



ITU-R DEVELOPMENTS RELEVANT TO DSA

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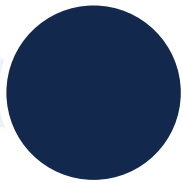




License regimes

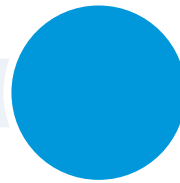
More certainty for investment

Less protection/predictability



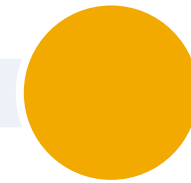
Exclusive licensing

Maximum certainty for large-scale investment



Shared access

Incumbents and new users share under rules supported by capabilities such as Geolocation, databases, sensing



Licence-exempt

Low-cost, innovation, e.g. Wi-Fi and short-range devices

**The Radio Regulations establish the international framework for spectrum use.
Administration determine the national authorization models and licensing arrangements.**

Spectrum sharing (1/2)

01

TECHNICAL CAPABILITIES

What can the system know, predict and adapt?

Examples: Sensing · Geolocation · Databases · Monitoring · AI/ML

02

COORDINATION MECHANISMS

How is access calculated and coordinated?

Examples: Detect and avoid · Database queries · Dynamic coordination · Automated assignment

03

REGULATORY ACCESS FRAMEWORKS

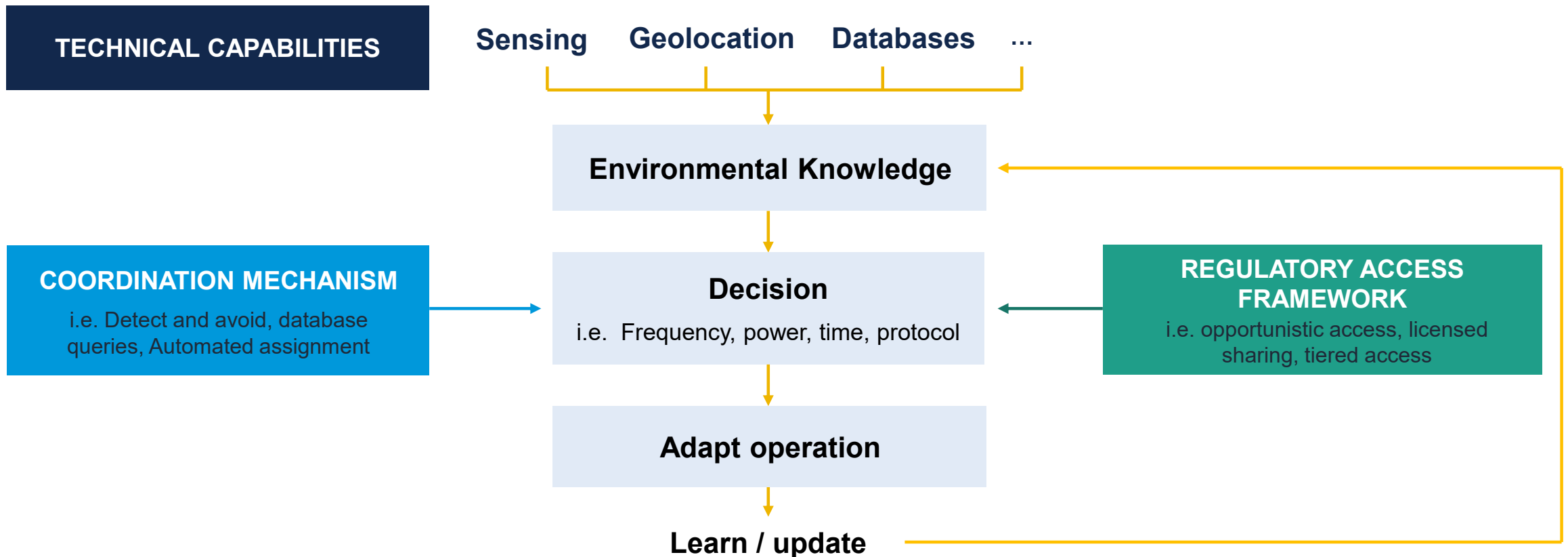
What rights does the spectrum user receive?

Examples: TVWS: opportunistic access LSA: licensed sharing CBRS/SAS: tiered access AFC: database-controlled

Regulator-defined rules and incumbent protection apply across all three dimensions

TVWS = TV White Spaces · LSA = Licensed Shared Access · CBRS = Citizens Broadband Radio Service
SAS = Spectrum Access System · AFC = Automated Frequency Coordination · AI/ML = Artificial Intelligence / Machine Learning

Spectrum sharing (2/2)



Spectrum sharing - Approaches

01

Sense and avoid

DFS and early cognitive radio

Is another signal present?

Sensing cannot reliably identify protected receivers or hidden nodes.

02

Database assistance

TV White Spaces

Which channels are available here?

Location, incumbents, protection contours, device characteristics, regulatory rules.

03

Granular automated coordination

CBRS / SAS, AFC

What operation is permissible?

Device location and height, antenna characteristics, propagation models, Protection criteria, access priorities, requested bandwidth and power

04

Monitoring- and data-informed

Emerging automated coordination

What will be usable next?

Occupancy, interference, licenses, propagation and network data.

AI/ML fits here as an enabling capability

Spectrum sharing - AI/ML



AI/ML CAN ASSIST WITH

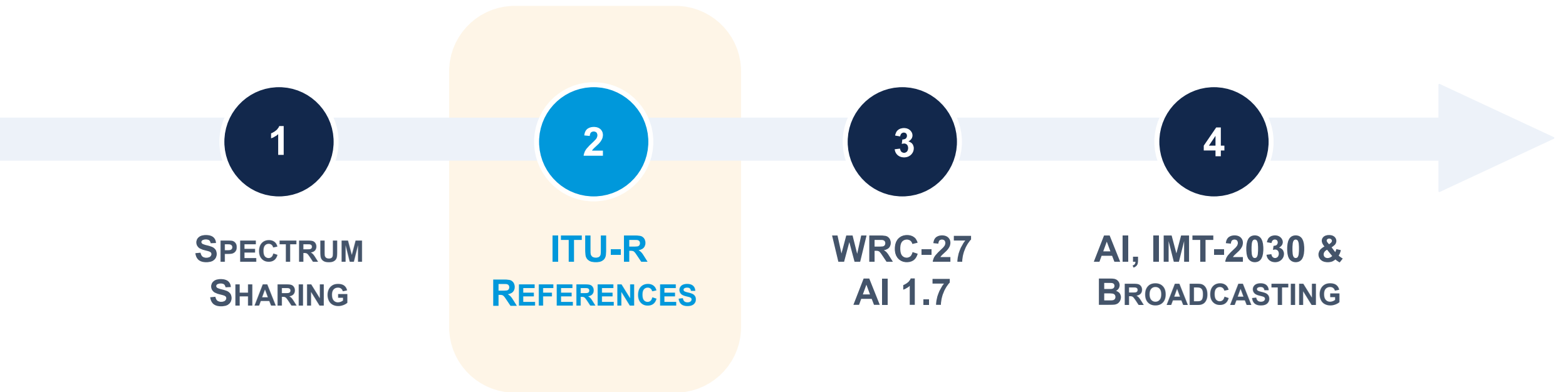
- ✓ Occupancy and spectrum-availability prediction
- ✓ Emitter classification and anomaly detection
- ✓ Propagation modelling
- ✓ Monitoring-network optimization
- ✓ Coordination decision support
- ✓ Optimize operating conditions



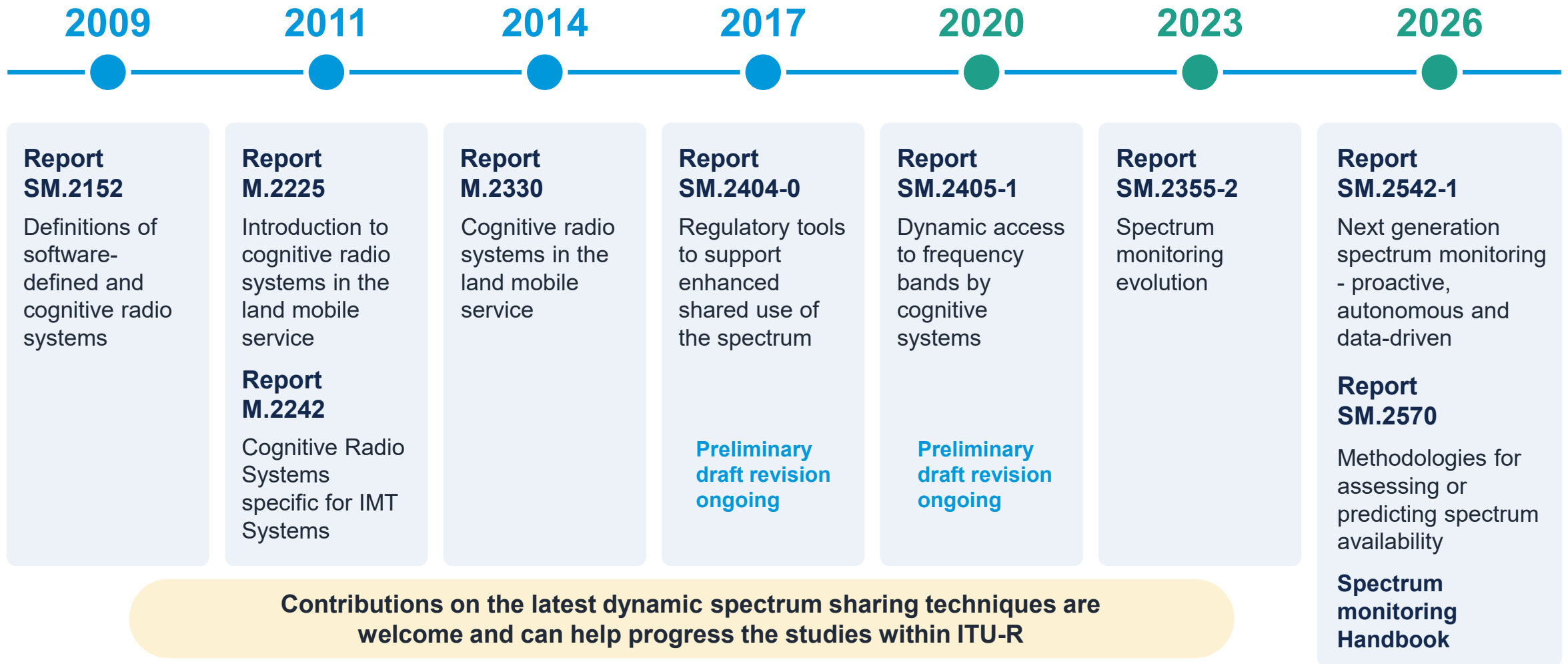
AI/ML DOES NOT DETERMINE

- ✗ Spectrum allocations and access rights
- ✗ Protection status
- ✗ Acceptable interference criteria
- ✗ Regulatory priority
- ✗ Enforcement authority

AI can make coordination more predictive and scalable, while helping ensure that systems operate in accordance with national and international regulations



ITU-R Reports and Handbook



ITU-R Recommendations relevant to broadband wireless access systems

Recommendation ITU-R M.1450-6

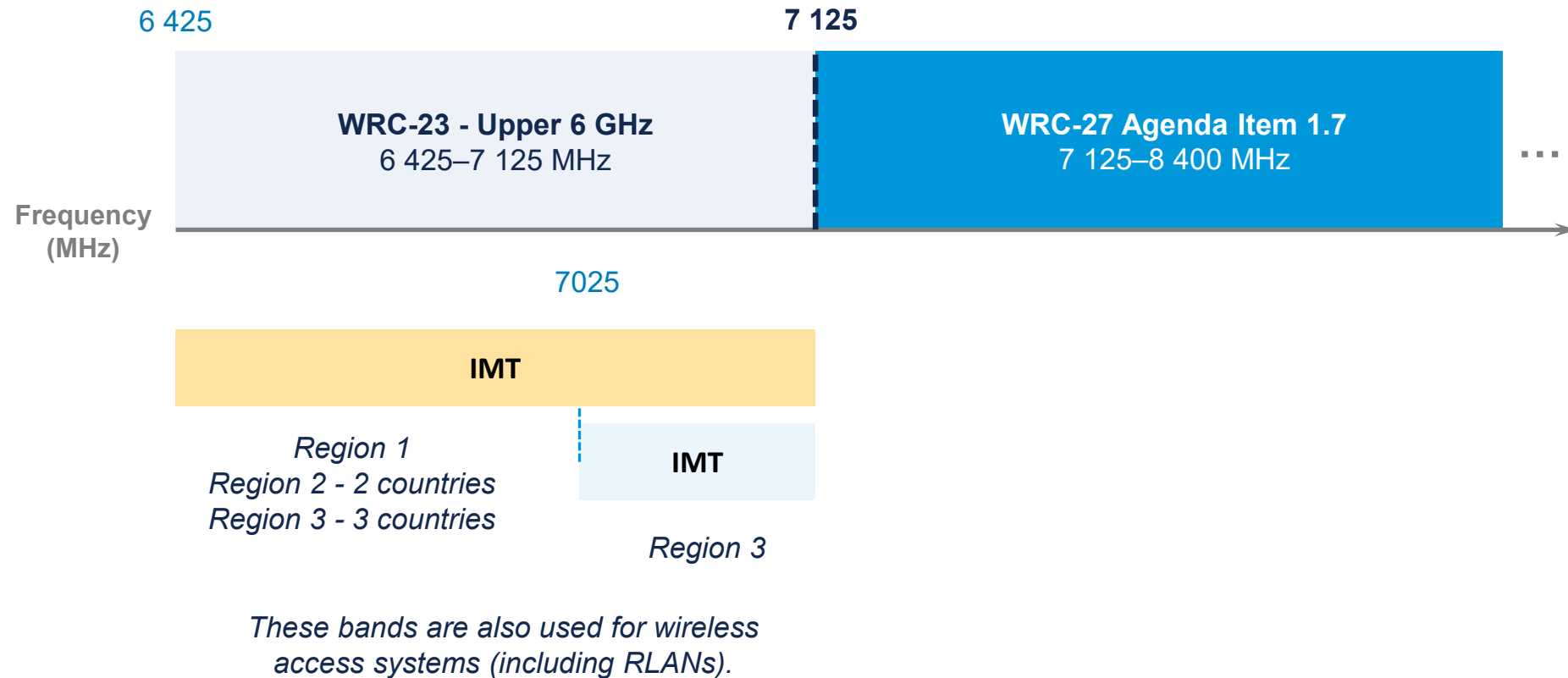
- Version 6 approved in **February 2026**
- Contains the updated characteristics including technical parameters associated with broadband RLAN standards
- Expands on mitigation measures:
 - contention-based protocols
 - possible e.i.r.p. limits
 - exclusion zones around particular sites
 - possible antenna-pointing restrictions for higher-power fixed outdoor access points
 - specific description of Automated Frequency Coordination (**AFC**) in the 6 GHz context
- Includes an Annex for information on broadband RLAN technical requirements applied by certain administrations/regions

Recommendation ITU-R M.1801-3

- Version 3 approved in **February 2026**
- Scope broadened beyond systems operating below 6 GHz
- Addition of an IMT-2020 Annex
- Inclusion of new radio interface standards
- Updated IEEE 802.11 references: 802.11ac, 802.11ah, 802.11ax (Wi-Fi 6)
- Added a new annex summarizing the key characteristics of all included radio interface standards



AI 1.7: Candidate IMT identification (Resolution 256 (WRC-23))





IMT-2030 and Heterogeneous interworking

IMT-2030 recognizes non-IMT access, including RLAN



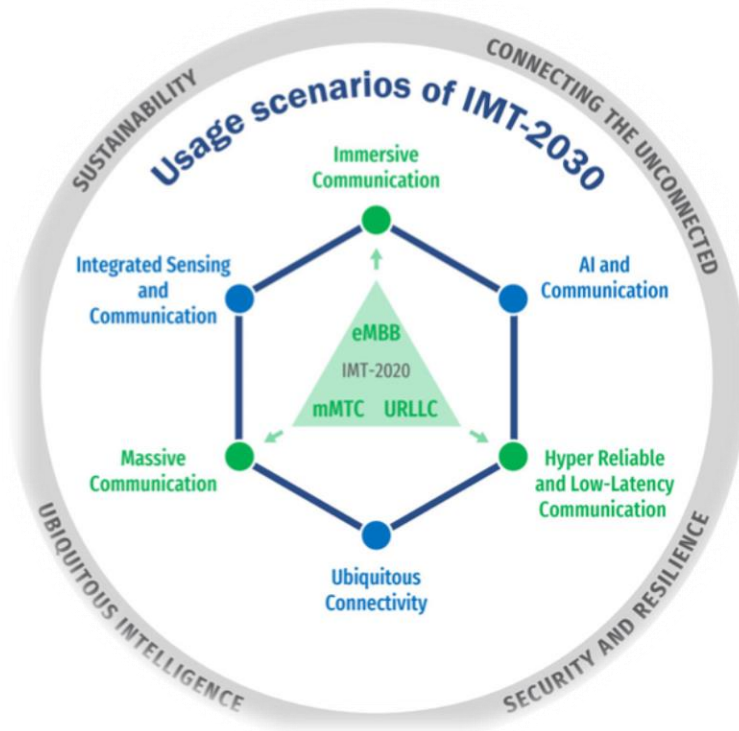
RECOMMENDATION ITU-R M.2160-0

Framework and overall objectives of the future development of IMT-2030

- Interworking with other non-IMT access
- Ubiquitous connectivity and NTN integration
- AI and communication; sensing integration
- Flexible and modular implementation

IMT-2030 and Artificial Intelligence

AI is being embedded in our standards: AI capabilities are an integral requirement for IMT-2030



- IMT-2030 supports six usage scenarios¹ including **AIAC (artificial intelligence and communication)**
- Requirement covers two dimensions:
 - **“Network for AI”** –Radio Interface Technology (RIT) or Set of RIT (SRIT) facilitates AI-enabled applications.
 - **“AI for network”** – AI used to improve RIT/SRIT performance.
- The RIT/SRIT should support mechanisms and/or signalling for AI functions, including:
 - Data collection
 - Distributed processing and learning
 - AI model training
 - AI computing
 - AI model inference

¹ Draft new Report “Minimum requirements related to technical performance for IMT-2030 radio interface(s)” (Doc [5/116](#))

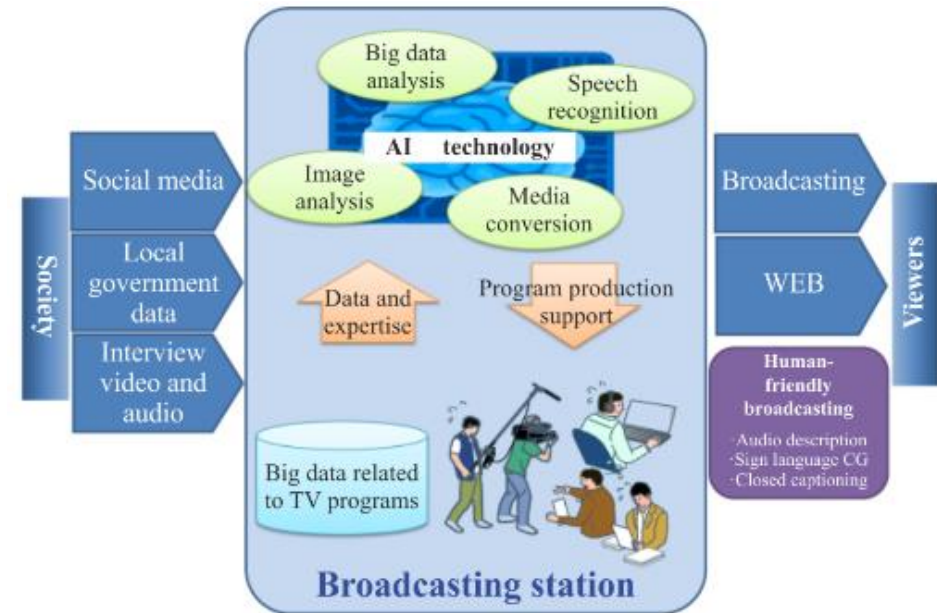
Broadcasting and Artificial Intelligence

Artificial intelligence in programme production and exchange - Report ITU-R BT.2447-2 (11/2021)

- Workflow optimization
- Bandwidth and quality
- Automated programme production
- Asset selection and metadata
- Dynamic product placement
- Content personalization

Key requirement:
high-quality training data from
real broadcasting task

Example: AI-driven programme production



Report BT.2447-02

Report Figure 3: Configuration of AI-driven programme production

CONCLUSION

1

**SPECTRUM
SHARING**

2

**ITU-R
REFERENCES**

3

**WRC-27
AI 1.7**

4

**AI, IMT-2030 &
BROADCASTING**



THANK YOU!

RLAN / Wi-Fi
Flexible access
Stronger connectivity

6 425 – 7 125 MHz

IMT / 5G-6G
Expanding capabilities
Enabling new services

7 125 – 7 250 MHz

7 125 MHz

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SHARING

INNOVATION

CONNECTED PEOPLE

SUSTAINABLE DEVELOPMENT