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LM Ericsson - Archived 11/2007

Outlook

- In June 2006, Saab acquired Ericsson Microwave Systems (EMW) and Ericsson's 40 percent share in Saab Ericsson Space in a deal valued at SEK3.8 billion (\$529 million)
- With Ericsson now longer involved in defense, this report will be archived



Headquarters

Telefonaktiebolaget LM Ericsson Torshamnsgatan 23 16483 Stockholm, Sweden Telephone: +46 8 719 0000 Web site: http://www.ericsson.com

LM Ericsson (Telefonaktiebolaget LM Ericsson) was formed in 1876 for the unique purpose of developing telephone systems for the Kingdom of Sweden. The company has since evolved into one of the world's most significant manufacturers of telecommunications systems and electronics.

LM Ericsson, which employs approximately 56,055 persons worldwide, manufactures systems and services to handle and transmit voice, data, image, and text information within public and private telecommunications networks.

Structure and Personnel

Carl-Henric Svanberg CEO and President Karl-Henrik Sundström Executive Vice President and Chief Financial Officer Kurt Jofs Executive Vice President and General Manager, **Business Unit Access** Bert Nordberg Executive Vice President, Group Function Sales and Marketing Björn Olsson Executive Vice President and General Manager, **Business Unit Systems** Hans Vestberg Executive Vice President and General Manager, **Business Unit Global Services** Carl Olof Blomqvist Senior Vice President, Group Function Legal Affairs

Håkan Eriksson Senior Vice President and General Manager, Research and Development, and Chief Technology Officer Marita Hellberg Senior Vice President, Group Function Human **Resources and Organization** Torbjörn Nilsson Senior Vice President, Group Function Strategy and Product Management Henry Sténson Senior Vice President, Group Function Communications Joakim Westh Senior Vice President, Group Function Operational Excellence

Product Area

Ericsson is a major supplier in the telecommunications and data communications industry, offering advanced communications solutions for mobile and fixed networks, as well as consumer products. The company is believed to manage its operations in the following manner:

1. Systems

- 1.1 Mobile Systems
- 1.2 Multi-Service Networks
- 2. Phones

3. Other Business Operations

3.1 Ericsson Microwave Systems AB (sold 6/06)

Ericsson Microwave Systems AB is Ericsson's core company for microwave communications and defense electronics. The unit focuses on development and production of sensor systems. Notable products include the Erieye, Giraffe AMB, ARTHUR, and JAS 39 Gripen radar systems. This unit was sold to Saab in June 2006.

Facilities

Telefonaktiebolaget LM Ericsson, Torshamnsgatan 23, 16483, Stockholm, Sweden. Telephone: + 46 8 719 0000. Ericsson is headquartered in Stockholm at this address.

Ericsson Inc, North American Headquarters, 6300 Legacy Drive, Plano, TX 75024 USA. Telephone: +1 (972) 583 0000. This is Ericsson's United States representative office.

Web site: http://www.ericsson.com/US

Ericsson Microwave Systems AB, Solhusgatan (Gothenburg), 431 84, Mölndal, Sweden. Telephone: + 46 31 747 0000. This operation concentrates on Ericsson's defense programs. These include airborne

Corporate Overview

Ericsson is an international leader in telecommunications, recognized for its advanced systems and products for wired and mobile communications in public and private networks. In addition, Ericsson supplies defense electronics.

New Products and Services

GSM on Aircraft. In June 2005, Ericsson introduced its newly developed system GSM (Global System for Mobile communication) on Aircraft, allowing airplane passengers to use their mobile phones on board commercial aircrafts. Ericsson has developed an airborne version of the radio base station in the RBS 2000 family, the RBS 2708. The new radio base station offers Ericsson state-of-the-art quality and ease of operation. Its functionally is identical to terrestrial systems. For the traditional Ericsson customers – the telecom operators – the RBS 2708 will be "just another cell" in the network. An operator can manage this system just as they handle all other radio base stations. multimode radars, fire control radars, artillery locating radars, thermal imagers, laser rangefinders, and digital microwave radio links. The operation employs about 1,600. *Sold to Saab in June 2006*.

Web site: http://www.ericsson.com/microwave

Saab Ericsson Space AB, Delsjömotet, 40515 Göteborg, Sweden. Telephone: 46 31 735 00 00. Saab Ericsson Space AB was formed in 1992 by merging Saab Space AB with space activities within Ericsson Microwave Systems AB. Saab holds 60 percent of the stock; Ericsson holds 40 percent of the joint operation. *Sold to Saab in June 2006*.

Web site: http://www.space.se

The system offers up to 60 simultaneous calls and offers dual band support as an option.

MUOS. In March 2005, Ericsson signed an agreement with General Dynamics to supply WCDMA wireless equipment and telecom services in support of the U.S.Navy contract awarded to Lockheed Martin to build the Mobile User Objective System (MUOS). The multiyear agreement could be worth as much as \$200 million to Ericsson. MUOS is the U.S.Department of next-generation narrowband satellite-Defense's communications system that will provide simultaneous voice, video and data communication for U.S.Army, Air Force, Navy and Marine Corps troops. Ericsson will supply wideband code division multiple access (WCDMA) wireless equipment through a subcontract with General Dynamics C4 Systems, which is responsible for the ground segment communications on the MUOS program. In addition, Ericsson will provide telecommunications services to support network

deployment and integration, program management, and software development activities.

Network-Based Defense. In October 2003, Ericsson and Saab were selected by the Swedish Defense Materiel Administration to develop the foundation for the future Network-Based Defense system. The future defense solutions entail a fresh approach in the use of civilly developed technology, whereby new and existing defense systems are adapted and put together in an integrated defense solution. The Materiel Administration order encompasses developing rules for the design and technical specifications for how the system is to be constructed, a process that is scheduled to be complete by 2006. The project will be managed by the newly formed company Saab Ericsson Network Based Defense Innovation, jointly owned by Saab (60 percent) and Ericsson (40 percent). Partners collaborating in the project are IBM, which will contribute its experience in designing large, complex solutions based on information technology; and Boeing, which is a major player in the development of future defense systems in the USA. The architecture will make it possible for units of the Swedish Defense Forces to exchange information in order to operate together both nationally and internationally. It may also be possible to make use of the chosen solutions in network-based systems in other sectors of society.

Plant Expansion/Organization Update

Business Units Merged. In April 2002, Ericsson formed a new business unit by merging Mobile Systems with Multi-Service Networks. The new business unit is headed by Bert Nordberg.

Mergers/Acquisitions/Divestitures

Saab Acquires Ericsson Microwave Systems. In September 2006, Saab completed its acquisition of Ericsson Microwave Systems (EMW) and Ericsson's 40 percent share in Saab Ericsson Space in a deal valued at SEK3.8 billion (\$529 million). Ericsson Microwave Systems is a provider of radar, command and control systems for defense applications. Key products include the weapon locating system Arthur, the air surveillance system Giraffe, and the operational airborne surveillance system Erieye. EMW had sales of approximately SEK2.0 billion (\$274 million) in 2005 and employs 1,250 in Gothenburg, Sweden. With the acquisition complete, EMW will change its name to Saab Microwave Systems and become part of the Systems and Products business segment. Saab Ericsson Space is now called Saab Space. The deal was first announced in June 2006.

Saab Takes Control of Ericsson Saab Avionics. In June 2001, Saab gained control of the Ericsson Saab Avionics joint venture. Terms of the deal were not disclosed. The operation is now known as Saab Avionics.

Teaming/Competition/Joint Ventures

Ericsson GE Mobile Communications. Since 1990, Ericsson and General Electric are involved in a joint venture concerning mobile telecommunications systems dubbed Ericsson GE Mobile Communications. This U.S.-based company, owned jointly by Ericsson (60 percent) and General Electric (40 percent), focuses on digital mobile telephony and land mobile radio systems. Ericsson and General Electric opened a new development center in Research Triangle Park in Raleigh, North Carolina. This center concentrates on the technology for the development of digital mobile telephony and land mobile radios.

Ericsson Microsoft Mobile Venture AB. In September 2000, Ericsson and Microsoft launched Ericsson Microsoft Mobile Venture AB. This joint company will develop and market mobile e-mail solutions for operators. Ericsson Microsoft Mobile Venture AB is headquartered in Stockholm, Sweden, and will have regional centers around the world. Ulf Avrin from Ericsson is president of the company. Ericsson and Microsoft will hold a 70- and 30-percent share in the company, respectively. The company will develop solutions based on Ericsson and Microsoft products that enable mobile operators to offer easy-touse and secure mobile e-mail to both corporate and consumer customers. The solutions will include calendars, to-do lists, and other management tools. In addition, professional users will be provided with full mobile access to corporate data.

Ericsson Saab Avionics. In September 1996, Ericsson and Saab Aircraft formed a joint venture, Ericsson Saab Avionics AB. The venture incorporated Ericsson Microwave Systems operations in Kista and Linköping, the Saab Dynamics equipment division, and the Saab Military Aircraft unit. Ericsson Saab Avionics concentrates on electronic warfare, display, and surveillance systems and electromagnetic technology, according to the companies. Saab and Ericsson owned equal shares in the company. In June 2001, this operation became a wholly owned subsidiary of Saab, and is now known as simply Saab Avionics.

JAS Consortium. Ericsson Radar Electronics AB is part of the JAS Industry Group, a Swedish consortium involved in the development and production of the JAS 39 Gripen fighter. Ericsson has many systems

specifically designed for this multirole aircraft (PS-05A Radar, CRT Head-Down Display, SDS 80 Computer, Erijammer 300, and JAS 39 HUD).

Raytheon. In June 2001, Ericsson Microwave Systems signed an agreement with Raytheon on the development of an active electrically scanned array (AESA) antenna system. Ericsson Microwave Systems is under contract from the Swedish Defense Materiel Administration (FMV) to develop, manufacture, and evaluate a full-scale AESA radar system demonstrator for a future upgrade of the Gripen system. The cooperation is seen as a major step for the two companies toward future collaborations.

Saab Ericsson Network-Based Defense Innovation. This is a joint venture owned by Saab (60 percent) and Ericsson (40 percent). The venture was selected by the Swedish Defense Materiel Administration in October 2003 to develop the foundation for Sweden's future Network-Based Defense initiative.

Saab Ericsson Space AB. Saab Space AB merged with parts of Ericsson Radar Electronics AB in October 1991 to form a new joint venture company known as Saab Ericsson Space AB. Saab Ericsson Space AB operations are broken down into three different product areas: avionics and airborne electronics; mobile defense systems; and microwave and satellite communications. Saab acquired Ericsson's stake in this venture in 2006.

Sony Ericsson Mobile Communications. In October 2001, Sony Ericsson Mobile Communications, the joint venture between Telefonaktiebolaget LM Ericsson and Sony Corporation, began operations, following final approvals from the European Commission and other regulatory authorities. The new company is aiming to become the No. 1 player in mobile multimedia products within five years. On August 28, Telefonaktiebolaget LM Ericsson and Sony Corporation signed an agreement to set up Sony Ericsson Mobile Communications as an equally owned joint venture. The president of Sony Ericsson Mobile Communications is Katsumi Ihara, and the executive vice president and head of sales and marketing is Jan Wäreby. The company's management is based in London; it has 3,500 employees across the globe working on research, development, design, sales, marketing, distribution, and support.

Web site: www.sonyericssonmobile.com

Financial Results/Corporate Statistics

Ericsson's net sales in 2005 amounted to SEK151.8 billion, up 15 percent from 2004 sales of SEK132.0 billion. The company posted net income of SEK24.5 billion compared to SEK19.0 billion for 2004. Markets outside Sweden accounted for more than 90 percent of the sales. Historical financial figures for the company are presented below. U.S.dollar figures, in millions, are translated as of December 31, 2005, at the rate of USD1 = SEK7.96235

Y/E December 31	2001	2002	2003	2004	2005	2005
(SEK millions)						USD
Net Sales	231,839	145,773	117,738	131,972	151,821	19,067
Net Income	-21,264	-19,013	-10,844	19,024	24,460	3,072
R&D Expenditures	46,640	33,455	28,553	23,421	24,454	3,071



Strategic Outlook

As expected, LM Ericsson has divested it last major defense operation, Ericsson Microwave Systems, to long-time defense industry partner Saab.

Over the past few years, the company's defense operations have been facing a dwindling and highly competitive market. In order to adapt to the shrinking Swedish defense spending, the defense systems business initiated a complete restructuring to remain viable.

At first, Ericsson was content to join other defense contractors in joint ventures such as Kongsberg Ericsson Communications, Saab Ericsson Avionics, and Saab Ericsson Space. However, as the downturn dragged on and competition increased from newly consolidated defense giants such as Thales, BAE Systems, and EADS, the company began to divest its interest in these operations. During this time, the company has sold its stake in Kongsberg Ericsson Communications to partner Kongsberg, and its stake in Saab Ericsson Avionics to Saab. Further adding to the

Prime Award Summary

Unavailable

speculation that the defense operations would be sold was that these sectors were placed outside the company's structure. This placement would make them easier to sell when the time arose.

In June 2006, the time arrived and Saab purchased Ericsson's remaining defense and aerospace operations. The addition of Ericsson Microwave not only increases Saab's position as the predominant defense corporation in the Nordic region, but it also provides the firm with advanced radar and sensor systems programs with strong long-term prospects.

Further, as part of the deal, Saab acquired Ericsson's stake in their joint venture, Saab Ericsson Space. This part of the transaction is expected to consolidate Saab's position as Europe's largest subcontractor for commercial satellites.

With the sale of these operations complete as of September 2006, this report will be archived.

Program Activity

Business Interests. Some important aerospace and government programs currently under way at Ericsson 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 are the company's business interests:

- Telecommunications
- Defense electronics
- Space systems

Electronic Programs

These programs are now owned by Saab Microwave Systems following Saab's 2006 acquisition of Ericsson Microwave Systems.

ARTHUR

ARTHUR (Artillery Hunting Radar) is a mobile weapon locating and fire control radar. The system is used for locating enemy artillery from behind the friendly front line. The system's mobility allows frequent moves from one location to another without being detected by the enemy. This system will offer automatic detection, location, and classification capabilities that will not interfere with barrage firing performance. ARTHUR is installed on a movable land vehicle platform. The initial orders for Sweden and Norway used the Hägglunds BV206 articulated tracked all-terrain vehicle (ATV). The Danish order specifies a lighter-duty wheeled ATV. The most recent sale was made to the United Kingdom for four systems to fulfill requirements for its Mobile Artillery Monitoring Battlefield Radar (MAMBA). Nine systems are reportedly needed to fulfill this requirement. The contract for the first four U.K.ARTHUR systems has an option for four additional units. A new variant of the ARTHUR system, the Mod B, was introduced in 2004, and Ericsson immediately chalked up an \$80 million sale for three of these systems to Czech Republic.

Erieye

Erieye is an airborne early warning and control (AEW&C) system manufactured by Ericsson Microwave Systems. The foundation of the system is active phased-array pulse-Doppler radar. Erieye meets full AEW&C requirements for detecting and tracking targets at ranges of up to 450 kilometers over land or water. The PS.890 radar (Royal Swedish Air Force designation for Erieye) will equip the Swedish Air Force's SAAB-340 AEW aircraft. Other platforms include the Fokker 50 Kingbird 2E, the V-22 Osprey, and the Fairchild Metro-III. This system is in production and operational service.

Giraffe

The Giraffe family of radar has probably been the most successful defense system for Ericsson. Giraffe is a family of mobile search pulse-Doppler radar systems for medium-range surveillance in the air defense environment. The system is mounted in a self-contained cabin that can be vehicle-mounted or freestanding. The antenna is mounted on a hydraulic mast that folds flat for transportation and raised for deployment. The five major variants of the system are the Giraffe 40, Giraffe 50AT, Giraffe 75 (or AD), Giraffe 100, and Coastal Giraffe. Each variant offers different capabilities to meet various local needs and potential threat environments. In 2002, Ericsson Microwave Systems began development of a new variant of Giraffe, currently known as Giraffe Mk VI. The development is part of the 2000 Swedish Army contract for eight Giraffe AMB radar systems. The improvements will include advanced signal processing and an open architecture. The Swedish Army is also introducing a greater commonality among the various types of Giraffe AMB systems it has ordered. The land-based Giraffe system suffered a blow in the fall of 2004, when Ericsson Microwave Systems lost a bid to supply the Royal Netherlands Army with three systems.

HARD

The HARD (Helicopter and Airplane Radar Detection) system is a 3-D, frequency agile, pulse-Doppler, X-band search-and-acquisition radar for use by land and naval air defense systems. The HARD is ideally suited for vehicle mounting with self-propelled anti-aircraft gun or mobile SAM applications. The Swedish Army is mounting the HARD on the BV 208 all-terrain vehicle by Hägglunds. This radar system is optimized for the detection of helicopters and low-level air threats.

PS-05/A

This is a multimode, pulse-Doppler radar for the JAS 39 Gripen. In the air-to-air role, the PS-05/A radar will perform long-range search and multi-target track-while-scan; short range, wide-angle quick scan; and weapons system control. The air-to-ground functions will include sea and ground target search, ground mapping, and missile fire control. PS-05/A will be capable of multiple target track-while-scan, prioritization, and fixed target suppression.

Gripen to South Africa. In December 1999, the South African government confirmed its order for Hawk and Gripen aircraft at a contract-signing ceremony in Pretoria, South Africa. The contract called for 24 Hawk 100 lead-in fighter trainers and 28 Gripen advanced light fighters. In turn, Ericsson Microwave Systems AB, as the supplier of aviation radar for the Gripen, will provide radar systems and avionics valued at several hundred million Swedish crowns. Deliveries will encompass the PS/05 radar system and computers for other onboard applications. Ericsson Microwave Systems will also participate in industrial cooperation as stipulated by the contract. Ericsson Microwave Systems will be working closely with the South African defense electronics firm Avitronics, with Avitronics manufacturing portions of the radar system in South Africa.

Sea Giraffe

This is a G-band pulse-Doppler medium-range surveillance radar for naval use. The Sea Giraffe family of naval search radar systems was developed to provide small warships with a sophisticated radar capability using a low-weight/space multipurpose system. Ericsson Microwave Systems is the system designer and prime contractor.

Space System Programs

These programs are now owned by Saab Space following Saab's 2006 acquisition of Ericsson's stake in Saab Ericsson Space.

Atlas Launch Vehicles

Atlas is a family of medium- to heavy-lift, expendable launch vehicles manufactured by Lockheed Martin. Saab Ericsson Space produces payload separation systems and low-shock separation systems for these vehicles.

COSMO-Skymed/Pleiades

This is an international dual-use civil/military constellation of four COSMO-Skymed low-Earth-orbiting radar satellites and two Pleiades remote sensing satellites as part of Orfeo, the planned Franco-Italian optical radar surveillance system. Saab Ericsson Space is providing the command and data handling system for these satellites.

ESA Polar Platform

The European Space Agency (ESA) Polar Platform program is developing a series of Earth resources satellites. Astrium is the prime contractor for Metop spacecraft. The company will also develop the payload module and ASCAT radar. Additional contractors include Alcatel Space (infrared atmospheric sounding interferometer) and Saab Ericsson (radar and image transmission antennas and GRAS radiometer). Alcatel is also providing the ground segment of the program. Officine Galileo BU Spazio, a unit of Alenia Difesa-Avionics, will build the GOME payloads. Starsem, which markets the Soyuz ST, is the launch service provider.

Eutelsat

Eutelsat is a European commercial communications satellite system that provides regional telecommunications in Europe, including full-time transponder leases, telephony, occasional TV, VSAT, and landmobile communications by way of the Euteltracs system. The prime contractor for the Eutelsat 2 satellite (Spacebus 2000 bus) is Astrium. Additional contractors include Alenia (Italy), Alcatel-Espace (France), CASA (Spain), Ericsson Radio Systems (Sweden), ETCA (Belgium), Marconi Space Systems (U.K.), DASA (Germany), and Crouzet (France).

Evolved Expendable Launch Vehicle

The Evolved Expendable Launch Vehicle (EELV) is a class of rocket for medium and heavy military payloads. Boeing Company, Huntington Beach, California, and Lockheed Martin Astronautics, Denver, Colorado, are involved in EELV engineering and manufacturing development. Saab Ericsson Space is providing the Lockheed Martin version with its low shock separation system.

Inmarsat

The Inmarsat system is a constellation of telecommunications satellites. Inmarsat 2 satellites were built by British Aerospace, United Kingdom. Additional contractors included Hughes Aircraft Company of the United States, Matra of France, Fokker of the Netherlands, Spar of Canada, NEC of Japan, and MBB of Germany. Inmarsat 3 satellites are produced by Lockheed Martin Corp, Sunnyvale, California, with Matra Marconi Space providing the communications Hughes Space & Communications, Los payload. Angeles, is supplying ICO satellites. NEC, along with Hughes Network Systems and Ericsson, will provide 12 satellite access nodes (SANs), a network management center, and the public switched network SANs links. The system is currently operational.

Rosetta

Rosetta is a mission to rendezvous with Comet 46 P/ Wirtanen. Astrium is the Rosetta spacecraft prime contractor and is responsible for the manufacture of the fuel tanks and attitude control system. Saab Ericsson Space is producing the high-gain antenna and datahandling and solid-state memory systems. Rendezvous with Comet Wirtanen is planned for November 2011.

SAR Lupe

SAR Lupe (Synthetic Aperture Radar Magnifier) is a military reconnaissance satellite program. SAR Lupe satellites will provide all-weather, continuous satellite imagery to the German military. OHB-System GmbH, Bremen, Germany, is the prime contractor. Additional contractors include Alcatel Space, Toulouse, France; TESAT, Backnang, Germany; Carlo Gavazzi Space, Milan, Italy; Saab Ericsson, Göteborg, Sweden; OHB Teledata, Bremen, Germany; RST (Radar System Company), Salem, Germany; and EADS Dornier, Friedrichshafen, Germany. System launch began in 2005.

Spacebus Series

Spacebus is a family of communications satellite models intended for use in telephone/data communications and direct broadcast television. The prime contractor for the Eutelsat II, Arabsat 2, and Turksat satellites (based on the Spacebus 2000 and Spacebus 3000 buses) is Aerospatiale. Additional contractors include Alenia Spazio (Italy), Alcatel-Espace, CASA (Spain), Ericsson Radio Systems (Sweden), ETCA, DBA, Crouzet (France), and Tecstar Inc (United States).

Swedish Science Spacecraft

Swedish science spacecraft are small platforms designed for a variety of missions. Saab Ericsson Space produced mass memory for the Astrid-1 program and the flight structure for the Odin spacecraft.

Tele-X/Sirius

Tele-X is an experimental/pre-operational telecommunications satellite for direct TV broadcasting and new specialized data and video services. The satellite provides the baseline for a fully operational satellite network for the Nordic countries by way of the Nordic Telecommunications Satellite Organization (Notelsat). Eurosatellite GmbH is the overall prime contractor, with Ericsson providing the communications payload, the electrical part of antenna, RX reflectors, and the tracking receiver for precision beam pointing. Saab Ericsson Space provided the antennas and data management for the Sirius 2 program.

Topex/Poseidon

Topex/Poseidon is an Earth observation satellite. Topex/Poseidon was launched on an Ariane 42P expendable launch vehicle in 1992. Centre Nationale d'Etudes Spatiales selected Alcatel Space in 1996 to build the Topex/Poseidon follow-on, called Jason-1. Saab Ericsson Space is developing the data-handling unit and S-band antennas for Jason-1.

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