



# Optimising Sales Forecasting

A Comprehensive Approach to Data-Driven Decisions in Germany's Smart Infrastructure Division

# Agenda

## — Project Setup —

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2 | Methodology

## — Data Understanding —

3 | Historical Sales

4 | Dominating Products

## — Evaluation —

5 | Competition

6 | Forecasts

## — Next Steps —

7 | Recommendations

8 | Next Step

# Business Problem



## **Inefficiency**

Traditional sales forecasting methods are resource and time intensive.



## **High Opportunity Costs**

Excess inventory, lost sales and reduced customer satisfaction due to supply-demand mismatches.

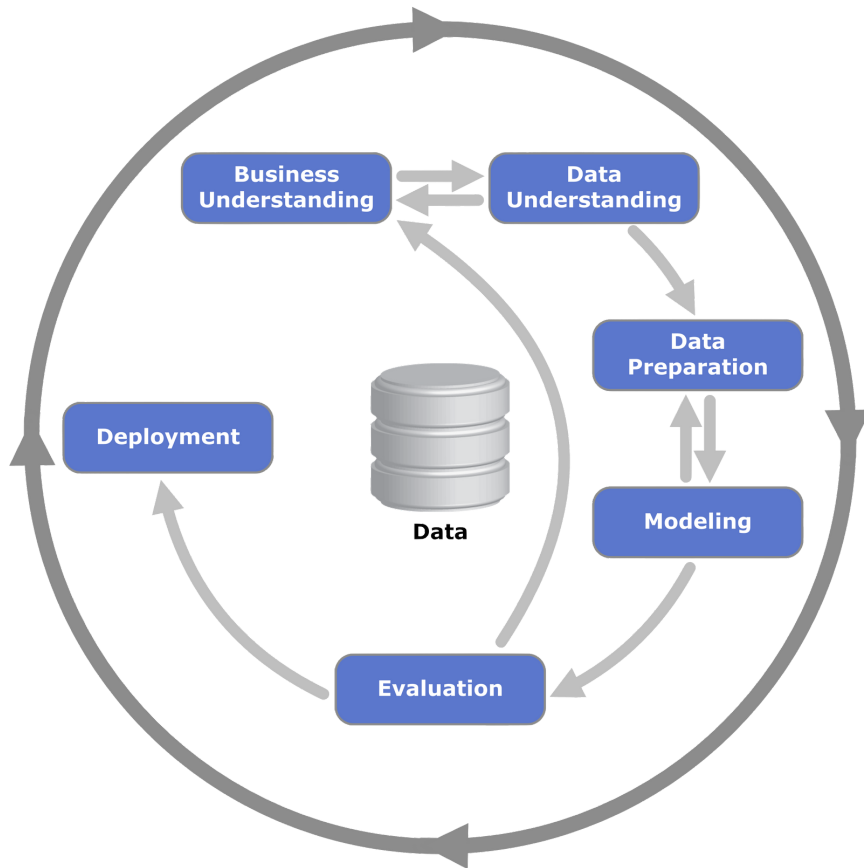


## **Bias in Manual Forecasting**

Current manual processes are prone to human bias and inconsistencies.

Current manual forecasting at Siemens presents untapped opportunities for optimising capital use and enhancing customer satisfaction through more accurate demand alignment.

# Methodology



## Data Understanding

- Find relations between macro-economic data and sales
- Find seasonal and trend patterns
- Identify outliers

## Modeling

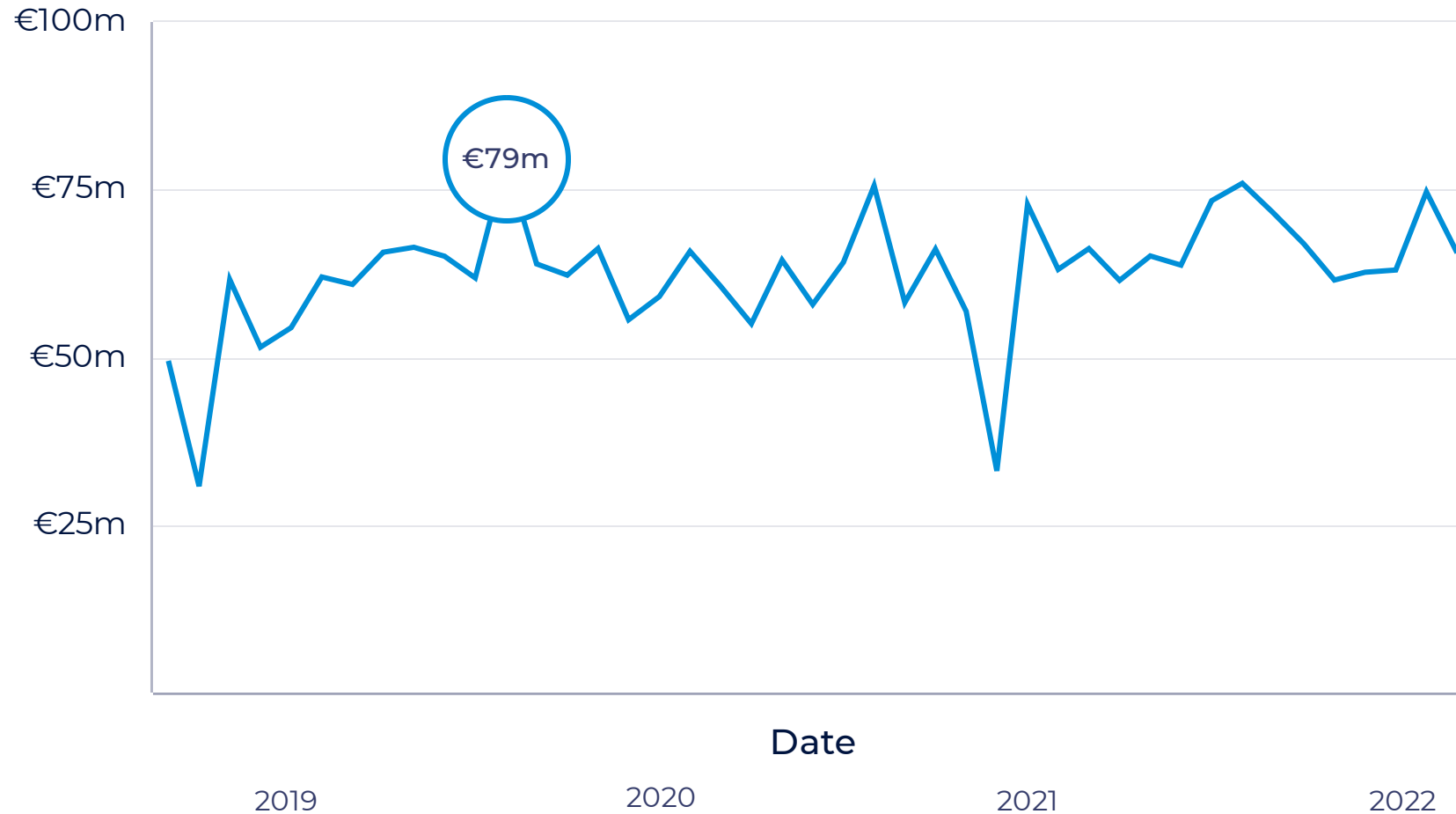
- Iteratively prototype and pivot
- Create standardised prototypes for quicker

## Evaluation

- Find the most accurate model and enhance it
- Strategically select the model

# Historical Sales

Overall Sales across all Product Groups



536 mil. €

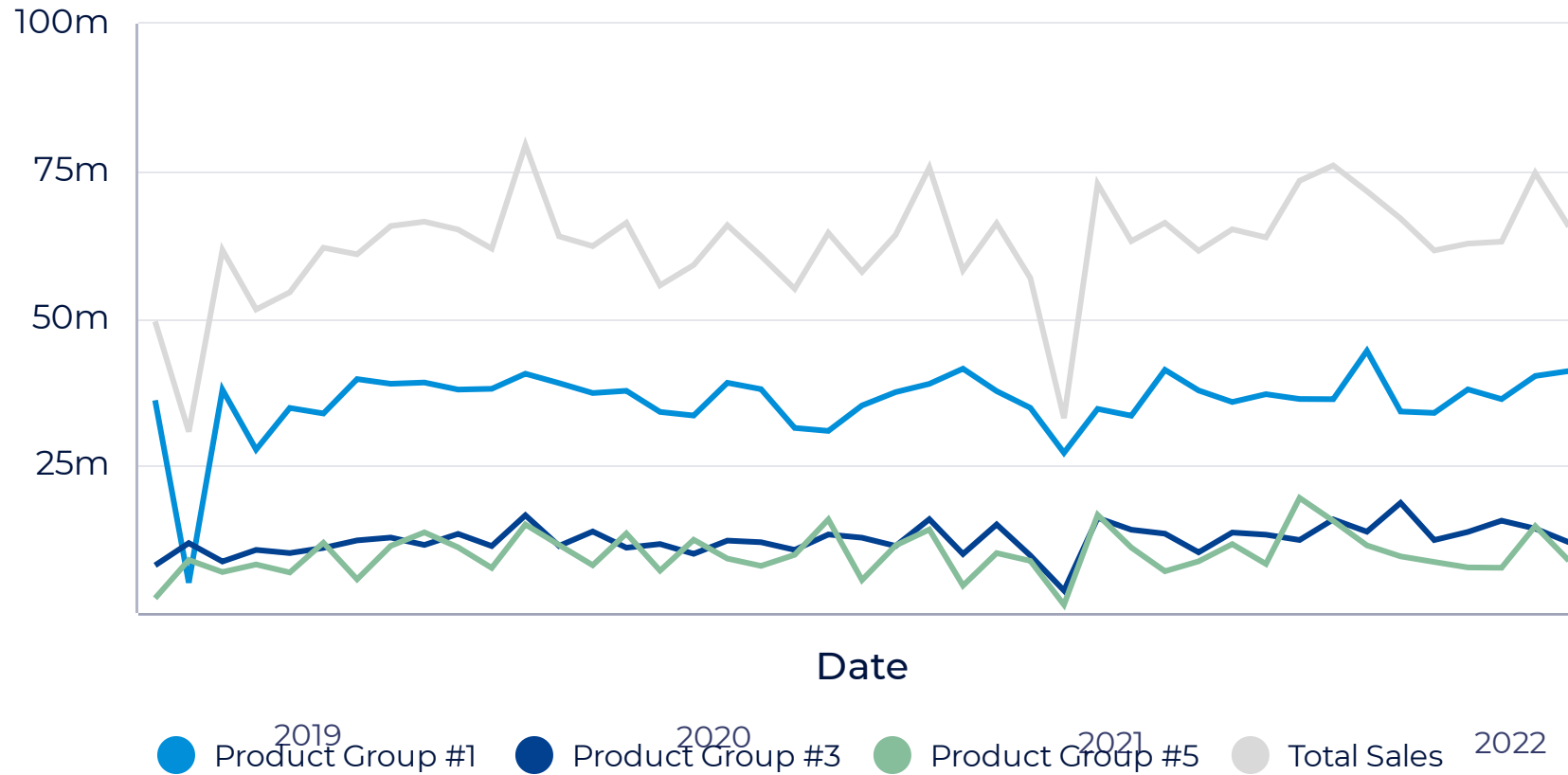
revenue a Year

14

different product groups

# Historical Sales

Overall Sales across all Product Groups



94 %

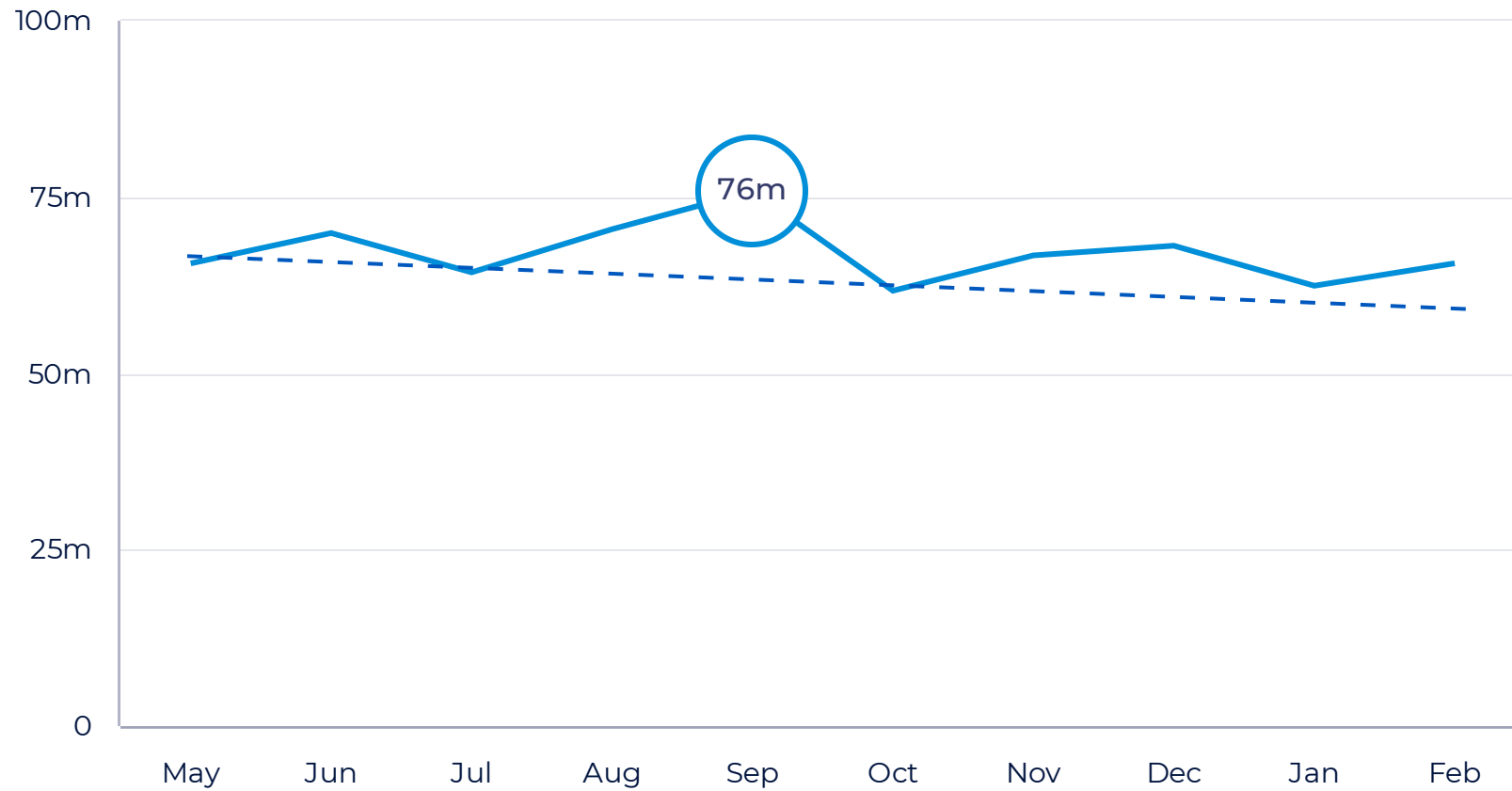
of total revenue is driven  
by **3 Products**

58 %

of total revenue is driven  
by **1 product**

# Forecast

Total Sales Trend for the next 10 months



300k €

**seasonal decrease** in  
sales on average over the  
next 10 months

# Recommendations



## Cross-Department Collaboration

Consolidate data of various departments to get a holistic view of sales development



## Dashboard Building

Tracking of predicted vs. actual sales, featuring drill-down analytics



## Pricing Strategy

Utilize forecast to run an automated pricing system

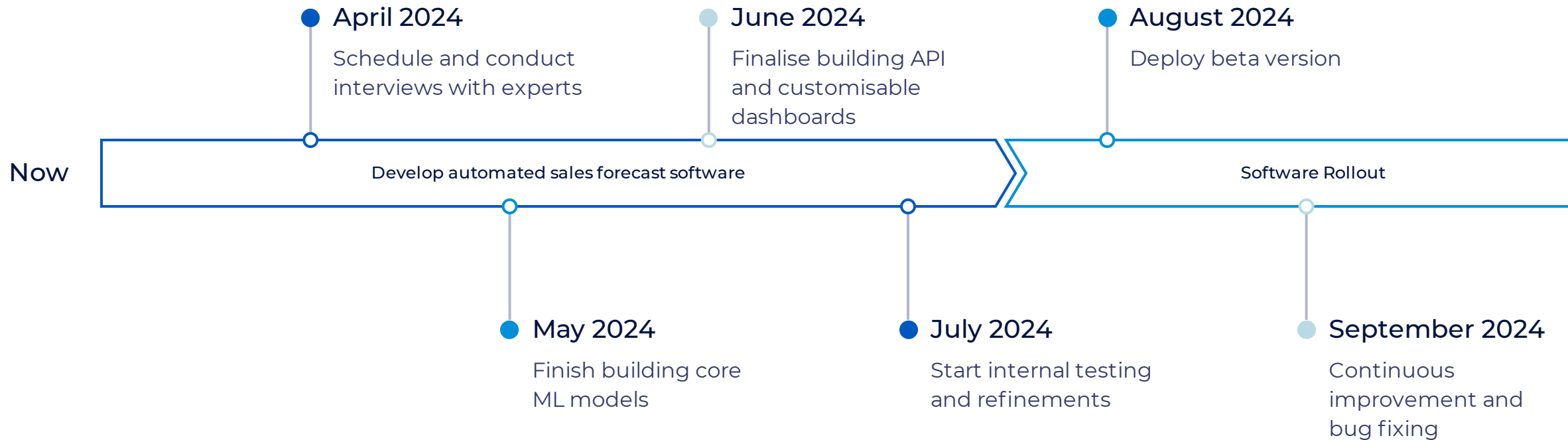


## Scenario Planning

Incorporate Scenarios, like market demand shifts, regulatory changes or supply chain disruptions



# Next Steps



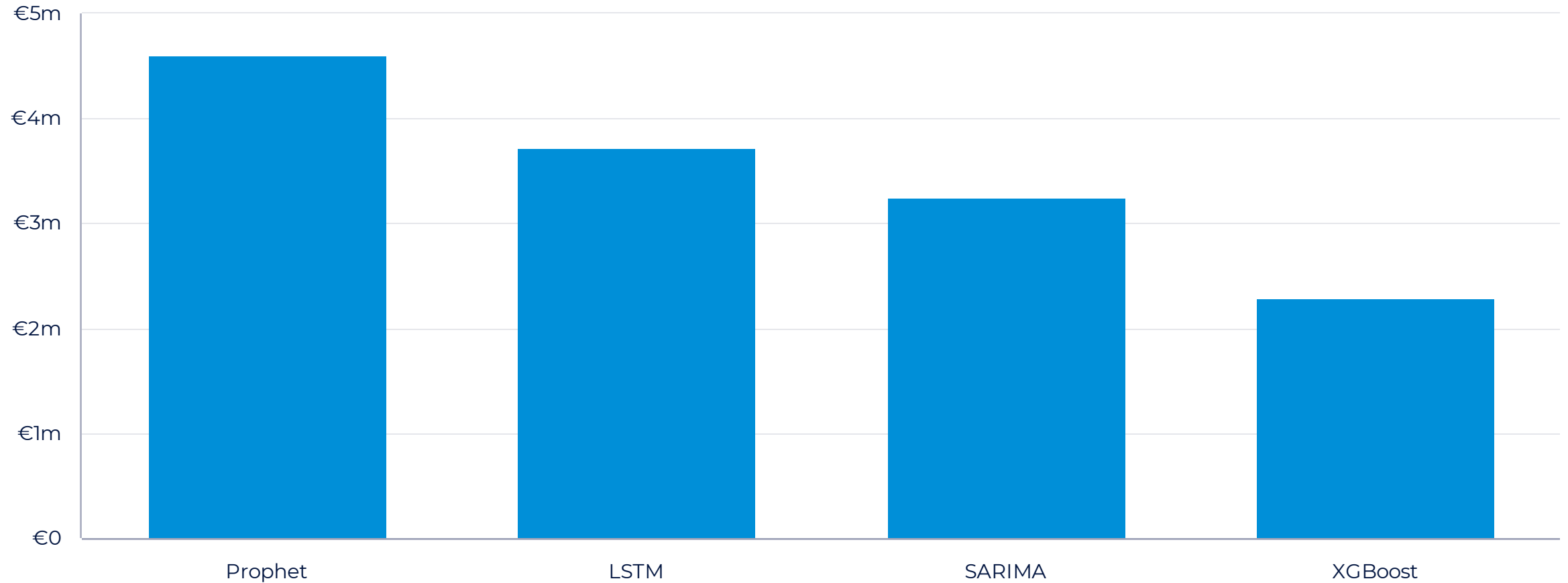


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# Model Evaluation

Comparison of model error\* metrics



\*Error metric used was  
Root Mean Squared Error