

The Context:

CETIAT is a research laboratory providing services in the field of metrology, particularly thermometry. Its thermometry laboratory uses three calibration methods, depending on the different temperature ranges and sensor types, as follows: calibration in thermostatically-controlled baths, in an oven or in a climate-controlled enclosure. The existing system had to be improved in order to increase productivity and metrological traceability, while controlling the measurement uncertainty.

The Challenge:

Provide simultaneous automated calibration of 40 probes and 5 generators (calibration method) while maintaining compatibility with COFRAC accreditation.

The Solution:

Develop a LabVIEW application allowing several test campaign to be run and automatically generating calibration reports for customers.

Technical Details:

- Control of an 8.5 digit DMM and a multiplexer
- Bidirectional link with MS Excel, with recording of raw measurements and rereading of corrected measurements
- Use of a file containing the list of equipment to be used and the calibration formulae
- Display of temperature graphs during test
- Creation of specific calibration reports for each temperature probe (i.e. for each customer)

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