

WHY LIMS GET REPLACED

The Sabine Industrial LIMS Replacement Study, 2026

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Plenty of labs dislike their LIMS. Far fewer replace it. We wanted to know what finally pushes a lab to replace its LIMS, and what keeps labs on systems they don't like.

The Sabine Industrial LIMS Replacement Study examined LIMS decisions at more than 70 laboratories in eight countries from 2019 to 2026. We read 76 official documents in which labs explained why they were replacing a LIMS, or keeping one, and interviewed labs in refining, pipelines, midstream and electric power.

THE NUMBERS

DATA IN AND OUT

24 of 38

labs named getting data in, getting it out, or both.

OLD TECHNOLOGY

20 of 38

named old, unsupported or insecure technology.

COMPLIANCE

20 of 38

named compliance and accreditation.

COST

Every lab we interviewed

named cost of ownership as a major concern, including the labs on spreadsheets and home-built databases.

LOCKED IN

12 of 13

labs that kept their LIMS gave the same reason: only the vendor could support or change it.

SYSTEM AGE

20 years

The typical system being replaced was 20 years old.

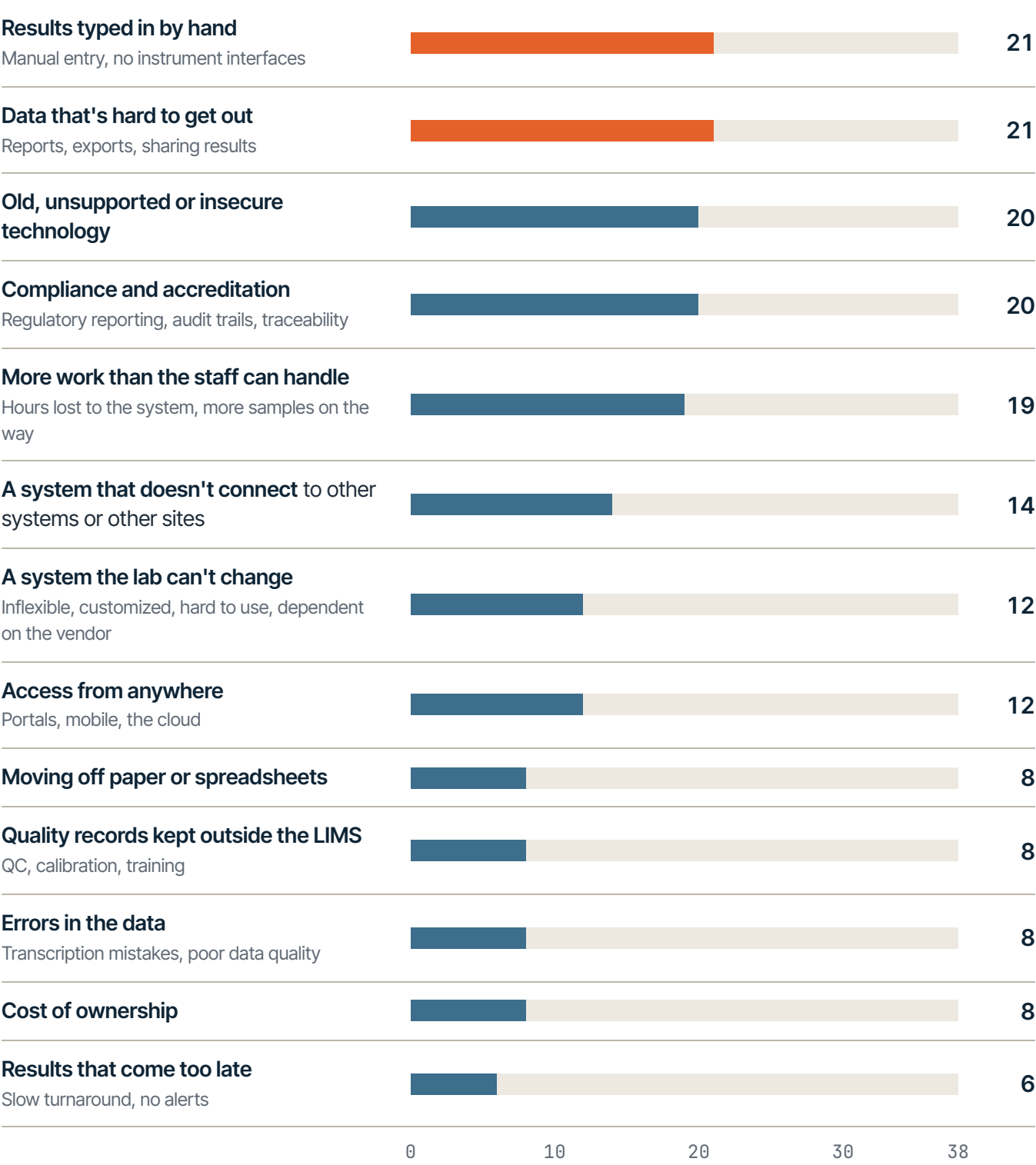
HOURS LOST

2,000 hours

One agriculture lab spent about 2,000 hours a year on unnecessary data entry, and more than 3,000 programmer hours adding one sample program.

1. Labs replace a LIMS for many reasons at once

Most labs named several of these thirteen reasons. Results typed in by hand and data that's hard to get out were named together most often, by 18 labs.



Labs naming each reason, out of 38.

Data in and out. Results are typed in by hand, and getting them back out is manual work too.

- "the transfer of data from lab instruments to the current LIMS is a manual process." *An environmental lab.*
- "Generating reports and retrieving data from the current LIMS is a problematic and time-consuming manual process." *An agriculture lab.*
- "The laboratory has state-of-the-art analytical capabilities; however, it still conducts sample login, tracking, and reporting manually." *A water utility lab.*
- "custom Excel plug-ins, manual workarounds, and disconnected processes result in difficulty meeting laboratory data reporting demands." *A large water utility.*

The labs we interviewed said the same in plainer language. A midstream company's lab counts ten clicks to enter one result. A refinery lab described workarounds everywhere and lab time lost getting data in and out. A pipeline operator's lab can't export its data, and says operations misses insights because of the backlog.

Old technology and security. "Support for Windows 7 ends in January 2020, which means that security updates will no longer be provided," one lab wrote. Another's system "does not meet evolving regulatory requirements, cybersecurity expectations, and integration needs." One lab's previous system "was lost during a cybersecurity event."

Compliance and accreditation. A wastewater lab faced a deadline: "By October 2023, the laboratory will have to be fully compliant with TNI." Another lab's data "was stored across several systems and the lack of traceability and secure transmission throughout the data lifecycle posed a major risk to data credibility."

Quality records outside the LIMS. Calibration, QC and training records often live somewhere else. One lab's traceability and "verification of analyst training and competence" were "documented separately and in many cases manually." Another wrote: "Currently LIMS lacks an integrated Quality Control (QC) System."

Errors in the data. Hand entry invites mistakes. One lab wrote that keying data multiple times "causes inherent delays and risks transcription errors." Another set a goal to "Reduce the amount of hand entry for sample data to improve data quality and potential for transcription errors." Among the labs we interviewed, a refining and pipeline company's quality lab said one error can cause a system-wide closure.

More work than the staff can handle. Labs count the hours. One agriculture lab found that hand entry "amounts to approximately 2,000 hours per year of unnecessary data entry and staff time not spent on higher-level tasks." An environmental chemistry lab set a goal to "Reduce staff time entering data and improve data quality." And more work is coming. A large water utility pointed to "accommodating higher sample volumes." The agriculture lab said "the growth of backyard livestock and poultry populations is on a steep incline," with new programs cutting into its "surge capacity." Among the labs we interviewed, a large electric utility's chemistry lab expects 50 percent more throughput, and a refining and pipeline company's quality lab wants a real system in place before it expands.

Connections and access. Labs want their data to reach the plant and the field. "We currently import SCADA data into our LIMS for reporting purposes and it has become problematic," a water treatment lab wrote, adding: "We would like the ability to access LIMS information on our phones."

Moving off spreadsheets. Some labs are buying their first real system. A water district "stored water quality data in a series of paper bench sheets and Excel spreadsheets." A network that includes petroleum testing labs ran on "differing instances of Microsoft Access Databases." A refining and pipeline company's quality lab has run on spreadsheets for more than ten years, and a large electric utility's chemistry lab runs on a home-built Access database about 15 years old.

Cost. In every interview, cost of ownership came up as a major concern, from labs on commercial systems to labs on spreadsheets and home-built databases.

2. Labs that stay are locked in

We reviewed 13 justifications labs filed for keeping a LIMS instead of replacing it. Most are sole-source notices and renewal memos, in which a lab has to explain why it is not putting the work out to bid.

REASON GIVEN FOR KEEPING THE CURRENT LIMS	RECORDS (OF 13)
Locked in: only the vendor can support or change the system	12

Moving the data or the work looks too risky	4
Switching would cost money or write off what was spent	3
The lab is satisfied with the system	0

The words are blunt:

- "[IT] staff will not have access to the proprietary program codes." *An air quality lab.*
- "the sole support, owners, and creators of the software." *A health and environmental testing lab.*
- "There is no known tool to migrate the current database, resulting in a risk of losing laboratory samples." *A network of ten environmental labs.*
- "\$2.8M already invested would be a sunk cost." *A network of eight health labs.*

Lock-in includes the data: whether the lab can get it out and move on without the vendor. One water utility that justified keeping its system in 2019, because the vendor was the only source of support, awarded a contract to replace it four years later.

3. The systems being replaced are about 20 years old

Of the 17 labs whose system age we know, 15 had run it for 15 years or more, and more than half for 20 years or more. One large utility set out "to replace a 30-year-old custom solution." An environmental chemistry lab was replacing a system "originally implemented at the lab in the 1980's." A large wastewater utility was replacing a system it had run for about 27 years.

The records pair age with a concrete problem: a system "no longer sold or supported by the manufacturer," a security patch that won't come, an accreditation standard the old system can't meet.

4. Customization is what makes a LIMS hard to change and hard to leave

The labs with the most customized systems describe the same trap. A large wastewater utility reported that "More than 40 percent of the current LIMS is customized" and that "The Information Technology (IT) Department's resources are required to make even minor changes in the laboratory operations." The customization made the system "impossible to upgrade." At an agriculture lab, adding one sample collection program took "over 3,000 hours of programmer time." A lab network that tests fuel runs "a highly customized Commercial-Off-the-Shelf (COTS) software" and needed a separate project to upgrade it.

So labs now write the fix into the request. The wastewater utility asked for a system "configurable without customization to fit the evolving needs of each laboratory." A water science program required that "The LIMS implementation must minimize customizations to the COTS LIMS product."

What this means

Your frustration is shared. When the lab is seen as a cost center, a complaint about the LIMS can sound like one team's preference. The record says otherwise: 24 of 38 labs, from water utilities to refineries, named getting data in and out, and 20 named compliance and accreditation.

What finally tips the decision is something that can't wait. Labs live with a frustrating system for years; the ones being replaced had typically run for 20. Almost every lab that named problems getting data in and out also named a reason that couldn't wait: technology going out of support, a compliance or accreditation requirement, or more samples than the staff could handle.

Making the case for a new LIMS? Build it on what moved these labs:

- Start with the reason that can't wait, and let the daily frustrations back it up.

- Write down the growth: the samples, programs or expansion coming that the current system can't absorb.
- Point to other labs: many have put the same problems in writing, which shows the problem goes beyond yours.

Our companion study, *Getting a LIMS Approved*, covers the rest: the budget, finance's questions, and how approvers weigh the risk of a change.

How we did the study

We examined LIMS decisions at more than 70 laboratories in eight countries from 2019 to 2026: 76 official documents in which labs explained a LIMS decision (requests for proposals, staff reports, budget requests, sole-source justifications and IT project reports), and interviews with labs in refining, pipelines, midstream and electric power.

ABOUT SABINE INDUSTRIAL

Sabine Industrial builds SI LIMS for fuel, energy, utility and chemical quality labs. Our team has spent fifteen years working with data extracts from every major LIMS. This study is the first in a series on how labs buy, run and replace a LIMS. The next three cover getting a LIMS approved, what a LIMS really costs, and what a lab data error costs.

Questions about the data: info@sabineriverpartners.com

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