

The lesson 3

Manufacturing Processes

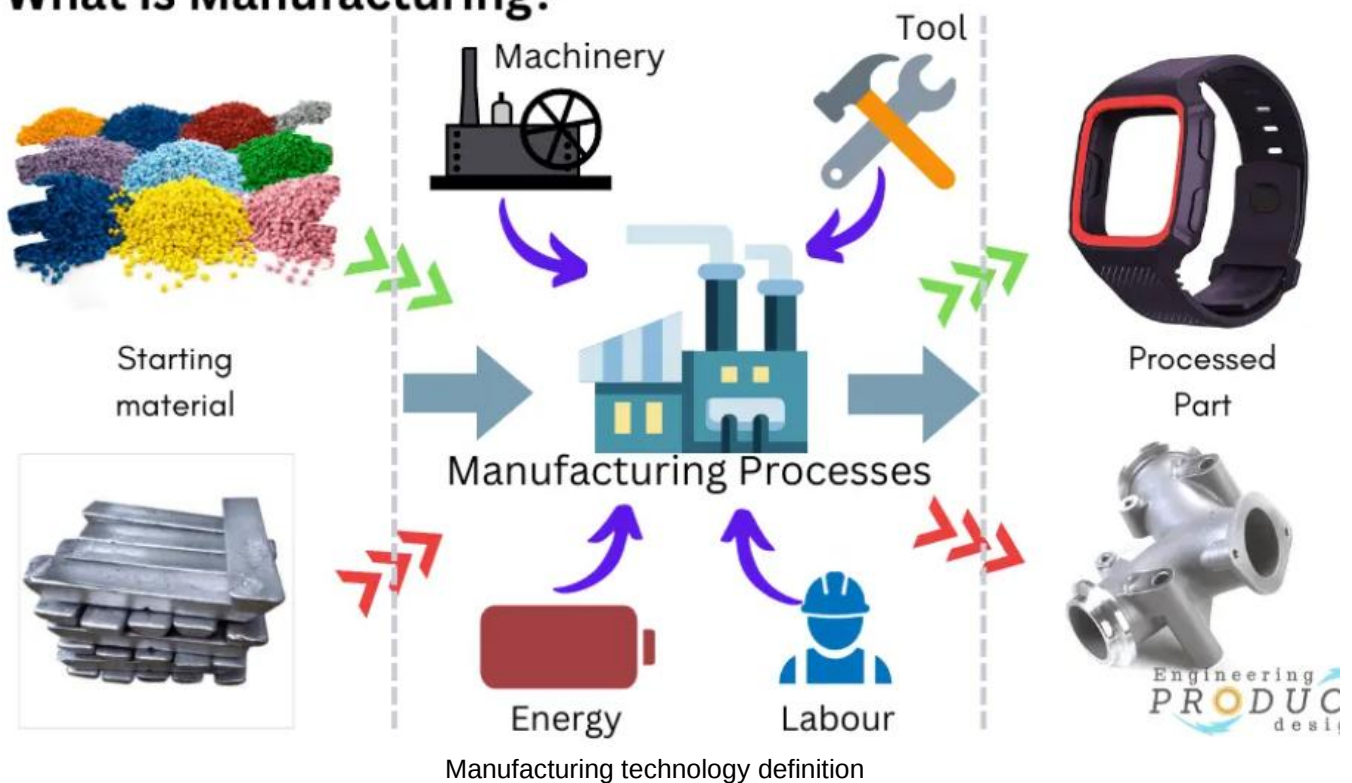
Introduction

Manufacturing is the production of goods from raw materials using energy, labour, machinery, tools, and manufacturing processes. Manufacturing uses manufacturing processes to change the geometry, characteristics, and appearance to create products.

1.2. What is Manufacturing?

Manufacturing is a large-scale production of goods using energy, manual labour, machinery, tools, and manufacturing processes to convert raw materials, parts, and components into finished items by changing geometry, properties, and appearance.

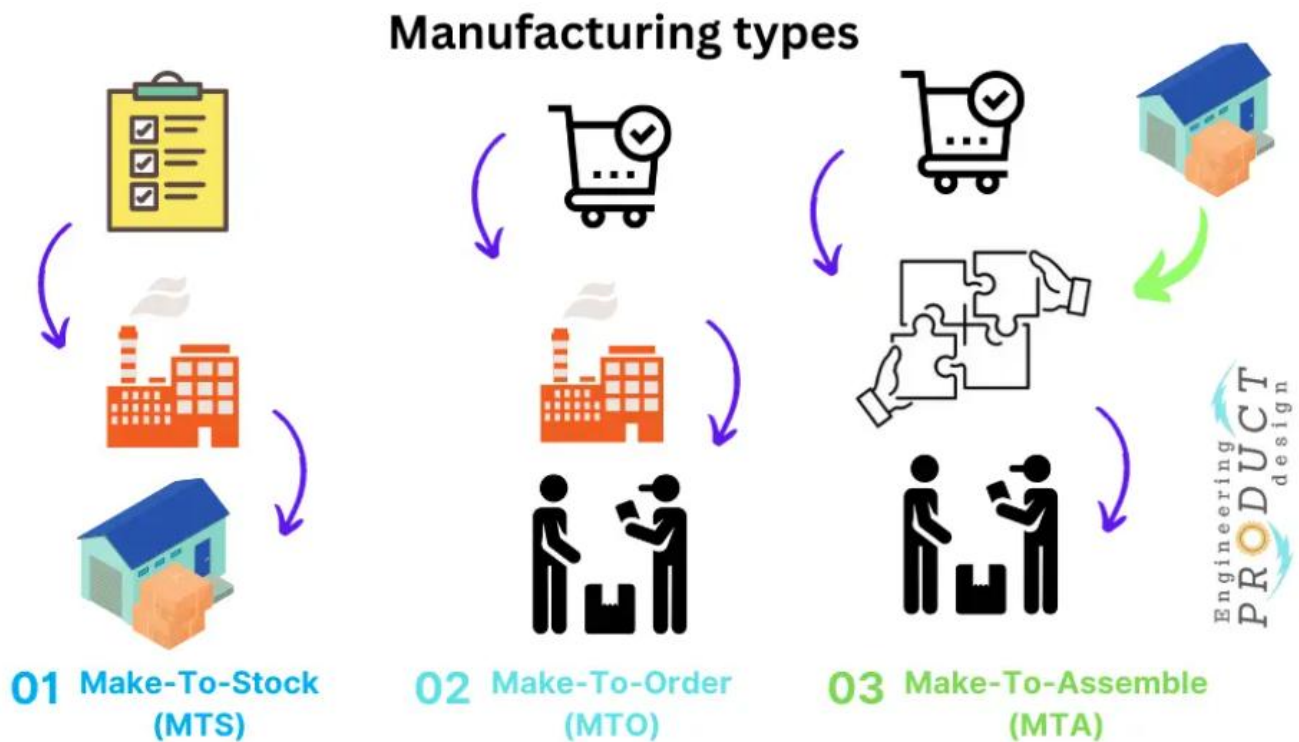
What is Manufacturing?



There are three main manufacturing types in how companies produce products. They are Make-to-Stock (MTS), Make-to-Order (MTO), and Make-to-Assemble (MTA).

1.2.1. Make-to-stock (MTS)

Is a traditional strategy that businesses use to match inventory to expected consumer demand. For example, a company would estimate consumer demand for the product and produce to stock them to meet the estimated demand.



MTS, MTO and MTA

1.2.2. Make-To-Order (MTO)

Make-to-order, sometimes called made-to-order, is a manufacturing strategy that generally begins only after the consumer purchases the product. MTO benefits include customer customisation, reduced stock obsolescence, reduced finished goods inventory, and reduced overall waste.

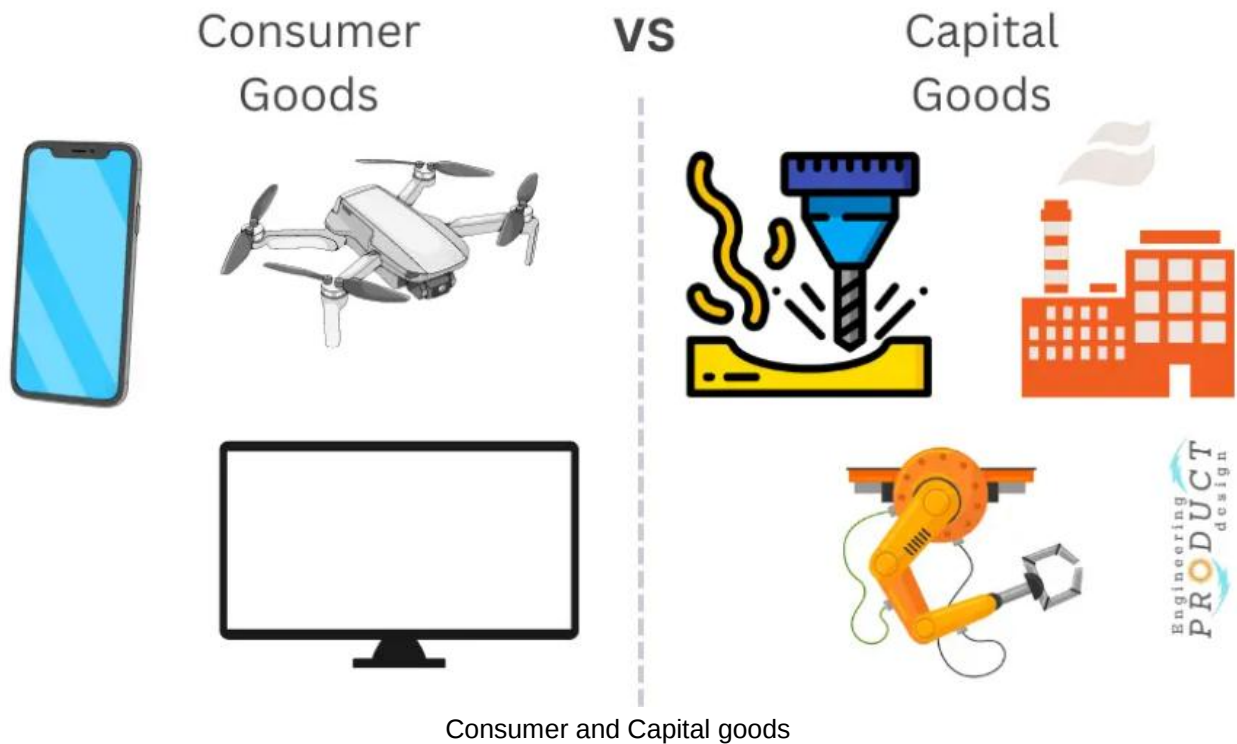
1.2.3. Make-To-Assemble (MTA)

Make-to-assemble, also called assemble-to-order, is a business strategy in which products are quickly produced from stocked parts only when an order is confirmed. MTA is a hybrid of make-to-order and make-to-stock methods.

1. Manufactured product types

Products fall into Consumer and Capital goods. As the name suggests, consumer goods are products manufactured to sell directly to the customer, such as Smartphones, TVs, Drones and Laptops.

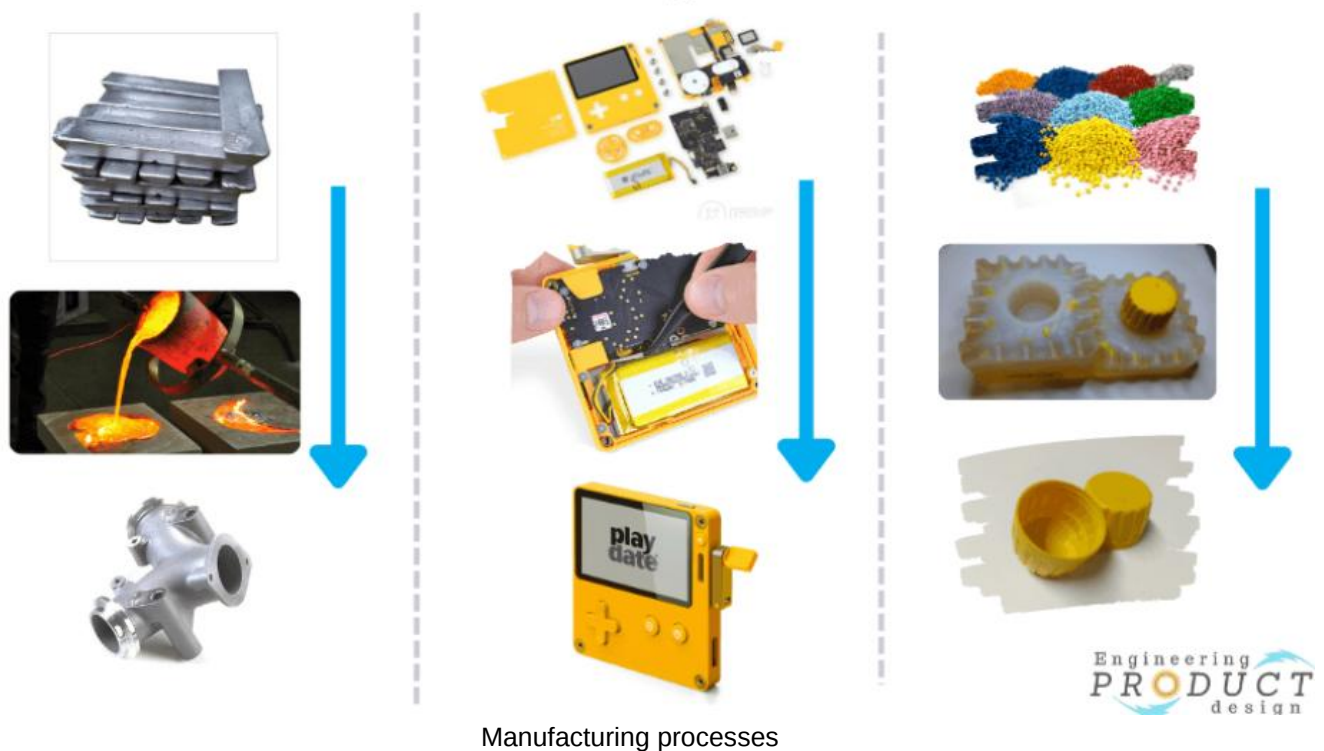
Capital goods are items companies and businesses purchase to make products for consumers or other capital goods such as CNC machines, Injection moulding machines, and Factory equipment.



2. Manufacturing Processes

Manufacturing processes are used in large-scale manufacturing to create value-added engineering products and components using physical and chemical processes to change a starting material's geometry, characteristics, and appearance.

Manufacturing Processes



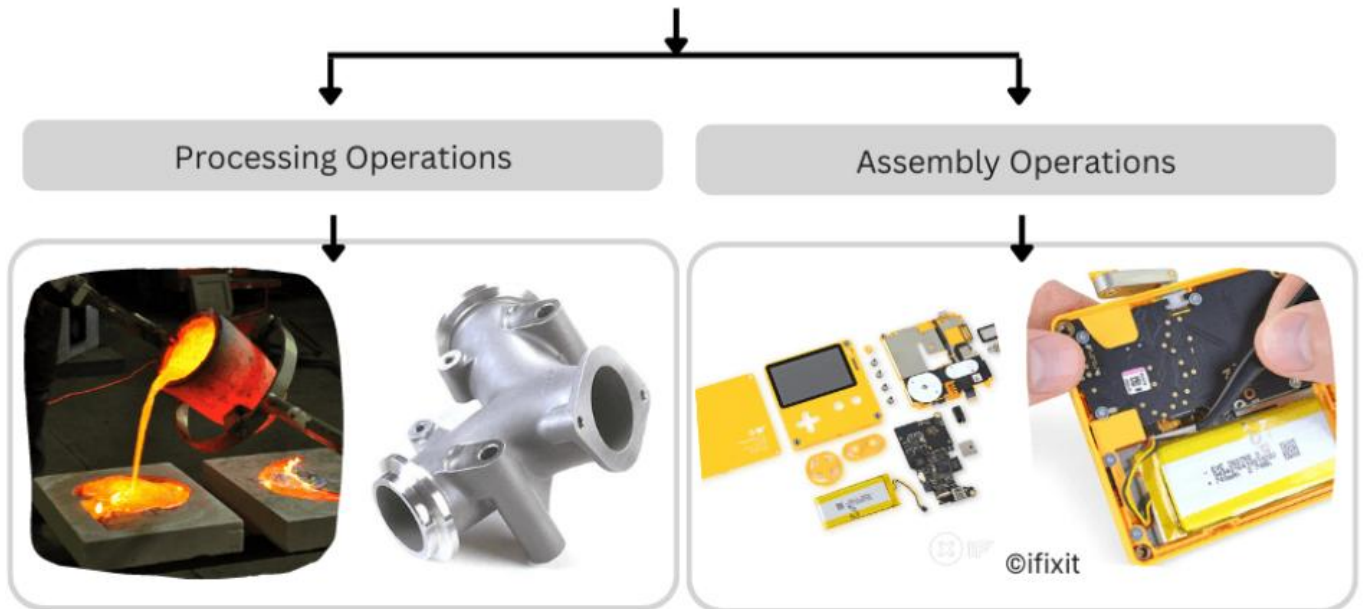
3.1. Types of Manufacturing processes

Manufacturing processes encompass a wide range of activities crucial for creating products. These processes can be broadly categorised into two primary types:

Processing Operations

Assembly Operations

Manufacturing Process Types



Glossary

Raw materials: Matières premières

Labour: Hard physical work

Items: Produit prêt à l'emploi

To expected: à prévu

Purchases: Achater

Waste: Gaspillage

Obsolescence: devenir Périmé

Manufacturing Processes: Procédés de fabrication