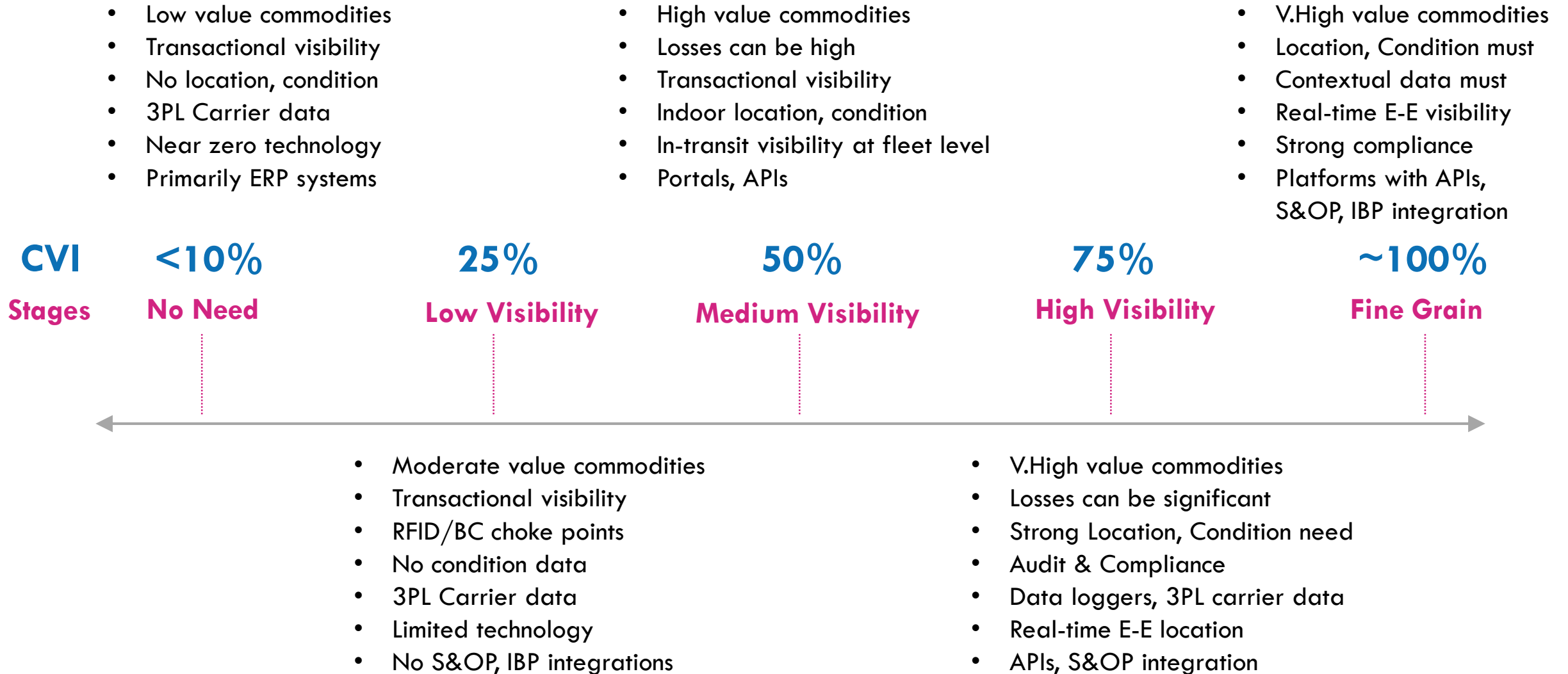
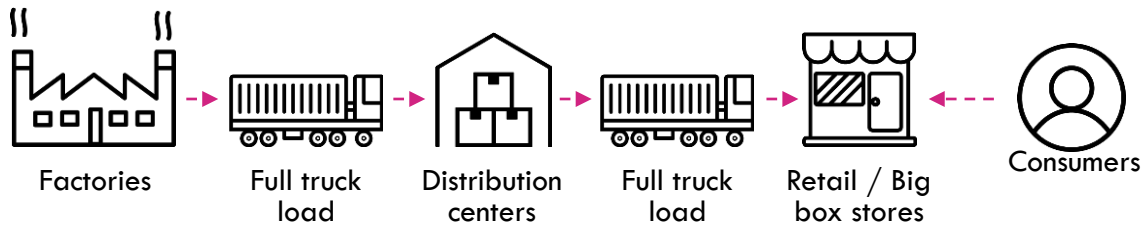


# Visibility Index - Mapping to Market

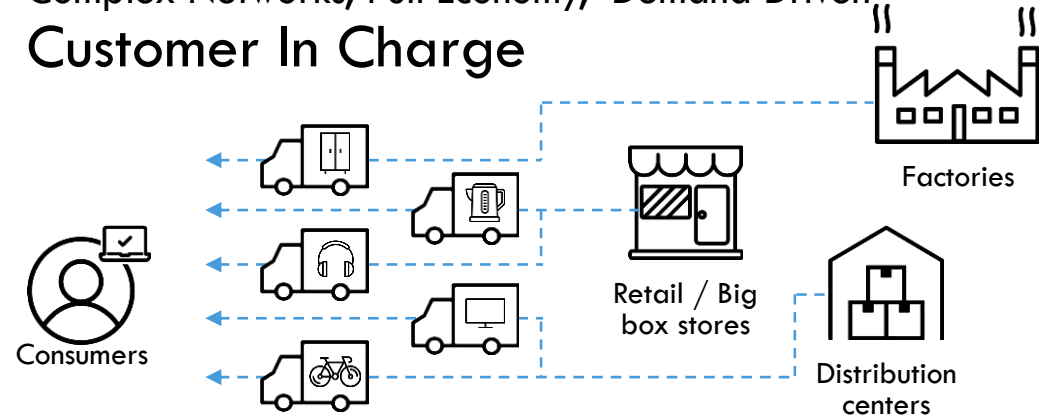


# Disruption in the Supply Chain

## Simple Push Economy The Linear Pipeline



## Complex Networks, Pull Economy, Demand Driven Customer In Charge



“Commerce is shifting and the death of **Supply chain management** as we know it is on the horizon”

— HBR, 2018

### Capabilities of the supply chain in the future:

....faster, ....flexible, ....granular, ....accurate, ....efficient

- Operations – Assets, Facility & In-transit Product Flow
- Control – Quality, Cost, Speed
- Sensing – Real-Time Multi-dimensional DATA across the Supply Chain

— Globally \$35Trillion will go through transformation over the next decade —

# Today's Challenge

Conventional Enterprise Supply Chains lack real-time DATA for PREDICTIVE INSIGHTS

## MANUAL, PASSIVE DATA CAPTURE

- Mostly transactional & delayed data
- RFID/Barcode provide Spotty coverage; Choke point limited

## DARK SPOTS AND LIMITED ONE-DIMENSIONAL DATA

- Lack in data visibility within facilities and in-transit
- Critical condition data not captured (temperature, humidity, shock, vibration, etc.)

## FRAGMENTED DATA, SYSTEM SILOS

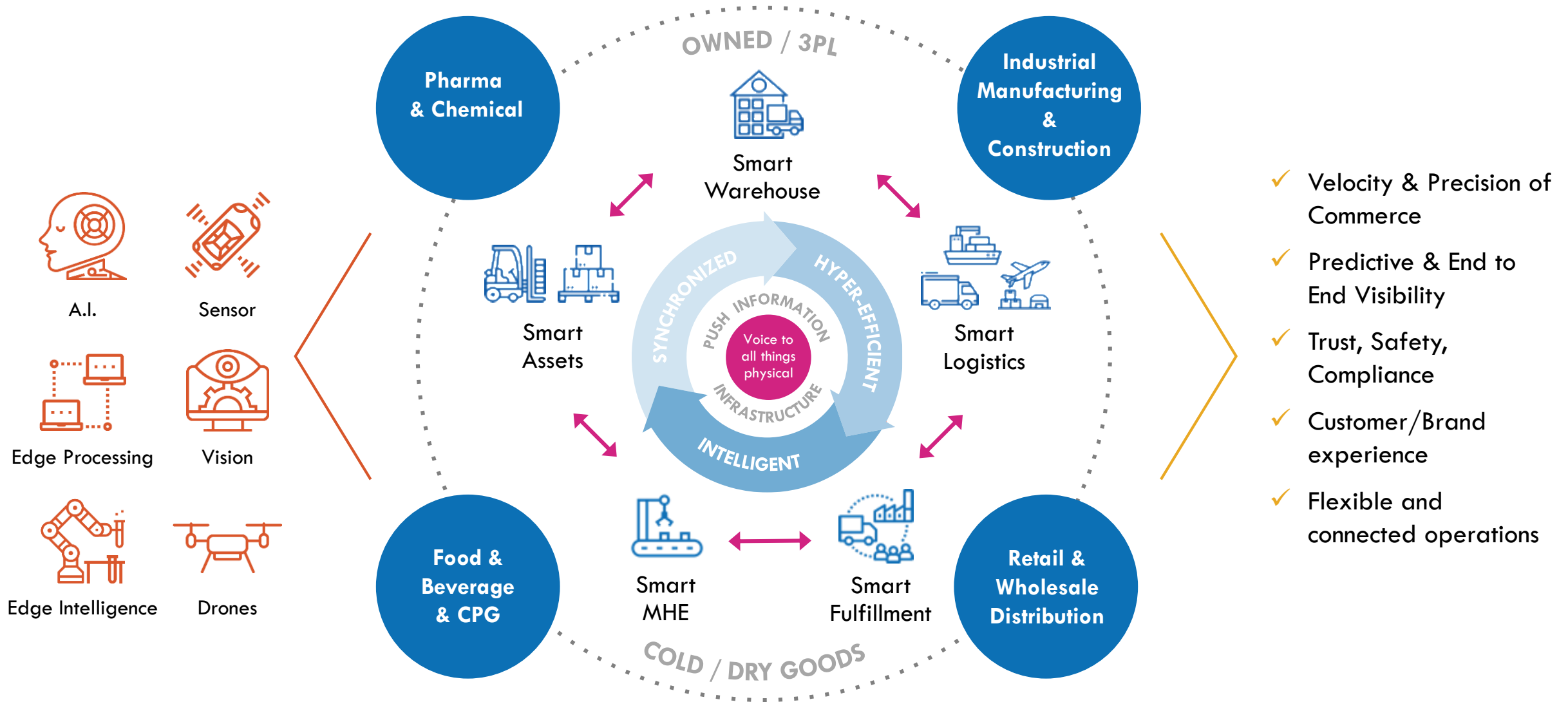
- On premise system, enterprise silos, islands of data
- Lack of seamless connectivity in product flow & asset management



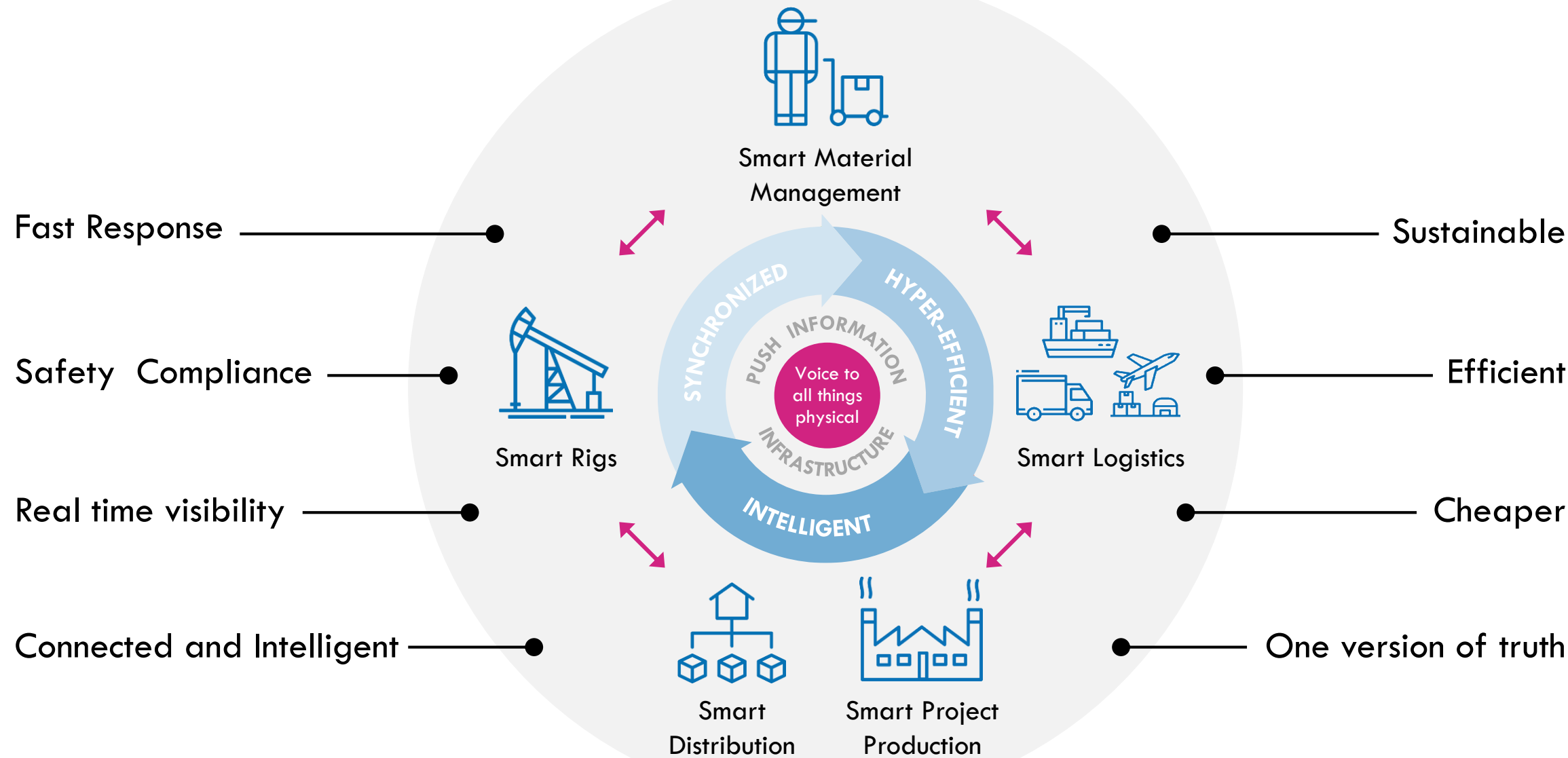
Variances & disruptions cost **Billions of \$\$ in Lost Value**  
— Lost Revenue, Higher operating costs, Material losses, Non-compliance penalties ”

# Future Supply Chain

“The death of supply chain management as we know it is on the horizon – HBR, 2018”



# Future Supply Chain – Oil & Gas



# Digital Enterprise



## DIGITAL ASSET LIFE CYCLE

New Business Models and  
Simplifies associates life



## COLLABORATIVE ECOSYSTEM

Operational Transparency  
and Safe processes



## BEYOND THE BARREL

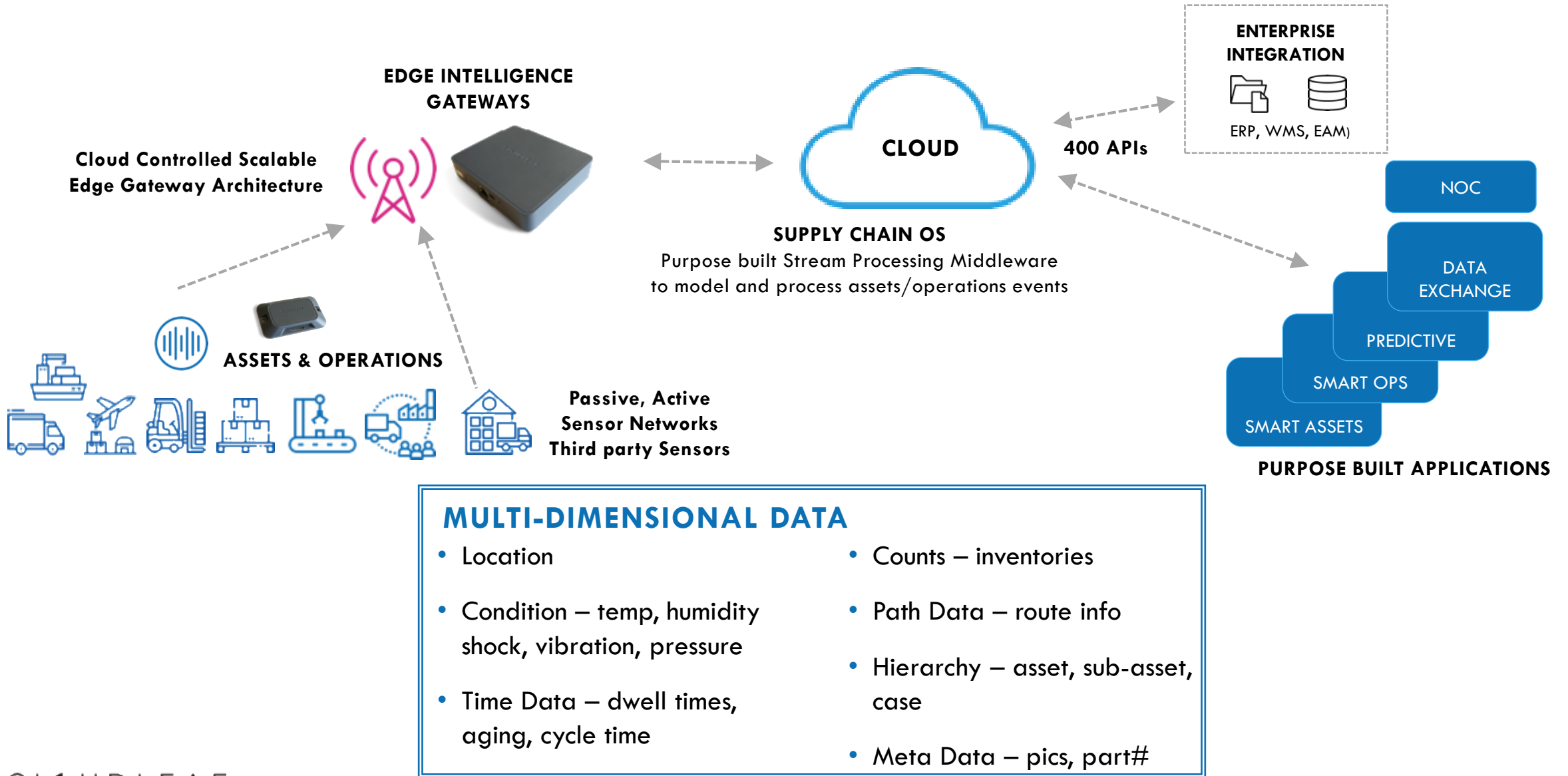
New and Engaging  
Customer experiences



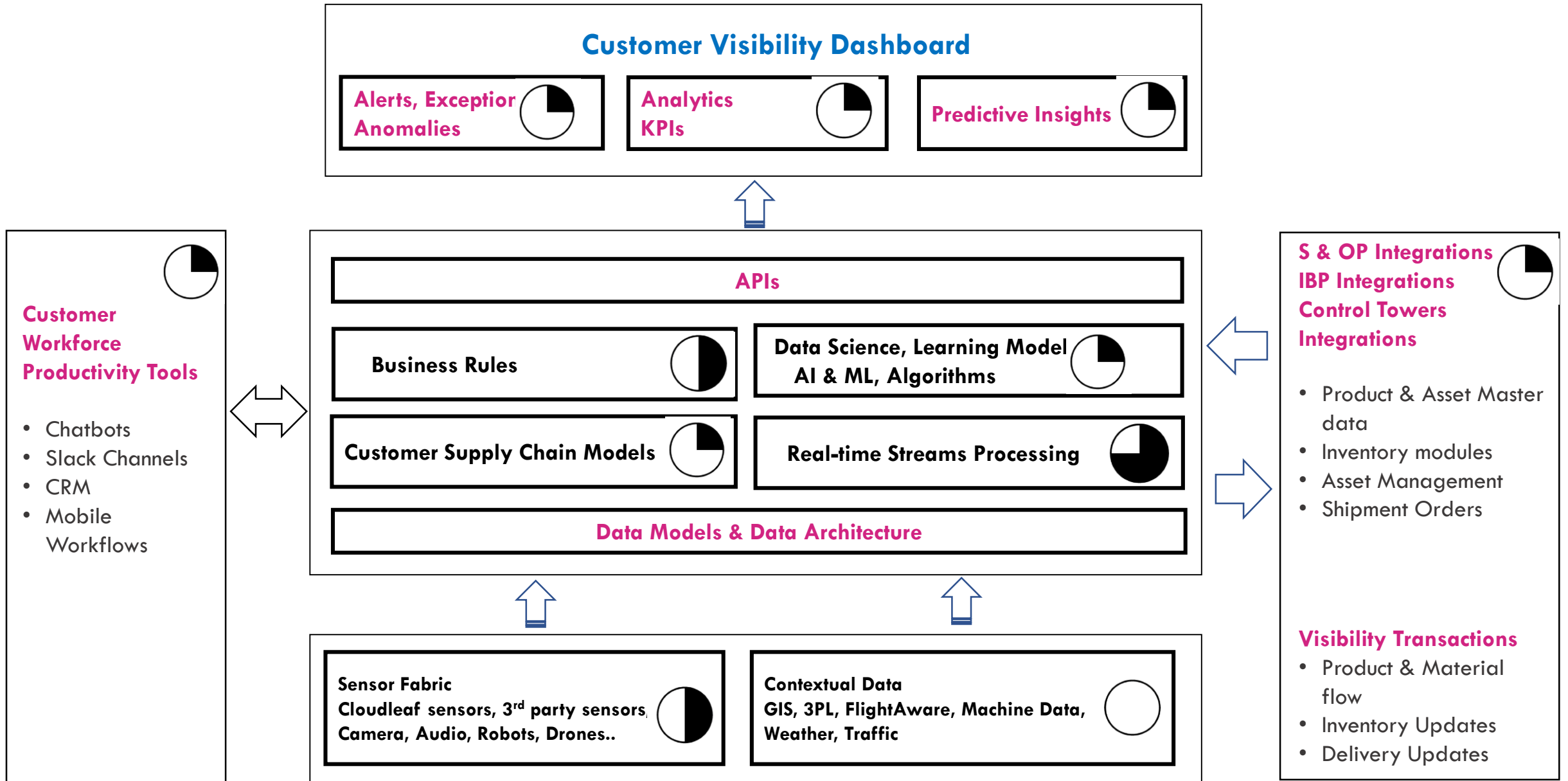
## ENERGIZING NEW ENERGIES

New carriers and  
Energy Optimization

# Opportunity – Create a Talking Supply Chain



# Product Offering & Experience – Today





# How the Digital Supply Chain Journey will Unfold



Connected **Smart Assets** to monitor location, condition, utilization, maintenance etc. used to enable operations, warehouses, factories. — e.g. Containers, Pallets, Machines, Tools, Forklifts...



**Smart Operations** is about tracking the product inside the facility and in-transit; monitor and manage workflows



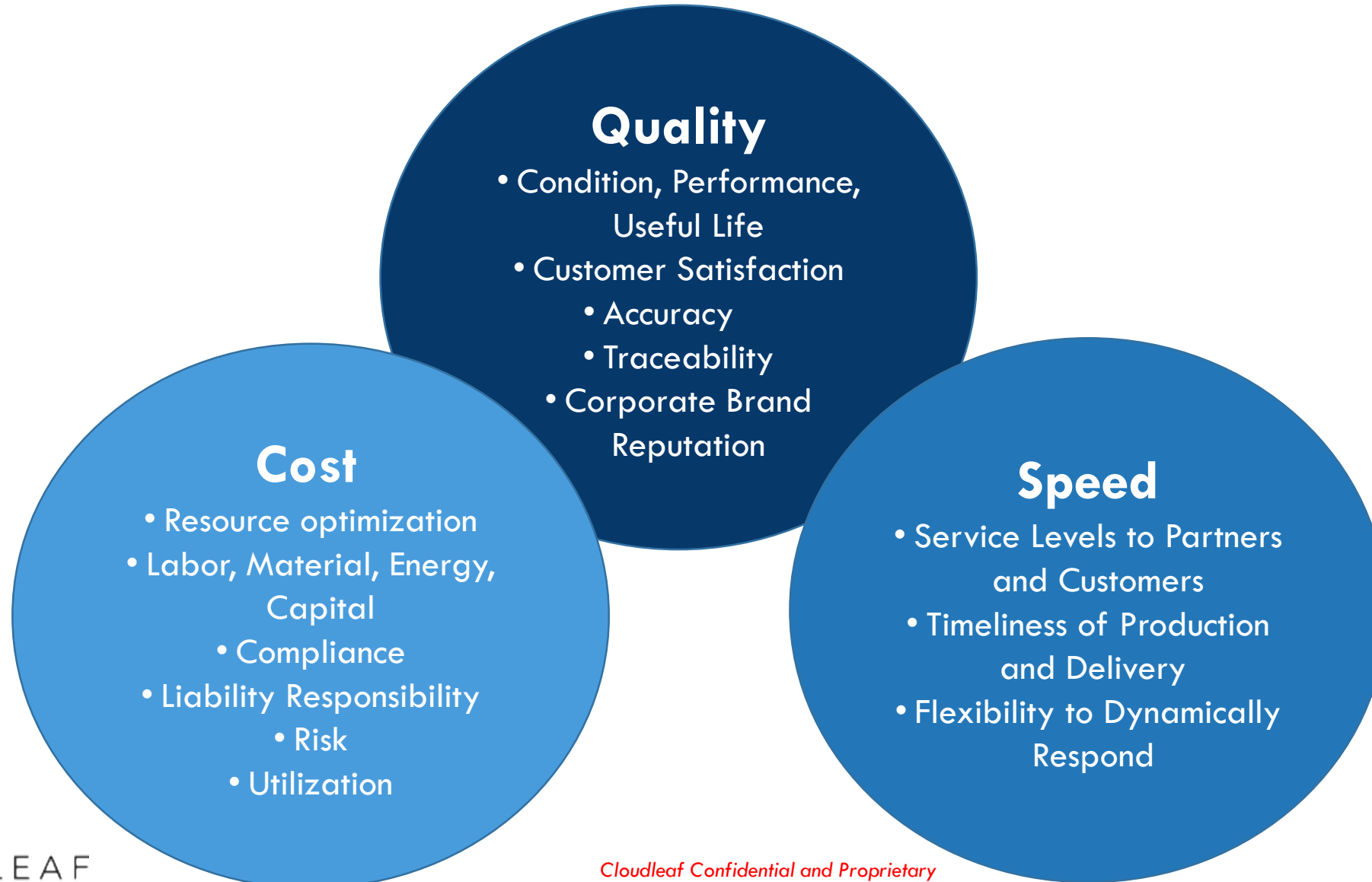
**Predictive Intelligence** and prescient insights both on assets and the product workflows



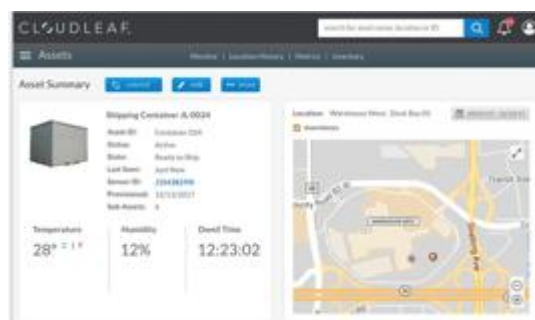
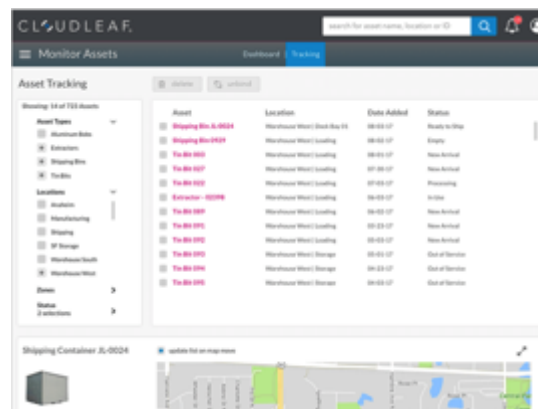
**Data Exchange** and governance — across the extended supply chain

# Benefits through the entire Supply Chain

Driving Increased Quality, Lower Costs, and Enhanced Customer Service



# Smart Assets



## PERSONAS

- Plant Manager
- Finance Staff
- Operations Manager
- Maintenance Manager
- Maintenance Service Provider

## CUSTOMER SUCCESSES



## ROI

Time To value: **<3 Months**

Payback: **30X**

Implementation time: **<4 Weeks**

*Cloudleaf Confidential and Proprietary*

## KEY QUESTIONS

- Where is my asset
- What is the count
- What is the condition
- Where was it last
- What is the useful life
- When is maintenance due
- How much is it utilized
- Are we financially compliant

## CAPABILITIES

- Asset Health
- Asset Condition
- Asset Utilization
- Audit Compliance
- Asset Maintenance
- Asset Location and cycle times Management

## FEATURES

- Easy and flexible deployment
- Model Sites, Work areas and Factories
- Asset Classes
- Self-service business rules systems
- Customizable Notifications and Alerts
- KPI reports and Actionable Insights
- ERP Integration ready
- Asset Paths





**GE APPLIANCES**  
*a Haier company*

# Smart Assets



- **Opportunity** — Appliance maker with 100K+ tools across multiple sites with Visibility, Financial Audit Records & compliance problem
- **Problem** — Millions of \$\$ equipment write downs annually
- **Need** — 100% accurate counts, locations of tools across facilities
- **Before** — Manual, RFID
- **After** — Deployed 32K assets with real-time visibility and JDE integration
- **Result** — 99.9% live visibility
- **Expansion** — Opportunity to expand to multiple facilities with over >100k assets and condition data monitoring

# Smart In-Transit



Order->  
Configure->  
Manufacture



Plan  
Shipment



Pack Tools  
Bind Devices  
Ship

Track & Trace



Location &  
Condition  
Monitoring



Shipment @  
Destination  
WH / Staging  
Area



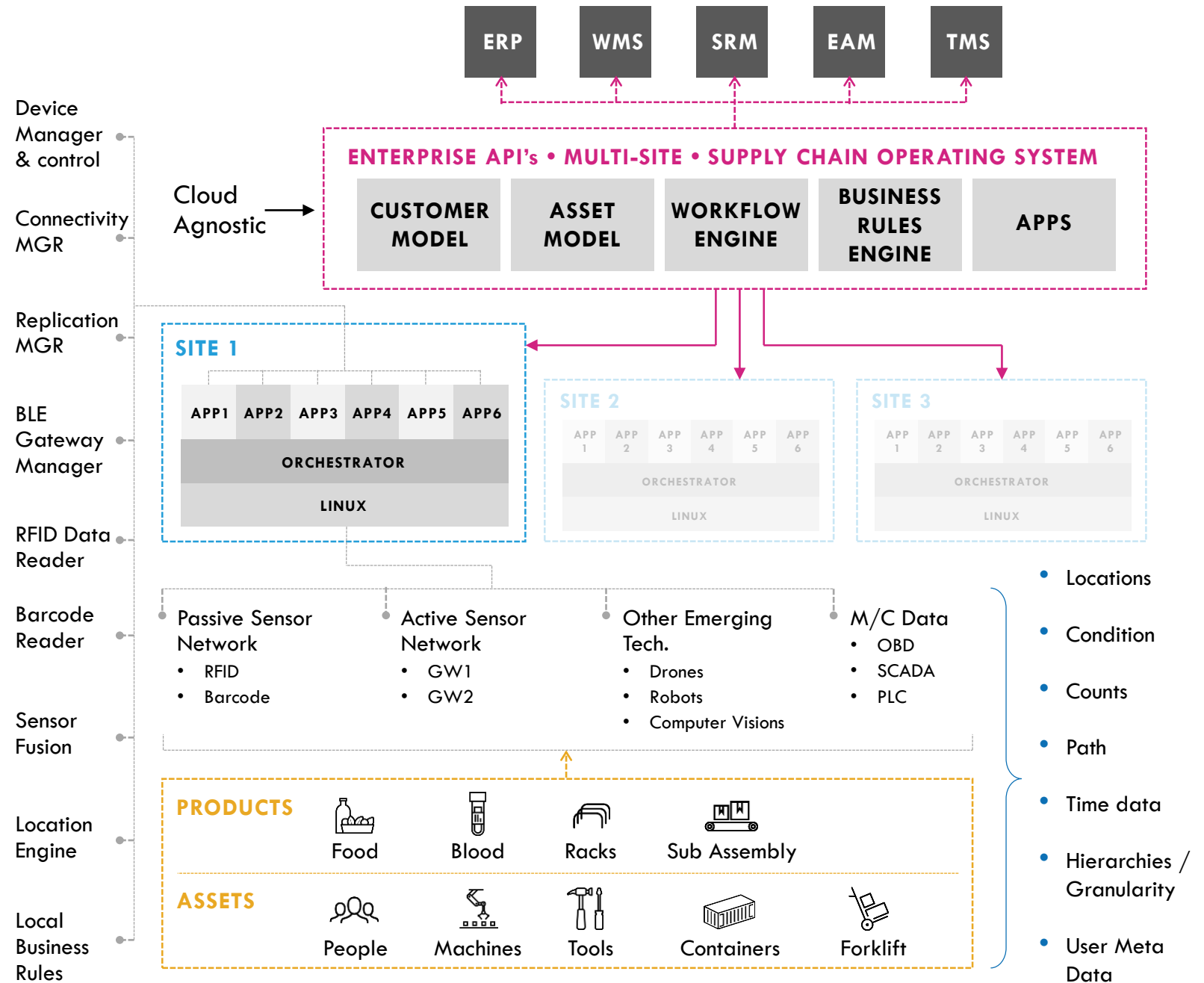
Installation &  
POD  
Acceptance



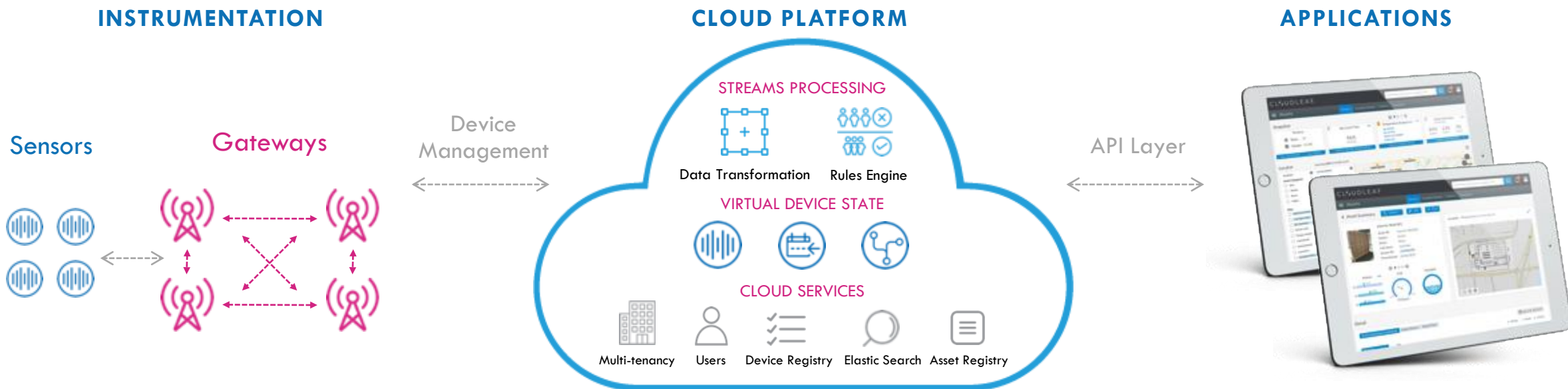
Cash  
Collection

# Edge Intelligent Sensor Network

- ✓ SCALABLE
- ✓ CONTAINERIZED
- ✓ EASY TO DEPLOY
- ✓ CLOUD-MANAGED
- ✓ HIGHLY SECURE
- ✓ BUILDS ON EXISTING PASSIVE SENSORS




# Partnership Strategy



— Cloudeaf enables customers Digital Supply Chain needs —  
“Create the Data pipe & Data exchange”



**3<sup>RD</sup> PARTY SENSORS**



**NETWORK INFRASTRUCTURE**



**CLOUD PLATFORM**



**ERP PLAYERS**



# A CURATED PROCESS FLOW FOR MACHINE-GENERATED DATA

