# **CYBER SECURITY**

- Artificial Intelligence Security and Governance
- Incident Response and Recovery
- · Comprehensive Risk Management
- · Continuous Information Security Education and Training

## **Our Vision**

To be a public sector technology leader in the Internet of Things (IoT), cybersecurity, emerging technologies, and process automation.

### **Our Mission**

be exceptional at providing technological solutions and support to benefit City employees and citizens while operating with integrity and promoting collaborative partnerships.

### **Our Values**

To operate with integrity
To provide quality customer service
To be professional, proactive, and competent
To find areas for professional development
To build positive relationships
To communicate effectively

## **INFRASTRUCTURE**

- Scalability and Flexibility
- Cloud and Hybrid Solutions
- Resilience and Redundancy
- IT Business Continuity/Continuity of Operations and Disaster Recovery

#### **IMPLEMENTATION**

- Testing and Quality Assurance
- Critical System Upgrades and Replacements
- Effective Change Management

### **INNOVATION & COLLABORATION**

- Improving Citizen/Constituent Experience (CX)
- Improving Employee Digital Experience (EX)
- Leverage Advance Technology to Enhance Public Safety
- Strategic Partnerships with Internal and External Entities
- Establish City of Memphis IT Advisory Council

**PROCESS & PEOPLE IMPROVEMENT** 

- Evaluate all City of Memphis Internal Business workflows
- Improve Digital Collaboration Solutions
- Continuous Training for IT Workforce



#### **CYBER SECURITY**

- Artificial Intelligence (AI) Security and Governance Implementing practices, policies, and frameworks to ensure the responsible development and use of AI technologies. i.e
  - Data Security: Ensuring the confidentiality and integrity of data used to train and operate AI models.
  - Privacy Protection: Addressing privacy concerns related to collecting, storing, and using sensitive data for AI purposes.
  - Ethical Guidelines: Defining ethical principles to guide the development and use of AI, addressing issues such as fairness, transparency, and accountability.
  - Compliance and Regulations: Adhering to existing regulations and industry standards and contributing to the development of new regulations as needed.
  - Accountability and Transparency: Establishing mechanisms for accountability and transparency in AI decision-making processes.
- <u>Incident Response and Recovery</u> Implementing a robust and systematic approach to manage and mitigate the impact of cybersecurity incidents. Key components include:
  - Regularly review and update incident response and recovery plans based on lessons learned and changes in the threat landscape.
  - Foster collaboration between IT, security, legal, communications, and business units.
  - Encourage a culture of shared responsibility for incident response and recovery.
  - Leverage automation to streamline incident detection, response, and recovery processes.
  - Implement technology solutions that enhance visibility and speed up response times.
- <u>Comprehensive Information Technology Risk Management</u> Continuous Identification, assessment, prioritization, and mitigation of risks across all City of Memphis Operations aspects. Key components include:
  - Aligning risk management objectives with the City's objectives and strategies to ensure risk management is an integral part of decision-making
  - Integrating IT risk management into all business processes
  - Periodically review and update IT risk assessment policies to ensure relevance and effectiveness
  - Ensure that the City's risk management practices align with relevant regulatory requirements and industry standards.
- <u>Continuous Information Security Education and Training</u> Continuous education of employees, stakeholders, and relevant parties on security best practices, policies, and procedures to reduce the risk of security incidents. Key Components include:
  - Provide training for incident response team members, ensuring they are well-prepared to handle security incidents.
  - Educate employees on data protection laws and privacy regulations that impact their work.
  - Implement themed security awareness campaigns to focus on specific topics or risks.
  - Demonstrate a commitment to security through leadership behavior and adherence to security policies.
  - Foster collaboration between security teams, IT, human resources, and other departments to ensure a holistic approach to security education.



### **INFRASTRUCTURE**

- Infrastructure Scalability and Flexibility Creating an IT infrastructure that is adaptable to business needs, growth, and evolving technology. Key Components:
  - High-Bandwidth Connectivity: Ensure high-bandwidth connectivity to accommodate increased data traffic.
  - Software-Defined Networking (SDN): Invest and leverage SDN to dynamically adjust network configurations based on traffic patterns and application requirements
  - Analytics for Capacity Planning: Use analytics to forecast future resource needs and plan for scalability accordingly.
  - Regular Capacity Reviews: Conduct regular reviews to ensure that capacity planning aligns with the City's business growth and changing requirements.
  - Comprehensive Documentation: Maintain detailed documentation for infrastructure components, configurations, and procedures
- <u>Cloud and Hybrid Solutions</u> Leveraging cloud and hybrid solutions to enhance local government operations, improve flexibility and deliver public services.
  - Big Data Analytics: Utilize cloud-based big data analytics to gain insights from large datasets for informed decision-making
  - Interoperability: Design systems with interoperability in mind to facilitate collaboration with other government agencies.
  - Cloud-Based GIS: Leverage cloud-based Geographic Information System (GIS) solutions for efficient mapping and location-based services.
  - Online Portals and Services: Develop online portals and citizen services hosted on the cloud for easy access and improved engagement.
  - Redundancy Planning: Implement redundancy across on-premises and cloud environments for critical applications and services.
- Resilience and Redundancy Implementing robust and holistic solutions that enable resilient and redundant IT environments capable of withstanding disruptions.

**Key Components:** 

- Redundancy: Build redundancy into critical components to ensure high availability and fault tolerance.
- Horizontal Scaling: Implement horizontal scaling, adding more instances of applications or servers to handle increased loads.
- Cloud Redundancy: Leverage cloud services for additional redundancy and scalability.
- Secondary Communication Channels: Establish secondary communication channels for critical users and resources during disruptions.
- <u>IT Business Continuity/Continuity of Operations and Disaster Recovery</u> Implementing solutions and controls to ensure that critical City of Memphis IT systems and services can continue to operate or be quickly restored in the event of disruptions or disasters. Key components:
  - Regular Testing: Conduct regular disaster recovery tests to validate the effectiveness of recovery procedures.
  - Redundant Internet Service Providers (ISPs): Establish connections with multiple ISPs for internet redundancy.
  - Hot Standby Systems: Maintain hot standby systems that can take over operations in case of primary system failure.
  - Telecommuting Policies: Develop policies and infrastructure to support remote work capabilities.
  - Data Backup and Storage: Implement regular data backup procedures and secure offsite storage.
  - Identify Critical Functions: Determine the critical functions and processes that must be maintained for the organization to continue operating.



#### **IMPLEMENTATION**

- <u>Testing and Quality Assurance</u> Enhance the delivery and reliability of Services. Key Components:
  - Usability Testing: Evaluate the accessibility and user-friendliness of online services.
  - Compliance Testing: Ensure that government services adhere to data protection regulations.
  - Citizen User Acceptance Testing (C-UAT): Involve citizens in UAT to gather feedback on usability and functionality.
  - Feedback Mechanisms: Implement feedback mechanisms to gather citizen input on the effectiveness of platforms.
  - Accessibility Testing: Ensure government websites and applications comply with accessibility standards
- <u>Critical System Upgrades and Replacements</u> Enhance and upgrade City critical systems to improve efficiency and provide better service delivery for the evolving needs of the Memphis community. Key Components:
  - Utilize updated and modern systems for service automation
  - Technological Innovation: Upgrade systems to align with current technological trends, ensuring that the City stay competitive and innovative.
  - Process Automation: Upgraded systems often include automation features that streamline workflows and reduce manual errors.
- <u>Effective Change Management</u> Improve the change management principles and strategies that can help the City navigate change successfully and foster a positive and resilient culture. Key Components:
  - Engage key stakeholders early in the change process to build their commitment and address their concerns.
  - Develop a comprehensive plan outlining the steps, timeline, and milestones for the change initiative.
  - Identify and empower change champions who can advocate for the change at different levels of the organization.

### INNOVATION AND COLLABORATION

- Improving Citizen/Constituent Experience (CX) Creating a positive and citizen-centric digital experience
  - Streamlined Processes: Optimize and automate government processes to reduce delays and improve efficiency.
  - Training Initiatives: Offer programs to enhance citizens' digital literacy skills for better interaction with online services.
  - Accessible Technology: Ensure that digital tools are accessible to citizens with disabilities.
  - Smart Infrastructure: Integrate technology for smart parking, waste management, and other services.
  - Al-Powered Chatbots: Integrate Al-powered chatbots to assist citizens with common gueries and tasks.
  - Workshops and Webinars: Conduct workshops and webinars to educate citizens about available services and resources.
- <u>Improving Employee Digital Experience (EX)</u> This is crucial for enhancing productivity, job satisfaction, employee engagement, and overall success across all City of Memphis Divisions. Key Components:
  - Virtual Help Desks: Provide a virtual help desk for quick and efficient support.
  - Al-Powered Chatbots: Integrate Al-powered chatbots to assist employees with common queries and tasks.
  - Wellness Apps: Collaborate with Human Resources to Introduce digital wellness applications that promote physical and mental well-being.
  - Digital Onboarding/Offboarding Processes: Streamline the onboarding/offboarding process through digital platforms to ensure a smooth transition for new hires.
  - Accessible Technology: Ensure that digital tools are accessible to employees with disabilities.
- Leverage Advance Technology to Enhance Public Safety Strategic use of cutting-edge tools and systems to prevent, respond to, and mitigate public safety challenges. Key Components:
  - Predictive Policing Utilize predictive analytics to identify patterns and trends in crime data and enable law enforcement to make data-driven decisions in real time.
  - Smart Cameras: Deploy smart surveillance cameras with facial and license plate recognition features that adhere to privacy laws.
  - Smart Sensors: Deploy IoT sensors to monitor environmental conditions, traffic, and public spaces.
  - Cyber Threat Intelligence: Utilize advanced cybersecurity tools to detect and prevent cyber threats.
- <u>Strategic Partnerships with Internal and External Entities</u> Continuously collaborate with both internal and external entities to achieve common goals, enhance service delivery, and address community needs.
  - Inter-Divisional Collaboration improve open communication channels between City divisions and conduct regular meetings to discuss shared goals and challenges.
  - Analytics Collaboration: Collaborate on data analytics initiatives to gain insights into community needs and trends.
  - Research Collaborations: Partner with local universities and research institutions for community-focused research projects.
  - Collaborative Projects: Collaborate with local community organizations on projects that address shared community goals.
  - Service Provision: Explore opportunities for private sector involvement in the delivery of certain government services.
- <u>Establish the City of Memphis IT Advisory Council (CoM ITAC)</u> Establish an IT Advisory Council to include technology leaders in all sectors across the City. This will ensure IT initiatives align with the City's objectives and foster an innovation culture.

# PEOPLE AND PROCESS IMPROVMENT

- <u>Evaluate all City of Memphis Internal Business workflows</u> A Business Process Re-Engineering department has been established within the Information Technology Division to lead and facilitate the process of rethinking and redesigning an organization's business processes to achieve significant improvements in performance, efficiency, and effectiveness. Key functions include:
  - Conduct an initial assessment of all existing business processes across all City of Memphis Divisions.
  - Create detailed process maps to visualize the current state of business processes.
  - Analyze and document each step in the existing processes.
  - Identify bottlenecks, redundancies, and inefficiencies.
  - Identify opportunities for automation, digitization, or the implementation of new technologies.
  - Redesign business processes with a focus on simplification and efficiency.
  - Document the redesigned processes, including standard operating procedures (SOPs).
  - Foster a culture of continuous improvement within the organization.
- <u>Improve Digital Collaboration Solutions</u> Focus on enhancing tools, processes, and the overall digital workplace environment to facilitate seamless communication, cooperation, and productivity among team members. Key focus areas include:
  - Accessibility Features: Ensure collaboration tools are accessible to users with diverse abilities.
  - Multilingual Support: Provide multilingual support to accommodate a diverse workforce.
  - Continuous Feedback Channels: Establish channels for ongoing user feedback on collaboration tools.
  - Data Privacy Policies: Clearly communicate data privacy policies to ensure ethical collaboration practices.
- <u>Continuous Training for IT Workforce</u> It is crucial to keep employees informed about the latest technologies, security protocols, and industry best practices. It ensures that the IT team remains skilled, adaptable, and capable of meeting the organization's evolving needs. Focus areas include:
  - Develop customized learning paths based on the roles and responsibilities of individuals within the IT team.
  - Conduct regular assessments to identify skill gaps and training needs within the IT team.
  - Align training programs with organizational goals and IT strategy.
  - Include practical, hands-on training sessions to reinforce theoretical knowledge.
  - Conduct regular workshops and seminars on emerging technologies and industry trends.
  - Allocate a dedicated budget for continuous training initiatives