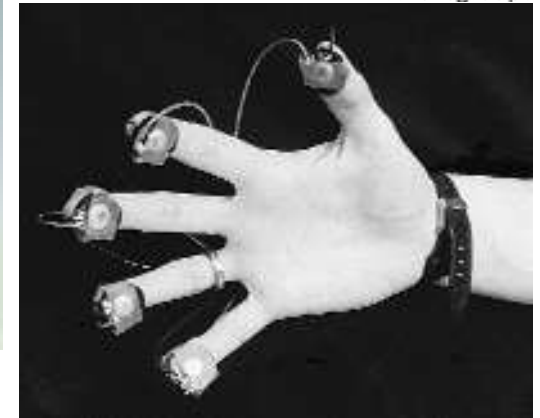
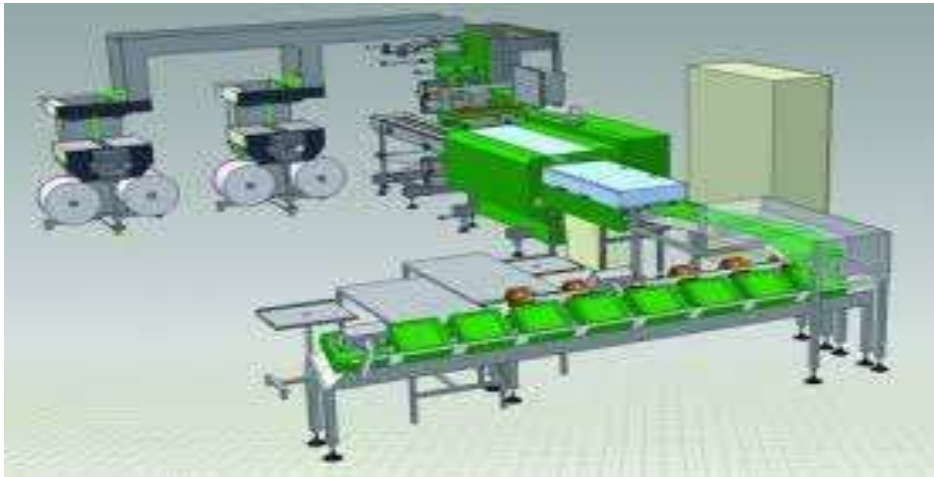




# ELECTRICAL MACHINES IN ROBOTICS AND AUTOMATION

## UNIT V –ROBOTICS IN INDUSTRY 4.0

Automated mobile robots(AMRs)- Zero down Time Solution (ZDT)- Hybrid Robots- Automotive and Beyond- Technology in Industry 4.0



# INDUSTRY 4.0







# INDUSTRY 4.0- REVOLUTION



## The Four Industrial Revolutions



### Industry 1.0

Mechanization and the introduction of steam and water power



### Industry 2.0

Mass production assembly lines using electrical power



### Industry 3.0

Automated production, computers, IT-systems and robotics



### Industry 4.0

The Smart Factory. Autonomous systems, IoT, machine learning