

## Market Innovative Strategy A Case of LG Electronics

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*LG Electronics (LGE) is the third in the rank of three largest chaebols after Hyundai and Samsung in South Korea. LGE has got more than 70 subsidiaries in 40 countries. The thrust of LGE was on home appliances, PC related multimedia products, electronic products and telecommunication products such as handsets, mobile systems and network system. LGE aimed at attaining top position in digital TV and telecommunication equipments in the world. It also aimed at strengthening its core competency as 'Digital Leader' in electronic products and equipment in this digital era. Bon Moo Koo, after taking over as Chairman of LG group in 1995, has adopted "Leap 2005" as the basic philosophy of LGE group. According to the principle of "Leap 2005", LG group was to grow from around US\$38 billion in 1994 to US\$ 380 billion by 2005 with 50% coming from international sales. LGE has adopted a differentiation strategy to concentrate on the high end of the entire products segment it enters. It cultivated an image for both technology and quality. Globalisation and innovation were the major strategies of LGE through mergers, acquisitions, divestures and alliances.*

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LG Electronics is the third in the rank of three largest chaebols after Hyundai and Samsung in South Korea. Chaebols were the main drivers of economic growth in Korea during 1960-90 and these chaebols were given incentives and encouragement to play an important role in the South Korean economy in terms of preferential access to loans and foreign exchange as well as subsidized interest rate. Korean government influenced chaebols to explore new areas of their business like shipbuilding, automobiles, steels etc. The largest 30 chaebols of Korea accounted for over 50% of the Koreas' GDP.

Lucky Goldstar (LG) was established in 1958 and produced its first tube transistor radio (A-501) which was the beginning of electronics industries in South Korea. Over the period of time, it produced telephones, refrigerators, black and white TVs, Air-conditioners etc. It had established its first overseas branch office in New York in 1968. In 1970, the company was listed in stock market among peers in Korea. LG was the first company to accomplish \$1 billion in sales in 1977. During late 1970's and 1980's, it established foreign subsidiaries in the US, Thailand, Mexico, England and Philippines. It was in 1995 that the present form of LG Electronics was established and Boo Moo Koo became the Chairman. With its new name, LG Electronics penetrated the market by leaps and bounds and became the leader of electronics industry in Korea.

LG Electronics is a large company operating in six core businesses viz, Digital Display and Media, Digital Appliance, Digital System, Digital Handset and Digital network. Each company has been managed autonomously based on a flexible decision making process. LGE has got more than 70 subsidiaries in 40 countries and a worldwide marketing network. The thrust of LGE was on home appliances, PC related multimedia products, electronics products and telecommunication products such as handsets, mobile systems and network system. LGE aimed to attain the top position in digital TV and telecommunications equipment in the world. It also aimed at strengthening its core competency as 'Digital Leader' in electronic products and equipment in a digital era.

LGE laid the foundation of its "digital LG vision" through acquisition of essential technology and merger with LG information and communication (LGIC) in 2000. The merger of LGE with LGIC helped to make LGE a major player in the digital world through the development of home and mobile network.

LGE has directed its resources towards the development of value-added products and areas with high growth potential. To enhance its global competitiveness, it continued to forge strategic partnerships with major players including Intel, Microsoft, Sony, Philips and Hitachi,

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building infotainment platforms that integrate consumer electronics and information products, LGE strives to deliver maximum value to the customer.

Digital Display and Media Company is the most internationally reputed company among LGE Companies. It has established its top-tier technology in its television products including wide-screen television, digital television, and projection television, fully flat monitors, flat cathode-ray tubes and plasma display panels. It developed an ultra-thin, ultra-light digital LCD TV with a 29-inch wide screen, the largest in the world. The company's new organic Electro Luminescence Display (OELD) for IMT-2000 featuring high speed response, exceptional picture quality and low power consumption marked a significant advancement in the development of display products. Digital Media Co. produces VCRs, PCs, CD-ROM drives, CD-RW drives, DVD-ROM drives, PCBs, MP3 Players and Videophones and DVD players. The division is the leader in Germany and enjoys large market shares in Italy, Spain, UK, Poland and Hungary.

Digital Display and Media Co. accounted for 68% of the sales of LGE in 2000. The growth increased from 18% between 1998 and 1999 to 26% in 2000. However, global competition was fierce in 2001-2002 which led to a reduction in sales and lower profitability. In order to maintain global prominence in the industry, the company focussed on differentiation of their products and increased product diversity according to the directions of new markets. The company adopted six sigma activities in their operations. It had expanded its global presence by penetrating foreign markets, especially the Chinese market, and establishing R & D and production centres worldwide.

Digital Appliance Co. manufactures a wide range of home appliances including refrigerators, air-conditioners, washing machines, vacuum cleaners, microwave ovens, gas ovens and compressors for refrigerators and air-conditioners. Digital Appliance Company has a network in Europe, the Middle East and Africa. It had established a joint air conditioner plant in Turkey with Koe Holding A S. It has three plants in Korea and ten overseas production subsidiaries in seven countries. It has launched web-connected products with its internet DIGS refrigerators, Internet tinbrodrum Washing machines and internet micro-oven. It contributed towards 26% of sales of LGE in 2000. Its sale has gone up from KW 3815 billion in 1998 to KW 4580 billion in 2000. However, Digital Appliance Co. has never been strong despite its profit of

602 billion during 2001 and with increase of 12% operating margin. The air-conditioner captured the number one global market share and was named 'product of the year' by Consumer Report Magazine. Intelligent selection of product sites, six sigma efficiency strategies and quality contributed to an increase of sales of 36% for air-conditioners and 22% for refrigerators in 2001. In the domestic market, the company maintained its leadership.

Digital Handset Co. manufactures mobile Internet phones, high-tech handsets for CDMA protocol and for WLL, cordless/coded telephones and key phones. Its sales growth has fallen from 73.4% in 1998 to 3.1% in 2000. However, its sales increased from KW 128 billion to KW 163 billion in 2000. Digital Handset Co. has reached the number eight position among the world's handset makers. The company achieved a sale of over 10 million units worth 2.4 trillion with an operating profit of more than 160 million. Digital Handset is a thrust business of LG Electronics. Digital System Company is a leader in the field of WCDMA, WLLS, ATM and IMT mobile system.

## FINANCIAL ANALYSIS OF LGE

LGE's total sales have increased from KW 9853 billion in 1998 to KW 10, 546 billion in 1999 to KW 14,836 KW in 2000 (Table 1), the growth rate being 50.6% and 40.7% respectively. Digital Media Company has exhibited a strong growth of 31.1% between 1998 and 1999 and 50.8% between 1999 and 2000, whereas digital appliances has grown by 13.3% and 28% respectively during the same period. With regard to digital display, the growth rates were moderate (10.2% and 8.9% respectively).

Domestic sales of LGE have shown tremendous growth of 81% between 1999 and 2000 (Table 2). The export growth during the same period was only 27%, mainly due to export growth in Digital Media Co. However, total sales have shown a growth rate of 41% during the period.

Exports of LGE by geographical areas are given in Table 3. Exports to Asia were US\$ 3.6 billion representing the largest share of total sales at 43.8%. Air conditioner and refrigerator sales to South East Asia were main factors for this dominance. The export growth in Europe and CIS was 36.2% between 1999-2000. The exports have grown 15% to North America basically due to take over of Zenith brand of USA which had high- value-added consumer products such as flat wide screen TVs, DVDs and mobile internet phones.

The greatest generator of profits in 2000 among all LGE companies was Digital Appliance Company. Its operating margin was 12.4% in 2000.

The financial performance of LGE is given in Table 4. The total sales of the company have increased by 68% between 1998 and 2001. There was 41% increase in sales between 1999 and 2000, which has come down to 12% in 2000-01. However, net income has come down from Won 2005 billion in 1999 to Won 502 billion in 2000 and remained stagnant at the same net profit in 2001.

## LG'S VISION

After taking over as Chairman of LG group in 1995 Bon Moo Koo adopted "Leap 2005" as the basic philosophy of LGE group. The basic philosophy was articulated from the perspective of global management. His vision was to create value-addition to shareholders and other stakeholders. He propagated LG's future as stability, harmony and respect among the employees of the company. After the restructuring of the company, he added more values such as challenge, speed, simplicity and boundrylessness.

According to the principle of "Leap 2005", LG group was to grow from around US\$38 billion in 1994 to US\$ 380 billion by 2005 with 50% coming from international sales. "Leap 2005" emphasized on high quality and zero defect initiatives. It had stressed the role of differentiated technology and acquisition. It was estimated that 1400 new global managers would be required and 50% of these would be non-Koreans to manage the company globally. LGE also decided not to continue with marginal business with poor performance.

LG group has adopted a quantum growth strategy to realise the vision. In order to achieve the growth strategy, LG had no choice but to follow technological innovations, mergers, acquisitions, divestures and alliances. It identified China and South East Asia as the strategic growth area, which has the high potential of economic growth for the quantum jump. However LG did not intend to ignore low potential growth areas like Europe, South America, Africa and the Middle East. The developed markets of US, Japan and Western Europe were also not attracted because of stiff competition and low growth potentials.

The initial strategy of LG Electronics was that of low cost by taking advantage of economies of scale and by

leveraging subsidized cost of capital and low cost of labour in Korea. In 1987, LG had adopted a different strategy focussing on quality of product and expanding marketing capabilities. When the Korean government relaxed trade barriers, there was great influx of foreign companies to compete with domestic firms including LGE.

Customers of Korea became quality conscious. LGE had teething problems in the earlier stages of their new strategy as a result of which sales of LG products dropped by US\$ 1 billion and profits fell by 18% between 1986 and 1987. Chinese gave Korean firms tough competition by their cheap labour. LG accepted the challenges posed by foreign firms by restructuring and adopting new management approach which was decentralized and more participative in nature. Managers were given greater decision making autonomy.

The change of their strategy by focussing on quality products, paid rich dividends in terms of increasing their net income from US \$128 million in 1991 to US \$ 965 million in 1994; nearly 800% increase during three years. LGE became a consistent leader in the domestic market and some of the foreign markets. To enhance its global competitiveness, LG continued to forge strategic partnerships with major players including Intel, Microsoft, Sony, Philips and Hitachi.

LGE's marketing strategy was based on '3Ps'

- Premium Pricing to maintain margins.
- Breath taking Pace to create niches.
- Deep Penetration to increase volumes.

It followed a differentiation strategy to concentrate on the high end of the entire products segment it entered. It cultivated the image of a leader in both technology and quality. It launched models with innovative features at regular intervals. Its technological superiority provided a cutting-edge to its marketing strategy. With its differentiation strategy, it could penetrate the global markets.

LGE recognised the merit of its employees and encouraged them by giving incentives like stocks. They were provided regular updating of their knowledge and were sent for management development programmes. This created an employee friendly atmosphere in the company.

Recently, LGE adopted a new mantra of being "cost innovative" - from implementing higher technology efficiency

to reducing design related frills, to purchasing cheaper components, to more effective HR policies to be competitive in the world market.

## LG'S STRATEGY OF GLOBALISATION AND INNOVATION

Globalisation and innovation were the major strategies adopted by LGE to grow and capture markets. As part of the globalisation strategy, LG initially acquired 58% of US television maker the Zenith in 1995 to take advantage of Zenith brand name and their core technologies such as DSP and Transmission which have wide-ranging applications in HDTV, digital TV, cable and wireless video and data delivery. It took over Zenith's TV set plants in Mexico. These technologies complemented LGE's strength in product development, process engineering and manufacturing. LGE invested \$165million to expand and modernise Zenith's Melrose Part III, colour picture tube plant. The President of LGE's USA arm, Nam k Woo, said, "we do not intend to Koreanize Zenith. This company will remain an American company whose stock is on the New York exchanges." LGE adopted the concept of "the best global company" with "localisation concept". Using local management and personnel, LGE located manufacturing, distribution, marketing and service in the target market and gradually increased the portion of locally sourced raw materials and components. The idea was to make the LG subsidiary a "local company", where it does business. As a result of this strategy LG's overseas production accounted for 45% of the company's sale.

LGE penetrated the Canadian market with products such as monitors, portable CD-ROM drive memory and hand-held PCs. It has signed with EMJ Data System Ltd. to distribute its line of CE devices, optical products and monitors in Canada.

Innovation and product development were the key factors for LGE's growth. It has strengthened its R & D activities by setting up of 25 domestic and 13 foreign based technology institutes and a research centre. The research network supported all LGE operations in the development of production technologies, core electronic parts, design concepts and next generator product lines. In 2000, LGE's investment in R&D activities totaled W 706 billion, increasing from W 419 billion in 1999. It invested 55% of total investment in R&D. It has 7200 researchers at home and abroad comprising 23% of LGE's staff. LG Electronics set up a research centre at Princeton, NJ to develop

multimedia and consumer electronics and software and network devices. The research centre would also conduct research on digital imaging and video processing. LGE invested about \$40 million and recruited 20 researchers in the centre.

In order to establish its brand name globally, LGE invested \$30 million to portray the company as a "gentle giant" in 1998. Initially, LGE focussed on TV and print advertising through its in-house agency LG Ad Seoul coordinating global branding campaign. Jahong Ku, the President of LG electronics, said, "our goal is to reach \$9.121 million worth of sales in 2000, entering the new millennium. We will establish a foothold for the major business sectors of digital TVs and Plasma display panels with an investment of \$1.023 billion in 2000 which is an increase of 70%". He wanted to maintain its top position in the optical storage, air-conditioner and CRT sectors by securing the requisite core technologies and developing new products. It projected 30% of its market for digital TV's by 2001. LG had penetrated in Europe for their high-value added products such as flat panel monitors, TVs, LCD monitors and CD-Roms. LGE had opened a local unit in Poland to cater to the needs of the European market in 1977. It earmarked \$700 million to spend on its Polish operations by 2000. It pushed joint marketing strategies with Coca-Cola and Mc Donald.

During the same year, LGE launched a print campaign estimated at \$5-7million as part of their long-term branding efforts. Their brand was projected as technology leaders, mobile professionals and corporate decision-makers in the US. They had repositioned themselves into a multimedia provider. Their brand-awareness campaign increased their market share by creating consumer demand for LG products. They teamed up with Commerce- One Inc and Hyundai Group to launch B2B e-market place serving Korea.

In 1998, the company launched the world's first 60- wide plasma display panel that offers high television screen quality. LG had started manufacturing second-generation chips for digital television and is expected to garner 40% of the domestic market share by the year 2003.

During the same year, LGE launched another product, PC Phenom Ultra, a pocket version of Microsoft World, Excel, PowerPoint and outlook which has got a touch screen. It was a suitable choice for medical professionals, sales people and students. It had tied up with Intel Corporation to expand development and sales of products based on Intel microprocessors and chipsets.



LGE has a tie-up with Samsung Electronics to expand digital commerce in products ranging from semi-conductors to home appliances. The tie up has given it leverage in e-commerce technology.

LGE entered cellular and PCS handset and shifted analog wireless phones to digital at the end of 1996. It had adopted digital Code Division Multiple Access (CDMA) as next generation standard format for both cellular and PC network. It had set up an assembly plant in Beijing to penetrate the Chinese market for CDMA wireless handset. In keeping with China's fast growing Internet market, LGE set up a production facility there.

LGE and Philips set up a joint company titled 'LG-Philips CRT' on a 50-50 basis with its operational headquarters in Hongkong. Philips acquired preferred stocks of \$500 million issued by LGE while \$1.1 billion was injected directly into the new company. The combined firm held 24% of global braun tube market. The joint venture targeted a global leadership position in CRT manufacturing. The joint venture could take the leadership advantage of Philips in television tubes and that of LG's in monitor tubes. Philips had significant marketing shares in Europe, China and US whereas LG had in Asia. Philips had skills of global marketing and technological innovations whereas LG has got industrial and manufacturing expertise.

In their concerted effort to penetrate the South Asian Market, LGEIL was set up as a wholly owned Indian subsidiary with an investment of US \$185 million for the development of state of art digital technology and telecommunications in 1997. LG information and communication (LGIC) established a local venture for CDMA WILL systems and terminal production and sales at Noida with an investment of US\$50 million. The company's idea was to make WILL, key telephone systems and GSM terminals and integrate into the manufacturing of CDMA system, phones, access network products and ATM switching systems. LGEIL invested \$ 100 million to set up plants for the six product segments it operated in CTVs, washing machines, refrigerators, air-conditioners, micro-wave ovens and VCD players. It wanted to establish a niche-market in a crowded segment. The company aimed to cover a 25% share each of the CTVs and washing machines markets by 2004. LGEIL's strategy was to concentrate on the premium segment of the market rather than lower and middle segments. It adopted a product differentiation and aggressive marketing strategy and cultivated an image as a leader in both technology and quality. They launched innovative products such as golden

eye TV, PN system refrigerator with focussed cooling system, fabricare washing machine with turbo drum technology, LG Whisen floor standing air conditioners, health air air-conditioners for cool, clean and healthy air, plasma ceiling air-conditioners, health-wave microwave ovens with infrared sensing technology. LGEIL addressed all product categories and all price segments. LGEIL has 60 new models in the market across its entire product categories like colour TVs, refrigerators, washing machines, air conditioners and microwave ovens. It has products across the price ranges from Rs.8000 (CTVs) to Rs 1 lakh (plus plasma projection CTVs).

Very soon, LGEIL became the market leader in CTVs, frost free refrigerators, air-conditioners, fully automatic washing machines and microwave ovens (see Table 5). LGEIL withstood fierce discount wars, exchange schemes and price games. They projected their products as different and instilled in the mind of the customers that they were honest in their pricing. Their technological superiority provided the cutting edge to its market strategy. LGEIL started aggressive advertising campaign in print and television media and for that it allocated Rs 130 crores for advertisement budget. Its advertising campaign was round the year, which resulted in high brand recall and successful positioning. They maintained their position in the market with a regular pipeline of new products.

LGEIL was straddling other price segments too by capitalising on the brand image and positioning built around reliability and quality. It diluted its premium perch in the short-run to compete with Samsung and to gain market share in the long run.

LGEIL has shown tremendous performance by increasing their turnover from Rs 125 crores in 1997 to Rs 2700 crores in 2002. Its profit before tax has also arisen from Rs 8.9 crores in 1978 to Rs 78 crores in 2001. It has obtained a solid foothold in the lucrative Indian market. In 2001, LGE and LG Information and Communication had merged to compete more effectively against its chief rival, Samsung Electronics. The merger was aimed at developing next generation electric home appliances such as home-networking and mobile-networking products by combining multimedia and information and communication networking technologies. They could dominate the digital wireless market especially the IMT 2000 wireless phone segment. Bonmu Ku, President of the LG group, told the industry "to be a strong player in the wire/wireless communication market, the scale and size of an enterprise matters". The merger had helped to launch an aggressive strategy to

surpass Samsung Electronics and SK Telecom in communication equipment and services.

In 2000, LGE formed a strategic partnership with Oak Technologies to purchase Oaks' OTI 9790 re-writable CD player controller and designed it into a line of 8 CD RW drives. As a result of the alliance, LGE could develop the world's fastest CD-RW drive. The new model can process data at an average 100ms and can record data at 12x speed, rewrite data on CD at 8x speed and play CDs at 32x speed. The CD-RW drives allow users to rewrite over a single CD 1000 times. LGE captured 23 percent of the world CD-RW markets and overtook Sony as the world's largest supplier of CD-RWS.

LGE is the world leader of flat-monitor TV. It has increased sales to 2.4 million units of flat monitors and TVs in 2000. It has captured 20% of market in Indonesia. LGE has increased its sale in Indonesia from US\$170 million in 2000 to \$250 million in 2001, an increase of 47%. The increase was mainly due to increase in population.

LGE earmarked \$ 40 million for new television and published advertisements on Eurosport, Star TV, ESPN, Newsweek and Business Week in a move to upgrade its global corporate image. This brand marketing effort resulted in 31% increase in overall sales. LGE invested \$80 million to expand its brand image worldwide in 2000.

LGE developed the world's first multipurpose flat monitor braun tube which can be used both as a monitor or a TV braun tube in 2000. It has taken a step ahead of its competitors Toshiba, Philips and Thomson in the world flat multimedia braun tube market. During the same year, LGE and Philips formed a joint venture on a 50-50 basis to manufacture Cathode Ray Tube (CRT). The alliance became the world's largest producer of CRT's for TV and computer monitors, outstripping Samsung SDI. The alliance held 24% stake in the global CRTs for TV and computer monitor. LG operated four overseas CRT plants while Philips has 10 plant around the world. During the same year, LGE developed another innovative product, LCD (Liquid Crystal Display) TV which can be hung on walls and be used as a computer monitor. It also has a picture-in-picture function that allows users to watch television or a video while looking up to the Internet through a computer. LGE developed the 4th generation TV chip, vestigial side band. It captured 40% of the world's digital TV semiconductor market. It exported 1.35 million TV's from China's production centre. It beat out competition from Sony and others who were operating in China.

LGE has launched the world's thinnest wall hanging PDP TV (40 inches) in 2001 and captured the world market. It has an annual production capacity of 300000 units of PDP TVs in 2001. In order to meet the demand for PDP TVs of 480000, it planned to manufacture 150000 units. It planned to invest one trillion won to establish production plants in Europe and China. In the same year, it released a 32-inch HD digital television model that uses flat Braun tubes. It has got 4-5 times clearer images than conventional analogue TVs.

LGE became the world's top manufacturer of air-conditioners in 2001. They had sold nearly 4.9 million units, equivalent to \$1.5 billion in 2001, beating its competitor, Whirlpool. They enjoyed a market share of 11.6% in world's air conditioner market. It was a market leader in air-conditioners in 31 foreign markets. It planned to expand its market influence to 50% in the local market and 12% in the world market. LGE set up a plant for air conditioners in Manaus, Brazil, with a production capacity of 2 lakh units in 2001. It set up another plant in Mexico with an annual capacity of 4 lakh units of home appliances. It manufactured 20 different air conditioner models for export to the US. LGE moved its production of overhead projectors and air-conditioners to Malaysia and Thailand to capture more of the South East Asian market.

LGE forged a partnership with Osaka, Japan, in home air-conditioners to share parts, finished products and information on a global scale in 2001. Osaka would provide LGE with technical assistance in the room air conditioner field. They supply each other with key components and finished products produced at their global production sites. They exchanged information in such areas as technology materials and procurements and production techniques. LGE penetrated into Japanese digital TV market with its advanced PDP and LCD digital TV products. LGE joined hands with Matsushita to export microwaves and air-conditioners. It has agreed to provide low-priced microwaves to Matsushita who would resell them in North-American markets. In return, Matsushita would provide low-priced air conditioners to LGE for export in South Asian countries. The partnership would also help LGE to use Matsushita's sales network in South Asian countries while Matsushita will share LG's sales in China and India.

LGE is one of the world's top three manufacturers of home appliances. It has an aggressive marketing campaign based on a 'LG Digital friend for live solution' concept. It held 20% share of the market in twin-tub washing machines, 12% in LG Flatron TV and 20% in Plasma Display Products

(PDPs), projection TVs, LCD TVs, LCD projectors and 25% in IT product category in 2001.

LGE also signed an MoU with Intel Group to be a strategic partner to produce low-priced notebook PCs, to cooperate in files such as digital TV and internet-enabled home appliances in 2000. They had arrived at a long-term strategic alliance in marketing, technology development and intellectual property rights with Intel. LGE had developed a Linux-based tablet PC and digital ipad for applications such as basic e-mail and internet access and word processing in 2001. The digital ipad is operated through a touch-panel, 8.4 inch LCD and a wireless LAN adapter provides the data connection for the device at a speed of upto 10 Mbps with a distance range of upto 100 meters. It was launched in South Korea and the international market.

LGE has forged an alliance with Korea Telecom for high-speed wireless data technologies and joint development of related services like high-speed wireless Internet services.

The merger of LGE and LGIC helped to heighten competitiveness in its network, digital TV and IMT-2000 related businesses. LGE, with the help of UK based telecom equipment manufacturer Marconi Pie, had developed the network of infrastructure market for 3G mobile telephony. It has established a joint telecom company in China, which would manufacture CDMA-based terminals and system. It signed agreement to set up a joint company with a unit of China National Post and Telecommunications Industry Corp. to conduct R&D for CDMA handsets and telecom network in China.

At home, LGE invested one trillion won into new research and development (R&D) to manufacture handsets offering wireless internet services and standardisation of telecommunication devices in 2001. LG entered the Indian market to provide CDMA system and handsets worth \$160 million to VSNL. It would like to invest another \$185 million to enhance the production of CDMA products and WLL facilities as also home electronics goods. LGE penetrated Chinese GPRS market to compete with Motorola, Ericsson and Nokia. In 2002, LGE built production facilities in China to develop colour mobile phone and CDMA handsets for the Chinese market. It released seven models of mobile phones equipped with user identity module cards and large screen liquid-crystal display panels as well as Wireless Application Protocol Capability. It opened an R&D centre covering LG Micron, LG limotek, LG Philips LCD

and LG Philips Display. The centre focussed on the development of CDMA handsets and equipments, digital TV and digital display products.

LGE penetrated into the Russian market with VOIP- based network equipment to compete with Siemens, Cisco, Lucant and 3 com and sold GSM handsets. LGE achieved \$20 million of networks in 2001. It exported 10000 units of its LG 200 and WAP-enabled LG 500 phones to Russia. It sold one million CDMA handsets into the US market in wireless handset. It entered CDMA backed mobile equipment market in Myanmar and Brazil in 2002. The handset is installed with a LCD display that offers text messaging and caller ID.

LGE owns the most advanced communication system in the world. It entered Malaysian and Thailand telecommunication sector and Thailand with CDMA system in 2002. LGE expanded its international operation in Australia with 48% control of CDMA handset market. It has made aggressive marketing strategies to penetrate into the market by providing small sophisticated handset products. LG launched the production of 1.8-inch colour organic electroluminescence (EL) displays for IMT-2000 mobile handsets. ELs are particularly suitable for showing moving images in 3G mobile communication devices and small personal TVs. LGE first developed the world's first 4 inch organic ELs in 1999 and 8 inch in 2000.

LGE set up a financial centre in New Jersey, US, in partnership with Bank One. It also set up financial centres at Beijing, China and Europe in joint venture with Citi bank to cater to the needs of Germany, UK and France.

In 2001, LGE signed an agreement with E2open to install the firms on line purchase system. Under the deal, LGE would have access to E2open's products and services in a bid to coordinate inventory, overseas orders etc.

## LGE'S FUTURE

LGE has set its sight to become the world digital leader in electronics. It has planned to penetrate into telecommunication networks and mobile phones and give stiff competition to market leaders Nokia, Ericsson and Motorola. It will focus on critical future sectors such as digital display, next generation mobile telecom, IT materials and life sciences.

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**Table 1 : Sales of LG Electronics**

Sales	In billions of Koreans Won		
	2000	1999	1998
Digital Display	4580	4205	3815
Digital Appliance	3882	3032	2677
Digital Media	4453	2953	2253
Information and Communications	1076	-	-
Others	845	356	1108
Total	14836	10546	9853

Source : Annual Report 2000



**Table 2 : Domestic Sales and Exports of LGE**

	In billions of Korean Won		
	2000	1999	1998
Domestic Sales	4881	2704	2570
Digital Display	715	520	368
Digital Appliance	1771	1277	1076
Digital Media	915	595	568
Information and Communication	641	-	-
Others	839	312	558
<b>Exports</b>	9954	7842	7283
Digital Display	3866	3686	3448
Digital Appliance	2111	1755	1601
Digital Media	3538	2357	1684
Information and Communication	435	-	-
Others	5	44	55
	14836	10546	9853

Source : Annual Report 2000

**Table 3 : Financial Performance**

	2001	2000	1999	1998
1. Sales	16601	14836	10546	9853
2. Cost of Sales	12915	11821	8356	7809
3. Gross Profit	3686	3015	2190	2044
4. Selling and Administrative Expenses	2890	2094	1506	1291
5. Operational Profit	796	921	684	753
6. Non-operating Income	2145	1042	3224	1496
7. Non-operating Expenditure	1571	1234	1320	2082
8. Ordinary Profit	574	729	2588	167
9. Income Tax	67	227	583	43
10. Net Income	507	502	2005	112
11. Return on Assets (%)	-	4.8	22.5	1.3
12. Return on Equity (%)	-	14	79.9	6.7
13. Debt Ratio (%)	95	118	106	-

Source : Annual Report 2000

**Table 4 : Exports by Geographical Area**

In millions of US\$

	2000	1999	1998
North America	2326	2023	1198
Central and South America	470	319	657
Europe & CIS	1564	1148	1051
Asia (Excluding China)	2106	1784	1373
China	1526	1017	773
Oceania & Africa	298	298	275
Total	8290	6589	5327

Source : Annual Report 2000

**Table 5 : Market Share in India : August 2002**

Particulars	LG	Samsung	Whirlpool
CTV	13.1	11.3	-
Refrigerators (All)	13.9	6.1	28.9
Refrigerators (FF)	27.7	8.6	27.6
Refrigerators (DC)	10.6	5.5	29.2
Washing Machines (All)	18.9	12.1	20.8
Washing Machines (FA)	14.9	10.5	23.8
Washing Machines (SA Twin Tub)	22.4	10.1	21.7
Micro Oven	28.0	24	NA
Air-Conditioners	33.0	14	NA

Source : Business Today, November 24, 2002

Note : FF-Frost Free, DC-Direct Cool, FA-Fully Automatic, SA-Semi Automatic