SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF MECHANICAL ENGINEERING

19MEE403 - Industrial Digitalization

IV YEAR / VII SEM

UNIT – 1 **INTRODUCTION TO DIGITAL MANUFACTURING**

UNIT 1 CONTENTS

1. Definition of digital manufacturing
2**. Operation Mode and Architecture of Digital Manufacturing System-**
3. Design process and role of CAD
4. Types and applications of design models-Component modeling
5. Machine and tool selection
6. Defining process and parameters
7.Tool path generation- Simulation- Post processing &Thermo jet printer-Sander's model market
8.3-D printer-Genisys XS printer-JP system 5
9.Object Quadra & system-Rapid proto typing.

PURPOSE OF UNIT 1

Objectives:

To understand the applications of DM

Outcomes:

Upon successful completion, the student should be able to understand the applications of DM

Pre-requisites:

To have a basic knowledge of Traditional Manufacturing Processes

DIGITAL MANUFACTURING

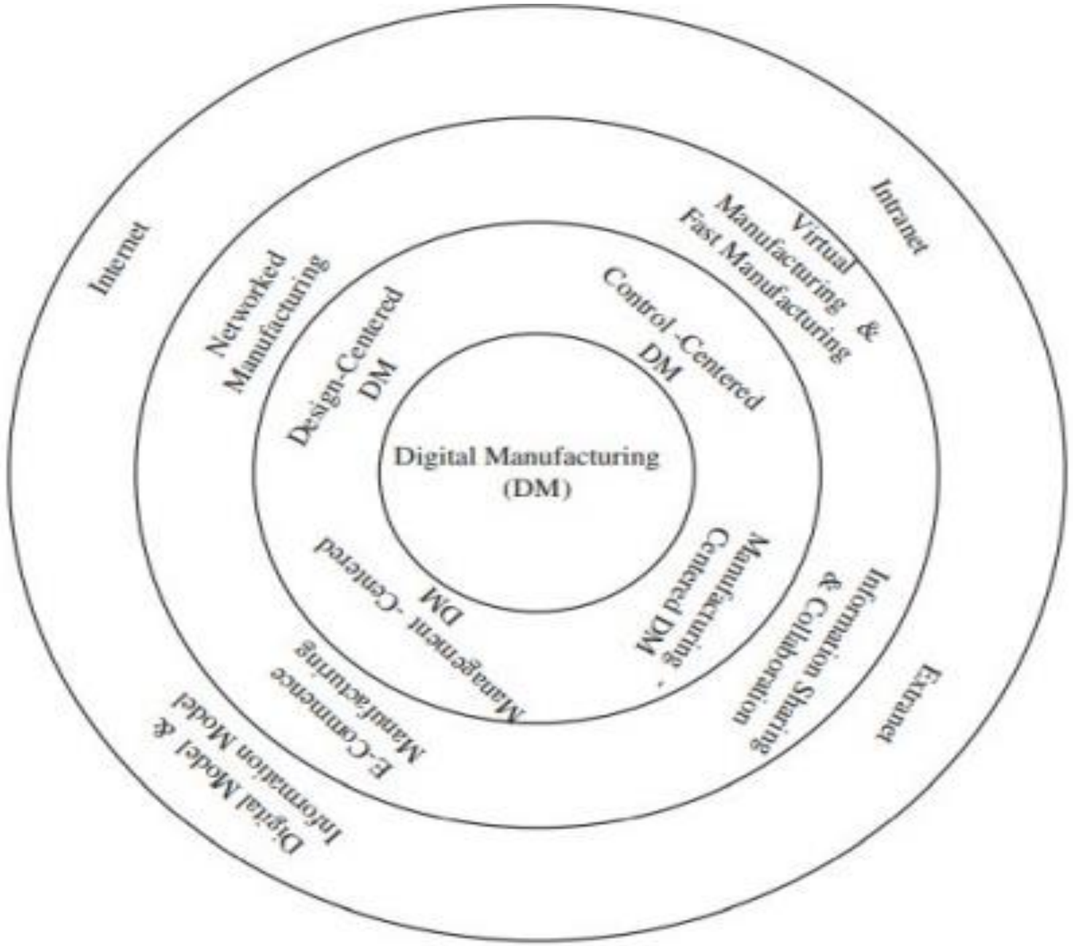


Fig1.Illustration of DM concept

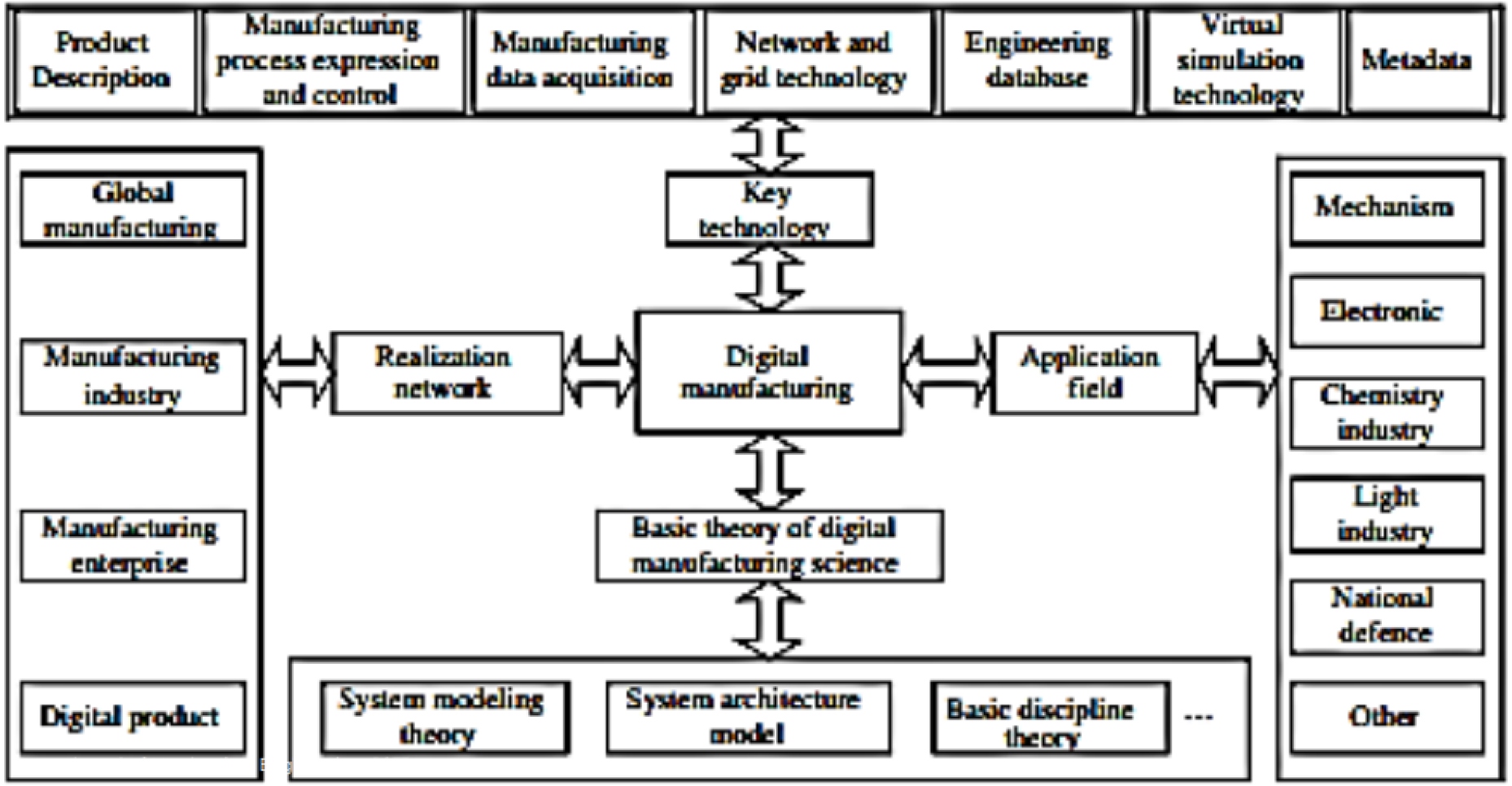
CONCEPT OF DIGITAL MANUFACTURING (DM)

The concept of DM is the result of the merging process of digital technology, network information technology, manufacturing technology and also the unavoidable result of the digitizing process in manufacturing enterprises, manufacturing systems and production systems.

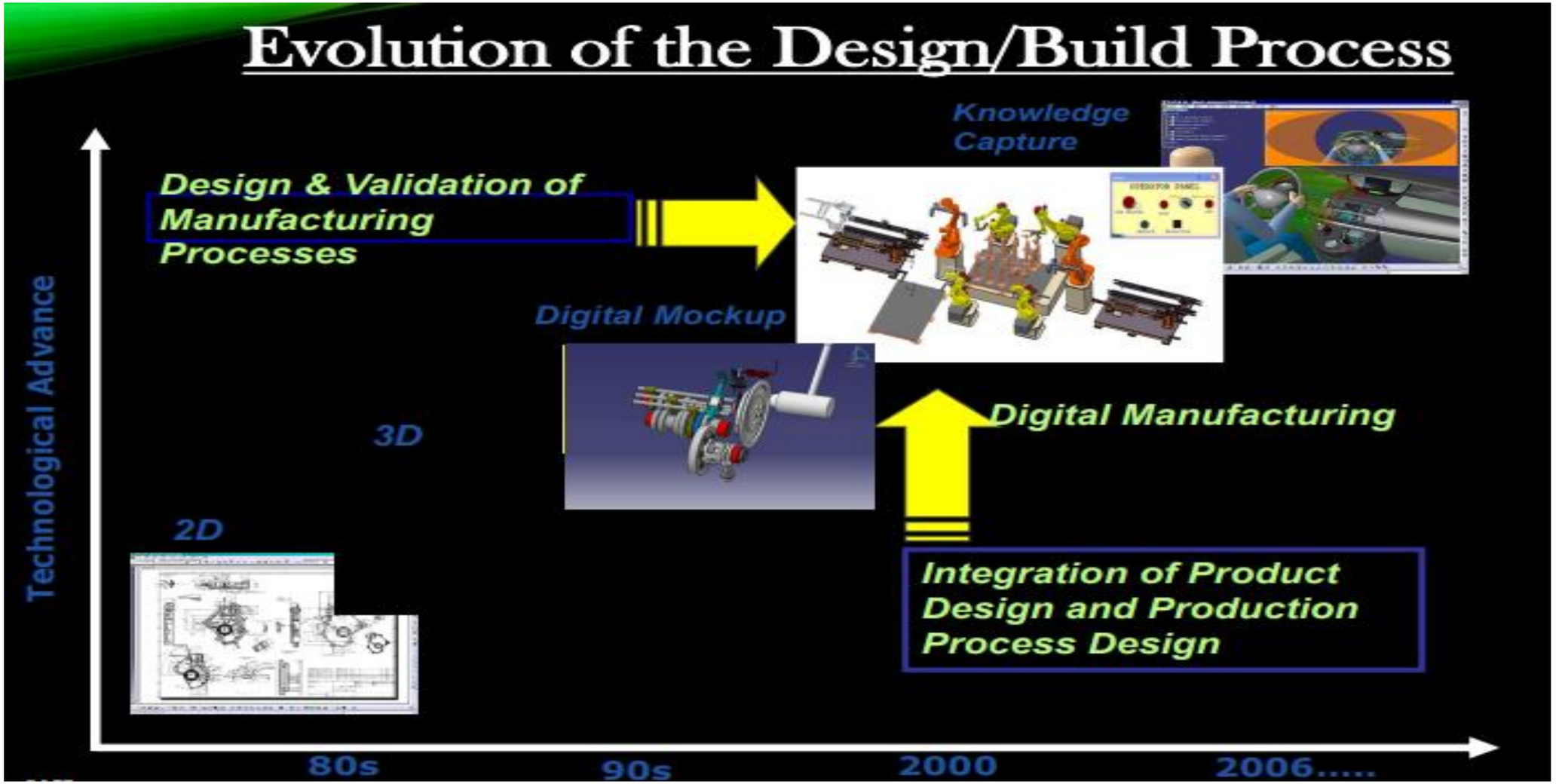
 In manufacturing devices, for example, the control variables are digital signals. In manufacturing enterprises, all sorts of information (graphic, data, knowledge, and technique) are in digital form, transmitting in internal enterprises through digital networks.

DM contains the Control-Centered DM, DesignCentered DM, Management-Centered DM and Manufacturing-Centered DM.

ARCHITECTURE OF DIGITAL MANUFACTURING



DESIGN PROCESS OF DIGITAL MANUFACTURING



Thank You