What is CEOS / WGCV / ACSG?

- The **CEOS Working Group on Calibration and Validation** (CEOS/WGCV) Mission is to ensure long-term confidence in the accuracy and quality of Earth Observation data and products and provide a forum for the exchange of information about calibration and validation, coordination, and cooperative activities.

- The **CEOS WGCV Atmospheric Composition SubGroup** (CEOS/WGCV/ACSG) Mission is to ensure the accurate and traceable calibration of remotely-sensed atmospheric composition radiance data and validation of higher level products for application to atmospheric composition and *in conjunction to* climate research.
The WGCV/ACSG work has focused on three targeted small scale activities (that do not overlap with existing structures such as for example IWGGMS):

1. Support / develop Fiducial Reference Measurements (FRMs) for atmospheric composition (**CEOS actions CV-6/CV-7**):
   - Support the calibration, traceability and characterization of Brewers using the Izaña standard instrument (4 campaigns to date) – *in cooperation with WMO/GAW*
   - Support the inter-comparison of ground-based instruments (Brewer-Dobson, of ground-based NO$_2$ measurements, etc.)
   - The development ground-based O$_3$ and NO$_2$ profiles from spectrometers – *in cooperation with NDACC*
   - The standardization of the mini-spectrometer retrievals and processing (Pandonia) and its consistency with other systems (see ESA agency report)
   - Cooperate on merging ground-based measurements such as LIDAR, sun-photometers and spectrometers, to enhance aerosol classification databases
2. Cross-cutting activities

- Organization of the February 2015 Radebeul workshop on the selection of the CEOS/WGCV cross-cutting activities
- Limited 2-year targeted studies – based on a clear defined procedure with defined deliverables
- Selected studies (to follow QA4EO principles) to support EO applications:
  - Atmospheric Correction for land and ocean parameter retrievals
  - Harmonised cloud screening approach (and nomenclature)
  - Digital Elevation Model (DEM) characterization
3. Atmospheric Composition / Chemistry instrument calibration (recent developments from the WGCV)
   • Joint WGCV/ACSG and GSICS/UV-VIS working meeting at NOAA in Fall 2015 (CEOS action CV-5)
   • Organization CEOS pre-launch calibration & characterization workshop together with all WGCV sub-groups (targeted date: second half 2016)
   • Definition of QA4EO “best practices” for the consolidation of datasets and the calibration documentation
WGCV / ACGSG activities

WGCV/ACSG work has also been done towards cross-agencies/cross-domain harmonization of validation practices:

1. Transmission of WGCV experience (incl. QA4EO) to CDRs:
   - Pragmatic implementation in Envisat Phase F data evolution, EUMETSAT O3M-SAF trace gases validation, ESA CCI Ozone...
   - QA4ECV (ACSG, IVOS and TMSG joint venture): generic framework virtually applicable to all ECVs, traceability chains, maturity matrix, specific tools and methods (Atmosphere and Land)...
   - GAIA-CLIM: validation component of gap analysis for integrated atmospheric ECV climate monitoring

2. Interaction with CEOS VC/ACC since WGCV-38:
   - Participation/contributions of ACSG Chairs and members to ACC-11, April 2015
   - Validation support to cross-agencies harmonization efforts for nadir ozone column and nadir ozone profile data
   - Geophysical Validation Needs for the future GEO-AQ Constellation
   - Note: partially addressing CEOS action CV-4
Thank you!

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