

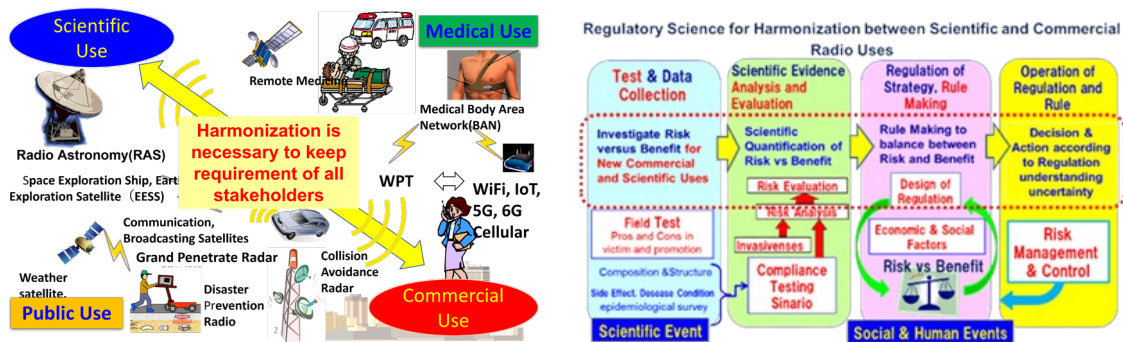


Harmonization of Scientific, Commercial, and Other Radio Uses with Regulatory Science for SDGs

Ryuji Kohno

Professor Emeritus, Yokohama National University,
Vice-President, YRP International Alliance Institute
kohno@ynu.ac.jp, kohno@yrp-iai.jp

Harmonization for scientific radio use such as radio astronomy and commercial business radio use such as 5G cellular networks must be an important common subject among all commissions A-K of which the URSI can study and derive a fair solution to keep using radio resource from various viewpoints. In particular, demand for commercial radio uses has been drastically increasing for these decades in global while scientific radio uses have a huge impact in origin of the universe and other academic progress. Conventionally electromagnetic interference between scientific and commercial radio uses has been taken care in several venues; ITU-R, CISPR. Regional and international regulators have been making various rules and recommendation to harmonize commercial and non-commercial radio uses considering benefit versus risk for individual radio users, but it seems insufficient in a scientific reason for some cases due to urgent demands, political reasons etc. For this discussion on harmonization for non-commercial scientific and commercial business radio uses, we have been taken into account in several events of URSI, i.e. special sessions on URSI-ITU in GASS2011, AP-RASC2013 and JRSM2015. However, such argument has not been converged yet while increasing urgent and serious problems to be solved. The reason why the URSI is a best venue to discuss on the harmonization is obvious because URSI is a community of mature representatives of scientific, commercial, and other radio uses. Scientific use side could be represented in commissions F, G, H, and J and commercial use side could be from standardization of cell operators, industry alliance, and radio broadcasting association in commissions C, D, F, and K while mutual benefit and measurement have been discussed in particularly commissions A,B, and E. URSI-Japan has been trying to establish a venue; “Regulatory science center for harmonization of scientific, commercial and other radio uses,” by applying for the Master plan2014, 2017, 2020 and the Future academic promotion design 2023 of the Science Council of J APAN(SCJ) to make a consensus by scientific approach for making global rules and on promoting social services and industrial innovation because radio is a global common resource to achieve most of the SDGs.



This public lecture in URSI-GASS2023 will approach to resolve remained issues in the harmonization with “regulatory science,” that is a multidisciplinary concept and subject. Regulatory science has been applied for medicine and medical devices because risk versus benefit to apply newly invented medicine and devices to medical healthcare can be scientifically analyzed with numerical evaluation. Then a guideline or regulation for the medicines and devices can be made with scientific manner. Regulatory body will examine the medicines and devices compliant to the regulation. A plan and tasks of the regulatory science center for the harmonization of radio uses will be introduced to promote R&D for radio resource management for SDGs.

References

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