

## Ozone cross-section change – The CEN perspective

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Accurate Monitoring of Surface  
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CEN Procedures and Standard Method are  
unaffected by any change in the value of the  
Cross Section

Thanks for your attention!

CEN provides a Standard Method (EN14625) for measurement of ozone concentrations using UV photometry, describing:

- Instrument operation
- Instrument calibration
- Instrument type testing procedures
- Ongoing Quality Control
- Instrument measurement uncertainty

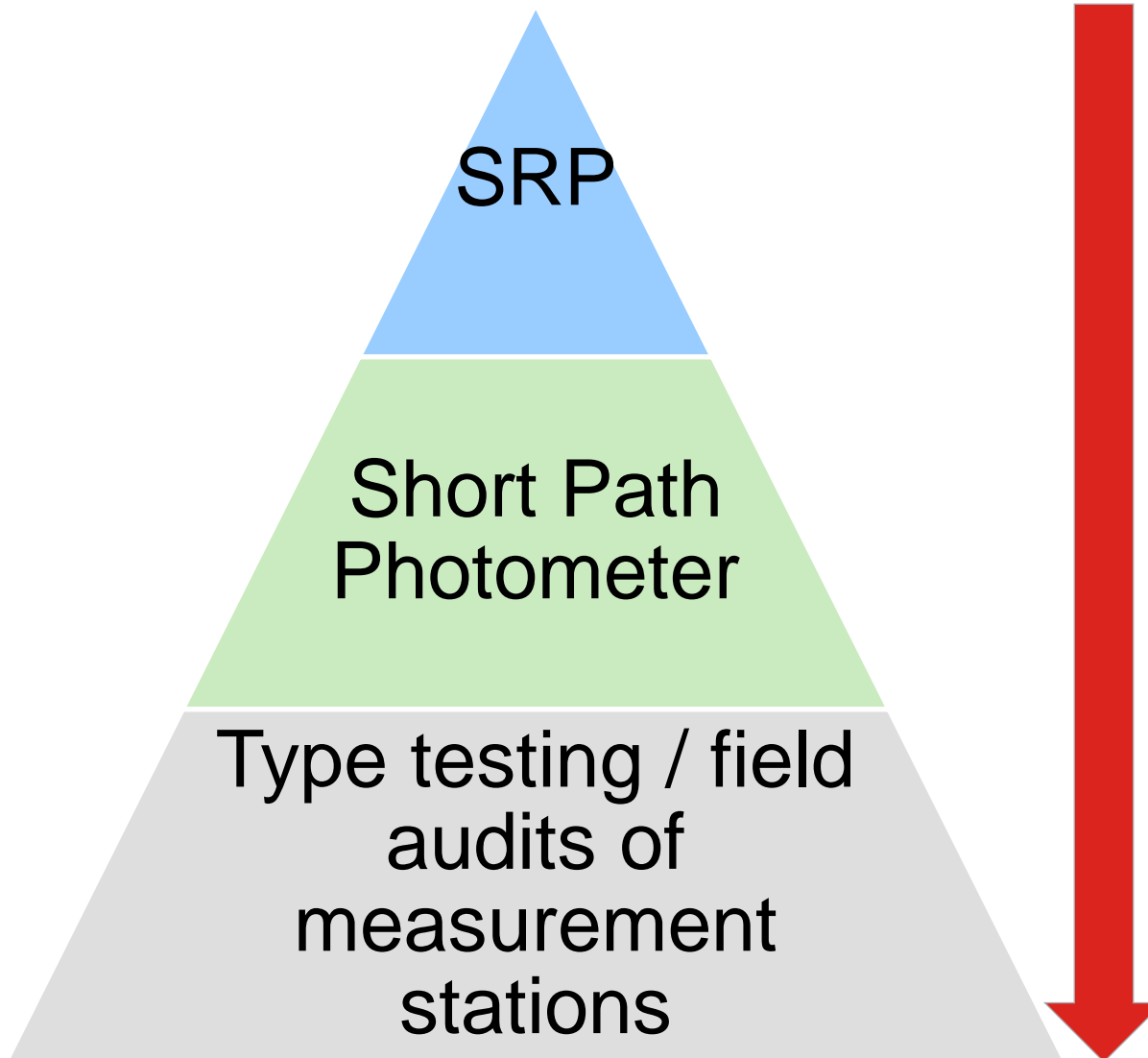
EN14625 refers to traceability using either of the following techniques:

ISO 13964:1998 (Primary UV photometer)

ISO 15337:2009 (GPT using NO)

But:

EN14265 only specifies that the uncertainty of the test gases shall be better than  $\pm 3\%$  ( $k=2$ )



New cross section will affect calibration of the short path photometers with SRP, which will in turn affect calibration of measurement analysers

EN14625 procedures and evaluation of measurement uncertainties will remain the same.

The calibration and uncertainty from SRP is one of many components in the EN14625 uncertainty budget.

Major Components	Typical contribution from type testing (% at LV)
Repeatability at Zero and Span / Reproducibility	0 to 5% (each)
Lack of fit	0 to 4% (each)
Sensitivities (T, P, V)	0 to 1% (each)
Interferences (rH, gases)	0 to 5% (each)
Averaging	1 to 5%
Zero drift / Span Drift	0 to 4% (each)
Difference between sample and calibration ports	0 to 1%
Calibration gas (after initial SRP calibration)	3 to 5%
Total	9 to 12%

Improvements to uncertainty of Cross Section calibration will only have a minor effect on total budget. Change to slope will be the major area for attention.

- + No changes required to CEN Standard Method  
(Update planned for 2021 – changes could still be incorporated)
- Will increase reported concentrations
- Global harmonisation of changeover is critical
- Must start on 1 Jan 20xx



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Thanks for listening!