

The background is a dark blue gradient with a pattern of faint, light blue gears and circuit-like lines. The gears are of various sizes and are scattered across the page. The circuit lines are more prominent on the right side, forming a grid-like pattern with some glowing points.

simco

EBOOK

Top Calibration Management Data and Metrics Guide

Table of Contents

Introduction	3
Key Calibration Metrics	
On-Time Compliance	4
Turnaround Time	5
Service Location	7
Out of Tolerances	9
Work in Process Aging	10
Errors	11
Program Cost	12
Automate to Improve	13
Conclusion	15
About SIMCO	16

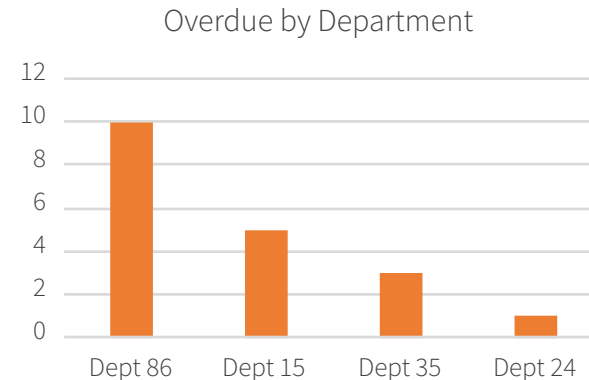
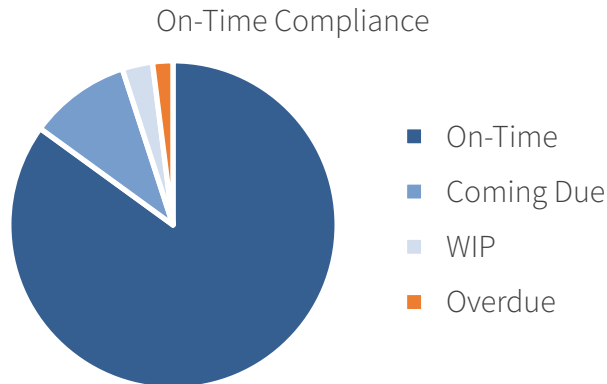
Introduction

In a field where precision measurement is vital, more than 50% of calibration professionals still struggle with defining and tracking the metrics that matter to their program. There are several metrics you can track, but every program will be different, and the data should be tailored to your needs. In this guide, we share seven of the top metrics you can evaluate to understand and improve your calibration program.

#1 | On-Time Compliance

Tracked by: # instruments not overdue for calibration/# total instruments

An overdue test instrument can become a risk during audits or a risk to your product, so tracking on-time compliance is essential in ensuring instruments are being calibrated on time. When you're managing thousands of assets across multiple locations, tracking overdue assets helps keep the rest of your metrics in line. You should regularly monitor items that are coming due and items that are overdue. Consider periodic pareto analyses on overdue items to target areas for improvement.



#2 | Turnaround Time (TAT)

Tracked by: instrument downtime due to calibration or repair service

Measuring your turnaround time across your facility helps minimize downtime and interruptions to production. Often referred to as “dock-to-dock,” turnaround is typically measured as the total number of business days the instrument is away from the factory.

There are two key numbers you should look at to get an accurate representation of your TAT:

% OF CALIBRATIONS THAT MET TURNAROUND TARGET

&

AVERAGE TURNAROUND TIME IN DAYS

Your numbers can be skewed depending on the number of assets in your program, so measuring both the percentage and average days gives you a more definitive view of the TAT.

#2 | Turnaround Time (TAT)

Tracked by: instrument downtime due to calibration or repair service

Account for All Possibilities

TAT is an overarching metric – in reality, there are many ways a calibration can be done, each with a different turnaround target. For example, you might expect an onsite or expedited calibration to be turned around in one day, while an original equipment manufacturer (OEM) calibration might take 30 days. It's important to establish turnaround targets for each type of calibration in order to set end-user expectations and to track service performance against those targets.

#3 | Service Location

Tracked by: % of calibrations performed at each service location

There are multiple options, and sometimes necessities, for where the calibration is performed: onsite, local lab, remote lab, or at the OEM. Each location will have a different turnaround time and target, ranging from less than one to 30 or more business days. In general, the closer the calibration service location is to your equipment's location, the faster the TAT.

Example Turnaround by Service Location

Bus. Days	Location
1	Onsite
2-5	Local Lab
10	Remote Lab
30	OEM/Other 3rd Party

#3 | Service Location

Tracked by: % of calibrations performed at each service location

Location, Location, Location

When an asset is calibrated locally, you also have much more control over the TAT than if it's sent to an OEM, so it's important to track what's critical to your program. Monitor changes over time and try to maximize local or onsite calibrations in order to reduce downtime. The more services you can migrate to local support, the shorter your aggregate turnaround times will be.

#4 | Out of Tolerances (OOT)

Tracked by: # of OOT events/# of calibrations performed

Generally, when an out of tolerance (OOT) event occurs, an impact assessment is performed in order to determine what the effect of the OOT will be. Is there an impact to production? Is the end-product in the field affected? You need to look at everything that's happened with that instrument since the last calibration, which can be costly and time-consuming.

Utilize the Data

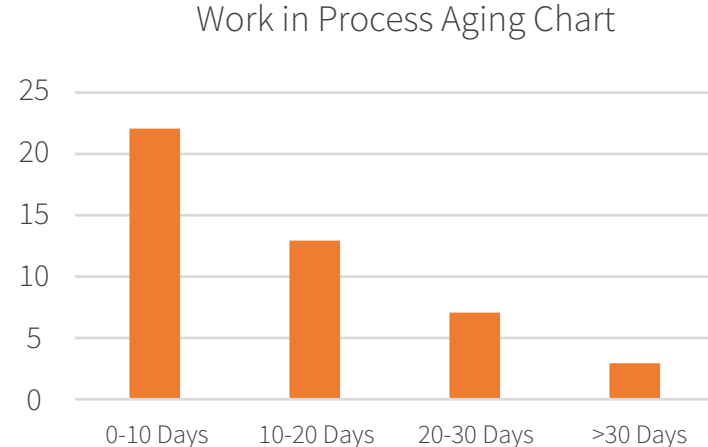
To minimize the number of OOT events, track them and periodically perform pareto analyses based on factors like instrument class, make & model, and owning department. You can also use this information to track training opportunities, reduce future risk with interval reduction, or simply understand if the asset you're using is reliable, in need of retirement, etc.

#5 | Work in Process (WIP) Aging

Tracked by: % of the workable backlog exceeding x-days

There are times a calibration will take longer than expected or an instrument doesn't meet the requirements and the timeline is delayed, leading to more downtime.

WIP aging is a key metric to keep track of because the report will provide an early indication when the 'aged' service counts are climbing and need your attention.



#6 | Errors

Tracked by: # of errors/# of calibrations performed

There are many areas in your program where errors can be tracked:

- Documentation
- Coding
- Shipping & Handling
- Customer Requirements

It's important to know not only the types of errors you could be dealing with and where they're coming from, but also why you're measuring these errors. How are you measuring them? What's causing them? What are you going to do with the results?

Identify the sources of potential errors in your program and work closely with the people responsible to implement corrective and preventive actions.

#7 | Program Cost

Tracked by: all calibration-related expenses

If a calibration program isn't functioning correctly, your whole production can be affected, which is expensive. Tracking the different costs in a calibration program can help you understand where there's waste and where your program can add value. This doesn't have to be specific to the price of the calibration – it could be better turnaround time, closer service location, quicker delivery time, or cheaper vendor services – all of which impact total calibration related costs.

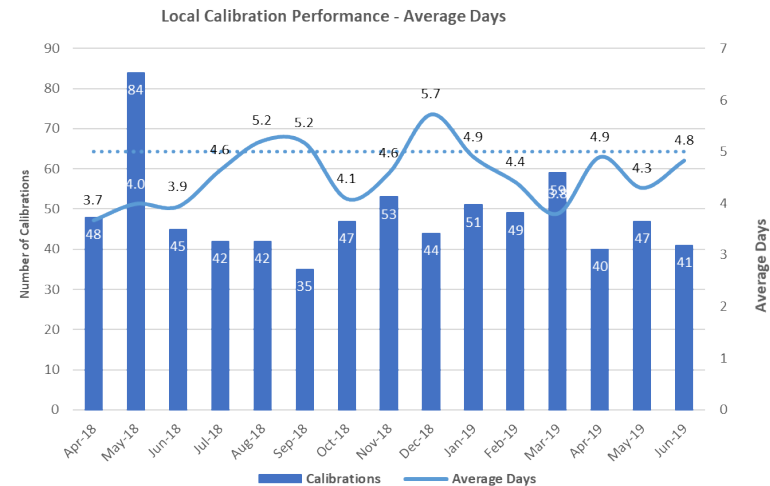
A holistic view of your calibration program may include service location as a cost driver if maintaining a large pool of spare equipment is driven by turnaround delays for non-local support, so it's necessary to understand all areas of potential cost in your program.

Automate to Improve

There are several other metrics you can assess, such as customer satisfaction, calibration throughput, load leveling, etc. Tracking the metrics isn't enough, however. It's what you do with the data that's going to make an impact on your program.

Utilize the right tools to help you map the data, create charts to find the key trends quarter over quarter and year over year, and use visual indicators so you immediately know which areas of your program need attention.

Example Dual-Axis Chart

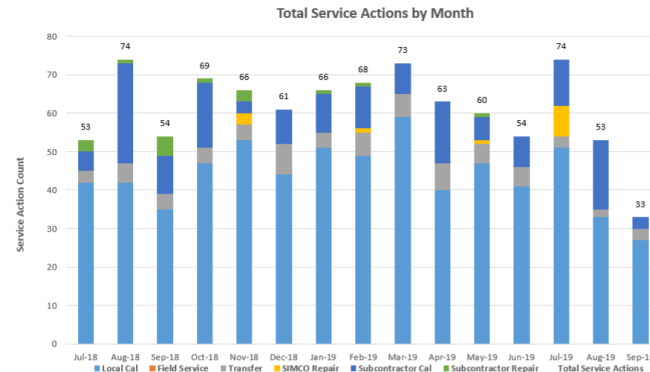
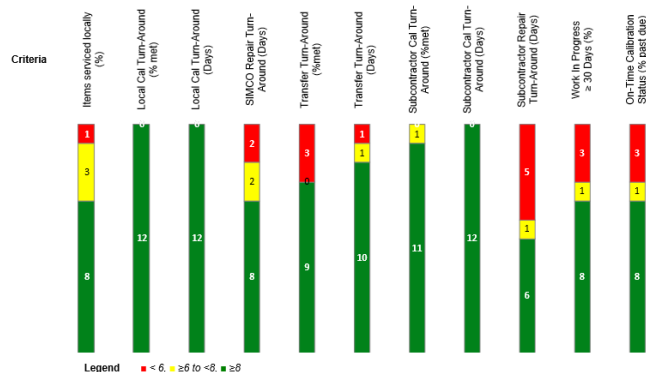


Automate to Improve

Continuous Improvement is Key

Just as your test and measurement instruments need to be monitored and tweaked regularly, so does your calibration program. Use automated tools to track your metrics, monitor them over time, create benchmarks, and continuously improve.

Example Stacked Column Charts



Conclusion

Ultimately, it all comes down to a few key things: quality, performance, and cost. In order to select the right metrics for your organization, you need to partner with your suppliers, vendors, and customers and identify where you can add value. By tracking the metrics that matter, you can ensure your calibration program is always evolving.



About SIMCO

SIMCO is the leading provider of calibration and software services for technology organizations, bringing over 55 years of calibration industry leadership. Our experience enables us to develop exceptional solutions for service management. Founded in 1962 to service NASA and high technology firms in Silicon Valley, SIMCO is committed to delivering life-saving quality leaner, by providing the highest level of quality and customer service.

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