

Preparations for CPM19-2, RA-19 and WRC-19

International Telecommunication Union
Regional Office for the Americas



Who we are

- ITU-D strives to spread **equitable and affordable access to telecommunications** as a means of stimulating broader **social and economic development**.

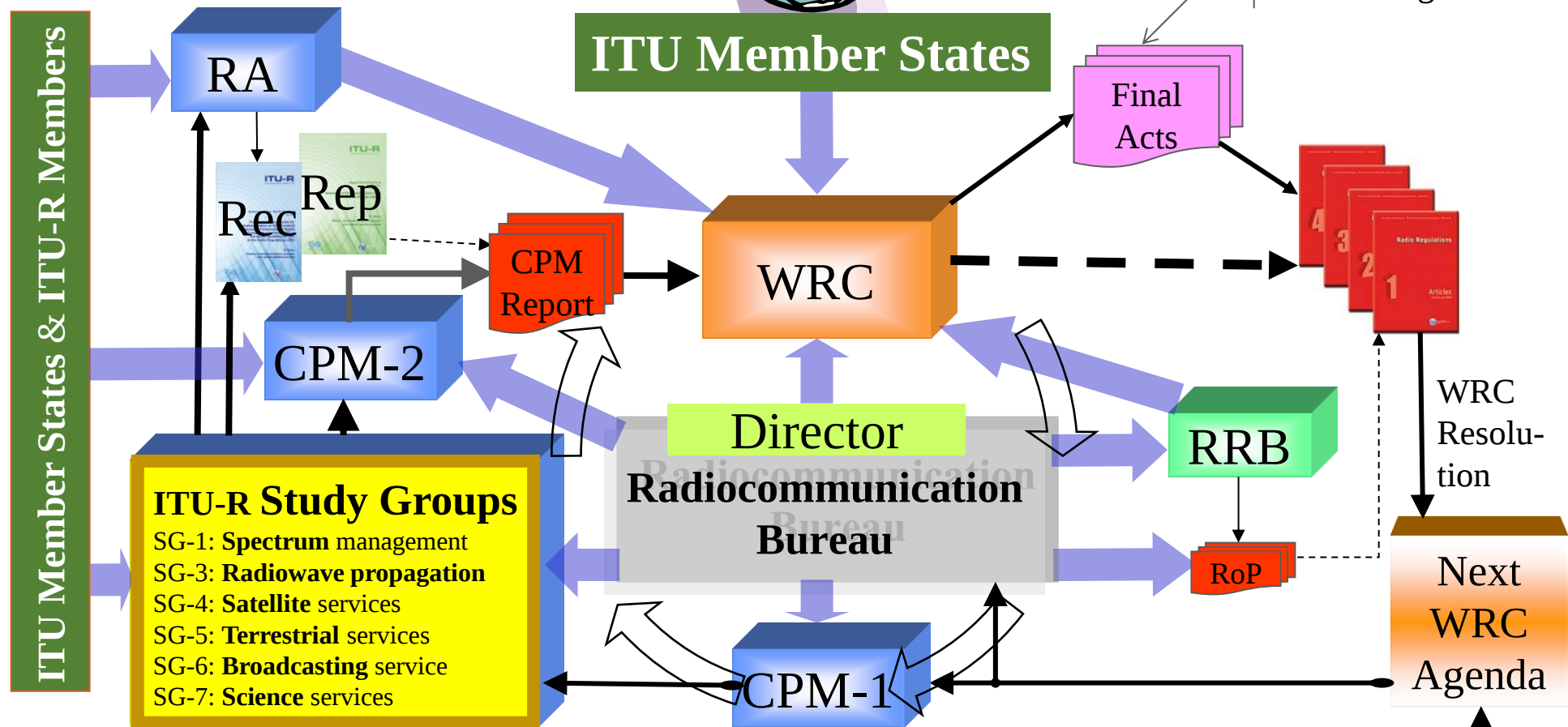


Regional Presence



Purpose of ITU WRCs

- Create regulatory certainty for a multi-trillion dollars industry which plays an increasingly important role in the development of our societies
- For fixed, mobile, satellites and broadcasting industries, global spectrum harmonization is essential to create economies of scale, roaming and interoperability
- Creating certainty requires consensus in order to achieve stable results.
This demands time, efforts and patience.



RRB: Radio Regulations Board

SGs: Radiocommunication Study Groups

RA: Radiocommunication Assembly

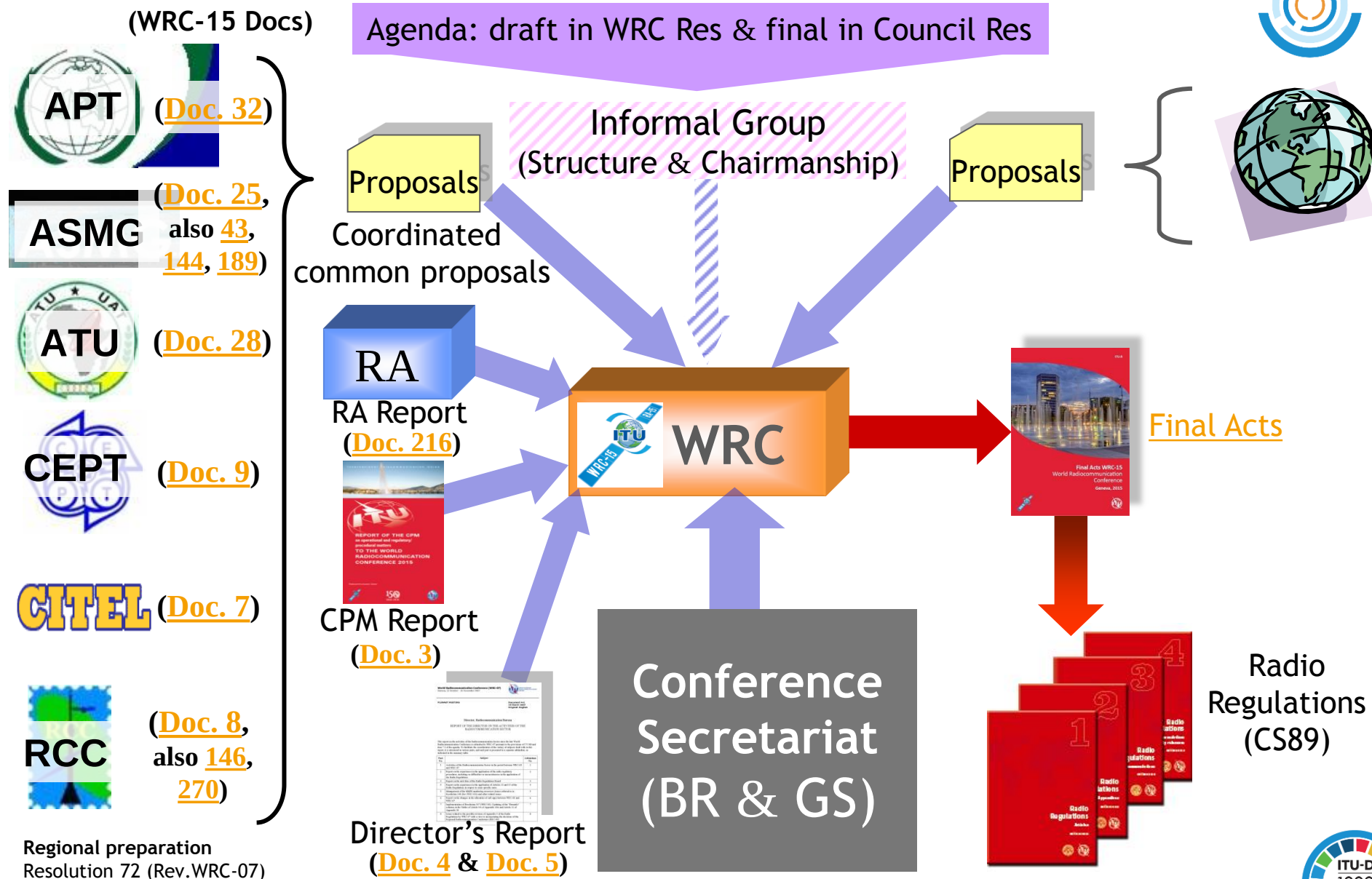
WRC: World Radiocommunication Conference

CPM: Conference Preparatory Meeting

Rec: ITU-R Recommendation

RoP: Rules of Procedure

RR: Radio Regulations (treaty status)





WRC-15: **WRC-19 Agenda** - Resolution 809 (WRC-15)



ITU WTDC
BUENOS AIRES 2017
9-20 October

1st Session of Conference Preparatory Meeting: CPM19-1
30 Nov – 1 Dec. 2015; **Results @CA/226 of 23/12/2015**

C-16: WRC-19 agenda & dates in **Res. 1380 with **MOD** venue @ C-17**

Text of Res. 1380 (C-17) at www.itu.int/md/S17-CL-C-0141, see also the [WRC-19 booklet](#)
[CL No. 17/52](#) of 18 Dec. 2017 confirmed RA-19 & WRC-19 venue in **Sharm el-Sheikh (Egypt)**

2nd Session of Conference Preparatory Meeting: CPM19-2
Planned dates at CICG in Geneva from 18 to 28 February 2019

Final meetings of regional groups
Member States' proposals to WRC-19

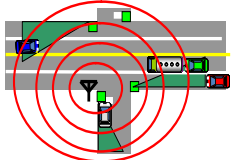
RA-19: 21 to 25 Oct. 2019 ; WRC-19: 28 Oct. to 22 Nov. 2019

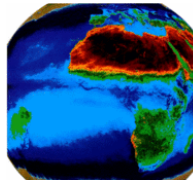


CELEBRATING
25 YEARS
OF ACHIEVEMENTS

1.13  **Fix. & Mob. BB Apps**
 1.14 (24.25 < IMT < 86 GHz,
 1.15 HAPS, Apps.Id>275 GHz,
 1.16 WAS/RLAN @ 5 GHz)

1.1  **Amateur in R1**
 @ 50-54 MHz
 (4WW allocation)

 **New Transport systems**
 (harmonized bands
 for railways, ITS)

1.11  **Earth resources &**
 1.12 **Climate monitoring**
 1.2  **Weather forecast,**
 1.3 **DCS protection, TT&C for**
 1.7 **N-GSO Sat. of short duration**



Maritime (GMDSS
modernization (+Sat.),
use of radio devices,
VDES Sat component) 

Aeronautical
 (GADSS needs) 

Satellite issues
 (BSS/FSS @12 GHz,
 ESIM, regul. for N-GSO
 FSS @ 37.5 to 51.4 GHz) 

Regulatory issues
 (Sat. regulations,
 harmonization of
 spectrum use, etc.) 

1.8

1.9.1

1.9.2

1.10

1.4, 1.5, 1.6

7

8

Note: WRC-19 agenda item numbers indicated in italic



AI with Overlapping frequency bands **

Organization of the studies

to address mutual compatibility & sharing feasibility among the services/applications under AI-Resolutions with overlapping freq. bands

1.6 – NGSO FSS Res. 159 (WRC-15) (studies by <u>WP 4A</u>)	1.13 – IMT Res. 238 (WRC-15) (studies by <u>TG 5/1</u>)	1.14 – HAPS Res. 160 (WRC-15) (studies by <u>WP 5C</u>)	9.1 (9.1.9) – FSS Res. 162 (WRC-15) (studies by <u>WP 4A</u>)
	24.25-27.5	24.25-27.5 (Reg. 2)	Studies*** by WP 5C
37.5-39.5 (s-E*)	37-40.5	38-39.5 (globally)	
39.5-42.5 (s-E*)	40.5-42.5	Studies*** by TG 5/1	Studies*** by WP 4A
47.2-50.2 (E-s*)	47.2-50.2		
50.4-51.4 (E-s*)	50.4-52.6		51.4-52.4 (E-s*)

*** E-s: Earth-to-space; s-E: space-to-Earth.**

** Frequency bands in GHz

*** Other studies to **address mutual compatibility & sharing feasibility** among the **services/applications** for which **allocation/identification is envisaged** under the corresponding Res. relating to the AI in the overlapping bands

Mobile Broadband

- The success of mobile broadband and its ubiquitous nature represents a threat of disruption to other services if IMT is identified in the same band, even though technical solutions may exist to share it between countries.



Spectrum for mobile broadband



agenda items 1.1 and 1.2

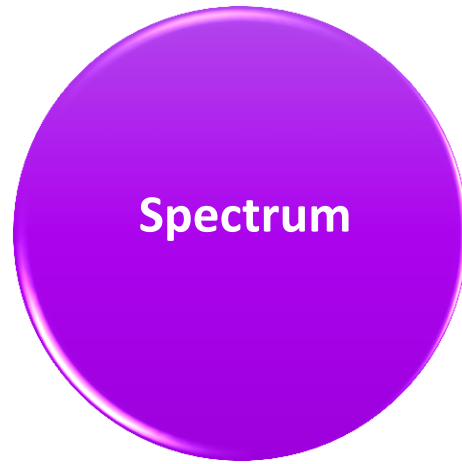
■ **Background**

- There is a need to satisfy rapidly growing traffic requirements for IMT (estimated IMT additional spectrum by 2020: from 159 to 1075 MHz depending on Region and user density)
- Bands considered: 470 MHz - 6 425 MHz. Harmonized bands were highly desirable to facilitate global roaming and economies of scale
- As for 700 MHz band in R1, WRC-15 had to specify conditions for mobile service in 694-790 MHz already allocated by WRC-12

■ **WRC-15 results**

- Allocations to mobile service and/or identifications for IMT in: 470-694/698 MHz, 694 – 790 MHz (Region 1), 1427-1518 MHz, 3300-3400 MHz, 3400-3700 MHz, 4800 – 4990 MHz
- Allocations are subject to various conditions, e.g. non-interference basis, pfd limits, 9.21 -> to secure protection of incumbent services
- Action “Identification for IMT” was for the first time associated with regulatory/technical conditions imposed on this application in MS





Spectrum

- ITU WRC Process
- Mobile spectrum allocations and IMT identifications
- ITU membership, ITU-R Study Groups, Regional Groups, International organisations
- Member States driven



Standards

- ITU-R Study Group 5 Process
- IMT-2020 Vision, overall requirements, radio interface specifications
- ITU membership, other standard making bodies
- Industry driven



IMT-2020 standardization process



- ❖ Development plan
- ❖ Market/services view
- ❖ Technology/research kick off
- ❖ Vision - IMT for 2020
- ❖ Name
- ❖ Process optimization

- ❖ Technical performance requirements
- ❖ Evaluation criteria
- ❖ Invitation for proposals
- ❖ Sharing study parameters (IMT-2020)
- ❖ Sharing studies in preparation for WRC-19

- ❖ Technical proposals
- ❖ Evaluation Groups
- ❖ Methodology
- ❖ Consensus building

- ❖ Spectrum/band arrangements
- ❖ Decision & radio framework
- ❖ Detailed IMT-2020 radio specifications
- ❖ Future enhancement/update plan & process

IMT-2020 spectrum allocation process

- ❖ < 6 GHz Spectrum view
- ❖ ITU-R Study Group activities/studies
- ❖ Spectrum/band arrangements (post WRC-15)

- ❖ CPM Report (IMT- WRC-19)
- ❖ Sharing study reports
- ❖ Spectrum/band arrangements (WRC-19)

2012-2015

2016-2017

2018-2019

2019-2020

Setting the stage for the future:
vision, spectrum, and technology views

Defining the technology
Allocate the spectrum



High traffic capacity, high peak data rate,
high user data rate

Above 24 GHz (WRC-19)

Bridging coverage, capacity, mobility,
data rate, spectrum efficiency

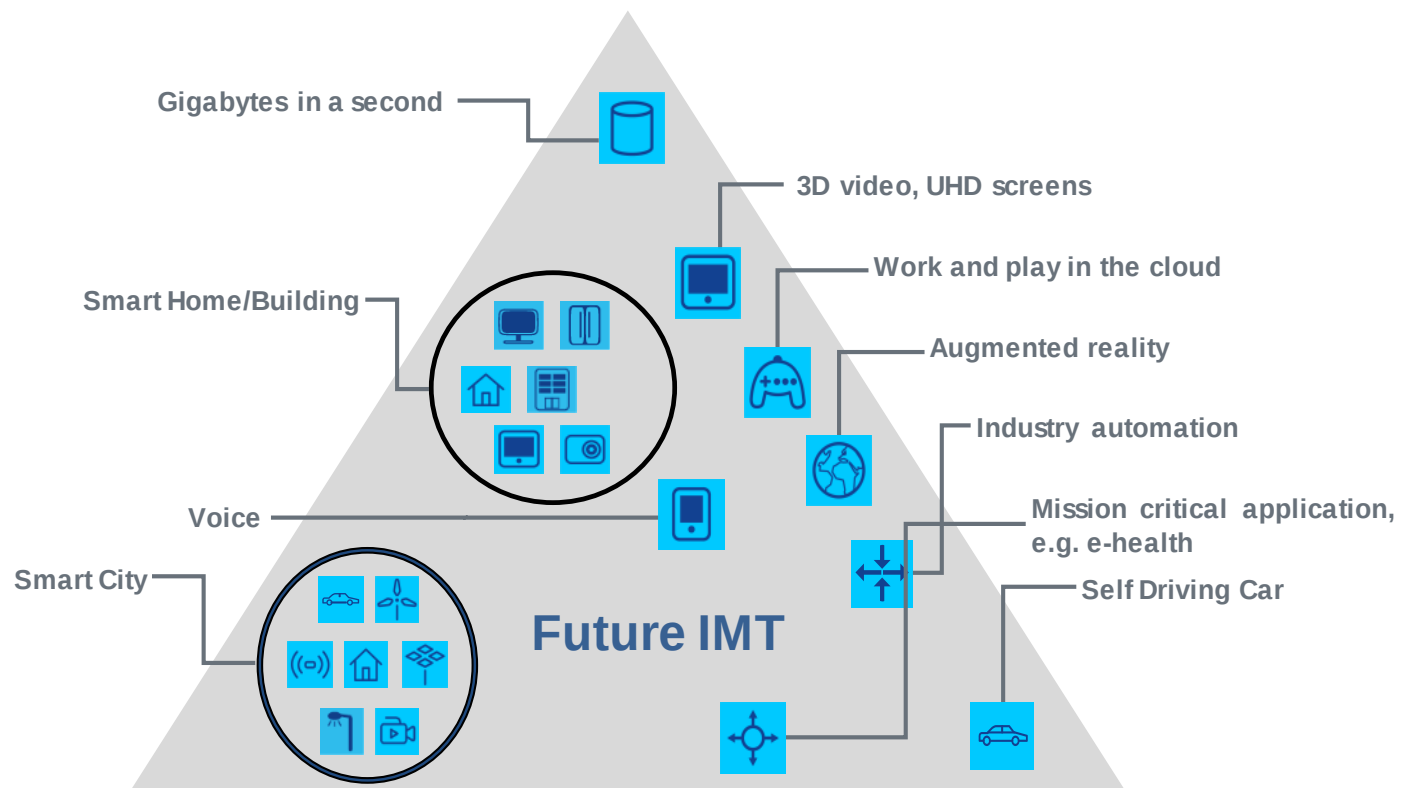
1 GHz to 6 GHz

Coverage, mobility, connection density,
improved data rate, spectrum efficiency

Below 1 GHz

Massive Machine Type
Communications

Enhanced Mobile Broadband





WRC-19 AI 1.13 sharing & compatibility studies

UWTD
S AIRE 2017
9-20 October

