# ARTIFICIAL INTELLIGENCE of THINGS for SMARTER EHEALTH of THE FUTURE

Ted Chang, Ph.D. CTO of Quanta Computer

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### 張嘉淵 Ted Chang, Ph.D. CTO, VP & GM, Quanta Computer Professor, College of Al and Green Energy, NCTU Member of APEC Business Advisory Council (ABAC)



## QUANTA COMPUTER since 1988 by Barry Lam

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#### BBC NEWS LONDON

Home	UK	Africa	Asia	Europ
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#### Can London capitalise on the Games?



### The biggest computer maker on this planet





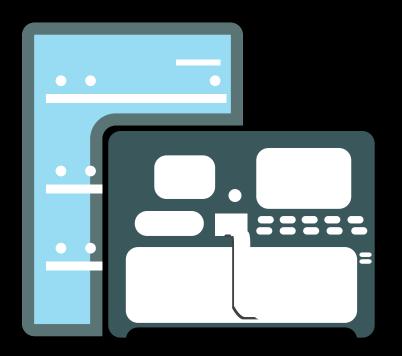
#### Quanta Computer Inc.

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# making Ideas happen





#### Mainframe

one computer, many people

PC one computer, one person

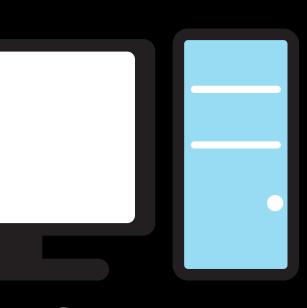
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Cloud Computing many computers, many people

### Quanta Transformation 32 Years of Innovation

1988 Mobile Computing

2000 Cloud Computing

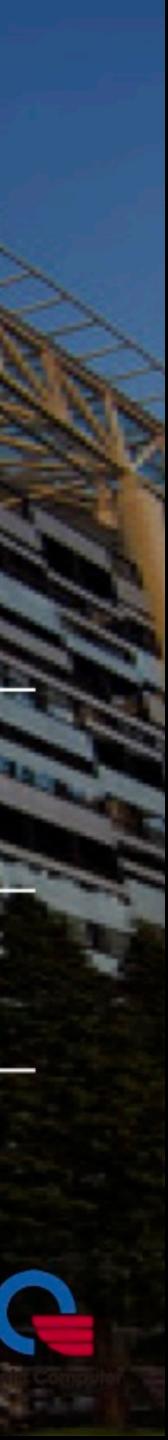
2016 Al Computing

2020 Distributed AI computing AI/5G Tools W#1

### Notebook

### Server

### AI Tools



## Consumer Product Group (CPG)

### Note Book

### Smart Wearable



#### Smart Office



#### Smart Healthcare

Confidential

### Smart Device

#### Smart Home

# AR

Smart Entertainment

We make tools for Al

\*2018 Productivity



# Cloud Infrastructure Group (cig)ServerStorageSwitchCloud

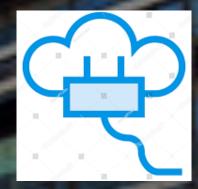


### CPU、GPU EDGE

Cloud-Storage

We make tools for Al

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### 100G Switch

GPU Cloud Medical Cloud 5G Cloud



## Industry Application Group (IAG)

### **5G** Connectivity



#### Smart IOT

### Robot Arm



#### Smart Manufacture

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### Autonomous | Smart Medical **Car Server**



#### Smart Transportation

# Device



#### Smart Medical Care

We make tools for Al



## Quanta Transformation

### Fortune Global 500

Revenue

### Global Employee





Confidential

86,500

#365

Head Quarter : 5,476 Taipei Factory : 1,822 China Factory : 77,810 USA Factory: 1,316 Germany: 113 (as of 2019/06)



### Supercomputer · "Taiwania 2"



Next Generation Al Computing Platform built by National Center for High-Performance Computing

The world's 20th most powerful supercompute a significant leap from the 95th last year

Quanta : computing nodes Asustek : cloud service system Taiwan Fixed Network : info security

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A core project of the Taiwan AI Strategy



### Derwent Top 100 Global Innovators

DERWENT

Derwent<sup>™</sup>

Clarivate Analytics

"With leading technology and strong R&D capability, Quanta has become a leader in hitech markets and the best partner providing quality design and manufacturing services to top-notched brands worldwide"

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Quanta has been recognized by Derwent **Top 100 Global Innovators Award** In 2019 & 2020



2005 MIT CSAIL-QUANTA **T-Party Project** 

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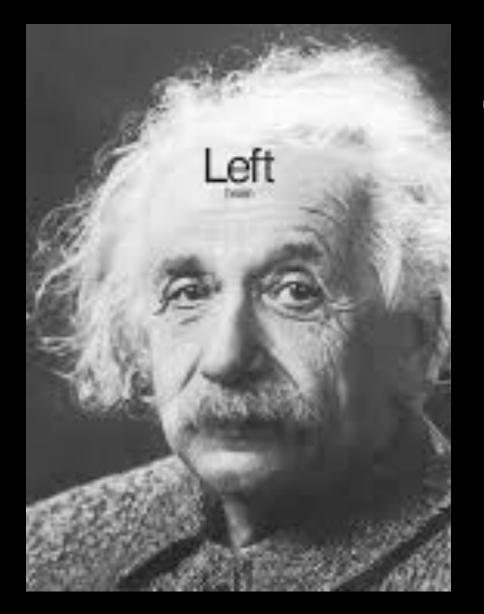
### Quanta-MIT Al Research

(2005~2025)



2019 MIT CSAIL-QUANTA **Computational Healthcare Project** 





#### TECHNOLOGY

#### A.I. Big Data Cloud Networking Mobile IOT AR/VR UX

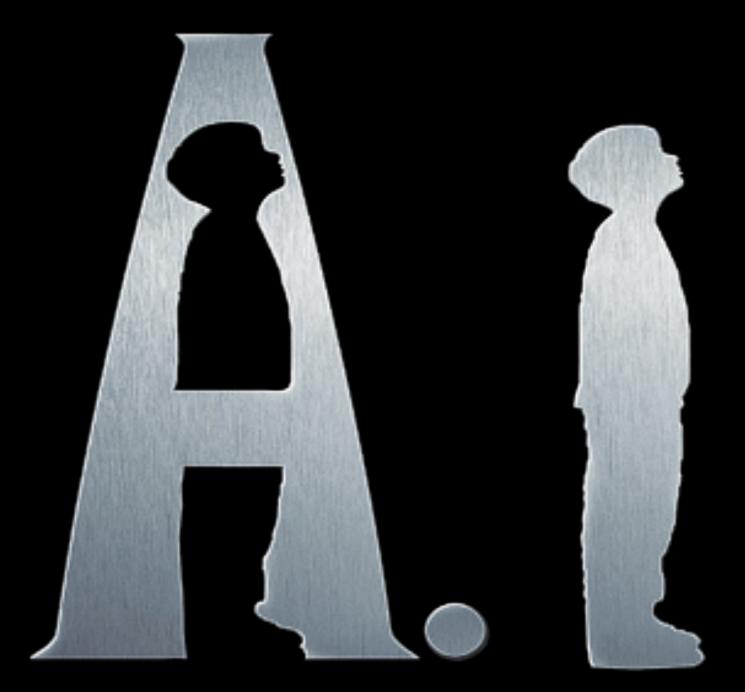
### The Right Brain Has Nothing Left The Left Brain Has Nothing Right

© Ted Chang

#### HUMANITY







### **ARTIFICIAL INTELLIGENCE of THINGS**





#### MACHINE LEARNING DEEP LEARNING

## ARTIFICIAL HUMAN CENTRIC APPLICATIONS INTELLIGENCE OF THINGS

HUMAN ALGORITHMS



# SMARI

## Algorithm Big Data Cloud Device

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#### ALGORITHM

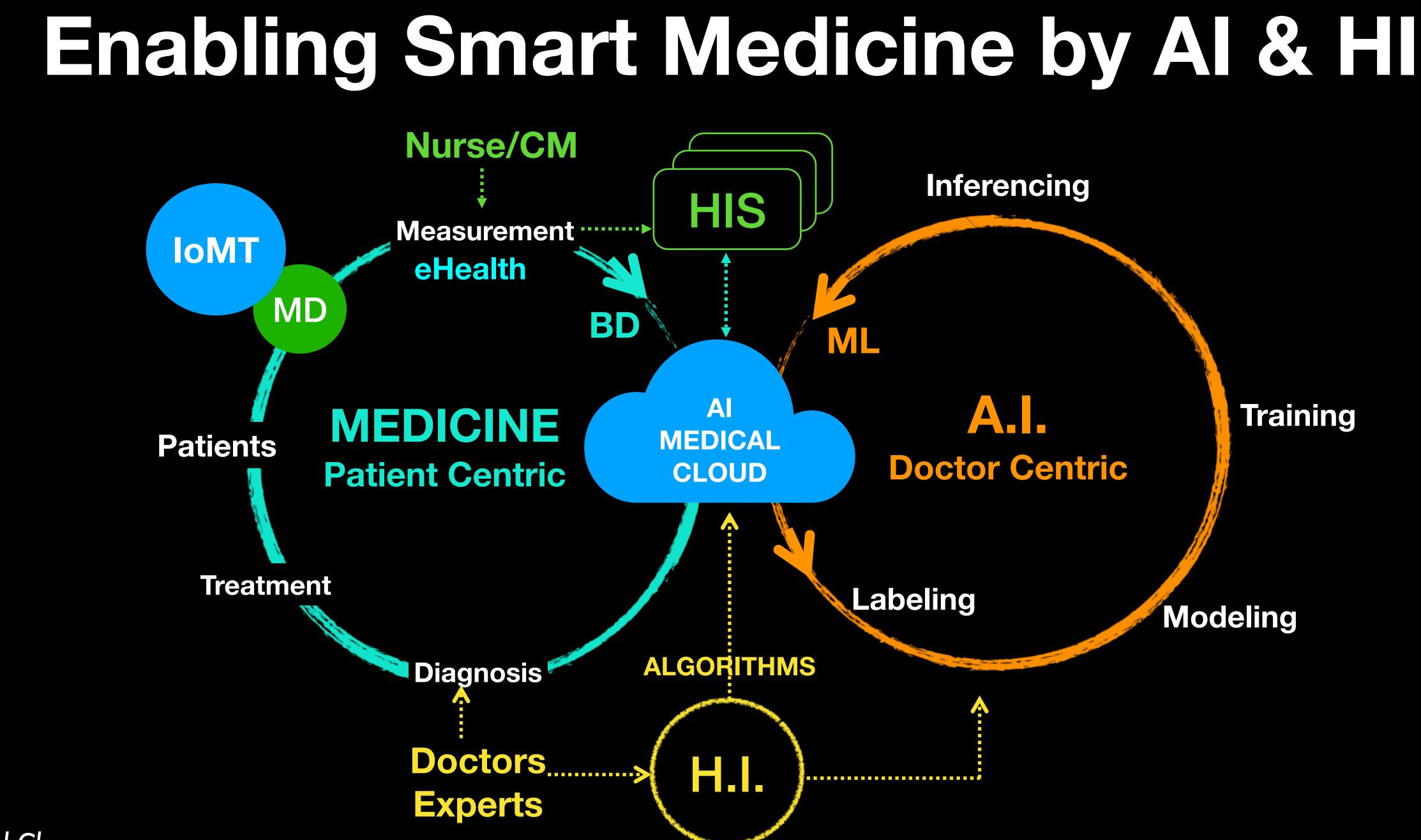
#### **BIG DATA**

#### MACHINE LEARNING

#### CLOUD COMPUTING

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### **Enabling Precision Healthcare** for Anywhere, Anytime and Anyone through AloT

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Hospital

# 

Patients





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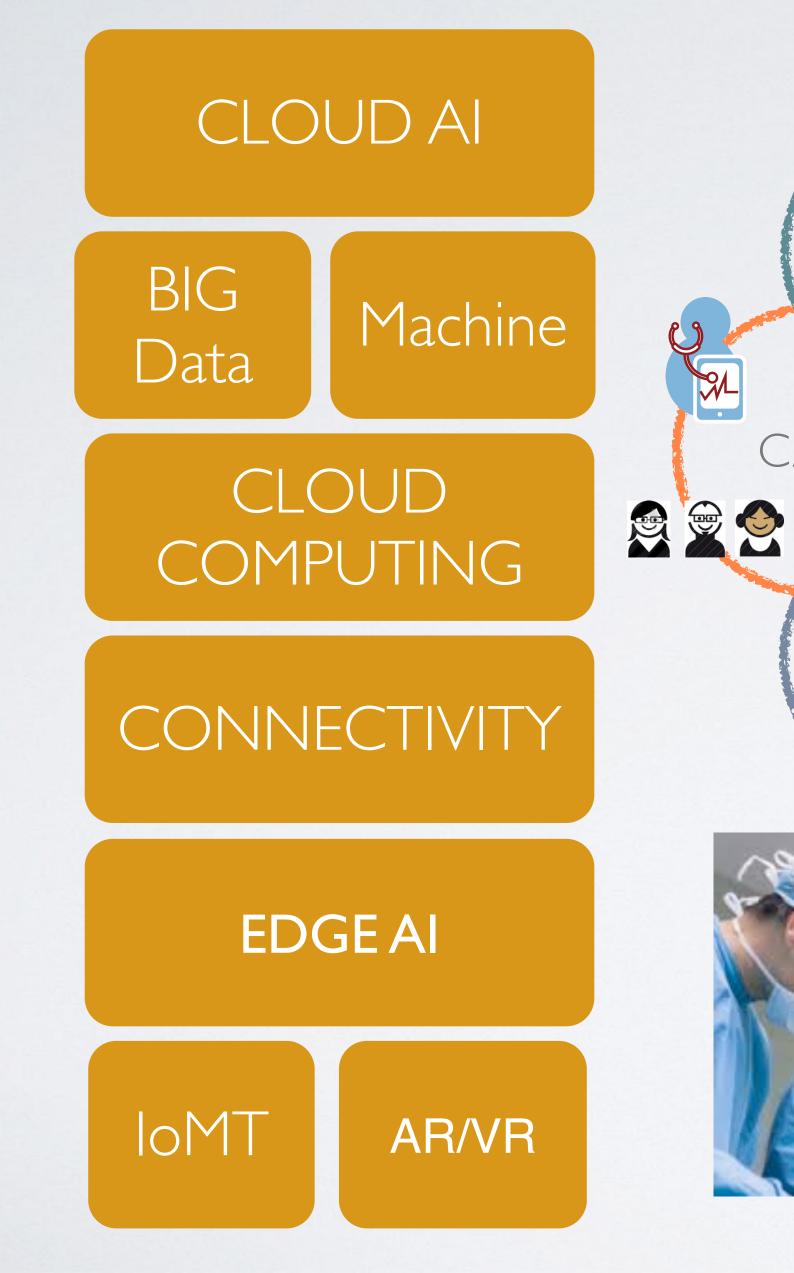




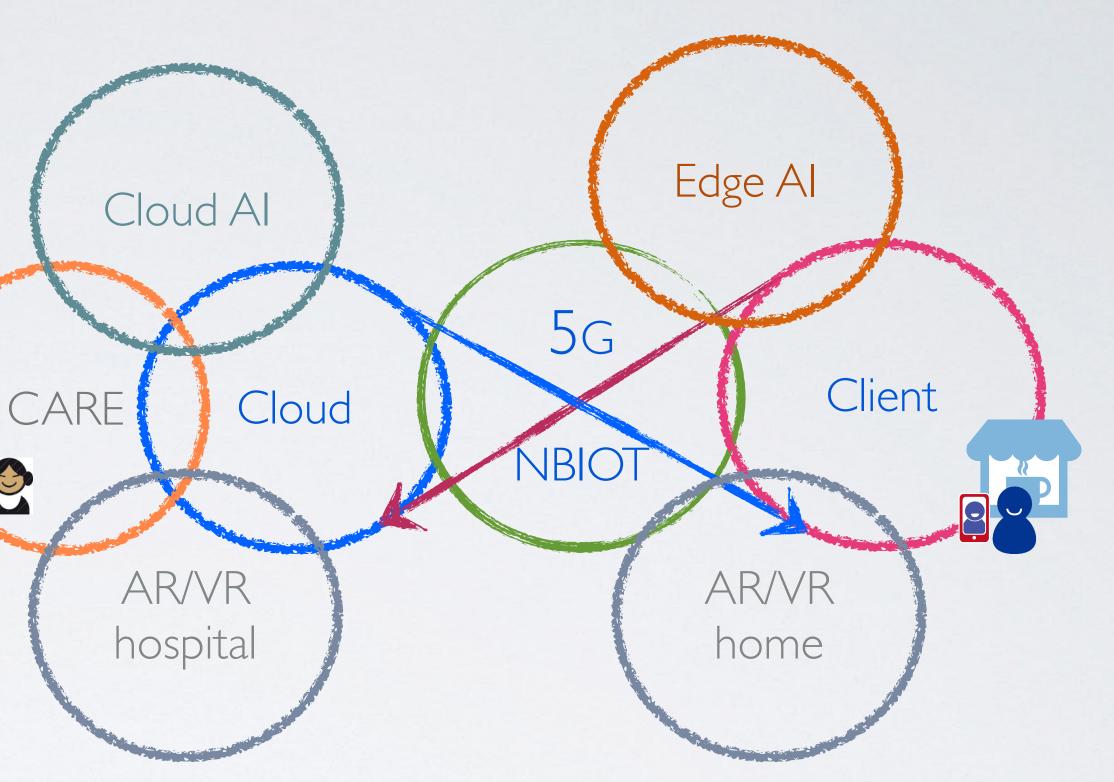








### **AoIT Medicine/5G/AR/VR**









#### QOC Smart device





**隨身心電圖量測儀** QOCA ecg101 / QOCA ecg1201

### QOC Smart ward



耳鏡 / 口內攝影機

QOCA 智慧床邊照護系統

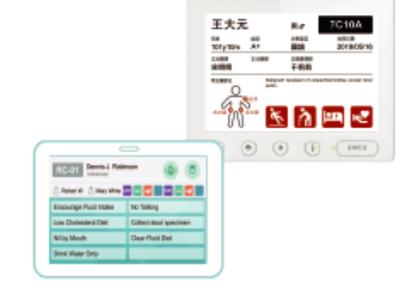
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#### QOC smart telemedicine





醫院對居家



QOCA 智慧床頭卡

醫院對醫院

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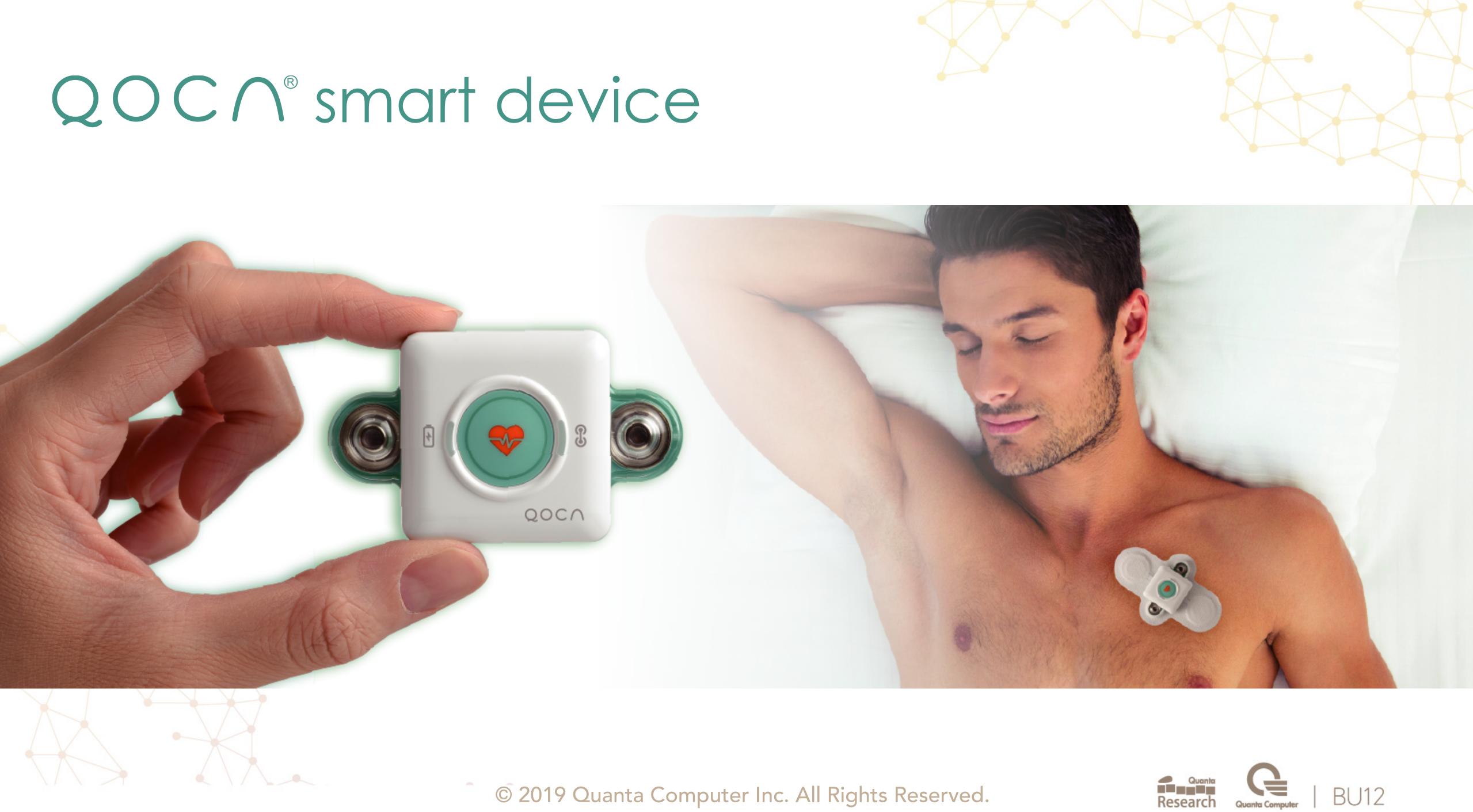
QOCA 智慧白板系統









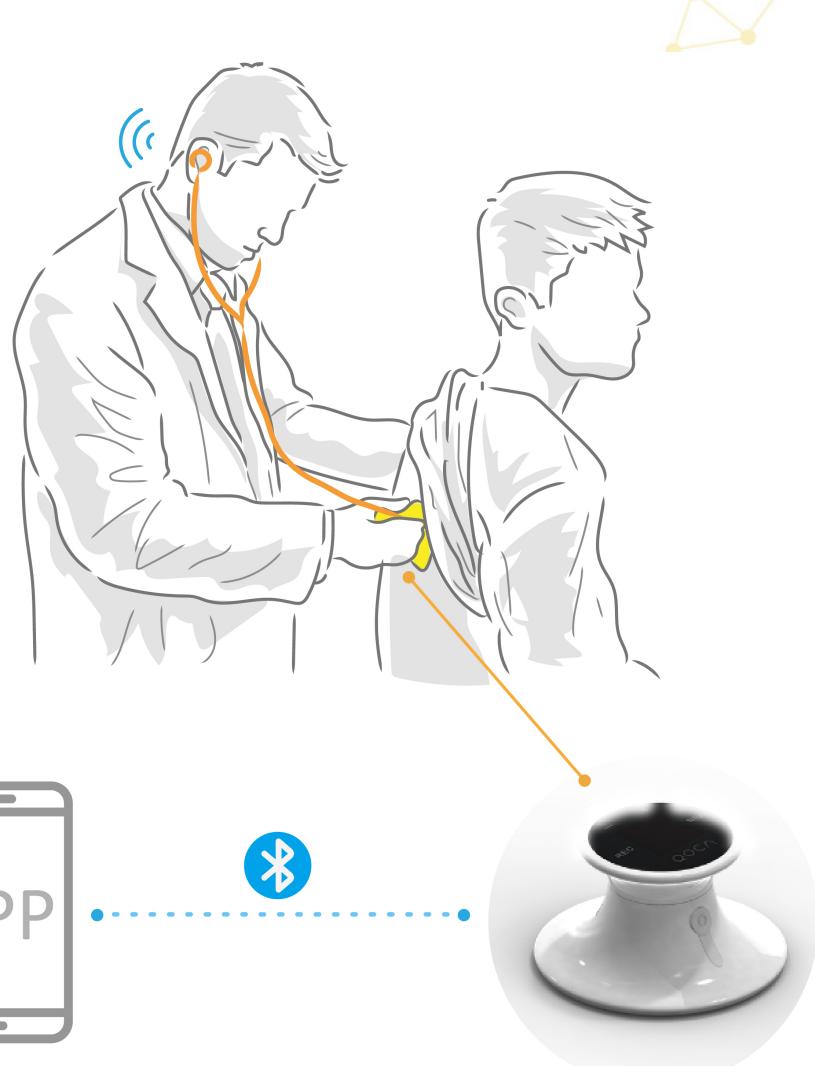






### **Contactless Precision Medicine**







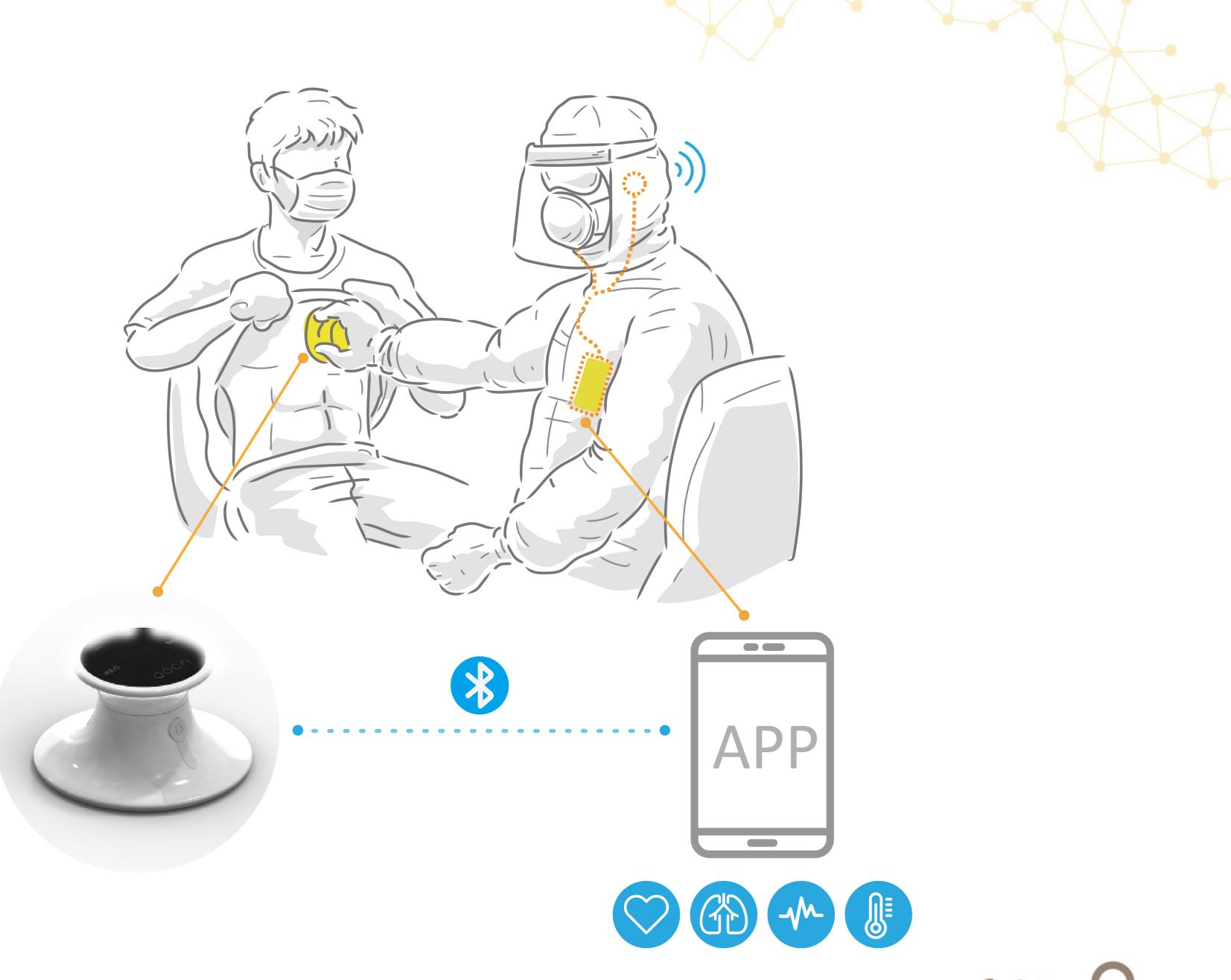
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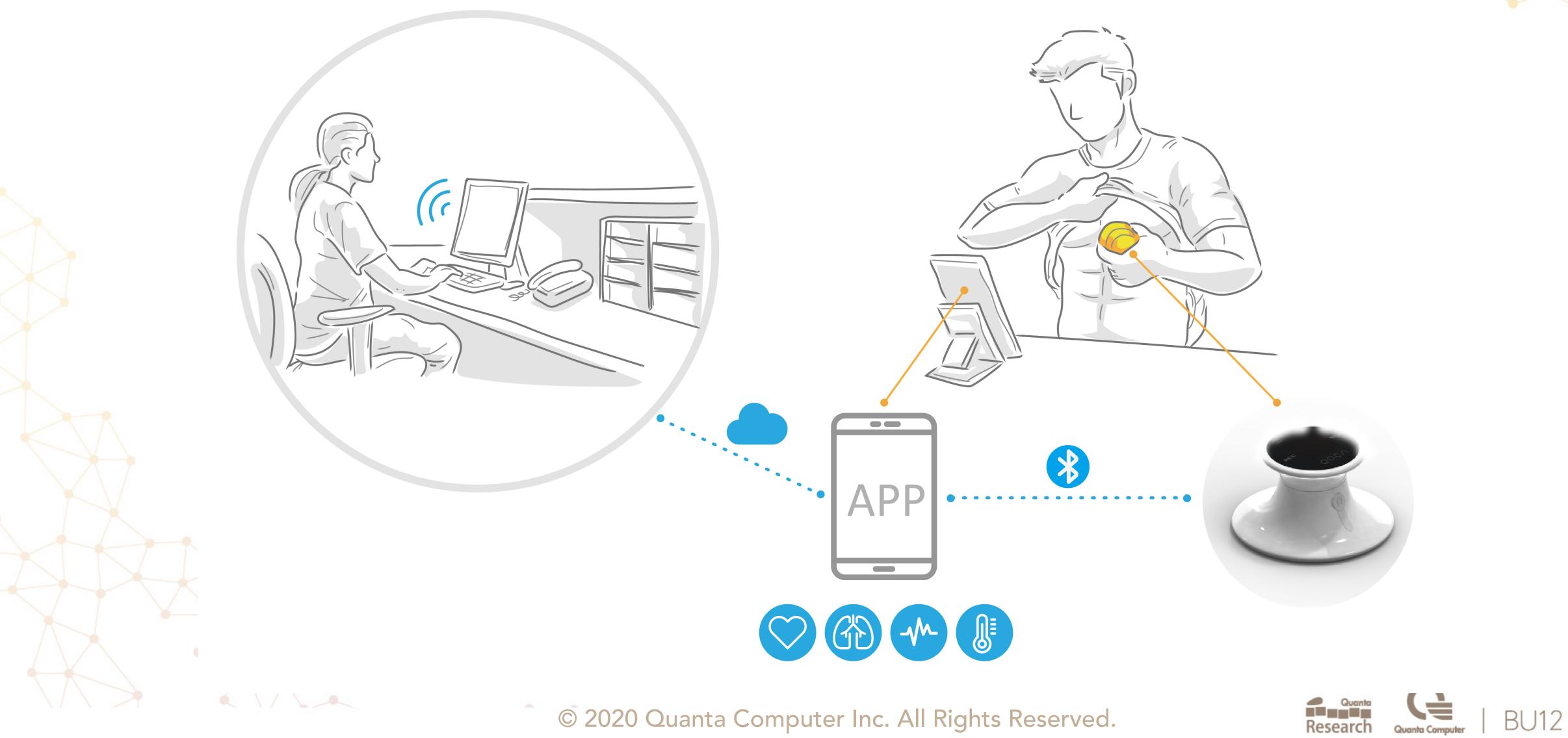
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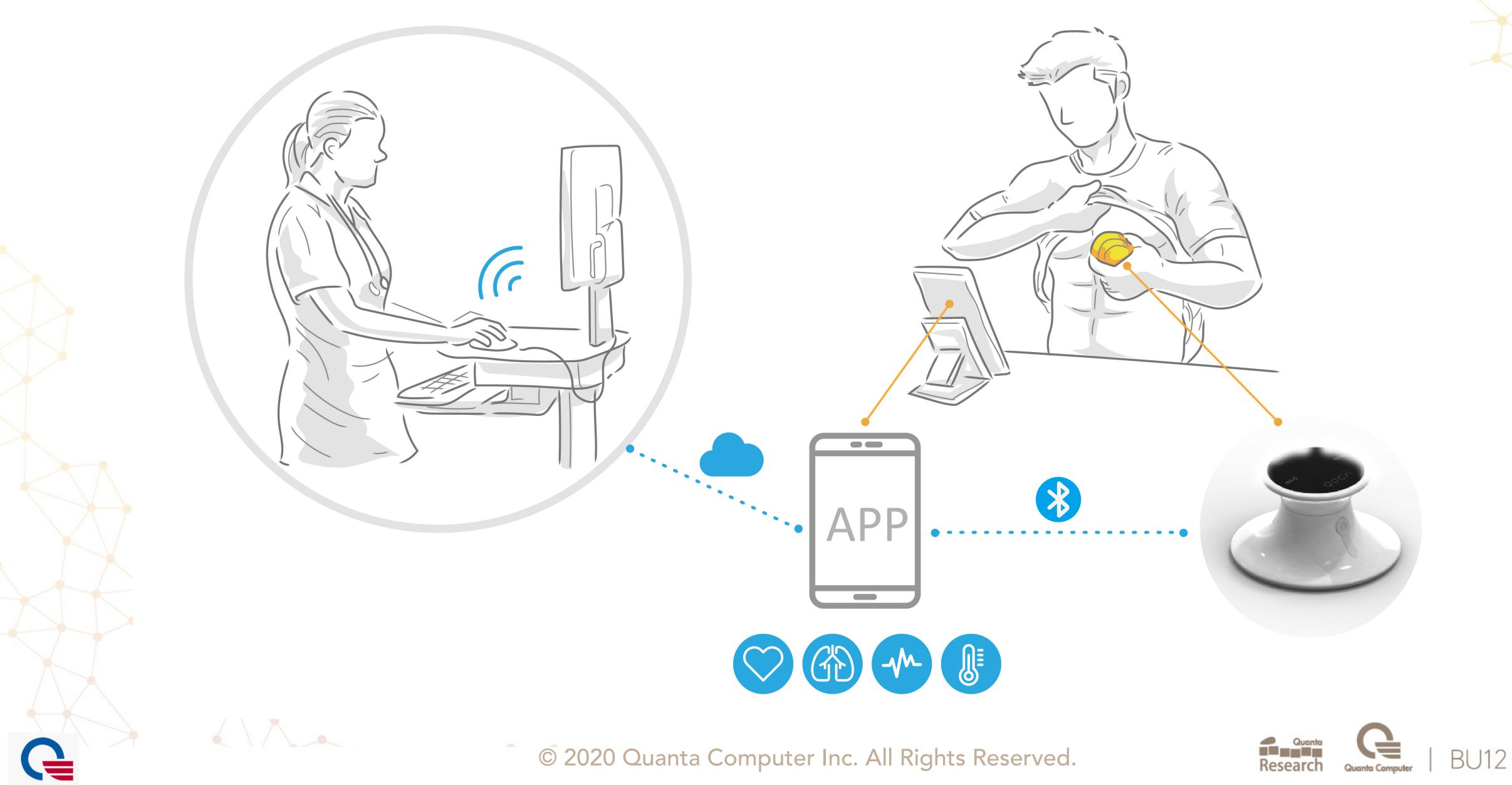








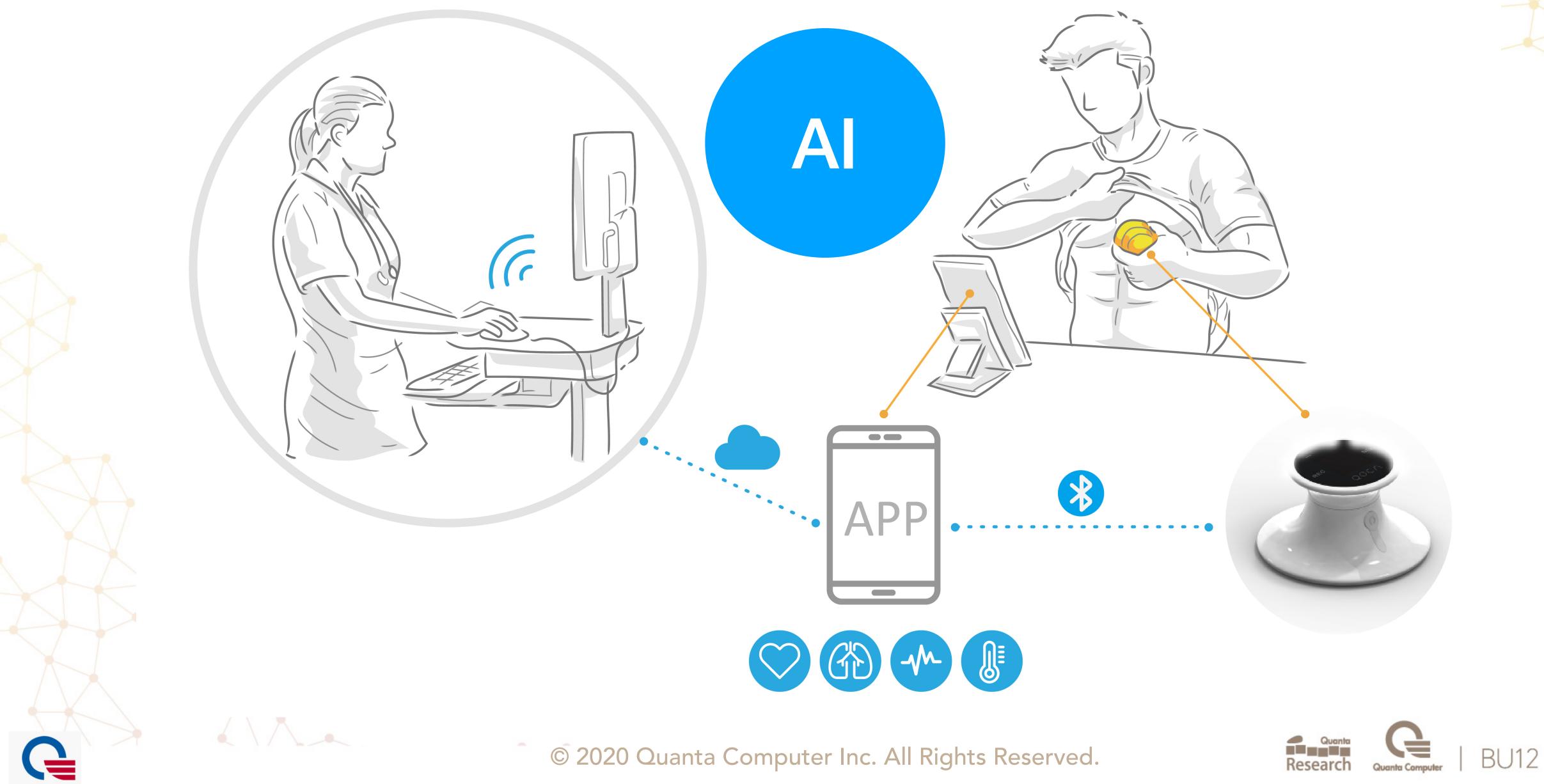
### **QUARANTINED AT HOME**







### AI ENABLED REMOTE HOME CARE





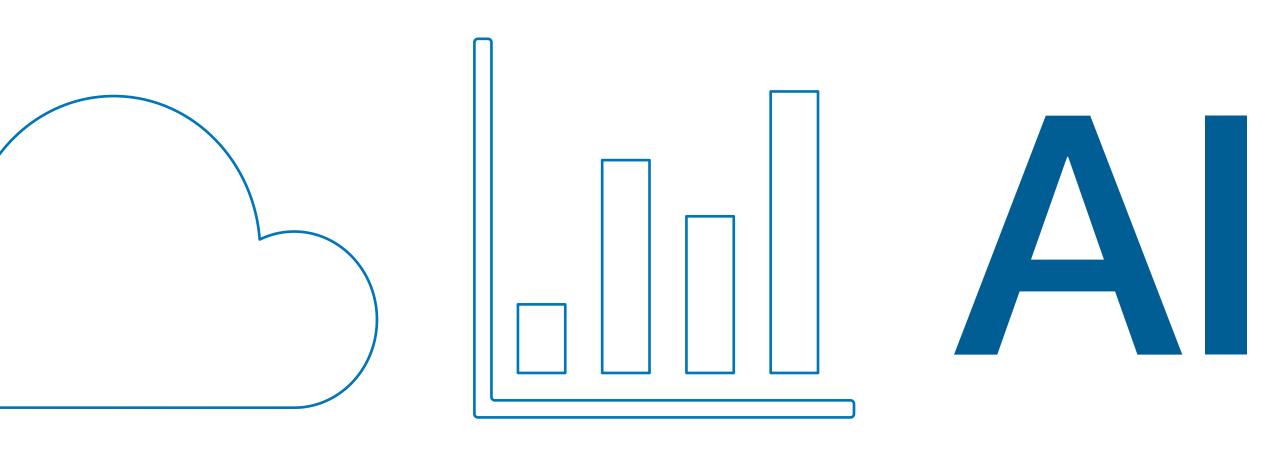


### Medical Device as a Smart Service





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### THE BEST WAY TO PREDICT THE FUTURE IS TO INVENT IT

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