SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

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DEPARTMENT OF MECHANICAL ENGINEERING

19MEE403 - Industrial Digitalization

IV YEAR / VII SEM

UNIT – 1 **INTRODUCTION TO DIGITAL MANUFACTURING**

THERMO JET PRINTER- SANDER'S MODEL MARKET

The **ThermoJet Printer** and **Sanders Model Market** are associated with early technologies in rapid prototyping and 3D printing, particularly in the creation of models for industries like jewelry, dental, and industrial design.

ThermoJet Printer

The **ThermoJet Printer** was developed by 3D Systems, one of the pioneers in 3D printing technology. It was introduced in the late 1990s and was among the first commercially available 3D printers to use a printing process that involved the deposition of wax materials to create models.

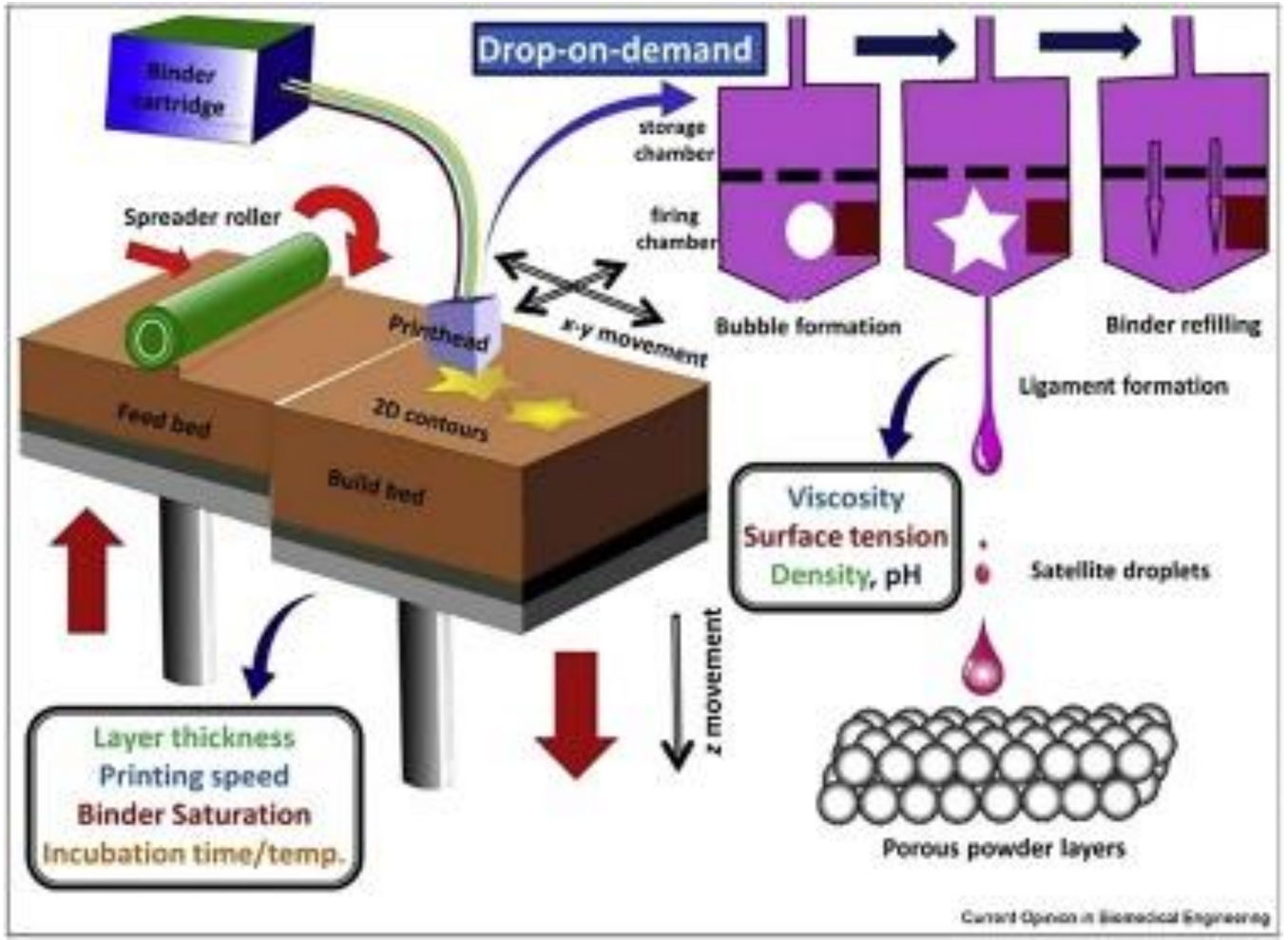
Key Features:
Material: The ThermoJet Printer used a proprietary wax-like material, which was ideal for creating detailed and smooth models, especially for casting applications.

Process: It utilized a jetting process, where the material was heated and then jetted in thin layers to build up the model. After each layer was deposited, it would solidify, and the next layer would be applied on top.

Resolution: The printer was known for its relatively high resolution, making it suitable for creating detailed models, such as jewelry patterns and intricate designs.

Applications: The primary application was in industries that required precise models for investment casting, like jewelry making and dental prosthetics. It was also used in other fields requiring high-detail prototypes.

THERMO JET PRINTER



SANDER'S MODEL MARKET

Sanders Model Market (Sander's Prototype)

The **Sanders Model Market** refers to a line of 3D printers developed by Sanders Prototype, Inc., later known as Solidscape, which was a significant player in the development of high-precision 3D printers, particularly for the jewelry industry.

Key Features:

Material: Sanders machines also used a wax-based material, similar to the ThermoJet, ideal for creating detailed models suitable for casting.

Printing Technology: Sanders printers used a similar layer-by-layer process, but with a focus on very high precision and fine detail, making them especially popular in the jewelry industry.

Support Structures: A unique feature of Sanders printers was the use of a dissolvable support material that allowed for more complex geometries without damaging the model during support removal.

Resolution and Accuracy: Sanders models were known for their exceptional resolution and accuracy, making them a preferred choice for applications requiring intricate detailing.

Applications: Primarily used in the jewelry industry for producing master patterns for investment casting, as well as in dental labs and other fields requiring precise, small-scale models

THERMO JET PRINTER- SANDER'S MODEL MARKET

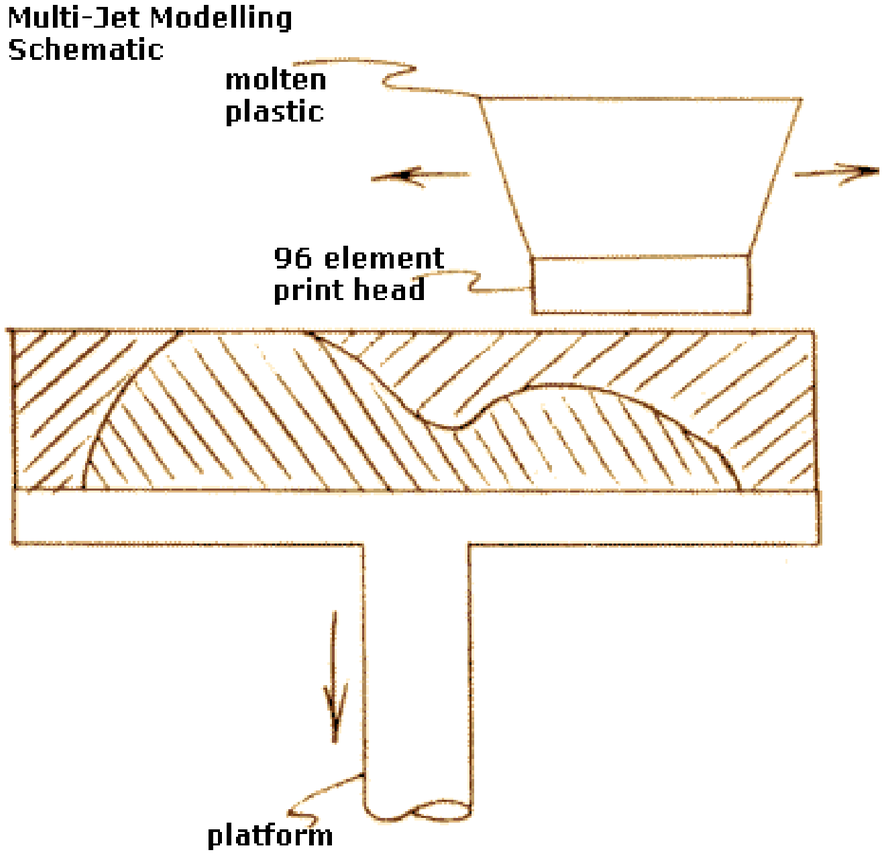
Comparison and Market Impact

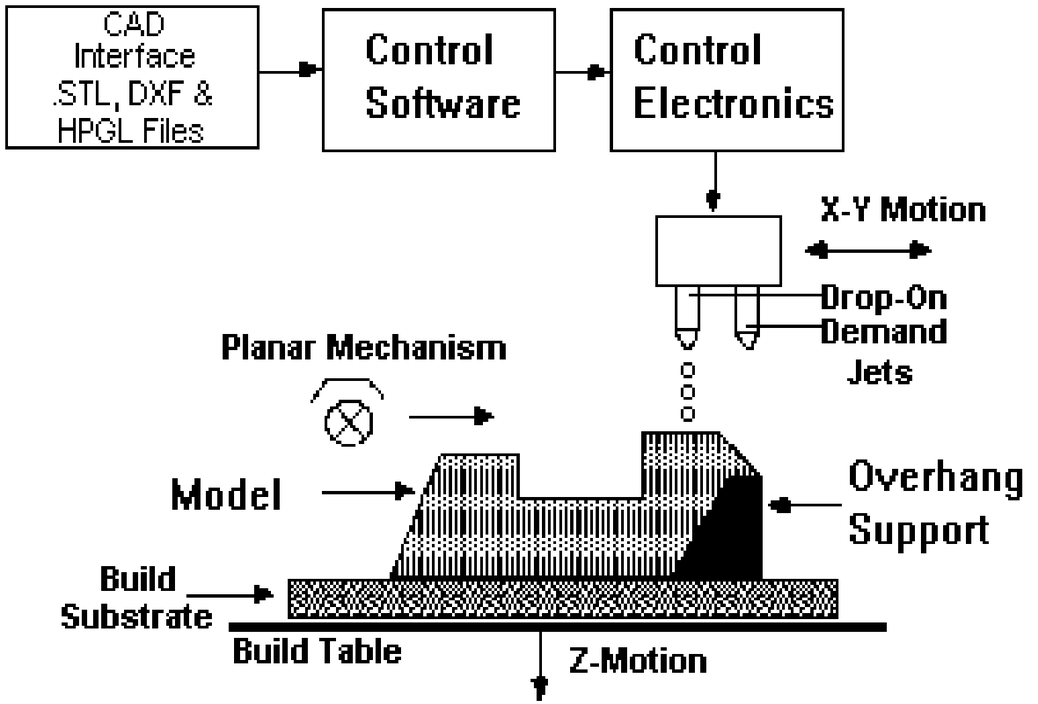
Target Market: Both the ThermoJet and Sanders printers were targeted at professionals in industries like jewelry, dental, and prototyping. However, Sanders printers were often preferred for applications where extremely fine details and high accuracy were required.

Technology: While both used a similar wax-based material extrusion method, the Sanders printers typically offered higher resolution and more detailed output, which made them highly regarded in the jewelry and precision casting markets.

Legacy: These printers were early examples of additive manufacturing technology being applied to specific niche markets. They helped pave the way for the development of more advanced 3D printing technologies and influenced the evolution of 3D printing in high-precision industries.

SANDER'S MODEL MARKET





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