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# Technology Strategic Plan

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2021-2023

**Pitt County**  
**Management Information Systems**



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# Leadership

**Michael Taylor**

Deputy County Manager, Chief Information Officer



*In 2021 Mike Taylor received the CIO of the Year ORBIE Award for corporate organizations with up to \$1 billion in annual revenue.*

***“We never lose sight of our role as service organization, collaborating with business partners in equipping county employees with the technology required to meet the needs of the community effectively.” Michael Taylor***



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# Vision

The Management Information Systems (MIS) vision is: "Empowering Pitt County through technology while serving citizens with integrity, initiative and innovation."



# Mission

The MIS Mission is to "Serve as a trusted partner, provisioning reliable and accessible technology aligning with organizational goals, striving for excellence in customer service."





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# IT Guiding Principles

## Principle #1 Enterprise Value Focus

*We aim to provide maximum long-term benefits to the enterprise as a whole, while optimizing total costs of ownership and risks.*

### Rationale

- Solutions must aim to maximize the cumulative business benefits over their entire lifecycle.
- Enterprise priorities are above priorities of a business unit or a project.
- Total cost of ownership is more important than the cost to buy or build alone.
- Risk governance and management are integral elements of the county's operating model.

### Implications

- Link all investment proposals to business/IT strategy and goals.
- Track and demonstrate business value realization on all major investments.
- Prefer common solutions and shared services that benefit the enterprise over one-off solutions for one business unit.
- Analyze and take into account organizational readiness for adopting new solutions.
- Manage development and operational risks on every project and acquisition.
- Include the total cost of ownership analysis for the proposed solution or solution options for major investment (project or acquisition) proposals.
- Prefer vendor-independent solutions to avoid vendor lock-in and enable competitive sourcing.

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## Principle #2: Fit for Purpose

*We maintain capability levels and create solutions that are fit for purpose without over-engineering them.*

### Rationale

- To be effective in satisfying business needs, solutions must be fit for purpose, i.e. fully conform to both functional and non-functional requirements.
- Over-engineered solutions result in wasted budget, time, and resources and often increase operational complexity.
- Required capability levels should be maintained to enable achievement of business, IT, and capability goals.
- Higher-than-needed capability levels cost more, while not resulting in additional value.

### Implications

- Identify functional and non-functional requirements of the business and buy or build solutions that conform to them.
- Identify the following non-functional requirements for solutions that need to be procured or built:
  - Business continuity requirements, i.e. availability, reliability, and recoverability.
  - Performance requirements, i.e. response time and throughput.
  - Usability requirements, i.e. accessibility, localization, user interface aesthetics, and consistency.
- Avoid over-engineering, i.e. building or buying solutions that exceed functional and non-functional requirements of the business.

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## Principle #3: Simplicity

*We choose the simplest solutions and aim to reduce the operational complexity of the enterprise.*

### **Rationale**

- Complex solutions and high operational complexity impede reuse and interoperability, require increased effort to add, transform, or replace solution components, and result in higher lifecycle costs.

### **Implications**

- Minimize the unnecessary complexity.
  - Restructure existing application portfolios so that they become highly modular and loosely coupled.
  - Eliminate duplicate application functionality.
- Design solutions that simplify business processes and technology assets that support them.
  - Build highly modular and loosely coupled solutions.
- Use standardized integration approaches.

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## Principle #4: Reuse > Buy > Build

*We maximize reuse of existing assets. If we can't reuse, we procure externally. As a last resort, we build custom solutions.*

### **Rationale**

- Economies of scale are achieved through reuse of solution components and the purchase of commercially available products, enabling the reduction of risk and effort.
- Reuse helps avoid duplication of effort, decrease maintainability, and increase staff competency requirements.

### **Implications**

- Build for discovery. Encourage reuse by building modular, loosely-coupled, interoperable, and discoverable components.
- Build for reuse only if feasible. Consider costs of building for reuse versus potential frequency and benefits of reuse.
- Reuse across business units. Choose cross-silo solutions over duplicative silo-specific ones. Buy or build shared services, common business solutions, and common-use applications.
- Prefer vendor-independent solutions to enable portability and cross-platform reuse.



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## Principle #5: Controlled technical diversity

*We limit the variety of the technology platforms we use.*

### **Rationale**

- Limiting the number of different supported technologies:
  - Improves maintainability and reduces total cost of ownership.
  - Enhances staff focus on standardized technologies and reduces staff competency requirements.
  - Improves solution interoperability.

### **Implications**

- Build a case and obtain executive approval to introduce a new technology.
- Request for approval to introduce new technology only if you have a valid reason, e.g. replacement of outdated technologies, IT-enabled business innovation, or reducing operational complexity.
- Consider the benefits of introducing a new technology versus the required additional maintenance effort, additional staff competency requirements, increased complexity, and the potential lack of interoperability with existing technologies.
- Balance controlling technical diversity and IT-enabled business innovation.
- Prefer vendor-independent technologies to enable solution interoperability and avoid vendor lock-in.
- Reduce integration complexity by using standardized integration approaches.

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## Principle #6: Managed Security

*We manage security enterprise-wide in compliance with our security policies.*

### **Rationale**

- Security threats represent a high risk for enterprise information.
- Security threats represent a high privacy risk.
- Security-related risks require special treatment due to the associated complexity of required control procedures and rapidly changing threats.

### **Implications**

- Every solution (procured externally or built internally) should comply with our security policies.
- The existing IT environment must be continuously monitored for security vulnerabilities and breaches.
- Security vulnerabilities and breaches must be treated to minimize the associated business risk.
- Security vulnerabilities and breaches must be treated to minimize the associated privacy risk.

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## Principle #7: Compliance with Laws and Regulations

*We operate in compliance with applicable laws and regulations.*

### **Rationale**

- We operate in a way to maximize compliance with applicable laws and regulations.

### **Implications**

- The Legal department advises on compliance of applicable laws and regulations.
- Every IT investment proposal must comply with applicable laws and regulations.

## Principle #8: Innovation

*We seek innovative ways to use technology for business advantage.*

### **Rationale**

- We strive to implement innovative solutions for our customers.

### **Implications**

- Stay current on the business priorities and strategic aspirations to be able to innovate for the business.
- Identify technology trends and new ways to utilize technology for business advantage and share ideas among MIS staff.

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## Principle #9: Continuous Improvement

*MIS is committed to continuous improvement.*

### **Rationale**

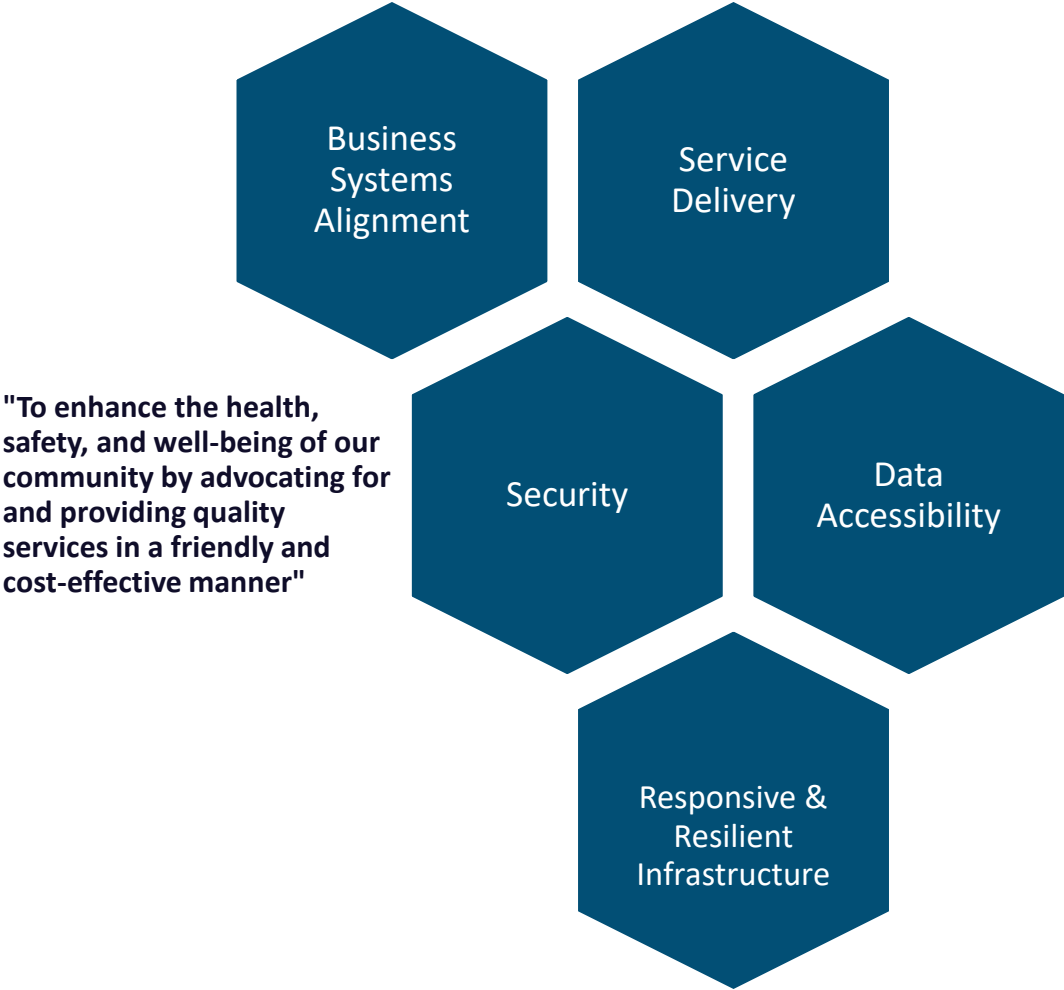
- We begin each fiscal year with reviewing client needs and identifying strategic technology and projects which will move the organization forward. The overarching objective for all projects is to improve efficiencies and effectiveness in County operations while enhancing the quality of service.

### **Implications**

- Measure and improve customer satisfaction with our services and products.
- Define service levels for services provided to our customers; measure and improve our performance.
  - Engineer products with best-in-class usability.
  - Manage usability requirements (accessibility, localization, user interface aesthetics, and consistency) and test solutions against them.
  - Listen to customers by involving them in product design.
- Manage customer relationships.

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# Goals and Initiatives



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## ***Goal: Business Systems Alignment***



**Partner with clients to understand the business process and deliver solutions that optimize value.**

### ***Business Benefits:***

- Better alignment with organizational needs focuses technology investment where it is needed most.
- Keeping key systems updated within support window facilitates business continuity, support, security, and potentially making new features available to clients.
- Upgrading some key systems to browser-based version will simplify deployment and accessibility.
- Working together with clients to better understand operational considerations and workflow leads to better design outcomes.

### ***Initiatives:***

- Improve project outcomes by standardizing project management protocol
- Reinforce collaboration and innovation with GIS users group engagement
- Improve data quality and reliability by documenting and reinforcing Data Quality Standards
- Maintain system stability through continuous system lifecycle planning to stay ahead of deprecated technology changes, replacing or re-engineering prioritized systems
- Revolutionize the way that business is done by employing innovative tools and technologies.



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## ***Goal: Service Delivery***



**Ensure appropriate allocation of resources that support county staff in the effective use of technology [help desk, conference room equipping, commodity services such as phone, printer, fax].**

### ***Business Benefits:***

- **Efficient and timely technology service enables county staff to serve citizens more effectively.**
- **Recognizing and addressing staff “pain points” focuses resources with the biggest immediate client benefit.**
- **Seeking opportunities for continuous improvement and cost reduction supports the county mission.**

### ***Initiatives:***

- **Implement communication platform with expanded features to enhance collaboration with citizens and coworkers**
- **Introduce IT service desk system that will offer more self-service opportunities including knowledge-base with triage, as well as service catalog visibility.**
- **Conduct succession planning and cross-train staff to maintain stable support base**

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## ***Goal: Security***



**Implement strategies minimizing exposure and impacts of potential security threats.**

## ***Business Benefits:***

- **Implementing appropriate security measures mitigates the risk and potential costs associated with breaches.**
- **Robust security minimizes business disruptions possible with malicious attacks.**
- **Applying professional security practices is a part of data custodian stewardship, protecting public data entrusted in our care.**

## ***Initiatives:***

- Conduct continuous monitoring and security mitigation
- Standardize firewall rules and Windows server perimeter protection for all Windows servers.
- Maintain physical security standards with door security upgrades and targeted camera systems
- Ensure appropriate device-level security

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## ***Goal: Data Accessibility***



**Provide expanded access to data and services (both internally, through employee remote access and data analytics, and public-facing self-service).**

### ***Business Benefits:***

- Expanding remote access strategies not only aids employees working in nontraditional places but has the potential to simplify some workstation administration.
- Data Analytics in practice can help mitigate risk and fraud, highlight opportunities for cost reduction, and help with anticipating needs.
- Making data available to the public through self-service mechanisms enables free and timely citizen access while reducing staff time spent on public requests.

### ***Initiatives:***

- Implement citizen-centric community development Permitting/Inspections system providing greater contactless business flexibility.
- Introduce contactless payment portal that is more convenient for citizens
- Optimize and expand spatial data presentation to the public

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## ***Goal: Responsive & Resilient Infrastructure***



**Develop enhanced methods, plans, procedures, and architectures that support critical systems.**

### ***Business Benefits:***

- Replacing and upgrading Equipment based on expected life cycle, prior to failure, reduces downtime and supports business continuity.
- Avoid disruption of business and service delivery to citizens.
- Recover from disruption and restore services as quickly as possible.
- Protect and retain data in a controlled environment.

### ***Initiatives:***

- Provide operational and security benefits through network equipment functional migration
- Windows Server Operating System upgrades to maintain supportability
- Affirm state of readiness by scheduling periodic tests of business continuity and disaster recovery plan

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## ***Technology Strategy Refresh Plan***

By the very evolutionary nature of technology, a Technology Strategic Plan cannot be static. As new opportunities develop and organizational requirements evolve, a regular pulse-check is necessary to ensure the roadmap is both current and relevant. To that end, the following check-points are an important part of the planning process.

### **Annually:**

- Discuss the past year's technology accomplishments
- Highlight issues or lessons learned
- Identify any changes to corporate strategy, goals, or objectives
- Determine impact on technology strategy (if any)

### **Quarterly:**

- Demonstrate last quarter's accomplishments or issues
- Discuss upcoming quarter's initiatives or potential roadblocks
- Identify any business or departmental changes that may have an effect on the technology strategy

### **Monthly:**

- Discuss strategic projects' status, potential roadblocks, etc.