

# INVENTORY CONTROLLING

Phan Thu Hường | Final Project

---

## Part 1

Inventory problem

## Part 2

Insights

## Part 3

Recommendation

## Part 1:

# Inventory problem

### The relationship between sales and inventory

Overstocking: Financial burden

Understocking: Opportunity cost trade-off

### Stakeholders

Sales Department (Including Manager and staff)

---

### Stakeholder challenge

Evaluate the efficiency of inventory compared to sales

Look up the status of each product type

=> Make a suitable sales and marketing plan

# DASHBOARD GOAL



**Provide an overview of sales and inventory of product lines**

By time (quarter/year)

By product (Category/Sub-category/Product)

By location



**Show which products are in stock below safety-stock**



**Look up inventory information of each product line**

**Part 2:**

# Insights



**REVENUE - INVENTORY OVERVIEW**

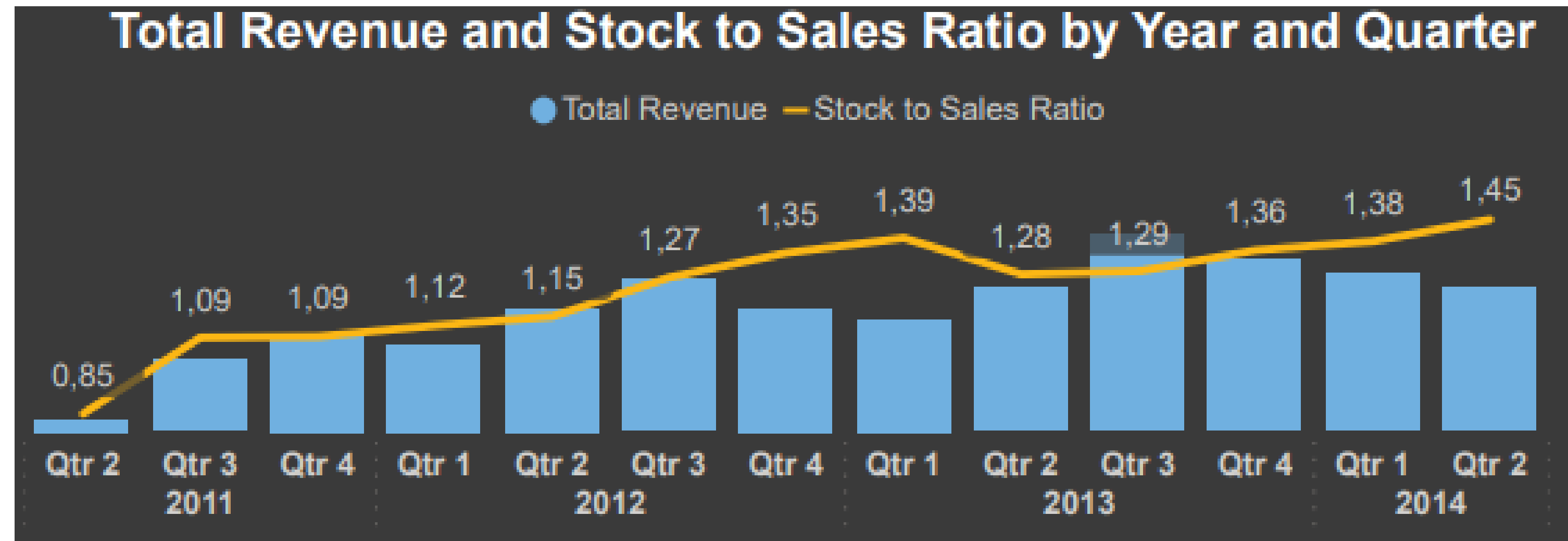
**CATEGORY/ SUB-CATEGORY/ PRODUCT**

**LOCATION**

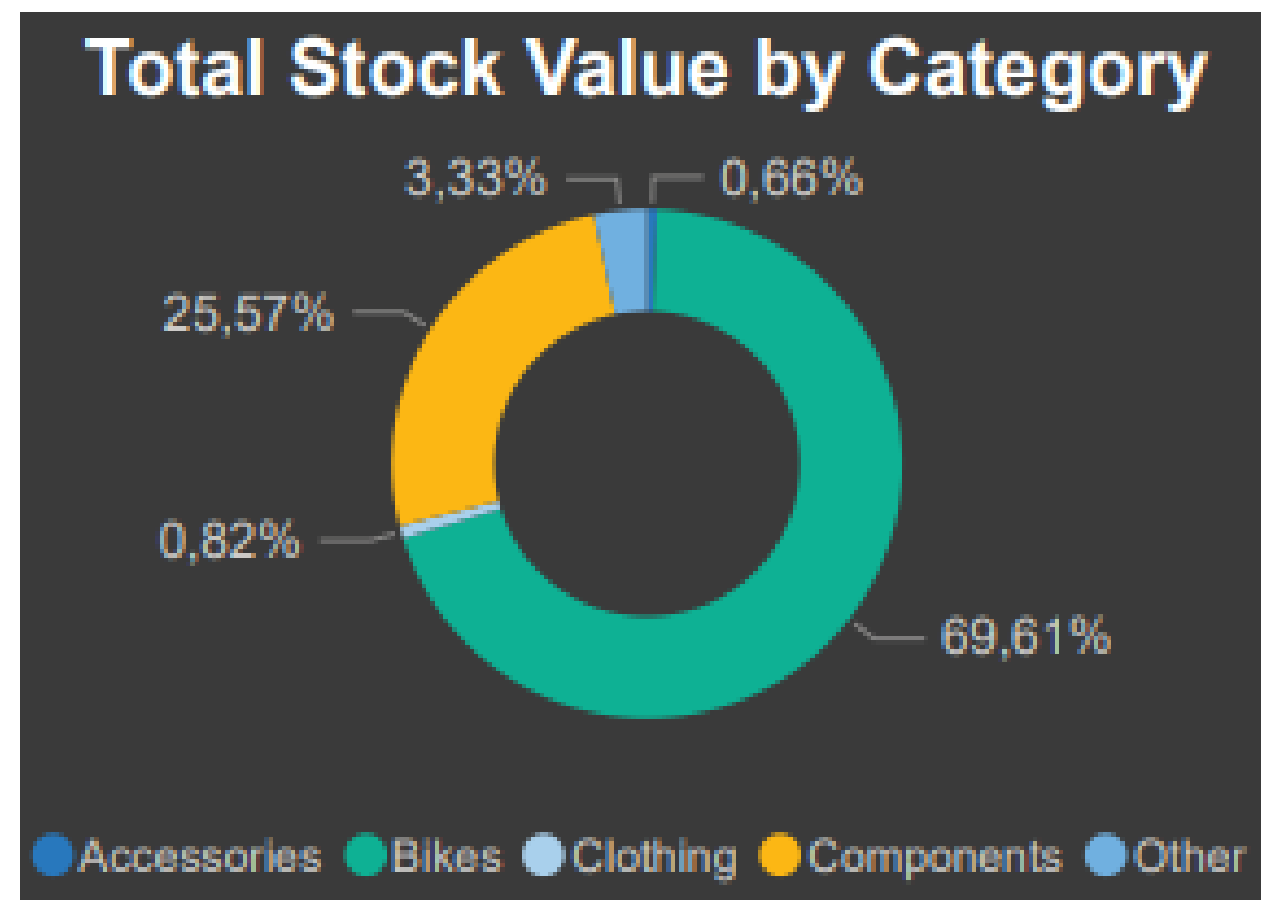
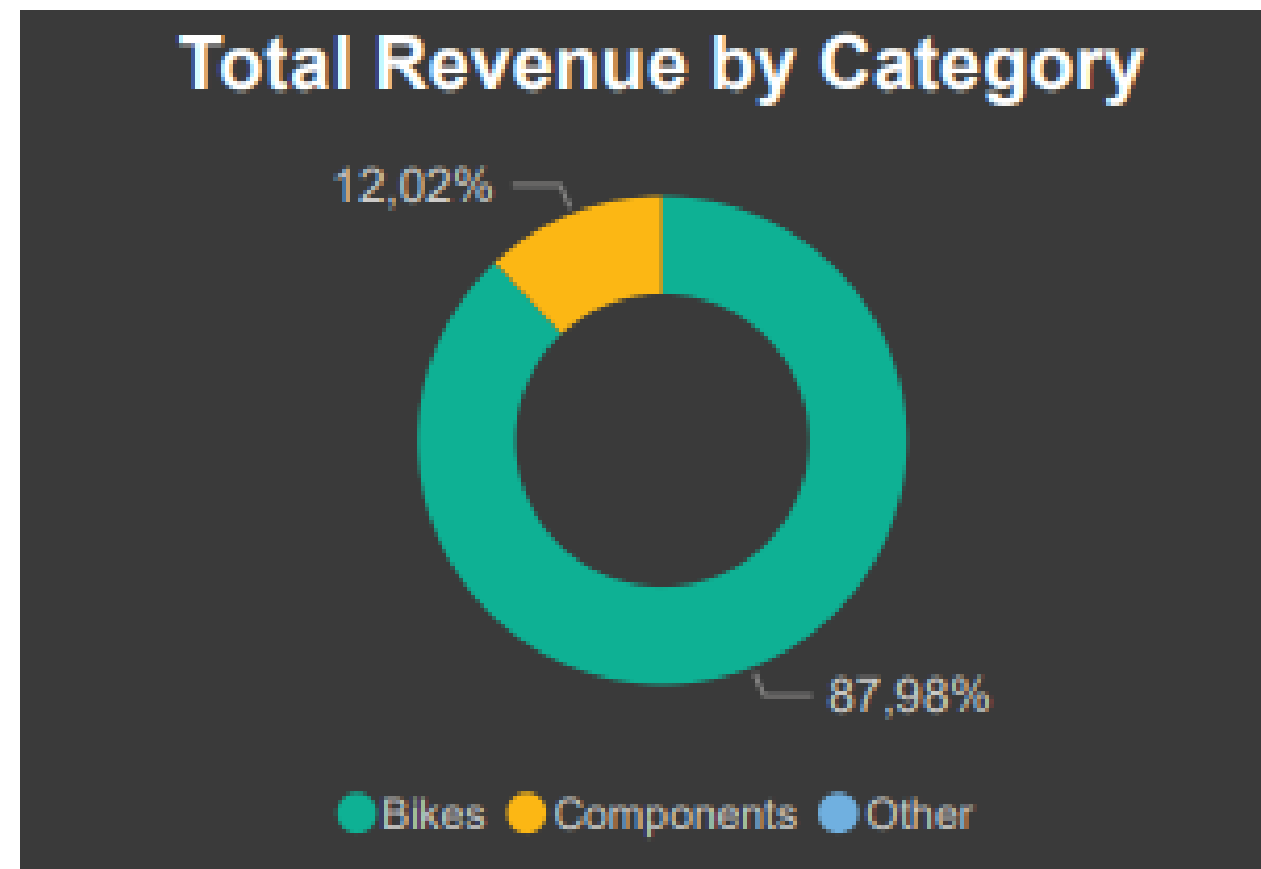
# Revenue - Inventory overview

**165,38M**  
Total Revenue

- Revenue tends to increase steadily from 2011 to the end of 2013. Every year, revenue usually peaks in the third quarter and gradually declines in the fourth quarter.
- Stock to sales ratio (average inventory value/sales) tends to increase gradually => Inventory efficiency is decreasing



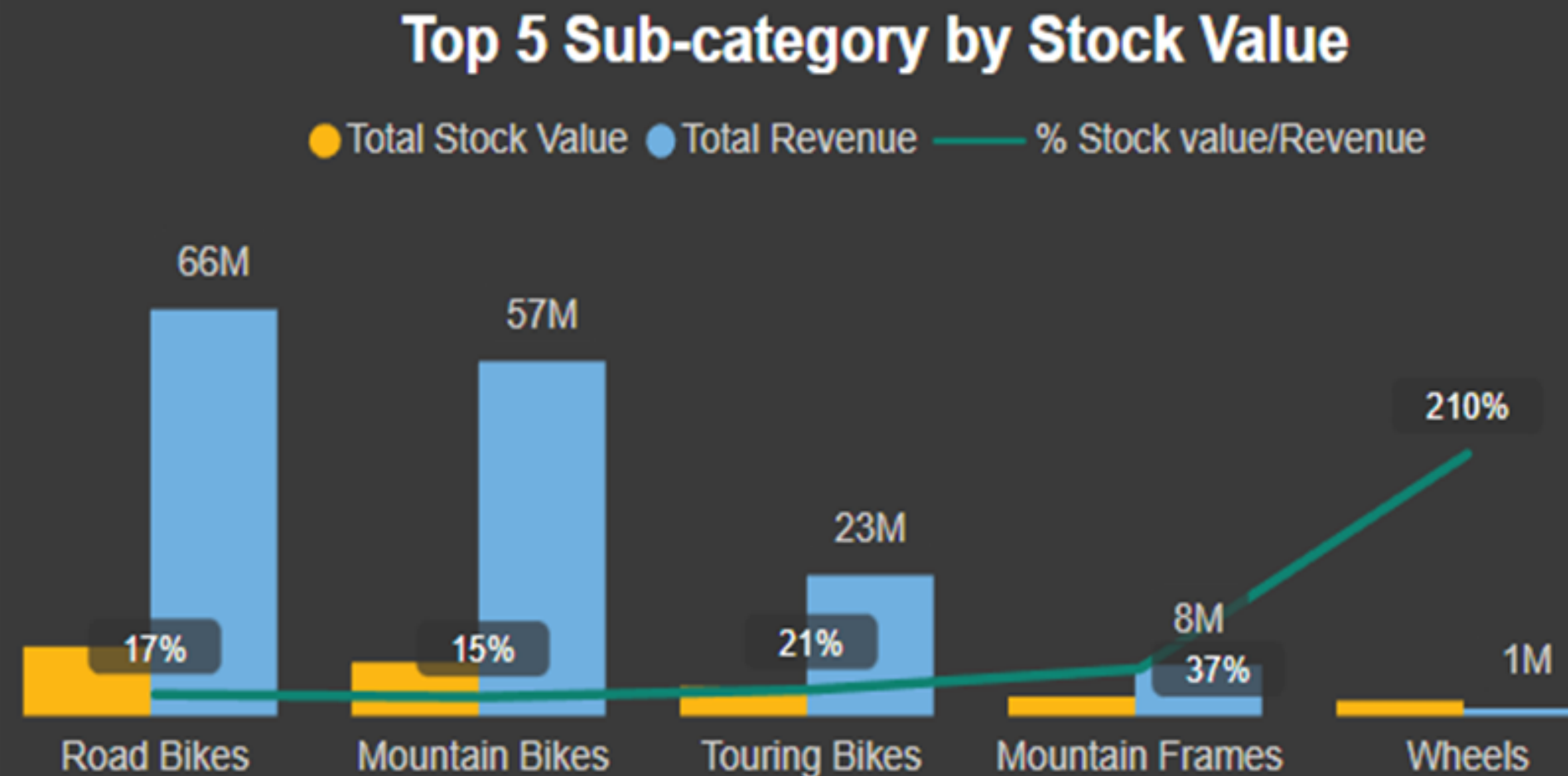
# Revenue -Inventory by Category



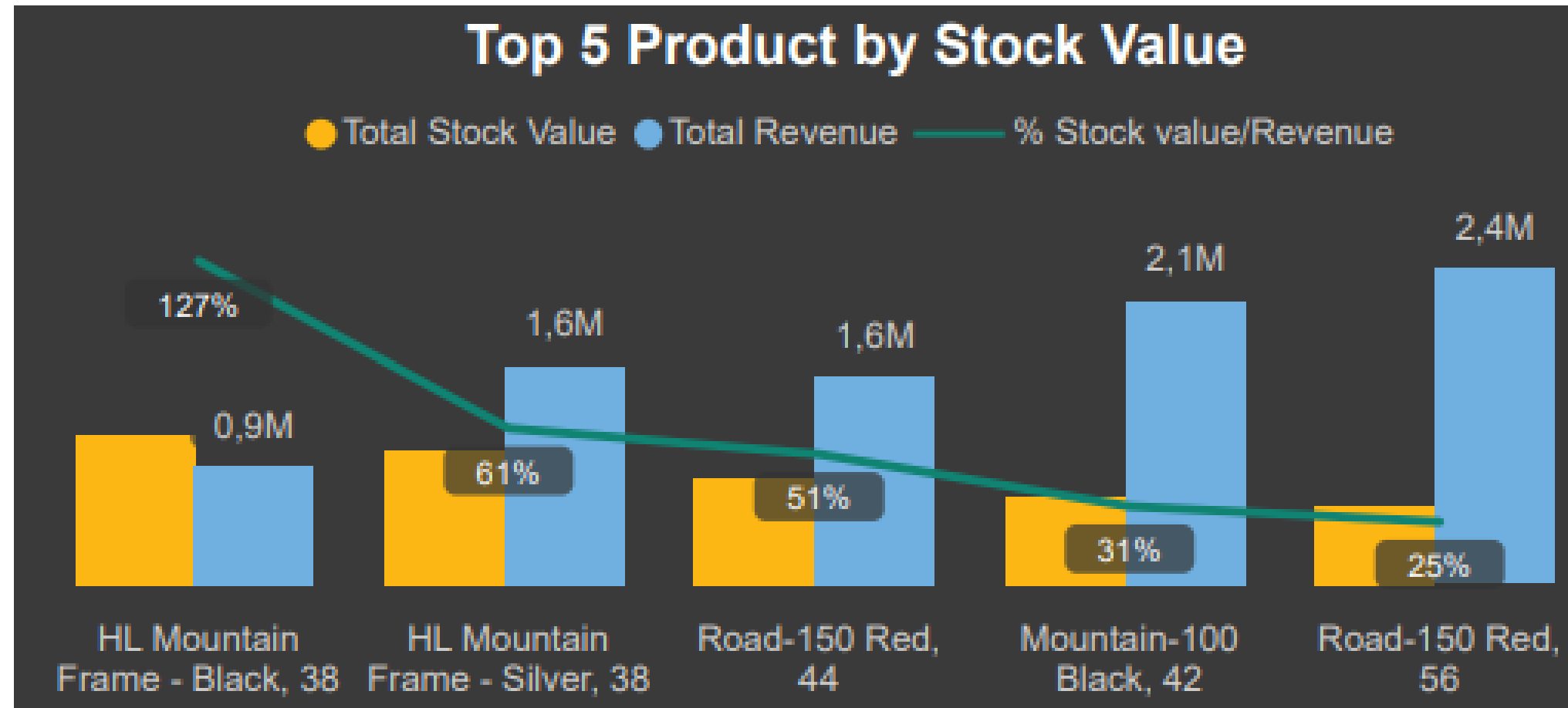
- Current revenue is only recorded from 2 categories: Bikes and Components
- The largest revenue comes from the Bikes category at \$145M (88%), 7 times more than the Components category
- The Bikes category has the largest inventory value of 24M (70%), nearly 4 times higher than the Components industry (9M).
- Components have a higher proportion of inventory value than revenue => Overstocking

# Revenue - Inventory by Subcategory

- The top 3 Subcategory belong to Bikes category, the rest belong to Components category
- Subcategory Road Bikes, Mountain Bikes, Touring Bikes has a ratio of inventory value to sales ranging from 15 to 21%, higher than Mountain Frames 37%
- The highest is Subcategory Wheels (210%) => Overstocking



# Revenue - Inventory by Product



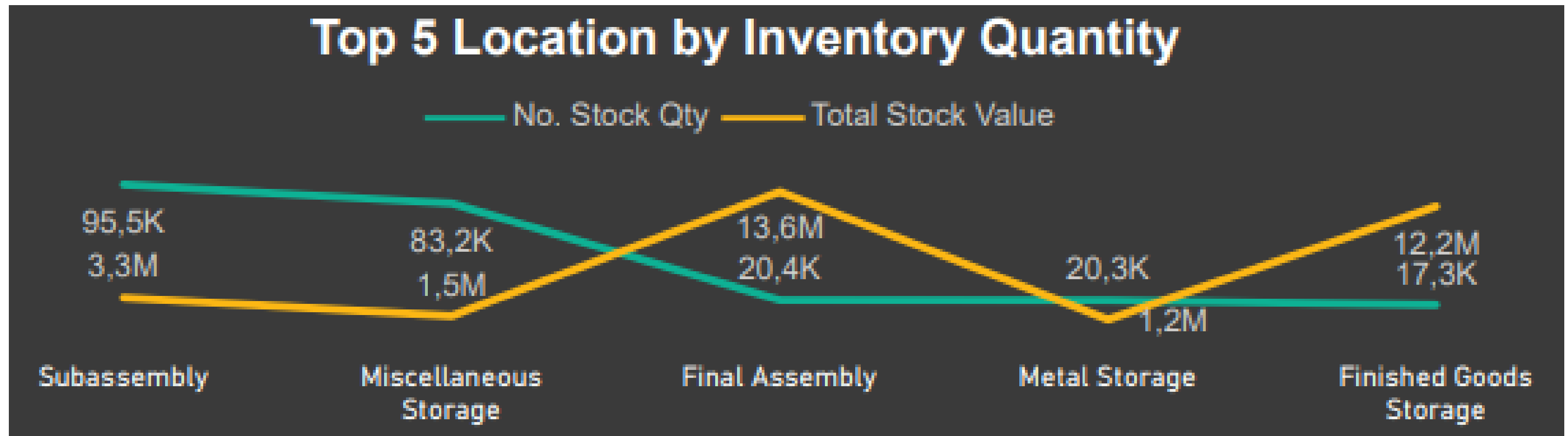
- Top 2 products in the Components category, the rest in the Bikes category
- These products have a high inventory-to-sales ratio: HL Mountain Frame - Black, 38 (127%), HL Mountain Frame - Silver, 38 (61%), Road-150 Red, 44 (51%) => Overstocking
- Currently, the company has 69 types of products with inventory below the safe level -> Understocking. In which, most products belong to the Other category (55 products).

Product Below Safety Level					
Category	Sub_category	Product	Product ID	Inventory Qty	Safety Stock
Accessories	Bike Racks	Hitch Rack - 4-Bike	876	0	4
Accessories	Tires and Tubes	HL Mountain Tire	930	499	500
Accessories	Tires and Tubes	LL Road Tire	931	488	500
Accessories	Tires and Tubes	Touring Tire	934	482	500



# Inventory by Location

- Locations that are occupying the highest amount of inventory are Subassembly (95K units) and Miscellaneous Storage (83K units), but have low total inventory values (3.3M and 1.5M, respectively) => Store many items that are low-value
- Location Final Assembly and Finished Goods Storage, although not having a high inventory volume (20K and 17K, respectively), have the highest total inventory value (13.6M and 12.2M respectively) => Store items that are high-value.



## Part 3:

# Recommendations

**01**

Adjusting the amount of inventory to increase or decrease in proportion to the rate of revenue fluctuations, with an increase in the third quarter of each year and a gradual decrease beginning in the fourth quarter.

**02**

Research more about the reason the stock-to-sales ratio tends to rise in order to find solutions to lower inventory costs.

**03**

Make a new marketing plan for Accesories, clothing, and Other categories because they are currently not bringing in revenue.

## Part 3:

### Recommendations

**04**

Focus on promoting sales of HL Mountain Frame - Black, 38, HL Mountain Frame - Silver, 38 and Road-150 Red, 44 products, as well as products in Subcategory Wheels to resolve inventory backlog

**05**

Notify and check with the production and purchasing departments about the products that are currently out of stock and adjust the Safety Stock level to suit the profitability of each product line.

**06**

Many items are out of stock, so it is recommended to collect more opportunity cost data when an item is out of stock, which can be used to control and forecast future sales.