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Michal Čičkan – business data analysis

My goal in this project was to analyse the company's employees (their distribution and individual jobs, their performance), the products the company sells (product sales by country), individual sales by product type. Further I executed analysis of the customers (in which country are the highest sales), analysis of the product shipping speed, and others are also included.

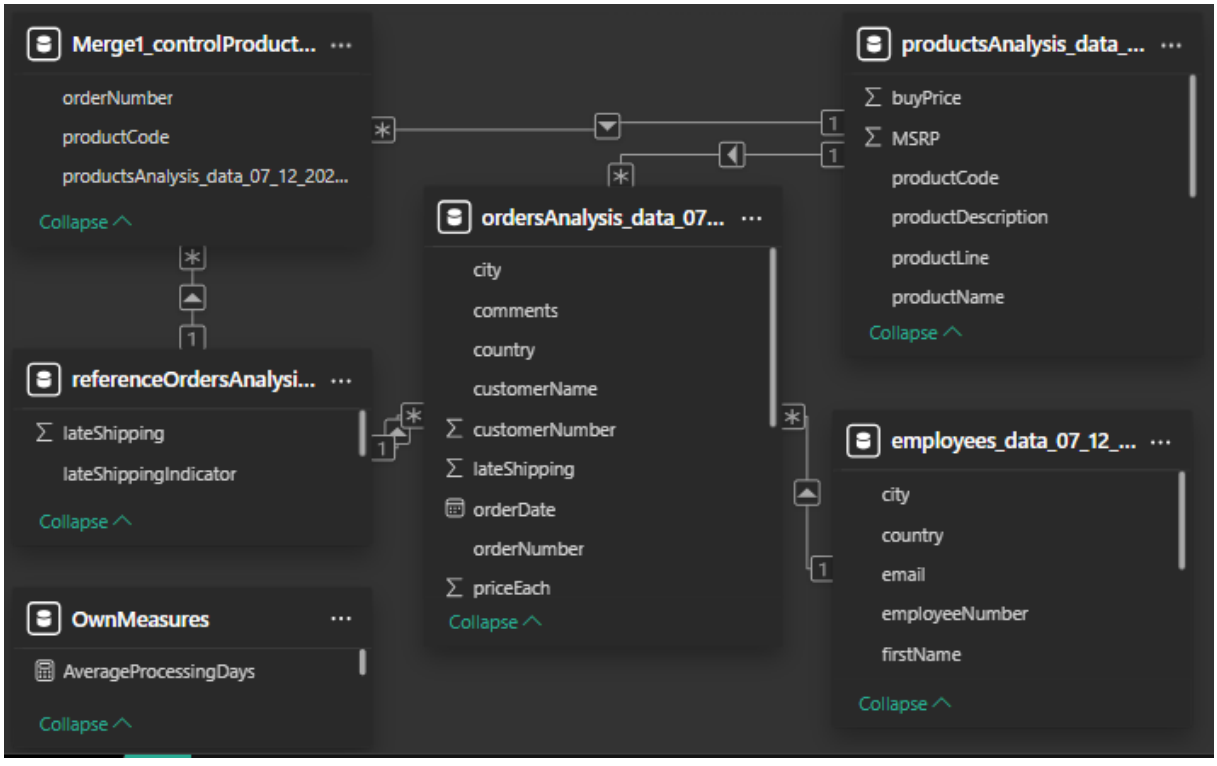
In the first step, I used SQL in MySQL to select the required data from the freely available Classicmodels database. The data was divided into several tables. I obtained the required data from the tables in the database using the following SQL scripts. I extracted only the necessary data so as not to overload Power BI with irrelevant data.

```
-- Select and View all from the table employee --
SELECT * FROM classicmodels.employees;

-- Adding supervisor lastName, firstName to table employees from table employees, creating new view--
CREATE VIEW classicmodels.supervisorOfEmployee AS
SELECT e1.*, e2.firstName AS firstName_of_supervisor, e2.lastName AS lastName_of_supervisor
FROM classicmodels.employees AS e1
LEFT JOIN classicmodels.employees AS e2
ON e1.reportsTo = e2.employeeNumber;

-- Check if new view was created --
SELECT * FROM classicmodels.supervisorOfEmployee;

-- Join to table offices to see, where are employees located --
SELECT S1.*, O1.city, O1.country, O1.postalCode
FROM classicmodels.supervisorOfEmployee AS S1
LEFT JOIN classicmodels.offices AS O1
ON S1.officeCode = O1.officeCode;
```

```
-- Select needed table from database --
SELECT * FROM classicmodels.orders;

-- Join tables and create view --
CREATE VIEW classicmodels.ordersView AS
SELECT classicmodels.orders.*,
    classicmodels.orderdetails.productCode,
    classicmodels.orderdetails.quantityOrdered,
    classicmodels.orderdetails.priceEach
FROM classicmodels.orders
LEFT JOIN classicmodels.orderdetails
ON classicmodels.orders.orderNumber = classicmodels.orderdetails.orderNumber;

-- Check if ordersView was created --
SELECT * FROM classicmodels.ordersView;

-- Left join to the third table Customers --
SELECT
    classicmodels.ordersView.*,
    classicmodels.customers.customerName,
    classicmodels.customers.city,
    classicmodels.customers.country,
    classicmodels.customers.salesRepEmployeeNumber
```

```
FROM classicmodels.ordersView
LEFT JOIN classicmodels.customers
ON classicmodels.ordersView.customerNumber = classicmodels.customers.customerNumber;

-- Now i export data as csv format and analyse them in Power BI --
-- Select a table from database and check if works --
SELECT * FROM classicmodels.products;

-- Join tables --
SELECT * FROM classicmodels.products
LEFT JOIN classicmodels.productlines
ON classicmodels.products.productLine = classicmodels.productlines.productLine;

-- Select only needed colums and create view --
CREATE VIEW classicmodels.productView AS
SELECT classicmodels.products.* , classicmodels.productlines.textDescription
FROM classicmodels.products
LEFT JOIN classicmodels.productlines
ON classicmodels.products.productLine = classicmodels.productlines.productLine;

-- Display created view --
SELECT * FROM classicmodels.productView;

-- Now i export data in format csv and analyse them in PowerBi --
```

In the next step, I imported the data into Power BI, using version 2.149.1252.0 64-bit (November 2025). In Power Query, I checked that the import was successful. I visually checked that the data was correctly sorted into the appropriate columns and set the correct data type for each column. After the initial check, I applied the changes to the dataset and then created relationships between the individual tables in Power BI, based on their primary and foreign keys. I also set the cardinality of these relationships. The resulting data model, with the subsequently added measures created in DAX and auxiliary tables, looked as follows.



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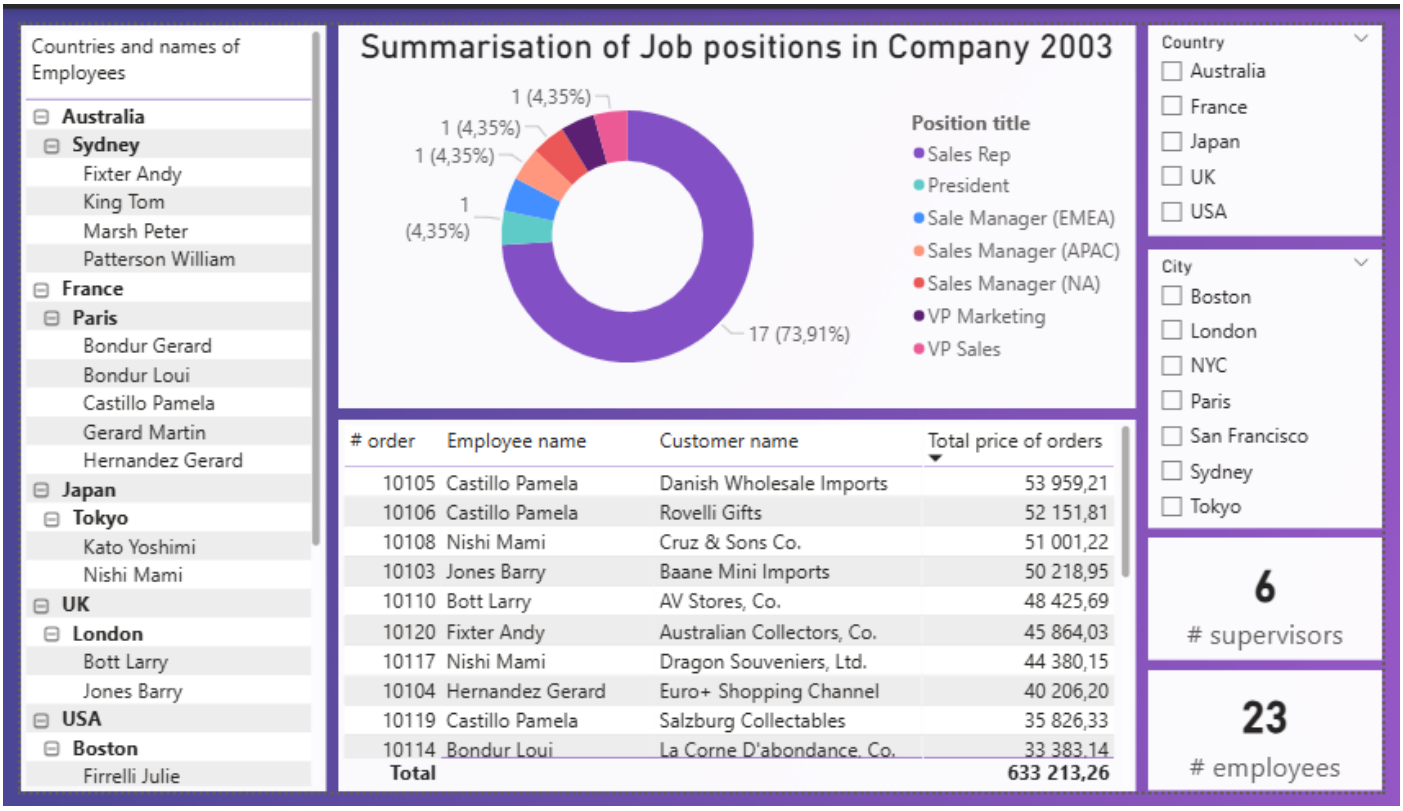
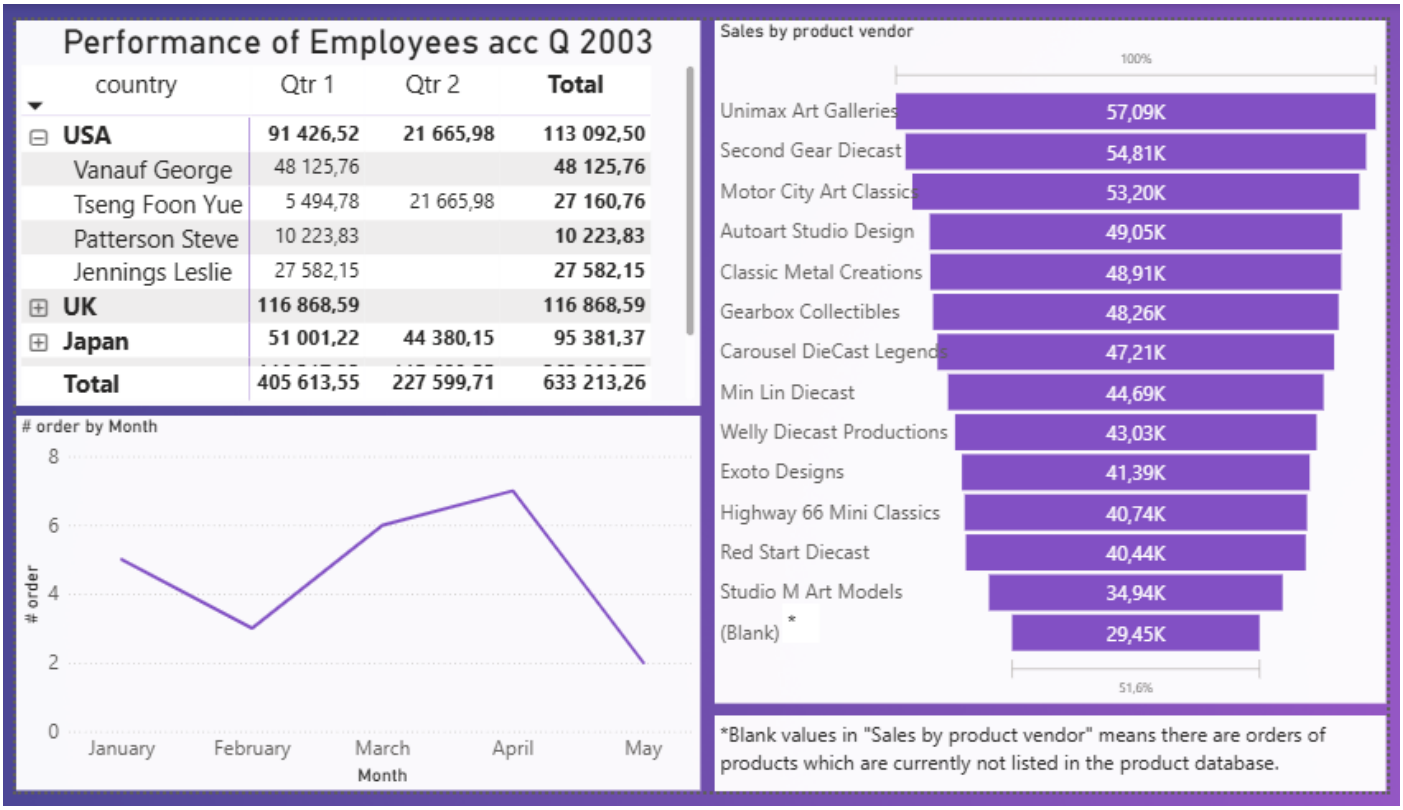
I created several interactive dashboards with various visuals using MS Power BI. The dashboard below shows data about the company's employees, their job positions, and their locations. We can also see the most profitable employees for a given period.



Another dashboard focused on displaying employee performance over quarters, order volume trends, and ranking manufacturers of sold products in terms of their share on order prices.



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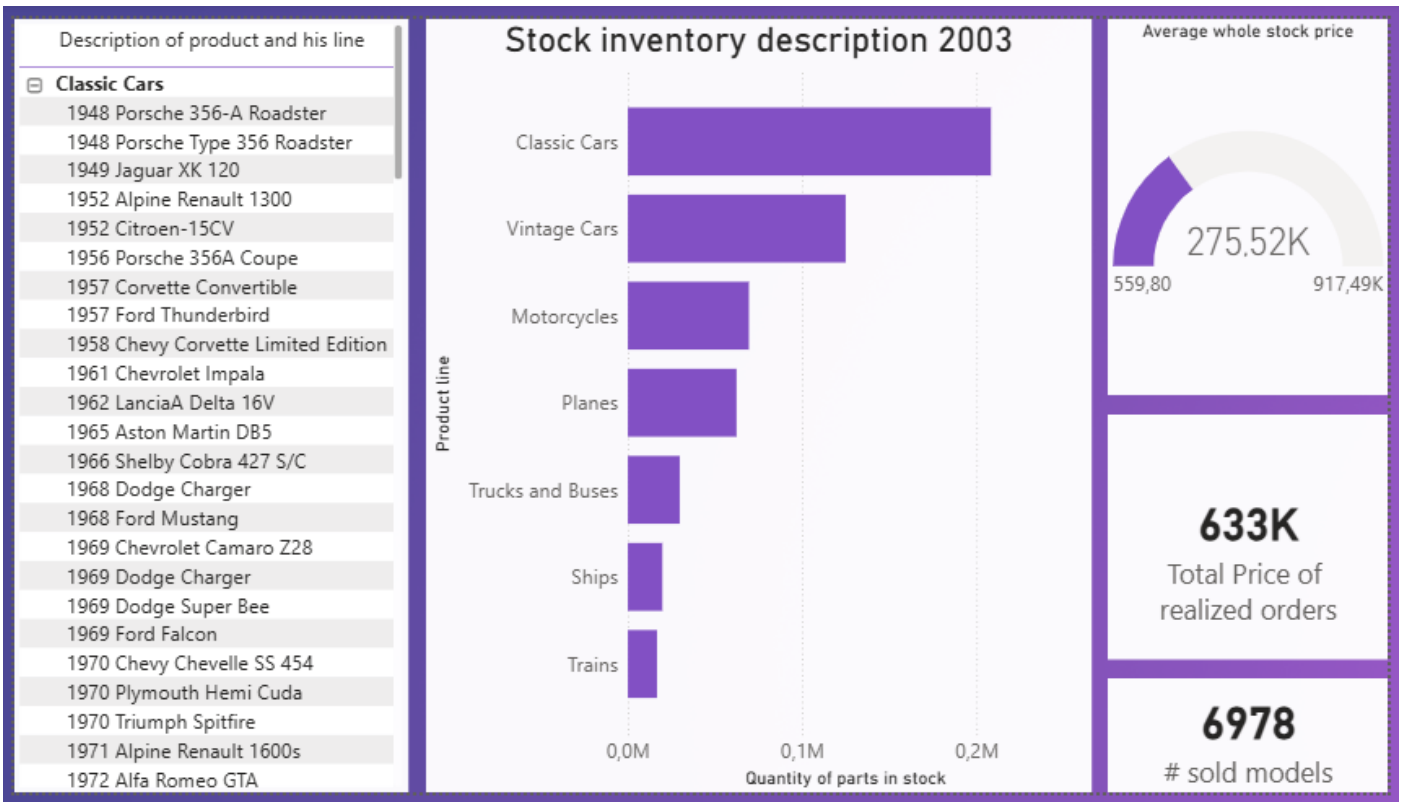
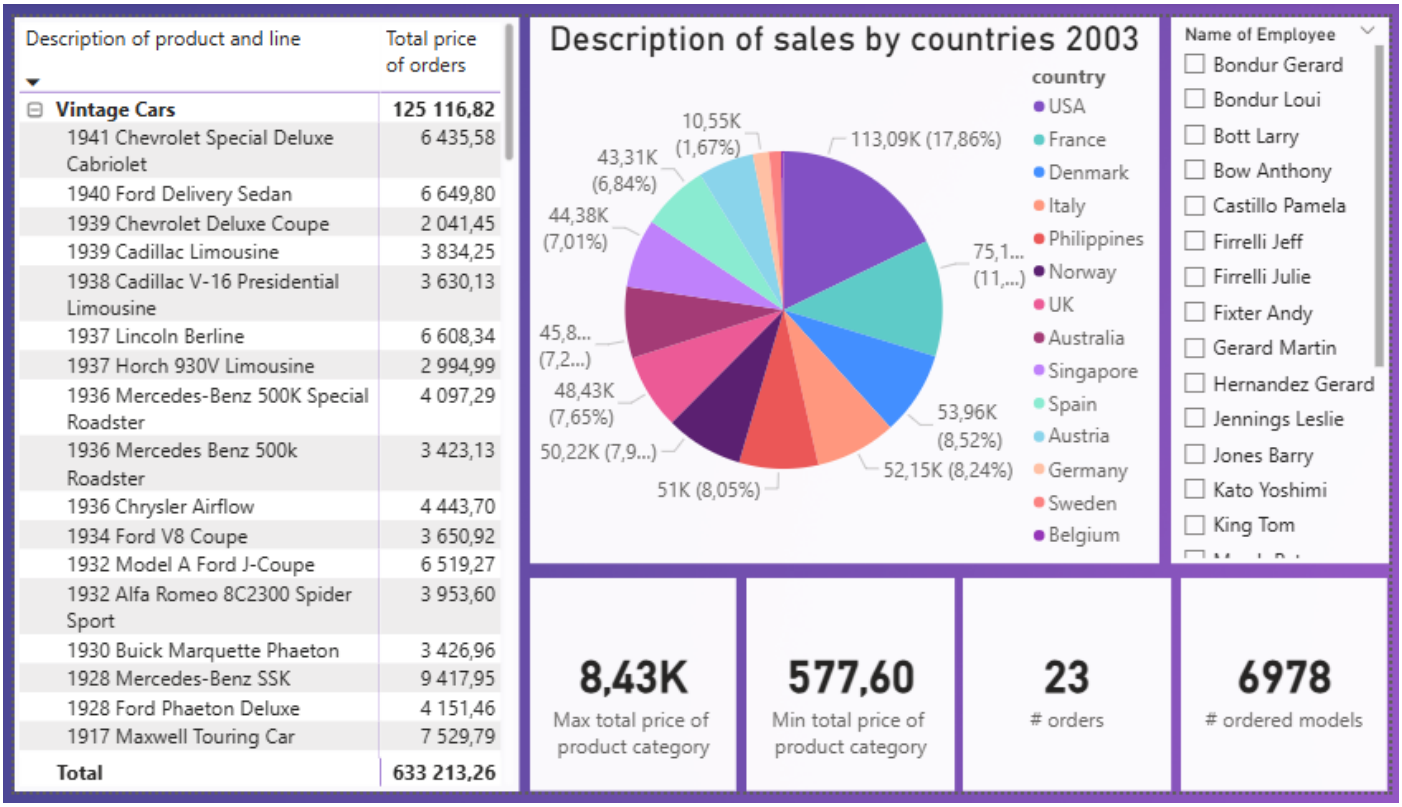
The following dashboard focused on the current status of warehouse stocks. It also displays a description and categorization of goods as well as the number of models sold.



The dashboard below provides information about sales by country. It is also possible to select a specific car model or filter by dealer.



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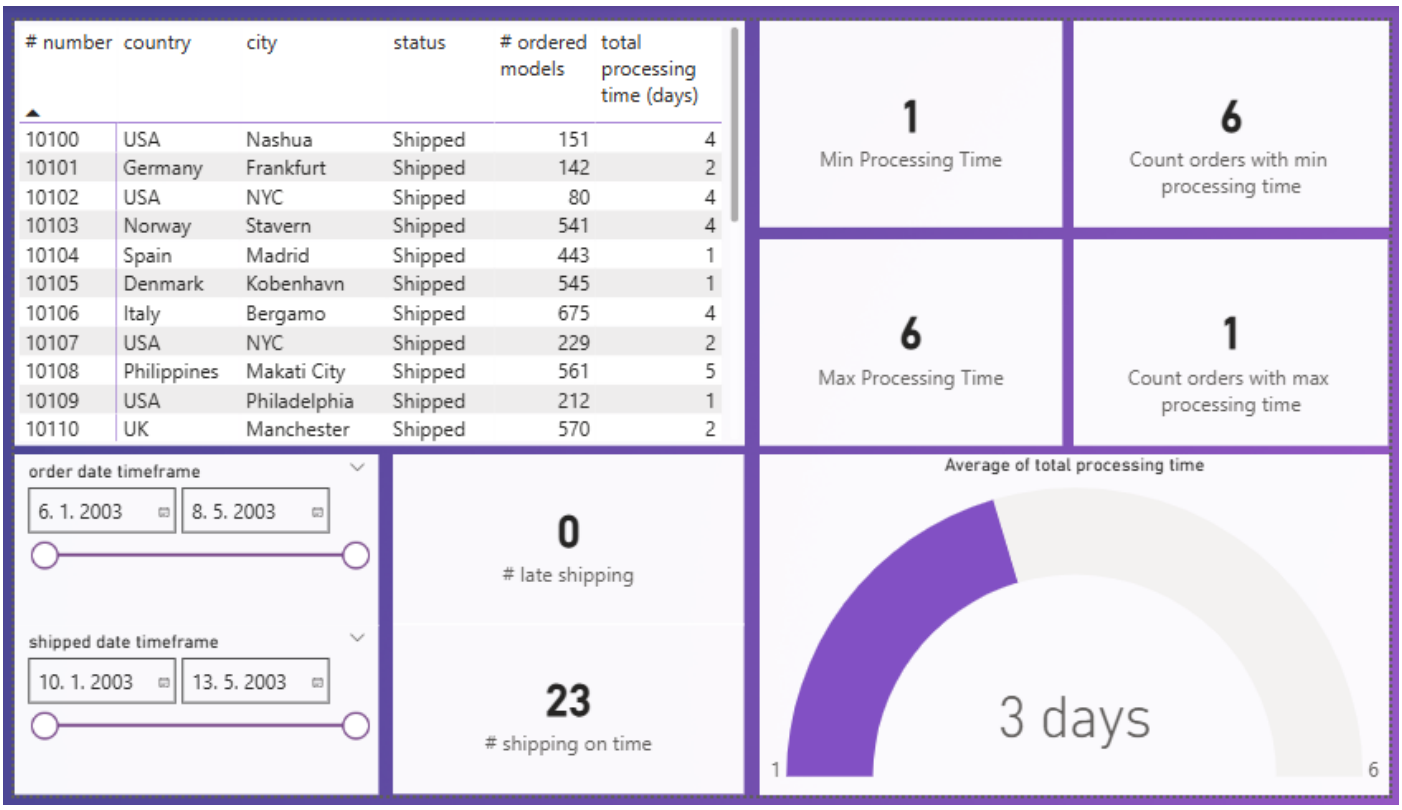
The last dashboard focuses on the speed of shipping goods from the date of order received. It is possible to filter data by date and select by order number.