW500
Outstanding shares	15.8mn
Free float	123mn (77.8%)
52-week high/low	KRW18,950/KRW9,490
60-day avg. trading volume	362,463shrs
60-day avg. turnover	KRW4,849mn
Foreign ownership	1.34%
Major shareholders	
Hui-Won Kim and 1 other	21.98%
Absolute performance	3M 35.3%
	6M -5.5%
	12M -20.5%
Relative performance	3M 24.6%
to KOSDAQ	6M 7.6%
	12M -9.3%

Shinhan Investment Corp.

A golden opportunity

Retain BUY for a target price of KRW20,000

We keep our target price for AeroSpace Technology of Korea (ASTK) unchanged at KRW20,000. We applied a target PER of 18x (global peer average PER) to 2019F EPS of KRW1,072 (conservatively assuming 7mn new share issuance, full conversion of convertible bonds). Investment points are: 1) cheap valuations with shares trading at a 67.3% discount to global peers; 2) start of shipments of new components; and 3) earnings growth driven by increased production of B737 and E2 jets.

Acquisition of E2 structural production contract

On March 25, ASTK acquired the contract for the manufacture of structural components (fuselage, rudder, elevator) for the Embraer E2 program from Triumph Group's Aerospace Structures business unit for KRW130.4bn. E2 is the second-generation aircraft of Embraer's E-Jet family of commercial jets, which has annual production of 100-110 units. The E-Jet family was the fifth most produced aircraft in 2018. Shipments of E2 components should start in April. Related design technology is expected to be transferred at the same time. The technology transfer will help ASTK join the ranks of Super Tier 1 suppliers, thereby securing more risk and revenue sharing programs (RSP) and new orders going forward.

Earnings outlook: Profit contributions from tool production

For 2019, we forecast sales of KRW178.3bn (+52.4% YoY), operating profit of KRW15.9bn (+46.8% YoY), and net profit of KRW26.4bn (+559.5% YoY). Sales from E2 jets are projected to reach KRW30.5bn, Section 48 KRW22.1bn, and other parts KRW8.7bn. E2-related sales should increase from KRW30.5bn in 2019 to KRW157.5bn in 2026. Non-operating profit will likely be generated from the production of tools for E2 jets in 2019-2022, which should amount to KRW14bn-27bn a year.

Year to December	2017	2018	2019F	2020F	2021F
Sales (bn KRW)	97.2	117.0	178.3	249.7	289.7
OP (bn KRW)	8.1	10.8	15.9	29.1	37.2
NP (bn KRW)	1.4	4.0	26.4	35.7	33.1
EPS (KRW)	99	258	1,325	1,564	1,449
BPS (KRW)	6,715	6,623	9,642	11,206	12,655
OPM (%)	8.3	9.3	8.9	11.6	12.8
NPM (%)	1.5	3.8	15.6	15.1	12.0
ROE (%)	1.7	3.9	16.3	15.0	12.1
PER (x)	195.4	39.9	9.9	8.4	9.0
PBR (x)	2.9	1.6	1.4	1.2	1.0
EV/EBITDA (x)	29.3	20.9	22.1	12.9	9.8

Source: Company data, Shinhan Investment Corp. / Note: TB = turn black, TR = turn red, RR = remain red

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I. Investment summary

Target price unchanged at KRW20,000, based on 2019F EPS of KRW1,072 and target PER of 18x

1. Valuation: Share price gains driven by solid EPS growth

Shares of Boeing and Airbus have gone up 132.6% and 82.4%, respectively, since 2017. Both hit all-time highs before the Boeing 737 Max crashes. Share price and earnings growth were driven by increased production of single-aisle planes A320 NEO and B737 MAX. Airbus has order backlog worth nine years for the A320 family and Boeing 8.2 years for the B737 family. They plan to increase production by 10% every year to reduce order backlog. During times of slowdown in global fixed asset investments, aircraft manufacturers and component suppliers are expected to come in the spotlight as defensive and growth plays.

We keep our target price for AeroSpace Technology of Korea (ASTK) unchanged at KRW20,000. We applied a target PER of 18x (global peer average PER) to 2019F EPS of KRW1,072 (conservatively assuming 7mn new share issuance, full conversion of convertible bonds). Investment points are: 1) cheap valuations with shares trading at a 67.3% discount to global peers; 2) start of shipments of new components; and 3) earnings growth driven by increased production of B737 and E2 jets.

E2 parts contract acquired for KRW130.4bn; 100-110 E2 jets expected to be produced annually

2. Acquisition of E2 structural production contract → Order growth expected as a Super Tier 1 supplier

On March 25, ASTK acquired the contract for the manufacture of structural components (fuselage, rudder, elevator) for the Embraer E2 program from Triumph Group's Aerospace Structures business unit for KRW130.4bn. E2 is the second-generation aircraft of Embraer's E-Jet family of commercial jets, which has annual production of 100-110 units. The E-Jet family was the fifth most produced aircraft in 2018. Shipments of E2 components should start in April. Related design technology is expected to be transferred at the same time. The technology transfer will help ASTK join the ranks of Super Tier 1 suppliers, thereby securing more risk and revenue sharing programs (RSP) and new orders going forward.

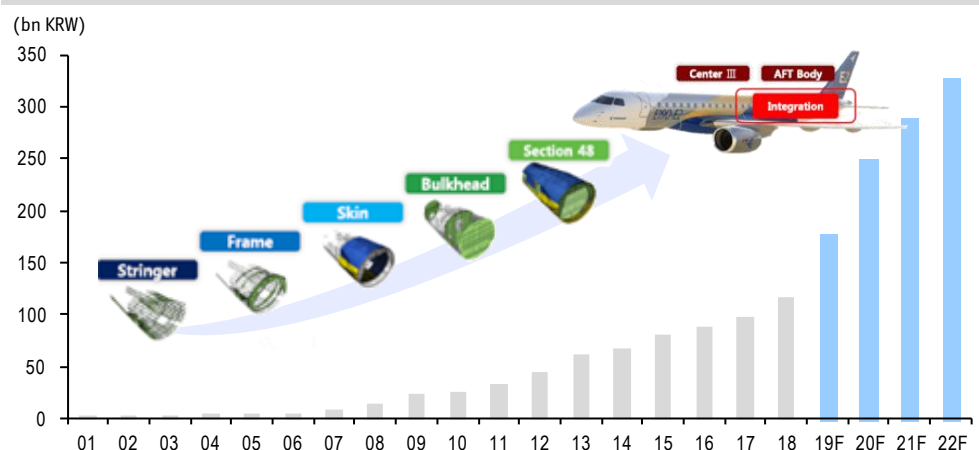
E2-related sales to reach KRW157.5bn in 2026; annual profit from tools to amount to KRW14bn-27bn in 2019-2022

3. Earnings outlook: Profit contributions from tool production

E2-related sales should increase gradually from KRW30.5bn in 2019 to KRW157.5bn in 2026. The production of E2 jets should rise from 20 units in 2019 to 50 in 2020. The target for 2026 is 100 units. Operating profit is projected to climb in tandem with increased output and reach KRW19.7bn in 2026. Non-operating profit will likely be generated from the production of tools for E2 jets in 2019-2022. Orders for tools needed in the manufacturing of aircraft components are placed separately, which are booked as non-operating profit. We expect annual profit of KRW14bn-27bn.

For 2019, we forecast sales of KRW178.3bn (+52.4% YoY), operating profit of KRW15.9bn (+46.8% YoY), and net profit of controlling interests of KRW26.4bn (+559.5% YoY). Sales should grow KRW61.3bn YoY. Sales from E2 jets are projected to reach KRW30.5bn, Section 48 KRW22.1bn, and other parts KRW8.7bn. Monthly production of B737 MAX section 48 is expected to increase from 10 units in 4Q18 to 19 in 4Q19. One unit is estimated to be worth KRW300mn-400mn.

ASTK: Sales trend and growth into a Super Tier 1 supplier



Source: Company data, Shinhan Investment Corp.

II. Valuation: Share price gains driven by solid EPS growth

1. Shares of commercial jet manufacturers on an uptrend due to increased production of single-aisle planes

**Boeing shares up 132.6%,
Airbus up 82.4%, Spirit
up 53.2% since 2017**

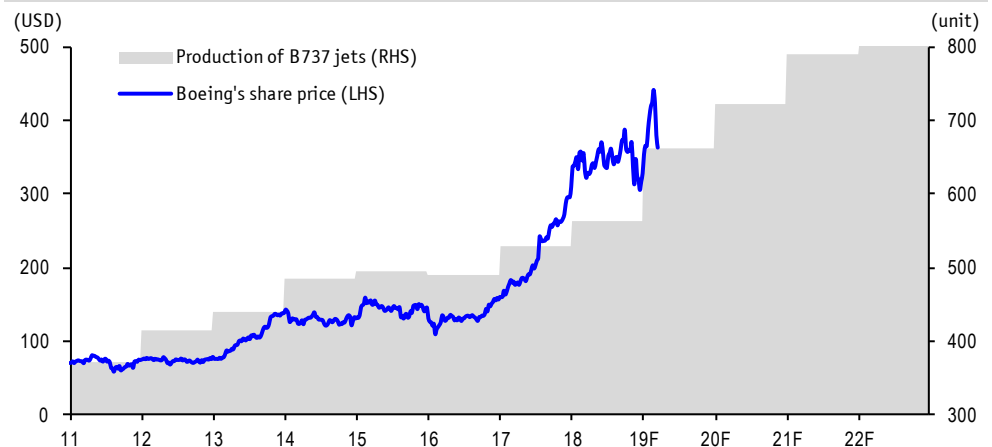
The global market for commercial jets is dominated by Boeing and Airbus, with respective market share of 45.3% and 45% in 2018. Share prices hit all-time highs before the Boeing 737 Max crashes. Share price and earnings growth were driven by increased production of single-aisle planes A320 NEO and B737 MAX. Orders for single-aisle planes have increased steadily since their launch in 2013 on the back of strong demand from low-cost carriers. Shares of Boeing and Airbus have gone up 132.6% and 82.4%, respectively, from 2017. Spirit AeroSystems, a manufacturer of B737 fuselage, has risen 53.2% during the same period.

**Aircraft production to
continue growing given
order backlog
(A320 family 9 years,
B737 family 8.2 years)**

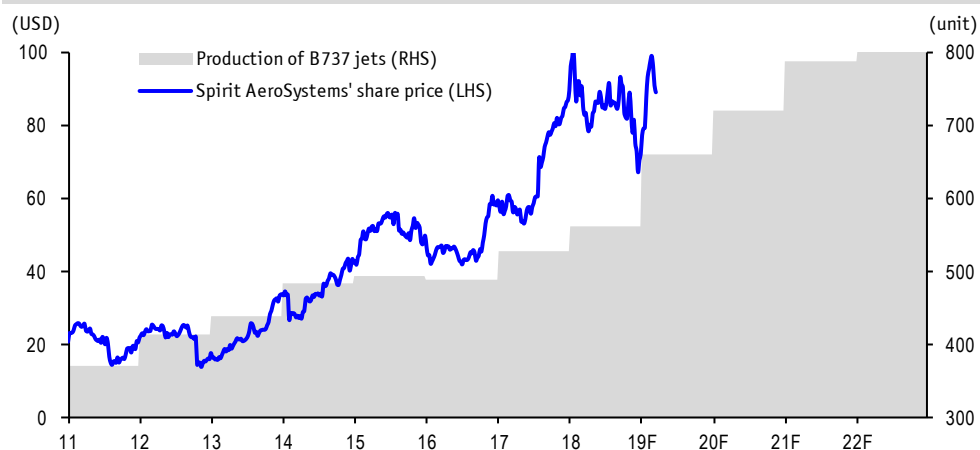
Airbus has order backlog worth nine years for the A320 family and Boeing 8.2 years for the B737 family. Any order placed now will be delivered after eight to nine years. They plan to increase production by 10% every year to reduce order backlog. Based on orders already secured, they are expected to deliver stable sales growth over the next eight to nine years. During times of slowdown in global fixed asset investments, aircraft manufacturers and component suppliers are expected to come in the spotlight as defensive and growth plays.

Parts suppliers for Airbus and Boeing are having a hard time keeping up with output growth. Spirit AeroSystems paid penalty fees for delays in fuselage shipments last year. ASTK generates 73.2% of sales and 39% of total order value from the B737 family of jets. The shortage of capacity at first-tier vendors should benefit second-tier vendors like ASTK in terms of orders for new components, increase in production of existing products, and share price gains.

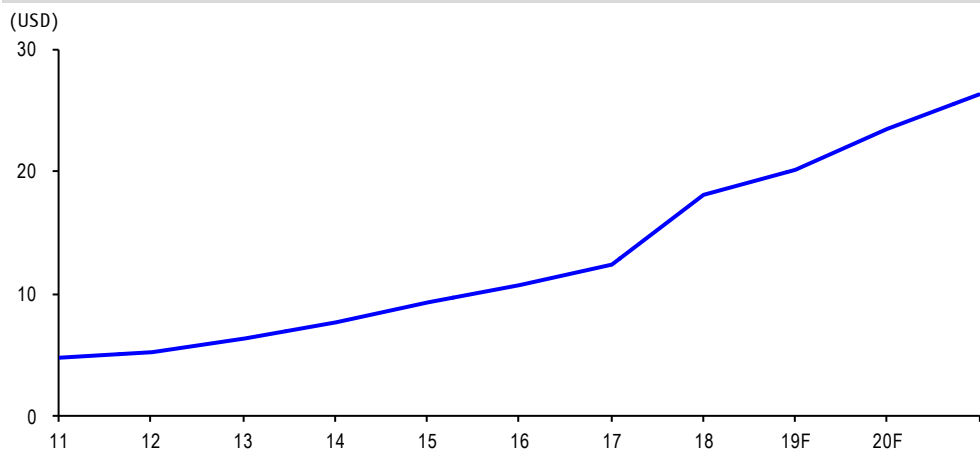
Boeing: Share price and production of B737 family aircrafts



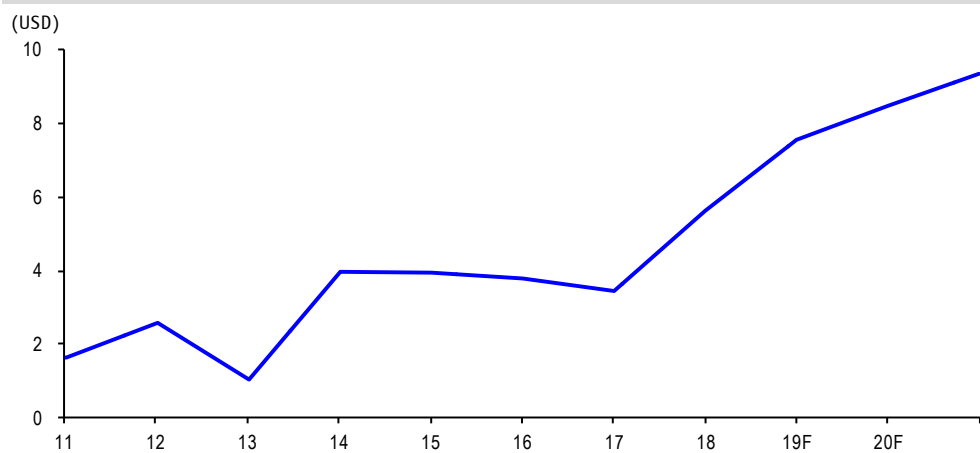
Source: Bloomberg, Shinhan Investment Corp.

Spirit AeroSystems: Share price and production of B737 family aircrafts

Source: Bloomberg, Shinhan Investment Corp.

Boeing: 12-month forward EPS

Source: Bloomberg, Shinhan Investment Corp.

Spirit AeroSystems: 12-month forward EPS

Source: Bloomberg, Shinhan Investment Corp.

B737 MAX deliveries suspended, but production continues

2. Suspension of B737 MAX flights to have limited impact on parts suppliers

Boeing's 737 MAX was involved in two deadly crashes in recent five months – the Lion Air flight in October 2018 and the Ethiopian Airlines flight in March 2019. The crashes have sent shares of Boeing and Spirit AeroSystems tumbling by 14.3% and 7.3%, respectively, from March 10. About 40 countries have suspended B737 MAX flights into or out of their airspace. While the exact cause of the crashes is yet unknown, Boeing's MCAS (maneuvering characteristics augmentation system) software is being investigated as a possible cause. Boeing plans to update the software within March.

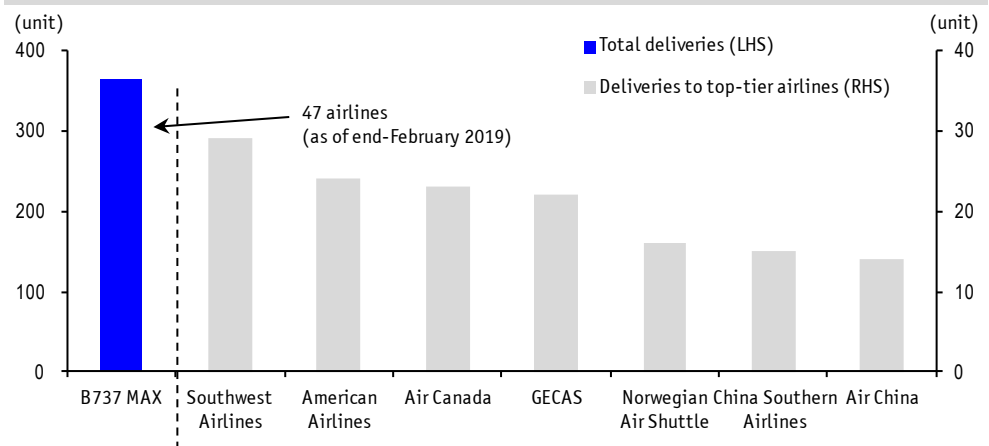
B737 MAX deliveries have also been suspended, but production will go ahead as scheduled. Deliveries will likely resume after the software update. Aircraft manufacturers and component suppliers should see share prices return to normal levels with uncertainty easing gradually and increase in production.

B737 MAX crashes



Source: Media reports, Shinhan Investment Corp.

Airlines that have B737 MAX in their fleet



Source: Company data, Shinhan Investment Corp.

**Target price based on
2019F EPS of KRW1,072
and target PER of 18x**

3. Small/mid-cap stock in focus, retain BUY for a target price of KRW20,000

We keep our target price for ASTK unchanged at KRW20,000. We applied a target PER of 18x (global peer average PER) to 2019F EPS of KRW1,072 (conservatively assuming 7mn new share issuance, full conversion of convertible bonds). Sales are forecast to grow 35.3% over the next three years, outperforming the average growth of global peers (8.5%) by 316.3%. Valuation premium may be applied going forward. Investment points are: 1) cheap valuations with shares trading at a 67.3% discount to global peers; 2) start of shipments of new components; and 3) earnings growth driven by increased production of B737 and E2 jets.

ASTK acquired the E2 fuselage manufacturing operations and assets from Triumph Group for KRW130.4bn. With term-end cash holdings of KRW15.5bn, the company needs to increase capital to finance the deal. The fourth and fifth issuance of CBs has already been made. We expect the company to opt for rights offering of 7mn new shares. Even when considering a possible dilution after the conversion of CBs and the rights issue, shares are undervalued at 2019F PER of 12.9x, trading at a 67.3% discount to global peers' 19.1x.

PER valuation: Target price of KRW20,000

	Valuation	Remarks
Target price (KRW)	20,000	
Target PER (x)	18	Average PER of global aircraft parts suppliers
Current price (KRW)	13,800	
Upside (%)	44.9	
EPS (KRW)	1,072	2019F EPS, conservatively assuming rights issue and conversion of CBs

Source: Company data, Shinhan Investment Corp.

PER trend

	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Target price (KRW)	-	-	-	-	-	20,000	20,000	20,000	20,000
Target PER (x)	-	-	-	-	-	15.1	12.8	13.8	11.5
Share price (KRW)	8,370	23,500	17,500	19,350	10,300	13,800	13,800	13,800	13,800
Upside (%)	-	-	-	-	-	44.9	-	-	-
PER (term-end, x)	(8.8)	128.0	34.2	195.4	39.9	9.9	8.4	9.0	7.6
PER (high, x)	(10.2)	204.7	49.4	210.0	94.8	11.8	10.0	10.8	9.0
PER (low, x)	(7.5)	42.1	29.5	155.0	35.3	7.7	6.5	7.0	5.9
PER (average, x)	(8.6)	125.8	37.9	175.1	61.8	9.9	8.4	9.1	7.6
PBR (term-end, x)	2.3	5.6	3.3	2.9	1.6	1.4	1.2	1.0	0.9
EPS (KRW)	(953)	184	512	99	258	1,325	1,564	1,449	1,732
YoY (%)	-	TB	178.5	(80.7)	160.4	413.6	18.1	(7.3)	19.5
BPS (KRW)	3,720	4,190	5,284	6,715	6,623	9,642	11,206	12,655	14,387
ROE (%)	(21.4)	4.8	9.5	1.7	3.9	16.3	15.0	12.1	12.8
Total shares outstanding (1,000 shares)	12,516	13,798	14,423	14,739	15,715	22,844	22,844	22,844	22,844

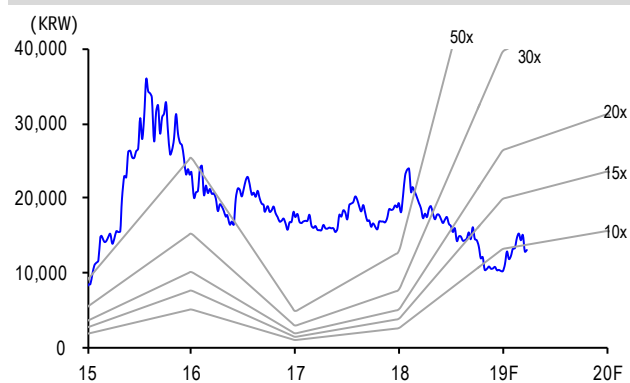
Source: Company data, Shinhan Investment Corp.

Peer group valuation

Country	Company	Market cap (tr KRW)	Share price gains (%)		PER (x)		PBR (x)		EV/EBITDA (x)		ROE (%)		EPS growth (%)	
			1M	YTD	2019F	2020F	2019F	2020F	2019F	2020F	2019F	2020F	2019F	2020F
Asia	Korea Aerospace Industries	3.5	(0.3)	12.5	25.9	25.6	3.1	2.7	12.7	11.9	12.6	11.3	187.6	1.5
	AeroSpace Technology of Korea	0.2	(5.2)	34.0	9.9	8.4	1.4	1.2	22.1	12.9	16.3	15.0	413.6	18.1
	ST Engineering	9.7	(1.8)	6.6	19.6	18.6	4.9	4.6	12.6	11.7	25.9	26.7	11.5	7.5
	AVIC Aircraft	8.4	10.6	36.0	65.2	55.2	2.9	2.8	35.9	32.0	4.5	5.1	30.1	17.3
	Aviation Industry Corporation of China	4.4	(11.3)	(0.8)	17.0	14.6	1.4	1.3	10.8	9.7	8.7	9.4	36.4	15.8
	Average				27.5	24.5	2.7	2.5	18.8	15.7	13.6	13.5	135.8	12.0
US	TransDigm Group	26.7	2.0	30.8	25.9	22.8	-	-	15.9	14.4	(61.0)	(128.2)	11.3	14.2
	Spirit AeroSystems	10.7	(8.2)	24.0	11.8	10.6	7.2	5.7	8.0	7.5	60.1	56.2	28.0	7.3
	Triumph Group	1.1	(17.9)	66.8	7.7	5.6	2.2	2.4	8.1	6.8	3.2	2,436.3	4.1	38.4
	Average				15.1	13.0	4.7	4.0	10.7	9.6	0.8	788.1	14.5	20.0
Europe	Safran	66.0	(1.4)	12.0	20.8	17.8	4.1	3.6	12.9	11.4	20.1	21.9	76.3	18.2
	Thales	28.9	(3.0)	3.6	16.5	14.3	3.6	3.1	8.0	7.1	22.3	24.6	30.9	15.6
	Dassault	14.2	(3.2)	9.6	16.6	15.3	2.2	2.0	14.1	13.2	12.8	12.6	(0.3)	8.3
	Latécoère	0.4	(1.3)	13.7	19.2	10.1	1.1	1.0	5.7	4.7	5.4	8.4	75.3	96.8
	Average				18.0	15.8	3.3	2.9	11.7	10.6	18.4	19.7	35.6	14.0
Average					21.3	18.2	3.1	2.8	13.9	12.0	10.9	208.3	75.4	21.6

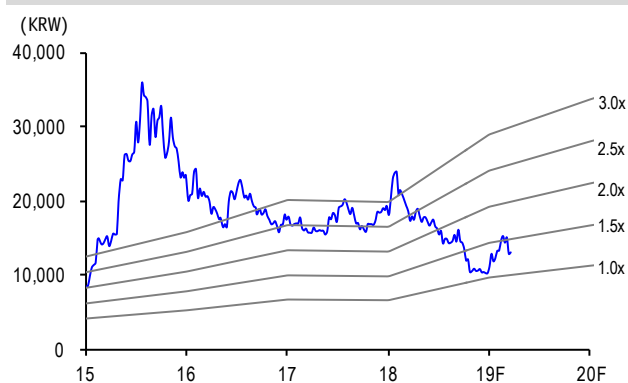
Source: Bloomberg, Shinhan Investment Corp.

ASTK: 12-month forward PER band



Source: QuantiWise, company data, Shinhan Investment Corp.

ASTK: 12-month forward PBR band



Source: QuantiWise, company data, Shinhan Investment Corp.

ASTK: Total shares outstanding

Issuance	Conversion period	Conversion amount (KRW)	Number of convertible shares (1,000 shares)	Percentage of issued shares (common shares + CBs) (%)
4th issuance	02/18-02/22	12,390	1,114	5.8
5th issuance	10/19-10/23	10,332	2,516	13.0
Total	-	-	3,630	18.8
No. of common shares	-	-	15,715	81.2
Total	-	-	19,345	100.0

Source: Company data, Shinhan Investment Corp.

III. Acquisition of E2 structural production contract

Annual production of E2 to reach 100 units; order backlog of 254 units as of 2018

1. Acquisition of E2 structural production contract

On March 25, ASTK acquired the contract for the manufacture of structural components (fuselage, rudder, elevator) for the Embraer E2 program from Triumph Group's Aerospace Structures business unit for KRW130.4bn. Brazil-based Embraer is the world's third largest aircraft manufacturer. Its market share stood at 4.8% in 2018 based on the number of aircrafts produced, following Boeing's 45.3% and Airbus's 45%. It produces about 100-110 aircrafts annually. The flagship model is the E-Jet E1 family of single-aisle aircrafts produced since 2002. The E-Jet family was the fifth most produced aircraft in 2018. It targets the niche market of domestic flights with only half as many seats as the B737 and A320.

The delivery of second-generation E2 jets began in 2H18. Order backlog stood at 254 units in 2018. Annual production of E2 should reach 100 units, similar to the E1, going forward. Fuel economy of E2 was improved by 17% compared to the E1. It is equipped with Pratt & Whitney's Geared Turbofan (GTF) engine, for which Hanwha Aerospace signed an RSP deal.

Specifications of E2 and B737 MAX family aircrafts

	E2			B737			
	E175	E190	E195	MAX 7	MAX 8	MAX 9	MAX 10
Order backlog (unit)	100	43	111	4,675			
No. of seats	80-88	97-106	120-132	153-172	178-200	193-220	204-230
Length (m)	32.4	36.2	41.5	35.6	39.5	42.1	43.8
Height	10.0	11.0	10.9	12.3	12.3	12.3	12.3
Wing span	31.0	33.7	35.1	35.9	35.9	35.9	35.9
Maximum take-off weight (kg)	44,800	56,400	61,500	80,286	82,191	88,314	89,765
Maximum speed (km/h)	876	876	876	839	839	839	839
Engine	P&W PW17	P&W PW19	P&W PW19	CFM LEAP-1B	CFM LEAP-1B	CFM LEAP-1B	CFM LEAP-1B
Price (mn USD/unit)	46.8	53.6	60.4	99.7	121.6	128.9	134.9

Source: Bloomberg, company data, Shinhan Investment Corp.

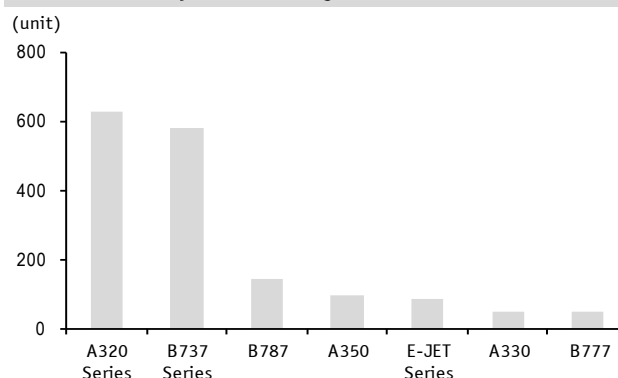
Note: Order backlog as of end-2018

Embraer E2 jet



Source: Company data, Shinhan Investment Corp.

2018 aircraft production by model



Source: Bloomberg, Shinhan Investment Corp.

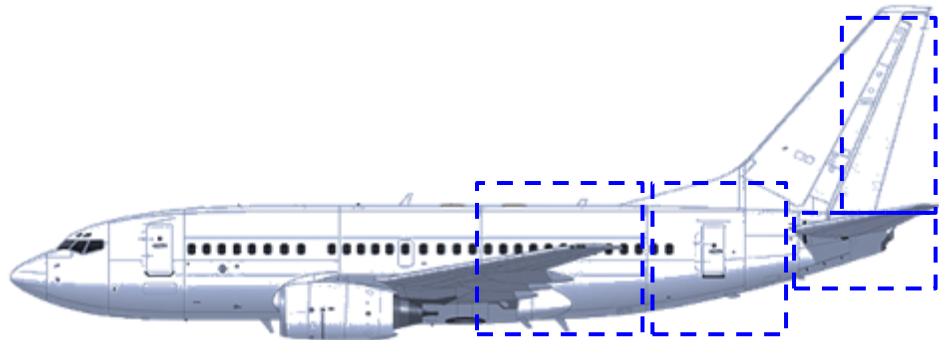
**Triumph invested
USD130mn in 2013-2016
to win E2 contract (worth
USD1.7bn)**

2. Financial troubles at Triumph Group

Triumph Group saw its debt to equity ratio surge from 64.6% in 2015 to 319.2% in 2018 due to steep losses from aircraft component businesses. Labor cost per worker is estimated to be 2-2.5 times that of ASTK. The group is selling business units to improve its financial structure. Provisions were set aside in 4Q18: USD40mn for G7500, USD9mn for E2, and USD3mn for G280. Bombardier acquired the G7500 wing manufacturing operations and assets in January and ASTK the E2 contract in March. Korea Aerospace Industries is also in talks to acquire the G280 wing contract.

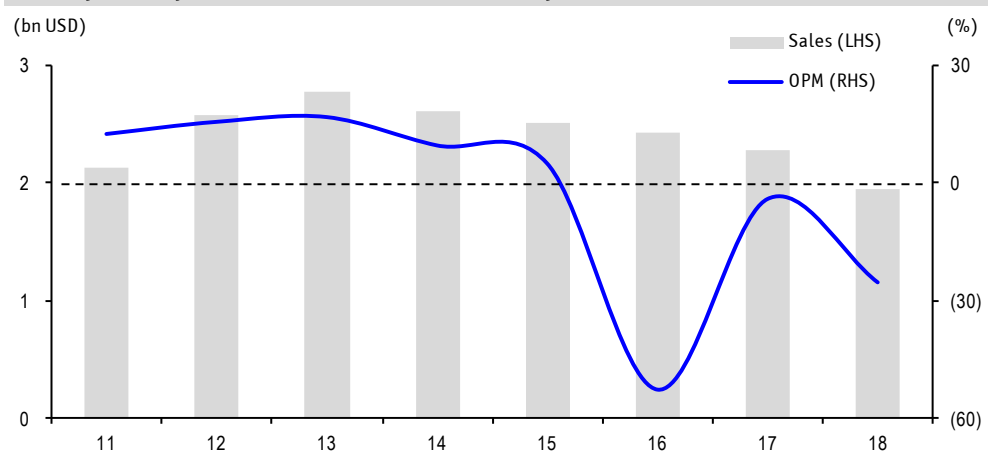
Triumph Group had secured the E2 structural production contract in 2013 through an RSP deal. The contract is worth USD1.7bn in total, and will last until the termination of E2 series in 2041. The group invested USD130mn in 2013-2016 to develop fuselage section III, rear fuselage section, rudder and elevator. It will transfer the design technology to ASTK, which will start shipments to Embraer in April.

E2 sections to be supplied by ASTK



Source: Shinhan Investment Corp.

Triumph Group: Sales and OPM of aircraft component businesses



Source: Bloomberg, Shinhan Investment Corp.

IV. Order growth expected as a Super Tier 1 supplier

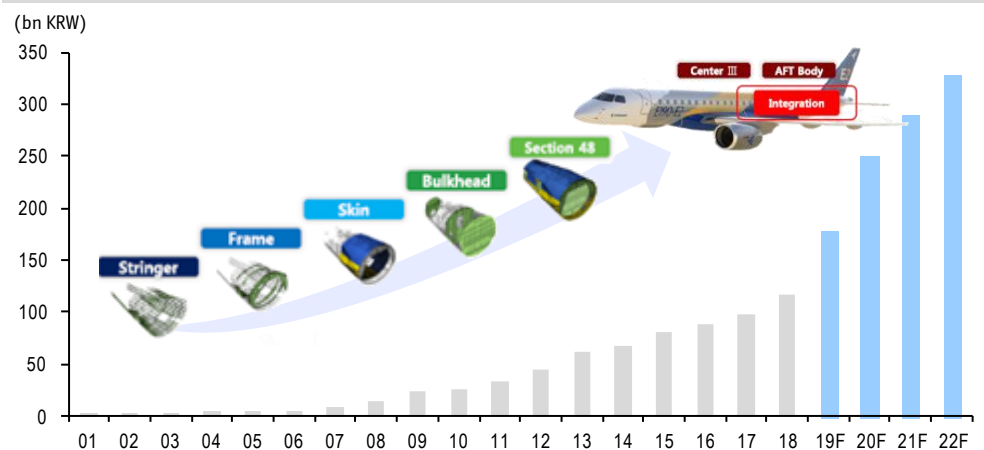
1. Order growth expected with technological capabilities proven as a Super Tier 1 supplier

Components developed under RSP to account for 53.4% of total order value

Super Tier 1 suppliers take part in the development programs of aircraft manufacturers (Airbus, Boeing, Embraer, Bombardier) and secure production and supply contracts. Korea Aerospace Industries is a risk and revenue sharing partner for A350 and B787.

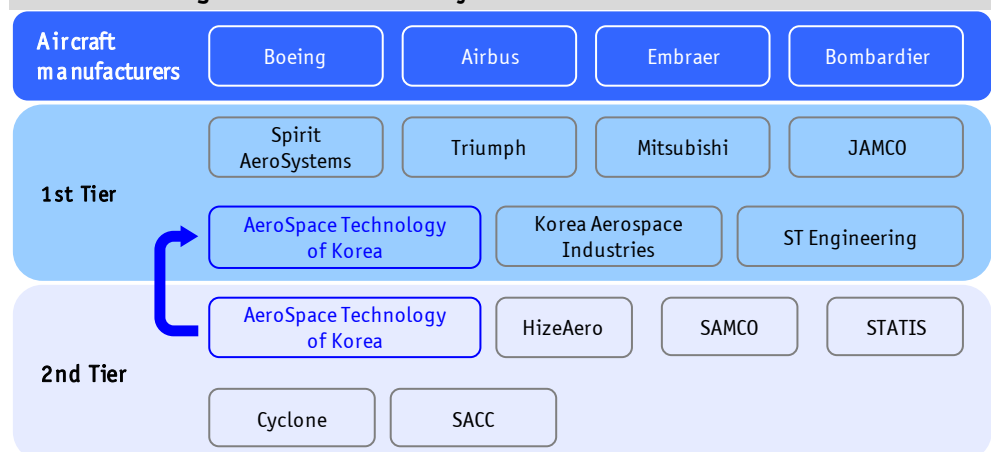
ASTK started off as a stringer assembling business in 2001. It has since then grown into a total fuselage solution provider by adding skin panel (2010) and Section 48 (2012) to its operations. The acquisition of Triumph Group's E2 structural production contract places ASTK in the ranks of Super Tier 1 suppliers. E2 components developed under RSP are expected to account for 53.4% of total order value. As a Super Tier 1 supplier, it should be able to win RSP deals and orders for new components in the future.

ASTK: Sales trend and growth into a Super Tier 1 supplier



Source: Company data, Shinhan Investment Corp.

Value chain of global aviation industry



Source: Shinhan Investment Corp.

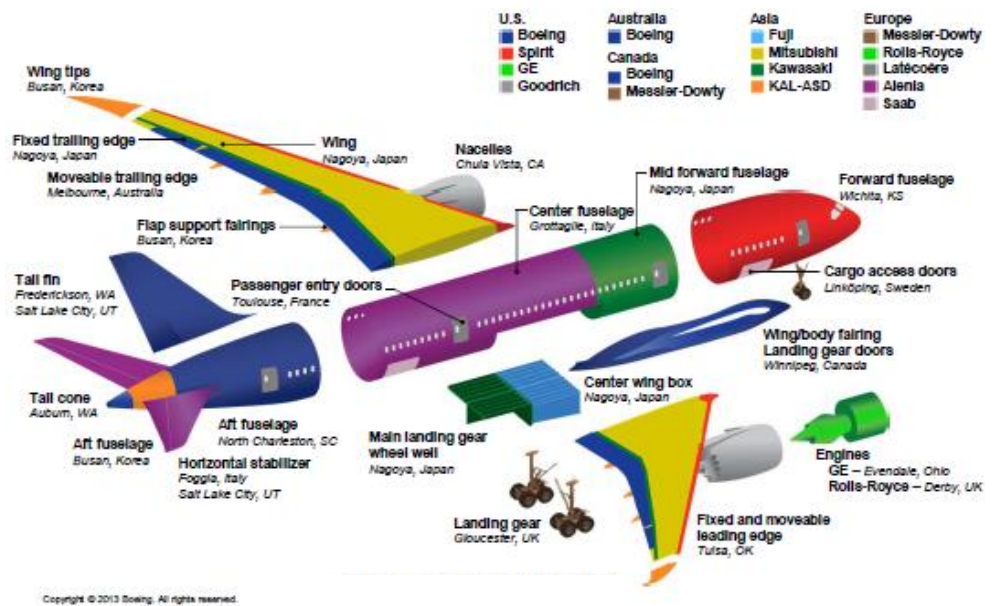
Design technologies in fuselage section III, rear fuselage section, rudder and elevator

2. Acquisition of fuselage design technology to bring RSP opportunities

Aircraft manufacturers enter into partnership with Super Tier 1 suppliers to reduce costs and risks in development/production of new aircrafts. Components developed under RSP carry margins two to three times higher than those produced under subcontracts. The technology to design aircraft parts is a prerequisite to participate in RSP.

The business transfer will give ASTK access to design technologies in fuselage section III, rear fuselage section, rudder and elevator. This should bring RSP opportunities in Airbus and Boeing's new aircraft programs in the future.

Global partners of B787 Dreamliner



Source: Company data, Shinhan Investment Corp.

V. Earnings estimates: Additional profit from tools

E2-related OP to grow from KRW200mn in 2019 to KRW19.7bn in 2026

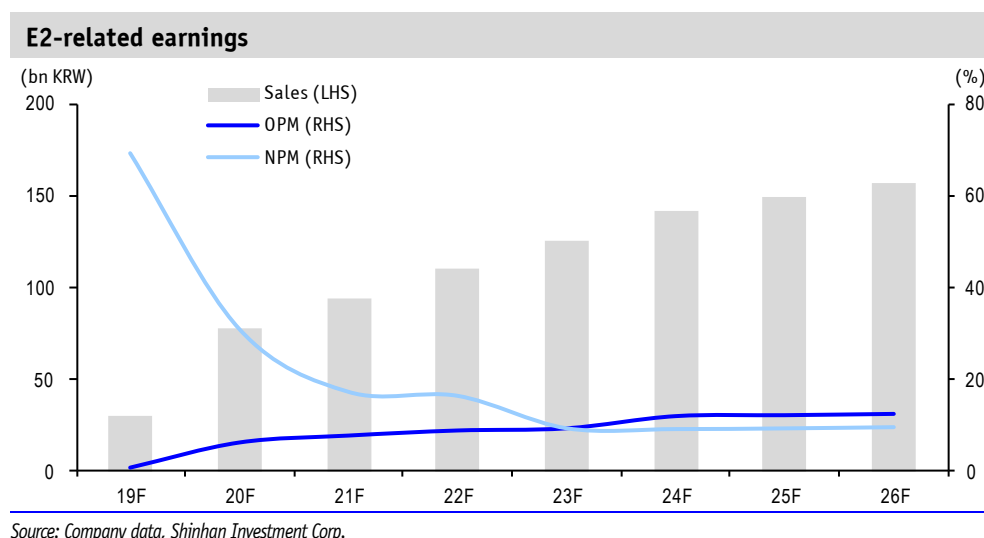
Annual profit from tools to amount to KRW14bn-27bn in 2019 to 2022

1. E2-related sales to grow from KRW30.5bn in 2019 to KRW110.3bn in 2022

E2-related sales should increase gradually from KRW30.5bn in 2019 to KRW157.5bn in 2026. The production of E2 jets is expected to rise from 20 units in 2019 to 50 in 2020. It will increase by 10 units each year to reach the 100 target in 2026. Embraer plans to produce 100 E2 jets until termination in 2040, and is likely to work on the next E-Jet aircraft from 2030.

ASTK's initial shipments of E2 parts in 2019 should generate operating profit of KRW200mn. E2-related operating profit is forecast to grow in tandem with production growth and reach KRW19.7bn in 2026 when the production target of 100 units is achieved. Additional growth in operating margin can be expected, given that the skills of workers have been enhanced through production of E2 fuselage from 2018.

Non-operating profit will likely be generated from the production of tools for E2 jets in 2019-2022. Orders for tools needed in the manufacturing of aircraft components are placed separately, which are booked as non-operating profit. We expect annual profit of KRW14bn-27bn.



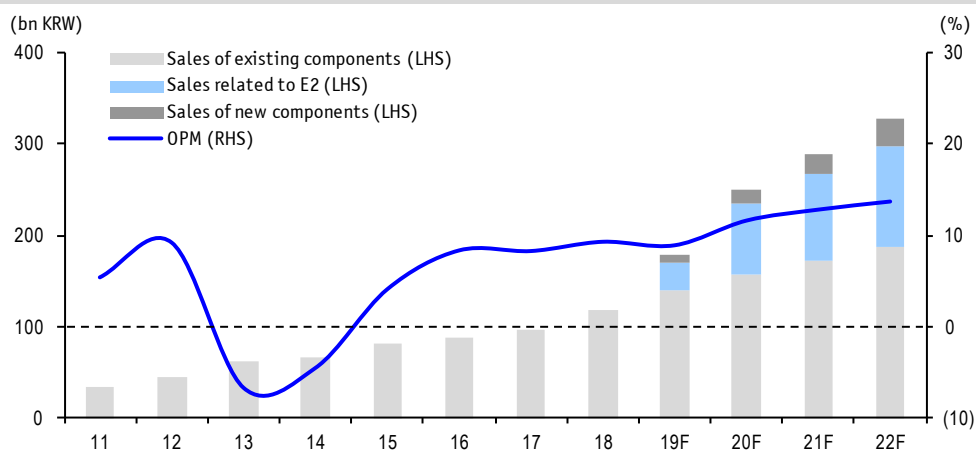
E2-related earnings projection

	2019F	2020F	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
E2 production (unit)	20	50	60	70	80	90	95	100	100	100	100	100
Sales (bn KRW)	30.1	77.7	94.5	110.3	126.0	141.8	149.7	157.5	157.5	157.5	157.5	157.5
YoY (%)	-	158.1	21.6	16.7	14.3	12.5	5.6	5.3	0.0	0.0	0.0	0.0
Fuselage	21.1	54.5	66.2	77.3	88.3	99.4	104.9	110.4	110.4	110.4	110.4	110.4
R&E	3.9	10.0	12.2	14.2	16.3	18.3	19.3	20.3	20.3	20.3	20.3	20.3
Skin panel	3.8	9.7	11.8	13.8	15.7	17.7	18.7	19.7	19.7	19.7	19.7	19.7
Floor grid assembly	0.7	1.7	2.1	2.4	2.7	3.1	3.3	3.4	3.4	3.4	3.4	3.4
Pressure dome BKHD	0.6	1.6	1.9	2.2	2.5	2.9	3.0	3.2	3.2	3.2	3.2	3.2
Sheet metal	0.1	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5
OP (bn KRW)	0.2	4.9	7.4	9.8	11.8	17.0	18.3	19.7	20.0	20.3	20.8	21.0
OPM (%)	0.8	6.3	7.8	8.9	9.4	12.0	12.2	12.5	12.7	12.9	13.2	13.3
+NRC non-operating profit	27.2	26.9	14.2	14.1	3.8	0.2	0.2	0.3	0.1	0.0	0.0	0.0
NP	20.9	24.1	16.4	18.2	11.9	13.1	14.1	15.2	15.3	15.5	15.8	16.0
NPM (%)	69.3	31.0	17.4	16.5	9.4	9.2	9.4	9.7	9.7	9.8	10.0	10.1

Source: Company data, Shinhan Investment Corp.

2019 forecast:**Sales - KRW178.3bn, +52.4%****OP - KRW15.9bn, +46.8%****NP - KRW26.6bn, +565.9%****2. 2019 sales forecast revised up from KRW154.3bn to KRW178.3bn**

For 2019, we forecast sales of KRW178.3bn (+52.4% YoY), operating profit of KRW15.9bn (+46.8% YoY), and net profit of controlling interests of KRW26.6bn (+559.5% YoY). Sales should grow KRW61.3bn YoY. Sales from E2 jets are projected to reach KRW30.5bn, Section 48 KRW22.1bn, and other parts KRW8.7bn. Monthly production of B737 MAX section 48 is expected to increase from 10 units in 4Q18 to 19 in 4Q19. One unit is estimated to be worth KRW300mn-400mn.

Sales and operating profit margin

Source: Company data, Shinhan Investment Corp.

Earnings trend and outlook

	1Q18	2Q18	3Q18	4Q18	1Q19F	2Q19F	3Q19F	4Q19F	2017	2018	2019F	2020F	2021F	2022F
Total orders (mn USD)	2,971	2,953	2,953	2,953	3,003	3,053	3,103	3,153	2,315	2,953	3,153	3,353	3,553	3,753
New order intake	656	(18)	0	0	50	50	50	50	385	637	200	200	200	200
Sales (bn KRW)														
Total	25.2	26.4	32.5	33.0	33.1	44.2	48.8	52.3	97.2	117.0	178.3	249.7	289.7	328.4
Existing products	25.2	26.4	32.5	33.3	32.1	34.5	35.7	37.1	97.2	117.3	139.3	157.5	172.7	187.7
Section 48	3.9	10.2	12.6	12.4	13.0	15.1	16.1	17.0	17.5	39.1	61.2	71.7	78.0	84.9
Bulkhead	4.5	4.3	4.7	6.4	6.5	6.6	6.6	6.8	19.0	20.0	26.6	29.4	32.7	35.6
U/L Deck	1.8	2.3	3.2	2.4	2.4	2.5	2.5	2.5	7.3	9.7	9.9	10.9	12.2	13.2
Stringer, etc.	1.9	1.8	1.6	1.6	1.7	1.7	1.8	1.8	5.8	6.9	7.0	7.6	8.3	9.1
Others	13.0	7.8	10.4	10.4	8.4	8.6	8.7	8.9	47.5	41.6	34.6	37.8	41.5	44.9
E2-related products	-	-	-	-	-	7.7	10.6	12.2	-	-	30.5	77.8	94.5	110.3
New products	-	-	-	-	1.0	2.0	2.5	3.0	-	-	8.5	14.5	22.5	30.5
COGS	21.1	22.3	26.2	27.6	27.7	37.3	41.6	44.5	82.2	97.1	151.2	206.6	236.8	266.1
COGS ratio (%)	83.8	84.3	80.7	83.6	83.8	84.5	85.3	85.1	84.5	83.0	84.8	82.7	81.8	81.0
SG&A	2.1	2.0	3.2	1.7	2.3	2.7	3.1	3.1	7.0	9.0	11.2	14.0	15.6	17.2
SG&A ratio (%)	8.4	7.6	10.0	5.1	7.1	6.2	6.3	5.9	7.2	7.7	6.3	5.6	5.4	5.2
OP (bn KRW)	2.0	2.1	3.0	3.7	3.0	4.1	4.1	4.7	8.1	10.8	15.9	29.1	37.2	45.1
Pre-tax profit	0.7	3.3	1.0	1.3	8.4	9.4	9.2	9.9	1.1	6.3	36.9	49.9	46.3	55.2
NP	0.6	2.7	0.7	0.0	6.1	6.8	6.7	7.2	1.4	4.0	26.4	36.0	33.4	39.9
Sales growth (%)														
YoY	16.9	19.9	29.0	15.8	31.3	67.3	50.3	58.5	10.6	20.4	52.4	40.1	16.0	13.4
QoQ	(11.6)	4.8	23.1	1.6	0.3	33.5	10.5	7.1	-	-	-	-	-	-
OP growth														
YoY	9.6	(1.6)	21.2	131.9	53.1	91.8	34.9	27.3	9.7	34.5	46.8	82.7	28.0	21.2
QoQ	22.4	8.7	41.7	22.9	(19.2)	36.1	(0.3)	16.0	-	-	-	-	-	-
OPM (%)	7.8	8.1	9.3	11.3	9.1	9.3	8.4	9.0	8.3	9.3	8.9	11.6	12.8	13.7
Pre-tax margin	2.7	12.6	3.0	3.9	25.4	21.2	18.9	19.0	1.1	5.4	20.7	20.0	16.0	16.8
NPM	2.3	10.3	2.1	0.1	18.3	15.3	13.7	13.7	1.5	3.4	14.9	14.4	11.5	12.1

Source: Company data, Shinhan Investment Corp.

3. Sales of KRW363.2bn expected based on order backlog

2022 sales related to E2 to reach KRW110.3bn and B737 KRW156.5bn

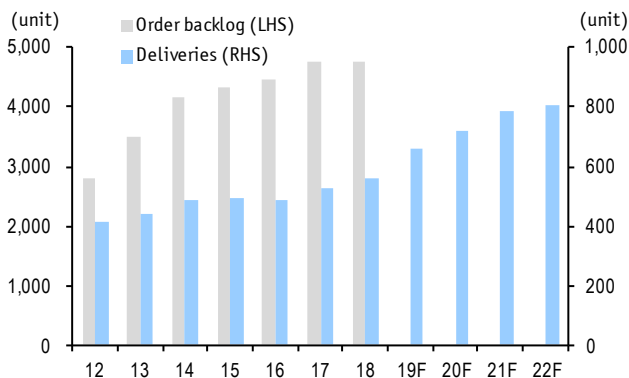
ASTK's acquisition of the E2 structural production contract raises its total order value from USD3bn to USD4.6bn. We expect sales to reach KRW363.2bn upon the stabilization of B737 MAX and E2 production. Sales related to E2 are projected at KRW110.3bn and B737 at KRW156.5bn for 2022. Earnings should improve on stable order backlog.

Earnings forecast revision

	Revised			Previous			Change (%)			Consensus		
	2019F	2020F	2021F	2019F	2020F	2021F	2019F	2020F	2021F	2019F	2020F	2021F
Sales (bn KRW)	178.3	249.7	289.7	154.3	191.3	221.9	15.6	30.6	30.6	154.3	191.3	221.9
OP	15.9	29.1	37.2	15.7	20.8	25.3	1.6	39.4	46.9	15.7	20.8	25.3
Pre-tax profit	36.9	49.9	46.3	12.2	17.3	21.9	203.1	187.9	111.0	12.2	17.3	21.9
NP	26.6	36.0	33.4	8.8	12.5	15.8	203.1	187.9	111.0	8.8	12.5	15.8
EPS (KRW)	1,337	1,577	1,462	559	796	1,007	139	98	45	-	-	-
OPM (%)	8.9	11.6	12.8	10.1	10.9	11.4	-	-	-	10.2	10.9	11.4
Pre-tax margin	20.7	20.0	16.0	7.9	9.1	9.9	-	-	-	7.9	9.0	9.9
NPM	14.9	14.4	11.5	5.7	6.5	7.1	-	-	-	5.7	6.5	7.1

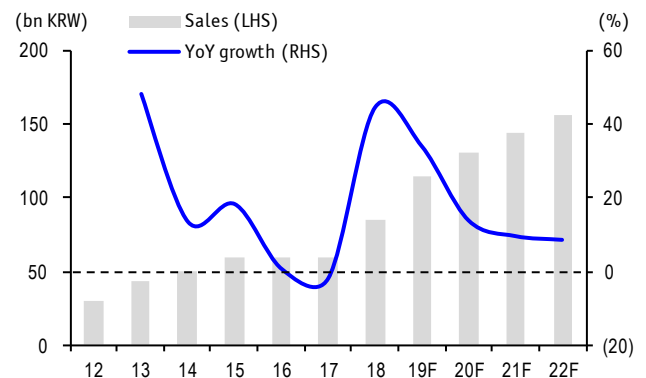
Source: Company data, QuantiWise, Shinhan Investment Corp.

B737 order backlog and deliveries



Source: Company data, Shinhan Investment Corp.

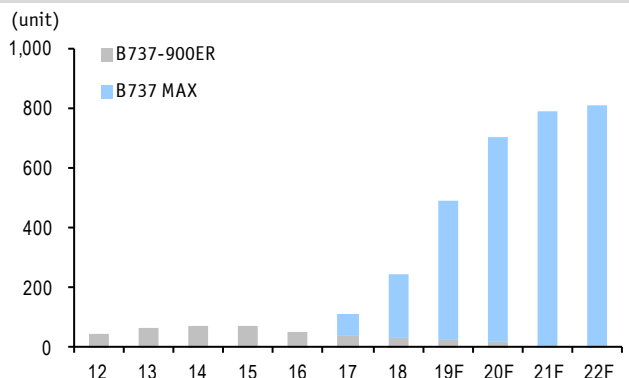
B737-related sales



Source: Company data, Shinhan Investment Corp.

Note: SHIC estimates

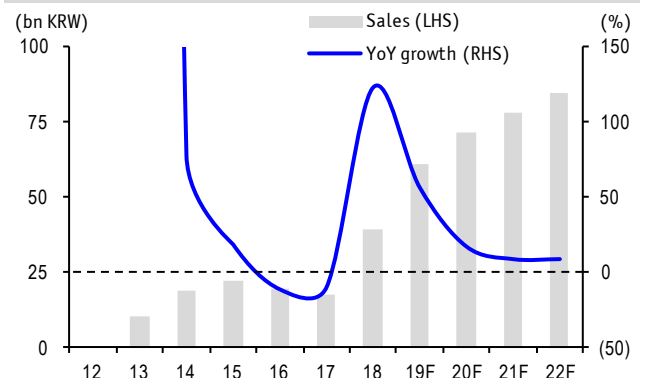
B737 MAX and B737-900ER deliveries



Source: Company data, Shinhan Investment Corp.

Note: ASTK has a 30-50% share in the supply of Section 48 for B737 MAX

Section 48 sales



Source: Company data, Shinhan Investment Corp.

Note: Annual growth of 2,546.2% YoY in 2013, 78.1% YoY in 2014

Aircraft parts orders

Products (mn USD)		Year of contract	Contract expiry	Total orders												Annual sales
				1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18		
SPIRIT	B737 NG SECTION 48	2012	2020	423	423	423	423	423	423	423	423	423	423	423	52.8	
	B737 MAX SECTION 48	2017	2024	-	-	-	-	-	-	259	259	259	259	259	37.0	
	B737 Door Detail	2017	2023	-	-	-	103	103	103	103	103	103	103	103	17.2	
	LCC Package	2018	2026	-	-	-	55	104	104	104	104	104	104	104	13.0	
	B737 NG Stringer	2016	2018	-	-	24	24	24	24	24	24	24	24	24	11.8	
	B737 BKHD 1088	2007	2020	144	144	144	144	144	144	144	144	144	144	144	11.1	
	B737 UPR/LWR DECK	2011	2020	87	87	87	87	87	87	87	87	87	87	87	9.7	
	B737 BKHD 1156, 1042	2007	2020	65	65	65	65	65	65	65	65	65	65	65	5.0	
	SA	2009	2020	53	53	53	53	53	53	53	53	53	53	53	4.8	
	B737 APU Door	2011	2020	37	37	37	37	37	37	37	37	37	37	37	4.2	
	B737MAX Frame Assembly	2016	2019	-	-	2	2	2	2	2	2	2	2	2	0.6	
	MAX Stringer	2015	2020	2	2	2	2	2	2	2	2	2	2	2	0.4	
	B777X V-BLADE	2016	2021	-	-	2	2	2	2	2	2	2	2	2	0.3	
	B737MAX Frame & Frame Support	2016	2021	-	-	0	0	0	0	0	0	0	0	0	0.1	
	B777X Seal Retainer	2016	2019	-	-	0	0	0	0	0	0	0	0	0	0.0	
BOEING	B747 BCF MDCD & SS	2011	250 units	326	326	326	326	326	326	326	326	326	326	326	-	
SAC	C Series Stringer (66 items)	2012	100 units	6	6	6	6	6	6	6	6	6	6	6	-	
	C Series Stringer (156 items)	2015	100 units	4	4	4	4	4	4	4	4	4	4	4	-	
	C Series Stringer (45 items)	2015	100 units	1	1	1	1	1	1	1	1	1	1	1	-	
STAIS	B757 MDCD & CED	2005	150 units	22	22	22	22	22	22	22	22	22	22	22	-	
TA-VAD	E2 Skin Panel	2015	2034	350	350	350	350	350	350	350	350	350	350	350	18.4	
	B747 Empennage	2015	2019	32	32	32	32	32	32	32	32	32	32	32	8.1	
	E2 Floor Grid Assy	2017	2027	-	-	-	-	-	-	60	60	60	60	60	6.0	
	B747 AFT Body	2011	2021	50	44	50	50	50	50	50	50	50	50	50	5.0	
	E2 Pressure Dome BKHD	2016	2034	56	56	56	56	56	56	56	56	56	56	56	3.1	
	E2 Sheet Metal	2017	2027	-	-	-	-	-	-	9	9	9	9	9	0.9	
	747-8 BKHD Skin Panel Assy	2015	38 units	6	56	6	6	6	6	6	6	6	6	6	-	
	E2 Fuselage Integration	2017	2034	-	-	-	-	-	-	-	-	615	615	615	36.2	
	Other parts (B747)	2017	100 units	-	-	-	-	-	-	0	0	37	37	0	-	
	Bombardier G7000, G8000	2017	2027	-	-	-	-	-	-	-	-	-	-	37	3.7	
	B767 Sheet Metal	2018	2022	-	-	-	-	-	-	-	-	1	1	1	0.3	
SACC	Q400 Skin	2015	2020	4	4	4	4	4	6	6	6	6	6	6	1.3	
	B737 Section 48 Skin	2015	2020	3	3	3	3	3	3	3	3	3	3	3	0.7	
	B737 BKHD Web 1088	2015	2020	2	2	2	2	2	2	2	2	2	2	2	0.5	
	B737 APU Skin	2015	2020	2	2	2	2	2	2	2	2	2	2	2	0.4	
	B737 Stringer	2015	2020	2	2	2	2	2	2	2	2	2	2	2	0.3	
Latécoère	A350 Norse Fairing Skin	2018	2023	-	-	-	-	-	-	17	17	17	17	17	3.4	
RUAG	CRJ Skin	2016	2036	32	32	32	32	32	32	32	32	32	32	32	1.6	
	CRJ STR	2018	2021	-	-	-	-	-	-	-	-	-	1	1	0.5	
	CRJ Mid Skin	2018	2021	-	-	-	-	-	-	-	-	-	0	0	0.0	
ADS	A320NEO Fan Cowl Doors Machining Parts	2016	2025	-	-	-	9	9	9	9	9	9	9	9	1.0	
KAL	737/777/787 Sheet Metal, E1 Panel	2016	2024	-	-	7	9	9	8	7	7	7	7	7	0.9	
Total				1,726	1,721	1,763	1,930	1,979	1,979	2,308	2,315	2,959	2,960	2,960	260.0	

Source: Company data, Shinhan Investment Corp.

Appendix : Financial statements

Statement of financial position

Year to December (bn KRW)	2017	2018	2019F	2020F	2021F
Total assets	310.5	395.1	551.1	584.1	590.8
Current assets	143.2	191.5	193.8	223.5	226.9
Cash and equivalents	23.1	15.5	18.9	31.8	29.5
Accounts receivable	26.5	45.9	44.5	48.8	50.3
Inventories	71.5	110.0	106.7	117.0	120.5
Non-current assets	167.3	203.6	357.4	360.6	363.9
Tangible assets	113.3	147.3	163.5	167.6	171.6
Intangible assets	5.2	5.6	144.4	143.5	142.7
Investment assets	23.8	24.2	23.1	23.1	23.1
Other financial assets	0.0	0.0	0.0	0.0	0.0
Total liabilities	195.4	274.5	313.0	308.4	280.2
Current liabilities	101.7	107.7	144.7	139.1	110.6
Short-term borrowings	44.3	57.6	87.6	77.6	47.6
Accounts payable	23.7	29.5	34.8	38.2	39.3
Current portion of long-term debt	10.0	9.0	9.0	9.0	9.0
Non-current liabilities	93.7	166.8	168.3	169.2	169.6
Bonds	25.3	48.7	48.7	48.7	48.7
Long-term borrowings	62.2	109.9	109.9	109.9	109.9
Other financial liabilities	0.0	0.0	0.0	0.0	0.0
Total shareholders' equity	115.1	120.6	238.1	275.7	310.6
Capital stock	7.4	7.9	11.4	11.4	11.4
Capital surplus	67.9	76.6	178.1	178.1	178.1
Other capital	1.9	0.0	0.0	0.0	0.0
Accumulated other comprehensive income	0.3	0.0	0.0	0.0	0.0
Retained earnings	1.7	4.4	30.8	66.5	99.6
Controlling interest equity	99.0	104.1	220.2	255.9	289.1
Non-controlling interest equity	16.1	16.5	17.9	19.8	21.5
*Total debt	160.1	227.4	257.4	247.4	217.4
*Net debt (cash)	130.1	206.1	231.8	208.3	180.4

Statement of cash flow

Year to December (bn KRW)	2017	2018	2019F	2020F	2021F
Cash flow from operations	(11.8)	(36.0)	32.3	20.7	25.1
Net profit	1.5	4.4	27.8	37.6	34.8
Depreciation expense	4.9	6.2	3.6	3.8	4.0
Amortization expense	1.7	1.4	1.2	0.9	0.7
FX translation loss (gain)	2.3	0.7	0.0	0.0	0.0
Asset disposal loss (gain)	0.0	0.0	0.0	0.0	0.0
Equity method loss (gain)	(0.1)	(0.4)	(2.8)	(2.8)	(2.8)
Change in working capital	(27.1)	(53.8)	2.6	(18.8)	(11.7)
(Payment of income tax)	(0.2)	(0.3)	(8.8)	(11.9)	(11.0)
Others	5.2	5.8	8.7	11.9	11.1
Cash flow from investments	(42.0)	(38.7)	(156.8)	(5.9)	(5.4)
Increase in tangible assets	(40.6)	(39.6)	(19.7)	(8.0)	(8.0)
Decrease in tangible assets	0.3	0.0	0.0	0.0	0.0
Change in intangible assets	(2.3)	(0.9)	(140.0)	0.0	0.0
Change in investment assets	(5.6)	(0.0)	3.9	2.8	2.8
Others	6.2	1.8	(1.0)	(0.7)	(0.2)
Free cash flow	(47.2)	(71.7)	6.2	7.1	21.0
Cash flow from financing	67.9	67.2	135.0	(10.0)	(30.0)
Change in borrowings	46.2	61.4	30.0	(10.0)	(30.0)
Change in treasury stock	0.0	0.0	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	0.0
Others	21.7	5.8	105.0	0.0	0.0
Other cash flow	0.0	0.0	(7.2)	8.0	7.9
Change in consolidated scope	0.0	0.0	0.0	0.0	0.0
Change in FX rates	(0.2)	(0.1)	0.0	0.0	0.0
Change in total cash	13.9	(7.5)	3.3	13.0	(2.4)
Beginning cash	9.1	23.1	15.5	18.9	31.8
Ending cash	23.1	15.5	18.9	31.8	29.5

Source: Company data, Shinhan Investment Corp.

Statement of comprehensive income

Year to December (bn KRW)	2017	2018	2019F	2020F	2021F
Sales	97.2	117.0	178.3	249.7	289.7
Growth (%)	10.6	20.4	52.4	40.1	16.0
COGS	82.2	97.1	151.2	206.6	236.8
Gross profit	15.0	19.9	27.1	43.1	52.8
GPM (%)	15.5	17.0	15.2	17.3	18.2
SG&A	7.0	9.0	11.2	14.0	15.6
Operating profit	8.1	10.8	15.9	29.1	37.2
Growth (%)	9.7	34.5	46.8	82.7	28.0
OPM (%)	8.3	9.3	8.9	11.6	12.8
Non-operating profit	(7.0)	(4.5)	20.6	20.4	8.7
Financial profit	(3.2)	(7.2)	(9.4)	(9.2)	(8.4)
Other non-operating profit	(3.8)	2.3	0.0	0.0	0.0
Equity method gain (loss)	0.1	0.4	30.0	29.7	17.0
Pre-tax profit	1.1	6.3	36.5	49.5	45.8
Income tax	(0.4)	1.9	8.8	11.9	11.0
Continuing operations	1.5	4.4	27.8	37.6	34.8
Discontinued operations	0.0	0.0	0.0	0.0	0.0
Net profit	1.5	4.4	27.8	37.6	34.8
Growth (%)	(76.3)	202.9	525.5	35.4	(7.3)
NPM (%)	1.5	3.8	15.6	15.1	12.0
Controlling interest	1.4	4.0	26.4	35.7	33.1
Non-controlling interest	0.0	0.4	1.4	1.9	1.7
Comprehensive income	1.2	3.7	27.8	37.6	34.8
Controlling interest	1.2	3.4	27.3	37.6	34.8
Non-controlling interest	0.0	0.4	(49.5)	(67.0)	(62.1)
EBITDA	14.7	18.4	20.7	33.8	41.9
Growth (%)	17.5	24.9	12.4	63.5	24.0
EBITDA margin (%)	15.2	15.7	11.6	13.5	14.5

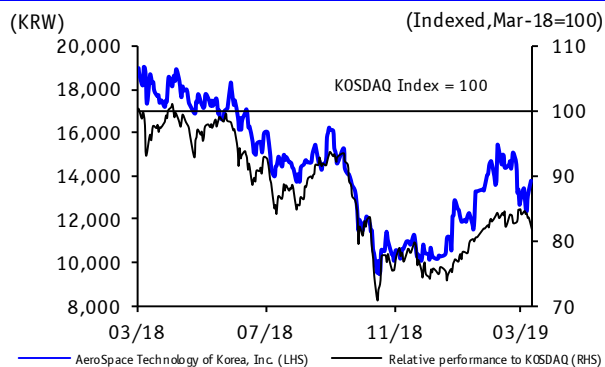
Key ratios

Year to December	2017	2018	2019F	2020F	2021F
EPS (KRW)	100	286	1,394	1,646	1,525
EPS of controlling interest (KRW)	99	258	1,325	1,564	1,449
BPS (KRW)	7,809	7,672	10,424	12,070	13,596
BPS of controlling interest (KRW)	6,715	6,623	9,642	11,206	12,655
DPS (KRW)	0	0	0	0	0
PER (x)	192.7	36.0	9.4	8.0	8.6
PER of controlling interest (x)	195.4	39.9	9.9	8.4	9.0
PBR (x)	2.5	1.3	1.3	1.1	1.0
PBR of controlling interest (x)	2.9	1.6	1.4	1.2	1.0
EV/EBITDA (x)	29.3	20.9	22.1	12.9	9.8
Dividend payout ratio (%)	0.0	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0
Profitability					
EBITDA margin (%)	15.2	15.7	11.6	13.5	14.5
OPM (%)	8.3	9.3	8.9	11.6	12.8
NPM (%)	1.5	3.8	15.6	15.1	12.0
ROA (%)	0.5	1.3	5.9	6.6	5.9
ROE (%)	1.7	3.9	16.3	15.0	12.1
ROIC (%)	5.8	3.1	3.4	5.0	6.3
Stability					
Debt to equity ratio (%)	169.8	227.7	131.4	111.8	90.2
Net debt ratio (%)	113.0	171.0	97.3	75.5	58.1
Cash ratio (%)	22.7	14.4	13.1	22.8	26.6
Interest coverage ratio (x)	1.8	1.5	1.6	2.9	3.8
Activity (%)					
Working capital turnover (times)	1.4	1.1	1.4	1.9	2.1
Inventory turnover (days)	220.5	283.0	221.8	163.5	149.6
Receivable turnover (days)	98.2	112.9	92.6	68.2	62.5

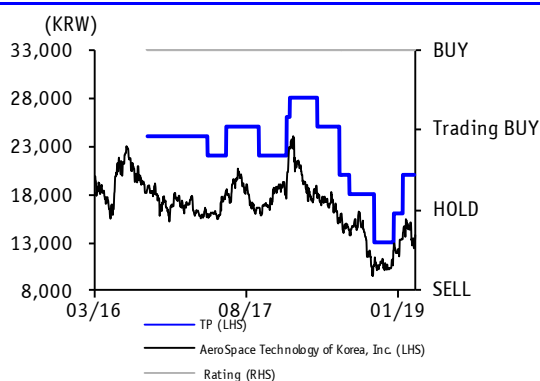
Source: Company data, Shinhan Investment Corp.

AeroSpace Technology of Korea (067390 KS)

Share performance



Target price



Date	Rating	Target price (KRW)	Target price gap (%)	
			Average	Max/Min
2016.09.22	BUY	24,000	(28.5)	(20.0)
2017.03.23		6M later	(33.5)	(30.6)
2017.04.16	BUY	22,000	(25.1)	(16.4)
2017.06.19	BUY	25,000	(26.7)	(17.0)
2017.10.09	BUY	22,000	(19.4)	(10.0)
2018.01.12	BUY	26,000	(14.2)	(11.5)
2018.01.23	BUY	28,000	(29.5)	(13.8)
2018.04.27	BUY	25,000	(32.6)	(26.8)
2018.07.12	BUY	20,000	(26.2)	(19.8)
2018.08.15	BUY	18,000	(25.6)	(9.7)
2018.11.08	BUY	13,000	(17.6)	(0.8)
2019.01.14	BUY	16,000	(20.9)	(9.4)
2019.02.14	BUY	20,000	-	-

Note: Calculation of target price gap based on past 6 months

Rating Distribution - SHIC Universe (as of 22 March 2019)

BUY (BUY)	95.33%	Trading BUY (HOLD)	2.34%	HOLD (HOLD)	2.34%	REDUCE (SELL)	0%
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SHIC Ratings (as of 1 April 2017)

Stock	Sector
<ul style="list-style-type: none"> ◆ BUY: Expected 6-month gain of 10% or more ◆ Trading BUY: Expected 6-month gain of 10% to loss of 10% ◆ HOLD: Expected 6-month loss of 10% to 20% ◆ SELL: Expected 6-month loss of 20% or more 	<ul style="list-style-type: none"> ◆ OVERWEIGHT: Based on market cap, largest share of sector stocks under coverage is rated BUY ◆ NEUTRAL: Based on market cap, largest share of sector stocks under coverage is rated Trading BUY or HOLD ◆ UNDERWEIGHT: Based on market cap, largest share of sector stocks under coverage is rated SELL

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