



CLUSTER OF ROME DISTRICTS

Business Problem & Data

A real estate company located in Rome wants to understand better the differences between the neighborhoods to offer a tailored service to its customers as well as evaluate what are the best districts where they can invest.

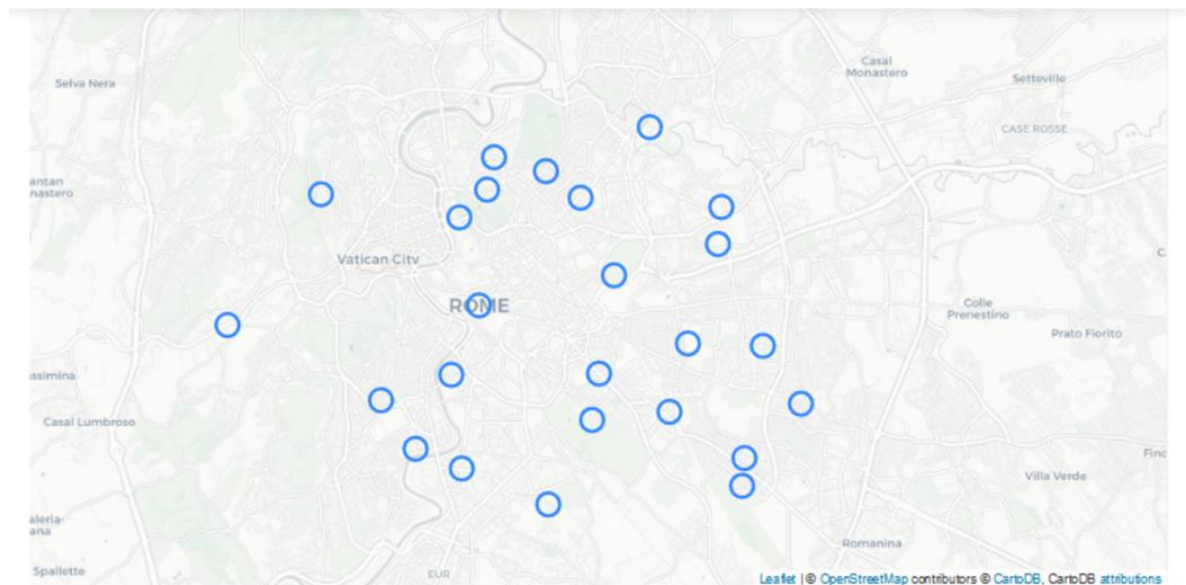
To tackle the problem faced by the company, we use the data we have about the various districts to extract from FourSquare their main features and then we use k-means to cluster the districts.

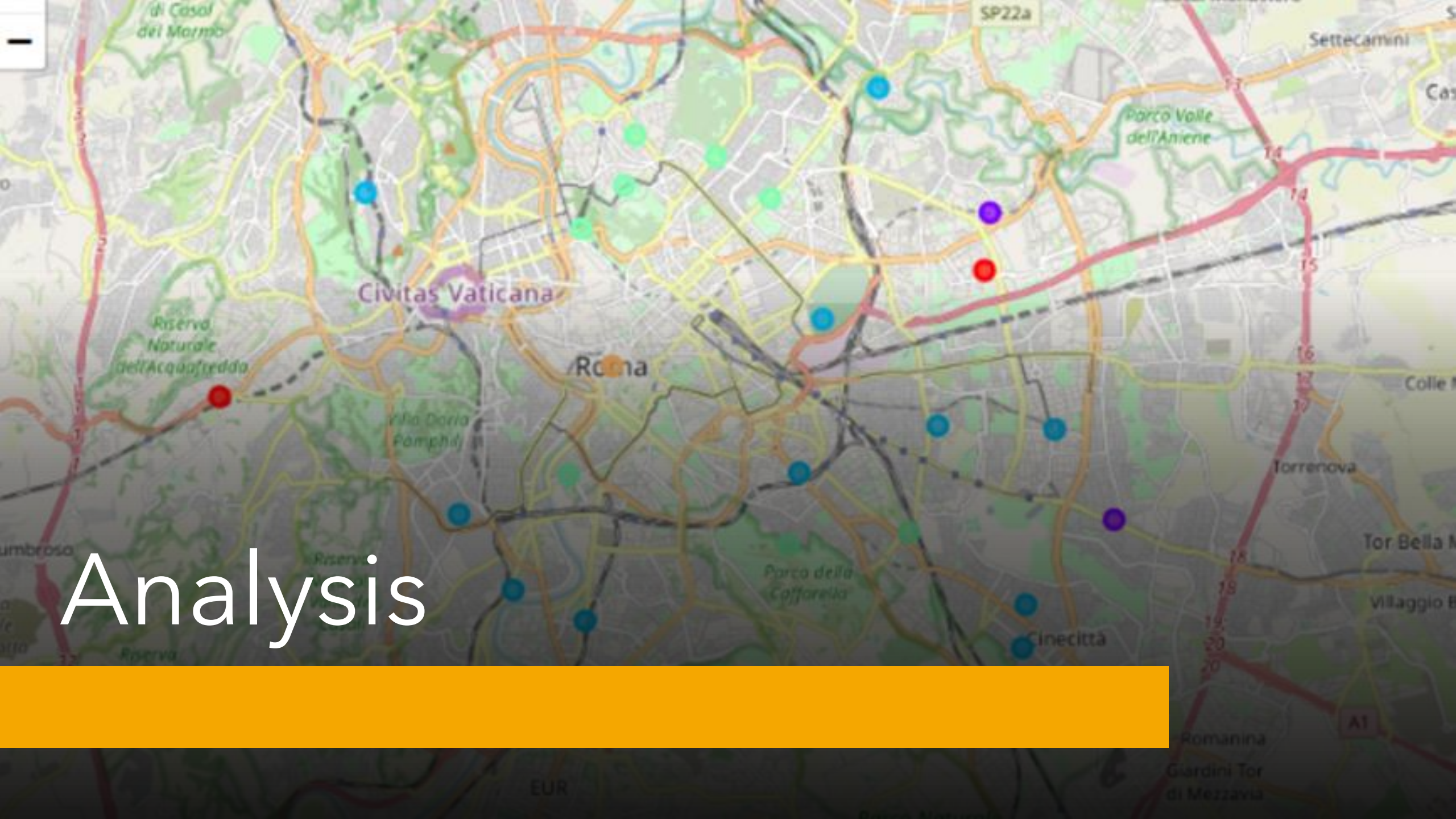
Data

We create a dataset of addresses of the Rome Districts, there are 19. And, using the Geopy library we add to this dataset the latitude and longitude.



	Rione	Città	Stato	ADDRESS	latitude	longitude
0	Flaminio	Rome	Italy	Flaminio, Rome, Italy	41.912829	12.477139
1	Paroli	Rome	Italy	Paroli, Rome, Italy	41.925949	12.487320
2	Pinciano	Rome	Italy	Pinciano, Rome, Italy	41.918781	12.485332
3	Salario	Rome	Italy	Salario, Rome, Italy	41.922978	12.502636
4	Nomentano	Rome	Italy	Nomentano, Rome, Italy	41.917002	12.512918
5	Tiburtino	Rome	Italy	Tiburtino, Rome, Italy	41.899855	12.523146
6	Prenestino-Labicano	Rome	Italy	Prenestino-Labicano, Rome, Italy	41.885017	12.545122
7	Tuscolano	Rome	Italy	Tuscolano, Rome, Italy	41.869865	12.539586
8	Appio-Latino	Rome	Italy	Appio-Latino, Rome, Italy	41.867904	12.516418
9	Ostiense	Rome	Italy	Ostiense, Rome, Italy	41.857283	12.477881
10	Portuense	Rome	Italy	Portuense, Rome, Italy	41.861613	12.463827
11	Gianicolense	Rome	Italy	Gianicolense, Rome, Italy	41.872284	12.453519
12	Aurelio	Rome	Italy	Aurelio, Rome, Italy	41.889055	12.408148
13	Trionfale	Rome	Italy	Trionfale, Rome, Italy	41.917920	12.435704
14	Della Vittoria	Rome	Italy	Della Vittoria, Rome, Italy	41.878270	12.518708
15	Monte Sacro	Rome	Italy	Monte Sacro, Rome, Italy	41.932756	12.533670
16	Prenestino-Centocelle	Rome	Italy	Prenestino-Centocelle, Rome, Italy	41.884513	12.567184
17	Trieste	Rome	Italy	Trieste, Rome, Italy	41.893320	12.482932
18	Testaccio	Rome	Italy	Testaccio, Rome, Italy	41.878065	12.474757
19	Ardeatino	Rome	Italy	Ardeatino, Rome, Italy	41.849430	12.503643





Analysis



Conclusion

- **In conclusion, there are now 5 cluster grouped for similarity intragroup upon which the company can base their decision**