

WinnF SDR Standards For military needs and more

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Agenda

SCA and SDR Standards

About CC SCA

WinnF SDR Standards

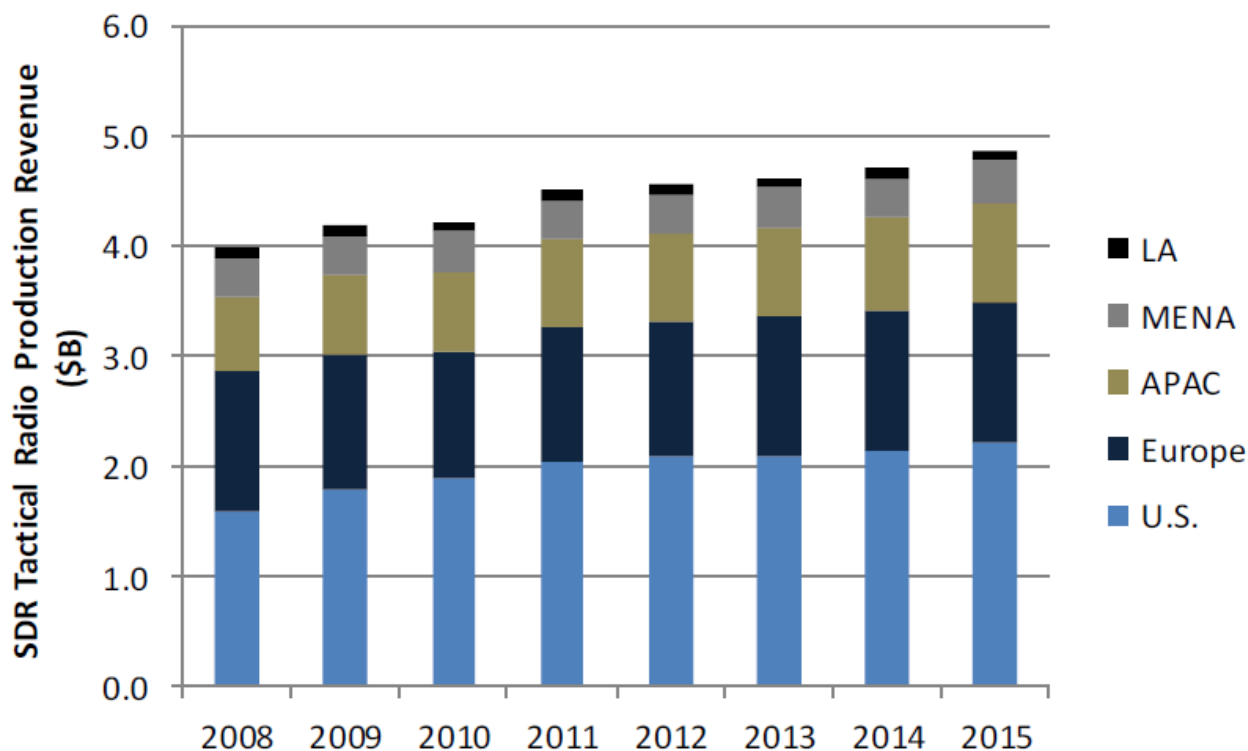
Way ahead

SCA and SDR Standards

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Introduction

SDR is the defacto technology utilized in virtually all military radios



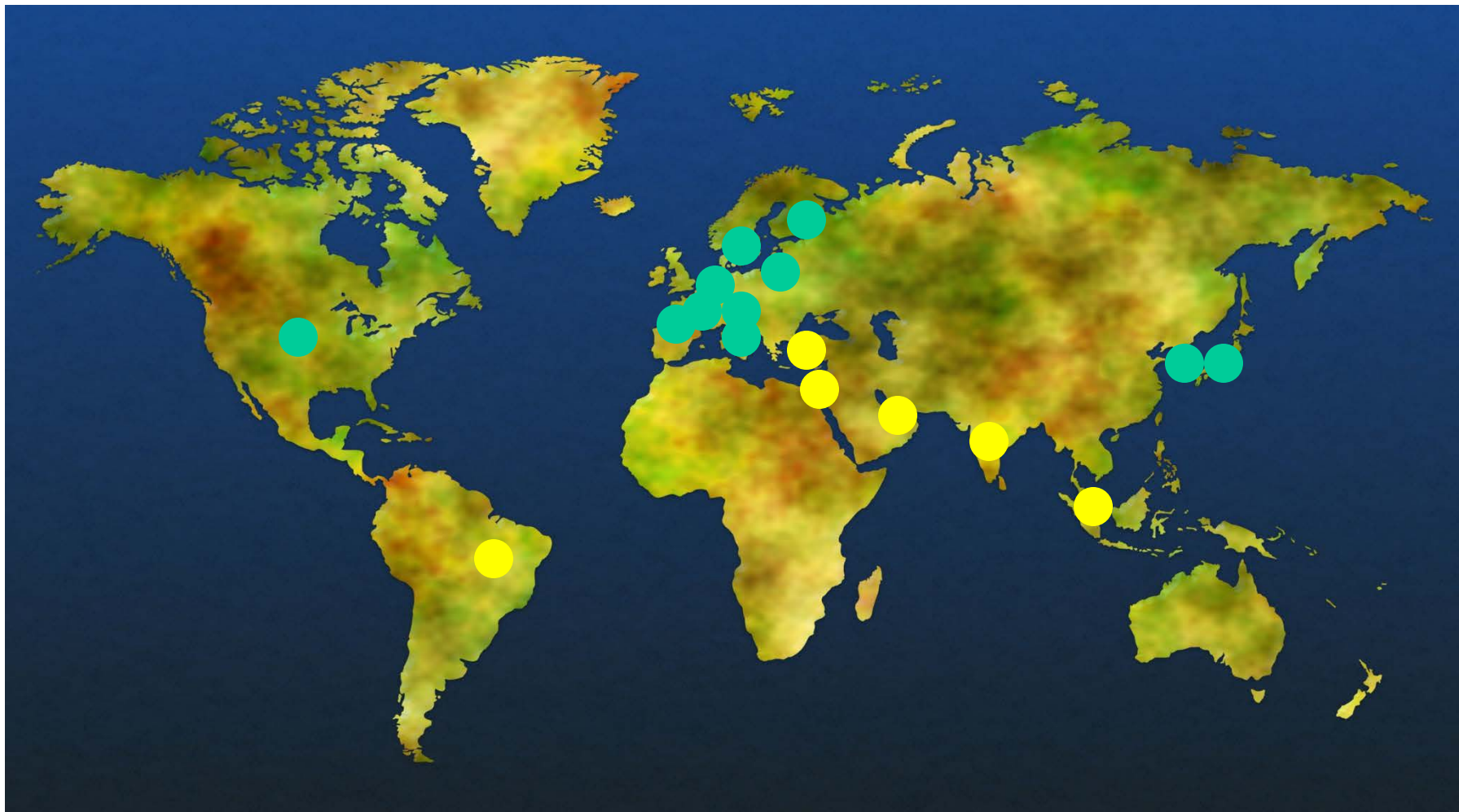
Source: Frost & Sullivan, Mobile Experts

SDR Standards based on SCA are supporting this adoption

Global Adoption, Proven Performance

- **Proven cost and delivery time advantages**
 - Reuse of waveform application software
 - Within a radio family and across radio vendors
- **Enhanced communications interoperability**
 - Common waveform application base across multinational coalitions
- **Simplified insertion of new communications capabilities in deployed radios**
 - E.g. next generation MANET, dynamic spectrum allocation...
- **Reduced development risk and time-to-market**
 - Established ecosystem of SCA vendors

Development of SCA Adoption



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Evolving Ecosystem



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Driving the future of radio communications and systems worldwide

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About CC SCA

Coordinating Committee for International SCA Standards

CC SCA Mandate

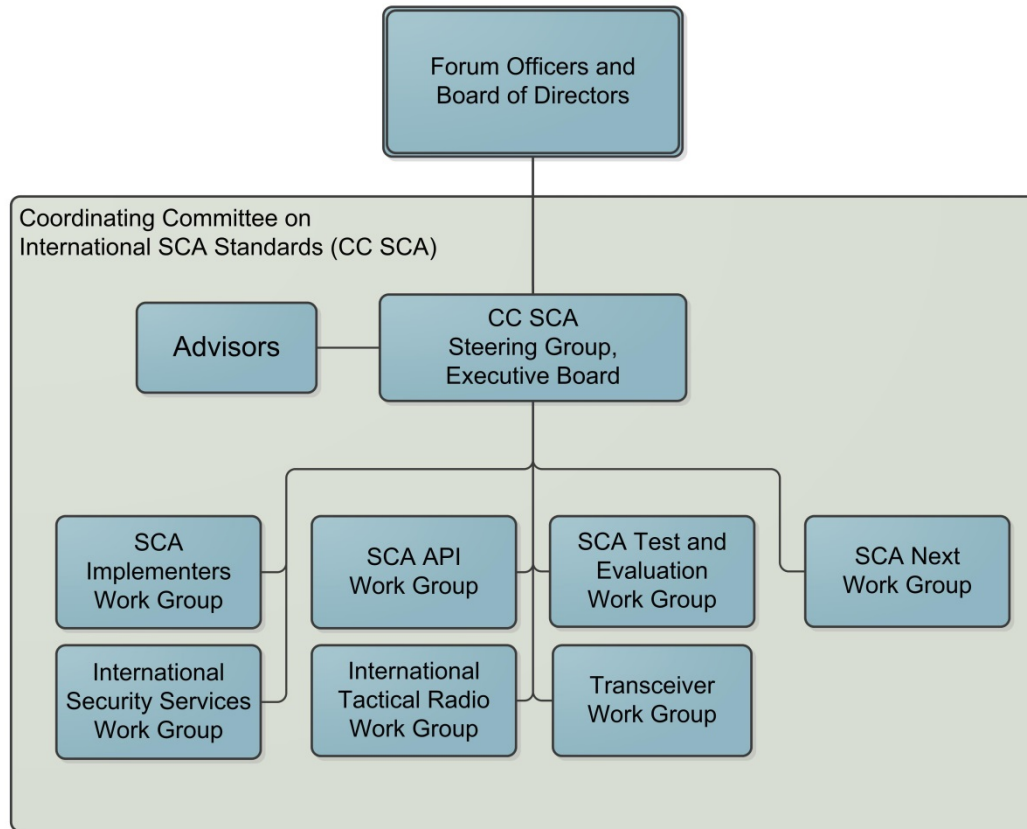
To support the harmonization of the SCA standards at the international level for the mutual benefits of all stakeholders to include:

- 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

CC SCA Structure

Structure for Coordinating Committee on International SCA Standards

17 April 2013



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The CC SCA is led by a Steering group of worldwide tactical radio manufacturers



CC SCA Advisory Council

Grouping together the Steering Group and CC SCA Advisors

- Answering to the essential need of a venue for manufacturers and customers to interact
- Met at least twice a year since creation (~2011)
- Now delivering beyond expectations: Advisory Council enabled the normative referencing of WInnF PIM IDL Profiles by SCA 4.1

Who are Advisors?

- Individuals related to MoDs active in the area of International SDR Standards
- Current list of Advisors covers JTNC Standards, OCCAR-EA, DGA, EDA, NATO, IT MoD
- Appointed upon invitation issued by the Steering Group

WInnF SDR Standards

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Introducing WInnF SDR Standards

Standards serving SDR in the general sense

- Stemming from SCA
- Developed by
 - Partner entities (e.g. JTNC Standards)
 - WInnF



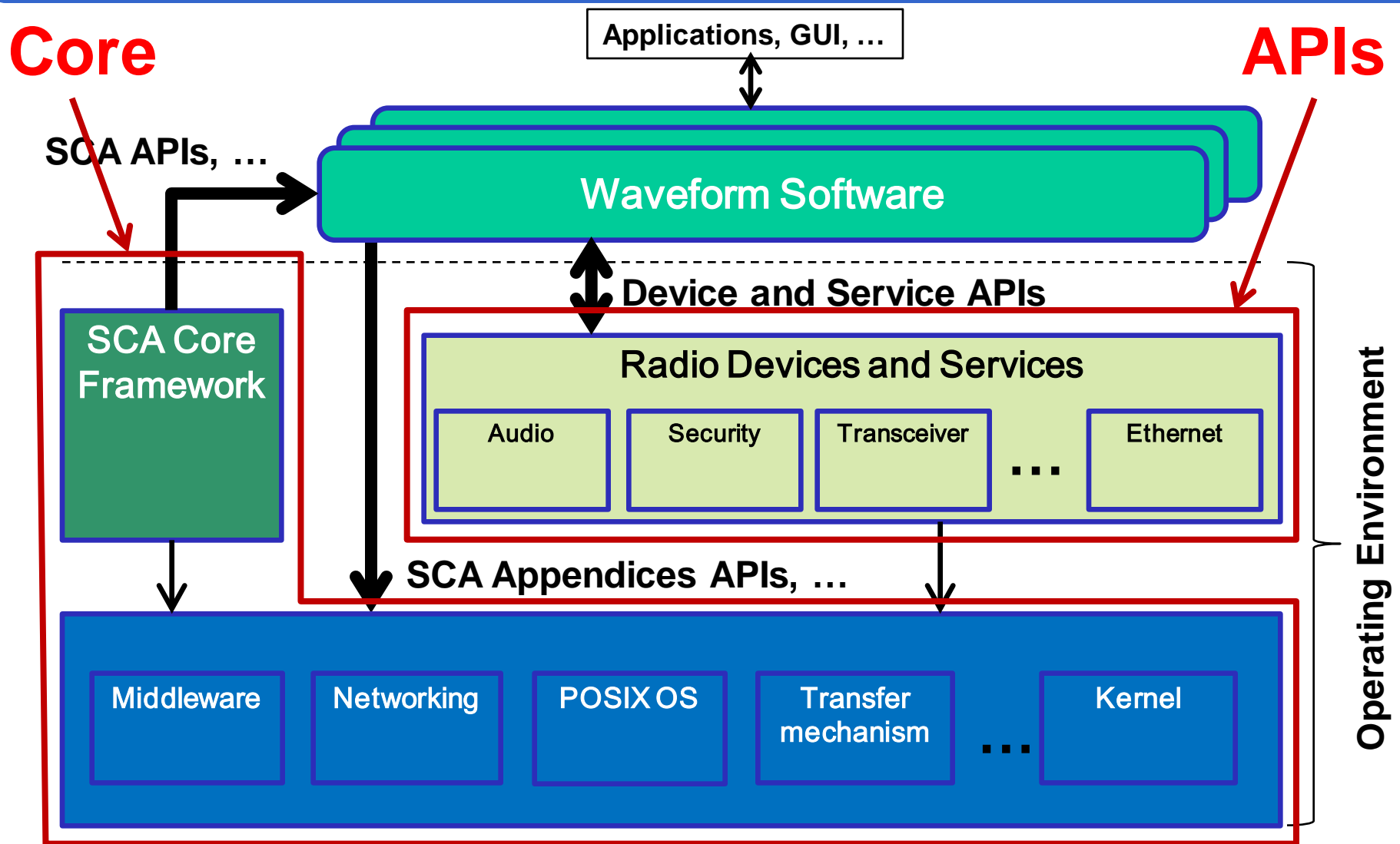
SCA 2.2.2 and 4.1

WInnF-developed Standards: Transceiver, IRSS, (U)Lw AEPs, PIM IDL Profiles

Policy setting efforts underway

- Web-based Issues collection mechanism, open to all
- Architecture Board operation in installation
- Branding strategy under development, with specific logos under final validation

Core and APIs



SCA 4.1 support

WInnF played important role in SCA 4.1 development

- Events organized with JTNC Standards
- Essential contributions

Year 2015 digest

- Feb: Draft SCA 4.1 published
- Mar-Apr: WInnF WG issues comments and proposal regarding Core Spec
 - Noticeably: addition of multi-core support in SCA
- Apr-July: normative referenceing of WInnF IDL Profiles agreed – V2.0.1 released
- Aug: Final Draft Released; ICWG Approval (WInnF support expressed)
- **Sep-15: SCA 4.1 is there**

SCA 4.1 Highlights

1 Support Wide variety of SDR Platforms type

- Better Applicability for dismounted & lower cost platforms ; Longer Battery Life
- Improve architectural scalability to address the size, weight, power and cost requirements
 - Profiling and architecture improvements
- Improved support for devices such as DSPs and FPGAs

2 Enhance Information Assurance

3 Performance improvements

- Start Up time Enhancements : Boot & WF deployment
- Improved realtime performance

4 Reduce Development Lifecycle costs

- Testing cost Enhancements
- Requirements cleanup

5 WF Portability Enhancements

6 Easy Introduction with Backwards Compatibility features

- SCA 4.1 protects SCA 2.2.2 Waveform Application Investment



SCA 4.1 provides real benefits to warfighter, radio vendors and the complete SDR ecosystem

Transceiver Next – Positioning statement

For the international community of SDR products developers

Who are seeking openly available, free to access and free to use internationally elaborated standard API for portable SDR Applications and multi-applications SDR Transceivers

The project will produce an updated release of the WINNF Transceiver Facility, based on the V1 published in 2009

That will improve the V1 content based on years of implementation experience and will integrate contributions for a larger international basis than early practitioners of V1.

Transceiver Next – Positioning statement

Unlike all known existing Transceiver related API standards that are related to implementation architecture of the Transceiver (such as OBSAI, DigRF, OBISS, MHAL RF Chain Coordinator...),

This product features implementation-abstract standard APIs that enable to reach a high degree of portability for SDR Applications while enabling SDR Transceivers to host a large variety of SDR Applications.

Unlike previous version of the Transceiver Facility that was driven by requirements of Waveform Applications,

This product will broaden applicability of the specification to other categories of SDR Applications such as Test and Measurement, Dynamic Spectrum Allocation, TV Broadcasting or Sensing.

Transceiver Next – Progress and trends

Active participation

- Thales, Cobham, NordiaSoft, DGA, JTNC Standards, HKE, Rohde & Schwarz, Rockwell-Collins, Harris
- 4 TEM so far (Paris, Ottawa, Wichita, Erlangen)
- Weekly 2h teleconferences

Essential design orientations taken in Erlangen

Project now focused on core V1 capabilities + multi-path extensions

V2 completion likely to generate follow-up projects

- Extension of covered capabilities
- Markets-oriented Profiles (e.g. Military)

Way ahead

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Work in progress

Endorsement of SCA 4.1

- Process is underway

Transceiver Next Finalization

- TEM5 under consideration (Jan 2015 tbc)
- Now aiming at release before WInnComm 2016 (Mar)

Finalizing logo / branding strategy

Preparing future projects / roadmap

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Projects under consideration

Candidate Report Projects

- 4.1 Adoption
- Coalition Interoperability

Candidate Specification Projects

- Harmonize Time related APIs/services
- 4.1 Test & Eval Criteria (Contingent on 4.1 Adoption)
- Military Transceiver Profiles (Contingent on V2 completion)

Parking Lot/Backlog

- Revision projects to clean up existing specifications as required
- Energy Efficient Radios
- Harmonization of other public API's
- Cyber Architecture

Questions?