

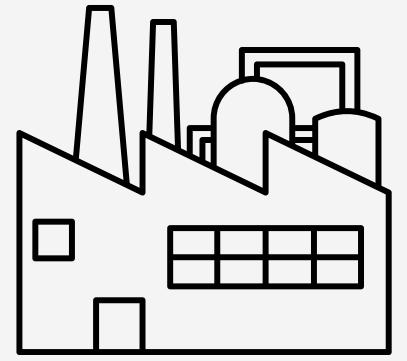
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SIEMENS ADVANTA CONSULTING

CASE STUDY CHALLENGE



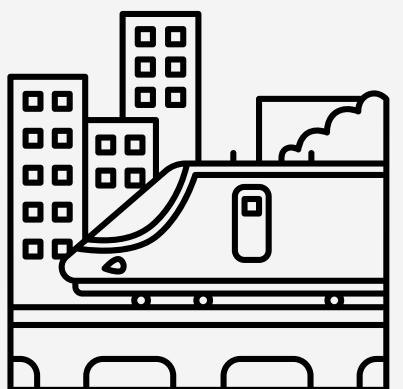
BACKGROUND



Industry



Infrastructure



Transport



Healthcare



Siemens AG
**Largest manufacturing
company in Europe**

CHALLENGES

1. Increase of sales margins

2. Lack of consistency and transparency about quotes to customers



SOLUTION
Sales Forecasting

HOW?

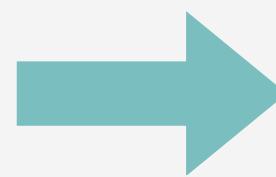
- 1. Leverage historic data**

- 2. Apply forecasting techniques
and machine learning**

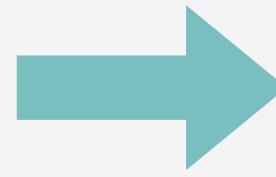


WHY?

**Make more informed price
recommendations to the
Smart Infrastructure Division**



Improve sales margin



Enhance customer transparency



METHODOLOGY

01

Exploring

- Business Understanding
- Problems
- Features

02

Preparing

- New data
- Missing Values
- Creating new features
- Feature selection

03

Visualizing

- Data patterns
- Structural problems
- Early insights

METHODOLOGY

04

Modeling

- 6 models
- Testing different combinations of models and features

06

Final Prediction

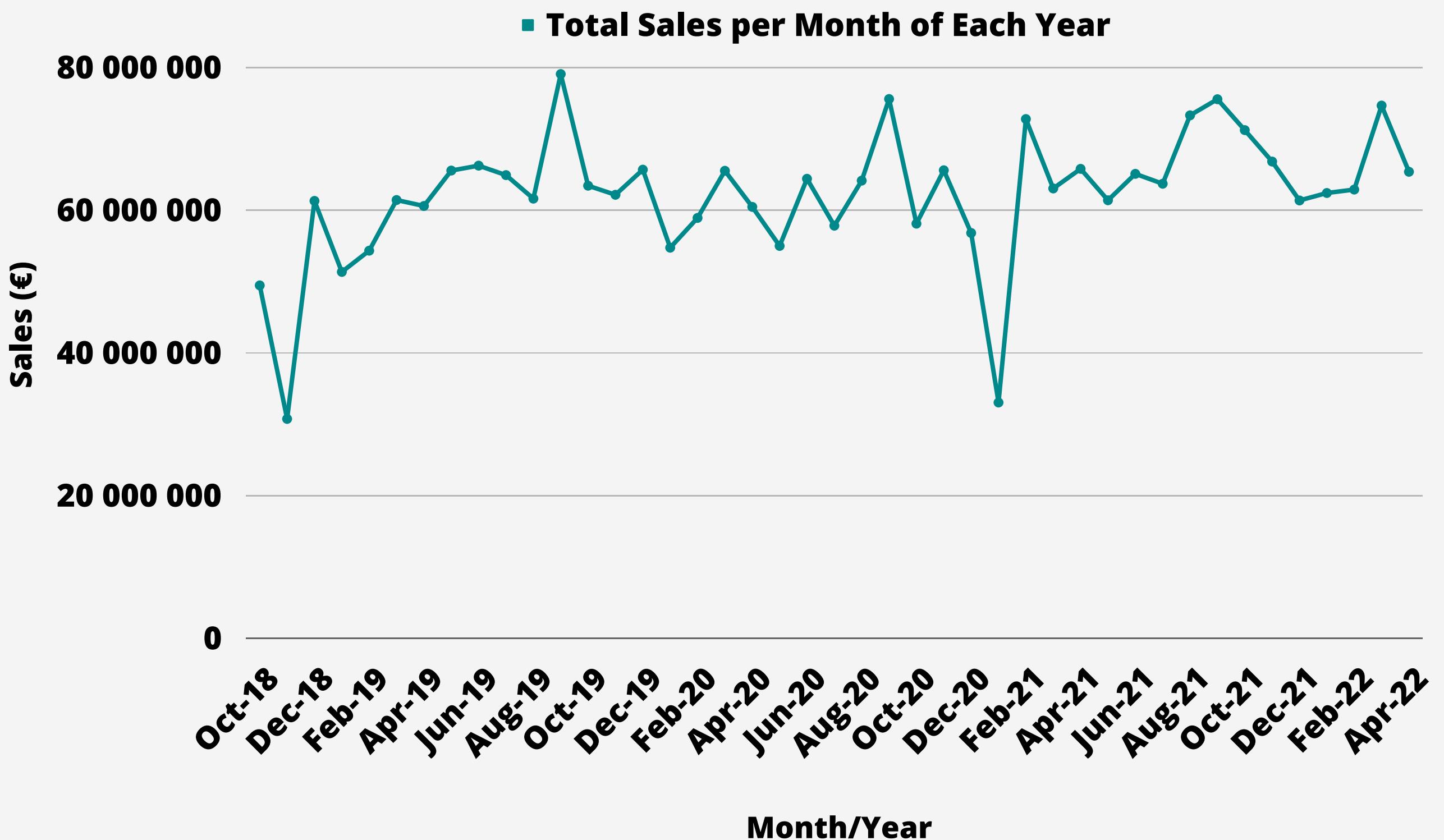
- Future sales

05

Evaluating

- Performance metrics
- Visualizations

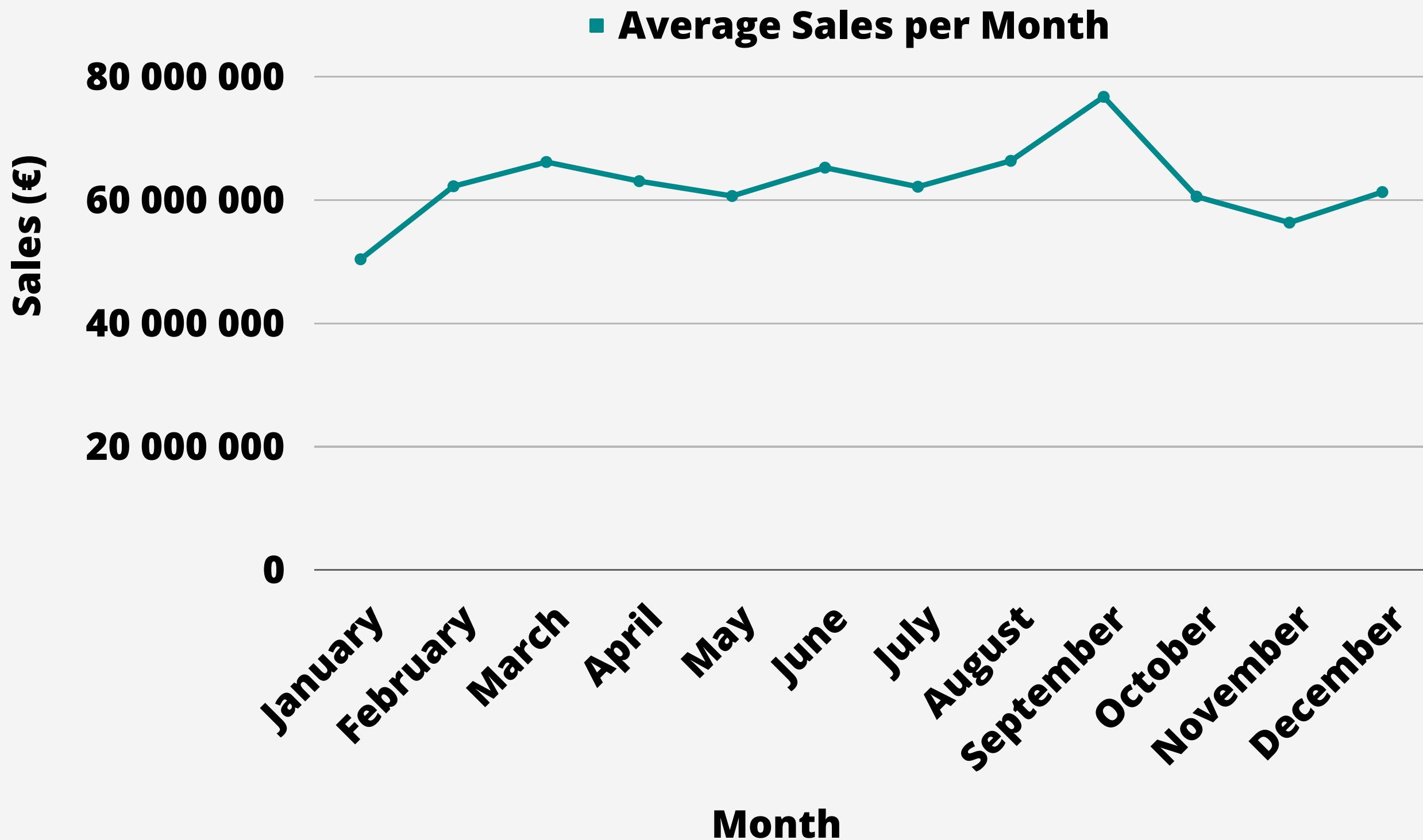
OUR SALES



GCK 1
Highest sales on average

GCK 20
Lowest sales on average

OUR SALES



Highest sales
in the third
quarter

MODELING (FOR EACH PRODUCT)

01 Models

- Mean
- Median
- Distribution based Simulation
- Auto Arima
- Prophet
- XGBoost



Ensemble

02 Splitting

- Most efficient split of the data (considering the RMSE)

03 Hyper tuning of the parameters

- Grid-search

RESULTS & EVALUATION

01 Performance Metrics

- MAE
- RMSE
- R-Squared
- MAPE (%)

02 Visualizations

03 Final Score



DEPLOYMENT & MAINTENANCE PLAN

1. Data and Model

- Data and business understanding
- Forecasting
- Presentation

2. Put into production

- Ensure compatibility
- Integration and system testing

3. Training and Support

- Present essential guidelines
- Regular training sessions

4. Monitor performance

- Regular updates
- Provide a detailed report
- Revaluation

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CONCLUSION



THANK YOU

We look forward to hearing
from you!

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