



# Smart Healthcare for the Future

Christie Marquez

Business Strategy & Innovation Manager

Cisco Systems

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**HiMSS**

**CENTRAL & SOUTHERN OHIO** *Chapter*

# Agenda

- What is Smart Healthcare?
- Trends and Predictions
- How to Prepare

# SMART



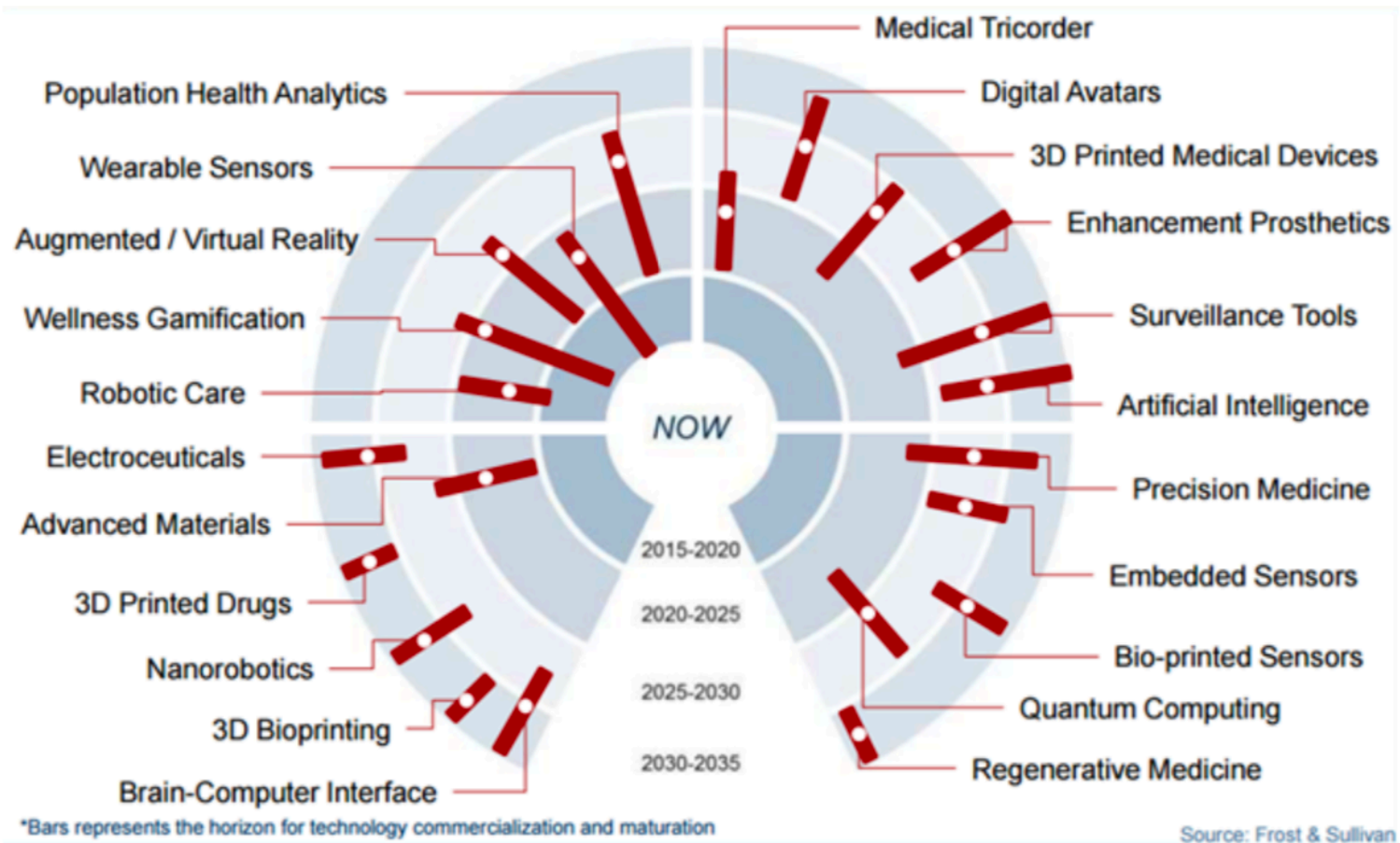


# Changing the Global Smart Healthcare Market



CENTRAL & SOUTHERN OHIO *Chapter*

# Predictions: 2015-2035



# A new era of Smart Healthcare...

## Brings a new era of security challenges in healthcare

More IoT medical devices  
connect everyday

Expanded attack surface

Healthcare applications  
are moving to the cloud

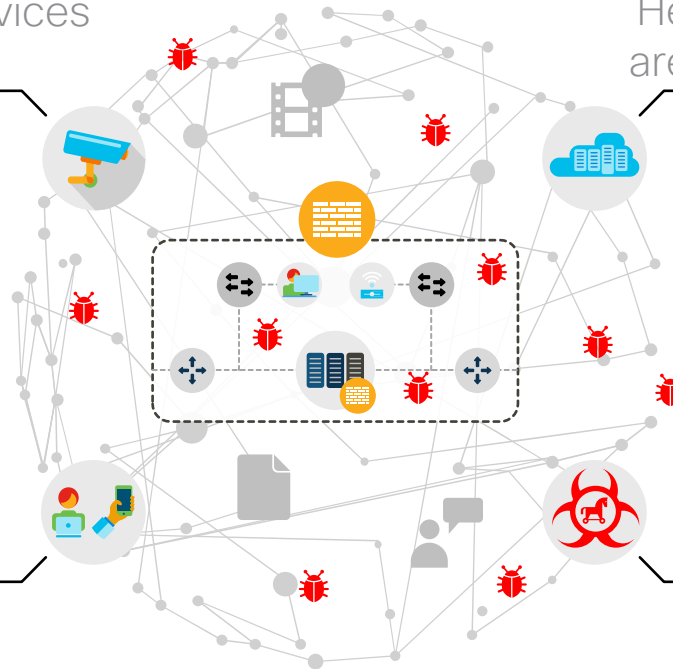
Loss of control

Mobile clinicians with  
many devices

Loss of visibility

Numerous &  
persistent threats

High likelihood of a breach



# IoT in Healthcare

## The Healthcare Internet of Things (IoT) Market Map



Created By  
**CB INSIGHTS**

# Big Data



# Preparing for the Data Deluge

- Interpret
- Unify
- On-Demand
- Learning
- Natural Language Processing
- Cleansing



# Machine Learning in Healthcare

Identifying Diseases & Diagnosis

Drug Discovery & Manufacturing

Medical Imaging Diagnosis

Personalized Medicine

ML based Behavior Modification

Smart Health Records

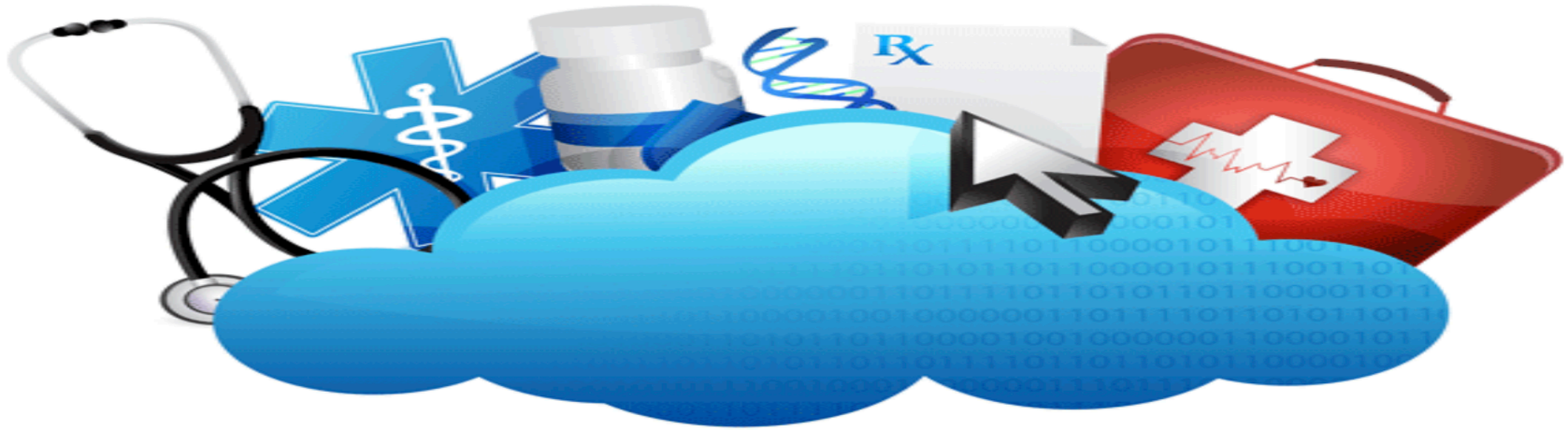
Clinical Trial Research

Crowdsourced Data Collection

Outbreak Prediction



# Cloud Computing



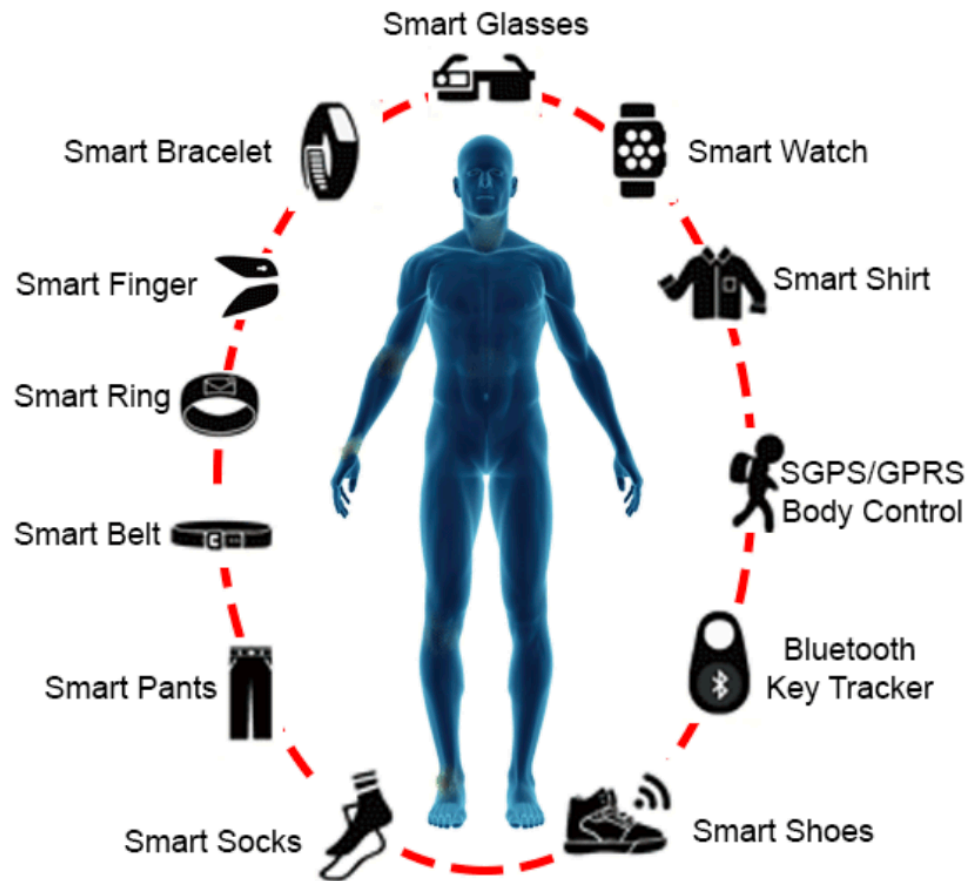
- Collaboration
- Personalization
- Efficiency
- Scalability
- Mobility
- Data Recovery
- Research Opportunities
- Security
- Access

Increased speed of  
Wound Analysis

Improving Infant  
Monitoring

Advancing  
Treatment of Brain  
Conditions

# Healthcare Technologies: Wearables to Robots



## Value

- ✓ Early detection and intervention
- ✓ Personalized treatment
- ✓ Improved healthcare processes or patient journeys

## Risk

- ✓ The need for cultural and organizational change
- ✓ Opposition to continuous monitoring
- ✓ Safety and security of personal information

# How to prepare...

## *Embracing Digital as an Enabler*

# Digitization is transforming healthcare and bringing IT to the boardroom



Starbucks Apps  
Order Ahead,  
Skip the Line



UPS My Choice  
Delivery Control,  
Personalized Service



Integrated System  
Brand Reinvention

“

Digital disruption will displace nearly 4 out of the top 10 incumbents by industry over the next five years.”

– The MIT Center for Digital Business

“

Digital companies achieve 12% higher market valuation than their competitors.”

– The MIT Center for Digital Business

# True disruption combines three digital elements

## Cost Value



### Frictionless life

- Price transparency
- Consumption-based pricing
- Reverse auctions
- Buyer aggregation
- Rebates and rewards



## Experience Value



### Hyper relevance

- Customer choice
- Personalization
- Automation
- Lower latency
- Any device, anytime



## Platform Value



### Community

- Marketplaces
- Crowdsourcing
- Peer-to-peer
- Sharing economy
- Data monetization

# True disruption combines three digital elements

## Cost Value



### Frictionless life

- Price transparency
- Consumption-based pricing
- Cheaper Alternative to Taxi



## Experience Value

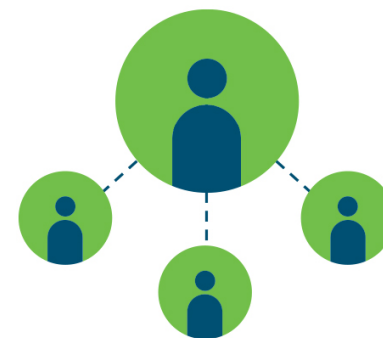


### Hyper relevance

- Easier to Hail
- Perceived Safer
- Payments made Easy
- Rebates and rewards



## Platform Value



### Community

- Consistent Experience
- Multi-sided Market
- Sharing economy
- Cross Domain Platform



# True disruption combines three digital elements

## Cost Value



- Options including monitoring, alerting
- Value of expert monitoring
- Continuous engagement



## Experience Value



- Dynamic adjustments to suit patient's lifestyle, habits and daily activities
- Automated insulin delivery in case of no response
- Reduces risk of disease LT effects



## Platform Value



- Wearable sensor connected to an insulin pump wirelessly
- Access via a mobile, Cloud based analytics
- Combines location, cloud and automated response

# It's the Value, Not the Value Chain

## CARE PLANNING



## SUPPLY MANAGEMENT



## EMR/ PRACTICE MANAGEMENT



## COMMUNICATION



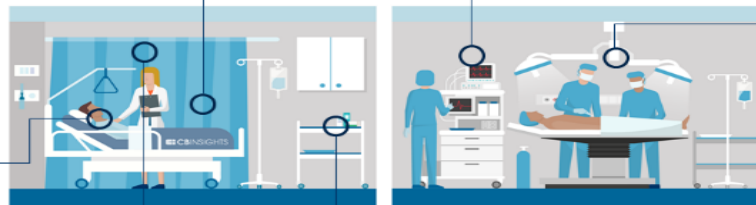
## RADIOLOGY



## DIAGNOSTICS



## PATIENT MONITORING



## SURGERY



## MEDICATION MANAGEMENT



## REFERRALS



## HOSPITAL NAVIGATION



## CARE COORDINATION



## READMISSIONS / EMERGENCY DEPARTMENT



## INFECTION CONTROL



## PATIENT EXPERIENCE



## TELEMEDICINE



# Roadmap to Digital Value: Healthcare


Top industry-specific use cases, potential Value at Stake:

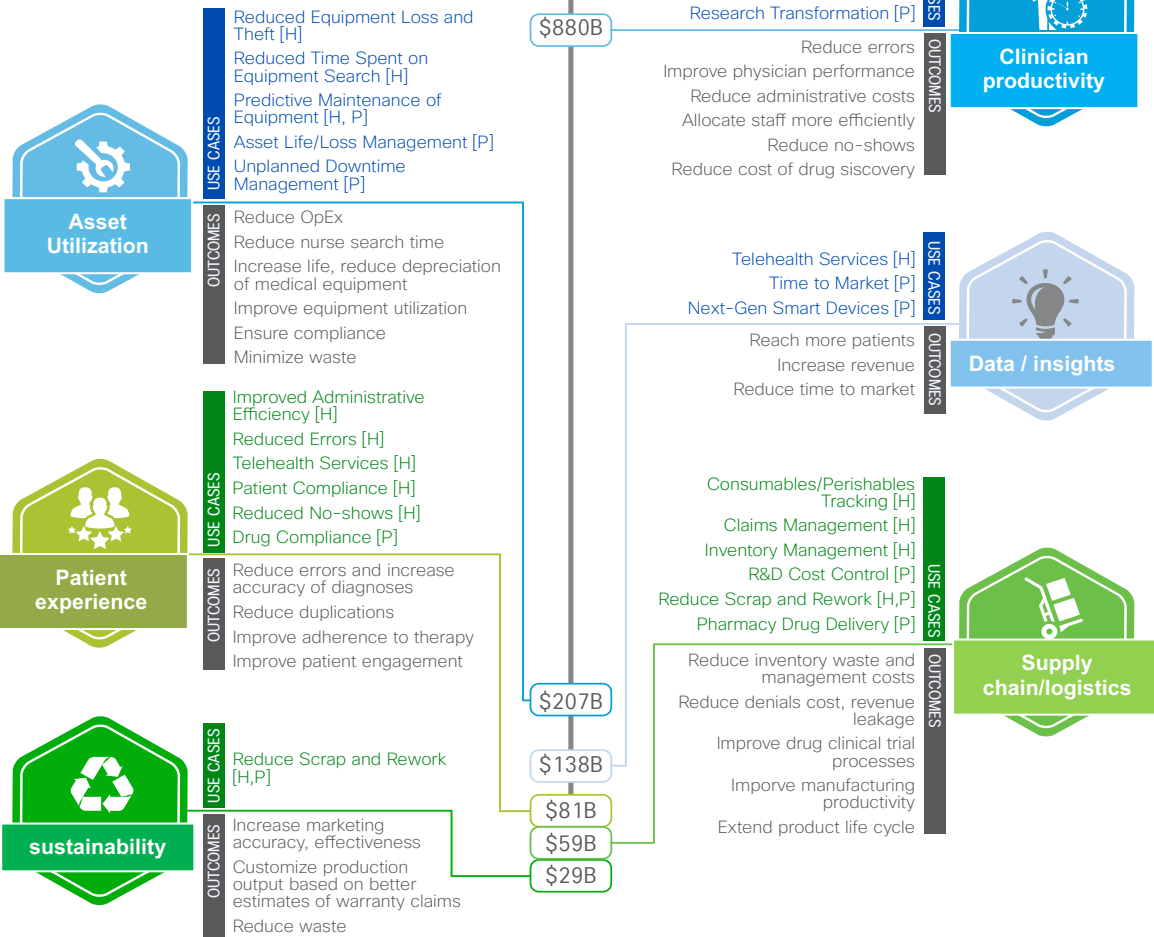
- Asset utilization [H] (\$49B)
- Employee productivity [H] (\$46B)
- Smart manufacturing [P] (\$39B)
- Research and development transformation [P] (\$31B)
- Patient experience [H] (\$6B)

Top horizontal use cases:

- Next-gen workers (\$838B)
- Cybersecurity (\$110B)
- Connected payments (\$78B)
- Connected advertising (\$61B)

**Healthcare**  
\$1.4T Digital Value at Stake  
2015-2024  
[H]=Hospital, [P]=Pharma





# Digital Business Agility: Ready for Any Event

Typical  
Company



or



or



Company  
with DBA



and



and



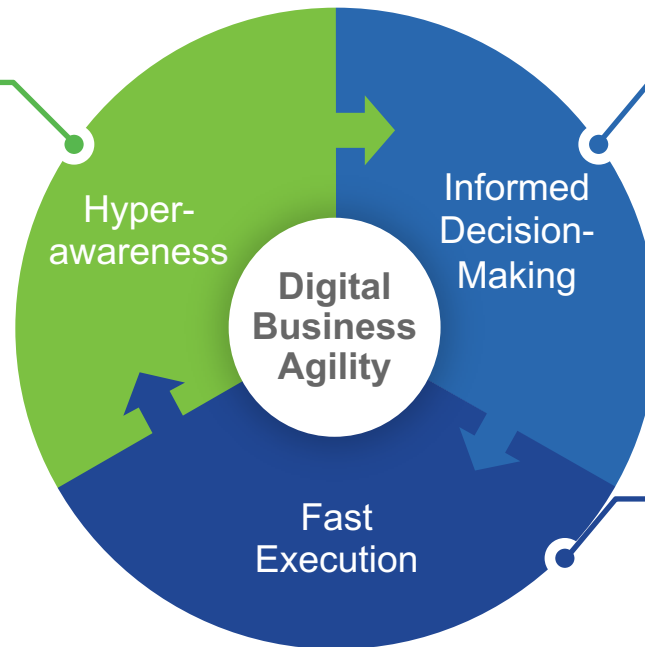
and..

# Digital Business Agility: The Disruptor Advantage

## Hyperawareness

A company's ability to detect and monitor changes in its business environment

**Digital business agility** enables companies to counter and capitalize on digital disruption



## Informed Decision-Making

A company's ability to make the best decision in a given situation

## Fast Execution

A company's ability to carry out its plans quickly and effectively

# What Disruptors Do...and Incumbents Don't

