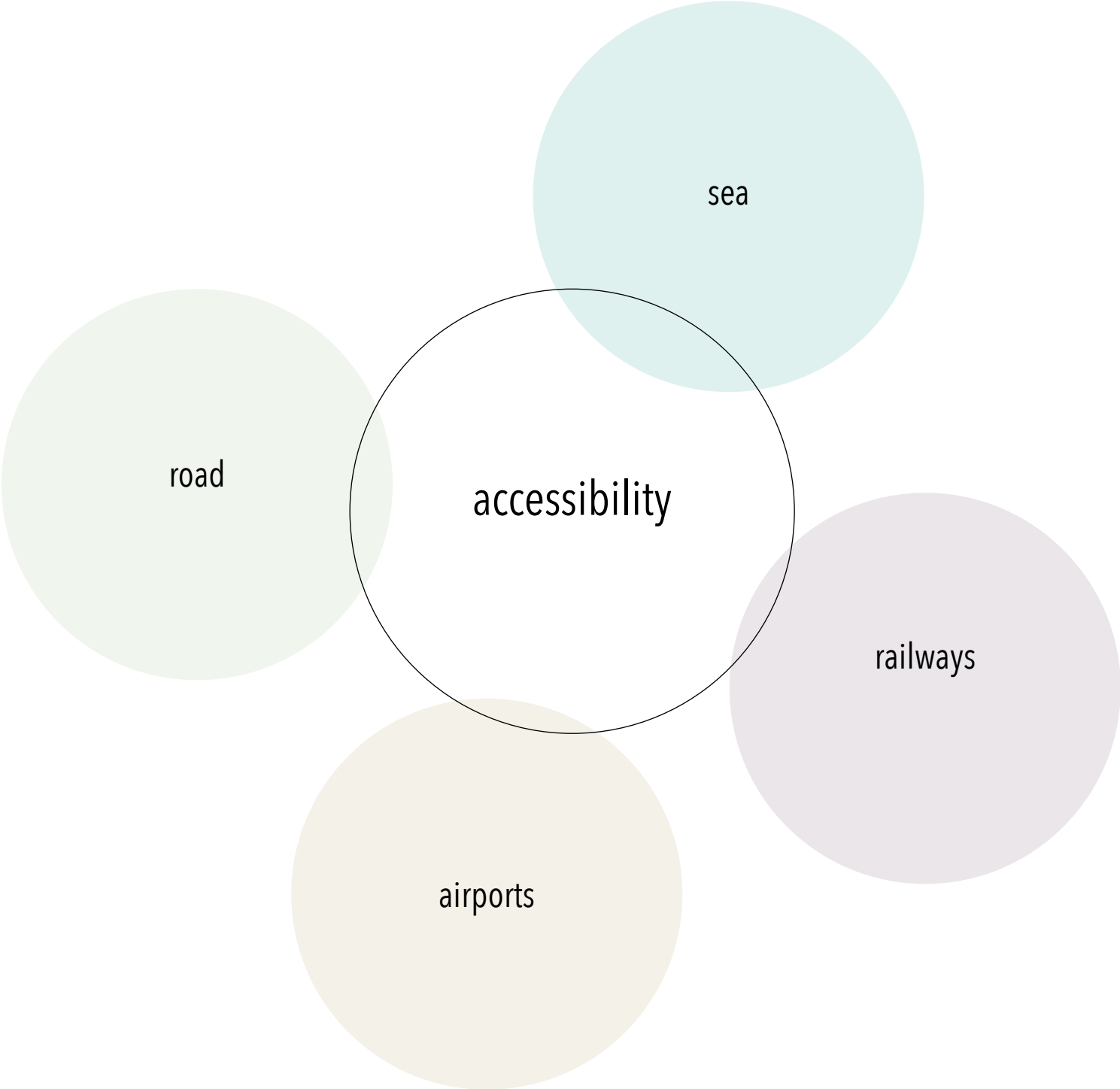


Infrastructure

POLITECNICO DI MILANO
Town Planning Design Workshop A.Y. 2015 – 2016

Isabella Inti / Caterina Padoa Schioppa / Maria Chiara Pastore
Filippo Romano, photographer
Corinna del Bianco / Cecilia Tramontano, tutors

Jacopo Rosa, Fabio Trivieri, Elena Maksimovic, Martina
Corbella, Emma Backlund, Zhao Zhongjie, Katarina
Skrbic, Milos Petrovic, Ana Marques, Ricardo Russo



road

sea

accessibility

railways

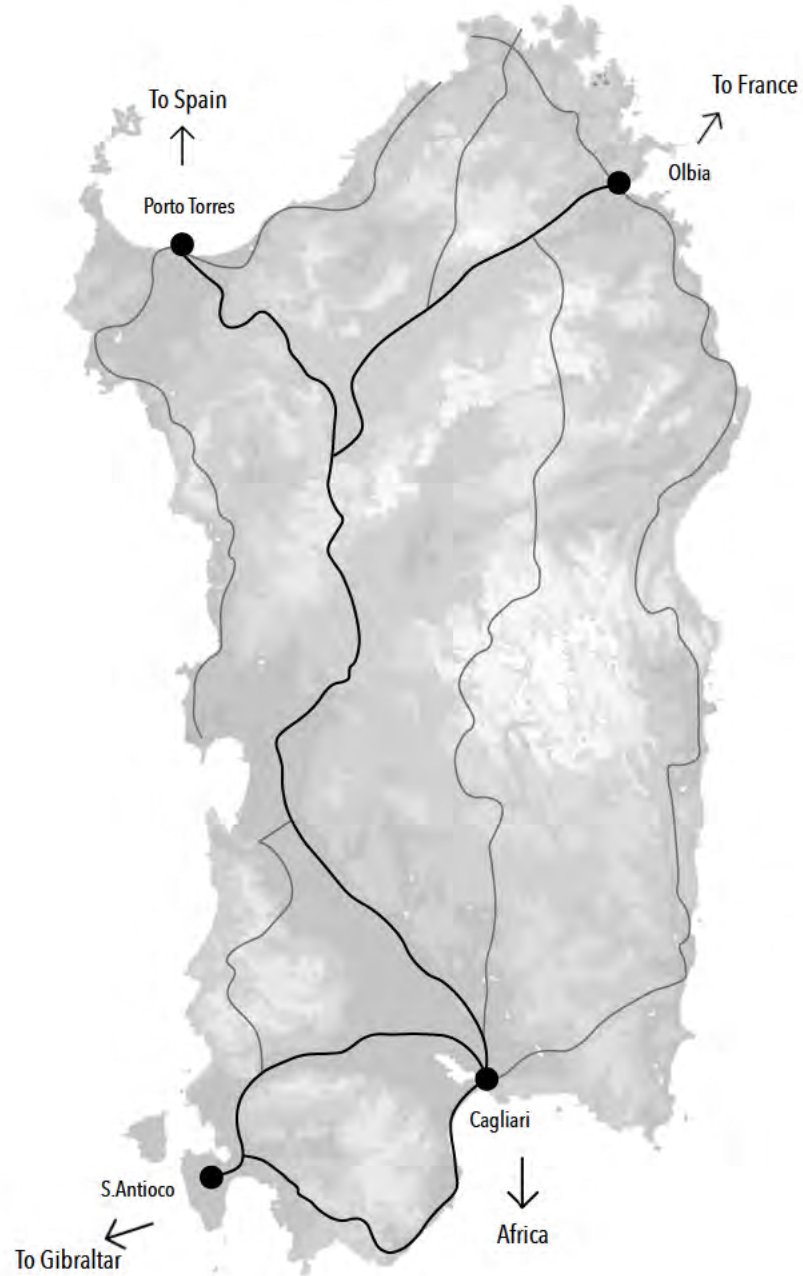
airports

accessibility | large infrastructure
Sardinia in the European street "E25"

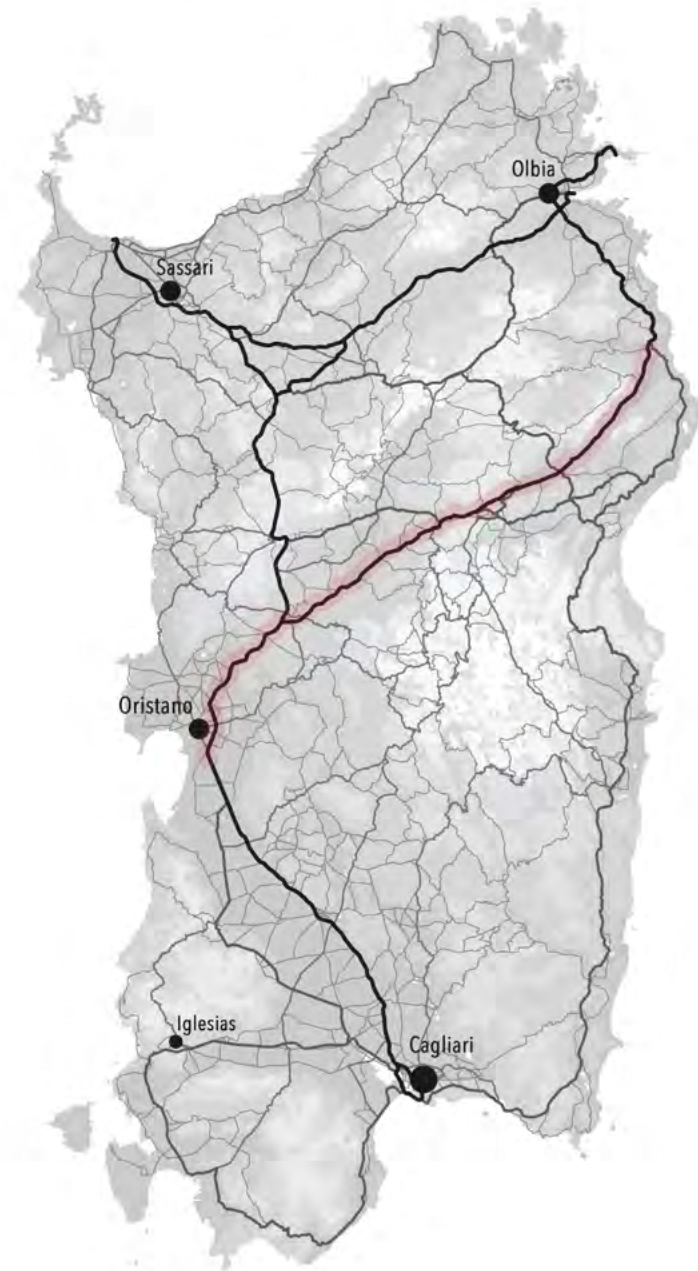


accessibility | internal infrastructure

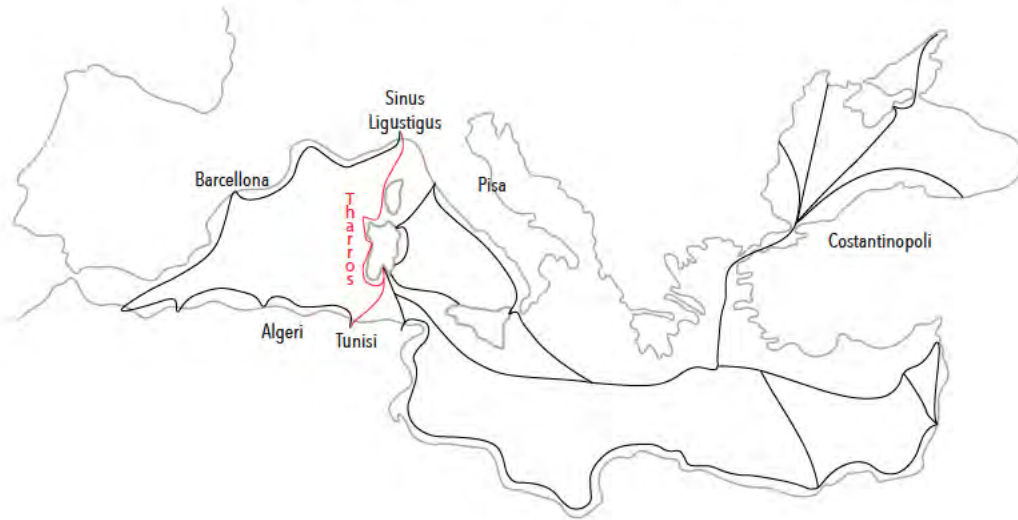
The streets in Sardia during the roman period



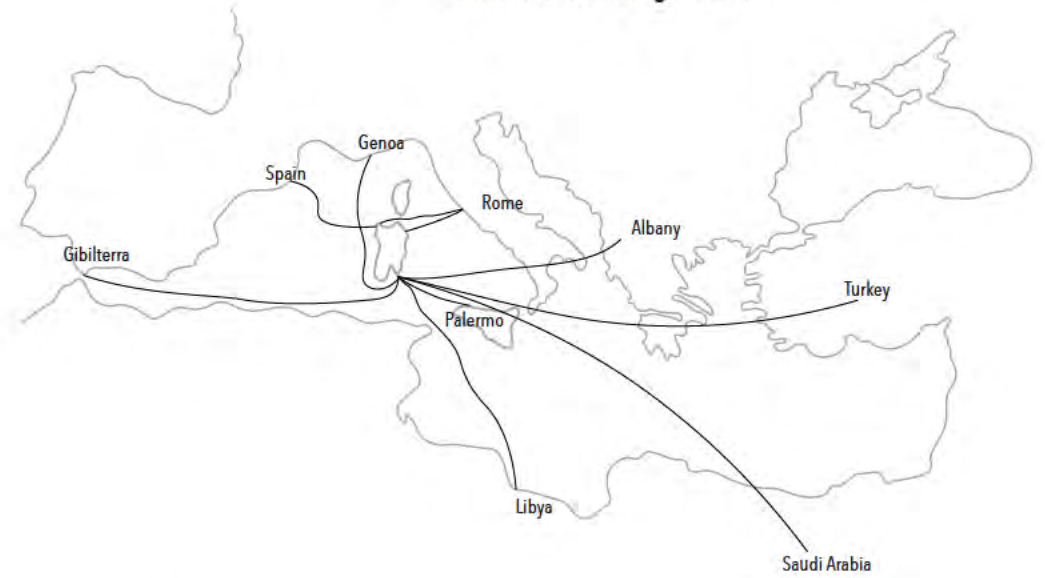
The streets in Sardia nowadays



past sea routes
The importance of Sardinia in the Mediterranean Sea



present sea routes
Sardinian exchange routes



EXPORTED AND IMPORTED GOODS SARDINIA

HISTORIC



TODAY

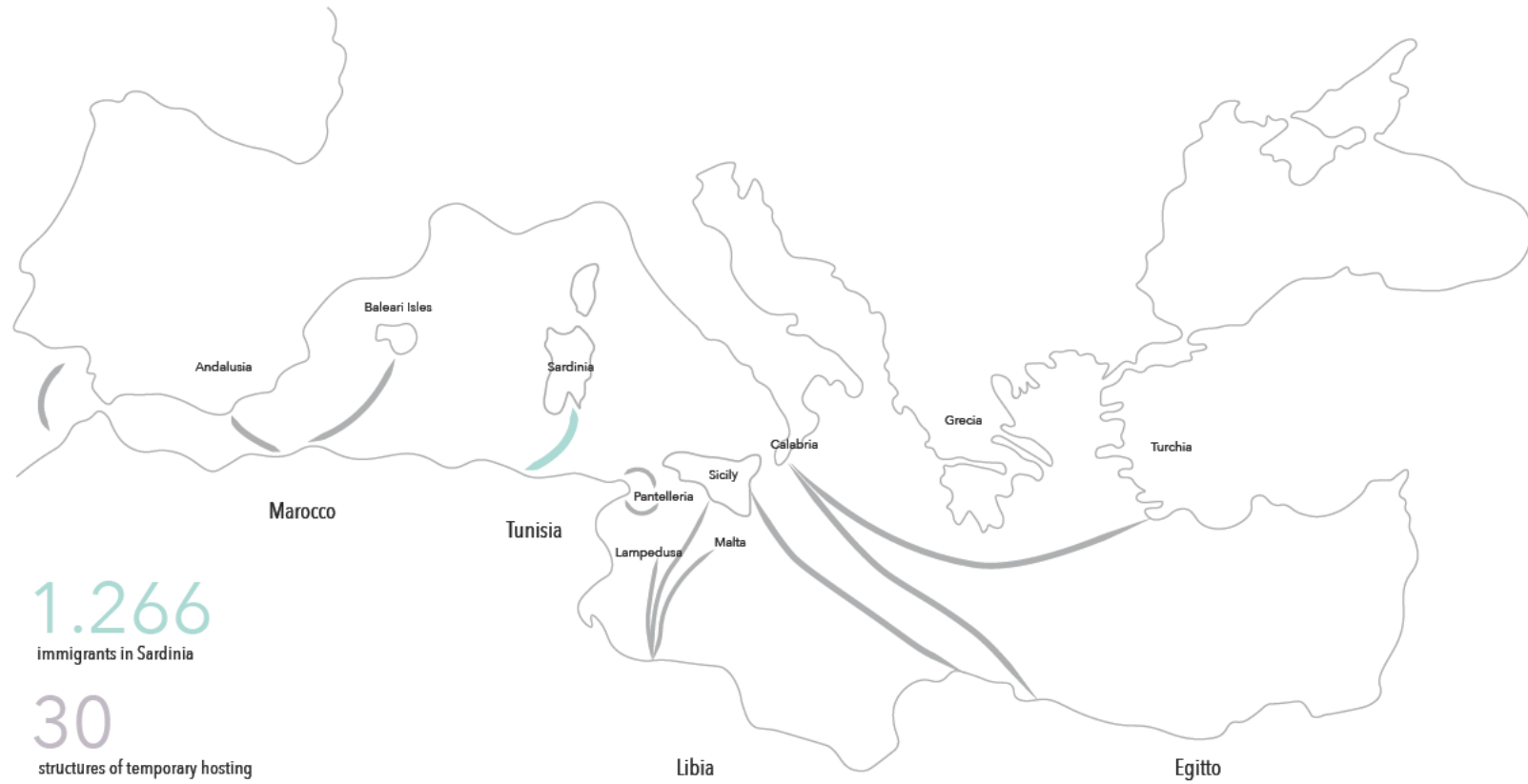


Sardinia import more goods than whats being exported out of the country.

Imported 225.000.000 € worth of Agroalimentar goods like, fruit, cereal, meat and all the prime ingredients of the typical Sardinian food.

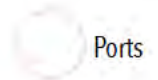
Exported 140.000.000 € worth of agroalimentar goods

Refugees' emergency in the mediterranean routes



accessibility | sea

Ports and marinas



Ports



Marinas
(smaller ports for yacht and little boat)

Port Size



CAGLIARI



OLBIA



ALGHERO



S.TERESA DI GALLURA



passangers
393 823 people



CAGLIARI

goods
35 261 756 tones



passangers
107 894 people



OLBIA

goods
35 261 756 tones



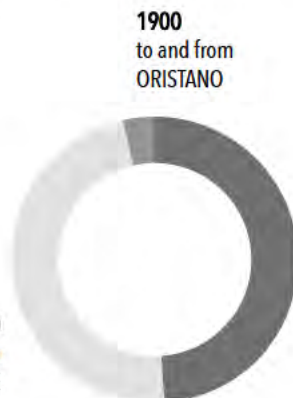
accessibility | internal infrastructures

Railway system

PASSENGERS OF RAILWAY IN SARDINIA

There are about **4.4million** passengers travel by train during 2012 in Sardinia.
 Weekday average of **13.550**
 While, there are **82% travelers** focused on routes south of Oristano.

CAGLIARI attracted 170000 unit permonth (32% of the entire region) between arrivals and departures:



✈️ 🚗 🚝 🚆 🚉

IGLESIAS-SASSARI

travel time: **4hours**
 operates: **6AM to 5PM**
 departures: **2-3hours**
 changes: 1-3
 ticket cost: **17€**



🚗 🚝 🚆 🚉

IGLESIAS-ORISTANO

travel time: **2hours**
 operates: **6AM to 8PM**
 departures: **2-3hours**
 changes: 1-3
 ticket cost: **7€**



🚗 🚝

Trains to and from Cagliari

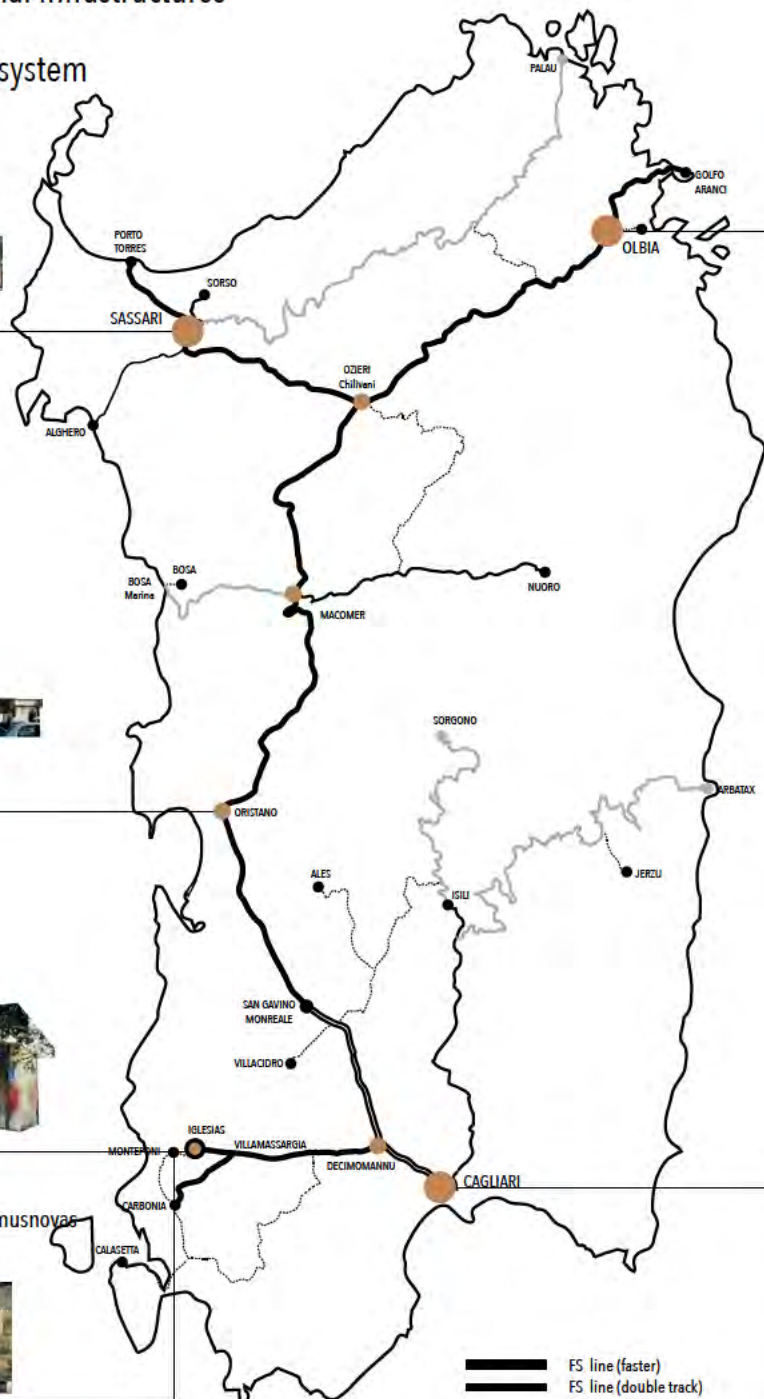
Trains to and from Villamassargia-Domusnovas



CARBONIA



MONTEPONI



———— FS line (faster)
———— FS line (double track)
———— ARST line (slower)
———— ARST travel line (summer open)
———— closed line
● main hub



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IGLESIAS-OLBIA

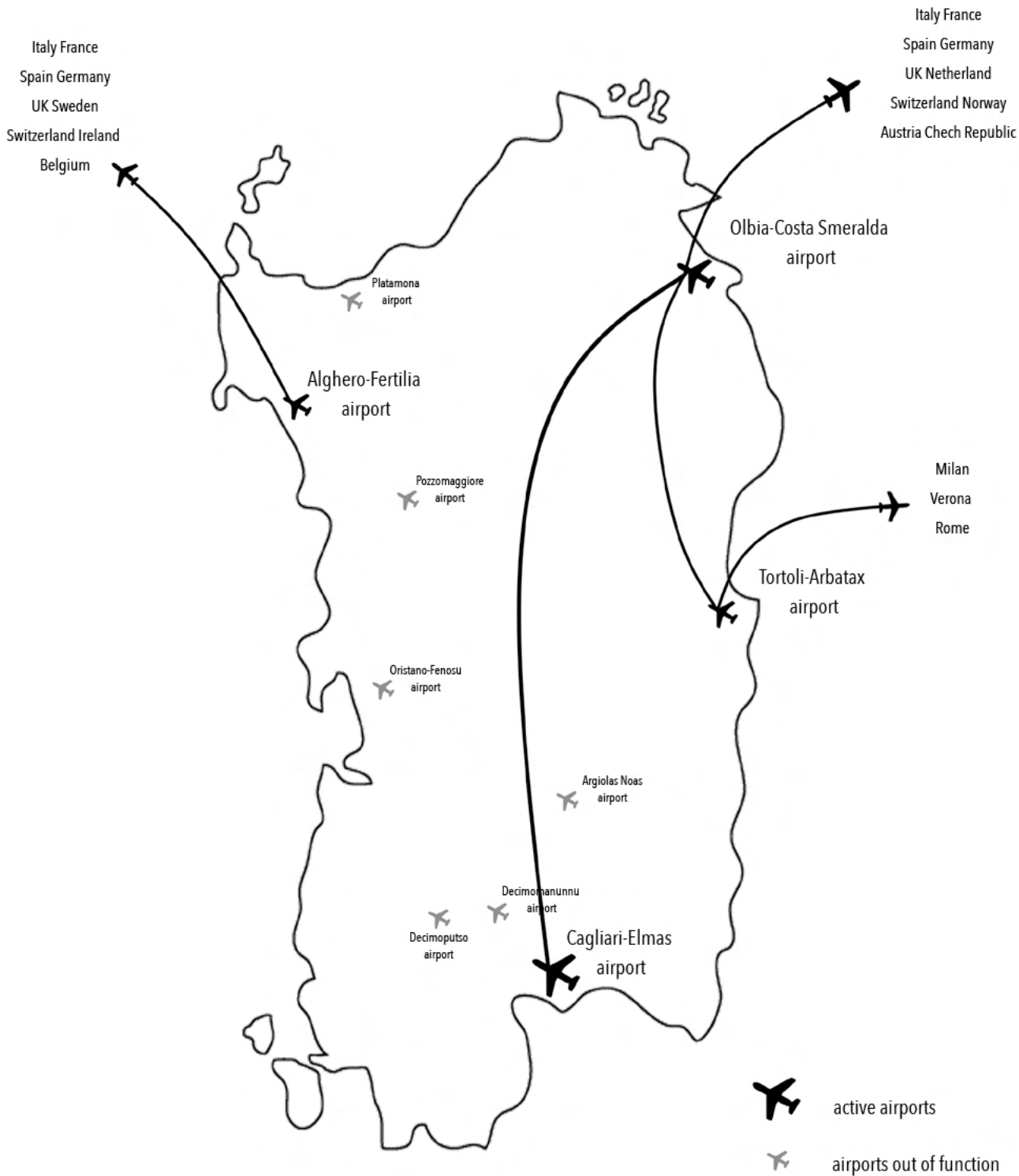
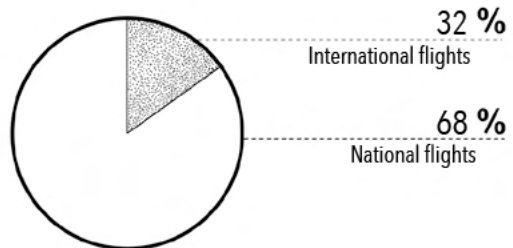
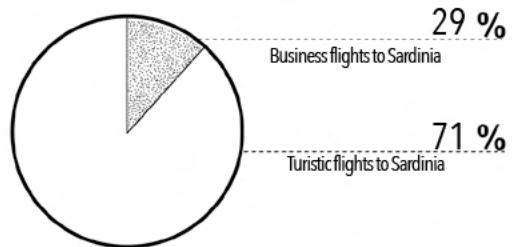
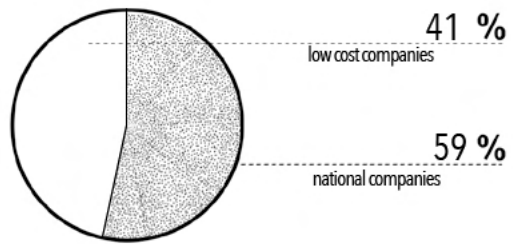
travel time: **5hours**
 operates: **6AM - 5PM**
 departures: **2-3hours**
 changes: 1-3
 ticket cost: **18€**



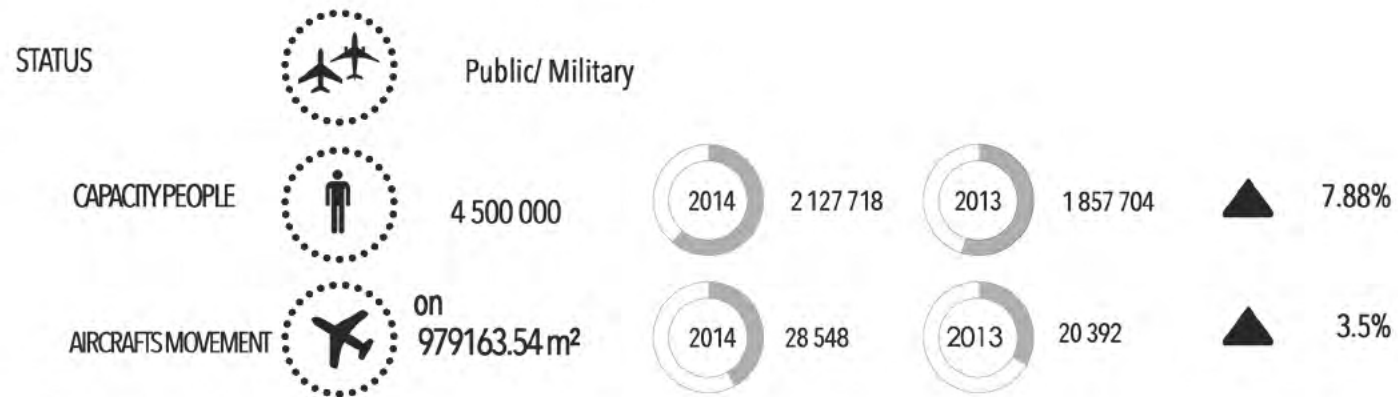
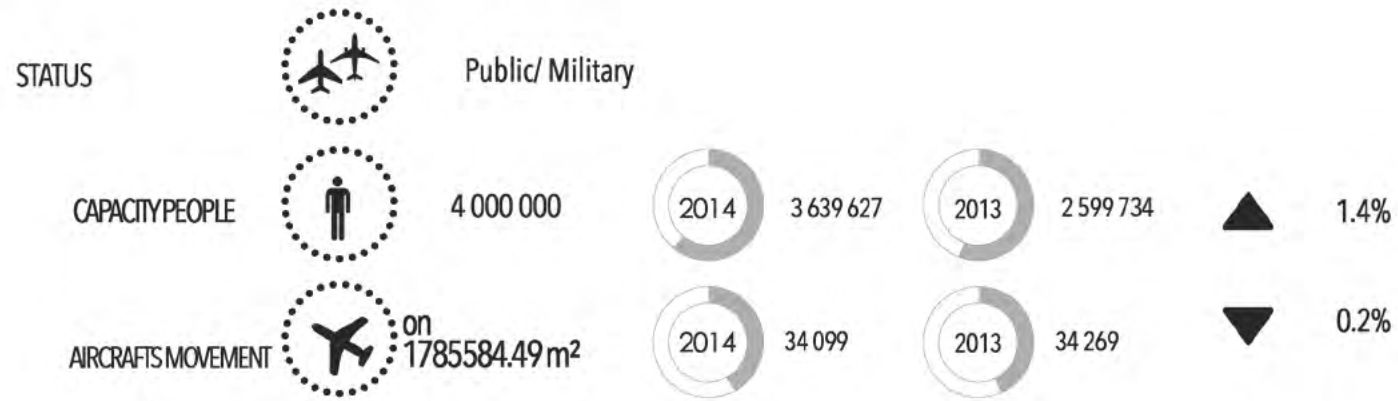
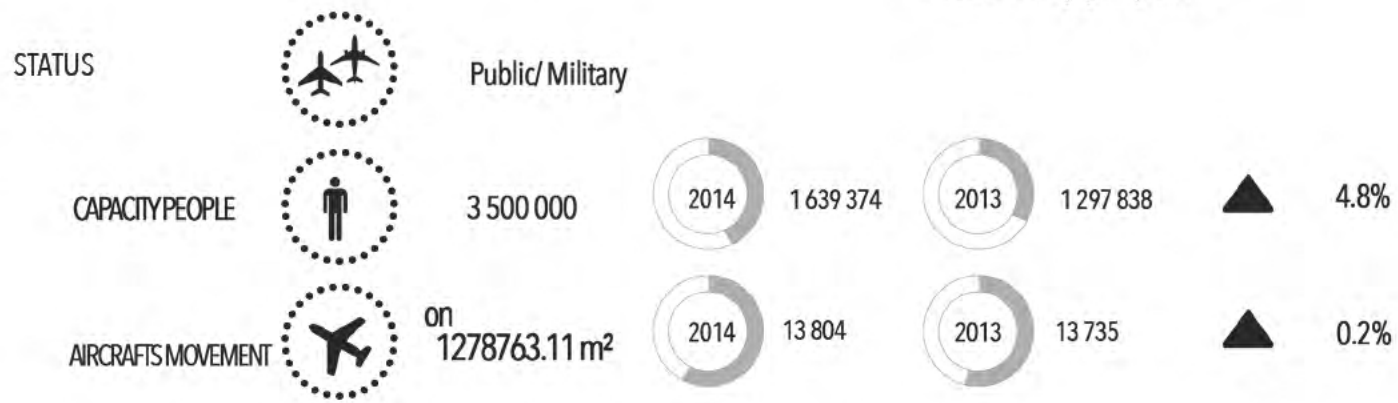
✈️ 🚗 🚝 🚆 🚉

IGLESIAS-CAGLIARI

travel time: **50minutes**
 operates: **5AM to 8PM**
 departures: **about 1hour**
 changes: 0-1
 ticket cost: **4€**



accessibility | airports

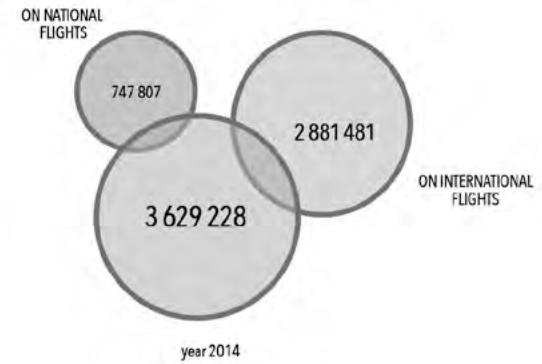




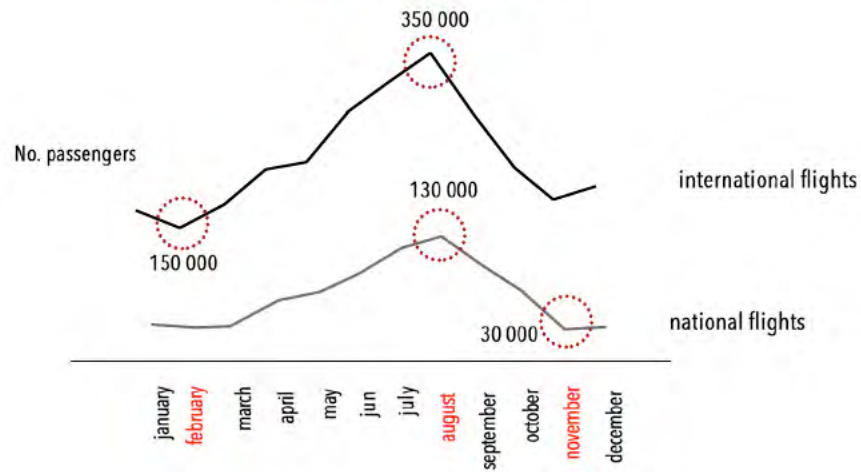
AIRPORT OF CAGLIARI PASSENGER ANALYSES



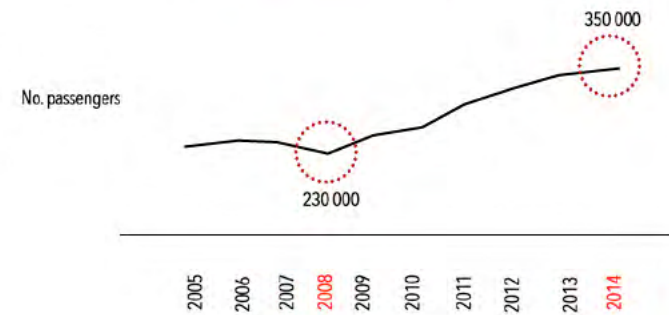
NUMBER OF PASSENGERS IN 2014



NUMBER OF INTERNATIONAL AND NATIONAL PASSENGERS IN 2014



NUMBER OF PASSENGERS TO 2014

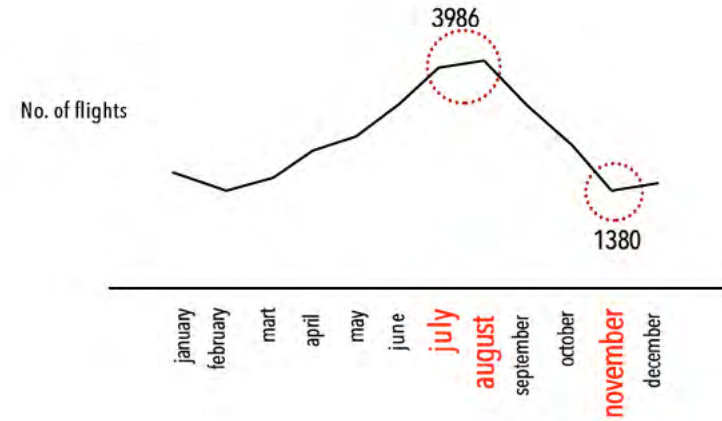




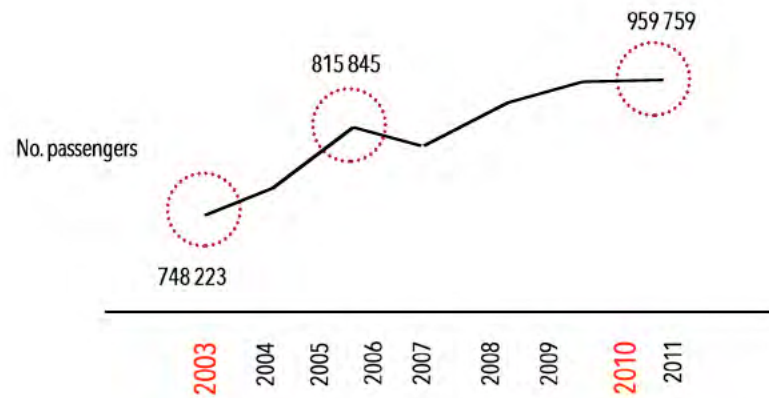
AIRPORT OF CAGLIARI MOVEMENTS ANALYSES



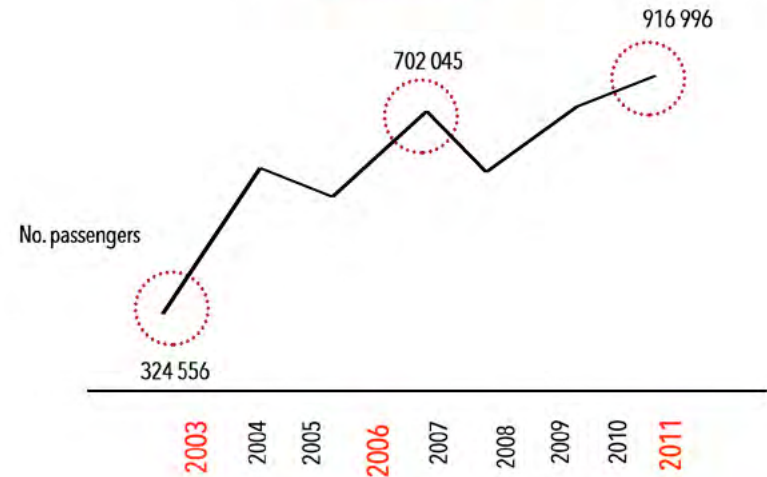
NUMBER OF ARRIVALS DEPARTURES IN 2014



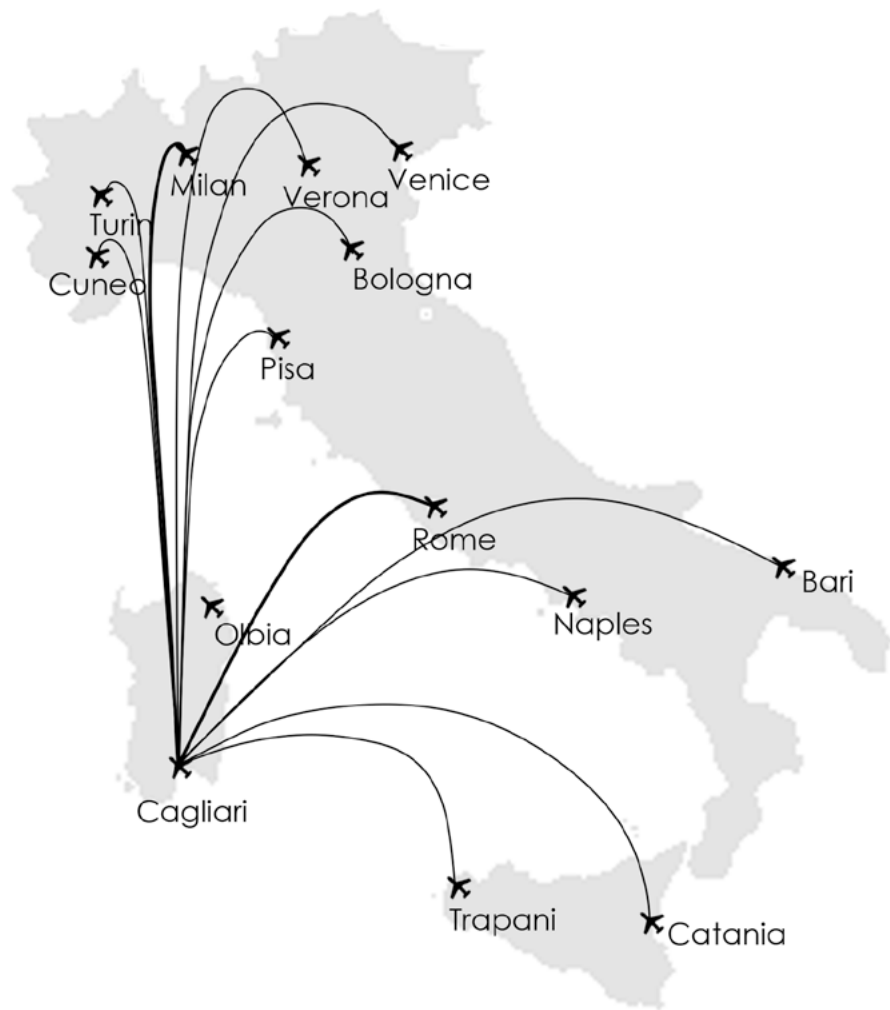
NUMBER OF PASSENGERS ON FLIGHT
CAGLIARI/ROMA



NUMBER OF PASSENGERS ON FLIGHT
CAGLIARI/MILANO



STEADY NATIONAL FLIGHTS FROM/TO CAGLIARI



SEASONAL NATIONAL FLIGHTS FROM/TO CAGLIARI



TOP NATIONAL DESTINATIONS

Destination	Rome Fiumicino	Milano Linate	Bergamo	Rome Ciampino	Milano Malpensa	Pisa	Bologne	Treviso	Verona
No. Passengers in 2014	778 583	442 987	352 396	234 245	176 316	175 708	92 903	82 612	67 423

STEADY INTERNATIONAL FLIGHTS FROM/TO CAGLIARI



SEASONAL INTERNATIONAL FLIGHTS FROM/TO CAGLIARI



TOP INTERNATIONAL DESTINATIONS

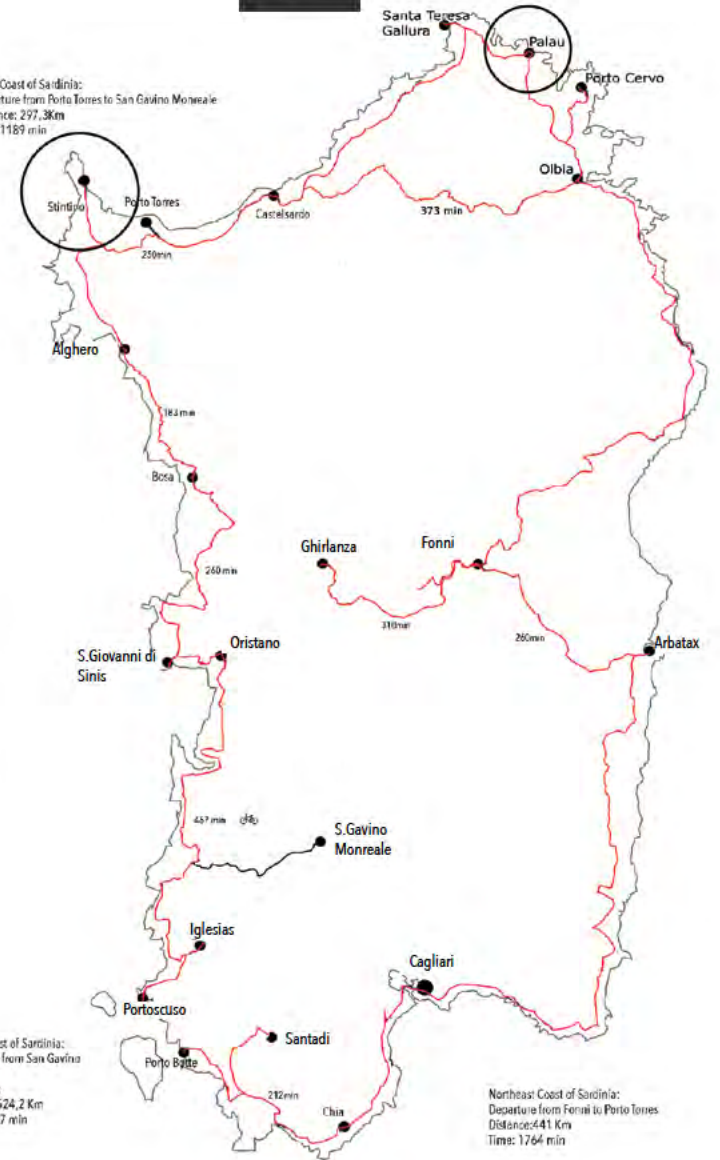
Destination	London Stansed	Gerona	Brussels Charlerol	Paris Beauvais	Munich	Frankfurl Hahn	Madrid	Nederrhein	Kaunas
No. Passengerr in 2014	74 823	69 582	59 453	54 219	34 535	31 902	28 837	28 423	25 458

accessibility | internal infrastructure

Popular infrastructures among tourists and inhabitants



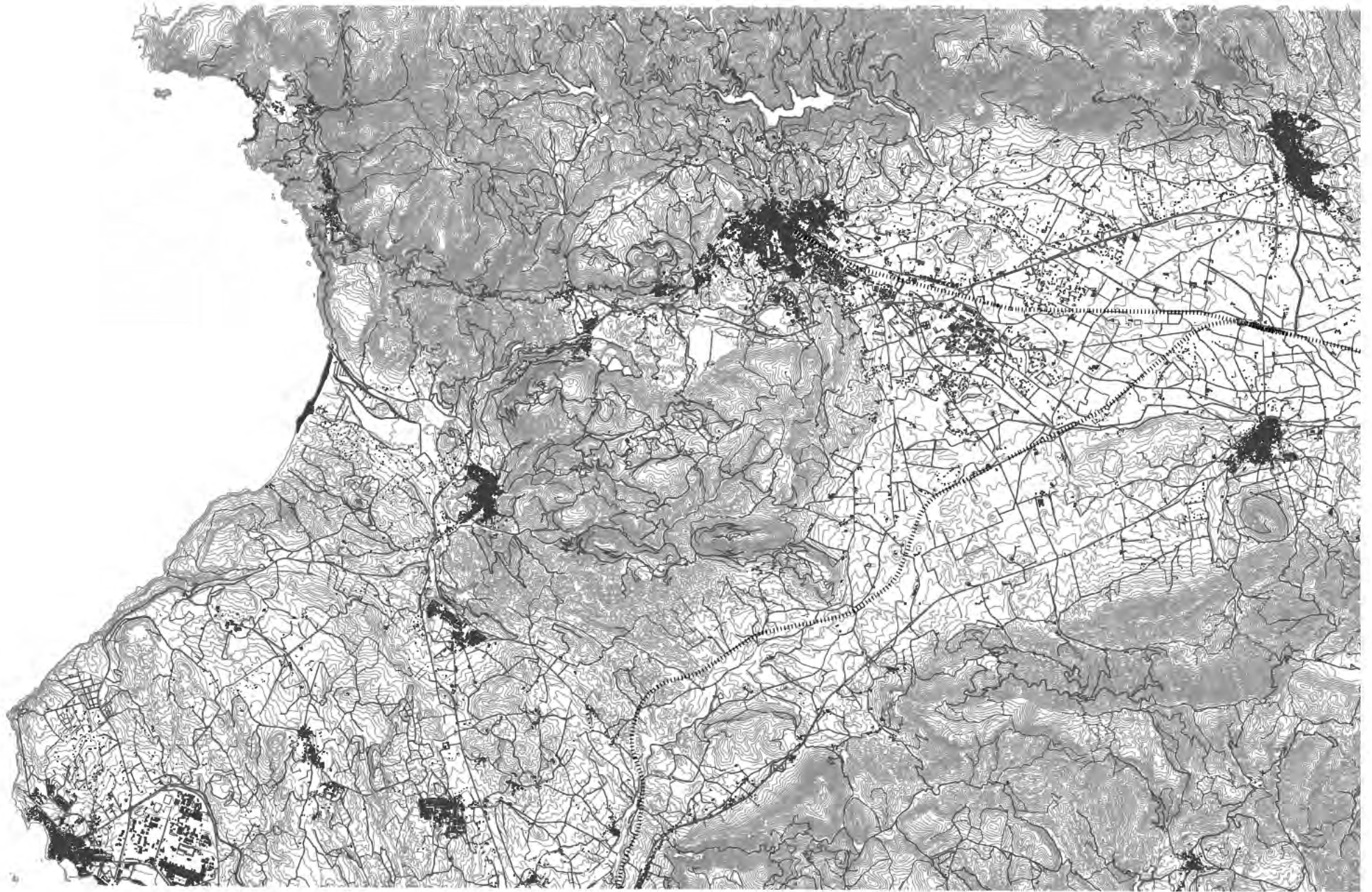
West Coast of Sardinia:
Departure from Porto Torres to San Gavino Monreale
Distance: 297,3 Km
Time: 1189 min



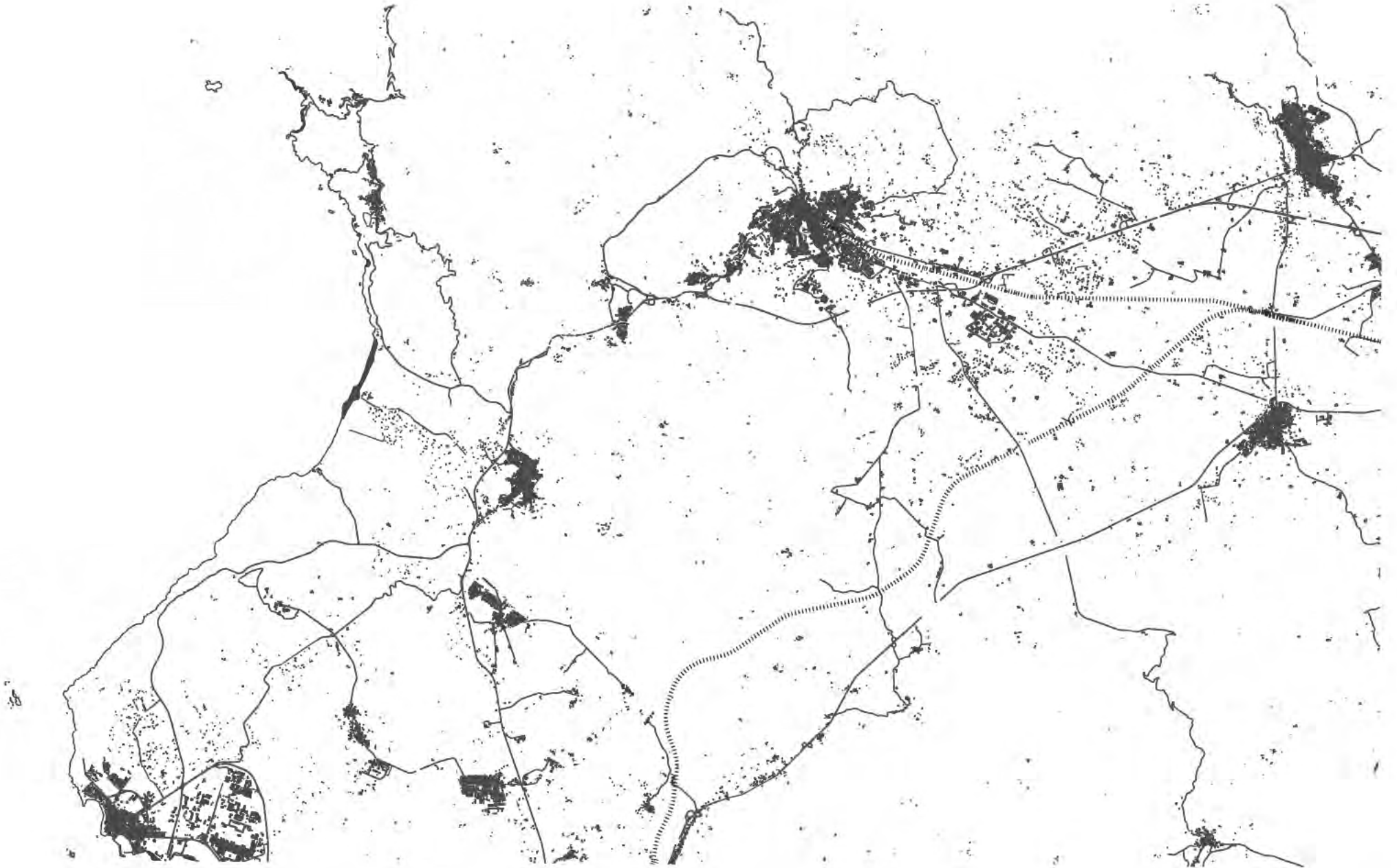
South Coast of Sardinia:
Departure from San Gavino Monreale to Arbatax
Distance: 524,2 Km
Time: 2097 min

Northeast Coast of Sardinia:
Departure from Fonni to Porto Torres
Distance: 441 Km
Time: 1764 min

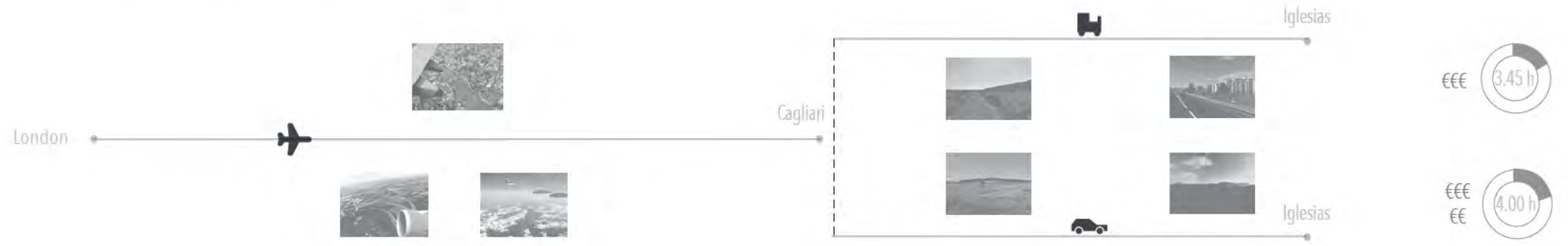
accessibility | local area
Morphology and transport infrastructures



accessibility | local area
Main streets and railway system



From London to Iglesias



London



Cagliari



Iglesias

✈ € € € 3.00 h
€ €

🚗 € 0.45 h



€ € € 3.45 h



Iglesias

€ € € 4 h
€ €



Iglesias

€ € € 22 h
€ €

€ € € 20 h
€ € €

London



Marseille



Porto Torres



Iglesias



London



Olbia



Iglesias

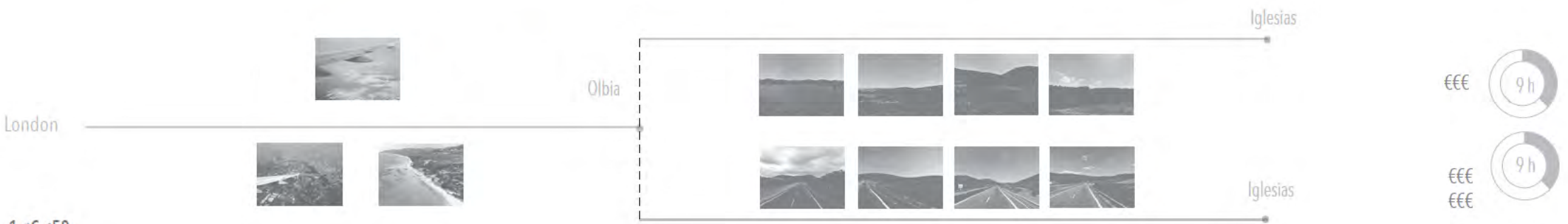
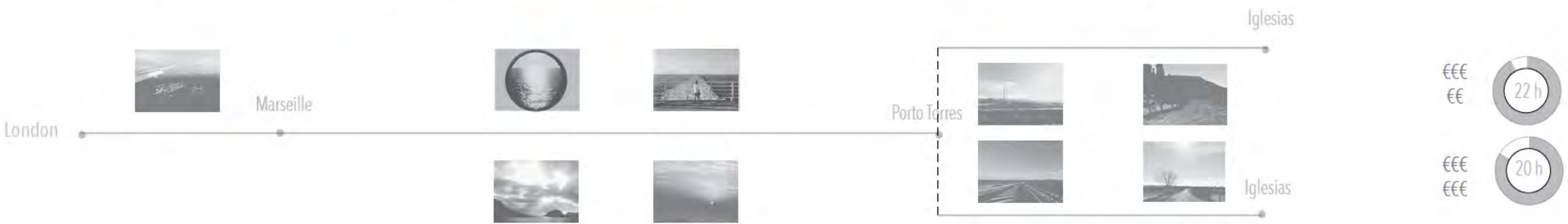
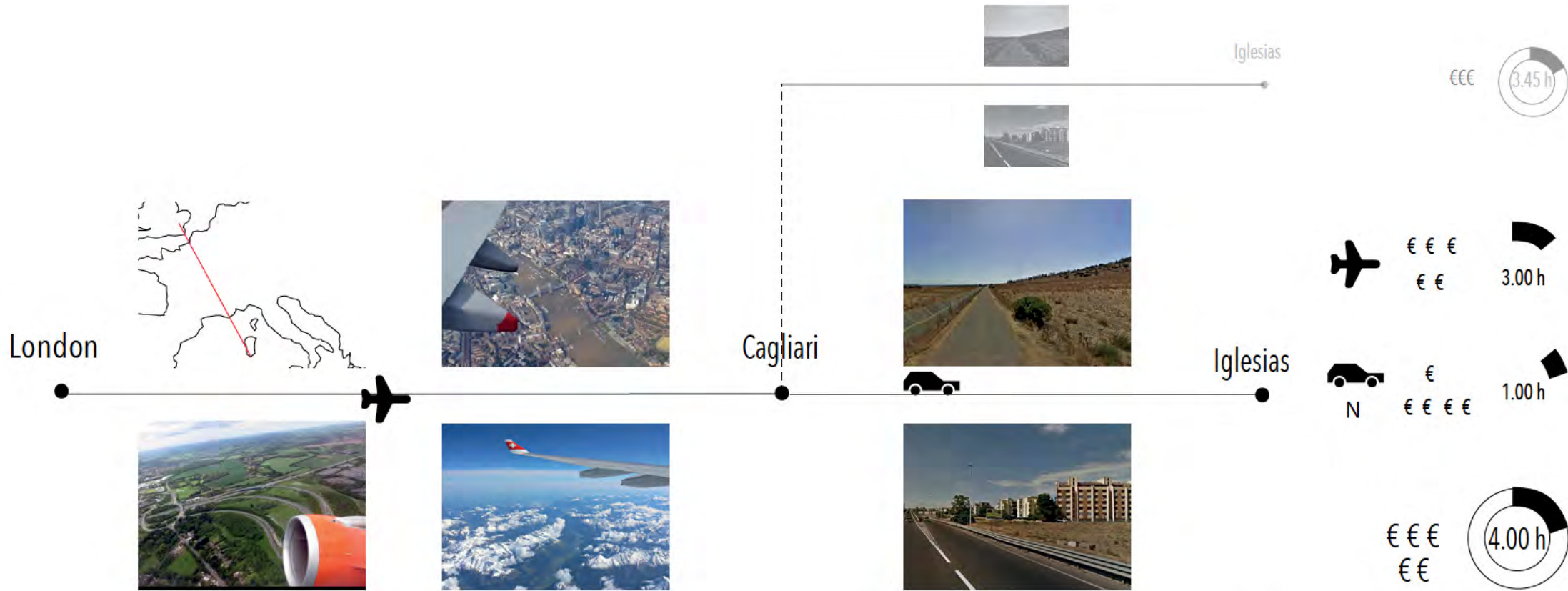
€ € € 9 h



Iglesias

€ € € 9 h
€ € €

1 < € < 50



London



Cagliari



Iglesias

€€€



Iglesias

€€€

€€



€ € €

2.00 h



€ € €

€ €



London



Marseille



Porto Torres



Iglesias



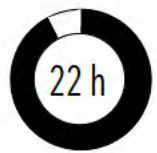
€

5.00 h



€ € €

€ €



Iglesias

€€€



Iglesias

€€€

Iglesias



Olbia



€€€

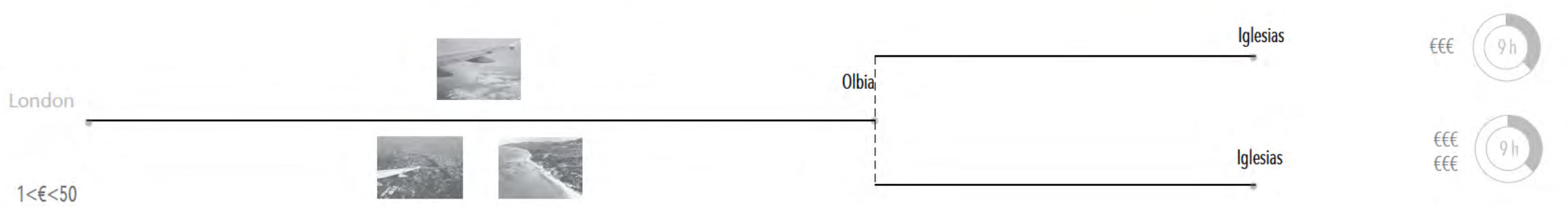
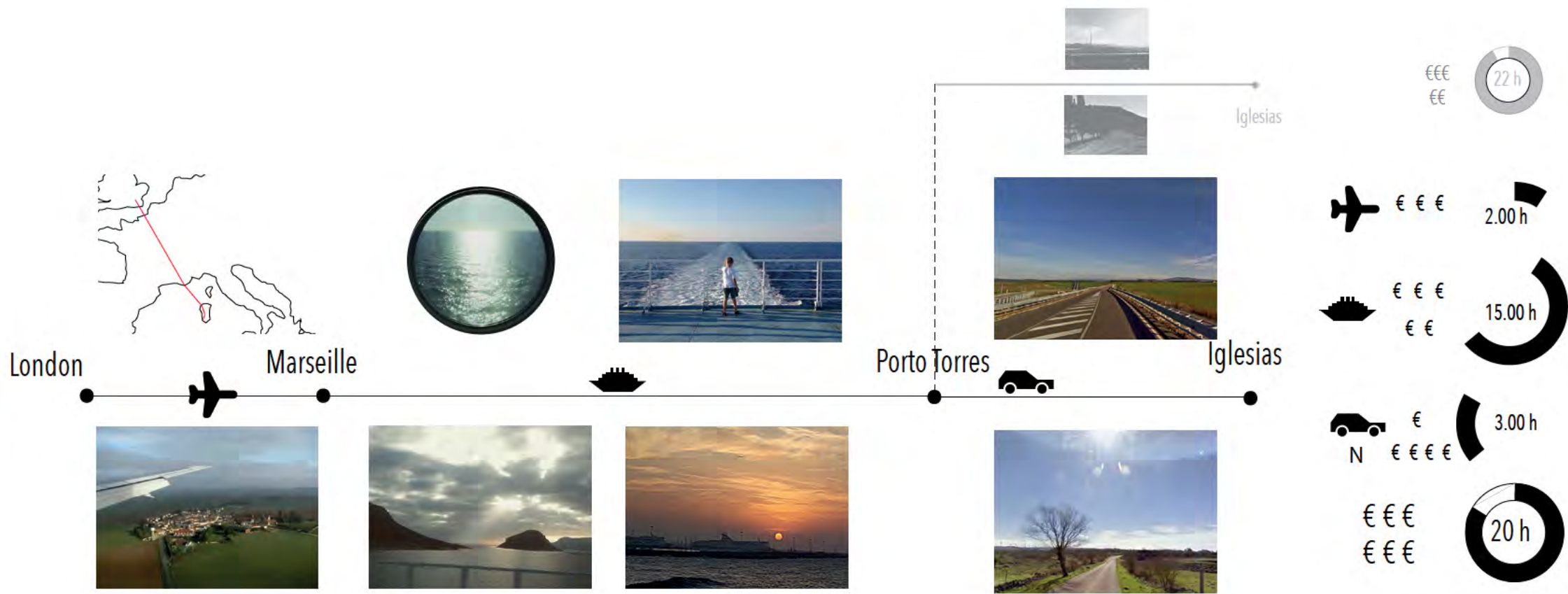
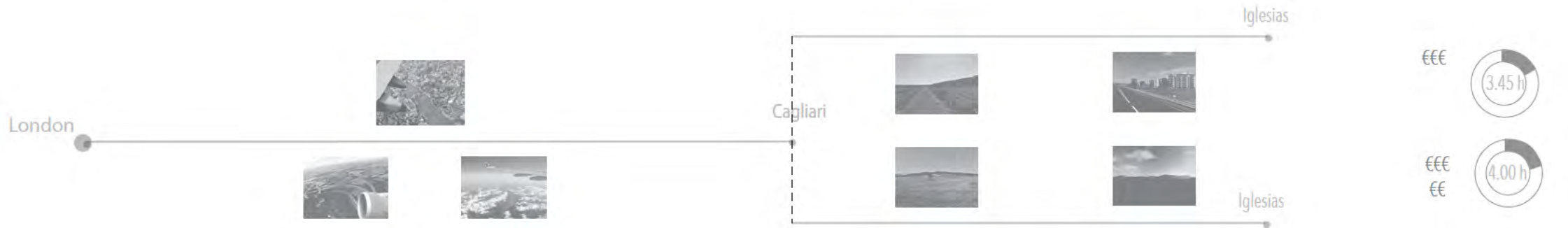


Iglesias

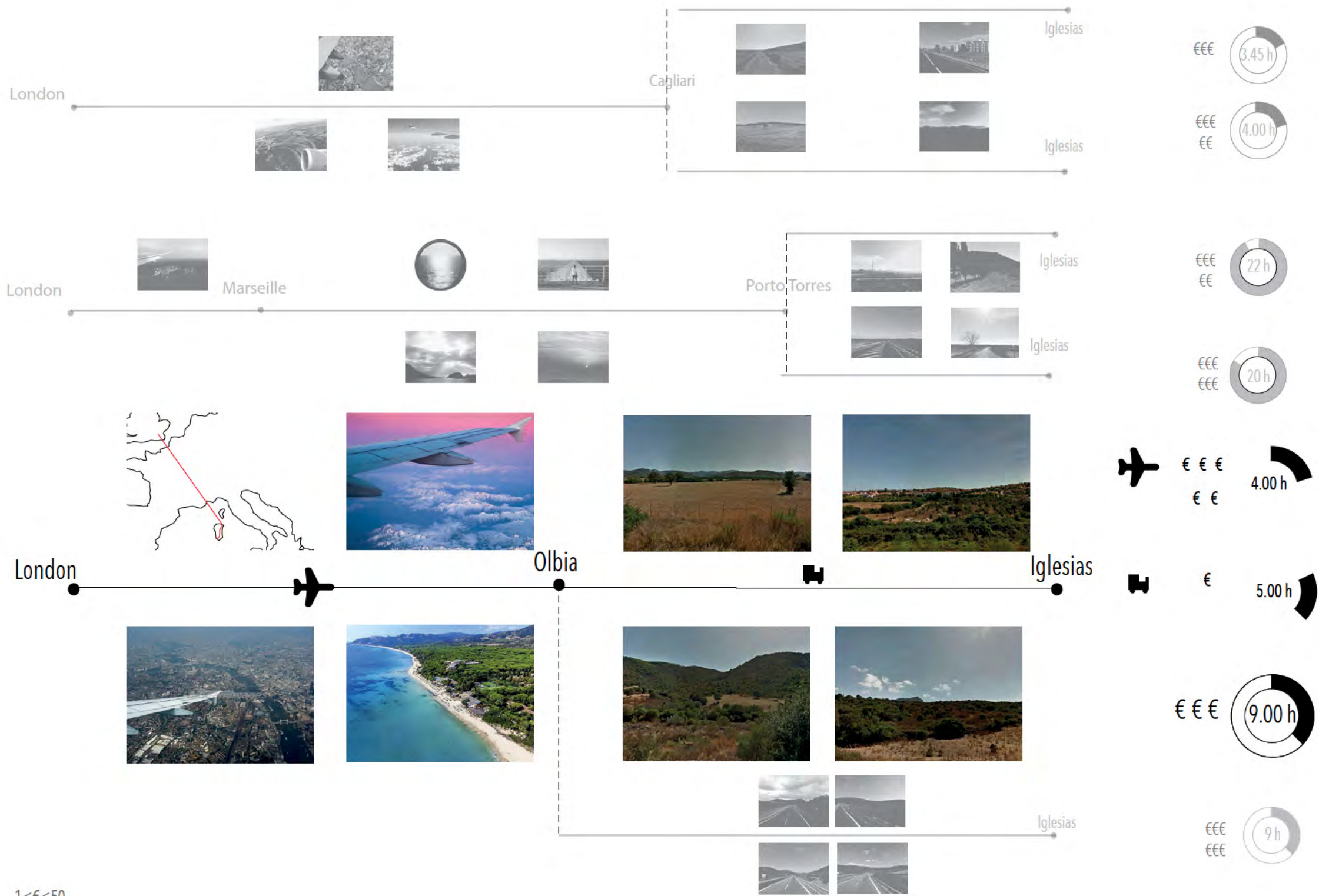
€€€

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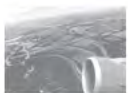




1<€<50



London Stansted



Cagliari



Iglesias

€€€



€€€

€€



London



Marseille



Porto Torres



Iglesias

€€€

€€



€€€

€€€



Iglesias



Iglesias

€€€



London



Olbia



Iglesias



€€€

€€



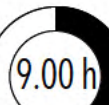
€€

€€€€



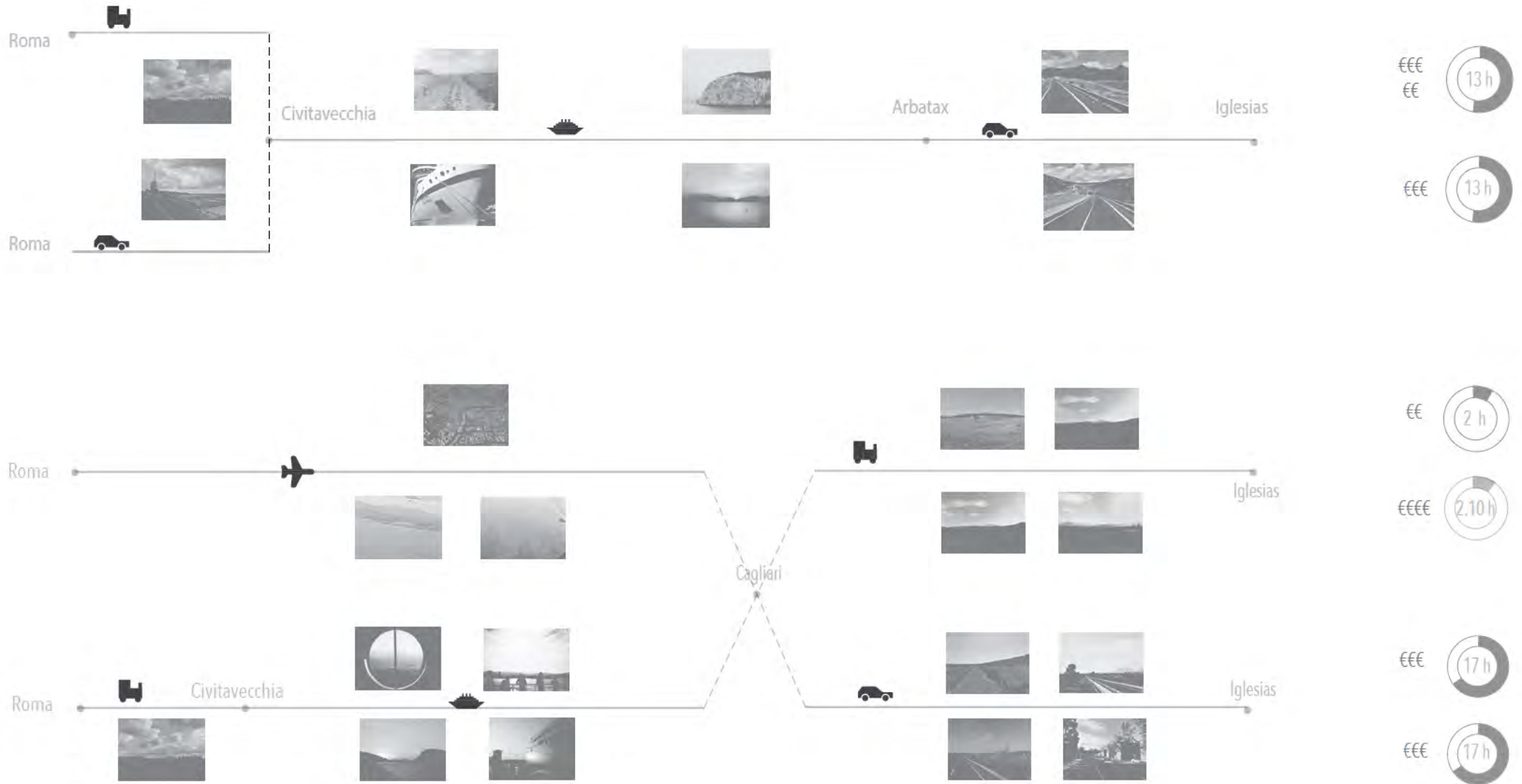
€€€

€€€



1<€<50

From Rome to Iglesias





€ 1.15 h

€ € € 9.00 h

€ N € € € € 3.00 h

€ € € € € € 13 h

€ € € 13 h

€ 2 h

€ € € € 2.10 h

€ € € 17 h

€ € € 17 h

Roma

Civitavecchia

Arbatax

Iglesias



1 < € < 50

Roma

Civitavecchia

Cagliari

Iglesias

Iglesias

€€€
€€

13 h



€

1.15 h



€ € €

9.00 h



€

3.00 h

€ € €

13 h

€€

2 h

€€€€

2.10 h

€€€

17 h

€€€

17 h

Roma

Civitavecchia

Arbatax

Iglesias



Roma

Iglesias

Cagliari



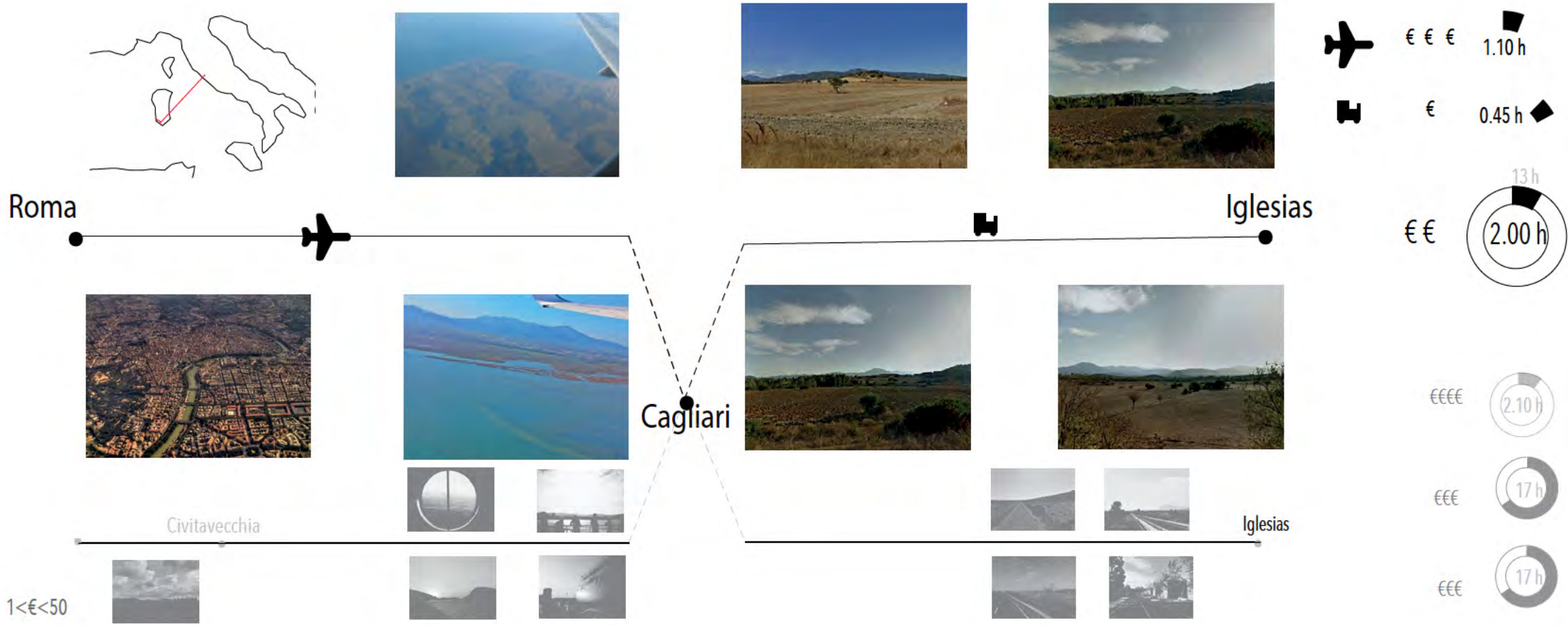
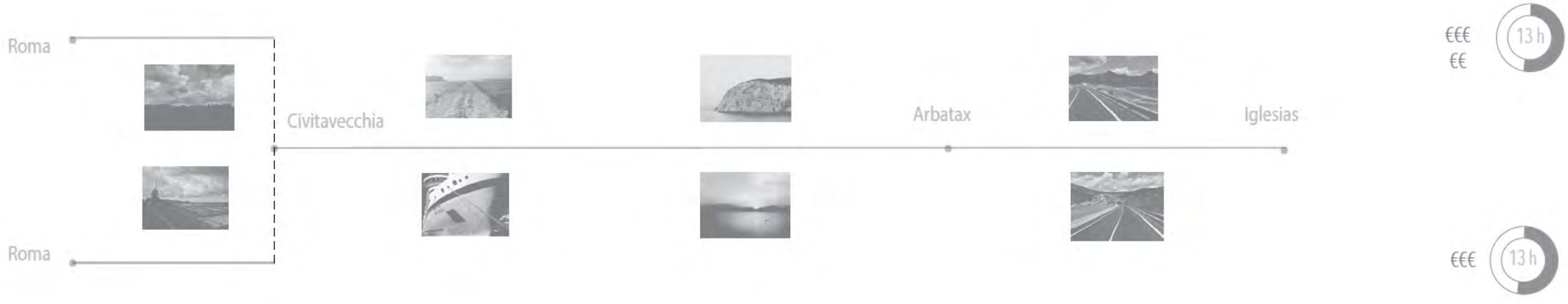
Roma

Civitavecchia

Iglesias

1 < € < 50





Roma



Civitavecchia



Arbatax



Iglesias

Roma



€€€
€€



€€€



Iglesias

€€



€ € €

1.10h



€

1.00h

N

€ € € €

Iglesias

€ € € €



Cagliari



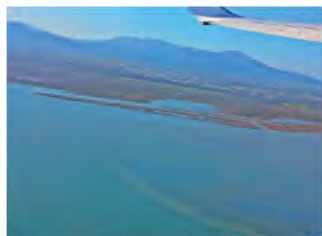
€€€



€€€



Roma

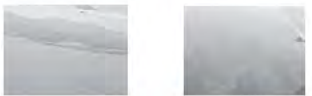
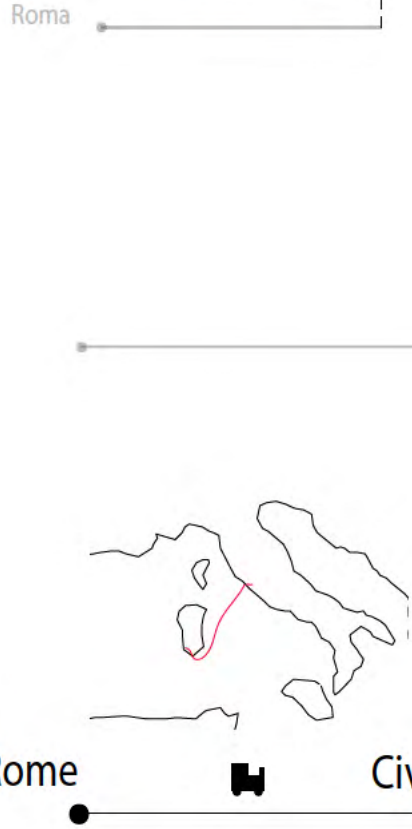


Civitavecchia



1<€<50





€



€€€



€



€€€



Cagliari

Iglesias



Iglesias



€€€



€€€



1<€<50

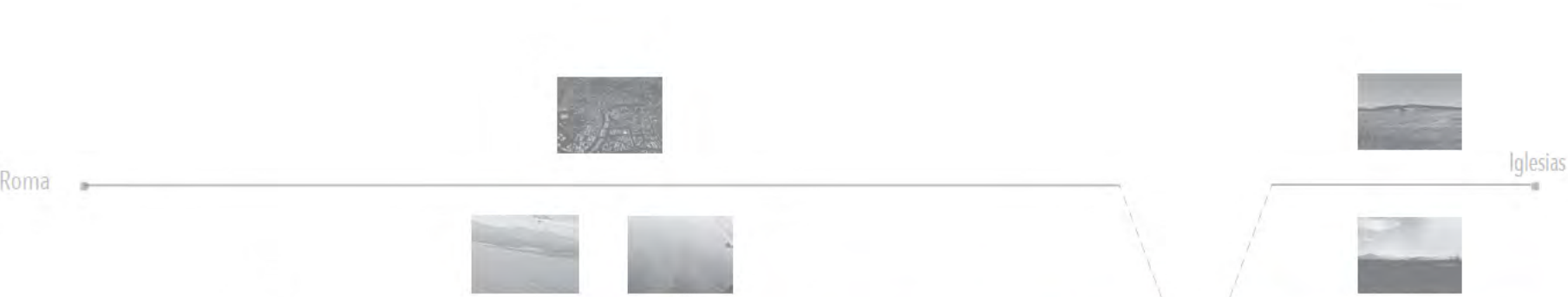


€€€
€€

13 h

€€€

13 h



€€

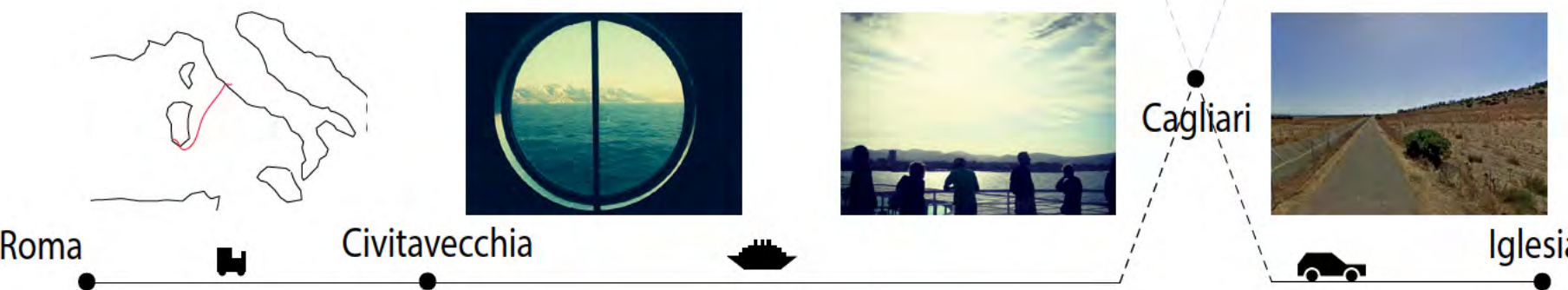
2 h

€€€€

2.10 h

€€€

17 h

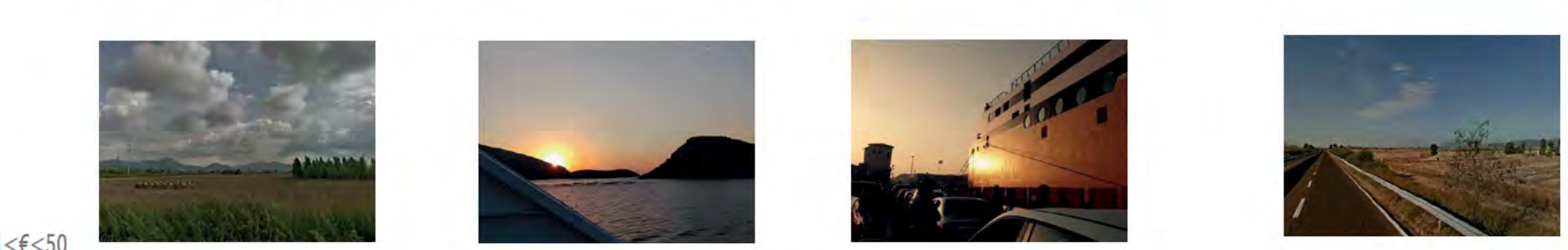


€

1.15 h

€€€€

14.30 h



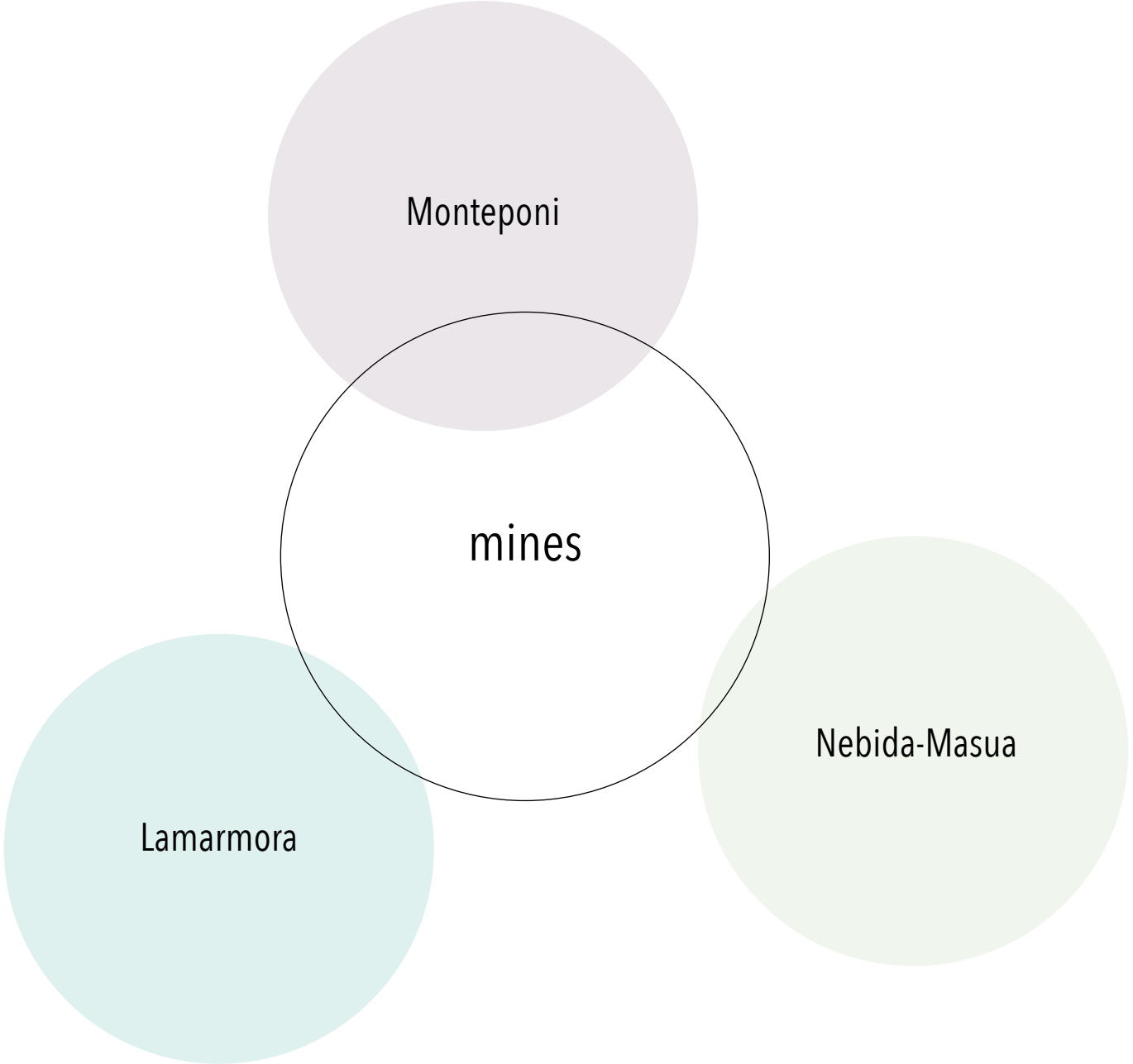
€

1.00 h

€€€

17 h

1 < € < 50



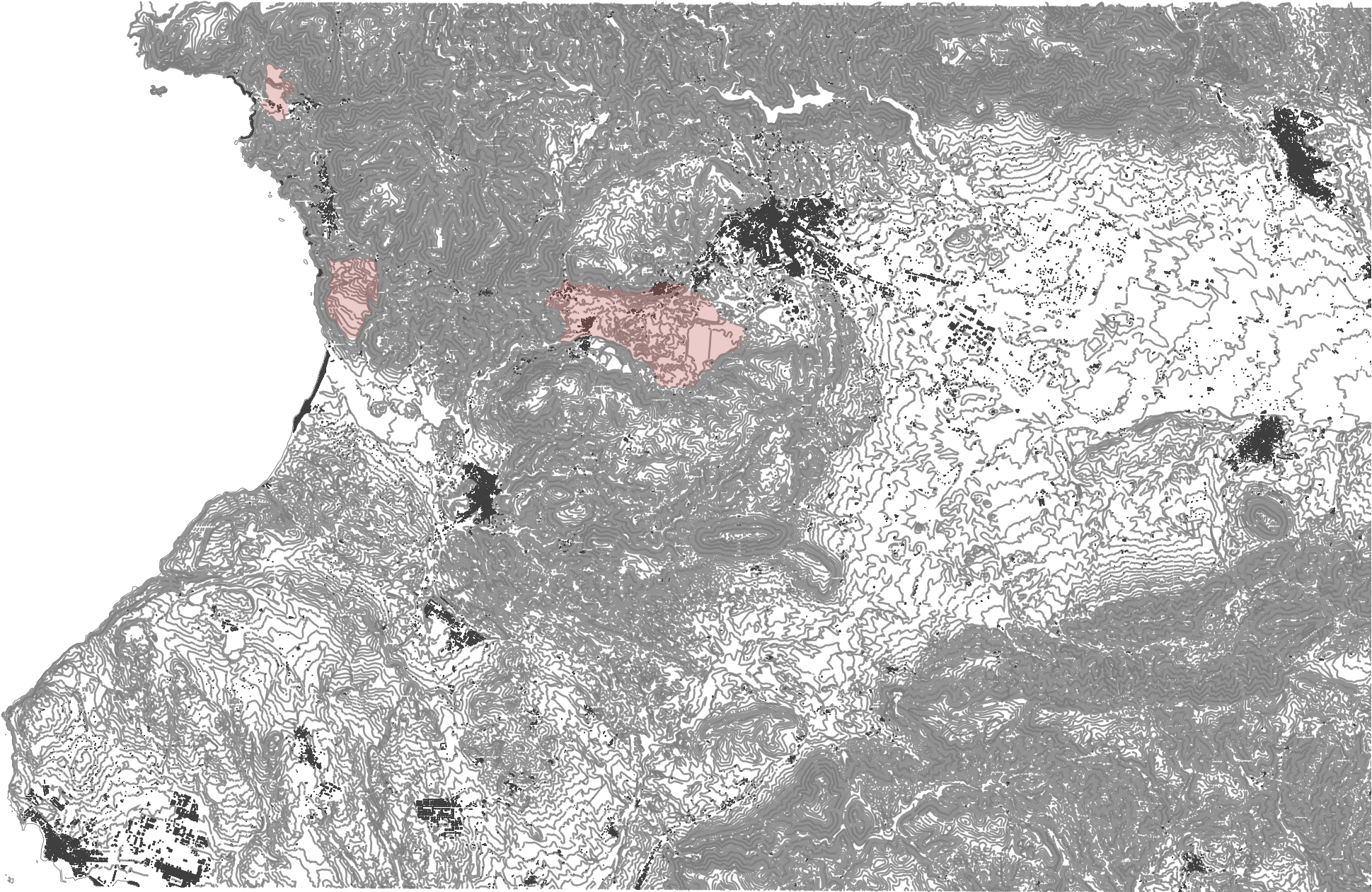
Monteponi

mines

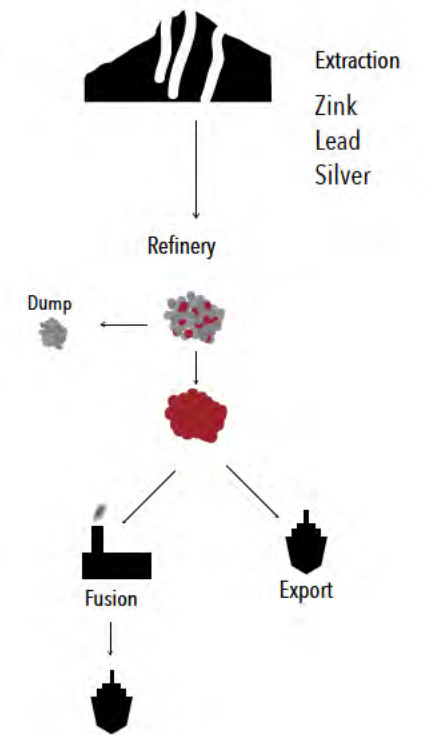
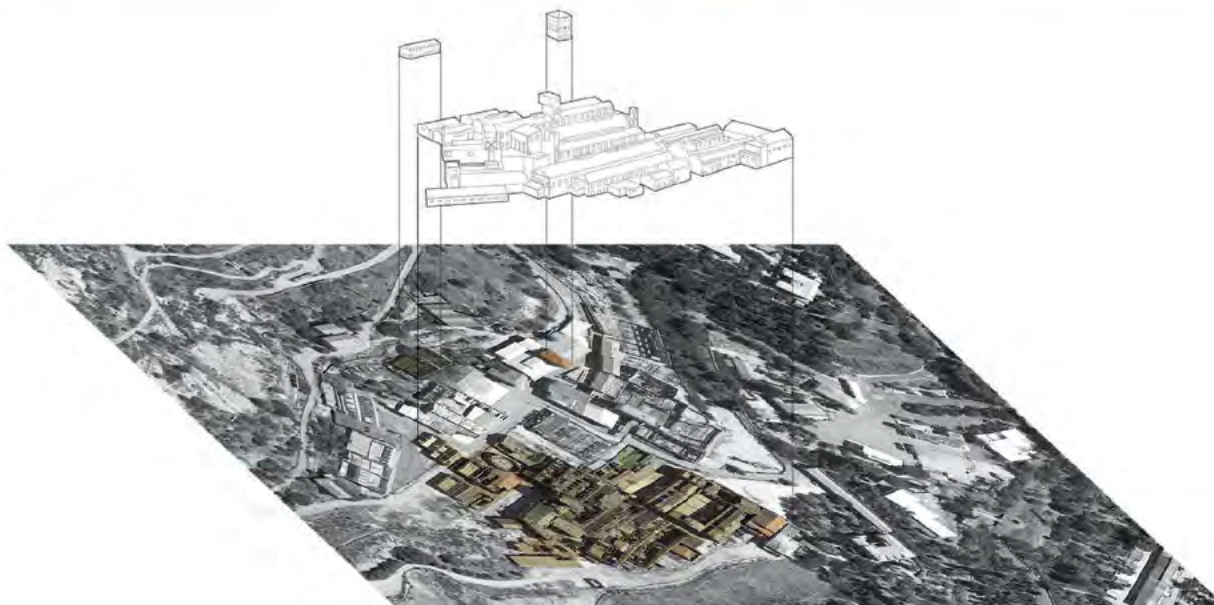
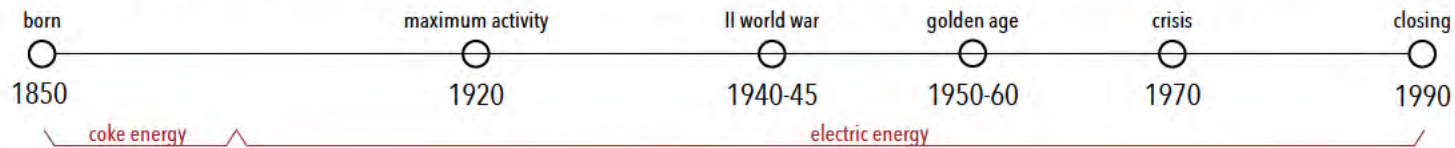
Lamarmora

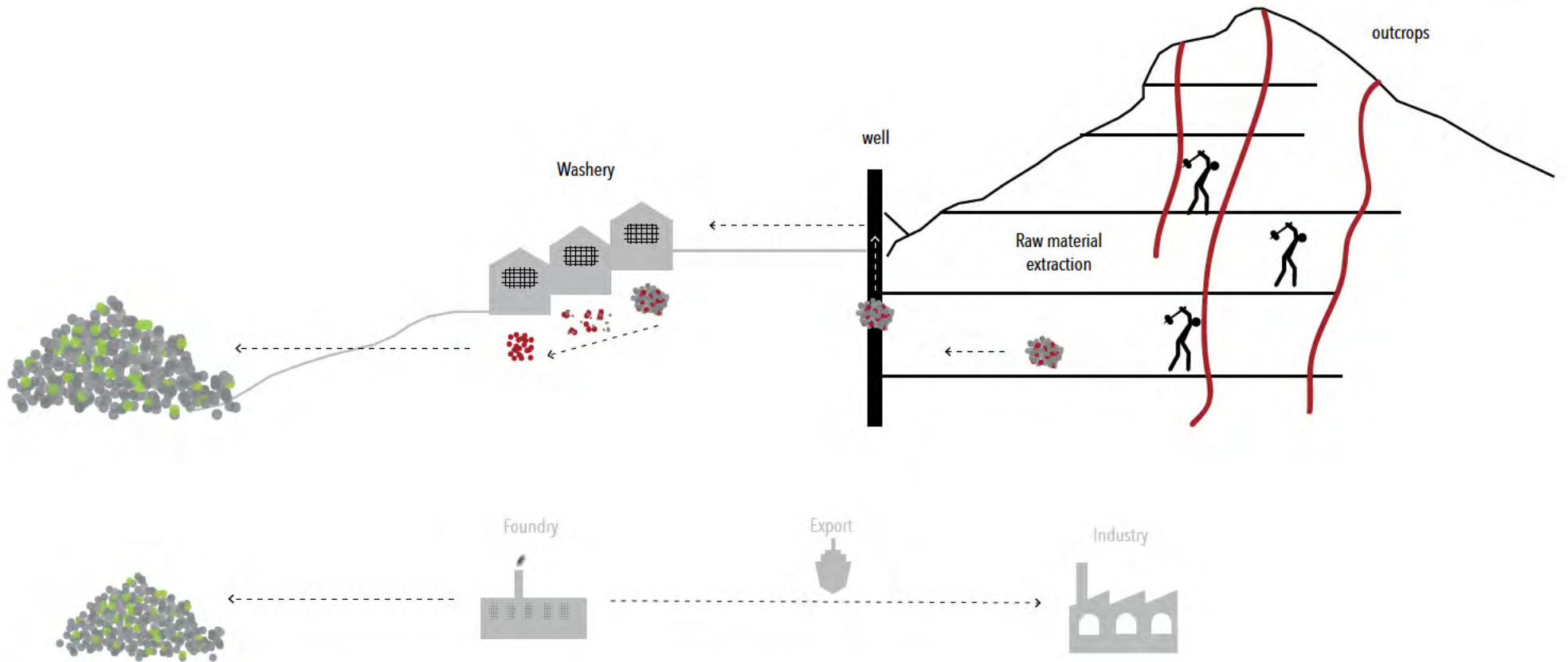
Nebida-Masua

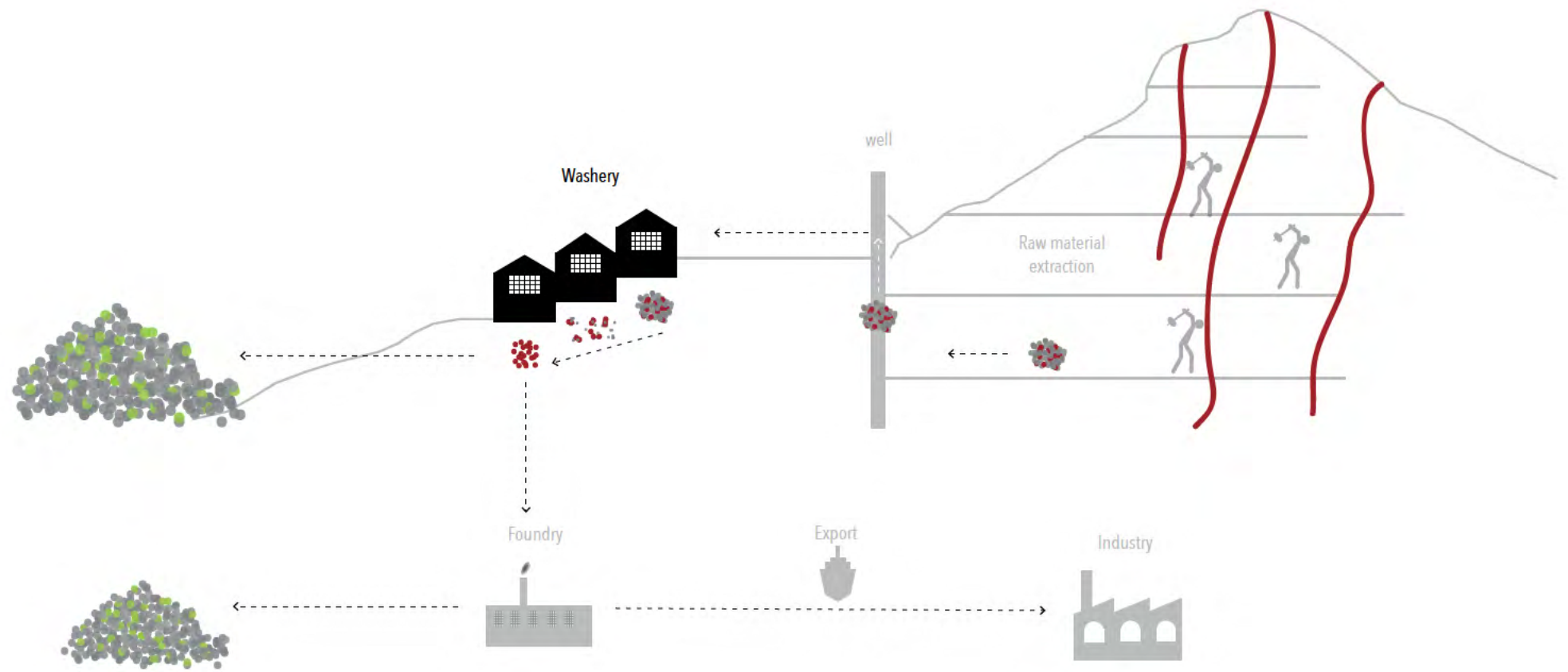
accessibility | local area
Mines localisation

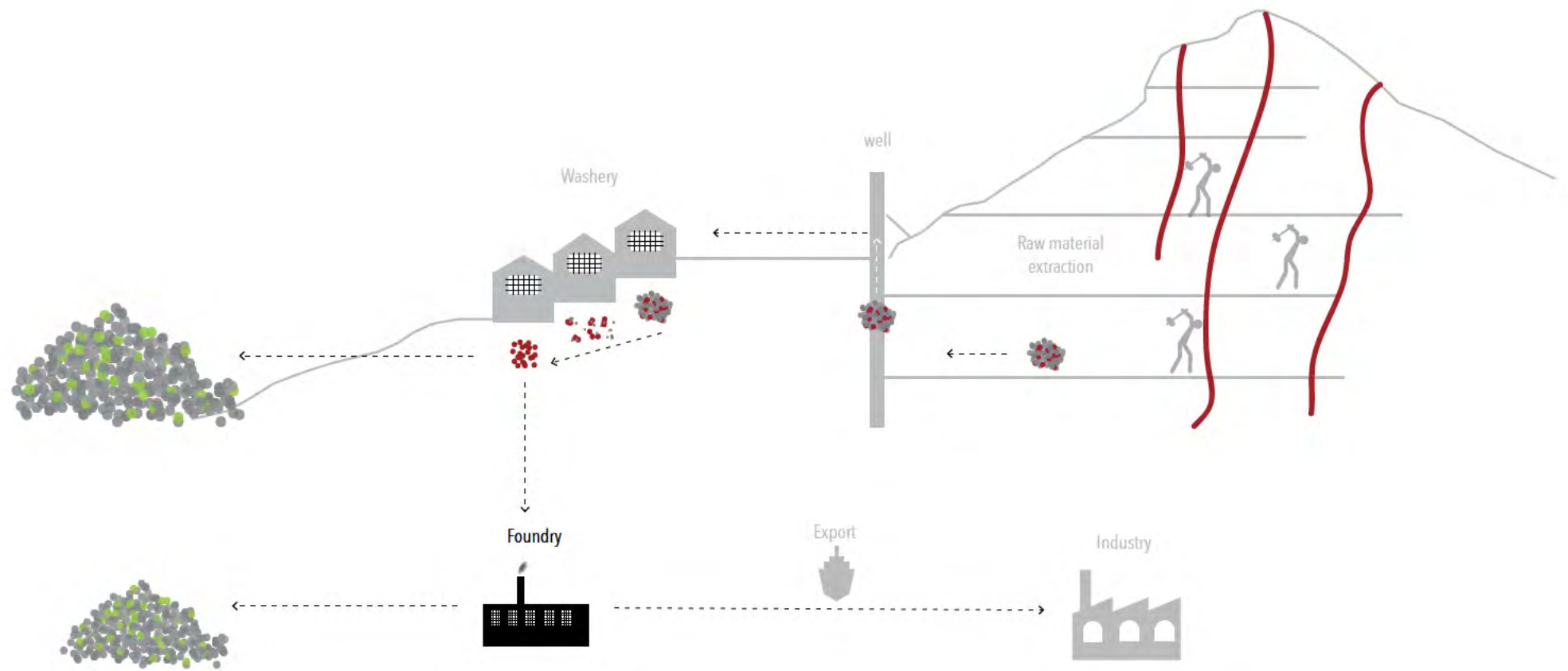
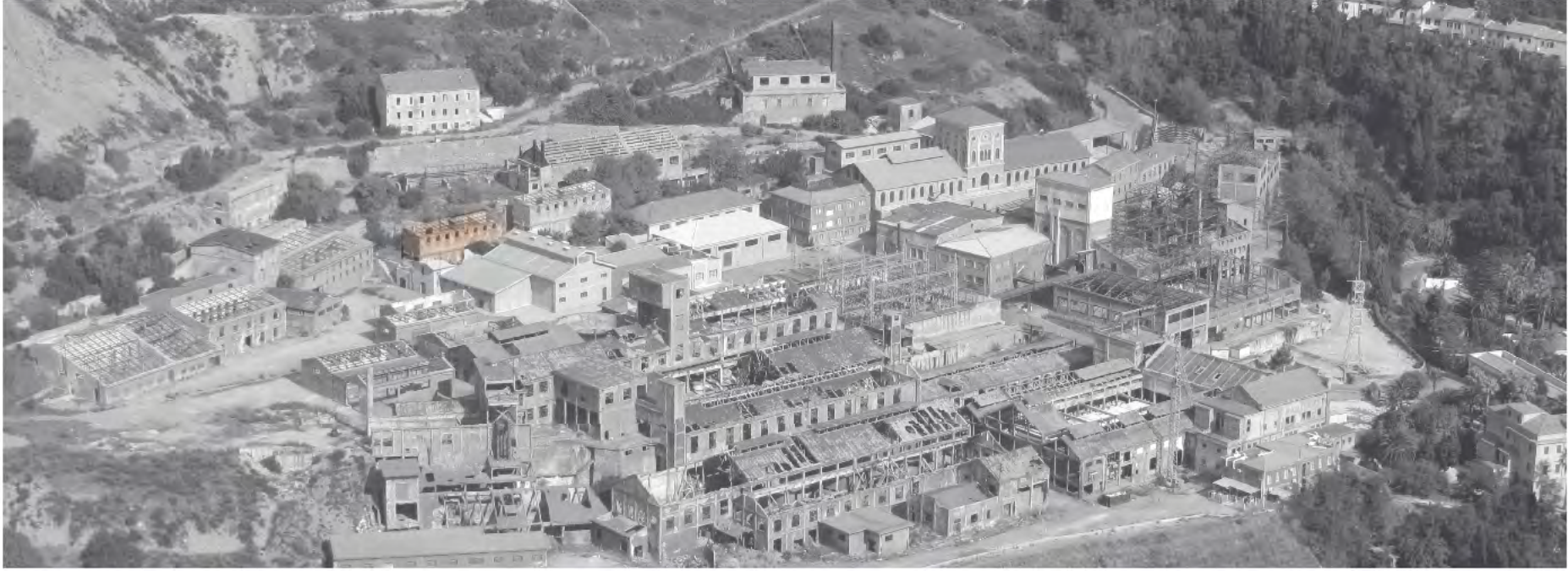












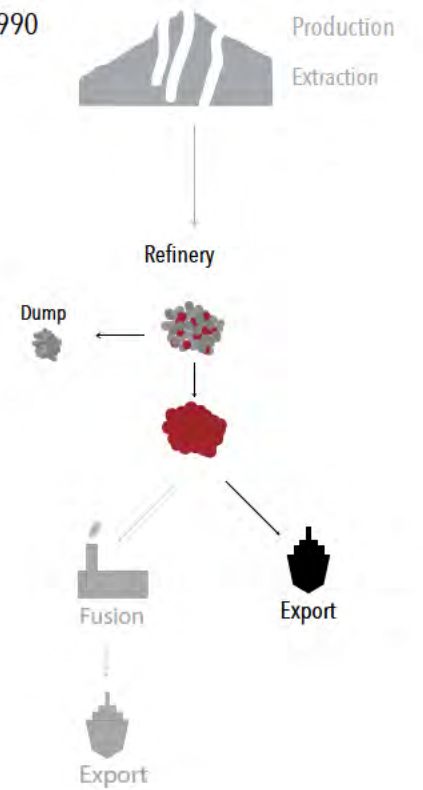
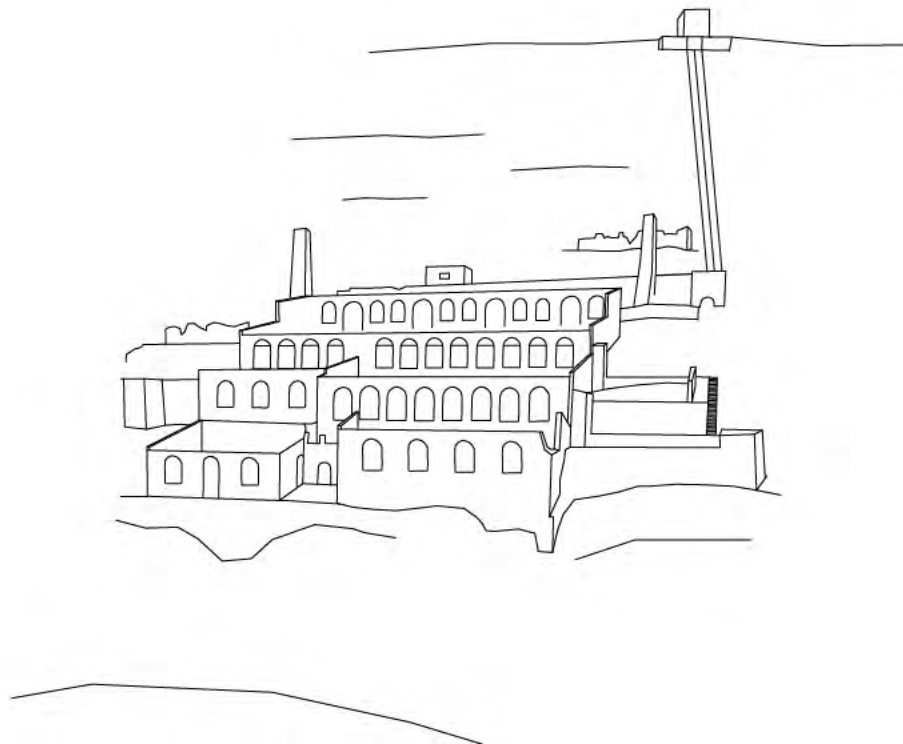


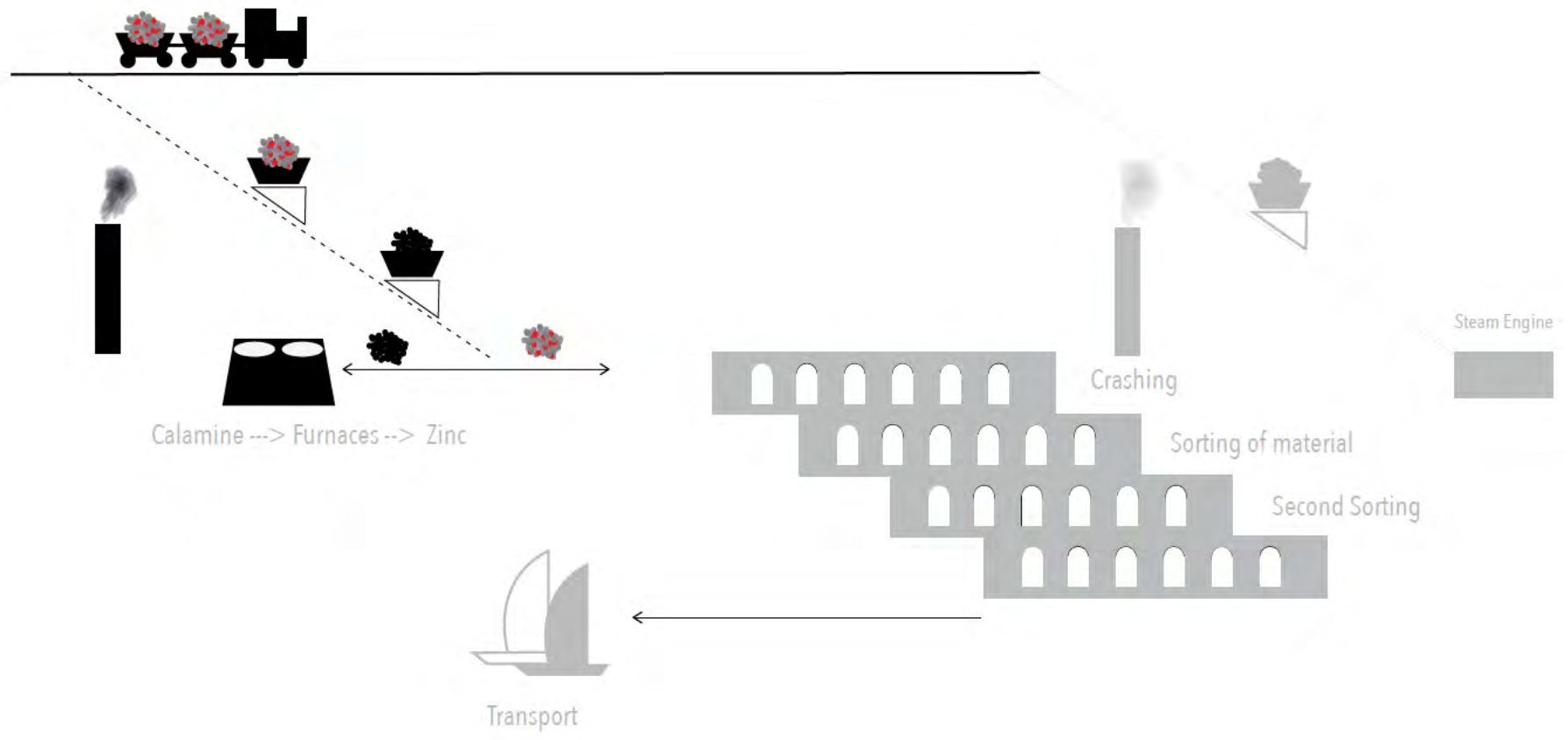
Company
Lamarmora

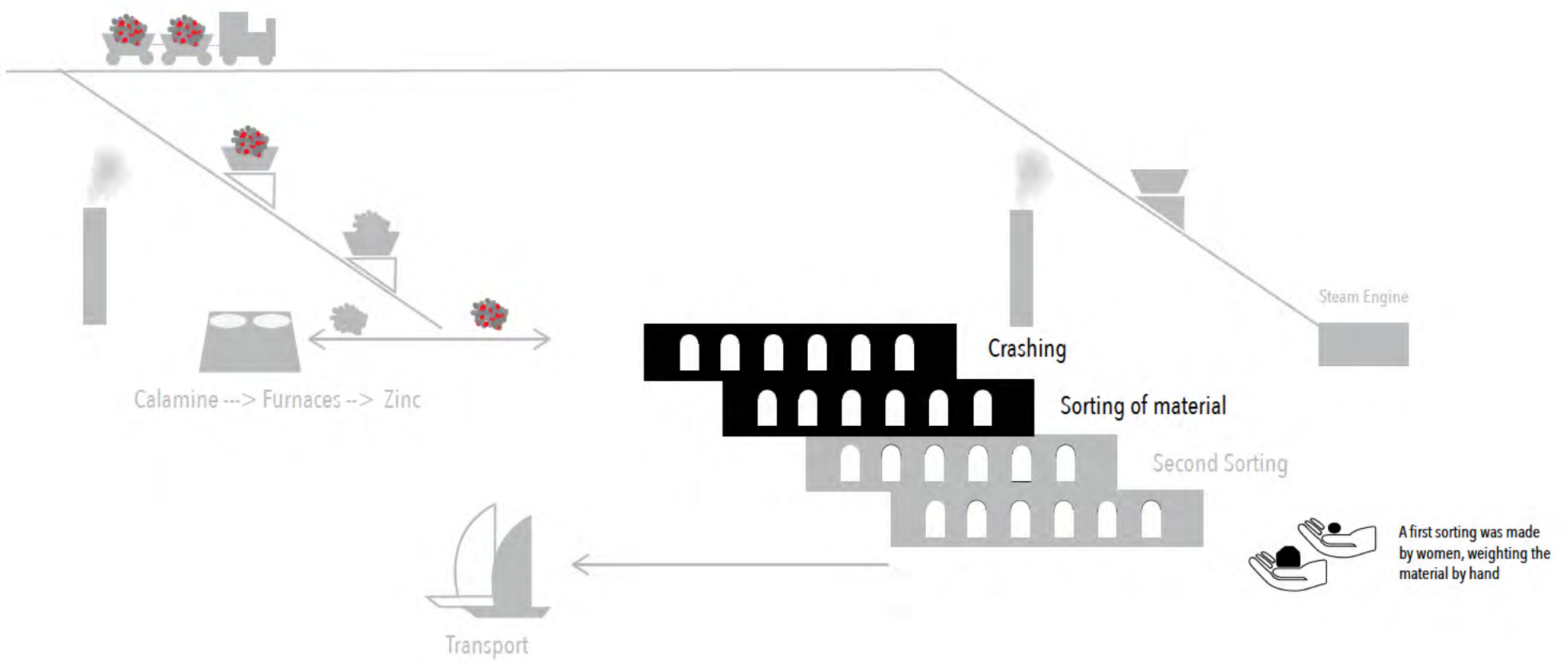


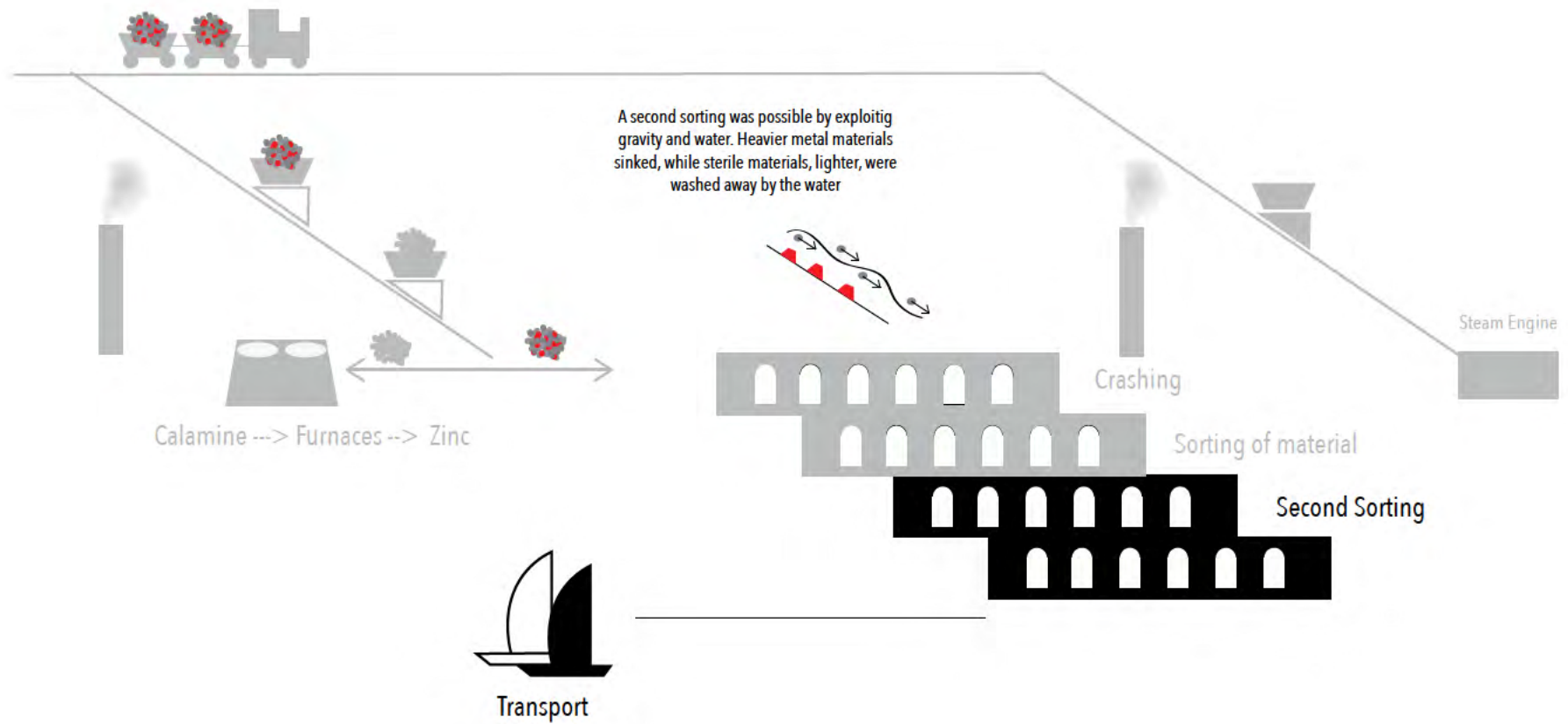
born
○
1897

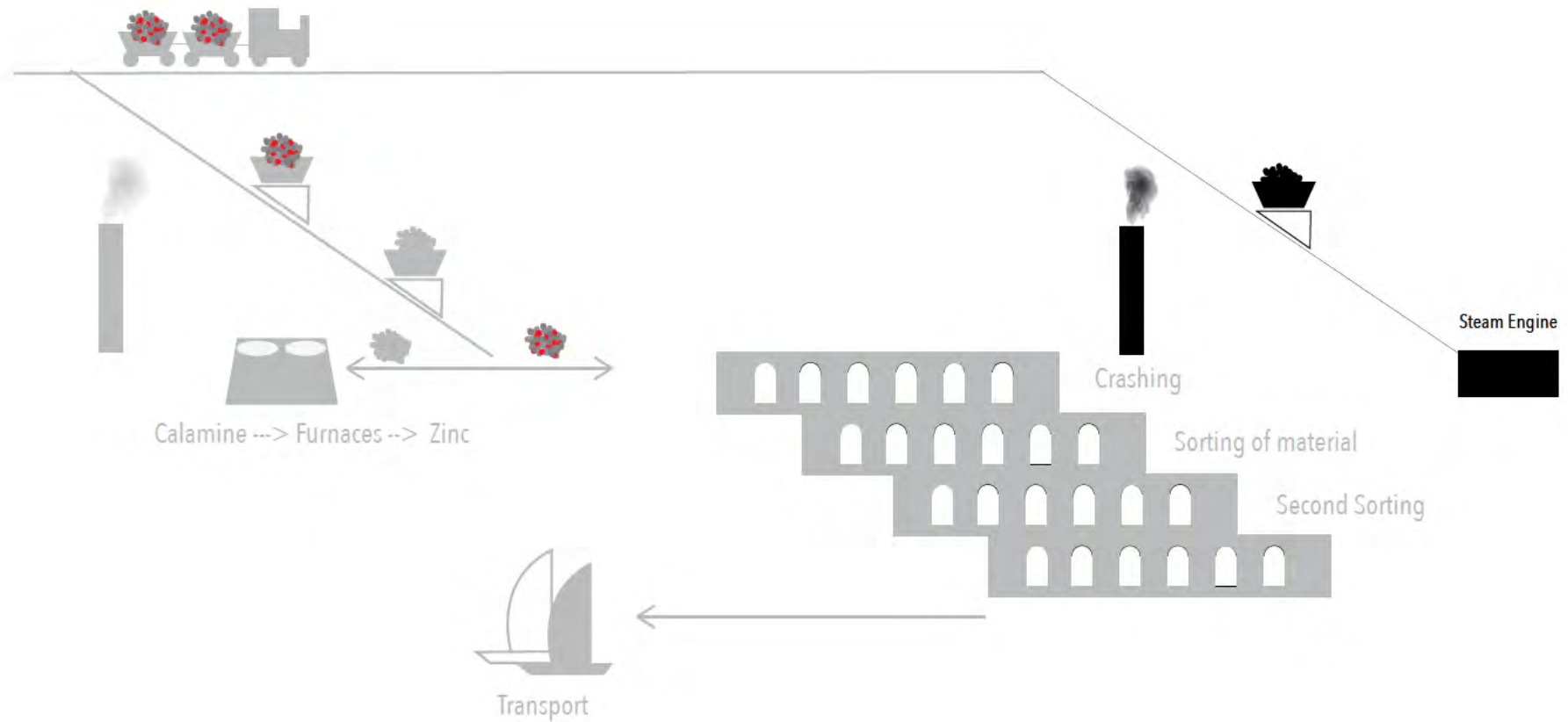
closing
○
1990





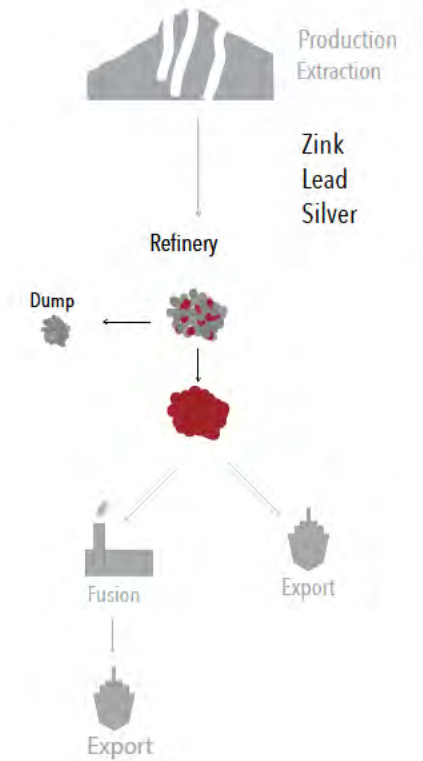
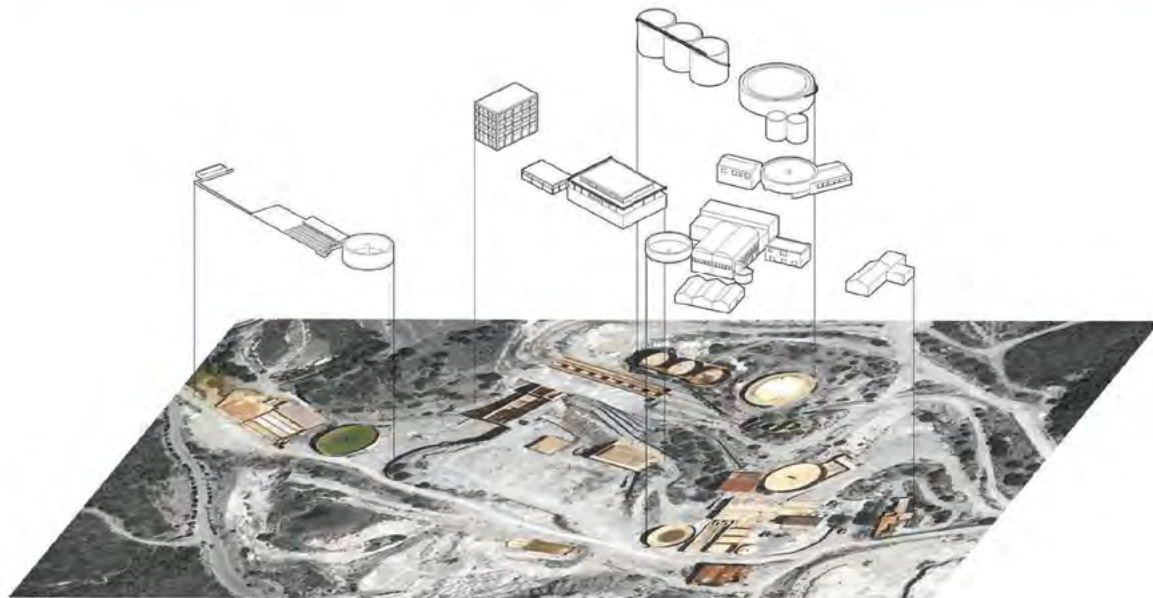
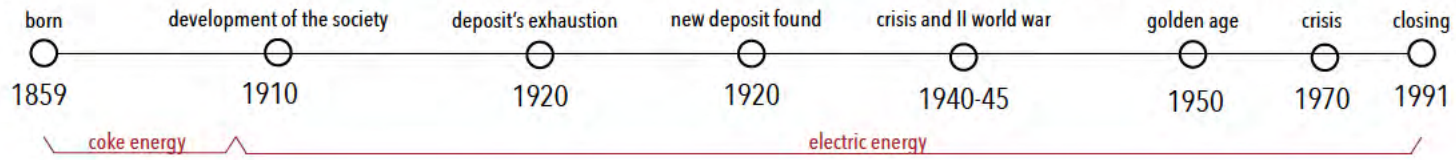


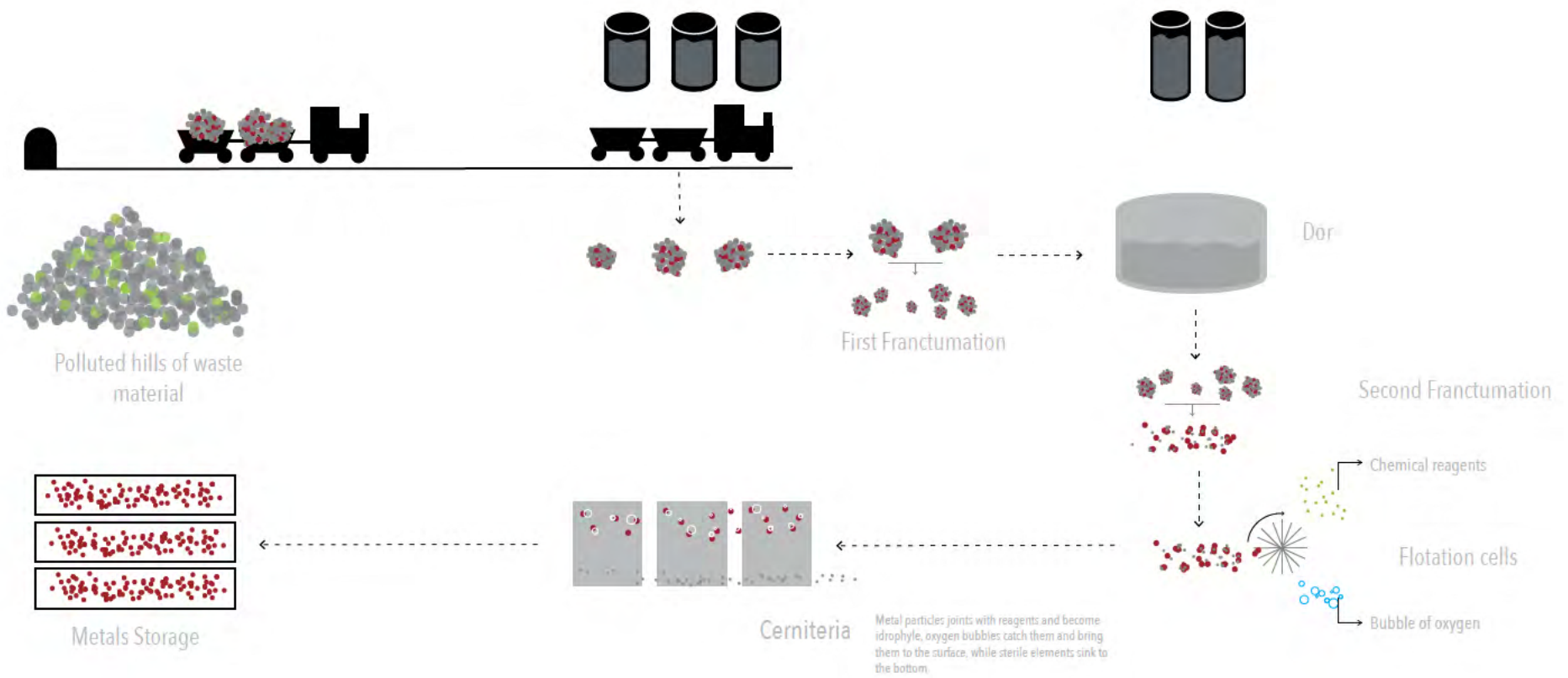


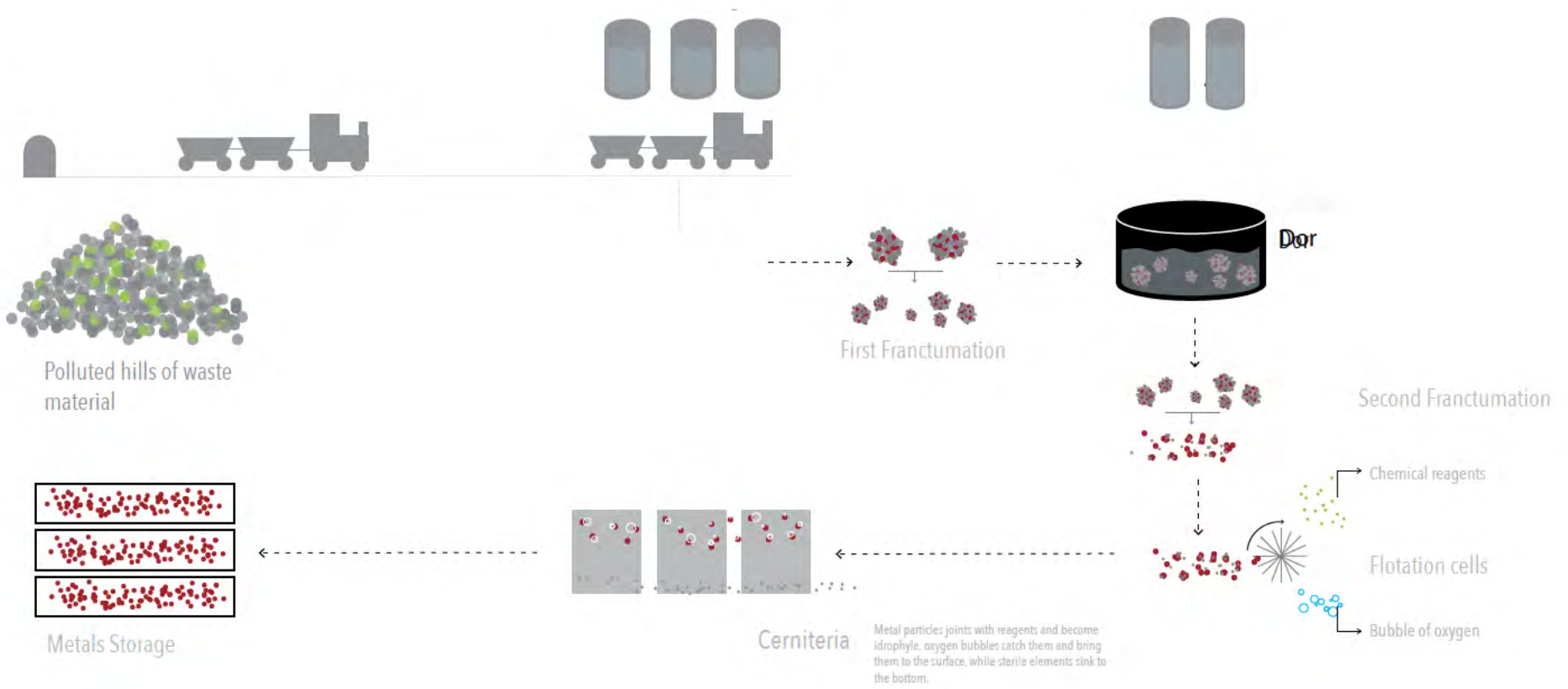


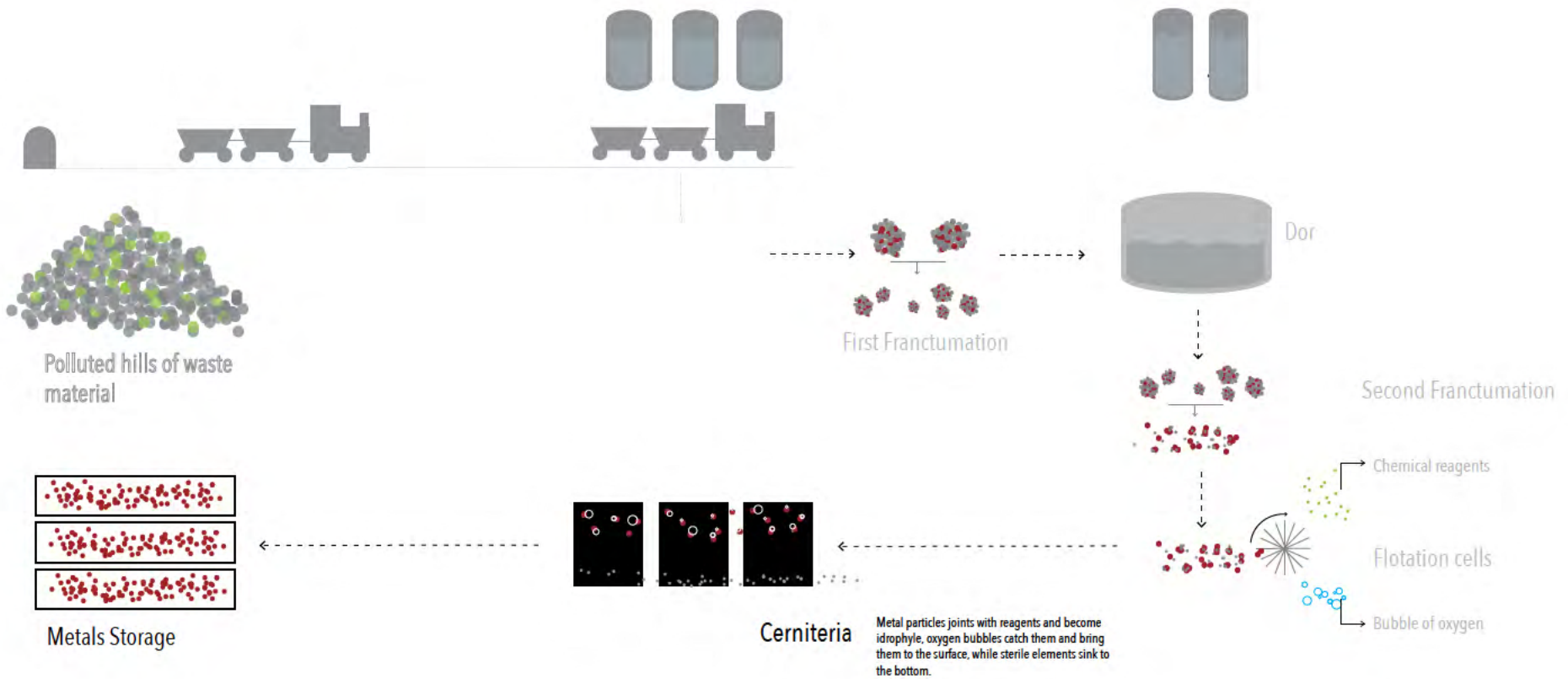


Company
Montesanto









Company
Montesanto



born
1859

closing
1991

purification plant
nowadays

part of the washery system has been converted in a purification plant



Production
Extraction

Zink
Lead
Silver

Refinery

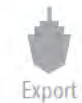
Dump



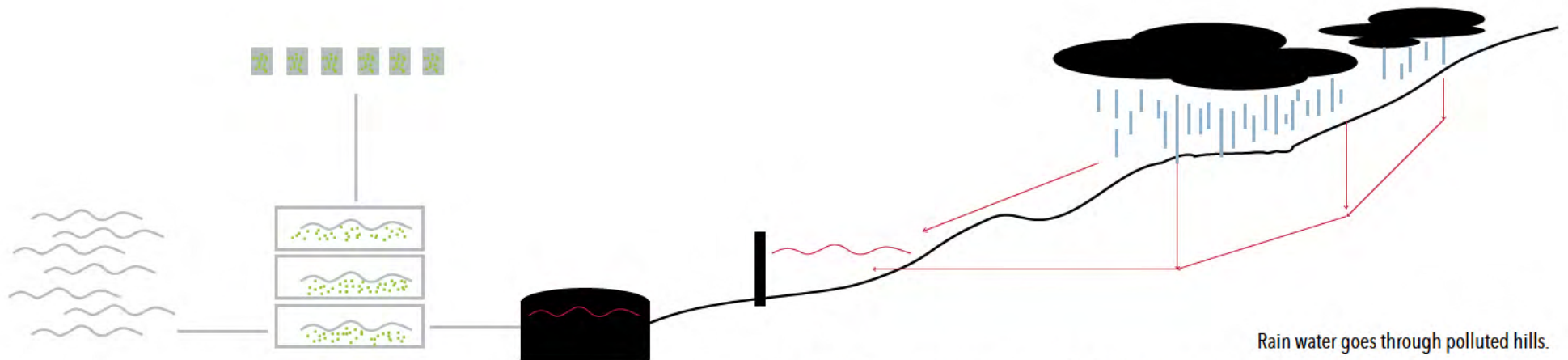
Fusion



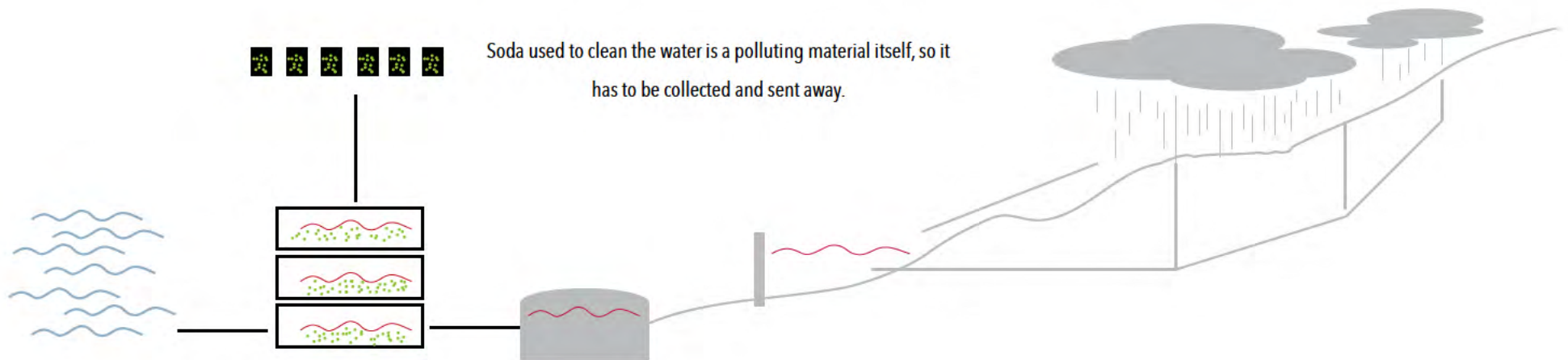
Export



Export



Rain water goes through polluted hills.
In order to prevent the consequently polluted water to pollute the sea as well, it is stopped by dams,
and finally collected into former dors.



Soda used to clean the water is a polluting material itself, so it has to be collected and sent away.

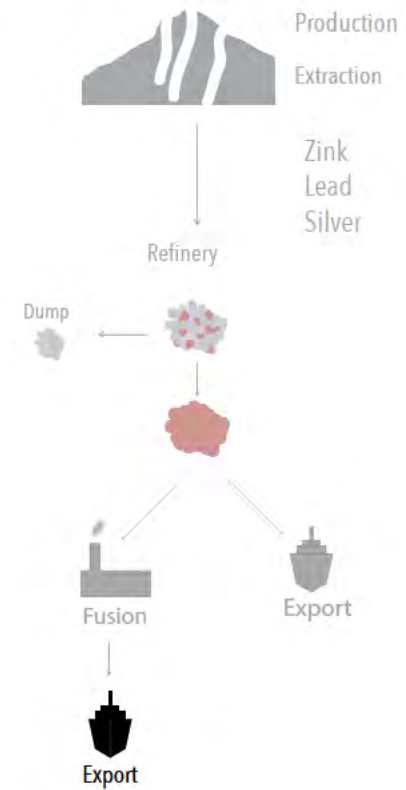
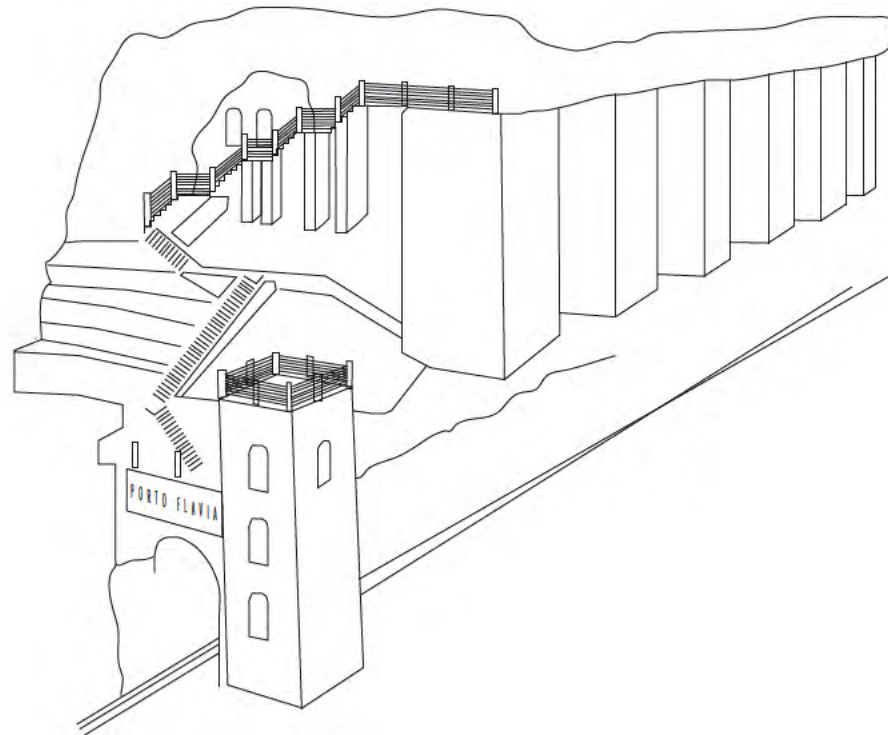
In the tanks polluted rain water is mixed with soda, that attracts pollution elements and purify water., that can now be given back to the sea.

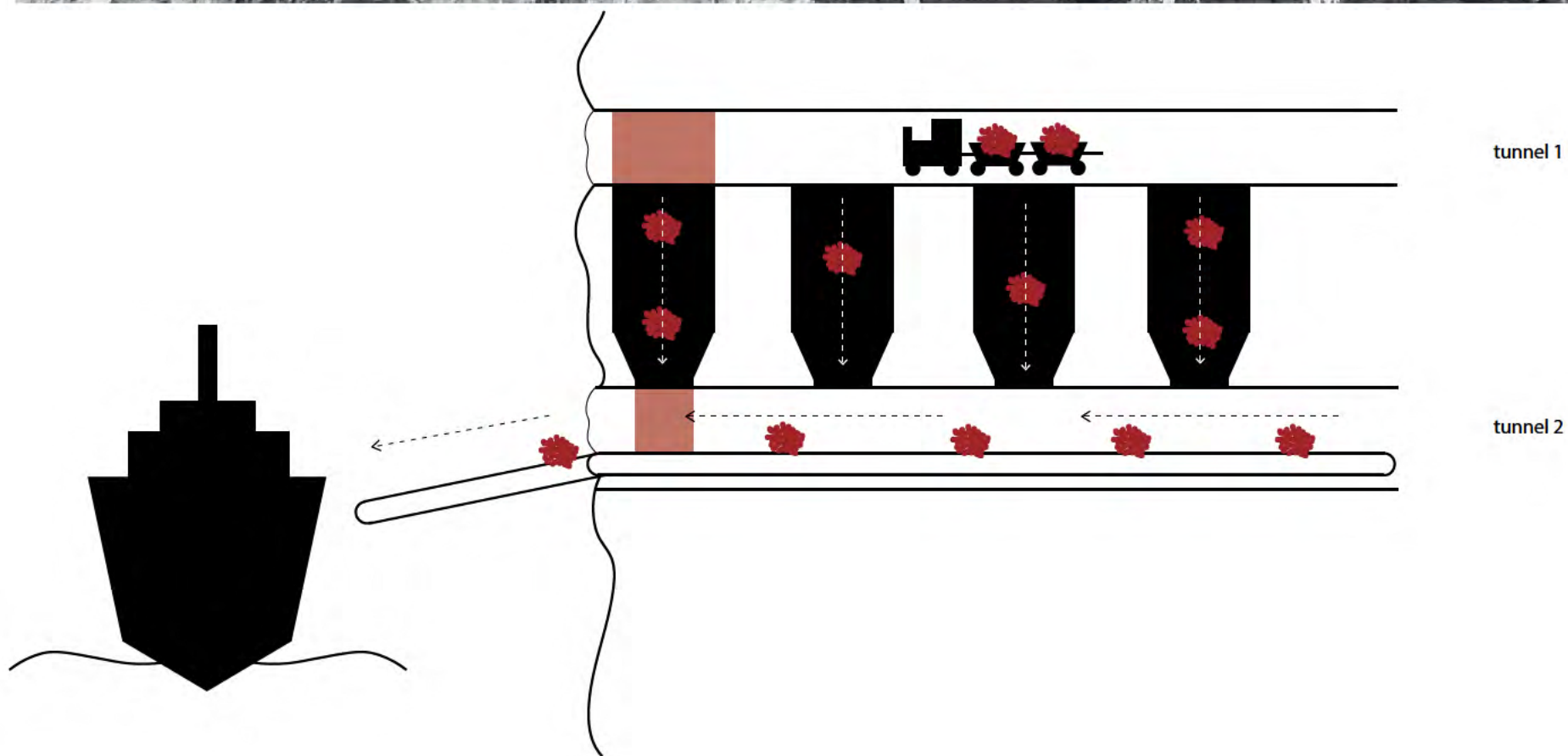
Company
Montesanto

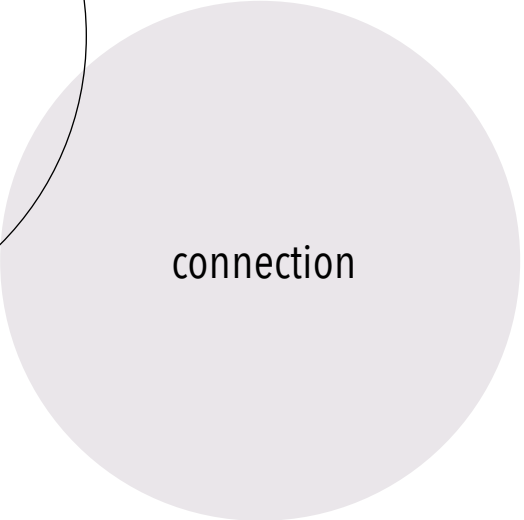
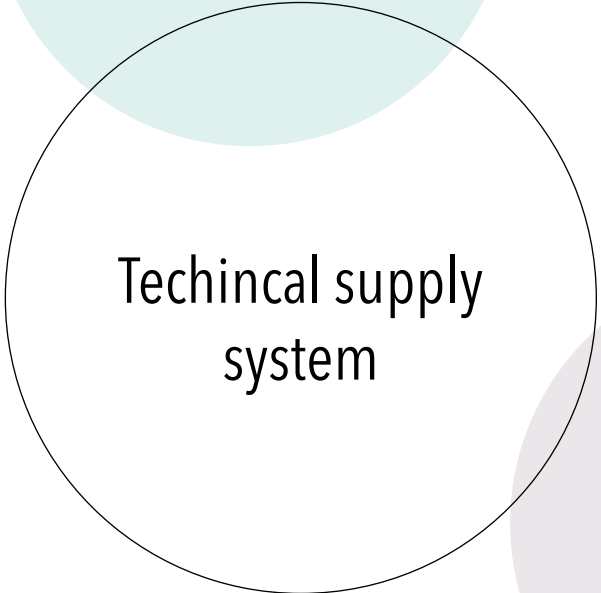
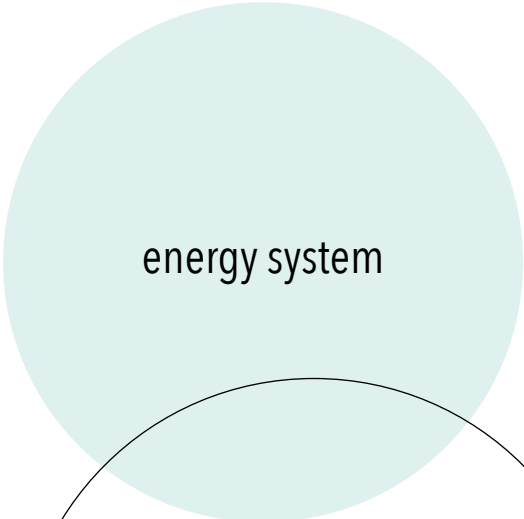


born
○
1924

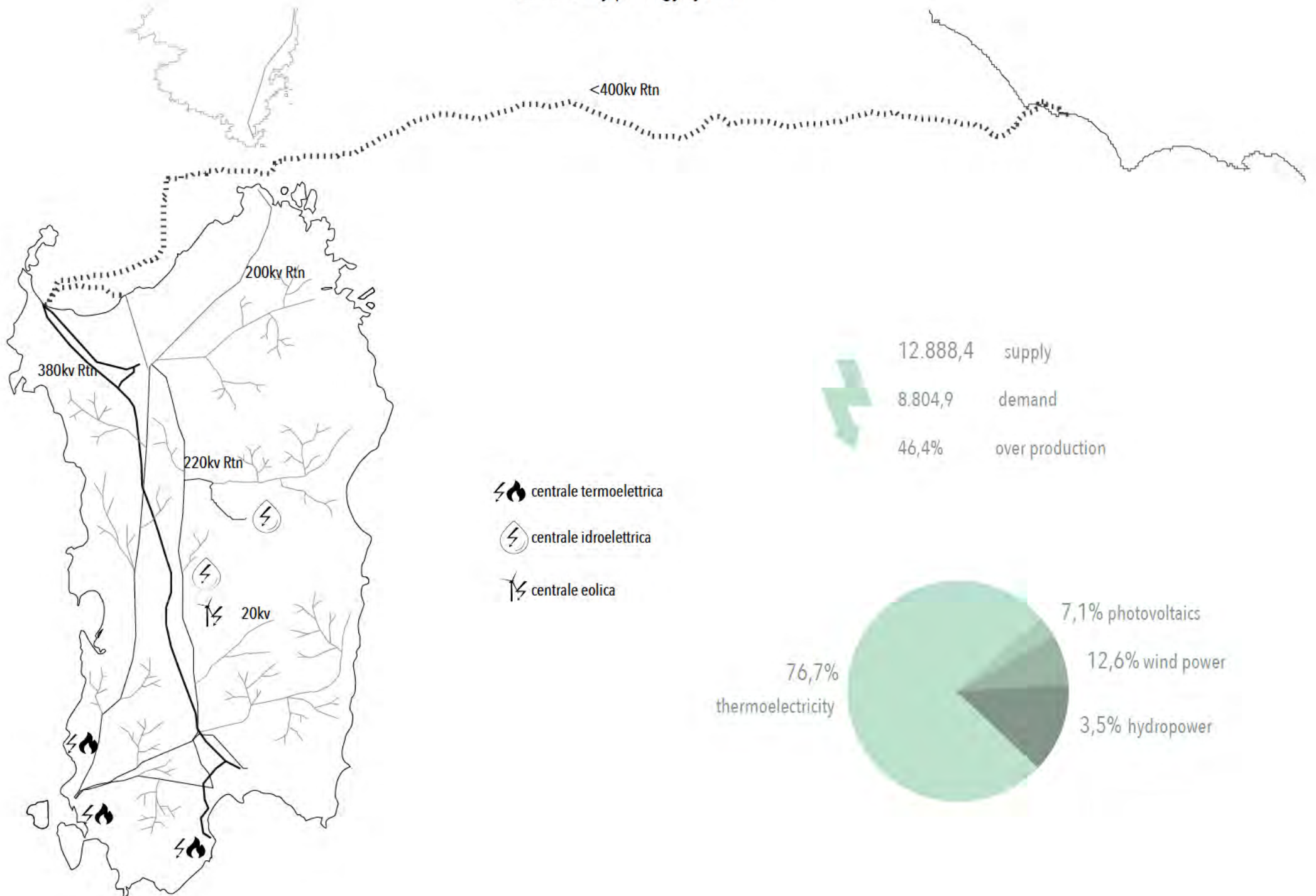
closing
○
1990







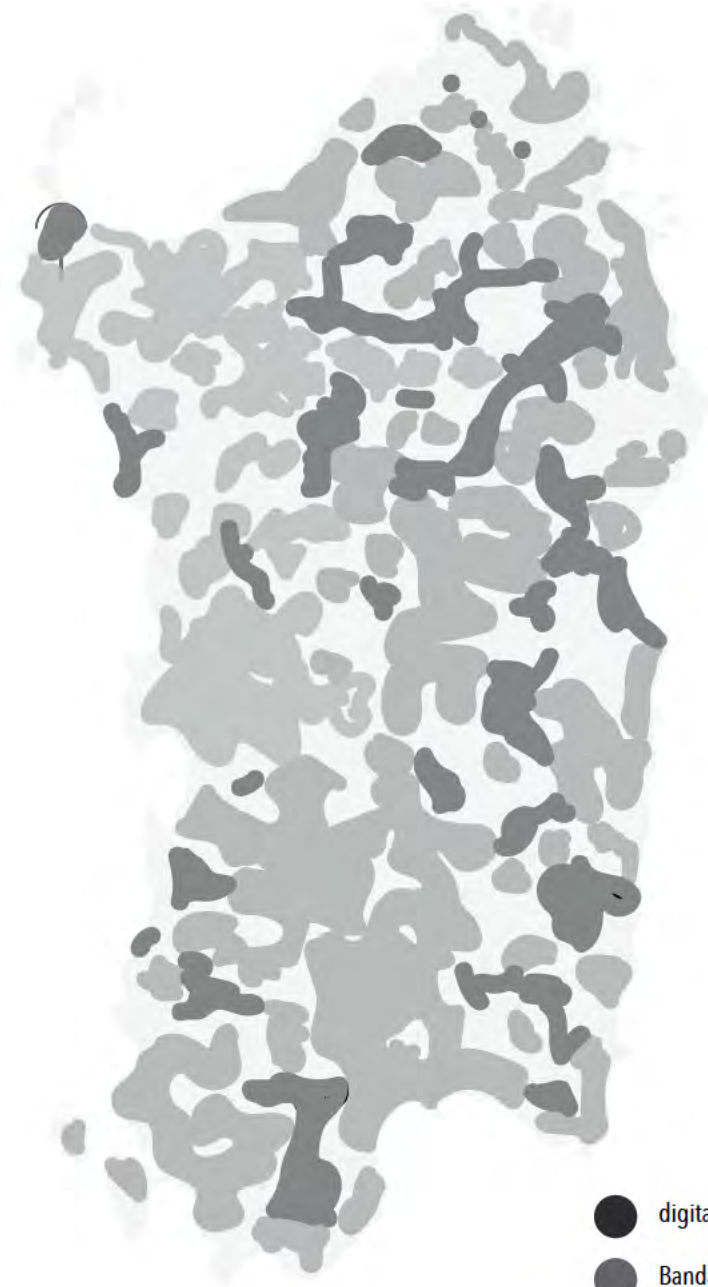
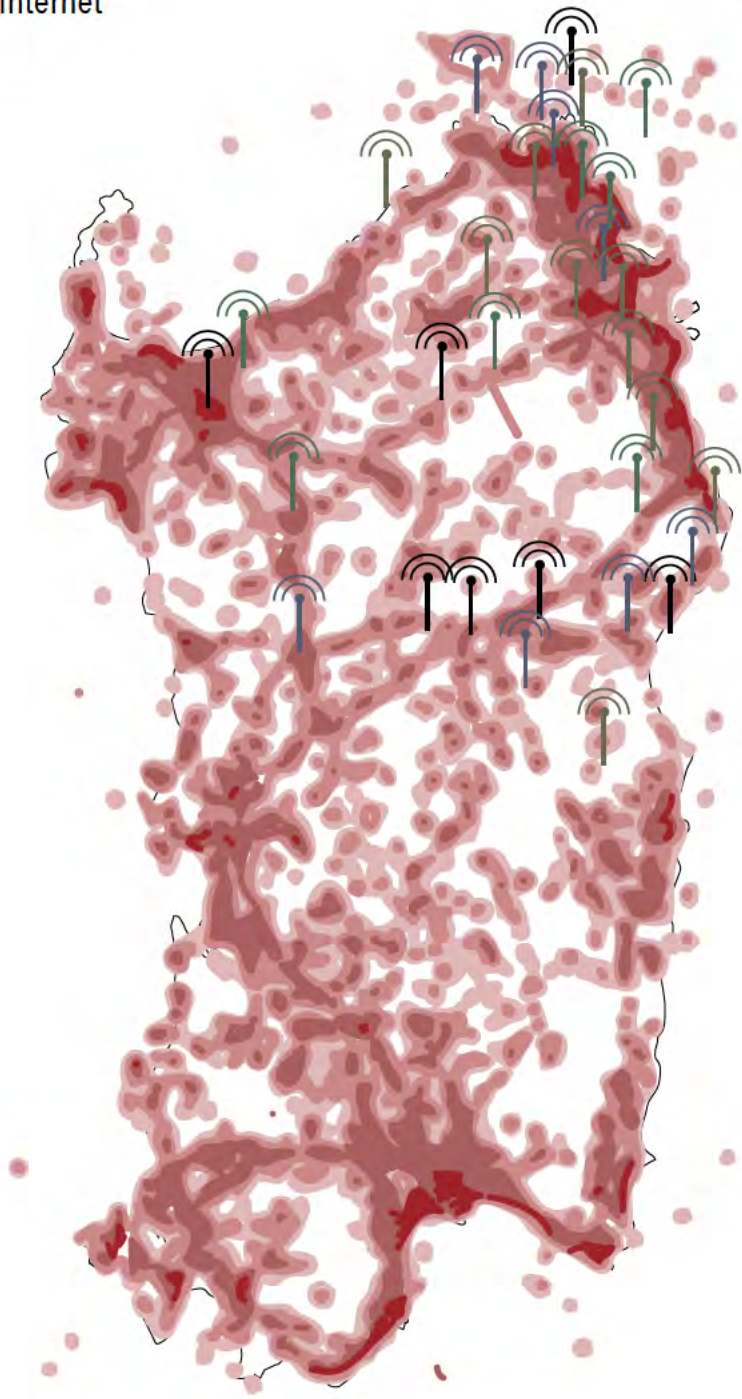
accessibility | energy system



mobile internet

accessibility | connection

wifi internet



Strong Signal



Weak Signal



Tower of signal diffusion

- digital divide 2,7%
- Banda Larga (ADSL) 93,9%
- Banda Larga (Wireless) 3,4%

accessibility | local area

telephone internet connection

Strong Signal (4 companies)



Weak Signal (1 companies)



Missing Signal

