

INTRODUCTORY  
OVERVIEW

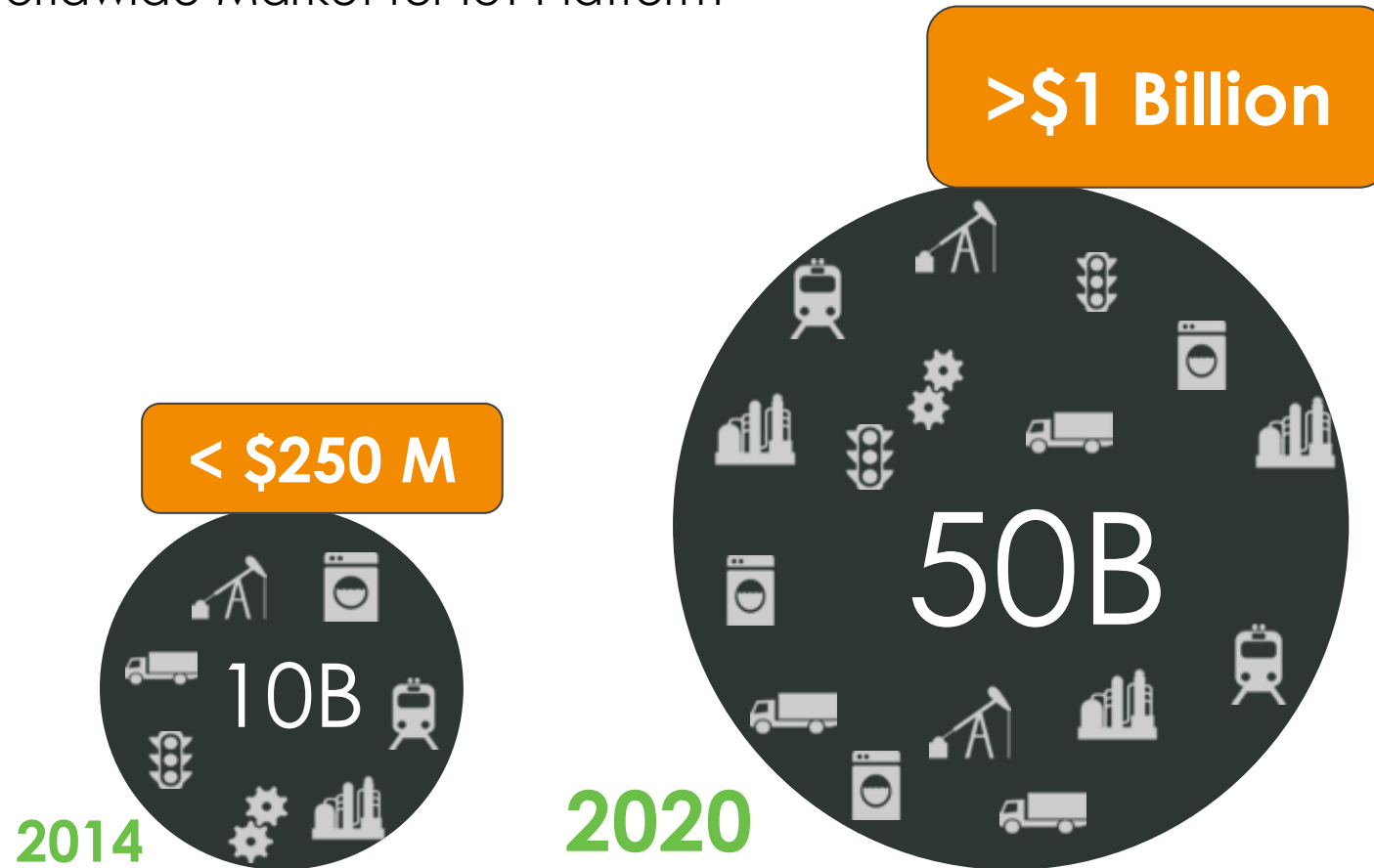


thingworx®

# THE INTERNET OF THINGS MOMENTUM IS GROWING

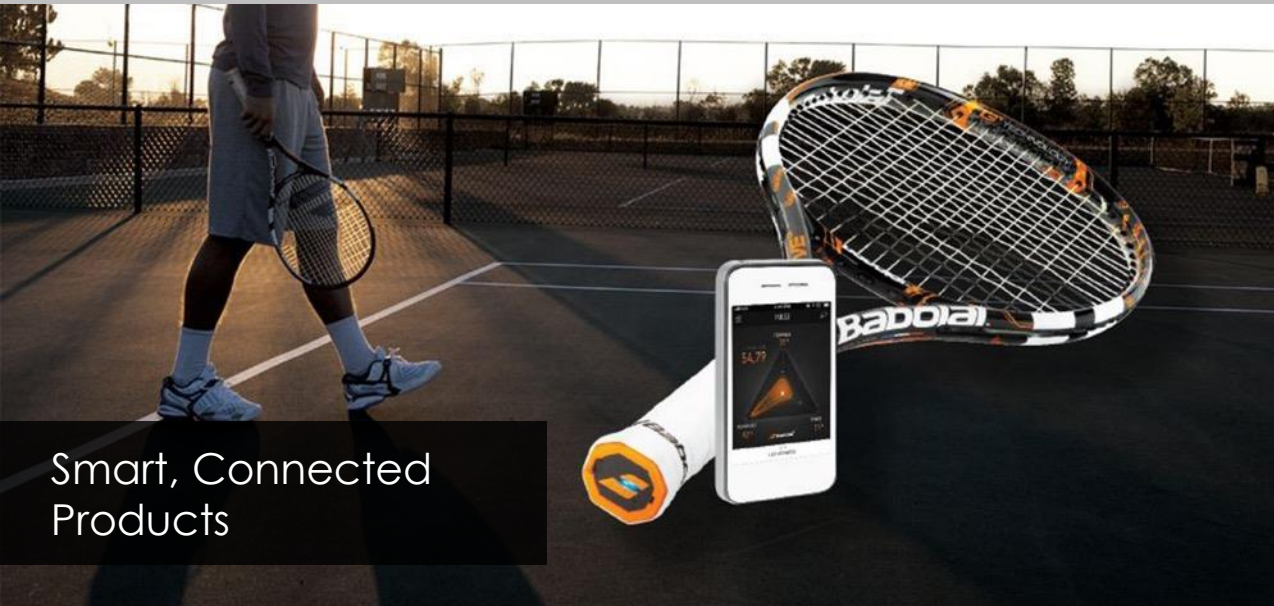
■ Connected Sensors, Devices, Machines

■ Worldwide Market for IoT Platform

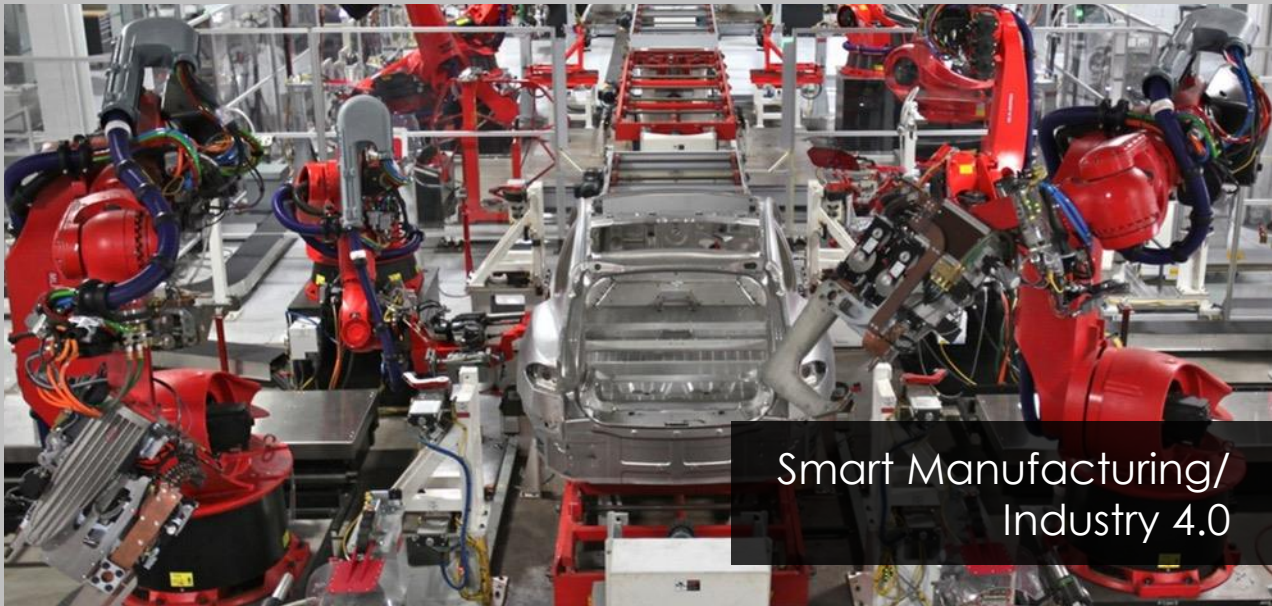


**1 Million**  
New IoT devices  
will be purchased  
every hour of every  
day in 2021

# BROAD IMPACT OF PHYSICAL & DIGITAL CONVERGENCE



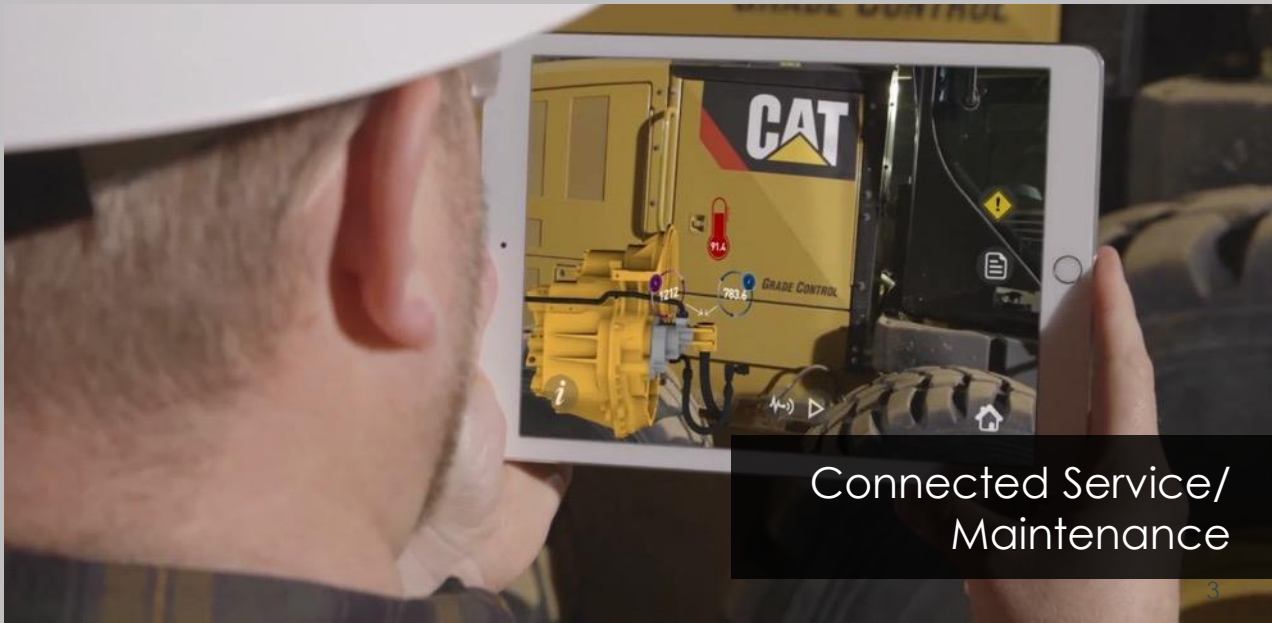
Smart, Connected Products



Smart Manufacturing/  
Industry 4.0

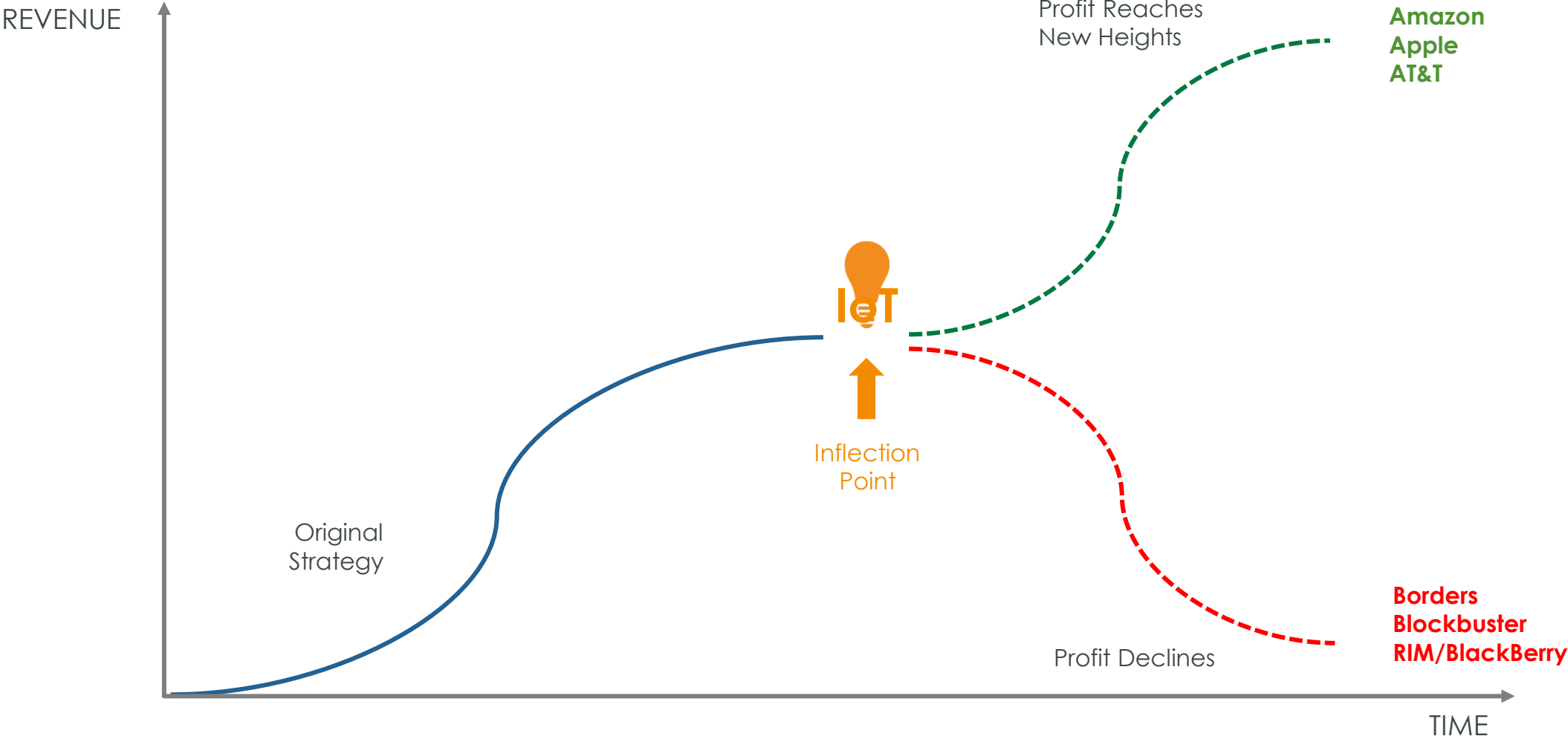


Smart Cities, Fields, &  
Worksites



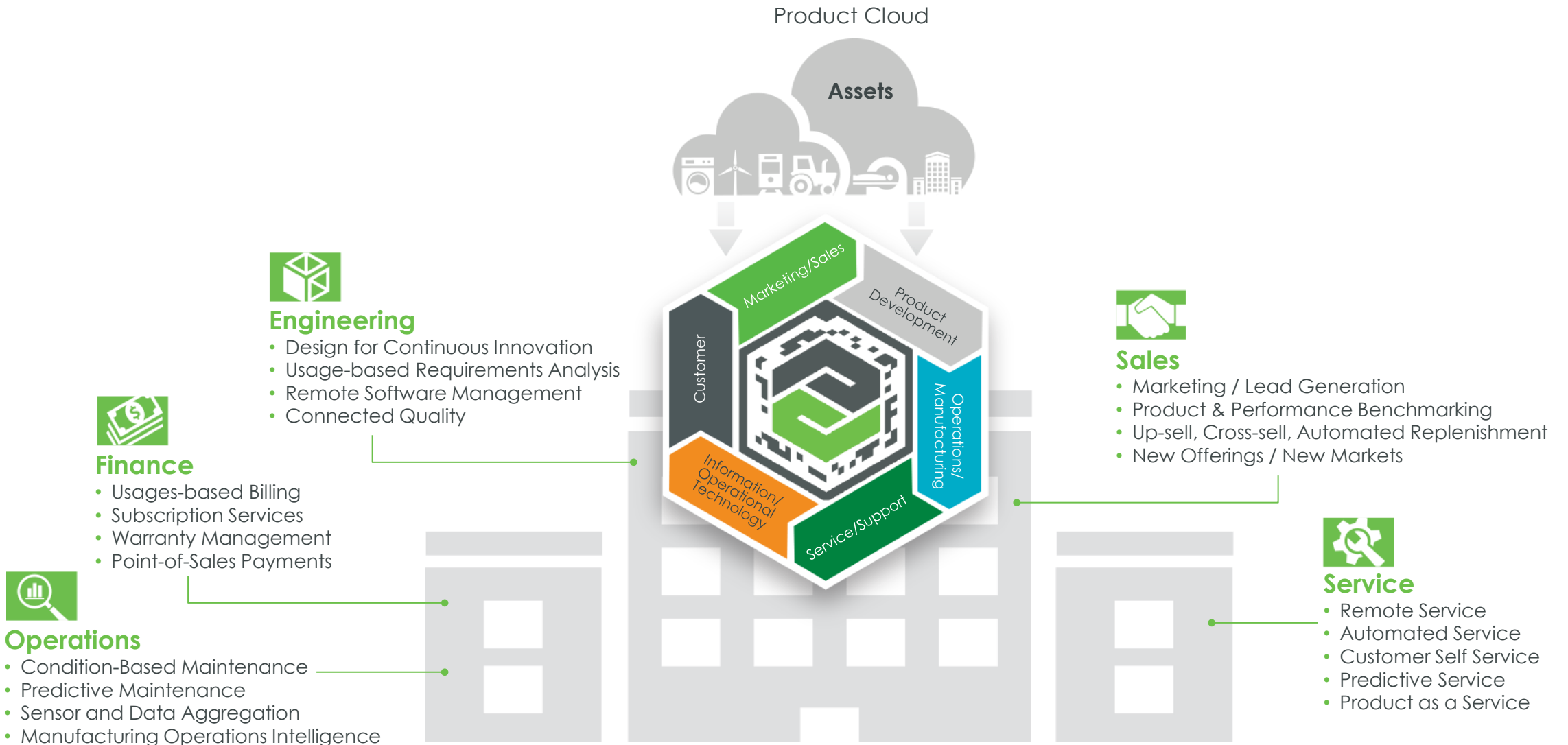
Connected Service/  
Maintenance

# BUSINESSES ARE HAVING TO ADJUST



# IOT IMPACTS EVERY FACET OF THE BUSINESS

Data from Connected Assets Enables Optimized Processes

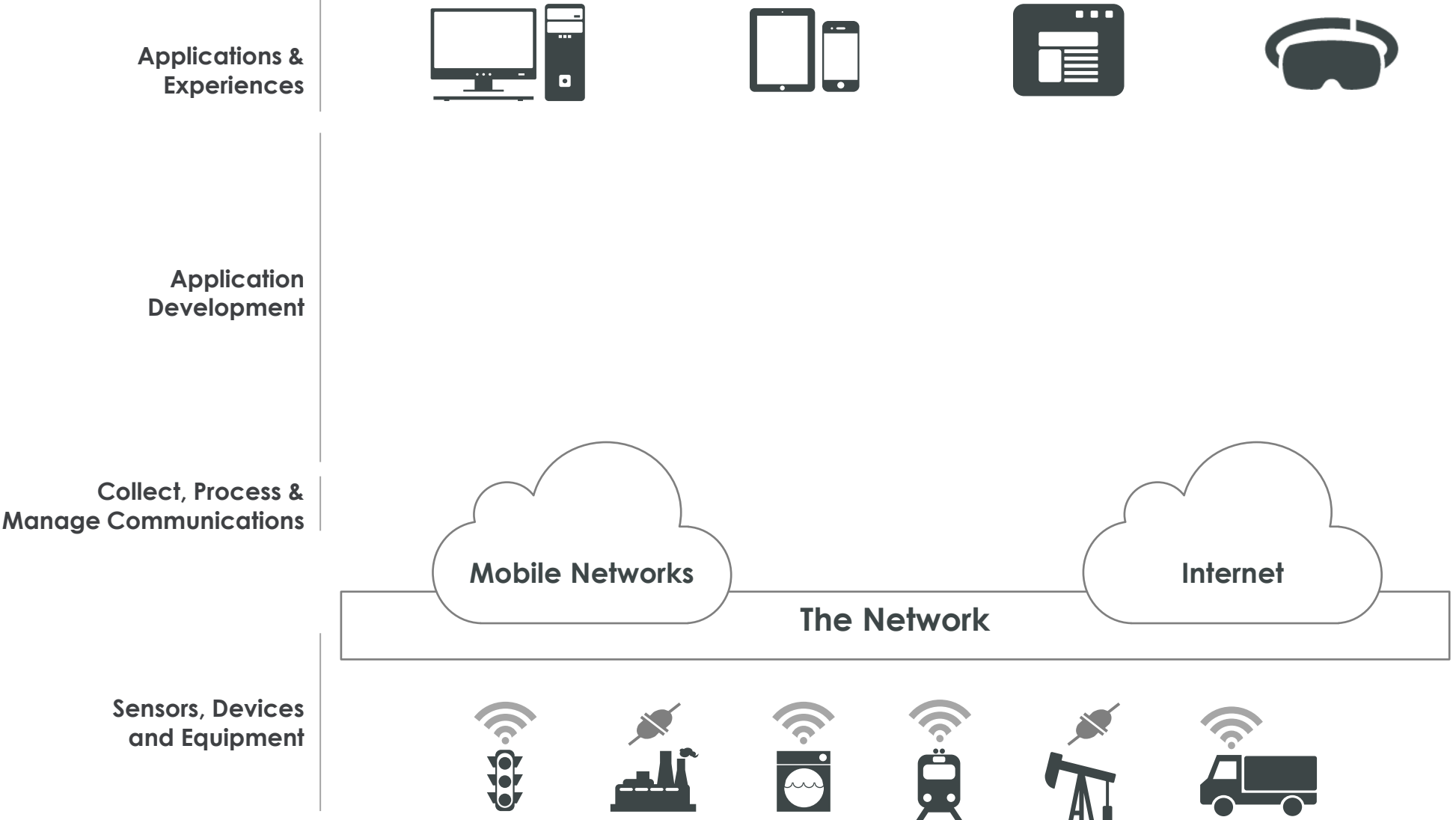


## Developing for IoT is complex...

- Highly dispersed device environments
- Constantly evolving platform architectures
- “Plumbing” battles with disparate technology frameworks
- Repurposed legacy technology stacks being sold as “for IoT”
- Volume, velocity and variety of IoT data making data analysis challenging
- Project requirements outweigh current resources and development tools



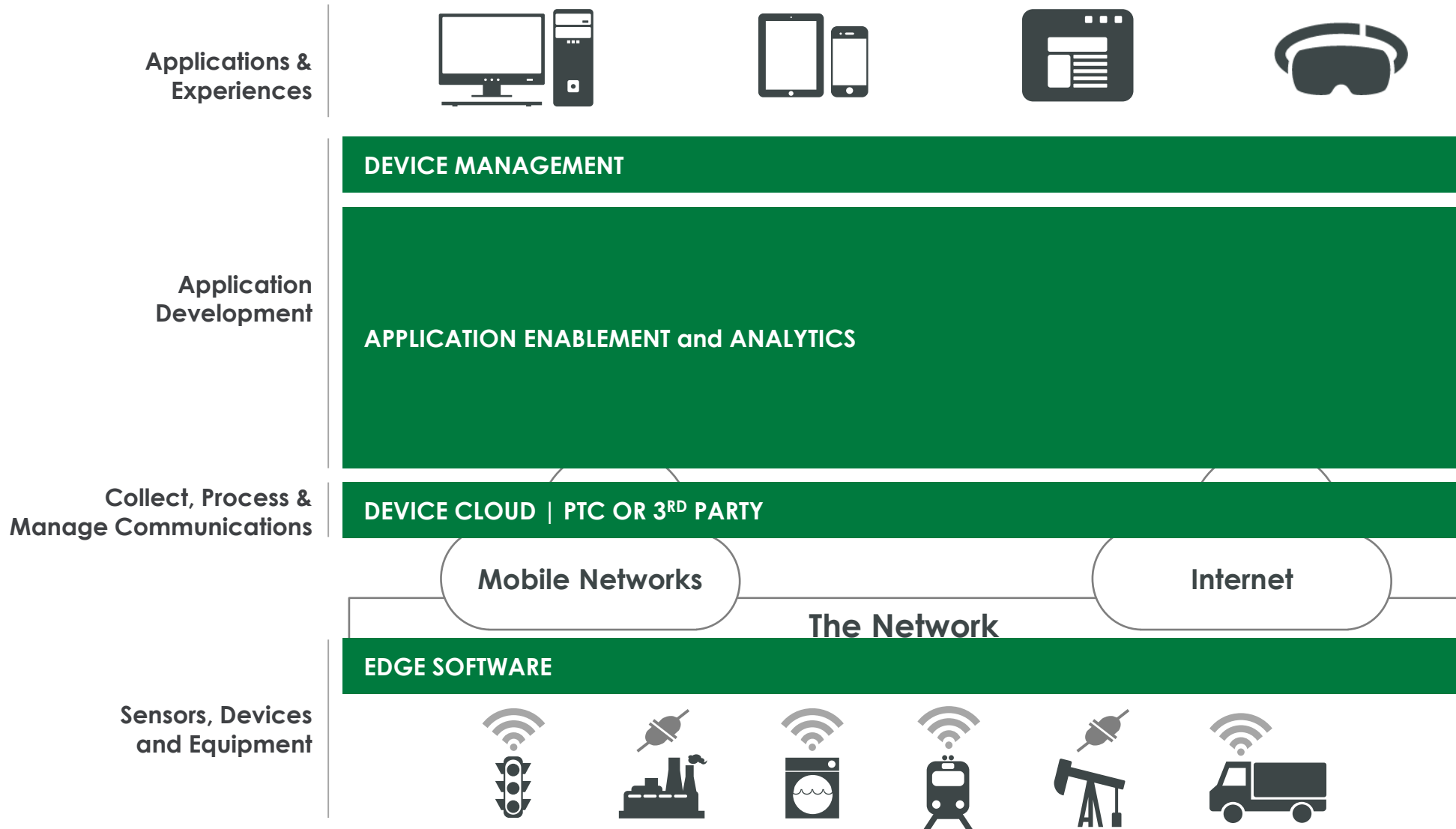
# APPLICATION DEVELOPMENT CAN IMPACT VALUE REALIZATION



## CHALLENGES

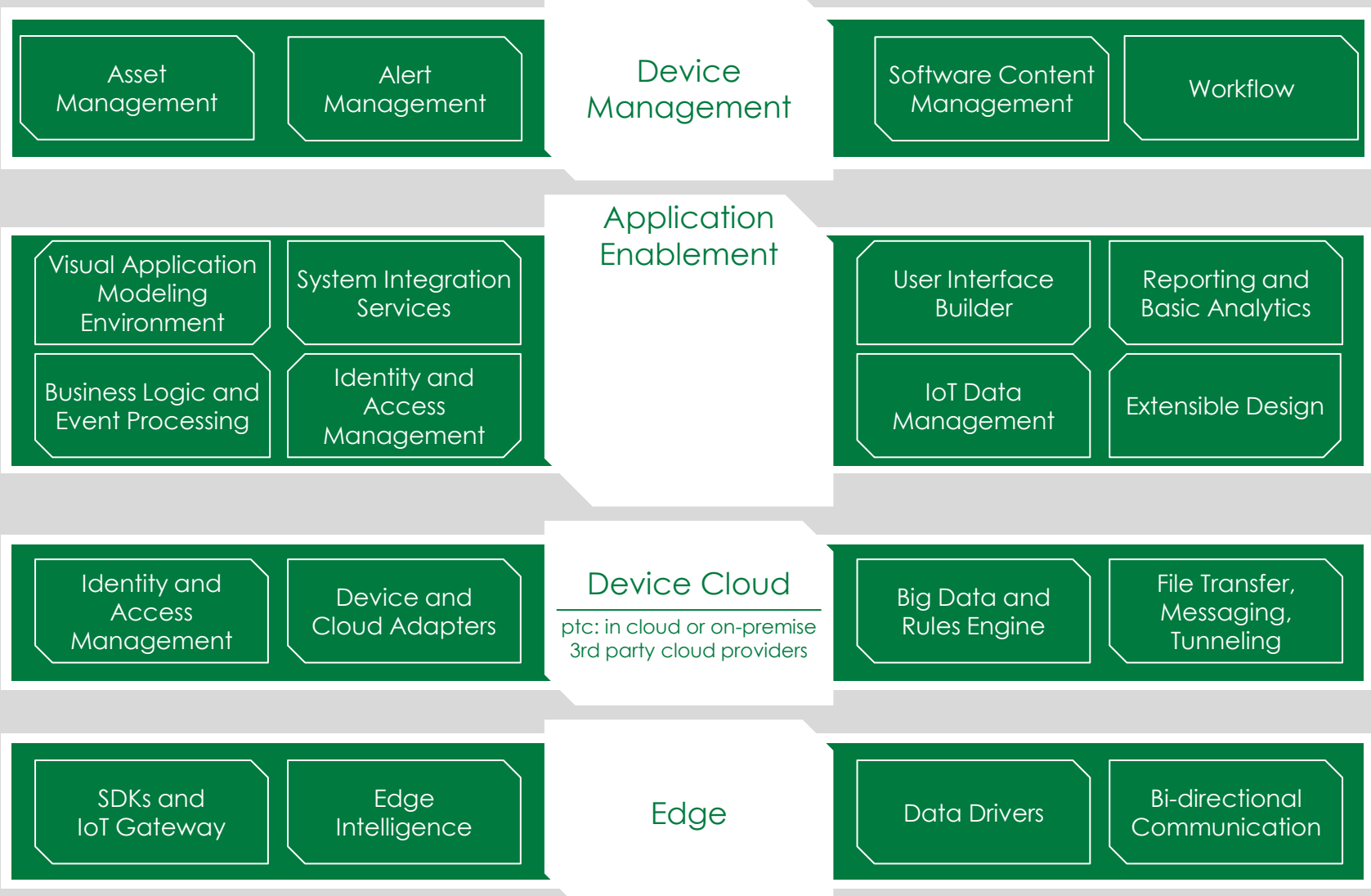
- Complex Programming
- Difficult to Maintain/Evolve
- High Total Cost of Ownership
- Unproven Scalability & Security
- Long Delivery Timeframe
- Barrier to Innovation

# AN IOT PLATFORM SIMPLIFIES SOLUTION DELIVERY





# Applications



# Sensors, Devices & Equipment





# Applications



**Device Management**

- Asset Management
- Alert Management
- Software Content Management
- Workflow

**Application Enablement**

thing model API

- Visual Application Modeling Environment
- System Integration Services
- Business Logic and Event Processing
- Identity and Access Management
- User Interface Builder
- Reporting and Basic Analytics
- IoT Data Management
- Extensible Design

**Device Cloud**

ptc: in cloud or on-premise  
3rd party cloud providers

- Identity and Access Management
- Device and Cloud Adapters
- Big Data and Rules Engine
- File Transfer, Messaging, Tunneling

**Edge**

- SDKs and IoT Gateway
- Edge Intelligence
- Data Drivers
- Bi-directional Communication

**Industrial Connectivity**

- Communication Platform
- Data Exchanges



**Analytics**

- Automated Recommendations
- Automated Predictive Intelligence

## Analytics

- Analytics Server
- Real-time Edge Analytics

- Data Prep and Drag & Drop Authoring Tool
- Deployment Service

## Augmented Reality

- Mobile Device Viewer/ Digital Eyewear
- Unique Physical Identifiers & Targets



Applications



**ThingWorx Utilities**

- Asset Management
- Asset Management
- Device Management
- Content Management
- Workflow

**Application Enablement**

thing model API

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**Edge**

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**Keptware**

- Communication Platform
- Data Exchanges



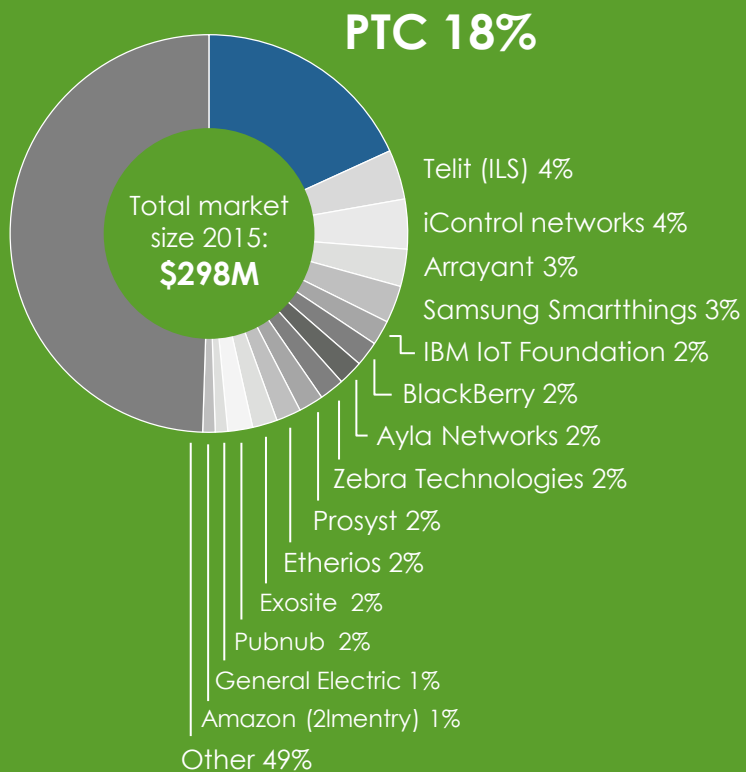
**ThingWorx Analytics**

- Automated Simulations
- Automated Predictive Intelligence
- Analytics Server
- Real-time Edge Analytics

**ThingWorx Studio**

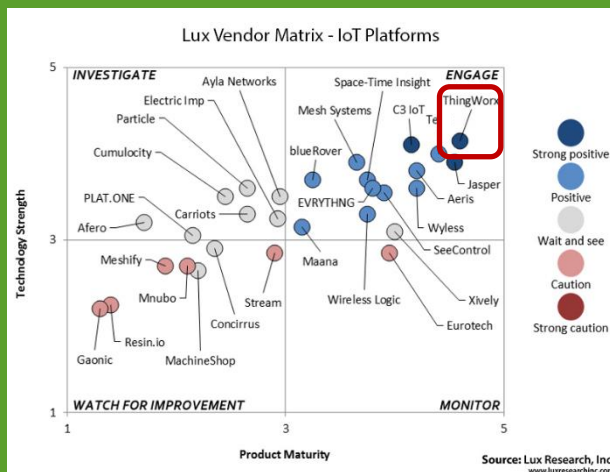
- Data Prep and Drag & Drop Authoring Tool
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- Mobile Device Viewer/ Digital Eyewear
- Unique Physical Identifiers & Targets

# PTC is the Clear Market Leader With 18% Market Share

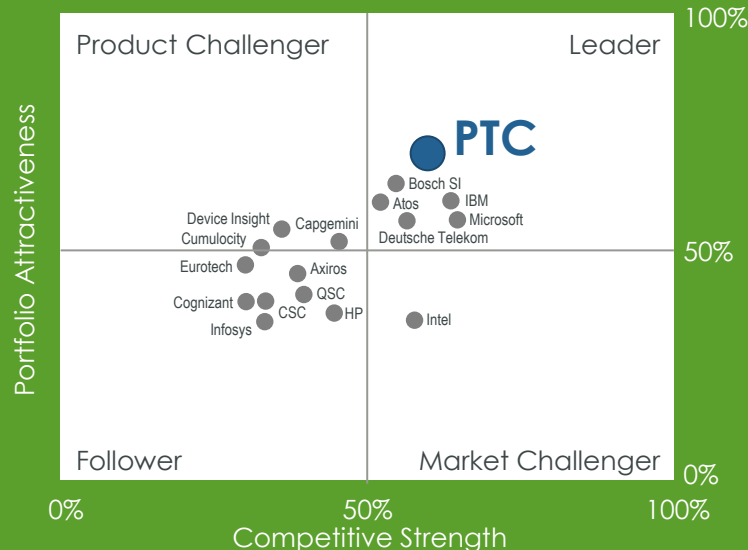


Source: IoT Analytics

# IOT Platforms Vendor Benchmarks 2016

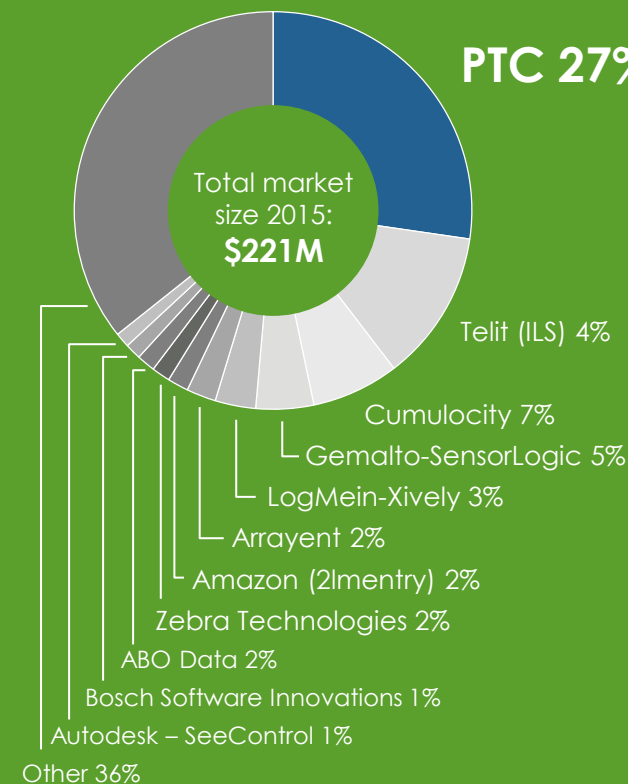


Source: Lux Research, Inc.



Source: Experton Market Insight

# Technology Platforms for the Internet of Things (IoT)



Source: BCC Research

## Market Leadership



“A **key player** for product manufacturers in the connected world, commonly referred to as the Internet of Things (IoT)”



ThingWorx is in the **upper right quadrant**.



“**PTC is moving quickly to own the IoT** and to strongly channel it for customers to use in new and strategic ways.”



“PTC provides the vision, the technical resources, and the ongoing commitment to **win in this market.**”



**The** Internet of Things (IoT) Enablement Company of the Year for the Enterprise Market.

## Thought Leadership



# BREADTH OF PLATFORM CUSTOMERS



## Electronics & High Tech



## Transportation



## Industrial



## Commercial Equipment



## Life Sciences



## Medical Devices



# BREADTH OF OUR PARTNER ECOSYSTEM



## Edge Communication & Embedded Devices



## Communication Service Providers



## System Integrators & VARs



## Business Systems & Analytics



## Solution Providers

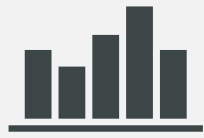


# COMPLETE IOT PLATFORM CAPABILITIES



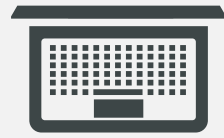
## CONNECT

- Device Cloud Connector SDK
- Industrial Protocol Drivers (Kepware)
- Industrial-to-Application Thing Modeling (Kepware Integration)



## ANALYZE

- ThingWatcher
- ThingPredictor
- ThingOptimizer
- Analytics Builder



## IMPLEMENT

- UI Builder for Web, Mobile, AR
- Visual Application Modeling
- Run-time Services
- Edge Intelligence



## MANAGE

- Asset Provisioning & Management
- Software & Content Management
- Visual Alert & Rules Management



## EXPERIENCE

- Compelling visualization for web, mobile and AR
- Leverage rich 3D animation and IoT data for experience creation
- ThingMarks for unique AR experiences for each associated device



## SCALE

- Enterprise-ready Deployment Architecture
- Millions of connected devices



## SECURE

- Advanced Device Identity and Authentication
- Platform-Wide Identity Management



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