

# IBM and the Future of Technology



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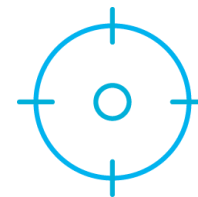
# Industries are rebuilding around experiences



Do you clean toilets or do you provide a facilities experience?

# Experiences being transformed by AI & Cognitive

## The predictive bathroom cleaning experience



### Towel Sensors, Schedules, Coffee Sensors, Room Sensors

#### 1. Understanding

Cognitive analytics reads meeting schedules of rooms, attendees, social data, coffee machine usage., bathroom towel sensors

### Predictive Model

#### 2. Reasoning & Learning

The predictive model learns the busy and quiet usage times of the bathroom. Predicts when towels will run-out

### Real-time Cleaning

#### 3. Real-time Relevant Scheduling

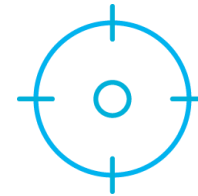
At 2.45PM on a Tuesday before an important client meeting. Steve cleans the bathroom so it's spick and span with fresh towels

### Unique Experience



# Experiences are being transformed by Cognitive

A coffee facility delivers design-thinking developed experiences empowered by cognitive analytics that leverage internal and external data.



**Loyalty, ERP,  
Weather,  
Schedules**

## 1. Understanding

Cognitive analytics reads meeting schedules of rooms, attendees, pulls weather, social data,

**Predictive  
Model**

## 2. Reasoning & Learning

The predictive model knows Josie likes a double-shot iced coffee after a long meeting on a hot day.

**Real-time  
Campaign  
Tool**

## 3. Real-time Relevant Offerings

At 3PM on a Tuesday, Josie gets an offer for a double-shot iced coffee and a free coffee for her colleague.

**Unique  
Experience  
with targeted  
offers**

“

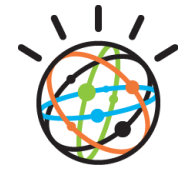
Data is the most valuable asset  
your business has in delivering  
superior customer experiences.



# INDUSTRIES are DISRUPTING

# Transformation is driving the evolution and creation of new business models

## Technology forces...



AI &  
Cognitive



Mobile



Social



Security



Internet  
of Things



Cloud

## ...are creating new experiences...



Experience journey



Digital ubiquity

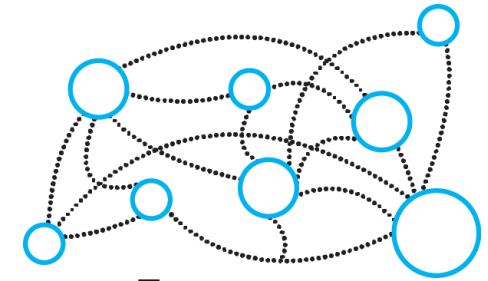


Omni-channel

## ...and disrupting operational models.



Traditional value chain



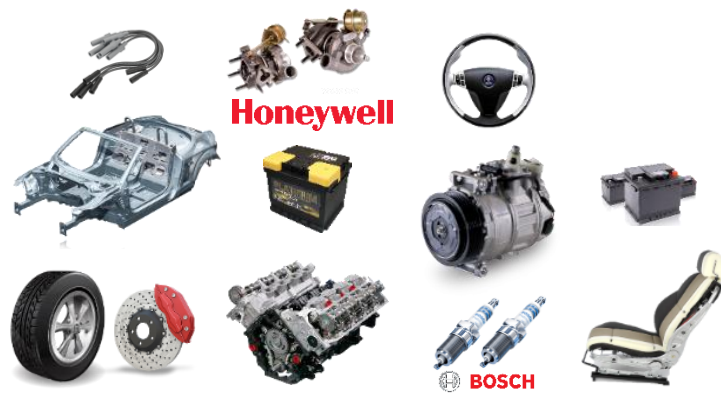
Ecosystem



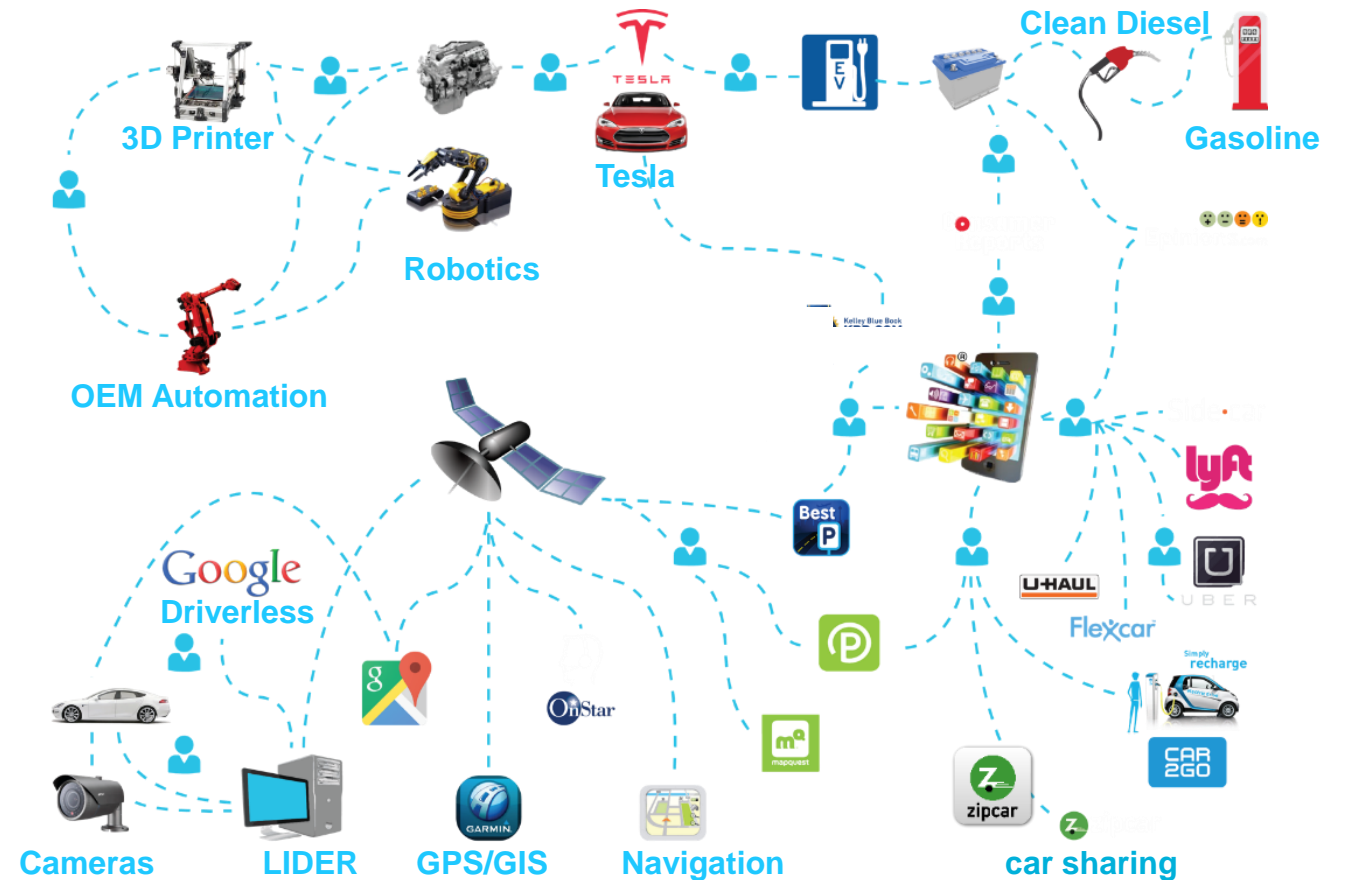
# The auto industry illustrates the shift to ecosystems

*Automotive Example*

## Traditional Automotive Value Chain



## Emerging Mobility Ecosystem



# WHAT is DISRUPTING exactly?

# WHAT is DISRUPTING exactly?

1

## Value Chain Component

- Individual elements of the value chain seeing new entrants, niche players, changes in how current capabilities are delivered/provisioned.
- i.e. Customer Service in Operations

2

## End to End Value Chain

- A rearrangement of activities across the value chain in how they connect together and where value is created, and who does what in each phase.
- i.e. Vertical Integration – one organisation owning, designing, programme managing, building, operating.

3

## Expanded Value Chain

- A clustering of capabilities that extends scope of products and services into new areas (increasing scope of value chain)... but also bringing new players from other industries in!
- i.e. Facilities Management offering transit services to occupants

# The Digital Reinvention of the FM Industry



## Existing Value Chain of Participants



1

### Value Chain Component

- Individual elements of the value chain seeing new entrants, niche players, changes in how current capabilities are delivered/ provisioned.
- i.e. Customer Service in Operations

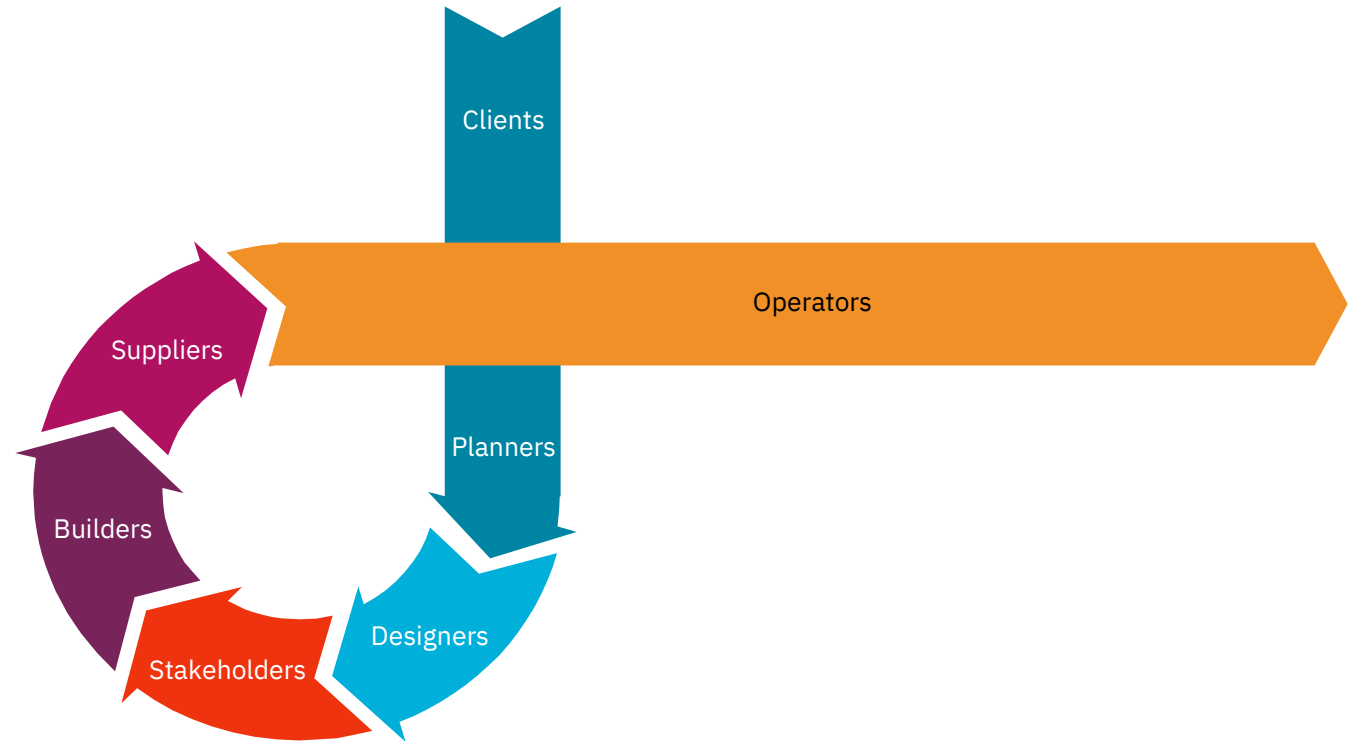


# The Digital Reinvention of the FM Industry

2

## End to End Value Chain

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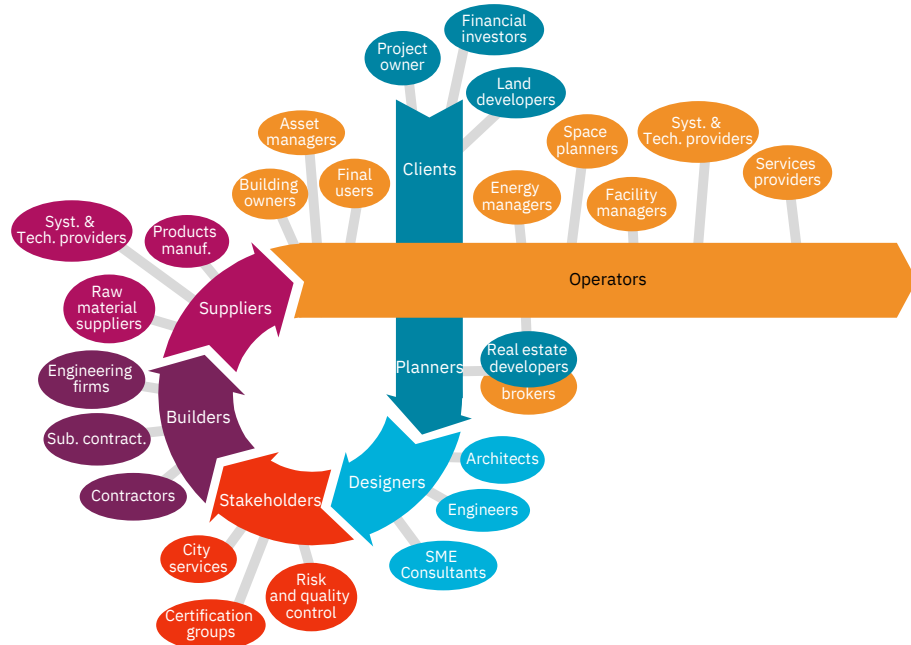




# The Digital Reinvention of the industry

3

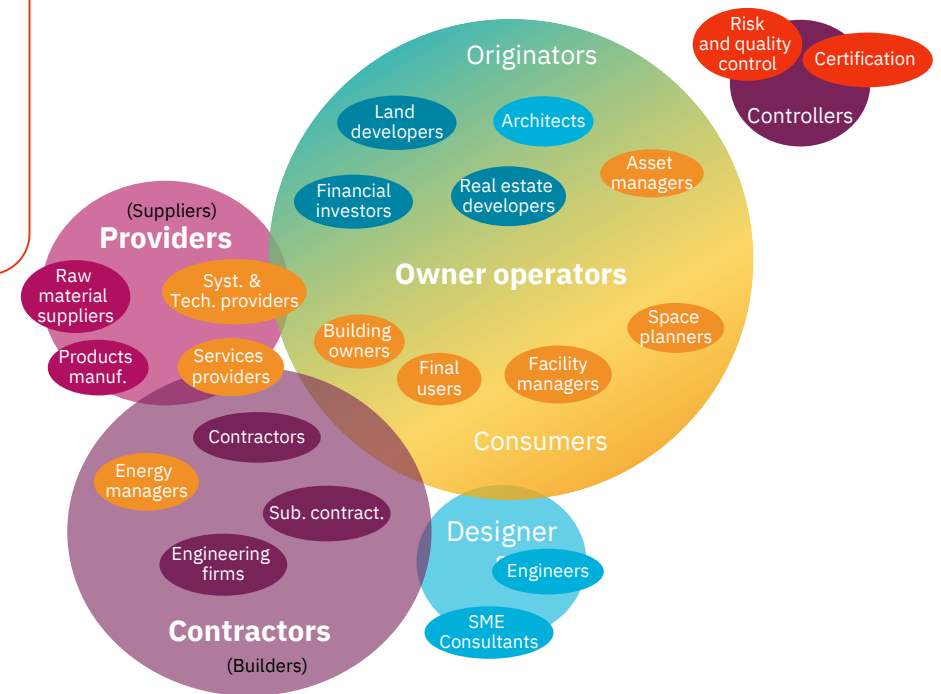
## Existing Ecosystem



## Expanded Value Chain

- A clustering of capabilities that extends scope of products and services into new areas (increasing scope of value chain)... but also bringing new players from other industries in!
- i.e. Facilities Management offering transit services to occupants

## Redefined Ecosystem



WHAT are STRATEGIC RESPONSES  
by Organisations to Address each  
of these Disruption types?

# Responses?

1

Value Chain Component

2

End to End Value Chain

3

Expanded Value Chain

A

“4 walls” – protect and grow current business

- Customer centricity
- Safety, security, reliability
- Ruthless efficiency/automation
- Prevent becoming a commodity

B

“Redesigned Industry Value Chains”

- Business networks
- Collaboration
- Ecosystem plays within industry
- Exploiting owned data
- Using expertise
- Digital reinvention

C

“Reengineered Industry Propositions”

- New business models
- New capabilities
- Ecosystems outside industry ‘norms’
- New data
- Digital transformation

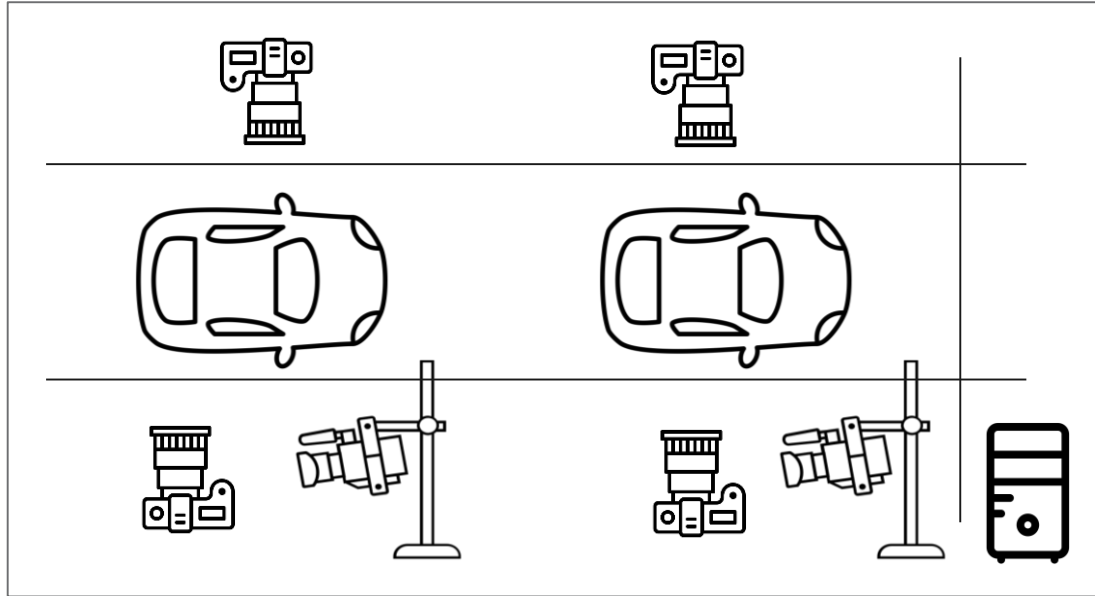
# Strategic Architecture Decisions

A

“4 walls”

- Customer Experience First
  - Redesigned Experiences
    - Real-Time Cleaning
  - Outcome First
    - Reduced Staff Sickness
- Automation
  - Cognitive Help Desks
    - AI Bots, Knowledge Base
  - Cognitive Compliance for Contracts
  - Visual Recognition
  - Deep Learning for Sensors
- Security (Social, Physical, Cyber) – Existential Threats

# Machine Learning in Operations – 4 Walls



## VIABILITY

- >95% accuracy visual inspection

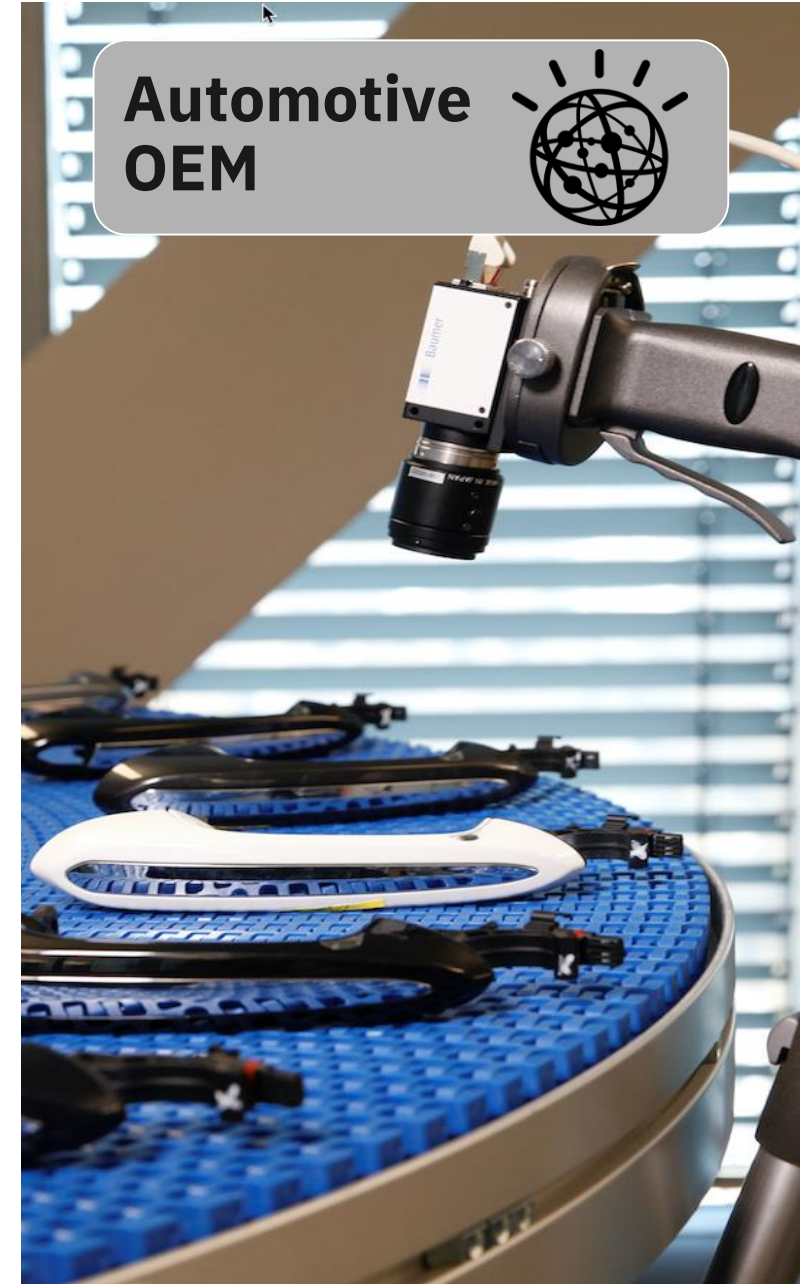
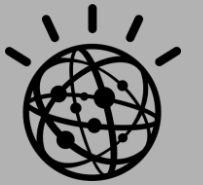
## INTEGRITY

- Re-purpose large Data sets

## EXTENSIBILITY

- Just 3.5days to train up new use case

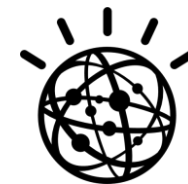
Automotive  
OEM





# Watson Compare & Comply

## – 4 Walls



### Procurement

- Flag supplier conditions not yet met
- Detect vendor performance discrepancies



### Legal

- Locate non-standard terms and clauses
- Administer corporate compliance standards



### Finance

- Ensure proper revenue recognition
- Confirm vendor payments owed or overdue



### Sales

- Maintain consistent promotion and discounting terms
- Simplify contract create and review processes

# Strategic Architecture Decisions

B

## “Redesigned Industry Value Chains”

- API's
- Blockchain
  - Recycling
  - Waste Disposal

# Supply Chain and Logistics – Redesign Value Chain



## VIABILITY

- Access... Open and Neutral
- Multiple parties

## INTEGRITY

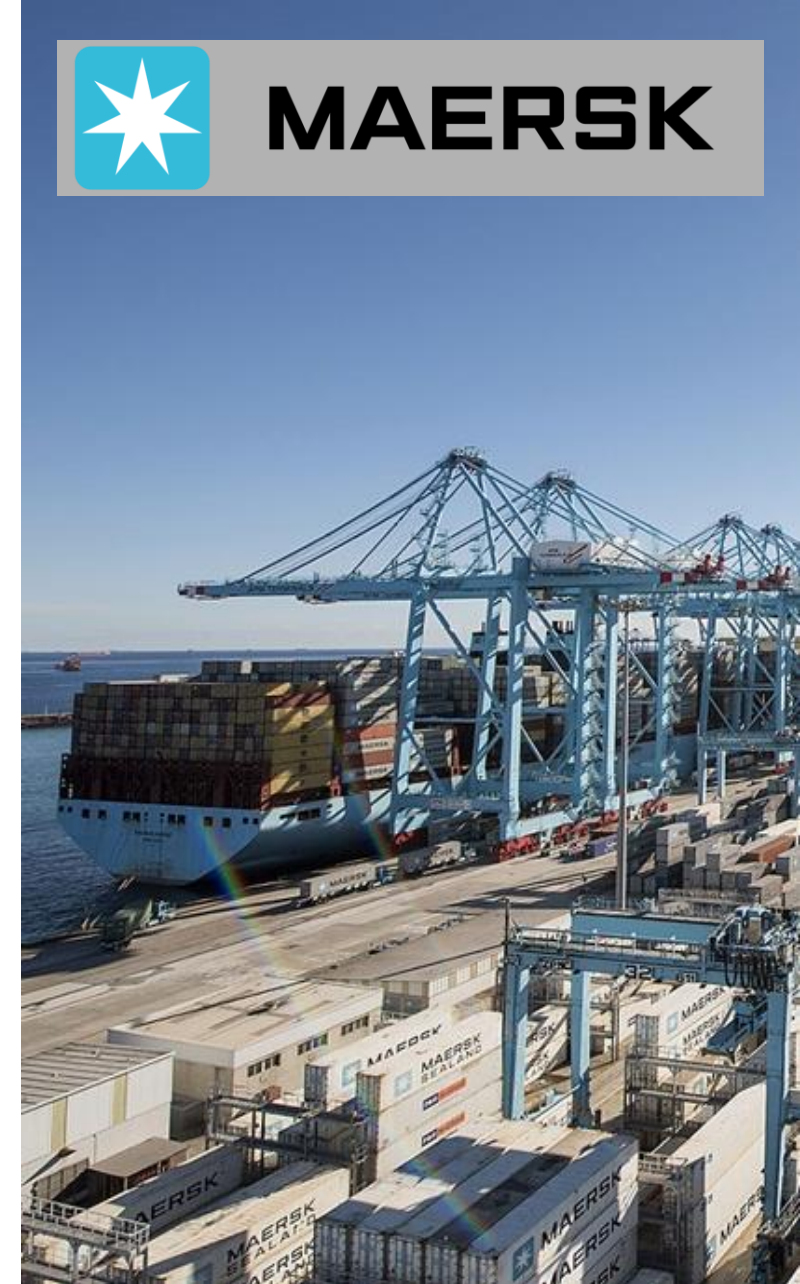
- Blockchain -trusted and secure data
- Smart Contracts

## EXTENSIBILITY

- Hyperledger Platform for full supply chain
- Joint Venture backing



**MAERSK**



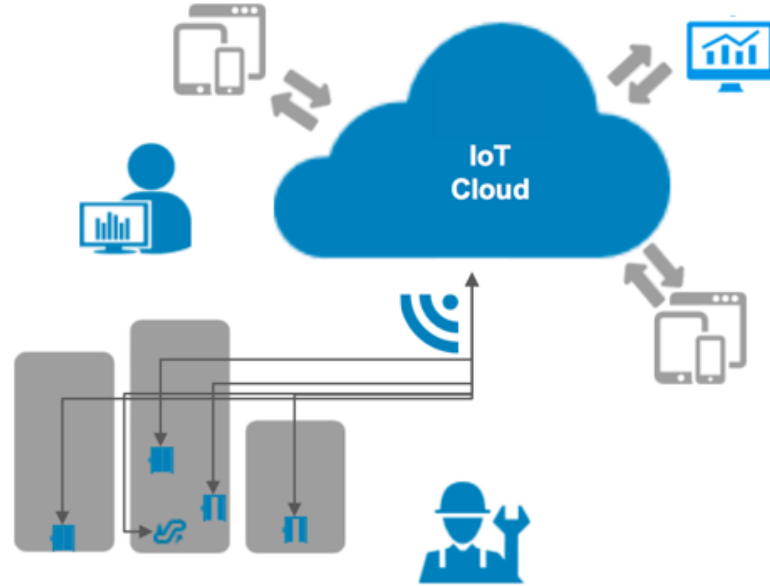
# Strategic Architecture Decisions

C

## “Reengineered Industry Propositions”

- Health Data Provider

# Connected Product in Aftermarket – Reengineer Industry Proposition



## VIABILITY

- 1.1million elevators and escalators

## INTEGRITY

- KONE owned Data

## EXTENSIBILITY

- New services – API Ecosystem (e.g. cab hailing)





# What are your new business models?

# What are my new business models

- End to End traceability of Food
  - From Bean to Bin (or rather lack of bin)
- Health Outcome provider for staff in facilities
- Facility Experience Management

What Architecture Decisions do each  
of these STRATEGIC RESPONSES/  
PLATFORMS require?

# Strategic Architecture Decisions

A

## “4 walls”

- Multiple capability platforms
- Decide what compete on
- What commoditise on
- How integrate
- How keep ‘agile/adaptable’

B

## “Redesigned Industry Value Chains”

- What offer as industry platform to others (including traditional competitors)
- What Industry platforms to join in on
- How ensure sufficient integration but enough detachment
- How maintain destiny (able to get in/out)

C

## “Reengineered Industry Propositions”

- What industries extending into
- How extend platform coupling to experiment and scale, without sacrifice

# What's it take to **support** the shift to scaled solution?

## ARCHITECTURE



### VIABILITY

- Integration
- Location



### INTEGRITY

- Data
- Analytics
- Security



### EXTENSIBILITY

- Platform
- Ecosystems



