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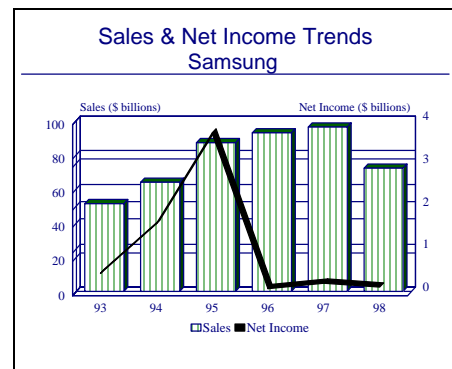
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Samsung Group - Archived 9/2001

Outlook

- Daewoo Heavy Industries, Samsung Aerospace, and Hyundai Space & Aircraft pooled their aerospace operations into a new, independent company, Korean Aerospace Industries Ltd (KAI)
- Bid from BAE Systems and Boeing was accepted, representing a 30 percent stake in the new KAI
- In mid-2000, Thomson-CSF and Samsung Defense Electronics formed a new joint venture, Samsung Thomson-CSF



Headquarters

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The history of Samsung's development parallels that of Korea's economy as a whole. The driving force behind the growth of the Korean economy – from its lowly beginnings to its present position as leader among the newly industrialized countries – was the vision of private companies such as Samsung. By accurately analyzing the business environment, and at times leading the way, the Group was a crucial force for economic development in Korea. Samsung is now developing into a world-class corporation, and as part of this expansion, it is seeking to become a leader in Korea's aerospace industry. Samsung entered the aerospace industry in 1980, when it began overhauling General Electric J85 engines used in the Korean Air Force's F-5 fighters. In 1982 it started assembling the engines for the F-5s which were integrated by Korean Air. Today, its contract to license-produce F-16s is proof of Samsung's capability to perform as a world-class aerospace manufacturer.

Samsung was founded in 1938 when Korean industry was in its infancy. The Group's late founder, Byung Chull Lee, was among several pioneering entrepreneurs to take the business lead in agricultural commodities and trade with neighboring countries. They began by buying agricultural products and exporting them to China, and soon expanded into rice milling and the brewery business. In 1948, Samsung relocated its headquarters to Seoul and focused on trade with partners in Southeast Asia and the United States. During the 1950s, Samsung expanded into consumer goods, banking, light industry and finance. In the 1960s the growth of the company shifted into high gear. During this time, the company entered into key industries such as machinery manufacturing, automobiles and electronics. Through the seventies, Samsung's growth concentrated on the areas of heavy industry and export. More recently, Samsung took a giant step toward high technology as its televisions, VCRs and personal computers took the market by storm due to their low cost and high quality.

Samsung currently employs more than 193,000 in facilities around the world.

Structure and Personnel

Kun-Hee Lee
Chairman, Samsung Group

Joong-Koo Lee
President and CEO, Samsung Aerospace
Industries Ltd

Product Area

Samsung is a *chaebol*, meaning a group of companies that are linked together by a common ownership and/or other special relationships. South Korea has 30 chaebols, of which Samsung is the largest, followed by Hyundai, Lucky-Goldstar and Daewoo. The chaebols control a good chunk of what has been described as one of the world's fastest growing economies. Samsung has numerous affiliate companies that are involved in businesses ranging from aerospace to food seasonings. The major affiliates of the Samsung Group are listed below:

1. Finance Business Group
 - 1.1 Samsung Fire & Marine Insurance
 - 1.2 Samsung Life Insurance
 - 1.3 Samsung Securities
 - 1.4 Samsung Card
 - 1.5 Samsung Capital
 - 1.6 Samsung Investment Trust Management
 - 1.7 Samsung Investment Trust & Securities
 - 1.8 Samsung Venture Investment
2. Electronics Business Group
 - 2.1 Samsung Corning
 - 2.2 Samsung SDS
 - 2.3 Samsung SDI
 - 2.4 Samsung Electro-Mechanics
 - 2.5 Samsung Electronics Co
 - 2.5.1 Home Appliances
 - 2.5.2 Multimedia
 - 2.5.3 Semiconductors
 - 2.5.4 Telecommunications
3. Machinery & Heavy Industry Business Group
 - 3.1 Samsung Techwin
 - 3.2 Samsung Heavy Industries
 - 3.3 Samsung Commercial Vehicle
4. Chemicals Business Group
 - 4.1 Samsung General Chemicals
 - 4.2 Samsung Petrochemical
 - 4.3 Samsung-BP Chemicals
 - 4.4 Samsung Fine Chemicals
 - 4.5 Cheil Industries
5. Other Samsung Companies
 - 5.1 Samsung Corporation
 - 5.2 Cheil Industries
 - 5.3 Samsung Everland
 - 5.4 Samsung Engineering

- 5.5 The Shilla Hotels
- 5.6 Samsung Press Foundation
- 5.7 Cheil Communications
- 5.8 S1 Corporation
- 5.9 Samsung Medical Center
- 5.10 Samsung Foundation of Culture
- 5.11 Samsung Welfare Foundation
- 5.12 Samsung Economic Research Institute
- 5.13 Samsung Advanced Institute of Technology
- 5.14 Samsung Human Resources Development
- 5.15 Samsung Ho-Am Foundation
- 5.16 Samsung Lions

Samsung Aerospace Industries Ltd. Samsung Aerospace, which is now the leading aircraft manufacturer in Korea, has led the way for many high-precision industries in the country. Established in 1977, the company has developed the technology necessary to produce rockets, missiles, laser devices, cameras, and factory automation systems. A milestone in the company's quest to become an integrated aircraft manufacturer was the selection as prime contractor for the production of the Korean military's next-generation fighter, the Lockheed Martin F-16 (formerly the F/A-18 Hornet). The company has also achieved progress in the manufacture of parts for large passenger aircraft and helicopters. Currently, the company is putting its robotics technology to use in the production of such items as industrial automation systems, industrial robots, automotive process control systems, microprocessors, electro-optic devices and industrial machinery.

In October 1999, the aircraft manufacturing operations was merged into Korean Aerospace Industries. The unit's remaining aerospace related work, such as engines, is now part of Samsung Techwin.

Samsung Techwin is a leading global semiconductor system company. The unit focuses on engines, electro optics, and semiconductor systems.

Samsung Heavy Industries Co Ltd. Since its beginning in 1974, Samsung Shipbuilding and Heavy Industries has made a significant contribution to the nation's industrial emergence. Through technological innovation and continued investment, the company has fostered an environment suitable for a highly skilled work force.

The company is divided into four divisions: the Shipbuilding and Offshore Division, the Plant and Industrial Division, the Construction Equipment Division, and the Special Supplies Division. Each functions with considerable autonomy, while sharing its accumulated technology.

Samsung Corporation. Ever since its designation as Korea's first general trading company in 1975, the company has functioned as the trading arm of the Samsung Group. Major items exported by the company are electronics, textiles, steel and machinery. Rapid growth has also been evident for export of tires, cement and chemicals, and grain, sourced in large part from the United States, the European Community and Japan. Acting as the import window for the Group, Samsung

Co plans to expand imports of key production facilities and raw materials in an effort to secure long-term supply sources and to carry out counter trade arrangements with developing countries.

Samsung Engineering. Founded in 1957, this unit has been one of the most competitive contractors in the international construction market. The company has the advantage of access to technical know-how and cooperation of Samsung Group affiliates in carrying out sophisticated construction projects. The company is currently diversifying its activities in the United States, Japan, the Commonwealth of Independent States (CIS), Republic of China, and various Southeast Asian countries as well as the Middle East.

Facilities

Listed below are main aerospace and defense facilities of the Samsung Group.

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Samsung Aerospace Industries Co Ltd, 14th Floor, Samsung Yeoksam Bldg., 647-9, Yeoksam-Dong, Kangnam-Gu, Seoul, Korea 135-080. Telephone: (82 02) 3467 7833. This unit is now a part of Korean

Aerospace Industries (see Merger section below for more details).

Samsung Techwin, Samsung-yoksam Bldg., 647-9 Yoksam-dong, Kangnam-ku, Seoul, 135-080, Korea. Web site: <http://www.samsungtechwin.com>

Samsung Heavy Industries Co, Ltd, 530, Jangpyung-ri, Sinhyun-up, Koje, Kyungsangnam-do, 656-717, Korea. Web site: <http://www.shi.samsung.co.kr>

Corporate Overview

Samsung is one of the largest *chaebols* in South Korea, with an estimated \$96 billion in annual revenues for the entire group. Activities encompass the aerospace and defense industry, consumer and defense electronics, shipbuilding and heavy industry, chemicals, advertising, industrial safety, construction, credit cards, and medical systems. The group is a truly diverse amalgamation of high-tech companies operating under the umbrella of the Samsung name.

The core activities of the Samsung Group are its involvement in the electronics, aerospace and defense, and chemicals industries. Because of the depth of Samsung's product involvement, this report will concentrate almost exclusively on the Group's aerospace and defense activities.

New Products and Services

K9. The K9 Thunder is a tracked 155 mm self-propelled artillery system developed and manufactured by Samsung Aerospace. As of January 1, 2000, three prototype/developmental K9 systems had been manufactured. This new 155 mm self-propelled howitzer will greatly enhance the capability of the

South Korean artillery park and is expected to become a mainstay therein.

Samsung KTX-2. This is a single-engine, two-seat trainer aircraft currently under development. This design is one of several candidates for the ultimate replacement of the RoK Air Force's T-33 and T-37 trainers. Much of the preliminary design work has been carried out at the Lockheed Martin facilities in Ft. Worth, Texas, in the USA, as part of the offset agreements between the US firm and the RoK government following the RoK's selection of the F-16 to fill a fighter aircraft requirement. Industry sources have stated that the KTX-2 is a 10-year, \$708 million effort. In August 1996 it was announced that Lockheed had signed with Samsung to jointly develop the aircraft, and the US firm will be responsible for the wing and unspecified subsystems. Samsung will build the center fuselage and will handle overall integration as well as final assembly. Daewoo Heavy Industries will share work on the forward and rear fuselage sections with Korean Air. Sources in Seoul have stated that Lockheed's total share of the program is 25-30 percent. Samsung received a go-ahead from the RoK government for the KTX-2 in

October 1997. Due to funding constraints caused in part by the economic malaise which gripped much of Asia in 1998-99, the KTX-2 timetable suffered a six-month slippage and a prototype first flight has since been pushed out to mid-2002. The KTX-2 is seen as one of the major cornerstones of the new Korean Aerospace Industries (see Merger section below).

Plant Expansion/Organization Update

Restructuring Announced. In January 1998, Samsung announced a series of bold corporate reform measures to bolster the group's competitiveness in the face of South Korea's financial turmoil. The blueprint refocuses on improving the group's financial structures and transparency of business management. The group also said it plans to focus on three to four major industries and sell or cease operations of unprofitable companies. In a bid to improve the transparency of corporate accounts, Samsung will introduce internationally accepted consolidated financial statements beginning in fiscal year 1999 for all affiliated companies. The group's target is to list Samsung Electronics Co (SEC), a world-leading electronics maker, on the New York Stock Exchange (NYSE) around 2002.

Mergers/Acquisitions/Divestitures

Korea Aerospace Industries Launched. On October 1, 1999, following months of delays, Daewoo Heavy Industries, Samsung Aerospace, and Hyundai Space & Aircraft pooled their aerospace operations into a new, independent company, Korean Aerospace Industries Ltd (KAI). The three firms hold equal shares in KAI, having each contributed 289.2 billion won in assets to the company. KAI has total assets of 1.05 trillion won. KAI has combined annual sales of approximately \$700 million and employs 3,200. Lim In-taik was named president of the new firm.

Besides the three principal partners, creditor banks will hold a share of KAI under a debt to equity swap, while a foreign partner will get up to a 30 percent stake in return for a cash injection. According to reports, KAI has accepted a bid from one of the two competing foreign investor teams. In April 2000, KAI accepted an estimated \$180 million bid proposal from BAE Systems and Boeing. The rival bidding team, KAI Global Alliance, which consisted of Lockheed Martin, Aerospaciale Matra, Dassault, Thomson-CSF, and SNECMA, was unable to submit a bid before the April 21, 2000, deadline. KAI's selection of an international partners was made on the basis of four criteria: cash investment of at least \$170 million, global marketing, subcontracting work and technology transfer.

The merger was sought to bring the Korean aerospace industry in line with the current trend of consolidation. Now as a single operation, any overlap among the three will be eliminated. The goal is to build KAI into a total integrator for the development and production of aircraft systems by the merger of three leading aerospace companies. A fourth company, Korean Air, is expected to join the group later.

Teaming/Competition/Joint Ventures

Samsung Thomson-CSF. In mid-2000, Thomson-CSF and Samsung Defense Electronics formed a new joint venture, Samsung Thomson-CSF. South Korea hopes this alliance will enable the country to increase defense electronics exports. Thomson-CSF purchased 50 percent of Samsung Defense Electronics and has provided South Korea with access to the company's worldwide marketing organization. This new Korean-registered company will provide a full range of systems and equipment in the fields of optronics, military communications, naval combat systems and air defense systems. These activities are complementary to Thomson-CSF's and are part of the Group's core businesses. Specifically, South Korea hopes that the creation of Samsung Thomson-CSF will help to push the K-SAM program forward. The new company will inherit the South Korean order for K-SAM radar and fire control modules placed with Thomson-CSF. Samsung Thomson-CSF is also expected to help improve the chances of South Korea successfully developing the KM-SAM. This medium-range air defense system is expected to use a radar with a phased array antenna. Seoul plans to have the KM-SAM in production by 2008 and service soon thereafter.

AlliedSignal. In November 1999, AlliedSignal Technology & Interconnects (ASTI) announced a strategic partnership with Samsung Electro-Mechanics Co (SEMCO). The two companies have reportedly formed an allegiance in order to produce semiconductor packages. The agreement is expected to strengthen AlliedSignal's presence in the Asian market, as well as permit both companies to merge their core capabilities in order to develop and produce new and enhanced semiconductor packages.

Lockheed Martin. In July 1997, Lockheed Martin agreed to deal with Samsung Aerospace on the joint development of the KTX-II aircraft. Under the agreement, South Korea will fund 70 percent of the program's \$2 billion development while Lockheed Martin and Samsung fund the remaining 30 percent. Lockheed Martin will develop the aircraft's avionics, flight control systems, and wings and will provide technical expertise to Samsung.

Currently, these two companies are also teamed to provide the Korean Air Force with as many as 120 F-16 Fighting Falcon aircraft.

Eurocopter. Samsung Aerospace received a five-year contract in early 1995 from Eurocopter to assemble Dauphin helicopters in South Korea.

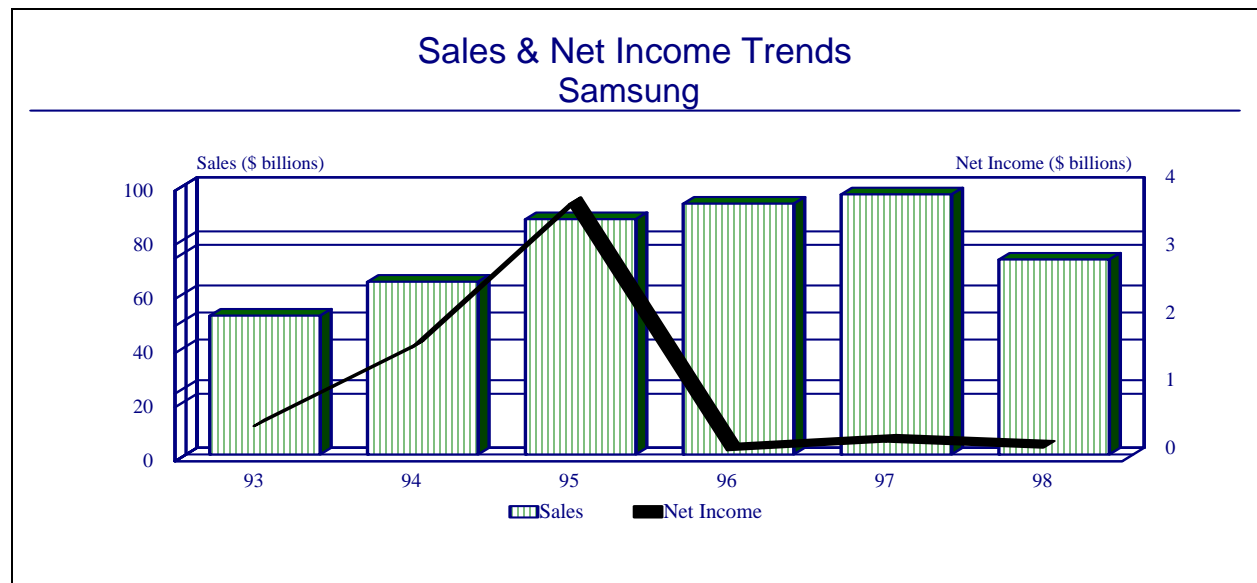
Korean Commercial Aircraft Development Consortium. The Korean Commercial Aircraft Development Consortium was originally formed to bid (unsuccessfully) in the Chinese AE-100 regional jet program. Members of this consortium include Samsung Aerospace, Daewoo Heavy Industries, Korean Air and Hyundai. Under its new iteration, the joint venture might be established as a separate legal entity similar to a mini-Airbus.

Moller International. In April 1995, Samsung Aerospace agreed to study the feasibility of jointly developing a four-seat vertical take-off and landing (VTOL) aircraft with US designer, Moller International. Moller has been developing the ducted-fan Skycar since 1983 and has invested an estimated \$35 million in the program so far. Samsung is conducting a study of the engine and Skycar before deciding whether to invest in the development.

Financial Results/Corporate Statistics

Recent financial statistics for the Samsung Group are provided below. The dramatic decrease in Samsung's 1996-1997 net income was attributed to several factors, including an overall recession in regional economies that had a negative effect on exports, and the decline of semiconductor prices, which had been a major profit source.

Y/E December 31	1993	1994	1995	1996	1997	1998
(\$ millions)						
Net Sales	51340	63854	87000	92721	96133	72047
Net Income	521	1681	3802	164	291	201



Strategic Outlook

The Korean financial crisis of the late 1990s has forced the debt-ridden Samsung group and all chaebols to shed companies and trade businesses among themselves so that just two or three chaebols remain in each industry sector. As the largest chaebol, Samsung has announced

that it intends to concentrate on its electronics, finance, and service businesses.

As a result of the economic battering, South Korea received a \$58 billion economic bailout from the International Monetary Fund with the condition that it

get its economic house in order and restructure its industries. In addition, the crisis has also forced the Koreans to reassess their military buildup. Prior to this economic turmoil, Korea was planning to buy some \$3.2 billion worth of arms as part of an ongoing process of military modernization. But as a result of the crisis, these purchases were postponed and reconsidered as South Korea struggled to get its faltering economy back on track.

In 1999, the first signs of recovery began appearing as quarter after quarter of growth signaled steady improvement. This economic recovery in South Korea was accompanied by the government's fulfilling its pledge to restore funds to the military budget for the 2000 fiscal year.

The timing of the formation of the new Korean Aerospace Industries could not be better. Originally, plans for the formation of the company were shaky at best, but with steady government procurement expected over the next few years, KAI will have a solid base of business on which to grow. Further enhancing the company's prospects was the announcement that a bid from BAE Systems and Boeing was accepted, representing a 30 percent stake in the new enterprise.

With the support of BAE and Boeing, KAI is expected to gain additional aerostructures work, technology transfer, and export marketing support. In return for their investment, BAE and Boeing are hoping to gain a share of market dominance for their products in South Korea's current military buildup.

Prime Award Summary

Unavailable

Program Activity

Some important aerospace and government programs currently under way at Samsung are listed below. The briefs are intended to provide a listing of programs that are of major importance to the company. For detailed information or analysis of specific aerospace and defense programs or equipment, please refer to the appropriate *Forecast International* binder (for example, AIRCRAFT, MILITARY VEHICLES, WARSHIPS, MISSILES, ELECTRONIC SYSTEMS, and GAS TURBINES). The following is an outline of the company's business interests:

- Aircraft
- Civil and Military Fixed-Wing Aircraft
- Civil and Military Helicopters
- Defense Electronics
- Missiles
- Ordnance Systems
- Systems Integration

Aircraft Programs

Bell 427

In February 1996, Bell Helicopter Textron and Samsung Aerospace revealed that they are planning joint development of new light twin-turbine helicopter, tentatively designated the Model 427. Samsung will manufacture the cabin and tailboom and will assemble 427s for sale in South Korea and China. In late 1998, Samsung Aerospace won its first South Korean order for three licensed-built Bell 427s.

Korean Fighter Program (KFP)

South Korea selected the Lockheed Martin F-16 aircraft after a heated competition with McDonnell Douglas in 1991. KFP, or the Korean Fighter Program, calls for the initial delivery of 12 aircraft directly from Lockheed Martin in the US. With these deliveries completed in 1994, Samsung had become the lead company in an effort to produce the aircraft from knock-down kits provided by Lockheed Martin. Samsung rolled out the first of 72 units for the RoK Air Force in November 1995. The program is expected to run through 2002.

Ordnance Programs

Bi Ho

This is a tracked, self-propelled anti-aircraft artillery system developed and produced by Daewoo Heavy Industries. Major subcontractors include General Dynamics Defense Systems, General Motors Hughes Electronics, Lucky Goldstar Electric, Samsung Precision Instruments, Siemens, Société de Fabrication d' Instruments de Mesure, and Tong Il. As of early 2000, the serial production of the Bi Ho self-propelled anti-aircraft artillery system is ongoing and the system is in initial service in the Republic of Korea. The first order was for 150 units, with the first service deliveries made in 1999.

Kooryong Multiple Launch Rocket System

The Kooryong is a wheeled multiple launch rocket system that has been developed so that it can be fitted to

almost any wheeled or tracked vehicle with a 5 tonne load capacity. The manufacture of the Kooryong is ongoing to meet the requirement of the Korean Army. The Samsung Company is a major subcontractor on the Kooryong program.

M109 155 mm Self-Propelled Howitzer

The M109 is a tracked 155 mm self-propelled artillery system developed and manufactured by United Defense LP. Samsung Aerospace manufactured the M109A2 under license for the Republic of Korea.

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