



Leading-Edge Technology ... Innovative Products ... Creative Solutions

COMPANY BACKGROUND

History:

Irvine Sensors Corporation (www.irvine-sensors.com) is the inventor of three-dimensional (3D) semiconductors, the SIRComm® technology used for wireless infrared (IR) communications, the Three-dimensional Artificial Neural Network (3DANNTM) technology for high speed image processing and the enabling technology for the SuperRouter™ development, and the Neo-Stack™ technology (computers-in-cubes) for embedded systems. Founded in 1980, the company pioneered the development of advanced signal processing and image stabilization technologies for focal planes. Today, Irvine Sensors continues to develop advanced technologies for 3D stacked integrated circuits (ICs), flexible circuits, embedded systems, miniature cameras, wearable bio-monitors, smart sensors, image processing and recognition, low-power analog and mixed signal ICs, electronic image stabilization and enhancement software, IR and general signal processing, high density interconnections, and photonics communications. The company holds over 60 U.S. and foreign patents. *Irvine Sensors* is a registered ISO 9001 company and a qualified member of the Electronics Quality Registry (EQR), an industry seal of excellence provided exclusively by The National Registry to eligible companies.

Financial:

Irvine Sensors has been publicly held since Fall 1982. The company's stock trades on NASDAQ: IRSN and the Boston Stock Exchange: ISC.

Business Units:

The Advanced Technology Division (ATD) is *Irvine Sensors'* core business and "product engine". This unit is responsible for the research and development of the company's advanced technologies and products. These include: 3D high-density semiconductors (stacked product lines and systems-in-cubes); miniature cameras; flexible circuits; embedded systems; wearable bio-monitors; photonics communication; high-speed, real-time image processing and human-level recognition; smart sensors; infrared and general signal processing; optical and high density interconnections; and image stabilization for electronic systems.

The Microelectronics Products Division (MPD) is the manufacturing arm of Irvine Sensors. Established in 1997 to broaden the company's stacked product lines, MPD is focused on 3D microelectronics, using several proprietary IC-stacking technologies to dramatically reduce PCB area. Customer-driven, MPD develops products that are customer- or application-specific, and cost-effective. The division serves a broad market, offering a full spectrum of pricing options. MPD's products can be used for diverse systems applications. These include computer electronics (servers, PCMCIA and "smart" cards, VME boards; portable electronics (laptops, hand-held computers, cellular phones, and wearable computers); military and avionics (missiles, fighter aircraft, MCMs); and space (satellites, data recorders).

Subsidiaries:



Wireless Solutions for Today and Tomorrow

Novalog, Inc. (www.novalog.com) was founded in 1995 and is a subsidiary of *Irvine Sensors Corporation*. The Company designs and manufactures low power analog and mixed signal-circuitry wireless IR communications products, with a focus on IrDA® applications. The award-winning SIRComm® SIR2 receiver enables point-to-point wireless IR data transfer between computers, peripherals and other electronic devices with compatible ports. Compliant with the IrDA® 1.0 standard, modules and chips have been shipped to a diverse group of OEMs worldwide. SIR2 is a 1996 Laser Focus World Commercial Technology Achievement award winner. Novalog also sells the MiniSIR® IrDA Transceiver Modules and the SIRte™ IrDA Transceiver Modules for cellular phones and pagers. MiniSIR2 was named an EE Product News 1998 100 Products of the Year as the Top Analog IC Product. Novalog is a registered ISO 9001 company and a qualified member of the Electronics Quality Registry (EQR), an industry seal of excellence provided exclusively by The National Registry to eligible companies.



Innovative Sensing Solutions for a World in Motion

MicroSensors, Inc. (www.microsensors.com) is focused on designing, developing and producing micromachined sensors and sensor readout circuits for MEMS applications. Founded in 1997 as a subsidiary of Irvine Sensors Corporation, the company is responsible for the Silicon MicroRing Gyro™ for motion sensing and inertial navigation (including GPS) and the Universal Capacitive Readout™ ASIC for interfacing and controlling a variety of MEMS devices. The company also provides design services for MEMS devices, mixed-signal and analog circuits, precision readout interfaces, and low-power, low-noise integrated circuits. MicroSensors is a registered ISO 9001 company and a qualified member of the Electronics Quality Registry (EQR), an industry seal of excellence provided exclusively by The National Registry to eligible companies.



Framing Video Memories

RedHawk Vision, Inc. (www.redhawkvision.com) is a subsidiary of *Irvine Sensors Corporation* founded in 2000. Originally, it was formed as a business unit in 1999 to exploit Irvine Sensors' proprietary imaging technologies and software for the digital enhancement of video data and extraction of high quality images from any video source, including personal camcorders, the Internet and broadcast media. Originally developed by Irvine Sensors for NASA and the U.S. Air Force, Red Hawk Vision's patented software processes information content from *multiple* frames of video, reduces noise, and enhances the image color, detail and resolution of any selected frame. The company's initial product, Video Pics™, is a plug-in for Adobe® Premiere®, and permits video professionals to extract and produce high quality images, including photographs suitable for framing from any video source. "RedHawked™" images are designed to save the professional time and money, allowing existing video footage the same usefulness as 35mm images generated during photo shoots. Available in both Macintosh® and Windows® versions, Video Pics generates 3+ mega pixel digital files that are compatible with image editing software, which may be used to produce high resolution images for print work or low resolution images for the Internet and other electronic media. Video Pics increases the utility and ROI of video assets, enabling them to become multimedia with unlimited potential.



iNetWorks Corporation (www.inetworkscorp.com) is a subsidiary of *Irvine Sensors Corporation* founded in 2000. The company is focused on commercializing Irvine Sensors' proprietary technology for high-speed telecommunications and Internet routers, including the SuperRouter™. NetWorks' planned products will address the ever-increasing need for network speed and throughput by using Irvine Sensors' patented chip stacking and interconnect structures to package router switch electronics into a space comparable to the size of a fiber optics data cable. This design approach is expected to result in offering advantages in terms of router size, power, operational flexibility and economics, and is an outgrowth of the "Silicon Brain TM" initiative that Irvine Sensors has been developing for several years through its own funding and various U.S. Government-funded R&D programs. The commercialization of this development was focused in February 2000 with the award of an R&D contract to Irvine Sensors specifically targeted toward a "super switch" application.

Awards:

Memory Short Stack: 1993 NASA Tech Briefs Technology Innovation Award and 1994 R&D 100 Award; SIRComm SIR2: 1996 Laser Focus World Commercial Technology Achievement Award; MiniSIR2: Top Analog IC Product, EE Product News 1998 Top 100 Products of the Year; Irvine Sensors Corporation: Technology Utilization Foundation Sensors/Instrumentation 1999 SBIR Technology of the Year Award.

Affiliations:

IEEE (The Institute of Electrical and Electronics Engineers), AEA (American Electronics Association), EIA (Electronics Industry Association), JEDEC (EIA's Joint Electron Device Engineering Council), SPIE (The International Society for Optical Engineering), IMAPS (International Microelectronics and Packaging Society), IrDA (Infrared Data Association), and The National Registry.

Executive Management Team:

Mel R. Brashears, Chairman

Robert G. Richards, Director and Chief Executive Officer

John C. Carson, Director, President, Chief Operating Officer, and Chief Technical Officer

John J. Stuart, Jr., Sr. Vice President and Chief Financial Officer

Mel R. Brashears, Chairman and Chief Executive Officer, iNetworks Corporation

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