

Why are metrology calibrations so misunderstood?

The three common reasons affecting every business

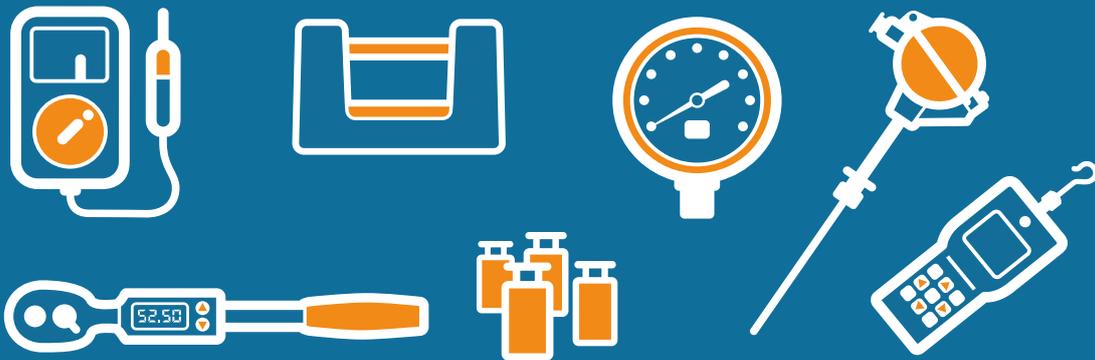


From torque wrenches to temperature probes, and electrical testing devices to force gauges, metrology equipment is found in-use within businesses across nearly every industry.

Despite the broad uses for metrology equipment and the reliance on it to perform day-to-day tasks, many businesses have admitted to having a lack of understanding when it comes to metrology equipment calibrations.

Our calibration experts have worked with thousands of companies across the UK and have found three common issues contributing to the misunderstanding of metrology calibrations.

In this guide we'll examine each of the three issues, as well as giving our recommendations to improve each area.



Why metrology calibrations are misunderstood

- A lack of company-wide understanding on the importance of calibrations
- Insufficient information available on the best way to internally manage calibrations
- No clear guidance on the attributes to look for in a calibration supplier

Problem 1: A lack of company-wide understanding on the importance of calibrations

Generally, QA teams are well aware of the importance of having accurately calibrated metrology equipment, but in most businesses the use of metrology equipment expands into other departments who don't have the same level of understanding.

More often than not, the overall 'responsibility' for metrology equipment calibrations falls to overstretched QA teams to organise. However, this can lead to communication and knowledge gaps between the user of the equipment and the person (or people) responsible for arranging the calibration. This often leads to unaccounted for equipment or a lack of awareness of the proper processes for the maintenance and care of the equipment.

Why metrology equipment calibrations are so important

- Metrology calibrations ensure your metrology equipment is performing to the manufacturer's standards
- Uncalibrated metrology equipment can cause mistakes in process which can lead to quality control issues or health and safety risks
- Having accurately calibrated metrology equipment is a crucial part of obtaining and keeping quality accreditations such as ISO



Unaccounted for equipment

Just one piece of uncalibrated equipment could add a non-conformance to your ISO audit. To ensure all metrology equipment is accounted for, we recommend creating a process for teams who purchase and use their own metrology equipment.

When a new piece of equipment is purchased, key information should be logged in a centralised database which can be accessed by the user and the QA team. By maintaining an up-to-date record of your assets throughout the year you'll be creating a more efficient calibration process and will save a huge amount of time when it comes to start preparing for your audit.

The piece of equipment should also be calibrated before its first use.

New piece of equipment? Log the following information:

- Serial number
- Manufacturer
- Model
- Description
- Current department
- Current location (on-site/off-site) and sub-location
- Number of calibrations required per year
- Next calibration date

Maintenance and care

We've found when departments outside of QA use metrology equipment in process, they tend to be aware of how the equipment needs to perform to get the job done, but often aren't aware of the bigger picture – particularly how to ensure their tool continues to provide accurate results.

A common example is the number of calibrations an instrument should have per year. The standard is once every 12 months, however if an instrument is dropped or banged constantly, if it's used in unusually hot, cold, humid or wet conditions, or if it's showing visible signs of general wear and tear, it should be pulled from service and inspected. Often this doesn't happen, and heavily used instruments can be providing inaccurate readings for months while the user is unaware.

There are lots of online resources available with guidance on best-practice approaches to caring for metrology equipment. We've written many articles around the subject which you can check out on our [Calibration Blog](#).



Problem 2: Insufficient information available on the best way to internally manage calibrations

Every business is different, with their own set of internal processes for managing calibrations. Despite this, we've found some common gaps which, if tweaked, could vastly improve your calibration process.

Start with an accurate list

This is the number one area businesses struggle with. Shockingly 50% of QA teams admit their asset lists are out of date.

We know creating an asset list is time-consuming, but having an accurate list plays an important part in ensuring your equipment calibrations and periodical audits run smoothly.

With potentially thousands of pieces of calibration equipment on site, creating an asset list can be a daunting task. However, putting in the work upfront saves a huge amount of time further down the line. Giving you swifter audits, asset traceability at your fingertips and significantly reducing the risk of a non-conformance because of missed calibrations.

As a minimum for every piece of metrology equipment you should log the serial number, manufacturer, model, description, current department, current location (on-site/off-site), number of calibrations required per year, and previous calibration dates.

Some calibration suppliers can do the leg work for you and will collate a list with all the detail you need. Have a look at how our [Asset Scan](#) service will build a detailed metrology and weighing asset list for your business.



Then, continually update and manage your asset data

Once you have your list, it needs to be continually managed to ensure the data doesn't become out of date as soon as a calibration takes place, or a new piece of equipment is added or removed from process.

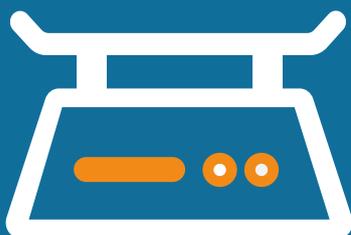
Many businesses make the mistake of using a spreadsheet to log their assets. Spreadsheets are great tools for many things, but not when it comes to data asset management. Many 'spreadsheet databases' become quickly out of date as the administrative upkeep gets pushed down the list of priorities.

Instead, an asset management system provides one, centralised location to store and manage your data, ensuring each asset is always kept up to date.

An asset management system also offers more than just a place to store and update your asset list. They simplify your entire calibration process, from beginning to end, by:

- Sending automated reminders when an item is due for calibration
- Allowing you to arrange calibrations directly through the system
- Providing full traceability on all your metrology equipment
- Removing long-winded paper trails by centralising the details and past history of each piece of your metrology equipment, including the associated manuals, certificates and inspection reports

We designed our asset management system, the Calibration Hub, to help our customers streamline their calibration process – from storing asset history and details, to organising calibrations and planning for the year ahead.



Problem 3: No clear guidance on the attributes to look for in a calibration supplier

The headache involved if a supplier doesn't deliver can cause no end of problems for QA teams. The UK has a huge range of calibration providers who all seemingly offer a similar service, making choosing a supplier a minefield.

Here's our advice on what to look for in a supplier...

Turnaround times

How long can you afford to have your equipment out of process for a calibration? For many businesses it's no longer than a week.

Most calibration suppliers will offer a 'guaranteed' turnaround time of less than 7 days, but to ensure the timescales promised are actually met, make sure you read the small print and find out when the turnaround time starts.

It's common for suppliers to start the countdown from the time your items are booked into their laboratory, they will not count travel time or processing delays, which often add two additional days to the process.



Accreditations and certificates

Find out if your supplier has the correct accreditations to provide the level of calibration you need. As a minimum, they should provide fully traceable calibration certificates backed by internationally recognised quality management processes including ISO 17025:2017 which is required to provide UKAS accredited calibrations.

After your calibration is complete, find out how the calibration certificate will be supplied – and more importantly, when you can expect to receive it. Many providers will only offer a paper certificate which can take weeks to arrive.

Supplier capability

If you have a range of metrology equipment requiring calibration, it's not uncommon to use multiple suppliers to carry this work out. But with each separate supplier comes different deadlines, documentation and contacts to manage.

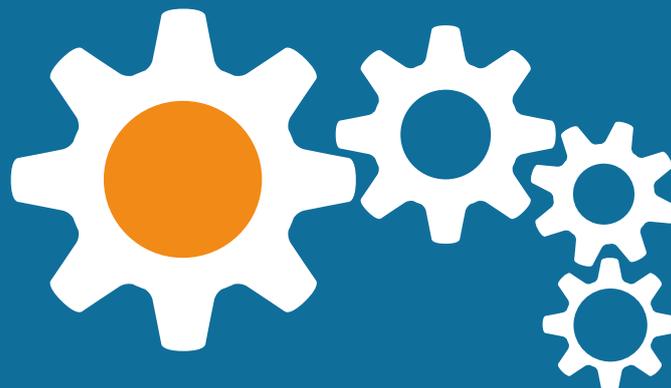
To simplify the process, businesses look to bring all calibrations under one supplier who can calibrate all on and off-site metrology equipment. It's common practice for suppliers to carry out some work themselves in their area of expertise, while subcontracting the other work out to third parties.

Find out what calibrations your supplier will carry out themselves and as part of your due diligence process ask for the accreditations of the third party labs they plan to use.

Flexibility

No two businesses are the same. And no two businesses will have the same calibration schedule. Does your current provider work round your schedule - collecting items on a day that suits you, or planning on-site calibrations around your shut down periods?

Think about the dates and times that suit you best and find out if your supplier is able to meet these requirements.



Communication

How does your supplier keep you informed on the status of your items while they've been sent for calibration? Some suppliers will use an asset management system, like our Calibration Hub, which provides full transparency on the items' calibration status - from when they arrive at the lab, to when they are calibrated and ready to return to your site - whereas others won't contact you at all during the process.

If getting in contact with your calibration provider is important to you, find out how easy is it to speak to someone quickly if you have a problem. Find out if they have a customer service centre and when it is open.

Location

Even if your business isn't located in a remote area, it makes sense to find out where your nearest calibration engineer is located. Some calibration suppliers have small teams with minimal skill sets, meaning resource is often maxed out and you'll be kept waiting for the calibrations you need.

Trust the Experts

Our expert team have over 200 years combined experience within metrology calibrations and will work with you to improve all aspects of your process.

From building an accurate asset list and optimising your asset management software, to providing industry leading service on your calibrations.

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