Envisioning the Campus of the Future

accenture

High performance. Delivered.

MARYLAND IS WHERE WE…

ARTIFICIAL INTELLIGENCE: ***Automate where appropriate***

INTERNET OF THINGS (IoT): ***Connect Everything***

CLOUD: ***Move everything to the cloud***

DIGITAL: ***Digitize everything***

Re-imagined Student Experience

Digital experience is the new "Rock Climbing Wall"

Modernized Infrastructure

Are you a Taxicab or Uber; Blockbuster or Netflix?

Insights to Outcomes

Pursuit of more sustainable, efficient, and productive business practices

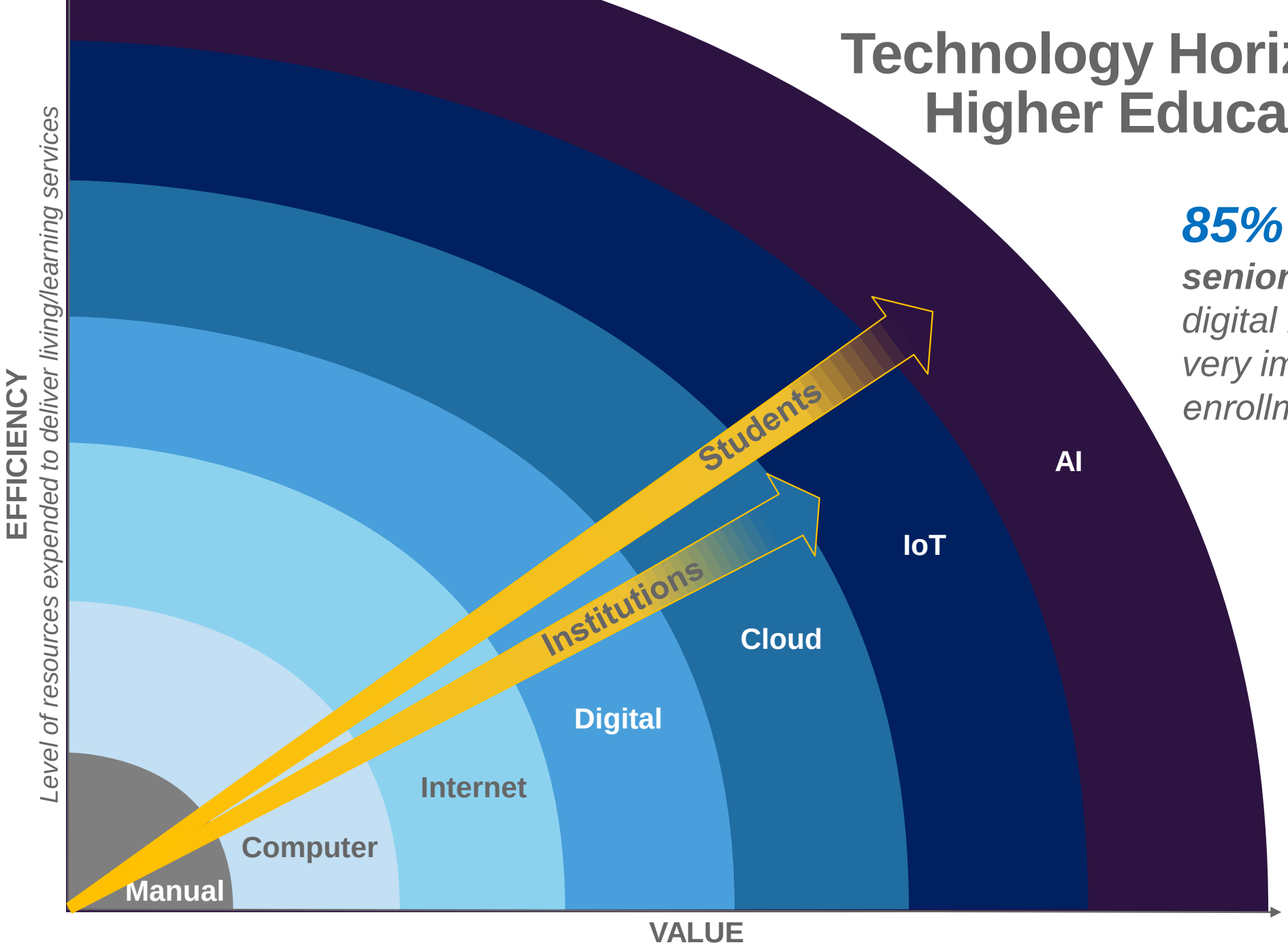
Flexibility & Efficiency

Speed, Cost, & Computing Power

Connectivity, Personalization & Prediction

Automation, Convenience

Technology Horizons in Higher Education



85% *of* ***high school seniors*** *indicated that digital innovation was very important to their enrollment decision…*

…yet only ***13%*** *of* ***college freshmen*** *indicated they were satisfied with their institution's digital tools*

A Clear Vision for the Campus of the Future

A safer, more cost effective, and sustainable campus, that provides a re-imagined student experience in support of student success and institutional mission

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Digital frameworks have changed our concept of service, as well as our expectations

Industry	Old Service Model	New Service Model	Key Concepts
Home Entertainment	BLOCKBUSTER VIDEO	NETFLIX	Personalization
Banking & Personal Finance		ally BANK.	100% digital
Transportation		UBER	On-demand Seamless payment
Travel Planning		tripadvisor	User empowerment
Retail		amazon	Speed and convenience

Competition extends beyond traditional boundaries

Direct Competitors

Institutions that directly compete with your own

Experiential Competitors

Services that (partially) replace the need for yours

Perceptual Competitors

Services that change student expectations

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Technology infrastructure and platforms are straining to support critical functions of the campus of the future.

Structural Support

- CLOUD-BASED SOLUTIONS
- NETWORK CAPACITY
- INTERNET OF THINGS

Services

- COLLABORATION /SOCIAL
- SECURITY/ PERSONAL DATA PROTECTION
- OPTIMIZED USER EXPERIENCE

Capabilities

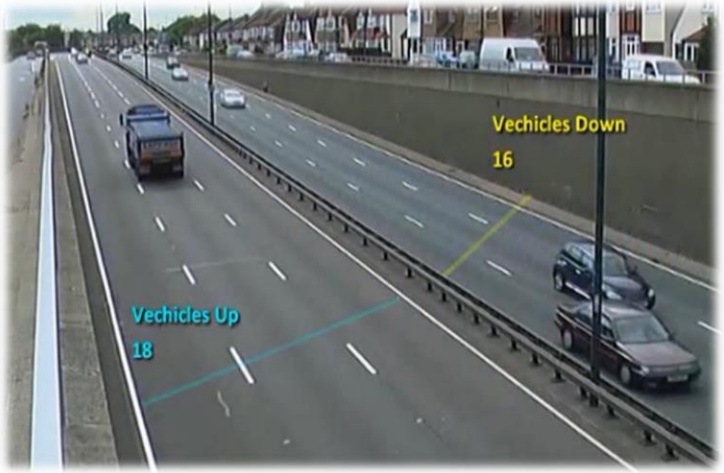
- MULTI-CHANNEL
- ADVANCED ANALYTIC & BI
- STUDENT LIFECYCLE MANAGEMENT

Core capabilities of Video Analytics platform

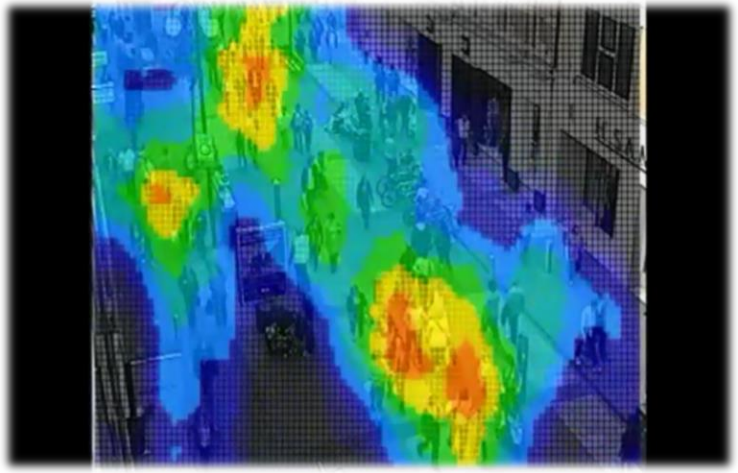
Measuring people flows

Counting people in and out

Counting vehicles

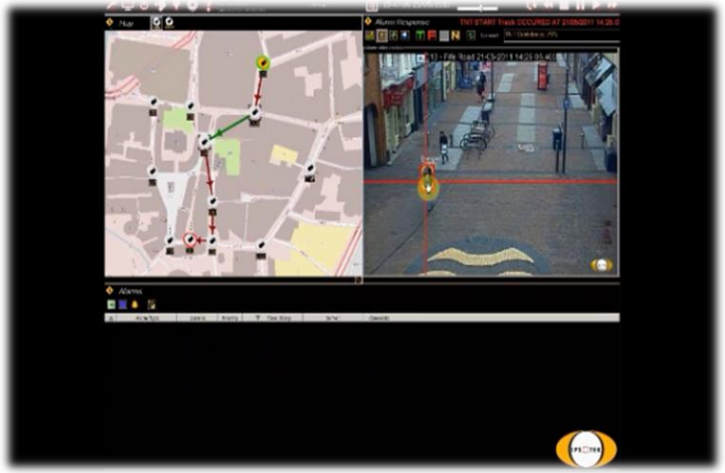


Measuring crowd density



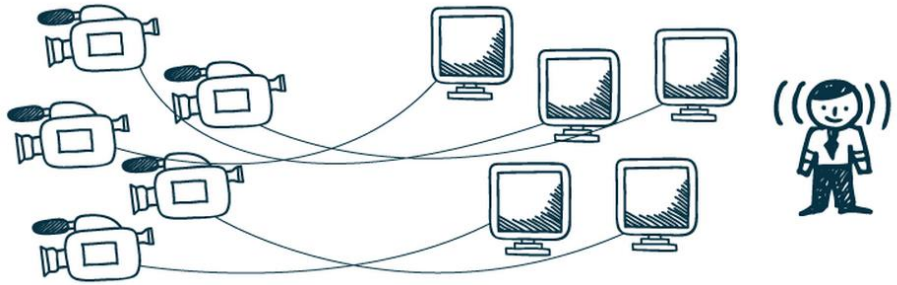
Recognizing people

Tracking flows across cameras



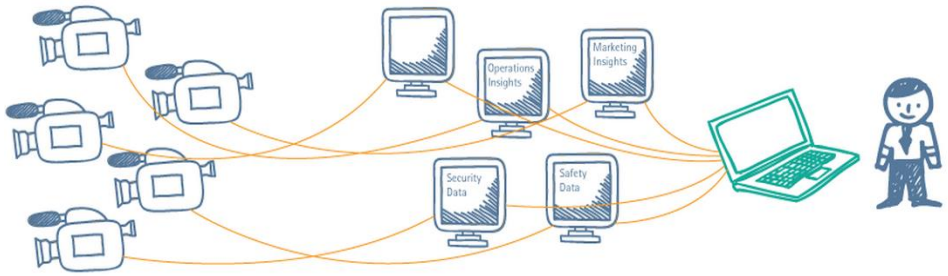
Changing the safety/security paradigm from *respond and review* to *predict and prevent*

Video Surveillance



98% of video feeds go unseen
95% of incidents missed

Video Analytics



System-generated alerts notify operator of events and anomalies

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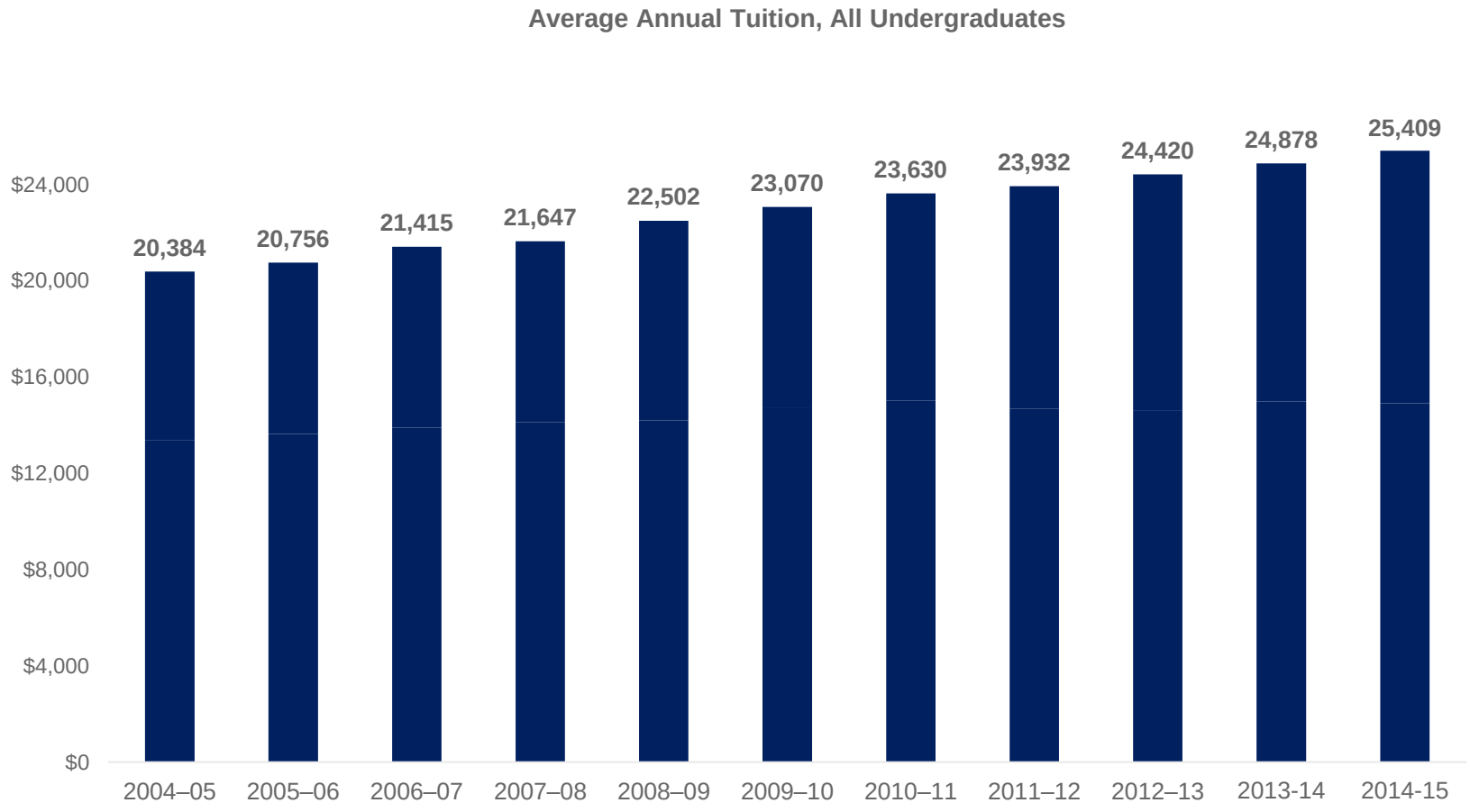
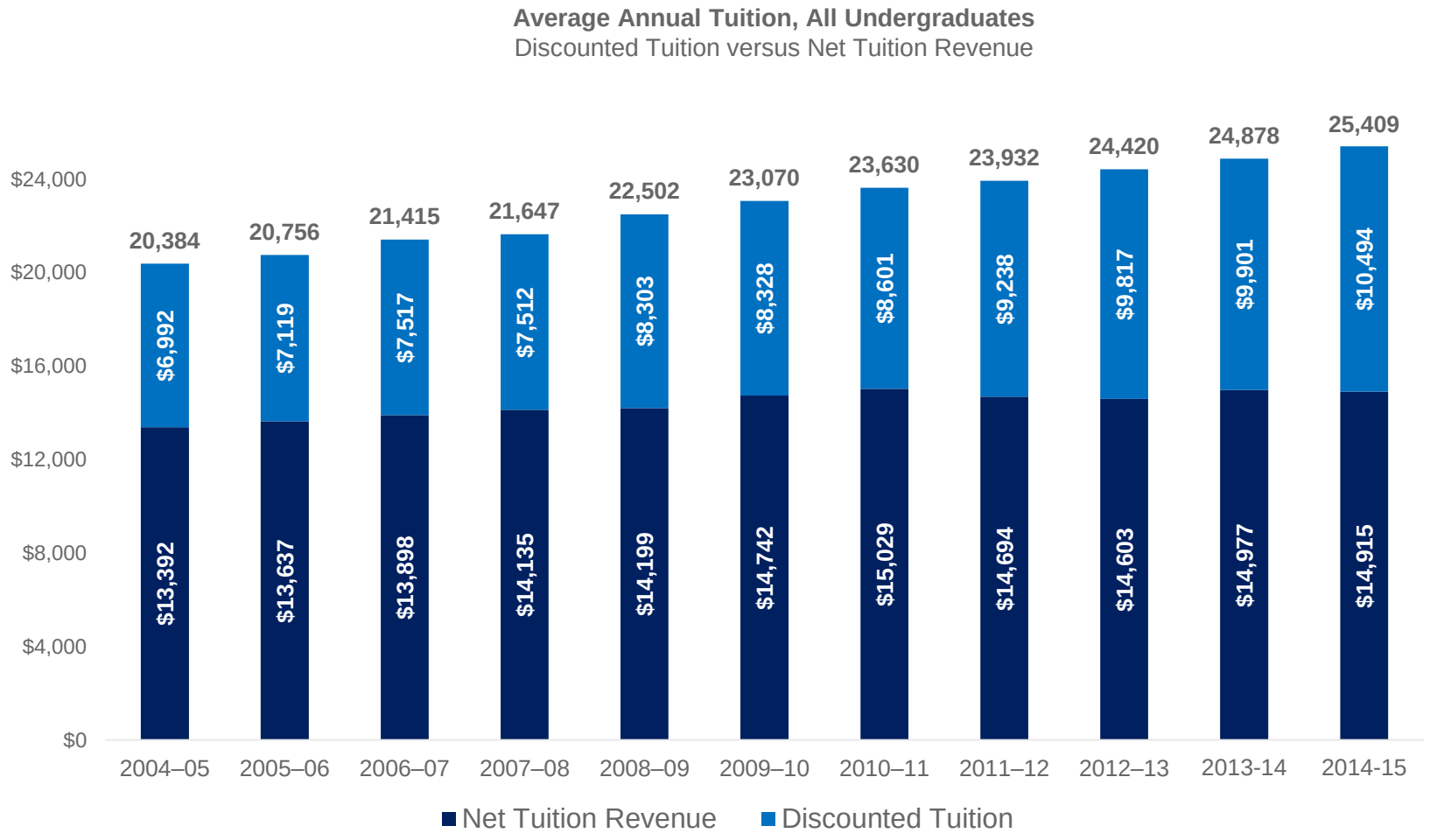
Average tuition per student has increased steadily and significantly



While tuition has increased significantly since 2004, spendable net revenue has remained relatively flat



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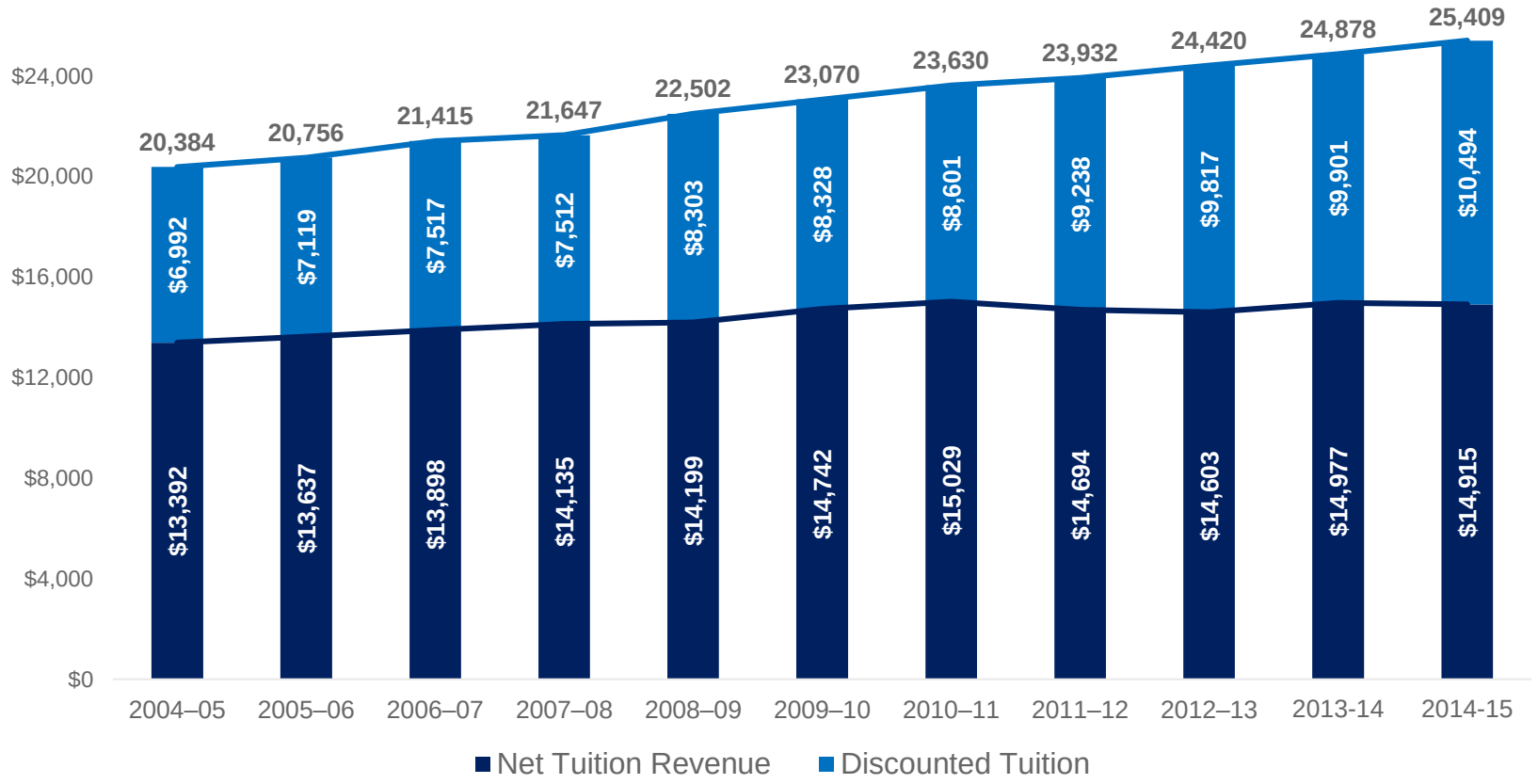
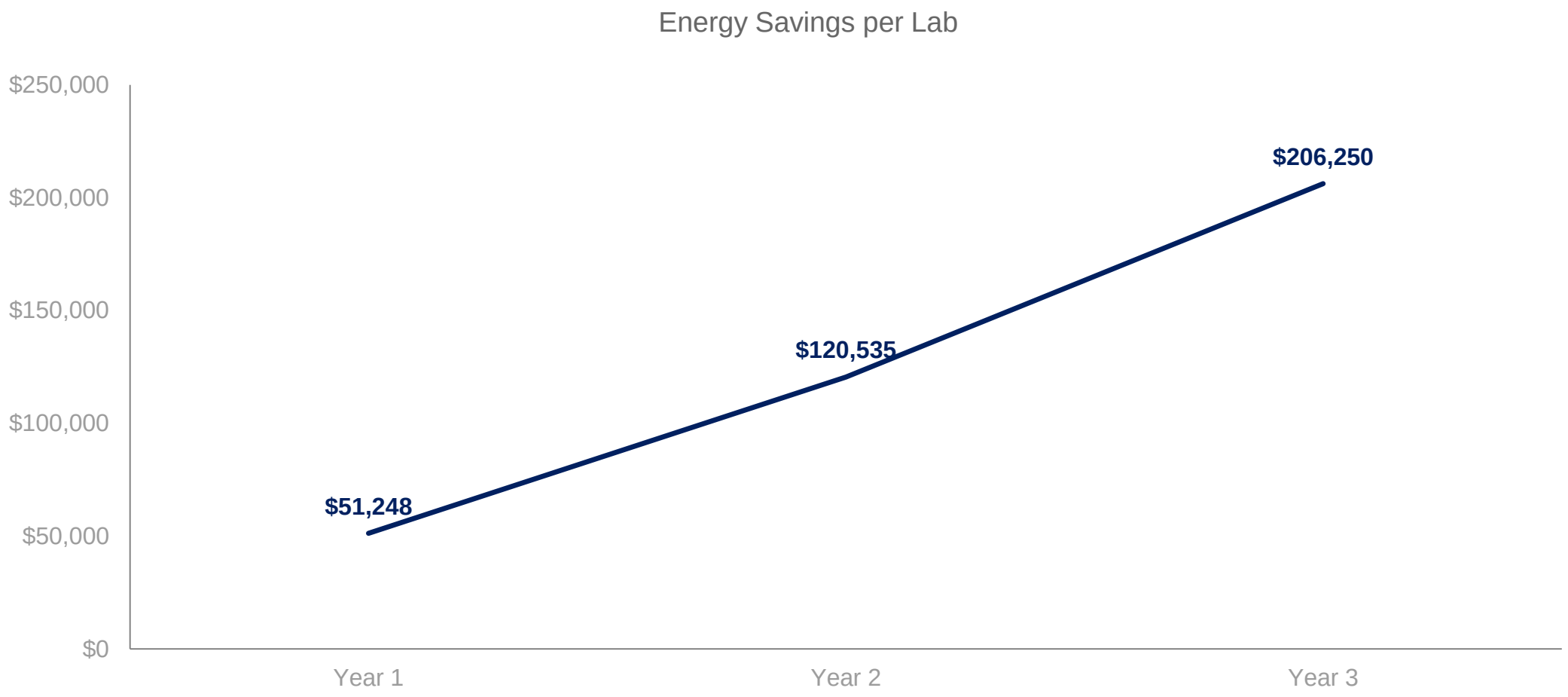
Average Annual Tuition, All Undergraduates
Discounted Tuition versus Net Tuition Revenue



46% of public institutions and **52%** of private institutions fell short of revenue targets

While average tuition has increased **25%** since 2004, spendable net tuition revenue per student has increased only **11%**

Case Study: Energy savings delivered to research laboratory for major research institution in the West



The “Internet of Things” is not just about things…

…It’s about creating an ecosystem that enables experiences more efficiently, and with more intelligence than individual point solutions

Factors fueling an increasingly connected world

Decreasing cost in computing

Over the last ten years…

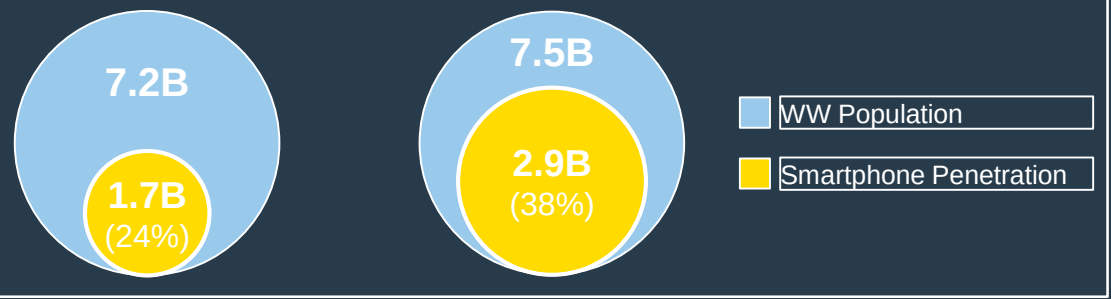
Cost of Sensors — **0.5x**

Cost of Bandwidth — **40x**

Cost of Processing — **60x**

Proliferation of smartphones

In 2013 | by 2020



Ubiquitous connectivity

In 2014…	By 2019
27% of mobile devices were IPv6 capable	**54%** of mobile devices will be IPv6 capable
15% penetration of 4G connections	**26%** penetration of 4G connections

Rise of cloud and big data

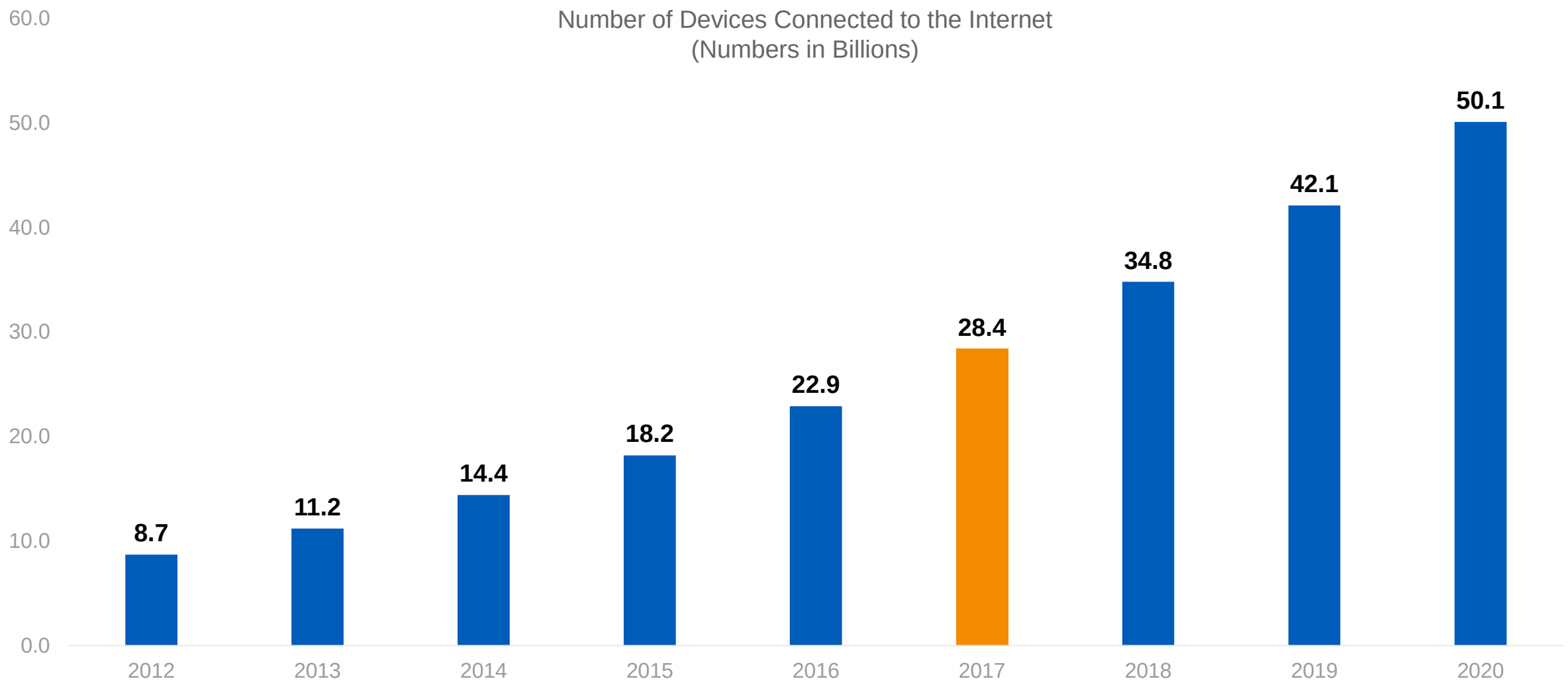
In 2012…

2.8EB of data
16% in the cloud

By 2020…

40EB of data
37% in the cloud

The number of devices connected to the internet will nearly double by 2020



Source: Statista

Siloed Technology vs. Platform Technology

In deriving enterprise value, a cohesive underlying strategy is just as important as the technology itself

*Technology solutions on **isolated platforms***

*Technology ecosystem built on a **common platform***

Six technologies with the potential to change higher education

New technologies have already changed industries such as travel, banking, manufacturing, and entertainment. These technologies have practical applications in Higher Education and the potential for significant impact in driving innovation and student engagement.

Technology	Application in Higher Education	Examples
Internet of Things	Change the way that students, faculty, and staff interact with each other, and the campus itself	Reduce energy costs and improve personalization and efficiency of service delivery across campus
Virtual Reality	Enhance the classroom learning experience	Ability to “travel” with a professor to an archeological site
Machine Learning	Safety/security: Predict and prevent incidents before they even occur	Video cameras that can detect anomalies and signal alerts to public safety
Augmented Reality	Enable more lifelike demonstrations of concepts and materials	Go inside a model of a heart to understand and visualize how it works
Artificial Intelligence	Improve efficiency and speed of service	Virtual advisor can help students optimize class schedules and decisions to drive student success
Advanced Analytics	Access and leverage new, structured and unstructured data in order to further improve experience and outcomes	Student interaction with new technologies provides new behavioral data, which can be layered on top of traditional student success models

Key Considerations for Success

Start with a vision. Without a clear vision, you will end up with a disjointed series of use cases, which might be interesting, but will not deliver enterprise-level value.

Start now. Early adopters to new technology stand to garner significant competitive advantage. What is a clear competitive advantage today will soon become the expectation for excellence.

Understand ROI. Identify use cases, estimate ROI, and prioritize based on institutional needs and objectives

Network capacity and capability. New technologies will place strain on existing infrastructure and network capacity.

Data security and storage. Interaction with new technologies will generate a tremendous amount of data; where will it be stored and how will it be secured?

Analytics and business intelligence. What tools will be used to extract value from the data, and how can it be fully utilized to improve student experience, student success, and outcomes?

Managing Partnerships. Building an ecosystem across existing and new systems, vendors, and partnerships to ensure a high quality, seamless experience

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