

## ***Silicon Strategies' 60 emerging start-ups***

### Silicon Strategies

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In the best of times and in the worst of times, it is difficult to spot the *top* emerging start-ups in the semiconductor and related industries. There is always a gaggle of new and interesting start-up companies that are developing breakthrough technologies and products.

However, despite the difficulties, *Silicon Strategies* has devised its own list of 60 emerging start-ups to watch (**see below for list**).

In what we call "***Silicon Strategies' 60 Emerging Start-ups***" editors from the online site have selected companies based on a mix of financial position, investors, markets, and technology. The start-ups on our list are the ones that made an impression and are involved in the IC, MEMS, fab equipment, packaging and foundry sectors.

Readers are welcome to provide comment and even nominate their own emerging start-ups for a subsequent iteration of the "***Silicon Strategies' 60 Emerging Start-ups***" list. Nominations should be accompanied by a short citation in favor of the company concerned. Send comments and nominations to *Silicon Strategies* Editor Mark LaPedus (mlapedus@cmp.com) and News Director Peter Clarke (pclarke@cmp.com).

### **"*Silicon Strategies' 60 Emerging Start-ups*"**

**Adiabatic Logic Ltd.** (Cambridge, England), focused on creating and licensing intellectual property (IP) in the low-power technology area. The company has developed an Intelligent Output Driver (IOD), which it claims can deliver up to 75 percent power savings in chip I/O. <http://www.adiabaticlogic.com/>

**Akustica Inc.** (Pittsburgh) Makes audio MEMS based on the ability to form miniature components using silicon membranes. <http://www.akustica.com/>

**Alereon Inc.** (Austin, Texas), a fabless semiconductor company seeking to compete in the ultra wideband (UWB) market, raised \$31.5 million in first round funding announced January 2004. <http://www.alereon.com/>

**Alphamosaic Ltd.** (Cambridge, England) has developed its Videocore processor aimed at multimedia application processing on mobile phones and achieved a design-win with Samsung. <http://www.alphamosaic.com/>

**American Semiconductor Inc.** (Boise, Idaho) A pure-play foundry for wafer fabrication and advanced process development. The company was founded in November 2001 and provides SOI foundry services. <http://www.americansemi.com/>

**Angstrom Systems Inc.** (Santa Clara, Calif.) is developing atomic layer deposition equipment for semiconductor manufacturing. <http://www.angstrom.com/>

**Arithmatica Inc.** (Redwood City, Calif.) develops IP libraries based on proprietary math circuitry. <http://www.arithmatica.com/>

**Artimi Ltd.** (Cambridge, England), a fabless semiconductor company developing UWB chips, has taken delivery of first silicon from its foundry. <http://www.artimi.com/>

**Axon Technologies Corp.** (Scottsdale, Arizona) Arizona State University spin-off with a programmable metallization memory technology. <http://www.axontc.com/>

**Cornice Inc.** (Longmont, Colorado), a start-up developing miniature disk recording modules for portable consumer electronics, secured \$51 million in a second round of venture financing in February 2004. <http://www.cornice.com/>

**CriticalBlue Ltd.** (Edinburgh, Scotland) EDA and IP for hardware acceleration, co-processing. <http://www.criticalblue.com/>

**Discera Inc.** (Campbell, California), a fabless developer of a micro-resonators using microelectromechanical systems technology, has received \$12 million in series B funding. <http://www.discera.com/>

**Dust Inc.** (Berkeley, California) is developing wireless, communicating mote-like sensor networks. Obtained funding from the CIA. <http://www.dust-inc.com/>

**Elixent Ltd.** (Bristol, England) Reconfigurable parallel processing fabric. Deal to combine technology with Toshiba's MeP multimedia processor. <http://www.elixent.com/>

**Fab Solutions Co. Ltd.** (Kanagawa, Japan) Fab Solutions was established in February 2002 as a spin-off from NEC and markets an electron beam metrology system. <http://www.fabsol.com/>

**Fulcrum Microsystems Inc.** (Calabash, California) asynchronous processors and switching fabric. Latest in a series of companies that has tried to make a success of clock-less logic. <http://www.fulcrummicro.com/>

**Icera Semiconductor Ltd.** (Bristol, Cambridge, England) is DSP for 3G company founded by, amongst others, the founder of Element14 Ltd., which was eventually sold to Broadcom Corp. <http://www.icerasemi.com/>

**Ikanos Communications Inc.** (Fremont, Calif.), a developer of chips for VDSL applications that has received investment from Intel Capital and TSMC amongst others. <http://www.ikanos.com/>

**Innovative Silicon Inc.** (Lausanne, Switzerland) is a 2002 start-up founded by Pierre Fazan (CEO) developing SOI-based single-transistor memory denser than DRAM. <http://www.innovativesilicon.com/>

**Inovys Corp.** (Pleasanton, Calif.), a supplier of automatic test equipment (ATE) raised \$16.3 million dollars in Series C finance in February 2004. First customer is Motorola. <http://www.inovys.com/>

**Intrinsity Inc.** (Austin, Texas) has developed a form of dynamic logic, called Fast14, which it is licensing to such companies as ATI Technology Inc. It is claimed that the Fast14 logic can speed processor performance up compared with standard design approaches. Intrinsity has also developed a FastMath processor.

<http://www.intrinsity.com/>

**Jazz Semiconductor** (Newport Beach, Calif.) A spin-off of Conexant, SiGe foundry Jazz is expected to make an initial public offering of shares soon.

<http://www.jazzsemi.com/>

**Kilopass Technology Inc.** (Sunnyvale, Calif.) was founded in early 2001 to develop and market non-volatile memory technology, manufactured in standard commercial CMOS logic manufacturing processes. Announced first round venture capital funding in January 2004. <http://www.kilopass.com/>

**Lenslet Ltd.** (Herzeliya, Israel) Founded in 1999 Lenslet is the developer of the Enlight256, a photonic digital signal processing system. <http://www.lenslet.com/>

**Mapper Lithography BV** (Delft, The Netherlands) is a lithography start-up working on multi-beam, maskless lithography technology.

<http://www.mapperlithography.com/>

**Matrix Semiconductor Inc.** (Santa Clara, California) Founded in 1998 and the recipient of over \$150 million in funding the company claims to have shipped three-dimensional memory devices in 2003. <http://www.matrixsemi.com/>

**Memsic Inc.** (Norwood Mass. and Wuxi, China) is a 1999 spin off from Analog Devices Inc. with a wholly owned subsidiary (Memsic Semiconductor Ltd.) located in Wuxi, China. CMOS circuitry is set down on wafers by technology partner TSMC with space left for micro-machining at Wuxi. <http://www.memsic.com/>

**Molecular Imprints Inc.** (Austin, Texas) was founded in 2001 to design, develop, manufacture and support imprint lithography systems to be used by semiconductor device and other industry manufacturers. The company claims to be the largest organization in the world, working solely on imprint lithography.

<http://www.molecularimprints.com/>

**NanoInk Inc.** (Chicago, Illinois) is a private company seeking to commercialize so-called 'Dip Pen Nanolithography' (DPN), a process for building nanometer-scale structures and patterns by drawing molecules onto a substrate.

<http://www.nanoink.net/>

**NanoMagnetics Ltd.** (Bristol, England) manufactures magnetic particles, which it is calling DataInk, inside hollow protein spheres with an inner diameter of 8 nanometers. <http://www.nanomagnetics.com/>

**Nanonex Corp.** (Princeton, New Jersey) provides a line of nanoimprint lithography (NIL) technology, including tools, resists, masks, and processes. Spun out of Princeton University. <http://www.nanonex.com/>

**Nanosys Inc.** (Palo Alto, Calif.) A well-funded start-up researching chemically and biologically sensitive materials that has created numerous nanometer-scale structures include nanowires, nanorods, nanotetrapods, and nanodots from semiconductor materials. <http://www.nanosys.com/>

**Nantero Inc.** (Woburn Mass.) is developing a non-volatile memory based on the bi-modal stability of a carbon nanotube matrix laid across an etched trench. <http://www.nantero.com/>

**Negevtech Ltd.** (Rehovot, Israel) claims to have invented a technology for wafer inspection suitable for the 65-nanometer manufacturing process node. <http://www.negevtech.com/>

**NeuMath Inc.** (West Newbury, Mass.) formerly Ibex Process Technology Inc. NeuMath combines neural networks and mathematical techniques to model processes used in semiconductor manufacturing. <http://www.neumath.com/>

**NSC-Nanosemiconductor GmbH** (Dortmund, Germany) offers semiconductor wafers grown by Molecular Beam Epitaxy in (In,Al,Ga)As: and (Si,C) systems using proprietary nano-epitaxial methods for optoelectronic and microelectronic applications. <http://www.nanosemiconductor.com/>

**NVE Corp.** (Eden Prairie, Minn.) Patent holder and researcher into magnetic RAM technology with connections into Cypress and Motorola/Freescale. <http://www.nve.com/>

**PicoChip Design Ltd.** (Bath, England) Developer of parallel-processing array based processor aimed at 3G basestations. <http://www.picochip.com/>

**Plastic Logic Ltd.** (Cambridge, England) is a spin-off from Cambridge University that aims to combine plastic electronics with printing for low cost. <http://www.plasticlogic.com/>

**Polymer Vision NV** (Eindhoven, The Netherlands) Polymer Vision is a business initiative within the Philips Technology Incubator aiming to bring flexible displays to market by combining polymer electronics with electronic ink. <http://www.polymervision.com/>

**Quantum Leap Packaging** (Wilmington, Mass.) a start-up developing liquid crystal packaging to replace traditional ceramic and metal packages. <http://www.qlpkg.com/>

**Revera Corp.** (Sunnyvale, Calif.) A start-up involved in precision surface and compositional metrology. <http://www.revera.com/>

**RF Magic Inc.** (San Diego, Calif.) is developing multi-tuner and transceiver RFICs aimed at consumer broadband and digital entertainment markets. Other investors include Conexant, Echostar, STMicroelectronics, Texas Instruments, CMEA and Granite Ventures. <http://www.rfmagic.com/>

**Saifun Semiconductor Ltd.** (Israel) Developer of flash technology now licensed to many major players in flash market, but not Intel Corp. <http://www.saifun.com/>

**Silecs Oy** (Espoo, Finland) is a specialist in low-k materials. Is working with Cypress. <http://www.silecs.com/>

**Silicon Hive NV** (Eindhoven, The Netherlands) Philips spin-off, developer of the Avispa family of reconfigurable IP cores/processors. <http://www.siliconhive.com/>

**Silicon Infusion Ltd.** (Watford, England) is offering an object-oriented approach to platform-based design. <http://www.siliconinfusion.com/>

**Si-Light Technologies Ltd.** (Guildford, England) is a spin-off from the University of Surrey, formed to investigate the application of 'dislocation engineering' to enable light emission from silicon at wavelengths between 1.1-micron to 1.6-micron. <http://www.si-light/>

**Soisic SA** (Grenoble, France) Start-up focused on SOI semiconductor intellectual property (SIP) and SOI design markets. <http://www.soisic.com/>

**SplashPower Ltd.** (Cambridge, England) is a developer of flat-bed inductive charging technology. <http://www.splashpower.com/>

**Sundew Technologies LLC** (Broomfield, Colo.) makes atomic layer deposition semiconductor manufacturing equipment. <http://www.sundewtech.com/>

**Tenison EDA Ltd.** (Cambridge, England) is the developer of VHDL to C and C to VHDL design tools. From first work begun in 1996 the company moved to the first full commercial product release in 2002. <http://www.tenison.com/>

**Teseda Corp.** (Portland, Oregon) was founded in 2001. Based on a vision for new test products designed to reduce test cost and shorten time-to-market. Markets a DFT desktop tester. <http://www.teseda.com/>

**Transitive Technologies Ltd.** (Manchester, England) is a provider of technology that allows software to run on multiple processor architectures. <http://www.transitive.com/>

**UltraData Corp.** (Waltham, Mass.) Developer of video processing engines <http://www.ultradatacorp.com/>

**Wisair Ltd.** (Ramat Tel Aviv, Israel) develops and markets a high performance wireless communication chipset solution, based on ultra wide band technology. <http://www.wisair.com/>

**Xignal Technologies AG** (Munich, Germany) provides analog and mixed-signal intellectual property for broadband serial links <http://www.xignal.com/>

**ZBD Displays Ltd.** (Malvern, England) A spin-off from U.K. government owned defense research establishments has developed a non-volatile LCD. <http://www.zbdisplays.com/>

**Zettacore Inc.** (Denver, Colorado) is a developer of a molecular memory array. <http://www.zettacore.com/>

**Ziptronix Inc.** (Morrisville, North Carolina) is developing a new 3D packaging technology. <http://www.ziptronix.com/>