Mapping Logistics Warehouses and Assessing their Socioeconomic Impacts in France with a Focus on E-commerce activities

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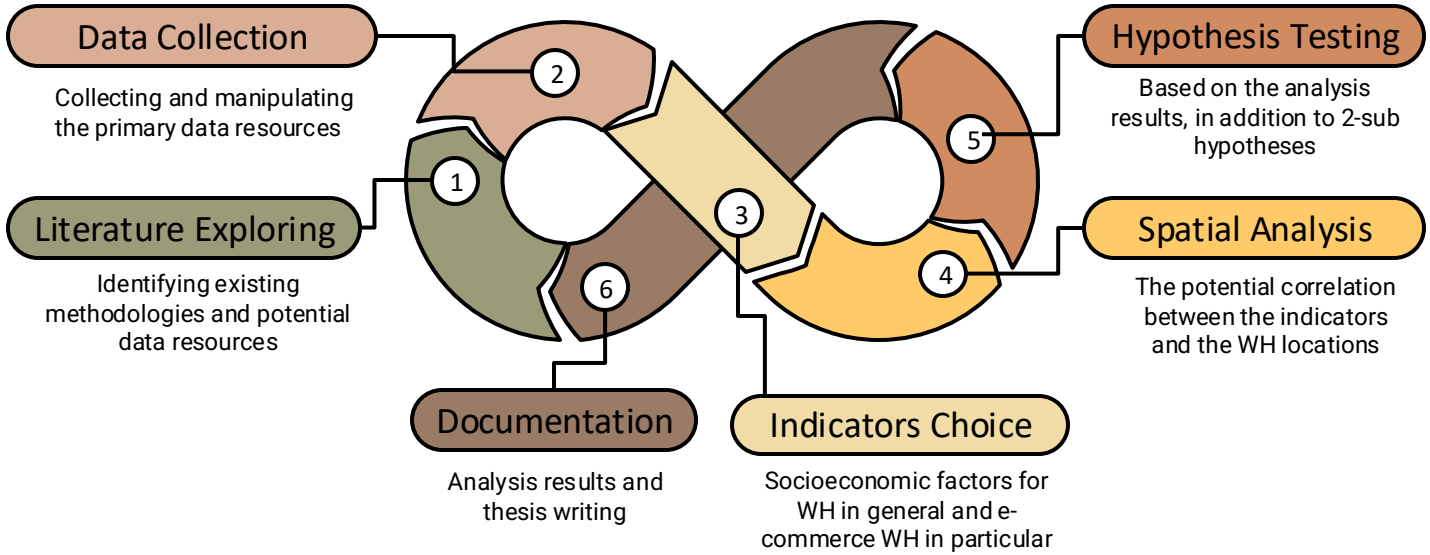
Internship Goals

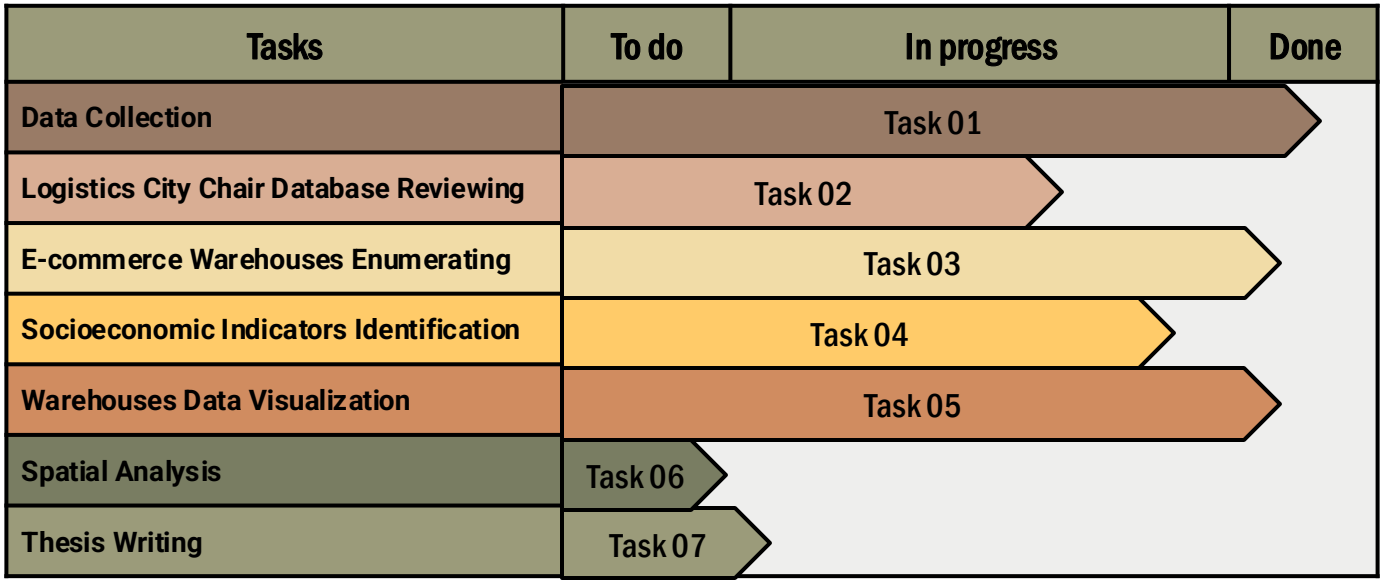
- To understand the nature of the chair's database based on the theme 1.1 of research (macro-analyses of the spatial distribution of warehouses).*
- To review and improve the logistics city chair database structure.
- To understand and evaluate the methodologies used in the literature of the logistics activates locations; focusing on studying the e-commerce warehouses in France.
- To explore the methods used for the spatial analysis of the socioeconomic impacts of the warehousing activities locations.

Thème 1.1: (analyses macro de la distribution spatiale des entrepôts) du programme scientifique: approfondissement et valorisation de la base de données de la Chaire sur l'étalement logistique et sur les liens entre formes urbaines et localisation des entrepôts.

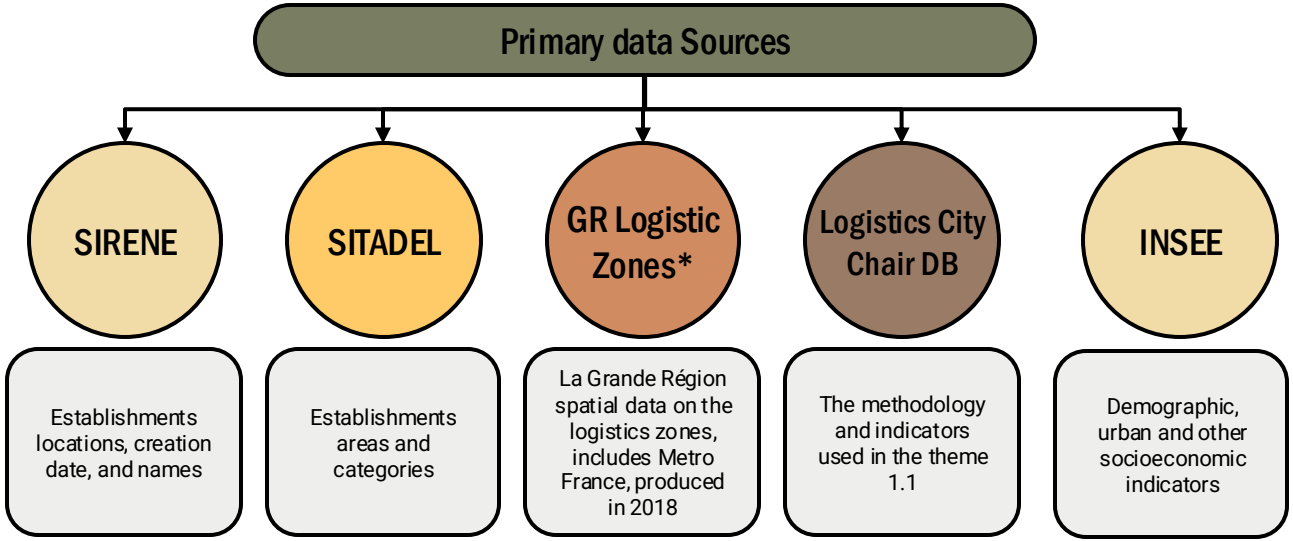
Internship Timeline



Tasks and Progress

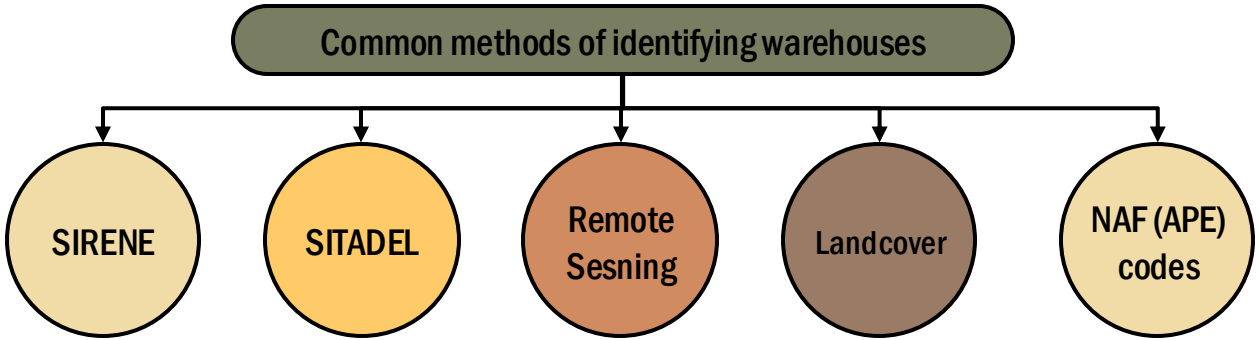


Data Collection

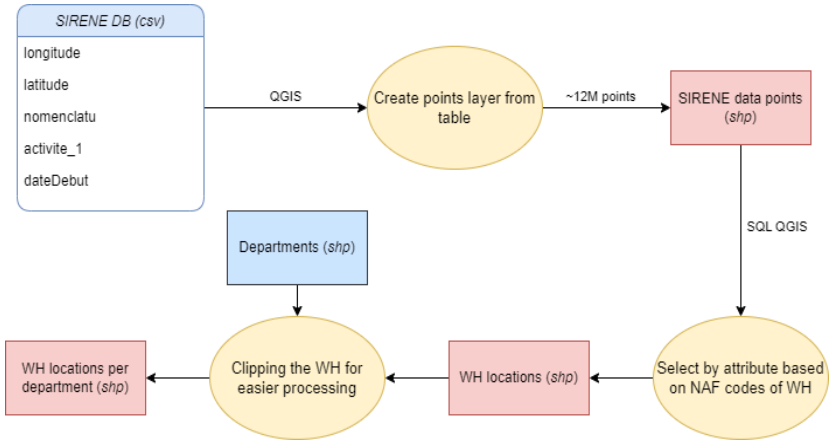


*La Grande Région est un espace de coopération regroupant des territoires partenaires allemands (Sarre, Rhénanie-Palatinat), belges (Wallonie) et français (Lorraine, au sein de la région Grand Est), ainsi que le grand-duché du Luxembourg.

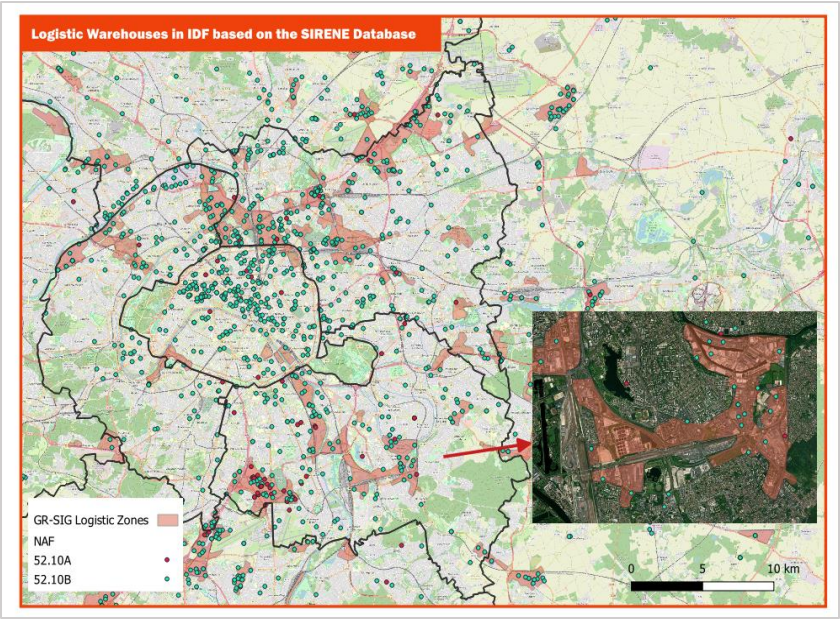
E-commerce Warehouses Enumeration



E-commerce Warehouses Enumeration



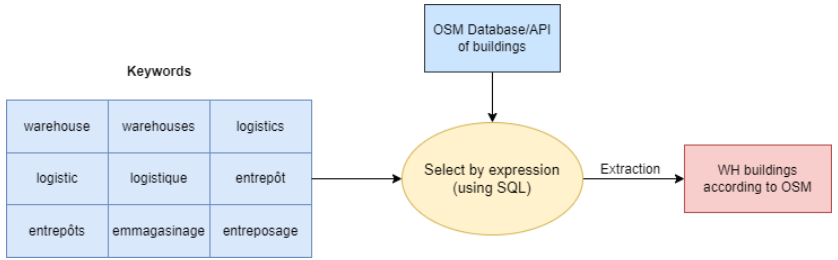
A flowchart showing the first approach to identify potential logistic activities (in general) using SIRENE database, based on NAF codes.



E-commerce Warehouses Enumeration

Other methodologies include using OpenStreetMaps (OSM), SITADEL database, and FEVAD website as a source for warehouses location identification.

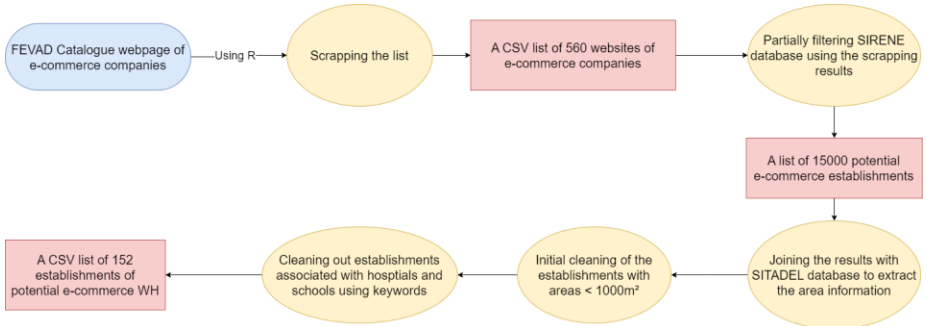
The following diagram shows an approach to use keywords in to filter warehouses in OSM data



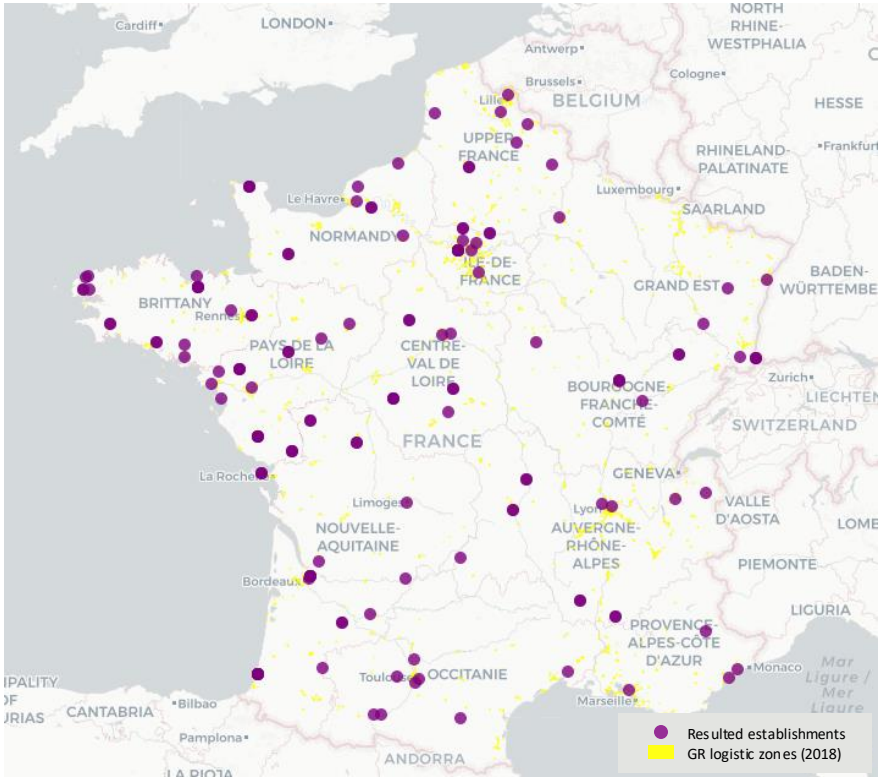
Centre Bus Rive Gauche

Decathlon Warehouse

E-commerce Warehouses Enumeration



A flowchart showing the approach used.

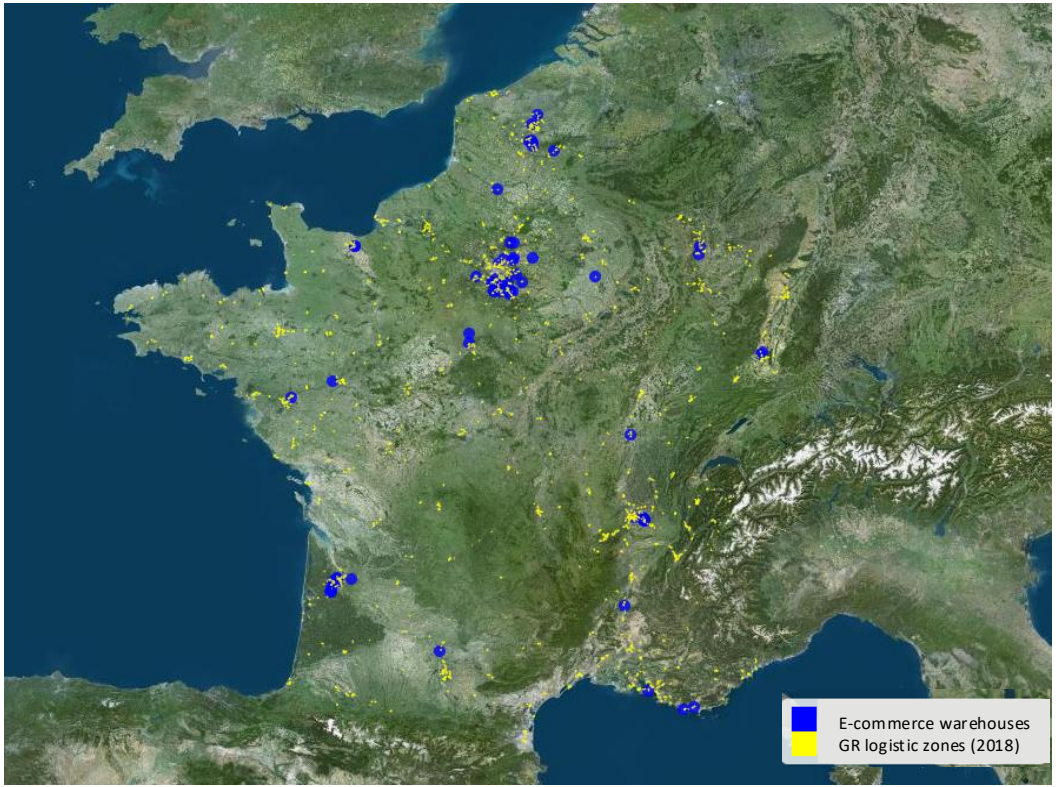


The resulted establishments with areas > 5000m².

E-commerce Warehouses Enumeration

The next approach represents the most effective method of identifying the e-commerce warehouses, which is manually collecting and verifying the locations based on a list of top e-commerce companies by FEVAD, used with SIRENE database, IGN, and Google Maps.

		Visiteurs uniques moyens par mois	Couv. mensuelle moyenne (Pop FR)	Visiteurs uniques moyens par jours
	Ensemble des acteurs - top 20	50 004 000	78,5 %	
1	Amazon*	39 197 000	61,5 %	9 359 000
2	Leboncoin.fr*	26 668 000	41,9 %	6 667 000
3	Fnac*	18 225 000	28,6 %	1 453 000
4	E.Leclerc*	17 927 000	28,1 %	2 523 000
5	Vinted*	17 708 000	27,8 %	4 901 000
6	Cdiscount*	17 698 000	27,8 %	1 784 000
7	Temu	17 365 000	27,3 %	2 195 000
8	Carrefour*	16 271 000	25,5 %	1 932 000
9	Lidl*	15 534 000	24,4 %	2 204 000
10	Booking.com	14 557 000	22,9 %	1 372 000
11	AliExpress	13 496 000	21,2 %	2 243 000
12	Shein	12 686 000	19,9 %	2 470 000
13	Leroy Merlin*	11 359 000	17,8 %	864 000
14	Rakuten France*	11 310 000	17,8 %	1 036 000
15	SNCF Connect*	11 155 000	17,5 %	1 345 000
16	Decathlon	10 623 000	16,7 %	689 000
17	Boulanger*	9 648 000	15,1 %	618 000
18	Auchan	9 365 000	14,7 %	1 055 000
19	Darty*	9 283 000	14,6 %	601 000
20	eBay*	8 905 000	14,0 %	782 000



The map shows the current results of this process with an overlay layer of La Grande Région logistic zones.

Data Collection Challenges

1. **Inconsistent or Incomplete Data Sources.**
   - Lack of standardization for data collection.
   - Varying definitions of the warehouses.
2. **Temporal Variations.**
   - Frequent changes in warehouses status.
   - Lack of historical data.
3. **Use of NAF Codes.**
   - Broad Categories of NAF codes.
   - Misclassification of e-commerce businesses.
4. **Technical Issues.**
   - Dependence on indirect data and estimations.
   - Inconsistent geographic coverage.
   - The management of 3PL and 4PL companies.

Next Phase: Spatial Analysis