

How NMIs and laboratories balance precision, budget and efficiency



Like National Metrology Institutes, calibration laboratories strive to achieve the highest quality standards in the calibrations and measurements they perform. In addition to ensuring accuracy, all laboratories must achieve calibration excellence while balancing budget constraints and optimizing their processes.

Precision on every level

National Metrology Institutes (NMIs) are the leading calibration laboratories in each country, representing national measurement standards. They are high-level partners for science, industry and commerce and play a crucial role in secondary calibration, ensuring that calibration procedures and standards are consistently maintained across the country, supporting various sectors that rely on accurate measurements.



Example of an accredited calibration for an inclinometer.

Responsibilities of an NMI:

- Developing and maintaining calibration procedures and standards
- Converting international standards to national standards
- Performing primary calibrations of reference sensors with the lowest measurement uncertainty

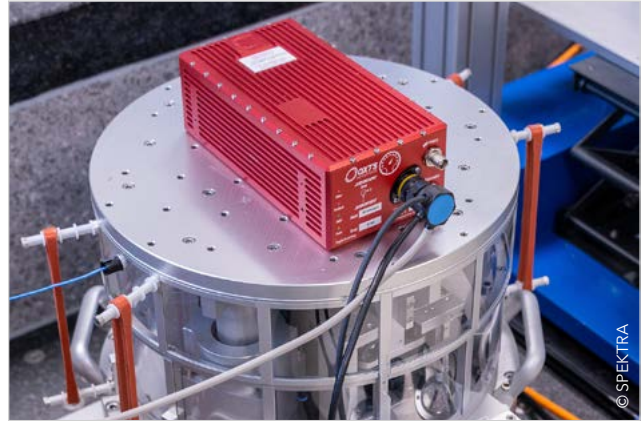
How to achieve calibration excellence?

The main challenge for [metrology institutes](#) is to achieve calibration excellence while managing budget constraints. They must provide high quality calibration services and achieve the lowest possible measurement uncertainty to remain at the forefront of their field.

Solutions for all kinds of sensors

To help National Metrology Institutes to maintain global measurement standards while also sustaining efficiency and budget constraints, SPEKTRA provides powerful and versatile calibration systems.

Our comprehensive calibration systems such as the [CSQ-LEAP™](#) vibration, shock, rotation rate and acoustic systems are complemented by the versatile HERO™ controller. These solutions are designed to cater to both analog and digital sensors, ensuring compliance with current ISO/IEC standards.



SPEKTRA provides factory calibration for devices with GPS.

Benefits at one glance:

- ✓ **Increased system performance:** SPEKTRA's systems enhance overall performance and provide additional features to meet diverse calibration needs.
- ✓ **Flexibility:** With a flexible frequency range and comprehensive software operating modes, the CS Q-LEAP™ systems can adapt to various calibration scenarios.
- ✓ **Extensibility:** These systems are easily extendable, allowing NMIs to scale and upgrade their calibration capabilities as needed.
- ✓ **Integrated database:** An integrated database simplifies Device Under Test (DUT) management, making the calibration process more efficient and user-friendly.



Other institutions also might have a need for direct traceability to the National Metrology Institute of their country and therefore could benefit from similar applications. These institutions include:

- Regional Metrology Institutes
- Accredited calibration laboratories
- Key Universities

Conclusion

Why not also benefit from solutions that satisfy even the high standards set by NMIs? Optimize your laboratory efficiency with SPEKTRA's secondary calibration solutions which ensure that users can maintain a high level of calibration excellence, offering flexible and comprehensive systems that support diverse calibration requirements and efficient data management.

Enhance your calibration processes and overcome the challenges of budget constraints while maintaining high-quality services. **Reach out to our experts for customized solutions to meet your needs.**