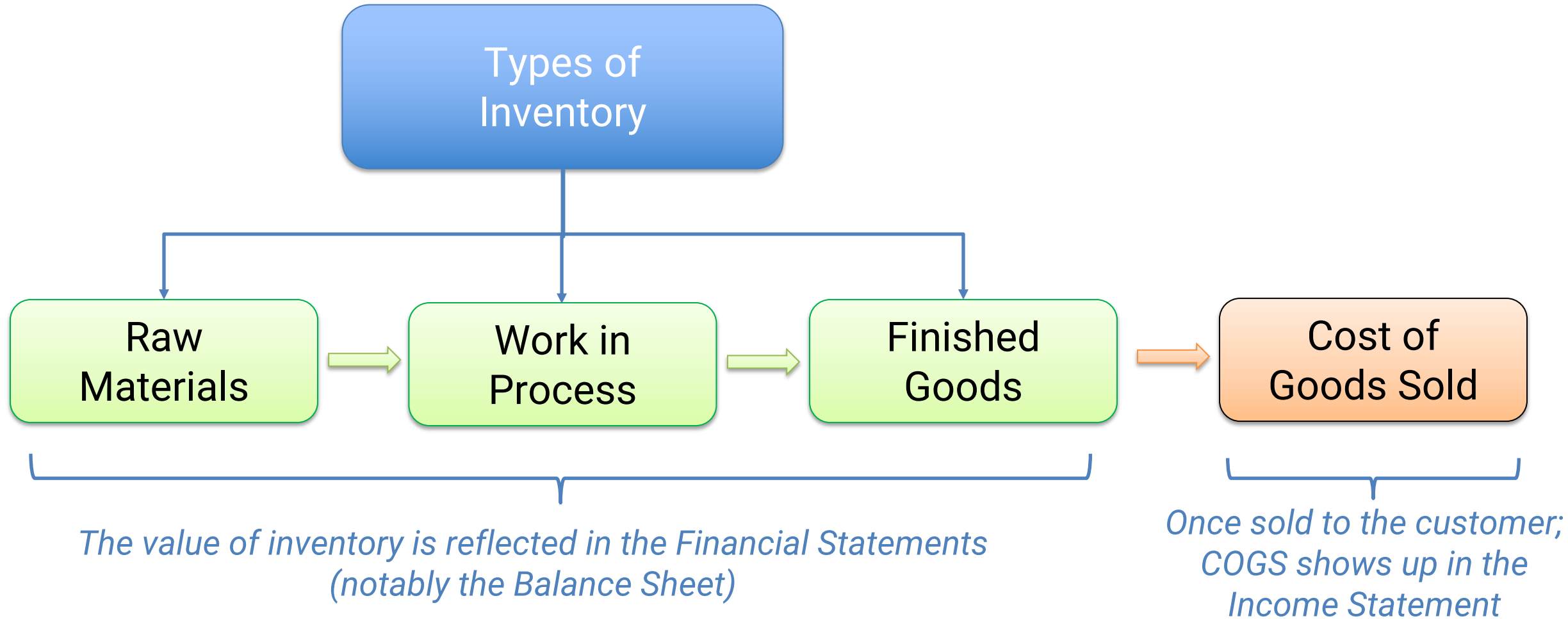# All about Inventory

Inventory...What is it?

The materials a company has on-hand to manufacture and assemble a product.

This includes the materials it purchases from suppliers, all the way through finished products, packaged up and ready to sell.

How Inventory is Categorized

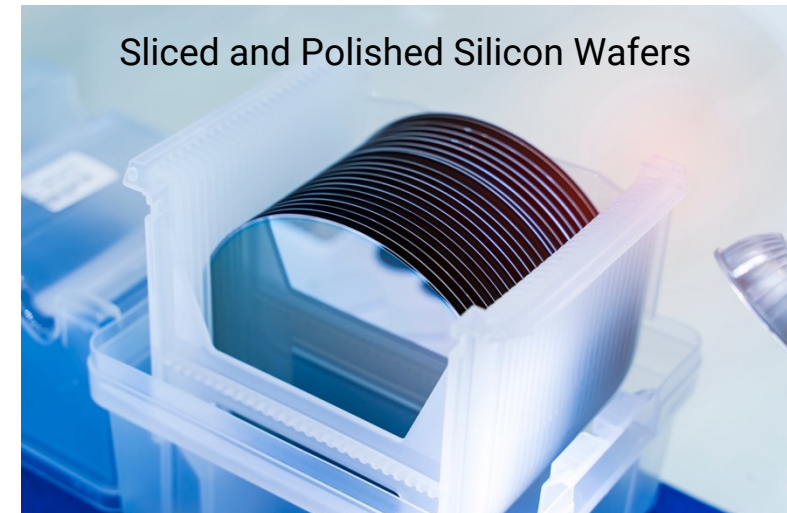# Types of Inventory

Raw Materials ("RM") Inventory

- *really* raw materials stored in a warehouse
  - Steel bar stock
  - Bolts of fabric
  - Silicon ingots
  - …

- *"Purchased Finished"* parts stored in a warehouse
  - Gears and bearing systems
  - Screws, nuts and washers
  - Polished silicon wafers
  - …

The relevant costs are what the company paid to buy these from suppliers.

Silicon Ingots

Sliced and Polished Silicon Wafers

Types of Inventory

Work in Process Inventory

- referred to as the "WIP"

- where raw materials get converted into real components

- could be the very labor-intensive part of manufacturing…

- …or the very machine-intensive part of manufacturing.

The relevant costs are what you pay your manufacturing personnel, and costs of operating the machines.

Types of Inventory

Finished Goods ("FG") Inventory

The product is now completely finished: fully assembled, tested, packaged and ready for shipping.

"Stock" inventory represents the product that is "in-stock", ready to ship when an order is placed by the customer.

"JIT" Just in Time: maintaining the minimum inventory necessary to build the product.

The FG costs are the sum of everything up to that point.
When shipped to the customer they become the Cost of Goods Sold (the COGS).

A Rather Practical Dilemma…

Consider this scenario…

- Last month, you bought 1000 components from your supplier for $10,000: $10/unit

- This month, prices went up: you bought another 1000 components, but for $12,000: $12/unit

- You're ready to begin production: what cost do you use for this component?

- All 2000 components are mixed together on the shelf, so you can't tell which one is which…

- …and it doesn't really matter as they are all physically the same anyway!

- But what do you do?

Accounting to the Rescue!

Accounting practices allow companies to pick one of two options:

First-In, First-Out (FIFO)

You use $10/unit until you run out of these,

then you switch to $12/unit.

Last-In, First-Out (LIFO)

You use $12/unit until you run out of these,

then you switch to $10/unit.

Both systems have their +'s and −'s.
Companies pick one and must stick with it for all future reporting purposes.

Practically, the shop grabs what is on the shelf...FIFO/LIFO are just accounting issues!
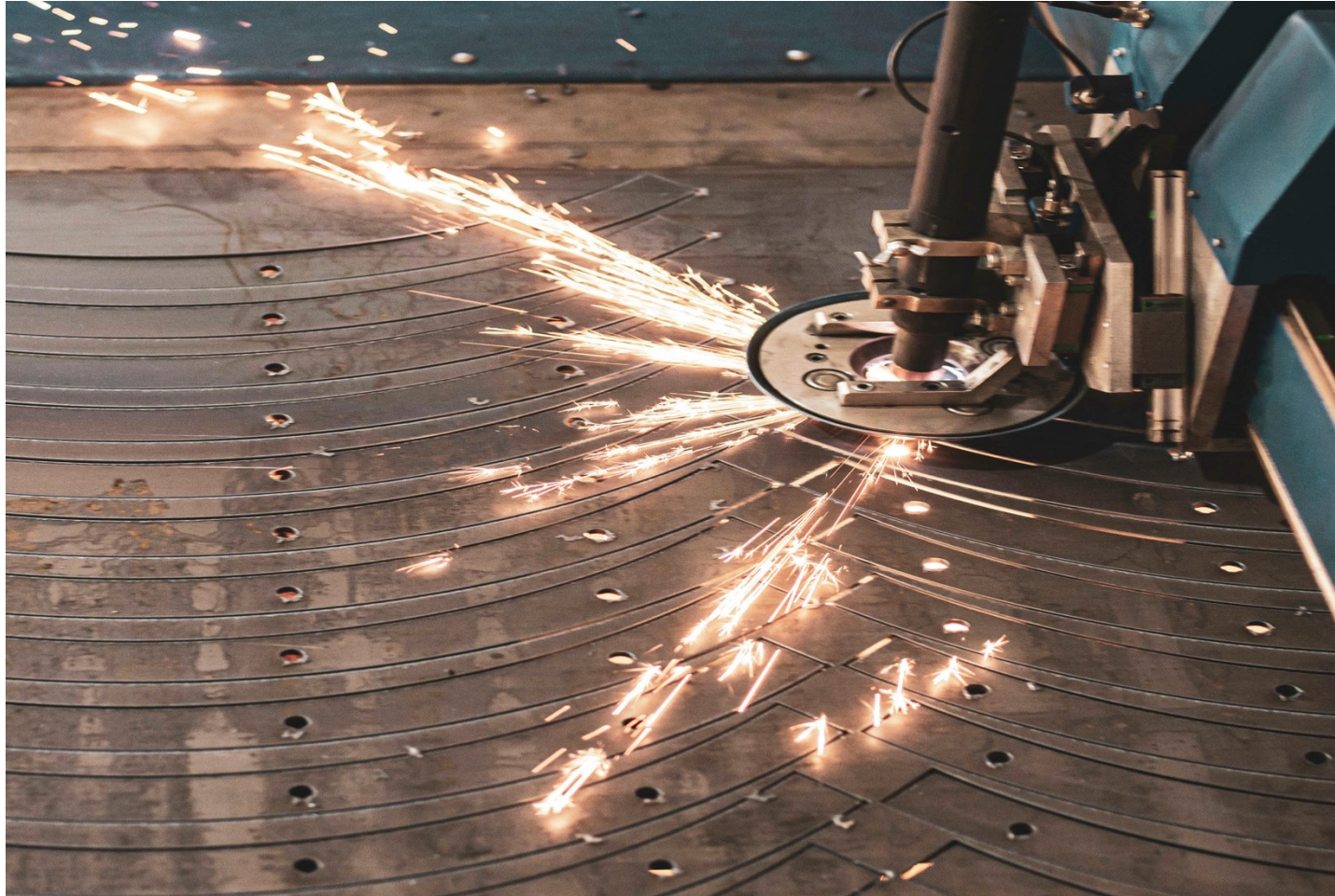
Main Takeaways…

- Inventory is all the material a company has on-hand to produce a product.

- There are three types of inventory: Raw Materials (RM), Work-in-Process (WIP, and Finished Goods (FG).

- The cost of inventory is captured in the company's financial statements.

- Varying cost of inventory is dealt with in the accounting process as FIFO or LIFO.

Inventory is a critical element of the product cost.
Understanding how costs flow through the manufacturing facility is an important part in determining product cost!

Next Time...

Product Cost using the Job-Cost Approach

Credits & References

Slide 1: Warehouse goods stock background 3d rendering by Production Perig, Adobe Stock (215926403.jpeg).

Slide 2: Stacked steels in metal warehouse by sezer66, Adobe Stock (198385645.jpeg). Wooden boxes in the warehouse by diko.studio, Adobe Stock (373412979.jpeg).

Slide 3: Silicon ingot by frog, Adobe Stock (47721534.jpeg). Silicon Wafers in plastic holder box by xiaoliangge, Adobe Stock (396106995.jpeg).

Slide 5: Textile cloth factory working process tailoring workers equipment by Ekaterina, Adobe Stock (327690380.jpeg). High precision CNC machining center working by oyoo, Adobe Stock (194511089.jpeg).

Slide 6: Warehouse indoor view by tiero, Adobe Stock (181658575.jpeg).

Slide 7-8: Steel by utah51, Adobe Stock (65504513.jpeg).

Slide 10: CNC metal turning milling machine during the process of making blanks by Torkhov, Adobe Stock (495938100.jpeg).