University of Pittsburgh

Pitt Information Technology 10-Year Horizon

Opportunities for a New Digital Era

“Pitt's national reputation is extremely strong. But there is a widely-held belief – that I agree with – that the reality is even better than that reputation. We want to close that gap. We want the world to know about the amazing things that we're doing. We want to lean into our distinct strengths, take strategic risks, and invest in things that we can uniquely do well.”

– Chancellor Joan Gabel

A confluence of trends is reshaping higher education.

The Change Imperative

LOOMING ENROLLMENT CLIFF IN THE FACE OF RISING COSTS

The threat of falling enrollment and tuition dollars is on the horizon nationally at a time where costs continue to rise.

DISRUPTIVE INNOVATION THROUGH ARTIFICIAL INTELLIGENCE IN HEALTHCARE AND HIGHER EDUCATION

The promise of successful AI adoption could transform all facets of universities and academic medical centers – from the student experience and administrative operations to clinical research and patient diagnostics.

ARTICULATING A COMPELLING VALUE PROPOSITION

Higher education is no longer widely seen as an engine of social mobility. This poses a challenge for institutions to amplify their value and better meet the needs and expectations of students, employers, and the public.

THE RISING INFLUENCE AND RISKS OF PUBLIC-PRIVATE PARTNERSHIPS

Public-private partnerships have revolutionized higher education, transforming how institutions function, innovate, and deliver value across academia, workforce development, and sustainability.

Pitt has a **Bold Vision** for the Future.

In the face of these emerging challenges, Chancellor Gabel has led the development of the Plan for Pitt – an ambitious vision for the institution's future supported by five pillars that will sustain and amplify Pitt's impact into the next decade.

- **We will cultivate student success.**
- **We will propel scholarship, creativity and innovation.**
- **We will be welcoming and engaged.**
- **We will promote accountability and trust.**
- **It's Possible at Pitt.**

In an increasingly digital era, current and emerging technologies have the transformative power to advance the Plan for Pitt.

Imagine if, we could…

Revolutionize the Student Experience

An incoming Pitt-committed high school senior could receive **personalized class enrollment suggestions** based on their interests, pre-college performance, and **workforce-desired skills**.

A Pitt student could engage with a personalized **AI-Enhanced Learning Companion** to support their academic journey through personalized learning experiences, academic support, and study resources tailored to their needs and learning style.

A Pitt nursing student could use Augmented Reality/Virtual Reality in the classroom – and their dorm – to get **hands-on experience** in integrating **evidence-based clinical practices** with health care delivery.

Pitt could become the **go-to partner for workforce reskilling and upskilling** for the 23 Fortune 500 companies based in Pennsylvania.

Revolutionize the Student Experience

Pitt is the best-kept secret in higher education and at the forefront of revolutionizing the student experience.

Because it's Possible at Pitt, we could become...

Student Destination with Continuing Year-to-Year Enrollment Growth

Expand undergraduate and graduate academic curriculum with new learning pathways, modalities, and micro-credentials enabled by GenAI, blockchain, and state-of-the-art technologies to attract and retain students.

Gold Standard in Harnessing AI to Enhance the Student 360 Journey

Build an unparalleled student experience and lifecycle platform — Pitt360 — across K-12, prospects, enrolled students, and alumni, to scale the University-wide immersive living, extracurricular, and learning experience, and establish a life-long commitment to Pitt.

In-Flight Initiatives:

- AI Data Railroad/Data Universe

Imagine if, we could…

Increase Our Support for Researchers that Transform the World

A principal investigator researching vaccines for a rapidly spreading flu-variant could **collaborate with colleagues in other countries** on models **using synthetic data and accelerate discovery and time to market**.

A biomedical engineer at Pitt could **lead in the field of space medicine using molecular dynamics simulations** to model the conditions in space to create purer, more effective medications, potentially transforming the way we develop and produce drugs on Earth.

Pitt could become a top destination for researchers because of our **leading-edge computational resources and research support.**

Revenue–generating partnerships between Pitt and a **new ecosystem of startups** and established tech companies in Pittsburgh create **1,000+ new jobs supporting a new quantum-computing industry.**

Support Researchers that Transform the World

Pitt is more than a standard R1 – we are researchers transforming the world.

Because it's Possible at Pitt, we could become...

Top 10 Research University

Expand research computing platforms using GPUs and quantum computers to enable cutting-edge research and catalyze a new industry for job creation in the Western Pennsylvania community.

Global Leader in AI-Enabling Research

Leverage a next-generation sustainable data center with advanced GPUs and a high-speed network to support both AI-enabled research and research on AI.

Top 3 Institution with Federal Grant Funding

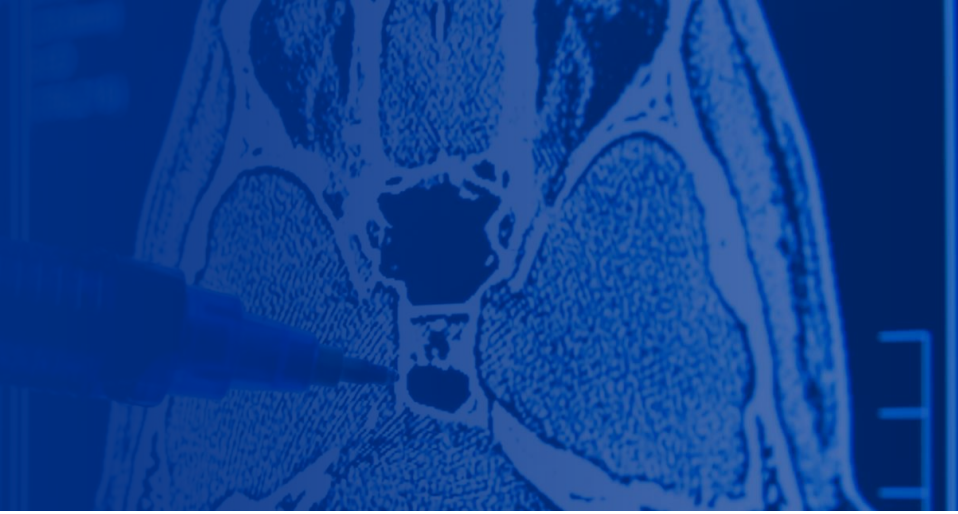
Grow the research enterprise and attract the highest number of federally funded grants among R1 universities focused on AI use cases.

In-Flight Initiatives:

- Pitt AI Foundry
- AI Data Railroad/Data Universe

Imagine if, we could…

Transform the Healthcare Industry

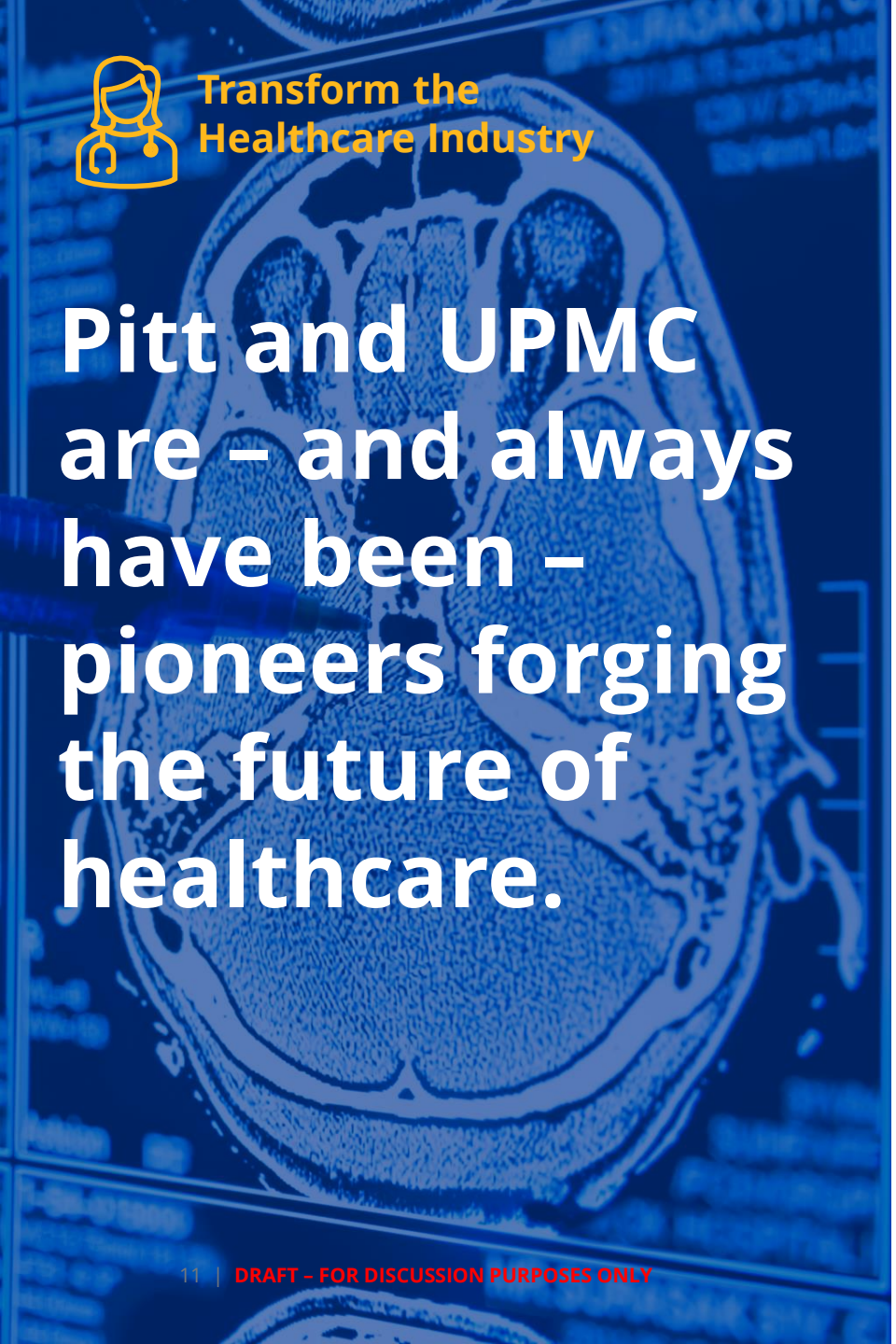


A Pitt student receives **early detection and treatment for a skin cancer** diagnosis at UPMC, enabling a full recovery – with no remission – with minimal disruption to their campus life thanks to pioneering research **powered by the use of "digital twins"** in assessing treatment efficacy.

Pitt researchers revolutionized **sustainable manufacturing of drugs, transforming the pharmaceutical industry** into a beacon of environmental stewardship by integrating green chemistry principles, renewable energy, and closed-loop systems.

Pitt **reinvented surgical technologies and care**, enabling swift, precise, and personalized medical interventions that could be adopted and transported globally to make **life-saving treatments accessible to everyone.**

Pitt expanded its efforts in **computational research** aimed at development of treatments to drastically reduce heart disease, cancer, diabetes, and other "scourges to humankind".



Transform the Healthcare Industry

Pitt and UPMC are – and always have been – pioneers forging the future of healthcare.

Because it's Possible at Pitt, we could become...

#1 Global Cancer-Curing Institute

Enable a world-class precision oncology center that personalizes cancer-curing treatment through GenAI and machine learning teaching methods.

Global Leader in Teaching and Learning Using Augmented and Virtual Reality

Support the creation of an immersive AR/VR teaching and learning experience that empowers students to conduct virtual experiments and field research in simulated environments, revolutionizing education with hands-on, practical simulations.

Leader in Sustainable Drug Manufacturing Techniques

Support the development of sustainable drug manufacturing practices through Process Analytical Technology and GenAI, reducing the environmental impact of pharmaceutical production.

In-Flight Initiatives:

- Health Sciences & Medical Innovation Hub
- PrivateGPT Vaults
- CPACE
- BioForge

Imagine if, we could...

Champion the City and the Commonwealth

A student could **automatically alert campus safety** of their whereabouts **via the one-stop-shop Pitt360 app** enabled by **IoT sensors on campus and in the City** when leaving the library after a late-night study session and confirm they made it safely back to their dorm.

AI-Driven Analytics and Predictive Insights could enhance pedestrian and traffic flow across Campus **to not only ease traffic, but also increase pedestrian safety** for students, faculty, staff, and residents.

Pitt could bolster its investments in connecting every rural community in Western Pennsylvania with **the fastest, most reliable data network**, transforming them into thriving hubs for innovation and opportunity.

Each office and classroom space was outfitted with **an interconnected network of non-intrusive Next-Gen sensors** to monitor usage – enabling **enhanced utilization of space across all of Pitt's campuses**.

Champion the City and Commonwealth

Pitt is revolutionizing the City of Pittsburgh and becoming the gold standard in cutting-edge smart tech.

Because it's Possible at Pitt, we could become...

Global Leader in Smart Campus and Smart City Capabilities

Leverage the foundation that Pitt IT has built to reinvent Pitt as a Smart Campus embedded in a Smart City of the future enabled by next-gen sensors, a robust and secure network, Big Data, and predictive analytics.

Fastest Data Network in Higher Ed Nationally

Increase fiber capacity and expand the geographical network reach to enable cutting-edge research and fast, reliable connectivity for residents and businesses.

Increase Regional Tech Fluency by Advancing Innovative Teaching and Learning Platforms

Establish the groundbreaking "Pitt Future of AI Institute" that trains students and adult learners in AI methods, platforms, and tools to increase employability of Pitt students and meet the exploding workforce needs of the next decade.

In-Flight Initiatives:

- Terabit Network (1,000 Gigabit Network)
- Commonwealth Broadband Bridges
- Workforce Superhighway

Building a next-gen IT foundation will support a new future for Pitt.

Featured In-Flight Initiatives

Health Sciences & Medical Innovation Hub

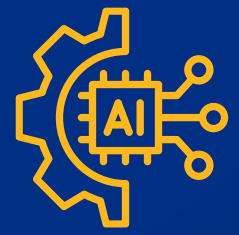
This a transformative collaboration of Pitt, UPMC, Dell, Pittsburgh Supercomputing Center, and CMU is creating the IT infrastructure to establish Pittsburgh as the epicenter for computationally enabled health sciences. The Hub uses technology to advance research on health initiatives that will contribute to Dell's moonshot goal of positively impacting 1 billion people by 2030.

AI Tech Community

NVIDIA selected Pittsburgh as the location of its first AI Tech Community lab in the U.S. Created in partnership with CMU and with Governor Josh Shapiro's support, Pitt's lab will focus on AI and Intelligent Systems.

AWS Cloud Innovation Center (CIC)

Our partnership with Amazon Web Services (AWS) combines Pitt's leadership in the health sciences and athletics with AWS's powerful machine learning and AI services to enable student interns to solve real-world, data-focused challenges. Our CIC interns will also benefit from AWS's world-class training and resources. Our CIC is the first of its kind in the eastern U.S. and only the third in the nation.



AI Enablement Team

The AI Enablement team works with the University community to use AI to increase effectiveness, enhance efficiency, and reduce costs. Solutions being explored include private GPT tools, Pitt AI chatbots, and AI-assisted software development.

Other In-Flight Initiatives

- **Terabit Network**: Build an ultra high-speed fiber network in Pittsburgh that enables entrepreneurship, research, education, and more
- **AI Data Railroad/Data Universe**: Engineer solutions to transport data — the raw material for AI — from legacy systems to modern, AI-enabled platforms
- **Commonwealth Broadband Bridges**: Unite people across Pennsylvania by ensuring all individuals have access to the tools and resources needed to participate fully in the digital world
- **Pitt AI Foundry**: Leverage PA's power generation capacity to develop a hyperscale supercomputing and green data center that serves the state's needs
- **Workforce Superhighway**: Make Pittsburgh a national hub to meet the demand for a skilled workforce in AI, high-performance computing, and computationally-enabled health sciences

Building the Foundation

Advancing the Plan for Pitt through technology represents a significant undertaking, demanding the questions…
Where do we start?
How can we mobilize and take action?
Improving the present will create capacity for the future.

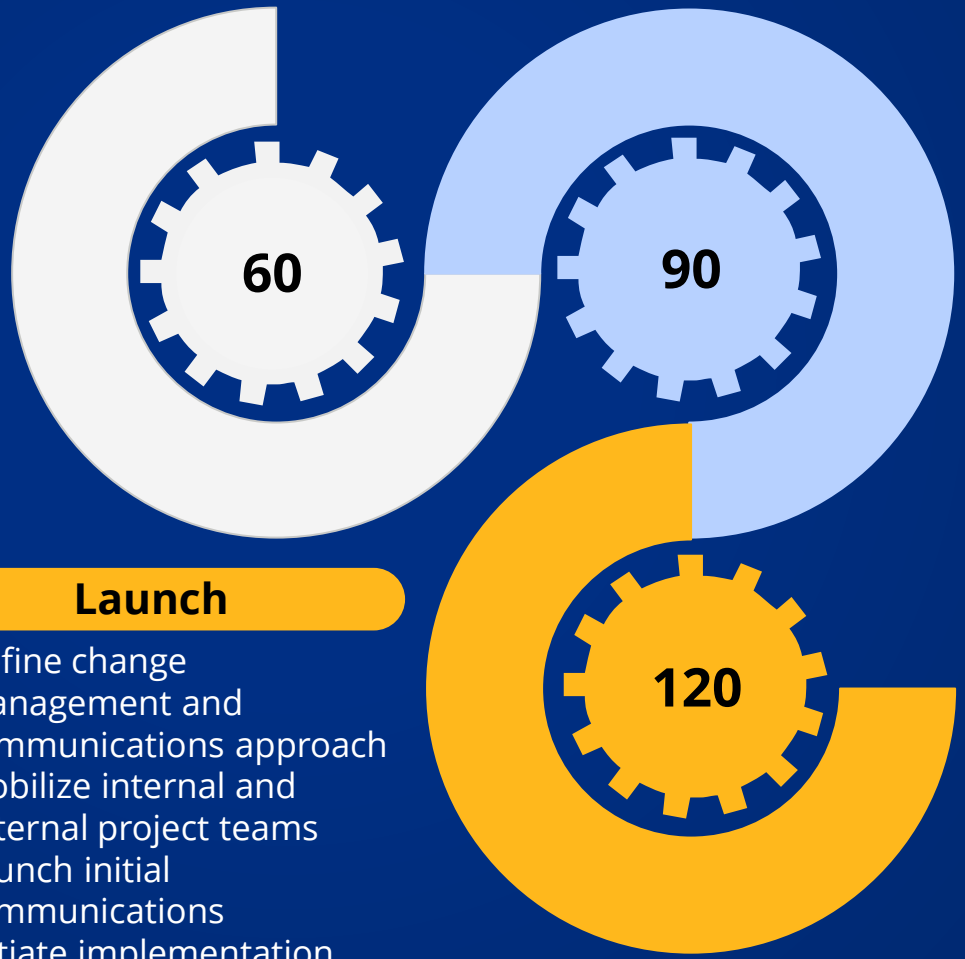
Guiding Principles

- “Advance the Plan for Pitt” | Deliver actionable and innovative IT solutions that enable Pitt’s mission and vision for the future.
- “Keep the Lights On” | Maintain continued focus in delivery of core IT services rooted first and foremost in security to support Pitt operations today and tomorrow.
- “Everyone Should Have a Say” | Leverage shared governance of IT across Pitt to ensure inclusion, representation, and transparency in decision-making.
- “Put Yourself In Our Shoes” | Prioritize effective change management and proactive communications to cultivate awareness, understanding, and support from Day 1.
- “Disrupt and Innovate” | Embody the “It’s possible at Pitt” spirit by serving as a trusted IT partner and catalyst for enabling the University’s strategy.

60 – 90 – 120 Day Plan

Socialize

- Present draft IT 10-Year Horizon to Pitt community and gather feedback
- Incorporate community input and refine report to reflect prioritized IT investments and initiatives
- Finalize report with Chancellor and senior leadership team



Plan

- Build "executive"-level and detailed program plans for prioritized IT investments and initiatives
- Identify prototypes, quick-wins, and dependencies
- Conduct resource planning
- Develop budget request to support proposed plan
- Finalize "Phase 1" plan

Launch

- Define change management and communications approach
- Mobilize internal and external project teams
- Launch initial communications
- Initiate implementation

“What’s happening at Pitt is **something special**. There’s a **level of energy and momentum** that you can sense in all areas of the University’s mission… I’m excited about **committing new energy and new ideas to accelerate** that progress.”

– Chancellor Joan Gabel

Looking Ahead
Your Voice in Shaping the Horizon

The Pitt IT 10-Year Horizon effort is designed to be iterative and collaborative.

Thank you for taking the time to share your thoughts on the Pitt IT 10-Year Horizon via the anonymous survey linked here. We sincerely value your candid and honest feedback.