Microsoft

Trusted Cloud
for Healthcare

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Agenda: Make the journey to the trusted cloud – painlessly

The impact of cloud computing in your organization

Defining your priorities

The journey to the trusted cloud

The role of Microsoft in cloud computing

Digital health: harnessing the power of change

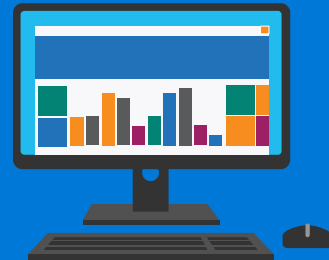## Entering an innovative, transformative era for healthcare

Cloud	Big data	Mobile	Social

3X

The global healthcare cloud market could triple from 2018 to 2020 ($3.73 to $9.5 billion)
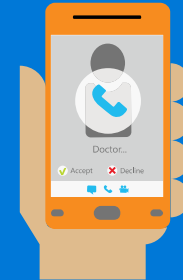
(MarketsAndMarkets)

50X

From 2018 to 2020, health data worldwide is expected to grow from 500 PB to 25M TB

(Rock Health)

2.7

devices used by physicians, on average, above and beyond their multiuser workstations

(IDC Health Insights)

49%

of patients want access to providers in new ways, including online chatting and texting

(PwC)

A journey that starts with your mission

- Maximum quality of care
- Patient engagement
- Lower costs and streamlined operations
- Internal education
- Innovation and research

The next step: linking your mission to potential improvement projects

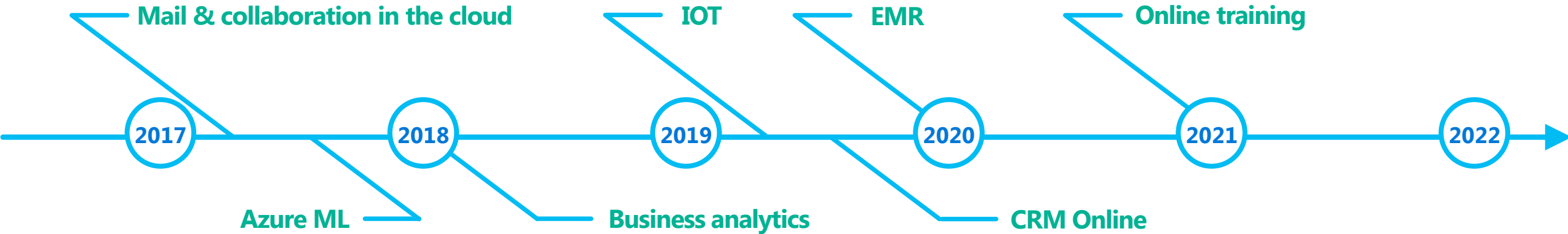| Maximum quality of care	Patient engagement	Lower costs/ streamlined operations	Internal education	Innovation and research
Document management and workflow, business analytics	Patient portal with some of the patient's EMR information and other preventive care information	On-premises to the cloud, predictable cost per study/intervention	Online training	Precision health, Internet of Things

Use of the cloud is a progressive journey
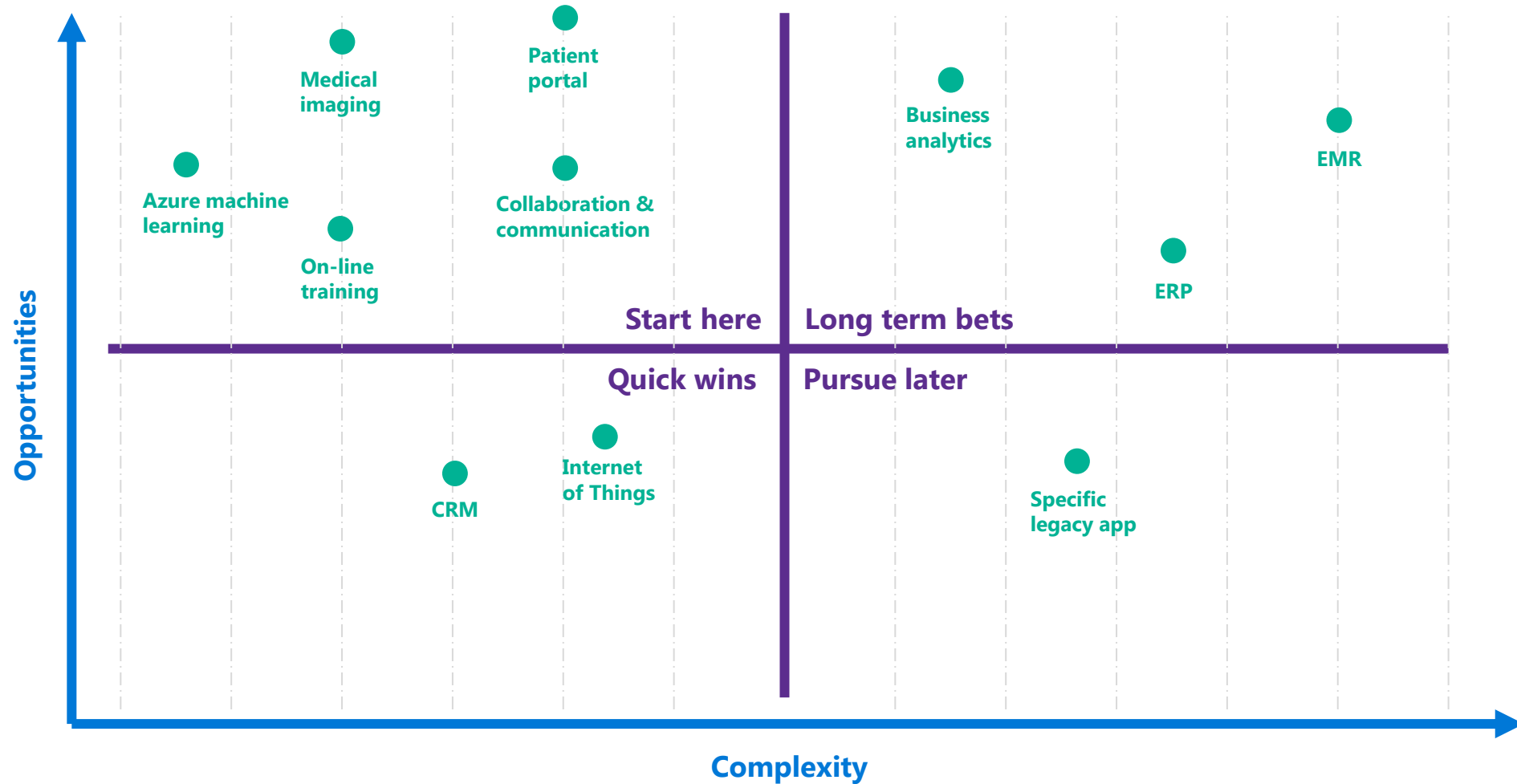
Begin with projects that fit your needs today and allow you to follow a transformational path and pace to the cloud that fits your organization.

Opportunities (vertical axis)

Complexity (horizontal axis)

Start here
Long term bets
Quick wins
Pursue later

- Medical imaging
- Patient portal
- Azure machine learning
- Collaboration & communication
- On-line training
- Business analytics
- EMR
- ERP
- CRM
- Internet of Things
- Specific legacy app

This graph is a sample. Opportunities versus concerns are unique to each organization.

Transform the care continuum
Creating an implementation roadmap

Mail & collaboration in the cloud

IOT

EMR

Online training

2017   2018   2019   2020   2021   2022

Azure ML

Business analytics

CRM Online

This graph is a sample. Opportunities versus concerns are unique to each organization.

What have others done with the Microsoft Cloud Platform?

Enable application innovation

- Health and clinical research
- Genome sequencing and precision medicine
- Fraud claim detection

Transform the datacenter

- Storage of medical images
- Hybrid deployment of clinical apps
- Disaster recovery of apps and data
- Patient portals in the cloud

Create the Internet of Your Things

- Remote patient monitoring
- Predictive maintenance of clinical devices
- Device and patient tracking
- Smart building

Unlock insights on any data

- Clinical analytics
- Operational analytics

Empower enterprise mobility

- Secure cloud-based support for the mobile health worker

What can you do with the Microsoft Cloud Platform?

Enable application innovation	Transform the datacenter	Create the Internet of Your Things	Unlock insights on any data	Empower enterprise mobility
optolexia	Fortis	GOJO	Dartmouth-Hitchcock MEDICAL CENTER	St Luke's

Local use cases

HKSTP Incubatee Applied Technology Partners with Microsoft Hong Kong and Hong Kong Health Check Group to Launch New One-stop Personal Healthcare Management Solutions "HealthMe•2"

Jun 11, 2019 | Doris Hui

June 11, 2019, Hong Kong – Applied Technology Group (Applied Technology), an incubatee of Hong Kong Science and Technology Parks Corporation (HKSTP), today launched two new smart healthcare innovations – **Health·Me2 Mobile App** and **Smart Wristband EWB-1010**. As a clinic solution provider, Applied Technology co-developed the new solutions with Microsoft Hong Kong and Hong Kong Health Check Group & Medical Diagnostic Center Limited (HKHC), with a mission to help users embrace a brand-new smart healthcare lifestyle.

The Silicon Review®   Industry   Platform   Technology   Leadership   Magazine

ARTIFICIAL INTELLIGENCE

Hong Kong University and Microsoft Collaborates, For AI Research

The Siliconreview
27 August, 2018

Trusted Cloud Principles
Our commitments to your organization

Security
we will implement strong security measures to safeguard your data

Transparency
We will explain what we do with your data in clear, plain language

Compliance
We will help you meet your specific compliance needs

Privacy & control
We will provide you with control over your data to help keep it private

Trusted Cloud for Healthcare

Our commitment

- To deliver a cloud that is trusted, responsible and inclusive

- To make the adoption of cloud as smooth as possible for health organizations

- To understand your requirements and provide detailed information on the technical, contractual and practical aspects of your proposed cloud project

- To ensure that healthcare institutions and their patients will benefit from this new wave of innovation

Microsoft | **Microsoft's Trusted Cloud – Asia**   Country/Market ⌄   Industry ⌄   More ⌄   All Microsoft ⌄   🔍 🛒 👤

Hong Kong:

Cloud in Healthcare Services

Hong Kong Homepage ›

Regulatory Overview   Regulatory Deep Dive   Recommended Resources

Microsoft's Commitment to the Hong Kong Healthcare Sector

Trusted Cloud for Healthcare

Regulatory Overview

- Electronic health record sharing system (eHR System) by the Hospital Authority

➔ A unified and secured sharing platform between private & public sectors

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The Regulators of eHR System

1. The Food and Health Bureau

2. The Department of Health

3. The Hospital Authority

   Govern the provision of healthcare services by both public & private healthcare institutions

4. The Office of the Privacy Commissioner for Personal Data, (PCPD)

   Enforces the Personal Data (Privacy) Ordinance (PDPO)

5. The Electronic Health Record Sharing System Office (eHR Office)

   Enforces the Electronic Health Record Sharing System Ordinance (eHRSSO)

Trusted Cloud for Healthcare

Data Transfer Requirement

- Organizations must comply with general laws on data protection

- The provision in the Hong Kong Personal Data (Privacy) Ordinance (PDPO) regarding data transfer (Section 33) has not yet come into force but prevailing practice is to have it taken into account (as also recommended by regulator such as the HKMA). Section 33 of the PDPO imposes limitations on transferring data outside of Hong Kong except in certain circumstances e.g. if the organization has taken all reasonable precaution and exercised due diligence that personal data will not be handled in a manner in contravention of the PDPO requirements (Due Diligence Exception). Putting in place an enforceable contract between all parties to the transfer is a way to satisfy the Due Diligence Exception and the **Office of the Privacy Commission for Personal Data, Hong Kong** (PCPD) has proposed a set of recommended model clauses to include in such contract under the Guidance on Personal Data Protection in Cross-border Data Transfer it published.

- The Online Services Terms of Microsoft in principle cover the core areas of the recommended model clauses, which should assist financial institutions to make a determination as to whether the Due Diligence Exception can be relied on.
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- The Hong Kong Privacy Commissioner Information Leaflet on Cloud Computing(Cloud Computing Leaflet) provides guidance to service providers on the use of cloud computing. This Cloud Computing Leaflet recommends that organizations should ensure that a cloud service provider discloses to organizations the locations or jurisdictions of where data will be stored.

Azure Security for Healthcare Data Storage

Review of Azure Security for Healthcare Data Storage

for

Microsoft Hong Kong

Report

The University of Hong Kong

CISC Ltd

5 Conclusion

Given that cloud computing has become part of our lives, data security and privacy have become an increasing area of concern for both Cloud Service Providers and users. For healthcare data, once we decide to use the cloud, preventing unauthorized access to information resources will become a major consideration. In this report, we have highlighted the security and privacy issues unique to the architecture of cloud computing. The solutions lie in strengthening in-built technological security and privacy capabilities and management, reaching new types of contractual arrangements between CSPs and users and in adopting encryption technology.

Any cloud computing solution should be properly configured, deployed and managed to meet the security and privacy requirements of customers using the solution. Healthcare data must be protected in a manner consistent with the healthcare organization's policies. In addition, security and privacy controls should be implemented correctly and operate as intended throughout the system lifecycle. Accountability for security and privacy in cloud deployments cannot be delegated entirely to cloud service providers. To a certain degree, it also remains an obligation for users to fulfill.

With respect to the cloud service provider Microsoft Azure, our analysis in Section 4 concluded Azure has provided sufficient security controls and privacy control to handle healthcare data. The controls not only adhere to local security and privacy requirements in Hong Kong, but also in line with international standards.

The most trusted platform

Each **physical datacenter** protected with world-class, multi-layered protection

Global cloud infrastructure with secure hardware and data segregation

Over **100** datacenters across the planet

Secured with cutting-edge **operational security**
- Restricted access
- 24x7 monitoring
- 3500+ global security experts

Thank You!