**AGV Market Research**

* What is AGV?
* Use cases of AGV
  + Already in market right now
  + Use cases that can be created and are not in the market right now
  + Use of AGV technologies in other types of robots, industrial sectors or completely different type of applications
* Rate of growth of different sectors of AGV
* Companies working in the sector of AGV
  + Valuation or market capital of these companies
  + Use cases that these companies target
  + How these companies generate revenue
  + Future plans of these companies

**Allied market research paper notes**

* Growth of AGV market size from 5.21 billion dollars in 2019 to 13.52 billion dollars in 2027.
* CAGR for 16.6% in this time period.
* Asia-Pacific accounted for the highest market share in 2019.
* The market is anticipated to exhibit remarkable growth rate in the future, owing to increase in demand for contact less and effective logistics infrastructure.
* Key players profiled in the Automated guided vehicle market report include BALYO, Daifuku Co., Ltd., E&K Automation GmbH, inVia Robotics, Inc., JBT, KUKA AG, Oceaneering International, Inc., Seegrid Corporation, SSI Schaefer, Toyota Material Handling, and others.
* Flipkart uses AI powered bots.
* 350 bots assist humans to process almost 4,500 shipments per hour.
* Use of AGVs have doubled the throughput and storage capacity.
* Profitability increases as labour cost is reduced, storage capacity is doubled and throughput increased.
* High initial investment and maintenance costs is anticipated to hinder growth of the automated guided vehicle market. Especially for small organisations.
* Incorporation of industry 4.0
  + Industry 4.0 can be defined as the new phase in the industrial revolution that is highly focused on automation, interconnectivity, real time data, and machine learning. Industry 4.0 is also referred to as smart manufacturing and operations with smart digital technology to create a better connected ecosystem for companies focused on manufacturing and supply chain management.
  + The overall adoption of industry 4.0 by companies is significantly low and holds a potential opportunity for the AGV market players.

**Technology add ons for AIV in different sectors**

* **Hotel application**
  + Environment is more dynamic and disordered. Implementing safety measures for AIV and for the people.
  + IOT is used for AIV to communicate with all the doors and elevators.
  + A system for the staff to communicate with all the AIVs.
  + Simple and friendly user interface for customers to interact with the AIVs.
* **Parking application**
  + Integrated with car hangers
  + System should know the approximate pickup time of the car, so the car can be parked accordingly.
  + AIVs should be extra careful about different dimensions of different cars that they are lifting.
  + Car retrieval time should not be very long.
* **Warehousing**
  + Speed
  + All AIVs should work in sync
  + Charging challenges due to the large number of AIVs.
  + There should be a way, to keep on updating the information about the list and location of items in the warehouse, to the AIVs.