

Chip design in Swedish industry

This list started as an idle lunchtime discussion: how many companies in Swedish industry actually do integrated-circuit design these days? We came up with a few, then mentioned the topic to some friends who contributed a few more... Next, the list took on a historical tint with a large number of entries sent in by some folks with long memories...

We would like to make this list complete! That is: we would like *all* companies, past and present, with integrated-circuit design activities in Sweden to be listed here. If you notice that, say, one of your previous employers is missing, please send info to the webmaster. Additional information about companies already on the list is also welcome, especially for those with no web page. (Please don't divulge business secrets. Also, please note the [disclaimer](#).)

[4Real](#)

Design consultants listing digital ASICs and SoCs among their competences.

[ABB](#)

Power generation and distribution; industrial automation.

Abscondenda/Tegenda

Analog image processing for sensor fusion.

[Abelko Innovation](#)

Design consultants, listing analog and mixed-signal ASICs among their competences.

[Acreo](#)

Contract Research and Development in optics and microelectronics. Acreo spawned [Wavebreaker](#) and the [VIA Technologies](#) design office in Lund.

[ADMS Design AB](#)

IC design consultants with focus on A/D-D/A converters and mixed-signal design.

[AerotechTelub](#)

Technical services and customer-adapted system solutions in information technology, electronics, and aviation; mainly for defence, government and public authorities. Now a part of the Saab group.

[Anoto](#)

The Anoto Group (including C Technologies) designs and markets innovative products which combine pen and paper with digital technology.

[AnSyn](#)

AnSyn offers proprietary tools and design services for optimization of analog monolithic circuits. Started in 2006, based on a research project at Linköping University.

ASEA HAFO

Started out as Institutet för Halvledarforskning (HAFO). Became part of ASEA in 1980 and of [ABB](#) in 1991. Sold to Mitel/[Zarlink](#) in 1996.



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[The List!](#)



HAFO is famous among older Swedish University designers who fondly recall their then-advanced technologies, such as a 4-micron metal-gate process (first half of 1980s) and a Silicon-on-Sapphire process which was eventually scaled down to 1.25 micron. These technologies were among the first to be made available for University work in Sweden.

[Autoliv](#)

Automotive security systems, including airbags and sensors for these.

Avancerade Logikmaskiner (ALM)

On-chip oscillators based on delay lines. This Linköping-based company folded in 2002 due to lack of capital (a fate shared by many high-tech startups at that time).

[Axis Communications](#)

Suppliers of network cameras and other network products. Proprietary processor cores since early 1990s.

[BitSim](#)

Chip design consultants, specializing in high-speed digital design and systems-on-chip.

BlueLabs

Engineering design consultants, specializing in design, test, and integration of embedded systems. Originally a subsidiary of the engineering company Frontec, BlueLabs was sold to [Flextronics](#) in 2002.

Bofors

Missiles and artillery systems and other military equipment. The company is now a part of [Saab Bofors Dynamics](#).

[Cambridge Silicon Radio](#)

Bluetooth and Wireless-LAN silicon. A design office was started in Lund in 2005, employing some engineers who became available when [Ericsson](#) closed down the Bluetooth design activities there. Has since grown to about 30 employees (2007).

[Catena Wireless Electronics](#)

Chip design consultants, specializing in analog and RF design. The Swedish branch is in Kista.

CelsiusTech (formerly NobelTech)

Military systems. Company acquired by [Saab Bofors Dynamics](#).

[Combitech Systems](#)

Embedded-design consultants, offering digital-asic design services. Part of the Saab Group.

[Coresonic](#)

Founded in 2004, the company aims to commercialize a baseband-processor architecture developed at Linköping University by Prof. Dake Liu (of [Freehand](#) fame) and co-workers.

[Cypak](#)

Paperboard computers, RFID technology, and other innovative products.

[D-Flow](#)

System solutions for gas-flow and liquid-flow measurements.

[DiBCOM](#)

French company with offices in Kista developing baseband DVB-H ASICs.

[DigitalVision](#)

Provides products and system solutions for image processing, image compression, and distribution of digital media content.

[Dyno Nobel](#)

Explosives and equipment for using same.

[Electrolux](#)

Kitchen, cleaning, and outdoor appliances.

Ellemtel

Development company co-owned by Ericsson and the Swedish Telecommunications Authority (Televerket). Much of the development of the Ericsson AXE telephone exchange systems was carried out here. (Ellemtel was later absorbed into [Ericsson](#).)

[Ericsson](#)

The telecommunication giant was probably involved in the design of integrated circuits already when Honken was the goalkeeper of the Swedish National Ice Hockey team, and is still very active in the field. Over the years, several reorganizations have resulted in different constellations of business entities; we have not (yet?) tried to collect a complete list of Ericsson company names for this page. Anyone?

[Flextronics](#)

Multinational engineering consultants with branches in Göteborg, Kalmar, Karlskrona, Linköping, Malmö, Stockholm and Västerås.

[Fingerprint Cards](#)

Fingerprint sensors and systems built around them. The company came close to shutting down in mid-2005, but [Technoimagia Co. Ltd](#) of Japan emerged as a new investor.

[Firstpass Semiconductor AB](#)

IP licensing for wireless cores. Arose from the ashes of [Spirea](#). Specializing in Bluetooth and wireless LAN.

Freehand DSP AB

Special-purpose signal-processor cores. Started in 2000, the company was acquired by [VIA Technologies](#) in 2002. (The [old Freehand URL](#) is no longer valid.)

[Gaisler Research](#)

Microprocessors and other IP cores with special emphasis on dependability. For space and other demanding application areas.

[Huawei Technologies Sweden AB](#) (formerly Atelier Telecom)

Leading-edge telecommunications-equipment design, especially UMTS and related technologies.

[Imego](#)

Customer specific micro-sensor systems within the fields of MEMS,

biotechnology, magnetism and optics.

[Impsys](#)

Digital security, encryption/decryption, etc.

[Imsys](#)

Microprocessors optimized for Java-based embedded designs.

[Infineon Technologies Sweden AB](#)

Semiconductor manufacturer (memories, automotive, communications). The Swedish site developed chips for Bluetooth, GPS and cellular base stations. (Formerly [Ericsson](#) Microelectronics, which was acquired by Infineon in 2002. The chip fab in Kista shut down in Aug -04. The R+D activities were moved to Germany and Asia in the summer of 2007; the Linköping office was taken over by [Signal Processing Devices AB](#).)

[InformAsic](#)

Security products, encryption, custom core development.

[IVP](#)

Sensor systems for high-speed 3D machine vision. (Since 2003, Integrated Vision Products is a subsidiary of the German company SICK AG.)

[Kapsch Trafficcom](#) (Formerly Combitech Traffic Systems)

Traffic control systems for toll roads and bridges.

[Kisel Microelectronics](#)

Design services focused on integrated RF transceivers. Founded in 1999 (as BlueChip IC Design AB) by a group of senior Ericsson designers. Acquired by the American company [SiRF Technology](#) in 2005.

[Lab.gruppen](#)

Designers and manufacturers of audio equipment, mainly for public-address systems.

LGP Allgon

Suppliers of antenna systems and microwave transceivers. (The company was acquired by [Powerwave Technologies](#) in 2004.)

[Mecel AB](#)

Consultants primarily working with automotive electronics. Previously part of the SAAB group; now owned by Delco Electronics Inc (a General Motors company).

[Nanoradio AB](#)

The company, founded in 2004, seeks to provide wireless access semiconductors for handheld mobile equipment. According to an article in Elektroniktidningen, Nanoradio's initial focus is on low-power WLAN (802.11) modules, intended to compete with Bluetooth. The company is part of the [Wireless Experience Group](#) together with General RF Modules AB.

[Net Insight](#)

SDH/Sonet infrastructure products.

[Nokia](#)

Not only the cellular phones, but telecommunication equipment in

general.

[Northlight Optronics](#)

Optoelectronic equipment for multi-Gbps transmission.

[OmniSys](#)

Telecom and instrumentation equipment for satellites.

[Omicron Ceti](#)

Design consultants, offering digital-ASIC design among other specialties in embedded systems.

[Optillion](#)

Fiber-optic Ethernet transceivers for 10Gbit/s and beyond. Founded in 1999, the company went out of business in the beginning of 2005, when the expected volume market for 10GE failed to materialize soon enough.

[ORSoC](#)

Embedded hardware development within SoC design.

[Peltor](#)

Products for hearing protection and communication in noisy environments.

[Proventek](#)

Design consultants listing digital-ASIC design among their competences.

[Realfast](#)

Design consultants listing digital-ASIC design among their competences.

[Saab Bofors Dynamics](#)

Military equipment: missile, infantry, and naval systems.

[Saab Space](#)

Digital and microwave equipment for space applications. Formerly Saab Ericsson Space, the company is now wholly owned by the Saab group.

[Sectra AB](#)

Products with extra security requirements, such as strong-encryption cellphones and medical equipment.

[Semcon](#)

Engineering consultants with broad competence profile, including ASIC design.

[Senea](#)

Senea develops and supplies systems for remote meter reading. Now owned by the Danish company [Kamstrup](#).

[ShortLink](#)

Short-distance wireless communication; general mixed-mode ASIC design (through subsidiary EHS).

[SiCon](#)

CMOS analog and mixed-signal development. High-speed digital, ADC/DAC.

[Signal Processing Devices AB](#)

Digital algorithms for improving speed and resolution of A/D converters, and products based on same. Founded in 2004, SP Devices is grounded in Linköping University research. In 2007, the company took over the Linköping R+D branch of Infineon when Infineon closed down R+D in Sweden.

[Silex Microsystems](#)

MEMS chips and systems.

[Silinova](#)

Engineering consultants focusing on ASIC solutions.

[Sitek Electro Optics](#)

Designs, manufactures, and sells state-of-the-art position sensing detectors.

[Spirea](#)

CMOS RF chips for Bluetooth and for IEEE 802.11a/b/g. Started in 2000, the company went out of business in 2004; the intellectual property passed to [Firstpass Semiconductor AB](#).

[St. Jude Medical](#)

Medical products, most prominently pacemakers.

[STT Care](#)

Developers of safety systems for the elderly.

[Svenska Grindmatriser \(SGA\)](#)

Fabless Semiconductor Manufacturer. Mixed-signal and analog ASICs for industrial, telecom, automotive, and military products.

[Swedish Space Corporation](#) (Rymdbolaget)

Design, launch, and operation of space systems.

[SwitchCore](#)

Fabless Semiconductor Manufacturer, developing switch chips for high-speed networks. The company halted development of the next-generation switch in the summer of 2007 due to financial difficulties.

[Thin Film Electronics](#)

The company, a subsidiary of Norwegian [Opticom ASA](#), develops organic memory technology. Early collaborators included [Intel](#).

[VIA Technologies](#)

VIA acquired [Freehand DSP AB](#) in 2002. Also, a VIA design subsidiary in Lund focused on wireless technologies, before being closed down in 2003 as a result of the general downturn in the technology market.

[Viking Telecom](#)

Innovative uses of telecom infrastructure.

[Volvo Cars](#)

Builder of cars and light trucks. Now a subsidiary of Ford Motor Co.

[Volvo](#)

Trucks and buses; construction equipment; yacht engines; aircraft

engines and space propulsion.

Wavebreaker

Wavebreaker developed silicon IP for emerging wireless systems. The company itself emerged from [Acreo](#) in 2004, and was acquired by [Flextronics](#) in 2005.

[Xelerated](#)

Fabless Semiconductor Manufacturer, developing switch chips for high-speed networks.

[Zarlink](#)

Analog, telecom, and medical products. The Swedish design centre is in Järfälla; the facility used to house [ASEA HAFO](#), part of what became [ABB](#) when ASEA merged with Brown Boveri. Zarlink bought the Järfälla operation in 1996 and presently carries out opto and photonics work there.

Very Important Disclaimer: Don't use this list for anything important! It is partially based on recollections of long-gone events, which may well turn out to be inaccurate. We take no responsibility for the veracity of the information on this page. (Nevertheless, corrections are gratefully accepted by email to the webmaster.)

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