



ComPass

Interlaboratory Comparisons

Accuracy you can trust
A basis for reliable measurement results



Laboratories continually strive to ensure the quality of instruments, procedures and capabilities. No matter how carefully they conduct these internal checks, systematic deviations often go unnoticed. It is therefore important that they regularly compare their measurement results with those of other laboratories.

Participation in interlaboratory comparisons (ILCs) is a key criterion for accreditation, but is also a vital investment in reliability, operational certitude and staff confidence. VSL offers a wide array of interlaboratory comparisons and proficiency testing programs. Convenient, capable, to-the-point and eminently reliable – these are the cornerstones of VSL's reputation.

Extensive experience

VSL has more than 30 years experience in interlaboratory comparisons. We conduct interlaboratory comparisons and proficiency testing (PT) schemes in many different fields from pressure, mass and viscosity to chemical analyses, and from temperature and humidity to electricity, length and gas flow. VSL is accredited to conduct comparisons and proficiency testing programs in many of these fields.

Confidence

Measurement accuracy is a hidden quality at all laboratories. It usually only attracts attention if measurements fail to match those of other laboratories, indicating that there may be some kind of problem. Prior to that, no news is good news. Affirmation of accuracy does, however, help to keep lab staff sharp and motivated. Interlaboratory comparisons provide this affirmation.

Participation benefits

Laboratories that consider quality to be of paramount importance attach great value to participation in ILCs (PT-Schemes) because:

- It provides either confirmation of their satisfactory performance or an alert that potential problems within their laboratory require investigation.
- They consider PTs as a quality and risk management tool.
- They recognise the educational role of PTs.
- Successful performance provides added confidence to individual staff, management and internal and/or external clients.
- It satisfies the requirements of regulatory and accreditation bodies.
- ComPass offers reference values that are traceable to SI.
- It offers a valuable contribution to the strategic marketing decisions of their laboratory, as it indicates the performance of the laboratory when compared to other laboratories.



Our approach

The participating laboratories are each sent a sample, an artefact, or a measurement instrument on which measurements have to be performed or deviations have to be determined using their standard procedures.

An E_n value is then calculated for each laboratory, based on comparison of the lab's measurements with reference values (Y_{lab} and Y_{ref}), in combination with the reported uncertainties for these two values (U_{lab} and U_{ref}).

$$E_n = (Y_{lab} - Y_{ref}) / \sqrt{U_{lab}^2 + U_{ref}^2}$$

If the absolute value of E_n is less than or equal to 1, the lab's results are in agreement with the reference values. However, if the absolute value of E_n is greater than 1, the laboratory must determine the cause of the systematic deviations, which may result from improper standards, instruments or procedures. In some comparisons, a Z-score is calculated in addition to the E_n value.

The reference values are directly traceable to VSL's national standards and thus traceable to SI.

Our experience

As the Dutch Metrology Institute, VSL participates in key comparisons with national metrology institutes throughout the world. We are therefore well acquainted with the demands of participation in such programs. For instance, we know just how important it is for laboratories to receive advance warning on when test materials will arrive. And we know how important it is to receive clear, comprehensive, and prudent reports on results. VSL is accredited to conduct interlaboratory comparisons and proficiency testing programs. We have gained an international reputation as an independent national metrology institute.

Further information

At our website <http://ilc.vsl.nl> you will find the latest information about our ILC/PT program, registration forms, time schedules etc.

Our technical areas cover among others:

- Chemical analysis
- Electricity
- Pressure, mass, viscosity
- Temperature and humidity
- Length and geometry

We organize on demand ILCs/PTs on other subjects based upon specific wishes from the client.

Contact information

VSL
 Thijssseweg 11
 2629 JA Delft
 P.O. Box 654
 2600 AR Delft
 The Netherlands

T +31 (0)15 269 16 09
F +31 (0)15 261 29 71
E ComPass@vsl.nl
I www.vsl.nl