



Business Models for New Entrants in the SDR Tactical Radio Market – Overview

International Tactical Radio SIG – CC SCA – WINNF

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Introduction

Market Report issued by WINNF in March 2013

- “Business Models for New Entrants in the SDR Tactical Radio Market”
 - (WINNF-13-P-0001)
- URL : <http://groups.winnforum.org/d/do/6527>



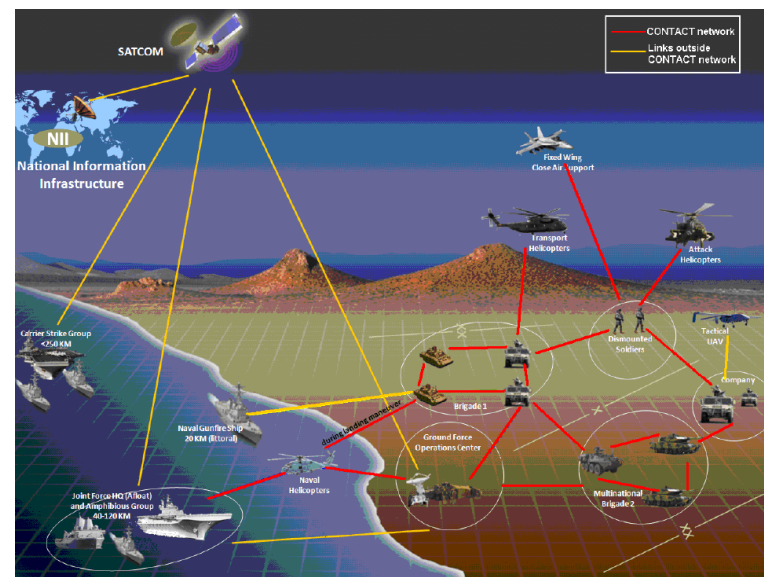
Project initiated by the WINNF / CC SCA to update the report

- What's new in the past 2 years

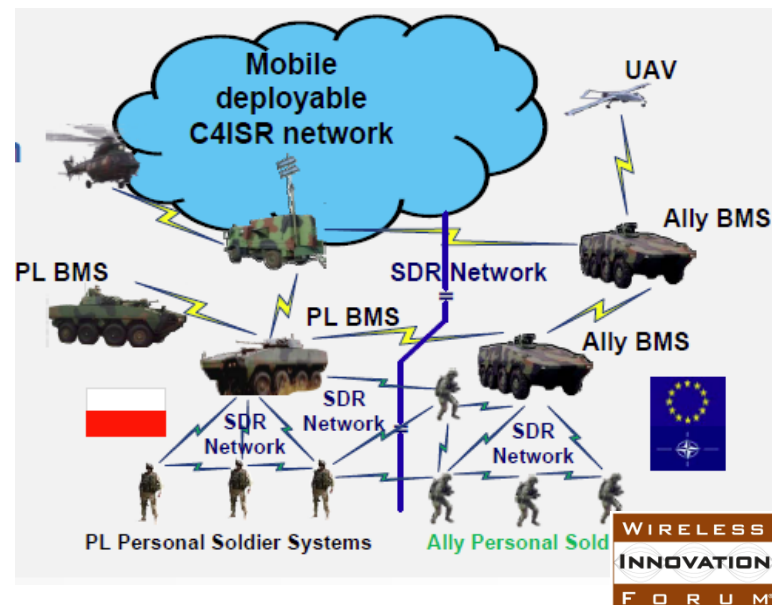


What 's new in Europe

- Large **France** SDR Program Contact launched in 2012 represents the largest investment in Europe in SDR domain
 - Multi-Waveforms, Multi-Platforms and Multi-Domains program
- **Poland** has launched its National SDR Program in 2013
- **Sweden** has issued information survey in 2013 related to the TGRS Program including SDR technologies (Platforms & Waveforms)

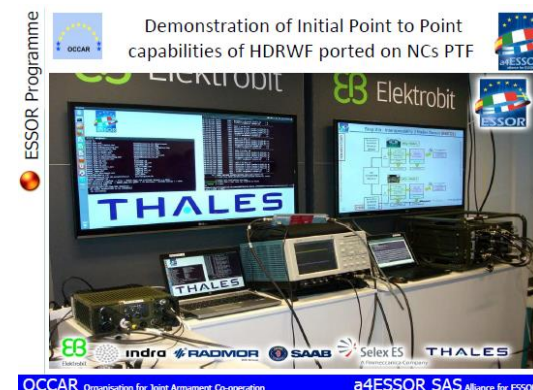


(SDR Europe 2013)



What 's new in Europe

- **Mid-Long Terms Renovation Programs, driving needs for SDR technologies**
 - **UK**, paving road of the LeTacCis Program
 - **Norway**, introducing the long term P8043 program aiming to renovate Tactical Communications
- Other **National Programmes** are progressing in their developments
 - **Germany** SVFuA (started in 2009) and further tactical coms evolutions
 - **Italia** SDR Programme
- **ESSOR Programme**
 - first demonstration has been performed in 2013, further interoperability tests on going



SVFuA – SDR of the German Bundeswehr
Key Technology enabling Network Centric Operations



What 's new - International

International Markets beyond US & Europe

- **India**

- Several programs involving SDR technologies are launched or under launching
- Programs in all three domains : Airborne, Naval and Ground tactical communications

- **Brazil**

- Program Started in 2013

- **South Korea**

- Progress in the TICN/TMMR programmes and first prototypes exhibited

- **Canada**

- Renovation programs launched

Objetivos do Projeto RDS-Defesa

- **Objetivos Estratégicos:**

- Atuar no Espaço Cibernético com Liberdade de Ação
- Contribuir para promover interoperabilidade na camada física das comunicações táticas
- Obter autonomia em área estratégica

- **Objetivos decorrentes:**

- Fomentar a Indústria Nacional
- Fortalecer laços institucionais entre Forças Armadas e militares
- Desenvolver tecnologias para o Projeto do Radar Cognitivo



Market Adoption

SDR Programs Worldwide

*A Large Market Adoption
Multiplication of programs since 2012
Gaining Maturity*

US Market

- *SDR Technology already deployed*
- *JTNC Program new perspectives*
- *Waveform Centric Model*
- *US Army Radio Acquisition strategy reshuffled*

Europe Market

- *SDR Technology under deployment*
- *Development of a major interoperable waveform for Land forces*
- *New Major National programmes launched since 2012*

RoW Market

- *Multiplication of national programs*
- *SDR Technology gaining momentum in Asia, Middle-East and Latin America*
- *Follows US and European trends*

US Market : Acquisition Strat & Lifecycle



US Army
Tactical Radio
Acquisition

The Radio
Market Place

Standard
Waveforms
(SRW, WNW, MUOS,
Sincgars..)

WF Porting

Radio Platforms
Acquisition

Radio Vendors
PTF Refresh Cycle

Radio PTF Gen 1 *PTF Refresh Cycle* Radio PTF Gen 2
Better Performances

5 to 7 years ?

Already 7-10 years experienced
On US Market examples

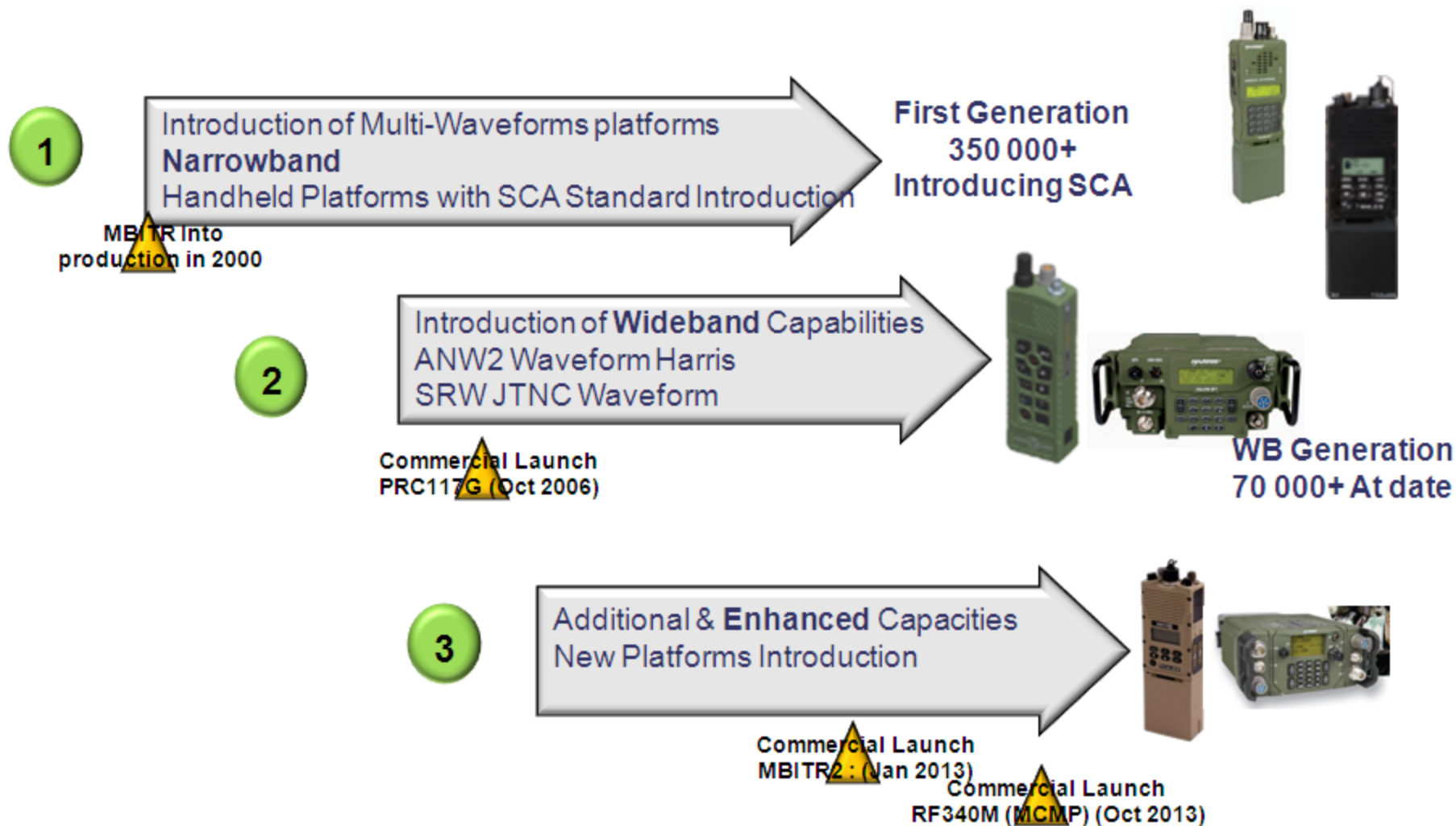


PEO C3T MG D. Hughes
C4ISRNET 30th Sept 2014

*On the other hand, the processing power inside each one of these sets increases based on the rate of **Moore's Law**. This is why the **radio marketplace** concept is so important(...) That is why competitive buys on delivery orders, and having a strategy to refresh these in a certain amount of years is critical. (...)What is the **refresh cycle**? (...)What I am hoping for is that through competition we drive the cost of the material down so that refresh in **five to seven years** on each one of these sets is a viable option for the military.*

Waveform Centric Model and SDR Technologies enable such
Business Model

SDR Platform Refresh Cycle



7 to 10 years SDR PTF Cycle
Manage independant PTF and WF Roadmap

SDR is more than reality

Status of deliveries for US Market

- First Generation : NB capabilities : 350 000+
 - Mainly AN/PRC-152 and AN/PRC148 product families
- Second Generation : WB capabilities : 70 000+
 - AN/ PRC 154 and AN/PRC-155 : ~25000
 - AN/PRC-117G, 152A product families



Status of SDR Platforms and SDR Waveforms

- Near 40 Waveforms developed and ported in US and International Market
 - More than 50% are waveforms that are actively developed or deployed into forces
- More than 40 Platforms identified in US and International markets
 - 15 international vendors proposing , developping and deploying SDR paltforms inc. SCA capabilities to support Multi-Waveforms



Maturity in the technology
But transition in the field for new networking radios

Adoption by End Users

Transition into the field of new networking tactical radios still on going

End Users Requirements

- More capabilities (application drivers), **but also**
- SWAP
 - Battery, Weight....
 - Performances
- Easy maintenance and Easy usage
- W/o forgetting cost (procurement view)

Regularly recalled by end users in various industries briefing



**Maturity in the technology
But transition in the field for new networking radios**

WF Portability Examples

US Market

SRW Waveform
Ecosystem

SRW Waveform

Ported into 11 platforms
From 7 Suppliers

JTNC Business Model



Europe

ESSOR
Programme

ESSOR HDR Waveform
Ported into 6 platforms
(nations different)

First Interoperability test in 2013



SDR Business Model is reality
Interoperable Waveform ported into Multi-Suppliers Multi-Platforms

Global Adoption, Proven Performance

Drivers of SDR Adoption

- Enhanced communications interoperability
 - Common waveform application base across different platform origins (=different radio suppliers)
 - National application and multinational coalitions applications
- Simplified insertion of new communications capabilities in deployed radios
 - E.g. next generation MANET, dynamic spectrum allocation...

Benefits of SCA and Standards Adoption

- Proven cost and delivery time advantages
 - Maximize the reuse of waveform application software
 - Within a radio vendor and across different radio vendors
- Reduced development risk and time-to-market
 - Established ecosystem of vendors in the value chain
- Enabler of new business models for tactical communication

Proven Performance in Deployed Systems

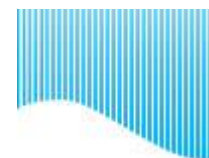


SCA Global Adoption, Proven Performance

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SCA Global Adoption, Proven Performance

Business Models & Use Cases

The 2013 report has introduced different use cases, different programmes types

- From « Off the shelf radios » to full national programs (POR as called in US)
- Different roles

Business Cases

- No Single business case, multiple according to local context
- Full SDR when program dealing with Multiple WF and Multiple PTF
- Sharing WF between different PTF origins/vendors is a challenge
 - By nature the challenges of the WF Portability
 - Technology
 - IP & Business
 - Security & National Sovereignty
- Some Business Models Examples
 - ESSOR, JTNC, SVFuA
 - French CONTACT, Italian SDR programs..
 - Industries solutions (international radio suppliers)

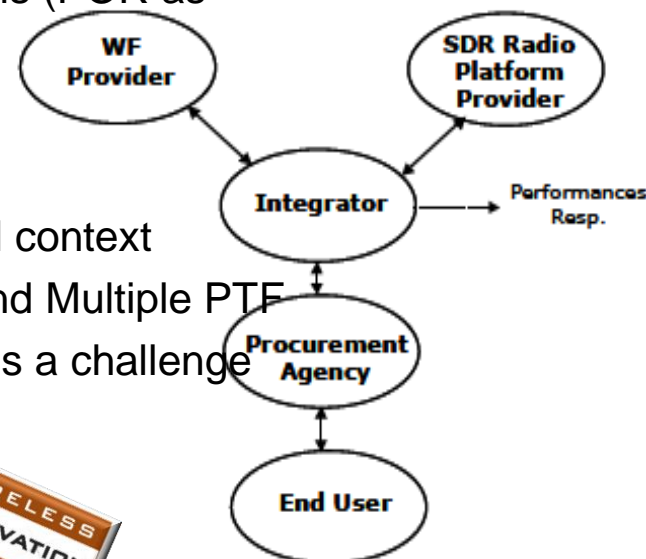


Figure 22: Typical SDR Program Stakeholders



The WINNF Report will detail further the Multiple WF, Multiple PTF and Multiple Suppliers Business Models

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