Tuesday, October 13 – Friday, October 16, 2009
Hotel Solamar, San Diego, CA, US

Innovation in chip manufacturing and process advances
Market overview, forecasts, trends
New developments in mobile handset
Optics
ISB
Emerging applications

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Including presentations from:
- Access Business Group
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- Cognex Corporation
- Democritus University of Thrace
- DnD Labs
- Eastman Kodak
- Hynix Semiconductor America
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- Robert Bosch Tool Company
- Sanyo Electric
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- Strategies Unlimited Inc
- Texas Instruments
- Toshiba America Electronics Components Inc
- UCL Department of Medical Physics and Bioengineering
- WiTricity Corporation
The economic downturn has had a dramatic impact on many industries including microelectronics. We have seen this with the image sensors market that was worth 7.9 billion USD in 2008 and suffered a fall to 6.3 billion this year*. However, the sensors market is so diversified that the opportunities to grow are present and the potential to develop exists. The challenge continues to be the manufacture of the most efficient devices at the lowest cost possible while keeping up with the demand for higher performance and catering to the needs of the industries such as telecommunications, consumer and computer related products. Image Sensors 2009 will provide a thorough review of these key markets as well as other applications areas: medical and surgical, automotive, military, security and packaging. Sustainability will be a new important perspective represented on the agenda this year.

The 3rd Annual Image Sensors Conference gives you a well rounded perspective starting with state of the art market overviews to developments in applications and mobile handsets and finishing with technology advances.

* The Future of Image Sensors, Market and Technology Forecasts to 2014 by Pira International 2009

New expanded program! 4 new events being held alongside that you can’t afford to miss:
Pre-Conference Seminar on Developments in Sensors for Medical Imaging
Pre-Conference Seminar on Machine Vision: Recent developments in multi-camera systems
Pre-Conference Machine Vision Summit
Post-Conference Wireless Power Summit

5 Reasons to attend
- Hear about state of the art imaging and developments in traffic cameras from Eastman Kodak
- Get an up-to-date on the competitive intelligence market from Semiconductor Insights
- Learn about predictive models in complex industrial systems from the Air Force Research Lab
- Find out what’s new in the auto-ID market from Motorola
- Listen to the latest sustainability trends in the market from Panna Consulting and In-Stat

Attendee Profile

attendees by company type
- Image Sensor Brand Owners/End Users
- Suppliers of Raw Materials, Components, Technology
- Electronic Imaging Design/Research/Testing
- Biometric/Medical End Users
- Academics/Consultants/VC and Financial Advisors

attendees by job title
- R&D, Technologist, Scientist, Engineer
- Management
- Product/Business Management
- Marketing and Sales
- Academic, Lawyer, Consultant

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MEDICAL IMAGING SEMINAR

Developments in Sensors for Medical Imaging
8:30 am -12:00 pm / Additional Fee Required

• Imaging sensors for x-radiography, nuclear medicine and radiotherapy
• Current clinical sensor requirements
• The impact on sensors for desirable future medical imaging needs

Imaging sensors are fundamental to medical diagnosis and treatment. In many radiology departments worldwide film has been replaced by systems capable of producing a digital image. Matching the size and resolution of film however in a digital imaging sensor is proving very challenging. Nuclear medicine is another diagnostic field imposing challenges, yet altogether different demands on imaging sensors. In this case energy resolution and high flux capability is critical.

This Seminar will explore these various areas, discuss the clinical requirements of imaging sensors for x-radiology, nuclear medicine and radiotherapy and will consider the clinical benefits of future implementations.

Dr Gary Royle, Senior Lecturer, UCL DEPARTMENT OF MEDICAL PHYSICS AND BIOENGINEERING
Dr Gary Royle is an associate professor in medical radiation physics at University College London. He has over 20 years experience in radiation physics research, devoted to imaging, detection and analysis of ionizing radiation. He has patents in x- and gamma-ray imaging, over 100 publications in the field and a number of book contributions. He is a member of the organizing committee for the IEEE Medical Imaging Conference series and was editor for the Position Sensitive Detector conference.

MACHINE VISION SEMINAR

Recent developments in multi camera systems: The ACROBOTER paradigm
8:30 - 12:00 pm / Additional Fee Required

In this seminar we will examine the academic perspective of multi-camera machine vision systems and challenges. We will discuss several example applications and examine numerous research efforts in indoor and outdoor surveillance, human and object tracking, robot trajectory estimation, and 3D scene reconstruction. In particular, the seminar will talk about an intelligent multi-camera paradigm targeted at the positioning of a crawling and hanging ceiling robot. We will discuss the challenges posed by the calibration of a multi camera system, the detection and tracking of humans and objects by means of a multi camera system. As well as the need for stability, robustness, ease of use and cost issues in today’s detection and tracking systems.

All the above are important topics as the vision technologies are transitioning from highend to mainstream machine vision markets. In closing, the problems faced by vision system researchers in academia and developers in the industry will be discussed and suggest future research directions and technology innovations for the machine vision community.

Dr Antonios Gasteratos, Assistant Professor, Laboratory of Robotics and Automation, DEMOCRITUS UNIVERSITY OF THRACE
Antonios Gasteratos is Assistant Professor of “Mechatronics and Artificial Vision” at the Department of Production and Management Engineering, Democritus University of Thrace (DUTH), Greece. He holds a Diploma and a PhD from the Department of Electrical and Computer Engineering, DUTH, Greece, 1999. During 1999-2000 he was a Post-Doc Fellow at the Laboratory of Integrated Advanced Robotics (LIRA-Lab), DIST, University of Genova, Italy. He has served as a reviewer to numerous of scientific journals and international conferences. He has also served as proposal and project peer reviewer for several funding schemata. His research interests are mainly in mechatronics and in robot vision. He has published one textbook, 3 book chapters and more than 60 scientific papers. He is a member of the IEEE, IAPR, ECCAI, EURASIP and the Technical Chamber of Greece (TEE).

MACHINE VISION SUMMIT

1:00 Registration and refreshments
1:30 Opening remarks from the Chair
1:40 Machine Vision Creates New Opportunities for Manufacturers in Economic Downturn
• Economic downturn during the past year has created new challenges for almost every manufacturing operation
• Machine Vision tools have matured from providing specialized solutions for most demanding applications to software applicable to any manufacturing process
• New 2D and 3D imaging capabilities, inspection and classification tools as well as end user oriented system environments
• Combined experience of high precision vision applications in semiconductor, fast high resolution visual quality inspection in process industries and easy vision system deployment in factory automation

Markku Jaaskelainen, Executive Vice President, COGNEX CORPORATION

2:10 Machine Vision in Solar Production
• Global Energy: Status quo & outlook
• Solar technologies 101
• Solar market: Investments & players
• CPV manufacturing challenges
• Machine vision applications

Peter Klaerner, Staff Process Engineer, SOLFOCUS INC

3:00 Machine Vision & Human Interaction: The Next Generation
• Machine Vision & human interaction today
• Next generation machine vision & human interaction
• Market trends

Ron Nag – Business Manager, New End Equipment, TEXAS INSTRUMENTS

3:30 Application Specific Overview of New 3D ASMV (Application Specific Machine Vision) solutions
• Overview of the $4B + ASMV marketplace
• Overview of the 34B + ASMV marketplace
• Automated livestock milking and body scoring applications utilizing 3D TimeOfFlight technologies - overview of challenges/solutions
• Solar quality inspection utilizing unique software and 3D sensors
• Other MV horizontal solutions

David Snell, VP Sales & Marketing, LMI TECHNOLOGIES Inc

4:15 Closing remarks from the Chair and end of Summit
12:10 Read Channel Architecture for CMOS Imagers
- Recent trends in pixel architectures
- Analog read channel architectures
- CIS chip architectures for different resolutions
Dr Sang Soo Lee, VP Research Center, HYNIX SEMICONDUCTOR AMERICA

12:40 Lunch will be served for speakers and attendees

2:00 Speeding Image Sensor Configuration
- The image sensor configuration process
- The image quality testing process
- Recent advances in software support and integration
- Live demonstration of popular software
Dr. Randy Bockrath, CEO, IMATEST LLC

3:00 Afternoon refreshments

3:30 Current Status and Future in Digital Cameras
- Market trends
- Technology trends
- Emerging technologies for future
Haruhiko Murata, General Manager, Digital Technology Research Center, R&D Headquarters, SANYO ELECTRIC

4:00 Topic TBC
Dr Frederic Guilhard, Chief Scientist Officer, DXT LABS

4:30 Closing remarks from the Chair

5:00 Networking reception

Day 2, October 15, 2009

8:00 Registration and Continental breakfast

8:30 Opening remarks from the Chair

8:40 Image Sensors and the Vision of Sustainability
- Overview of how the movement toward sustainability affects the image sensor business
- Products: Energy efficiency, materials compliance, leaner manufacturing
- Supply chain: Being a green supply chain partner
- Company: Measuring environmental benefits to the bottom line
Dr Kimberly Allen, Principal, PANNA CONSULTING

9:10 Green Base Stations and Procurement Trends
- Power usage is one of the largest OPEX costs for mobile operators
- Green as a requirement to remain competitive
- New base stations in locations without adequate power sources and the need to be powered by wind, solar, or other sources
Victoria Fodale, Senior Analyst/Manager Market Data/Intelligence and Allen Nogee, Principal Analyst for the Wireless Component Technology Service, IN-STAT (a unit of Reed Business Information)

9:40 Morning refreshments

10:00 Image Sensor Demand and Imaging Applications in the Auto-ID (AIDC) Market
- Technology trends in AIDC
- AIDC markets and applications
- 2D image sensor demand in AIDC
- Imaging applications in AIDC
Dr Bradley Carson, Senior Principal Engineer, MOTOROLA

10:30 Speaker TBD, EASTMAN KODAK

11:00 Medical/Surgical Applications for Nano-CMOS Imaging
- Unique issues, needs, and opportunity associated with nano-CMOS
- Existing... and future market discussion
Eric Dahlinger, VP Sales and Marketing, MICRO-IMAGING

11:30 Predictive Models in Complex Industrial Systems
- Multi-point observations and sensor information to forecast future events in many military and industrial problem domains
- Exploration of nonlinear correlation techniques combined with vector quantization and adaptive rule mining (ARM) for predictive modeling
- Mill which produces high performance containerboard out of 100% recycled materials for the corrugating industry
- Predictive models to allow the mill to reduce areas of localized variability
Misty Blowes, Research Scientist, AIR FORCE RESEARCH LAB

12:00 Emerging Applications of Image Sensors in the Automotive Industry
- Resulting requirements to imagers in harsh automotive environment
- Applications from night vision to pedestrian detection and from traffic sign recognition to light switching
- Selection criteria of automotive sensors
- Enabling features of sensors in automotive applications
Ulrich Seger, Head HW-development of sensors and cameras for automotive driver assistance system, ROBERTO BOSCH GMBH

12:30 Closing remarks from the Chair and end of conference
## Wireless Power Summit - Friday, October 16, 2009

According to Frost & Sullivan, Wireless power is emerging as a popular concept since the profusion of personal and portable electronic devices has created a need for a convenient means to power these gadgets, eliminating the inconvenience and mess of several chargers and wires. In 2008, 1.3 billion mobile phones alone in worldwide sales have been estimated by ABI Research.

At the end of last year, the Wireless Power Consortium was created to establish a standard for low power electronic devices in the short term, and for higher power portable electronics and electric equipment. The inaugural Wireless Power Summit will be chaired by LeRoy Johnson from Leggett & Platt a member of the Wireless Power Consortium. Topics to be discussed include a technology overview, standards, interoperability, consumer viewpoint, technical challenges and applications will give attendees a complete perspective of the state of this technology and where it’s headed.


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<th>Time</th>
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<tr>
<td>8:30</td>
<td>Registrations and Continental breakfast</td>
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| 9:00 | Opening remarks from the Chair  
LeRoy Johnson, Senior Director of Emerging Technologies, Leggett & Platt |
| 9:10 | Wireless Electricity Over Distance: Highly Resonant Magnetic Coupling  
David Schatz, Director of Business Development & Marketing, WITRICITY CORPORATION |
| 9:40 | Why Wireless Power  
Steve Barker, VP of Sales, POWERMAT |
| 10:10 | Morning refreshments |
| 11:10 | Applications and Interoperability of the Wireless Power Charging Systems  
LeRoy Johnson, Senior Director of Emerging Technologies, LEGGETT & PLATT |
| 11:40 | Lunch will be served for speakers and delegates |
| 1:00 | The Consumer Viewpoint of Wireless Power  
Shashi Reddy, CEO, CASE-MATE |
| 1:30 | Technical Challenges of Wireless Charging  
Ralph Dammertz, Vice President of Engineering, ROBERT BOSCH TOOL CORPORATION |
| 2:00 | Topic TBC  
Robert G. Andosca, President & CEO, MICROGEN SYSTEMS, LLC |
| 2:30 | Closing remarks from the Chair |
Exhibition and sponsorship opportunities

IntertechPira’s Image Sensors conference offers a unique opportunity to showcase your products and services all while accessing the leaders in this industry. Depending on your goals and the level of sponsorship, a benefits package can be designed to target a narrow audience or a broad group and may include event recognition as well as publicity, marketing, promotional opportunities and complimentary event passes. For more information on our many exhibition opportunities that meet your business goals, please contact John Buss at:

John. Buss@pira-international.com or +1 202 309 7296

Your event organizer

IntertechPira provides events, training, online information and publications across a wide range of zeitgeist issues and disruptive technologies affecting industry. Our 100% independent products are provided globally 24/7 and delivered by teams of independent experts at sites in Portland, ME US and London, UK through 20 specialized industrial platforms. Our core competencies are information on: research and product development, globalization and new markets; production methods; regulatory and compliance.

Conference information

The venue

Hotel Solamar San Diego is a hip luxury hotel immersed in the dynamic energy of downtown San Diego. The perfect contemporary setting for the vibrant sun-and-sea attitudes that define California’s second largest city. Located in the heart of the lively Gaslamp District, Hotel Solamar, a Kimpton Hotel, offers an ideal destination for business and leisure travelers alike.

Venue address

Hotel Solamar
435 6th Ave
San Diego, CA 92101
+1 619 531 8740
www.hotelsolamar.com

Accommodation

Speakers and delegates are responsible for booking their own travel and accommodation. A limited number of rooms have been reserved for conference speakers and delegates wishing to stay at the Hotel Solamar at a special rate of $149 plus taxes. Speakers and delegates must reserve their room no later than September 21, 2009 to take advantage of this special rate. Wherever possible accommodations should be reserved early as rooms cannot be guaranteed and rates are subject to change after this date. To book your accommodation, please contact the hotel directly at +1 619 531 8740. (Please state you are attending the IntertechPira Image Sensors conference to receive the preferential rate).

Conference fees

The conference fee includes entry to the conference sessions and the exhibition, conference proceedings CD, luncheons, receptions and refreshments. However, fees do not include delegate travel and accommodation. All credit card orders are processed at that day’s E/E/$ exchange rate at the time the transaction goes through.

PLEASE NOTE: Credit card details will be necessary if your booking is made less than 10 days prior to the start of the conference, or if your invoice remains unpaid at the start of the event. Please see step 3 for further details. Where funds have not been received in advance, delegates will be required to supply credit card details at registration in order to gain entry to the conference. This credit card will be charged on-site and current exchange rates and bank charges will apply.

Cancellations

Cancellations will be accepted and fees will be refunded (less 20% handling charge) only if made in writing and received ten working days before the event. Bookings cannot be cancelled or fees refunded thereafter. Substitutions may be made at any time, please notify John Buss at john.buss@pira-international.com or +1 619 531 8740.

Note

IntertechPira does not accept liability for any loss of or damage to the personal effects of delegates attending the conference. IntertechPira reserves the right to cancel, defer or modify the event proceedings without prior notice. If you have sent a booking to us and have not received confirmation, please contact Erin Hamblen at erin.hamblen@pira-international.com or + 1 207 781 9633.

Visas

Delegates requiring visas should request a visa invitation letter from IntertechPira at the time of registering for the event, ensuring sufficient time is left for applications to be completed. Delegates are then responsible for contacting the relevant/appropriate embassy themselves. IntertechPira can do nothing further to assist in this process.

For further information on the conference please contact:

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CONFERENCE PRICING

Early bird (through August 7) $1,349
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Medical Imaging Workshop $499
Bundle deal conference and workshop $1,799
Machine Vision Seminar (multi camera systems) $499
Machine Vision Summit $599
Machine Vision Seminar and summit bundle $899
Wireless Power Summit $999
Bundle deal conference and 2 summits $2,599
Bundle deal conference and Wireless Power Summit $2,199

Group discount ($200 off the price)
Exhibit tier 1 $3,000
Exhibit tier 2 $2,000
Exhibit pass $299

Academic/Gov conference $899
Academic/Gov Wireless Power summit $599
Academic/Gov Machine Vision Summit $299
Academic/Gov Machine Vision Seminar $299
Academic/Gov Medical Imaging Seminar $299

*Academic rate for full-time students and teaching staff at universities only. Government officials please provide id. Applies to conference.
**For more information on attending, sponsorship and exhibitor, please contact John Buss at John.buss@pira-international.com or +1 202 309 7296

Discounts cannot be used in combination.

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