



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Bureau
International des
Poids et
Mesures



Digital Transformation of Azerbaijan's Metrology Services

AzMI has developed a fully digital metrology module that manages all calibration and equipment certification services, invoicing, and contracts, including customer service tracking through a custom mobile application

*Azerbaijan Metrology Institute (AzMI)
Azerbaijan (AZ)*



The Challenge

Before the digitalization of metrological services by the Azerbaijan Metrology Institute, the submission, processing, and execution of service requests were largely carried out through traditional methods. Applications were received through various channels; data was stored in separate documents and information sources; and most processes were managed manually. This approach made it difficult to process information efficiently and manage services in a unified manner. Since the prior system did not enable real-time tracking of application status, monitoring and management capabilities were limited. Information generated during service delivery was stored on different media, creating additional risks related to data completeness, accuracy, and reliability. The absence of a centralized platform for orders, completed services, issued certificates, calibration reports, and other related documents made data retrieval, monitoring, and analysis challenging.

Transparency was also limited with the traditional method of handling service requests. Applicants were unable to track the status of their requests in real time and often had to submit additional inquiries to obtain information about their progress. The lack of full digitalization restricted accountability, oversight, and performance measurement across service delivery processes. Furthermore, document circulation was primarily paper-based, requiring repeated data entry and manual information exchange between departments. This increased the likelihood of human error and extended service delivery times. As a result, there was a growing need to improve efficiency, accessibility, traceability, and overall management of metrological services.

The Solution

The Azerbaijan Institute of Metrology (AzMI) initiated a phased digital transformation of its calibration and certification processes, which included improvements to both technical and organizational functions. The development of the Metrology Submodule began in October 2023, following a comprehensive analysis of existing business processes and user requirements. The system was subsequently deployed and entered into operational service in June 2024, becoming fully available for the electronic management of metrological services.

To digitalize metrological services and improve service delivery processes, AzMI first conducted a comprehensive analysis of existing business processes, identified user needs, and developed functional requirements for electronic service delivery. In line with these requirements, a Metrology Submodule was developed and deployed as an integrated component of the Quality Portal. The module provided a unified digital platform for managing

all processes related to metrological services. Through the module, legal entities and individuals can electronically create, submit, and monitor service requests. The entire workflow – including request registration, assignment, distribution among executors, execution, and completion – is managed electronically within the system.

To support digital customer relationship management, electronic contract and electronic invoicing functionalities were introduced. Based on information from service requests, contracts and invoices are automatically generated by the system, which are then electronically delivered to customers, and legally validated via electronic signatures. This ensures that contractual and financial documents are circulated entirely in a digital environment. The module also includes dedicated mechanisms for issuing and managing metrological service results. Verification certificates and marks, notices of non-compliance, calibration certificates, and certificates of metrological attestation for testing equipment are generated, registered, approved, and delivered electronically. A centralized database was also established to store and manage service requests, completed services, verification and calibration results, issued certificates, and other related information. In addition, monitoring, statistical reporting, and management dashboard functionalities were implemented to support performance tracking and informed decision-making.

To further improve accessibility, a mobile application was developed for both AzMI customers and employees (see **Figure 1**). Through the mobile application, users can create and monitor requests, submit service results, upload information from on-site activities, access electronic documents, and perform various operational tasks. This approach enables uninterrupted service delivery through both web and mobile platforms. Any evolving user needs, implemented innovations, and emerging technical or regulatory requirements are regularly assessed. Ongoing development activities are planned to expand the module's functionality, enhance user experience, and introduce new digital solutions.

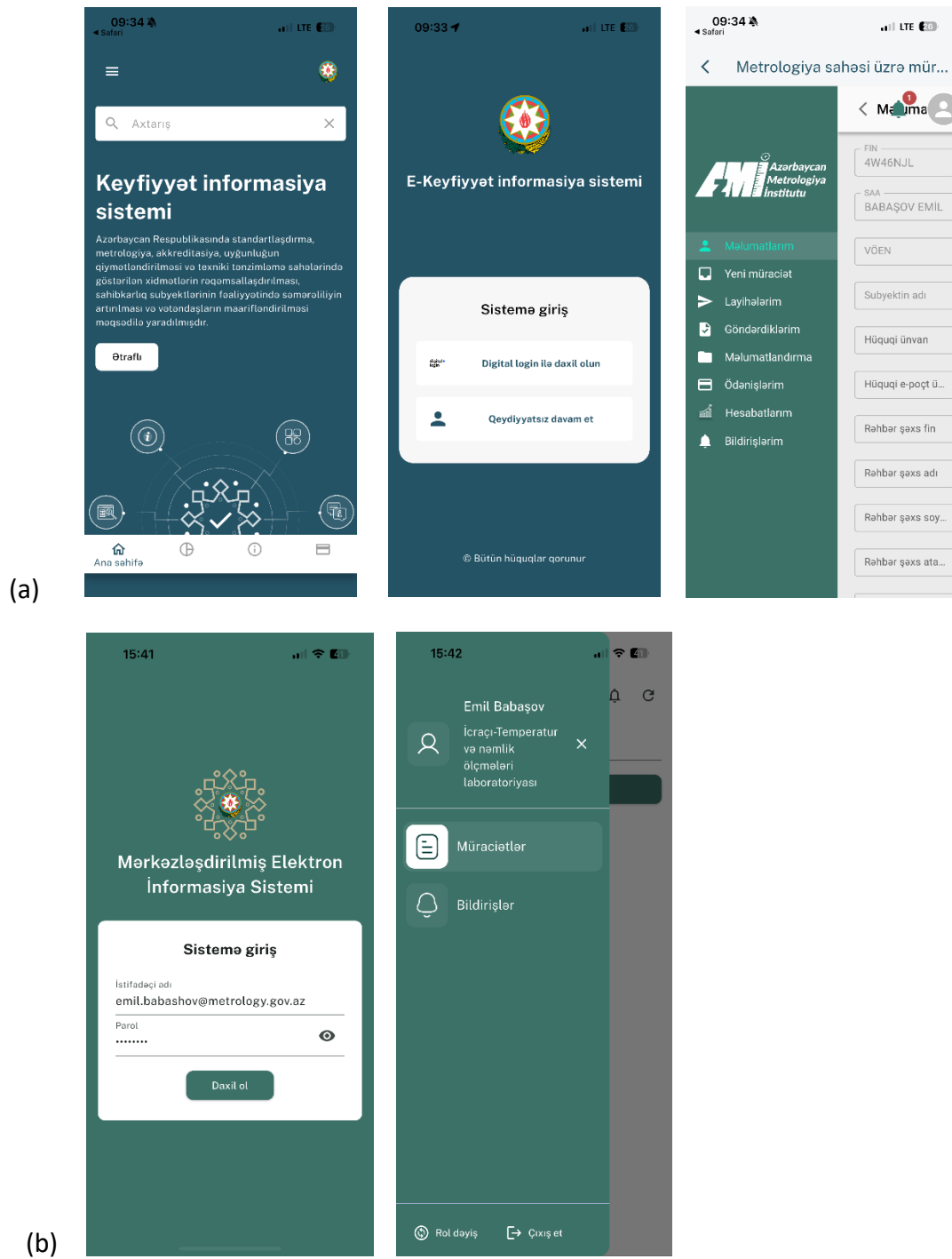


Figure 1. Screenshots of the AzMI Metrology mobile application for digital access to metrology services and requests for customers, and operational tasks for employees. (a) For customers – the home page, login screen, and the service request submission form for metrology services; (b) For executors – a separate centralized electronic information system with a login screen and a "Requests" section.



**Azərbaycan
Metrologiya
Institutu**

- My information
- New application
- My projects
- What I sent**
- Informing
- My payments
- My reports
- My notifications

What I sent

Customer

Registry

Documents issued

Application No.

Order execution time

Start date

Son tarix

Search

Reset

Application No.	Order execution time	Application date	Application status	Document	Operations
6453	In general	25.05.2026	Leader - Approved	Download file	
6435	In general	21.05.2026	Invoice approved (Finance Manager)	Download file	
6139	In general	30.04.2026	Under review	Download file	
6133	In general	29.04.2026	Leader - Approved	Download file	
5910	In general	07.04.2026	Leader - Approved	Download file	
5791	In general	17.03.2026	Leader - Approved	Download file	

< 1 >

Lines 10

Current page 1 | Total page 1

Figure 2. A screenshot of the status page for the AzMI Metrology Submodule where customers can monitor the status of their requests in real time.

A Quantifiable Impact

The implementation of the Metrology Submodule has significantly improved the organization and management of metrological services provided by the Azerbaijan Metrology Institute. The digitalization of all stages – from service request submission to result delivery – has enabled faster, more accessible, and more efficient service provision. Electronic submission and processing of requests have streamlined application management, reducing administrative workload and service delivery times. Overall, the intervention has led to an estimated 50 % reduction in average turnaround time for service requests, while administrative workload has decreased by approximately 80 % due to the automation of document generation and digital workflow management. Customers can now monitor the status of their requests in real time, increasing transparency and improving access to information throughout the service process (see **Figure 2**).

The introduction of electronic contracts and invoices has fully digitized document circulation and reduced reliance on paper-based documentation. Automatic generation, electronic delivery, and digital signing of contracts and invoices have accelerated workflows, reduced operational costs, and improved resource efficiency. It is estimated that the introduction of electronic contracts, invoices, and digital certification documents has reduced paper-based document processing by approximately 70–80 %, significantly reducing administrative effort and operational costs. Document preparation and circulation times have improved by around 50–60 % due to automation and electronic workflows, ensuring faster generation, delivery, and storage of official metrological documents. The electronic generation and delivery of verification certificates and marks, notices of non-compliance, calibration certificates, and metrological attestation certificates have optimized the processes for document preparation, storage, and retrieval.

At the same time, the reliability, security, and metrological traceability of issued documents have been significantly strengthened. The risk of manual data-entry errors has been significantly reduced by automatically generating documents from service request data. The use of electronic signatures, centralized storage, and complete audit trails has further strengthened document integrity, authenticity, security, and metrological traceability.

The establishment of a centralized database has enabled comprehensive management of all metrological service information. Service requests, electronic contracts, invoices, verification and calibration results, certificates, and related documents are now maintained within a single platform, significantly enhancing data accessibility, monitoring, and analytical capabilities. The launch of the mobile application has further improved the accessibility of metrological services. Customers and institute employees can perform service-related operations remotely, access information instantly, and continuously monitor processes. This has increased service flexibility and improved user satisfaction. To measure customer satisfaction, AzMI has implemented an electronic service quality assessment form. After each service request is

completed, customers automatically receive an SMS with a link to the survey, inviting them to evaluate the quality of the service. The feedback collected through this mechanism is used to monitor customer satisfaction, identify areas for improvement, and support the continuous enhancement of service delivery. Furthermore, this has facilitated evidence-based decision-making and strengthened institutional oversight and reporting.

The implemented digital solutions have reduced risks associated with human error, improved data accuracy and integrity, and ensured full process traceability. Access to metrological services has expanded for citizens, businesses, and public institutions, while transparency, accountability, and operational efficiency have significantly improved. As a result of the project, the delivery and management of metrological services have been successfully transformed through digitalization, leading to greater transparency, traceability, accessibility, and efficiency across the entire service lifecycle.

POC: Ali Muradov, ali.muradov@metrology.gov.az