

# WinnF Standards for SDR For SDR... and what's next

Eric Nicollet

Co-chair of the CC SCA Steering Group

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Slide 1



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# Agenda

**SCA and SDR Standards**

**About CC SCA**

**Ongoing activities**

**Conclusions**

Slide 2

# SCA and SDR Standards

Slide 3



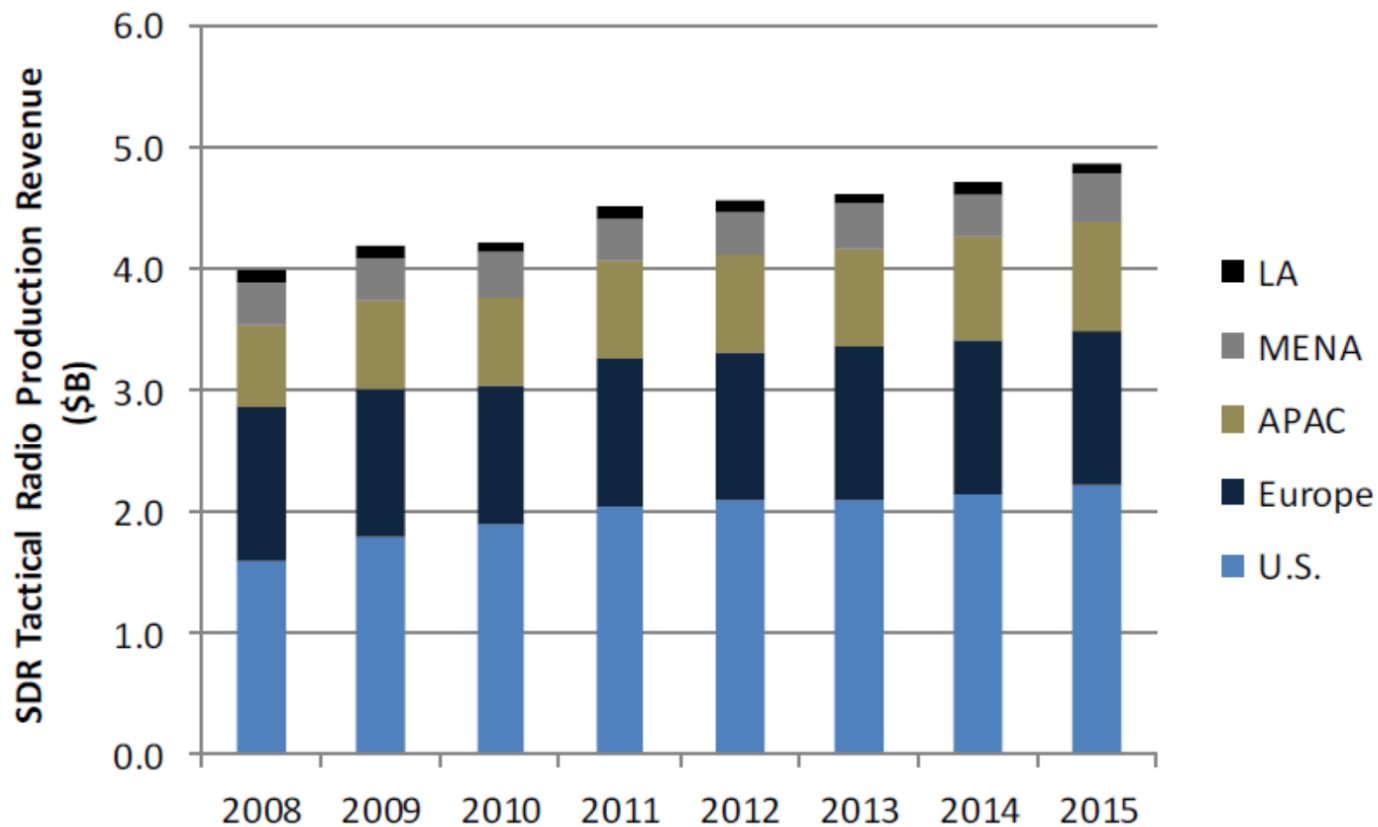
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# Introduction

**SDR is the de facto technology utilized in virtually all military radios**



Source: Frost & Sullivan, Mobile Experts

**SDR Standards based on SCA are supporting this adoption**

Slide 4

# 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

Slide 5

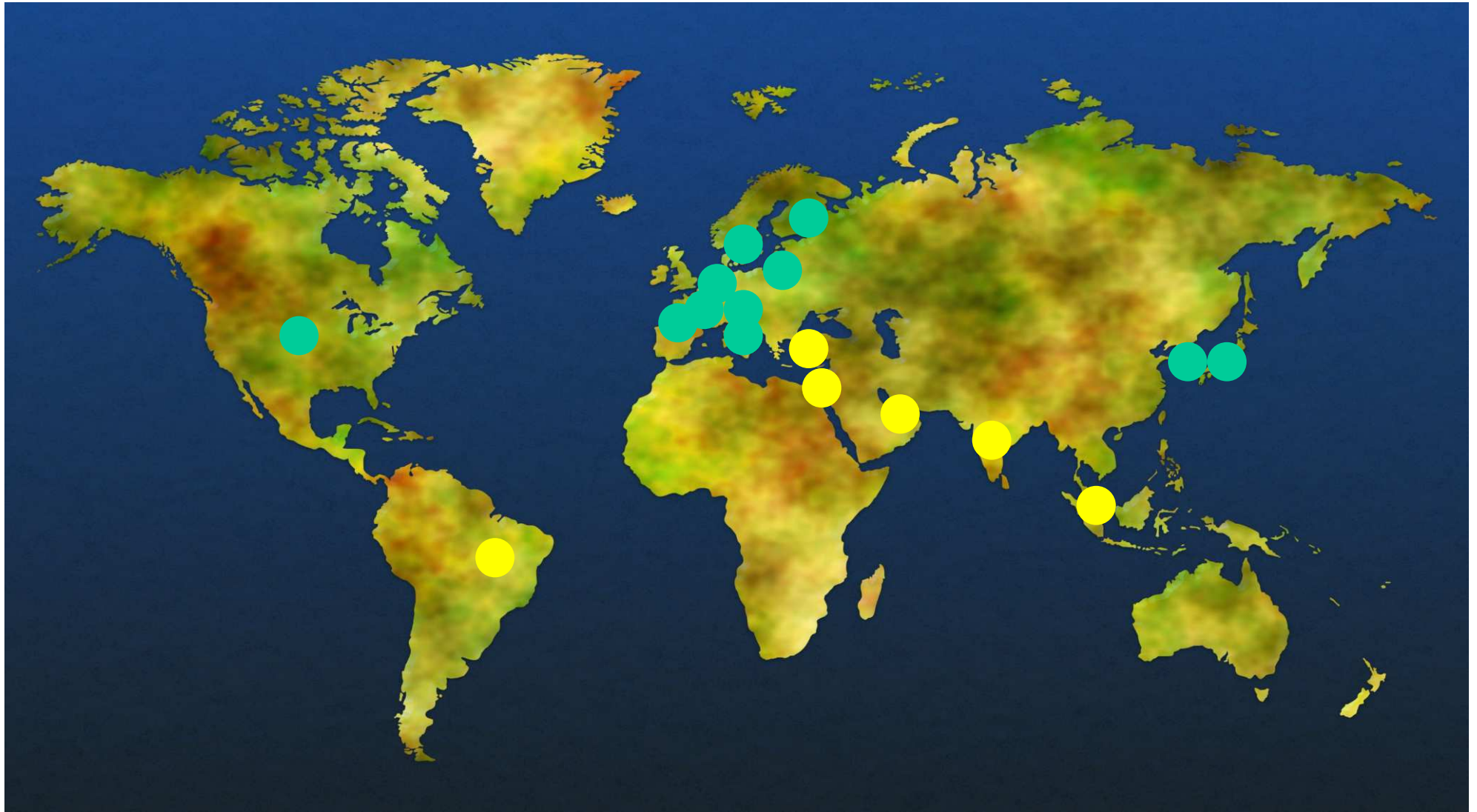


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# Development of SCA Adoption



Slide 6

# About CC SCA

## Coordinating Committee for International SCA Standards

Slide 7

# CC SCA Mandate

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

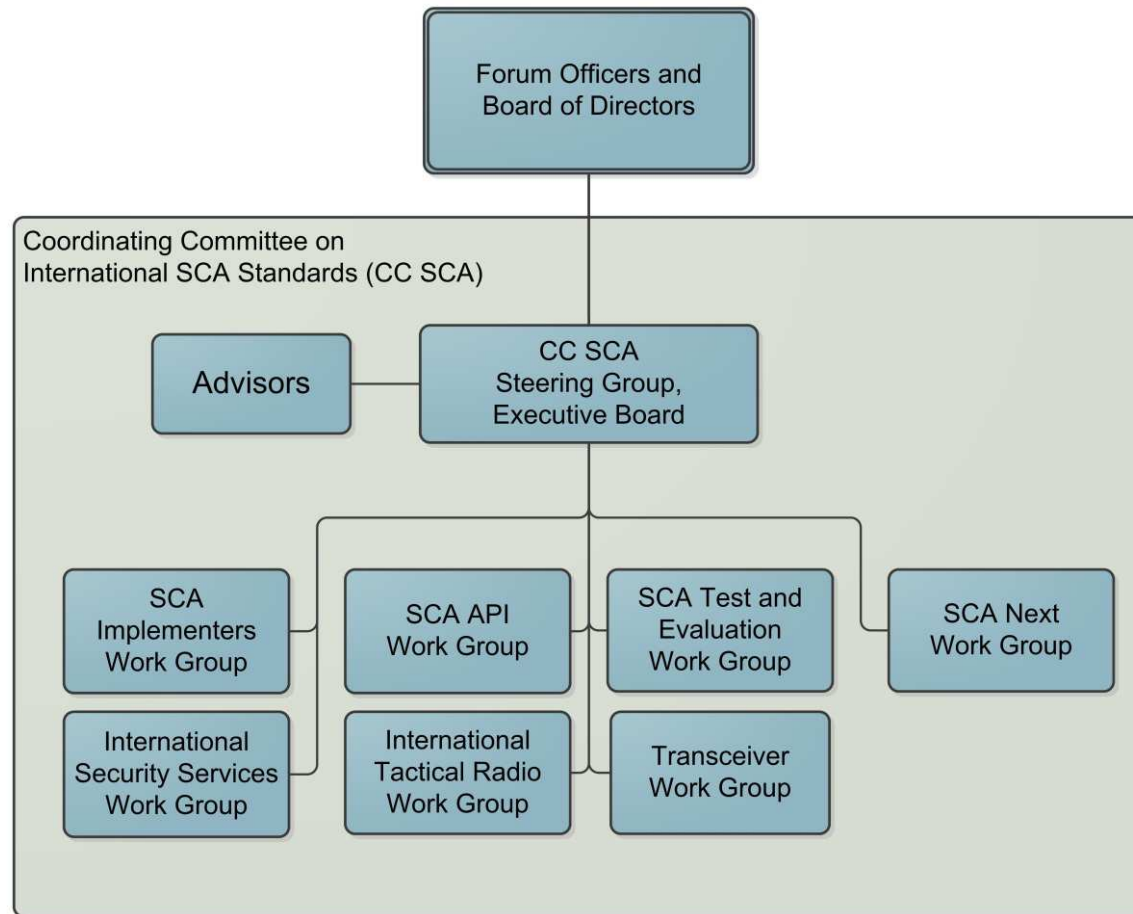
- Defining an industry driven SCA evolution roadmap for the international community
- Profiling the SCA specification and related APIs to define internationally accepted variants that are hosted by the Forum
- Developing extensions to the SCA standards that address any gaps between the defined SCA evolution 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

Slide 8

# CC SCA Structure

## Structure for Coordinating Committee on International SCA Standards

17 April 2013



Slide 9

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



Slide 10

# 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, OCCAR-EA, FR, Ge, IT, SW, NOR MoD, EDA, NATO
- Appointed upon invitation issued by the Steering Group

Slide 11

# WinnF Standards for SDR

## 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

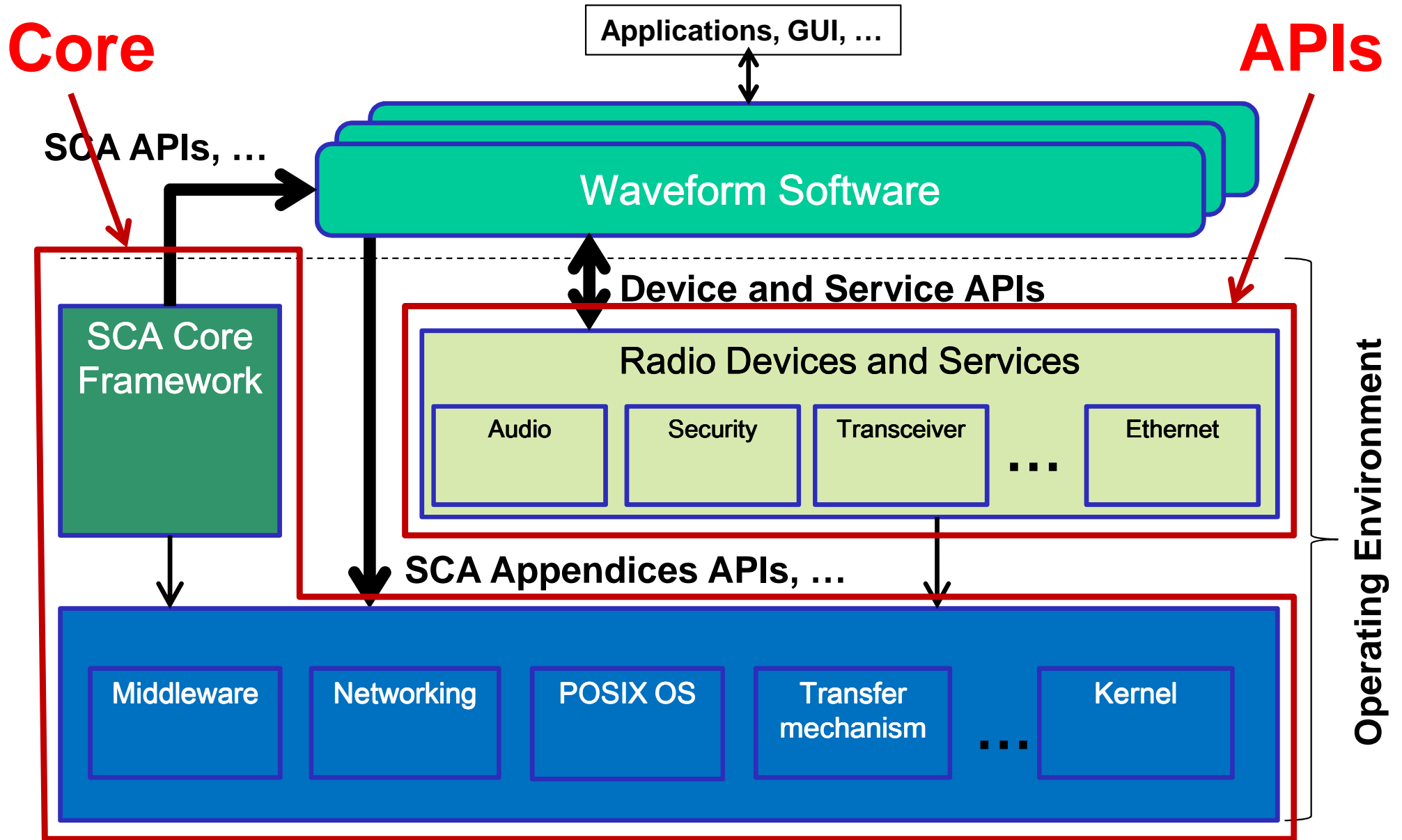
## WinnF-developed Standards: Transceiver, IRSS, (U)Lw AEPs, PIM IDL Profiles

## 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

Slide 12

# Core and APIs



Slide 13

# Ongoing activities

Slide 14

# SCA 4.1 compliancy

**Started early 2016 aiming for completion end 2016**

**Chaired by JTNC Standards**

**Project to deliver WInnF specification capturing  
compliance criteria for all SCA 4.1 requirements**

**Interim deliveries already available (on partial  
scope)**

Slide 15

# Transceiver Next – General

**Started early 2015 aiming for completion fall 2015**

## **Project now to deliver**

- PIM standard by end 2016
- PSM standards (C, SCA, VHDL, ...) to follow closely

## **Delayed for best reason: active participation**

- Cobham, DGA , Harris, FKIE, HKE, JTNC Standards, NordiaSoft, Rockwell-Collins, Rohde & Schwarz, Thales
- TEMs so far : Paris, Ottawa, Wichita, Erlangen, Rennes, Ottawa, Paris
- Weekly 2h teleconferences

## **Follow-up projects to aim at**

- Domain-oriented profiles for portability improvement
- Capabilities extensions

Slide 16

# Transceiver Next – PIM essentials

## **Scalable software API based with**

- 7 services groups, 16 services, 18 primitives, 15 types
- 1 main state machines with 5 states, 2 trivial sub-machines
- 6 standardized events
- 27 exceptions, 8 errors for debug / fault-tolerant apps
- Technology neutral specification of software interfaces
- ~ 80 properties for extended portability engineering

**Core services set: burst creation; samples transmission/reception; tuning**

**Covering any needs from low cost to high end transceivers and applications**

**Less than < 100 pages (front matter included)**

Slide 17

# Coalition interoperability

**Started early 2015 aiming for completion end 2016**

**Project to deliver exploratory report identifying technology / standards gaps for coalition contexts**

**Contributions and involvement from government stakeholders remain welcome (NATO countries and beyond)**

Slide 18

# Conclusions

Slide 19

# Conclusions

**Projects are actively being carried on**

**SDR standards are reaching industrial maturity, but harmonization remains a challenge**

**Future projects likely to address some of the emerging matters going beyond traditional SDR scope**

**Answering spectrum usage, coal networking, BFT/geo, etc. will likely build on top of SDR technology**

Slide 20

Thank you for your attention  
Questions?

Slide 21



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