UAE Spectrum Initiatives
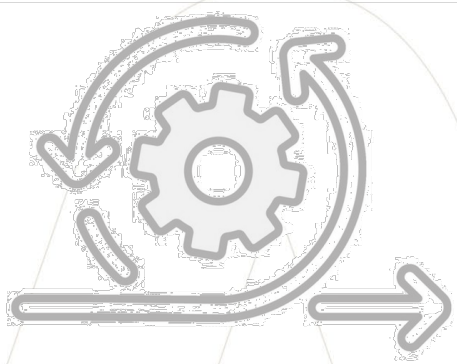
**Wireless Innovation Forum
International Spectrum Initiatives Panel**

Mohammed Alhassani
TDRA – UAE

Agility in Spectrum Management

Agility in Spectrum Management

A study/research project conducted in 2022 to draw the roadmap for moving from Today's Automated Spectrum Management Systems towards future new agile licensing tool powered by Data/AI

Project Drivers

- Demand for spectrum continues to grow

- Increased use of artificial intelligence and cognitive systems, new payment systems

- Human and machines as spectrum applicants

- More flexible spectrum management being used globally

- Evolution towards Dynamic Spectrum Allocation (DSA) and live databases

- Integrate license and usage (monitoring) data

- Enable real time spectrum management

TDRA's Vision Towards more Agile Systems

Flexible and quick access to required radio spectrum resources

Resilience to future developments and needs of wireless technologies

TDRA هيئة تنظيم الاتصالات والحكومة الرقمية
TELECOMMUNICATIONS AND DIGITAL
GOVERNMENT REGULATORY AUTHORITY

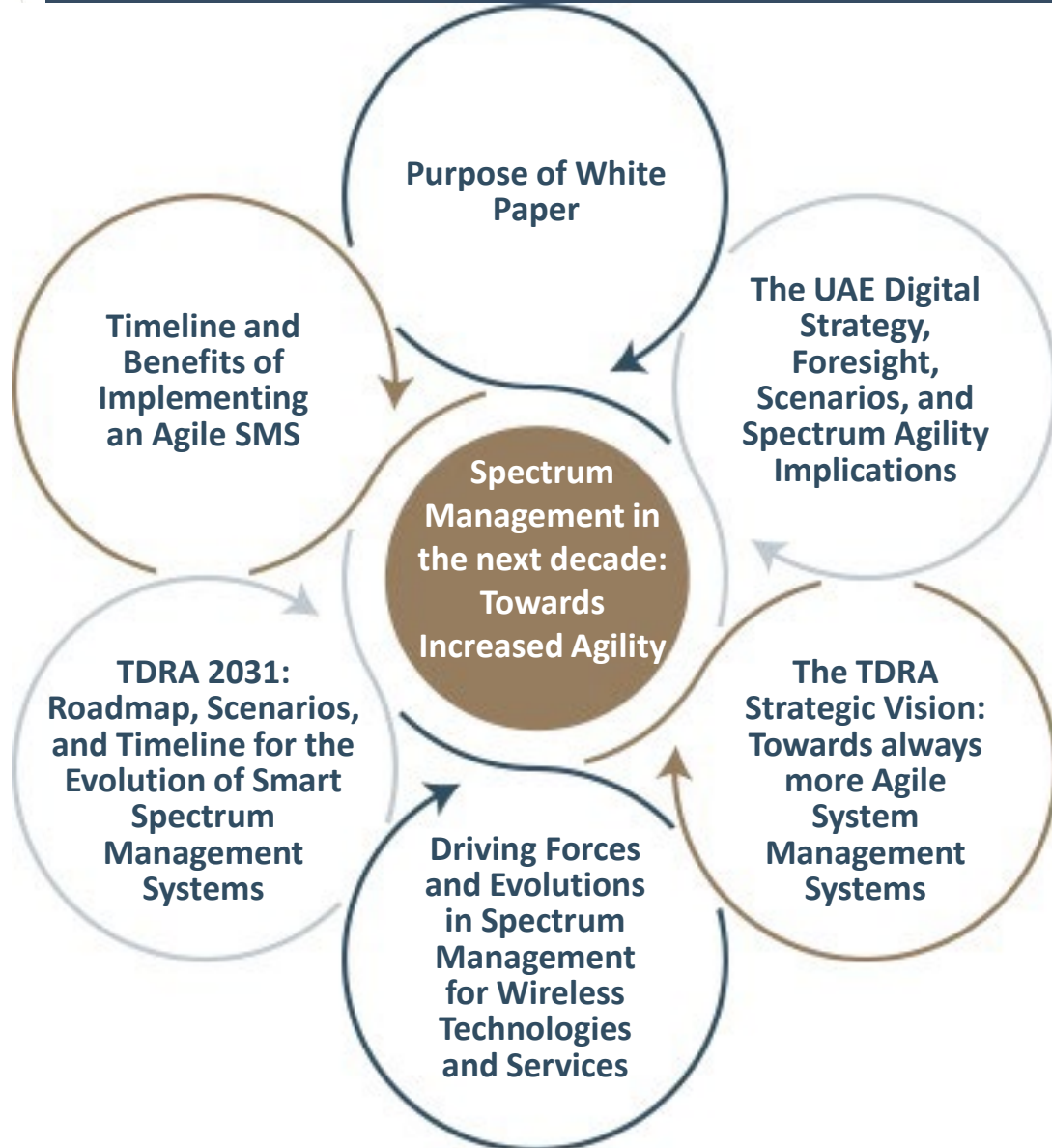**Spectrum Management in the next decade: Towards Increased Agility**

A White Paper by TDRA

Agility in Spectrum Management

Scenarios for wireless technologies - over the next decade

Futuristic vision - Agile and sustainable spectrum system

Content of the White Paper

Purpose of White Paper

Timeline and Benefits of Implementing an Agile SMS

The UAE Digital Strategy, Foresight, Scenarios, and Spectrum Agility Implications

Spectrum Management in the next decade: Towards Increased Agility

TDRA 2031: Roadmap, Scenarios, and Timeline for the Evolution of Smart Spectrum Management Systems

The TDRA Strategic Vision: Towards always more Agile System Management Systems

Driving Forces and Evolutions in Spectrum Management for Wireless Technologies and Services

Driving forces for change and possible methods to achieve the UAE's digital goals

Anticipated outcomes from the exercise:

Review

- Review the allocations with an aim to make them contiguous for more spectrum efficiency

Evaluate allocations

- Evaluate the IMT allocations for an equitable distribution among the operators with appropriate evaluation for PPDR and Private 5G needs.

Current uses & Future trends

- Evaluate the spectrum allocations based on the air interface support in each band, future trends, device support, ecosystem, etc.

UAE Spectrum Outlook

Background

- The UAE Spectrum Outlook (2020–2025) was the first project on future spectrum planning, based on technology trends, ITU studies and industry inputs

- Aligned with TDRA Vision and Strategic Goal "*Regulation of the Telecom Sector in the UAE and the enforcement of a regulatory framework that stimulates competition and elevating the level of quality of the provided services*"

- Based on benchmarking with USA, UK, Australia, …

- Encompasses all Radio Systems like IMT, ITS, Aeronautical, Maritime, Space Services, etc.

- Will put UAE among the few developed countries with a published "Spectrum Outlook"

- Based on future wireless connectivity needs, market demands, changing lifestyles, smart and connected living.

Spectrum Outlook 2026 -2031 :
Ensuring readiness for future wireless telecommunications

Main objectives of the Spectrum Outlook

▪ Elevate the UAE's ICT sector leadership by advancing spectrum outlook planning. This includes revising current spectrum allocations and exploring various frequency bands to support new technologies, driving economic and social advancement.

▪ Create a spectrum utilization review across related UAE frequency ranges to detail efficient use and guide re-planning initiatives when appropriate.

▪ Establish a guiding framework for industry and spectrum applicants, fostering the application and integration of existing and emergent radio technologies. This will encourage innovation and ensure the sector's adaptability to future technological shifts.

▪ Strengthen spectrum management to enhance availability and minimize interference, focusing on identifying new spectrum resources to fulfill the telecommunications sector's expanding requirements and ensure efficient spectrum use for new services rollout.

Thank You