Digitalization Journey of
The Federal Supreme Court of Ethiopia

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FEDERAL SUPREME COURT

MIZANET *mizanet.gov.et*

Institutional Report on Judicial Digital Transformation

Federal Democratic Republic of Ethiopia

Federal Supreme Court

Addis Ababa, Ethiopia

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Keywords

Digital judiciary, judicial digital transformation, e-justice, SD-WAN, ICMIS, eRMS, MIZANET, Smart Court, AI.

Key Acronyms and Abbreviations

AAU - Addis Ababa University

AFIS - Administrative and Financial Information System

AI - Artificial Intelligence

AI-JDASS - AI-enabled Judicial Decision Analysis and Decision Support System

CCMS - Court Case Management System

CMRS - Case Management and Reporting System

CMS - Case Management System

CRS - Court Records System

EAII - Ethiopian Artificial Intelligence Institute

eFLS - Electronic Filing and Litigation System

eRMS - Electronic Records Management System

FSC - Federal Supreme Court

ICMIS - Integrated Case Management Information System

ICT - Information and Communication Technology

INSA - Information Network Security Administration

LLM - Large Language Model

NOC - Network Operations Center

OTN - Optical Transport Network

RMIS - Records Management Information System

SD-WAN - Software-Defined Wide Area Network

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Executive Summary

The Federal Supreme Court of Ethiopia is moving from an earlier generation of court computerization towards an integrated digital judiciary in which connectivity, electronic filing, case management, records management, digital courtrooms, institutional data, and emerging artificial intelligence capabilities are designed to operate as parts of a unified judicial information environment. This transformation is anchored in the Court's strategic reform agenda and is being implemented through mutually reinforcing components rather than as isolated ICT projects.

The current architecture has four foundational dimensions: an enabling legal and institutional framework; human-resource and organizational capability; Wide Area Network and data-center infrastructure; and enterprise judicial information systems. The principal technology streams comprise the Wide Area Network, the Integrated Case Management Information System (ICMIS), branded as **MIZANET**, and the Electronic Records Management System (eRMS); Smart Court technologies; and in-house applications and AI-enabled judicial research and decision-support initiatives.

A particularly important feature of the Ethiopian model is that its legal foundation for electronic justice was established before the development and implementation of the current Integrated Case Management System (ICMS), through Federal Courts Proclamation No. 1234/2020, which provided the legal basis for the subsequent enactment of Electronic Filing and Litigation Directive No. 25.

Electronic Filing and Litigation Directive No. 25/2017 expressly defines the Electronic Filing and Litigation System as part of ICMIS and defines ICMIS as an electronic system covering filing, opening and management of case files, handling and presentation, scheduling, summonses, appearances, evidence, hearings and pleadings, together with other court and registry functions. The Directive also recognizes electronic documents and remote hearings as having the same admissibility and legal effect as their paper-based or physical counterparts, subject to the Directive and applicable law.

The Directive further establishes a comprehensive procedural architecture encompassing electronic filing and receipt confirmation; electronic signatures; certification, encryption and time-stamping; electronic service through the system, SMS and email; remote hearings; electronic judgment enforcement; legal recognition of electronic records; defined record ownership and custodianship; metadata and classification requirements; online and offline storage; migration requirements; role-based access, authentication, encryption, audit logging and backups; public access subject to lawful redaction; disaster recovery and continuity requirements; technical support; phased implementation; and a mechanism for internally developed technological outputs to undergo expert approval.

At the current stage, key achievements of the Court include the establishment of a Wide Area Network connecting 24 courts and centers; the provision of secure data-center and backup

infrastructure; the deployment of Smart Court equipment across Federal Supreme Court courtrooms; and the commencement of phased operational implementation of the developed Integrated Case Management Information System (ICMIS), branded as MIZANET, at the Cassation Benches. In parallel, initiatives are underway to integrate Artificial Intelligence (AI) into judicial knowledge management, legal research support and judicial decision-making support, alongside institutional efforts to establish appropriate AI governance frameworks addressing ethics, data protection, confidentiality, accountability and effective human oversight.

The strategic direction of the Ethiopian judiciary is, therefore, clear: consolidate an integrated digital court platform; extend electronic services; strengthen data governance and interoperability; deepen Smart Court capabilities; develop reliable judicial knowledge infrastructure; progressively introduce carefully governed AI assistance; expand user capability and assisted digital access; and measure transformation through justice outcomes such as accessibility, timeliness, quality, transparency, resilience, institutional learning and public trust.

1. Introduction

1.1 General

The Federal Supreme Court of Ethiopia drew a three years' transformation roadmap to address the sources of grievance of court users and stakeholders. Successive efforts were able to make modest contributions to respond to demands from stakeholders even though it could not fundamentally change service delivery within the judiciary to the satisfaction of service providers or users. In 2023 with the change in leadership of the Judiciary, a new plan was designed and executed methodically so much so that most of the activities planned have been realized. The digitalization of courts showcases one pillar of the transformation roadmap which, together with the other components of the plan, has transformed the judiciary. Basically, the process can be described as rerouting the judiciary to its right track which has been tremendously accomplished. It is often held that a stride using an element of the plan does not suffice to bring about the intended outcome. Yet, digitalization has a systemic and catalytic effect streamlining all the other activities denoting that progress made in relation to this pillar of the reform activates all the others leading to a leap forward. The success in this effort heralds the dawn of a new era for the Ethiopian judiciary as it transforms it from paper based and manual process to a digital and paperless court.

This Report presents digital transformation of the Federal Supreme Court of Ethiopia as an institutional journey both chronologically and as an ongoing endeavor to transmute the court through digitalization. It is intended to provide stakeholders, the international judicial community, development partners, researchers, legal scholars, technology institutions and peer judiciaries with a structured account of how it began, where the Ethiopian federal judiciary stands, what has been established, what is being implemented, and the direction of the next phase. It is a record of an organized summary of the performance singling out a key pillar of the transformation roadmap implemented in the past three years.

The principal institutional source is the Federal Supreme Court's digital transformation documentation and the activities undertaken to implement it. The Report also draws on the Federal Courts Electronic Filing and Litigation Directive No. 25/2017, official comparative materials from leading judiciaries and international institutions, and the comparative and conceptual analysis contained in the Court's earlier publication-oriented draft. The Directive is used particularly to substantiate the legal and procedural foundations of ICMIS (MIZANET) including electronic filing, electronic litigation, remote hearings and electronic records.

1.2 Purpose

The purpose of this Report is to provide a comprehensive account of the Federal Supreme Court's digital transformation journey, documenting its evolution, achievements, current state, and future direction. It examines the Court's initial digitalization efforts and the challenges they sought to address, the digital infrastructure, systems, and technological solutions developed and introduced to date, and the progress made towards their institutional integration and operational implementation. It also outlines the Court's ongoing initiatives, priorities, and planned

interventions for the next phases of digital transformation, with a view to establishing an integrated, accessible, efficient, secure, and data-driven judicial system.

The Report, therefore, presents a clear picture of where the Court started, what has been achieved, what is currently being implemented, and where its digital transformation is heading. It also explains how the different digital initiatives relate to one another and contribute to the broader objective of modernizing judicial administration, court operations, service delivery, and decision-making through the effective and responsible use of technology.

1.3 Scope

The Report covers digitalization initiatives and milestones attained in the federal judiciary encompassing the historical evolution of the Court's technology environment, the legal and institutional foundations of digital justice, network and data-center infrastructure, Integrated Court Case Management Information System (ICMIS), branded as MIZANET, Electronic Records Management System (eRMS), smart court technologies, judicial data and analytics, artificial intelligence integration and capacity building and partnerships.

1.4 Evidence approach

The Report presents an evidence-based account of the Federal Supreme Court's digital transformation by documenting its achievements to date, ongoing initiatives, and future plans. It includes information on institutional policies, strategies, digital infrastructure, technological systems, digital service delivery, and the application of emerging technologies in the administration of justice. Achievements and ongoing activities are presented based on institutional records and available implementation evidence, while comparative information, where included, is identified and attributed to its respective sources. Planned initiatives, proposed measures, and future directions are distinguished from completed and ongoing activities. This approach provides readers with a clear understanding of the Court's digital transformation journey, the progress made, its current state of implementation, and the priorities and directions for its future development.

2. Technology use in the Judiciary

2.1 First-generation digitalization

The Federal Supreme Court's institutional history records more than two decades of Court Case Management System (CCMS) use. The earlier environment supported automated statistics, random case assignment, backlog and clearance reporting, video conferencing for matters involving prison administrations and remote areas, and approximately 52 filing centers. This experience established an important institutional base for the present transformation.

The origins of court automation in Ethiopia date to 2002, when the Canadian International Development Agency (CIDA) supported the Federal Supreme Court, as lead institution, in implementing the Court Administration Reform (CAR) project. This project introduced an initial standalone desktop application, the Court Records System (CRS), developed on a Microsoft

Access back-end by the firm BizSoft. CRS was subsequently enhanced into a network-enabled, client-server Case Management System (CMS) deployed across the three tiers of the Federal Courts. In the 2004/2005 fiscal year, CMS was in turn replaced by a more capable network-enabled, client-server system, the Court Case Management System (CCMS), developed following a competitive tender by Cyber-Soft on the .NET Framework with a SQL Server back end. This replacement effectively established CCMS as the case management platform used across both federal and regional courts, and Ethiopian courts have since relied on CCMS to identify shortcomings in service delivery, reduce delay and address other institutional priorities.

CCMS was deployed not only in the three Federal Courts but also in regional courts across Addis Ababa, Oromia, Tigray, SNNPR, Somali and Harari, and has remained in continuous operation for roughly two decades. Its functional scope came to include detailed case-information entry, adjournment tracking, daily hearing schedules, case circulation management, simple and advanced search tools, document management for judicial rulings and orders, court-fee recording, a data-migration tool for legacy records, a reporting module generating a total of 120 reports across 12 categories, and multilingual support in Amharic, Oromiffa, Tigrigna and Somali. Data entry was carried out principally by data base operators working from paper case files. Beyond its internal case-management functions, CCMS extended judicial services to the public and to justice-sector stakeholders through touch-screen self-service information kiosks in court facilities, a court-schedule display on public television monitors, and, from September 2018, a mobile-phone SMS query service through which parties, police, prosecutors and lawyers could obtain case status and adjournment information. CCMS-generated data has also supported parliamentary reporting and research and media use, while internally the system's daily "court list" and its clearance-rate, congestion-rate and backlog statistics have served as established indicators of judicial performance.

The current and final major release, CCMS version 2.5, was issued in 2013 and remains installed at the Federal Supreme Court, the Federal High Court and the Federal First Instance Court. Two decades of continuous use, however, mean that the system's underlying technology is now outdated: it runs on a SQL Server 2000 database for which Microsoft has long since ceased providing technical support, and the development platform itself is no longer current. CCMS is accordingly regarded by the Court as a legacy product a system no longer under active development but not yet fully retired and this assessment, together with the growing requirements of a modernizing court system, provides an important part of the institutional rationale for the digital transformation described in this Report.

2.2 Seven dimensions of the Ethiopian digital judiciary

The digital transformation of the Ethiopian federal judiciary can be understood through seven interconnected dimensions, each addressing a fundamental aspect of digital judicial transformation and its contribution to the effective administration of justice.

First, legal and institutional enablement concerns whether electronic judicial processes are legally recognized, institutionally supported, and appropriately governed. This dimension provides the legal and regulatory foundation for digital justice by ensuring that electronic filings, records, communications, signatures, and other technology-enabled processes have appropriate legal validity and are implemented consistently with due process, judicial independence, accountability, and procedural safeguards. Without an adequate legal and institutional framework, technological investment alone cannot produce a legitimate and sustainable digital judiciary.

Second, connectivity and infrastructure addresses whether courts have the technological infrastructure and secure connectivity required to operate digital systems reliably. This includes network connectivity, hardware, data storage, power supply, cybersecurity infrastructure, and other foundational technological resources. Dependable infrastructure is essential for ensuring continuity of judicial services, extending digital capabilities across courts, and strengthening institutional resilience, particularly where courts operate across geographically dispersed locations.

Third, integrated platforms examine whether the different technological systems supporting judicial work are connected and capable of exchanging information. Digital filing, case management, electronic records management, court administration, scheduling, reporting, and other judicial functions should increasingly operate as parts of an integrated digital ecosystem rather than as isolated systems. Integration can reduce duplication, improve information visibility, facilitate interoperability, and enhance the efficiency of judicial processes.

Fourth, the digital courtroom focuses on the use of technology within judicial proceedings. It encompasses electronic recording, digital transcription, electronic presentation and management of evidence, virtual or hybrid hearings where legally and practically appropriate, and other technologies that support courtroom proceedings. The principal judicial value of this dimension lies in improving access, accuracy, procedural transparency, and the reliability of the judicial record while ensuring that technological methods remain consistent with fair trial and due process requirements.

Fifth, human capability recognizes that digital transformation is not solely a technological undertaking but also an institutional and human-capacity challenge. Judges, registrars, court administrators, legal professionals, and other judicial personnel must possess the knowledge, skills, and confidence necessary to use digital systems effectively. Continuous training, technical support, change management, and institutional learning are, therefore, essential to achieving meaningful adoption, maintaining quality, and ensuring that digital systems become embedded in everyday judicial practice.

Sixth, data governance and intelligence: concerns the quality, security, accessibility, searchability, and responsible use of judicial data. As courts increasingly generate and manage large volumes of digital information, effective data governance becomes essential for protecting confidentiality and integrity while enabling legitimate research, reporting, performance management, and institutional

decision-making. Properly governed judicial data can also provide the foundation for advanced analytical tools and responsible applications of artificial intelligence, while appropriate safeguards are required to prevent misuse, bias, unauthorized access, or inappropriate automation of judicial functions.

Seventh, public-value outcomes: represents the ultimate purpose of digital transformation. Technology should not be assessed merely by the number of systems introduced or devices deployed, but by whether it produces meaningful improvements in the delivery of justice and judicial services. The principal outcomes should include improved access to justice, greater timeliness and efficiency, enhanced quality and reliability of judicial services, increased transparency and accountability, and stronger public confidence in the judiciary. In this sense, digitalization is a means of strengthening justice rather than an end in itself.

Taken together, these seven dimensions provide a holistic framework for understanding the Ethiopian digital judiciary. They demonstrate that judicial digitalization extends beyond the introduction of individual information-technology systems. It involves the interaction of legal and institutional frameworks, technological infrastructure, integrated platforms, digital courtroom practices, human capacity, data governance, and measurable public-value outcomes. Progress in one dimension can reinforce progress in others, while weaknesses in a foundational dimension may limit the effectiveness of the overall digital transformation. Accordingly, the development of Ethiopia's digital judiciary should be understood as a continuous institutional transformation aimed at building a more accessible, efficient, transparent, accountable, resilient, and citizen-oriented justice system.

These dimensions are mutually reinforcing. Legal recognition enables electronic processes; connectivity enables platforms; platforms generate structured judicial information; structured information supports management and research; and governed judicial data create the foundation for responsible AI-enabled assistance.

2.3 The transition to an integrated architecture

The current transformation represents a progression from stand-alone or center-based digital services toward an integrated, web-enabled architecture. The Court's strategic reform documents connect judicial efficiency, service delivery, resource management and technology integration. The transition is, therefore, institutional: technology is being aligned with the Court's broader objectives of judicial independence, transparency, accountability, accessibility, efficiency and public trust.

2.4. Transformation phases

The evolution of the Ethiopian digital judiciary can be understood as a progression through six broad phases, each reflecting a distinct level of technological maturity and institutional transformation.

I. **Pre-Digital Phase (Before 2002):** The pre-digital phase was characterized primarily by paper-based records, physical files, and face-to-face interaction among judges, court staff, litigants, lawyers, and other justice-sector actors. Judicial information was largely dependent on physical documents and was constrained by geographical location, institutional boundaries, and the availability of court personnel and records. Access to case information generally required physical presence at the relevant court, and the management, storage, retrieval, and transmission of judicial records were predominantly manual processes.

II. **CCMS Generation (2003 to 2024):** The introduction of the Court Case Management System (CCMS) marked the beginning of the judiciary's transition from predominantly manual administration toward computer-supported court management. This phase introduced automated statistical reporting, computerized case assignment, and limited use of video conferencing. While core judicial processes continued to depend substantially on physical files and procedures, the use of information technology began to establish a basic digital administrative capability within the courts. Technology at this stage primarily supported administrative functions rather than transforming the entire judicial process.

III. **Smart Court Phase:** It starts from the launching of the first smart court systems in the Federal Supreme Court in October 2024. The Smart Court phase extends digitalization from administrative and case-management functions into the courtroom itself. Technologies for electronic recording, automatic transcription, and remote participation enable courtroom proceedings and judicial interactions to be digitally captured, preserved, and accessed where legally and institutionally appropriate. As a result, courtroom activity increasingly becomes digitally recorded and potentially more accessible, searchable, and auditable. This phase, therefore, represents a transition from simply managing cases digitally to transforming how judicial proceedings themselves are conducted, recorded, and managed.

IV. **Networked Transition:** The networked transition marked a significant institutional shift from isolated digital systems towards an interconnected judicial infrastructure. The Wide Area Network (SD-WAN), together with secure data-center and backup infrastructure, became partially operational in 2025 and fully operational in 2026. This development enabled courts and judicial institutions to communicate and exchange information through a more reliable, secure and integrated institutional network. Consequently, connectivity evolved from a localized technological facility into an institution-wide capability, providing the essential infrastructure for the subsequent integration of judicial information systems, digital services and court operations.

V. **Integrated E-Justice Phase:** The pilot project has been set in motion since 2026. The emergence of integrated e-justice marked a further transformation in which digital technology began to encompass the case lifecycle more comprehensively. Systems and initiatives such as the Integrated Court Case Management Information System (ICMIS), branded as MIZANET, the Electronic Records Management System (eRMS), electronic

filing, and electronic litigation contributed to the movement toward end-to-end digital case management. Judicial case information increasingly became available in digital form throughout different stages of the case lifecycle, creating greater opportunities for integration, efficiency, information sharing, transparency, and institutional oversight.

VI. **Emerging Intelligent Judiciary:** The emerging intelligent judiciary represents the next stage of digital transformation, in which governed judicial data are increasingly treated not merely as records of past proceedings but as institutional knowledge and analytical resources. Judicial knowledge bases, artificial intelligence-supported legal research, automated analysis, and decision-support tools have the potential to assist judges and court personnel in identifying relevant legal authorities, analyzing judicial information, and improving the consistency and efficiency of judicial work. At this stage, the central objective is not to replace judicial decision-making but to augment human judicial expertise through appropriately governed data, knowledge systems, and intelligent technologies.

Taken together, these phases demonstrate that judicial digitalization is not simply a process of replacing paper with electronic documents. It represents a broader institutional transformation from physically constrained information management, through computerized administration and networked connectivity, toward integrated electronic justice, digitally enabled courtrooms, and ultimately an intelligent judiciary in which secure and properly governed judicial data can support institutional learning, research, analysis, and evidence-based decision support.

3. Legal and Institutional Foundations

3.1 Electronic Filing and Litigation Directive No.25/2025

The legal foundation for the Court's digital transformation is established through a hierarchical framework of legislation, beginning with the Federal Courts Proclamation and extending to the specific directive governing the use of electronic means in judicial proceedings. At the primary legislative level, Article 50(3) of the Federal Courts Proclamation No. 1234/2020 provides the legal authority for regulating the use of electronic means in court proceedings. Pursuant to this provision, the Federal Supreme Court issued the Electronic Filing and Litigation Directive No.25/2025, which provides the operational legal framework for electronic filing, litigation and judicial records management.

The Directive is a central legal instrument in the Court's digital transformation. Its preamble recognizes the role of electronic filing, litigation and records management in improving access to judicial records, enabling participation in court proceedings without requiring physical appearance, facilitating the controlled transfer of and access to documents, promoting transparency, reducing service delivery costs and establishing the legal recognition of electronic means in judicial processes. In terms of its institutional and territorial application, the Directive governs cases instituted before the Federal Courts, as well as federal cases adjudicated by Regional

Courts through delegation, provided that the necessary technological infrastructure is available. Accordingly, the Proclamation establishes the enabling legal authority, while the Directive translates that authority into specific procedural and operational rules for the use of electronic technologies in federal judicial proceedings.

This legal architecture is important for MIZANE because it means that a digital case file is not merely a convenience copy of a paper file. Rather, it can constitute a legally recognized and properly managed representation of judicial proceedings and activities, provided that applicable requirements concerning authenticity, integrity, accessibility, evidential reliability and retention are satisfied. Accordingly, MIZANET supports the identification of record owners, custodians and authorized users, as well as appropriate safeguards for document integrity, controlled access, secure storage and reliable retrieval. These requirements provide the legal and institutional foundation for progressively transitioning from paper-dependent case administration to an integrated electronic judicial record system.

3.2 Institutional safeguards embedded in the framework

The Directive provides for role-based responsibilities, user identification, strong password protection, multi-factor authentication, electronic signatures, encryption based on Public Key Infrastructure where available, identity management, logging of access and attempted actions, backup copies, physical security of data centers and server rooms, and access controls for sealed or confidential records. The Directive also establishes public access to electronic case records subject to lawful restrictions and redaction of protected personal information. This creates a structured basis for balancing judicial transparency with lawful confidentiality and information protection.

4. The Digital Infrastructure: SD-WAN, Data Centers and Enterprise Architecture

The digital transformation of the Federal Supreme Court is underpinned by a fully operational infrastructure layer that connects courts and centers, hosts judicial applications and electronic records, secures institutional information, and provides the continuity required for digital judicial services. The Court's digital infrastructure is no longer merely an ICT support function. It constitutes the physical, network, computing, security and operational foundation upon which electronic filing, case management, electronic records management, digital courtrooms, institutional data services and emerging intelligent judicial applications operate.

The Court's digital infrastructure is organized around three closely interconnected dimensions: institution-wide connectivity through the Wide Area Network (SD-WAN); resilient hosting, computing and storage through primary, secondary and modular data-center facilities; and an enterprise architecture that integrates judicial applications, records, users and external service institutions within a coherent digital environment. The operational infrastructure connects 24

courts and Centers through the institutional SD-WAN and is supported by primary modular data-center arrangements, secondary backup facilities and micro data centers.

This infrastructure represents a decisive transition from localized computerization to an institution-wide digital judiciary. Instead of applications and information operating independently at individual court or center level, the Federal Supreme Court and its connected courts operate within a common technological environment. This connectivity enables judicial information and services to move securely across institutional boundaries and provides the foundation for integrated judicial information systems.

4.1 Software-Defined Wide Area Network (SD-WAN): The Institutional Digital Backbone

The Federal Supreme Court's Wide Area Network (SD-WAN) constitutes the backbone of its digital judiciary. It connects 24 court divisions and centers, linking judicial users, applications, data repositories, and institutional locations within a common, centrally managed environment. The network is supported by secure data-center facilities, primary hosting through an Ethio Telecom modular data center, secondary backup facilities, and micro data centers, with network operations monitoring, physical security, power redundancy, and backup arrangements as integral components.

Reliable connectivity is a prerequisite for the movement of judicial information throughout the institutional and case lifecycle: electronic filing, case registration, case-flow management, access to electronic records, remote hearings, digital recording, reporting, and administrative functions all depend on it. The SD-WAN has thus transformed the Court from a collection of technologically enabled locations into a connected judicial information environment — a particularly important feature for a geographically dispersed institution, where digital services deliver consistent value only if courts and users can reliably access shared applications, records, and services regardless of location.

The network architecture incorporates SD-WAN and SD-Access equipment and associated infrastructure, together with an Edge OTN network connecting institutional end devices and supporting connectivity services, with network security systems, configuration, commissioning, operations, and monitoring integrated throughout. Rather than a collection of independently configured local networks, this centrally managed; policy-driven environment lets the Court manage connectivity, access, security, and performance systematically across locations, providing a scalable foundation for multiple judicial applications and services.

This infrastructure's significance becomes fully apparent in relation to the wider digital judiciary. The SD-WAN provides connectivity between courts and centers; data-center and cloud infrastructure provide computing and storage capacity; network-security and identity mechanisms protect institutional systems; the NOC provides operational monitoring; and power and backup infrastructure sustain continuity. Together with ICMIS (electronic filing, case management, records, and administrative functions), eRMS (governed management of electronic judicial records), and Smart Court technologies extending digitalization into the courtroom, these elements

form layers of a single digital architecture rather than unrelated projects a structure reinforced by Directive No.25/2025, which requires operational continuity and disaster recovery, integration of electronic filing and litigation with ICMIS, administrative, financial, and records systems, and rules on electronic-records classification, storage, reliability, security, access, retention, and preservation.

The resulting institutional technology stack can be summarized as follows: connectivity enables integration by linking courts, centers, users, and systems; infrastructure enables availability through computing, storage, power, and network capacity; security enables trust by protecting information and controlling access; enterprise systems enable workflow integration across judicial processes; records management preserves institutional memory; and governed data lay the foundation for analytics and AI by making judicial information increasingly structured and usable. This infrastructure is, therefore, inseparable from the Court's broader transformation from conventional computerization toward integrated electronic justice, Smart Court services, and an increasingly intelligent judiciary.

4.2 Data Centers: Hosting the Digital Judiciary

Connectivity alone cannot sustain a digital judiciary. Judicial applications, electronic records and digital services require secure, reliable and resilient computing and storage environments. Hence, the Court operates a multi-layered data-center architecture comprising primary modular data-center capacity, secondary backup facilities and modular micro data centers. The infrastructure includes operational modular micro data centers associated with the Federal Supreme Court headquarters and the Lideta branches of the Federal High Court and the Federal First Instance Court. These facilities are supported by secure physical environments, controlled access arrangements, generators and associated infrastructure.



The micro data center at FSC

The data-center architecture is particularly important because judicial information has characteristics that distinguish it from ordinary institutional information. Court records may contain confidential pleadings, evidence, personal information, judicial deliberative materials, audio and video recordings, judgments and other records that must remain reliable, secure and available throughout their legally prescribed lifecycle. The operational architecture serves two closely related objectives: availability and protection. Availability ensures that critical judicial applications and records remain accessible to authorized users when required. Protection ensures that judicial information is safeguarded against unauthorized access, loss, disruption, alteration or compromise. The combination of primary hosting, secondary backup arrangements and micro data centers distributes infrastructure capacity across different facilities and reduces institutional dependence on a single physical location. This provides greater resilience as the volume, sensitivity and institutional importance of digital judicial information continue to increase.

4.3 Resilience and Continuity by Design

Digital judicial infrastructure must be more resilient than ordinary administrative ICT infrastructure because interruptions can directly affect the administration of justice. An interruption affecting a judicial information system can have consequences for filing, case registration, hearings, access to records, service of documents, reporting and other procedural activities. The Court's operational infrastructure incorporates multiple resilience mechanisms, including redundancy, backup, UPS and generator arrangements, physical surveillance and

continuous network monitoring. These mechanisms ensure that digital judicial services are supported by infrastructure capable of maintaining service continuity and facilitating controlled recovery when disruptions occur.

The infrastructure environment incorporates generators, network-security systems, video-surveillance systems and a Network Operations Center (NOC), in addition to the data-center and network infrastructure. The NOC provides continuous institutional visibility over network and infrastructure performance. Technical personnel are able to monitor the network, identify service interruptions and infrastructure events, diagnose connectivity problems and respond systematically to incidents rather than relying exclusively on individual court-level troubleshooting. Video surveillance and physical-security arrangements reinforce this resilience architecture by recognizing that digital infrastructure ultimately depends upon secure physical facilities. Data centers, server rooms, network equipment and power systems require controlled physical environments in addition to cybersecurity safeguards. Digital continuity is consequently treated as a judicial-service requirement rather than merely a technical requirement. Redundancy, backup, power resilience, physical security and monitoring ultimately serve the broader objective of protecting the continuity, reliability and integrity of judicial functions.

4.4 Power Resilience as a Component of Judicial Digital Infrastructure

Reliable electricity is an essential component of digital justice. Network equipment, data-center systems, storage infrastructure, security systems and courtroom technologies all depend upon stable and resilient power supplies. Thus, the Court's digital infrastructure incorporates operational generators and associated power-resilience arrangements. UPS systems and redundancy mechanisms provide additional protection for critical infrastructure and help maintain essential services during interruptions to the normal electricity supply. Power resilience is particularly important in the context of a digital judiciary because the continuity of judicial services cannot depend solely upon the availability of the normal electricity supply. Critical systems require mechanisms capable of maintaining operations during short-term interruptions and supporting controlled recovery following more significant disruptions.

The Court's experience demonstrates that genuine digital transformation goes far beyond the acquisition and deployment of software applications. It requires the development of an integrated and reliable technological ecosystem encompassing adequate physical infrastructure, dependable power supply, secure networking, cybersecurity, physical security, continuous monitoring and responsive technical support. These interconnected elements provide the essential foundation for the effective, secure and sustainable operation of digital judicial services, ensuring that technological investments translate into tangible improvements in judicial administration and service delivery.

4.5 Network Security and Protection of Judicial Information

As the Court increasingly relies upon digital judicial information, cybersecurity has become an integral component of institutional infrastructure. The digital environment must protect not only the availability of systems but also the confidentiality and integrity of judicial information.

The Court's infrastructure incorporates a Network Security System with the necessary configuration and operational controls. The wider legal and technological framework complements this infrastructure through user identification, strong passwords, multi-factor authentication, electronic signatures, encryption, identity management, logging of access and attempted actions, backups, physical security and controlled access to confidential records.

Security is, therefore, implemented through multiple complementary layers. At the infrastructure level, network-security and physical-security capabilities protect the underlying technological environment. At the application and records levels, authentication, authorization, encryption, logging and controlled access protect judicial information and regulate its use.

This layered security model is particularly important for the judiciary because judicial information cannot be treated as ordinary institutional data. Different categories of judicial records may have different confidentiality, access and retention requirements. The digital infrastructure consequently supports differentiated protection and access while preserving appropriate transparency for records that are legally accessible.

Security is thus integrated into the architecture rather than treated as an external or supplementary function. It is embedded in the network, data-center, application, records-management and user-access environments.

4.6 Network Operations and Institutional Monitoring

The Network Operations Center constitutes an important operational component of the Court's digital infrastructure. It provides centralized visibility over the institutional network and associated digital infrastructure and supports continuous monitoring of system performance and service availability.

As the number of connected courts and digital services has expanded, centralized visibility has become essential. A problem affecting one location may have consequences for interconnected applications and services elsewhere in the judicial network. Centralized monitoring therefore enables technical personnel to identify, assess and respond to incidents in a coordinated manner.

Network monitoring has transformed technical support from a predominantly reactive function into a structured institutional infrastructure-management capability. The Court is able to observe network performance, identify failures and disruptions, support troubleshooting and maintain operational awareness of the digital environment.

This capability is particularly important because ICMIS, electronic records, Smart Court services and other digital applications increasingly depend upon shared infrastructure. As more judicial

functions operate through interconnected digital systems, continuous monitoring and coordinated technical support are essential to maintaining institutional reliability.

4.7 Enterprise Architecture: From Individual Applications to an Integrated Judicial Environment

The infrastructure layer provides the technological foundation of the digital judiciary, but digital transformation becomes institutionally meaningful when applications, information and business processes operate within a coherent enterprise architecture. The Court's enterprise architecture places the Integrated Court Case Management Information System (ICMIS) and Electronic Records Management System (eRMS) at the core of the digital judicial environment. The wider architecture incorporates electronic filing and litigation, case management and reporting, records management, and administrative and financial functions.

A central design principle of this architecture is that a judicial case is represented consistently throughout the institution rather than recreated as separate and disconnected digital objects at different stages of the process. This principle is fundamental to an integrated digital judiciary. A case does not become a series of disconnected digital records as it moves from filing and registration through hearing, decision, enforcement and archival stages. Instead, information remains associated with a consistent case identity and is made available to authorized components of the judicial system according to their respective functions and access rights.

ICMIS operates through complementary subsystems, including the Electronic Filing and Litigation System (eFLS), Case Management and Reporting System (CMRS), Records Management Information System (RMIS), and Administrative and Financial Information System (AFIS). These components connect user-facing services, case-flow management, records administration and institutional resource management within a unified digital environment. The enterprise architecture consequently creates the bridge between technological infrastructure and judicial processes. The SD-WAN connects locations; data centers provide computing and storage; ICMIS provides integrated judicial applications; eRMS governs electronic judicial records; and associated systems support administrative and institutional functions. The result is an architecture in which technology is organized around the judicial process rather than around isolated software applications.

4.8 Interoperability: Extending the Digital Judiciary beyond the Court

An integrated judiciary cannot operate entirely within institutional boundaries. Judicial processes frequently require interaction with other justice-sector institutions, government services and public-service providers. The Court's enterprise architecture, therefore, supports interoperability with relevant external institutions and services, including payment systems, document authentication and registration services and other justice-sector stakeholders. The purpose is to support continuity of legal services, facilitate secure information exchange and reduce unnecessary duplication in information handling.

Interoperability extends the value of the internal digital judiciary by allowing information and services to move across institutional boundaries in a controlled and meaningful manner. Instead of requiring users to reproduce information manually across different institutional systems, interoperable services can support more efficient and reliable exchange. The architecture is also sufficiently flexible to accommodate changes in the requirements of ICMIS and associated digital services. Cloud-network services and infrastructure resources can be adjusted in accordance with system requirements, deployment needs and resource-sizing considerations.

This flexibility reflects an important characteristic of an established digital judiciary: infrastructure must continuously adapt to changing application requirements, data volumes, connectivity needs and integration demands. Interoperability is therefore understood not merely as technical connectivity but as the institutional capacity of different systems and organizations to exchange information securely, reliably and meaningfully.

4.9 Cloud and Modular Infrastructure as an Enabling Model

The Court's operational infrastructure combines modular data-center facilities with cloud-enabled services. The architecture incorporates Tele Cloud Service, modular micro data centers, SD-WAN and SD-Access, network-security systems and Edge OTN infrastructure. The combination provides a flexible infrastructure model through which digital judicial services are supported by centrally hosted, modular and cloud-enabled resources. This model allows the Court to distribute infrastructure capacity according to operational requirements while maintaining institutional control over critical systems and information.

Tele Cloud and Edge OTN services form part of the Court's continuing connectivity and infrastructure environment. Their service-based character allows the Court to maintain the technological capacity required for an expanding digital judiciary without treating every infrastructure requirement as a one-time equipment acquisition. This model is particularly important because the Court's digital environment continues to generate increasing requirements for computing capacity, storage, connectivity and secure data exchange. ICMIS, electronic records, digital courtroom services, judicial data and future AI-enabled applications all depend upon scalable infrastructure. A modular and adaptable architecture provides the flexibility necessary to support the continuing growth and diversification of digital judicial services.

4.10 An End-to-End Infrastructure Program

The Court's infrastructure operates as an integrated end-to-end environment rather than as a collection of isolated technological assets. The operational environment incorporates Tele Cloud configuration, network-security configuration, Edge OTN infrastructure, modular micro-data centers, SD-WAN and SD-Access, video surveillance, NOC services, generators, secure facilities, hardware and software components, and the technical and user capacity required to operate the infrastructure.

This integrated approach is important from an institutional perspective. A digital judiciary requires more than hardware and software. It requires infrastructure configuration, cybersecurity,

monitoring, physical protection, power resilience, technical skills, operational procedures and user capability.

The inclusion of training and technical capacity within the infrastructure environment reflects the principle that technology becomes sustainable only when the institution possesses the knowledge and operational capability required to manage, maintain and use it effectively.

The result is an infrastructure environment that combines technology, people, facilities, governance and operational processes into a single institutional capability.

4.11 Strategic Significance of the Infrastructure Investment

The importance of the Court's digital infrastructure is not measured merely by the number of devices, network links or data-center facilities in operation. Its true significance lies in the institutional capabilities that the infrastructure makes possible.

First, it creates institution-wide connectivity. Courts and Centers operate within a common digital environment, allowing judicial users and systems to access shared services and information through the institutional network.

Second, it provides resilient technological foundations for the administration of justice. Digital filing, case management, electronic records, hearings, reporting and other judicial services operate on infrastructure designed to support availability and continuity.

Third, it enables the integration of judicial applications and information. Instead of maintaining fragmented digital environments, the enterprise architecture links electronic filing, case management, records management and administrative functions.

Fourth, it strengthens the security and integrity of judicial information. Network security, authentication, controlled access, monitoring, physical protection, backup and other safeguards operate together to protect the confidentiality, integrity and availability of judicial information.

Fifth, it enables data-driven judicial administration. Because judicial activities are captured within integrated systems, institutional information can be used not only to process individual cases but also to understand workload, case flow, service demand and institutional performance.

Finally, it provides the technological foundation for a knowledge-driven and AI-enabled judiciary. The Court's Judicial Knowledge Base, AI Research Support and Decision Support initiatives depend upon reliable digital records, structured judicial data and secure information infrastructure.

Therefore, infrastructure is not an ancillary component of digital transformation. It is one of the principal institutional assets through which the Federal Supreme Court is able to deliver modern, integrated and increasingly data-driven justice services.

5. Integrated Court Case Management Information System (ICMIS)

The Federal Supreme Court's transition towards an integrated digital judiciary is increasingly taking shape through the Integrated Court Case Management Information System (ICMIS), electronic filing, electronic litigation and the Electronic Records Management System (eRMS). Together, these components constitute the operational foundation of the Court's digital judicial environment, translating its legal and procedural framework, technological infrastructure and judicial business processes into an integrated system for the administration of justice.

Branding the Application: MIZANET

As part of the application's institutional identity and public accessibility strategy, the Integrated Case Management Information System (ICMIS) is shortly named MIZANET, which serves as its brand name. The name has been deliberately selected to communicate the values, identity and nationwide purpose of the application.

The word "MIZAN" is derived from the Amharic term Mizan, meaning balance. It symbolizes fairness, equality, impartiality and the balanced administration of justice fundamental values that the judicial system is expected to uphold. The suffix "ET" represents Ethiopia, reflecting the application's intended nationwide scope and its development as a digital judicial platform that can serve all judiciaries across the country.

Although initially developed within the Federal Supreme Court's digital transformation program, MIZANET is designed to be adaptable for use by federal, regional and city court systems through appropriate customization, institutional configuration and language localization. This approach recognizes the diversity of judicial institutions, working arrangements and languages across Ethiopia while providing an opportunity for them to operate through a common, adaptable digital platform.

The adoption of a short and recognizable brand name is also a deliberate measure to facilitate public familiarity, user acceptance and institutional ownership. Rather than requiring judges, court personnel, lawyers, litigants and other justice-sector stakeholders to continually refer to a lengthy technical name, MIZANET provides a simple and memorable identity through which users can recognize access and engage with the application. It is expected to facilitate communication, promote awareness, strengthen users' confidence and encourage a shared understanding of the digital platform across different judicial institutions. More importantly, the name connects the technological transformation with the underlying values of justice, ensuring that the application is identified not merely as a case management software but as a nationwide digital platform intended to support a fairer, more accessible, efficient and integrated justice system.

5.1 Application Development

The project to develop a system to automate of court process is being developed by Information Network Security Administration covering the entire process in the life span of a court case at all levels of the court. The project deliverables include electronic filing and litigation, case

management, document and records management, workflow management, payment processing and integration, reporting, access control, judicial productivity, search, legal research, system integration and security. It also extends to the deployed applications and source code, system architecture and deployment documentation, user manuals and user-acceptance testing materials. These deliverables provide the technical and operational foundation for the subsequent implementation, maintenance, customization and continuous improvement of the platform.

Ultimately, the objective is not simply to introduce an electronic case management application, but to establish an integrated digital judicial ecosystem in which case management, electronic filing, court proceedings, judicial records, administrative workflows and institutional information are interconnected. Through MIZANET and eRMS, the transformation aims to move beyond the digitization of individual court activities towards a more coordinated, accessible, transparent, efficient and data-driven administration of justice across Ethiopia.

5.2 Integrated Architecture and Functional Components of MIZANET

The architecture of MIZANET brings together complementary functions covering electronic filing and litigation, case management and reporting, records management, and administrative and financial information. It is organized around the judicial process and the entire lifecycle of a case rather than around isolated software applications. The four principal functional components identified in the Court's digital transformation architecture are the Electronic Filing and Litigation System (eFLS), the Case Management and Reporting System (CMRS), the Records Management Information System (RMIS), and the Administrative and Financial Information System (AFIS). The eFLS provides the user-facing environment for electronic filing and litigation; CMRS supports case administration, procedural workflow and judicial reporting; RMIS supports the management, retrieval, storage and preservation of electronic judicial records; and AFIS connects judicial operations with relevant administrative and financial functions. These components operate as interconnected functional modules within the broader MIZANET platform, rather than as independent applications.

The underlying project documentation confirms the breadth of the developed platform. Its functional scope covers electronic filing and litigation management, case management, generation, payment and payment integration, dynamic reporting, calendar and event management, access control, judicial and bench productivity, optimized search, legal research, system integration and security. It also provides for the exchange of files across federal courts.

The significance of the MIZANET architecture lies in its capacity to create a unified digital representation of a judicial case throughout its lifecycle. Information generated at one stage of the judicial process can be carried forward and reused, subject to appropriate authorization, at subsequent stages. Filing information, procedural events, pleadings, evidence, orders, judgments, notifications and records can consequently be associated with a common case identity rather than recreated and maintained as separate information objects. This integrated approach is intended to

minimize duplication, improve information consistency, facilitate coordination among judicial actors and strengthen the continuity of judicial processes.

5.3 Electronic Filing and Litigation as an End-to-End Judicial Service

Electronic filing and electronic litigation constitute the principal entry point into the digital judicial process. The Integrated Case Management Information System and the Electronic Filing and Litigation System (eFLS) enable authorized users to interact with the Court electronically, moving the initiation and conduct of litigation away from exclusive dependence on physical document submission and physical presence. Depending on the nature of the case and the applicable procedure, the digital process can encompass submission, technical examination, registration and opening of the case file, payment, procedural review, exchange of pleadings and evidence, scheduling, notification, hearing-related processes, judicial decision-making, issuance of orders and judgments, and closure of the case.

MIZANET is designed to accommodate a substantial range of judicial processes. For civil matters, its functional scope includes filing statements of claim, technical and legal sufficiency checks, court-fee payment, opening of files, examination of preliminary objections, framing of issues, hearings, examination of evidence and witnesses, amendment of pleadings, discontinuance, intervention, consolidation, judgment, review, execution and closure. Appeal functions similarly include filing, completeness and timeliness checks, fee collection, legal-sufficiency examination, exchange of appellate pleadings, examination of evidence, judgment and execution.

The system also incorporates criminal and cassation workflows. For instance, its application features expressly include cassation application filing, verification of technical sufficiency, court-fee collection where applicable, opening of the case file, scheduling, examination of admissibility, determination of the existence of an issue of law, service of the cassation application, receipt of the respondent's reply, hearing and examination of the issue of law, decision and closure.

This is particularly significant for the current implementation at the Cassation Benches. This phase based implementation is not merely testing a generic document-management application; it is applying an already developed and integrated digital judicial platform to one of the Court's most legally significant and information-intensive adjudicative processes. The Cassation pilot provides an important environment for validating how MIZANET digitally represents and supports the entire cassation lifecycle, from receipt of an application through admissibility examination, determination of an issue of law, exchange of submissions, hearing, decision and closure.

5.4 Authentication, Filing Time and Procedural Certainty

A central requirement of electronic litigation is that the digital process must provide the same level of procedural certainty expected from physical court processes. MIZANET operates within a legal framework that addresses user identification, submission, receipt, filing time, technical verification, record opening and notification. Directive No. 25/2025 establishes receipt confirmation and recognizes the date of electronic receipt as the relevant filing date, subject to the applicable technical and record-opening requirements. The framework also permits electronic

submissions on days when the Court is not physically sitting, with system-generated confirmation providing an evidentiary trail concerning the time of submission.

The resulting digital procedural litigation is important for both litigants and the Court. A properly governed electronic submission can be traced through authentication, submission, receipt, technical review, registration, electronic marking and subsequent notification. This reduces uncertainty concerning whether a document was submitted, when it was submitted, whether it was technically received and what action was subsequently taken. Accordingly, MIZANET provides more than an electronic mailbox for receiving court documents. It establishes a structured procedural workflow in which actions are associated with identifiable users, cases, documents and procedural events. This strengthens accountability and creates an auditable history of the movement of a case through the judicial process.

5.5 Electronic Signatures, Certification and Integrity

The credibility of electronic judicial processes depends heavily on authentication, reliability and document integrity. At the national legislative level, the Electronic Transaction Proclamation No. 1205/2020 establishes the legal foundation for electronic transactions by recognizing the legal effect and validity of electronic messages and setting requirements for reliable electronic signatures. In particular, Article 9 provides that an electronic signature must reliably identify the signatory, indicate the signatory's approval of the information contained in the electronic message, and be appropriate and reliable in the circumstances in which it is used. Building on this legislative foundation, the Electronic Filing and Litigation Directive No. 25/2025 provides the procedural and operational framework for the use of electronic signatures in judicial processes and incorporates certification, encryption and time-stamping mechanisms to strengthen authentication and document integrity. Judges, registrars, advocates, prosecutors and other authorized justice-sector actors are among the categories of users contemplated by this framework.

Within MIZANET, these mechanisms contribute to establishing confidence that a document originates from an authorized user, has been submitted through the appropriate channel and can be associated with a verifiable point in time. Encryption and related security controls further protect information during transmission and storage. The application incorporates security management, access control, identity management, user identification and verification, audit logs, and mechanisms for maintaining the authenticity, confidentiality, integrity, reliability and usability of judicial records. These controls are particularly important in the judiciary, where case files contain sensitive pleadings, evidence, lower-court decisions and judicial reasoning. Hence, the credibility of the digital process depends not merely on whether information can be accessed electronically, but also on whether its authenticity, integrity and provenance can be established and verified.

5.6 Electronic Service and Digital Communication

Electronic litigation becomes genuinely end-to-end only when communication between the Court and participants can also take place through governed digital channels. Directive No. 25/2025 provides for electronic service of court notices, orders, rulings, decisions, judgments and other

documents. Service may be effected through a party's system account and may also use registered mobile numbers and email addresses. The framework provides for system-generated confirmation of delivery and mechanisms for addressing disputes concerning delivery.

The integration of electronic service within MIZANET's case-management environment is particularly important because it links procedural events directly with the underlying case record. Instead of treating notification as a separate administrative activity, the digital workflow can associate each communication with the relevant case, document and procedural event. This contributes to a more transparent procedural history. It also reduces dependence on the manual movement of documents between registry personnel, judges and litigants and can reduce the costs and delays associated with repeated physical service.

5.7 Electronic Litigation and Remote Hearings

Electronic litigation extends beyond filing and document exchange to participation in judicial proceedings. Directive No. 25/2025 provides legal recognition for remote hearings and establishes procedural and technical mechanisms for their conduct. Participants in remote hearings remain subject to the applicable courtroom procedures. Parties may request remote participation, while the Court determines the appropriate mode of hearing. Designated service centers may provide identity verification and technical assistance, and remote hearings are recorded for court-service purposes.

The importance of this capability lies in expanding the concept of access to justice. Electronic litigation can reduce the necessity for parties and legal professionals to travel to court for matters that can appropriately be conducted remotely. It can also contribute to the continuity of judicial services during circumstances in which physical attendance is difficult. MIZANET incorporates integration with video-conferencing services as part of its Electronic Filing and Litigation System (eFLS) environment. This capability is embedded within the broader architecture of electronic litigation rather than operating merely as an isolated videoconferencing facility.

At the same time, digital litigation does not imply that every judicial activity must be conducted remotely. The appropriate mode of participation remains dependent on the nature of the proceeding, evidentiary requirements, procedural safeguards and judicial direction. The objective is consequently not technology for its own sake, but a flexible procedural environment in which electronic participation is available whenever it promotes the effective administration of justice.

5.8 Judgment Enforcement Processes

The digital judicial process goes beyond adjudication to embrace the execution of judicial decisions. Directive No.25/2025 expressly contemplates electronic judgment-enforcement processes. Where an enforcement application is submitted electronically, the competent bench may issue execution orders electronically to the Federal Courts' Judgment Enforcement Office, while specified auction and payment-related processes may also be conducted electronically. This is strategically significant because a judicial system cannot be considered fully digital if electronic processes stop at the pronouncement of a judgment. Connecting adjudication with enforcement

creates the possibility of a more continuous digital case lifecycle. MIZANET incorporates execution and file closure as elements of its case-management workflow. This supports the broader institutional objective of maintaining continuity of information from case initiation through final disposition and judgment execution.

5.9 Electronic Records Management

Electronic records management is a central component of the digital judiciary because the value of MIZANET ultimately depends on the reliability, accessibility and preservation of the information generated throughout judicial proceedings. The legal framework establishes a comprehensive basis for the electronic judicial record. Directive No.25/2025 defines electronic case files and electronic records broadly to include pleadings, court-originated documents, electronically stored evidence, case-file data and audio and video recordings. It also recognizes the Electronic Records Management System (eRMS) as the environment through which the creation, storage, accessibility, security, retention and disposal of electronic records are managed.

The significance of this approach is that digitization is not limited to scanning paper documents. An authoritative electronic record requires a defined identity, classification, metadata, provenance, storage location, access rights, retention status and appropriate preservation arrangements. The Directive assigns responsibility for electronic records to defined judicial actors. Judges are identified as record owners, while registrars, assistant judges, electronic-record officers, clerks and other designated personnel perform custodial and record-keeping functions. Records must be identified, classified, numbered, verified and linked to the appropriate case file with the necessary metadata.

The storage model also distinguishes between active and closed records. Pending case records are maintained in online storage linked to the system, while closed case records may be maintained in offline storage. The framework additionally anticipates technological migration so that records remain readable when systems and formats change. This establishes an important principle for the Court's digital transformation: the electronic case file is not merely a convenience copy of the paper file; it is a governed judicial record with defined legal, institutional and technical characteristics. Through the integration of MIZANET and eRMS, the objective is to ensure that information generated throughout the judicial process remains properly managed, accessible to authorized users and preserved as part of the institutional judicial record.

5.10 Security, Access, Preservation and Institutional Trust

The growth of electronic judicial information increases the importance of information security and controlled access. The digital judiciary must simultaneously protect confidentiality, preserve integrity, ensure availability and facilitate lawful access. Directive No.25/2025 necessitates security architecture based on role-specific responsibilities, user identification, strong authentication, electronic signatures, encryption, identity management and audit logging. It also provides for backups, physical access controls special handling of sealed records, encryption and redaction, and secure configurations for public access.

The system requirement similarly identifies security management, system audits and logs, identity management, access control and the protection of authenticity, confidentiality, integrity, reliability and usability as integral system functions. The institutional partnership between the Federal Supreme Court and the Information Network Security Administration (INSA) reinforces this dimension. The security architecture of MIZANET and eRMS should be understood as an integral part of judicial administration rather than as a purely technical function. Judicial independence, confidentiality, due process and public confidence increasingly depend on the integrity of the information environment in which judicial work is performed.

5.11 Current Status

MIZANET is being rolled out through a phased implementation approach, beginning with a pilot at the Cassation Benches of the Federal Supreme Court which has now reached a momentous milestone. This initial phase marks the operational kick-off of the system, providing a controlled environment for introducing the developed application into actual judicial processes, assessing its performance under real working conditions and preparing the institutional ground for its broader deployment. It also represents an important landmark in the Court's determination to move from technological development to the actual realization of an integrated digital judiciary.

The pilot implementation serves several interconnected purposes.

First, it validates the alignment between the developed digital workflows and actual cassation procedures. This includes filing, technical verification, registration, case opening, and scheduling, admissibility-related processes, determination of issues of law, service and receipt of responses, hearings, decisions and case closure. This process enables the Court to verify that the system reflects the practical requirements and procedural sequence of judicial work.

Second, it provides an opportunity to assess the system's usability and operational suitability from the perspectives of judges, registrars, assistant judges, clerks and other authorized personnel. User experience is particularly important because a technically functional application may nevertheless fail to generate its intended institutional value if its design and workflows do not correspond naturally with established judicial practices and operational needs.

Third, the pilot provides an opportunity to validate the system's data structures and records-management capabilities under actual operating conditions. This includes document classification, metadata management, search and retrieval functions, access controls, audit trails and electronic records-management processes.

Fourth, it enables the Court to test the operational relationship between MIZANET, eRMS and the wider digital infrastructure. This includes network connectivity, data-centre services, security mechanisms and relevant external interfaces, ensuring that the different components function as parts of an interconnected institutional digital environment.

Fifth, it establishes an evidence-based foundation for the progressive rollout and wider institutional adoption of the system. Lessons generated through actual use will inform necessary workflow

refinements, technical configurations, user guidance, training programs and institutional procedures. This will help ensure that the system is sufficiently tested, understood and operationally prepared before it goes live in additional benches, divisions and courts.

The phased rollout is, therefore, not merely a technical deployment exercise; it is the practical realization of a broader institutional vision. It reflects the leadership's determination to move MIZANET from a completed digital application to a functioning judicial service platform, while ensuring that its adoption is supported by institutional readiness, user confidence and operational reliability. The initial pilot is expected to pave the way for subsequent stages of deployment, culminating in the system going live across progressively wider areas of judicial operation. This approach is also consistent with the legal architecture of Directive No. 25/2025, which expressly recognizes phased implementation and provides for ICMIS implementation following verification of the necessary technological infrastructure. It thus combines the Court's institutional ambition and leadership commitment with a legally grounded, technically informed and operationally responsible approach to digital transformation.

The implementation at the cassation level heralded the beginning of a new era in the Ethiopia Judiciary for the realization of a paperless court. It is a leap forward in the right direction as it reveals a system which is more accessible, transparent, efficient and less costly with minimum human intervention. The remaining segments of the application development encompass appellate and first instance level business processes which are at the testing phase to be fully deployed with in few months.

6. Smart Court System

6.1 A system for court proceedings

A technological solution aiming at improving judicial process which extends to both to the infrastructure and the software needed should not ignore the court room where the proceedings take place. That is where justice is administered in public which must be supported by the necessary devise and digital tool to ensure reliability of proceedings, enhance efficiency and build confidence of the public. To respond to this need, a system was designed which includes AI powered voice to text transcription, digital information desk including a mobile application, audio and video recording, video conference facility and surveillance camera. It was successfully executed in 2024 and it has been rolled out since then to all level of federal courts as well as regional courts.

6.2 Making cases information accessible

A component of the system is a digital desktop which departs from the traditional mechanism of accessing information with the help or intervention of a court officer. The best option available for someone who did not or could not come to the court physically was to call the center at the court to fetch information about a case. The new system introduced a digital information desk broadening the option for court users who could alternatively access information about their cases

either via website of the court, the mobile application or using the kiosks in the compound of the court. The convenience created relieved users from travelling to the court or relying on employees to get information about a case. Further, the mobile application comprises case tracking system, adjournments, complain handling and a chatbot. In addition, website of the court presents trial calendar and court fee calculator.



Pages of the mobile application.

6.3 From Conventional Courtrooms to Smart Courtrooms

The digital transformation of justice does not end when a case enters the courtroom. While electronic filing, digital case management and electronic court records can improve the management of cases before and after hearings, substantial part of judicial work continues to take place during the hearing itself. For this reason, the transformation of the courtroom is an important component of an integrated and digitally enabled judiciary.

In the Federal Courts of Ethiopia, prolonged courtroom proceedings have historically been one of the factors contributing to case delay and backlog. This challenge becomes particularly significant in complex civil, commercial and criminal matters involving large numbers of witnesses, extensive documentary or other evidence, and lengthy oral submissions. During such proceedings, judges

traditionally had to record, largely hand-written, the statements and submissions of litigants and the testimony of witnesses. Some judges subsequently used computers for this purpose, but the underlying problem remained: significant judicial time and attention had to be devoted to recording the proceedings rather than concentrating fully on the substance of the case.



One of the smart court rooms at FSC equipped with state of the art equipment.

To address this challenge, the Federal Courts initially introduced audio-recording machines in selected benches handling complex matters. These machines reduced the immediate burden of manually recording every statement, but created a second-stage transcription problem. Recorded proceedings had to be listened to, generally through earphones, and manually converted into written text by transcription personnel. This process was time-consuming and physically demanding and was not totally dependable. The experience also revealed concerns pertaining to health hazards caused by prolonged sitting and exposure to sound of employees in addition to security of the record, poor recording quality, and the risk of loss or corruption of recorded files.

File loss, including incidents associated with virus attacks, could result in witnesses having to be heard again on substantially similar matters. There were also instances in which recorded files became unavailable because they were reported as corrupted, missing or otherwise inaccessible. Consequently, the inability to complete transcription became one of the recurring reasons for adjournments. In practice, benches dealing with complex cases could experience repeated changes of hearing dates because the recorded proceedings had not yet been transcribed. This undermined

timely case disposal and made it more difficult for courts to maintain established case-flow-management time standards.

There was also a significant resource constraint. Equipping every courtroom with conventional recording machines was expensive and economically difficult. The challenge therefore required not simply additional equipment, but a different technological and institutional solution. The Federal Courts responded through the development and deployment of the Smart Court as part of the broader digital transformation of the judiciary. The Smart Court extends digitalization into the courtroom itself and integrates three complementary capabilities:

1. Automatic transcription of courtroom proceedings;
2. Digital audio and video recording, storage and retrieval of proceedings; and
3. Video conferencing and remote participation in judicial proceedings.

These three components should be understood as complementary but distinct. Automatic transcription converts spoken proceedings into searchable text; digital recording creates and preserves the authoritative audiovisual record; and video conferencing enables participation in judicial proceedings from geographically remote locations where appropriate. Together, they create a digitally enabled courtroom environment designed to improve efficiency, reliability, accessibility, transparency and continuity of judicial services. A Smart Court room represents more than the installation of courtroom technology. It is an institutional response to a concrete judicial-management problem: how to reduce the time and administrative burden associated with recording and reproducing proceedings while preserving the integrity of the judicial record and facilitating appropriate forms of remote participation.

6.4 The Smart Court Model

The Federal Courts' Smart Court model is based on the integration of the three core courtroom capabilities rather than treating each technology as an isolated intervention.

6.4.1 Component One: AI-Enabled Automatic Transcription

The first component is an AI-enabled automatic transcription system developed by the Ethiopian Artificial Intelligence Institute. The system automatically converts courtroom speech into text while the hearing is being conducted. Its introduction directly addresses the historical challenge associated with manual transcription of recorded proceedings. Under the previous arrangement, judges or court personnel had to write down the words of litigants and witnesses during proceedings. Where conventional recording machines were used, transcription personnel subsequently had to listen to the audio and manually produce a written transcript. This created substantial delays and administrative burdens.

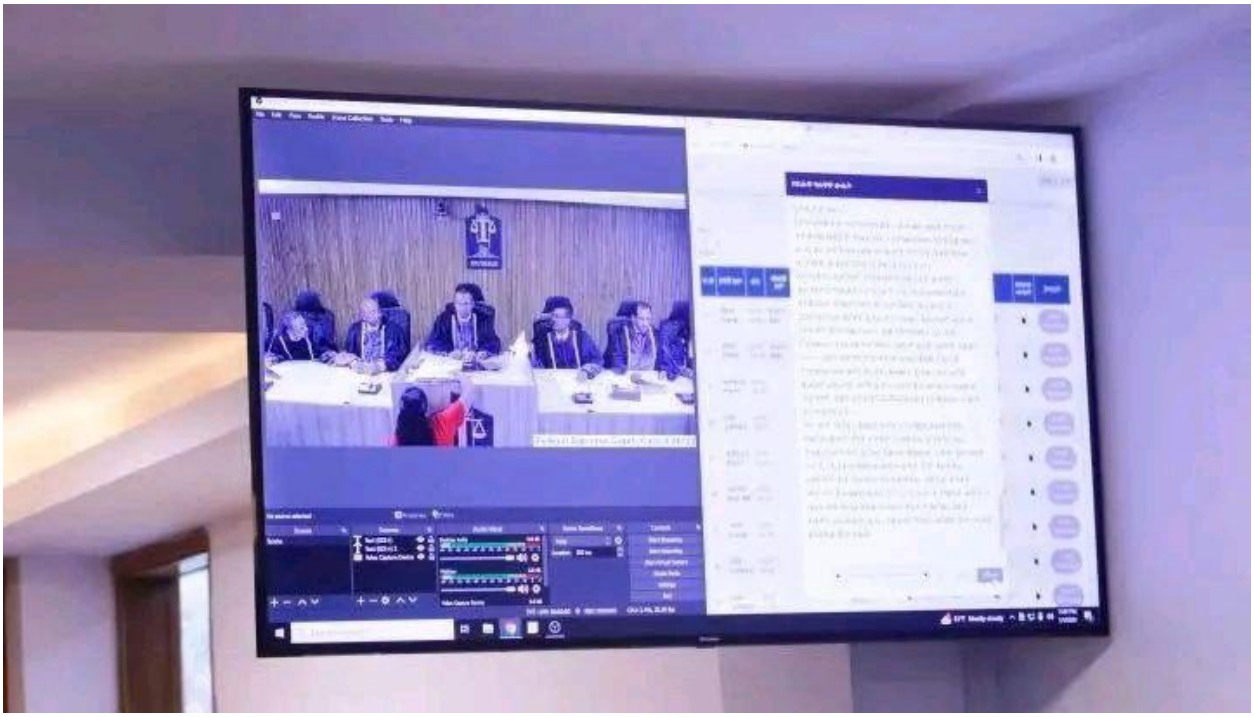
The automatic transcription system eliminates the need for the old transcription process in the ordinary course. There is no longer a need to rely on a separate transcription expert to listen to the entire recording and manually reproduce the proceedings before the text can be used by the court.

The system achieved 93% accuracy at the time of its inauguration in 2023. With continued use and the accumulation of additional training data, its reported accuracy has subsequently improved to 95 percent. This level of accuracy should, however, be understood within Ethiopia's multilingual environment. The remaining proportion does not necessarily represent wholly defective transcription. Difficulties can arise where participants do not pronounce words in the working language of the court in a manner readily recognized by the system, or where speakers mix English or other languages into their speech. Accordingly, the system is designed as an assistive judicial technology rather than as an unquestionable substitute for human verification. Where necessary, authorized transcription officers may edit the automatically generated text to correct linguistic or transcription errors.

Importantly, this correction mechanism does not eliminate traceability. Where an authorized officer goes beyond the permitted scope of correction or alters the substantive content of the original speech, the original audio recording and the first version of the automatically generated transcript remain preserved as original data. The court can anytime compare the edited version against the underlying audio and the original transcript. This architecture creates an important distinction between: the original audiovisual record, the initial machine-generated transcript, and any subsequently corrected or verified textual version. Such traceability is important for the integrity and reliability of digitally generated judicial records. It also prevents the corrected transcript from becoming an unreviewable substitute for the original proceeding.

The Smart Court initiative has progressed from deployment in selected complex-case benches to broader institutional implementation. The reported distribution of automatically transcribed audio files is:

Federal Court Level	**Audio Files Automatically Transcribed**
Federal High Court	27,761
Federal First Instance Court	14,901
Federal Supreme Court	1,722
Aggregate reported figure	**44,384**



Live transcription of audio record in a court room of the Federal Supreme Court

These figures demonstrate that the system is no longer merely a pilot technological concept but is being used at operational scale across the federal judiciary. The reported experience of the Federal Courts is that the automatic transcription system has dramatically improved judicial efficiency and supported speedy trial by removing a significant transcription bottleneck. Therefore, the Smart Court illustrates a broader transformation in judicial productivity: technology is not merely accelerating an existing task; it is changing the sequence and architecture of courtroom work.

6.4.2 Component Two: Digital Audio and Video Recording and Preservation

The second component of the Smart Court is the digital recording and preservation of courtroom proceedings. The system records the proceedings digitally, while the recording data are stored in the court's server environment and cloud data storage. The availability of both the original audiovisual record and the corresponding text provides judges with multiple ways of reviewing proceedings. Judges can listen to the original audio recording, watch the video recording, review the automatically generated text, search and retrieve relevant portions of the proceedings through the textual record and use the different forms of the record in connection with their judicial functions.

The audiovisual record has an important administrative and accountability function, too. For example, where a litigant alleges that his or her statement was not properly heard, recorded, translated or represented, the relevant video or audio recording can be reviewed to establish what actually occurred during the hearing. This provides a more objective mechanism for examining complaints concerning the conduct or recording of proceedings than reliance exclusively on recollection or competing accounts. The digital recording system, therefore, serves not merely as

a technological replacement for the former recording machines. It contributes to the creation of a more durable and reviewable institutional record of courtroom proceedings.

The preservation architecture is particularly important because the earlier experience demonstrated the consequences of lost or corrupted recordings. Where a proceeding is digitally recorded, the preservation of the underlying audiovisual material provides a reference point against which subsequent transcripts, corrections or other representations can be checked. In this respect, the Smart Court adopts an important principle for digital judicial records: automation should add an accessible layer of information without destroying or obscuring the underlying original record.

6.4.3 Component Three: Video Conferencing and Remote Participation

The third component is video conferencing and remote participation. Video conferencing allows judicial proceedings or appropriate procedural components to be conducted with participants located outside the physical courtroom. This can be particularly relevant where geographical distance, institutional location or other practical circumstances make physical attendance difficult. Federal Courts have historical experience with video conferencing, including its use in matters involving prison administrations and users wishing to access the service from afar. The Smart Court environment builds on this experience by integrating remote participation into the broader digitally enabled courtroom infrastructure.

Remote participation can potentially reduce unnecessary travel, facilitate participation from remote locations, support continuity of judicial services, reduce logistical burdens on courts and participants, improve access to judicial services across geographically dispersed locations and enable appropriate procedural matters to proceed without requiring every participant to be physically present in the courtroom. International guidance similarly recognizes that videoconferencing can support access to justice and continuity of judicial proceedings, but emphasizes that its use must preserve fair-trial guarantees, privacy, procedural safeguards and reliable participation. The Ethiopian approach is therefore appropriately understood as purpose-sensitive rather than technology-driven. Not every proceeding must necessarily be conducted remotely simply because the technology is available. The appropriate mode of hearing should depend on the nature and requirements of the proceeding.

Procedural matters that do not require extensive evidentiary examination may, where legally and procedurally appropriate, be handled through remote participation. Proceedings involving significant evidentiary safeguards may require additional judicial directions or physical attendance. This approach allows technology to support judicial decision-making without allowing technology itself to determine the appropriate procedural form.

Taken together, the three components form an integrated courtroom ecosystem. Courtroom speech is captured through audio and video recording, automatically converted into searchable text, and made available for verification, retrieval and judicial or administrative use. At the same time, remote participants can connect securely to the courtroom through video conferencing, with their participation incorporated into the audiovisual and textual record of the proceeding. This integrated

model transforms the courtroom from a predominantly paper-based and manually recorded environment into a digitally captured, searchable, and reviewable and more accessible judicial environment.

7. Artificial Intelligence and the Emerging Intelligent Judiciary

7.1 From Digitalization to an Intelligent Judiciary

The Federal Supreme Court's digital transformation is moving beyond the computerization of judicial processes and the creation of electronic records toward a new stage in which judicial data and digital systems can be used intelligently to support legal research, case analysis, institutional learning and judicial decision-making. The Court's emerging Artificial Intelligence (AI) initiatives represent not a separate technological project, but the next layer of the digital judiciary, building on the foundations established through ICMIS, electronic records management, and Software-Defined Wide Area Network. The objective is to maximize the value of the digital infrastructure and judicial data already developed and to use them to improve efficiency, quality and accountability in the administration of justice.

This report identifies three principal areas of emerging judicial intelligence: a judicial knowledge base for prediction and analysis of cassation applications using binding Cassation Bench decisions; AI Research Support for precedent search, judgment comparison and contradiction detection; and decision support for assisting judicial analysis and reasoning. These initiatives are increasingly being translated into concrete institutional technology projects, following the effective use of AI-enabled voice-to-text transcription as a component of the Smart Court system.

The need for such systems arises from substantive challenges facing the administration of justice. Digitalization can make information available electronically, but the growing volume of judicial information creates a further challenge: how to retrieve, compare, analyze and intelligently use that information in a timely and reliable manner. The increasing volume and complexity of litigation require judges to examine extensive pleadings and documentary evidence, conduct legal research, identify applicable legislation and binding Cassation Bench decisions, and prepare reasoned judgments within demanding timelines. Difficulties in locating relevant cassation precedents, repetitive legal analysis and rising expectations for timely, consistent and high-quality decisions create further opportunities for judicial AI to reduce information-processing burdens.

These challenges are particularly significant within the cassation system. The Federal Supreme Court, as the institution responsible for authoritative cassation review, must be able to identify legal issues that warrant cassation scrutiny, maintain consistency in the interpretation and application of law, and ensure that previous binding Cassation Bench decisions are effectively identified and used. Similar legal questions may arise repeatedly in different applications, while differences in factual presentation or legal argument may make it difficult to identify the underlying common legal issue through conventional manual research alone. The possibility of

contradictory or apparently inconsistent cassation decisions on similar legal questions creates an additional institutional need for systematic comparison and analysis.

A related challenge concerns the screening of cassation applications. The cassation system requires the identification of matters involving a fundamental error of law and the differentiation of such matters from applications that do not meet the legal threshold for cassation intervention. As the volume of applications increases, manually examining large bodies of previous decisions, identifying similar cases and assessing patterns emerging from cassation jurisprudence can consume considerable judicial and research time. AI-enabled analytical tools offer an opportunity to provide structured information for judges and screening bodies so that they can focus more directly on the legal assessment required in each case.

The same technological opportunity exists at the broader level of judicial case management and adjudication. The timely delivery of high-quality judgments requires judges to devote substantial time not only to hearing and evaluating cases, but also to locating applicable laws, reviewing prior decisions, comparing legal reasoning, organizing evidence and preparing judgments. Artificial Intelligence can reduce some of these repetitive information-processing burdens and augment judicial capacity through reliable access to judicial knowledge and intelligent analytical assistance.

The Federal Supreme Court's approach is founded on a clear institutional principle: AI shall assist justice; it shall never substitute the human judge. The emerging model is human-led, AI-assisted judiciary in which AI may retrieve, organize, compare and analyze information and perform other authorized supporting functions, while judicial authority, discretion and responsibility remain with judges. This principle is reflected throughout the Court's AI governance framework and is particularly important for applications that may influence judicial decision-making.

7.2 Automatic Transcription: An AI-Enabled Judicial Tool Already in Use

The discussion above exposed AI as a component of smart court system implemented in the Court. The automatic transcription capability represents an important practical example of AI supporting judicial work. It is the first ever utilization of AI in the Ethiopian judiciary which proved that it can be widely employed to deal with limitations affecting any element of the judicial process. It is worth mentioning that the machine learning process is on-going as the data sent for transcription can be continuously used for machine learning. That is manifested in the rise in the accuracy rate of the application from 93% at the time of launching two years ago to 95% within a relatively short period of time.

The automatic transcription system provides an early and practical example of the Court's broader AI philosophy: technology performs a repetitive information-processing task, while judicial personnel verify and appropriately use the resulting information. The experience with automatic transcription is also important from an institutional-development perspective. It demonstrates that AI-enabled judicial tools can be introduced progressively, beginning with functions where the technology assists information processing while maintaining a clear verification mechanism.

Experience gained through such applications can inform the governance, testing and responsible deployment of more sophisticated AI systems.

7.3 Cassation Contradiction Detection and Analysis

One of the most significant emerging applications is the Cassation Contradiction Detection and Analysis System. The system responds to an important institutional challenge: identifying contradictory or apparently inconsistent decisions concerning similar legal issues within the cassation system. Decision handed down by five judges are binding and judges are required to base their judgment on such binding decisions. Being a civil law system, it is not easy to locate decisions for the purpose of citing as well as preventing conflict with previous judgments. Traditionally, identifying contradictions or inconsistencies in judicial decisions depends heavily on the ability of judges and legal researchers to memorize and locate relevant decisions, understand the legal questions addressed in them, compare the reasoning adopted by different benches, and determine whether the decisions genuinely conflict or can be distinguished on the basis of facts, procedural posture, statutory changes or other relevant circumstances. As the volume of cassation jurisprudence grows, it becomes increasingly difficult to unearth such decisions through manual research alone.

The contradiction-detection system is intended to provide technological assistance by searching and comparing cassation decisions, identifying potentially similar decisions and flagging cases where materially different legal interpretations or outcomes appear to exist. Its analytical value goes beyond merely identifying two decisions containing different conclusions. A meaningful contradiction-analysis tool should assist in examining the underlying legal issue, statutory provision, factual and procedural context, reasoning and conclusion, thereby helping judicial users understand why an apparent contradiction exists. This can be particularly valuable where different cassation benches have addressed similar legal questions or where a legal issue has developed over time.

The system can contribute to judicial consistency in several ways. First, it can make potentially conflicting decisions easier to identify. Second, it can provide the relevant decisions and legal materials for judicial examination. Third, it can assist in distinguishing genuine contradictions from differences attributable to different facts, procedural circumstances or changes in applicable law. Finally, it can contribute to the institutional preservation of judicial knowledge by creating a systematic and searchable body of cassation jurisprudence. The system should not, however, be understood as determining that one judicial decision is legally "correct" and another "incorrect." Contradiction detection is an analytical function that generates information for judicial consideration. Whether two decisions are legally inconsistent, whether a later decision has superseded an earlier one and what legal consequence should follow remain matters for the competent judicial authority. The system has already been developed through the FSC - AAU collaboration and is currently undergoing testing. This represents an important step in moving the Court's AI agenda from conceptual design toward practical judicial deployment.

7.4 Cassation AI Prediction and Intelligent Screening Support

A second application being developed in collaboration with Addis Ababa University is the Cassation AI Prediction System. The system is intended to provide analytical assistance in the screening and preliminary assessment of cassation applications by examining patterns emerging from previous cassation decisions. It is designed to predict the likelihood of success of a cassation application based on comparable previous decisions and to identify similar cassation decisions and the legal interpretations reflected in them. By comparing an application with the existing body of cassation jurisprudence, the system can assist judicial users in understanding how similar legal questions have previously been treated.

This capability responds directly to the practical challenge of screening cassation matters, particularly the need to identify applications raising questions that may involve a fundamental error of law. Rather than replacing the legal assessment required at the screening or adjudication stage, the technology can help organize the relevant information needed for that assessment. It can identify analogous decisions, surface relevant legal provisions and interpretations, and indicate patterns in previous outcomes.

The concept represents a transition from simple electronic retrieval toward predictive judicial analytics. Conventional legal databases answer the question, "Which decisions contain these words?" An intelligent prediction system seeks to answer more sophisticated questions: "Which previous cases are materially similar?", "How did the Court interpret the relevant legal provision?", "What outcomes have followed from comparable legal issues?", and "Based on the existing judicial record, what pattern is observable?" The system can consequently support both efficiency and consistency. It may reduce the time spent manually locating comparable decisions and provide judges and legal researchers with a more comprehensive picture of existing cassation jurisprudence. It may also help identify recurring legal questions, emerging areas of disagreement and patterns requiring closer judicial attention.

Prediction must, however, remain an analytical aid rather than a determination of the outcome of a case. A prediction generated from previous decisions cannot account conclusively for new facts, changes in legislation, and developments in jurisprudence or differences in legal reasoning. Accordingly, its output is information to be evaluated rather than a binding determination. The Cassation AI Prediction System has already been developed through the FSC-AAU collaboration and is currently in the testing and validation phase. It's testing and validation will be particularly important because predictive functions require careful assessment of accuracy, reliability, possible bias and the extent to which historical patterns should properly influence analysis of a new case.

7.5 Artificial Intelligence as Judicial Research and Knowledge Infrastructure

The two cassation-focused applications form part of a broader concept of judicial knowledge infrastructure. The technology stack proposed under the emerging judicial AI program includes Large Language Models, Natural Language Processing, and Machine Learning, Retrieval-Augmented Generation, Knowledge Graphs, Explainable AI, semantic search and intelligent

document processing. These technologies are intended to enable intelligent legal research, retrieval of binding Cassation Bench decisions, identification of similar judicial decisions, issue identification, evidence organization, document summarization, legal concept extraction, citation support and structured legal analysis.

Retrieval-Augmented Generation is particularly relevant to judicial applications because it can require the system to retrieve relevant authoritative legal materials before generating an analytical response. This architecture can reduce the risk of unsupported or opaque AI outputs. Explainable AI can, to the extent technically feasible, identify supporting legal authorities, explain analytical reasoning, distinguish retrieved information from generated text, provide traceable references to judicial sources and indicate confidence levels where appropriate.

The ultimate purpose of this knowledge infrastructure is to make the Court's accumulated judicial knowledge more accessible to judges and judicial professionals. Rather than requiring every judge to independently reconstruct the relevant body of jurisprudence through extensive manual searching, AI-supported systems can help organize and connect the Court's existing legal knowledge, subject to verification against authoritative sources.

7.6 AI Assistant Judge: From Decision Support to Generative Judicial Assistance

The third and more ambitious strand of the Federal Supreme Court's AI program is the development of an AI Assistant Judge, being undertaken in collaboration with the Ethiopian Artificial Intelligence Institute (EAII). Unlike the two cassation-focused systems, which are already developed and undergoing testing, the AI Assistant Judge initiative is at its initial stage. A technical team comprising members from the Federal Supreme Court and the Ethiopian Artificial Intelligence Institute has been established, and the process of collecting and preparing judicial data has commenced.

The project seeks to jointly design, develop, validate, deploy and institutionalize an AI-enabled Judicial Decision Analysis and Decision Support System capable of assisting judges in legal research, judicial decision analysis, evidence organization and knowledge management. The first phase is deliberately limited to labour-law litigation. The AI system is to be trained and developed using labour legislation, applicable procedural laws, Binding Cassation Bench decisions concerning labour matters, judgments of the Federal Supreme Court, Federal High Court and Federal First Instance Court, pleadings, court records, records of proceedings, judicial reasoning patterns, legal terminology and judicial drafting styles used in Ethiopian labour adjudication.

The choice of a defined area of law for the initial phase is important. It enables the institutions to develop and test the technology within a controlled legal domain before considering expansion to commercial, civil, criminal, administrative, tax, family, intellectual property and other areas of federal jurisdiction. Any such expansion would require a fresh impact assessment, judicial validation and approval in accordance with the proposed AI Judicial Protocol. The concept of an AI Assistant Judge represents a significant evolution in judicial technology. At its mature stage, such a system may be capable of processing case materials, identifying relevant legal issues,

retrieving applicable legislation and precedents, comparing similar decisions, organizing evidence, analyzing legal arguments and producing structured proposed or draft judicial decisions for consideration by a judge.

Under the draft AI Judicial Protocol, the AI Assistant Judge is proposed to be classified as a Tier 1 high-assurance decision-support system. Its capabilities are contemplated to be introduced in stages: Stage A for analytical support; Stage B for structured proposed reasoning and non-dispositive draft passages; and Stage C for a structured proposed or draft judicial decision, including proposed dispositive content. Under the draft framework, each stage would require separate authorization based on judicial validation, impact assessment and controlled piloting.

Outputs at the more advanced stages must be clearly identified as AI-generated, non-binding proposals and kept distinguishable from the judge's own work product. A judicial decision acquires legal and procedural effect only through the independent judicial process. The first phase of the AI Assistant Judge is therefore not an autonomous adjudication system. Its institutional purpose is to extend the analytical and research capacity available to judges while preserving the constitutional allocation of judicial authority.

The most important early activity in the AI Assistant Judge Project is consequently not simply software development; it is the creation of a reliable and legally validated judicial data foundation. This data-collection process is already being initiated in the present implementation of the project. The data architecture becomes a critical institutional asset. Properly structured judicial data can support not only the AI Assistant Judge but also future applications in judicial analytics, case-flow management, legal research, precedent mapping and institutional performance management.

7.7 Institutional Governance and Responsible and Ethical Use of AI

The emergence of judicial AI creates a corresponding institutional responsibility to ensure that AI is developed and used consistently with judicial independence, the rule of law, confidentiality, fairness, data protection and accountability. In recognition of this requirement, the Federal Supreme Court has prepared a draft AI Judicial Protocol on the Governance, Regulation and Ethical Use of Artificial Intelligence in Federal Courts. In this Report, it is referred to as the "draft AI Judicial Protocol" or the "draft Protocol." The draft Protocol proposes an institutional framework for governing the development, procurement, testing, deployment, use, monitoring, auditing and retirement of AI systems within the federal courts, subject to its formal consideration, approval and adoption.

The draft Protocol is founded on the proposed principle that "AI shall assist justice; it shall not substitute the human judge." It places judicial independence, legality, fairness, accuracy, transparency, accountability, data protection and responsible innovation at the center of its proposed AI governance framework. It also recognizes that AI used in the judiciary would need to be treated differently from ordinary technological applications because of its potential implications for judicial functions, litigants' rights and the integrity of the justice system.

A central feature proposed in the draft Protocol is the establishment of an AI Governance Committee within the Office of the President of the Federal Supreme Court. If adopted, the Committee would be responsible for implementation, oversight and periodic review of the draft Protocol, including approval or rejection of AI proposals, risk classification, impact assessment, judicial validation, testing, monitoring, auditing, ethical compliance and incident management. An AI Unit is also envisaged to provide technical and institutional support, coordinate with technical partners, maintain the relevant register, support testing and monitoring, and facilitate capacity building.

The draft Protocol proposes a risk-based classification system. Tier 0 covers prohibited uses; Tier 1 covers high-assurance decision-support systems whose outputs analyze case merits or may materially influence adjudication; Tier 2 covers judicial research and knowledge-support systems; Tier 3 covers administrative applications such as transcription and scheduling; and Tier 4 covers controlled research, training and sandbox environments. Under the framework proposed in the draft Protocol, systems would be classified before development, procurement, piloting or deployment, and changes in function, data or intended use could require reclassification.

The draft Protocol also proposes clear limits on prohibited uses. Under the framework proposed in the draft Protocol, AI would not be permitted to determine or issue the operative part of a judgment, sentence or ruling; assess credibility or truthfulness; serve as the sole or determinative basis for specified restrictions on fundamental rights; use biometric or emotion recognition to infer truthfulness, state of mind or intent in court; or operate through an unapproved system. Public-facing AI would not be permitted to represent itself as a judge or lawyer, make binding determinations or provide legal advice, and would be expected to provide an accessible route to a human court official.

The draft Protocol is intended to provide a governance framework for the Court's existing and emerging AI initiatives, including automatic transcription within Smart Court, Cassation Contradiction Detection and Analysis, Cassation AI Prediction, the AI Assistant Judge and the judicial knowledge infrastructure supporting these applications. Under the framework proposed in the draft Protocol, existing systems would be subject to review against the Protocol, and systems would not be operationalized or extended beyond their approved functions without the required classification, validation and authorization, if and when the framework is formally adopted.

The preparation of the draft AI Judicial Protocol represents an important institutional step in the Federal Supreme Court's effort to establish a structured governance framework for its transition toward an intelligent judiciary. When formally adopted, the framework after feedback from stakeholders, it would place technological innovation within a structured system of judicial governance, ethical safeguards, data protection, validation, transparency and accountability, helping ensure that the development of judicial AI proceeds as part of institutional justice reform rather than as a stand-alone technology initiative.

7.8 AI and the Future of Judicial Decision-Making

The emerging AI initiatives demonstrate that the Federal Supreme Court is progressively developing a layered model of judicial intelligence.

At the first level, AI can retrieve and organize information: finding laws, precedents, cases and relevant documents. At the second level, AI can analyze and compare information: identifying similar cases, comparing judgments, detecting potential contradictions and extracting legal concepts. At the third level, AI can support prediction and screening: identifying patterns in cassation jurisprudence and providing analytical indications concerning the treatment of a cassation application based on previous decisions. At the fourth level, AI can assist in generating judicial analysis and proposed decisions: processing case materials, structuring legal issues, organizing evidence, retrieving authorities and producing draft analytical material for review within the judicial process.

The progression from one level to another represents increasing technological assistance across the judicial workflow rather than a transfer of judicial authority to technology. The objective is to reduce repetitive information-processing burdens so that judges can devote greater attention to functions requiring legal analysis, evaluation of evidence, consideration of competing arguments, application of legal principles to facts and judicial discretion. The appropriate safeguards should correspond to the potential impact of each application. As an AI system moves closer to functions that may materially influence adjudication, the requirements for validation, transparency, documentation, verification, monitoring and accountability become correspondingly more stringent.

7.9 Capacity Building and Institutional Readiness

The transition to an intelligent judiciary requires corresponding investment in human capacity. Judges and judicial personnel need not become AI engineers, but they must understand the capabilities, limitations and risks of AI systems sufficiently to use them responsibly. In addition, the Federal Supreme Court has restructured its ICT function to establish an AI Unit and strengthen internal capacity to manage emerging applications in response to growing demand.

The AAU - FSC cooperation includes judicial analytics, digital tools and AI literacy, responsible and ethical AI training, train-the-trainer initiatives, workshops, seminars and validation sessions as components of institutional cooperation. The AI-JDASS framework similarly recognizes that sustainable implementation requires collaboration among judges, legal researchers, software engineers, AI specialists and other technical professionals. It identifies capacity building and knowledge transfer as explicit project objectives and expected institutional outcomes.

This multidisciplinary approach is particularly important because judicial AI must simultaneously satisfy legal, judicial, technological and ethical requirements. The sustainable model is therefore not one in which technology experts develop an application and subsequently hand it over to judges. Rather, judicial and technical professionals should participate throughout the lifecycle, from identification of the judicial problem through data preparation and system design to testing,

validation, deployment and continuous improvement. In addition, judges and judicial personnel will need continuing education concerning responsible AI use. Training should cover not only how to operate AI tools, but also how to critically evaluate AI outputs, identify possible errors or hallucinations, verify legal authorities, protect confidential information and avoid inappropriate reliance on AI-generated analysis.

Taken together, these measures provide the institutional foundation for the Federal Supreme Court's emerging intelligent judiciary: a digitally enabled, data-driven and increasingly AI-assisted judicial system in which technological capability is developed alongside governance, legal safeguards, institutional capacity and professional responsibility.

8. The Road Ahead: A Strategic Outlook

8.1 Consolidation, Integration and Intelligent Judiciary

The activities carried out so far in the digitalization endeavor reveal the direction the Court is taking and the destinations to reach in the short, medium and long terms. The immediate strategic objective is to consolidate the foundations already established: expand and optimize ICMIS; deepen eRMS; strengthen interoperability; continue Smart Court use; enhance user support; and institutionalize data governance and service-continuity arrangements. The next stage should connect the principal digital services so that filing, case administration, records, hearings, service, enforcement, public information and institutional reporting operate as a coherent digital workflow. The objective is not simply more applications, but greater integration of the applications already forming the Court's digital architecture. As the quality and coverage of judicial data increase, AI-enabled legal research, judicial knowledge management, document classification, comparative analysis and carefully bounded decision support can progressively be introduced. AI should, therefore, develop as an additional capability of an already integrated digital judiciary.

Judicial service involves numerous users and stakeholders at the federal and state levels demanding coordination and integration for the smooth functioning of the systems deployed. The Court's international outlook includes learning from peer judiciaries, development partners, universities and technology institutions. Comparative engagement can support benchmarking, standards development, capacity building, joint research, responsible AI development and knowledge exchange. Ethiopia's experience can in turn contribute to international discussion on digital justice in African and developing-country contexts.

8.2 Proposed transformation roadmap

The digital transformation of the judiciary can be understood as a progressive sequence of strategic stages, with each stage building on the institutional, technological, and governance foundations established in the preceding one.

Foundation and Consolidation: The first stage focuses on establishing and consolidating the essential foundations of digital justice. Key priorities include the development of the Software-Defined Wide Area Network (SD-WAN), data centers, the necessary legal and institutional framework, the Electronic Records Management System (eRMS), the pilot implementation of the Integrated Court Management Information System (ICMIS), and Smart Court initiatives. The indicative outputs of this stage are reliable digital infrastructure, properly governed digital records, and validated judicial workflows that provide the foundation for further digital transformation.

Integrated Digital Judiciary: The second stage focuses on expanding ICMIS and strengthening interoperability among judicial information systems and relevant institutional platforms. The objective is to move beyond isolated digital applications toward an integrated judicial environment in which information and processes can be connected throughout the judicial lifecycle. The principal outputs are an end-to-end digital case lifecycle and integrated management information that supports more efficient and coordinated judicial administration.

Data-Driven Judiciary: The third stage focuses on transforming standardized judicial data into a resource for institutional management and decision-making. This involves establishing standardized judicial data structures, developing management dashboards, and strengthening institutional analytics. The expected result is evidence-based case-flow management and systematic performance monitoring, enabling judicial leaders and administrators to identify trends, assess workloads, monitor performance, and make better-informed institutional decisions.

Intelligent Judiciary: The fourth stage introduces advanced judicial knowledge and artificial intelligence capabilities in a controlled and institutionally governed manner. The strategic focus is on developing a judicial knowledge base, AI-supported legal research, and carefully governed decision-support tools. The expected outputs include faster information retrieval, improved access to judicial knowledge, and enhanced capacity for judges and judicial professionals to locate, analyze, and use relevant legal and judicial information while maintaining appropriate human oversight.

Mature Digital Public Service: The final stage focuses on establishing a mature, user-centerd digital justice environment. Strategic priorities include accessible digital services, reliable public information, user-centered service design, and cross-institutional integration. The ultimate output is a digital justice system that provides accessible, transparent, efficient, and resilient services to court users and other stakeholders, while strengthening institutional connectivity and public confidence in the administration of justice.

Taken together, these stages represent a progression from digital foundations and institutional consolidation, through integration and data-driven management, toward intelligent judicial capabilities and mature digital public services. The sequence emphasizes that judicial digital transformation is not simply the introduction of technology, but a gradual institutional transformation in which infrastructure; legal governance, business processes, data, intelligence, and public service delivery develop in a coordinated manner.

8.3 Conclusion

The Federal Supreme Court of Ethiopia's digital transformation represents a significant institutional transition from conventional computerization toward an integrated, accessible, data-driven and increasingly AI-enabled judiciary. As demonstrated throughout this Report, this transformation is not simply about introducing new technologies. It involves the progressive integration of the legal framework, digital infrastructure, judicial processes, information systems, electronic records, smart ocurt technologies, judicial data, human capacity and emerging artificial intelligence into a coherent institutional architecture.

An important foundation of this transformation is the legal and institutional framework established by the Court. Electronic Filing and Litigation Directive No.25/2025 provides legal and procedural recognition for electronic filing, electronic litigation, remote hearings and electronic records, while establishing requirements for authentication, security, access, retention, preservation, continuity and disaster recovery. It therefore provides an essential legal bridge between conventional judicial processes and the Court's emerging digital environment.

The Court has also established substantial technological foundations. The Software-Defined Wide Area Network (SD-WAN) connecting 24 courts and Centers, together with data-center and backup infrastructure and network security and monitoring capabilities, provides the connectivity and resilience upon which the wider digital judiciary depends. ICMIS and eRMS constitute the core of the integrated digital environment, while the Cassation pilot represents an important step toward translating the developed architecture into operational judicial practice.

The Smart Court initiative further extends digitalization into the courtroom through audio-to-text transcription, video recording and video conferencing. These technologies strengthen the judicial record, facilitate remote participation and make proceedings more searchable and usable. At the same time, judicial data generated through these systems creates the foundation for institutional analytics, knowledge management and evidence-based judicial administration.

The emergence of artificial intelligence represents the next layer of this transformation. Judicial knowledge management, AI-supported legal research, contradiction detection, prediction and decision-support tools have the potential to reduce repetitive information-processing burdens and strengthen judicial analysis. However, the Court's fundamental principle must remain clear: AI supports human judges; it does not replace them. Judicial responsibility, interpretation of law, evaluation of evidence, exercise of discretion and final decision-making must remain with human judicial officers. The greater the potential impact of an AI system on adjudication, the greater the need for human verification, transparency, explainability and accountability.

The next phase is, therefore, not a return to system development, but a process of operational consolidation, integration and scaling. The immediate priorities are to strengthen implementation of ICMIS and eRMS, learn from the Cassation pilot, expand interoperability, strengthen electronic-record governance, cybersecurity and business continuity, institutionalize user support and capacity building, and progressively extend digital services. Digital inclusion must remain an

essential principle so that technological advancement does not create new barriers for court users who lack connectivity, devices or digital literacy.

The longer-term trajectory should move progressively from digital foundations, to an integrated digital judiciary, to a data-driven judiciary, and ultimately to a responsibly intelligent and mature digital public service. Each stage depends on the strength of the preceding one: reliable infrastructure enables integration; integration produces governed judicial data; trustworthy data enable analytics and knowledge management; and reliable judicial knowledge creates the foundation for responsible AI.

Ultimately, the success of digital transformation should not be measured by the number of systems deployed or technologies acquired, but by their contribution to better justice. The objective is a judiciary in which technology enables judges and judicial personnel to access information more efficiently, manage cases more effectively, preserve judicial records reliably, understand institutional performance, and devote greater attention to the human functions of adjudication.

The Federal Supreme Court has reached an important threshold: the foundations of a modern digital judiciary are increasingly in place. The task ahead is to make these foundations integrated, reliable, secure, inclusive, sustainable and genuinely useful in judicial practice. The ultimate vision is not machine justice, but human-centered digital justice — a judiciary in which technology, data and responsibly governed artificial intelligence reinforce human judicial expertise while preserving judicial independence, fairness, accountability, accessibility, public trust and confidence.

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