Wireless Innovation Forum Dynamic Spectrum Sharing Annual Report

6 Oct 2015

Dynamic Spectrum Sharing Annual Report - 2014

- ***For*** Regulators, Policy Makers, Spectrum Managers, Network Planners, and Wireless Researchers
- ***Who*** Need to understand the state of technologies such as dynamic spectrum access and their ability to facilitate spectrum sharing,
- ***The*** Spectrum Sharing Annual Report is a reference guide
- ***That*** clearly identifies and synthesizes a harmonized view of the results of Spectrum Sharing research and trials, identifies what is in development, and articulates what issues are being addressed and still need to be resolved.
- ***Unlike*** reports from individual, independent projects and trials that provide only a limited view of the state of spectrum sharing,
- ***This product*** will consolidate the results from around the world in summary form, providing an easy reference for the target audience on the state of spectrum sharing and its viability in specific markets.

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Outline

1. Introduction
2. What is Spectrum Sharing
3. Spectrum Measurement Studies
4. Benefits of Spectrum Sharing
5. Regulation
6. The Economics of Spectrum and Related Business Models
7. DSA, White Space and Spectrum Sharing Test Beds and Field Trials
8. Relevant Standards Developments
9. Relevant Research Programs
10. Technology Review
11. Gap Analysis

What is Spectrum Sharing

Level 0: Exclusive Use Spectrum

Level 1: Static Spectrum Sharing

Level 2: Managed Shared Access

- Level 2A: Industry Managed
- Level 2B: Government Managed

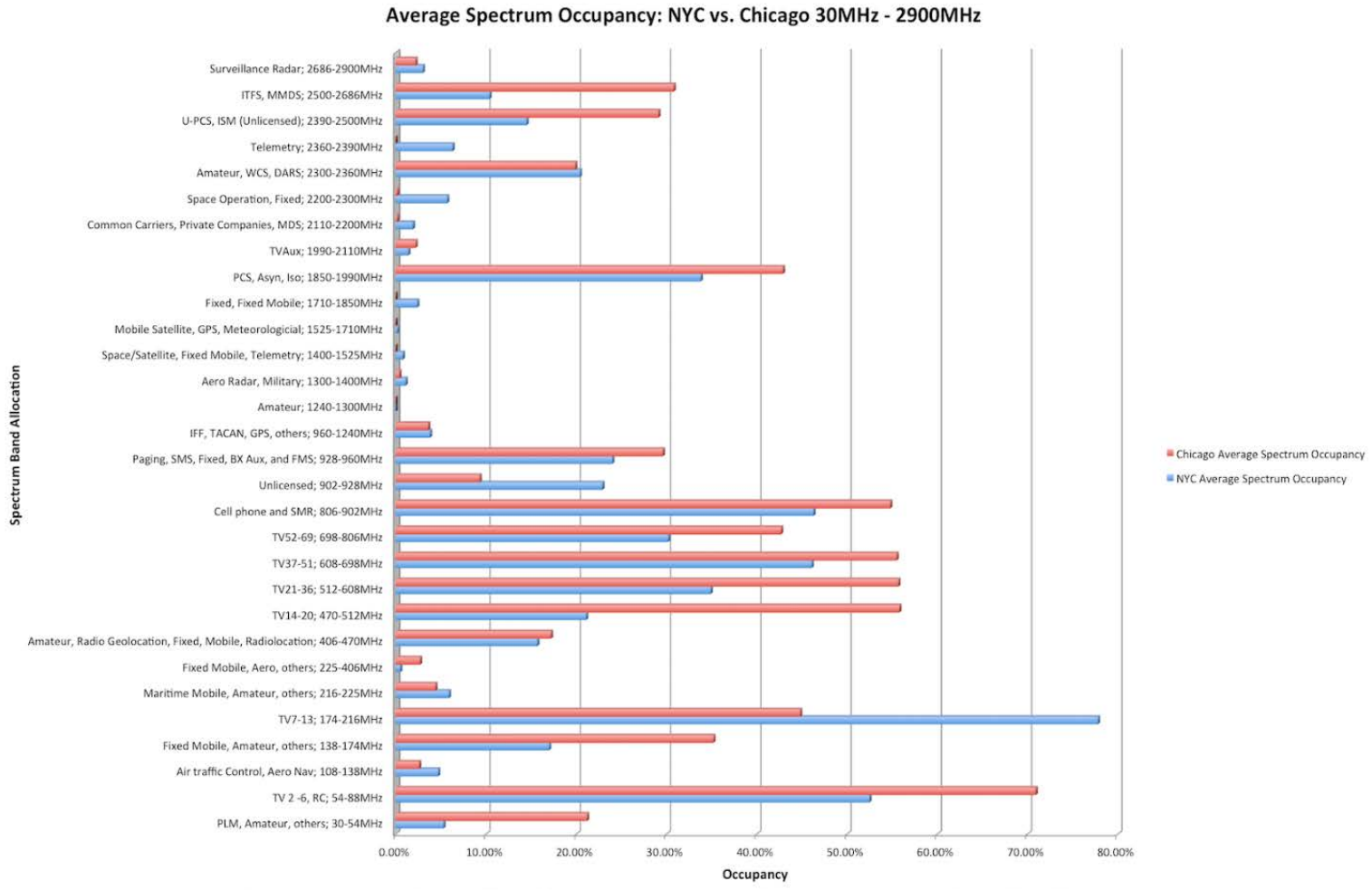
Level 3: Dynamic Spectrum Sharing

- Level 3a: No Priority Access
- Level 3b: With Priority Access

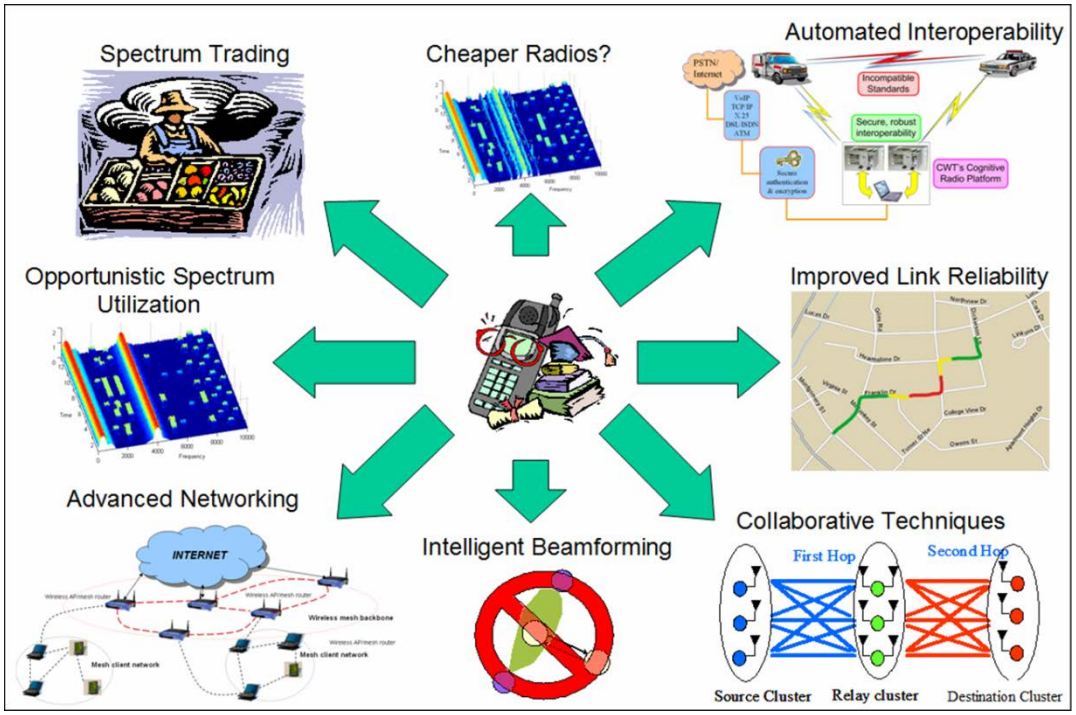
Level 4: Pure Spectrum Sharing

- Level 4a: Lightly Licensed
- Level 4b: Unlicensed

Spectrum Measurement Studies



Benefits of Spectrum Sharing



Extracted from "Quantifying the Benefits of Cognitive Radio" (WINNF-09-P-0012-V1.0.0)
http://groups.winnforum.org/d/do/3839

Regulation

Trials and Test Beds

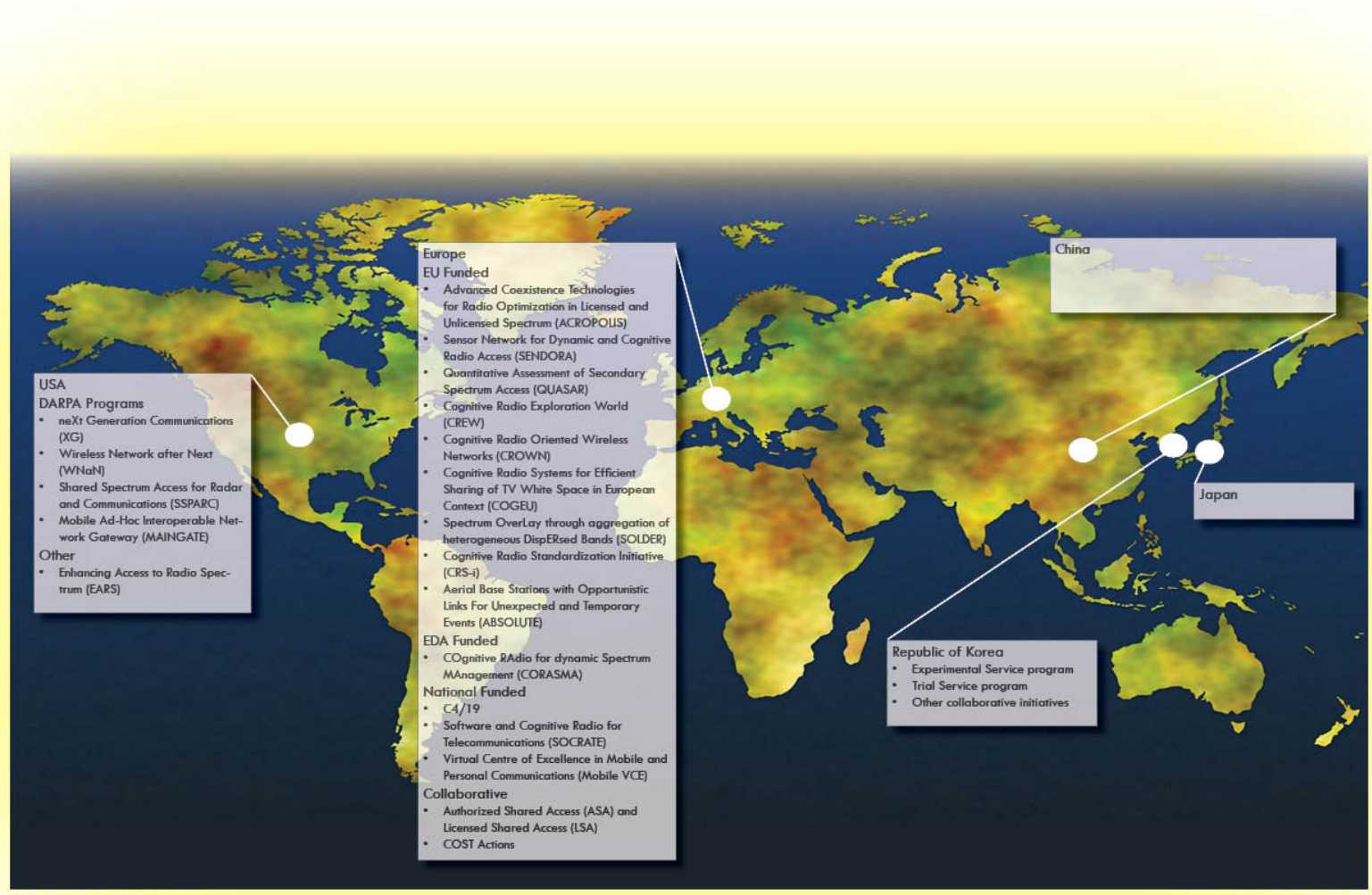
Standards: Air Interfaces

Standard	Standards Body	Trade Association
802.11 af	IEEE Standards Association	WiFi Alliance
802.22	IEEE Standards Association	White Space Alliance
Weightless	Weightless SIG	Weightless SIG
P1900.7	IEEE Standards Association	None as of yet

Partial Landscape of Implementation Standards

Specification/ Standard	Sponsor	Relationships/ Overlaps
1900.4	IEEE Standards Association	P1900.5, P1900.6, MLM, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
1900.5	IEEE Standards Association	1900.4, P1900.6, MLM, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
1900.6	IEEE Standards Association	1900.4, P1900.5, MLM, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
Modeling Language for Mobility (IPA)	Wireless Innovation Forum	1900.4, P1900.5, P1900.6, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
Information Processing Architecture	Wireless Innovation Forum	1900.4, P1900.5, P1900.6, MLM, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
Frameworx	TM Forum	1900.5, MLM
TR 102 683	ETSI	1900.4, P1900.5, P1900.6, MLM, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification, PAWS
Database Interoperability Specification	White Space Database Administrators	1900.4, P1900.5, P1900.6, MLM, IPA, TR 102 683, Device Interoperability Specification, PAWS
Protocol to Access White Space Database (PAWS)	Internet Engineering Task Force	1900.4, P1900.5, P1900.6, MLM, IPA, TR 102 683, Device Interoperability Specification, Database Interoperability Specification
Standard Spectrum Resource Format	NATO	P1900.5, PAWS, ETSI, WSDBA

Programs



Technologies

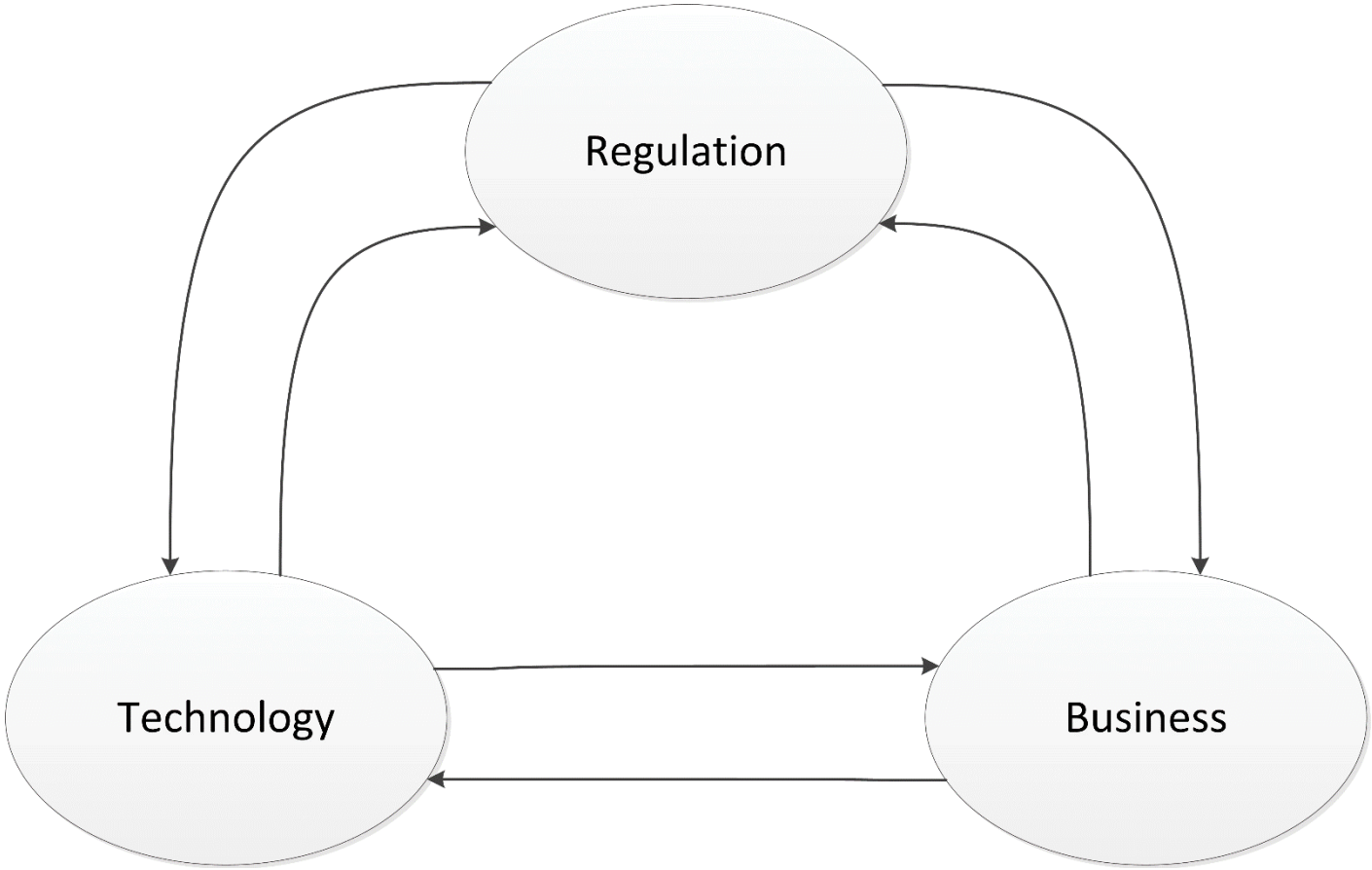
Companies Supporting Homgeneous Spectrum Sharing

- Alcatel Lucent
- Ericcson
- Huawei
- NEC
- Nokia Siemens Networks
- Others

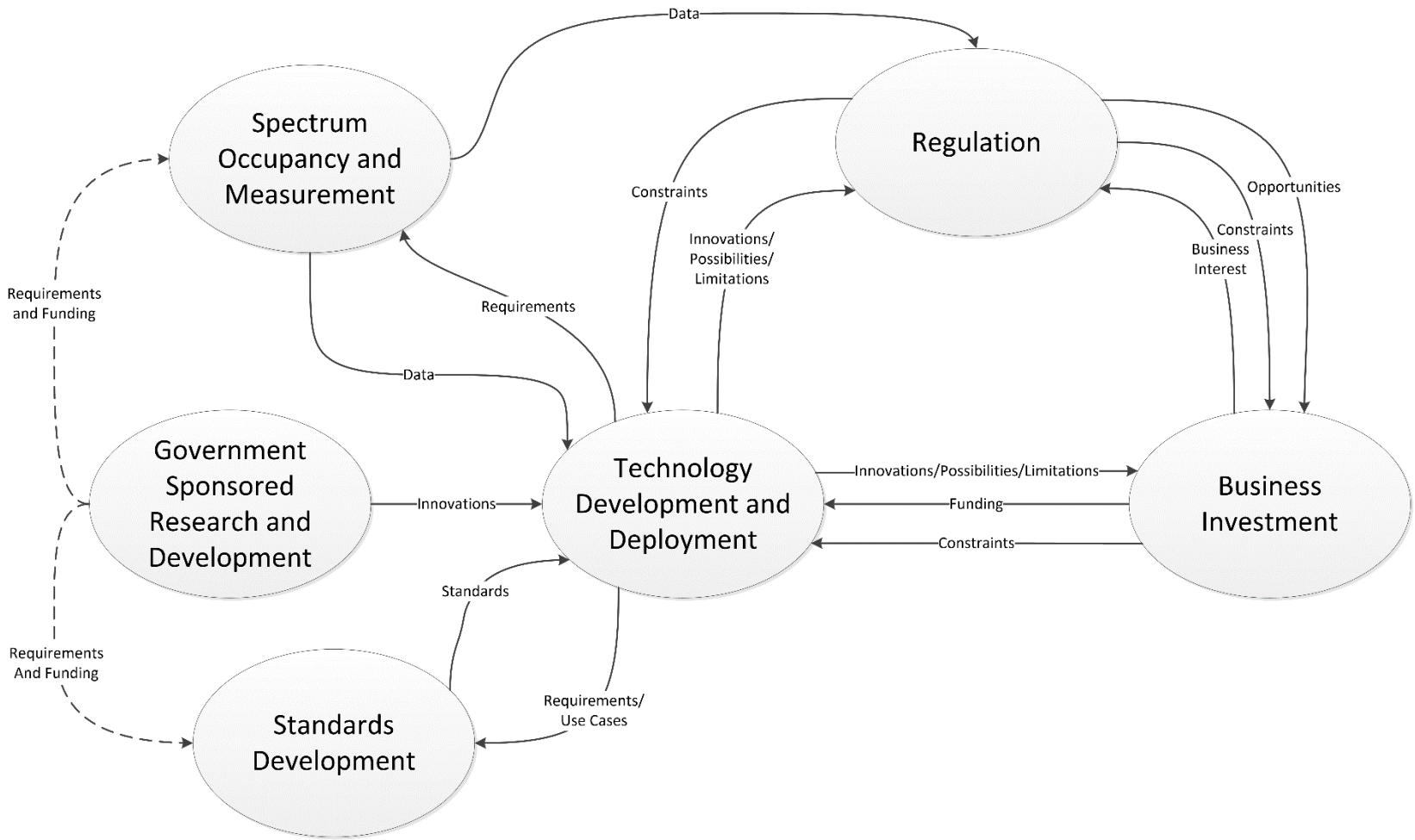
Companies Supporting Heterogeneous Spectrum Sharing

- Adaptrum
- Carlson Wireless
- Shared Spectrum
- xG
- Others

Analysis and Conclusions



Analysis and Conclusions



This Years Edition – Update on Sharing by Band

TV Bands

AWS-3

3.5 GHz

5 GHz

Above 5 GHz

Featured Topics

New Research and Development Programs

US DoD Spectrum Strategy

Model Cities

NASCTN

We Need Contributions

To get involved, contact Lee Pucker

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