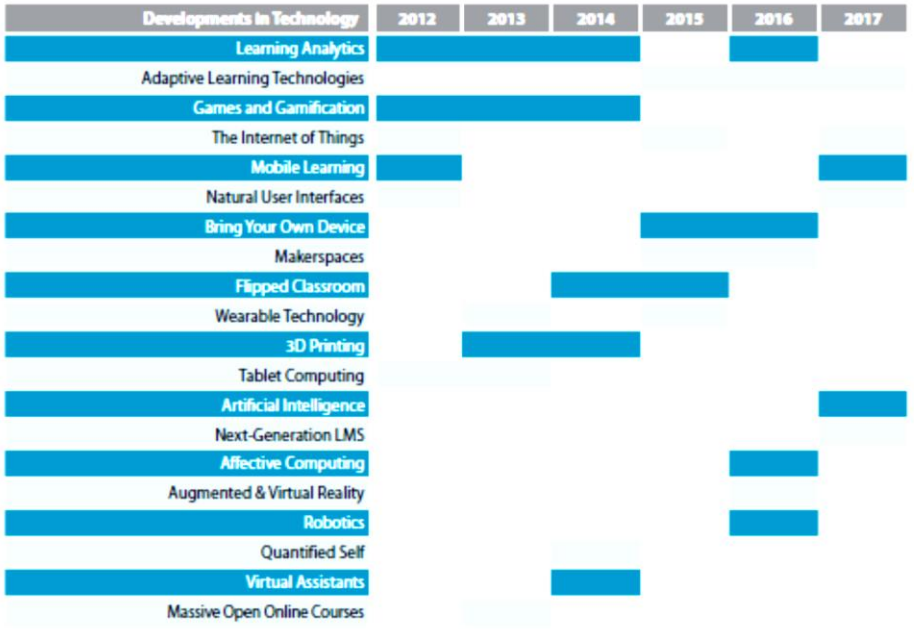
# Digital Transformation in University

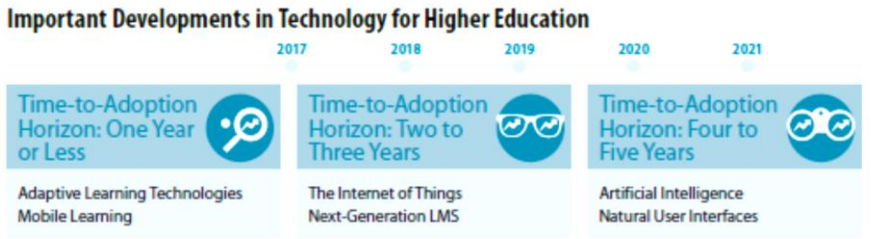
# Evolution of Learning

## A Paradigm Shift

| | | | |
|---|---|---|---|
| **Methodology** | One Size Fits All | → | Student Centricity for both Learning & Measuring |
| **Environment** | Static, Often Disconnected for Contributions | → | Social, Adaptive, Personally Engaging |
| **Content** | Set Catalogues of Material & References | → | Fit for Individual Needs, Preferences & Learning Styles |
| **Instructor / Teacher** | Content Delivery Agent | → | Informed Learning Coach |

Source: Horizon Report > 2017 Higher Education Edition



# Business & Technology Trends in Education

- Course / Offering Relevance & Student Retention
- Cost Containment & Revenue Diversification
- Branding / Ranking
- Compliance & Liability
- Operational Efficiency & Productivity

CONCERNS

Teacher / Instructor

Educational Institution

Learner / Student

Guardian / Sponsor

CONCERNS

- Quality of Learning
- Industrial Relevance
- Privacy & Safety
- Access to Social Interactions
- Access to Recreational Activities

MAIN BUSINESS TRENDS

MAIN TECHNOLOGY TRENDS

Personalized / Adaptive Learning

Competency-Based Learning

Remote Learning

Social Learning

RESEARCH

POST-DEGREE EDUCATION

DEGREE EDUCATION

SENIOR HIGH SCHOOL

MIDDLE EDUCATION / JUNIOR HIGH SCHOOL

FOUNDATION / GRADE SCHOOL – BASIC EDUCATION

PRE-SCHOOL EDUCATION - KINDERGARDEN

Learning Management & Student Information Systems

Artificial Intelligent and Data Analytics

Digital Collaboration & Assessment Systems

Digital Campus & Credentials

# Meeting expectations

## Students

**Great course**

Best teaching content delivered by excellent tutors

**Best life experience**

Safe, fun, easy, efficient

**Job prospects**

Internship and research projects whilst in Institution, great job afterwards

**Minimum debt**

Best value for money, affordable

# Meeting expectations

## Institution

**Great students & staff**

Acquire, retain and graduate great students, whilst attracting the best tutors

**Innovative teaching**

Multi-channel delivery / Institution as originator and keeper of knowledge

**Industry Relations**

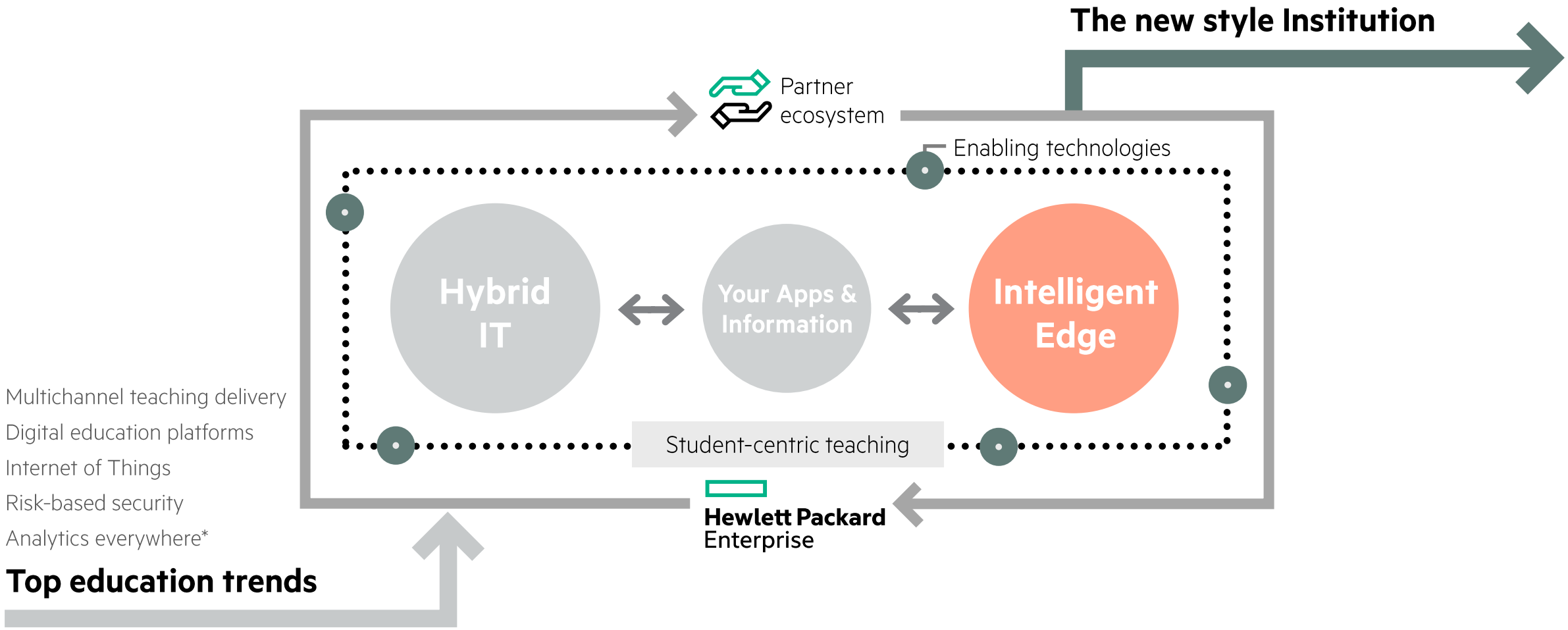
Internship / research projects /jobs for students

**Consistent funding**

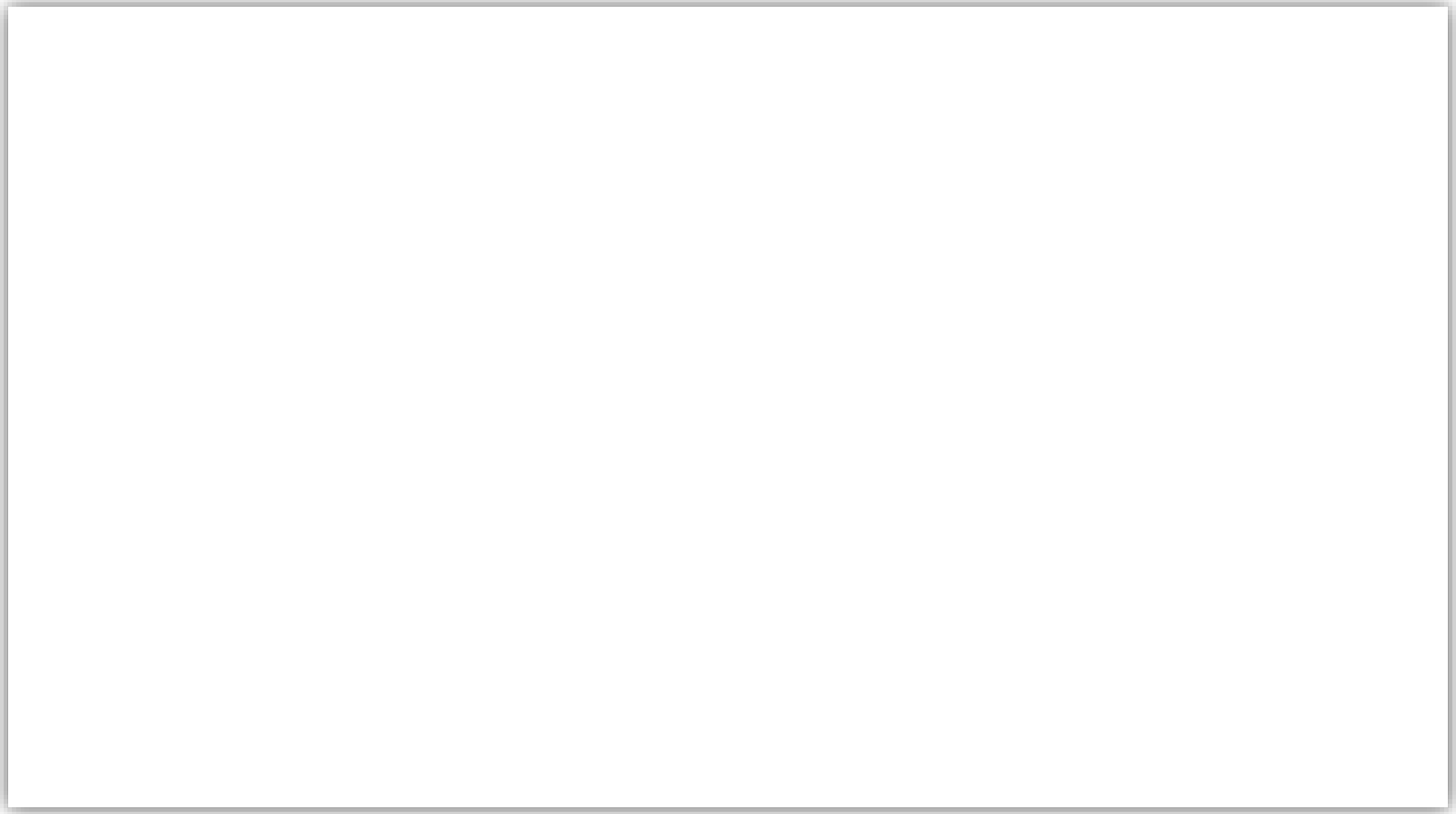
Income from students /facilities / research funding / alumni

# Digital transformation of Higher Education

The journey to the new style of Institution



# Future Smart Institution in the age of Digital Transformation



# Functional Building Blocks for a Future Smart Institution

## Smart Facilities

- Intelligent Buildings
- Integrated Surveillance Systems
- Smart Parking Management
- Energy Management
- Smart Lighting
- Smart Waste Management Systems

## Digital Interaction Center

- Mobile Engagement
- Customized Service Centers
- AI Powered Chatbots
- Digital Collaboration Services

## Digital Learning

- Education Cloud
- Learning Management Systems
- Virtual Digital Labs
- Digital Classrooms

## Analytics

- Student Retention Analysis
- Adaptive Learning Platform

## Digital Campus

- Location Services
- Visitor Management Systems
- Intelligent Workplace Operations
- Planning and Optimizations
- BYOD Environment
- Intelligent Connectivity

## Digital Foundation ... Open, Loosely Coupled, Re-Usable

### Infrastructure

- Composable
- Public/ Private
- Fluid Resource Pools

### Data Platform

- Variable Data Types
- As a Service
- OnPremise/ OffPremise

### Connectivity

- Ubiquitous
- Intelligent
- Open

# Enabling the Smart Campus

Workplace | Mobility | Connectivity | IOT

# Executive Overview

## Higher education is disrupted

- New ways of creating and delivering content
- Increased competition and reduced funding
- Increased expectations from Students & Staff

## The Intelligent Campus

- Input from Institution CIOs, CDOs, Students & Technologists
- Using multi-industry experience – Smart Cities, Ministry of Defence, Transportation, Utilities, Communications
- Working with our partner eco-system

## Aim

- To make the Institution the place to come to study & work for students and staff by using the best technology and resources
- Safe, Efficient, Rewarding, Sustainable & Fun

# Imagine an Intelligent Campus that...

...senses when students/staff are on campus and provides them with relevant interactive information to help them do their jobs better!

...is 'mobile first' offering self-guided, location-based wayfinding, and personalized push-notifications

...uses virtual and augmented reality to give students a richer digital experience before or during an open day or any similar functions

...provides a platform for the students to comment on courses, lecturers, facilities, etc. and feeds back this information to management to make informed decisions

...enables the student to find special offers, comments on local services organisations, make on line bookings, to make Institution life more fullfilling

...supports Institution with student acquisition, student retention and continued alumni engagement as well as attracting the right caliber lecturers

...provides secure access to the premises of the Institution, whether a car park, a lecture theater or the halls of residence

...delivers a 'command and control center' to manage the Institution facilities effectively, efficiently and safely

...enables the Institution to record student class attendance, check for student exam process and detect internal irregularities

...uses a flexible, future proof IT infrastructure to deliver most efficient and cost effective platform for all core and student service applications

# The Intelligent Campus Use Cases

# Empower a Data Driven Institution

Data | Analytics | ML | AI

Confidential | Private

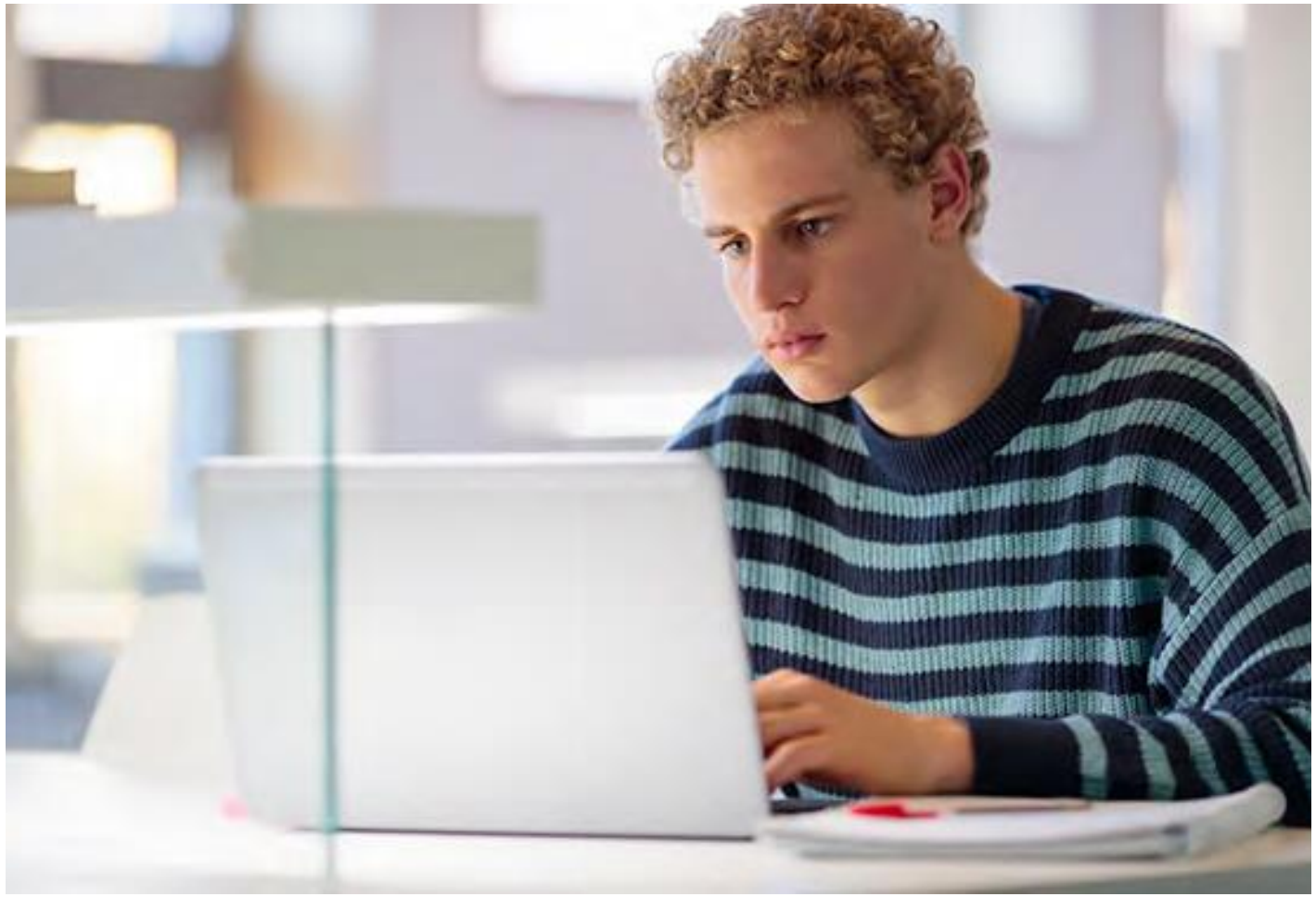
# The Challenges

- The large number of students  are not very confident when arriving at Institution, and tend to suffer in silence without asking for help
- Lots of data related to students lying around in silos
- Students are at increased risk of drop out when they are not fully engaged with Institution life

Therefore how could institutions:

1. Identify doubters early in the academic cycle
2. Help them to overcome their doubts through the provision of effective, timely support from tutors
3. Increase their prospects for achieving academic excellence during their study at the institution
4. Closely monitor academic performance

# Use Cases for Students



- Access their own performance data as well as compare their to course and institutional averages
- Can keep track of their own learning and engagement

# Use Cases for Faculty

- Quickly able to identify students who need extra help.
- Ability to drill down into missing areas of engagement /learnings

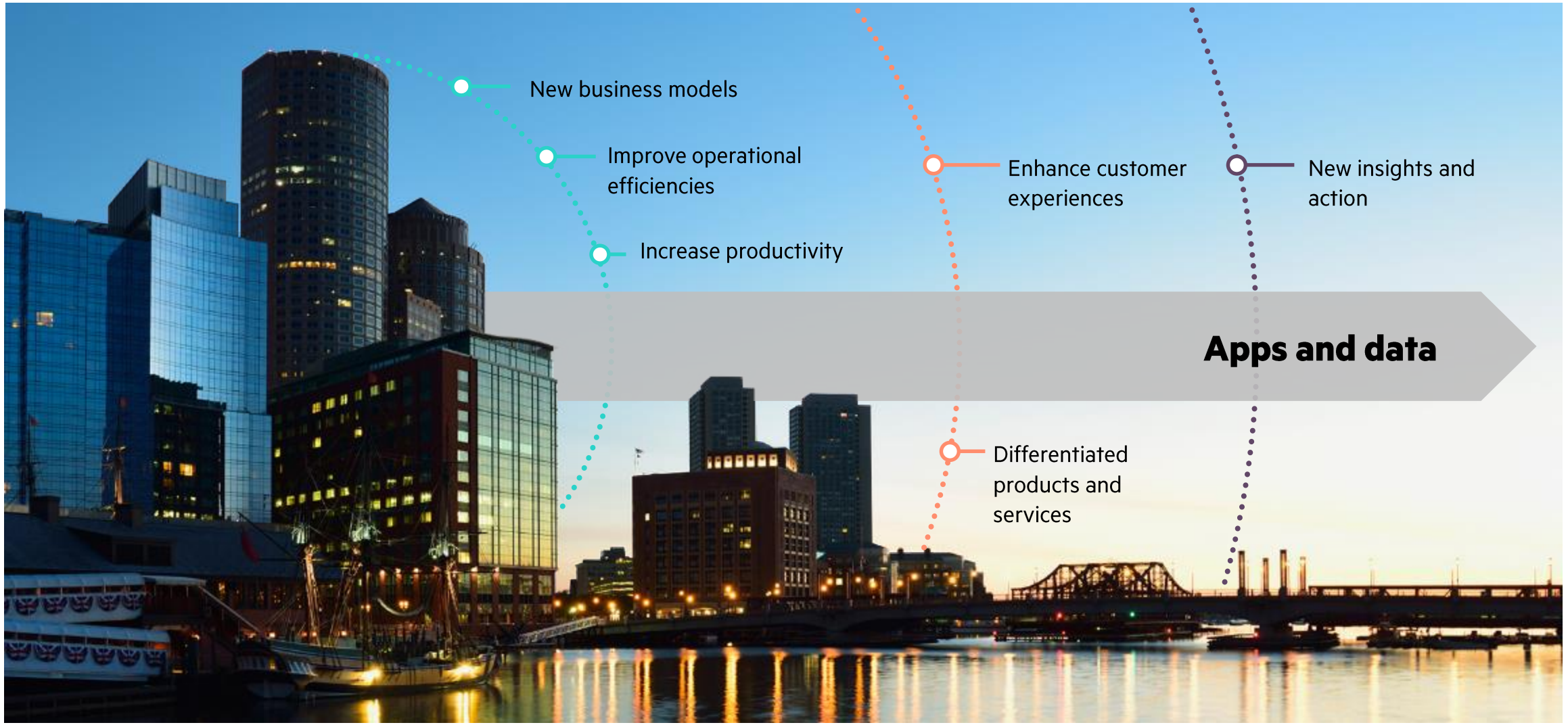
# Use Cases for Administrators

- Understand risk profiles in real time.
- Understand broad patterns of engagements
- Aids in development of standards across all faculties and departments.
- Enhance student experience

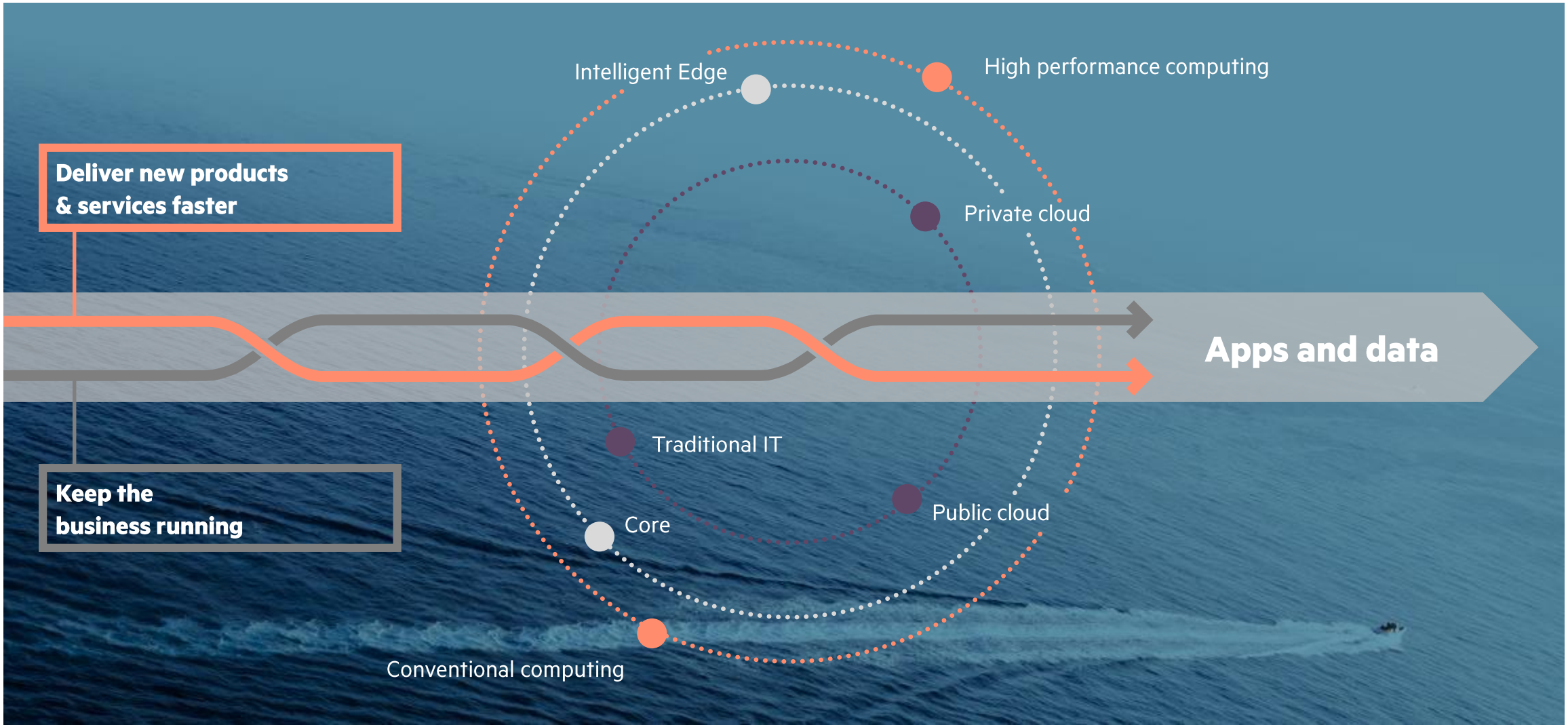
# Transform to Agile IT Model

Apps | Cloud | DevOps | Data Centre

# Digital Transformation is driven by a new gen apps & data at a new speed

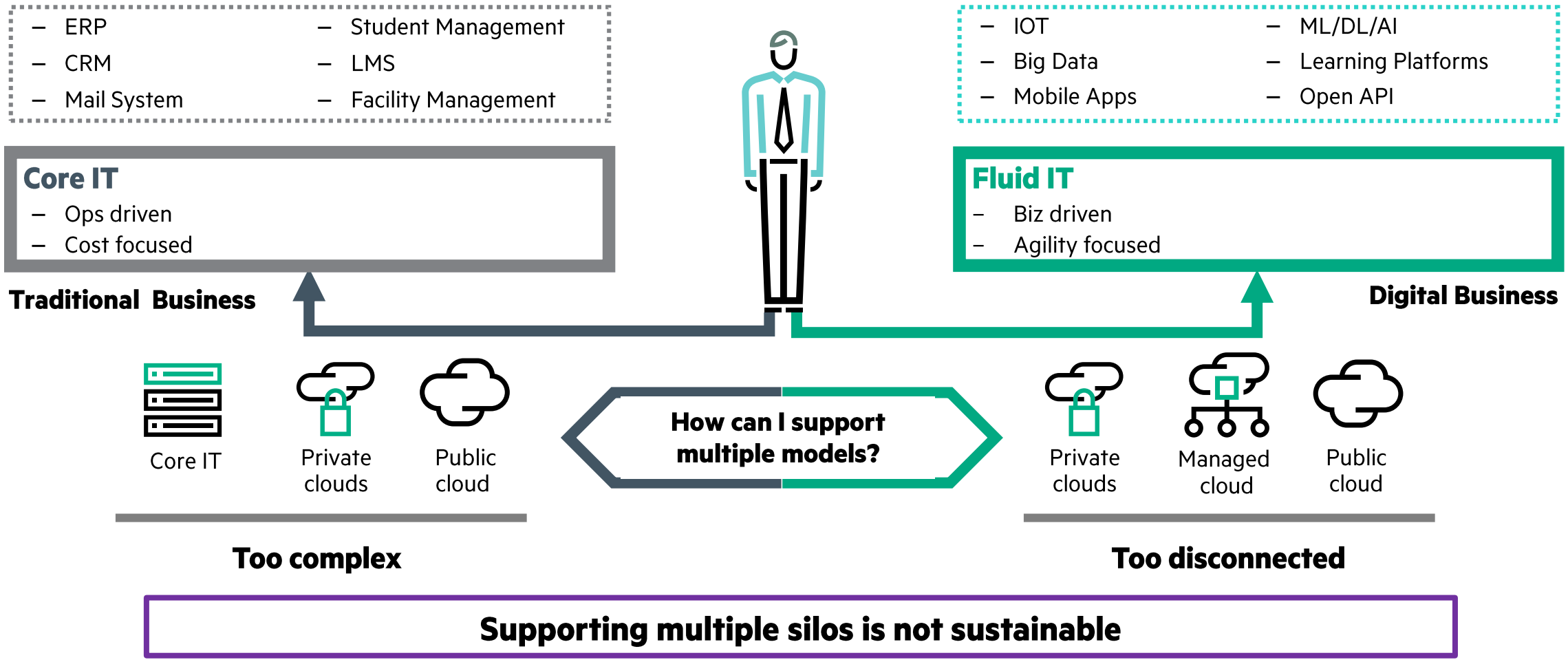


# Technology plays a significant role in the digital organization



# Organizations will require two contrasting styles of IT Systems

Presently, IT are stuck between control and flexibility



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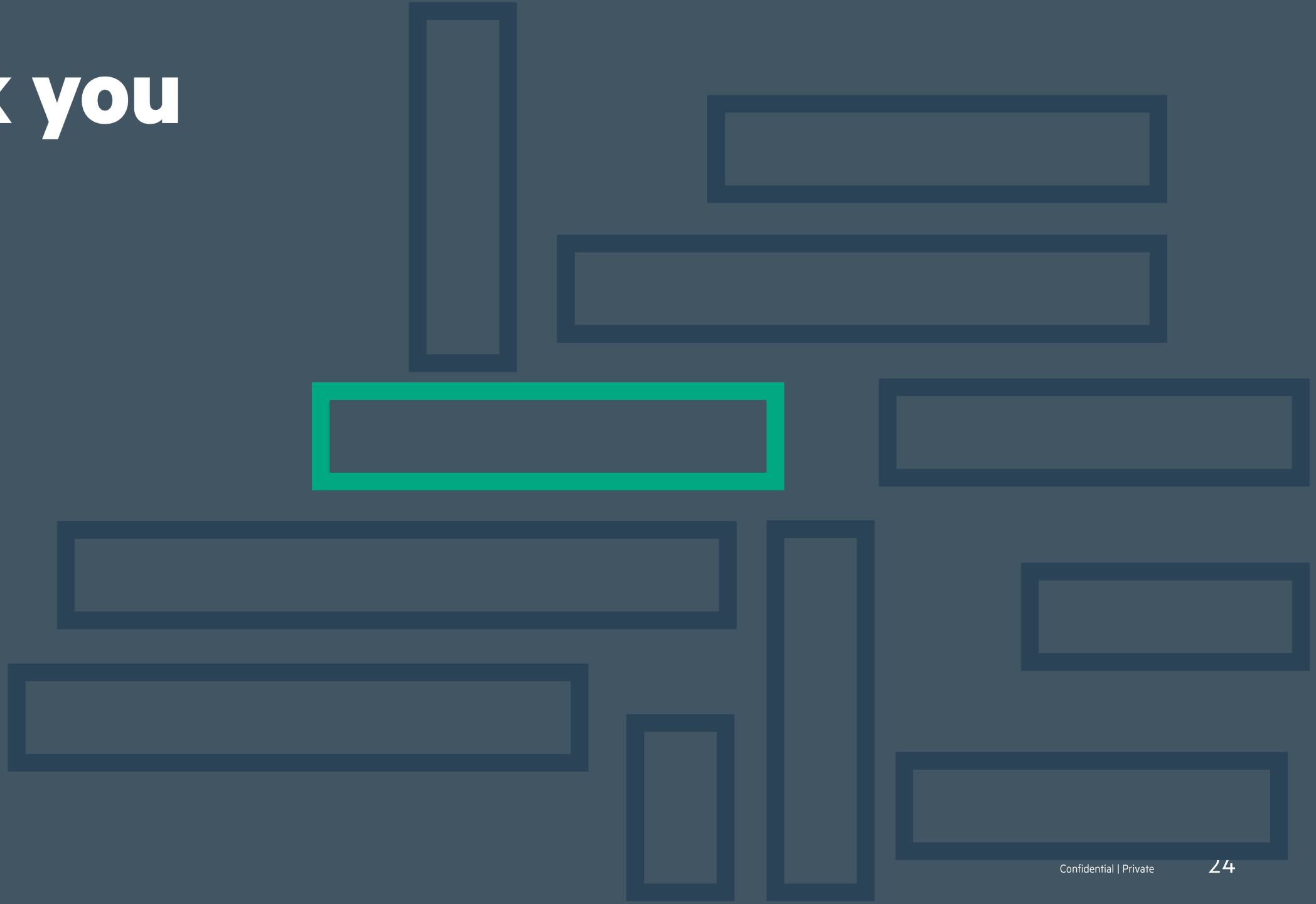
- Applications
- DevOps
- Management
- Infrastructure
- Delivery Model

# Your Right Mix of Hybrid IT

"The capability of an **IT operating model** to strategically source and integrate services from both internal and external service providers, secured and optimized for business demand"

# Thank you



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