University of St.Gallen

Institute of Technology Management

# KPIs in QC Labs

St.Gallen QCEx Meeting 2
Orientation Round (add-on) – KPIs
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## Meaningful KPIs – What really matters

*Which KPIs are truly meaningful for measuring QC performance? How do you ensure that KPIs reflect the actual goals and quality of lab work?*

When discussing which KPIs best capture QC performance, participants emphasized that KPIs must be closely aligned with strategic objectives rather than serving as isolated numbers. The most frequently cited metrics were lead time, throughput time, and on-time delivery, as these directly measure the laboratory's ability to support supply chain requirements and ensure timely release of results.

Equally important was RFT (Right First Time) performance, captured through measures such as error rates, invalid assays, or the number of deviations. Several groups highlighted that RFT provides a clear picture of data integrity and process reliability, while also reducing rework and delays. Quality was further monitored through OOS (Out of Specification), with particular focus on closure times and the rate of invalidated OOS.

Beyond these core KPIs, some organizations also track productivity per FTE, training completion, and safety performance, reflecting the view that sustainable lab performance depends not only on output but also on people development and a safe, efficient working environment.

Overall, the discussion made clear that meaningful KPIs balance efficiency, quality, and reliability while remaining firmly anchored in strategic priorities. This ensures that metrics do not become abstract figures but act as levers for CI (continuous improvement) and OPEX (operational excellence).

## Leading vs. Lagging Indicators

*How do you differentiate between leading & lagging KPIs in your QC environment? Which types of indicators do you prioritize and why?*

When differentiating between leading and lagging KPIs, most participants acknowledged that their labs currently rely much more on lagging KPIs. Metrics such as lead time, conformance to plan, error rates, and OOS investigations are well established, but they remain reactive by nature, reflecting performance only after an issue has already occurred.

In contrast, there was broad agreement that leading indicators are underdeveloped, representing an area where QC labs still have considerable room to grow. Several organizations mentioned that discussions have only recently started, for example around predictive maintenance or capacity planning. Some participants noted that work-in-progress levels, backlog size, and the number of active samples could serve as useful forward-looking indicators, as they provide early warning signals for bottlenecks or delays. Others highlighted the potential of monitoring incoming sample trends, testing volumes, and capacity forecasts to create a more proactive view of laboratory performance.

Overall, participants recognized that leading indicators have the advantage of being influential rather than reactive. By focusing on early signals such as workload build-up, labs can better anticipate risks and prevent deviations. However, most organizations admitted that they still rely primarily on lagging measures and are only beginning to explore systematic ways of integrating leading indicators into their performance management frameworks.

## KPI Usage at Lab Level

*How are KPIs integrated into day-to-day lab operations? Do teams actively work with KPIs (e.g., via dashboards or performance boards), and how does this shape behavior and accountability?*

Across the participating organizations, it became clear that KPIs are increasingly embedded into daily lab operations. The most common practice is the use of tier meetings and visual management boards, held on a daily or weekly basis. These short huddles often lasting just a few minutes, give teams the opportunity to review performance data, align priorities, and immediately address emerging issues.

Dashboards – both digital (e.g., Power BI) and physical boards displayed in the lab – play a central role in making KPIs visible and actionable. Participants noted that transparency changes behavior. Seeing performance data in real time increases accountability and encourages proactive problem-solving. Some labs reported monitoring KPIs such as testing time, lead time, and invalidated results at different frequencies (daily, weekly, monthly), ensuring that both short-term actions and long-term trends are considered.

A recurring theme was that KPIs only gain value when discussed with the people who influence them. Rather than presenting numbers in isolations, labs aim to create meaning through conversations, connecting metrics to daily work and linking them to CI initiatives. This approach not only drives performance but also fosters a sense of ownership among team members.

In summary, while the maturity of KPI integration varies, there was consensus that visible dashboards and structured tier meetings are powerful enablers of accountability and CI.

## KPI Harmonization across Sites

*How do you ensure that KPIs are defined and interpreted consistently across different labs or regions? What approaches have you used to harmonize data and reporting standards?*

Ensuring consistent KPI definitions and interpretations across labs remains a significant challenge. Participants agreed that differences in manual data handling and local practices often create ambiguity, making harmonization difficult. Several groups emphasized that digitalization and automation are key enablers, as extracting data directly from systems reduces interpretation issues and ensures a consistent view across sites.

Common practices to support harmonization include KPI handbooks or playbooks, standardized definitions, and structured training. Some organizations rely on QMS, SOPs, and centralized oversight, which help align reporting standards and foster comparability. In addition, common dashboards, formulas, and software tools were mentioned as practical mechanisms to ensure all teams work with the same information base.

Beyond tools and processes, several participants highlighted the importance of clarifying the audience and purpose of KPIs. They noted that a KPI only becomes meaningful when the target user understands the intent behind it. This perspective underlines the role of training, communication, and sharing successful practices in achieving harmonization, alongside technical solutions.

Overall, while most organizations have successfully aligned their core KPIs across labs, true harmonization requires a combination of standard processes, digital systems, and cultural alignment, ensuring that metrics are interpreted consistently and support enterprise-wide decision making.

## Summary

The discussions across all four questions highlight that QC labs are on a clear journey toward more structured, transparent, and strategically aligned performance management. While meaningful KPIs such as lead time, throughput time, and RFT are already well established, there is still untapped potential in developing leading indicators that enable proactive rather than reactive action. At the same time, the use of dashboards, tier meetings, and visual boards shows that KPIs are no longer abstract figures but tools that actively shape behavior, accountability, and CI on the shopfloor. The challenge of harmonizing KPIs across sites remains, yet organizations are making progress through digitalization, standardization, and stronger governance frameworks. Taken together, these insights demonstrate a collective shift. QC labs are not only measuring performance but increasingly using KPIs as enablers of cultural change and operational excellence.