SEMICONDUCTOR TIMES

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Radar Scope

Atto Devices

Atto Devices was founded to develop hardware and software to enable secure and easy-to-manage server-based computing solutions. In Q3'06, the company raised $3M in first round funding from ComVentures and Foundation Capital.

Aly Orady, co-founder & CTO
Nils Bunger, co-founder

www.attodevices.com

GateRocket

GateRocket was founded in October 2004 by Chris Schalick to develop ESL solutions for FPGA-based system design. The company was bootstrapped by the founders until securing $1.25 million in Series A funding in 2H'06 from CommonAngels and other Boston area investors. GateRocket has six employees and several consultants.

GateRocket is developing verifications tools for high density FPGAs and currently has beta customers. The company plans to unveil its product in April.

Dave Orecchio, President and CEO (previously held executive positions in marketing, sales and general management at LTX, Viewlogic, Synopsys, Innoveda, Parametric Technologies and DAFCA)

Chris Schalick, Founder, VP of Engineering and CTO (previously held senior engineering positions at Teradyne, Tenor Networks, Packet Engines and Cabletron)

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Mobert

Mobert was founded to develop RFICs for the wireless communications industry. The company is backed by VCs, including Mayfield Fund and Mayfield's China affiliate, GSR Ventures. Mobert headquarters at Silicon Valley and operates subsidiaries in Shanghai, China.

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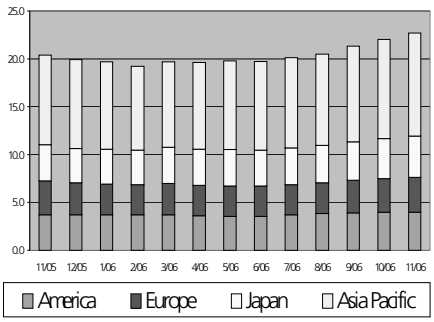
PowerLayer

PowerLayer Microsystems was founded to develop ICs for HDTV products. Powerlayer is developing TV decoder chips for set-top boxes and televisions. The company recently raised $5 million in Series B financing, in addition to the $5 million it raised in Series A financing in early 2006. Investors include GSR Ventures, Morningside Group and Jinshajiang Venture Capital. The

SIA Nov 2006 Global Sales ($B)



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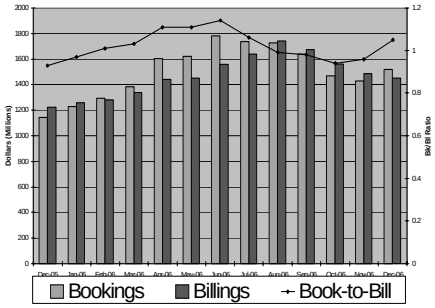

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Lattice Power

Lattice Power was co-funded in early 2006 with technical support from Professor Jiang Fengyi's research group in the Education Ministry Engineering Research Center for Luminescence Materials and Devices in Nanchang University to develop silicon substrate GaN-based LED epitaxial materials and devices. The company's mission is "to become a top-level international enterprise with its own proprietary technology in the field of GaN-based LED luminous materials after NICHI and CREE." The company has received funding from Mayfield Fund, GSR Ventures, a Mayfield affiliate, and AsiaVest.

Today, GaN-based LEDs are manufactured on sapphire or silicon carbide substrates, with the primary patents controlled by companies in Japan and the U.S. Sapphire and silicon carbide substrates are expensive compared to silicon, yet the production of GaN-based LEDs in silicon substrates has been an elusive goal.

Lattice Power has successfully developed and patented silicon substrate GaN-based blue LED technology with 10 patent filings. Professor Jiang Fengyi's research group has successfully resolved problems such as splitting of the silicon substrate GaN-based epitaxial materials, low brightness, high work voltage and poor reliability. The company believes the quality of its silicon substrate GaN-based LED epitaxial materials and the performance of its devices are better than those of similar materials and devices globally.

The company has developed silicon substrate GaN-based blue LEDs with luminous power at 6-9 milliwatts, which is about the middle level of today's sapphire or silicon carbide substrates GaN-based blue LEDs.

Professor Jiang Fengyi, President
(previously General Manager of Jiangxi Changda Photoelectric Technology)

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Mems-ID

Mems-ID Pty Ltd was founded in 2003 to develop battery-less (passive) RFID memory and temperature sensing devices. In November 2005, the company raised $292,500 in a first seed round. A second seed round raised $1.036 million from investors including a number of healthcare professionals. The company has also been awarded grants totaling $570,000, bring the total raised to date to roughly US$1.9M.

Mems-ID expects to close a $5 million Series A funding round in May 2007, allowing it to take the product suite through commercial prototype and trial, and then onto commercial product. Breakeven is anticipated in 1H'09. The company office is located at the Melbourne-based MiniFAB microfabrication facility. Mems-ID has 7 full time and 2 part time employees.

IC-based RFID tags have a number of limitations, including high cost (typically more than $0.20), making them prohibitive for item-level tracking applications, inability to operate in harsh environments, and the need to use multiple tags to realize a desired level of functionality.

The patented Mems-ID technology is based on a MEMS chip that is mechanical, not electronic, providing significant advantages over current electronic RFID chips. The chips will utilize a novel method of programming and storing data on the device, and can be fabricated simply and inexpensively using low-cost MEMS technology manufacturing techniques.

The devices have no active logic, but do have passive logic for programming. Essentially, a series of mechanical resonators are tuned to different frequencies, each representing a bit.

Mems-ID tags can operate in a wide range of environmental conditions, including the high temperatures required for sterilization of surgical equipment (autoclaving). They can have several functions built into the one tag, eg. memory and temperature sensing. Mems-ID tags can be produced at very low prices and can be customized to offer a variety of memory capacity and read ranges.

Competitors include MBBS/Precimed, GammaTag, and traditional barcodes. Competitive advantage over existing bar code and RFID technologies include integration of identification, memory, sensor and security functions on a single chip; ability to withstand high temperatures and irradiation; ability to operate at low temperatures; small physical size; more favorable read-range to tag size tradeoff; ability to operate in close proximity to metals and liquids; writable, but non-erasable memory; and comparatively low cost.

The key elements of the Mems-ID RFID system are an RFID tag/label, the interrogator/antenna system, and

Startup Profiles

(Continued from page 5)

an interfacing system for communication with external management information systems. The Mems-ID RFID system consists of a core platform technology that includes the programming and storage of address information and other data, passive memory, and temperature sensing capabilities, on the passive Mems-ID tag.

Mems-ID is initially focused on the healthcare industry. Mems-ID chips can be placed directly onto medical devices, such as surgical instruments, and can withstand high-temperature autoclave and irradiation sterilization processes, whereas electronic RFID chips are usually destroyed by these processes. The Mems-ID technology is being specifically developed for several healthcare applications, including autoclaving cycle counting, tagging of biological specimens for low temperature storage, tracking and tracing of test tubes, medical and dental instrument tracking, and tagging and monitoring of temperature sensitive products.

In 2006, Mems-ID completed proof-of-concept chip and reader systems, and is working towards a beta chip and interrogator algorithm in early 2007. The company is engaged in various stages of discussion with commercial partners, including with many of the major global medical device companies. Four patent applications were filed in addition to the initial "core" device patents filed in 2003. More than 10 additional patents have been identified to be filed.

The company is focused initially on developing the Mems-ID technology to track surgical instruments. MEMS-ID is actively working with all the major orthopedic companies and expects to undertake a trial with a major orthopedic device company by mid-2007. Beta systems are expected by June 2007 and commercial products are anticipated in early 2008. The current foundry partner is MiniFAB in Australia and others are being evaluated.

Fraser Clayton, CEO (25+ years of technology, business and enterprise development in Australia, USA and Europe. Previously Director of Allen Telecom Australia, a VP at Littlefeet and founder of PMR Australia.)

Brett Schwarz, COO & CFO (previously an accountant with Arthur Andersen and Gaddie Metz & Kahn)

Dr Ronald Zmood, CTO (previously founded the Micro Machining Laboratory at the Royal Melbourne Institute of Technology; a key player in setting up the Australian Cooperative Research Centre (CRC) for microTechnology; and involved with the Nano-Science & Nano-Technology Project at Tel Aviv University)

Dr Jim Colthart, US Business Development

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Pelikon

Pelikon was founded in September 2000 to design and manufacture printed segmented electroluminescent (pSEL) touch displays, backlights and driver electronics.

The company was backed with an initial financing of £3 million led by Advent Venture Partners. In September 2004, Pelikon raised £1.5 million in funding led by and including existing investors Gartmore, VCF and Wales Fund Managers. In 2005, Pelikon raised a further £5m from existing and new institutional investors in preparation for a planned IPO. New institutional investors provided the majority of the round (£4 million). In March 2006, Pelikon invested £500,000 in a new manufacturing line that will increase its production capacity by 50%. The total investment to date is £16 million, and the company plans to seek additional capital in the next 1-2 years. Pelikon has 52 employees.

Pelikon exploits Phosphor electroluminescence (EL Technology) to create printed segmented electroluminescent (pSEL) display panels, which use an encapsulated printed electroluminescent phosphor layer with various capacitive, insulation and conducting layers to create iconic and segmented lit areas.

In 2001, the advanced displays team from Cambridge Consultants (CCL) joined Pelikon and worked on a new type of flexible display. The advanced electronic design group developed a process and display construction technique that allowed the manufacture of small, high tolerance multi-segment devices, along with suitable low cost drivers.

Pelikon display products include the pSEL Intuitive Touch Display, pSEL

Startups In This Issue

✔ **Active Optical MEMS** – *MEMS-based Optical Components*

✔ **Atto Devices** – *Server-based Computing Chips?*

✔ **Forza Silicon** – *Mixed Signal & CMOS Image Sensor Design Services*

✔ **GateRocket** – *Verifications Tools for High Density FPGAs*

✔ **InSilica** – *ASICs & Image Processors for Mobile Phones*

✔ **Lattice Power** – *Silicon Substrate GaN-based Blue LEDs*

✔ **Mems-ID** – *MEMS-based Passive RFID Tags*

✔ **Mobert** – *RFICs*

✔ **Pelikon** – *Printed Segmented Electroluminescent Displays*

✔ **Plurality** – *HyperCore Multicore Processors*

✔ **PowerLayer Microsystems** – *TV Decoder Chips*

✔ **Solarflare** – *10Gb Ethernet PHYs & Controllers*

General: *Semiconductor Times* is published monthly. Each issue contains profiles on startups and emerging semiconductor companies, industry news, financial and investment highlights. Subscribers receive names, addresses, telephone numbers and web sites of the featured companies.

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