**1/J** ITU logo

Committed to connecting the world

Newsroom • Press Release Share **O***(#)* **0***(#)* **0***(#)* **0***(#)*

World Radiocommunication Conference allocates spectrum for future innovation

## Conference outcomes to spur long-term investments in CT industry

Geneva, 27 November 2015 - The World Radlocommunlcatlon Conference 2015 (WRC- 15) has concluded Its deliberations as delegates sign the Anal Acts that revise the Radio Regulations, the international treaty governing the use of radio-frequency spectrum and satellite orbits.

Around 3300 participants, representing 162 out of l'U's 193 Member States attended the four-week conference from 2 to 27 November. Some 500 participants representing 130 other entitles, Including Industry, also attended the conference as observers.

The Conference was steered under the Chairmanship of Mr Festus Yusufu Naral Daudu of Nigeria. He was assisted In the task by six Vice Chairmen : Mr A. Jamieson (New Zealand), Mr Y. AI-Bulushl (Oman),Mr D. Obam (Kenya), Ms D. Tomlmura (Brazil), Mr A. KQhn (Germany), and Mr N. Nlkiforov (Russian Federation).

New challenges, new opportunities

•As new technological innovations and applications emerge, they set new challenges as well as bring new opportunities for billions around the world,• said Mr Festus Daudu, Chairman of WRC-15.'This conference dealt with a large number of important and sensitive Issues,ranging from mobile broadband communications and satellite systems to emergency communications and disaster relief, maritime and aeronautical communications, environmental monitoring and climate change, universal time and space research as well as radlocommunlcation services that the public relies on for health, Information, education, security and safety. •

'This World Radlocommunlcatlon Conference will define new and better ways to regulate radio services and applications ,• said ITU Secretary-General Houlln Zhao. " n a world where radiocommunications are playing an increasingly important role In connecting people, Iam convinced that the outcome of this conference will represent a major contribution in making the world a better - and safer - place for all.'

•A great deal has been achieved in the last four weeks and the results will have a major Impact on the future of the telecommunication sector in general and radiocommunications in particular(said Mr Franls Raney, Director of the ll'U Radlocommunlcation Bureau.'The outcomes of WRC-15 are aimed at maintaining a stable, predictable and universally applied regulatnry environment that secures long-term Investments for the multl-tr111ion dollar!CT Industry."

WRC-15 addressed over 40 topics related to frequency allocation and frequency sharing for the efficient use of spectrum and orbital resources. The outcomes ensure high quality radlocommunlcation services for mobile and satellite communications, maritime and aeronautical transrt, air and road safety as well as for scientific purposes related to the environment, meteorology and climatology, disaster prediction, mitigation and relief.The ll'U Radlocommunlcat lon Sector has been set an ambitious studies programme for the next four years covering a wide range of services from amateur radio to broadcasting, mobile broadband,mobile satellite, fixed satellite, earth stations on roobHe platforms, and space exploration services.

WRC- 15 adopted a revised version of Resolution 12 on Assistance and Support tn Palestine, which resolves to continue assistance to Palestine and to enable Palestine to obtain and manage the spectrum required tD operate telecommunications networks and wireless services. This followed an sraeli-Palestinian agreement tn facilitate cellular phone operations and the establishment of a roodem and reliable telecommunication network in Palestine.

## Key outcomes of WRC-15

Mobile broadband communications

Following the growing demand for spectrum for rooblle broadband services, WRC- 15 Identified frequency bands In the L-band (1427-1518 MHz) and In the lower part of the C-band (3.4 -3 .6 GHz). WRC- 15 achieved agreement on some addltlonal portions In other bands that were also allocated tn rooblle broadband services In order tn be used In regions where there was no Interference with other services.

To counteract the difficulties encountered In finding additional spectrum for!MT In bands below 6 GHz,WRC-15 decided tD Include studies In the agenda for the next WRC In 2019 for the Identification of bands above 6 GHz that will allow technology to meet demand for greater capacity . Administrations and Industry can now concentrate on the development of necessary technologies In line with the schedule for the Implementation of MT-2020 *(*[*http:// www.ltu.int/net/pressofflce/press\_releases/2015 / 48.aspx).*](http://www.ltu.int/net/pressofflce/press_releases/2015/48.aspx))

WRC- 15 took a key decision that will provide enhanced capacity for mobile broadbandIn the 694·7110 MHz frequency bandIn ITU Reglon-1

*(http://* [*www.ltu.int/net/pressofflce/pres,;\_refeases/2015/55*](http://www.ltu.int/net/pressofflce/pres%2C%3B_refeases/2015/55) *.aspx)* (Europe,Afr1ca,the Middle East and Central Asia) and a globally harmonized solution for the implementation of the digital dividend. Full protection has been given tn television broadcasting as well as tn the aeronautical radlonavlgatlon systems operating in this frequency band.

Amateur radio service gets new allocation

New allocation for amateur radio service In the frequency band 5351.5 - 5366.5 kHz will maintain stable communications over various distances, especially for use when providing communications In disaster situations and for relief operations .

Emergency communications and disaster rellef

WRC- 15 Identified spectrum in the 694-894 MHz frequency band to facilitate rooblle broadband communications for robust and reliable mission critical emergency services In public protection and disaster relief (PPDR), such as police,fire, ambulances and disaster response teams.

**Search and rescue**

WRC-15 reinforced protection to Search and Rescue beacons that transmit in the 406 -406 .1MHz frequency band signals to uplink to search and rescue satellites, such as the Cospas-Sarsat system. Resolution 205 was roodlfied to ensure that frequency drift characteristics of radiosondes are taken lntn account when operating above 405 MHz to avoid drifting close to 406 MHz. Administrations are requested to avoid making new frequency assignments for the mobile and fixed services within the adjacent frequency bands to prevent Interference In the frequency band 406 -406 .1MHz. As of December 2013, the Cospas-Sarsat System has provided assistance In rescuing over 37,000 persons In over 10,300 Incidents worldwide.

Earth observation satellites for envlronmental monitoring

WRC- 15 agreed to new allocations In the 7- 8 GHz frequency range needed to uplink large amounts of data for operations plans and dynamic spacecraft software modifications that will eventually lead tn simplified on-board architecture and operational concepts for future missions of earth-exploration satellite services (EESS).

Allocations of spectrum In the 9- 10 GHz frequency range will lead to the development of modem broadband sensing technologies and space-borne radars on active sensing EESS. Scientific and gee-information applications will provide high quality measurements In all weather conditions with enhanced applications for disaster relief and humanitarian aid, land

### use and large-area coastal survelllance.

Unmanned aircraft and wlreless avionics systems

WRC-15 opened the w\_ay for the development by!CAO of worldwide standards for unmanned aircraft systems (UAS), and Identified the regulatory conditions that may be applied to such systems ontemat,onally . WRC-15 also agreed on spectrum for wireless avionics Intra-communications (WAJC) to allow for the heavy and expensive wiring used In aircraft to be replaced by wireless systems.

Global flight tracking for civil aviation

Agreement was reached on the allocation of radio-frequency spectrum for global flight trackingIn civil aviation

*"'tp://* [*www.ltu./nt/net/pressofflce/press*](http://www.ltu./nt/net/pressofflce/press) *\_ releasesf2015/ 51.aspx)* for Improved safety. The frequency band 1087.7- 1092.3 MHz has been allocated to the aeronautical rooblle-

-.llite service (Earth-to-space) for reception by space stations of Automatic Dependent Surveillance-Broadcast (ADS- BJ emissions from aircraft transmitters. This will facilitate

# <http://www.itu.int/net/pressoffice/press> \_releases/2015/56 .aspx 23-Dec-15

##### reporting the position of aircraft equipped with ADS-B anywhere in the world, Including oceanic, polar and other remote areas. The nternational Clvll Aviation Organization (ICAO) will address the performance criteria for satellite reception of ADS -B signals according to established standards and recommended practices (SARP).

Enhanced maritime communications systems

WRC- 15 considered regulatory provisions and frequency allocations to enable new Automatic dentification System (AIS) applications and other possible new applications to improve marltlrne radlocommunlcatlon . New applications for data exchange, using AIS technology ,are Intended to Improve the safety of navigation. New allocations were made In the bands 161.9375-161.9625 MHz and 161.9875-162.0125 MHz to the maritime rnoblle-satellite service. Studies wlll continue on the compatibility between marltime mobile­ satellite service (MMSS) In the downlink In the band 161.7875-161.9375 MHz and Incumbent services In the same and adjacent frequency bands.

Road Safety

Radio-frequency spectrum needed for the operation of short-range high-resolution automotive radar *(*[*http:// www.ltu.int/net/pressofflce/p*](http://www.ltu.int/net/pressofflce/p) *re/eases/2015/52 .aspx)* has been allocated in the 79 GHz frequency band. This will provide a globally harmonized regulatory framework for automotive radar to prevent collisions and Improve vehicular safety by reducing traffic accidents. According to UN data, more than 1.25 million fatalities occur each year on the roads around the world.

Operation of broadband satelllte systems: farth Stations in Motion

WRC- 15 agreed to facilitate the global deployment of Earth Stations n Motion (ESIM) in the 19 .7-20.2 and 29 .5-30.0 GHz frequency bands In the fixed-satellite service (FSS), paving the way for satellite systems to provide global broadband connectivity for the transportation community . Earth stations on-board moving platfonns, such as ships, trains and aircraft, will be able to communicate with high power multiple spot beam satellites, allowing transmission rates in the order of 10-50 Mblts/s.

Universal Time

WRC-15 decided that further studies regarding current and potential future reference tl,,\_Kal- *(*[*http://www.ltu.int/net/pressoffice/press\_releases/2015/53.aspx)*](http://www.ltu.int/net/pressoffice/press_releases/2015/53.aspx))are required,Including the modification of coordinated universal time (UTC) and suppressing the so-called 'leap second". A report will be considered by the World Radlocommunlcatlon Conference In 2023 . Until then, lffC shall continue to be applied as described In Recommendation ITU-R TF.460-6 *(https:*[*//www.ltu*](http://www.ltu.int/rec/R-REC-TF.460-6-200202-1/en)) *.*[*int/rec/R*](http://www.ltu.int/rec/R-REC-TF.460-6-200202-1/en))*-*[*REC-TF.460-6 -200202-1/en)*](http://www.ltu.int/rec/R-REC-TF.460-6-200202-1/en))and as maintained by the nternational Bureau of Weights and Measures (BIPM).

For more Information, please see video Interview with Mr Franols Raney *(https://youtu.be/BINrG4QI/iY)* and the WRC· S Newsroom

*(*[*http:// www.ltu.int/en/newsroom/*](http://www.ltu.int/en/newsroom/) *wrc15/Pages/defifu/t.aspx)* or contact:

Sanjay Acharya

##### Chief, Media Relations and PublicInformation

+41 22 730 5046

l'.il +41 79 249 4861

sanjay .acharya@ltu .Int *(mailto:sanjay.acharya@itu.int)*

Grace Petrin

##### Communication Officer

ITU Radlocommunicatlon Bureau

+41 22 730 5810

5a +41 79 599 1428

*brpromo@ltu .lnt (mailto:brpromo@itu\_int)*

*About ITU... (lnet/pressofflc:e/ press\_releases/ about.aspx)*

*Follow* a § [\_ m

*Us (http:/Awitter.oomAt u) (https:/JWWW.facebookoom,Pages,ITU/103018419782973) (http:IJWWW .;<JUlube.oomAtulelecommunication) (http:l*[*lwww*](http://www.ffickr.com/pholosAtupiclures))*.*[*ffickr.com/pholosAtupiclures)*](http://www.ffickr.com/pholosAtupiclures)) *(lnetlpl8SSOf/ice/rssA.x,*

Copyright OITU 2015 All Rights Rese,vecf Feedback Contact Us Accessibillty

# <http://www.itu.int/net/pressoffice/press_releases/2015/56> .aspx 23-Dec-15

##### ~~--------- ----~~-- -- ------------ -- ---