Leveraging Digital Advancements for Enhanced Uptime and Customer Satisfaction in Field Service Management

Kris **MEULEMAN**
Uptime and Service Sales Director
UD Trucks MEENA

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The **only** constant in life is change.

Heraclitus of Ephessus

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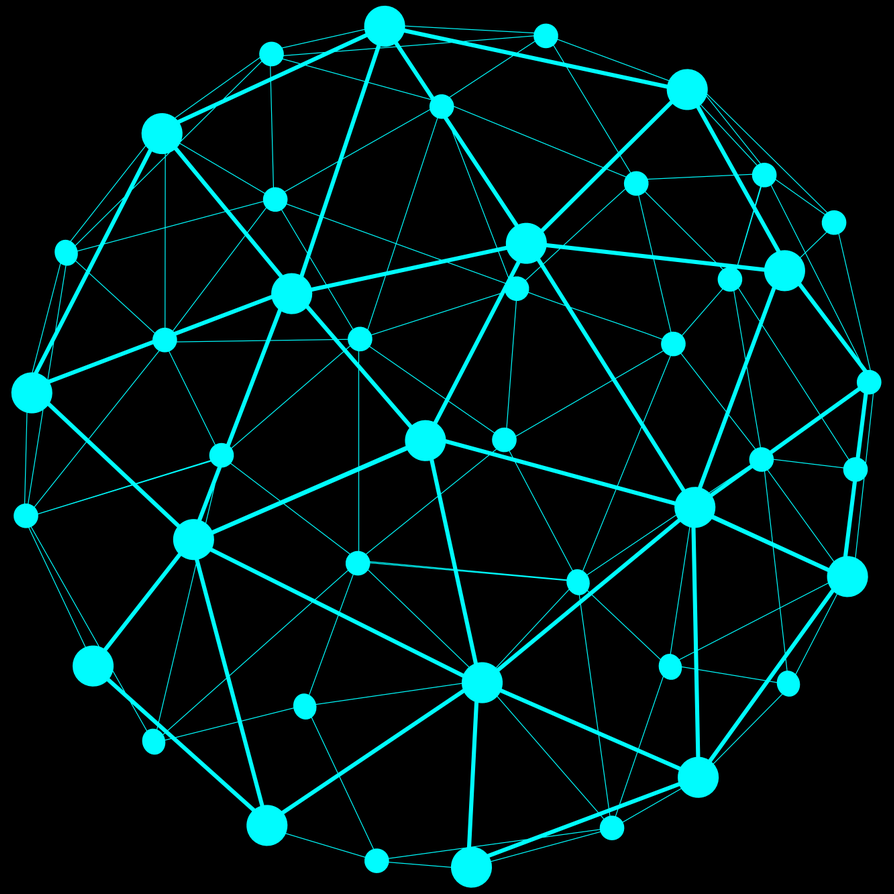
Connectivity



The world is **ever changing** .

Connectivity **quickens** it.

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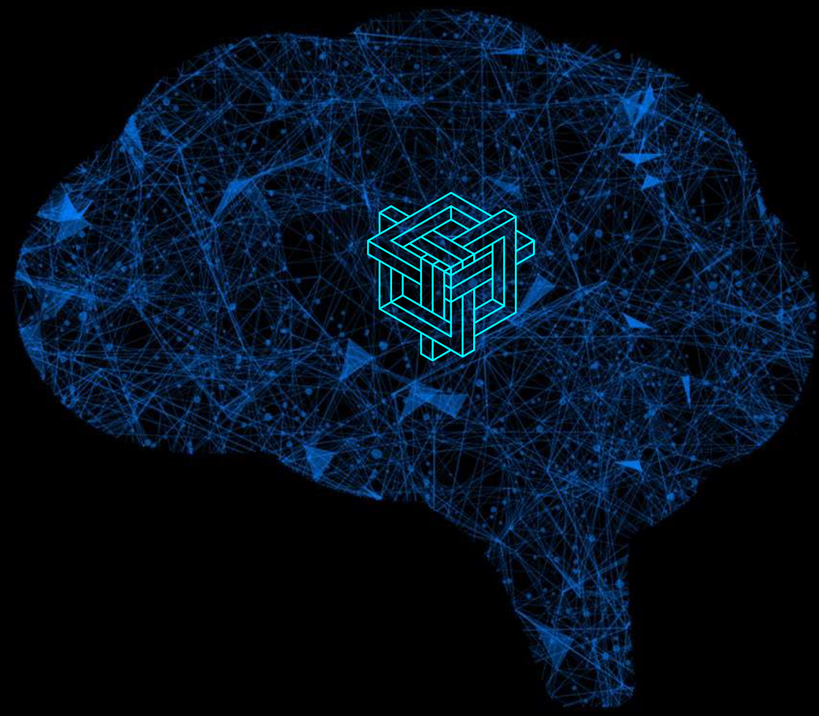
Inevitable Integration of Digital Initatives

Rise of Generative AI & Adoption

Fast Paced Consumer Habits

Multi -modal AI & Language Systems

Changing Legal Environment



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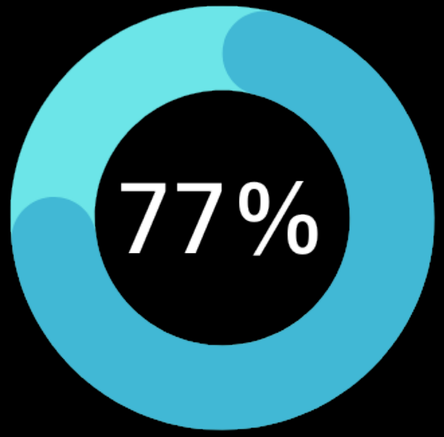
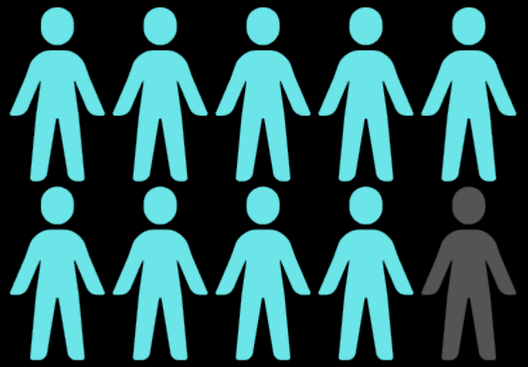
Keeping a Watchful Eye Out



Companies either using or exploring the use of AI



9 / 10 organizations support AI for competitive advantage

$15.7B

Total contribution of AI to global economy by 2030

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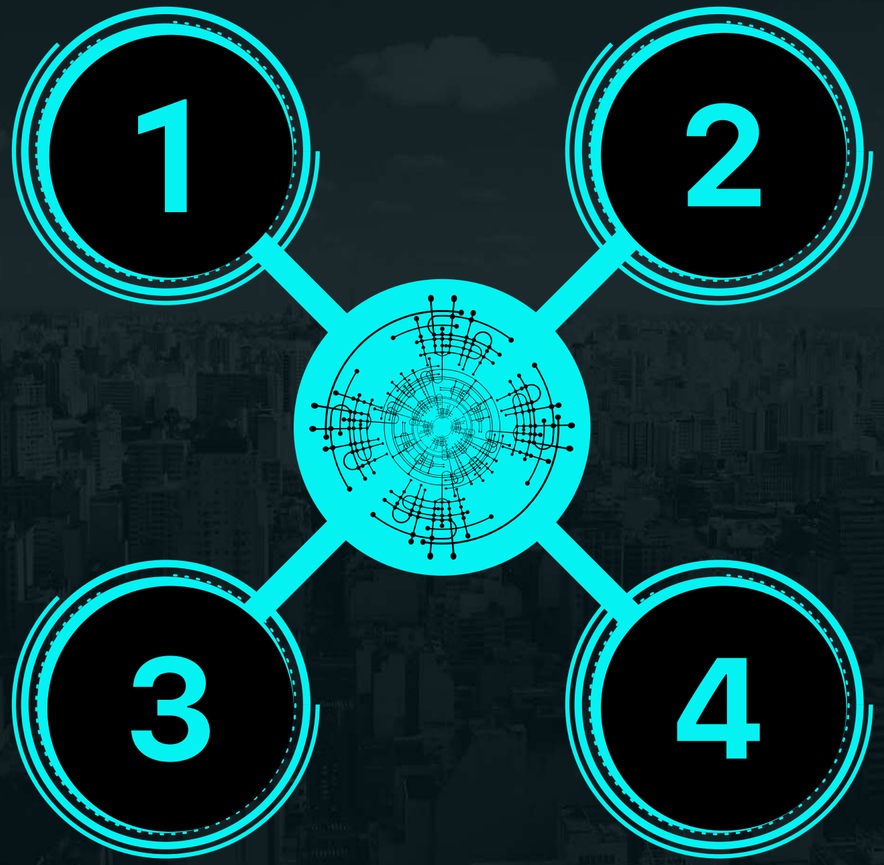
Critical Milestones for Success

Connected Services

What is connectivity?
How is it evident?
Connectivity in Commercial Segment

Connectivity and Mobility

Types of new technologies
Affects of Connectivity and Data to Mobility



Safety & Features

How connectivity helps safety?
What do we get via connectivity?
Mining and understanding the data

Smart Cities & Environments

Building cities with data
Contribution of smart automotive

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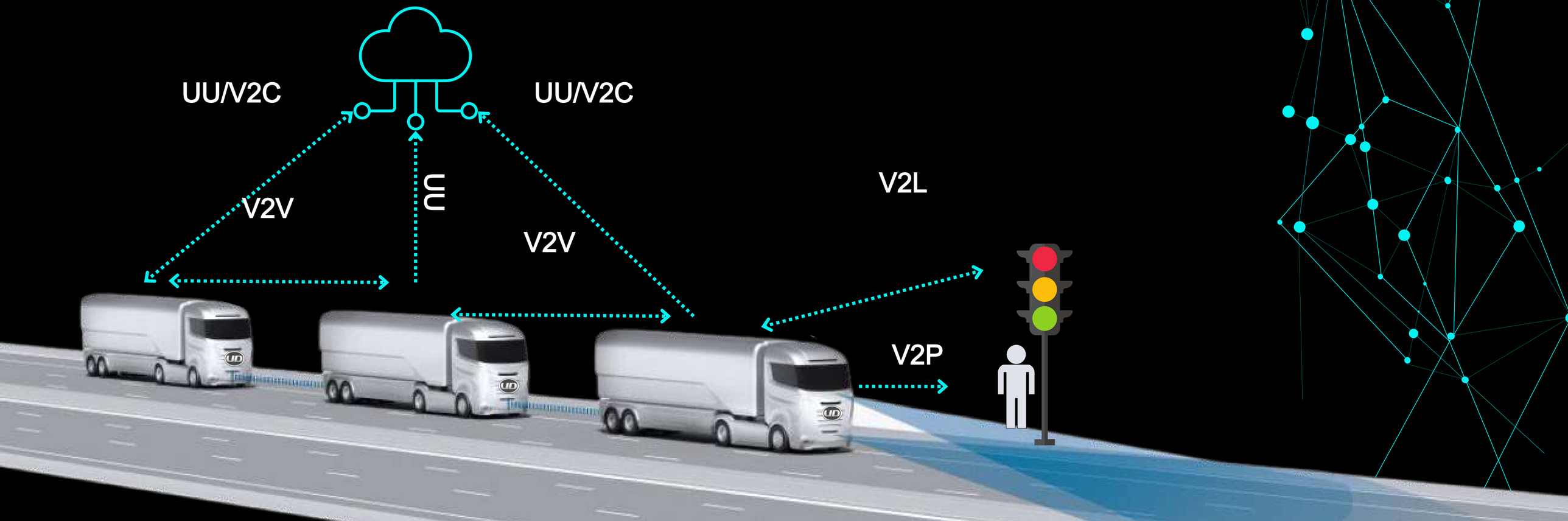
SEAMLESS INTERCONNECTIVITY

V2V,V2L, V2P, V2I, V2C, V2X



CONNECTIVITY

Vehicle to Vehicle

Vehicle to Driver

Vehicle to External Environment

Connectivity
(Key Distruptor and Enabler)

Enabler for Advancements
(AI, Electrification, Automation, etc.)

Connected Solutions
- Geofencing
- Route optimization
- Fleet optimization
- Fleet optimization
- Fuel consumption optimization

Emergency Support
(Triggers in case of emergency)

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MINING the DATA

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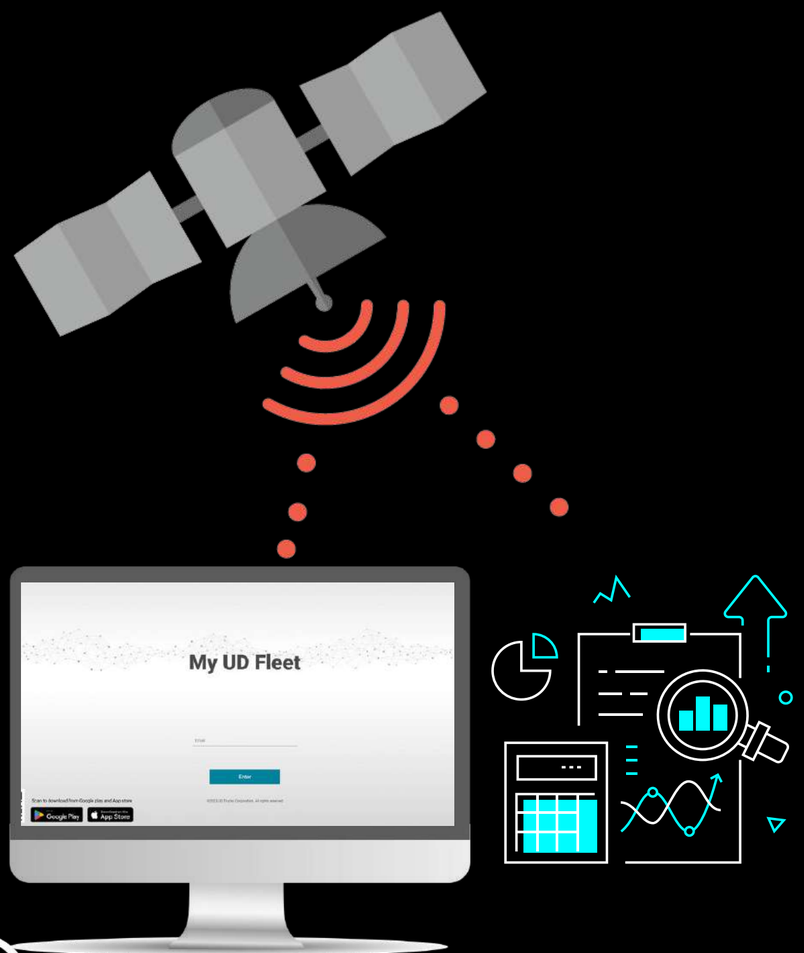
INTERPRETING the DATA

Improved user experience and safety - and more



- Helps reduce TCO
- Focus on drivers & driving comfort
- Increased uptime
- Better operations management

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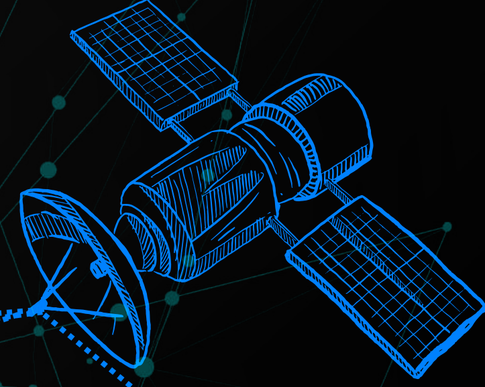
Telematics and Connected Services

Key Arguments



Optimized Business

- Total Fleet Visibility
- Real time track & trace
- Geofencing
- Vehicle usage report
- Trip report
- UD Data Interface API

Smarter Logistics

- Better logistics processes
- Smarter logistics lead to increased efficiency and profitability

Uptime

- Boosted uptime
- Maintenance management
- Health status & health monitoring
- Trip inspection
- Proactive support

Automation

- Improving safety and efficiency
- Relieving congestion for urban areas
- Transforming logistical flows and enabling goods

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Traditional Fleet Operations

Vehicle Maintenance

- **Manual inspections** and adherence to maintenance schedules
- **Reactive repairs** based on breakdowns or driver reports
- **Paper -based record keeping** for service history and parts inventory
- **Limited visibility** into vehicle health and potential issues

Driver Management

- **Paper based** routing and delivery assignments
- **Limited communication** between dispatch and drivers
- **Manual time tracking**
- Focus on schedules, and **less emphasis on driver behavior**

Route Management

- **Static routes** planned manually, limited route optimization
- **Inefficient routing** leading to increased fuel consumption and delivery times
- **Difficulty in responding** to real -time conditions and changes
- **Limited visibility** into driver location and/or progress

INEFFICIENCIES

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Smarter Logistics

PLANNER

- Optimized Route Planning
- Smarter Cities
- Higher Flexibility
- Increased efficiency
- Optimized Fleet Management

DRIVER

- Safety
- On board coaching
- Lower stress
- Higher comfort

CUSTOMER

- Efficient loading/unloading
- Faster turnaround
- Higher profitability

EFFICIENCY

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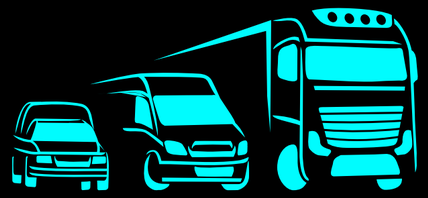
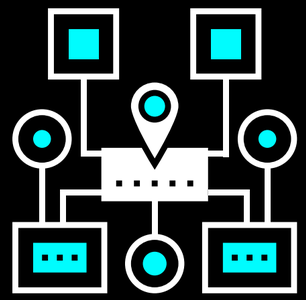
Optimized Business



Efficient Fleet Management

Real Time Track & Trace



Geofencing

Vehicle Usage Report

EFFICIENCY

1 Time Management

RESOURCES

2 Workshop Management

PROFITABILITY

3 Uptime Management

DIGITALIZATION

4 Connected Business

Uptime

Data Sources

- Vehicle Data
- Temperature Data
- Warranty and Service History Data

Parameters for Calculation

- Payload
- Component & Vehicle Population
- Vehicle Performance

Early Detection Analytics Engine

- Identify and measure metrics
- Early detection & monitor
- Measure & decide on actions
- Prescribe corrective actions
- Implement corrective actions
- Data-driven decision making

Service Later

Service Now

1 Predict recurring / major component failures → Increased uptime, Decreased R&M time

2 Predict component life based on population → Reduction in diagnostics time

3 Identify and alert anomalies within fleets → Improvement in Uptime per service

- Increased Uptime
- Increased efficiency
- Reduced business disruptions
- Early notifications
- Proactive repair schedules

AUTOMATION

Towards the Full Autonomy

- Different levels of automation
- Improving efficiency, safety, relieving congestion
- Transforming logistical flows and enabling goods
- Logistical centers transforming to autonomous
- Revolutionizing possibilities for transport

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Manual	Driver Assistance	Conditional Autonomy	High Autonomy	Full Autonomy
Driving	Driver Assistance		System Controlly	All Conditions

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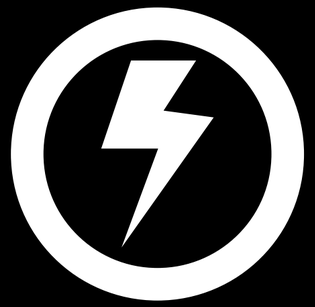
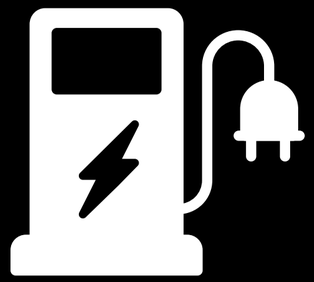
Barriers for Mass Adoption



Limited Energy Supplies

Electricity Generation
Capacity
Storage
Retail



Early Stage of Infrastructure

Investment
Equipment Supply
Maintenance
Operation
Monetization

Governmental Regulations

Regulations
Incentives

Urban Restrictions

Optimized total solution
Network Readiness
Competencies

Customer & End User

Convenience Readiness
Truck Optimization

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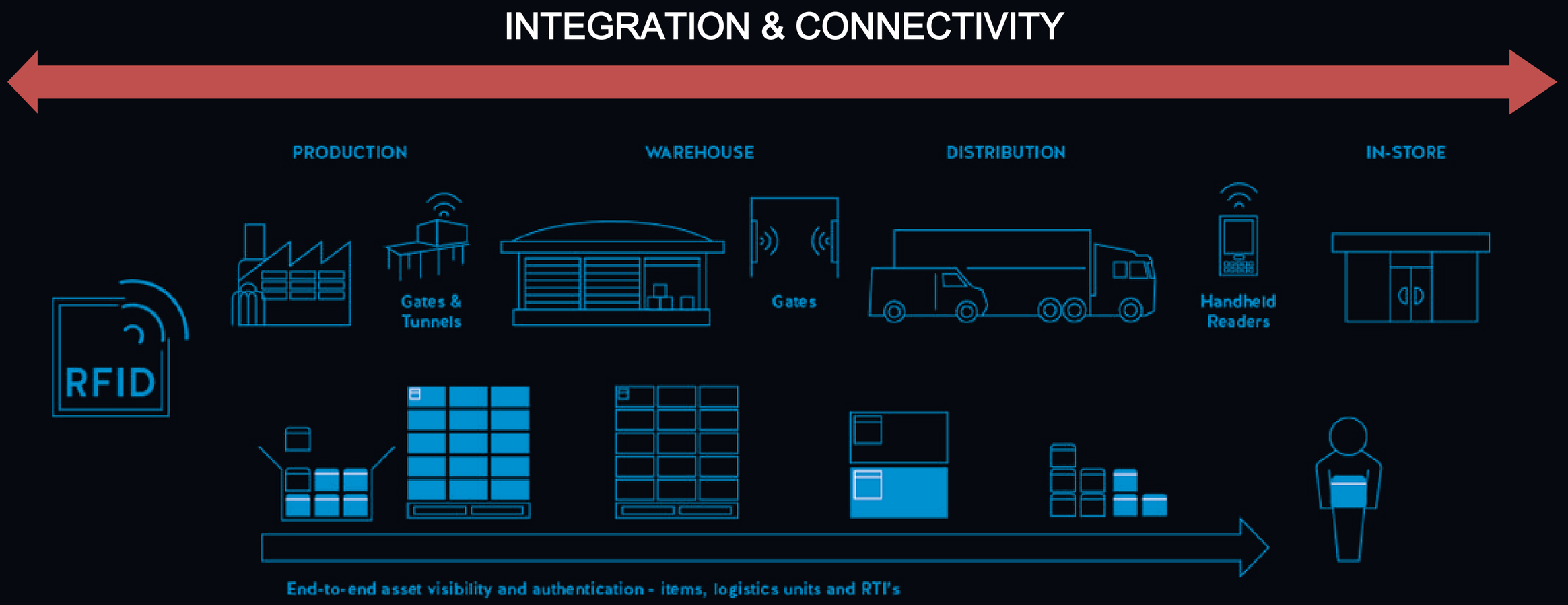
SMART
SOCIETY

Smart Logistics for Smart Societies



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“A journey of a thousand miles begins with a single step”

Lao Tzu

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THANK YOU!