

Databook: Data Analysis

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Products



Customers and their behaviour



Employees and their behaviour



Location and route analysis

Outline

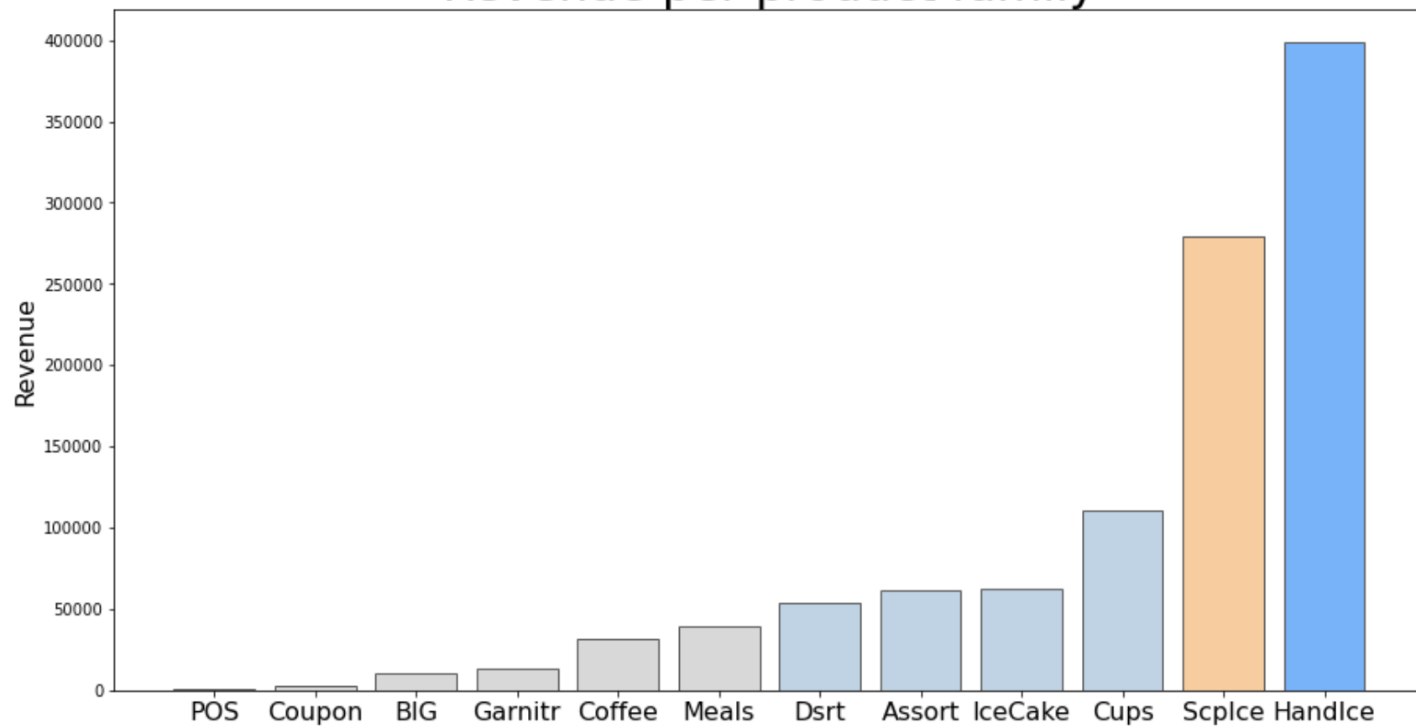


Products

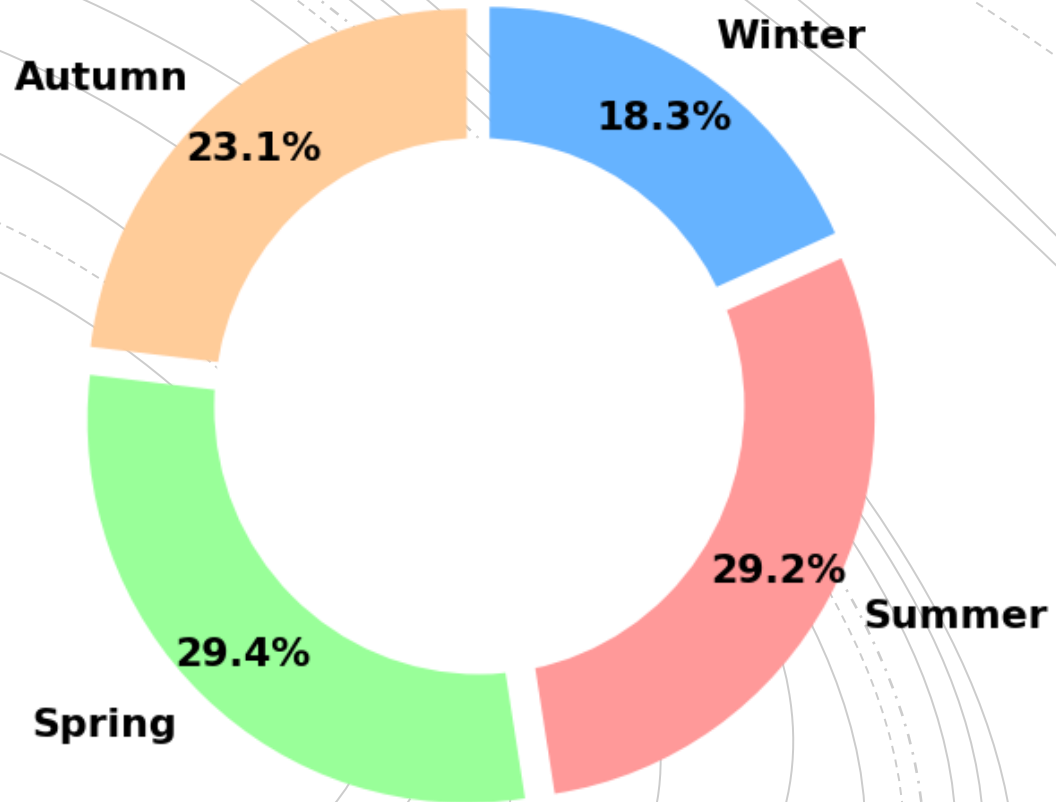
| Revenue | Description | Family |
|-------------|-----------------------------------|-------------|
| € 89 147.80 | 2.5L Vanille | Scoop Ice |
| € 82 935 | Cornets d'Amour | Hand Ice |
| € 39 619.10 | Assortiment XXL | Assortments |
| € 36 932.50 | Maxi Vanille /24 | Hand Ice |
| € 29 971.50 | Big Chocolate/20 | Hand Ice |
| € 29 516.50 | Cornets d'Amour Vanille/16 | Hand Ice |
| € 27 579.60 | 1 L Vanille | Scoop Ice |
| € 27 230.10 | 5 L Vanille | Scoop Ice |
| € 26 584.30 | Dessert Dame Blanche/14 | Cups |
| € 23 768.80 | Vanille 2.5 L +0.5L gratis | Scoop Ice |

"What is our core business?"

Revenue per product family



Seasonality of sales



Product recommendations



Basic guidelines for the employees

Hand Ice

Same product family

Product catalogue



Customer based product recommendations

Based on sales history

Based on similar customers

Extra revenue due to customer based product recommendations

| | |
|----------------------------|----------------------|
| 1) Number of sales in 2020 | € 40 133 |
| 2) Average amount per sale | € 13,06 |
| 3) Increased amount of 10% | € 1,31 |
| 4) Extra revenue generated | + € 52 413,70 |

The effect of product recommendations

Summary



Hand and Scoop Ice = most Revenue



Everybody loves Vanille!



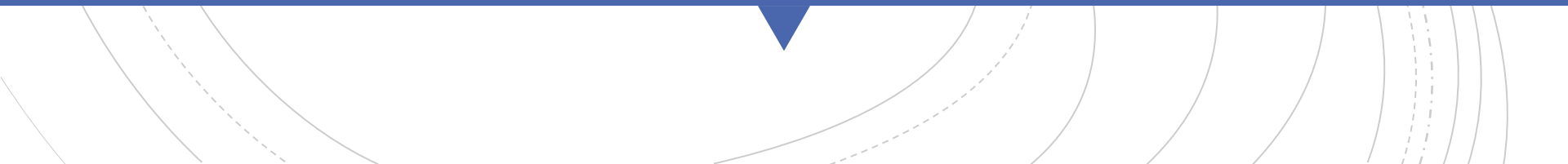
Sell Products based on customer recommendation



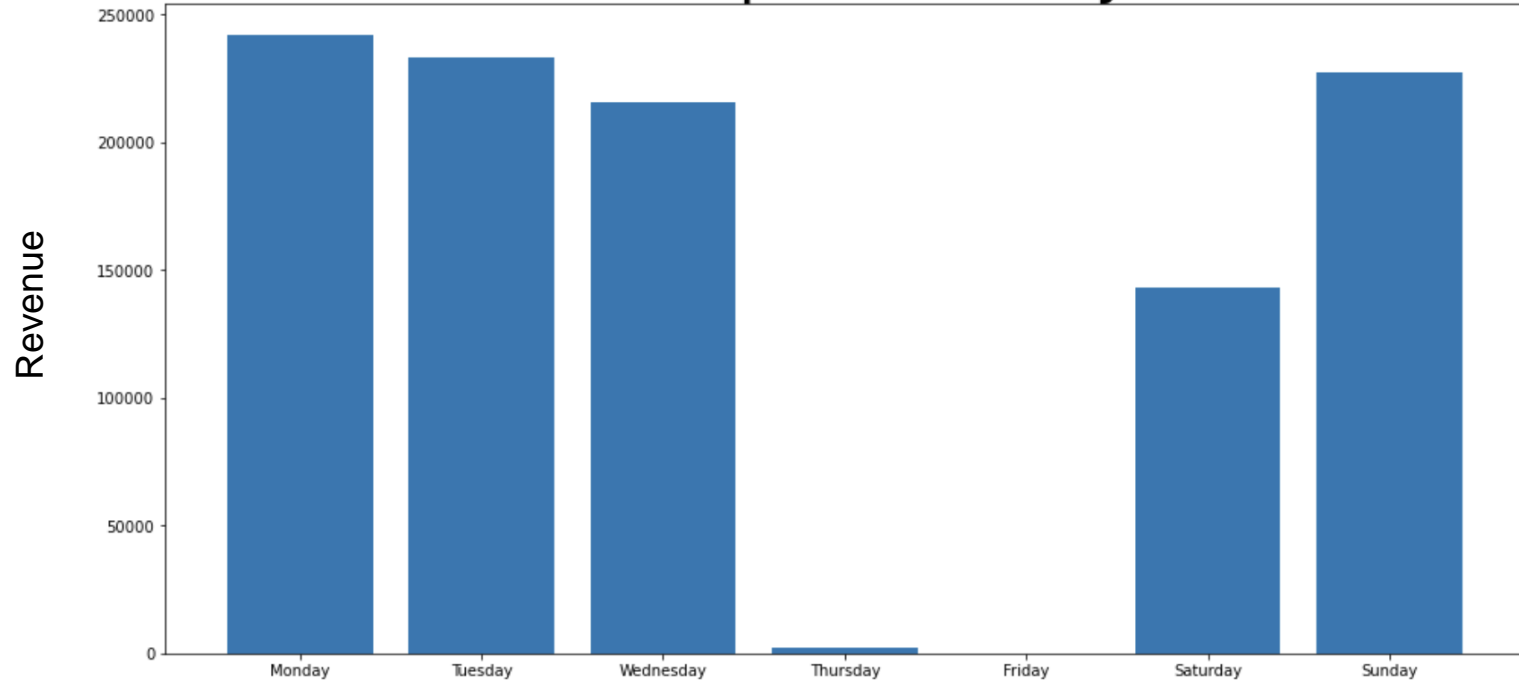
Higher temperatures = higher Sales



Customers



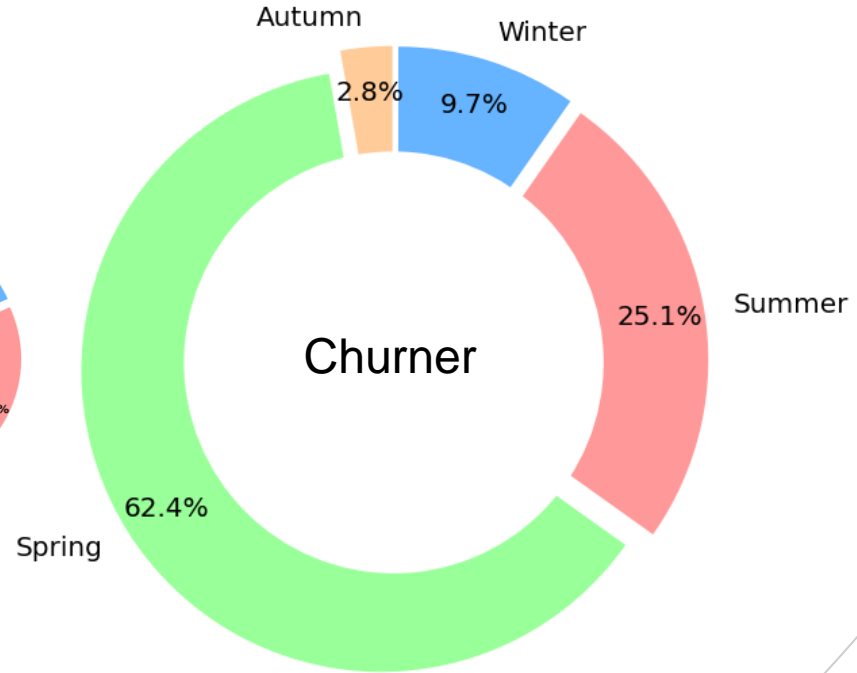
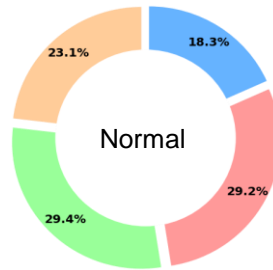
Sales per weekday

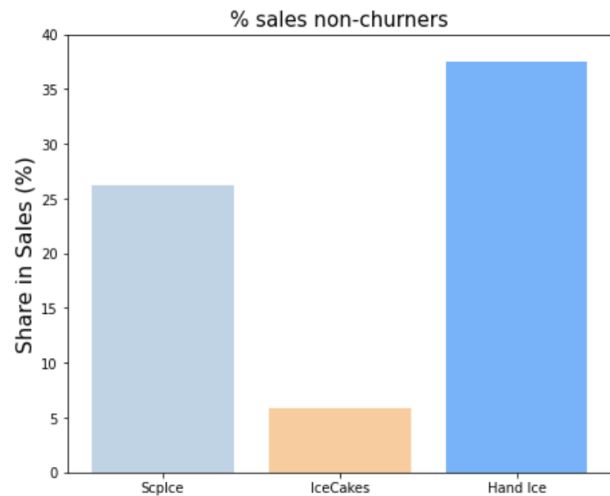
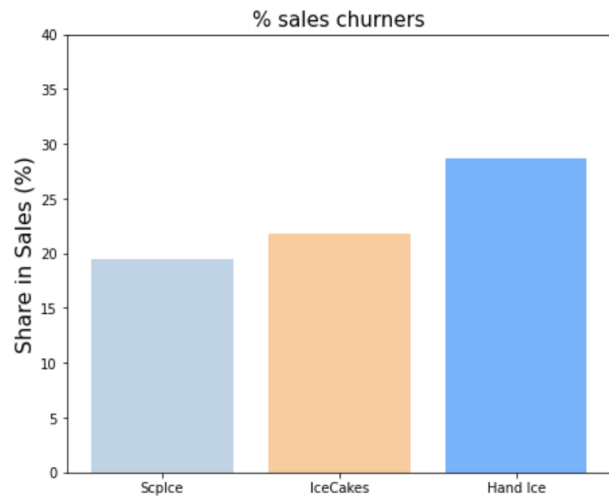


Buying patterns per weekday

Churners

"Customers who have not bought a product for atleast one year"





Churners buy more Ice Cakes!

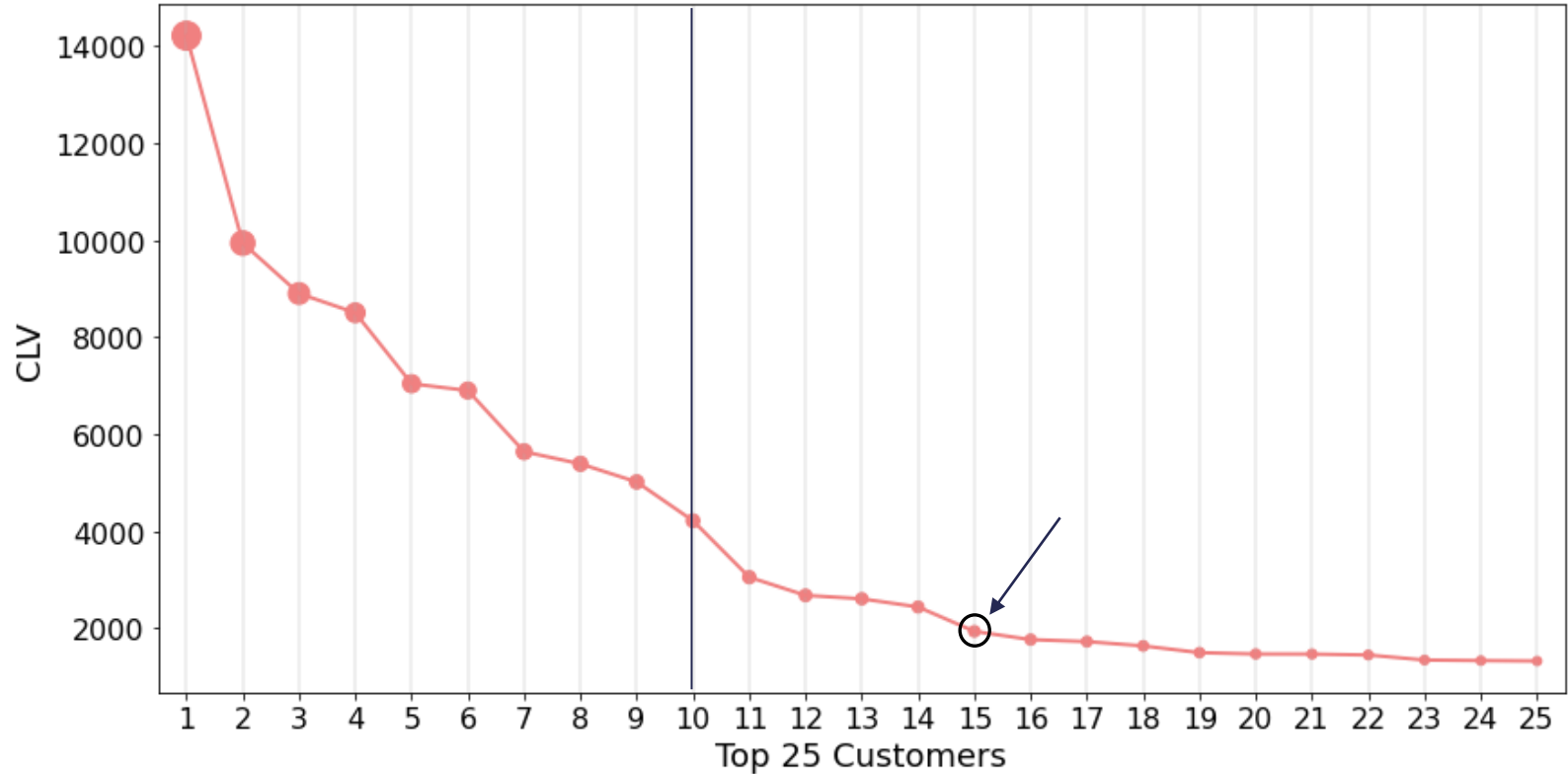
| | No Churn | Churn | No Churn | Churn |
|------------------------------------|-------------|-------|-------------|--------|
| Excellent service, very satisfied | 474 | 0 | 100% | 0% |
| Good service, satisfied | 2169 | 8 | 99.63% | 0.37% |
| No opinion | 1915 | 64 | 96.62% | 3.38% |
| Not completely satisfied | 367 | 62 | 85.55% | 14.45% |
| Very bad service, very unsatisfied | 48 | 2 | 96% | 4% |

Our company scores
6.27/10



**“Only just 1 percent of our best customers
Already counts for 19% of our total CLV”**

Then Who should be rewarded?



Let's make a sum:

Top 10 Catering/Horeca **7.12%**

+

Top 50 Private Customers **11.58%**

=

19 % total CLV by only **60 of our 5703** total customers

What do we recommend?



Reward your best CLV customers



Increase customer relationships
-> Discounts, loyalty program, samples etc



Work on promos for Spring and Ice Cakes (Churners)

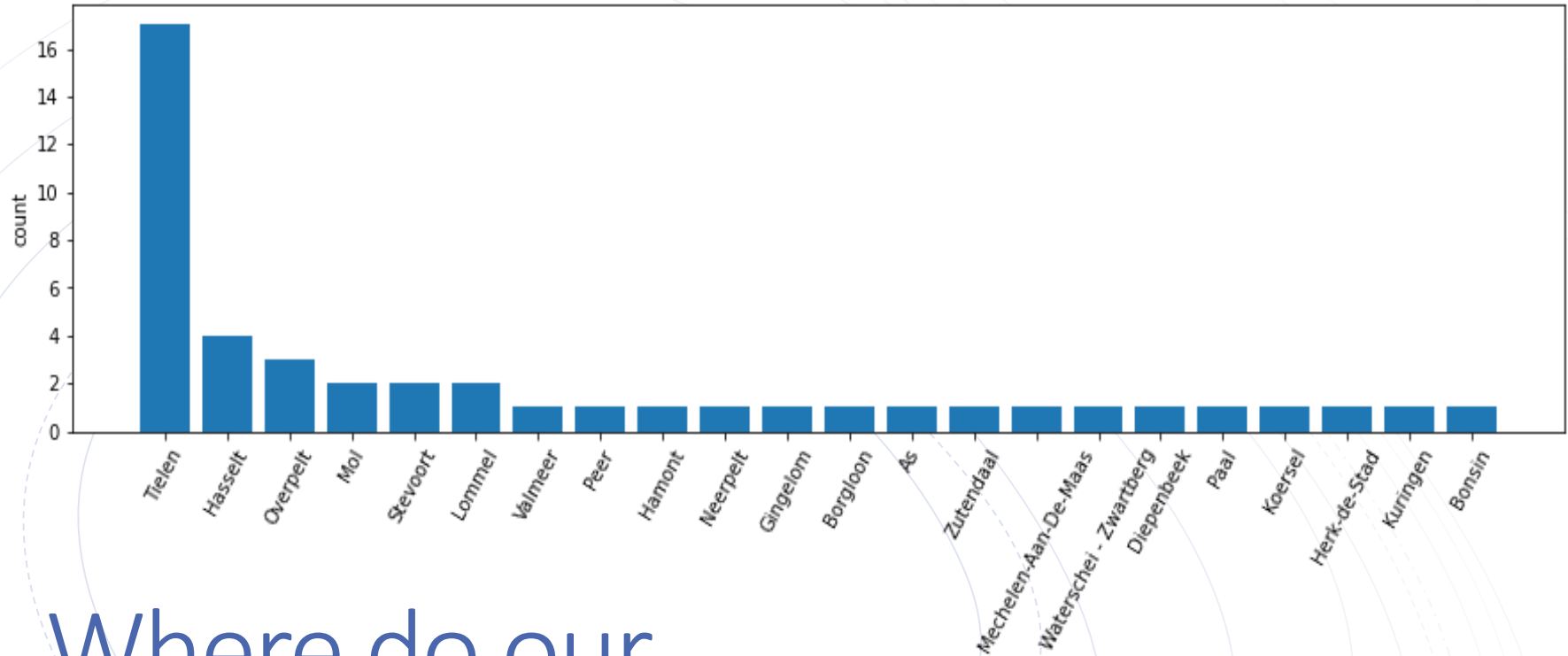


Opinions matter: look at reviews they show churners!

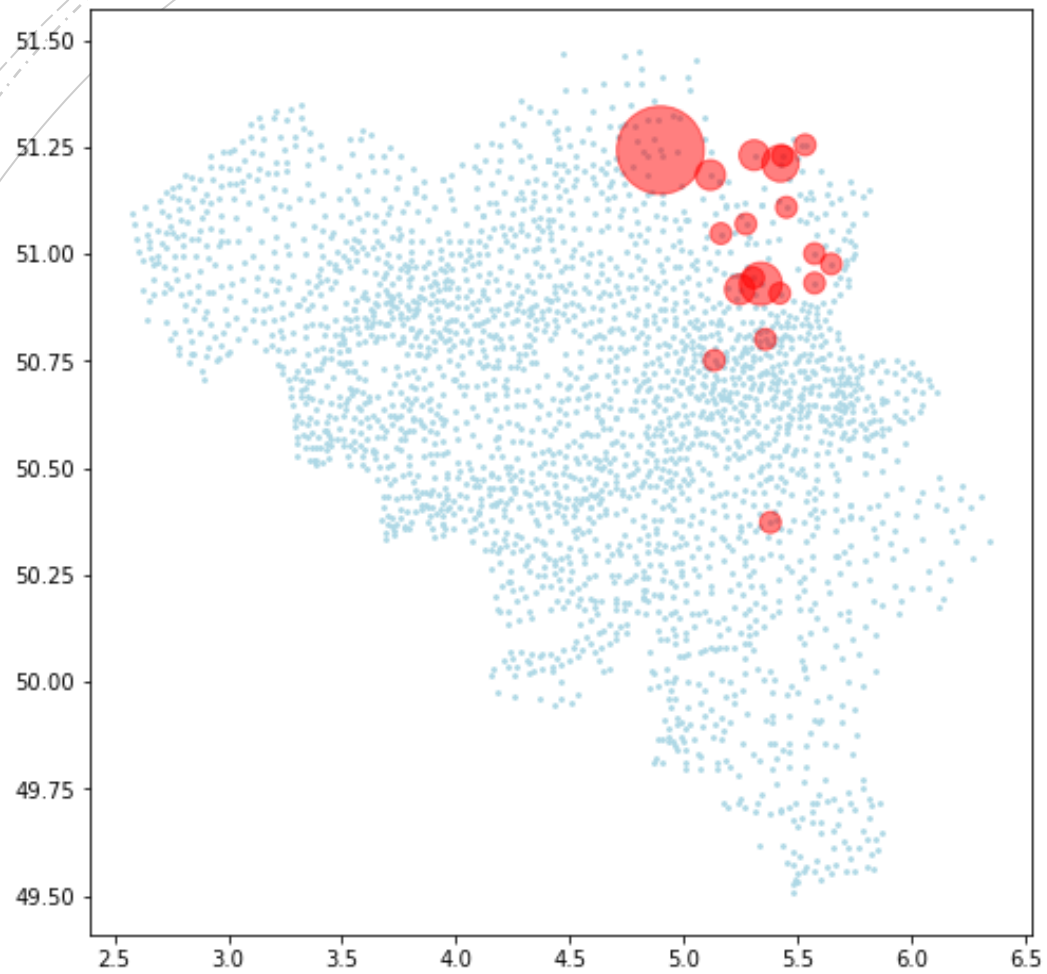


Employees

Where do the employees live?



Where do our
employees live?





Only 1 of the 46
employees
speaks French

Only 6 of the 5703
customers speaks
French

But they are not
connected...

| Name | Number of success visits | Sales Rate |
|---------------------|--------------------------|------------|
| VAN HECKE Jan | 21188 | 38.954258 |
| PEETERS michel | 18547 | 34.882453 |
| BUFFEL Sandy | 15003 | 34.097727 |
| VERRESEN Dirk | 7064 | 31.076503 |
| VERSTRAETE Erik | 4227 | 22.286076 |
| MATTIJS stijn | 3535 | 39.225477 |
| DE PAUW Kim | 3503 | 21.385836 |
| KERCKAERT Pieter | 1665 | 26.610197 |
| CLAUS David | 1188 | 26.358997 |
| BALLINGS Hendrik | 630 | 40.050858 |
| TACK Hann | 438 | 26.040428 |
| DE SMET Stijn | 395 | 23.140012 |
| VAN HUFFEL Jan | 351 | 36.222910 |
| PAUWELS Jeffrey | 271 | 22.527016 |
| STEEMAN Evy | 266 | 26.626627 |
| DE CONINCK Marnik | 247 | 28.888889 |
| JANSENS Eddy | 178 | 22.139303 |
| DE BRUYNE Charlotte | 103 | 18.625678 |
| DE BRUYNE Chris | 43 | 19.111111 |
| CLAEYS Liebeth | 37 | 16.157205 |
| QUINTEN Patrick | 16 | 76.190476 |
| DE MILT Tomas | 12 | 12.244898 |
| DE BAERE Sonja | 7 | 46.666667 |
| DESTORME Frederik | 6 | 50.000000 |
| JACOBS Michel | 3 | 14.285714 |
| DE TREMERIE Dimitri | 2 | 40.000000 |
| VERLINDEN Elke | 2 | 100.000000 |
| MORTIER Magda | 1 | 50.000000 |
| CABOOTER Dries | 1 | 100.000000 |
| VAN AALST Sofie | 1 | 12.500000 |

Sales rate

| Name | Count_no_opinions | Count_good | Count_bad | Count_excellent | Count_terrible | Percentage_bad&terrible_over_all | Percentage_excellent&good_over_all |
|---------------------|-------------------|------------|-----------|-----------------|----------------|----------------------------------|------------------------------------|
| VERSTRAETE Erik | 5701 | 8618.0 | 611.0 | 2248.0 | 50.0 | 3.836777339215231 | 63.07174367309032 |
| DE PAUW Kim | 4930 | 7557.0 | 536.0 | 1776.0 | 41.0 | 3.888140161725068 | 62.89083557951483 |
| VAN HUFFEL Jan | 287 | 432.0 | 34.0 | 113.0 | 3.0 | 4.25776754890679 | 62.715765247410815 |
| VERRESEN Dirk | 7034 | 10272.0 | 871.0 | 2391.0 | 54.0 | 4.485500921346135 | 61.40529531568228 |
| BALLINGS Hendrik | 523 | 729.0 | 40.0 | 126.0 | 3.0 | 3.0260380014074597 | 60.1688951442646 |
| TACK Hann | 544 | 760.0 | 81.0 | 155.0 | 8.0 | 5.749354005167959 | 59.10852713178295 |
| MATTIJS stijn | 3196 | 4111.0 | 289.0 | 512.0 | 21.0 | 3.813507196457129 | 56.870463771681635 |
| BUFFEL Sandy | 15146 | 18939.0 | 1905.0 | 3537.0 | 177.0 | 5.243804150715293 | 56.60890590368729 |
| PAUWELS Jeffrey | 398 | 531.0 | 70.0 | 83.0 | 9.0 | 7.241063244729606 | 56.278643446379476 |
| KERCKAERT Pieter | 2088 | 2627.0 | 396.0 | 532.0 | 48.0 | 7.801792303637322 | 55.5086979441223 |
| DE BRUYNE Charlotte | 222 | 202.0 | 31.0 | 37.0 | 3.0 | 6.8686868686868685 | 48.282828282828284 |
| CLAUS David | 1823 | 1345.0 | 632.0 | 223.0 | 80.0 | 17.353156227150865 | 38.21593955642213 |
| JANNSENS Eddy | 334 | 221.0 | 133.0 | 33.0 | 22.0 | 20.861372812920592 | 34.185733512786 |

Who should be rewarded or trained

Which employees should be assigned to different routes?

| Employee_ID | DEPOT | Count | Distance |
|----------------|-----------|---------|--------------------|
| 18503648417252 | Vilvoorde | 21.0 | 126.72410838032812 |
| 18503648417252 | Aarschot | | 83.37346557766134 |
| 18503648417252 | Antwerpen | | 134.29204725783273 |
| 18503648417252 | Deinze | | 227.4844205555618 |
| 18821748667448 | Deinze | 98.0 | 154.91125718000356 |
| 18821748667448 | Aarschot | | 29.69513592409581 |
| 18821748667448 | Antwerpen | | 55.29557890303353 |
| 18821748667448 | Vilvoorde | | 62.20789474047806 |
| 18934048107254 | Aarschot | 61.0 | 50.556378956533216 |
| 18934048107254 | Deinze | 5833.0 | 194.1301398509361 |
| 18934048107254 | Vilvoorde | 48498.0 | 94.52184030000973 |
| 18934048107254 | Antwerpen | | 98.340873759604 |
| 19902260358040 | Vilvoorde | 5.0 | 81.0279751146561 |
| 19902260358040 | Aarschot | | 39.20469386147122 |
| 19902260358040 | Deinze | | 177.978385901039 |
| 19902260358040 | Antwerpen | | 79.70141959732516 |

| | | | |
|----------------|-----------|---------|--------------------|
| 2834 | Aarschot | | 53.62926500361434 |
| 2834 | Antwerpen | 41505.0 | 105.2653610369664 |
| 2834 | Vilvoorde | 5365.0 | 97.01076117207721 |
| 2834 | Deinze | 6300.0 | 197.73251695292876 |
| 6850 | Vilvoorde | 832.0 | 62.20789474047806 |
| 6850 | Deinze | 244.0 | 154.91125718000356 |
| 6850 | Aarschot | 554.0 | 29.69513592409581 |
| | Antwerpen | | 55.29557890303353 |
| 20126680425436 | Deinze | | 201.28849065911268 |
| 20126680425436 | Aarschot | 3489.0 | 57.27271106096938 |
| 20126680425436 | Vilvoorde | 6570.0 | 100.51321996471928 |
| 20126680425436 | Antwerpen | | 109.06979075813767 |

Location and route analysis



**General location
of our customers**



Current routes

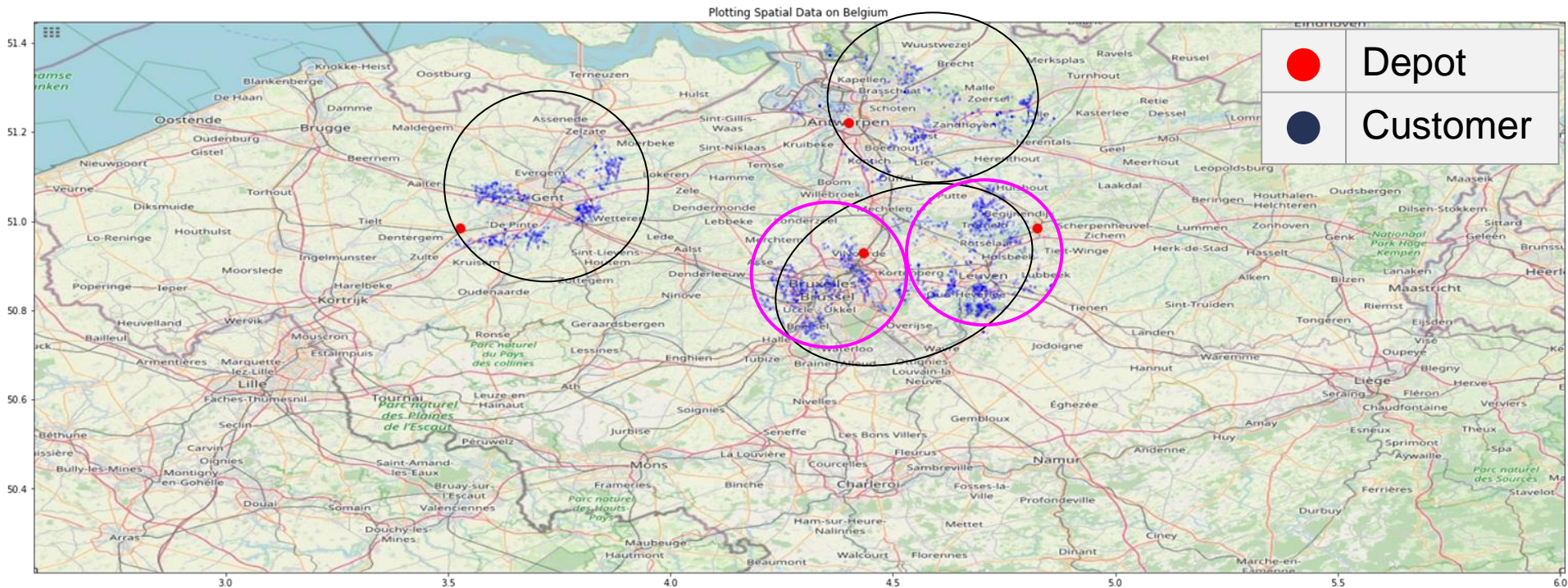


**Potential
changes: routes**

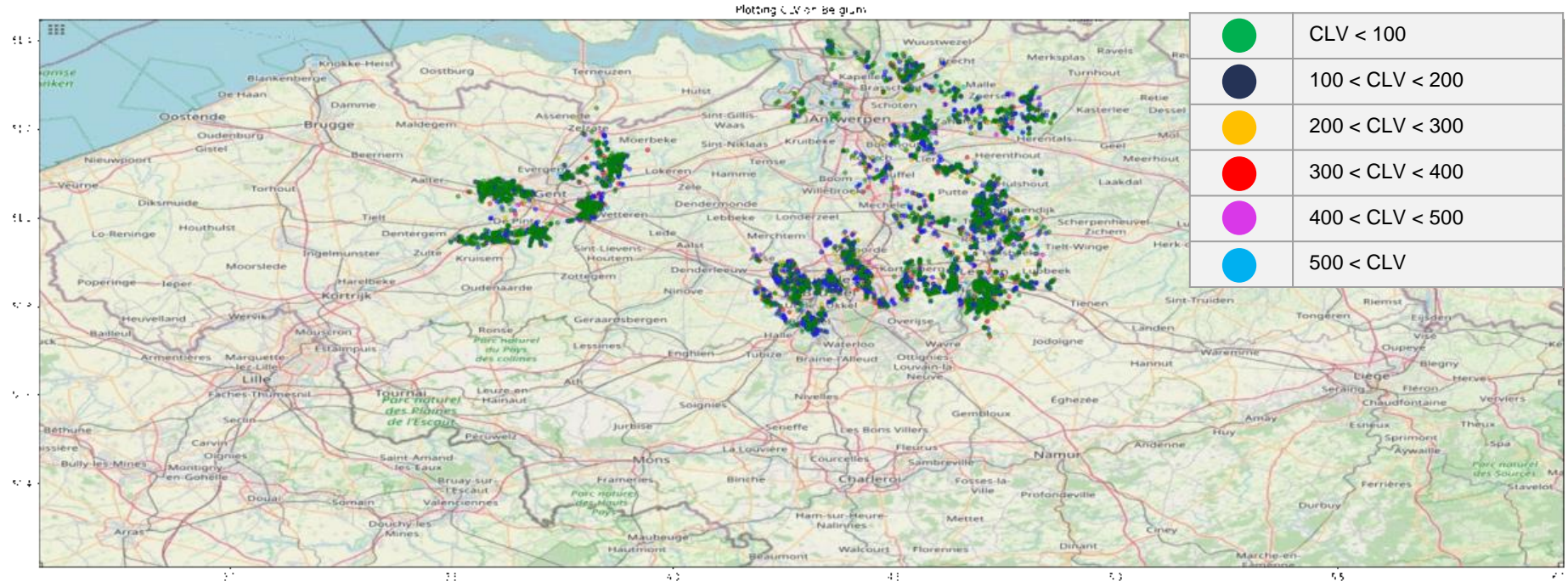


**Potential
changes: depots**

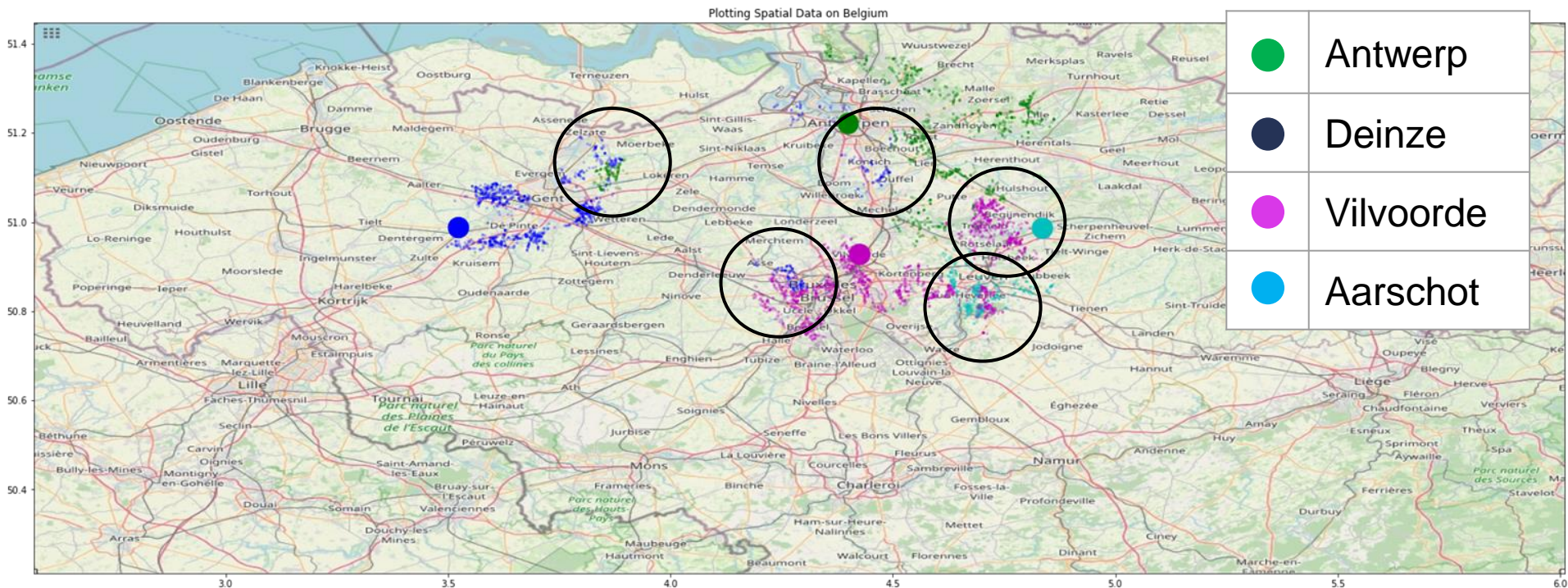
Customers are positioned in large clusters



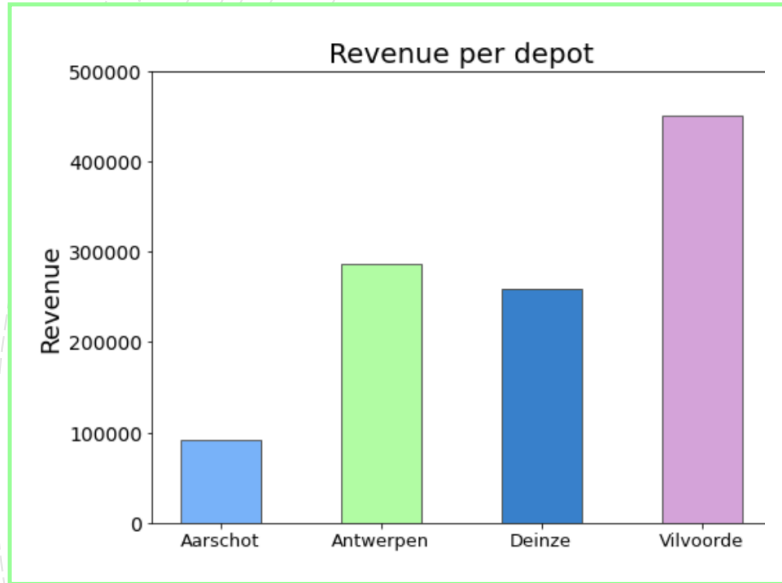
Plotting the CLV of the customers



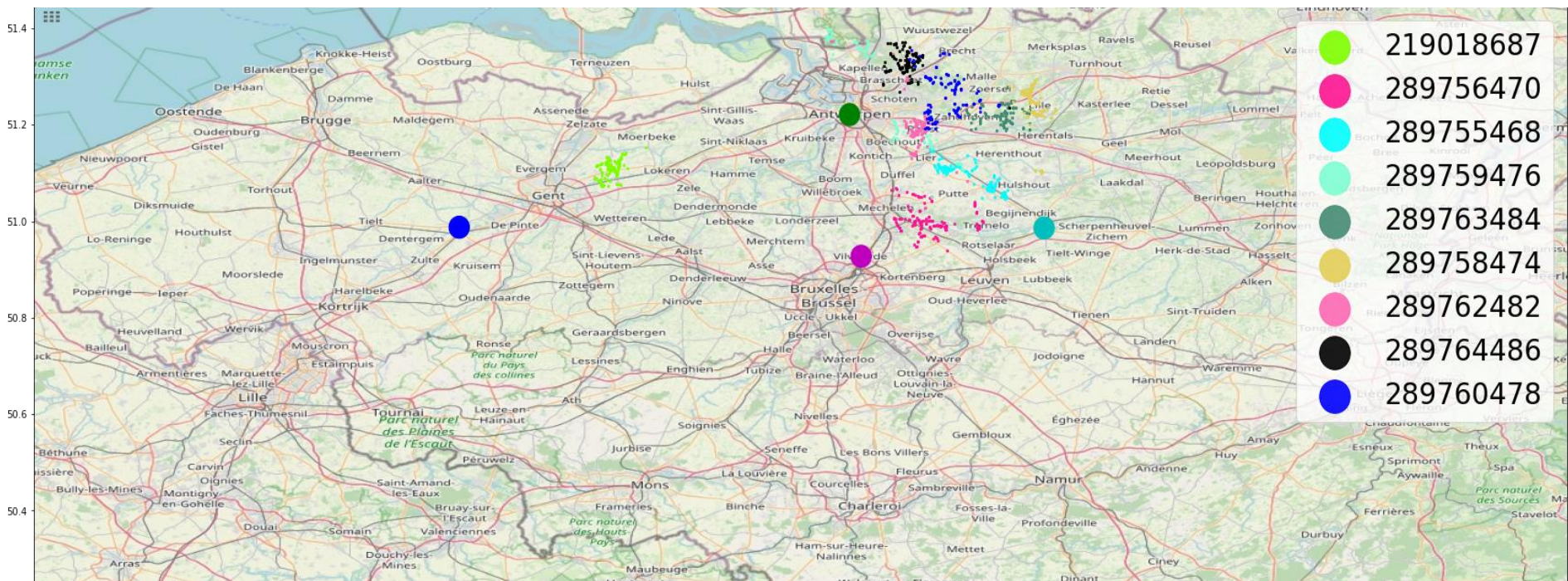
The current route assignment per depot



Current revenue per depot

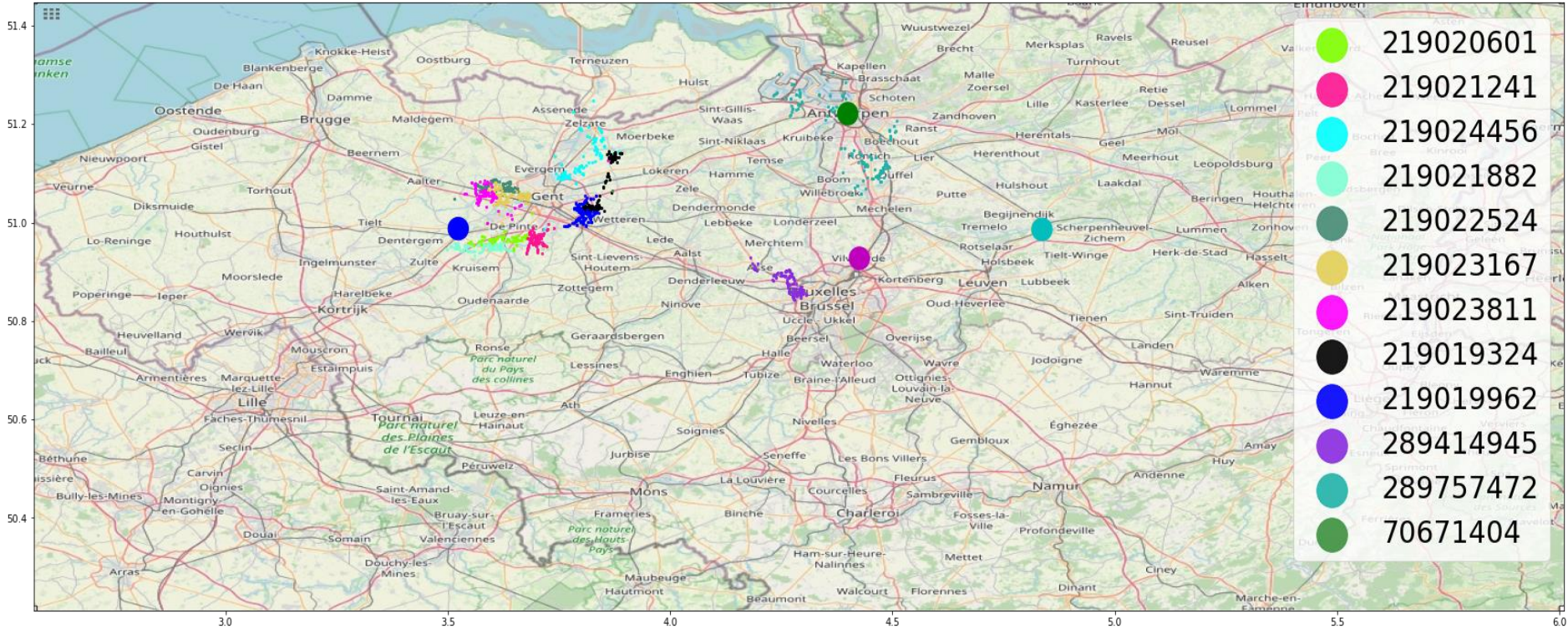


- Large difference in revenue over all depots

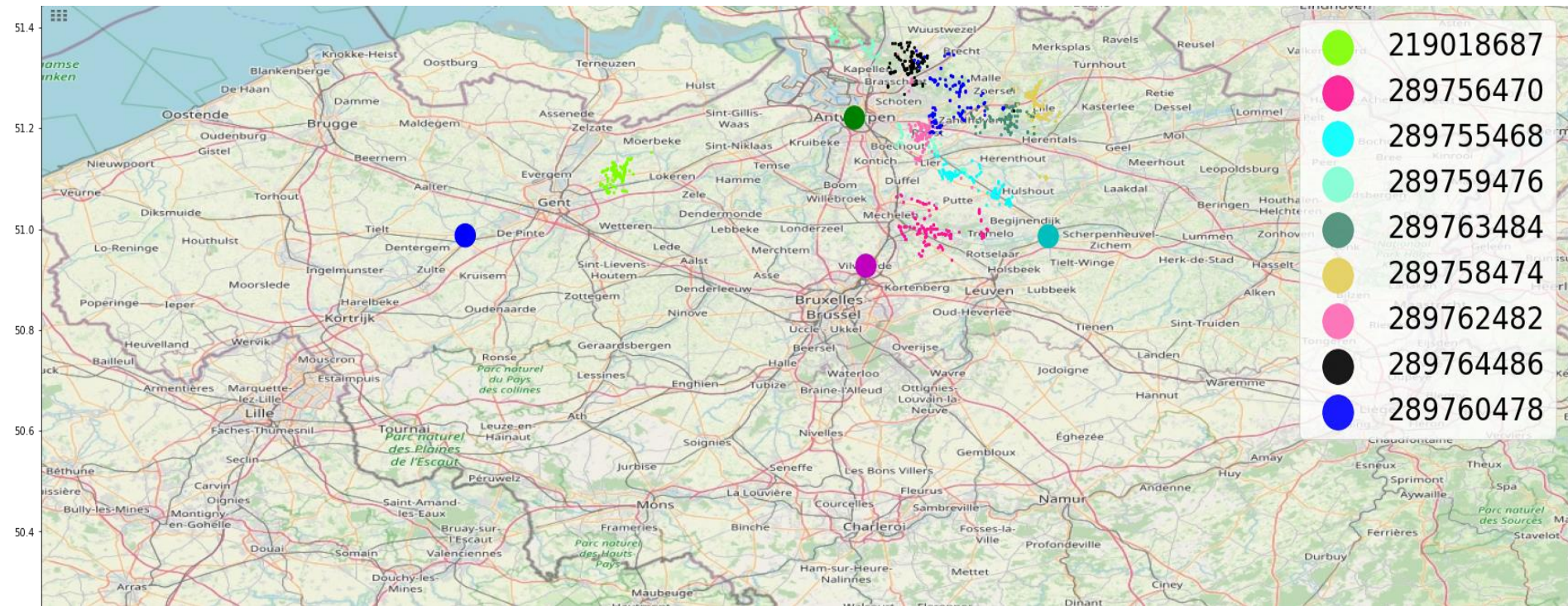


Potential improvements in the current routes

Plotting deinz routes

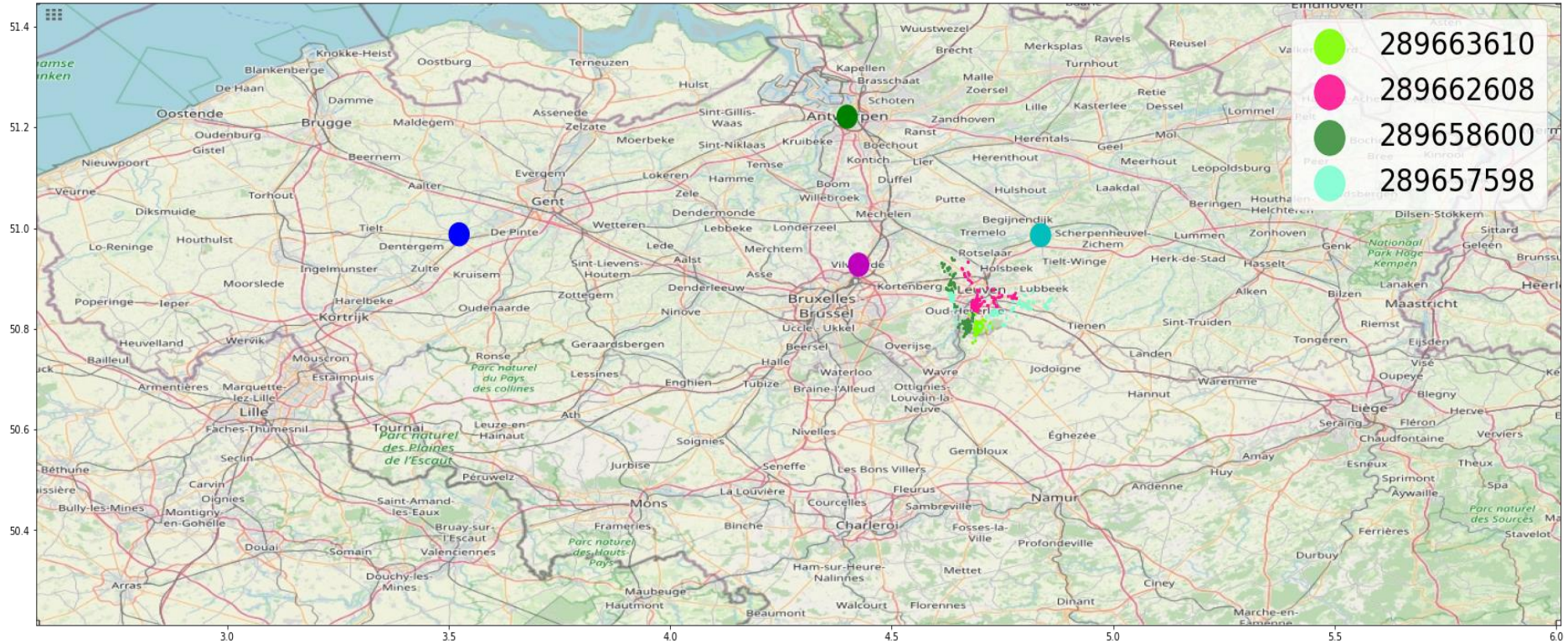


Potential improvements in the current routes



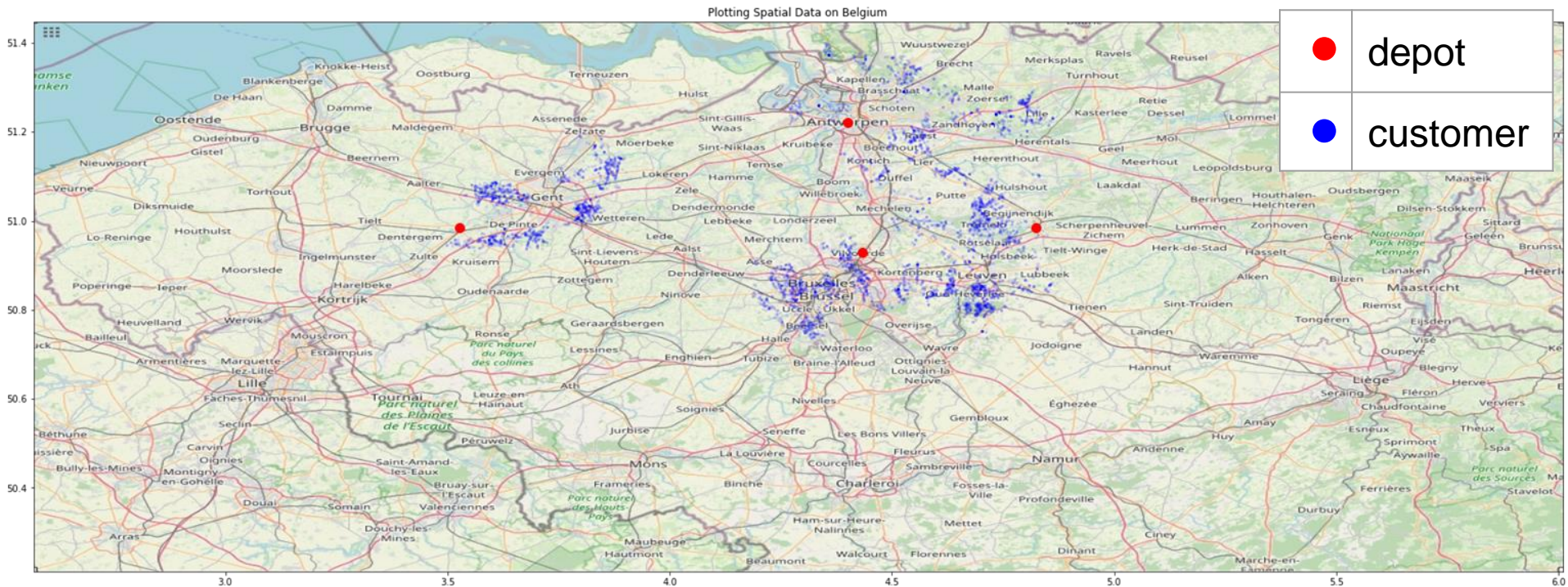
Potential improvements in the current routes

Plotting aarschot routes



Potential improvements in the current routes

Potential improvements in the depots



Route conclusion

1. Invest in new (and current) relationships with customers located closer to major city centers (such as Brussels, higher mean income).
2. Re-assign the routes to depots that are closer. (appx 4.1a & 4.1b)
 - Increase in fuel efficiency, savings of **at least 2000+ euros per year**
 - Reduce potential overpay of at least several thousand
 - Better time management for employees leads to happier employees and better reviews
3. Re-assign customer outliers to routes that are closer
 - Better time management for employees leads to happier employees and better reviews
 - Less fuel cost
4. Open potential depots:
 - To aim for expansion towards the south of Belgium -> Waver for example
 - To reduce pressure on depots such as Vilvoorde (12 routes) and Aarschot (9 routes)



Thank you for your
attention

Are there any question?

| Quantity | Description | Family |
|----------|----------------------------|---------------|
| 12 047 | 2.5 L Vanille | Scoop Ice |
| 8730 | Cornets d'Amour | Hand Ice |
| 7661 | L Vanille | Scoop Ice |
| 4345 | Maxi Vanille/27 | Hand Ice |
| 3212 | Vanille 2.5L +0.5L gratis | Scoop Ice |
| 3107 | Cornets d'Amour Vanille/16 | Hand Ice |
| 3091 | Expo met zachte wafel/12 | Indiv dessert |
| 2987 | Dessert Dame Blanche/14 | Cups |
| 2659 | Assortiment XXL | Assortments |

App 1.1

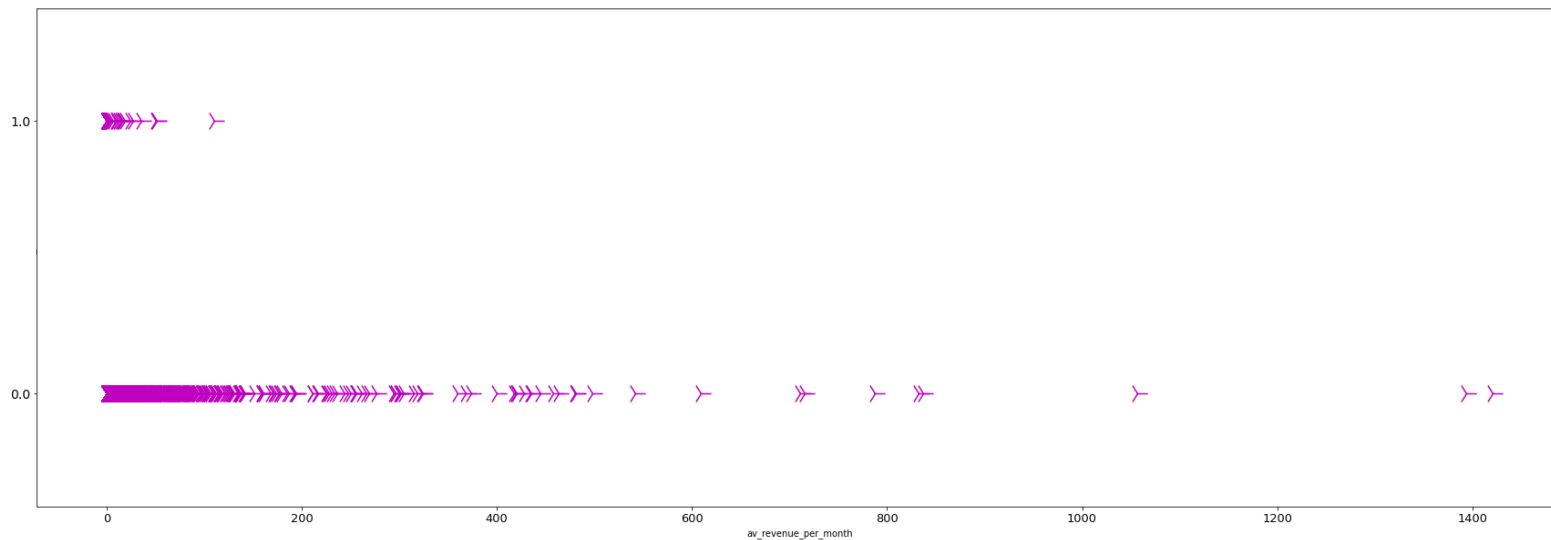
- Top 10 products per quantity sold

| Product A | Product B | Frequency |
|-------------------------------|----------------------------|-----------|
| 1 L.Vanille | 1 L.Mokka | 769 |
| 2,5 L.Vanille | Cornets d'Amour Bres/16 | 594 |
| 2,5 L.Vanille | 2,5 L.Mokka | 432 |
| 1 L.Vanille | 1 L.Chocolade | 310 |
| 2,5 L.Vanille | Maxi Vanille/24 | 303 |
| 1 L.Vanille | Cornets d'Amour Bres/16 | 299 |
| 1 L.Stracciatella | 1 L.Vanille | 289 |
| 2,5 L.Vanille | 2,5 L.Stracciatella | 280 |
| Dessert Dame Blanche/14 | Cornets d'Amour Bres/16 | 278 |
| Vanille 2,5L + 0,5L gratis | Cornets d'Amour Bres/16 | 276 |

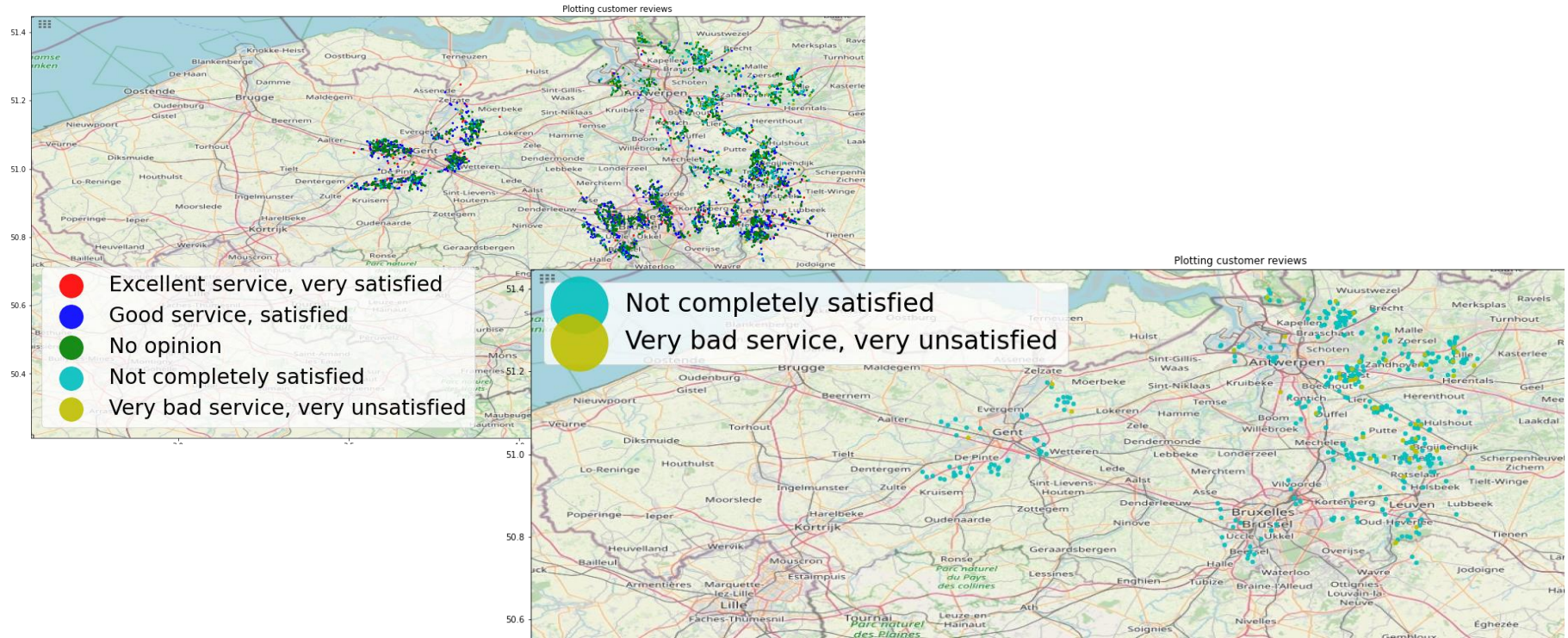
App 1.2

- The product catalogue

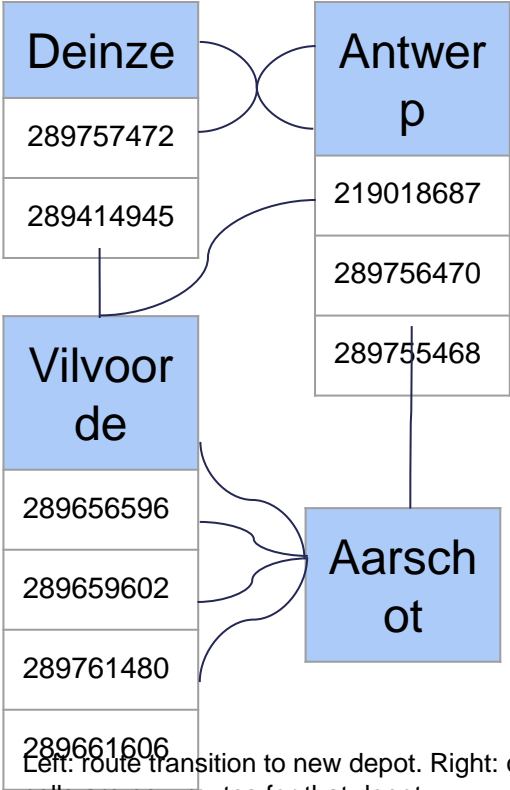
App 2.1 average revenue per month



App 2.2 Reviews on location



Appx 4.1a



| Deinze | Antwer en | Vilvoorde | Aarschot |
|-----------|--------------|-----------|-----------|
| 219018687 | | 289414945 | 289755468 |
| 219020601 | 289757472 | 289756470 | 289761480 |
| 219021241 | 289759476 | 289416949 | 289661606 |
| 219024456 | 289763484 | 289419955 | 289659602 |
| 219021882 | 289758474 | 289417951 | 289656596 |
| 219022524 | 289762482 | 289418953 | 289663610 |
| 219023167 | 289764486 | 289411939 | 289662608 |
| 219023811 | 289760478 | 289412941 | 289658600 |
| 219029324 | | 289413943 | 289657598 |
| 219029962 | | 289655594 | |
| 70671404 | | 289660604 | |
| | | 289664612 | |

Left: route transition to new depot. Right: overview of the new list of routes per depot. Blue cells are new routes for that depot.

App 4.1b

| Beschrijving | Km savings afstand (km gewonnen door nieuwe route) | Km savings/jaar (afstand per twee weken heen én terug) (afs * 26 weken * 2 (heen terug) | Kosten besparing brandstof (tot afs * verbruik * prijs brandstof) (km maal 11 L/100km * 1.71 euro/L) | Kosten besparing loon (afstand/ gemiddelde snelheid * loon) (tot afst/70km/u * 20euro/u) |
|------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Route 289757472 switched van Deinze naar Antwerpen | 70 | 3640 | 684.68 | 1040.00 |
| Route 289414945 switched van Deinze naar Vilvoorde | 50 | 2600 | 489.06 | 742.86 |
| Route 219018687 switched van Antwerpen naar Deinze | 10 | 520 | 97.81 | 148.57 |
| Route 289756470 switched van Antwerpen naar Vilvoorde | 10 | 520 | 97.81 | 148.57 |
| Route 289755468 switched van Antwerpen naar Aarschot | 15 | 780 | 146.72 | 222.86 |
| Route 289656596, 289659602, 289761480 and 289661606 switchen van Vilvoorde naar Aarschot | 60 | 3120 | 586.87 | 891.43 |
| | | | 2102.96 | 3194.29 |