

# What is Flexible Manufacturing System?

- A flexible manufacturing system (FMS) is a form of flexible automation in which several machine tools are linked together by a material-handling system, and all aspects of the system are controlled by a central computer.

What does flexible mean?

1. Can identify and operate on different part/product styles
2. Quick changeover of process/operating instructions
3. Quick changeover of physical setup

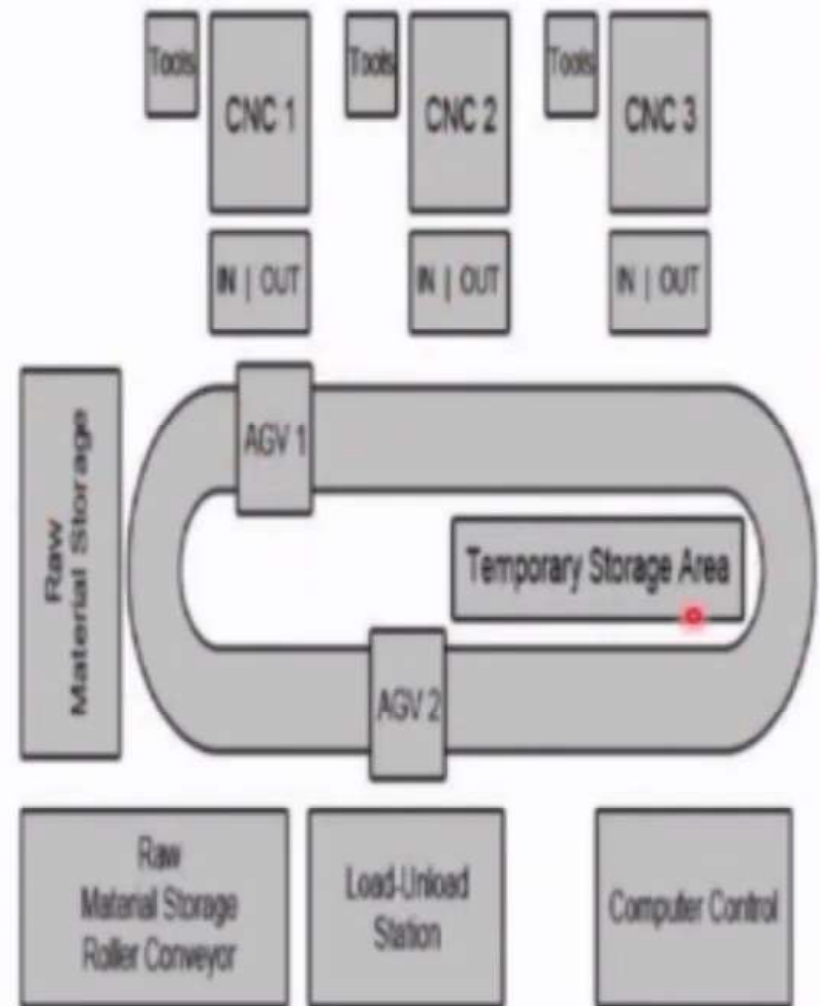
FMS operations:

1. Processing operations, or
2. Assembly operations



# What is Flexible Manufacturing System?

A flexible manufacturing system is an automated Machine cell, consisting of a group of processing work stations, interconnected with automated material handling and storage system.



## What are the Features of FMS?

- An FMS is distinguished from an automated production line by its ability to process more than one product style simultaneously.
- At any moment, each machine in the system may be processing a different part type.
- FMS can let us make changes in production schedule in order to meet the demands on different products.
- New product styles can be introduced into production with an FMS, so long as they are to be used on the products that the system can process.
- This kind of system is, therefore, ideal when there are likely to be changes in demands.

## FMS characteristics

- A manufacturing cell used to implement group technology (GT)
- Independent machines performing multiple operations and having automated tool interchange capabilities
- Automated material-handling between stations (move parts between machines and fixturing stations)
- Hierarchical computer control architectures
- Often include CMM, inspection and part washing devices



# Components of an FMS?

1. Robotics
2. Numerical control machine tools.
3. Work holding and tooling considerations.
4. Material-Handling Equipment/ Transport
5. Manual or Automated assembly cells.
6. Inspection equipment.
7. Computers

