10 years of APWPT

A summary of international PMSE Studies supported by the Network of APWPT

Alan March – Vice Chairman of APWPT
Over the last 10 years APWPT has become increasingly involved in many international working groups at many levels of the spectrum management, examples:

- Global - ITU-R
- Regional Europe – ETSI and CEPT
- Regional Brazil
Before APWPT was founded, in 2006 ETSI noted;
- The loss of spectrum for wireless audio production tools.
- The demand for alternative spectrum.

The document was forwarded to CEPT and triggered a number of studies in CEPT.

Currently, ETSI works on an update of this TR; supported by the network of APWPT.

Note: APWPT is a full member of ETSI.
• Participation of several Members of APWPT in WRC-12

• Under the mandate of WRC-12 in the Joint Task Group 4-5-6-7 the effect of the loss of 700 MHz was studied. The Report BT.2338 notes to identify new spectrum for PMSE (not a term of ITU) in the band 1200 to 1600 MHz.

• WRC-15 then considered the results of this work. However, the related Footnote 5.296 was changed (upper limit set to 694 MHz) without agreement for alternative spectrum.
CEPT is aware of the changing situation for Audio PMSE and therefore several studies have been mandated:

- Study for Audio PMSE in the duplex 800 and 1800 MHz gaps => finally harmonized in Europe; some countries are partly following, e.g. AU or UAE.
- Study for Audio PMSE in 1452 to 1492 MHz => implemented in some European countries but WRC-15 moved this band to IMT.
- Study for Audio PMSE in 1492 to 1518 MHz => implemented in some European countries but WRC-15 moved this band to IMT.
- Study for Audio PMSE in 1350 to 1400 MHz and 1518 to 1525 MHz => implemented in some European countries; APWPT requests an EU harmonization.
- Study for Audio PMSE in 960 to 1164 MHz ➔ ongoing study
The situation for Video PMSE is similar to Audio PMSE. A number of existing frequency bands are being refarmed to IMT (mobile phones) and therefore CEPT mandated studies in working groups FM51 and SE7.

Initially, a set of possible new frequency bands were investigated. Finally, just 2700-2900 MHz was left. Many countries don’t see any possibility of use of 2.7/2.9 for video PMSE. Nevertheless, FM 51 was asked to come back with a best effort Report for ‘best practices for Video PMSE’ in this band.

The 2300-2400MHz.band is/has been the main Video PMSE band and is coordinated cross-border. Currently, many services, applications and concepts such as ‘professional’ drones, Railway Mobile Radio and others are looking into the possibility of sharing with the incumbents, such as Video PMSE.
Currently under study in SE7 is the band 410-470 MHz. These studies will affect backstage communication equipment (talkback).

In addition, sensitive audio PMSE receivers operated above 470 MHz will potentially be affected as a result of the Out Of Band (OOB) emissions of new LTE devices operating below but close to the 470 MHz boundary.
APWPT has participated and contributed to many long and exhausting study processes. In summary;

Most studies were mandated because of political decisions regarding the refarming of existing broadcast frequencies for new or existing IMT (mobile telephone) or PPDR services (safety service).

The APWPT network has to repeatedly justify why existing frequency ranges for PMSE are still necessary for event and content production.
APWPT has a constant obligation to participate in these studies. If APWPT does not engage with the study processes, we expect the statement "that no radio spectrum is required for PMSE".

Only representatives from the PMSE sector can accurately describe the needs of the PMSE sector. This is often in contradiction with the lack of understanding outside our network for the necessary and very high quality requirements in content and event production.
The output of all studies need to be taken into account and, where possible, implemented within the technical parameters of Harmonised Standards. Failure to comply with relevant Harmonised standards will result in products being prevented from being placed on the market.

In addition, new PMSE technology is already implemented or is intended to become implemented in updated or new ETSI standards. This may result in new studies within CEPT and ITU-R.

Members of the network of APWPT are also very active within the relevant ETSI Working Groups.