



Bureau Telecommunications and Post St. Maarten

**TELECOMMUNICATIONS AND POST REGULATORY
AUTHORITY ST.MAARTEN**

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Introduction

The mobile industry is increasing rapidly, and this is having a direct benefit on people's lives and on economic development. Spectrum is a scarce non-renewable resource that is the basis of a mobile communication network. With the arrival of the mobile internet, the requirement for spectrum is increasing exponentially.

Presentation Subjects

- Mobile Spectrum Ecosystem
- History of Mobile Spectrum in SXM
- The Future of Mobile
- End

Important Players

- The International Telecommunications Union (Radio Regulations);
- Governments;
- 3rd Generation Partnership Project (3GPP);
- Regional Governments;
 - PUC (Anguilla), ANFR and ARCEP (France), and BTPSXM (St. Maarten)

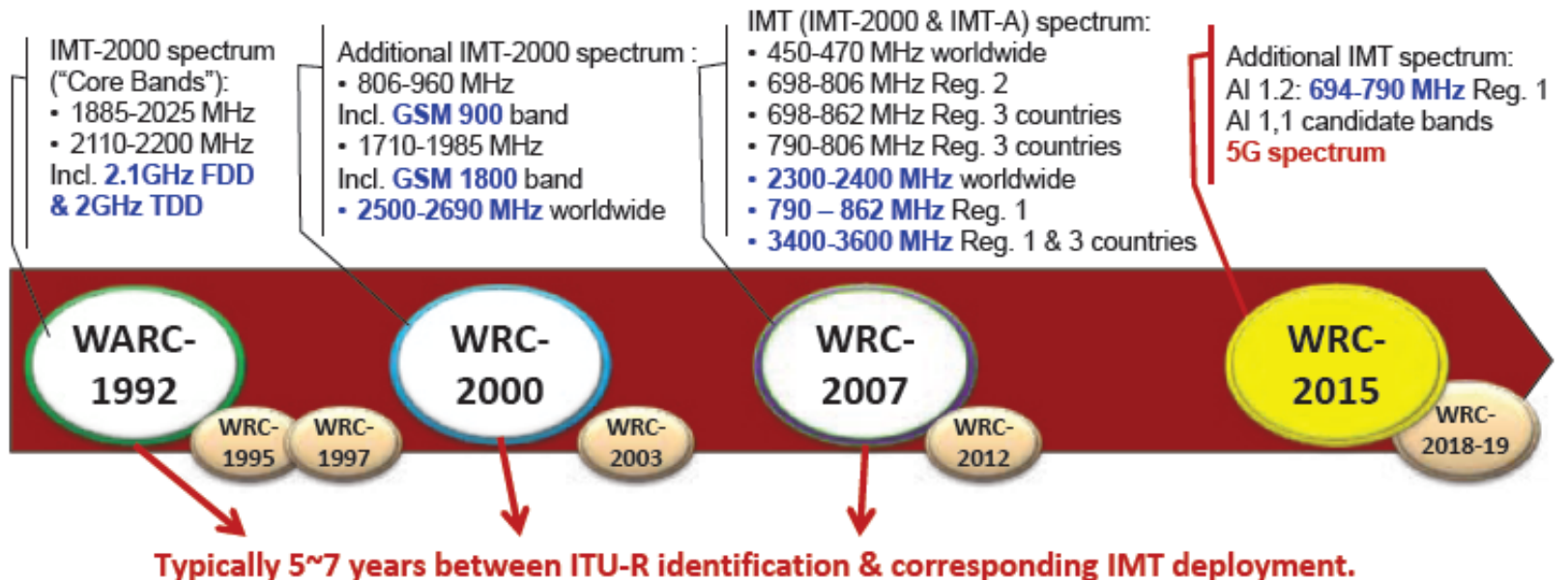
International Telecommunications Union

- Ensure that users of radio spectrum do not interfere with each other in harmful ways
- The ITU develops a set of radio regulations that are governed by an international treaty that is legally binding on member states
- These regulations are renegotiated every 3-4 years at the World Radiocommunication Conference (WRC)
- Ultimately every country has sovereignty over their own spectrum

World Radiocommunication Conference

- Governments and individual sector members have the opportunity to influence which parts of the radio spectrum is allocated for mobile use
- GSMA (individual sector member)
- Based on the outcome of the WRC the 3GPP develops standards for those allotments that have the support of influential Governments

World Radiocommunications Conference



World Radiocommunications Conference

Description	Spectrum	Incumbent user	WRC-15 target
Low candidate bands (<1GHz)	Parts of 500-600MHz [470-around 694MHz]	TV PMSE	WRC-15 regional identification for IMT usage Need cooperation with Broadcasting industry
	700MHz [694-790MHz]	TV PMSE	WRC-15 Regional IMT identification: Region 1 (AI 1.2)
Low-to-mid candidate bands (1GHz-3GHz)	Parts of 1.4 GHz [1350-1525MHz]	D-Radio Fixed Link Scientific	WRC-15 global identification for IMT usage Scientific use, only in a part of frequencies and some parts of regions
	2700-2900 MHz	Radar	WRC-15 global identification for IMT usage
Mid-to-high candidate bands (3GHz-6GHz)	3.4-3.6 GHz	IMT (In some countries) Sat.	WRC-15 global identification for IMT usage
	3.6-3.8 GHz	IMT Sat.	WRC-15 global identification for IMT usage
	Parts of 3.8-4.2GHz	Sat.	WRC-15 global identification for IMT usage
	Parts of 4.4-4.99 GHz	Sat.	WRC-15 global identification for IMT usage

Regional History

- The first mobile license that was issued in St. Maarten was to ECC (1998)
- On Saint Martin the first license was issued to SMM (1999)
- No available info on when the first license was issued in Anguilla
- These licenses were issued without coordination between respective administrators

Regional History

- Authorities did not coordinate assignments or used technologies
- Massive interference as a result of not coordinating
 - Conflicting technologies, and spectrum assignments
- Initial steps to coordinate started in 2005
 - First agreement was signed in 2006
- The initial agreement was based on
 - Preferential and non-preferential use of spectrum
 - Preventing intentional coverage of foreign territories

Regional History

- Up to now the 2006 agreement between Anguilla, ANFR, and BTP is the only agreement in the Caribbean
- Over the years the industries spectrum needs increased, based on technological developments and consumer demands
- Administrators needed a more effective approach to address spectrum needs
 - In 2013 the first protocol was signed between the ANFR and BTPSXM and in 2014 a second protocol was signed

Future of Spectrum Usage

- The ANFR and BTPSXM in the signed agreement, agree to harmonize spectrum usage.
 - No more preferential non-preferential usage of spectrum
 - Shared use of spectrum based on PCI and PC codes division (LTE and UMTS)
 - The FCC 700 band plan for LTE will not be supported in St. Maarten

3G-4G Spectrum

Band Name	3GPP #	UL (MHz)			DL (MHz)			Dpx mode	Av. BW (MHz)	
800	20	832	–	862	791	–	821	FDD	2x	30
GSM 900	8	880	–	915	925	–	960	FDD	2x	35
GSM 1800	3	1710	–	1785	1805	–	1880	FDD	2x	75
2.1GHz (IMT-2000 Core Band)	1	1920	–	1980	2110	–	2170	FDD	2x	60
2600-FDD	7	2500	–	2570	2620	–	2690	FDD	2x	70

IMT Spectrum Map

Region 1

FDD

- Band 1 (2100M)
- Band 3 (1800M)
- Band 7 (2.6G)
- Band 8 (900M)
- Band 20 (DD800)
- Band 22 (3.5G)

TDD

- Band 33
- Band 38 (2.6G)
- Band 42 (3.5G)
- Band 43 (3.6G)



Region 2

FDD

- Band 2 (1900M)
- Band 4 (AWS)
- Band 5 (850M)
- Band 10
- Band 12 (700M L)
- Band 13 (700M U)
- Band 14 (700M)
- Band 17 (700M)
- Band 23 (MSS)
- Band 24 (L-band)
- Band 25 (E1900)
- Band 26 (E850 U)
- Band 27 (E850 L)
- Band 28 (APT700)
- Band 29 (DL 700)

Region 3

FDD

- Band 1 (2100M)
- Band 3 (1800M)
- Band 5 (850M)
- Band 8 (900M)
- Band 28 (APT700)

TDD

- Band 34/a
- Band 39/f
- Band 40 (3.5G)
- Band 28 (3.6G)
- Band 44 (APT700)

Region 3(Japan Specific)

FDD

- Band 1 (2100M)
- Band 6 (850M)
- Band 9 (1800M)
- Band 11
- Band 18 (850M)
- Band 19 (850M)
- Band 21 (1.5G)

TDD

- Band 41 (2.6G)

Former ITU Secretary General, Mr. Hamadoun Toure

“Governments need to raise broadband to the top of the development agenda, so that rollout is accelerated and the benefits are brought to as many people as possible”

Thank You!



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