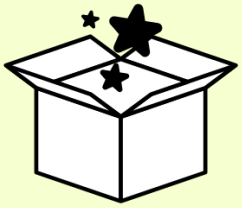
SUPPLY CHAIN

INBOUND

Fresh products from various sources are brought into the facility

STACKING

The products are sorted with RFID tag & stored in the database with RFID code and then stored in the predetermined storage locations



ORDER PROCESSING

Orders and their products are sorted location wise. Artificial Intelligence predicts the demands (Demand Forecasting) & also keeps track of the inventory

OUT-SCAN

The products are filled with FIFO method in the temperature controlled vehicles so as to maintain their freshness

DELIVERY

Ensuring fast and fresh deliveries

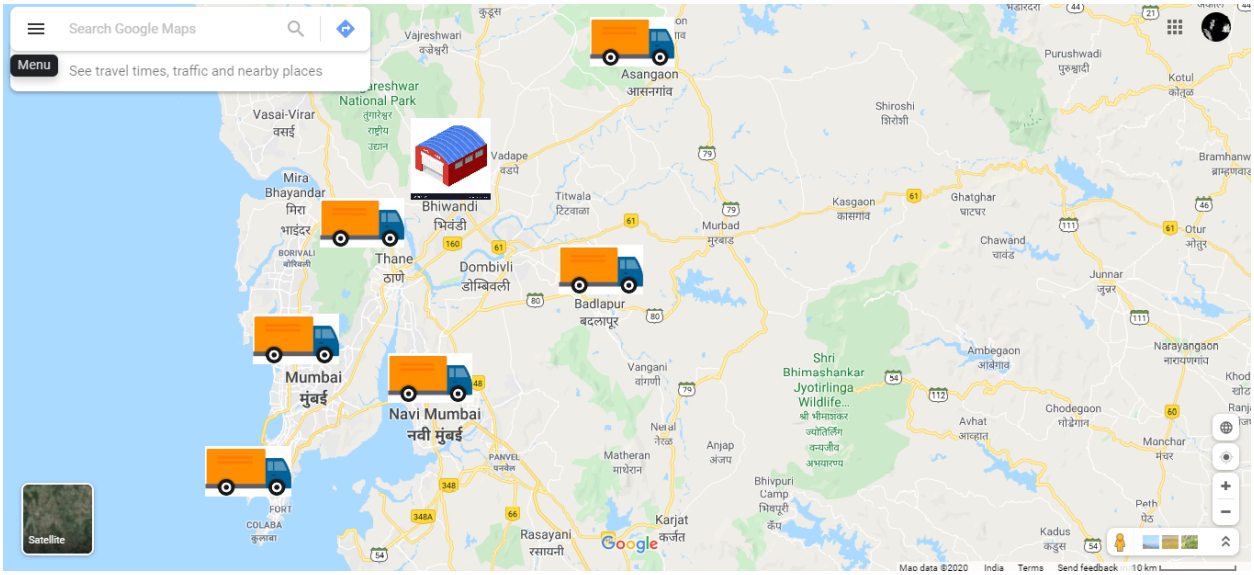
A supply chain is a network between a company and its suppliers to produce and distribute specific products, and the supply chain represents the steps it takes to get the product or service to the customer. Supply chain management is a crucial process because an optimized supply chain results in lower costs and a faster production cycle.

Optimized warehouses follow the following end to end supply chain methods

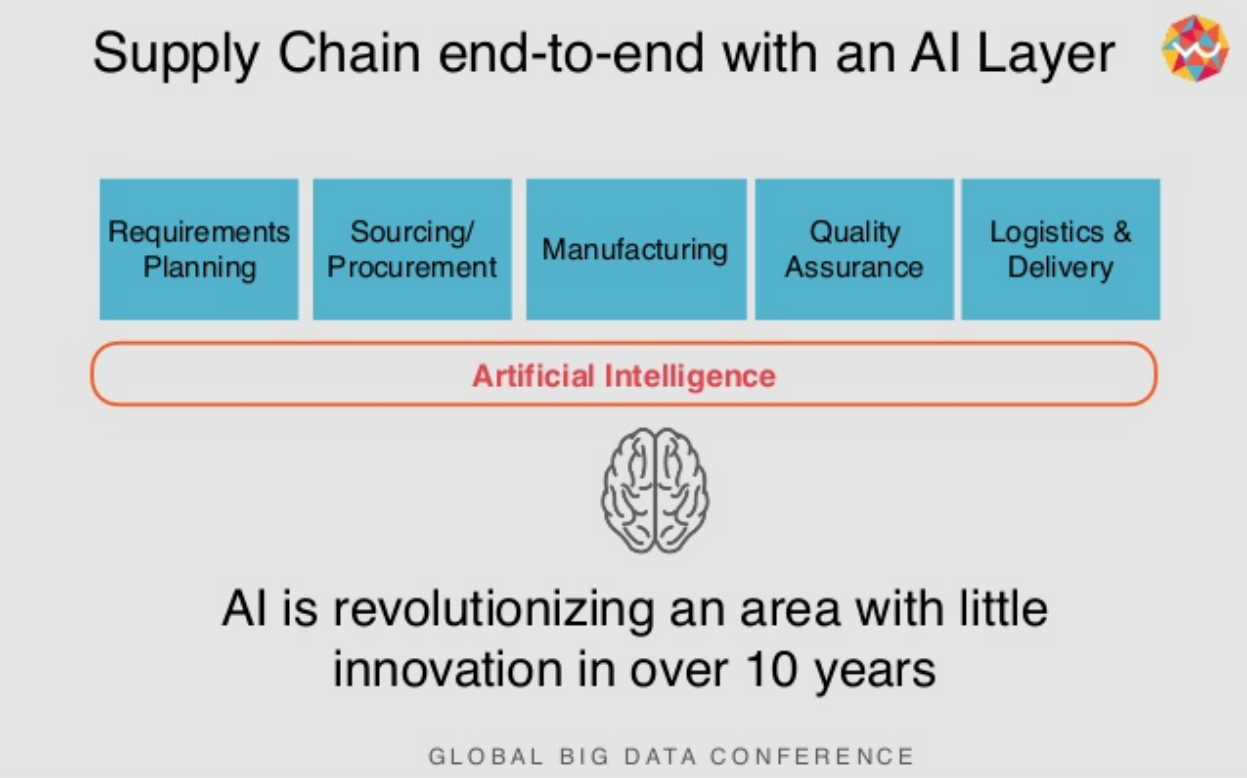
1. Warehouse inbound and in-scan
2. Stacking / Put away and Picking Process
3. Order Processing / Quality Assurance
4. Location wise batching process and out-scan
5. Dispatch process / Delivery

Optimized warehouses need an equally optimized delivery network with necessary arrangements to keep the product fresh and away from contamination

An example of a delivery network (Mumbai and suburban area distribution)



Artificial Intelligence becomes a huge boost in this area of the supply chain as it automates the activities , saving man power and time and most importantly errors



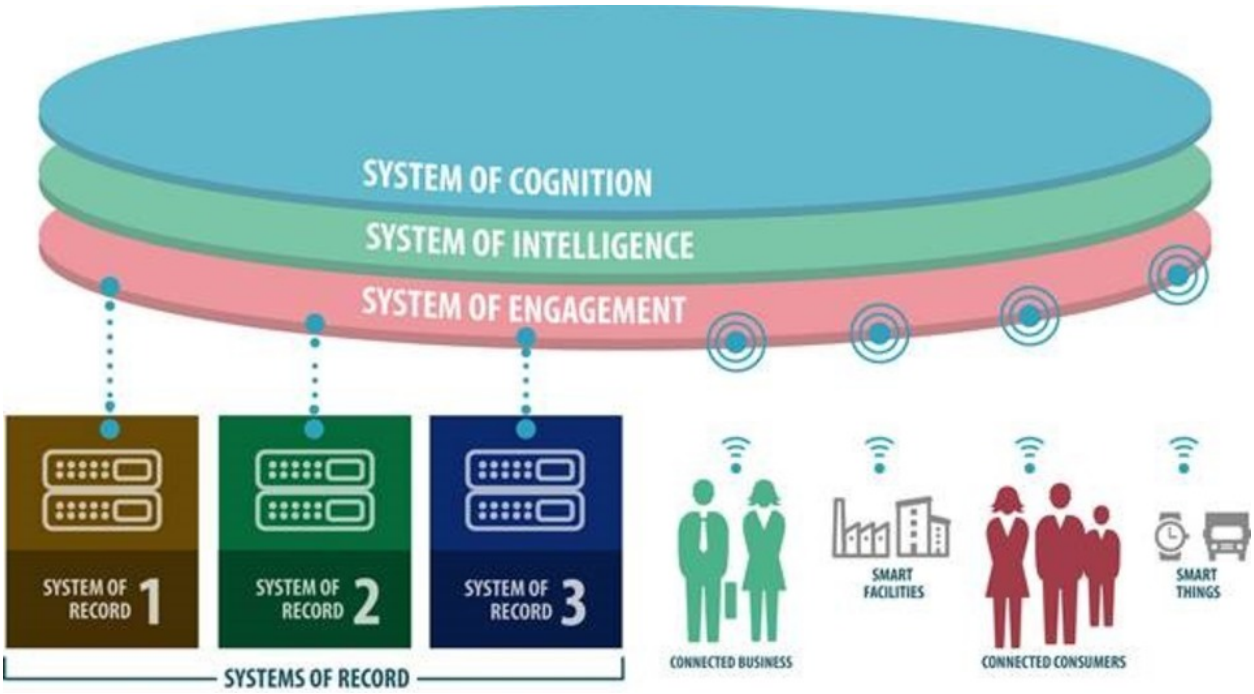
Requirements Planning :- Prior to AI , the requirement planning was done on pen and paper method where inventories were maintained by counting physically this was followed by ERP software that made it possible to calculate using a computer , which reduced errors to an extent . With AI , this process is automated , as soon as a product is sent into order processing , AI decrements the amount and keeps a track of when it should remind for replenishment s .

Sourcing / Procurement :- ERP software's are used to maintain records of supply vendors , this can be integrated with AI so the vendor gets the details of the products that are needed at the warehouse

Manufacturing :- AI will perform manufacturing, shorten design time, and reduce materials waste, improve production reuse, perform predictive maintenance

Quality Assurance :- Based on the parameters decided AI can be used to check for quality measurements and comparisons , finding outliers , trend analysis of defects and implementing standard deviation controls(1sigma,3sigma,6sigma)

AI in Logistics & Delivery :- Sorting products based on location , loading products following FIFO. GPS tracker enabled vehicles that give the customer the location of their product . Temperature controlled delivery vehicles that maintain the temperatures that the product would be fresh in.



System of Cognition :- Cognitive computing refers to systems that learn at scale, reason with purpose and interact with humans naturally. Rather than being explicitly programmed, they learn and reason from their interactions with us and from their experiences with their environment. They are made possible by advances in a number of scientific fields over the past half-century, and are different in important ways from the information systems that preceded them. Those systems have been deterministic; cognitive systems are probabilistic. They generate not just answers to numerical problems, but hypotheses, reasoned arguments and recommendations about more complex and meaningful bodies of data.

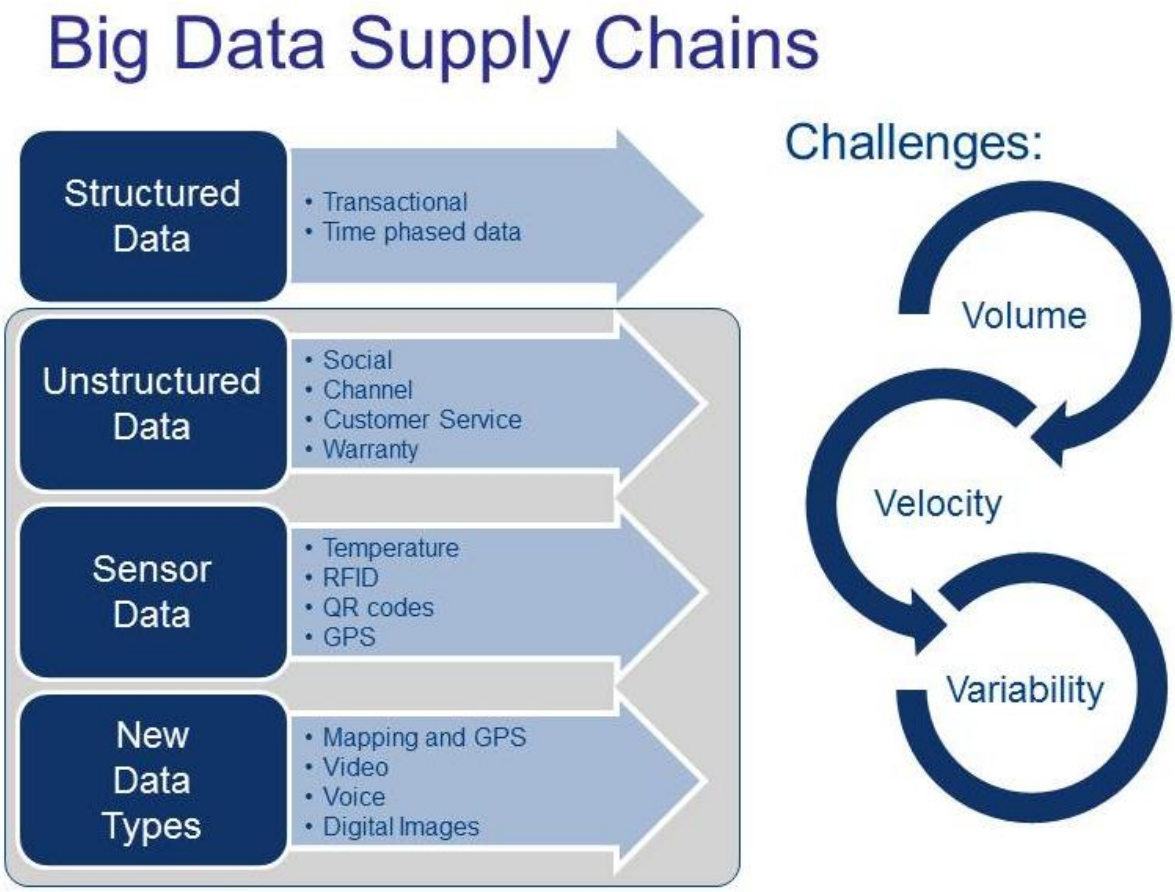
System of Intelligence :- A Systems of Intelligence is valuable because it harnesses and combines valuable information from multiple records or old ERP records .

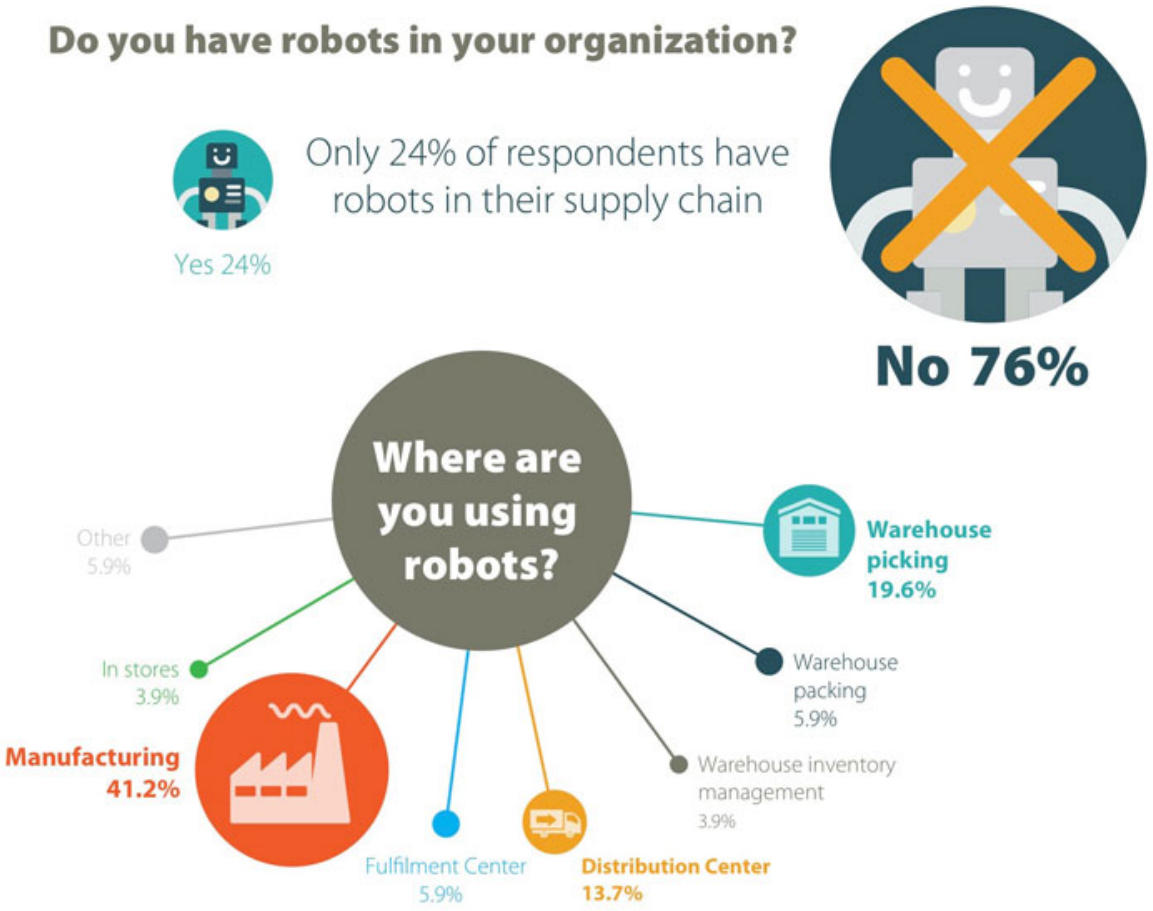
Systems of Engagement (SoE) refers to the technology adopted by an organization to help facilitate and orchestrate the customer journey via more personalized, seamless interactions across the various touchpoints. These include social media channels, email marketing platforms, mobile apps, content management systems, personalization vendors, and more.

System of Record :- A system of record (SOR) is software that serves as the backbone for a particular business process. It is an information storage and retrieval system that can help organizations get a handle on the overwhelming amounts of data

Image Scan : All products will have a scanned image in the database from which the AI will sort the product according to the conditions specified in the database like type, weight , manufacturing date , expiry date , reducing the man power and time taken to store the goods in their respective storage areas & enable FIFO in terms of storage and retrieval

RFID Tags : Radio Frequency Identification uses radio frequency waves to transfer data wireless and without contact and store the details in WMS software .



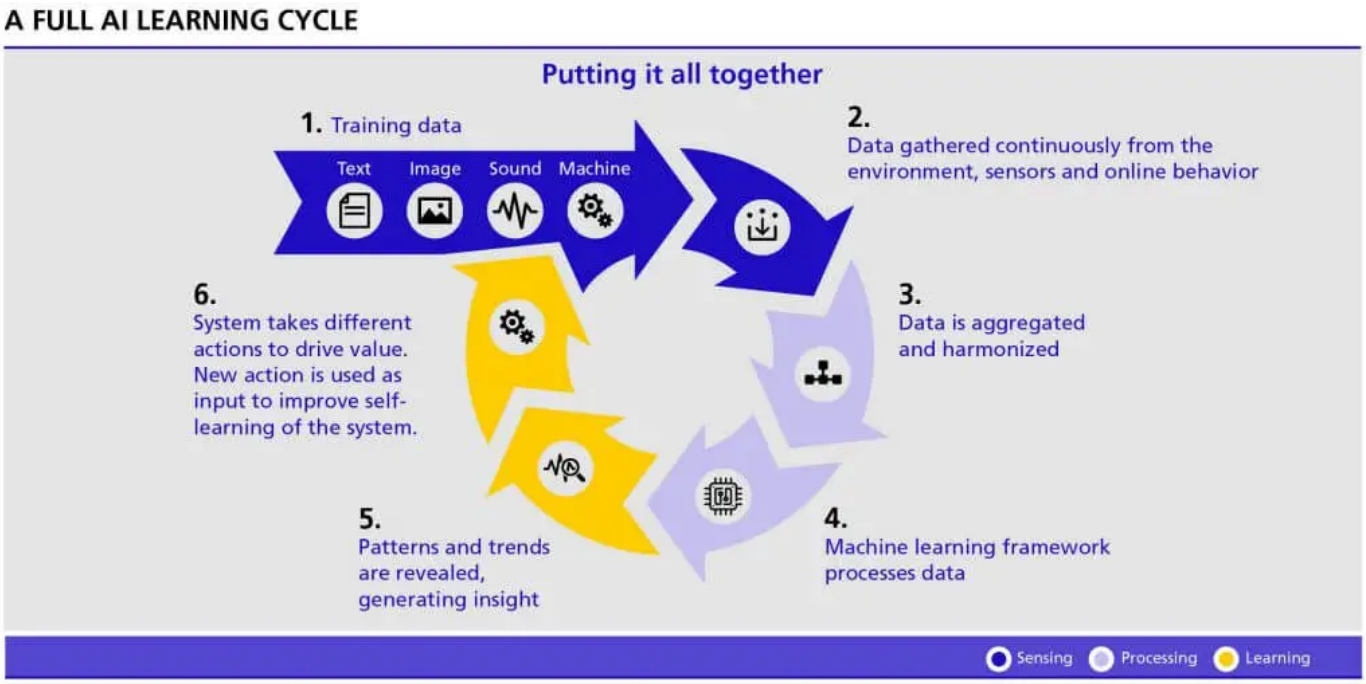


Supply chains are heavily reliant on proper warehouse and inventory-based management.

Regardless of demand forecasting, supply flaws (overstocking or under stocking) can be a disaster for just about any consumer-based company/retailer.

Machine Learning provides an endless loop of forecasting, which bears a constantly self-improving output.

The AI learning cycle



Trend analysis for products which can be facilitated using AI