

FY2011 Operations Plan

Version 1.0.0

15 June 2010

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1 Introduction – The Wireless Innovation Forum FY2011 Objectives

The Wireless Innovation Forum (SDR Forum version 2.0) Board of Directors has established the following eight items as high level objectives for the Forum for the period from July 1, 2010 through June 30, 2011 in executing on the Forum's Strategic Plan:

1. **Deliver Relevant Work Products** – The Forum's members shall ballot and release at least four new Specifications supporting the Forum's commercialization strategy. In addition, each committee within the Forum shall ballot and release at least one Report and at least one Recommendation supporting the Forum's advocacy, business development and education strategies in the 12 month period starting July 1st, 2010. The Forum shall actively promote these work products as they are developed, to solicit contributions from members and partners towards their creation and to ensure that they accurately reflect the broader consensus views of the Forum.
2. **Establish a Certification Capability** – The Forum's members shall evaluate establishing a certification capability to promote interoperability testing for key technologies important to Forum members.
3. **Define New Initiatives** – The Forum's members shall establish at least one new special interest group, which will extend the Forum into a relevant new domain following the Forum's defined strategy on growth. In addition, the Forum's members will initiate at least four new projects starting in 2011 with deliverables that will advance the Forum's strategies in advocacy, business development, commercialization and education through 2012.
4. **Increase End User Participation** – The Forum's members shall define and initiate projects and programs to measurably increase participation in Forum activities by End Users and their representatives as defined in the Forum's strategic plan. These new efforts will include, at a minimum, a workshop to be organized and hosted by each special interest group focused on exploring requirements for next generation wireless communications systems in their target market domain.
5. **Publish a “Top 10 Most Wanted Wireless Innovations” List** – The Forum's roadmap committee shall publish its first Top 10 Most Wanted Wireless Innovations list by the June 2011 general meeting.
6. **Strengthen the Forum's Brand** – The Forum shall enhance the relevance of its new brand where possible within the advanced wireless community through structured marketing that professionally promotes Forum events and activities, coupled with a market outreach program and a continuing focus on cultivating collaborative relationships with partner organizations.
7. **Improve Regional Support** – The Forum will nurture the mechanisms and relationships established in 2008 and 2009 to support its members in ITU regions 1 and 3, ensuring their success moving forward. In addition, new opportunities for improving regional support will be explored on an ongoing basis, including opening regional offices of the Forum staffed with personnel dedicated to growing participation in that region and supporting the specific needs of the local member organizations, chartering regional chapters of the Forum and supporting those chapters in holding local meetings focused on regional issues, and establishing regional workshops and conferences focused on specific areas of local interest.

These new activities shall only move forward with a business case approved by the Board of Directors outlining the anticipated return on investment for each initiative.

8. **Grow Participation** - The Forum believes that executing on these high level objectives will inherently lead to increased participation in the Forum's meetings, increased attendance at the SDR '10 Technical Conference and Product Exposition, and ultimately grow the Forum's membership. As such, the Forum's Board of Directors has established a metric of 10% growth across the board for participation in Forum activities and events, and will use this metric to measure success in executing on the overall strategy.

This document presents specific plans for achieving these high level objectives in separate sections dedicated to the FY2011 Meeting Plan, and the respective work plans of the User Requirements Committee, the Regulatory Committee, the Committee on Next Generation Radio Technology, the Committee on Advanced Wireless Networking and Infrastructure, the Coordinating Committee on International SCA Standards, the Board of Directors, and the Forum's Corporate Administration. The budget necessary to support these objectives is also addressed in the last section of this document.

2 Wireless Innovation Forum Organizational Overview

2.1 Forum Structure

The FY2011 Organizational Structure of The Wireless Innovation Forum is presented in Figure 1. The Forum is organized around five primary committees and a roadmap committee, whose responsibilities are summarized as follows:

- *The User Requirements Committee:* The User Requirements Committee acts as the primary interface for requirements with the wireless end-users and the representatives of wireless end-users in their segment, including, as appropriate, network operators, government acquisition authorities and research sponsors. Through Special Interest Groups (SIGs), the Committee works with these key stakeholders to validate concepts and requirements against technology readiness and standardization and to document domain specific requirements, use cases and business models that will drive the activities of the Regulatory and Technical committees. The User Requirements Committee also supports member organizations in identifying new opportunities for next generation products and services in each defined market domain.
- *The Regulatory Committee:* The Regulatory Committee works with the regulatory and public policy community to establish a global regulatory framework promoting the adoption of emerging technologies for advanced wireless systems. The work of the Regulatory Committee is facilitated by a Regulatory Advisory Committee made up of regulatory and public policy officials and experts from around the world working on relevant issues.
- *The Technical Committees:*
 - Committee on Next Generation Radio Technologies: provides a venue for the exchange of information on emerging radio technologies and produces reports, specifications and recommendations supporting the use of next generation technologies in radio devices.
 - Committee on Advanced Wireless Networking and Infrastructure: provides a venue for the exchange of information on emerging technologies important in wireless networking and produces reports, specifications and recommendations supporting the development and deployment of advanced wireless systems.
 - Coordinating Committee on International SCA Standards: supports the harmonization of SCA based standards at the international level for the mutual benefits of all stakeholders to include:
 - Defining an industry driven SCA evolution roadmap for the international community
 - Profiling the SCA specification and related APIs to define internationally accepted variants that are hosted by the Forum
 - Developing extensions to the SCA standards that address any gaps between the defined SCA evolution roadmap and Forum accepted SCA specification variants

- Providing implementation and certification guides, tools etc. easing implementation and supporting proliferation
 - Establishing and managing industry led certification programs where appropriate
- *The Roadmap Committee:* Defines and publishes the Forum’s “Top 10 Most Wanted Wireless Innovations”

These committees are managed by the Forum’s elected officers, which include the Chair and Vice Chair of the Forum, the Technical Director, the chairs of the User Requirements and Regulatory Committees, the Secretary, and the Treasurer.

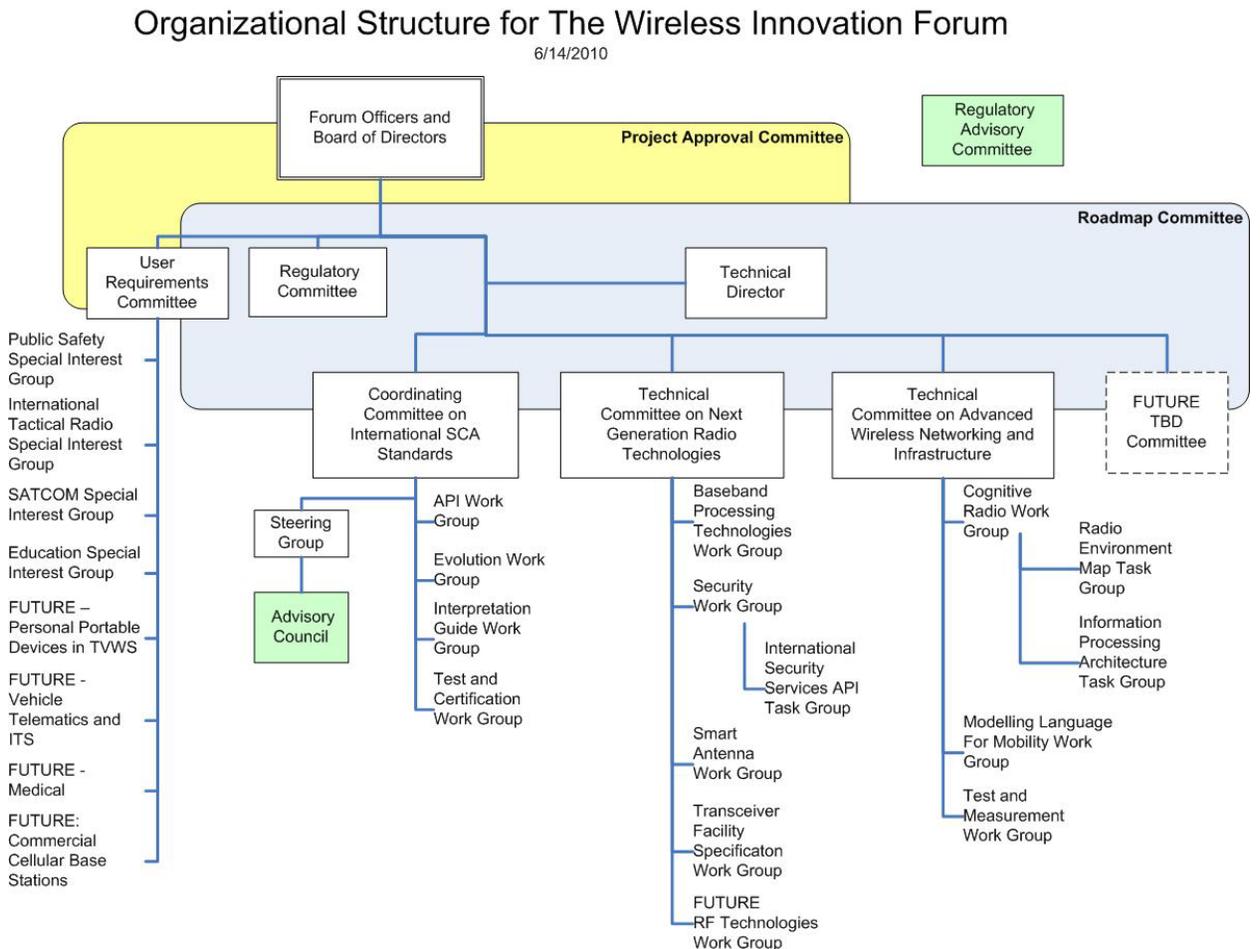


Figure 1: Wireless Innovation Forum FY2011 Organizational Structure

Management and oversight of the Forum as a whole, including the Forum’s corporate affairs, is performed by the Forum’s Board of Directors. These directors are elected on an annual basis, as defined in the [Bylaws](#). The elected slate of Directors for Calendar Year 2010 is provided in Table 1.

Name	Member Organization	Position	Email
Peter Cook	Hypres	Chair of the Board of Directors	pgcook@pgcook.com
David Renaudeau	Thales Communications	Director, ITU Region 1 Representative	david.renaudeau@fr.thalesgroup.com
Paul Kolodzy	Kolodzy Consulting	Director, ITU Region 2 Representative	pkolodzy@kolodzy.com
Seung-Hwan Lee	ETRI	Director, ITU Region 3 Representative	lsh@etri.re.kr
John Glossner	Sandbridge Technologies	Director, Small Company Representative	jglossner@sandbridgetech.com
Rafael Aguado	Indra Sistemas	Director, Medium Company Representative	ramunoz@indra.es
Bob Schutz	Datron World Communications	Director, Large Company Representative	bschutz@dtwc.com
John Powell	NPSTC	Director, Government and Non-Profit Representative	jpowell@berkeley.edu
Paul Sutton	Centre for Telecomm Research	Director, Academic Institutions Representative	suttonpd@tcd.ie
Hiroshi Harada	NICT	Director, At-Large Director	harada@nict.go.jp
Pekka Heikkinen	Elektrobit	Director, At-Large Director	Pekka.Heikkinen@elektrobit.com
David Murotake	SCA Technica	Director, At-Large Director	dmurotak@scatechnica.com
Bruce Oberlies	Motorola	Officer and Director, President and Chair of the Forum	bruce.oberlies@motorola.com
Ruediger Leschhorn	Rohde and Schwarz	Officer and Director, Vice President and Vice Chair of the Forum	ruediger.leschhorn@rohde-schwarz.com
Manuel Uhm	Xilinx	Officer and Director, Chair of the User Requirements Committee	manuel.uhm@xilinx.com
Peter Tenhula	Shared Spectrum Company	Officer and Director, Chair of the Regulatory Committee	ptenhula@ieee.org
Claude Belisle	Communications Research Center	Officer and Director, Technical Director	claudio.belisle@crc.ca
Mark Turner	Harris Corporation	Officer and Director, Forum Treasurer and Chief Financial Officer	mturner@harris.com
Eric Christensen	General Dynamics	Officer and Director, Forum Secretary	eric.christensen@gdc4s.com

Table 1: 2010 Board of Directors of The Software Defined Radio Forum Inc.

2.2 Forum Corporate Administration

Corporate administration services are provided to the Forum through a combination of employees, consultants, and third party contractors. The Forum's key personnel for FY2011 are as follows:

- Chief Executive Officer ([Lee Pucker](#)) – Reporting to the Board of Directors, the Chief Executive Officer's primary responsibility is to maximize the value the Forum brings to its

members. Accordingly, the CEO drives the development of the Forum's Strategic Plan and supports the Forum's other officers in executing on that plan. The CEO proactively identifies opportunities, solves the Forum's critical problems, and makes an effort to anticipate future needs of the membership. The CEO assures that the organization and its mission, programs, products and services are consistently presented in a strong, positive image to relevant stakeholders, in particular to the Forum's membership. The CEO, with the Treasurer, oversees the organization's finances, ensuring the Forum's member's needs are met to the maximum extent possible while maintaining financial stability as a not-for-profit organization.

- Deputy Chief Executive Officer ([Allan Margulies](#)) – The Deputy CEO's primary responsibility is to support the CEO in advancing the Forum's strategic plan and maximizing the quality of services provided to its member organizations. Reporting to the Forum's CEO, the Deputy CEO proactively supports the CEO in managing day to day operations of the Forum, ensuring compliance of all relevant laws and regulations while maintaining high ethical standards at all times. The Deputy CEO has primary responsibility for organizing Forum meetings and events and acts for the CEO in his or her absence.
- Director of Marketing and Communications ([Stephanie Hamill](#)). The Director of Marketing and Communications (MarCom) has primary responsibility for managing communications for the Forum, including internet presence and member communications, and supporting the CEO in establishing and maintaining the Forum's leadership in advanced wireless markets, evangelizing the Forum's programs and services, and supporting the organizational objectives of the Forum's membership. Reporting to the Forum's CEO, the Director of MarCom helps assure that the Forum and its mission, programs, products and services are consistently presented in a strong, positive image to relevant stakeholders, in particular to the Forum's membership.
- Office Manager ([Karen Watkins](#)) – Reporting to the CEO, the Office Manager manages the daily operation of the Forum's virtual office including sending and receiving mail and faxes, and collecting and maintaining documents and records. The Office Manager is responsible for all aspects of book keeping, including accounts payable, accounts receivable, general ledger, preparation of invoices and preparation of monthly reports for the CEO. The Office Manager also supervises the bi-monthly payroll run, supports tax preparation and year-end audit, manages the Forum's Group Portal and maintains the Forum's membership database, attendance lists and email lists. Finally, the Office Manager manages meeting registration and provides additional support for meetings and events as needed.

The slate of key consultants and contractors retained by the Forum to support its members in FY2011 are as follows:

- 1) [Joel Gluck](#) – Web Master
- 2) [Grass Coffey & Scharlau, CPAs](#) – Audits and Finance
- 3) [Gesmer Updegrove LLP](#) – Legal Counsel
- 4) [InfoEx World Services](#) – Representative for the Forum in China

In addition, the Forum retains a document editor on an as needed basis to support the creation of reports, specifications and recommendations by its members. Additional details on the Corporate Administration Work Plan for FY2011 can be found in Section 9 of this plan.

3 User Requirements Committee's FY2011 Work Plan (Chair: Manuel Uhm (Xilinx))

The organization of the User Requirements Committee (URC) for FY2011 is presented in Figure 2. Included within the structure of this Committee are multiple Special Interest Groups, or SIGs, which are cross-disciplinary work groups comprising end users, operators, service providers, radio manufacturers, and regulators focused on the needs of a single market or market segment. The URC currently supports four special interest groups:

- ***Education Special Interest Group*** – The Educational Special Interest Group (Chair: Carl Dietrich (Virginia Tech), Vice-Chair: Tim Newman (Virginia Tech)) is the interface of the Forum to the Educational Community, and is tasked with:
 - raising awareness of resources for education in SDR, Cognitive Radio, and related advanced wireless technologies,
 - publicizing the activities of the Forum as they pertain to issues of interest and concern within this community, and
 - increasing participation of this community in the Wireless Innovation Forum.

The Educational SIG also interacts with other committees and work groups within the Forum to provide the Educational Community inputs into the publications and initiatives undertaken by the Forum and to solicit inputs on topics related to wireless communications education.

- ***International Tactical Radio Special Interest Group*** – The charter of the International Tactical Radio SIG (Chair: Rafael Aguado Muñoz (Indra), Vice-Chair: Jimmie Marks (Raytheon)) is to forge strong relationships between the military tactical radio communities of the Americas, EMEA and Asia, to facilitate interoperable allied communications, to identify common industry requirements and drive to a common solution via the Wireless Innovation Forum Technical Committees outputs, and to endorse activities and outputs from industry, government, and unions (e.g., NATO).
- ***Public Safety Special Interest Group*** – The Public Safety Special Interest Group (Chair: Fred Frantz (L-3 Communications), Vice-Chair: Rick Taylor (Harris)) is the interface of the Forum to the Public Safety Community (including both users and vendors), and is tasked with raising awareness of advanced wireless technology applicable to public safety, publicizing the activities of the Forum as they pertain to issues of interest and concern within this community and increasing participation of this community in the Wireless Innovation Forum. The Public Safety SIG also interacts with other committees and work groups within the Forum to provide the Public Safety Community's inputs into the publications and initiatives undertaken by the Forum.
- ***Satellite Communications Special Interest Group*** – The charter of the Satellite Communications SIG (SATCOM-SIG) (Interim Chair: Bob Schutz (Datron World Communications, Inc.)) is the interface of the Forum to the Satellite Communications Community (including both users and vendors), and is tasked with raising awareness of Software Defined Radio (SDR) and Cognitive Radio (CR) architectures within the community. The SATCOM-SIG also interacts with other committees and work groups

within the Forum to provide user needs input from the satellite industry community for advanced, adaptive communications architectures. A key focus of the SATCOM-SIG is on development of hybrid (SATCOM and Terrestrial) communications architecture for ubiquitous information processing across communication domains.

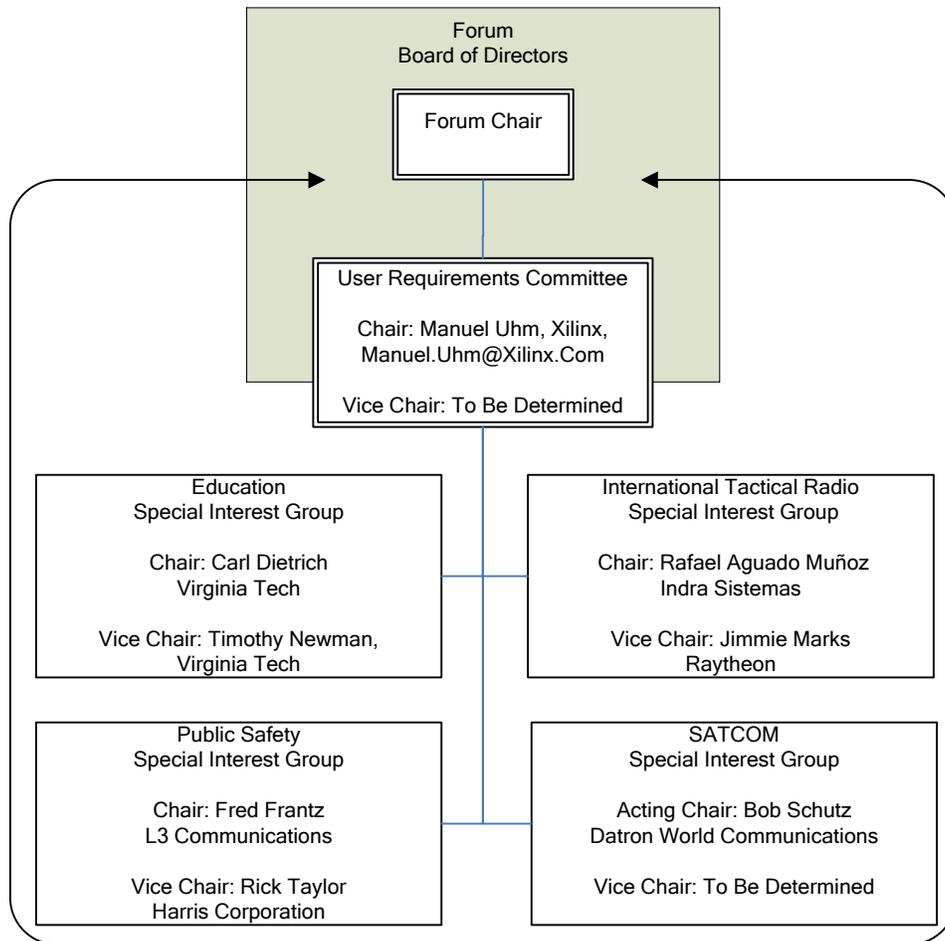


Figure 2: User Requirements Committee Organizational Structure

Through this organizational structure, the URC will undertake the following in FY2011 in support of the Forum’s high level objectives:

- **Deliver Relevant Work Products** – The URC plans to deliver the following work products in FY2011 in support of this objective:
 - **“Cognitive Radio Technology Survey for Public Safety”**. This study is being done by the Public Safety SIG for public safety community leadership, researchers, product developers, regulatory, and standards developers who are planning the evolution of communication capabilities and/or can benefit from awareness of future technology developments. It is based on the technology requirements identified in the Cognitive Use Case documents published by the

Public Safety SIG and the Quantification Document under development by the Cognitive Radio WG to identify both current and projected maturity and also availability of technology to fulfill those requirements. The Final Report will include a description of emerging technologies that can be applied to the public safety domain and provide a coarse estimate of the current and projected Technology Readiness Levels (TRLs). This document is expected to go to ballot in the Q4 FY2011.

- **“Hybrid SATCOM Reference Architecture for Public Safety Applications”** – The SATCOM-SIG will engage in development of reference architectures for a policy based platform to enable concurrent operation of satellite and terrestrial communication for public safety applications. This reference architecture will be based on the Forum’s Information Processing Architecture (IPA) development and will serve as a reference architecture for hardware, software, and applications development of hybrid communication platforms that provide convergence of Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) networks. This document is expected to go to ballot in the Q4 FY2011.
- **“Issues in the International Tactical Radio Market Domain”** – The ITR-SIG will complete work on this report which identifies the trends and issues associated with the introduction and usage of SDR technologies in the international tactical radio market. The report is being prepared for tactical radio customers, primes, contractors and suppliers worldwide who need to understand the industry trends and barriers to achieving success using SDR concepts and technologies. This document is expected to go to ballot in the Q1 FY2011.
- **Wireless Innovation Forum Recommendations** – The URC will evaluate opportunities for Recommendations throughout the year and will create ad-hoc project groups to deliver these Recommendations when appropriate.
- **Define New Initiatives** – The URC will undertake the following two activities in FY2011 in support of this objective:
 - The **Education Special Interest Group** will explore a number of new projects to initiate, including:
 - SDR Distinguished Speaker Series
 - GNU Radio Laboratory
 - RFI To Industry on Education Needs
 - SDR Curriculum Recommendations
 - Undergraduate SDR Contest
 - The **International Tactical Radio Special Interest Group** will work to strengthen relationship with other groups, especially the Test and Certification Work Group and the Security Work Group. The group also intends to initiate a project to gather and report on requirements for next generation radios, with inputs to come from the US Department of Defense, The European Defense Agency and civil radio providers.
 - **Market Sizing Report** – The URC will partner with an accredited industry analyst to produce a market sizing report focusing on mature SDR industries: commercial wireless infrastructure, MILCOM, public safety, and SATCOM

- **Increase End User Participation** – The Public Safety SIG will organize a workshop on advanced wireless technology for public safety to be held as part of SDR’10.
- **Grow Participation** – The URC will undertake the following two activities in FY2011 in support of this objective:
 - **Outreach** – The URC will actively engage in outreach activities to bring new members to the Forum who are keenly interested in identifying new business opportunities and developing new opportunities for their products and services. This will be a primary activity for the URC in FY2011, with at least 3 new member organizations brought into the Forum by June of 2011 specifically to participate in URC activities.
 - **SDR ’10 Analysts Workshop** – The URC will host a conference workshop during SDR ’10 focused on outreach and education. This will bring industry and analysts together to explore the potential markets for SDR and CR technologies, the current state of applicable technology, regulations and business models, and technical regulatory and business issues hampering adoption.

4 Regulatory Committee’s FY2011 Work Plan (Chair: Peter Tenhula (Shared Spectrum Company), Vice Chair: Paul Kolodzy, Kolodzy Consulting)

The organization of the Regulatory Committee will continue to evolve in FY2011 to increase member participation and value, to facilitate collaboration with other Forum groups, to ensure excellent expert resources, and to further shape and promote the Forum’s regulatory agenda. Specifically, the Regulatory Committee will seek to establish a more formal committee structure, clarify the roles of active members, identify liaisons from other Forum groups, and conduct regular conference calls and joint meetings.

The Regulatory Committee will continue to collaborate with the regulatory and public policy community through the Forum’s Regulatory Advisory Committee (RAC) and Forum-sponsored events. The Regulatory Committee will also utilize the services of the Forum’s new outside regulatory counsel, as necessary and subject to budgetary constraints, for regulatory and legal matters in promotion of the Forum’s regulatory agenda.

In addition to implementing changes to the Committee’s organizational and operational aspects, the Regulatory Committee will pursue the following initiatives in fiscal year 2011 in support of the Forum’s High Level Objectives:

- **Deliver Relevant Work Products** – The Regulatory Committee will proactively track and participate in relevant regulatory proceedings and events. The Regulatory Committee plans to ballot and release at least one Report and at least one Recommendation in support of the Forum’s advocacy strategy. These deliverables will be dependent on activities and initiatives of regulatory bodies around the world, including but not limited to the following:

- the International Telecommunications Union Radiocommunications Sector (ITU-R);
- inter-governmental and regional organizations such as the Inter-American Telecommunication Commission (CITEL), the Asia Pacific Telecommunity (APT) and the European Commission's Information Society and Media Directorate General through the Radio Spectrum Policy Group (RSPG); and
- national regulators such as the U.S. Federal Communications Commission (FCC) and National Telecommunications Information Administration (NTIA), the U.K. Office of Communications (Ofcom), Industry Canada, Japan's Ministry of Internal Affairs and Communications (MIC), Germany's Federal Network Agency (BNetzA), the Korea Communications Commission (KCC) and other agencies seeking to promote adoption of emerging technologies for advanced wireless systems.

These Reports and Recommendations will also depend on available Forum resources and the members' interest in following particular proceedings and advocating certain positions, but could include the following work products:

- A Report on the Global Regulatory Environment for Dynamic Spectrum Access (DSA) that would provide a survey of current and ongoing regulatory evaluations and initiatives involving DSA-enabled cognitive radio and related technologies.
- A Report on the Forum's Regulatory Agenda toward a global regulatory framework promoting the adoption of emerging technologies for advanced wireless systems that would be based on inputs from a membership survey, the RAC, the User Requirements Committee, the Technical Committees and the Board of Directors.
- Member alerts (through the Regulatory Committee's portal page and e-mail) that would inform members of upcoming regulatory filings and other regulatory activities around the world that may impact Members' ability to achieve their organizational objectives.
- Recommendations in the form of comments, reply comments, position papers or other filings or submissions to regulatory bodies that would be submitted in response to specific requests, inquiries, consultations or other events. Working closely with the other Committees and the Board of Directors, the Regulatory Committee would, where and when appropriate, spawn ad-hoc projects or joint task groups to develop and provide such recommendations in connection with the following organizations, initiatives or proceedings:
 - ITU-R: 2012 World Radio Conference (WRC-12) preparatory activities and studies (ITU-R WP1B, WP5A, CITEL, APT, etc.);
 - U.S. FCC: Television White Space Devices, 700 MHz D Block and Public Safety Spectrum, Spectrum Etiquettes in Unlicensed Bands, National Broadband Plan Initiatives (2.3 GHz WCS/SDARS, terrestrial broadband Mobile Satellite spectrum, Broadcast TV Spectrum Incentive Auctions and Repacking, Advanced Wireless Services Band Analysis, Contiguous Spectrum for Unlicensed Use, Opportunistic Use of Spectrum, Experimental Licensing, Spectrum Sharing/Wireless Backhaul, Secondary

Markets Internal Review, Spectrum Dashboard and Consolidated Licensing System, Strategic Spectrum Plan, etc.);

- U.S. NTIA: Commerce Spectrum Management Advisory Committee; Spectrum Sharing Innovation Test-Bed, Dynamic Spectrum Access Coordination Group, etc;
 - U.K. Ofcom: Cognitive Devices in Digital Dividend Interleaved Spectrum, Secondary Trading Streamlining and other matters;
 - E.U. RSPG: Report on Cognitive Radio Technologies;
 - Industry Canada: Spectrum Management and Telecommunications Sector consultations regarding 1.4 GHz (L Band), 2.5 GHz (Broadband Radio Service) and other matters; and
 - such other proceedings consistent with the Forum’s regulatory agenda.
- **Establish a Certification Capability** –The Regulatory Committee will provide relevant input and guidance to assist in the establishment of the Forum’s certification capability to promote interoperability testing for key technologies to ensure such capability would be consistent with and helpful to applicable regulatory schemes for such equipment.
 - **Define New Initiatives** – The Regulatory Committee will support ongoing projects and new initiatives, as necessary, to help identify and eliminate regulatory barriers, misconceptions and constraints that may impact Forum members’ ability to pursue new business opportunities or hinder the feasibility of potential technical options.
 - **Increase End User Participation** – The Regulatory Committee will actively engage in outreach activities to increase participation in Forum activities by End Users and their representatives who are keenly interested in regulatory issues affecting next generation wireless communications systems.
 - Outreach: The Regulatory Committee, with the assistance of Forum staff, will continue to solicit active participation from regulatory/governmental affairs departments and other relevant groups within member organizations from each ITU region and will develop opportunities to interact with key regulatory officials in conjunction with Forum meetings and workshops, the SDR ’10 Technical Conference and Product Exposition, agency visits, receptions or other events.
 - Workshops: The Regulatory Committee will work with the SDR ’10 program committee and Forum staff to organize a Regulatory Workshop and complimentary plenary sessions at the conference. The Committee will also work with the Committee on Advanced Wireless Networking and Infrastructure to organize and host a TV White Space workshop in September 2010 (see below).
 - **Publish a “Top 10 Most Wanted Wireless Innovations” List** – The Chair and Vice Chair of the Regulatory Committee will participate on the Forum’s Roadmap Committee.

5 Technical Committees' FY2011 Work Plans

5.1 *Committee on Advanced Wireless Networking and Infrastructure's FY2011 Work Plan (Chair: Jim Rodenkirch (Omega-Tec))*

The organization for the Committee on Advanced Wireless Networking and Infrastructure (TC-AWNI) is presented in Figure 3. Entering FY2011, the Committee has four ongoing projects:

- ***“Cognitive Radio Database (CRDB): Anticipating Future CR Needs with the Development of a Radio Environment Map (REM)”*** – This Specification is being produced by the **Cognitive Radio Work Group** (Project Leads: James Neel, Cognitive Radio Technologies and Youping Zhao, Shared Spectrum Company) for third party database providers and TV White Space (TVWS) device manufacturers to provide guidance about database structures and standardized formats and functionalities that supports the flexibility necessary to accommodate current and future cognitive radio spectrum applications, such as mobility, spectrum economic transactions, dropouts, handovers, available networks, and services, etc. In this first volume, two use cases for extending database functionality will be presented, developed from a survey existing TVWS database proposals, and further applications enabled by more extensive information sharing and in other bands will be described.
- ***“Information Process Architecture”*** – This Report is being produced in two parts by the **Cognitive Radio Work Group** (Project Leads: Pete Cook, Hypres and Jim Rodenkirch, Omega Tec, LLC) for stakeholders of Complex Information Systems and their associated Communications Subsystems who need to represent the current state of their systems, consider how to expand and enhance them from a process perspective, and analyze opportunities to be interoperable with other systems with similar characteristics, but developed independently. The Information Process Architecture provides a general top-down model and a series of tools or views - Operational, System, and Technical Standards – for depicting the complex system's structure. This project will aid in defining, designing and selecting Cognitive Radio processes relevant and useful to Communication System stakeholders and, via a top-down approach, facilitate an improved understanding of the structure and relationships between Information Systems that span user domains, and allow users to assess the role of their systems with these architectural products. The first part of the report establishes reference architecture for information processing in communications systems and develops key concepts. The second part applies these concepts to practical use cases drawn from the Public Safety Chemical Plant Scenario and from the Smart Grid to test and refine the reference architecture.
- ***“Modeling Languages for Mobility”*** – This Report is being developed by the **Modeling Language for Mobility (MLM) Work Group** (Chair: Mitch Kokar (Vistology), Vice Chair: Vince Kovarik (Harris Corporation)) for developers of next generation communication systems who want to develop flexible and efficient communication protocols between advanced radio systems to support next generation features of vertical and horizontal mobility, spectrum awareness and dynamic spectrum adaption, waveform optimization capabilities, feature exchanges, and advanced applications. The Report will

include use cases, corresponding signalling plan, requirements and technical analysis of the information exchanges that enable these next generation features. It is intended to lead to specifications/standards for languages and data exchange structures to support these capabilities, with the ontology and the MLM language developed in this project providing opportunities for development of interoperable radios by independent vendors by providing a common language for knowledge and information exchange between multiple radios.

- ***“Test Guidelines and Requirements for Secondary Spectrum Access of Unused TV Spectrum, also referred to as TV White Space”*** – This Report is being produced by the **Test and Measurement Work Group** (Chair: Bob Cutler (Agilent), Vice Chair: Neal Mellon (TDK)) for equipment designers and manufacturers, test & measurement vendors, test & evaluation departments, certification authorities, spectrum stakeholders, wireless service providers and end-users who are impacted by software defined radio and cognitive radio (SDR/CR) system technology developments such as dynamic waveform activation, opportunistic scheduling, dynamic spectrum access, secondary and unlicensed spectrum access (e.g. by TVBDs) and policy based operation which are features not implemented in traditional radio systems. The report will define the usage models and test requirements for personal portable devices in unused TV spectrum, with the overlaying spectrum availability, and will provide a basis for test and certification for radio manufacturers and regulators who need to understand the usage scenarios and test requirements for devices that can dynamically access unused spectrum in the TV bands through the use of cognitive techniques.

The TC-AWNI has established the following committee objectives for FY2011 to support the Forum’s High Level Objectives:

- **Deliver Relevant Work Products** – The TC-AWNI commits to delivering the following work products in support of this objective:
 - ***“Cognitive Radio Database (CRDB): Anticipating Future CR Needs with the Development of a Radio Environment Map (REM)”***
 - Volume 1 Work Group Ballot: Q1 FY2011
 - Volume 1 Plenary Ballot: Q2 FY2011
 - ***“Information Process Architecture”***
 - Part 1 Work Group Ballot: Q1 FY2011
 - Part 1 Plenary Ballot: Q2 FY2011
 - Part 2 Work Group Ballot: Q3 FY2011
 - Part 2 Plenary Ballot: Q4 FY2011
 - ***“Modeling Languages for Mobility”***
 - Work Group Ballot: Q1 FY2011
 - Plenary Ballot: Q2 FY2011
 - ***“Test Guidelines and Requirements for Secondary Spectrum Access of Unused TV Spectrum, also referred to as TV White Space”***
 - Work Group Ballot: Q2 FY2011
 - Plenary Ballot: Q3 FY2011

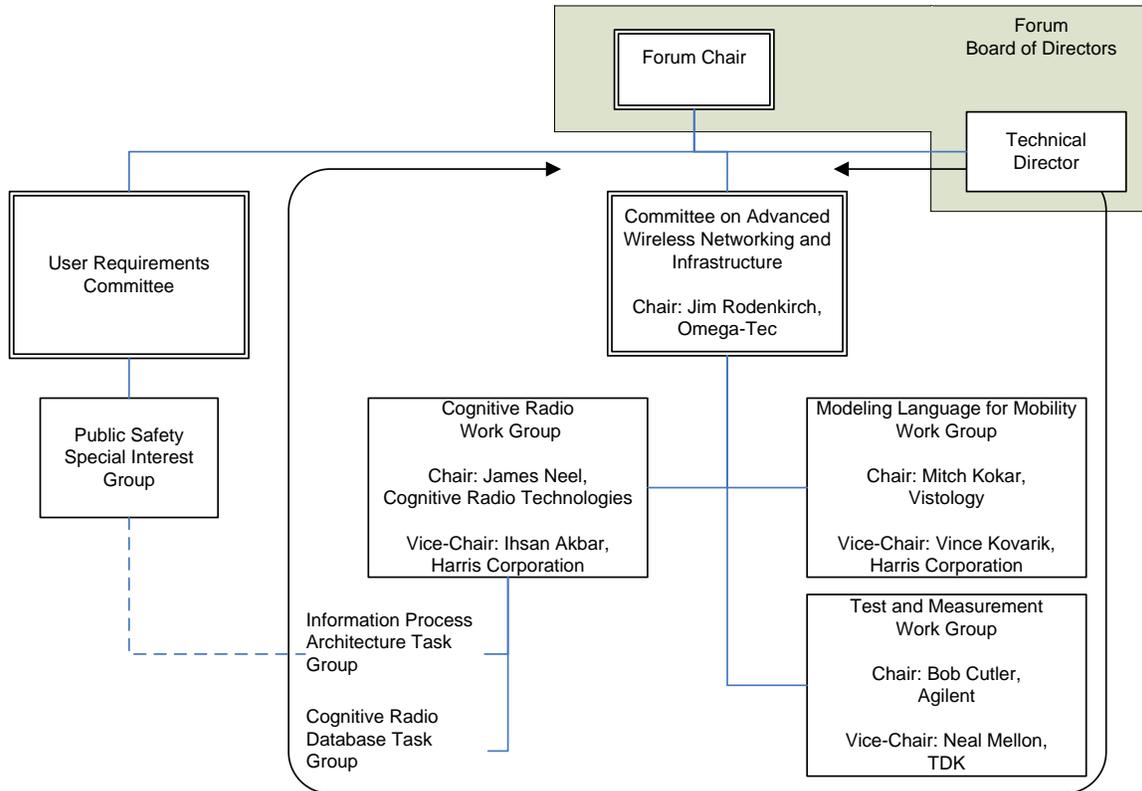


Figure 3: Committee on Advanced Wireless Networking and Infrastructure Organizational Structure

- **Define New Initiatives** – – The TC-AWNI will undertake the following new activities in FY2011 in support of this objective:
 - The **Cognitive Radio Work Group** will present the results of the Cognitive Radio Database project during a TV White Space Workshop scheduled for September 2010 (see “Increase End User Participation” below). During this workshop, future developments in cognitive radio databases will be discussed, and a new project will be initiated to incorporate the conclusions drawn into a second report that defines a roadmap for future cognitive radio database efforts.
 - The **Modeling Language for Mobility Work Group** will formally initiate a new project in Q2 FY2011 to update their report to include the following:
 - Use cases for policy based radio control
 - Analysis of the signalling requirements, message structures and protocols required to support the use cases
 - Conditions for turning on and off policy based control of radio system as well as recovery and failure modes that incrementally reduce the throughput or effectiveness of the radio systems
 - Ontology extensions needed to support policy based radio control
 - Policies and rules for policy based radio control
 - Implementation of the use cases on a radio platform
 - Waveform adaptation and optimization

- Comparison of policy engines
 - Interfacing policies and policy engines with radio platforms
- **Increase End User Participation** – The TC-AWNI working in cooperation with the Regulatory Committee will host a TV White Space workshop in September 2010. This workshop will bring together representatives from both industry and government to explore the technical, business and regulatory “go to market” hurdles for TV Band Devices, and to develop a collaborative action plan that addresses immediate needs without impacting future innovation and success throughout the wireless value chain.

5.2 Committee on Next Generation Radio Technologies (TC-NGRT) FY2011 Work Plan (Chair: Eric Nicollet (Thales), Vice Chair: John Glossner (Sandbridge Technologies))

The organization for the Committee on Next Generation Radio Technologies (TC-NGRT) is presented in Figure 4. Entering FY2011, the Committee has five ongoing projects as follows:

- **“Business Models for Open Source Air Interfaces”** – This report is being developed by the **Commercial Baseband Processing Technologies Work Group** (Chair: John Glossner, (Sandbridge)) for baseband providers, computer manufactures (MIDS), automotive electronics suppliers, handset manufacturers, infrastructure manufacturers, software services companies, and operators who need access to air interfaces for new platforms being developed or who may want a competitive baseband environment and access. The report will provide a description of open source licenses, potential business models, languages and development environments (C, python, Matlab), potential customers and markets for open source air interfaces, potential developers, and currently available open source projects.
- **“International Radio Security Services Application Programming Interface (API)”** – This specification is being developed by the **Security Work Group** (Project Lead: Mark Turner, Harris Corporation) for nations, international organizations and companies who need software interoperability and portability between international and independently developed software radios. The API will specify how to interface and operate with a common set of radio security services improving interoperability and portability of software through the use of a common open software architecture.
- **“Security Profiles for Public Safety Radios”** – This specification is being prepared by the **Security Work Group** (Chair: William Scott (General Dynamics C4S), Vice Chair: Tony Martin (SCA Technica)) to provide a security concept of operations (CONOPS) for public safety SDR and a security profile supporting the CONOPS for public safety SDR based on the document **“Securing Software Reconfigurable Communications Devices”** which was completed in FY2010. This specification is being created for designers, developers and manufacturers of Public Safety SDR Devices who need guidance on the process that should be followed to determine which of the security services would be appropriate and give range of sample analyses.
- **“Smart Antenna Specification: PIM and PSM for Smart Antenna”** – This specification is being updated by the Smart Antenna Work Group (Chair: Seungwon Choi (Hanyang University)) to incorporate the interface specification defined by the **“Transceiver Facility Specification”**.

- “Transceiver Facility Specification”** – This specification is being prepared by the **Transceiver System Interface Work Group (TSI-WG)** (Chair: Eric Nicollet (Thales Communications)) to capture the information needed for interoperability between waveform applications and transceiver subsystems, expressed as generic and abstract requirements for properties and programming interfaces, including the associated real-time issues. This specification is being prepared for radio system integrators, waveform providers, SDR platform providers and radio head manufacturers, who seek increased efficiency when integrating waveform applications with target platforms (incl. radio heads), and who seek increased portability for their waveform applications.

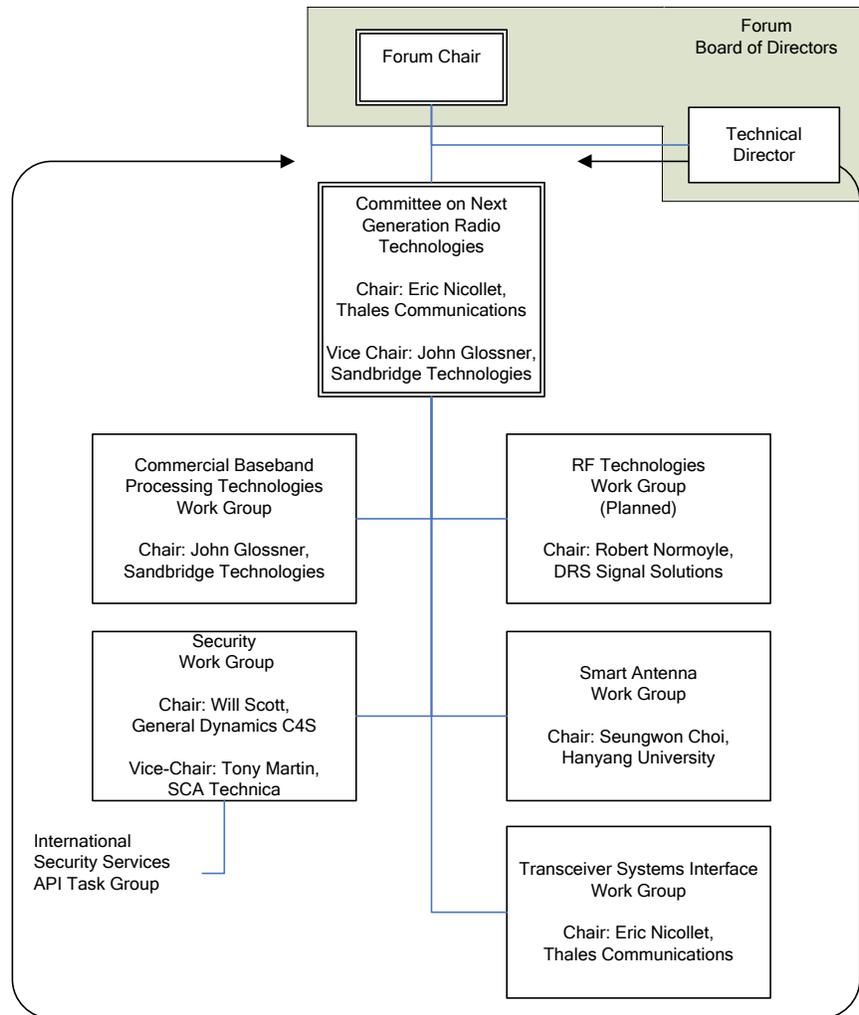


Figure 4: Committee on Next Generation Radio Technology Organizational Structure

The TC-NGRT has established the following committee objectives for FY2011 to support the Forum’s High Level Objectives:

- Deliver Relevant Work Products** – The TC-NGRT plans to deliver the following work products in FY2011 in support of this objective:

- **“Business Models for Open Source Air Interfaces”**
 - Initial Ballot: August 2010
 - Plenary Ballot: December 2010
 - **“International Radio Security Services Application Programming Interface (API)”**
 - Initial Ballot: April 2011
 - **“Security Profiles for Public Safety Radios”**
 - Initial Ballot: April 2011
 - **“PIM and PSM For Smart Antenna Version 3.0”**
 - Initial Ballot: September 2010
 - Plenary Ballot: December 2010
 - **“Transceiver Facility Specification Version 2.0”**
 - Initial Ballot: September 2010
 - Plenary Ballot: December 2010
- **Define New Initiatives** – The TC-NGRT will undertake the following new activities in FY2011 in support of this objective:
 - The **RF Technologies Work Group** (Chair: Bob Normoyle (DRS)) intends to form a new project focused on providing design aids to radio manufacturers on RF technologies operating over a broad range of spectral bands and the anticipated roadmaps for these technologies.
 - The **Transceiver System Interface Work Group** intends to initiate a “Plug Fest” test and verify implementations of Transceiver Facility Specification based on fast prototyping platforms supporting P25 and TETRA public safety waveforms
 - **Additional new projects:** Many of the projects currently underway within the TC-NGRT will conclude in December 2010. Upon the completion of these projects, the Committee will actively explore new projects to initiate through the Project Approval Committee that will attract new Forum members in target wireless markets. Working with the CEO, the Committee will define and promote these projects and recruit participation.

5.3 Coordinating Committee on International SCA Standards’ FY2011 Work Plan (Acting Chair: Claude Belisle (CRC))

The organization of the Coordinating Committee on International SCA Standards (CC SCA) is presented in Figure 5. Entering FY2011, the committee has three ongoing projects:

- **“Software Communications Architecture Interpretation Guide”** – This report is being prepared by the **SCA Interpretation Guide Work Group** (Chair: Steve Bernier (CRC)) for the participants in the international software defined radio community where the SCA and SCA derivatives are of relevant who need clarity on the SCA to harmonize the development of embedded system software in order to lower development and maintenance cost as well as time to market. The output of this activity will be submitted to the JTRS as comments and for inclusion in their next release of the specification, and will also be shared with the ESSOR program and on the Forum site for the international community to standardize on a single interpretation.

- **“SCA WG API Implementers Aids” – The SCA API Work Group** (Chair: Terry Anderson (ITT Industries)) will continue to develop a set of implementation aids for use by SCA radio and software developers, including an *“Implementers Guide”* providing a common interpretation of published SCA APIs along with hints and examples on their implementation, and additional API specifications as necessary.
- **“Test and Certification Guide for SDRs based on SCA Part 2”** – This recommendation is being jointly developed by **The SCA Test and Certification Work Group** (Chair: Ruediger Leschhorn (Rohde and Schwarz)) and the **International Tactical Radio Special Interest Group** (Chair: Rafael Aguado (Indra), Vice Chair: Jimmie Marks (Raytheon)) for procurement authorities and producers of radios, radio components and tools, who are active in markets where the standardised SCA is relevant and who need guidance how to establish test and certification facilities and how to develop and implement procedures for their efficient operation. The recommendation will define the realisation aspects (including business models) of the role based, generic certification process of SCA based SDRs, as defined in "Test and Certification Guide for SDRs based on SCA, Part 1: SCA" ([SDRF-08-P-0007-V1.0.0](#)) and identifies and analyzes candidate approaches for the roles defined in that document such as the "Test Developer Role".

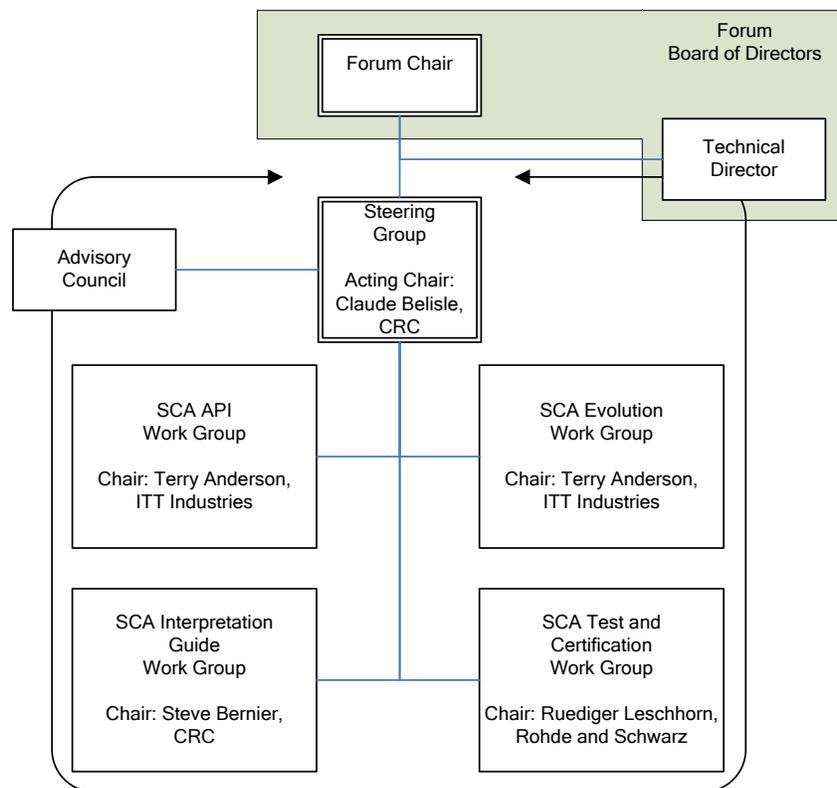


Figure 5: Coordinating Committee on International SCA Standards FY2011 Organizational Structure

In FY2011 the CC SCA will continue the reorganization undertaken in October 2009 to include forming the Steering Group in Q1 FY2011. In addition, the CC SCA has established the following committee objectives for FY2011 to support the Forum’s High Level Objectives:

- **Deliver Relevant Work Products** – The CC SCA commits to delivering the following work products in support of this objective:
 - **“Software Communications Architecture Interpretation Guide”**
 - Release 1 Work Group Ballot: December 2010
 - Release 1 Plenary Ballot: March 2011
 - Release 2 Work Group Ballot: May 2011
 - **“Test and Certification Guide for SDRs based on SCA Part 2”**
 - Work Group Ballot: June 2011

- **Define New Initiatives** – The CC SCA will undertake the following new activities in FY2011 in support of this objective:
 - The SCA Evolution Work Group: This work group will work with the Steering group to establish a roadmap for evolving the SCA specification with new features and will initiate at least one new project supporting that roadmap. In addition, the work group will monitor activities of the JTRS SCA Next and ESSOR Architecture Development Projects and, if appropriate, initiate a new project within the Forum to define feature recommendations for these government projects, building on the change proposal submissions made in FY2010.

- **Increase End User Participation** – The CC SCA will undertake the following new activities in FY2011 in support of this objective:
 - Form the Advisory Council to be completed by the end of Q1 FY2011
 - Organize a **“SCA Standards and Certification Workshop”** to be held in conjunction the October 2010 meeting in Turkey to obtain the views of the stakeholders.
 - The Steering Committee will, throughout the year, firm up the bridges between the Forum and the stakeholders, such as ESSOR and JTRS, and refine the roadmap of the CC SCA to address the requirements of the stakeholders.

6 Roadmap Committee FY2011 Work Plan (Chair: Claude Belisle (CRC))

The roadmap committee will undertake the following work items in support of its objective to publish the Forum’s first “Top 10 Most Wanted Wireless Innovations” list by the June 2011 General Meeting:

- Identification of potential reference architectures to be considered
- Discussion on potential Top Most wanted Technologies
- Definition of the Roadmap document strawman
- Identification of contributors for the Reference Architecture definition and Technologies

Discussion of these items will occur via the web portal, with the committee ballot of the Forum Roadmap to occur in to be initiated by the March 2011 General Meeting.

7 Board of Directors FY2011 Work Plan (Chair: Peter Cook (Hypres))

A primary responsibility of the Board of Directors in FY2011 will be to monitor the operations of the Forum and to ensure compliance with the 2010 to 2014 Strategy and this Operations Plan. Meetings of the Board of Directors will occur on the following dates:

- July 13, 2010
- August 10, 2010
- September 14, 2010 (in conjunction with the General Meeting)
- October 19, 2010
- November 9, 2010
- December 2, 2010 (following the election of directors at the Annual meeting)
- January 11, 2011
- February 8, 2011
- March 15, 2011 (in conjunction with the General Meeting)
- April 12, 2011
- May 10, 2011
- June 21, 2011 (in conjunction with the General Meeting)

An additional Board Meeting may be held in May 2011 to facilitate operations planning.

An additional key role of the Board of Directors is monitoring the financial performance of the Forum. This will occur under the following schedule:

- September 2010 General Meeting – Review the audited financial results for FY2010 to be presented to the members at the Annual Meeting in December, and the Q1 FY2011 forecast with projections for the remainder of the year.
- Annual Meeting of the Members – Present FY2010 audited financial results to the members, present updated FY2011 projections
- January Board Meeting – Review Q1 and Q2 FY2011 unaudited financial results and projections for the remainder of the year.
- March 2011 General Meeting – Review the Q3 FY2011 forecast with projections for the remainder of the year.
- June 2011 General Meeting – Review the FY2011 forecast and approve the FY2012 Operation Plan and Budget and submit to the membership for approval.

Additional work by the Board to monitor performance and explore strategy will be undertaken by the following Board committees:

- **Audits Committee** – Provides board oversight of the organization’s annual financial audit, including reviewing the adequacy and reliability of the Forum’s internal controls and financial reporting, review the independence of and performance of the Forum’s

external auditor, review alleged violations of the Forum's stated policies, and reports to the board on recommendations. Chair: Assigned by the Chair of the Board

- **Finance Committee** – Provides board oversight of the Forum finances including recommending financial policies and internal controls, reviewing the annual budget prepared by staff and recommending it to the full board for approval, and monitoring financial reports prepared by the staff, including monitoring of investments, against the approved budget. Chair: Treasurer
- **Employee Compensation and Contractor Performance Committee (ECCP)** – as defined in the Forum's [Bylaws](#)
- **Governance and Policy Committee** – provides oversight and assessment of the Board, identifies requirements for Board orientation and education. Reviews current best practices and governance trends and makes recommendations to the full board on bylaws and policies. Chair: Secretary
- **Planning Committee** – Provides board oversight of strategic planning process, including participating in an annual strategic review. Reviews and matures recommendations from the CEO on updates/modifications to the strategic plan, directs the CEO in specific areas to explore, and makes recommendations to the full board. Chair: Chair of the Forum.

A key deliverable of the Planning Committee for FY2011 in support of the Forum's High Level Goals is the **Formation and incubation of at least one Special Interest Group focused on a commercial wireless market**. The Forum's Planning Committee will work with the URC to identify potential candidates from a list of strategic markets, including evaluating the formation and Intelligent Transportation Systems (ITS) SIG and a Medical Devices SIG.

- **Nominating Committee** – As defined in the Forum's [Bylaws](#). The 2011 Nominating Committee will be formed by the Chair of the Board of Directors on or before the start of the September General Meeting, and will present the proposed slate of Directors to the Board at the 12 October 2010 Board meeting.

8 2011 Meeting and Event Plan

A primary purpose of the organization is to facilitate collaboration between members and the broader community to promote the advancement of advanced radio technologies. To support this objective, the Forum will hold multiple meetings and events throughout the year, as outlined in the sections below:

8.1 2011 Meetings and Workshops

The Wireless Innovation Forum will host four general meetings in calendar year 2011. These meetings will act as the primary venue for advancing the work items defined in this Operations Plan, and will provide a venue for outreach to potential new communities, regulatory officials

and members of strategic interest. The Forum will facilitate this latter objective through a significant increase in invited speakers and through the use of workshops as defined in the Strategic Plan. The current meeting and workshop schedule for 2011 is as follows:

- September Meeting – 67th General meeting 13-17 September 2010 in Schaumburg, IL (Hosted by Motorola)
 - Workshop: “Going to Market with TV Band Devices: Long Term Promises, Near Term Actions”
- October European Regional Meeting – 11-14 October 2010 in Antalya, Turkey (Hosted by Tubitak)
 - Workshop: “SCA Standards and Certification”
- March Meeting- 69th General meeting 14 to 17 March 2011 in San Diego (Hosted by and collocated with the JTRS Science and Technology Forum)
- June Meeting – 70th General meeting 20 to 24 June in Brussels (Tentative)
 - Workshop: 2011 European Reconfigurable Radio Technologies Workshop and Product Exposition

The draft agenda for each of these meetings will be posted within one week of the completion of the previous meeting, in accordance with the Forum’s meeting policies and procedures. Meeting locations will be announced at least 9 months in advance of the meeting.

Satisfaction surveys taken at Forum meetings will be used to determine attendee satisfaction, perceived problems, and potential improvements. The survey results will be used to guide plans for future meetings.

Goal: Increase average result in satisfaction surveys by one half point to 8.2

8.2 SDR ’10 Technical Conference and Product Exposition

The annual Technical Conference and Product Exposition will be held 30 November-3 December 2010 in Arlington, VA. Key personnel supporting the operation of the SDR ’10 Conference are as follows:

- General Conference Management: Lee Pucker
- General Program Chair: John Glossner
- Conference Logistics and Operations: Al Margulies
- Sponsorships and Exhibitions: Al Margulies
- Marketing and Media Relations: Stephanie Hamill

The technical program will include technical papers, presentations, tutorials, and demonstrations. The schedule for the conference is as follows:

- Call for Papers Issued: 09 Dec 2009
- Abstract Submission Due for all tracks: 16 April 2010
- Abstract Review Complete and Requests for Full Papers Issued: 17 May 2010

- | | |
|--|--------------|
| • Tutorials and Workshops: syllabus due | 12 Jun 2010 |
| • Full Papers Due: | 9 July 2010 |
| • Final Notification of Acceptance of Demos: | 15 Sept 2010 |
| • Demonstration Proposals Due: | 1 Sept 2010 |
| • Final Papers due | 01 Oct 2010 |
| • Presentations and Tutorials Due: | 15 Oct 2010 |

The Product Exhibition at SDR '10 will be on Wednesday and Thursday, and there will be a reception in the exhibit area on Wednesday evening that will include Demonstrations. The traditional welcome reception for SDR '10 will be on Tuesday night and a members-only reception will be held on Thursday evening in advance of the Forum's annual business meeting.

As with the general meetings, satisfaction surveys by attendees will be used to determine attendee satisfaction, perceived problems, and potential improvements. The survey results will be used to guide plans for future conferences. Some examples of these changes that are projected based on the surveys are:

- Including a hot item for breakfast, coffee and drinks available all day, refreshments for exhibitors
- Improved registration process
- Improved program guide with definitions of the individual tracks
- Instructions for speakers and chairs to improve consistency in sessions

Marketing plans for SDR '10 are discussed in Section 9.2.1.1 of this Operations Plan.

Goal: Increase average result in satisfaction surveys by one half point to 8.2

8.3 Annual Meeting of the Members

The Annual Meeting of the Members, as described in the Forum [Bylaws](#) will be held on Thursday, December 2nd 2010 in Crystal City, Virginia in conjunction with the SDR '10 Conference.

8.4 Ad Hoc meeting support

8.4.1 Electronic Meetings and Online Collaboration Tools

Much of the work of the Forum's members is done using electronic means, including teleconferences, web conferences, and online discussion forums. In 2008, the Forum added a number of services to facilitate electronic meetings, including web conferencing services and a new group portal to share files and facilitate the development of documents. In FY2011, the Forum will build on these tools to improve their efficacy in supporting the Wireless Innovation Forum's members' needs. In defining potential improvements, members of the Forum staff will periodically contact the Committee chairs and work group leaders to review the utilization of the group portal, the Forum teleconferencing services, and the Forum's web conferencing facilities, and then investigating new options that will make collaboration between members using these

tools more efficient. In addition, Forum staff will create an online Ballot results repository that will be available to the Officers of the Forum, providing a searchable directory of committee and plenary ballots that have occurred within the Forum for historical reference. Work on this directory will be completed in Q2 FY2011.

8.4.2 Group meetings

It is likely that there will be ad-hoc meetings of Forum working groups and committees independent of the Forum's General Meetings. When necessary, Forum staff will support those meetings by arranging for facilities, registration, and providing on-location assistance as required.

8.4.3 Joint meetings

When appropriate, the Forum will participate in joint meetings with other organizations that further Forum goals and objectives; Forum staff may also support those meetings.

8.5 SDR '11 Technical Conference and Product Exposition

The Forum will announce the location and schedule for SDR '11 during SDR '10, and the call for papers will be released shortly after that conference. The tentative schedule for the SDR'11 papers, presentations, tutorials and workshops is as follows:

- | | |
|---|----------------|
| • Abstracts Due (all tracks) | 9 April 2011 |
| • Abstracts Accepted Notification | 17 May 2011 |
| • Final Papers Due | 9 July 2011 |
| • Workshop/Tutorial Syllabus | 9 July 2010 |
| • Papers Accepted Notification | 23 August 2011 |
| • Demonstration Proposals Du1 | Sept 2011 |
| • Demonstrations Accepted Notification1 | 5 Sept 2011 |
| • Camera Ready Papers Due | 1 Oct 2011 |

8.6 European Reconfigurable Radio Technologies Workshop and Product Exposition

The reconfigurable radio technologies workshop and product expo is tentatively scheduled to be held at a location to be determined in Europe on or about 15-17 June 2011. This workshop will be held in conjunction with the Forum's 70th General Meeting which is expected to occur from 13-15 June and will be similar in scope to the Forum's annual technical conference but smaller in size. The product expo will be held on 16 June.

The decision on the location will be made based on an assessment of economic factors, including sponsorship opportunities, and ease of attendance by members; current options include Paris, Brussels, and Helsinki.

The tentative schedule for the event is:

- | | |
|--|------------------|
| • Call for Papers, Presentations and Tutorials announced | 9 September 2010 |
| • Abstracts Due (all tracks) | 19 January 2011 |
| • Abstracts Accepted Notification | 7 March 2011 |

- Final Papers Due 7 April 2011
- Papers Accepted Notification 7 May 2011
- Camera Ready Papers Due 7 May 2011
- Presentations Due 7 May 2011

8.7 Smart Radio Challenge

The Forum will re-evaluate the cost and benefits of the Smart Radio Challenge, and will assess its viability as a continuing program. This assessment will include consideration of potential financial support from sponsors as well as member sentiment regarding importance and image issues.

8.8 Webinar

Planning will begin in the first and second quarter of FY2011 for webinars to be sponsored by the Forum and conducted in the third and fourth quarters. Planning will include determining the appropriate topics and speakers, advertising the events, and arranging for facilities.

8.9 Planning and Management

Forum staff will fully support the Forum's FY2011 Meeting and Event Plan to include working with the Forum's officers and group leaders to craft and post meeting agendas within one week of the previous meeting and to maintain that agenda as changes occur. Forum staff will also continue to conduct surveys of attendees during each meeting and workshop to help improve the overall value of each meeting to the Forum's members. The results of these surveys are fed back to the Forum's officers with recommendations as appropriate.

During the first quarter of FY2011, The Forum will establish the meeting schedule for FY2012. Based on that schedule, Forum staff will distribute requests for proposals to appropriate meeting venues, do site inspections and negotiate contracts with the goal of having firm commitments for meeting locations at least 9 months in advance of each meeting.

9 Wireless Innovation Forum Corporate Administration Work Plan

9.1 Member Support and Services

The Forum will continue to improve the Member Services and Fulfillment Functions of the in order to provide an environment that supports our members' activities. We will strive to be a customer-centric organization, which can be defined as the following¹:

- gives customers what they want and anticipates their needs;
- provides customer value as its primary motivation;
- sees staff as customer service agents;
- makes the [membership] experience the best it can be;
- operates with a budget driven by member needs; and
- personalizes all communication.

¹ "Customers at the Core," ASSOCIATION MANAGEMENT, December 2004, *Jay Younger and Wes Trochlil*

We will continue to research methods to enhance our internal processes and procedures to increase efficiency and responsiveness to member requests. This will be done through surveys and personal contact, both at events and otherwise, as well as a communications audit conducted during the 1st quarter. The audit will provide an assessment of our current communication methods, allowing us to evaluate our effectiveness and make adjustments accordingly. The audit will be in the form of a survey distributed to our membership and may or may not include subsequent personal interviews and small group site testing.

9.1.1 Support for New Project Initiation

Forum staff will continue to work with the Forum's group leaders and potential group leaders to speed the project initiation process and promote participation in the projects. In 2010, a "new project" repository was created (<http://groups.sdrforum.org/p/do/si/topic=150>) to provide group leaders with project policies and procedure templates, document templates and style sheets, project proposal templates, and other tools that are required on the front end of any project. The marketing department also created a general flyer format, which was used by project leaders to promote participation. The flyers were distributed at meetings as well. Project promotion included: flyer distribution, promotion in "SDR News & Opportunities" eNewsletter and press releases. This year Forum staff will gauge the effectiveness of the current promotion plan by surveying group leaders on the current process, doing a communications audit to determine the most effective communication vehicles and experimenting with the marketing mix appropriately based on the resulting metrics. The Forum will launch a "Project of the Week/Month" that will be featured throughout our marketing communication vehicles (emails, web site, social media).

Goal: Increase project participation by 10%

9.1.2 Document Advancement and Electronic Balloting

In FY2010, the Forum enhanced its document management procedures through the addition of online document tracking and balloting facilitated by the Group Portal Survey tool. In FY2011, the Forum will continue to improve document development and advancement to make the document process more efficient and user-friendly for its members. These efforts will include periodically contacting Committee chairs and work group leaders to discuss the adequacy of existing procedures and whether or not they need to be modified in order to make the document approval process more efficient.

9.1.3 Member Discounts

The Forum will continue to pursue member discounts on behalf of its members. We will further strive to evaluate and expand the offerings this year. Discounts include Market Studies, Conference Fees, Educational Materials, Training, Memberships, etc. To that end we will evaluate the extent to which members have taken advantage of discounts, what discounts would be most attractive and if the communication vehicles to promote the discounts are appropriate.

Goals: establish baseline data on discount use, 10% increase in number of discounts.

9.1.4 Product and Services Directory

In 2008 the Forum launched an online Member [Products and Services Directory](#) centered around the reconfigurable radio [Value Chain](#). The directory is searchable and results yield company

names, an advertisement (supplied by member) and web site for each company in each category. Currently, 15 members (13%) have opted to include an ad for their organization. In FY2011, the Forum will continue to strive to expand participation in ad inclusion by promoting this free advertising service to our members and by building the ad content. Our design services will be promoted more heavily and the marketing department will seek out marketing contacts for each organization and contact each personally in an effort to increase participation. Once participation is increased, we will then pursue a marketing plan to increase use of the directory publicly.

Goal: 25% of members participate; 10% increase in web site traffic

9.1.5 Forum eNewsletters

In 2010, the Forum established a communications schedule that included once per week emails blasts in an effort to respect our database contacts' email in-boxes. The members' only "SDR in the News" eNewsletter was rebranded to reflect expanded content. The result was "SDR News and Opportunities" and is distributed to members every other week. This e-newsletter includes member opportunities, ballot announcements, calls for participation, an events calendar, technical conference information and other meeting information. Current open rate averages 15-30% with a click-thru rate of approximately 15-20%. eNewsletters that are distributed on the opposite weeks include Member Discounts (members' only) and Event News (entire dbase). If called for in a co-sponsorship agreement, we also send one occasional blast during a one month period. The Forum will continue to expand and improve the content of its eNewsletters in FY2011, including providing more relevant information for ITU Region 1 and ITU Region 3 members. The Forum will also evaluate the effectiveness of the eNewsletters in our communications audit and make adjustments, which may include an eNewsletter rebranding campaign. Finally, the Forum will create a 2nd version of our member discounts email that goes to non-members monthly in an effort to promote membership in the Forum.

Goal: 5% increase in open rates

9.1.6 Wireless Innovation Forum Achievement Awards

In Q1 FY2011, the Forum will launch the 2010 Achievement Awards program, to include an online nomination form for "the "International Achievement Award" and "Technology of the Year". The communication process for the awards will be analyzed in our communications audit. Currently, award nominations are pursued in our eNewsletters and on the web site, as well as through distribution of a promotional flyer electronically and in hard copy at Forum events. Finalists for the 2010 awards will be announced in October 2010, and the winners will be announced at the Welcome Reception at SDR'10. Award winners are promoted in a press release following the awards ceremony and posted on the web site.

9.1.7 Experts Program

The Forum will work toward establishing an "Experts" program, soliciting member representatives who will volunteer to act as "Subject Matter Experts" in a specific technical, business, or policy area of their choice. Experts will be "go to" people for press interviews, and will be promoted in expert source placement services such as "ProfNet," leveraging their expertise to help legitimize Forum activities and positions. As a part of this program, the Forum may establish a Distinguished Speakers program, "Ask the Expert" discussion forums, and

Experts blogs for education and support of Forum members and the broader reconfigurable radio community. The Forum will pursue appropriate experts for various areas within reconfigurable radio technologies. This will be done by request in our communication vehicles as well as personal contact (1st quarter). We will produce a roster of our experts with biographical information (2nd quarter), and a promotion plan for getting our experts placed in articles, etc. (3rd quarter).

Goal: establish topics list and secure at least one expert per topic; Minimum of 6 placements or article inclusions/year.

9.1.8 Wireless Innovation Forum eJournal

The Forum will evaluate establishing a professional eJournal to showcase technical, business and policy papers developed by member representatives that are deemed to be of high value to the community. Members will be polled in the 1st quarter to gauge interest in this benefit. The Forum will explore the business model associated with the Journal and the requirements for editorial review. The goal in establishing this Journal would be to remain at least revenue neutral, meaning that the eJournal is self funding with no net impact on Forum finances. A proposal for the eJournal will be made to the Board of Directors by 2nd quarter.

Goal: full analysis and project presentation 2nd quarter. If approved, launch in 4th quarter.

9.1.9 Member Interviews

The Forum's Board has established a goal for FY2011 of increasing participation by 10% in the association's programs and activities. A key to success in this goal is engaging the Forum's under participating members in the development of reports, recommendations and specification and in the association's annual technical conference. Accordingly, the Forum will undertake a program to ensure that every member organization has a representative involved in at least one project or program over the 12 month period beginning January 1, 2011.

This goal will be achieved in 2 phases. Phase 1 will perform market research to identify the needs of these under participating members, and Phase 2 will define and execute on a plan for satisfying those needs. The plan for phase 1 is as follows:

1. Scrub mailing lists, meeting minutes and attendance records for last 12 months to identify member organization that are under participating
2. Segment under participating member organizations by market. Research markets to identify customers or groups representing customers for these member organizations
3. Craft two questionnaires based on market segmentation and customer research
 - a. Member questionnaire exploring the value the association brings to the member organization, the value of various projects and programs being undertaken by the association, and projects and programs the association could initiate to better support the member organizations needs
 - b. A Member's customers questionnaire exploring the view of the association by the members customers, and finding critical needs that the associations members could collaboratively address

4. Schedule interviews with members and customers. Estimate 30 to 40 interviews will be performed (target completion date: 22 October 2010)
5. Analyze results, define trends and prepare report and recommendations and send to Planning Committee Chair (target completion date: 5 November 2010)
6. Meet with Planning Committee Chair to finalize report: 12 November 2010
7. Distribute modified report to Planning Committee: 16 November 2010
8. Present to Planning Committee: 23 November 2010

Interim results will be reported to the planning committee as appropriate, with measures taken on emerging trends that are easy to address with the context of the current operations plan and budget in calendar year 2010. Phase 2 action plans will be set based on results of Phase 1, to be implemented in calendar year 2011.

Goals: Present results of Phase 1 to Planning Committee by 23 November 2010

9.2 Marketing and Business Development Plan

9.2.1 High Level Marketing Plan

A detailed marketing plan has been developed to promote the Forum's high level objectives in FY2011. Highlights of this plan are provided in the following sections.

9.2.1.1 Technical Conference

SDR'09 had 22% percent higher registered attendance than SDR'08. The split between members and non-members was approximately 52-48. To grow the conference further, the Forum will expand conference marketing to include the following:

- Expand media and technical co-sponsorships to outreach in target markets. This includes obtaining at least one media sponsor in a relevant European market
- Evaluate and improve effectiveness of SDR'10 web site using Google Analytics data
- Utilize SDR'09 survey results to improve marketing collateral, such as the Show Guide
- Increase distribution of marketing collateral at trade shows and conferences
- Continue and expand use of Google Ad words to drive potential registrants to conference site
- Evaluate the possibility of a direct mail campaign to increase registration
- Segmented emails to better target promotions and in an effort to encourage return attendance
- Pursue ad sales in our program in order to provide additional exposure for member organizations
- Research and employ additional means of exposing event to new contacts
- Research additional ways to support exposition and exhibitors

Goals: Increase attendance by 10%, place a minimum of 2 ads

1.2.1.2 European Reconfigurable Radio Technologies Workshop

FY2011 year will be the event's third year. In 2009, the event drew 83 attendees and so to establish the event as a conference and encourage growth, the Forum will:

- Increase exposure/impressions using social media
- Evaluate and improve effectiveness of the web site using Google Analytics data
- Utilize survey results to improve marketing collateral and promotions
- Increase distribution of marketing collateral at trade shows and conferences
- Continue and expand use of Google Ad words to drive potential registrants to conference site
- Segmented emails to better target promotions and in an effort to encourage return attendance
- Research and employ additional means of exposing event to new contacts
- Research additional ways to support exposition and exhibitors
- Examine a possible rebranding/renaming of the event to, for example, "Wireless Innovation Conference Europe"

Goals: Increase attendance by 10% over FY2010, secure at least 2 gold sponsors

9.2.1.2 Project Promotion

In 2010, the marketing department created a general flyer format, which was used by project leaders to promote participation. The flyers were distributed in hardcopy at meetings as well. Project promotion included: flyer distribution, promotion in SDR News & Opportunities and press releases. This year we will gauge the effectiveness of the current promotion plan by surveying group leaders on the current process, doing a communications audit to determine the most effective communication vehicles and experimenting with the marketing mix appropriately based on the resulting metrics. We will also launch a "Project of the Week/Month" that will be featured throughout our marketing communication vehicles (emails, web site, social media).

Goal: Increase project participation by 10%

9.2.1.3 Meeting Promotion

Forum General Meetings are the Working Meetings of the organizations members, providing a primary venue for advancing this Operations Plan, for networking, and for information dissemination. In FY2010, the marketing department prepared an event promotion plan that included a mix of print and electronic media promotion (flyers, press releases, social media, web site, emails). Participation in these working meetings has grown. In FY2011, the Forum will work to refine its event promotion plan by using data from Google Analytics reports for meeting pages, email open and click through rates, press release reports, and social media proliferation (retweets, mentions, etc.) as it relates to event attendance.

Goal: 10% increase in meeting attendance

9.2.1.4 Web Site Update

In 2010, the Forum completely redesigned its webpage around its rebranding as the Wireless Innovation Forum, SDR Forum v. 2.0, including a complete restructuring of our document library. In 2011, the Forum will poll its members to evaluate the quality of the Forum web site and look for avenues of improvement. Other initiatives that will be undertaken in 2011 will include:

- Researching and employing effective search engine optimization (SEO) tactics to maximize the visibility of our brand and drive potential members to our web site
- Continuing keeping the site dynamic and easy to navigate
- Evaluating the use of the site to our members and adjusting content/navigation appropriately

Goal: Reduction in bounce rate, 10% increase in site traffic and average time on site.

9.2.1.5 Social Media

In FY2010 the Forum began researching and expanding social media efforts. We now have a presence on Twitter to complement our Facebook and LinkedIn pages, as well as our RSS feed. With the rebranding, our Facebook page was changed to a Fan Page. In FY2011, we will further expand use of these vehicles and strive to keep them dynamic through weekly postings and requests for interaction (e.g. polls, throwing out questions for response, etc.).

Goals: Reach 100 followers on Twitter (currently 28), have at least one member representative from each member organization on LinkedIn page

9.2.1.6 Rebranding

In FY2010 the Forum underwent a rebranding. The Forum will continue to promote the knowledge and acceptance of the new brand and further refine it as needed, such as promoting the short form WInn Forum as an addition to Wireless Innovation Forum where appropriate. To that end we will have new merchandise prepared and distributed at all meetings and events. We will utilize Google Analytics data to determine the electronic acceptance of the new brand, and determine when the prior SDR Forum site can go offline permanently.

Goal: Shut down SDR Forum site by end of Q2.

9.2.1.7 Other Collateral

The Forum will also produce a number of other marketing materials throughout the FY2011 period, including:

- Press kits highlighting Forum member accomplishments
- Membership kits that can be used in recruiting new members
- Welcome kits for new members
- Updated corporate brochure/flyer to complement or use in lieu of Annual Report.

9.2.2 Outreach and Business Development

9.2.2.1 Speaking Opportunities

The Forum will pursue a number of speaking opportunities in FY2011. The Forum will use these engagements to promote the 2010 to 2014 Strategic Plan, the Winn Forum FY2011 Operations Plan, as well as to explore new opportunities and to solicit new members.

9.2.2.2 Conferences and Tradeshow

The Forum, working in conjunction with the URC, will explore participation in other tradeshows to promote the Forum and its members. Participation may include exhibiting and/or establishing a Winn Forum “Show within a Show” promoting the activities of the Forum and supporting forum members in identifying new opportunities. Conferences and tradeshows that will be evaluated will include:

- ISART (July 2010)
- MILCOM 2010 (October 2010)
- IQPC SDR Europe Conference (October 2010)
- IDGA Software Radio Summit (February 2011)
- Mobile World Congress (February 2011)
- CTIA Wireless 2011 (March 2011)
- IEEK Conference (April 2011)
- IEEE DySPAN (April 2011)
- IEICE Technical Conference (May 2011)
- SMi Software Radio Conference (June 2011)

9.2.2.3 Partner Relationships

The Forum will continue to foster and expand collaborative relationships with partner organizations and programs to promote its organizational objectives. This list of organizations will include EDA, ETSI, IEICE, IEEE, the JTRS Program, NATO, NCOIC, OMG, and VITA. In FY2011, the Forum will also explore new relationships with organizations such as the DHS, ITS America, ITS UK, InnovITS, the Scope Alliance, the Wireless Communications Association International (WCAI), the Service Availability Forum, and the Mobile Industry Processor Interface Alliance.

9.2.2.4 Market Segmentation

During FY2011, the Forum will continue to develop its market segmentation study to identify markets where SDR and CR technologies may provide significant benefit, to size those markets, and to identify market segments where the Forum may provide benefit. Market segmentation may be based on both primary and secondary market research, and will identification potential member companies for the Forum.

9.3 Other Corporate Administration

The Forum will continue to evaluate and improve internal office functions related to financial controls and reporting, archival storage of documents, and membership initiation and renewal.

9.4 FY2012 Planning Cycle

The FY2012 Operation Plan will be developed on the following schedule:

- Board Approval of High Level Goals for FY2012 – 15 March 2011
- High Level Goals and Ops Plan Process Presented to Group Leaders – 16 March 2011
- Draft Budget Presented to the Finance Committee – 15 April 2011
- Draft Plan Submitted to Officers – 13 May 2011
- Final Draft Approved by Forum Chair and CEO – 24 May 2011

The final plan will be presented to the Board of Directors for their approval during the June 2011 Board Meeting, and will be submitted to the membership for final approval immediately thereafter.