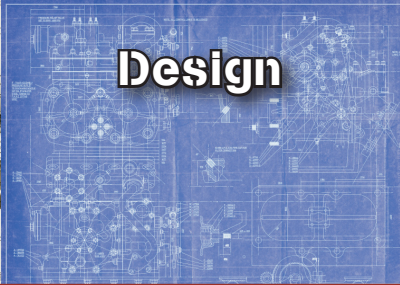
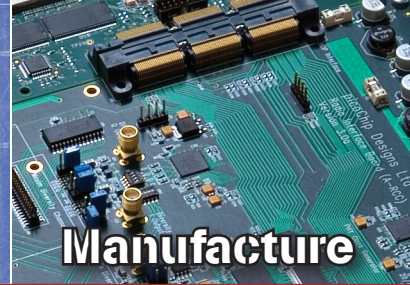




**Research**



**Design**



**Manufacture**



**Deploy**

# SDR'09

**Technical Conference and Product Exposition  
1-4 December 2009 • Washington, DC**

*The premier event for bringing next generation radio technologies to life.*

## Conference Report

SDR'09 was The Wireless Innovation Forum's (SDR Forum v. 2.0) annual technical conference and exposition. Attendees have called the event the "most valuable conference [to] attend each year," and "the SDR conference." Attracting more than 500 attendees representing all aspects of the reconfigurable radio value chain, from research through deployment, this annual event is the ideal place to make an impact on the SDR community and make valuable connections along the way. The only conference of its kind focused on reconfigurable radio technologies, SDR'09 featured tutorials, workshops, demonstrations and more than 100 technical papers in 20 technical sessions.

### Sponsored by:

**GENERAL DYNAMICS**  
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### Media co-sponsors:

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**NGN Basestations**

**Next Generation Networks Europe**  
April 20 - 22

**BDTi**

**4GWE**  
4G WIRELESS EVOLUTION CONFERENCE

**NCWEUROPE 2009 GERMANY**

### Presented by:

**WIRELESS INNOVATION FORUM™**

Established in 1996, the Wireless Innovation Forum (SDR Forum v. 2.0) is a non-profit international industry association dedicated to promoting the success of next generation radio technologies. The Forum's 114-strong membership comprises world class technical, business and government leaders from EMEA, Asia and the Americas. The Forum is the only organization in the world dedicated to serving the industry's needs through advocacy, opportunity development, commercialization and education. For more information, please visit [www.wirelessinnovation.org](http://www.wirelessinnovation.org).

## From the Chair



**John Glossner, General Program Chair**  
CTO, Sandbridge Technologies

It is my pleasure to be able to thank everyone on the Program Committee, Session Chairs, Paper Reviewers, Authors, Presenters, and Staff for their outstanding contributions in making SDR09 a success. This year we continued our high quality of presentations on technical subjects ranging from Software Defined Radio implementations and architectures, Signal Processing, Physical Layer Techniques, chip implementations, GPUs, FPGAs, SCA, RF technologies, Cognitive Radio, all the way to Business Models and Education implications of these technologies.

In addition to outstanding technical contributions, we continued our keynote series with a range of world-renowned speakers from a range of public policy, business, technical, commercial and defense fields. The world-wide breadth of participants provides unique perspectives beyond a local appeal.

The conference also continues to provide Tutorials for participants new to the field or those who wish to provide breadth to their current discipline. Workshops offer depth in specific topic areas by providing world-class experts grouped together in half and full day sessions. The topic areas range the gamut from market insights, spectrum policy, to technical areas.

New to the conference this year was the practical demonstration of working SDR systems highlighted at the opening banquet. Companies submitted proposals and were selected on merit to demonstrate leading edge system implementations. Selections ranged from

multimode chip implementations thru software – and every area in between.

Our exhibitors demonstrated the latest product offerings across a vast range of the SDR value chain. New product announcements and demonstrations of the latest SDR products were on display.

I am pleased to announce that SDR10 will be held in the same hotel the first week of December 2010. Along with the existing high quality offerings, an additional focus will be placed on academic paper submissions. As with other highly selective conferences, these paper submissions will be peer reviewed by an internationally renowned program committee of some 70+ researchers from major worldwide universities and labs who have already committed to participate. The best papers from this track will be invited for Journal submission.

Finally, all of this would not be possible without our sponsors listed on the cover. Without their support, to which I am personally grateful, we would not be able to provide such nice facilities and of course all the refreshments. Please thank and support them!

A history of well attended tracks and some new initiatives have me very excited for the 2010 conference. I look forward to your participation this year and thank you for past support.

All the best,  
John Glossner

## SDR'09 Organizing Committee

**Paper Review Committee Chair** -  
Dr. Friedrich Jondral, *Universität Karlsruhe*

**Markets Workshop Chair** - Manuel Uhm, *Xilinx*

**Regulatory Workshop Chair** –  
Peter Tenhula, *Shared Spectrum Company*

**Tutorial Chair** - Benjamin Egg, *fred harris & associates*

**Demonstration Chair** - Dr. Panagiotis Demestichas, *University of Piraeus*

**SATCOM Workshop Chair** -  
Robert Schutz, *ViaSAT*

Mohammed Ismail, *The Ohio State University*

Charles Bostian, *Virginia Tech*  
Joe Mitola, *Stevens Institute of Technology*

John Glossner, *Sandbridge Technology*

Daniel Iancu, *Sandbridge Technology*

Mayan Moudgill, *Sandbridge Technologies*

Christophe Moy, *SUPELEC*  
Magdalena Sanchez, *National University of Ireland, Maynooth*

Ronan Farrell, *National University of Ireland Maynooth*

Wolfgang Koenig, *Alcatel*  
fred harris, *San Diego State University*

Timothy R. Newman, *Virginia Tech*  
Richard Taylor, *Tyco Electronics*

Vince Kovarik, *Harris Corporation*  
Dr. Seungwon Choi, *Hanyang University*

Robert Normoyle, *DRS*  
Mikael Gidlund, *ABB AB*  
Nadeem Bukhari, *DRS Signal Solutions*

Sébastien Le Nours, *University of Nantes*



“This is the most valuable conference I attend each year ... the contacts (for consulting) are abundant and targeted.”

- Benjamin Egg,  
fred harris & associates

## From the CEO



Lee Pucker  
CEO, *Wireless Innovation Forum*

I am pleased to report that your annual technical conference and product exhibition continues to grow year over year, securing its place in the advanced wireless community as the premier event for exploring software defined radio, cognitive radio and dynamic spectrum access technologies. Attendance at SDR'09 was up 20 percent over the previous year in spite of the down-turn in the economy, and for the first time in the history of the event over 500 delegates were in attendance, representing 26 countries around the world. This builds on the 30 percent growth achieved at this conference the previous year and reflects the value placed on this event by you and your peers year after year.

This value is reflected in the key drivers for participation identified in the conference satisfaction survey results: an outstanding technical program providing a "one stop shop" for you to learn the latest advances in reconfigurable radio products and technologies, coupled with high quality opportunities to network with your partners, your customers and your competitors. Success in the SDR'09 technical program was largely driven by the volunteer efforts of the program committee, led by Dr. John Glossner, and the hundred of hours they spent with the over 100 accepted authors and presenters to ensure the highest possible quality. We owe these volunteers a giant note of thanks for their efforts in pulling together this technical program, a summary of which can be found on pages 6-8 of this conference report.

The conference's strength in providing opportunities to network comes from the broad mix of participants in the conference at all levels of the wireless value chain including investors, commercial network operators, radio manufacturers, system integrators, government procurement officials, regulators, engineering service providers and consultants. A break down of these participants can be found on pages 10-13 of this conference report. This broad base of participants, over 61% of which have either had direct purchasing authority or the ability to significantly influence radio technology acceptance and purchasing decisions, made SDR'09 an outstanding value for our exhibitors and sponsors as well. Through targeted marketing, information on our exhibitors and sponsors reached beyond the conference attendees, build brand awareness for these organizations with tens of thousands people in the advanced wireless community. A breakdown on the success of our communications efforts is provided on page 9 of this conference report, and again shows the value your conference has brought to this set of participants.



Even with this success, this event, like all such events, has room to improve. With that in mind, I and my staff, in cooperation with Dr. Glossner, have reviewed the results of the satisfaction surveys in detail and will be working hard to address any identified deficiencies to make SDR'10 even better.

We look forward to your continued participation in your technical conference and product exhibition, your participation in the Wireless Innovation Forum, and we wish you success in driving the future of radio communications and systems worldwide.



## A Look Back to SDR'08

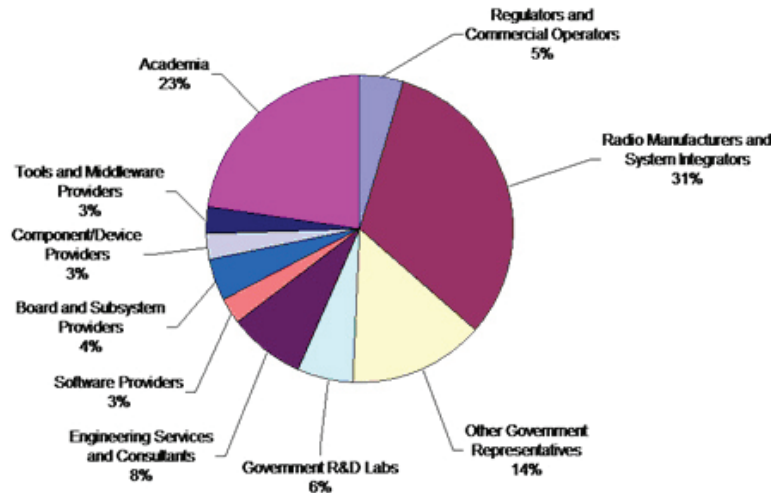
SDR'08 attendees included commercial network operators, radio manufacturers, system integrators, government procurement officials, regulators, engineering service providers and consultants from over 26 different countries. Of these, over 64% had either direct purchasing authority or the ability to significantly influence radio technology acceptance and purchasing decisions.

A further breakdown of radio manufacturers and system integrators attending SDR '08 includes the following:

Alcatel-Lucent  
BAE Systems  
Boeing  
Comtech  
DRS Signal Solutions  
EADS  
Ericsson  
Elektrobit  
General Dynamics  
General Motors  
Harris  
Honeywell  
Indra Sistemas  
ITT Industries  
Japan Radio Company  
L3 - Communications  
Lockheed Martin

Motorola  
NEC Corporation  
Nokia  
Northrop Grumman  
Panasonic  
Raytheon  
Rockwell Collins  
Rohde and Schwarz  
Selex Communications  
Shared Spectrum  
Telefunken Racoms  
Thales Communications  
Toshiba  
Tyco Electronics  
Ultra-TCS  
Vanu  
ViaSAT

SDR '08 Paid Attendees



### Event Sponsors included:



### Technical co-sponsors:



### Media sponsors:



## SDR'09 Featured Keynotes from Recognized Industry Leaders:



**Chris Brady**  
Vice President, Assured Communications Systems,  
Communication Networks Division, *General Dynamics C4 Systems*



**Thomas E. Kern**  
Executive Vice President, Intelligent Transportation  
Society of America



**Jan Craninckx**  
Chief Scientist, Analog Wireless Research Group, *IMEC*



**Carlo Magrassi**  
Deputy Chief, Executive Strategy, *European Defence Agency, Brussels*



**Christian Serra**  
Chief Scientist, *Thales Communications* and Technical  
Director, *a4ESSOR S.A.S.*



**Kazuho Miki**  
Department Manager, Network Systems Research  
Department, *Hitachi, Ltd.*

### Joe Heaps

Deputy Chief, Information & Sensor Technologies Division  
Manager, Communications Technology Portfolio, *National Institute of Justice, Office of Justice Programs*

## A Product Exposition featuring:

Aeronix  
Agilent  
Boeing  
CogNeA  
Coherent Logix  
CRC  
DataSoft  
Defense Advanced Research Projects Agency (DARPA)  
D-TA Systems  
Elektrobit  
Etherstack  
Ettus Research  
Green Hills Software  
Harris  
IMEC  
Intel  
IDT - Innovative Defense Technologies

Innovative Integration  
The MathWorks  
Midwest Microwave Solutions  
MDE Systems  
Objective Interface  
LinuxWorks  
Lyrtech  
Pentek  
PrismTech  
Red Rapids  
SoleNet  
Space Coast Communication Systems  
Spectrum Signal Processing  
Synopsys  
Tubitak  
Wind River  
Xilinx



“Very, very highly focused audience.  
Great one on one interaction with my  
customers.”  
  
- John Irza,  
The Mathworks

## Program at a Glance

### Monday, 30 November

18:00-20:00 **Early Registration** (*Regency Foyer*)

### Tuesday, 1 December

7:30 **Breakfast** (*Regency Foyer*), **Speakers' Breakfast**

|      | <i>Regency A</i>  | <i>Regency B</i>  | <i>Regency C</i>   | <i>Regency D</i>   | <i>Regency E</i>   |
|------|---|---|--|--|--|
| 8:30 | <b>Tutorial</b><br>Digital Software Defined Radio Test<br><i>Jean Dassonville</i> | <b>Tutorial</b><br>VoIP Radio Networks<br><i>John Shanton</i> | <b>Tutorial</b><br>Building Software Defined Radios with SysML, UML, and MARTE<br><i>Vincent Kovarik</i> | <b>Tutorial</b><br>Agilent / Zeligsoft Rapid Prototyping<br><i>Greg Jue and Toby McClean</i> | <b>Tutorial</b><br>Advances in Automated Software Testing and Quality Technologies and Implementation in use for Waveforms<br><i>Elfriede Dustin</i> |

12:00 **Lunch** (*Independence B*)

13:30 **Conference Welcome, John Glossner**, SDR'09 Conference Co-Chair (*Regency EF*)

13:40 **Keynote:** "R&D Strategies and Activities for Future Wireless System- from Cognitive Radio and SDR perspective," **Kazuho Miki**, Department Manager, Network Systems Research Department, *Hitachi, Ltd.* (*Regency EF*)

14:20 **Keynote:** "Flexible Radio Solutions: Hardware and Software to get the Best out of the Terminal and the Spectrum," **Jan Craninckx**, Chief Scientist, Analog Wireless Research Group, *IMEC* (*Regency EF*)

15:00 **Coffee Break** (*Regency Foyer*)

|       | <i>Regency A</i>  | <i>Regency B</i>  | <i>Regency C</i>   | <i>Regency D</i>   | <i>Regency E</i>  | <i>Regency F</i>   |
|-------|---|---|--|--|---|--|
| 15:15 | <b>Session 1.1</b><br>SDR & CR Security<br><i>Chair: Timothy Newman</i> | <b>Session 2.1</b><br>Configurable RF, RF Spectrum Interference & Receiver Mitigation Techniques<br><i>Chair: Robert Normoyle</i> | <b>Session 3.1</b><br>SDR implementations on GPU, DSP, FPGA, or GPP<br><i>Chair: John Glossner</i> | <b>Session 4.1</b><br>SDR Modeling<br><i>Chair: Sébastien Le Nours</i> | <b>Tutorial</b><br>Software Defined Workflow Using Simulink and the USRP2<br><i>John Irza</i> | <b>Tutorial</b><br>An Affordable COTS Reference Platform for SCA Development - The 'IBM PC' of Military SDR<br><i>Steve Jennis</i> |

18:00 - 21:00 **Technology Showcase and Welcome Event**, Sponsored by General Dynamics, featuring demonstrations, food, and entertainment in the exhibition hall. The demonstration sessions with food and refreshments will be followed by the announcement of the SDR Forum Award winners, dessert and entertainment by The Capitol Steps, a musical political satire group with 29 albums to their name.

**Locations:**

18:00 - Demos: *Independence B*

19:30 - Awards and entertainment: *Regency EF*

**GENERAL DYNAMICS**  
C4 Systems

"Excellent tutorials and papers are presented, and is an excellent way to see where and what are the latest technologies"

- *Janette Briones, NASA Glenn*

## Wednesday, 2 December

- 7:30 **Breakfast** (*Regency Foyer*), **Speakers' Breakfast**
- 8:30 **Introduction to Day Two and Announcements:** **John Glossner** (*Regency EF*)
- 8:40 **Keynote:** **Danny Weitzner**, Associate Administrator for Policy, *NTIA* (*Regency EF*)
- 9:20 **Coffee Break** (*Regency Foyer*)

|      | <i>Regency A</i>  | <i>Regency B</i>                           | <i>Regency C</i>                                   | <i>Regency D</i>                              | <i>Regency E</i>                                   | <i>Regency F</i>  |
|------|---|--|--|---|--|---|
|      | <b>Session 1.2</b>  | <b>Session 2.2</b>                         | <b>Session 3.2</b>                                 | <b>Session 4.2</b>                            | <b>Session 5.2</b>                                 | <b>Tutorial</b>   |
| 9:40 | Smart Radio Challenge and SDR in Education<br><i>Chair: Carl Dietrich</i> | SCA for SDR<br><i>Chair: Eric Nicollet</i> | Public Safety<br><br><i>Chair: Charles Bostian</i> | Analysts Workshop<br><i>Chair: Manuel Uhm</i> | Regulatory Workshop<br><i>Chair: Peter Tenhula</i> | RF Performance Specification, Measurement<br><br><i>Robert Normoyle</i> |

11:50 **Lunch and Exhibits** (*Independence A and B*)

|       | <i>Regency A</i>   | <i>Regency B</i>                           | <i>Regency C</i>                               | <i>Regency D</i>                              | <i>Regency E</i>                                   | <i>Regency F</i>   |
|-------|--|--|--|---|--|--|
|       | <b>Session 1.3</b>   | <b>Session 2.3</b>                         | <b>Session 3.3</b>                             | <b>Session 4.3</b>                            | <b>Session 5.3</b>                                 | <b>Tutorial</b>  |
| 13:50 | SDR implementations on GPU, DSP, FPGA, or GPP<br><i>Chair: R. Muralidharan</i> | SCA for SDR<br><i>Chair: Eric Nicollet</i> | Multimode Systems<br><i>Chair: Rick Taylor</i> | Analysts Workshop<br><i>Chair: Manuel Uhm</i> | Regulatory Workshop<br><i>Chair: Peter Tenhula</i> | BIST and Digital Self-Calibration of RFICs<br><br><i>Mohammed Ismail</i> |

16:00 **Coffee Break** (*Regency Foyer*)

16:15 **Keynote** "Next Generation Communications Technology for Public Safety and Disaster Response," **Joe Heaps**, Deputy Chief, Information & Sensor Technologies Division Manager, Communications Technology Portfolio, *National Institute of Justice, Office of Justice Programs* (*Regency EF*)

17:00 **Regulatory Panel Session** "Setting the Global Regulatory Agenda"  
Moderator: **Paul Kolodzy**, *Kolodzy Consulting*, and Vice Chair of the SDR Forum Regulatory Committee (*Regency EF*)

18:00 - 20:00 **Exhibitors' Reception** (*Independence A and B*)

**For a complete conference program from SDR'09 and previous conferences, presentation abstracts and more, please visit our document library at:**

**[www.WirelessInnovation.org/page/Document\\_Library](http://www.WirelessInnovation.org/page/Document_Library)**

## Program at a Glance

### Thursday, 3 December

- 7:30 **Breakfast** (*Regency Foyer*), **Speakers' Breakfast**
- 8:30 **Introduction to Day Three and Announcements:** **John Glossner** (*Regency EF*)
- 8:40 **Keynote** "EDA's Approach to SDR - One Architecture and One Standard for a European Joint and Combined Capability," **Carlo Magrassi**, Deputy Chief, Executive Strategy, *European Defence Agency, Brussels* (*Regency EF*)

|      | <i>Regency A</i>   | <i>Regency B</i>   | <i>Regency C</i>   | <i>Regency D</i>                            | <i>Regency E</i>  | <i>Regency F</i>   |
|------|--|--|--|---|---|--|
|      | <b>Session 1.4</b>   | <b>Session 2.4</b>   | <b>Session 3.4</b>   | <b>Session 4.4</b>                          | <b>Session 5.4</b>                                      | <b>Tutorial</b>  |
| 9:40 | CR Spectrum Access and Sensing<br><i>Chair: Klaus Moessner</i> | Baseband Technologies and Algorithms<br><i>Chair: Daniel Iancu</i> | Power Management in SDRs<br><i>Chair: Panagiotis Demestichas</i> | SATCOM Workshop<br><i>Chair: Bob Schutz</i> | JTRS SBIR Industry Day<br><i>Chair: John Armantrout</i> | Rapid Implementation of SDR in a Unified Development Environment<br><i>Brian Dalio</i> |

11:50 **Lunch and Exhibits** (*Independence A and B*)

|       | <b>Session 1.5</b>   | <b>Session 2.5</b>   | <b>Session 3.5</b>                                | <b>Session 4.5</b>                          | <b>Session 5.5</b>   | <b>Tutorial</b>   |
|-------|--|--|---|---|--|---|
| 13:50 | CR Spectrum Access and Sensing<br><i>Chair: Klaus Moessner</i> | Baseband Technologies and Algorithms<br><i>Chair: Daniel Iancu</i> | Other Applications<br><i>Chair: John Glossner</i> | SATCOM Workshop<br><i>Chair: Bob Schutz</i> | Government R&D Programs Workshop<br><i>Chair: Claude Bélisle</i> | A Platform-Based Approach to Realizing High Performance DSP Systems in FPGAs<br><i>Chris Dick</i> |

16:00 **Break** (*Regency Foyer*)

- 16:15 **Invited Paper** "Requirements and Challenges for SDR implementation," Christer Svensson, Professor in Electronic Devices, *Linköping University, Sweden* (*Regency EF*)
- 16:40 **Keynote:** **Christian Serra**, Chief Scientist, *Thales Communications* and Technical Director, *a4ESSOR S.A.S.* (*Regency EF*)
- 17:20 **Keynote:** "The WHYs of SDR," **Chris Brady**, Vice President, Assured Communications Systems Communication Networks Division, *General Dynamics C4 Systems* (*Regency EF*)
- 18:00-20:00 **SDR Forum Members Reception and Annual Meeting** (*Regency EF*)

### Friday, 4 December

7:30 **Breakfast** (*Regency Foyer*), **Speakers' Breakfast**

|      | <i>Regency A</i>                          | <i>Regency B</i>  | <i>Regency C</i>   | <i>Regency D</i>            | <i>Regency E</i>  | <i>Regency F</i>   |
|------|---|---|--|-----------------------------|---|--|
|      | <b>Session 1.6</b>                        | <b>Session 2.6A</b>                                       | <b>Session 3.6</b>                                       | <b>Session 4.6</b>          | <b>Tutorial</b>   | <b>Tutorial</b>  |
| 8:30 | Other CR<br><i>Chair: Wolfgang Koenig</i> | Location Based Techniques<br><i>Chair: Mayan Moudgill</i> | High Speed ADCs for SDR<br><i>Chair: Mohammed Ismail</i> | SDR Forum Projects Overview | "SCA-Based Education and Rapid Prototyping with OSSIE: A Hands-On Tutorial"<br><i>Carl Dietrich</i> | Multirate Signal Processing in Communication Systems<br><i>fred harris</i> |
|      |   | <b>Session 2.6B</b>                                       |  |                             |   |  |
|      |   | Infrastructure<br><i>Chair: Nadeem Bukahari</i>           |  |                             |   |  |

10:40 **Coffee Break** (*Regency Foyer*)

- 11:10 **Keynote:** "Where Will ITS Be in the New Transportation Bill?" **Thomas E. Kern**, Executive Vice President, *Intelligent Transportation Society of America* (*Regency EF*)
- 11:40 **Endnote:** "Looking ahead to 2010," **Lee Pucker**, CEO, SDR Forum (*Regency EF*)
- 12:20 **Conference Close and Satisfaction Survey Prize Drawing** (*Regency EF*)



# SDR'09 Marketing Performance

## Internet

The Forum established a dedicated website ([www.sdrforum.org/sdr09](http://www.sdrforum.org/sdr09)) as the primary vehicle for communicating information on the conference. Internet presence was enhanced through the use of Google AdWords. The website had 21,899 visits in 2009, representing 54,509 page views or 2.49 pages per visit. This included 4,056 unique visits to the program page and 2299 unique visits to the exhibitor's page.

## Print Advertisement

Print ads were produced for placement in numerous magazines including:

- EE Times
- EE Times Europe
- Military and Aerospace Electronics
- Military Embedded Systems
- Mission Critical Magazine
- RTC

These ads reached a total subscriber base of **more than 300,000**, and were each further enhanced through banner ads placed with each magazines associated site.

## Other Print Collateral

Call for papers flyers and conference brochures were printed and distributed at sponsored events including:

- Mobile Deployable Communications
- IDGA Software Radio Summit
- Military and Aerospace Electronics Forum
- Next Generation Networks - Europe
- Network Centric Warfare – Europe
- Mobile Broadband World
- LTE Forum
- Wireless China
- IQPC SDR Europe



## Direct eMail Campaign

The Forum sent out a range of announcements related to SDR'09, including the call for papers, program updates (keynotes, workshops, tutorials, demos and paper sessions), exhibitor updates, and registration. The emails were shaped to have a targeted message and specific announcement each.

| Campaign                                     | Total eMails Sent | Average Open Rate | Email Dates  |
|--|-------------------|-------------------|--|
| Call for Papers, Tutorials, Demos, Workshops | 6391              | 18.9%             | 7 January 2009<br>3 March 2009<br>17 August 2009   |
| Exhibition                                   | 3920              | 18.4%             | 29 May<br>6 August                                 |
| Registration                                 | 5857              | 18.7%             | 14 July 2009<br>2 September 2009<br>2 October 2009 |
| Program                                      | 1947              | 21.1%             | 29 October 2009                                    |
| Total  | 18115             | 18.9%             |  |

Updates were also made as appropriate in the members only SDR News and Opportunities eNewsletter, reaching an average of 830 members every two weeks, and through email announcements from our media sponsors in January, February, August, September and October reach tens of thousands of additional potential participants.

## Press Releases

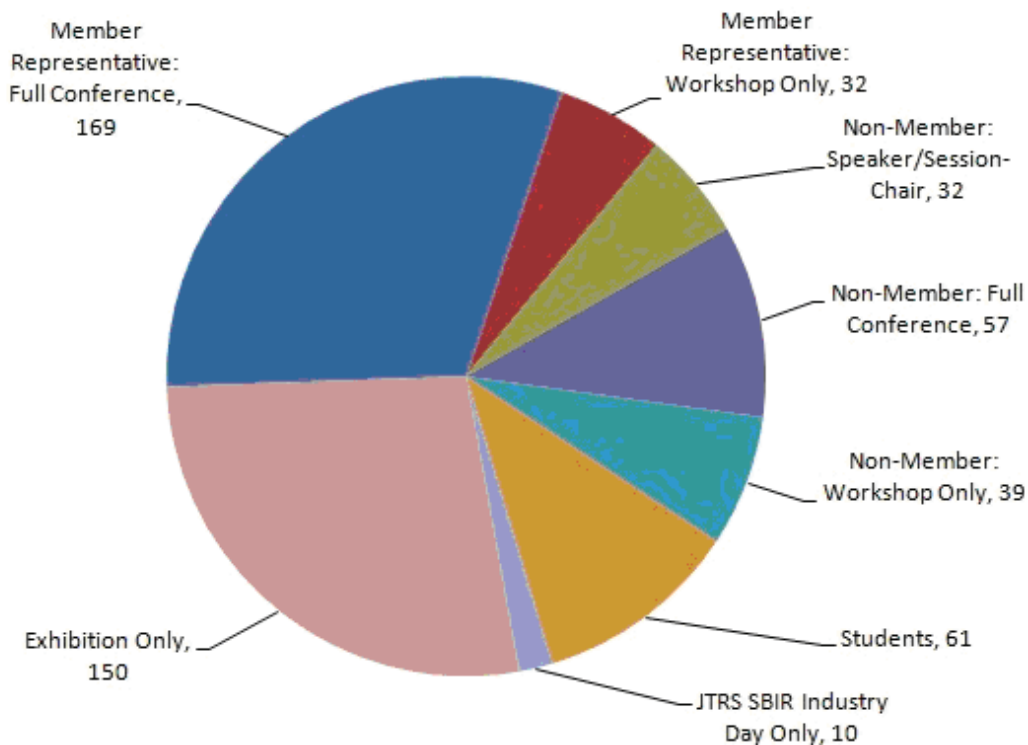
Press releases were issued to provide updates to the media and the broader community on advancement of the program. These were also shaped to have a targeted message and specific announcement each.

| Release                 | Headline Impressions | Release Views | Date              |
|-------------------------|----------------------|---------------|-------------------|
| Call for Papers         | 26                   | 485           | 8 January 2009    |
| Keynotes                | 5275                 | 377           | 16 September 2009 |
| Technical Program       | 3927                 | 350           | 6 October 2009    |
| Workshops               | 4473                 | 477           | 14 October 2009   |
| Exposition              | 2691                 | 351           | 18 November 2009  |
| Exhibitor Announcements | 3127                 | 874           | 3 December 2009   |
| Total                   | 19519                | 2914          |                   |

Releases were retargeted to the Forum's social media outlets, including RSS and Twitter, to provide additional coverage.

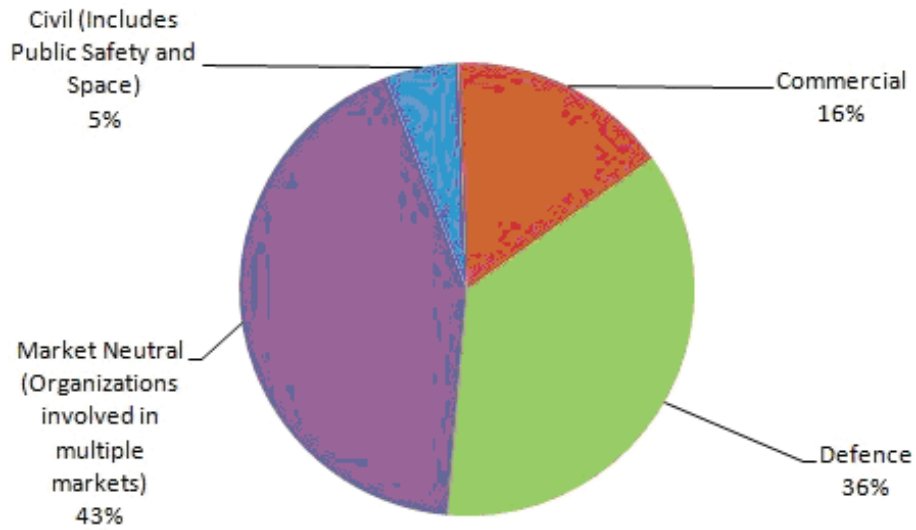
## Delegate Profile

SDR09's 550 registered delegates included investors, commercial network operators, radio manufacturers, system integrators, government procurement officials, regulators, engineering service providers and consultants from over 26 different countries. Of these, over 61% had either direct purchasing authority or the ability to significantly influence radio technology acceptance and purchasing decisions.

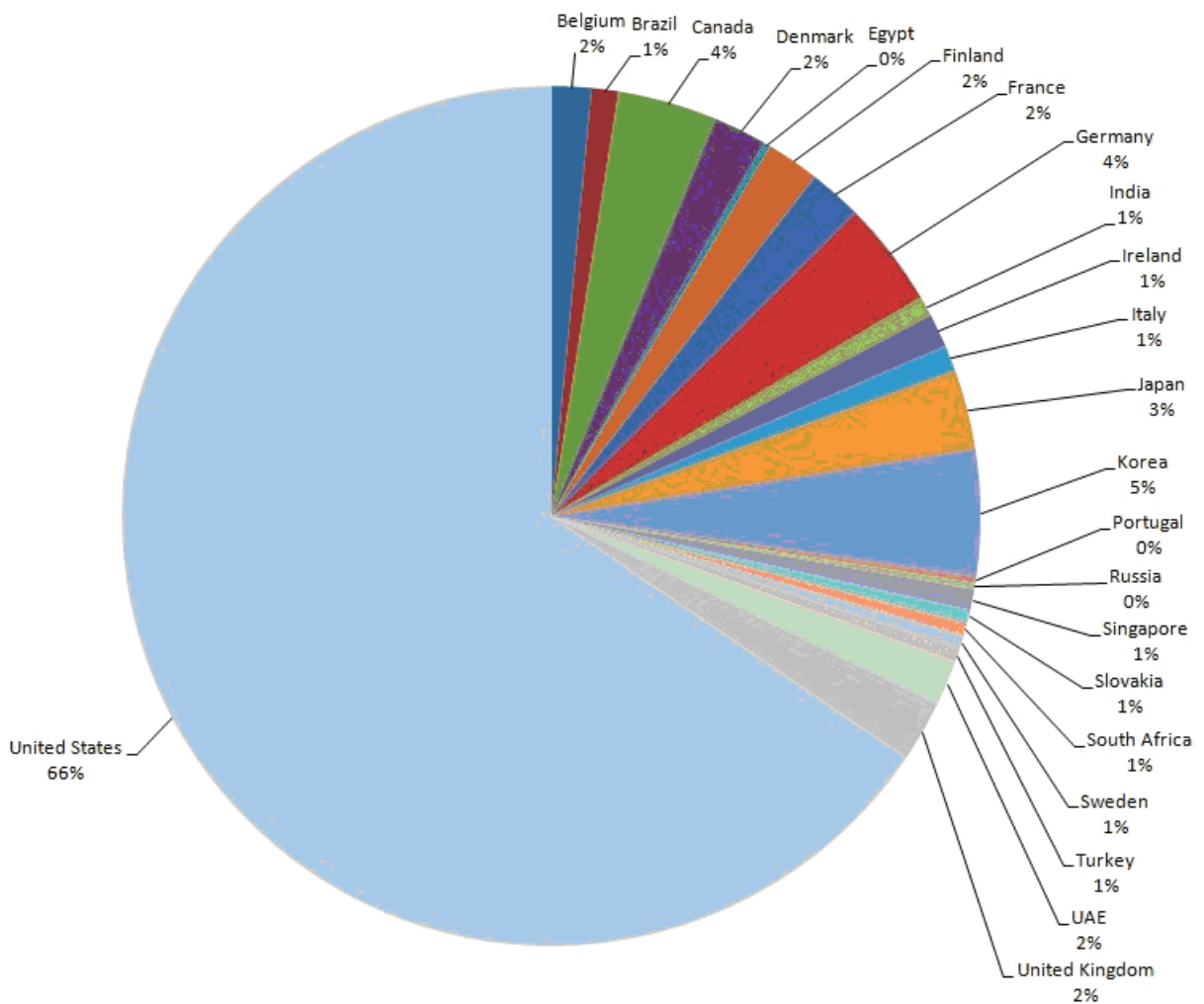


**SDR'09 Registrations**

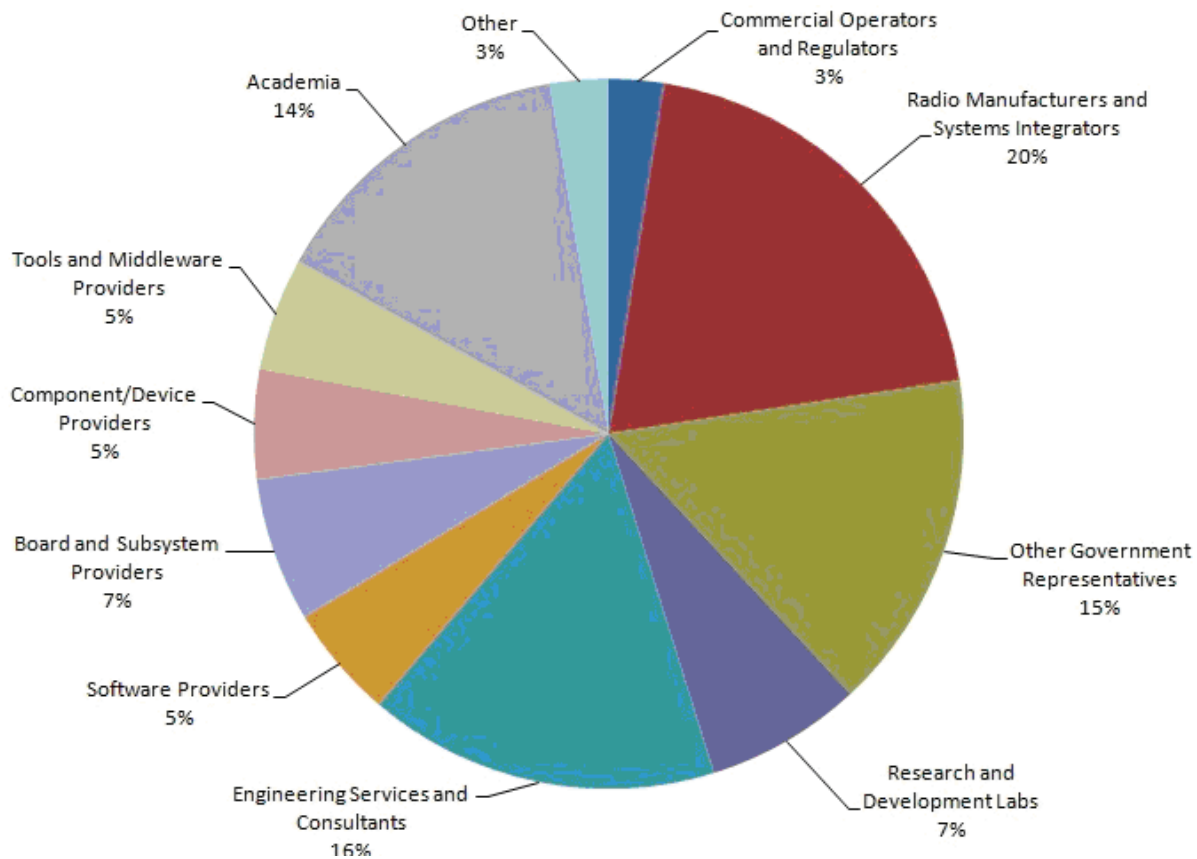
## Delegate Profile (con't)



## SDR'09 Delegates by Primary Market



## SDR'09 Delegates by Country



### SDR'09 Delegates by Value Chain

Radio manufacturers and system integrators attending SDR '09 included the following:

|                      |                     |                       |
|----------------------|---------------------|-----------------------|
| Alcatel-Lucent       | Hitachi             | Samsung               |
| ArrayComm            | Hitachi Kokusai     | Selex Communications  |
| BAE Systems          | Indra Sistemas      | Shared Spectrum       |
| Boeing               | ITT Industries      | Telefunken Racoms     |
| Comtech              | L3 - Communications | Thales Communications |
| DRS Signal Solutions | Lockheed Martin     | Thompson              |
| EADS-Astrium         | Motorola            | Thrane and Thrane     |
| EID                  | NEC Corporation     | Toshiba               |
| Ericsson             | Nokia               | Toyota                |
| Elektrobit           | Northrop Grumman    | Tyco Electronics      |
| General Dynamics     | Panasonic           | Ultra-TCS             |
| General Motors       | Raytheon            | Vanu                  |
| Harris               | Rockwell Collins    | ViaSAT                |
| Honeywell            | Rohde and Schwarz   |                       |
| Huneeed Technologies | Saab                |                       |

## Delegate Profile (con't)

Government organizations with representatives in attendance at SDR09 included:

|  |  |
|--|--|
| Air Force Research Labs                                      | NASA Glenn Research Center   |
| Brazilian Navy Research Institute                            | National Institute of Justice  |
| Brazilian Air Force  | National Telecommunications and Information Administration                       |
| Communications Security Establishment Canada                 | Organisme Conjoint de Coopération en matière d'Armement<br>(OCCAR)               |
| Communications Research Centre Canada                        | Republic of Korea Air Force  |
| Defense Advanced Research Projects Agency                    | Slovakia Ministry of Defence   |
| Defense Information Systems Agency - Defense Spectrum Office | Tubitak UEKAE  |
| European Defence Agency                                      | United Kingdom Ministry of Defence   |
| Federal Bureau of Investigation                              | United States Department of Homeland Security                                    |
| Federal Communications Commission                            | United States Department of Defense  |
| Federal Network Agency, Germany                              | US Army Program Executive Office for Simulation, Training and<br>Instrumentation |
| Joint Program Executive Office - JTRS                        | US Army CERDEC   |
| JTRS GNR and HMS Project Management Office                   | US Office of Assistant Secretary of Defense                                      |
| Naval Research Lab   |  |
| National Institute of Science and Technology                 |  |

## Become an SDR'10 Exhibitor

The Forum's annual Conference and Product Exposition provides exhibitors with an outstanding opportunity to reach partners and customers at all levels of the wireless value chain. This conference is the largest of its type focused on the reconfigurable radio community. Last year's 563 registered delegates included investors, commercial network operators, radio manufacturers, system integrators, government procurement officials, regulators, engineering service providers and consultants from over 26 different countries. Of these, over 61% had either direct purchasing authority or the ability to significantly influence radio technology acceptance and purchasing decisions.

The ability for exhibitors to reach Forum members, visitors and conference attendees is further enhanced through inclusion on the SDR '10 web site. Upon receipt of exhibition contract a direct link will be established through the conference site to promote SDR '10 exhibitors. This link will remain active for at least two months following the event.

Attendees will also receive information on all participating exhibitors through the conference program which will be handed out to all those attending the event. This information will facilitate visits to the exhibits by highlighting participating organizations and will also be a useful take away resource for delegates following the conference.

Exhibit space is available on a first-come, first-served basis. Organizations wishing to exhibit should fill out this Exhibitor Contact form and email it to Al Margulies ([asm@WirelessInnovation.org](mailto:asm@WirelessInnovation.org)).

Exhibitors are encouraged to register early to ensure that they get the booth location of their choice. Early registrants will also benefit from increased reach through the web site by those interested in getting further information on the conference, including the exhibitors.

We will be co-locating demonstrations with the exhibits on Wednesday night.

### 2010 Exhibit Hours

Wednesday December 1st - 11:30 to 1:30 (Lunch served in the exhibit hall)

Wednesday December 1st - 5:30 to 7:30 (During the evening reception)

Thursday December 2nd - 11:30 to 1:30 (Lunch served in the exhibit hall)

### 2010 Exhibition Rates

Forum Member \$1345

Non-Member \$1800

# ABOUT THE WIRELESS INNOVATION FORUM

**The Wireless Innovation Forum (SDR Forum version 2.0)** is an international industry association dedicated to supporting the development and deployment of software defined and cognitive radio systems. Our **global membership** is comprised of decision makers, planners, policy makers, technical leaders, suppliers, manufacturers and educators.

**Become a member and gain insight to emerging technologies.** Access key technical documents, industry reports and market surveys. **Network. Collaborate. Participate** in committees, workgroups and workshops to define market requirements, establish the regulatory landscape, and develop specifications for SDR technologies.

**Want to know more, get involved?** To participate in the Forum's advocacy, opportunity development, commercialization and education activities in the defense, public safety, space, and commercial communications markets, contact the Forum's CEO at [Lee.Pucker@WirelessInnovation.org](mailto:Lee.Pucker@WirelessInnovation.org).

**Want to become a member?** Visit the Forum's web site:



[www.WirelessInnovation.org](http://www.WirelessInnovation.org)

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