

IMMO ELIZA - PROPERTY PRICE PREDICTOR

Sprint 2: Exploratory Data Analysis
Progress Report

AGENDA

1. Context
2. The objectives of this week
3. How many properties and features do we have?
4. The prices are subject to outliers
5. Important features in relation to the price
 - a. Energy
 - b. Living area
6. The most expensive localities in Belgium
7. Conclusion



Mission

Create a Machine Learning
Model to predict prices on
Belgium's real estate's
sales for Immo Eliza

WEEKLY BREAKDOWN

Week 1:

- Collect data by scraping Immoweb



Week 2:

- Data cleaning and Exploratory Data Analysis



Week 3:

- Create a Machine Learning Model

Week 4:

- Deploy Model



Week 2 Objectives

- What are currently the most interesting insights about the Belgian real estate market?
- What variables are the most important when determining the price of a property?

How many properties and features do we have?

How many properties?

Around 17,500 total

- Flanders: 10,500
- Wallonia: 6,000
- Brussels: 1,000

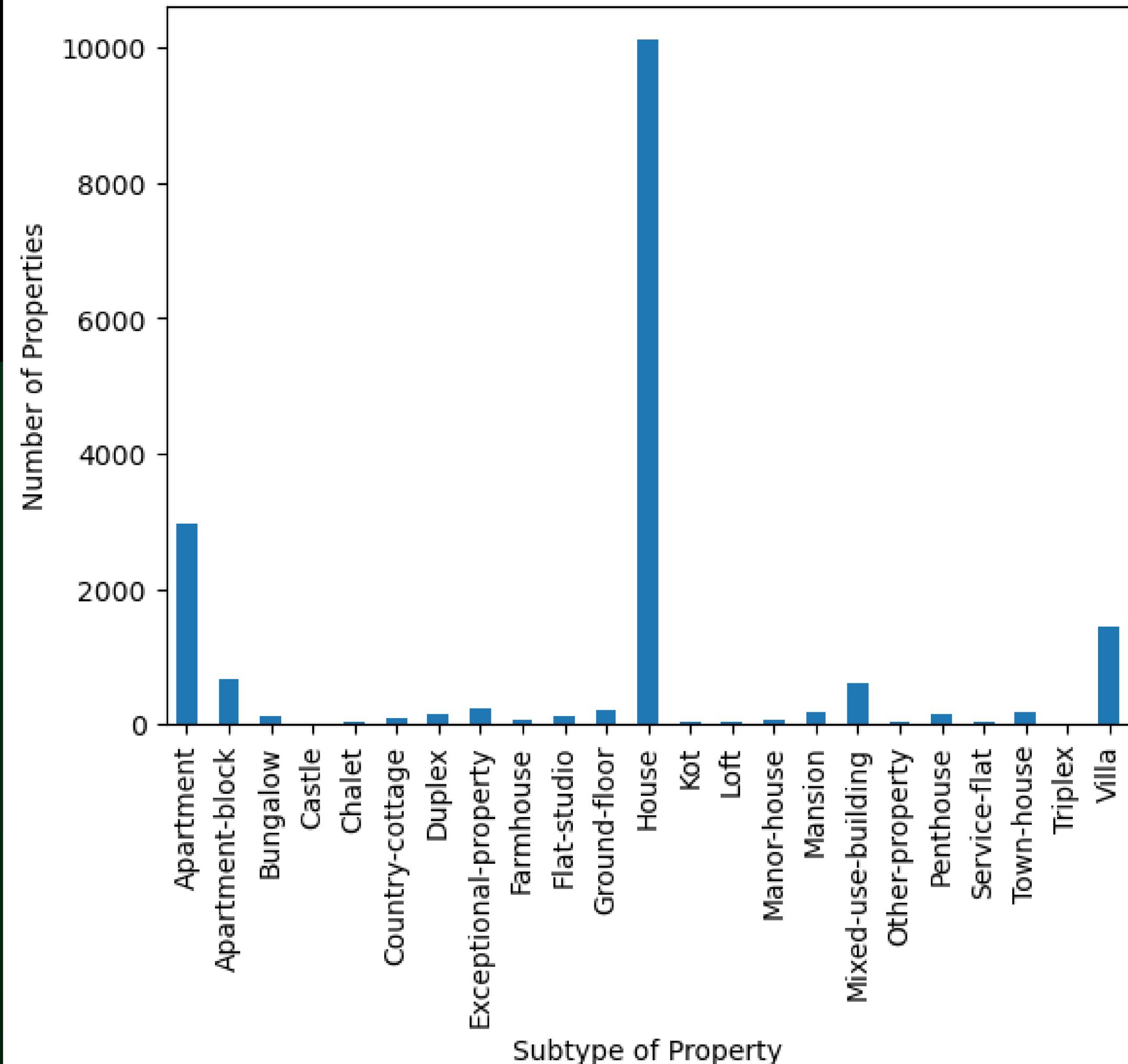
How many features?

87 features

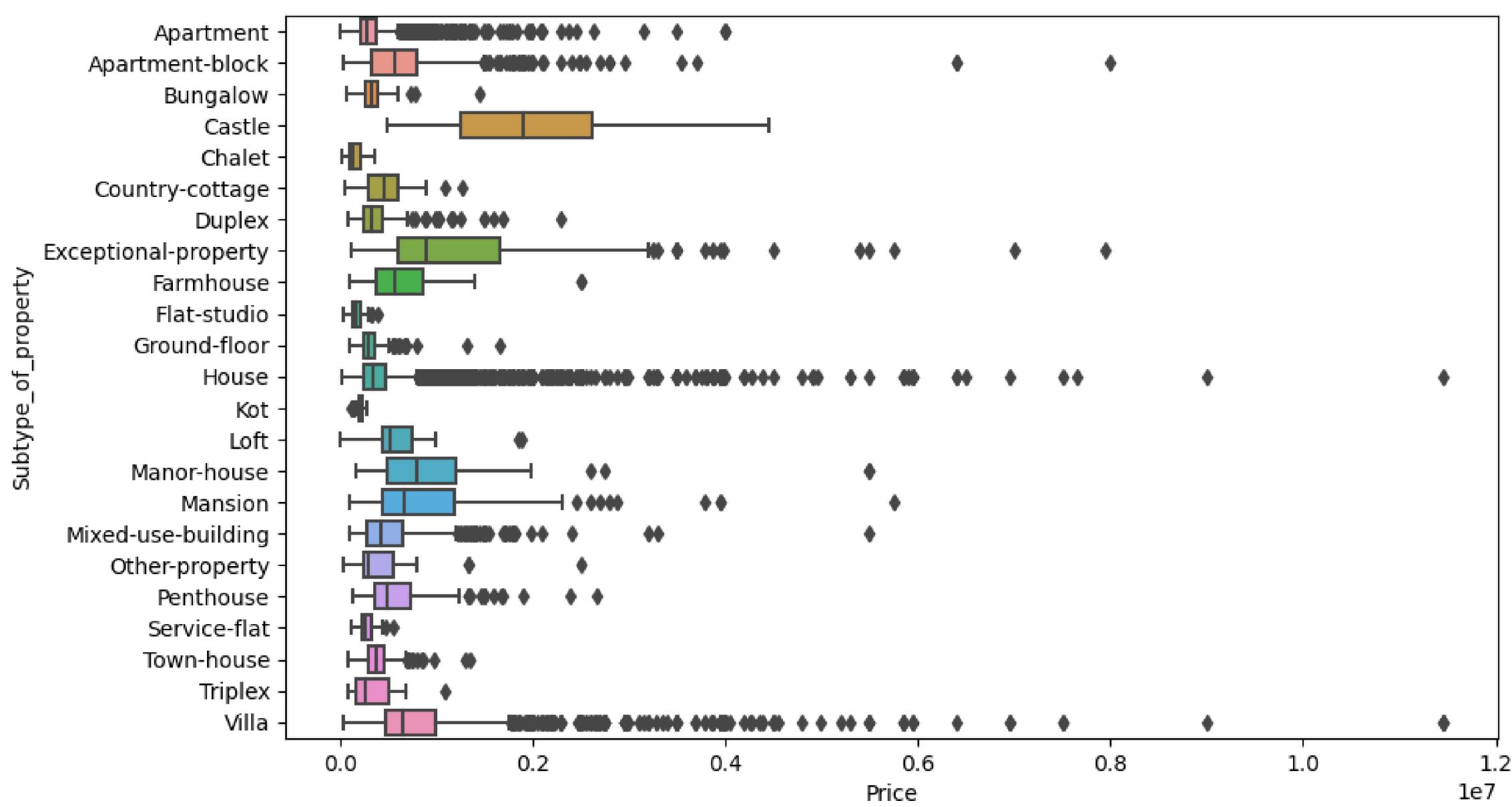
Examples:

- Price
- Number of bedrooms
- Property subtype
- Energy class

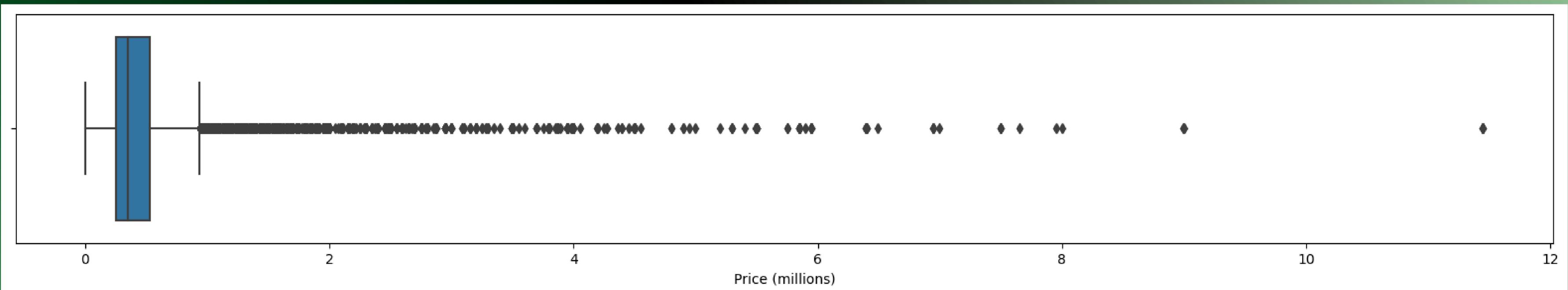
Number of each Property Subtype



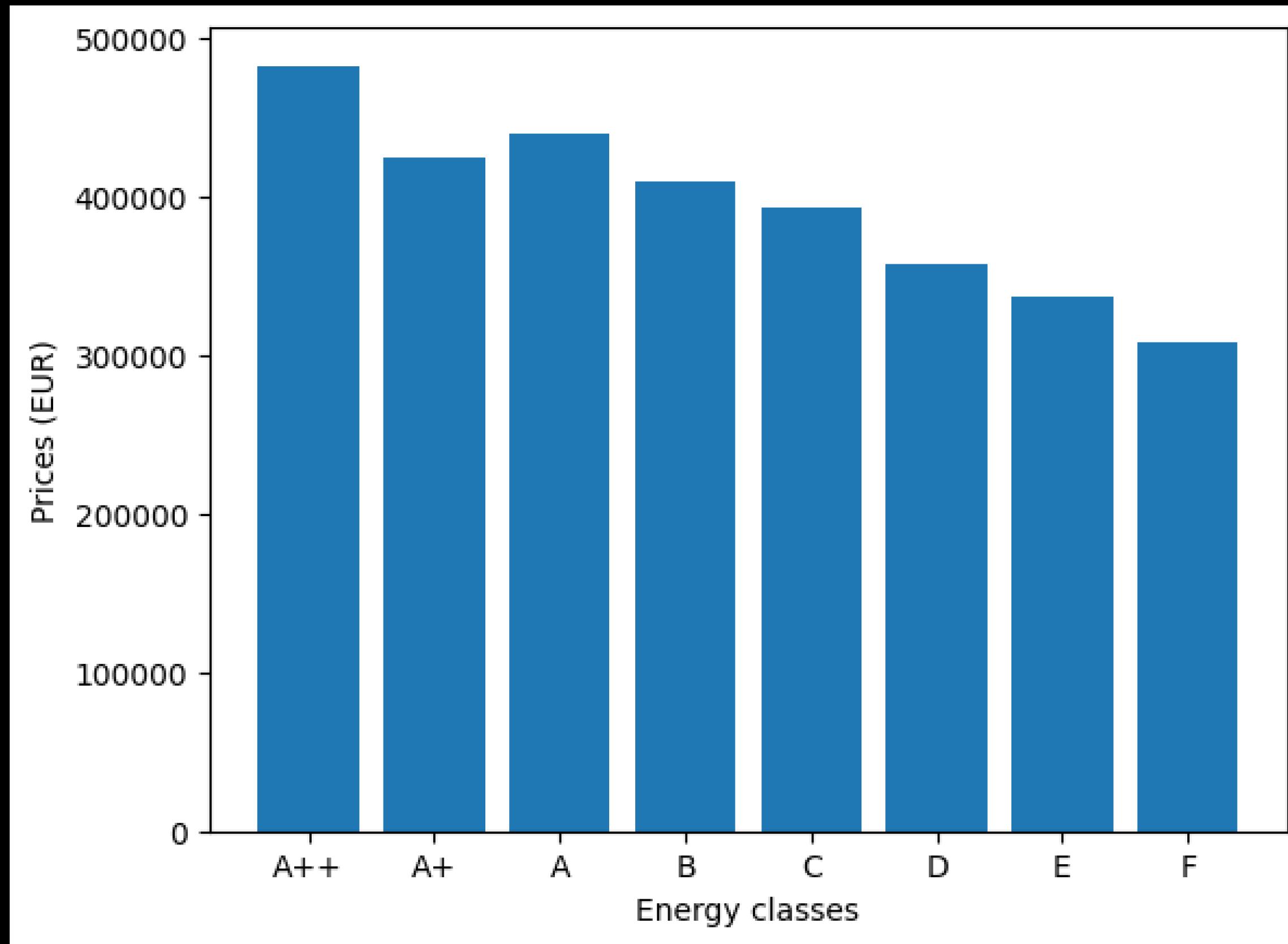
The prices are subject to outliers



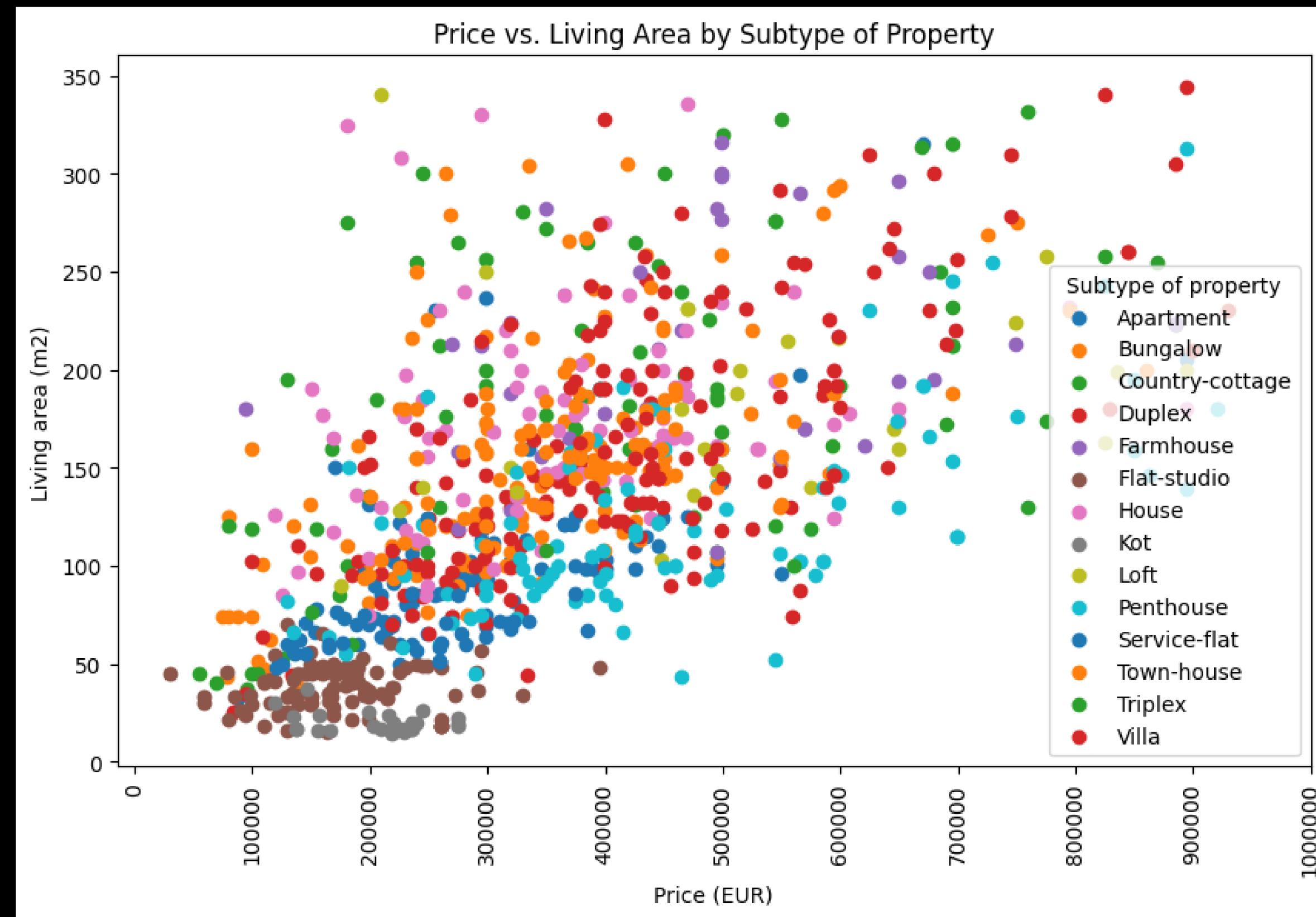
There are a lot of houses/apartments that are sold above 770000 EUR



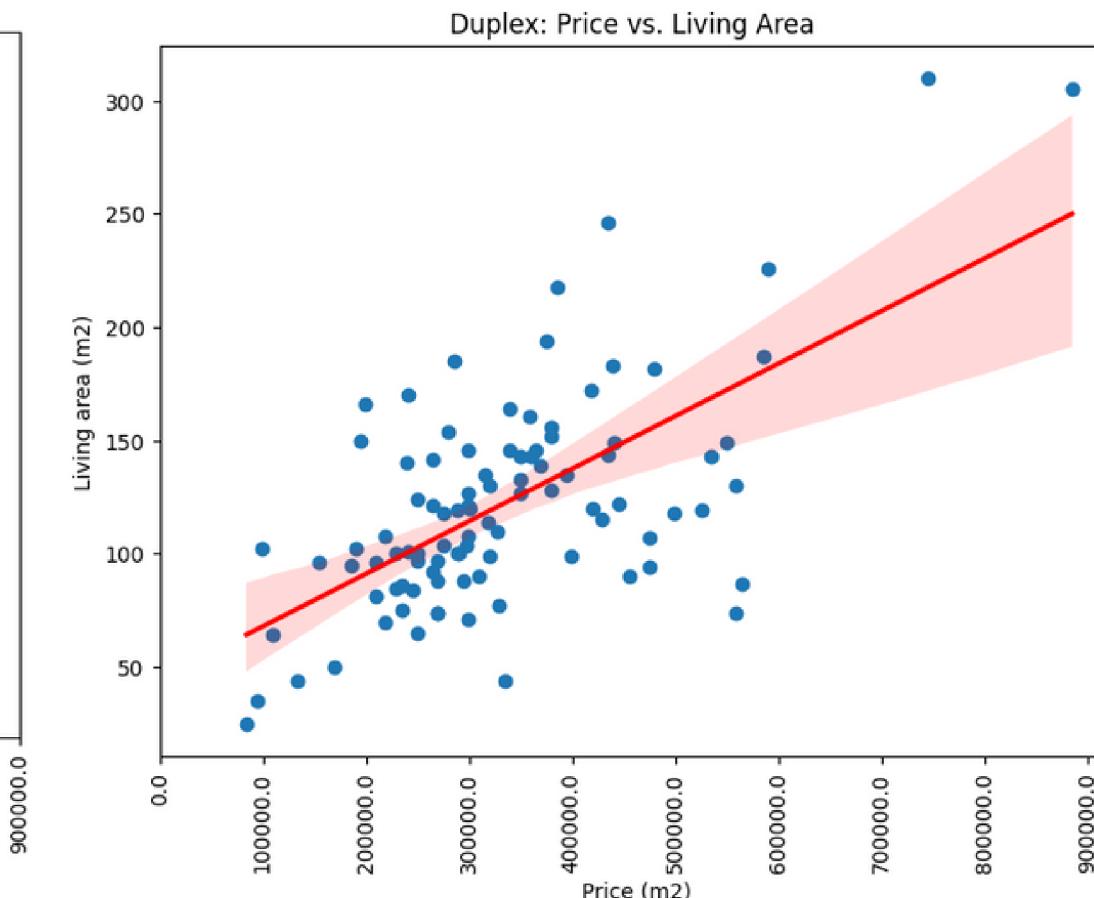
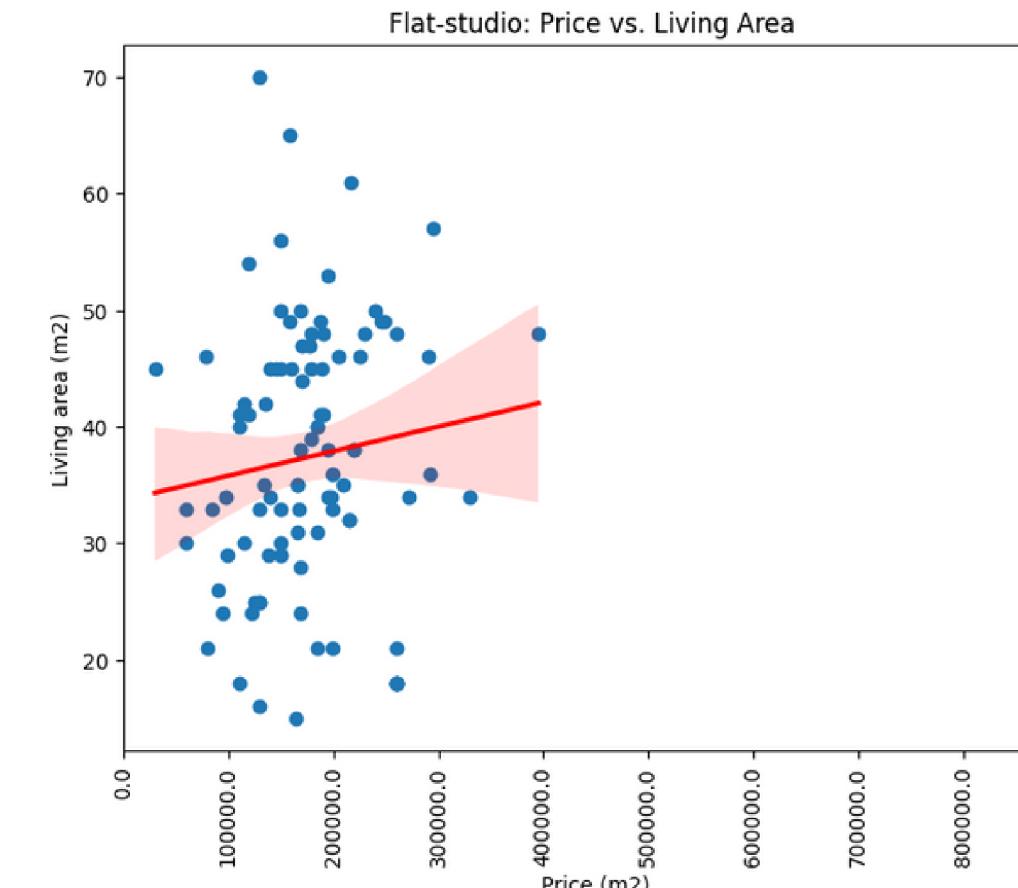
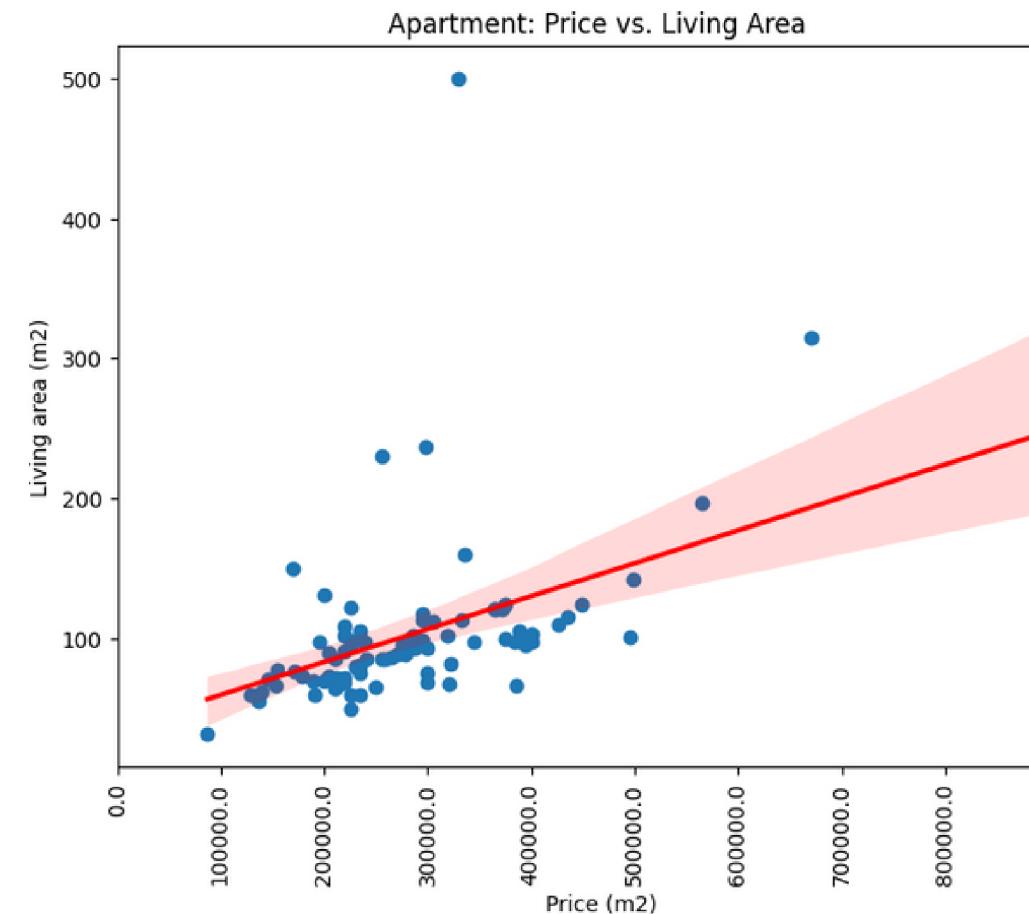
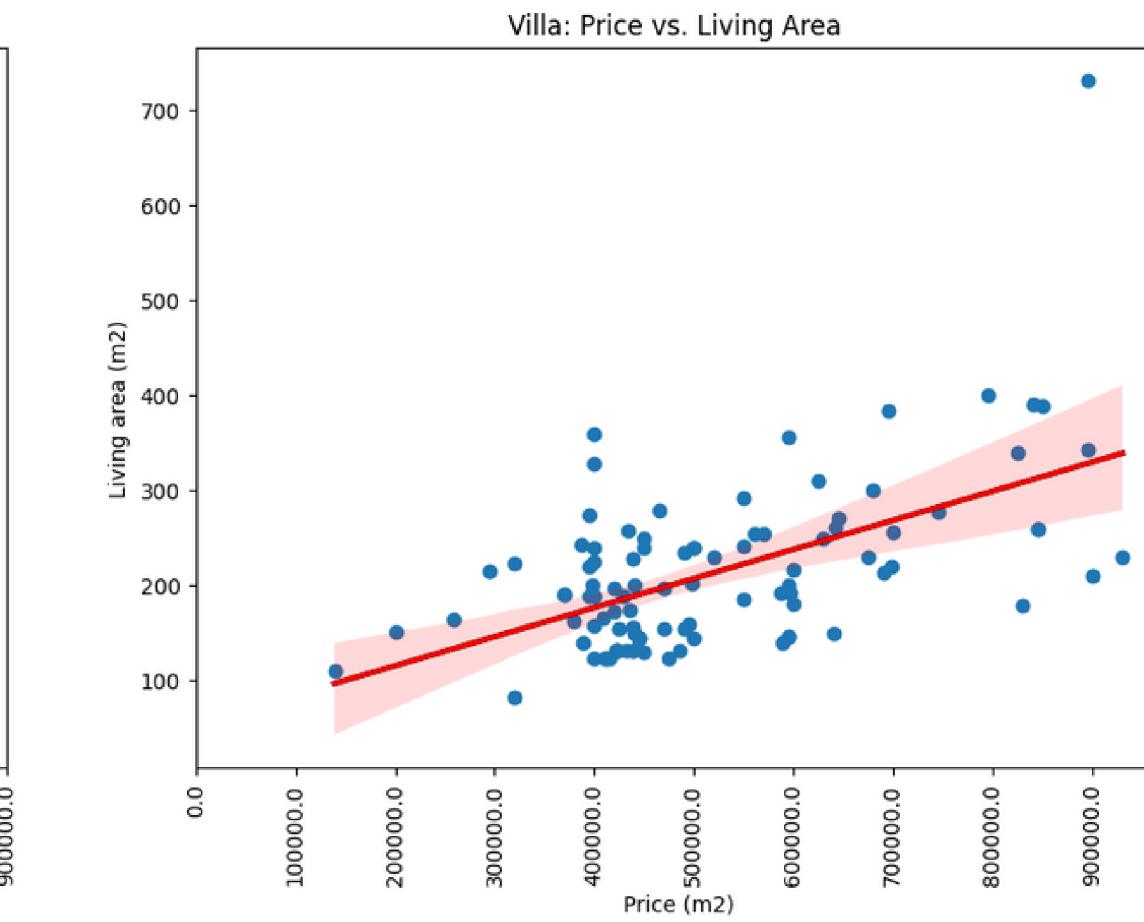
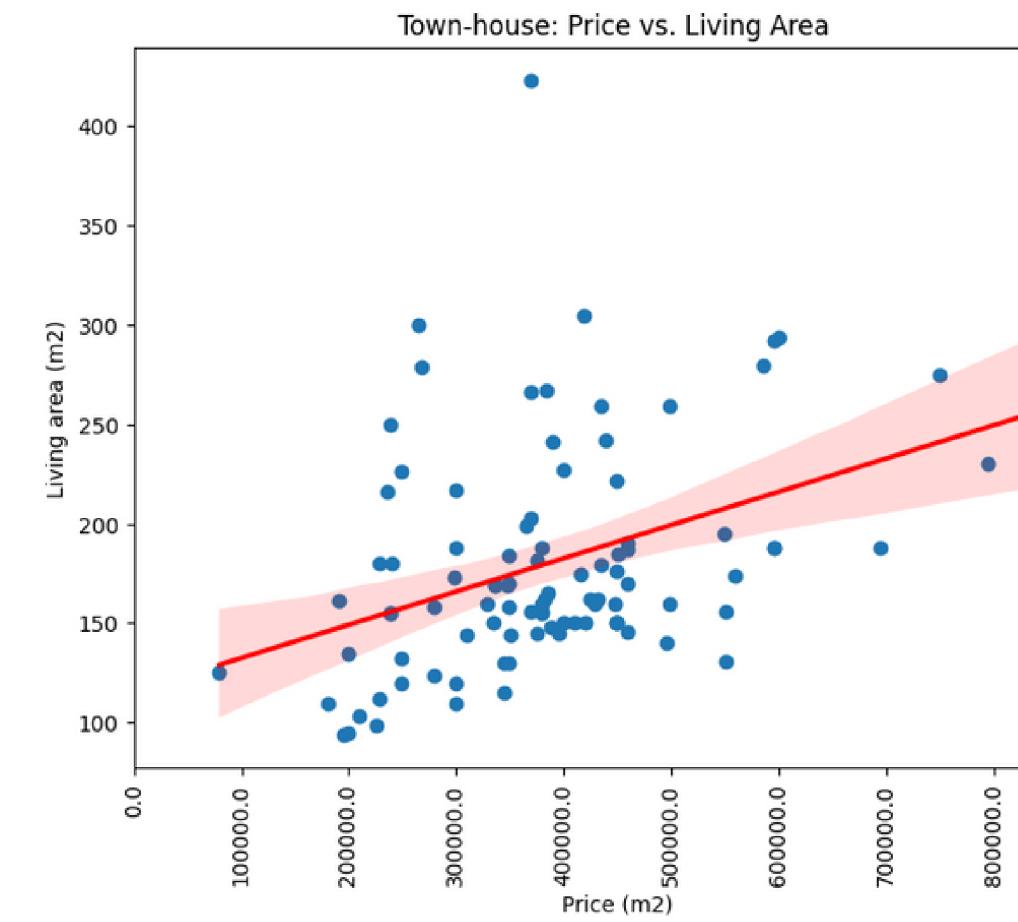
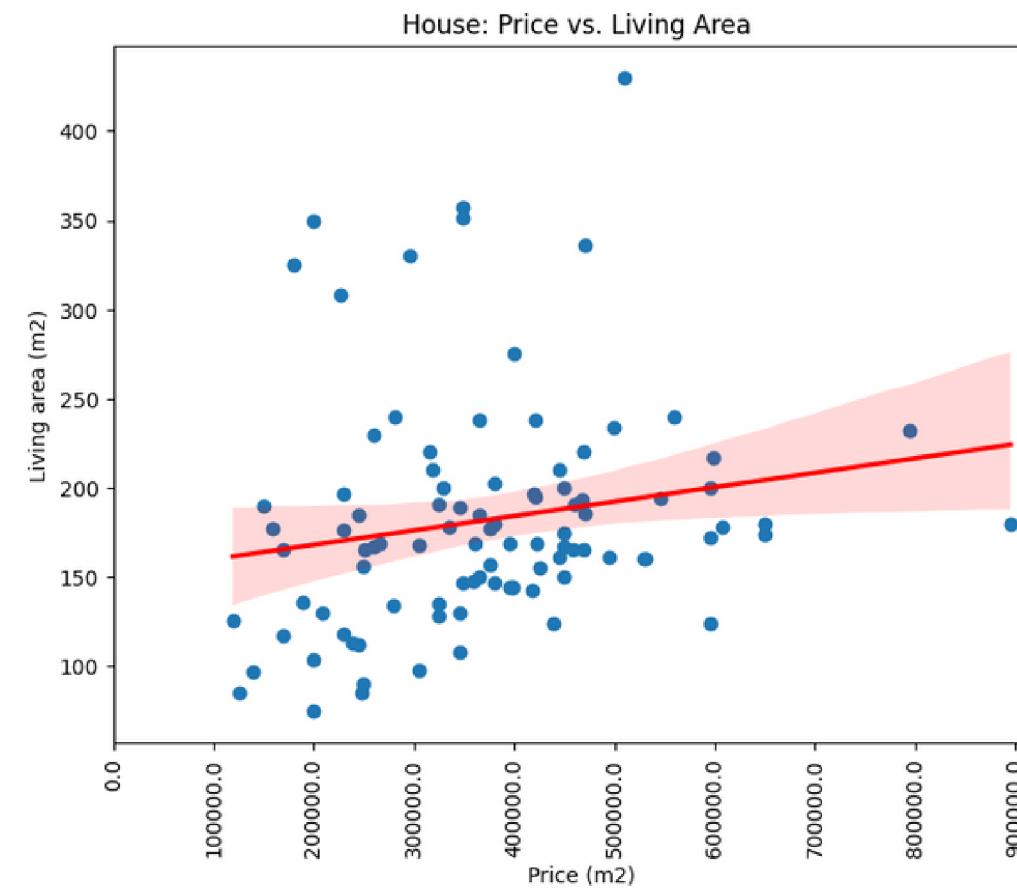
Price has a correlation with the energy class



Living area has a positive linear relationship with price for most of the subtypes of properties

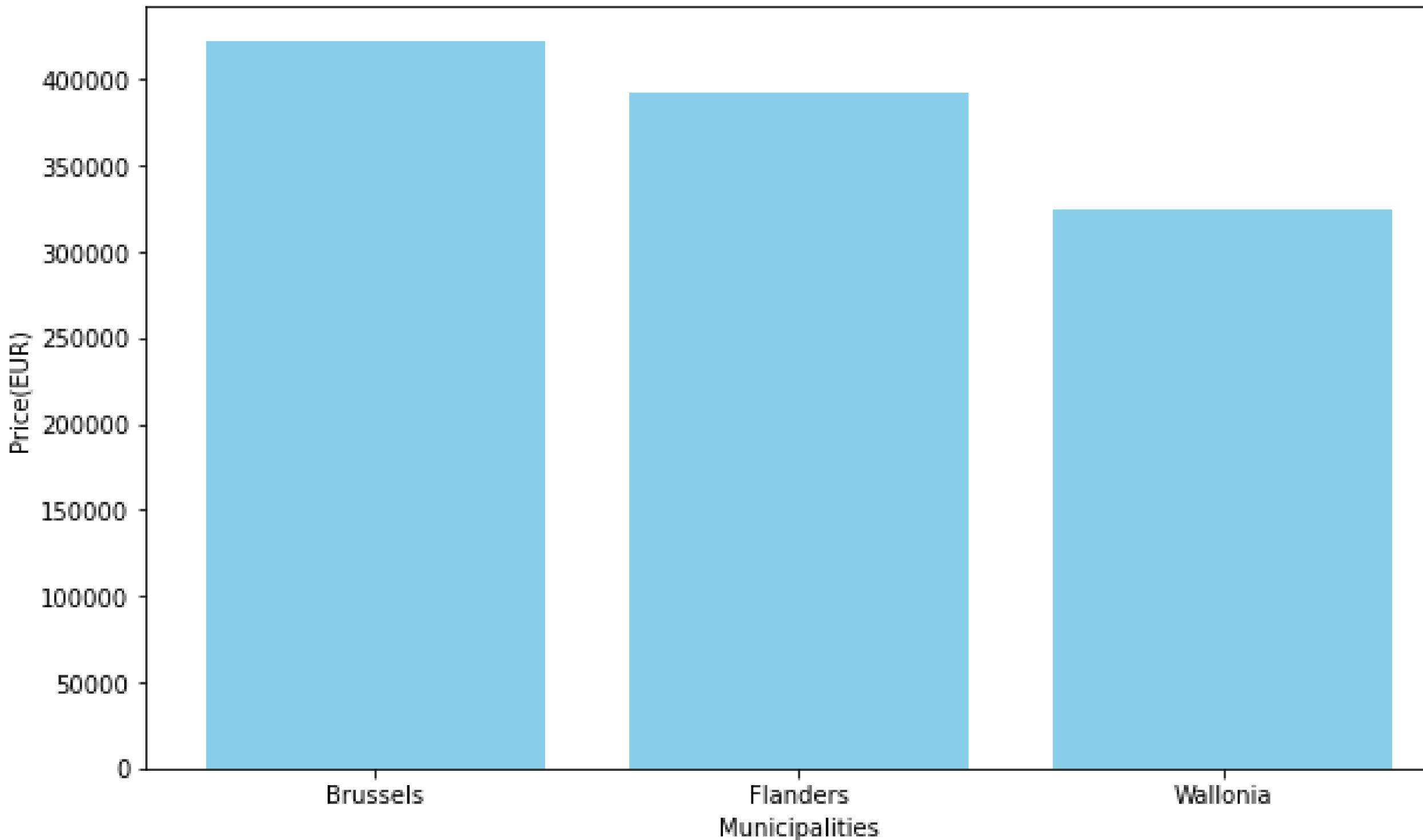


Price/m² relationship varies between property types

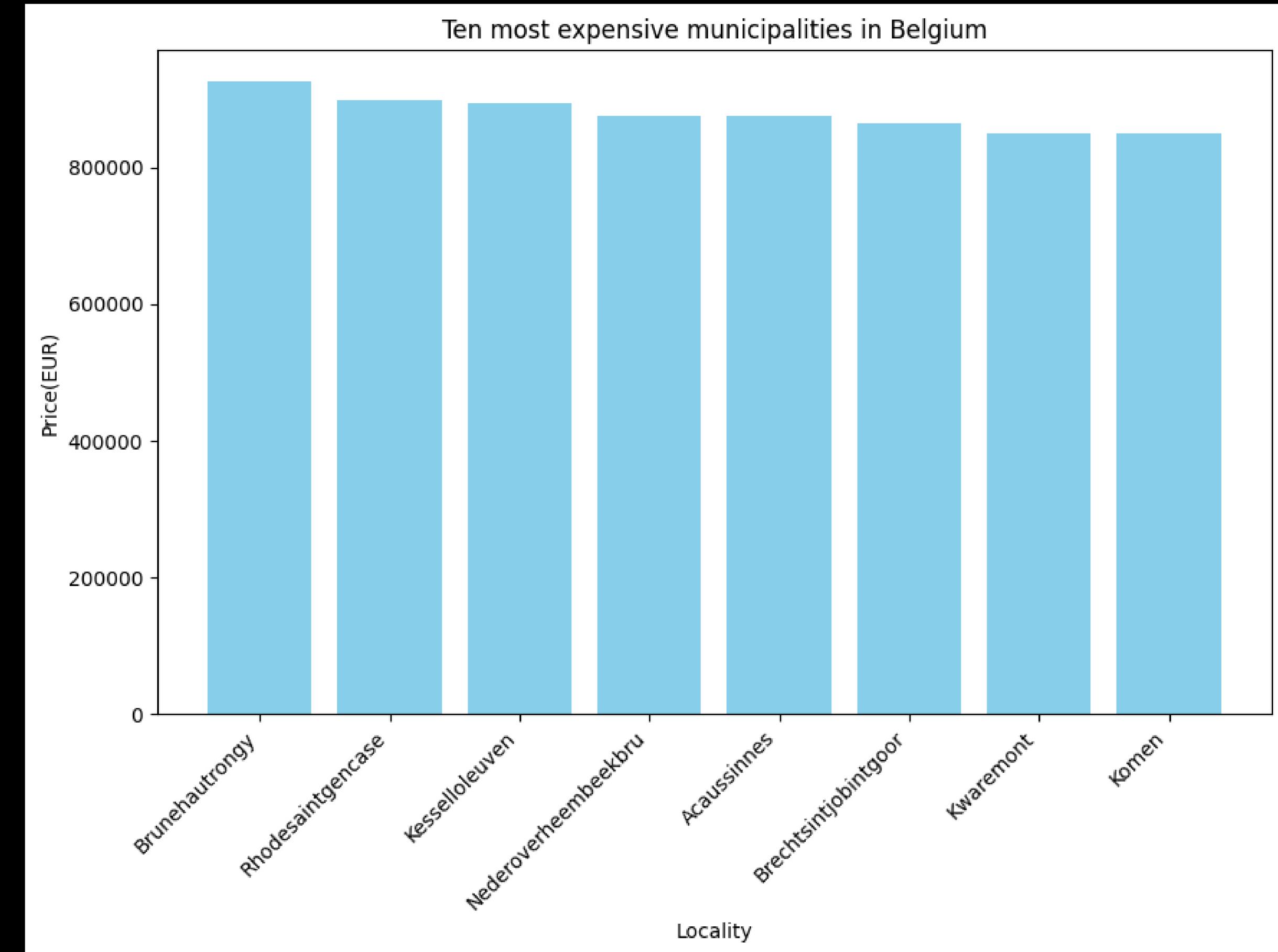


Average prices across Belgium

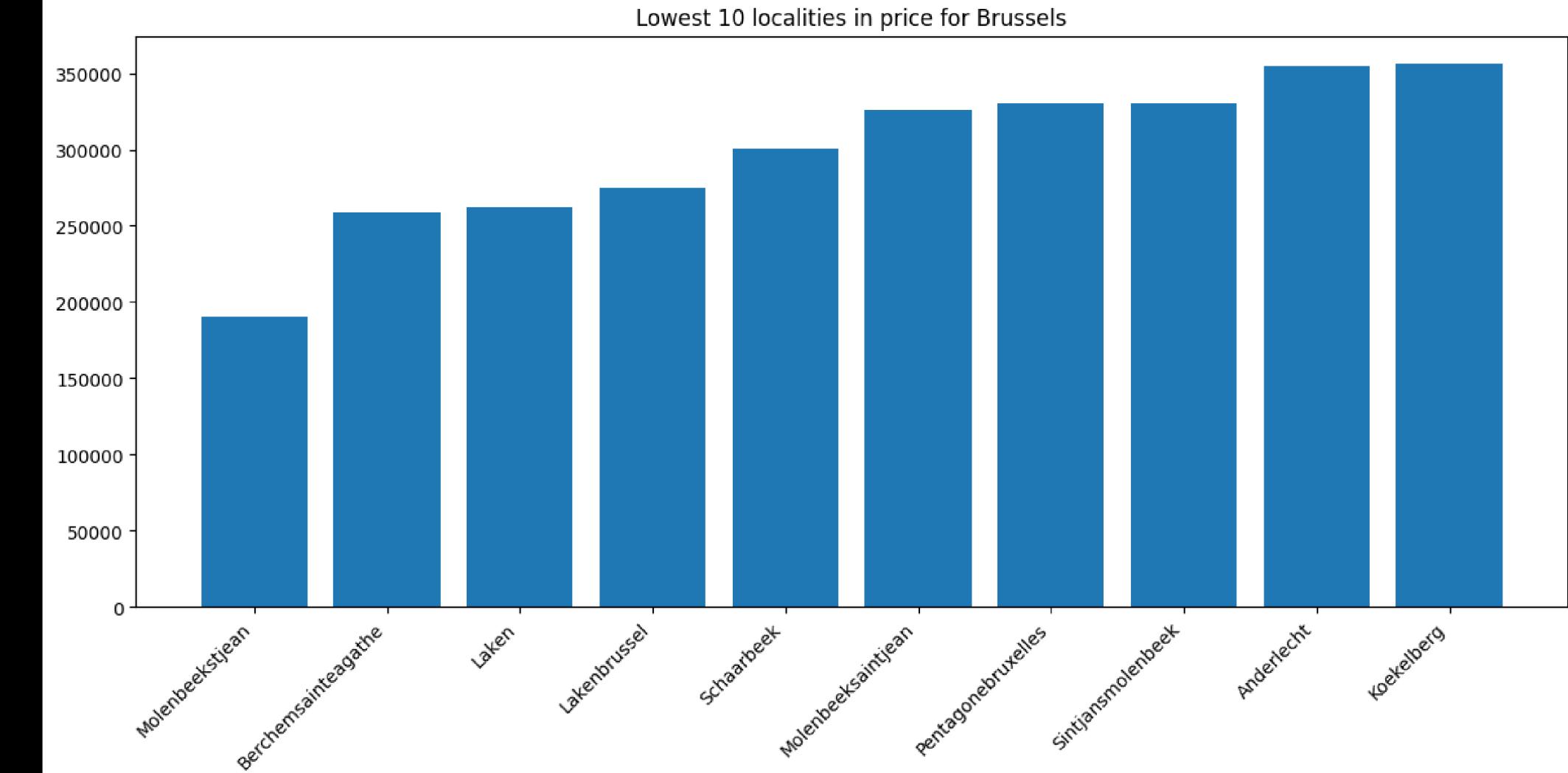
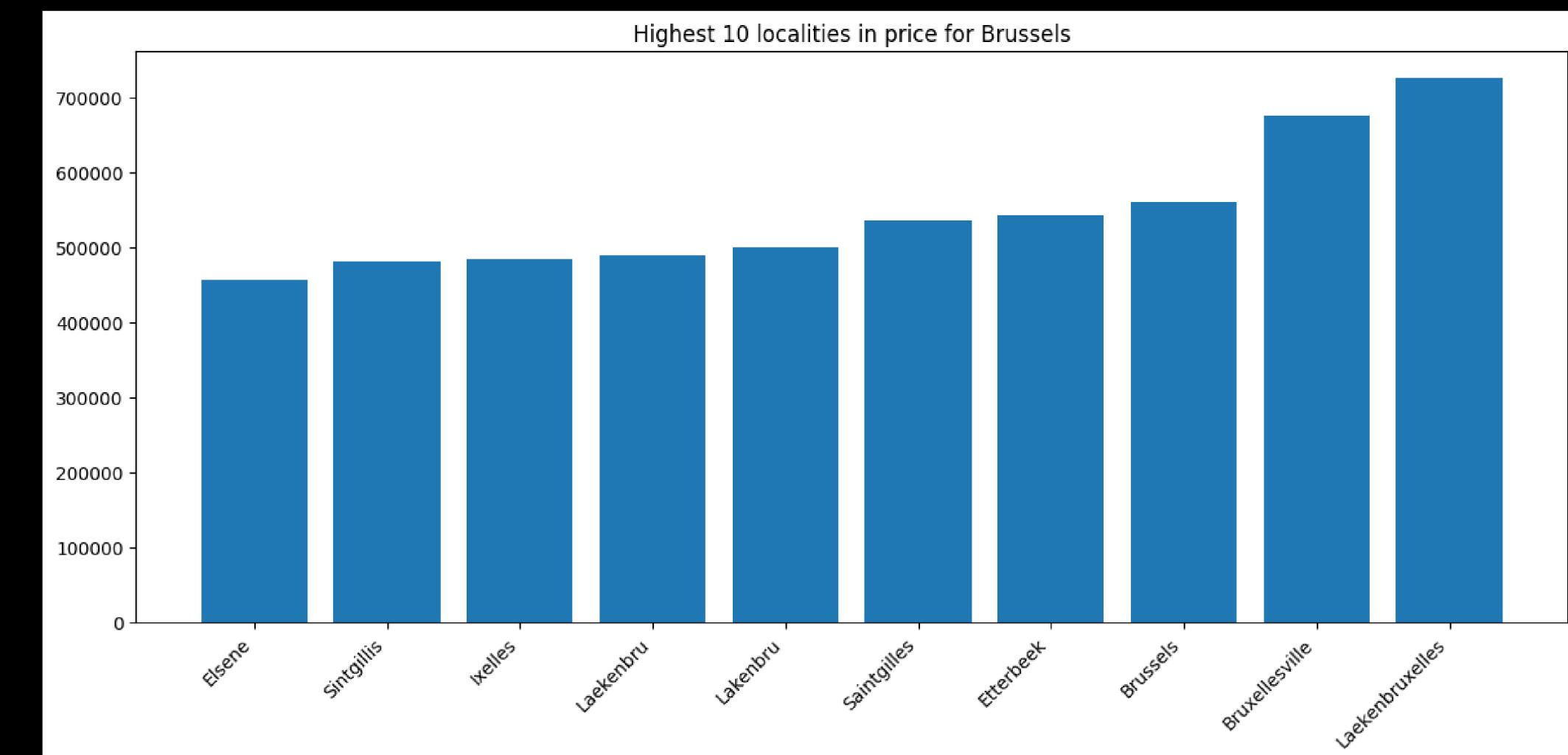
Average price across the municipalities of Belgium



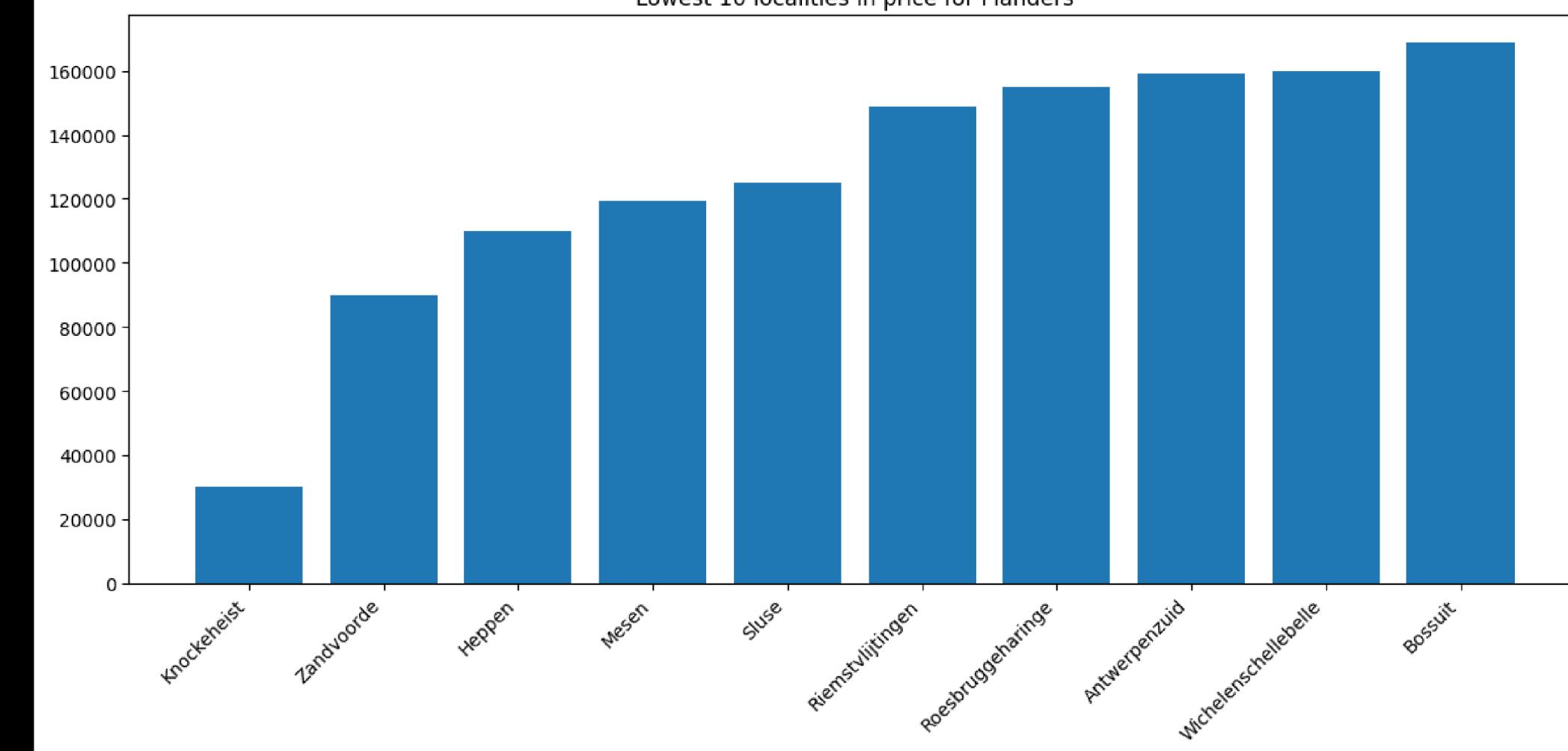
Most expensive municipalities in Belgium



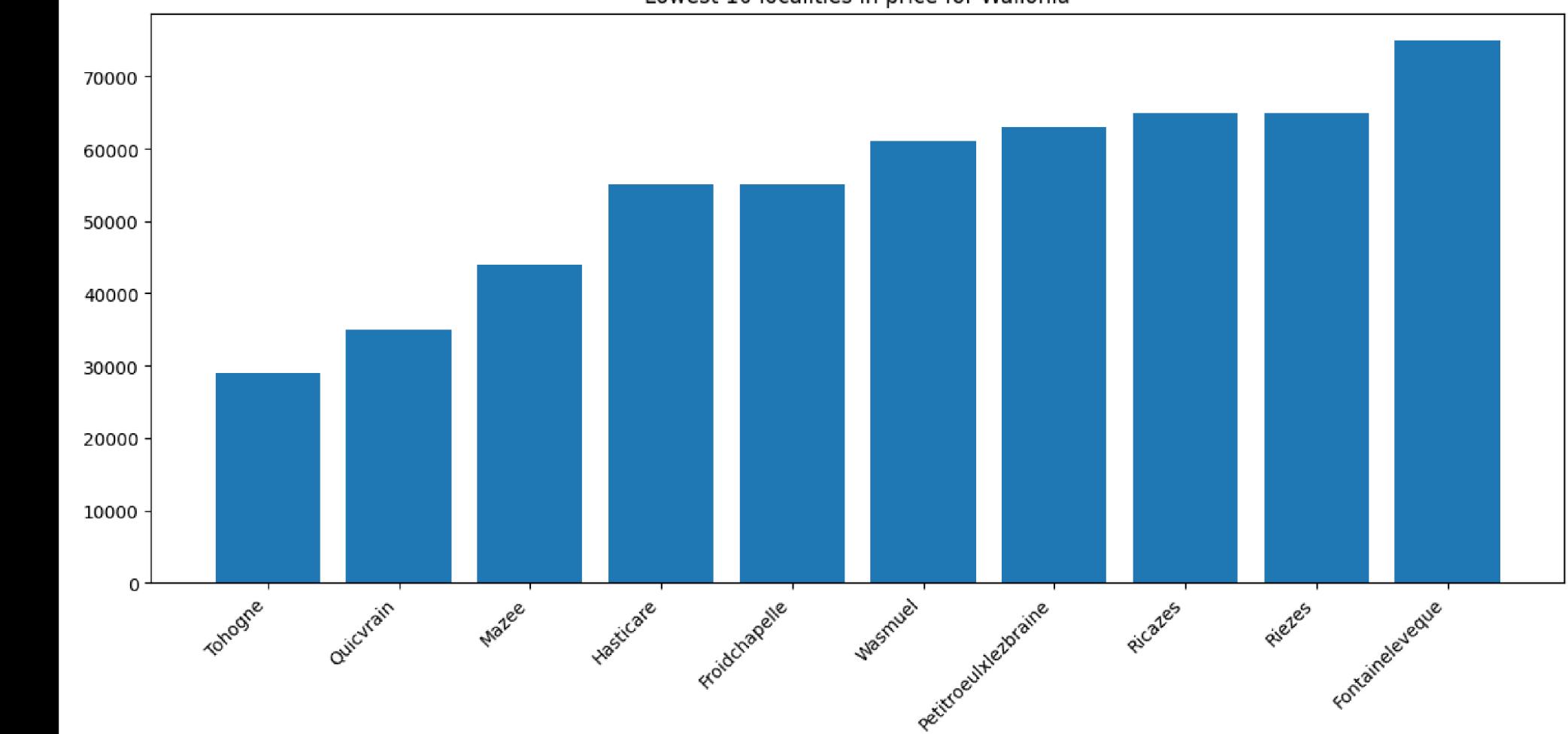
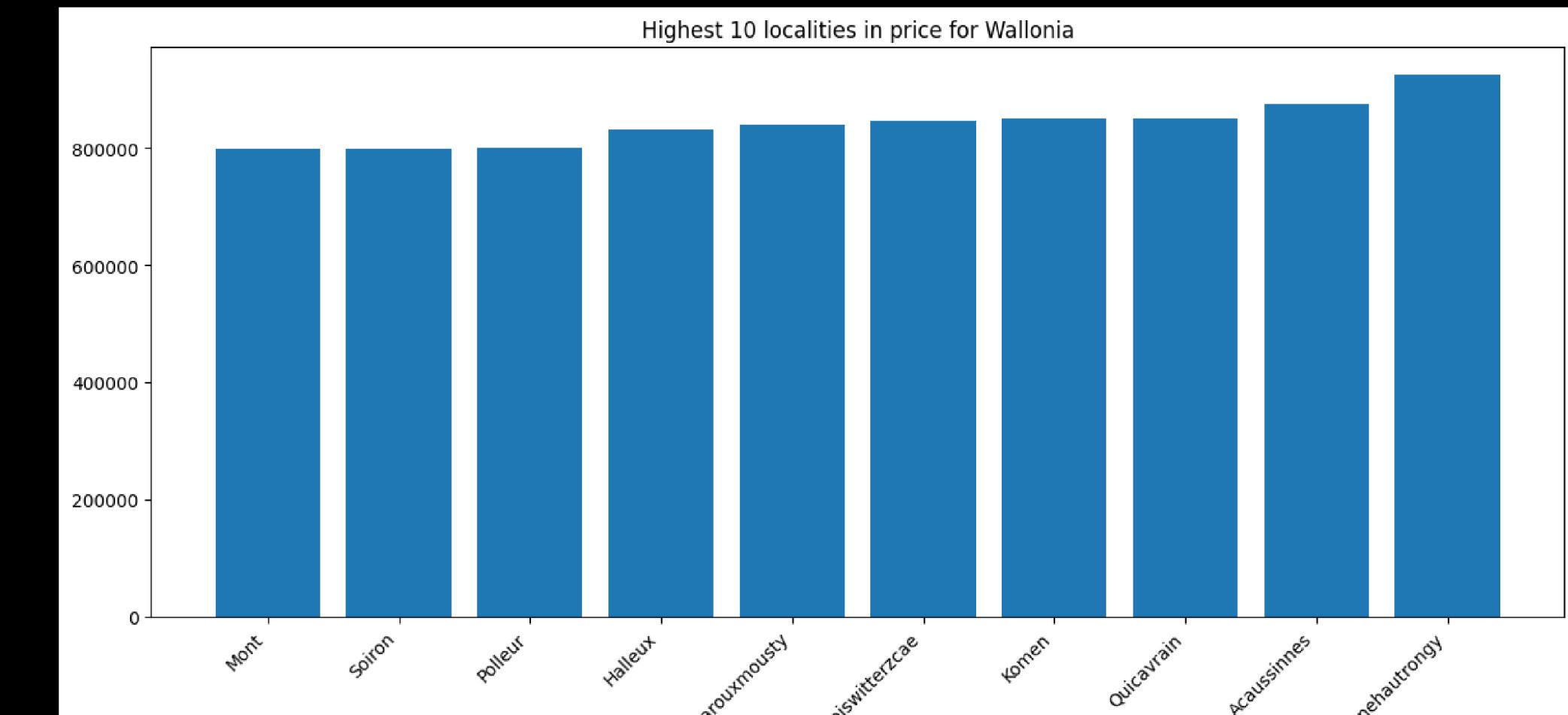
Most and least expensive municipalities in Brussels area



Most and least expensive municipalities in Flanders



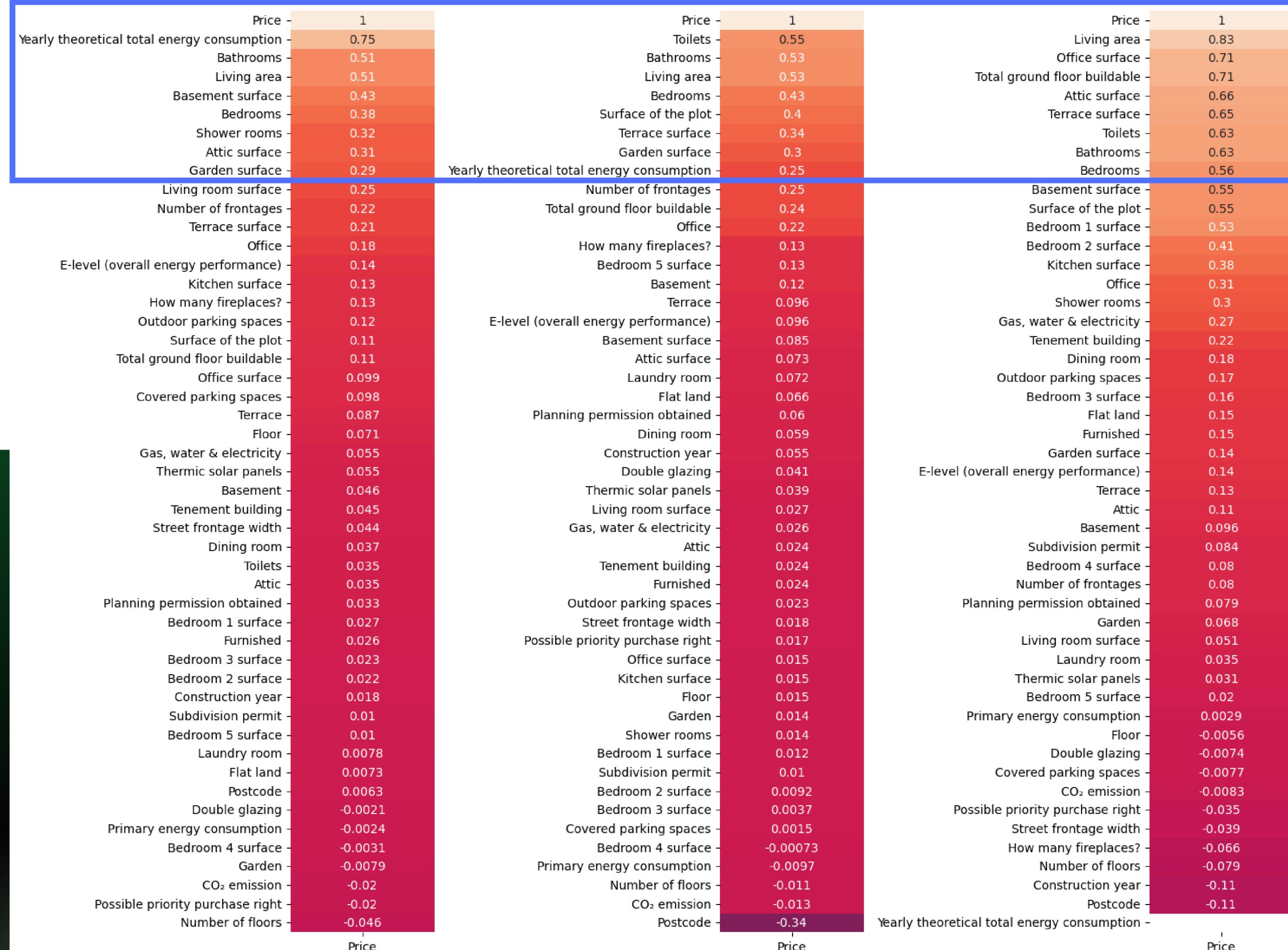
Most and least expensive municipalities in Wallonia



Important features in relation to Price

- Living area (m²)
- Number of bathrooms
- Number of bedrooms
- Yearly theoretical total energy consumption
- Various surfaces (m²)

Features Correlating with Price
Flanders Wallonia



CONCLUSIONS

The priorities are different for different regions:

- Flanders: Yearly theoretical total energy consumption is the most important factor
- Wallonia: Number of toilets, bathrooms and living area are the most important factors
- Brussels: The living area and other surface areas are the most important factors

The living area is seen as a main influencer and is the only common feature belonging in the top features in all three regions

Thank you for your time!