



2008 Operations Plan

Version 1.0.0

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Table of Contents

1	INTRODUCTION – THE SDR FORUM 2008 OBJECTIVES	3
2	SDR FORUM ORGANIZATIONAL OVERVIEW	4
2.1	SDR FORUM STRUCTURE	4
2.2	SDR FORUM CORPORATE ADMINISTRATION	5
3	2008 MARKETS COMMITTEE WORK PLAN	7
4	REGULATORY COMMITTEE 2008 WORK PLAN	9
5	TECHNICAL COMMITTEE 2008 WORK PLAN	10
6	BOARD OF DIRECTORS 2008 WORK PLAN	15
7	2008 MEETING AND WORKSHOP PLAN.....	16
8	SDR FORUM CORPORATE ADMINISTRATION WORK PLAN.....	17
8.1	CORPORATE OPERATIONS PLAN	17
8.1.1	<i>Meeting Planning and Management.....</i>	<i>17</i>
8.1.2	<i>SDR '08 Technical Conference and Product Exposition.....</i>	<i>17</i>
8.1.3	<i>Member Support and Services</i>	<i>18</i>
8.1.4	<i>Administration of the Corporation</i>	<i>18</i>
8.2	MARKETING AND BUSINESS DEVELOPMENT PLAN.....	18
8.2.1	<i>High Level Marketing Plan.....</i>	<i>18</i>
8.2.2	<i>Outreach and Business Development.....</i>	<i>20</i>
8.3	EVALUATING CONTRACTOR PERFORMANCE	22
8.4	2009 PLANNING CYCLE.....	22

1 Introduction – The SDR Forum 2008 Objectives

The SDR Forum Board of Directors has established the following six items as high level objectives for the Forum in 2008 in executing on the Forum's new Strategic Plan:

1. **Deliver Relevant Work Products** - The SDR Forum shall ballot and release at least four new SDR Forum Specifications in 2008 supporting the Forum's commercialization strategy. In addition, each committee within the SDR Forum shall ballot and release at least one SDR Forum Report and at least one SDR Forum Recommendation supporting the Forum's advocacy, business development and education strategies. 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. **Form Project Approval Committee** – The SDR Forum shall establish a project governance process that will focus the Forum's efforts through a project approval committee as defined within the strategic plan. At a minimum, this committee, working in conjunction with the chairs of the various SDR Forum work groups, task groups and special interest groups will “zero base” existing projects within the Forum, continuing only those projects and activities which can be justified following the criteria used in evaluating new initiatives.
3. **Define New Initiatives** – The SDR Forum shall establish at least two new special interest groups in 2008, at least one of which will extend the SDR Forum into a new domain following the Forum's defined strategy on growth. In addition, the Forum will initiate at least four new projects in 2008 with deliverables that will advance the Forum's strategies in advocacy, business development, commercialization and education in 2009.
4. **Secure Extraordinary Funding** – The SDR Forum shall investigate the possibility of pursuing government funding or grants as a non-profit organization to support relevant SDR Forum activities. If appropriate, the Forum will pursue and secure this type of extraordinary funding in support of the Forum's 2009 operations plan.
5. **Strengthen the SDR Forum Brand** - The SDR Forum shall enhance the relevance of the SDR Forum brand within the advanced wireless community through structured marketing that professionally promotes Forum events and activities, coupled with a market outreach program and an increased focus on cultivating collaborative relationships with partner organizations.
6. **Grow Participation** - The SDR 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 '08 Technical Conference and Product Exposition, and ultimately grow the SDR Forum's membership. As such, the SDR Forum Board of Directors has established a metric of 10% growth across the board for participation in SDR 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 2008 Meeting Plan, and the respective work plans of the Markets Committee, The Regulatory Committee, the Technical Committee, the Board of Directors, and the SDR Forum Corporate Administration. The budget necessary to support these objectives is also addressed in the last section of this document.

2 SDR Forum Organizational Overview

2.1 SDR Forum Structure

The 2008 Organizational Structure of The SDR Forum is presented in Figure 1. The Forum is organized around three primary committees, whose primary responsibilities are summarized as follows:

- *The Markets Committee:* Defines domain specific requirements, use cases and business models that will drive the activities of the Regulatory and Technical committees. The Markets Committee also has responsibility for supporting member organizations in identifying new opportunities and developing new markets for reconfigurable radio products and services.
- *The Regulatory Committee:* Works with the regulatory and public policy community to establish a global regulatory framework promoting the adoption of reconfigurable radio technologies. The work of the Regulatory Committee is facilitated by a Regulatory Advisory Committee made up of regulators from around the world working on issues relevant to reconfigurable radio technologies.
- *The Technical Committee:* Produces technical documents defining the “state of the art” in reconfigurable radio technologies, and facilitating standards, certification and demonstration projects that will reduce the costs (development, production, operations) and time to market/time for deployment of reconfigurable radio technologies.

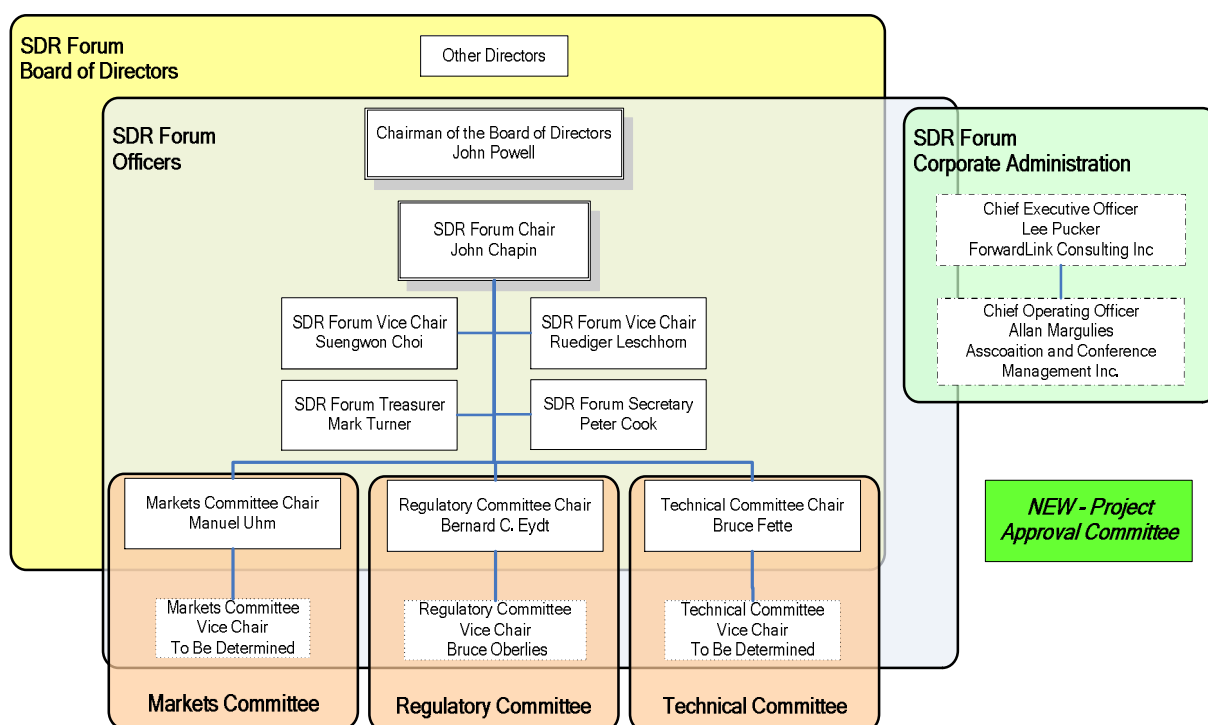


Figure 1: SDR Forum 2008 Organizational Structure

These committees are managed by the SDR Forum’s Corporate Officers, which include the Chair and Vice Chairs of the SDR Forum, the Chairs and Vice Chairs of the three committees, the

SDR Forum 2008 Operations Plan

Secretary, and the Treasurer. Management and oversight of the SDR Forum as a whole, including the SDR Forum's Corporate Affairs, is performed by the SDR Forum Board of Directors. These directors are elected on an annual basis, as defined in the SDR Forum Bylaws, which can be found at <http://www.sdrforum.org/pages/aboutTheForum/bylaws.asp>. The elected slate of SDR Forum Directors for 2008 is provided in Table 1.

Name	Member Organization	Position	Email
John Powell	NPSTC	Officer and Director, Chairman of the Board	jpowell@berkeley.edu
Christian Serra	Thales Communications	Director, ITU Region 1 Representative	christian.serra@fr.thalesgroup.com
Peter Tenhula	Shared Spectrum	Director, ITU Region 2 Representative	ptenhula@sharedspectrum.com
Hiroshi Harada	NICT	Director, ITU Region 3 Representative	harada@nict.go.jp
David Murotake	SCA Technica	Director, Small Company Representative	dmurotak@scatechnica.com
Murat Bicer	Battery Ventures	Director, Medium Company Representative	mbicer@battery.com
Bruce Oberlies	Motorola	Officer and Director, Large Company Representative	bruce.oberlies@motorola.com
Claude Belisle	Communications Research Center	Director, Government and Non-Profit Representative	claude.belisle@crc.ca
Seppo Tiainen	TeliaSonera	Director, Network Operator Representative	seppo.tiainen@teliasonera.com
Fred Frantz	L3 Communications	Director, At Large Director	fred.frantz@L-3com.com
John Chapin	Vanu	Officer and Director, Chair of the SDR Forum	jchapin@vanu.com
Seungwon Choi	Hanyang University	Officer and Director, Vice Chair of the SDR Forum	choi@ieee.org
Ruediger Leschhorn	Rohde and Schwarz	Officer and Director, Vice Chair of the SDR Forum	ruediger.leschhorn@rohde-schwarz.com
Manuel Uhm	Xilinx	Officer and Director, Chair of the Markets Committee	manuel.uhm@xilinx.com
Bernard Eydt	Booz Allen Hamilton	Officer and Director, Chair of the Regulatory Committee	eydt_bern@bah.com
Bruce Fette	General Dynamics	Officer and Director, Chair of the Technical Committee	bruce.fette@gdc4s.com
Mark Turner	Harris Corporation	Officer and Director, SDR Forum Treasurer	mturner@harris.com
Peter Cook	Hypres	Officer and Director, SDR Forum Secretary	pgcook@pgcook.com

Table 1: 2008 SDR Forum Board of Directors

2.2 SDR Forum Corporate Administration

Corporate administration services are provided to the SDR Forum through a number of consultants and third party contractors. Under the SDR Forum Bylaws, an Operations Committee chaired by the SDR Forum Secretary has primary oversight of these activities. In 2007 these bylaws were amended through a resolution of the SDR Forum Board of Directors to retain a

SDR Forum 2008 Operations Plan

consultant responsible for providing Chief Executive Officer (CEO) services to the SDR Forum. 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 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.

In addition, the SDR Forum also retains a consultant to provide Chief Operating Officer (COO) services. The SDR Forum Chief Operating Officer's primary responsibility is to facilitate the operations of the SDR Forum, to advance the Forum's strategic plan and maximize the quality of services provided to its members. Reporting to the Forum's CEO, the COO facilitates meetings between members, and with other relevant parties, and establishes mechanisms and procedures to simplify the development by members of high quality reports, recommendations, specifications, and standards. The COO also manages day to day operations of the Forum as a corporation, ensuring compliance with all relevant laws and regulations while maintaining high ethical standards at all times.

The complete slate of consultants and contractors retained by the SDR Forum to provide these services in 2008 are as follows:

- 1) Lee Pucker – Consulting CEO, ForwardLink Consulting Inc, Lee.Pucker@sdrforum.org
- 2) Al Margulies – Consulting COO, Association and Conference Management Inc, asm@sdrforum.org
- 3) Susan Boyd, Public Relations, Weber Shandwick Worldwide, sboyd@webershandwick.com
- 4) Stephanie Hamill – Marketing Communications and Office Management, info@sdrforum.org
- 5) Joel Gluck - Web Master, Web Maintenance Plus, jrgluck@verizon.net
- 6) Linda P. Bee, CPA, - Bookkeeper
- 7) Tim Coffey – Audits and Finance, Grass Coffey & Scharlau, CPAs
- 8) Andy Updegrove - Legal Council, Gesmer Updegrove LLP
- 9) Scott Harris – Regulatory Council, Harris, Wiltshire & Grannis LLP
- 10) FrontPages Web Hosting – IT Services

In 2008, the Forum will be adding a document editor and other administrative support to the slate of contractors to better support the Forum's high level objectives. The Forum will also evaluate moving from a contractor model to a staff model, with the results of this evaluation presented to the Board or Directors in time to be considered in the 2009 planning process. Additional details on the Corporate Administration Work Plan for 2008 can be found in Section 8 of this plan.

3 2008 Markets Committee Work Plan

The organization of the SDR Forum Markets Committee for 2008 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 Markets Committee currently supports two special interest groups:

- *Public Safety Special Interest Group* – The Public Safety Special Interest Group is the interface of the Forum to the Public Safety Community (including both users and vendors), and is tasked with raising awareness of SDR, 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 SDR 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.
- *Avionics Special Interest Group* – The charter of the Avionics SIG shall recommend, at a high level, a certification plan for certifying a software-defined radio under DO-178B. As part of this, the Avionics SIG shall determine high-level requirements for SDR that are unique to the certification process.
- *International Tactical Radio Special Interest Group* - The charter of this new SIG will be 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 SDR Forum Technical Committee outputs, and to endorse activities and outputs from industry, government, and unions (e.g., NATO).

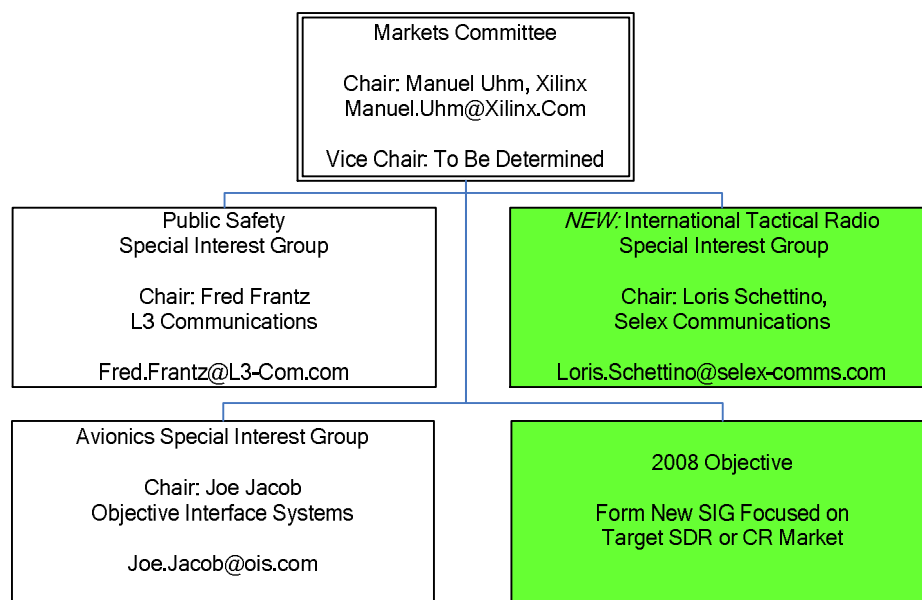


Figure 2: SDR Forum Markets Committee Structure

Through this organizational structure, the Markets Committee will undertake the following in 2008 in support of the SDR Forum's high level objectives:

- **Deliver Relevant Work Products** – The Markets Committee plans to deliver the following work products in 2008 in support of this objective:
 - ***Trade Study on Multi-service Portable Radios*** – The SDR Forum's Public Safety SIG has been developing a quantitative framework for analyzing cost tradeoffs in utilizing SDR and cognitive radio technology for public safety systems. The multi-service handset tradeoff study is the first exercise of that framework to "fine tune" the cost modeling tools/processes and to demonstrate the methodology of the framework's use. Top level tradeoffs associated with the implementation of WiFi and WiMAX capabilities in a land mobile radio handset are being considered and notional cost comparisons are being drawn between alternative approaches. This activity will provide a consistent framework for discussion of cost benefit tradeoffs and notional architectures among developers and buyers of communications devices and systems that may incorporate SDR and cognitive radio capabilities. The target completion date for this report is April 2008.
 - ***Cognitive Use Case Scenario 2*** – The Public Safety SIG is continuing their development of cognitive use cases by analyzing a scenario involving a fire/explosion at a chemical plant, including communications at the incident site and associated communications related to evacuated threatened areas. This activity will expand upon the set of cognitive use cases developed based on a review of the bombings in London in July, 2005, and recently published by the SDR Forum. The expanded set of use cases will further highlight technical capabilities, regulatory changes, and procedural changes required to leverage cognitive radio for improved public safety communication. The target completion date for this report is June 2008.
 - ***SDR Forum Recommendations*** – The SDR Forum Markets Committee will evaluate opportunities for SDR Recommendations throughout the year and will create project groups to deliver these recommendations when appropriate.
- **Define New Initiatives** – The Markets Committee will undertake the following two activities in 2008 in support of this objective:
 - ***Formation and incubation of the International Tactical Radio SIG.*** The formation meeting for this new group will occur at the January General Meeting, and the final charter and 2008 work plan for the group will be established at that time.
 - ***Formation and incubation of at least one Special Interest Group focused on a commercial wireless market.*** The initial activities of the Markets committee in this area will be to identify potential candidates from a list of strategic markets, including evaluating the formation of a White Space Communications SIG and Intelligent Transportation Systems (ITS) SIG. The target completion of this activity will be in September, with interim milestones to include finalizing the list of candidate markets and potential SDR Forum member organizations by the April General Meeting, and soliciting and selecting a SIG leader by the June General Meeting.

- **Strengthen the SDR Forum Brand** – The Markets Committee will investigate the participation of the SDR Forum in relevant trade shows, to include exploring the possibilities of SDR Forum pavilions, exhibitions, and liaisons. The identification of relevant tradeshow will occur at the January General Meeting, and a plan will be defined at that time for follow up.

The Markets Committee has also established three internal objectives that further advance the SDR Forum 2008 to 2011 Strategic Plan and support the committee's overall needs:

- **Approve the proposed Charter and Work Plan** – The charter of the Markets Committee is under revision to better align with the SDR Forum 2008 to 2011 Strategic Plan. Work on the revised charter shall be completed by the January General Meeting.
- **Grow the Markets Committee** – The Markets Committee shall solicit active participation from marketing departments and other relevant groups within member organizations from each ITU region. Plans for growth will be established at the January General Meeting.
- **Ensure the propagation of international SDR-related news** – this activity will be done in support of the Forum business development strategy, and is intended to ensure full geographic representation in “SDR In The News”.

These objectives will be finalized at the January General Meeting. Additional details on the specific work plans of the Markets Committee's various subgroups can be obtained by contacting the appropriate work group leader.

4 Regulatory Committee 2008 Work Plan

The Regulatory Committee will undertake the following projects in 2008 in support of the SDR Forum's High Level Objectives:

- **Deliver relevant work products** – The Regulatory Committee plans to deliver the following items in 2008
 - **SDR Forum Regulatory Agenda** – The Regulatory Committee will publish a SDR Forum Report briefly summarizing the top issues identified by the SDR Forum's members in regulatory matters pertaining to SDR and CR technologies. Input will be solicited via a request for information (RFI) to be developed at the January General Meeting and distributed to SDR Forum members. The Regulatory Committee will develop a member's only report summarizing the results of this RFI for initial balloting at the June General Meeting, and will publish the approved SDR Forum Regulatory Agenda at the SDR '08 Technical Conference and Product Exposition in October. The Regulatory Committee will also establish plans to update this report at regular intervals over the next several years.
 - **Regulatory Position Papers** – The Regulatory Committee will develop at least one position paper in 2008, providing a concise statement by the Forum on a priority issue defined in the *Regulatory Agenda*. This position paper will be delivered in the form of a short SDR Forum Recommendation, and additional position papers will follow as a part of the 2009 operations plan. The Regulatory Committee shall present the position paper for ballot at the September General Meeting.

- **WRC 2011 Inputs** – The Regulatory Committee intends to provide at least two SDR Forum inputs to the International Telecommunications Union (ITU) related to WRC 2011 Agenda Item 1.19 advocating the SDR Forum’s Regulatory Agenda: one on Software Defined Radio and one on Cognitive Radio. The milestones for delivery of these recommendations will be set at the January General Meeting based on input from the Regulatory Advisory Committee and other invited guests experienced with the WRC process and timelines.
- **Strengthen the SDR Forum Brand** - The Regulatory Committee will host two activities at the SDR ‘08 Technical Conference and Product Exposition to promote the activities of the SDR Forum in the regulatory arena:
 - **Panel Session** – The Regulatory Committee will host a panel session tentatively entitled “*What Should the Incoming Administration do to promote the Success of Next Generation Radio Technologies*”. This panel session will be used to craft a message from the SDR Forum to newly elected officials representing a consolidated opinion of the reconfigurable radio community on regulatory matters pertaining to software defined radio technology.
 - **Workshop** – the regulatory committee will also host a conference workshop entitled “*Liability and the Responsibility Chain in Software Defined Radio*”. This will bring industry and regulators together to help both groups better understand the issues and constraints associated with deploying software defined and cognitive radio sets used across international boundaries

In addition to these items, the Regulatory Committee plans to support the Technical Committee in preparing their report on Cognitive Radio Technology for the ITU, and will undertake efforts to grow participation in the Regulatory Advisory Committee to better support the SDR Forum’s advocacy strategy.

5 Technical Committee 2008 Work Plan

The organization of the Technical Committee is presented in Figure 3. The Technical Committee currently comprises 10 different work or project groups with specific objectives that are defined as follows:

- **Cognitive Radio Work Group** – The Cognitive Radio Work Group provides the industry with guidance that will help standardize terminology, architectures, interfaces, use cases, policies and etiquettes for cognitive radios. This effort will lead to the development of a cognitive radio functional specification in the form of a platform independent model.
- **Education Work Group** – The SDR Forum established the Educational Work Group as a venue for university faculty involved in teaching relevant radio technologies to develop and prioritize curriculum and training delivery topics supporting the creation of software defined and cognitive radios. The group is also seeking to enroll international participation and participation of various branches of the US government including the NSF, DARPA and Congressional support.
- **Meta-language for Mobility Work Group** – The Meta-language for Mobility Work Group has been doing investigative work that will lead to the development of a meta-language standard for commercial cognitive radio applications. This will enable cognitive radio standards assisting with automated SDR software installation, compatibility, and

maintenance. Of particular importance is establishment of a commercially acceptable language for specification of policy for policy-defined and cognitive radios.

- *Research and Development Work Group* – The Research and Development Work group identifies and describes technologies and development topics significant for SDR in terms of need, technological challenge and maturity.
- *SCA Work Group* – The SCA Work Group facilitates the structural harmonization of the Software Communications Architecture (SCA) and its elements with other associated standards worldwide, helping the industry converge on a consolidated set of solutions. The Work group has three active projects:
 - **SCA Standardization** – The goal of this project is to standardize an application framework based on the US Department of Defense’s Software Communications Architecture (SCA) for use by the international military radio community. The project will begin by evaluating the endorsement of the JTRS SCAv2.2.2 following the SDR Forum’s strategy on standards, and may include exploring future requirements for the SCA and profiling or expanding the SCA specification to meet the specific needs of the international community. The project will also establish mechanisms to facilitate the exchange of development and implementation practices as a part of the standardization process.
 - **Application Programming Interface (APIs)** – The goal of this project is to standardize the APIs needed for the development of SCA-compliant radios by the international military radio community. This project will begin by evaluating the endorsement of the APIs released by the US JTRS Program Executive Office (JPEO), following the SDR Forum’s strategy on standards, and will extend or replace those APIs as necessary to meet with the specific needs of the international community. The SCA WG will then look for additional APIs already developed that could be used by the community. Initially, the APIs produced by the SDR Forum such as the Smart Antenna and Transceiver APIs will be evaluated for applicability. If new APIs are required, the SCA WG will develop its own recommendations for standards.
 - **Test, Evaluation and Certification** – In this project, best practices for test, evaluation and certification of SCA Core Frameworks and SCA waveform compliancy will be established. This will include an exploration of existing best practices in this area, as well as an evaluation of the SCAv2.2.2 and approved APIs to identify areas where SCA requirements could lead to multiple non-interoperable implementations. As a part of this project, the SCA WG will propose a common interpretation of SCA requirements for the international military radio community, and if the requirements are not sufficiently defined, the SCA WG will propose further refinements. The SCA WG will also write development guides to facilitate interpretation and eventual certification.
- **SDR Security Work Group** – The SDR Security Work Group seeks to produce a security framework that can be applied, in whole or in part, across application domains and market segments (e.g., commercial wireless telephony).
- **Smart Antenna Work Group** – The Smart Antenna WG is developing a set of APIs as an effort to standardize the interface to Smart Antenna Systems operating in SDR systems. Array systems considered in the standardization procedure include MIMO (multi-input multi-output) systems, which implement space-time coding and spatial

multiplexing, as well as beam-forming systems, which implement various kinds of beam-forming algorithms. The API establishes well defined network interfaces for various signal processing technologies in the context of a reference smart antenna base station architecture. Signal processing technologies supported by the APIs include DSPs (digital signal processors), FPGAs (field programmable gate arrays), and GPPs (general purpose processors).

- **Space Work Group** – The SWG will develop an open SDR hardware and software architecture suitable for the resource constrained space domain and will provide recommendations for the NASA Space Communications Architecture Work Group. The goal of the architecture is to provide a consistent and extensible development environment on which to construct and operate space-based communications systems.

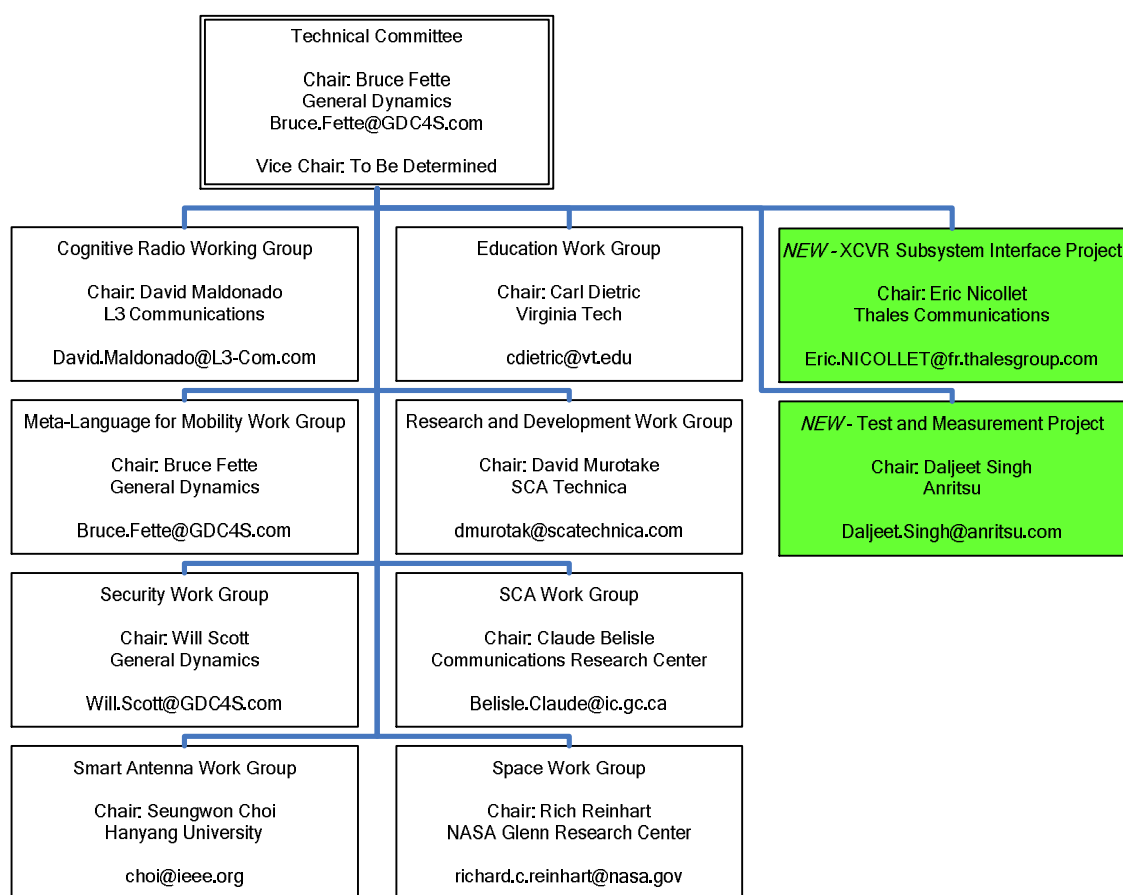


Figure 3: SDR Forum Technical Committee 2008 Orgaizational Structure

The Technical Committee has established the following objectives for 2008 to support the SDR Forum’s high level objectives:

- **Deliver Relevant Work Products** – The Technical Committee plans to deliver the following work products in 2008 in support of this objective:
 - **Cognitive Radio Nomenclature Specification** – The SDR Forum Cognitive Radio Work Group will finalize an SDR Forum Specification intended to help industry standardize on the allocation of functionality to components within a cognitive

- radio set. This document will be submitted to the Technical Committee for balloting at the January General Meeting.
- ***SDR Forum Responses to ITU-R WP5A questions about Cognitive Radio*** – The Cognitive Radio Work Group will also finalize an SDR Forum Recommendation to the ITU providing a description of cognitive radio systems, including technical, operational and legal/regulatory aspects as well as coexistence issues of these systems and their usage. This document will also be submitted to the Technical Committee for balloting at the January General Meeting.
 - ***Use Cases for the Meta-Language for Mobility*** – The Meta-Language for Mobility Work Group will produce an SDR Forum Report that will clarify for the Telecommunications Industry how the proposed Meta-language can be used to enable software portability and policy control. This document will be submitted to the Technical Committee for balloting at the June General Meeting.
 - ***Meta-Language for Mobility Scenario Analysis*** – This SDR Forum Report will further clarify the use of the Meta-Language for Mobility by addressing specific scenarios. This document will be submitted to the Technical Committee for balloting at the September General Meeting.
 - ***SCA Reference Implementations Report*** – The R&D WG will produce an SDR Forum Report presenting the various development community opinions about reference implementations of the SCA identified in the survey completed in 2007. This report should give hardware and software vendors the ability to understand design issues associated with various implementations, and other market considerations. This document will be submitted to the Technical Committee for balloting at the September General Meeting.
 - ***SCA APIs*** – The SDR Forum plans to endorse or define a standard set of SCA APIs for use by the International Tactical Radio Community. Technical Committee Balloting on the initial set of APIs will be initiated at the June General Meeting. In addition, the SDR Forum intends to facilitate the set up of an International SCA Test and Evaluation organization by end of 2008. This will assist the international community by allowing common HW & SW development standards, interfaces and testing procedures to be developed. The T&E organization will have an ongoing role as a laboratory for demonstrations of interoperability of SCA certified software from multiple vendors and portability of SCA core frameworks and waveforms across multiple radio platforms.
 - ***Securing Software Reconfigurable Communications Technologies*** – This specification should establish security guidelines of use to industry and regulators for all SDR communication development domains. This document will be submitted to the Technical Committee for balloting at the January General Meeting, with SDR Forum balloting expected to be completed in November.
 - ***Smart Antenna API Standard*** – the Smart Antenna WG will continue to support the evolution of the SDR Forum Smart Antenna APIs through the Object Management Group (OMG) standardization process. This is expected to result in minor updates to the already published specification during 2008. The resulting APIs are useful for standardizing antenna subsystem HW and SW for cellular infrastructure, WiBro and WiMax systems.

- **Define New Initiatives** – The Technical Committee will undertake the following new activities in 2008 in support of this objective:
 - ***Formation and Incubation of a Transceiver Subsystem Interface Project*** – Evolve a standard API for the RF Front End of a software defined radio set, ensuring that the resulting specification supports the needs of a broad base of radio architectures in the commercial, civil, and defense communications domains. Several additional developments are also envisioned, including providing extensions to better support Spectrum Aware Cognitive Radio and Smart Radio systems. Once completed, the Transceiver API specification will provide significant benefit to the wireless community by facilitating the insertion of new or updated physical-layer waveform applications and air interface standards while the radio is in operation and, at the same time, improving the portability of these applications and standards from radio to radio. The formation of this group will occur at the January General Meeting.
 - ***Formation and Incubation of a Test and Measurement Project*** - In 2008, the Design Process and Tools Work Group will transition to a Project Group focused on defining the standard features needed in wireless Test and Measurement (T&M) equipment to support physical layer testing of software defined and cognitive radios. The initial meeting for this group will be at the January General Meeting, and the work plan for the group will be set at that time.
 - ***Initiation of 2 new projects:*** A key objective of the Technical Committee in 2008 in promoting the SDR Forum's 2008 to 2011 Strategic Plan is to initiate two new projects through the Project Approval Committee that will attract SDR Forum members in target wireless markets. Working with the CEO, the Technical Committee will define and promote these projects and recruit participation. The Technical Committee will choose from projects such as the following, based on the level of support from member organizations in developing the documents:
 - ***SDR Forum Cognitive Radio Architecture Recommendations*** – Explore areas of possible future standardization of the architectural elements within SDR based Cognitive Radios in supporting the use cases defined for the various commercial, military and defense market segments. The goal of this activity is to have initial recommendations completed in time to initiate Technical Committee balloting at the September General Meeting
 - ***Agile RF Technologies Project*** - As a follow up to the Agile RF Technologies workshop being held in conjunction with the January General Meeting, to develop a report defining the state of the art in RF technologies for use in software defined and cognitive radios operating over a broad range of spectral bands. The report will also predict the state of the art in 2011 and beyond, for use by the markets and regulatory committees in setting their agenda.
 - ***Baseband Processing Technologies Project*** – This project will follow a similar path to the Agile RF Technologies project to define state of the art in FPGA, DSP, GPP and System-on-Chip (SoC) devices. The report will also predict the state of the art in 2011 and beyond, for use by the Markets and Regulatory Committees in setting their agendas.

- *Hardware Abstraction Layer Project* – This project will define the requirements for hardware abstraction of DSP and FPGA processing resources supporting physical layer (air interface waveform) processing within a software defined radio, and survey the available open standards to develop recommendations on endorsement or extension of APIs supporting various levels of hardware abstraction. Specifications that may be evaluated include the Open Cores Protocol (<http://www.ocpip.org/home>), the Multicore Association Communications API (<http://www.multicore-association.org/>), and the Texas Instruments ExpressDSP Framework (<http://focus.ti.com/docs/toolsw/folders/print/tmdxdaisxdm.html>).

The Technical Committee has also established the following internal objectives that further advance the SDR Forum 2008 to 2011 Strategic Plan and support the committee's overall needs:

- The Technical Committee will define the minimum deliverables necessary in receiving a reference implementation for distribution to the Forum's members in support of the SDR Forum's commercialization strategy. The Technical Committee plans to socialize and polish these guidelines within the SDRF Community over the first quarter of 2008.
- The Technical Committee will evaluate continuing the SDR Forum Smart Radio Challenge in 2009 or delaying the next challenge until 2010. Should the Technical Committee elect to pursue a Smart Radio Challenge 2009 competition, plans for obtaining sponsorships, defining the problem set, soliciting and judging proposals from the student teams will be established. Alternative plans will be established should the Technical committee decide to delay the contest by a year.

These objectives will be finalized at the January General Meeting. Additional details on the specific work plans of the Technical Committee's various subgroups can be obtained by contacting the Technical Chair or appropriate work group leader.

6 Board of Directors 2008 Work Plan

The primary responsibility of the Board of Directors in 2008 will be to monitor the operations of the SDR Forum and to ensure compliance with the 2008 to 2011 Strategy and this Operations Plan. This includes monitoring the financial performance of the SDR Forum under the following schedule:

- January 2008 General Meeting – Review unaudited financial results and 2008 budget for approval as part of 2008 Operations Plan
- April 2008 General Meeting – review 2008 Q1 financial results and projections for the remainder of the year.
- September 2008 General Meeting – review 2008 Q1 to Q2 financial results and projections for the remainder of year
- 2008 Annual Meeting in October – Review and present 2007 audited financial results, 2008 Q1 to Q3 financial results, and projections for the remainder of year
- December Board Meeting – Review 2009 budget for approval as part of 2009 Operating Plan

In addition, the Board will undertake specific work items in the following areas:

- *Update the Bylaws* – the Board of Directors will form a Governance Committee to review the bylaws in the context of the new Strategic Plan. This update will include a review of the anti-trust rules and policies on intellectual property rights contained within the bylaws that may be affected by recent changes in US and international laws. The Governance Committee will submit change recommendations to the Board of Directors at the September General Meeting, with final changes to be approved by the membership at the Annual Meeting in October
- *Continue the Executive Performance and Compensation Committee* – the Board of Directors will continue the Executive Performance and Compensation Committee in 2008, to provide performance review of the CEO and overall corporate administration
- *Establish the Project Approval Committee* – the Board of Directors will facilitate the creation of a Project Approval Committee in 2008 to include setting membership, processes, voting rights, selection criteria, submittal process, appeals process and meeting schedule.

This latter work item represents a key deliverable for 2008 in support of the SDR Forum's high level objectives. The Project Approval Committee shall establish a schedule for publishing criteria for project approval and a schedule for the defined "zero-base review" by the January General Meeting.

It should be noted that the results of this review may significantly alter the committee work plans and projects defined within this Operations Plan.

7 2008 Meeting and Workshop Plan

The SDR Forum will host four general meetings in 2008. These meetings will act as the primary venue for advancing the work items defined in this Operations Plan, and provide a venue for outreach to potential new communities 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 2008 is as follows:

- January Meeting – January 14 to 17 in Tampa Florida.
 - Workshop: "Frequency Agile RF Technologies for Commercial and Defense Applications – A Contrast in Requirements???"
- April Meeting - Apr 14-17 in Rome Italy
 - Primary Workshop: "SCA Test, Evaluation and Certification"
 - Mini-Workshop: European Commercial R&D Agendas (Tentative)
- June Meeting – June 16 to 19 in San Jose California (Tentative)
 - Workshop Option 1: TV White Space Workshop
 - Workshop Option 2: "SDR in Vehicle Based Wide Area ITS Networks"
- September Meeting – September 8 to 11 in Boston Area (Tentative)
 - Workshop: "Defense R&D Agenda for SDR and CR Technologies – 2009 to 2011"

In supporting the SDR Forum's high level objectives, the following changes in meeting planning will be made in 2008

- 1) Starting in April, meeting locations and dates will be announced 9 months in advance on a repeating cycle, and the SDR '09 Technical Conference and Product Exposition will be announced at the SDR '08 Conference
- 2) The SDR Forum will announce the agenda for the next meeting within one week of the completion of the previous meeting.
- 3) The SDR Forum will adjust the meeting schedule to better accommodate the needs of the members, moving to a single plenary providing market updates and a venue for invited speakers, and moving the workshop to mid-week to encourage better participation.

8 SDR Forum Corporate Administration Work Plan

8.1 Corporate Operations Plan

The successful operation of the SDR Forum is dependent upon having an effective infrastructure and set of tools to support the membership. To this end, the SDR Forum will evaluate possible enhancements to the existing functions to maximize the service the Forum provides to its members.

8.1.1 Meeting Planning and Management

During 2008, we will establish the meeting schedule for 2009, distribute requests for proposals, do site inspections and negotiate contracts with the goal of having firm commitments at least 9 months in advance of the meeting

8.1.2 SDR '08 Technical Conference and Product Exposition

The annual Technical Conference and Product Exposition will be held October 26th to 29th in Washington DC. The theme for this year's conference is "SDR 2.0 – Entering the Mainstream", reflecting the SDR Forum's belief that reconfigurable radio technologies are moving into mainstream acceptance in a number of markets, reflecting the ability of these technologies to solve real problems in the wireless space. As a result, SDR 2.0, the next wave of innovation in both software-defined and cognitive radio technologies, will be driven more by market need than by technical vision.

Key personnel supporting the SDR '08 Conference are as follows:

- General Conference Management: Lee Pucker
- Chair of the Technical Program: Bruce Fette
- Logistics and Operations: Al Margulies
- Sponsorships and Exhibitions: Al Margulies
- Media Relations: Weber Shandwick Worldwide

The Technical Program will include tutorials on Monday. Paper presentations, demonstrations panel sessions, and invited workshops will be on Tuesday, Wednesday and Thursday. The Product Exhibition will also be on Tuesday and Wednesday. The traditional Welcome Reception will be on Monday night, and there will be a reception in the exhibit area on Tuesday evening. A members-only reception at the annual business meeting will be held on Wednesday evening.

Marketing plans for SDR '08 are discussed in Section 8.2.1.1 of this Operations Plan. Judging of the Smart Radio Challenge '08 competition will be held on Sunday in advance of the conference.

8.1.3 Member Support and Services

In 2008, the SDR Forum will improve support for work groups and SIGs to facilitate document development:

- Enhanced IT tools— we will evaluate new collaborative document development tools and alternatives to the current teleconference facilities and SharePoint capabilities with a goal of improving reliability/continuity, ease of use, and increased functionality.
- Master schedule online – we will initiate development of a master schedule on the Forum's website.
- Document management process – we will establish a process to support the document development process from inception through balloting by creating a standard document template and style sheet, a streamlined and transparent tracking process, and editorial support to produce a polished result.

8.1.4 Administration of the Corporation

We will continue to improve the Member Services and Fulfillment Functions of the Forum in order to provide an environment that supports our members' activities. We will investigate methods to enhance our internal processes and procedures to increase efficiency and responsiveness to member requests.

8.2 Marketing and Business Development Plan

8.2.1 High Level Marketing Plan

A detailed marketing plan has been developed to promote the SDR Forum's high level objectives in 2008. Highlights of this plan are provided in the following sections.

8.2.1.1 Meetings and Technical Conference

The SDR Forum intends to heavily promote both the meetings and the Technical Conference in 2008 in order to increase participation in the creation of the SDR Forum's Reports, Recommendations, and Standards and to support our members in their advocacy, opportunity development, and education efforts. This promotion will occur through a variety of venues including

- Media relations and media sponsorships
- Direct mail and email campaigns
- Web marketing
- Personal contact through e-mail and phone calls

The focus for meetings will be securing compelling speakers for the planned workshops and plenary sessions, and then promoting the meeting and workshop agenda sufficiently in advance of the meeting to allow for scheduling and attendance. The SDR Forum will also be promoting new initiatives as they begin and the completion of relevant work products as appropriate.

For the Technical Conference, the early focus in 2008 will be promoting the call for papers, tutorials, demonstrations, and panel sessions, as well as securing compelling keynote speakers for the program. In addition, the SDR Forum plans to create a SDR '08 web site that is independent of the main SDR Forum site, and will use this as a primary vehicle for promoting the Conference throughout the year. The SDR Forum will also produce printed brochures for promoting the conference. These brochures will highlight the successes of the SDR '07 Technical Conference and Product Exposition in conjunction with introducing the keynotes, tutorials, and sponsors.

8.2.1.2 Web Site Update

The SDR Forum will undertake a project in 2008 to incrementally update the SDR Forum website to better align with the new strategic plan and to better support the SDR Forum's members and customers. This web site update will include a major restructuring to provide better support for the following "user personages":

- An SDR Forum member looking for relevant information on current work activities
- An analyst or market manager who wants to know what SDR and CR are and needs to understand the rate of adoption and business models
- An engineer mining technical data on reconfigurable radio technologies
- A technical, government or business leader, unfamiliar with the SDR Forum, deciding whether to attend a Forum meeting because someone suggested it.
- A technical, government or business leader in the advanced wireless market interested in finding out more information about joining the SDR Forum
- A business development manager seeking partners in responding to a new proposal requiring reconfigurable radio technologies

New content that will be added to accommodate these "user personages" will include:

- Updated materials on what SDR and CR are and rate of adoption
- Tutorials, white papers, and other resources on relevant topics
- Case studies and testimonials
- An SDR Forum Partners page with information on the SDR Forum's partners and Liaison relations
- A Community Calendar page showing events relevant to SDR Forum members
- An SDR Forum Event Calendar providing meeting schedules and information on teleconferences for all of the workgroups and SIGs
- SIG and Work Group summary pages as appropriate

The SDR Forum will also explore setting up a student resume page on the web site as a venue for universities to post the resumes of graduating students with relevant training and experience. In addition, the SDR Forum will undertake a project to update the presentation of the Conference Proceedings from the annual SDR Technical Conference and Product Exhibition to simplify access for the SDR and CR community, and to allow for easier referencing.

Initial updates to the SDR Forum web site will be completed by the April General Meeting.

8.2.1.3 SDR Forum Annual Report and Online Yellow Pages

Feedback from member interviews has indicated that while the quality of the SDR Forum Year Book has been quite high, the value of the Year Book is limited after the Technical Conference. As such, the SDR Forum will replace the Year Book in 2008 with two other items: an SDR Forum Annual Report highlighting the performance of the SDR Forum in the previous year, and an on-line Yellow Pages that replaces the SDR Forum Membership Directory. Both of these items will be completed by the September General Meeting.

8.2.1.4 Pricing Study

The SDR Forum will undertake a review of the Forum's pricing for memberships, meetings and the annual technical conference. The SDR Forum intends to follow a value pricing model in establishing pricing in 2008, using the pricing of other relevant standards bodies and consortia as a baseline for comparison. Recommendations resulting from this study will be made to the SDR Forum Board of Directors at the April General Meeting.

8.2.1.5 Articles

The SDR Forum plans to develop and publish a number of articles in 2008 in relevant magazines and trade journals. The objective of these articles is to promote the SDR Forum's work activities and to solicit additional participation in work projects. Articles are tentatively slated for the following work items:

- SDR Forum Responses to ITU-R WP5A questions about Cognitive Radio
- The Transceiver API Specification
- Trade Study on Multi-service Portable Radios
- Securing Software Reconfigurable Communications Technologies Specification
- SCA APIs

8.2.1.6 Other Collateral

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

- Press kits highlighting the SDR Forum accomplishments
- Membership kits that can be used in recruiting new members
- An updated corporate presentation that can be tailored for use by members in a variety of different venues
- Updated templates to allow members to produce more professional looking SDR Forum documents and presentations
- A new corporate brochure reflecting the updated strategy

8.2.2 Outreach and Business Development

8.2.2.1 Member Interviews

The SDR Forum will continue to conduct formal interviews with members, potential members and past members. This information will be used to refine the Forum's value proposition and will act as input to an update to the SDR Forum Strategic Plan to be presented to the Board of Directors for approval at the September General Meeting.

8.2.2.2 Speaking Opportunities

The SDR Forum will pursue a number of speaking opportunities in 2008. The Forum will use these engagements to promote the 2008 to 2011 Strategic Plan, the SDR Forum 2008 Operations Plan, as well as to explore new opportunities and to solicit new members.

8.2.2.3 Conferences and Tradeshow

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

- IDGA Software Radio Summit (February 25 to 28 in Washington)
- Mobile World Congress (February 11 to 14 in Barcelona)
- MountainView Alliance Commercial Ecosystem Conference (March 11 and 12 in San Francisco)
- CTIA Wireless 2008 (April 1st to 3rd in Las Vegas)
- IEICE Technical Conference (July 17th and 18th in Tokyo)
- IEEE DySPAN (October 13 to 15 in Chicago)
- MILCOM 08 (November 17 to 19 in San Diego)
- ITS World Congress (November 16 to 20 in New York)

8.2.2.4 Partner Relationships

The SDR 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 the JTRS Program, the E3 Program, EDA, NATO, IEICE, IEEE, OMG, and VITA. In 2008, the SDR Forum will also explore new relationships with organizations such as the DHS, ITS America, ITS UK, InnovITS, the Scope Alliance, the Service Availability Forum, and the Mobile Industry Processor Interface Alliance.

8.2.2.5 Securing Extraordinary Funding

The CEO, working in cooperation with the Forum’s Officers and ITU Regional Representatives shall investigate the possibility of pursuing government funding or grants as a non-profit organization to support relevant SDR Forum activities. A report summarizing the results of this study will be presented to the SDR Forum Board of Directors at the September Board meeting. If appropriate, the Forum will pursue and secure this type of extraordinary funding in support of the Forum’s 2009 operations plan.

8.2.2.6 Increasing International Participation

The SDR Forum will develop strategies in 2008 to increase international participation in SDR Forum activities. These strategies will be captured in an update to the SDR Forum Strategic Plan to be presented to the Board of Directors for approval at the September meeting.

8.2.2.7 Expanding “SDR in the News”

Working with the Markets Committee, the SDR Forum will undertake a program in 2008 to expand “SDR in the News” to include better international coverage and an increase of relevant member opportunities.

8.3 Evaluating Contractor Performance

The SDR Forum’s CEO will formally evaluate the performance of each of the Forum’s contractors and consultants at appropriate times in 2008, to evaluate whether changes need to be made in organizational structure or contract deliverables. The CEO will solicit feedback from a broad cross section of members as a part of this evaluation.

8.4 2009 Planning Cycle

The SDR Forum will develop and present a revised Strategic Plan to the Board of Directors for approval at the September 2008 General Meeting. This revised plan will compensate for any deficiencies found in the 2007 plan, and will include strategies under development in the 2008 time frame. Based on this revised strategy, the 2009 Operation Plan will be developed and presented to the Board of Directors for approval during the December 2008 Board Meeting, and will be submitted to the membership for final approval at the January 2009 General Meeting.