Information Technology Department Business Plan

Fiscal Years: 2023 and 2024*
(10/1/2023 through 9/30/2024)

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DEPARTMENT OVERVIEW

The Information Technology Department (ITD) is the central technology service provider for Miami-Dade County (MDC) supporting County departments, external governmental agencies, and residents alike. The Department strives to keep in alignment with Miami Dade County's guiding principles by providing information and services easily accessible to customer and visitors. As a custodian of data and innovation, ITD works to build a secure technological infrastructure while establishing and maintaining an effective operational environment. In addition, ITD collaborates with County executives, departments, and industry partners to continuously implement and maintain modern solutions that enable easy access to County services.

Technology is fast-paced and rapidly evolving. Keeping up with customer expectations is vital to being welcoming to our residents and maintaining a successful and pleasant government experience. Our services span the scope of a secure IT infrastructure with a reliable network, radio, telephony, hardware, and software platforms that support countywide applications and services. As such, the Department has established a solution-focused technical services and innovative solutions. ITD will be working with the Miami-Dade County's Innovation Authority to fast-track ideas to key problems our community faces.

The Department works tirelessly to welcome mindsets and IT methodologies that aim to continually become a people-driven, agile organization that can acclimate to change. ITD has achieved this by promoting private sector thinking, being open and transparent, and adopting industry best practices. A key component of agile methodology is innovating in small, self-organizing, cross-functional teams that collaborate without hierarchy and partner directly with our customers to achieve the common goal of providing effective solutions. In turn, this empowers the IT organization to continuously create value for residents by efficiently sharing, reusing, and adopting solutions.

Aligned with the vision of County administration, IT solutions empower customers to feel thought of and included by having an active and agile-like role as they demand more and more self-service opportunities from the convenience of a digital device. Technology will continue to drive the solutions that address these needs in a holistic and personalized customer experience. County IT is uniquely positioned to advocate for the streamlining of services and back-end processes across the organization to create a marketplace of digital solutions that better serve residents and facilitate access to meet their needs.

Department Mission

The **mission** of the Information Technology Department is to provide strategic innovation and IT solutions that deliver results and enhance the customer experience to ensure operational efficiencies and collaboration throughout Miami-Dade County.

Our **vision** is to transform the customer service experience through innovation. To meet this vision and mission, ITD has established the following strategic goals:
- ✓ Provide reliable and secure government digital services
- ✓ Enable transparency of service and reuse of data
- ✓ Modernize infrastructure platforms to ensure community access and connectivity
- ✓ Promote a cross-cutting, agile organization that is easily able to pivot and respond to change
- ✓ Identify and plan innovation strategies that will enable the County to be Future-Ready

Table of Organization

OFFICE OF THE DIRECTOR
Oversees the provision of IT resources, services, communications and trainings, and performs Chief Information Officer (CIO) functions

FY 22-23	FY 23-24
9	7

ADMINISTRATIVE SERVICES
Provides financial, budgetary, human resources, procurement, vendor management and administrative support to IT operations

FY 22-23	FY 23-24
44	47

ENTERPRISE DATA CENTER
Provides 24 X 7 operation and support for the hardware and system software that run the County's mainframe and distributed systems environments; provides enterprise scheduling storage, backup, printing, emergency preparedness, and mainframe disaster recovery services

FY 22-23	FY 23-24
72	72

NETWORK & TRANSPORT
Delivers engineering, enterprise maintenance, installations, and support for telephone systems and wide and local area network support

FY 22-23	FY 23-24
56	56

RADIO COMMUNICATION SERVICES
Provides local and regional public safety first responders and County departments with efficient, reliable, and secure radio communications services and solutions

FY 22-23	FY 23-24
53	53

GEOSPATIAL TECHNOLOGIES
Delivers ability to enable location intelligence, spatial analysis & data science, mapping, imagery, real-time and temporal visualizations & analytics, and data maintenance services

FY 22-23	FY 23-24
83	84

PUBLIC SAFETY/JUSTICE SYSTEMS
Provides multi-platform automated application systems for the support of public safety applications for the Clerk of Courts, Police, Corrections and Rehabilitation and other criminal justice partners

FY 22-23	FY 23-24
72	69

ENTERPRISE RESOURCE PLANNING
Delivers enterprise program services for Enterprise Resource Planning (ERP) and core legacy systems including human resource and financial systems

FY 22-23	FY 23-24
53	52

ENTERPRISE SECURITY
Develops and implements data security policies, manages enterprise security risk, and manages the County's data security infrastructure, remote access, directory services, and mobile messaging

FY 22-23	FY 23-24
44	42

REGULATORY & UTILITY SERVICES
Develops IT multi-platform capabilities for the Water and Sewer, and RER portfolios; providing for continuous business improvement

FY 22-23	FY 23-24
82	85

DATA MANAGEMENT & INTEGRATION SERVICES
Delivers services for enterprise hosting and integrations, analytics and data modeling, database, and development support

FY 22-23	FY 23-24
72	68

TRANSPORTATION & CUSTOMER EXPERIENCE SOLUTIONS
Provides innovation, mobility capabilities, 311 Answer Center and multi-platform departmental automated systems for Seaport, Communications and Customer Care, and Transit business needs

FY 22-23	FY 23-24
57	57

CITIZEN & NEIGHBORHOOD SERVICES
Provides multi-platform Countywide and departmental automated systems for administrative, legislative, parks, property appraiser, library, solid waste, public housing, and community action needs

FY 22-23	FY 23-24
61	60

SERVICE MANAGEMENT
Provides centralized services and support to County Departments through the IT Service Desk, telephone services, computer peripherals, desktop and server virtualization and service management. Maintains internal incident, work order and billing systems

FY 22-23	FY 23-24
127	129

COUNTY ENTERPRISE SYSTEMS
Provides Countywide technology systems and services including Asset management, Data management, eCommerce, Code Enforcement, Credit and Collections, Enterprise Cashiering and Tax Collection

FY 22-23	FY 23-24
47	48

STRATEGIC PERFORMANCE & BUSINESS RELATIONSHIP MGMT
Provides strategic project and relationship to all county departments while providing continuous business enhancements

FY 22-23	FY 23-24
18	16

The FY 23-24 total number of full-time equivalent is 951.5 FTEs.

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Our Customer

As part of the General Government strategic area, the IT department is the bridge between Miami-Dade County government and the 2.7 million residents it serves. ITD drives organizational service delivery through customer-driven operations and inclusive services focused on responding to the needs of the community. Therefore, ITD is able to provide support to both its internal customers, which include County departments/agencies, partnered local governments and external agencies.

Residents consistently leverage County IT solutions to obtain information and conduct County business on digital channels. They expect reliable, equitable, and secure access. Whereas customer departments expect a readily available secure computing and networking infrastructure to support their respective business services and enable delivery of service to meet residents' needs.

Developing customer-centric solutions to enhance the way residents interact with government is the cornerstone of the success of the IT organization. The departments seek new and innovative ways to create positive impact in the community. By moving the needle to ensure access and connectivity, the department remains aligned to bridge the digital divide for underserved residents. In addition, unique to the IT organization is Relationship Management functions serving as change agents and working to develop IT strategy to scale solutions aligned with County administrative priorities.

The strategic planning and provisioning of services are evaluated by the Business Relationship Management (BRM) team throughout the fiscal year to ensure satisfaction and the effectiveness of IT services. In addition, the Application teams works closely with customer business units to identify opportunities leveraging existing solutions or emerging trends to ensure the alignment of countywide IT strategy to customer business priorities. ITD is positioned to deliver solutions aligned with Miami-Dade's Guiding Principles that support efficiency, agile-focused, inclusive, open, and transparent through community equity and engagement and drive results to achieve environmental and economic goals.

Along with internal customer engagement, ITD collaborates with community partners and civic organizations to ensure the voice of the customer drives the services we enhance. The department is a champion and County advocate in various technology movements and community events to ensure that Miami-Dade County engages with its citizens and local tech thought leaders in the delivery of modern solutions that are inclusive and transformative. Together with the customer, County IT has made strides in not only modernizing existing systems but in creating new sources of value that have transformed the way government interacts with residents, businesses, investors, and visitors.

Strategic Alignment, 4E, and Thrive305 Summary

The Departmental programs and initiatives support the following objectives from the General Government portion of the Miami-Dade County Strategic Plan:

GG1-1	Provide easy access to information and services
GG1-2	Support a customer-focused organization
GG2-1	Attract and hire new talent
GG2-2	Promote employee development and leadership
GG2-3	Ensure an inclusive and diverse workforce
GG3-1	Deploy effective and reliable technology solutions that support Miami-Dade County services
GG3-2	Ensure security of systems and data
GG4-2	Effectively allocate and utilize resources to meet current and future operating and capital needs

In addition, ITD is currently developing solutions to support the action items outlined in the County's Thrive 305 Plan that are further categorized in 4Es: Equity, Economy, Environment and Engagement. The table below is a high-level matrix of how we will ensure technology programs will align to these.

Selected Measure Name	**4E (Environment, Equity, Economy, or Engagement)**	**Thrive 305 Priority or Action**
Percentage of vehicle installations completed on time	Economy	Action 1.3
Unit cost per portable radio repair	Economy	Action 1.3
IT Service Center first contact resolution rate	Engagement	Action 1.1
IT Service Center Call abandon rate	Engagement	Action 1.1
Miami Dade County Portal availability	Engagement/Environment	Action 12.1
Number of layers maintained in the County's Central Repository	Environment/Engagement	Action 7.5
County Network availability	Engagement/Economy	Action 12.1
Purchasing Card Industry (PCI) quarterly compliance	Engagement/Economy	Action 12.2
Average of all threats identified (advanced threats, viruses, impersonation, SPAM) monthly	Engagement	Action 1.3
Documents managed in the County's Document System	Environment	Action 1.1
Assets tracked in the County's Asset Management System	Engagement/Economy	Action 1.1
Number of monthly hires and promotions	Equity/Engagement	Action 1.1

KEY ISSUES

The following SWOT identifies key issues facing the department as weaknesses and threats.

Strengths	*Weaknesses*
• Experienced and skilled talent with significant technology proficiency and business acumen.	• End-of-Life systems increasing technology operating cost and cyber-security risk
• Expertise to translate business requirements into effective and sustainable technology solutions.	• Recruitment procedural rigidness impacting succession planning
• Continued investments in technology and innovation.	• Dataset inventory contains duplicative datasets creating maintenance and security control overhead.
• Resilient hybrid service offering and cloud strategy.	• Significant amount of time and budget spent supporting legacy technology
• Excellent partnerships with other county departments, agencies, and municipalities.	• Formalize marketing and communication strategy to departments
• Effective defense in depth Cyber security strategy.	
• Strong focus on digital workspace facilitating hybrid work for employees.	
• Expanding the delivery of mobile solutions meeting citizens where they are.	
Opportunities	*Threats*
• Seek additional grant funding opportunities.	• Rapidly evolving threat landscape targeting government and critical infrastructure.
• Appropriate Capital project funding to address priority strategic enterprise needs.	• Loss of institutional knowledge due to retirement.
• Business reviews to improve deliver of service.	• Ability to attract and retain IT talent in a competitive market.
• Accelerate implementation of new technologies to drive innovation and expediate delivery of services.	• Dependency on global supply chain.
• Improve methodologies, trainings, and tools to increase efficiencies.	• Coordination of strategic priorities of IT modernization efforts across county departments.
• Attract talent to meet all areas of technology.	• Delayed strategic technology modernization roadmap implementation dependent on funding availability.
• Adapt to continual emerging technologies.	• Impact of Constitutional Offices on the delivery of IT Services.
• Development of an enterprise cloud strategy.	
• Accelerate digitization efforts to replace legacy technologies.	

PRIORITY INITIATIVES

The departmental programs and initiatives that support and align to the County's goals and objectives are as follows:

GG1-1   Provide easy access to information and services

The IT department is committed to developing interactive and self-service solutions to better serve the community, promote equity of access and government transparency. Highlights of services include:

- **Customer Service and Experience Initiatives:** The customer experience and the technology that drives IT are the cornerstone to delivering access to county services through a *No Wrong Door* solution. Critical to achieving this are major initiatives that will digitize and streamline County services and solutions.

- **Customer Relationship Management (CRM) Solution:** ITD in collaboration with the Customer Experience and Communications and Internal Services Departments released a Request for Proposal (RFP) for to replace the existing Hub 311 System with a state-of-the-art CRM Solution, that will improve customer interaction, elevate the customer service experience, while strengthening the ways residents and business interact with the County. The evaluation process concluded with the selection of a vendor and the project is currently in negotiations.

- **Customer 360 Initiative:** Development of a unified content and data platform for the use of communication and outreach during critical situations like severe weather and other events that require information to be shared quickly and effectively with residents and employees via various channels such as miamidade.gov, SMS Text, social media, Smart devices, landlines, and other modes of communication.

- **Contact Center Modernization:** Modernizing and moving contact center solutions to use emerging technologies such as artificial intelligence that proactively predicts a caller's needs.

- **Miamidade.gov:** Provide access to government information and services through the development of applications made available to support, the County web portal, miamidade.gov, and County digital channels. Development of self-service solutions via a single sign-on digital experience on the unified content and data platform. Expand functionality in the areas of service request and tailor content in a personalized digital marketplace for all online services.

- **Open Data Initiative:** The technology teams continue to provide access to open data, collaboration, and government transparency. The technology enables users to reuse data and communicate with the government for reporting problems, locating services, and supporting their needs such as resiliency, sustainability, and urban and transportation planning. Continued development will foster collaboration with municipalities and local utilities to improve the level of services provided to residents and visitors, eliminate silos or duplication of data, and build efficiencies between local government partnerships.

- **Legislative Management System:** The Legislative Management System continues to undergo agile development efforts including modernizing existing components as well as adding new functionality. The goal is to facilitate the legislative processes and provide tools that will allow and support legislative reviews and decision making. The systems and components included in the modernization efforts include: Legislative Portal, District Legislative History, Directives System and Dashboard, District Legislative History, Meeting Agenda Creation and Workflow System, and County Board Appointment System. The expected results of these efforts include seamless integrations, document management, workflow routing, a responsive and mobile-centric approach, role-based security for County users, and robust auditing capabilities.

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- **Capital Improvement Information System:** The modernized Capital Improvement Information System is used to implement and monitor construction projects, Transportation and Public Works contracts and assignments, ensure equitable distribution of projects, and architectural design tracking and build projects. This system is undergoing a modernization process that will provide efficiencies as well as enhanced capabilities to effectively maintain projects, contracts, and assignments.

- **Permitting, Planning, and Code Enforcement:** The Department continues to develop the Building and Permitting one-stop-shop online. The solution is currently being used countywide for licensing, permitting, plan review, inspections, and code enforcement business processes. Leveraging existing GIS infrastructure, provides mobile technology for remote work in the field, provides a workflow-based user interface for administrative and support staff usage. The citizen portal will streamline these business processes for the public.

- **Neighborhood Mobile Solutions:** Additional enhancements are planned for the Department of Solid Waste Management's mobile application to include *Where's My Garbage Truck*, account status/pickups, and facility wait time functions, making it easier for customers to obtain solid waste information and manage their accounts.

- **Transportation Mobile Solutions:** The Transportation and Economic Development strategic areas are implementing mobile applications that serve land, sea, and air. Seaport's cruise and cargo customers will have services at their fingertips including available transportation options to and from the port, parking information, mobile parking payment and cruise line information. Port News, webcams, and a customer survey are also enhanced to improve support. Further, key data will be available for leadership to monitor transactional activities in cruise and cargo, showing trends and supporting decision making. The transit mobile applications were consolidated into the *GO Miami-Dade Transit* app. Future enhancements will include regional mobile ticketing, push notifications, account-based processing, and contactless payment for international cards.

- **Interactive Access to Recreational Services:** The Department will continue to enhance the ParkLink (Civic Rec) solution for Parks, Recreation and Open Spaces to other business areas like Marina operations, providing enhanced functionality to administer wait lists, program management, membership management, point of sale to include inventory, event ticketing and contract permits. The solution will include a robust back-end account management module, social media integration and shall provide the ability to integrate with County financial systems.

- **Elevator Safety Online Services:** The Office of Elevator Safety has regulatory authority having jurisdiction over all elevators, escalators, moving walks and other conveying systems located within buildings throughout Miami-Dade County. ITD continues to modernize and develop in support of these functions with a focus on process improvements related to Elevator Inspections, Certifications, Enforcements, Permitting, Complaints, Online Accident reporting.

- **Enhanced and Expanded Network Services:** The Department's goal is to reduce downtime, improve communication and reporting, continue deploying Software Defined Networking (SDN) to improve overall customer experience.

- **Enhanced 911 Services:** Collaborate with MDPD to improve public safety deployment of Text-to-911. These enhanced features will enable text to 911 and other enhanced 911 services in 2023 by deploying four key new systems with interoperability including incoming 911 call Customer Premise Equipment, Recording, Emergency Services Telephony network and the upgrade of the Motorola P1 Computer Aided Dispatch system.

- **Indoor Space Management and Wayfinding:** The department will implement ArcGIS Indoors, a complete indoor mapping system for space management and wayfinding and smart building management throughout County facilities. It will provide 3D floor-aware maps and focused apps to support a variety of workplace and facility users, including operators, maintenance and service personnel, security staff, employees, and visitors. Indoors space management tools will be used to define and allocate individual work areas and collaboration areas in County facilities to improve the communication and productivity of employees in the workplace. Indoors will also allow navigation from facility to facility, directly to a floor, room or asset using a smartphone, tablet, computer, and even building kiosks. Along with *Indoor Positioning System*, indoors wayfinding will operationalize workplace data, track capital asset location, and help to build a safer and more secure workplace.

GG1-2 Support a customer-focused organization

The Department is committed to developing internal programs and business process reengineering to help departments better service customers. These include:

- **Service Management and Customer Strategy:** In upcoming fiscal cycles, the key emphasis will focus on customer self-sufficiency, situational awareness, increased productivity, and efficiency following the IT Service Management tenets for continuous improvement and enhancement of the overall customer experience. Central to this effort is a streamlined IT Service Center with priorities of transparency, triage, and commitment to First Contact Resolution. An enhanced IT Service Catalog along with a Client Services, Cloud Support, and a Communication Service team that transforms the customer experience. In addition, the BRM team works directly with customers to strengthen the relationship between the ITD as a service provider and its business stakeholder. Together with customers and the IT operational teams, the BRMs leverages technology solutions, drive innovation, and ensures IT services meet customer expectations. Finally, to ensure customers can scale solutions, the Enterprise Portfolio Management Office (EPMO) ensures the appropriate management of resources for the quality delivery of enterprise IT projects that have a significant impact across the County. Finally, to ensure customers can scale solutions, the EPMO establishes standard methodology and best practices, monitors resource allocation, provides coaching, and champions cross-functional teams.

- **Water and Sewer Technology Initiatives:** The Department continues to introduce innovative solutions and technologies that expand and enhance how Water and Sewer Department (WASD) conducts business today and into the future. Among these innovations are:
  - Enhanced CAD to GIS enablement tools to streamline their business development processes; capital construction and project management solutions allowing the business owner to manage and measure every step in a project lifecycle
  - Introduction and integration of Advanced Metering Infrastructure (AMI) for automated, two-way communications between a smart utility meter and the utility's customer service systems; GIS meter reading to augment mobile meter reading applications
  - Business Intelligence solutions via dashboards in support of departmental initiatives such as the Consent Decree
  - Asset Management mobile solutions to support field and warehouse operations; digital self-service solutions to provide customers with quick and easy access to water related services
  - Migration of the customer care and billing solution to a cloud-base Software as a Service platform allowing for quick and seamless product upgrades and future capability adoption

     o   Enhancing the partnership between the ITD Enterprise Security Office with WASD plant operational technology and Supervisory Control and Data Acquisition (SCADA) to perform ongoing vulnerability and risk assessments with recommendation on improving cyber security for plants.

- **Community Action & Human Services Department (CAHSD) Transportation Solution:** The objective of this project is to modernize the process for picking up and dropping off clients to various meals center. This service will also digitize the vehicle inspections and driver check-in/out, replacing the need to maintain these services via paper forms.

- **Adaptive Signals and Traffic Signal Priority:** The County currently operates approximately 2,800 traffic signal intersections, adding approximately 30 intersections annually. In FY2023-24, ITD will partner with the Department of Transportation and Public Works (DTPW) to implement and upgrade all signalized intersections countywide leveraging state-of-the-art Siemens technology. The new technology will utilize advanced video detection and travel time measurement to support adaptive signalization. Additionally, Transit vehicles and corridors will be equipped with Transit Signal Priority technology allowing for improved performance in bus services and Traffic Preemption technology for Fire Rescue vehicles.

- **LED Smart Lighting Program:** Through FY 2024-25, the Department and DTPW with work with the Florida Department of Transportation (FDOT) to convert 26,000 streetlights to LED Smart Lighting. The goal is to provide a fully integrated suite of streetlights, sensors, networks, and data analytics platforms. The solution will leverage existing roadway lighting infrastructure to make way for new and emerging Smart County technology that improves mobility, accessibility, and safety.

- **GIS Routing Solutions:** The Department will continue to help customers optimize driving and walking routing to enhance safety, balance workloads, reduce costs and create efficiencies. These efforts include trash pickup routes and an aggressive district and cycle meter rerouting initiative using RouteSmart. Coupled with home-grown mobile solutions, drivers and walk-by readers will have turn-by-turn functionality and provide the ability to capture functionality to expedite work like reading meters, inspecting assets, capturing location and images.

- **Neighborhoods Innovation:** The departments of Solid Waste Management, Transportation and Public Works and IT, will collaborate on the implementation of the Driver Safety and Improvement initiative with an integrated video camera solution for waste and bus driver training, coaching, and supervisor reporting. This solution will integrate with department driver databases, GPS, GIS, 311, Fleet Management, and other future applications. In addition, a new mobile app will enable capability that measures the amount of trash in a pile that will reduce the time Bulky Trash crews spend at a pickup location and eliminate manually measured trash piles.

- **Solid Waste Accounts and Billing System (SWABS):** This initiative streamlines and automates Waste Collections System functions into integrated components starting with the customer accounts and billing function, which includes account maintenance, billing and invoicing, payment application, lien process, legal functions, and customer care module and dashboard reporting. The remaining internal administrative modules interact with several other pivotal County applications. Future citizen facing functions of SWABS will include online and mobile access to Waste Account History, payment of Bulky Trash Overage Fees, and Enforcement Complaints visibility.

- **Artificial Intelligence (AI) and Machine Learning (ML) Solutions:** The GIS team will continue to expand the field of artificial intelligence (AI) applied to geospatial datasets (GeoAI) by implementing deep learning techniques like image classification, object detection, semantic segmentation, and instance segmentation to identify changes from imagery after meteorological events to identify changes in properties not linked to permits and create digital maps. The team will support the use of GeoAI for the

update of the county-wide tree canopy layer used by the Regulatory and Economic Resources (RER) department and in the Future Ready Decision Theater. ITD teams support Communications and Customer Experience Department (CCED) will leverage AI/ML technology to classify and make 375,000 existing documents searchable for Miami-Dade County citizens. This will also introduce automation to utilize staff time and increase deployment of new documents as they are generated more effectively.

- **Cloud Enterprise Contact Center:** Aligned with CCED's strategic roadmap to develop multi-channel "No Wrong Door" 24/7 experiences for our customers and further provide a solution that supports call center agents in a hybrid work environments and enables online payment functionality that is PCI compliance. Targeting county departments including, 311, finance RER and WASD. Further, provide the necessary call center integration to establish a customer survey after an MDC 311 call.

- **Enhanced and Expanded Network Services:** Establish the necessary 5G infrastructure to build a state-of-the-art showcase MDC park supporting augmented reality solution.

  o Deploy phase 3 of new 100Gg WAN highspeed fiber optic infrastructure plant at MDC, to enhance and improve overall performance and meet growing demands. Install redundant leg to improve access at South Corridor Fiber as part of overall Transit strategic plan including connecting the South Dade Government Center and Transit Operation.

  o Deploy 58 St East-West Corridor Fiber Optic Infrastructure to allow for the deployment of next generation highspeed connectivity to the following departments: MDPD, Corrections, Transportation and Public Works

- **Development, Security, and Operations (DevSecOps):** The Department supports DevSecOps for MDC software development initiative that improves application development and focuses on communication, integration, and coordination between development and operations to promote rapid deployment of the products.

GG3-1   Deploy effective and reliable technology solutions that support Miami-Dade County services

ITD is committed to developing enterprise systems and department solutions to provide effective County technology services.

- **Enterprise Content Management (ECM):** The Enterprise Content Management (ECM) system enables the automated capture, management, redaction, retrieval, and retention of digital content under a unified, enterprise platform. Customers use the technology to categorize document types and develop new systems that will facilitate seamless access to content. ITD will continue to develop the platform with focus on mobility and workflows to increase the efficient use of the technology.

- **Enterprise Asset Management (EAM):** The Enterprise Asset Management (EAM) is capable of storing and tracking millions of County assets, and currently provides access to thousands of users on a shared enterprise infrastructure. EAM allows for the collaboration, seeks to improve efficiencies, and sets standards in areas of asset and inventory management, work management, preventive maintenance, materials management, work request, condition assessment/reliability of assets, project costs, and call center management. ITD continues to focus on furthering the mobile capabilities of the system which will support the business need from anywhere, anytime and any device.

- **Transportation and Public Works Asset Maintenance:** The Department is supporting the customer to create efficiencies in areas of asset management, workforce management, preventive maintenance, inspections, materials management, warranty, and work requests for the Transit Metrorail

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maintenance, Traffic Signals, and Signs, and Road and Bridge Divisions. Collaboration between multiple ITD Teams (business application services, enterprise asset management, and GIS) will enable the efficient management of service requests through its full life cycle, from request entry, to resolution, and final closure. The initial support for specific service requests will be driven by the magnitude of yearly requests, ensuring maximum value to our citizens while improving operational processes and creating metrics to measure and monitor progress.

- **eCommerce:** ITD supports an Enterprise Cashiering ecosystem, which facilitates the processing of payments supporting Countywide initiatives including payment services related to code enforcement and fee collections. In the coming fiscal year, the team will expand the payment solution to ensure that the customers have accessible and contemporary payment options. Enable online payment for numerous county services.

- **Code Enforcement:** The legacy Code Enforcement system (SEFA) is being modernized using contemporary technologies to allow the teams to work and interact anywhere at any time. Additionally, it is being designed so it can be expanded to other Code Enforcement areas providing for access to businesses through a self-service portal. The first phase will be the financials component.

- **Credit and Collections:** The modernization of the credit and collections systems is using current technologies allowing the teams to work and interact anywhere at any time. The new system will also allow better interaction between debtors and the County.

- **Expansion of Virtualization Services:** ITD will continue to augment its catalog of virtualization services by further developing the infrastructures that support desktop, server, and application virtualization with solutions that focus on delivering highly flexible and scalable environments that are accessible from any device and location. With fewer physical equipment and IT hardware, the expected results are reduced real estate, reduced maintenance costs, and reduced power and cooling requirements for better overall management and realignment of staff.

- **Geographic Information System (GIS):** The GIS teams will continue to expand the County's central repository of geographic information that is the foundation of many of the applications that interface with County operations and public-facing digital services. The team will continue to develop applications for all types of geospatial solutions and integrations, including the Future Ready Decision Theater; research and evaluation of new geospatial technologies and environments, including Cloud development strategies; drone flight plans and imagery processing; 3D imagery usage, and alignment in support of vertical zoning, land use, resiliency, and public safety. Furthermore, the team will continue the expansion of the Open Data site delivering readily accessible live spatial information and map services that provide location-centric government data via web self-service. The team continues to promote the real-time collection of data and its immediate sharing through GIS web-based, mobile, and cloud solutions.

- **Law Enforcement Records Management System:** A Law Enforcement Records Management System (LRMS) is an agency-wide 24/7 mission-critical system that provides storage and viewing of information, records or documents pertaining to law enforcement operations. The LRMS will provide the basis for managing records created during the agency's core operations and will allow data to be entered once and referenced and reported on in multiple ways.

- **eParking:** This system automates parking citations for Miami-Dade Police Department (MDPD). Benefits include removing manual parking ticket processes and improving the accuracy of data by eliminating handwritten tickets.

- **Mugshot:** The current Mugshot and Rapid ID contract expires at the end of FY2022-23. The County is looking at the options for renewal or replacement of those systems. The Mugshot system provides the ability to capture images with personal identifiers during the intake process which are then used by

investigators for lineups and criminal investigations. The system is used to capture property photos during intake process and interfaces with Aramark Commissary System where a description of the inmate's personal properties is entered. Rapid ID provides the ability to capture a two-finger fingerprint and store investigative results from queries to the local Criminal Justice System (CJS), the Florida Department of Law Enforcement (FDLE), and the Federal Bureau of Investigation (FBI). This system also provides the ability to confirm the existence of DNA samples. MDPD and partner Law Enforcement Agencies use RapidID primarily for subject identification.

- **Modernization of Gain Time:** Gain Time is planned to be an in-house developed application used by Miami-Dade Corrections and Rehabilitation Department (MDCR) to track an inmate's enrollment in the gain time program, document labor supervision, evaluation of work, and committee approval processes. The inmate's activities/work, if approved, serve as an opportunity to earn a reduction to the court-imposed sentence.

- **Be On the Lookout (BOLO):** Mobile enabled in-house developed solution to be used by all Miami-Dade County law enforcement across all jurisdictions for the creation of automated BOLO flyers with images and video links, electronic transmission to law enforcement agencies that have subscribed for that area/jurisdiction/type. It will include search functionality by any key element (type, agency, date, etc.) and reporting capabilities.

- **Criminal Justice Information System (CJIS) Modernization:** The modernization of the Court Case Management System will create an integrated criminal justice solution for the 11th Judicial Circuit of Florida that will serve the information needs of all justice partner agencies. Through the implementation of a contemporary system known as the Court Case Management System (CCMS), the County will streamline operations, automate criminal court and judicial administration business processes, and transform the way information is delivered to all justice partner agencies and constituents.

- **Marine Citation and Marine Crash Implementation by LexisNexis:** Automation of marine patrol citations and crash reports for MDPD. Benefits include removing manual processes and improving the accuracy of data by eliminating handwritten reports.

- **Platform Services:** Implement best practice methodologies to drive operational excellence, continuous improvement, while minimizing service interruptions and improving overall resilience of infrastructure. Embrace a best practice methodology such as ITIL to drive operational excellence.

- **Data Sciences and Analytics:** Continue to increase the data migrated and modeled in the MDC Trusted Data Platform (TDP) based on overall County and departmental goals. Support the Mayor's initiative to leverage every resource and opportunity to address gun violence in the Miami-Dade community by collaborating with GIS and key business partners to create a meaningful Gun Violence Data Sharing dashboard for meaningful decision-making.

GG3-2 Ensure security of systems and data

The IT department is committed to maintaining secure and reliable systems that protect County data and the integrity of the customer experience. Critical to this effort are:

- **Cybersecurity Services:** The Enterprise Security Office (ESO) is accountable for securing the County's critical infrastructure systems in support of Police, Fire Rescue, 911 Emergency Services, Elections, Seaport, Aviation, multi-modal Transportation, and Water & Sewer. The Department is responsible for ensuring the trust and availability of the County's business systems, citizen data, and web presence. This

is accomplished through continual improvement of the County's cyber-security technologies, standards, and risk reduction processes. ESO utilizes multiple technologies designed to provide a defense-in-depth approach and employees continuous monitoring, diagnostics, and mitigation methodologies including vulnerability assessment and penetration testing, and security awareness training. The Department is charged with ensuring ongoing compliance with ever-evolving security standards including Payment Card Industry (PCI), Criminal Justice Information Systems (CJIS), the Health Information Portability and Accountability Act (HIPAA), and industry best practices. Ongoing improvements address modernization of MDPD, Enterprise security architecture enhancements, and continued improvements of Elections and other Federally recognized Critical Infrastructure Sectors' cybersecurity capabilities. Additionally, ITD continues to strengthen access security of County assets by way of Identity and Access Management, multi-factor authentication, and the continued modernization, standardization, and management of the County desktop computing environment.

- **Enhanced Security Systems:** As new cybersecurity technologies are implemented, existing technologies are refreshed and migrated to a shared environment. The Department will continue to provide guidance to enable secure access to these resources. Working with departments, internal stakeholders, and the IT leadership team, ITD will continue to improve security through the implementation of updated technology, policy, and standards to ensure the County's risk exposure is minimized. In addition, the ESO will conduct discovery to develop cryptographic capabilities to recommend and support security strategies to facilitate the adoption of new technologies such as Blockchain. The ESO will also review the use of alternatives to user authentication including biometric technologies like fingerprint and facial recognition to verify identity and move towards reduction on password reliance enabling a more frictionless authentication model. Further, the team will work to identify new methods and technology to validate the security of the supply chain, protect against cyber threats and prevent attacks targeted at the County.

FUTURE OUTLOOK

A critical component to the success of IT in an organization is to change with the times and evolve with industry advancements. Technology touches every aspect of the services the County delivers. It is imperative that the IT Department pivots to meet the changing needs of the county departments and the citizens. To achieve this goal, the team continues to explore new ways to deliver services, keep abreast with technology changes and business needs. There continues to be a strong focus on ensuring critical systems are maintained and enhanced. Outlined in this section, the Department tackles both New Innovation and Emerging Technologies, as well as system upgrades and enhancements to ensure the Department is Future Ready.

Emerging Technologies

Adapting to Cloud Technology: The planned continued migration of web-based applications is geared to enhance the public's interaction with the County's various lines of business. Cloud technology provides responsive, fast, and reliable access to applications. Cloud platforms allow for the continuous use of the applications regardless of events such as maintenance downtime or infrastructure failure. This cloud technology provides robust solutions to enable disaster recovery.

Augmented Reality (AR): The Department will expand in the development and use of augmented reality (AR) applications for use with smart devices that will superimpose digital information through the camera lens of smart devices rendering digital images or data onto real-world objects. The service content will be geospatially referenced so that County personnel can conduct business smarter to locate assets, locations, and incidents. AR will allow users to easily find attractions and/or view important moments via StoryMaps. Along with drone

imagery, AR objects take the customer on a journey of County facilities and venues via a virtual reality (VR) experience of any location before the visit.

Edge Data Center: The Department will research implementing between the central data center and the end-user. Some of the aims of Edge Data Center are to reduce latency, decrease network congestion, minimize bandwidth used and server resources, keep the mission-critical system on-premises, acts as data-aggregation and content-caching between an end-user and datacenter. Data Center design can be simplified by using Converged Infrastructure and Hyper-Converged Infrastructure Technology and this will make the business to be more agile.

All flash storage solutions: The Department will review options related to adding all-flash solution like an SSD. Some of the advantages of all-flash devices are faster than spinning HDD, its booting time is faster than HDD, fragmentation of the drive is not necessary to store data, noise reduction, SSD supports Disk Encryption, non-volatile and easily rewritable, access time is faster than HDD, low failure rate and Low I/O waiting time.

Cybersecurity: The Enterprise Security Office (ESO) within ITD will continue to update and enhance capabilities to adapt, protect and respond to a changing threat environment. As the County continues to move toward more cloud hosted solutions, the use of Cloud Access Security Brokers (CASB) will be researched to ensure the security and integrity and availability is maintained. ITD is also researching Zero Trust architecture to improve and strengthen data protections through the use of least privilege access and authentication and authorization based on all available data points, including user identity, location, device health, service or workload, data classification, and anomalies.

Enterprise Resource Planning (ERP) Consolidation: The consolidation of multiple ERP systems, which include instances used by Aviation and the Water & Sewer departments, and their associated databases onto a single ERP platform will benefit these departments and the overall County organization by reducing complexity, optimize support and maintenance, and lower overall costs. This would enable the County to derive more value from a unified INFORMS ecosystem.

Network and Transport: The Network and Transport area is increasing its bandwidth 10-fold to provide the necessary infrastructure to support the applications of the future such as Internet of Things. Further heading towards self-healing networks that are resolved without the need of human intervention. Moreover, the area will continue to look into future technology and implement necessary process changes. Next generation wireless technologies will be incorporated into the department's recapitalization plans. 5G and WiFi 6 technology provide high density performance, faster speeds, and greater energy efficiency.

Advanced LTE Enabling Technologies: The multi-experience development platform enables mobile, wearables and augmented reality for operations. The collected data provides improved situational awareness for commanders, supervisors, and deployed personnel. AR glasses (wearables) with natural language processing allow for retrieving and viewing information while staying hands free and maintaining awareness of the environment. The area continues to investigate this technology and potential POC.

Blockchain: There are many uses that can utilize blockchain in government processes. The IT Department is exploring how blockchain processes can guarantee high service availability, data integrity and a way to store asset transactions. This will be useful as business digital processes and workflows will radically change how a resident or business transacts across municipal and County governments for public safety, permitting, planning, reporting issues through a central 311 service and more. The possibility of cross municipal Smart Tech and collaboration becomes foreseeable with the advent of blockchain in government.

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System Upgrades and Service Enhancements

Enterprise Software Implementations: ITD will continue to facilitate a unified approach to procuring systems that can be leveraged by a collective group of departments with common needs. Upcoming procurements include:

- **Capital Improvement and Construction Management Solution:** ITD in collaboration with the Internal Services Department, the Transportation and Public Works Department and Seaport have endeavored on a Request for Proposal (RFP) that will award a cloud-based Capital and Construction Management solution that will allow the departments to improve the workflows, billing, management, processing and controls of the program Capital Planning and Construction.

- **Enforcement Inspections, Investigations, and e-Ticketing System:** Solid Waste Management, in collaboration with ITD, completed the RFP for an Enforcement Inspections, Investigations, and e-Ticketing solution to modernize the DSWM enforcement process. The system will have an interface with the Clerk of the Courts SEFA system, allowing for e-ticketing, citations and warning letters, enforcement service request interfaces to 311, and case history and account status feature. Prior to release, further evaluation is being conducted to leverage an existing County system.

- **Parking Access and Revenue Management Solution:** ITD, in collaboration with Seaport, released the RFP for a long-term, comprehensive, and state-of-the-art Parking Access and Revenue Management System solution. The solution leverages smart detection devices to improve the County's Parking Operations and Contact Center tools as well as expands the Open and Contactless Payments allowing multiple providers. This solution integrates with the ongoing effort by the Seaport to upgrade parking solutions in efforts to strengthen Payment Card Industry (PCI) compliance. Initial alignment and kick-off meeting was held with the vendor in December 2022, with the official Notice to Proceed expected to have the project begin in February 2023.

- **Enterprise Applications Initiatives:** ITD will continue to work toward modernizing County's applications portfolio by implementing enterprise technologies. This modernization effort will require updating the skillset of the IT professionals in emerging applications technologies, while simultaneously ensuring adequate ongoing support for legacy systems until those systems are modernized. Reducing complexity in the applications portfolio, leveraging technology, and expanding the availability of self-service components will enhance County staff and citizen access to data in a more timely and cost-effective manner. Specific areas of application modernization include:

  o Continue a focus on ERP reporting and analytics, to support the streamlining of business processes and automate electronic approval workflows throughout the County.

  o Enhancement of the County's eCommerce capabilities with the addition of Interactive Voice Response (IVR) applications using an enterprise system with focus and attention on automation of the County's payment processes. The IVR applications will interface with the County's Payment Gateway to complete the payment process and will accept credit card and eCheck payments.

  o Introduce GIS industry best practices across all major County departments to assist departments to realize their strategic goals. This will include GIS integration with enterprise and other mission-critical systems; mobile data collection, dashboards, and viewers; geospatial business intelligence; continue expanding 3D presence - vertical and underground; increase data sharing and collaboration with external entities; increase data creation and maintenance opportunities and implement data validation tools and process across geodatabases to assure enterprise data integrity.

  o Further develop EAM mobile capabilities to address the real-time capture of data from field personnel and eliminate duplicate entries with paper and clerical staff for asset tracking, work

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orders, and inspections. Explore interfaces using the Internet of Things (IoT) for capturing thresholds, setting preventative maintenance, and sending alerts to enforce reliability of assets. In addition, there will be a concentration of efforts towards the evaluation of condition assessments of assets.

o   Leveraging Spatial Analysis to detect and quantify patterns, find the best locations and paths, determine how places are related and how leverage the science of location. The use of near-spatial analysis was instrumental in the assignment of County employees, based on location, to manage Evacuation Centers and it was used to combat COVID-19 by identifying emerging hot spots and potentially determining the best location allocation for testing and vaccination sites.

o   The department will continue the integration of GIS with Miami-Dade's web portal using GIS datasets available in the Open Data Hub to improve the efficiency of storing and retrieving the locations (addresses) of County facilities and services presented on miamidade.gov eliminating redundancies in multiple systems. Through a customizable API – application interface, locations, and other related information are dynamically retrieved from Open Data to render in an ADA-compliant miamidade.gov.

o   Implementation of a Cruise Planning Graphical Application to provide engineering and architectural accuracy levels with a graphical representation of PortMiami's Cruise Area and Vessel templates authorized to dock at the Port. This will enhance the Berthing Office decision-making capabilities pertaining to the how, when, and where is the best space to allocate for docking the requested vessel(s) inclusive of current or future vessel docking requests.

o   The department will continue with the implementation of the CAD to GIS system that will help customer departments to streamline the As-Built submittals by incorporating advanced GIS tools within AutoCAD. CAD to GIS is the process for seamlessly importing CAD engineer drawings (As Built) to GIS using ESRI tools. Once fully implemented, the process should significantly reduce the time and labor for updating GIS and As-Built rejects and set the foundation to bring CAD to GIS services to other County departments; thus, improving plans review, data integrity, and GIS digitization process.

- **Establish a Network Operations Center (NOC)** to monitor the overall health of ITD networks/systems and proactively management issues/events to drive improved system availability and response time.