



Strategic Plan 2018-2020

FIT's Division of Information Technology

CIO Perspective

Strategic plans document the objectives that an organization wants to achieve over a specified period of time in response to its changing environment. For IT, the strategic plan is part of the resurgence of the IT Division post the Deloitte study, completed in early 2016. Over the past two years there has been significant improvement in the IT Division's innovation, delivery of customer service, project management, and the overall contribution to the College's mission and goals. The turnaround is the direct result of IT teamwork and the determination by every member of the Division to meeting IT's strategic and operational goals. Additionally, the Division has received unwavering support for the turnaround actions from the President, Cabinet, and the FIT community.

Faculty and students are accustomed to the rapid pace of digital service improvements coming from private industry. These constituents then naturally expect a similar pace of improvements from FIT in the form of equipment and services that remain current, accessible, and digital if at all possible. This means that the College requires a technology architecture that permits the assimilation of newer technologies, leverages Cloud based services, is appropriately maintained, improves access to information, supports the digitizing of workflows, and protects the data entrusted to the College.

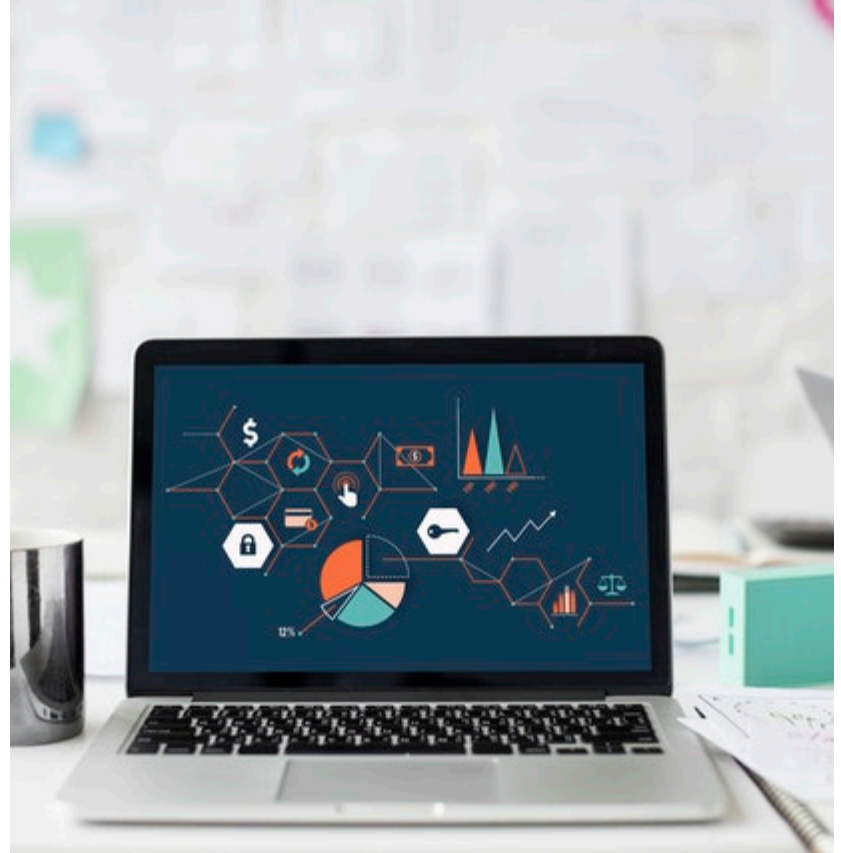
The IT Strategic Plan represents our dedication to the continuous improvement of thought leadership and delivery of IT services in support of the College's strategic goals.

IT Mission Statement

To develop and deliver technology services that advance the academic, student, innovation, and strategic goals of FIT.

Discussion Topics

- Strategic Plan Overview
- Operational Excellence
- Information Security
- IT Workforce Development
- Emerging Technology
- Next Steps



Strategic Plan Key Themes

1. Service improvement is a continuous process
2. The pace of technology change continues to accelerate
3. Transformation is occurring across Higher-Ed to address the challenges of competition, better engagement with non-traditional students, lower enrollment, and the digitization of workflows to improve operating efficiencies and student services.
4. Collaborate with Schools, Departments, and Faculty to assist with leveraging technology as part of their curriculum
5. Resources – People, Space, Financial – are limited or shrinking

Strategic Plan Life Cycle



IT Strategy Influencers

External Influencers

- Digital Ecosystem
- Availability of Resource Options
- SUNY and Regulatory Requirements
- Vendor Marketplace*
- Academic collaboration with Industry Partners
- Emerging Technologies



Internal Influencers

- FIT Strategic Goals
- Digital Workflows
- Pursuit of Operational Excellence
- FIT Community Technology Innovation Initiatives



IT
STRATEGIC
PLAN

*See Appendices, Page 30

FIT Strategic Goals Drive IT Strategic Plan

The IT Strategic Plan supports the College's goals by establishing a robust capacity to leverage emerging technologies, ensuring a skilled workforce, protecting FIT's intellectual capital, and delivering accurate effective and measurable operational results.

FIT Strategic Goals*

Goal 1: Ensure Academic and Creative Excellence

Goal 2: Be an Innovation Center for Creative Industries Worldwide

Goal 3: Provide an Empowering Student Experience in a Cohesive Community Building a Powerful Brand



IT Strategic Objectives*

Objective 1: Operational Excellence

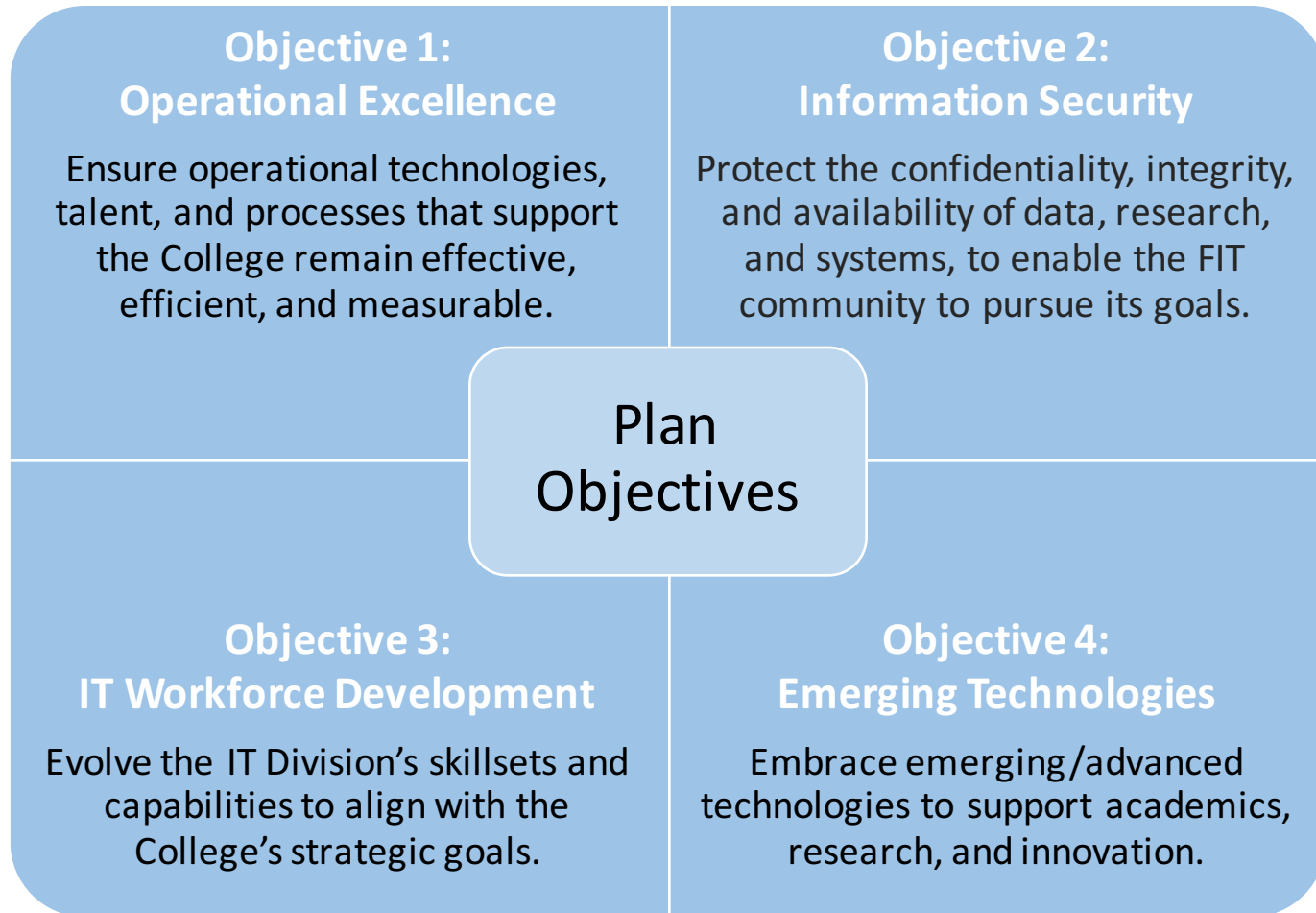
Objective 2: Information Security

Objective 3: IT Workforce Development

Objective 4: Emerging Technologies

* As the FIT Strategic Goals are periodically revised, the IT Strategic Objectives will be reviewed to ensure alignment.

FIT IT Strategic Plan Objectives





Operational Excellence

Situation

- In addition to Deloitte's 19 recommendations (across 4 categories), the IT Division was not addressing application and infrastructure upgrades, disaster recovery, and championing new technologies to address moving the College to digital workflows.
- The IT Division spent the latter half of 2016 and first half of 2017 identifying and building consensus on how to address the system and infrastructure issues.

Remediation

- Plans to address the critical operational issues have been established and are in-progress: Banner upgrade, MyFIT upgrade, Argos Implementation, OneSolution upgrade, Data Center Move, Network upgrades, Event Space AV upgrades, and migration of phone services to the Cloud.

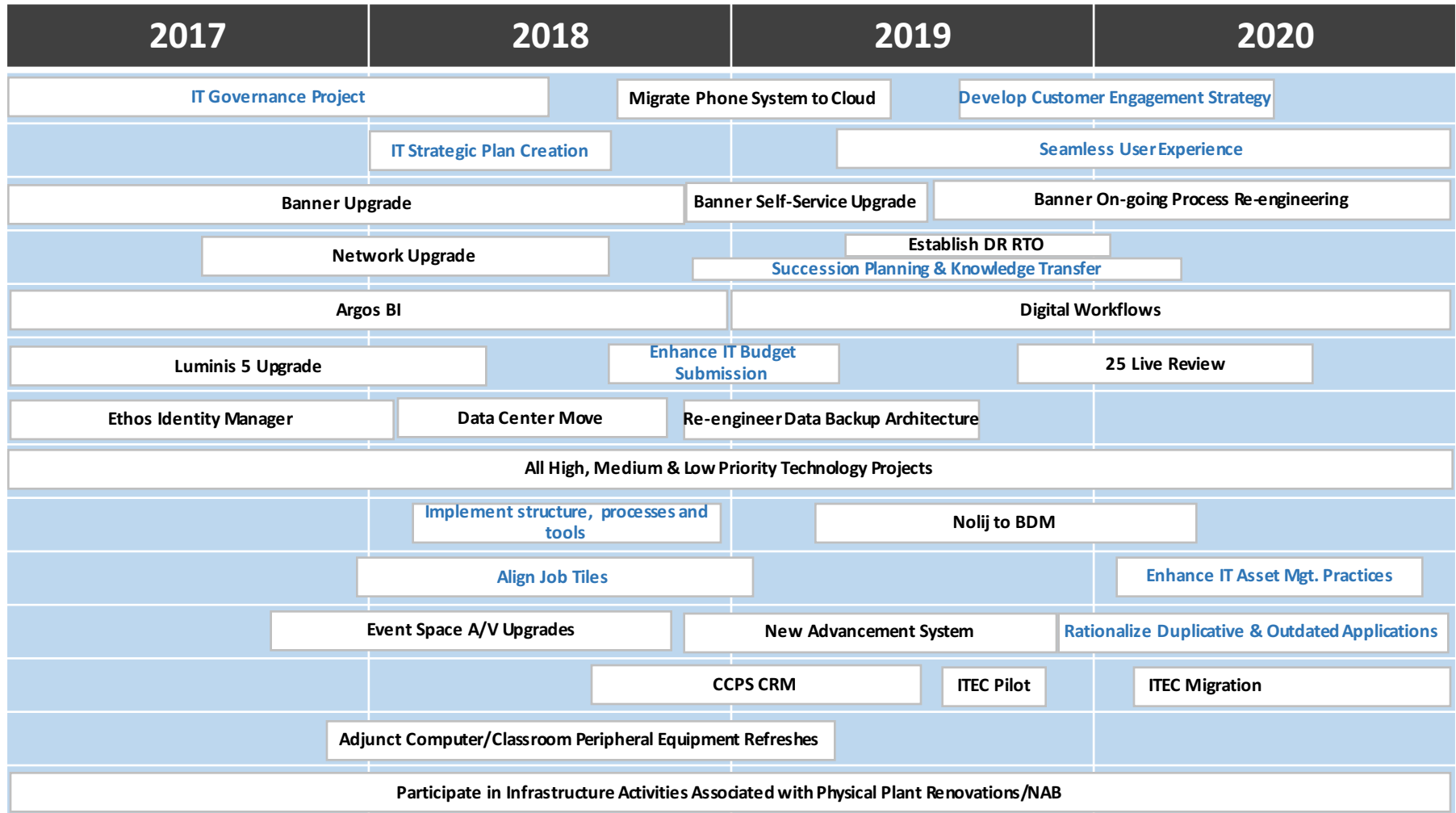
Operational Excellence Strategic Plan

Initiatives

- Continue programs to upgrade/replace end of life systems, infrastructure, and processes
- Continue developing the skills necessary to support FIT's evolving Technology Operations
- Implement standardized processes to protect and support FIT's Technology Operations
- Expand the use of Digital Workflows across the College to improve operational efficiencies
- Establish Kaufman Hall as a local DR Site for many critical applications
- Leverage ITEC services and other cloud services to move FIT systems to a lower cost location outside of New York City; this will also help create additional disaster recovery capabilities

Operational Excellence Timeline

(timeline represents estimated start and completion of projects)



Major FIT initiatives will span over a course of several years and will require commitment from both IT and the college to bring about the desired capabilities.

Text in this color ■ are Deloitte Recommendations



Information Security

ELEMENTS OF THE SECURITY PLAN

POLICY

AWARENESS

INFRASTRUCTURE

APPLICATIONS

INCIDENT RESPONSE

See the IT Security Strategic Plan for More Information

Information Security Strategic Plan

GOAL*	INFORMATION SECURITY IMPLICATION*
Ensure Academic and Creative Excellence	<ul style="list-style-type: none">• FIT creates valuable intellectual property that must be protected.• As technology becomes engrained in the industries that FIT serves (e.g. wearable technology), it must be secured.
Be An Innovation Center for Creative Industries Worldwide	<ul style="list-style-type: none">• FIT will be responsible for protecting more partner information.• Partnerships and remote learning require information protection on a global stage.
Provide An Empowering Student Experience in a Cohesive Community Building a Powerful Brand	<ul style="list-style-type: none">• An empowered, diverse community creates and shares more information that must be protected.• An empowered, diverse community creates attractive targets for cyber attack.

* As the FIT Strategic Goals are periodically revised, the IT Information Security Strategic Plan will be reviewed for alignment.

Security Strategic Plan Timeline

Category	2016	2017	2018	2019
Policy	Framework			
		Governance		
		Initial Policies and Practices		
		Data Classification	Audit Plan and Execution	
Awareness		Branding		
	Message Points			
		Faculty/Staff Education Program		
			Student Education Program	
			White Hat Phishing	
Infrastructure		Screen Prot. for Inactivity		
		Reduction in Admin Privileges	Workstation Imaging	
		Removing Vulnerabilities		
			Server Imaging	
			Next Gen Anti Virus	
		Network Security		
		Logging and Event Correlation	Database Activity Monitoring	
Applications		Application Assessment Program		
		Secure Coding Training		
			Denial of Service Protection/WAF	
Incident Response	Forensics Vendor			
		Incident Response Plan		
		Tabletop Drills (Continually Revised and Customized)		

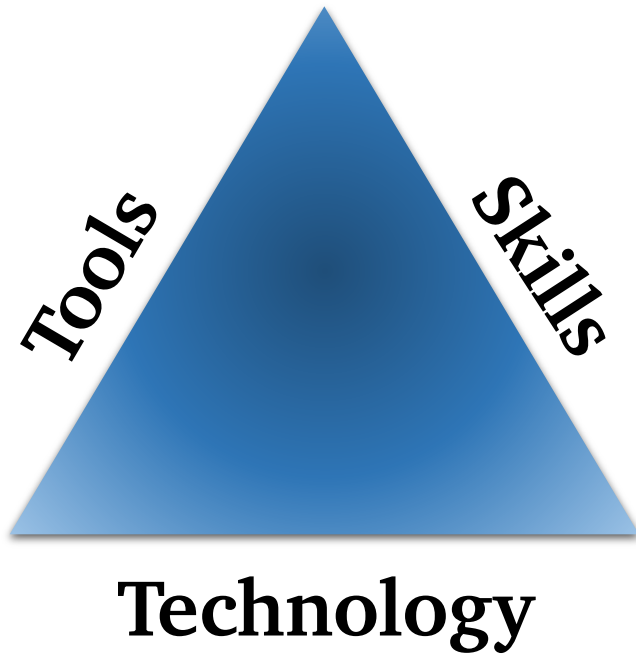


WORK
FOR
IT

Workforce Development

Workforce Development

Anyone Can Buy the Tools; Attracting, Developing, and Retaining the Right Talent is the Hard Part

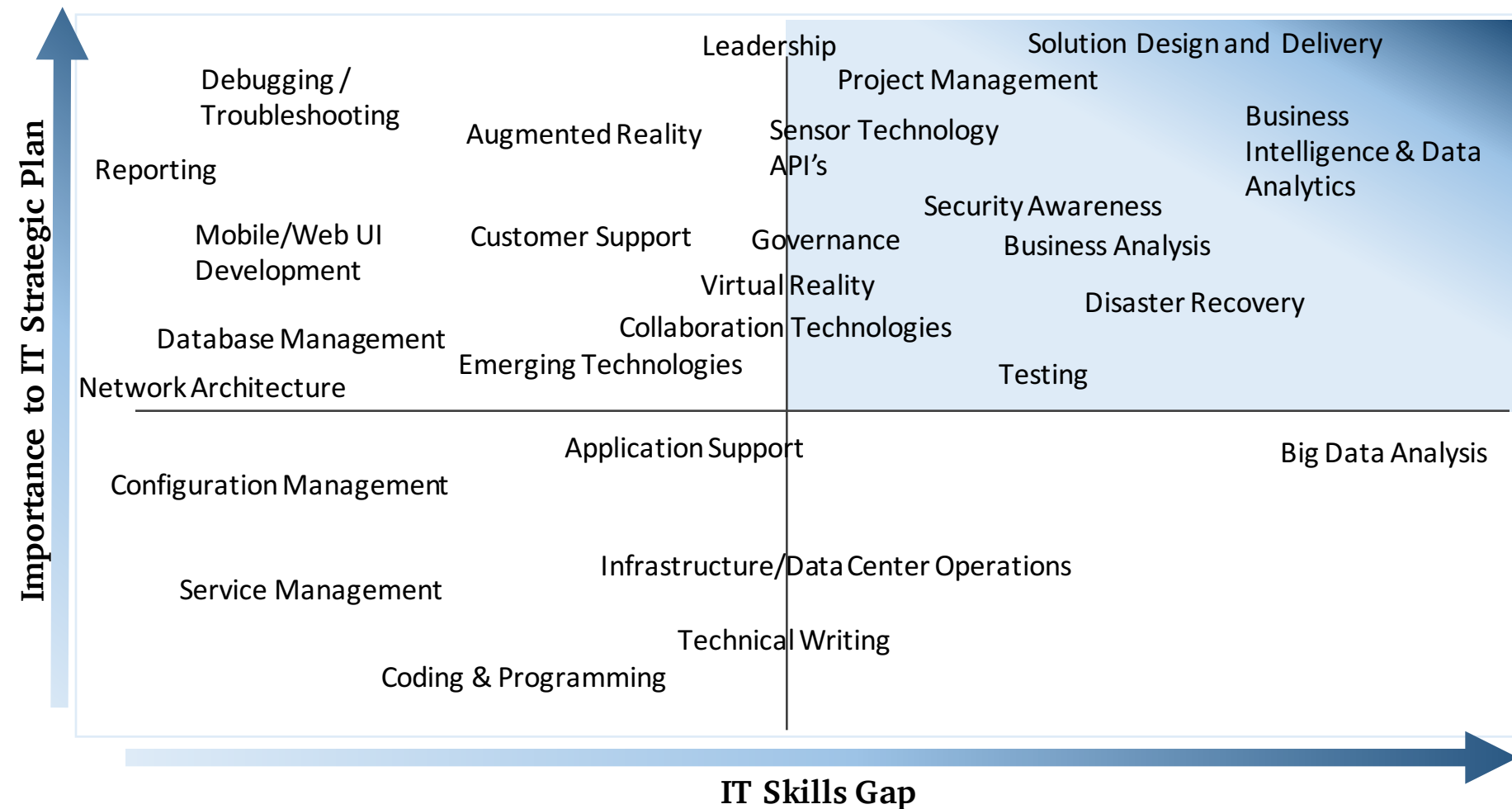


*Where are the available skills? –
Internal? – Partners? – Vendors?*

IT Skills and Coverage Current State

- IT has not traditionally invested in the technical and professional skills development of team members.
- The relentless pace of changing technology requires an ongoing program to train IT personnel. Technical skills quickly become dated and need to be refreshed/upgraded.
- The IT Division increasingly lives in a 24x7x365 world as a result of maintenance to systems and infrastructure, expectation of “always on” systems, international footprint, and the response to cyber-threats.

IT Skills Gap* Analysis



Action Plan to Close Skills & Coverage Gap

- **Cross Training**

Expands skill sets, extends knowledge to other team members, helps with succession

- **Classroom-Based Training/Webinars**

Improve and expand technical and professional skill sets

- **Conferences/Seminars**

Gain knowledge on latest technology and trends, engage in peer discussions/reviews/networking

- **New Hires**

Enhance the team with new perspectives and skills

- **Cloud Services**

Leverage highly experienced resources to deliver economical and industry best practice services to increase support coverage for targeted areas (e.g., cyber attacks, hosting of applications)



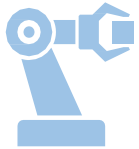
Emerging Technologies

Emerging Technologies Examples

Advanced Security



At the center of all these technologies, is security. It must be fluid, adaptive and detailed. Future security technology must leverage machine learning to recognize and stop threats that evolve very quickly, and to notify appropriate parties about events.



Robots can aid with remote procedures such as medical care, or do things humans simply cannot—carry items at a warehouse, military operations or even underwater ship maintenance. We will see more robots in our daily lives, whether it's a robot delivering room service, or taking over building security.

Telepresence, Virtual Reality, Augmented Reality

Online meeting and presentation software allows you to have a meeting with anyone who has an Internet connection. Users in multiple locations can see the same document at the same time. Virtual Reality allows us to show business concepts in more realistic terms, for example, walking through an office remodel or traveling through a patient's brain to find a tumor.



Internet of Things (IoT)

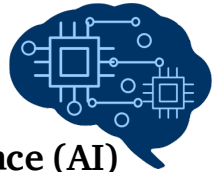


Smartphones, wearable devices, tablets and desktop computers can connect to appliances and sensors in and out of the workplace. You can communicate with your mobile device to the printer in the office; or even the coffee machine.



Advanced Collaborative Tools

How can you keep everyone on the same page, when they're miles apart? Advanced Collaborative Tools helps individuals collaborate no matter where they are located. Cloud-based document management provides a secure place to store, organize and share information from any device. And telepresence robots give you a sense of physically being in the office.

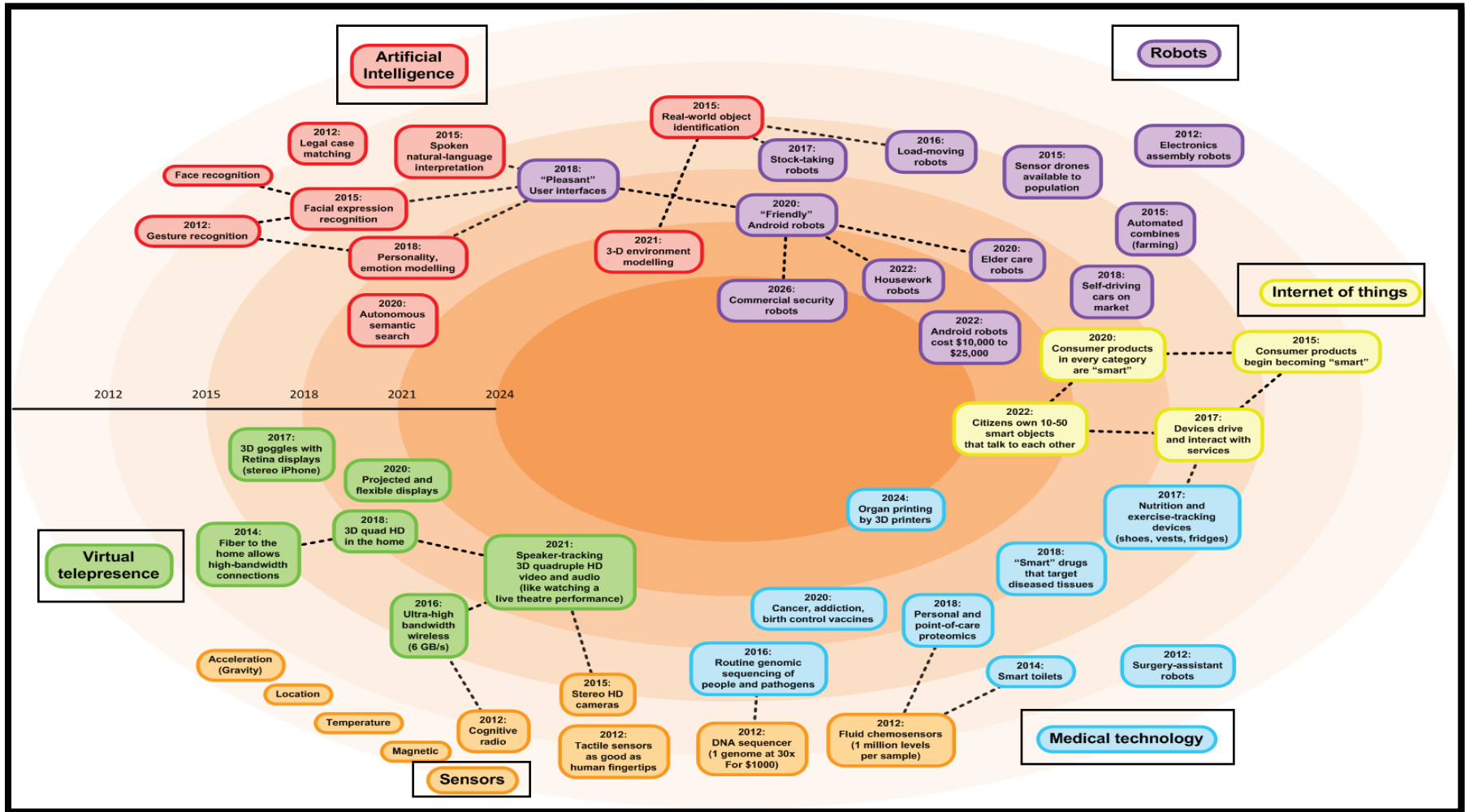


Artificial Intelligence (AI)

will reshape the workplace, allowing systems that can comb through massive amounts of data. AI applications are already being used to adjust marketing campaigns based on signals from a target group.

Emerging Technologies

are relevant to how FIT engages with industry on the use of the technologies in design, manufacturing, marketing/communications, etc.



Source: CEB IT Leadership Council Survey of 260 Companies - 2017

FIT Emerging Technologies Timeline

2017		2018	2019	2020
Create an Emerging Technology Committee		Meet Regularly to Approve Strategy, Governance and other Major IT Activities		
	Pilot Emerging Tech with faculty (Drones, VR, AR)	Assist faculty with the inclusion of Emerging Tech in their curriculum		
	Pilot Emerging Tech with College business operations	Expand use of Emerging Tech for College business Operations (AR, VR, etc.)		
		Establish and nurture a Faculty Research and Innovation space to experiment with 3D Printers, 3D Scanners, Drones, VR, AR and other Emerging Technologies as they become available		
		Introduce Advanced Collaboration tools	Institutionalize Real-Time Collaboration (UC&C) resources and best practices	
		Create a Technology & Collaboration Forum	Keep all IT Faculty, Staff and Administration Informed on all Important FIT IT Matters	

Major emerging technology initiatives will span several years and will require commitment from both IT and the College to bring about the desired results.

Next Steps

- **Review IT Strategic Plan**
 - Present Plan to the College President and Cabinet for feedback and approval
 - Review plan with Faculty Senate Executive Committee and Deans
- **Communicate IT Strategy Broadly**
 - Customize communications for stakeholders e.g., Faculty, Staff, Students, External Parties
 - Publish to FIT IT Website
 - Align individual IT staff goals and incentives to overall strategy
- **Monitor and Adapt IT Strategy**
 - Adapt IT strategy, as necessary, to changing conditions at FIT and in the academic and technology environments

Appendix

IT SWOT Analysis

STRENGTHS

- Strong institutional support for the IT Division
- IT Division has deep knowledge of the technologies supporting FIT business and academic operations
- Team members committed to FIT's success and goals
- Strong innovation mindset

OPPORTUNITIES

- Enabling the FIT digital ecosystem – workflows, student experience, etc.
- Leveraging emerging technologies to advance the strategic goals of the college
- Engaging with SUNY ITEC and other Cloud vendors to enable economies of scale and to improve disaster recovery capabilities
- Engaging with faculty and students to identify and deliver state of the art educational technology

WEAKNESSES

- Many critical systems are past end of life
- Development of IT staff has lagged behind the advancement of technologies that will support the strategic goals of the College
- Limited ability to mine the wealth of information in FIT systems
- Staffing model does not support the required depth and breathe of skills sets and operations

THREATS

- Information security breaches
- Location – FIT's primary computing processing capabilities are in one location
- Very limited disaster recovery capabilities
- Expected loss of institutional knowledge as a result of team member retirements
- Retaining funding for critical technology initiatives
- Continued use of obsolete technology/ applications

THE HIGHER EDUCATIONAL TECHNOLOGY AND VENDOR LANDSCAPE IN 2018

(The Challenge is “What’s Best for FIT?”)

HIGHER EDUCATION TECHNOLOGY LANDSCAPE

A STUDENT LIFECYCLE AND CATEGORIZATION OF TECHNOLOGY PROVIDERS

EDUVENTURES



Questions, additions, or feedback? Want to have your product in the landscape? Contact us at clientresearch@eduventures.com.

Updated 2/23/17

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Descriptions of Skills in Gap Analysis

Skill	Definition
APIs	Application code that allows computer programs, either custom-developed or 3rd-party, to interact with each other in a standardized way, so that existing components or products that perform specific functions can be combined to provide an overall solution.
Application Support	Modifying FIT-developed programs or configurations of 3rd-party software to improve functionality and/or correct bugs and unexpected behavior.
Augmented Reality	Technology that superimposes a computer-generated image or information on a user's view of the real world, thus providing a composite view.
Big Data Analysis	The ability to ingest, link, and computationally analyze extremely large disparate data sets, both structured and unstructured, to provide new insights and advance decision making capabilities through data patterns, trends, and associations.
Business Analysis	Ability to capture, interpret and document business needs and recommend solutions that deliver value to stakeholders. Solutions often include software or system components, but may also consist of process improvement, organizational change or policy development.
Business Intelligence (BI) & Data Analytics	A suite of skills and abilities needed to design, build, and deliver complex BI solutions that enable business users, via self-service, to understand how a business area is performing and what can be done to meet their strategic or operational goals. BI solutions generally bring together a diversified set of business data across multiple domains, and employ data architecture, data warehousing, data transformation, master data management, and BI design and technology skills to develop solutions for business areas.
Coding and Programming	Ability to design and develop software applications for a specific user or group of users within an organization, addressing their needs more precisely than off-the-shelf software.
Collaboration Technologies	Unified Communications is an evolving set of technologies that automates and simplifies the interaction between humans and audio/visual device activities. Unified Communications is a powerful tool to enable collaboration across geographic boundaries.
Configuration Management	Tracking the hardware and software that make up the IT environment, understanding the relationship among the components and their expected lifecycle, and executing changes in a reliable and repeatable manner.

Descriptions of Skills in Gap Analysis

Skill	Definition
Customer Support	The ability to take requests for repairs or new functionality from IT customers, to properly set expectations and when those requests will be filled, to pass them off to the team that can fulfill them, and to track requests to ensure follow up.
Database Management	Ability to perform database administrator duties to ensure that a database is available, reliable, performant, monitored, secured according to business and regulatory rules, and managed for growth, upgrades and patches. Keeps apprised of new releases and features to work with IT and business community to implement valued features.
Debugging / Troubleshooting	Ability to evaluate a situation in which an IT system is not functioning as expected, understand the potentially incorrect components, determine the source of the problem, and remediate.
Disaster Recovery	Ability to document the business requirements to restore IT systems in the event that a major event disables the data center or a large portion of it, or a vendor system that is critical to the College. Further, design the IT environment so that it meets these business needs and conduct tests to make sure the design works as expected.
Governance	A set of practices that provides guidance as to how work within IT is prioritized and executed, to provide transparency and predictability.
Infrastructure/DC Operations	Maintaining the physical environment in which FIT equipment operates. This includes climate control, power management, and space allocation. This also includes repeatable tasks such as backups, account creation, and job scheduling, running, and monitoring.
Leadership	Ability to set priorities to match resources with the needs of the College, and to organize and motivate teams to execute those priorities.
Mobile/Web UI Development	Ability to design and develop Web and mobile applications to manage information, tasks and workflows, and distill those into screens and flows that are intuitive and easily consumable by users and backend services.
Network Architecture	Ability to organize and configure network components to support the College's business needs securely, efficiently, and effectively, with focus on functionality and availability.
Project Management	The practices needed to develop a plan to implement IT systems and upgrades on-time, on-scope, and on-budget, and to ensure the systems will continue to be supportable through the system life cycle. Subskills include Risk Management, Issues Management, and Resource Management

Descriptions of Skills in Gap Analysis

Skill	Definition
Reporting	Ability to organize and present operational data in ways that help business users understand issues and make better decisions on a daily (or weekly, monthly, etc.) basis.
Security Awareness	Ability to execute IT functions such as application development and infrastructure configuration so as to minimize threats and best protect the college's systems and information from attackers.
Sensor Technology	Understanding of technologies that allow objects such as toys or wearable devices to understand something about their physical devices and to transmit that information or make decision based on that understanding.
Service Management	Ability to define, track and report on the various activities provided by IT to set expectations between IT and our clients and to measure performance against those expectations.
Solution Design and Delivery	Understanding the business needs of an area in the College and developing a solution to those needs by combining 3rd party components, custom components, personnel, and process, and then managing the implementation of that solution
Technical Writing	The practice of documenting complex technical processes into communication media for use in the creation, support, or understanding of technology solutions.
Testing	Ability to construct and non-intrusively execute scenarios to confirm that changes to the environment will perform as expected, before and after the change is implemented.
Virtual Reality	The computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

Examples of Activities to Enable Strategic Goals

Operational Excellence	IT Workforce Development	Information Security	Emerging Technologies
EXAMPLES			
<ul style="list-style-type: none">• Classroom Equip./ Faculty Computing Refresh• Banner Upgrades• Enhanced Wireless• AV/Lighting of Live Event Spaces• Cloud Migration• Video Conferencing• IT Governance• Workflow Automation	<ul style="list-style-type: none">• Training for Current and Emerging Technologies and IT Security• Business Analysis• Project Management• Leadership	<ul style="list-style-type: none">• Awareness Presentations• Data Classification• Next Gen Anti-virus• Active Hacker Monitoring• Data Encryption• IT Incident Response• Application Assessments	<ul style="list-style-type: none">• Drones• 3D Pens Printing Scanning• Smart Clothes• 360 Cameras• Cloud• AI• AR/VR/MR• Cognitive Computing