



Korea: Aircraft Parts and Components Industry

Myoung Soo Lah
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Summary

The Korean aircraft part and components industry is primarily driven by the fact that Korea has one of the largest commercial aircraft fleets operating in Asia, and that the country has also embarked on the establishing of an aircraft components production industry to supply Boeing, EADS-Airbus and to support maintenance of both commercial and military aircraft. With a current aerospace market of nearly USD 4.39 billion and fleet and route expansion being planned for both passenger and cargo operations; Korea continues to be an important aircraft parts market in Asia.

As Korea moves to greater development of its indigenous aerospace industry, which includes production of a supersonic fighter jet, unmanned vehicles and continued work-share for commercial aircraft components to Boeing and EADS-Airbus, U.S. companies are in a very good position to work with major Korean companies through technical license or joint venture partnership. The aerospace industry in Korea's defense sector has benefited by the historically close relationship with Korea. The United States continues to be the dominant foreign supplier of defense products and services with an import market share averaging around 80 percent for a number of years.

Market Demand

Korea's aerospace industry is heavily dependent on foreign products and technology and this trend will continue for some time. Import volume always exceeds local production because Korea's current production capacity is mainly focused on aircraft frames, structures and systems integration of foreign-made avionic parts and components. In order to support production, Korea imports major parts and components from foreign countries that have advanced technology, primarily from the U.S.

For 2007, Korea reported an USD2.2 billion trade deficit in the aerospace industry due to major Korean airlines' new aircraft procurement and the purchase of parts and equipment to support expanding fleet sizes at Korean Air and Kumho-Asiana. In addition, several new start up low-budget carriers and Korea's beginning of production for the KAI T/A-50 supersonic jet trainer also increased Korea's appetite for aircraft products and the desire to ramp up and invest more in local production.

According to the Korea Aerospace Industries Association (KAIA), local production of aircraft, airframes and other related systems by Korean companies amounted to around USD1.86 billion in 2007 which is a 22.8 percent increase to the previous year. The market is expected to reach to USD2.22 billion in 2008 with 19.0 percent increase. The projected increase in local production is mainly due to the defense sector such as production of T-50 aircraft, the Korea Helicopter Project, and the continued supply of F-15K Slam Eagle parts.

Production of aircraft, aircraft frames and engine parts account for more than 80 percent of Korea's total production in the aerospace industry while production of avionic parts, components and raw materials is very limited. Domestic production of aircraft, aircraft frames and engines in 2006 and 2007 were USD1.36 billion and USD1.59 billion respectively while the domestic production of avionic parts, components and raw materials in 2006 and 2007 were USD125 million and USD161 million respectively. Volume of local production related to space industry is very small with 5.7 percent of the local production. It is estimated that the local production will increase 19 percent in 2008.

Commercial Aviation Market

Korean Air and Asiana continue to dominate the Korean commercial aviation market. Since 2007, several low-cost carriers have emerged, which will also require an increase in the number of parts and components needed to maintain air worthiness of an increasing fleet of aircraft. As of August 2008, three low-cost airlines including Jeju Air, Hansung Air, and Jin Air have been operating, and another three airlines plan their domestic operation by 2009. Appearance of this low-cost airline makes the increase of demand for aircraft and its parts & components in addition to demand of existing airline carriers in the commercial aerospace industry.

Korean Air and Asiana Airlines have fleets of 126 aircraft and 69 aircraft, respectively, serving more than 90 cities in 30 countries while Jeju Air and Hansung Air have 11 aircraft.

As of June 2008, types of aircraft used by major Korean commercial air carriers:

Type of Aircraft	No. of Aircraft Korean Air	Type of Aircraft	No. of Aircraft Asiana Airlines	No. of Aircraft by Domestic Operated Airline
B747-400	21	A320-200	9	
B747-400C	1	A321-100	2	
B777-200	18	A321-200	12	
B777-300	4	A330-300	6	
A330-200	3	B737-400	7	
A330-300	16	B747-500	3	
A300-600R	8	B747-400	8	
B737-500				
B737-800	15	B747-400F	5	2
B737-900	16	B767-300	7	
B747-400F	22	B767-300F	1	
A300-600F	2	B777-200	4	
		B777-200ER	5	
DHC-9-402				5
ATR72-201				4
Total	126	Total	69	11

There are total 381 aircraft registered in Korea for passenger, cargo or general aviation use. 117 aircraft are used for non-regular passenger operation including aerial photography, agricultural operations or V.I.P./corporate transportation.

Helicopter operations are limited as Korea covers a small geographic area and is very mountainous. Currently, there are approximately 180 non-military helicopters flying in Korea. The majority of the helicopters are operated by the police, emergency service and the forestry service. Korea Forest Service

and National Police Agency owns 48 and 21 helicopters respectively. In regard to the demand from the government agencies, the government's budget for central and local 119 emergency rescue agencies increased from USD8.3 million to \$12.5 million in 2008, a 50 percent increase compare to 2007. Market outlook for the sale of helicopters for either emergency or V.I.P. transportation is promising.

Defense Aviation Market

Korea's aerospace production has been primarily focused on defense purpose. Since 2006, however, Korea is trying to alleviate the heavy concentration on the military, focusing on the expansion in commercial aircraft industry, which is a global trend.

In defense aerospace industry, Korea is No. 8 country that possesses fighters and helicopters for Korean Armed Forces. Republic of Korea (ROK) Army is scheduled to develop KHP (Korea Helicopter Project), ROK Air Force's undertook of TA-50 production of TA-50 and KFX projects will significantly increase the demand in Korea's aerospace industry.

Market Data

Local production:

Currently Korea Aerospace Industries (KAI) dominates the Korean aerospace industry which makes the industry uncompetitive and holds back further development of the industry as a whole. Other Korean companies contribute to the production of aircraft, aircraft frames, structures and raw materials. The level of technology is still behind that of the U.S. and other advanced European countries. In addition, although Korea is very strong in IT and electronics, coordination by these industries with the aerospace industry is not yet well established. The parts and components sector is not able to nurture other relevant production due to the lack of investment and the dependence on imports. Korean Air Lines is also a player in the local aerospace market having been awarded a contract for the development of Korea's first medium-altitude long-endurance (MALE) unmanned aerial vehicle (UAV). Korean Air also manufacturers winglets, the aft tale cone and portions of the wheel wells for a variety of Boeing narrow and wide-bodied aircraft.

Import Market:

In 2007, total imports in the commercial and defense aerospace industries were USD3.13 billion. A 12.6 percent increase was anticipated in 2008 bringing imports up to around USD3.52 billion. The expected increase is attributable to a change in Korean company procurement plans.

Imports of parts and components (HS 8802 and 8803) were a considerable 81.4 percent of total aerospace industry imports and amounted to just over USD2.5 billion. This was due to the fact that Korean end-users purchase parts, components and accessories to complete systems instead of purchasing total systems. Large volumes of imported products are utilized for maintenance, overhaul and the replacement of old parts and components for commercial airlines. There are handful Korean manufacturers that produce core parts and components such as avionics.

Statistical Data

(Unit: US\$ million)

	2006	2007	2008 (Estimate)
Local Production*	1,515	1,861	2,215
Imports	3,118	3,129	3,524
Exports	472	597	792
U.S. Imports*	2,202	2,370	2,055
Total market (inc. services)	4,161	4,393	4,947
Growth Rate		+5.6%	+15.3%

Import Market Share: U.S.: 90.8%, Russia: 3.5%, U.K.: 1.8%, France: 1.9%, Others 2%.

Statistical Data by Sub Sectors

(Unit: USD million)

	2006	2007	2008 (Est.)
Local Production			
Aircraft	637	707	753
Airframes	317	424	574
Engines	405	463	469
Others incl. avionics, electronics, raw materials	125	161	241
Space Systems	31	106	178
Total Local Production	1,515	1,861	2,215
Imports			
Aircraft	2,039	1,976	N/A
Aircraft Parts & Components	1,016	1,100	N/A
Space Systems	63	53	N/A
Total Import	3,118	3,129	N/A
U.S. Import*	2,202	2,370	2,055
Exports			
Aircraft	102	48	N/A
Aircraft Parts & Components	731	873	N/A
Space Systems	59	13	N/A
Total Export	892	934	N/A

*Please note that there is a discrepancy in the calculation of U.S imports because statistical data on U.S. imports is provided by the Korea Aerospace Industries Association (KAIA) and is based on information reported to KAIA only by importers who require import approval. Therefore, U.S. imports are actually larger than the amount reported to KAIA.

One of the factors that will increase imports is that major airlines have begun to move from leasing to direct purchase of aircraft. As a result, imports of commercial aircraft increased significantly in recent years and this trend is expected to continue in the near future.

Exports

Exports are steadily increasing since Korea's aerospace market is expanding. Total exports in 2007 were USD597 million with USD196 million for defense and USD401 million for the commercial market. Korean exports increased 26.4 percent vis-a-vis the previous year. In 2008 exports are projected to increase 32.3 percent reaching USD792 million.

KAI exports engines and engine parts to end-users in both the commercial and defense sectors. Additionally KAI exports wing structures for mid-sized aircraft. In March 2008, KAI made a sales contract with Vought (U.S.) to export B747-8 aero structure amounted to USD340 million. Likewise Korean Air supplies Boeing Commercial Aircraft Company.

In addition to exports of locally manufactured products, transportation service companies also export old aircraft which contributes to the volume of exports.

Best Sales Prospects

HS 8802.30.2000	Aircraft - Turbo Propeller Type
HS 8802.40.3000	Aircraft - Turbo-Jet Type
HS 8803.30.1000	Parts for airplanes
HS 8803.30.2000	Parts of helicopters

Key Suppliers

U.S. Presence

Most major U.S. aircraft companies, such as Boeing, GE Aviation and other large aircraft engine and parts manufacturers, have branch offices in Korea. Lockheed Martin and Boeing have business partnerships with Korea Aerospace Industries (KAI) and Korean Air respectively. Lockheed Martin is involved in the T-50 (training flight) and FA (Attach Flight)-50 development with KAI and also responsible for sales of T-50. Boeing manufactures components & parts of commercial aircraft with KAI. With the partnership with KAI, Boeing manufactures forward fuselage and main wings of F15-K.

Foreign Competition

The U.S. has the lion share in both the defense and commercial aviation sectors in Korea. Statistical data (HS 8802 and HS 8803) shows that U.S. has a 90.8 percent market share in Korea's aerospace industry. Breakdown by commercial and military sales of U.S. import is not available due to lack of statistical data on defense import.

Russia has a 3.5 percent market share in the Korean market mainly due to imports of low-cost helicopters. European competition is present in the Korean market through such companies as European Aerospace Defense Systems (EADS)-Airbus, Rolls Royce, BAE Systems, Eurocopter, AgustaWestland, Finmeccanica, and Rafael although most companies are concentrating on the defense sector. U.K. companies have 1.8 percent market share in the aerospace market while France has 1.9 percent market share. Eurocopter was selected to be the key integrator

for the Korean Helicopter Program (KHP) whereby the company will co-produce an indigenous helicopter with the Korean Army. In recent years Israeli Aircraft Industries (IAI) has made inroads into the Korean defense market, especially in the areas of avionics and radar.

Prospective Buyers

Korean Manufacturers

KAI: Korean Aerospace Industries was founded in 1999 and since that time, KAI has been the leading player in manufacturing and fabricating aircraft in Korea--mainly supplying for the Korean Air Force. The company manufactures aero-structures, aircraft wings, and fuselages for the defense sector. The company also manufactures aircraft fuselages, aircraft wings and helicopter parts and assembles these products for commercial customers including Boeing, EADS-Airbus, Vought, and Bell Helicopter Textron, etc. KAI has strategic partnerships with foreign companies such as Lockheed Martin, Boeing, Vought and Bell Helicopter Textron. By 2010, KAI's total sales are expected to reach USD2.73 billion with exports reaching approximately USD554 million. KAI's market share in the Korean aerospace market is estimated to be around 50 percent. The company is considered to be the only systems integrator in Korea's aerospace industry.

Current project that KAI is involved in:

Defense Project

The Korea Helicopter Project (KHP) is an R&D Program developing Korea Utility Helicopter (KUH) to replace the ROK Army's aging fleet. The program began in 2006 and will be completed until 2012. The total budget of the KHP is USD1.3 billion. KAI is leading the program as a helicopter system integrator through technical partnership with Lockheed Martin. These development projects will contribute to an increase in exports for Korea's aerospace industry.

Additional KAI work in defense and commercial aviation includes KAI's delivering B747-400 and 747-8 wing ribs of more than 500 units to Boeing and secured the major work package of approximately USD1 Billion through F-15K wing and forward fuselage program, various B737/747/767/777/787 programs and the AH-64D fuselage. Also, KAI has manufactured the airplane structures of Airbus A318/319/320/321/330/340 and the B212/412 fuselage for Bell Helicopter Textron.

KAI has expanded the aero-structure business based on cooperation with world leading aerospace companies to more competitive in the overseas market.

It is working on a development program to install FLIR (Forward Looking Infra-Red) system in the various helicopters (UH-60, Lynx Mk99, HH-47) currently in operation by the ROK Air Force, Army and Navy and Lynx upgrade program to modify a Lynx as a Super Lynx helicopter in operation by the ROK Navy.

KAI is also performing a Korean Navy's P-3 aircraft are required by upgrade & modification program with L-3 Com.

Satellite Project

Following the launch of the KOMPSAT-1, the KOMPSAT-2 successfully launched and entered into the operational orbit on July 2006 to perform the Korean Peninsula mapping and resource-monitoring mission. KAI is involved in more than 70 percent localization of Korea multipurpose satellite program (KOMPSAT series) being promoted as part of the national space effort. The Korean company is involved in all processes with the government funded Korea Aerospace Research Institute (KARI) and independently developed the micro-satellite for evaluation of launch vehicle. From 2006, KAI has played a key role to develop the KOMPSAT-3 and the KOMPSAT-5 in establishing a Korean standard satellite platform.

Korean Air: Korean Air owns 126 aircraft which are primarily used for passenger/cargo transportation. Korean Air is the major end-user for aircraft parts and components in the commercial aviation sector. The Aerospace Business Division provides maintenance support for Korean and foreign commercial air carriers in addition to composite fabrication in support of military aircraft.

Korean Air Aerospace Division has been participating in the development of the B787 Dream Liner and A350, and in 2006 debuted in the cargo conversion market with the successful first delivery of B747-400 passenger to freighter.

Korean Air is in the process of expanding operations with a major new fleet modernization program. By 2009, Korean Air fleet will grow to 138 aircraft including versions of Boeing 777, Boeing 787, Airbus A350 and Airbus A380 aircraft, in addition to the existing fleet. These new aircraft will provide U.S. companies with business opportunities in areas such as aircraft engines, avionics, aircraft repair and maintenance parts and technology. Korean Air has a partnership with Boeing to purchase aircraft parts and components using the same suppliers. Korean Air is trying to step up into the higher level by expanding their business through launching Jin Air, a short-haul carrier airline operated by Korean Air owned B737-800 serving Seoul and Jeju.

The company continues to seek partnerships with high-tech U.S. aerospace industry such as UAV, and this will be a good opportunity for U.S. companies that would like to business in Korean market.

Other Manufacturers: There are about 40 companies in the aerospace industry that supports Korea's commercial and defense industry. Leading second level companies are WIA Corporation, Nex1 Future Co., Ltd., Samsung Techwin Co., Ltd. and Hanhwa Corporation. These companies are in the business of importing and supplying parts and components for commercial and defense aircraft production. The primary production lines of these companies are the following:

Company Name	Products
Hanhwa Corporation	Aircraft parts and components
LIG Nex1 Co., Ltd.	Avionics and communications devices
Samsung Techwin Co., Ltd.	Aircraft engines, parts and maintenance
WIA Corporation	Landing gear assembly

Market Entry

The majority of aircraft components and systems manufactured in Korea are often to supply parts and components for foreign airframe makers including Boeing and Airbus. Parts and assemblies going into the manufacture of semi-finished aircraft elements is manufactured to a large extent by imported products and materials meeting U.S. aerospace specifications. The market in Korea is open to foreign made aircraft parts and components, however, companies involved in the sale of military products and equipment would need to have a local representative to be registered as in import agent with the Defense Acquisition Program Administration (DAPA)-similar to registration requirements

Aircraft business deals in Korea are generally made between foreign aircraft manufacturers and major Korean end-users such as Korean Air and Asiana Airlines. While business deals for aircraft, airframes, and parts, such as for engine supply, are also made between the two parties mentioned above, other parts and components are usually provided by local Korean distributors/agents on a case-by-case basis. Local representatives call on potential customers to provide information on products, as well as to maintain good relationships. Purchases of new parts and components usually result from a constant exchange of information between distributors/agents and end-users.

For military procurement, purchase is conducted by Korea's Defense Acquisition Program Administration (DAPA). Foreign suppliers that wish to sell defense products such as aircraft, air defense systems, avionics, aircraft equipment, and other related equipment are required to register at DAPA.

Opportunities for Profile Building

The most effective way for a new-to-market U.S. firm to tap into the Korean market is to identify a well-qualified local agent. The agent should be familiar with the local market, government and defense procurement plans and related regulatory procedures including customs clearance and tariff rates.

Regular presentations, educational seminars, including information on equipment maintenance, safety training, and timely after-sales service and product/service promotions, have been very effective in increasing U.S. exporters' sales and reputation in the Korean market.

Market Issues and Obstacles

The sale of aircraft parts and components is highly competitive; however, the market is open. All products must meet U.S. industry aviation standard so that airworthiness is maintained. For defense procurement, the Defense Acquisition Program Administration requires a minimum 35% direct offset on government contract awards. Companies deciding on bidding on defense contracts need to be aware that negotiation can be lengthy, and that unlike the past, indirect offsets are not available at this time. Therefore, the valuation of the type of work or activity a foreign company has to execute its contractual obligations is critical. The Commercial Service in Korea has worked and will continue to work with U.S. bidders in navigating contractual offsets.

Trade Events

Upcoming Conference and Trade Show

3rd International Acquisition Conference

Date: October 20-21, 2009

Venue: Not yet decided

Organized by: Acquisition Planning Bureau, Defense Acquisition Program (DAPA)

Tel: 82-2-2079-6330, E-mail: diac@dapa.go.kr

www.dapa.go.kr

Seoul Aerospace/Defense Exhibition 2009 (bi annual)

Date: October 20~25, 2009

Venue: Seoul Airport, Korea

Organized by: Korea Aerospace Industries Association (KAIA)

Tel: 782-2-761-1105, Fax: 82-2-7612-1544, E-mail: promotion@seoulairshow.com

www.Seoulairshow.com

Resources & Contacts

Government

Ministry of Knowledge and Economy (MKE)

Industrial Machinery and Aerospace Industry Division

Office of Industries

1, Gwanmunro, Gwacheon

Gyeonggi-do 427-723, Korea

Tel: 82-2-2110-5623, Fax: 82-2-503-9471

www.mke.go.kr

Civil Aviation Safety Authority

Mr. Song Yong Lee, Director

Airworthiness Division

274 Gwaehae-dong, Gangseo-gu

Seoul 157-7112, Korea

Tel: 82-2-2669-6356, Fax: 82-2-6342-7249

www.casa.go.kr

Associations

Mr. Won Suk Kang, Assistant Manager

Korea Aerospace Industries Association (KAIA)

923-5 Mok-dong, Yangchun-gu,

Seoul 158-715, Korea

Tel: 82-2-761-1105, Fax: 82-2-761-1544

www.aerospace.or.kr

Mr. Bok Kyun Shin, Assistant Manager,
Korea Aerospace Technology Research Association (KATRA)
923-5 Mok-dong, Yangchun-gu,
Seoul 158-715, Korea
Tel: 82-2-786-4379, Fax: 82-2-761-1175
www.aerospace.re.kr

For More Information

The U.S. Commercial Service in Seoul, Korea, can be contacted via e-mail at: myoung.soo.lah@mail.doc.gov; Phone: 82-2-397-4516; Fax: 82-2-739-1628 or visit our website: www.buyusa.gov/korea.

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