Acoustics, Ultrasound, Vibration and Underwater Acoustics

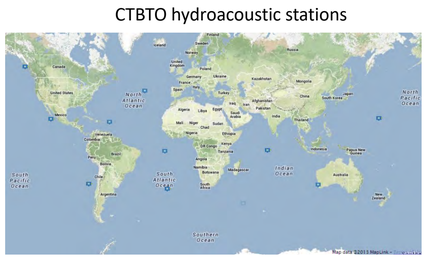
The Consultative Committee for Acoustics, Ultrasound and Vibration (CCAUV)

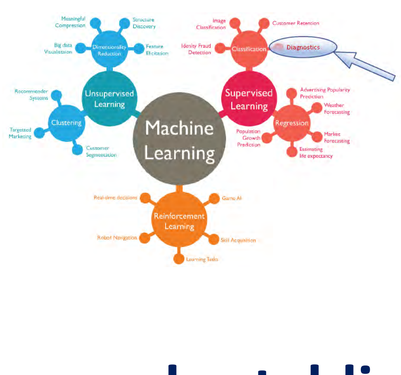
Global forum for NMIs on innovations, best practices and state of the art

Scientific presentations during the CCAUV meeting

- **Infra-AUV** (low frequency sound and vibration)
- Investigation of COVID quietening in deep **ocean noise** (CTBTO hydroacoustic stations)
- Accuracy of an **optomechanical accelerometer**
- **Optical tachometer** calibration
- Instantaneous **acoustic pressure**
- Use of virtual **vector machine for diagnosis** of acute respiratory distress syndrome

CTBTO hydroacoustic stations





The CCAUV facilitates dialogue between NMIs and new and established stakeholders

Important CCAUV relationships with NMIs and other international organizations

Members, Observers and Liaisons

- *18 members*
- *13 observers*

- **International Organization for Standardization (ISO)**
- **International Electrotechnical Commission (IEC)**
- **Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)**

2022: National Scientific Centre “Institute of Metrology” (Ukraine) became an observer of the CCAUV

2021: CTBTO and Joint WG ISO/TC12 and IEC TC 25 became new liaisons

The BIPM – CTBTO Practical Arrangement

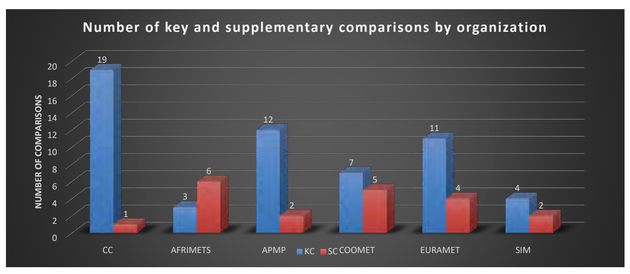
The relationship between the **CCAUV** and the **CTBTO** is developing and there is regular dialogue concerning the infrasound and low-frequency vibration traceability of its **International Monitoring System (IMS)**

A Practical Arrangement was signed between the BIPM and the CTBTO on collaboration on metrological traceability of measurements of infrasound, seismic activity and radioactivity.

The International Monitoring System

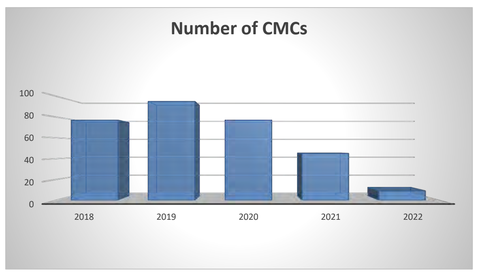
Credit : CTBTO

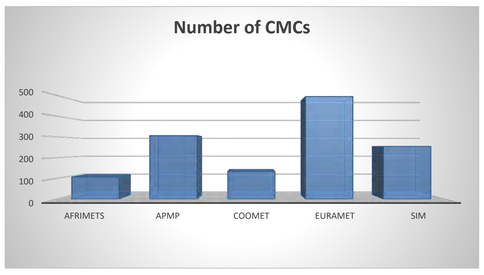
The CCAUV works to improve the global comparability of measurement



The planning process for KCs involves careful deliberation **to optimize resource requirements** needed to respond to the needs of its **stakeholders**.

Repeat CC KCs ⟹ 10-year cycle
CMCs: 1294





New Areas:
- **Acoustic Spectroscopy** (determination of particle size)
- **Photoacoustic Spectroscopy** (detection of trace levels of gases)
- **Lung Sonography** (pulmonary lesion)
- **Digital agenda** (hydrophone sensor - digital system - digital signal process)