



Annual Sales Analysis

PT. Sejahtera Bersama

Bank Muamalat Business Intelligence Analyst
Project Based Internship Program
Final Project

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01 Challenges

Challenge 1: Dataset Primary Key

Determine the primary key for each dataset that is going to be used for this project.
The dataset are as follow:

1. Customer
2. Product
3. Orders
4. ProductCategory

Challenge 2: Dataset Relationship

Determine the relationship from the datasets

Challenge 3: Create a Master Table

Create a query to retrieve the dataset from Google BigQuery to create a master table that contains following information:

- CustomerEmail (*cust_email*)
- CustomerCity (*cust_city*)
- OrderDate (*order_date*)
- OrderQty (*order_qty*)
- ProductName (*product_name*)
- ProductPrice (*product_price*)
- ProductCategoryName (*category_name*)
- TotalSales (*total_sales*)

Challenge 4: Creating a Report

Using Looker Studio, create a report based on the data generated from the previous challenge that should contain following information:

1. Total sales
2. Sales by product category
3. Quantity sold by product category
4. Total sales by city
5. Quantity sold by city
6. Top 5 product category by sales
7. Top 5 product category by quantity sold

Challenge 5: Recommendation

As a BI analyst at PT Sejahtera Bersama, what recommendation would you propose to maintain sales or increase sales based on the dataset provided?

02

Result

Challenge 1: Dataset Primary Key

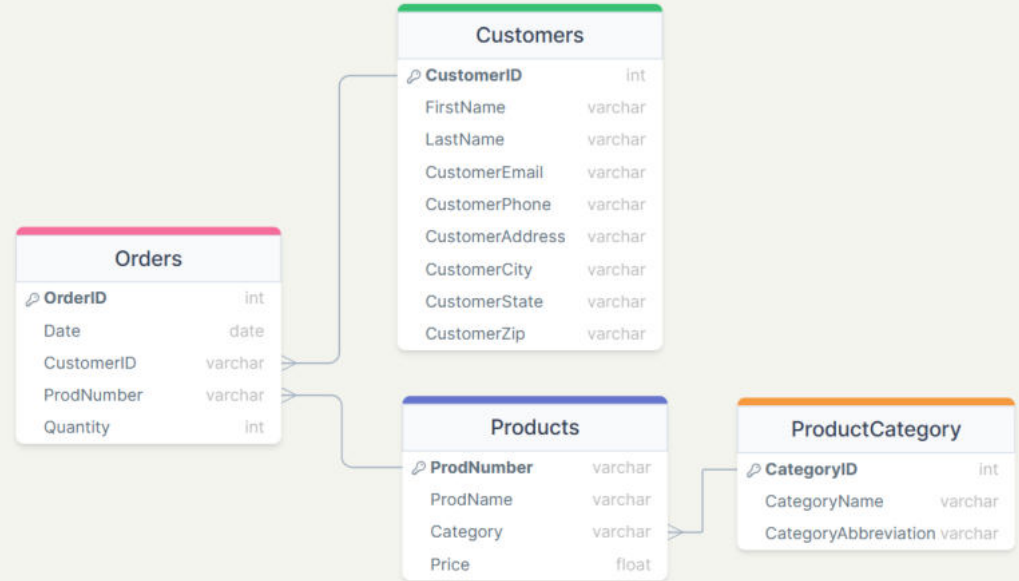
The primary key for each dataset:

1. Customer table: CustomerID
2. Products table: ProdNumber
3. Orders table: OrderID
4. ProductCategory table: CategoryID

Challenge 2: Dataset Relationship

Dataset Relationship:

- **Customer – Orders**
 - One-to-Many
- **Products – Orders**
 - One-to-Many
- **Products – ProductCategory**
 - One-to-Many



Made with *drawSQL*

Challenge 3: Create a Master Table

Query to generate the master table from Google BigQuery:

○ ○ ○

SELECT

```
o.Date AS order_date,  
pc.CategoryName AS category_name,  
p.ProdName AS product_name,  
p.Price AS product_price,  
o.Quantity AS order_qty,  
p.Price * o.Quantity AS total_sales, ← Calculated field  
c.CustomerEmail AS cust_email,  
c.CustomerCity AS cust_city
```

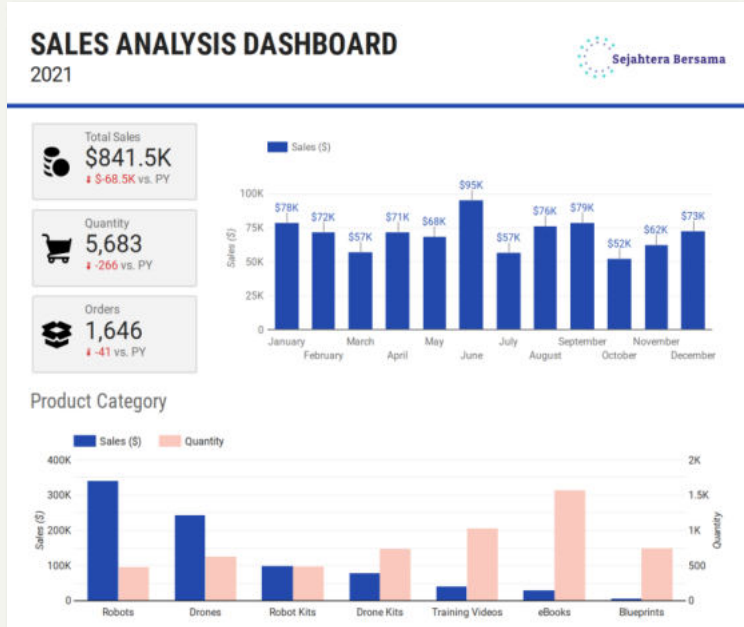
FROM

```
`bi-muamalat-2022.Final_Task.Orders` AS o  
INNER JOIN `bi-muamalat-2022.Final_Task.Customers` AS c ON o.CustomerID = c.CustomerID  
INNER JOIN `bi-muamalat-2022.Final_Task.Products` AS p ON o.ProdNumber = p.ProdNumber  
INNER JOIN `bi-muamalat-2022.Final_Task.ProductCategory` AS pc ON p.Category = pc.CategoryID
```

ORDER BY

```
o.Date;
```

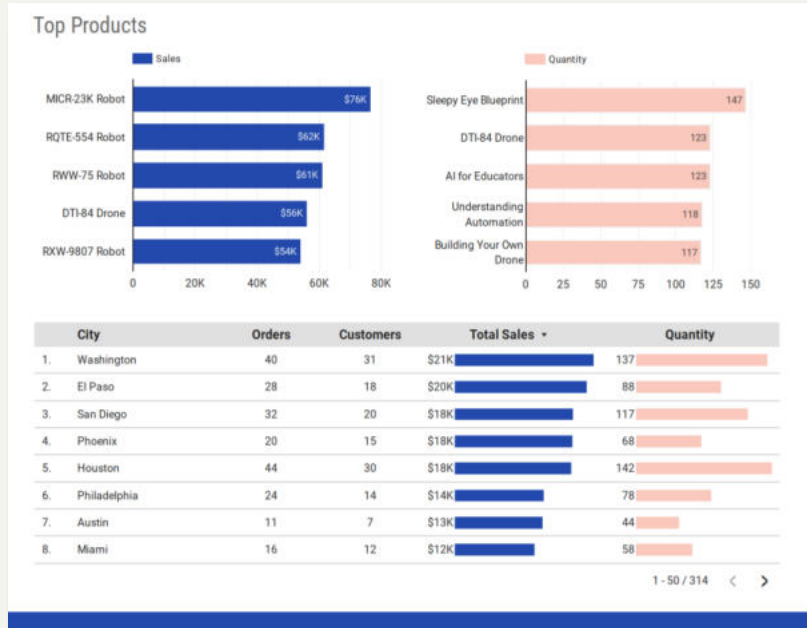
Challenge 4: **Creating a Report**



The report contains:

1. Information about sales of 2021
2. KPIs of total sales, quantity sold, total orders
3. Monthly sales of 2021
4. Total sales and quantity sold for each product category

Challenge 4: Creating a Report



The report contains:

5. Top products by sales and quantity
6. City breakdown table that shows:
 - Orders
 - Customers
 - Sales
 - Quantity sold

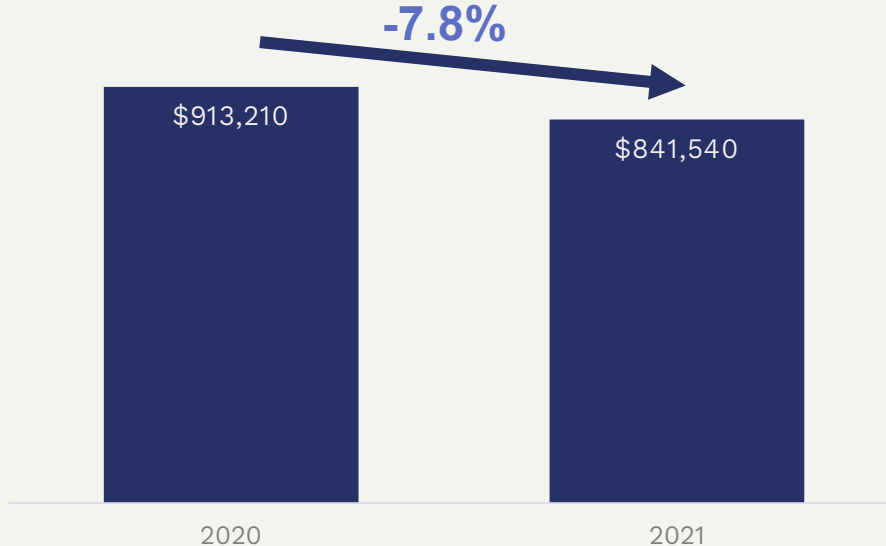
Challenge 5: Recommendation

Before we determine what recommendation to give to the company, we will perform analysis based on the sales data.

We will look at how the sales have been for the company, is the sales going up/down along the years and find about what are the variables that contributed to the change of sales based on the data.

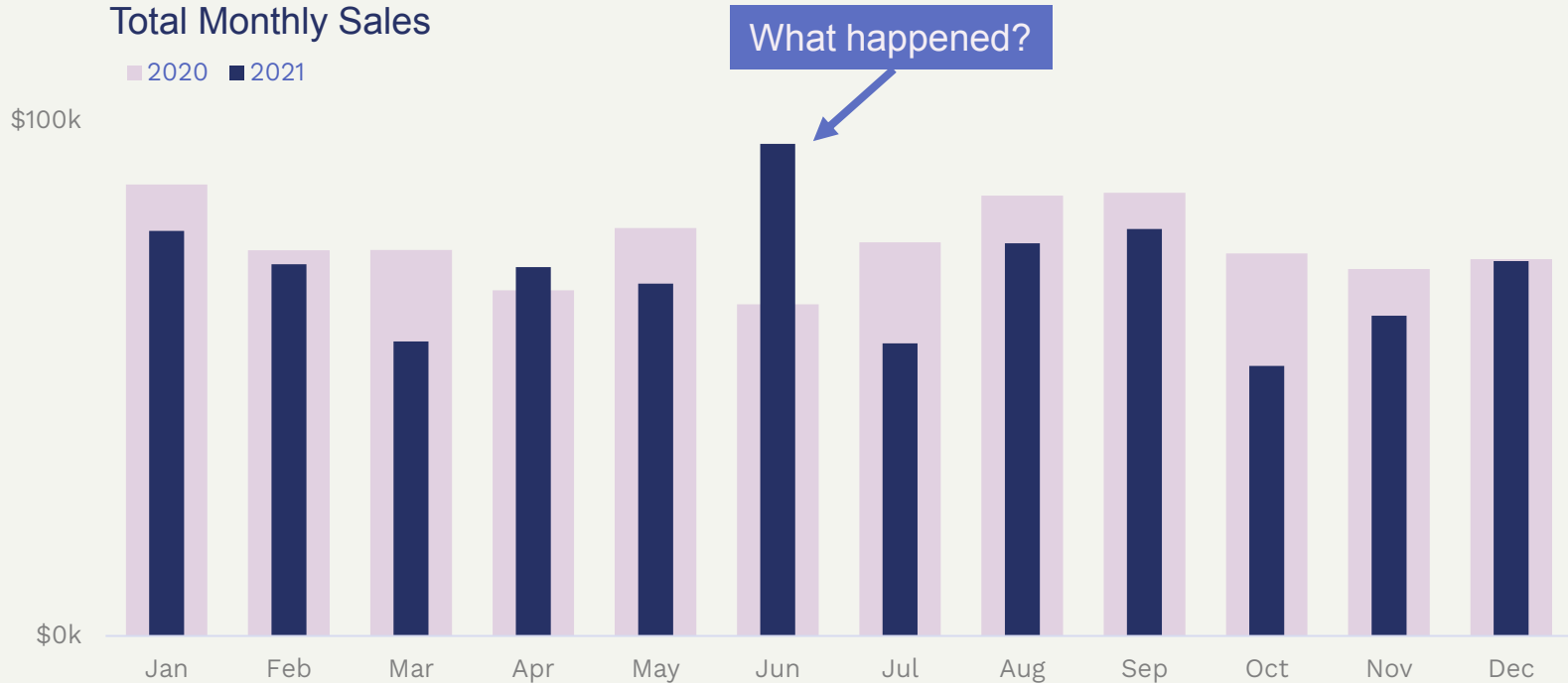
Sales in 2021 is lower than its previous year.

Total Sales per Year
2020 - 2021



Sales in 2021 is lower **7.8%** or **\$71,670** than 2020.

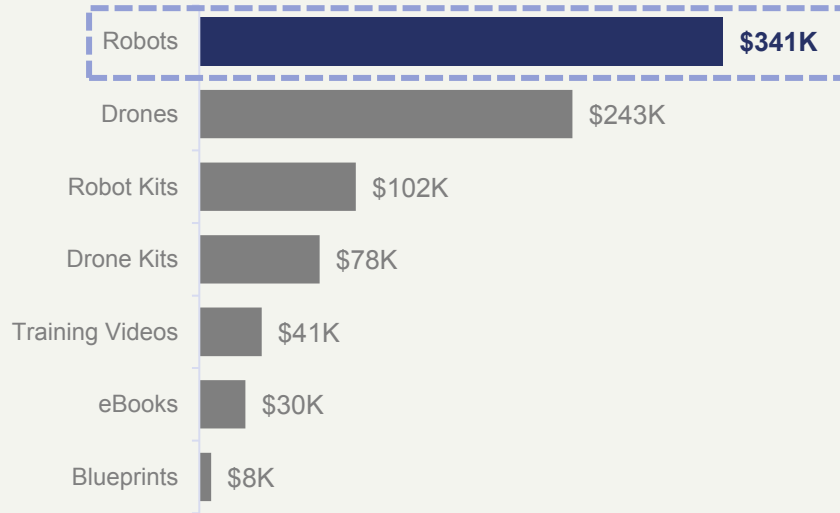
Sales in June 2021 is the all-time highest ever.



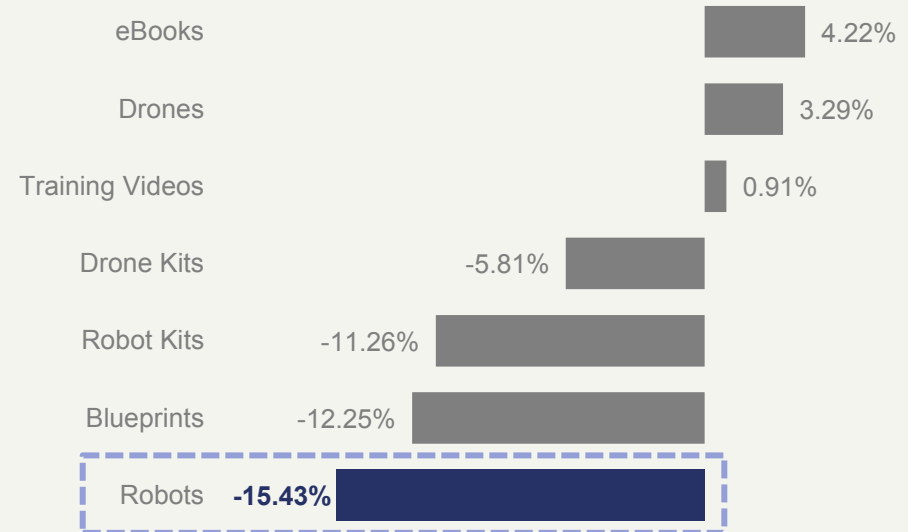
02. Result - Challenge 5: Recommendation

As the top selling product category, robot experienced the biggest sales decline in 2021.

Total Sales by Product Category
2021



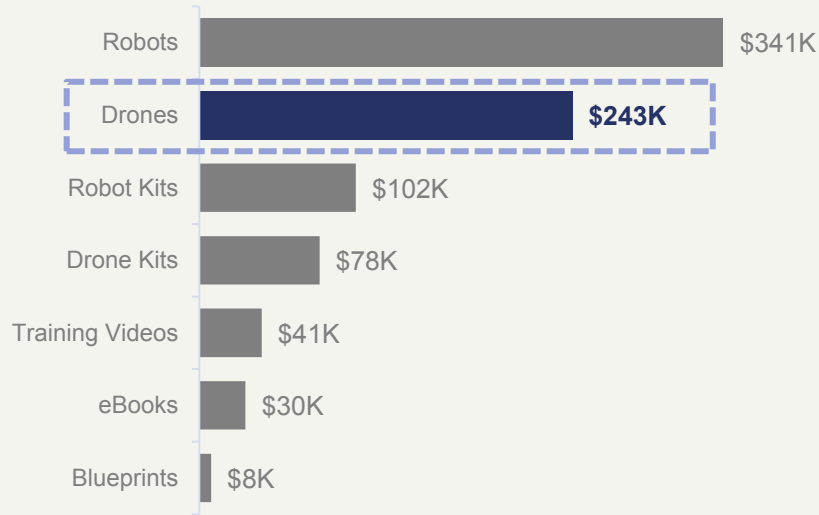
Product Category Sales Percentage of Change
2021 vs. 2020



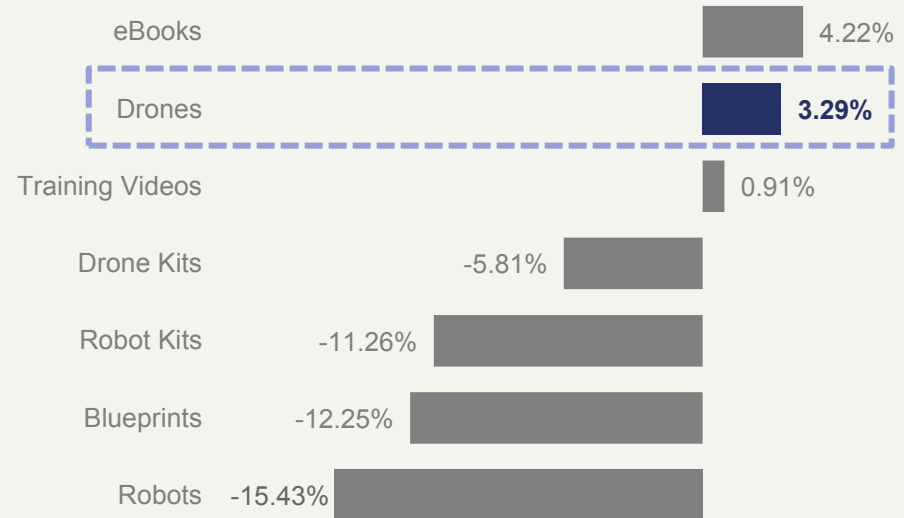
02. Result - Challenge 5: Recommendation

As the second highest selling product category. drone products experienced sales increase in 2021.

Total Sales by Product Category
2021

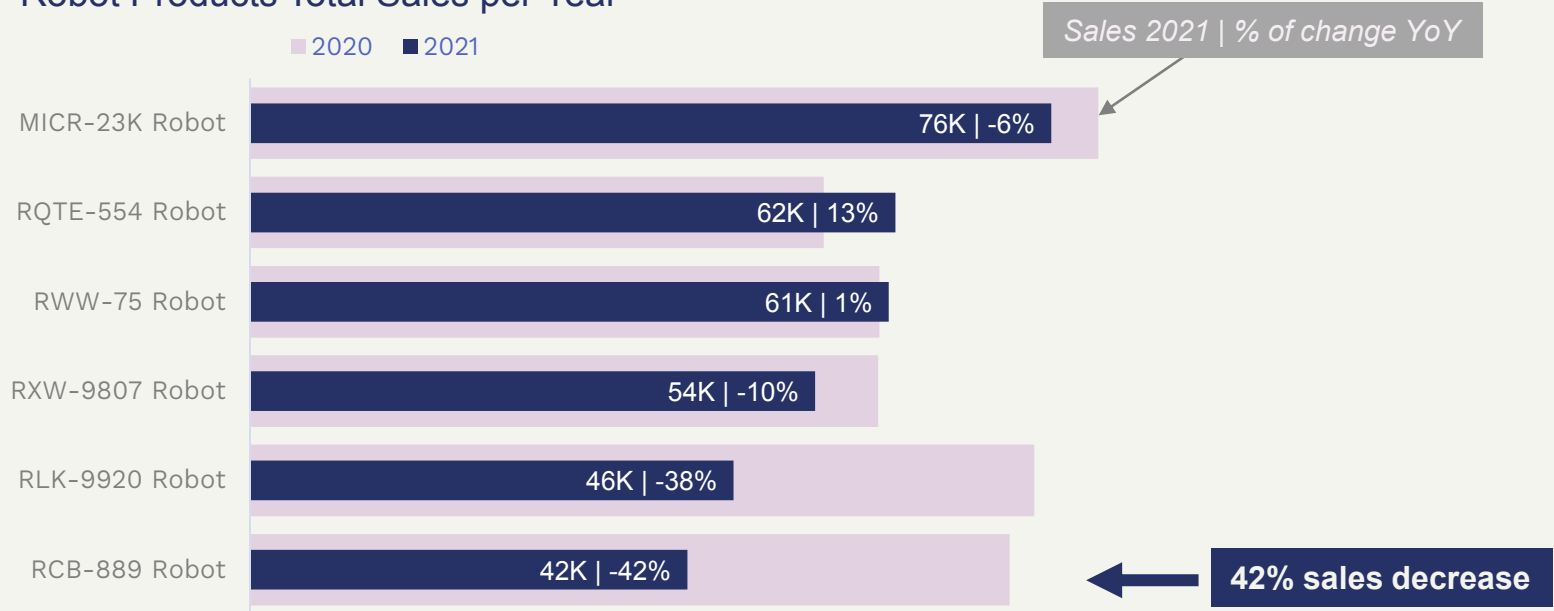


Product Category Sales Percentage of Change
2021 vs. 2020



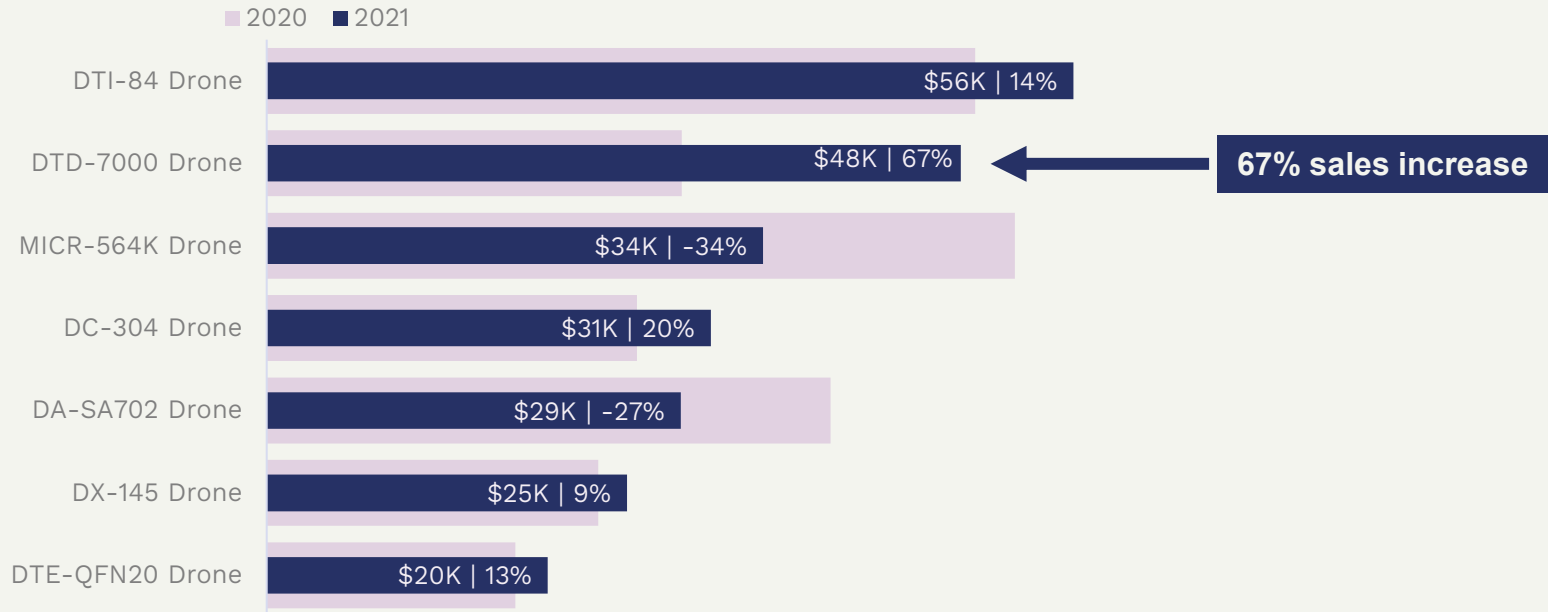
4 of 6 robot products experienced **decline** in sales.

Robot Products Total Sales per Year



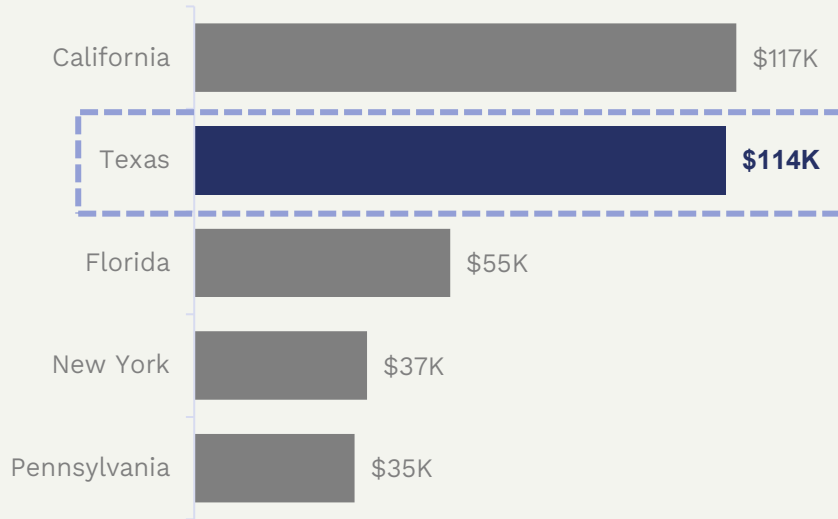
5 of 7 drone products experienced **increase** in sales.

Drone Products Total Sales per Year

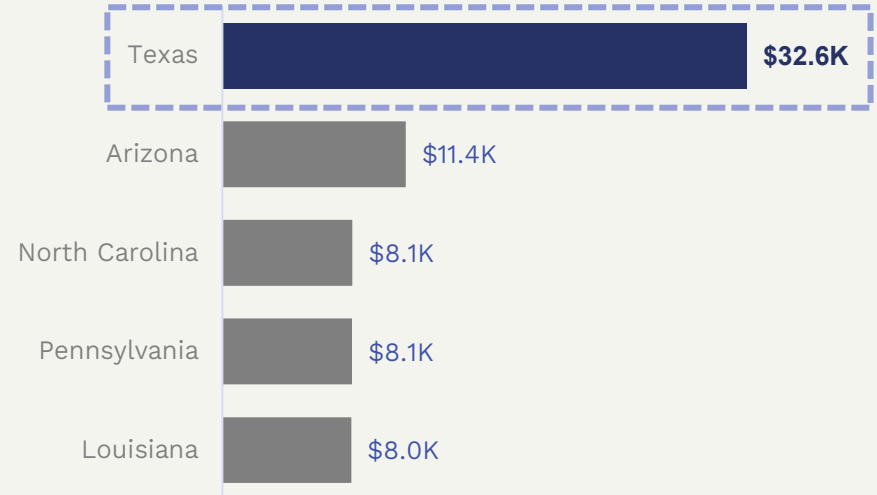


Texas is the state that experienced the highest growth in sales.

Top State by Total Sales
2021



Top State by Sales Growth
2021



Challenge 5: Recommendation

Recommendation:

1. Drone products should be the category the company focus on improving the sales next year.
2. Adjust the pricing for the drone and robot products.
3. Improve the marketing to target more customer at Texas.

Suggestion:

1. Find out what caused the high number of sales in June 2021.
2. Perform additional analysis to find out the market trends for robot vs. drone products.

Links



Full project
Github

[Click here!](#)



Dashboard/Report
Looker Studio

[Click here!](#)



Presentation
Google Drive

[Click here!](#)

Thanks!

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CREDITS:

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