

How To Guide

From Paper to Platform:

Building a Business Case for
Quality Control Digitalization



Investing in automated, paperless solutions is a logical step in driving laboratory productivity, reducing costs, and supporting regulatory compliance. Any laboratory manager working with paper-based systems will have experienced the challenges they present, and as laboratories come under increasing pressure to do more with less, the case for digitalization grows. Within the wider organization, however, gaining capital expenditure approval requires clear-sighted analysis of existing issues and a real understanding of how a chosen solution will help. This guide discusses how to develop a compelling business case that communicates laboratory quality control needs, captures the tangible benefits of the paperless solution, and aligns with corporate strategy.

The Case for Digitization

A digitalized quality control (QC) platform transforms how laboratories collect, manage, and act on data across the entire sample lifecycle. By eliminating paper records, manual data entry, and batch reconciliation, it frees up significant time and resources that laboratory personnel can spend on higher-value work. Paper-based systems carry real costs: labor-intensive processes, data entry errors that require additional checking, slow collation for trend analysis and audits, and the overhead of physical storage. In a microbiology QC environment, these inefficiencies compound quickly.

Automation addresses this directly. Digitalized workflows enforce compliance with QC guidelines and SOPs, while real-time data access enables faster investigations, earlier detection of adverse trends, and continuous improvement through predictive analytics — giving management deeper, more timely insight into manufacturing operations.

Demonstrating a Return on Investment

In most organizations, capital investment requires senior management buy-in and approval. Decision-makers must weigh competing budget demands, so a compelling business case that's grounded in data and clearly structured is critical. Decision makers are going to want to understand what they are buying, so they'll want to see: return on investment (ROI), breakeven point, total cost of ownership (TCO), and long-term value.

A practical four-step framework makes this manageable:

- 1** Identify and quantify the pain points of the current system/processes and its impact on efficiency.
- 2** Demonstrate how the new solution addresses those pain points, including costs and projected savings.
- 3** Set out the financial and quality risks of not investing.
- 4** Show how the project aligns to the organization's strategic goals.

The final step is pulling it all into a concise document or presentation that confidently and clearly makes your business case.

Step 1: Mapping the Current Process

Value Stream Mapping (VSM) is a structured way to document every step in a process, distinguish value-added from non-value-added work, and surface inefficiencies. It combines process mapping with data analysis.

Guidelines for an effective VSM session:

- Include subject matter experts (SMEs) for each segment of the process to ensure all roles and procedures are captured.
- Be non-judgmental: people need to describe what they actually do, which may differ from the SOP.
- Use a moderator who is external to the process and can ask the questions insiders might not think to ask.
- Don't discuss solutions during mapping: capture the process as it is, not as it should be.
- Record everything: paper or digital tools both work.

Define a clear start and end point before you begin. The start point may precede the sampling step; the end point should be a tangible output, such as a trend report. For each step, record how long it takes and how many people are involved, and note the cycle time before the next step. Don't rush this! Thorough data capture is what makes the pain points visible.

The table below shows the data to collect for each process step.

Table 1. Value Stream Mapping – Data

Process step	Amount of time	Per unit	# of people	Cycle time
Create weekly schedule	1 hour	Week	1	0
Review weekly schedule	1 hour	Week	1	1 day
Print forms	1 hour	Day	5	0
Create labels	1 hour	Day	5	0
Take samples	2 hours	Day	5	0

Step 2: Mapping Pain Points to Solutions

With the current process documented, the next step is to show how your new, identified solution addresses each pain point directly. Common pain points include:

- Excessive time spent on scheduling and weekly reviews
- Ongoing effort to catch and correct manual data errors
- Slow review processes causing delays
- Time lost transferring data from paper to spreadsheets
- Lengthy trend analysis and report compilation

At every stage, these are tasks that take laboratory staff away from higher-value work.

To quantify the opportunity, calculate the fully burdened labor cost per hour for each department involved. From there, you can determine annual and monthly savings, set them against the cost of the new solution, and build out your ROI, breakeven, and long-term benefit projections.

Table 2. Solution Benefit - Annualization of Time and Saving for Each Step

Process step	Amount of time	Per unit	# of people	Cycle time	Annual time spent
Create weekly schedule	1 hour	Week	1	0	52 hrs
Review weekly schedule	1 hour	Week	1	1 day	52 hrs
Print forms	1 hour	Day	5	0	1,300 hrs
Create labels	1 hour	Day	5	0	1,300 hrs
Take samples	2 hours	Day	5	0	2,600 hrs
Total savings	—	—	—	—	5,304 hrs

Step 3: Show Them the Cost of Doing Nothing

A strong business case doesn't just argue for the solution — it makes clear what happens without it. Costs will continue to rise, and growth will mean hiring more people to sustain manual processes that automation could handle.

Regulatory risk is equally significant, if not one of the most important pieces of the puzzle to solve. Data integrity requirements are tightening across the industry, and paper-based systems are increasingly difficult to defend under scrutiny. When data lives in paper records, issues are identified after the fact, investigations take longer, and deviations are harder to detect early. That's a meaningful compliance and operational liability that ultimately translates to dollars.

Step 4: Connecting to the Bigger Picture

A business case that speaks to organizational strategy lands differently than one that stays inside the lab. Scan your company's strategic statements for language around quality, efficiency, delivery, or employee satisfaction, and then show explicitly how this project supports those goals.

"This project will help us provide a better-quality environment to manufacture products designed for individual patients." A statement like that reframes the investment from a lab expense to a company priority, and that's what gets budget approved.

Making the Case: What the Numbers Need to Show

A successful business case demonstrates value to the whole organization, not just the laboratory. That means translating process improvements into financial terms (cost savings, efficiency gains, and reduced risk) in a way that senior decision-makers can evaluate against competing priorities.

Putting It All Together

With the data gathered and the case built, the final step is pulling it into a document that decision-makers can actually follow. The goal is for someone outside the lab to quickly grasp the problem, the solution, and what's at stake, so keep the language clear and jargon free.

- **Define the problem** and show how it's holding back operational and strategic goals.
- **Walk through the VSM:** present the current state, then the future state, to make the improvement tangible.
- **Quantify the benefits:** use charts and visuals over tables where possible; they're faster to read and easier to remember.
- **Make the cost of inaction clear:** risks, rising costs, and regulatory exposure.
- **Connect to strategy:** show how the project serves goals beyond the lab.
- **Lead and close with a summary:** an executive summary and conclusion ensure that anyone short on time still gets the key points.

The MODA-EM Platform: Built for Microbiology Quality Control

Designed specifically for microbiology QC, the MODA-EM (Environmental Monitoring) platform addresses the inefficiencies, compliance risks, and data challenges that make the case for digitalization in the first place. MODA-EM enables laboratories to:

- Automate the full spectrum of QC activities, including environmental monitoring, utility testing, and product testing
- Eliminate manual, error-prone paper records
- Enforce compliance with SOPs and regulatory requirements
- Move to review-by-exception workflows
- Seamlessly integrate with laboratory devices to consolidate data in a single solution
- Gain real-time access to data for investigations, trending, and reporting
- Advance green initiatives through elimination of paper

Ready to Build Your Case?

Building a compelling business case takes time, the right data, and a clear understanding of what senior decision-makers need to see. We work in partnership with laboratories from the outset, helping with data gathering, analysis, and presentation to make sure your case is as strong as it can be.

Whether you're just starting to explore digitalization or are ready to move forward, our informatics experts can guide you through every step of the process.

To learn more about how the MODA-EM platform can support your QC digitalization, visit us at: modatechplatform.com