

# INDUSTRY 4.0 AND IMPACT ON SUPPLY CHAIN MANAGEMENT



**INDUSTRY 4.0**

# ***CONTENT***

**Advantages**

**Disadvantages**


**Impact**



# ***ADVANTAGES***

- 1) New Technology
- 2) Speed
- 3) Increased Productivity
- 4) Efficiency
- 5) Minimum Wastage
- 6) Accuracy
- 7) Real Time Information
- 8) Automation
- 9) Better connectivity
- 10) Customer Satisfaction
- 11) Competitiveness
- 12) Better Profit

# ***DISADVANTAGES***

- 1) Adaptability
  - 2) Heavy Investment
  - 3) Retrenchment
  - 4) Training
  - 5) Slow Return on Investment
  - 6) Infrastructure
  - 7) Resources
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# ***APPLICABILITY***

## ***BIG DATA***

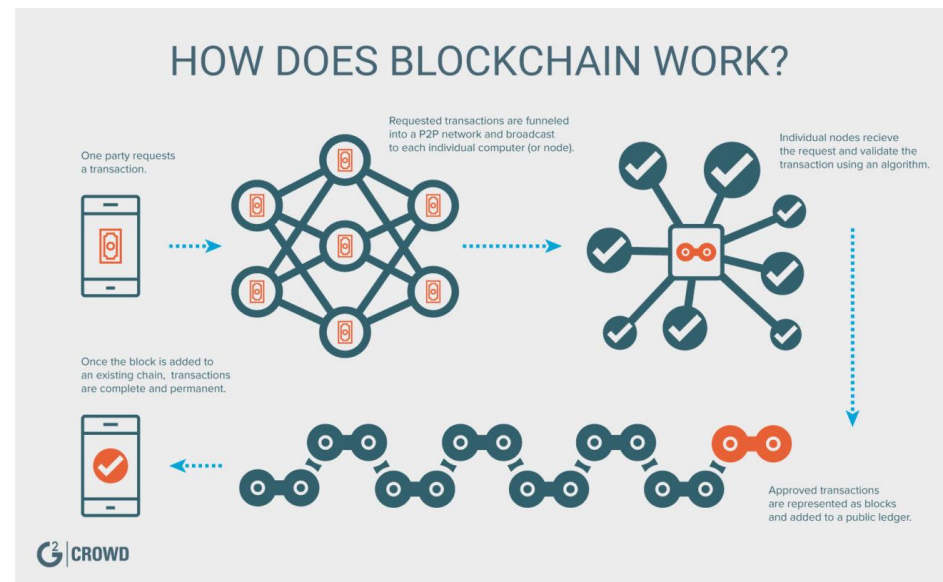
Big Data techniques are being applied in manufacturing industries. This improve customer experience and product quality, improve efficiency and help to conduct predictive maintenance.

Able to collect data from different sources to direct decision that anticipate product or equipment failure.



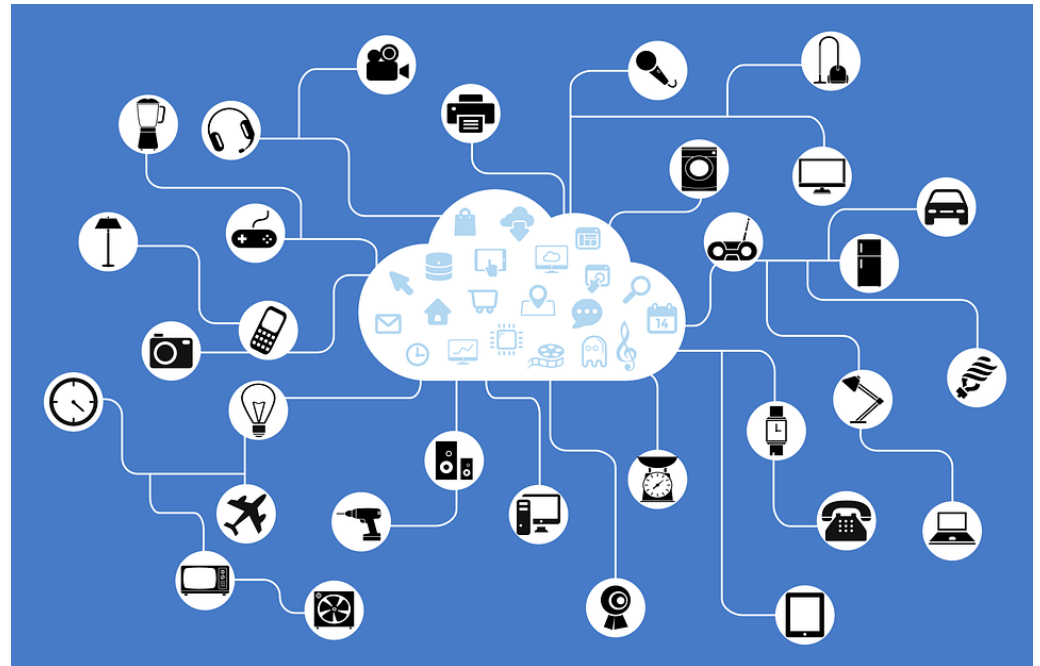
# **BLOCKCHAIN**

Sharing Information with Blockchain providers improve efficiency and easy for the right people to access critical data to improve the flow of information within an organization and among stakeholders. It is an open ledger and transparent.



# ***INTERNET OF THINGS***

Works with sensor to sensor combined with other technologies such as AI Artificial Intelligence and Big Data to envisage autonomous system in manufacturing. Real time information enables decision making.



# ***CLOUD COMPUTING***

Technologies made available to smaller companies with minimum capital investment. Companies can leverage cloud based product design, simulation, artificial intelligence and big Data solution. Improve production process and customers need.





# TECHNOLOGY

## BIG DATA

Access to Information

Connectivity with  
Stakeholders / Team

Faster Decision Making

Reduce Time ascertaining  
information



# ***TECHNOLOGY***

## ***SMART FACTORY***

Seamless connectivity

Processes

Autonomous adaptability

Robot (AMR) Autonomous Mobile Robot



# ***TECHNOLOGY***

## ***CYBER PHYSICAL SYSTEM***

Integration of Computation, networking  
and physical process

Software interpret action

Tracking



# ***TECHNOLOGY***

## ***INTERNET OF THINGS***

Mobile

Virtual

Instantaneous connect



# ***TECHNOLOGY***

## ***INTEROPERABILITY***

Connection of Cyber – physical system

Human and Smart Factories

Error - Free Transmission and Translation





# **TECHNOLOGY**

## **BLOCKCHAIN**

Improve productivity

Profitability

Procurement

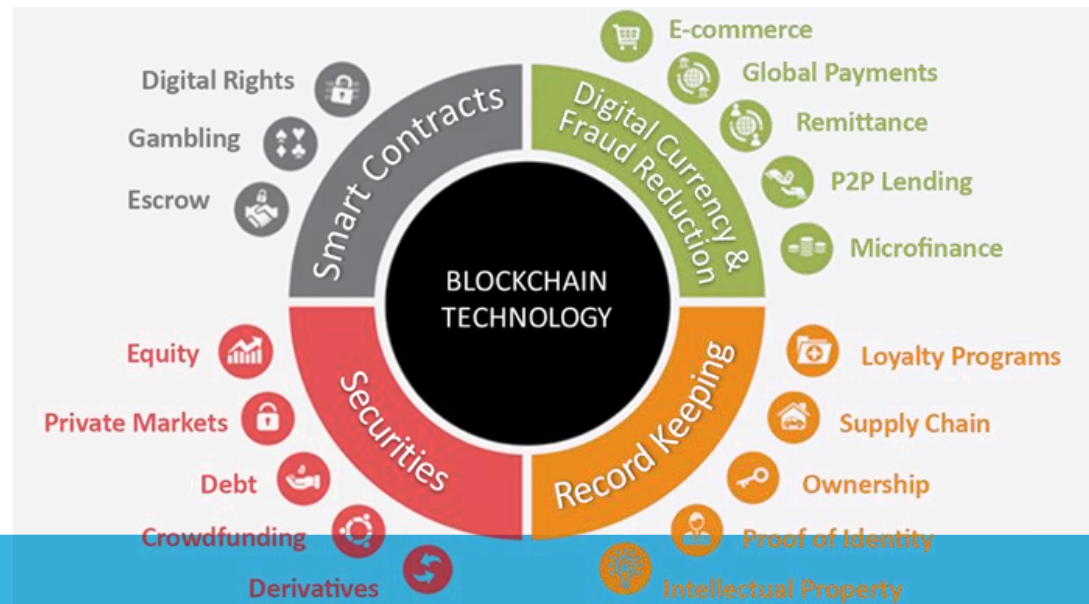
Information Sharing

Supplier Selection

Smart Contracts

Tamper – proof Contracts

Automatically Implement Terms  
of Multiple Agreement



# ***TECHNOLOGY***

Purchase Order

Shipping Notification

Inventory Management

Manufacturing

Information Access to right  
people

Traceability, Tracking  
production and  
procurement

Transparency with  
stakeholders

Improve Accountability

Reduce Risk

Consumer Awareness



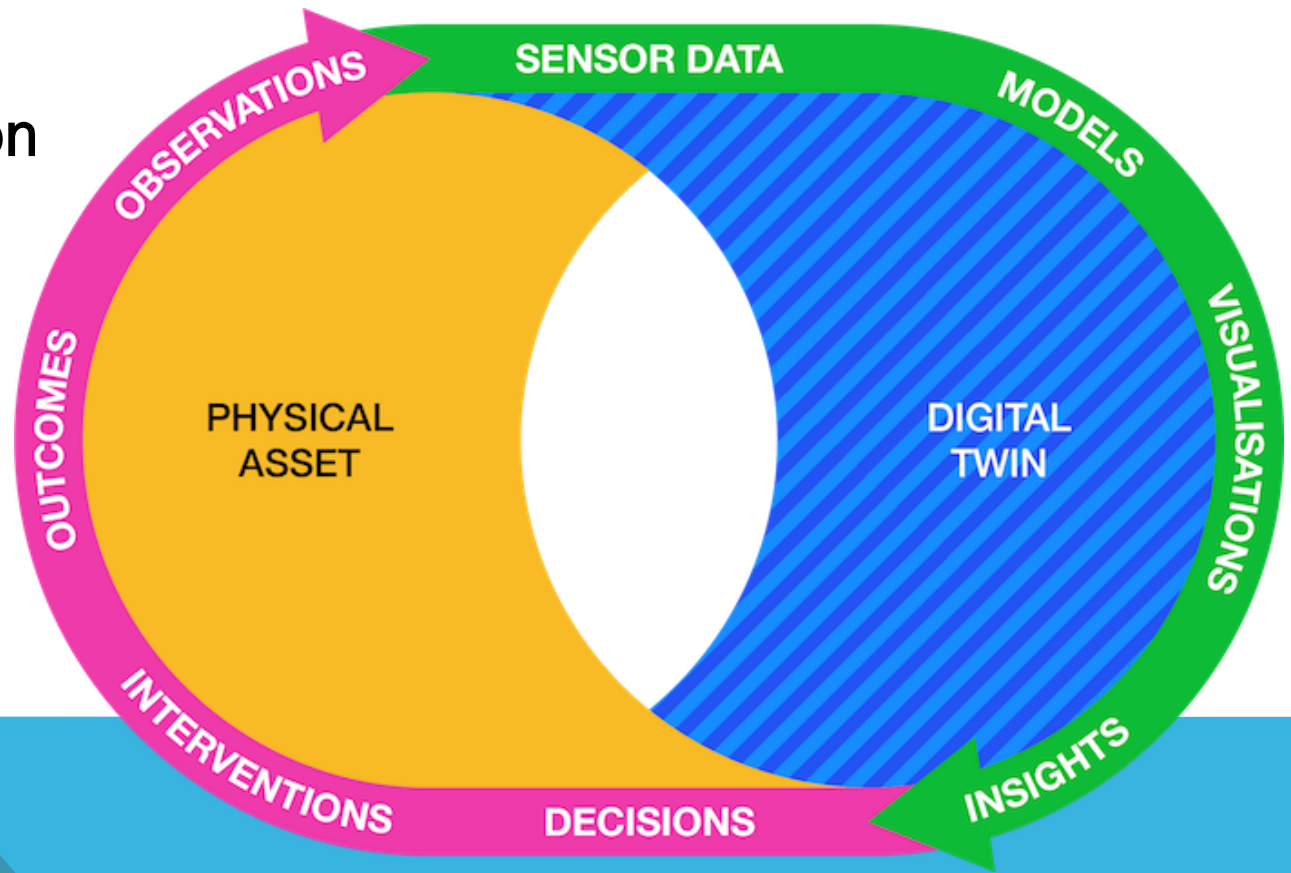
# ***TECHNOLOGY***

Decentralization

Digital Twin

Transportation

Shipping





# ***BENEFITS***

Help planning

Improve productivity

Reduce lead time

Increase competitiveness

Reduce maintenance cost

Improve Profit



# ***CHALLENGES***

High Investment

Adaptability to Technology

Retraining

Retrenchment

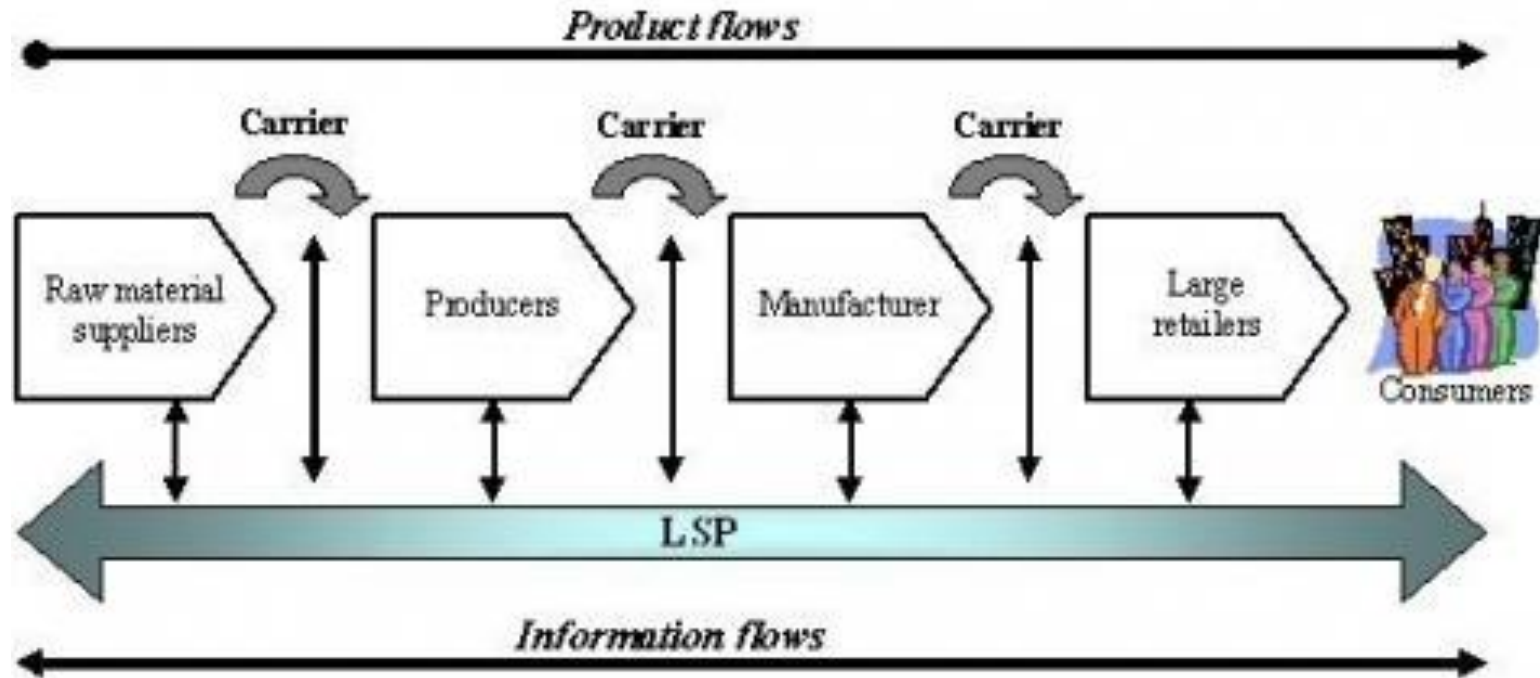
Social liability

Hiring skilled workforce

Financial burden for medium and small entities



# ***TRADITIONAL SUPPLY CHAIN***

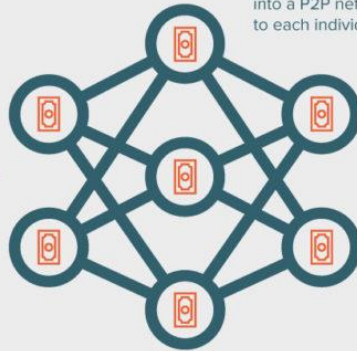


*LSP Logistic Service Providers*

# DIGITAL SUPPLY CHAIN

## HOW DOES BLOCKCHAIN WORK?

One party requests a transaction.



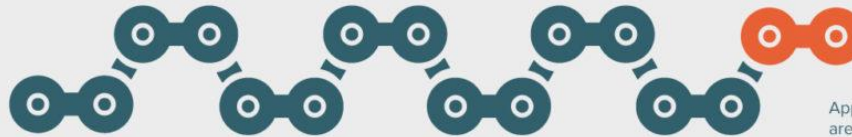
Requested transactions are funneled into a P2P network and broadcast to each individual computer (or node).



Individual nodes receive the request and validate the transaction using an algorithm.



Once the block is added to an existing chain, transactions are complete and permanent.



Approved transactions are represented as blocks and added to a public ledger.



# FUTURE DIGITAL SUPPLY CHAIN



# **20 Million Factory Jobs will be replaced by Robots by 2030**

*Source – Oxford Economics*



**Thank you**



# Q and A

