LABEX

AUTOMATION FOR CONSTRUCTION LABORATORIES AND QUALITY CONTROL

A CLOUD-BASED LIMS (LABORATORY INFORMATION MANAGEMENT SYSTEM) DESIGNED FOR THE CONSTRUCTION INDUSTRY. IT REPLACES MANUAL EXCEL/WORD-BASED WORKFLOWS WITH A FULLY AUTOMATED LIFECYCLE — FROM INITIAL SAMPLING TO FINAL REPORT GENERATION.

INTRODUCTION

Proprietary software represents a stable business, and when implemented in an industry with little to no competition, such a business is unparalleled in terms of profitability.

For example, the 1C program
— one of the first and today a market leader in its domain across many countries
— provides its creators with consistent, high income despite relatively low initial investment.

Physical and Mechanical Test Results for Sand

Residue Type	Residue on Sieves, % by mass							Residue on Sieves, % by mass
Sieve No.	10,0	5,0	2,5	1,25	0,63	0,315	0,16	
Partial	0,92	1,14	2,59	5,21	24,56	37,58	18,78	11,29
Total	0,92	2,06	2,59	7,80	32,36	69,94	88,72	100,01
Specifications per GOST 8736-2014	5,0	15,0	Not specified	Not specified	30 до 45	Not specified	Not specified	15

Parameter Name	Physical and Mechanical Properti	
	Specifications per GOST 8267-93	
Moisture, %:	Not specified	
True Density, g/cm³:	Not specified	
Bulk Density, kg/m³:	Not specified	
Voidage, %:	Not specified	
Silt and Clay Particle Content, %		
Clay Lumps Content, %:		
Sand Class:		

AN UNTAPPED NICHE

Construction Laboratories

In 90% of cases, laboratory employees rely on Word and Excel for their work.

When it comes to calculations and formatting test results, their workflow closely resembles that of an accountant—highly repetitive tasks, numerous standard forms and logs requiring manual entry. Yet, unlike accountants who have specialized software such as 1C, laboratory staff lack dedicated tools. Consequently, there is virtually no competition in this sector.

THE PROBLEM

A laboratory employee's daily
workflow involves the following:

Receiving test data

— Selecting the GOST standard applicable to the test

— Verifying that the GOST standard is up to date

— Choosing the calculation algorithm

— Performing calculations

— Retrieving the values corresponding to the calculation results

— Selecting the appropriate test report form

— Filling out the report

— Printing it

— Calling the customer

— Sending it via email

— Keeping the hard copy on file until the customer picks up the original

— Entering test data into at least three separate logs

No analytics. Manual data entry. Errors occur.

THE READY-MADE SOLUTION

## A laboratory employee's workflow in the "Labex" software:

- Selects the customer
- Selects the test type
- Enters test data
- Done

- The test report is generated and becomes available in the customer's personal account.
- The customer receives an automatic notification when the report is ready.
- Registers and logs are populated automatically and are ready for submission to the accreditation body (Rosaccreditation).
- GOST standards and calculations are always up to date.
- Error checking is built in.
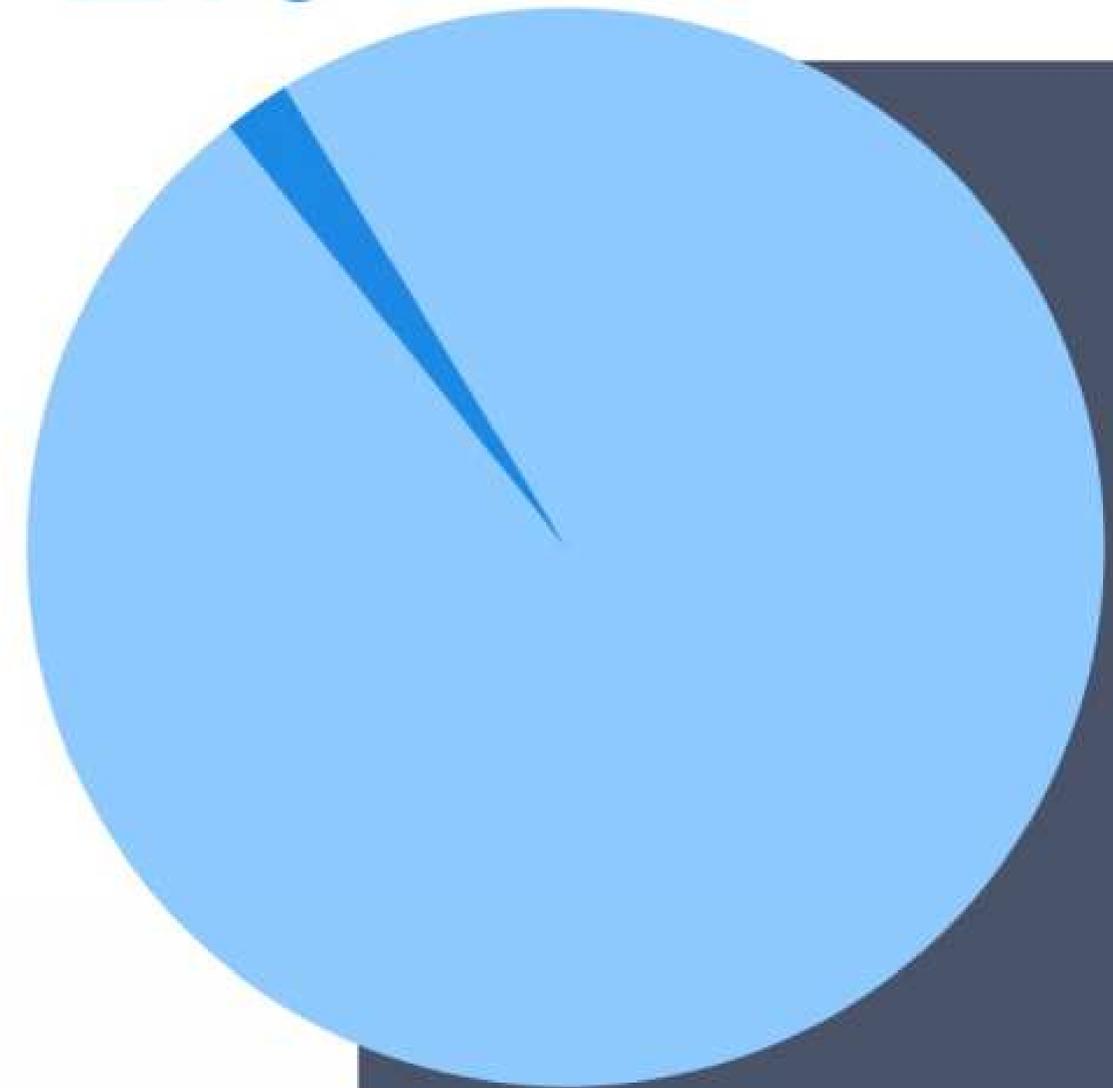- Automated analytics and record keeping for the laboratory manager.
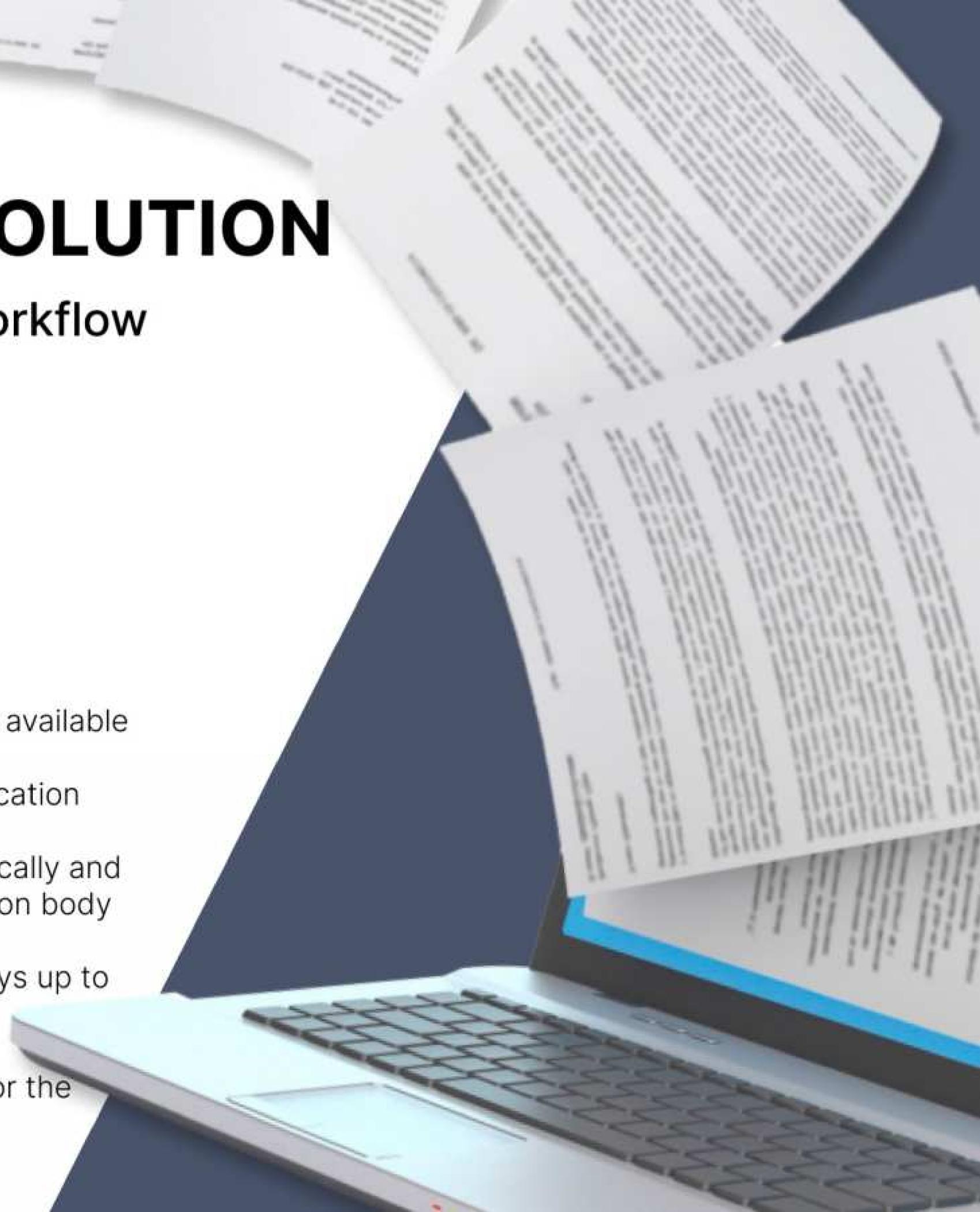
MARKET CAPACITY

The construction laboratory market is estimated to comprise 1,000 testing organizations.

The project's monetization model is based on a subscription fee charged to laboratories for using the software.

On a monthly basis, each laboratory will generate recurring revenue.

2%

98%

LABORATORIES AS AN ENTRY POINT

Additional revenue streams from ancillary services may include:

— Integration with 1C

— Staff training

— Activation of add-on services (contractor lookup by TIN, digital signature for test reports)

— Advertising for companies that provide services to laboratories (equipment calibration, verification, repair)

— Laboratory equipment sales

These can generate an additional 30% or more on top of baseline revenue.

Deploying proprietary software in construction laboratories also opens doors to new markets.

EXPANSION POTENTIAL

Within our software, customers who order tests—Construction Companies—have their own accounts through which all document exchange with the laboratory takes place. This gives us direct access to construction companies, allowing us to reach decision-makers directly.

We can then inform (and advertise) the use of new services that construction companies need in their daily operations—services that likewise have no existing competitors.

Such services may include:

—— As-Built Documentation Module

—— Procurement Module (AI-based: we know what you are building, we know what to offer you. Supplier management / Sales commission / Advertising).

CURRENT SYSTEM READINESS STATUS

The system currently includes the following implemented features:

- Customer request processing system

- Advanced document management system for customer interactions

- System for monitoring and tracking laboratory equipment calibration and verification

- Laboratory employee management system; employee document tracking

- Notification and alert system for important changes and events

- Document print form generation system

- Customer personal accounts

- Laboratory employee / manager personal accounts

- Test report calculation system for 6 test areas (10+ types per area)

- System for generating 6 logs across all test areas

BUDGET

$95 000

Funds were invested in:
- Development team (1.5 years)
- Core system development
- Functional testing
- Tooling refinement
- System usability

Physical and Mechanical Test Results for Sand

Residue Type	Residue on Sieves, % by mass							Residue on Sieves, % by mass	Sand Group and Fineness Modulus (Mk)
Sieve No.	10,0	5,0	2,5	1,25	0,63	0,315	0,16		
Partial	0,92	1,14	2,59	5,21	24,98	37,58	18,78	11,29	Medium 2,01
Total	0,92	2,06	2,59	7,80	32,36	69,94	88,72	100,01	
Specifications per GOST 8736-2014	5,0	15,0	Not specified	Not specified	30 до 45	Not specified	Not specified	15	Medium от 2 до 2,5

Parameter Name	Physical and Mechanical Properties	
	Specifications per GOST 8267-93	Actual Results
Moisture, %:	Not specified	2,23
True Density, g/cm³:	Not specified	2,66
Bulk Density, kg/m³:	Not specified	1338,50
Voidage, %:	Not specified	1338,00
Silt and Clay Particle Content, %:	Not more than 3	
Clay Lumps Content, %:	Not more than 0,5	
Sand Class:	1, II Class	