



UNIVERSITA'
DEGLI STUDI
DI PALERMO
since 1806



Maurizio Carta

Università di Palermo

The Fluid City Paradigm: **Palermo Challenge**

Strada 101 al Muret
1010 101

Strada 101 al Muret
1010 101

"what is the **city** but the
people?
true, the **people** are the
city"

William Shakespeare, *Coriolanus*

Creative Metabolism of urban waterfront

Urban waterfronts are today one of the most prolific variants of **creative cities**: dense and hybrid locations where resources, opportunities, aspirations and ambitions of cities are translated into visions, new relations and projects. The creative port city is capable of reactivating **new urban metabolism**, of generating new architectural forms, of producing new landscapes and, through the permanent flow of urban culture, of fuelling the great relational networks, making them more dynamic, communicative and competitive. The most important implication of waterfront regeneration is that this particular area should be addressed as a structural/strategic element of the “fluid city” as a whole.

waterfronts can be main actors of the
NEO-ANTHROPOCENE REVOLUTION

A stylized world map in grayscale, centered on the Atlantic Ocean. The map is overlaid with a complex network of white lines and nodes, representing global connectivity or data flow. The lines are more dense in some regions, particularly in North America and Europe. The overall aesthetic is high-tech and digital.

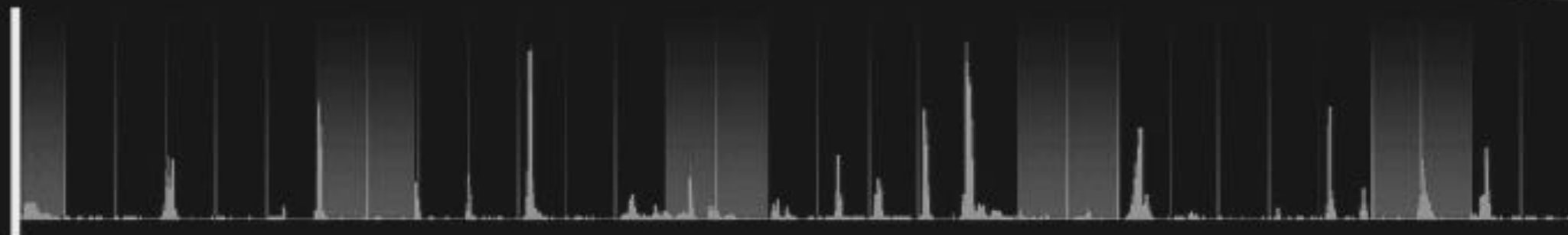
NETWORK SOCIETY REVOLUTION

KNOWLEDGE SOCIETY REVOLUTION

raining taxis

singapore's mobility is heavily reliant on taxis, but what happens when it rains? getting hold of a cab is not the easiest thing in the world. we are exploring how our transportation system behaves by combining taxi and rainfall data, and investigating how in the future the system can streamline in order to better match taxi supply and demand.

*click and drag map to rotate,
click on timeline to move in time*





CLIMATE ADAPTATION REVOLUTION

A black and white photograph of a coral reef. Several striped fish, likely Surge wrasses, are swimming over the coral. The coral is dense and textured. The text "CIRCULAR METABOLISM" and "REVOLUTION" is overlaid in the center, framed by two horizontal lines.

CIRCULAR METABOLISM REVOLUTION

the answer of the traditional urbanism?

we need a

PARADIGM SHIFT

MAURIZIO
CARTA

AUGMENTED CITY

Libri

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CARTA

AUGMENTED CITY

Libri

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AUGMENTED CITY

A
PARADIGM
SHIFT



1 SENTIENT

We must use a wide range of sources, coming from tech, bio, human sensors, for improving a knowledge dimension to answer different people's questions and to solve several problems. So we need new values, skills and tools for renewing a knowledge-based and solving-oriented urbanism in a well-timed collaborative scenario.

2 OPEN SOURCE

We need for a civic-tech-urban structural alliance in the sharing society we live, able to generate new public collaborative space. The city is no more a pre-compiled code of spaces and functions, but it is a collaborative and incremental process of meeting places and housing, social infrastructure and places of co-work. And then it triggers a renewed community covenant that reactivates the constituent factors of urban life.

3 INTELLIGENT

We must generate an enabling ecosystem based on the hardware of better urban spaces, on the software of the active citizenship, but overall on the new urban operative system for a more advanced and responsive city planning and urban design.

4 PRODUCTIVE

We need to reactivate the economic dimension of the cities framing the powerful makers movement within a new the creative/productive urban ecosystem for improving the manufacturing renaissance in the cities based on the new digital artisan economy, for reconstituting an essential economic base of the city, after years of euphoria for city as service-provider only.

5 CREATIVE

We must improve the cultural dimension through the integrated use of culture, communication and cooperation as resources for an active city can generate new forms and pattern able to reshape urban space, to stimulate the human creativity and to produce a different growth based on identity, quality and reputation.

6 RECYCLICAL

The city must be based on recycling processes and led by the principles of circular economy. We need a paradigm shift for transition cities that not only reduce, re-use and re-cycle their tangible and intangible resources, but manage and design a new circular metabolism, by including planned recycling among the components of the urban project against their obsolescence.

7 RESILIENT

We must accept the task for adaptive, circular and self-sufficient cities for winning the climate change challenge, producing and distributing effectively the "resilience dividend" as effective instrument of urban ecological equalization. Cities can be active actors of the new climate regime.

8 FLUID

We must rethink porosity and fluidity as projective paradigms in the connective dimension for urban regeneration projects that derive by water their charge of identity, producing new spatial configurations from renewing interface port-city not as place-threshold but as a producer of powerful urban identity.

9 RETICULAR

The regional urbanisation process must be redefined from the traditional ecosystem and gravitational model to a new and more effective reticular one, based on the different roles of metropolitan super-organisms and territorial archipelagos.

10 STRATEGIC

The Augmented City needs a new implementation approach, a more adequate process for allowing to transform ideas into action, for focusing several actions into a holistic vision. We need a new alliance between public-private-civil society and ask for innovative paths to implementation. The Augmented City asks for an incremental dimension, an adaptive approach and a time-oriented action, able to activate several cycle to regenerate districts, cities and lands. We must adopt an approach led by a relational-incremental masterprogram rather than a rational-comprehensive masterplan. For regenerating the transition areas we must use the Cityforming© Protocol, based on a system of incremental colonizing tactics, opensource consolidating actions and development strategies.

The Augmented City Manifesto

waterfronts as **fluid eco-communities**

Waterfronts, therefore, are more than straightforward urban contexts, they are better described as structural components of cities, frequently part of a harbour clusters and the focus of combined action: **they are “fluid eco-communities” requiring wide-ranging strategic action so as to fully exploit cultural, tourist and productive capitals.** European port cities are also important portals providing access to imposing production platforms between the Atlantic and the Mediterranean, between the Americas and Asia, and as a consequence must be capable of establishing new functions which go beyond the stereotypical images of marginalization and degradation, so often associated with ports, and aim to fully exploit the capital possessed by this particular territory.

#fluidcitychallenge



the fluid city is an
heterotopic space

Two false myths about waterfront regeneration



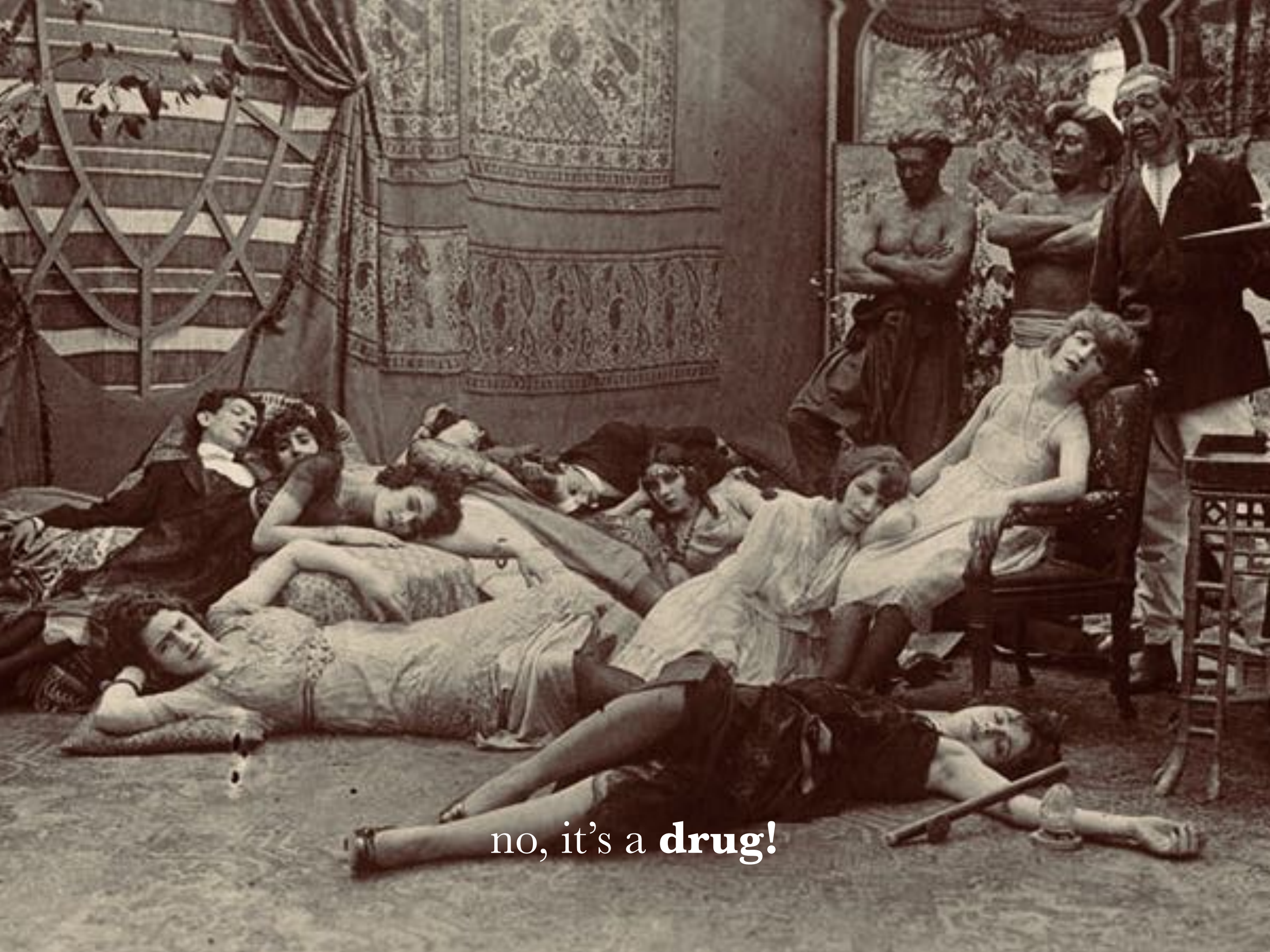
the waterfront is based on landmarks



no, it's an **idol!**



the waterfront lives of events



no, it's a **drug!**



we must change the point of view

WIPA Springer Series

Maurizio Carta
Daniele Ronsivalle Editors

The Fluid City Paradigm

Waterfront Regeneration
as an Urban Renewal Strategy

 Springer

The Fluid City Paradigm



The Fluid City Paradigm

Waterfront Regeneration as an Urban Renewal Strategy

Springer, 2016

Maurizio Carta



What is not a fluid city

A photograph of a coastal cityscape. In the foreground, there is a body of water with several large, dark rocks protruding from it. The middle ground shows a row of buildings, including a large, multi-story building with many windows and a crane visible behind it. The background features a range of mountains under a clear sky. A white rectangular box is superimposed over the middle ground, containing the text "IT IS NOT ONLY A LINE".

IT IS NOT ONLY A LINE



IT IS NOT A PORT AREA



**IT IS NOT A CLOSED AND
PROTECTED PLACE**

A photograph of a coastal town with multi-story buildings and a beach. The buildings are light-colored with many windows and balconies. Some balconies have laundry hanging on them. The beach is in the foreground, and the sky is clear and blue. A text box is overlaid on the middle of the image.

**IT IS NOT AN
INSTITUTIONAL PLACE**



**IT IS NOT SEPARABLE
FROM STONE CITY**



IT IS NOT A LOCAL NODE

A scenic view of a coastal town, likely in the Mediterranean. In the foreground, a body of water is visible with a small dock and a few people. A white motorboat is moored nearby. In the middle ground, a prominent white lighthouse stands on a rocky outcrop. Behind it, a long, light-colored building with many windows is visible. To the right, a large, multi-story apartment building with balconies rises. In the background, a large, rugged mountain with a small structure on its peak dominates the landscape under a clear blue sky.

**IT IS NOT ONLY A
TRANSPORT NODE**



IT IS NOT ONLY A
LEISURE PLACE

An aerial photograph of a coastal city, likely Cape Town, South Africa. The image shows a dense urban area in the foreground with various buildings, roads, and green spaces. A large harbor or bay is visible in the middle ground, with a long pier extending into the water. In the background, there are prominent mountains under a clear blue sky. The text "IT IS NOT A FUNCTIONAL MIX" is overlaid in the center of the image.

**IT IS NOT A FUNCTIONAL
MIX**

A large industrial crane, likely a shipyard crane, is shown on a ship's deck. The crane has a white lattice structure and a yellow cabin. It is positioned on a blue surface, possibly a ship's deck or a pier. In the background, there are other industrial structures and a city skyline under a blue sky with white clouds. A semi-transparent black rectangle is overlaid on the image, containing the text "IT IS NOT ONLY PAST" in white, bold, sans-serif capital letters.

IT IS NOT ONLY PAST



IT IS NOT ONLY FUTURE

doesn't exist a single waterfront

Four relationships for a Fluid City

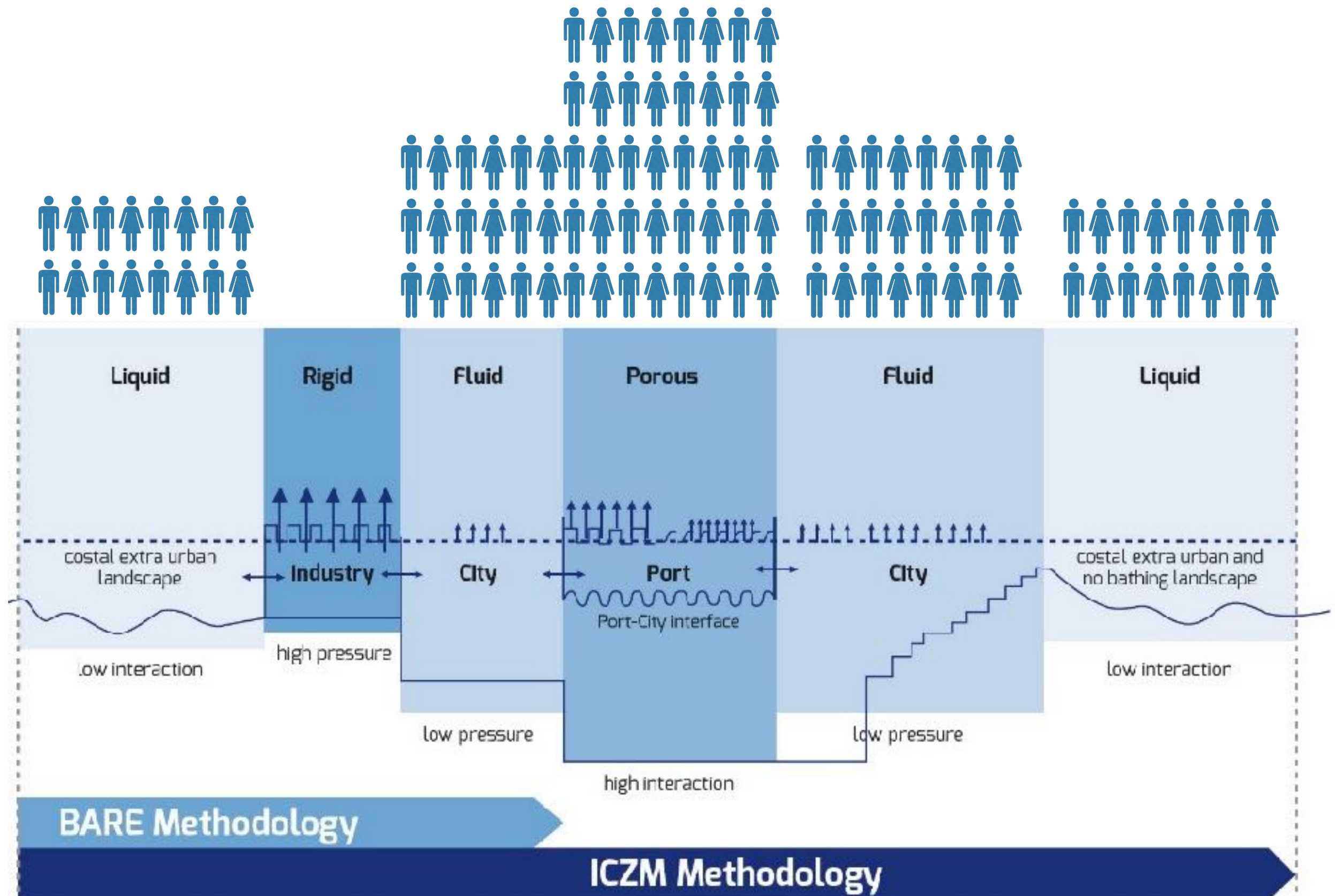
The **Fluid City Paradigm** is not only a theoretical framework but it's also a **projectual devices** for reimagining the relationships between water and city. To set up more fertile waterfront regeneration tools we have identified four main relationships between port and city in order to adapt consequential actions towards a greater fluid integration of the cities of the future.

The **liquid relationship** is characterized by the prevalence of a coastal identity represented by a landscape where the coastal nature is the mainstream of the waterfront: low interaction between sea and city.

The **fluid relationship** is associated with sailing, cultural and leisure facilities and accommodation: the fluid waterfront is immersed and intertwined with the urban structure, characterised by marinas and cultural and leisure services, and strictly connected to the city. The functions provided for this section relate to the boating, recreational and cultural activities capable of being an integrated interface between city and port: low pressure of the city on the waterfront.

Third variant is the **porous relationship**, namely an area for cruise-ships and passengers, enjoying close ties with the city and transport system. This type of port is characterised by a large porous area in permanent transformation that acts as a link between the port activities dedicated to passengers and new cultural, residential and commercial activities related to the quality of the waterfront. **It manifests a high degree of interaction between the port and city.** The porous area between water and city is one in which the fluid metabolism of city finds its design declination through the use of resilient devices and blue infrastructures that not only make more permeable the relationship between cities and coast, but which provide new experiences depending on the amount of water in the dry season or the rainy season, even during severe flooding due to climate change.

intensity and range of waterfront relations





Palermo Fluid City

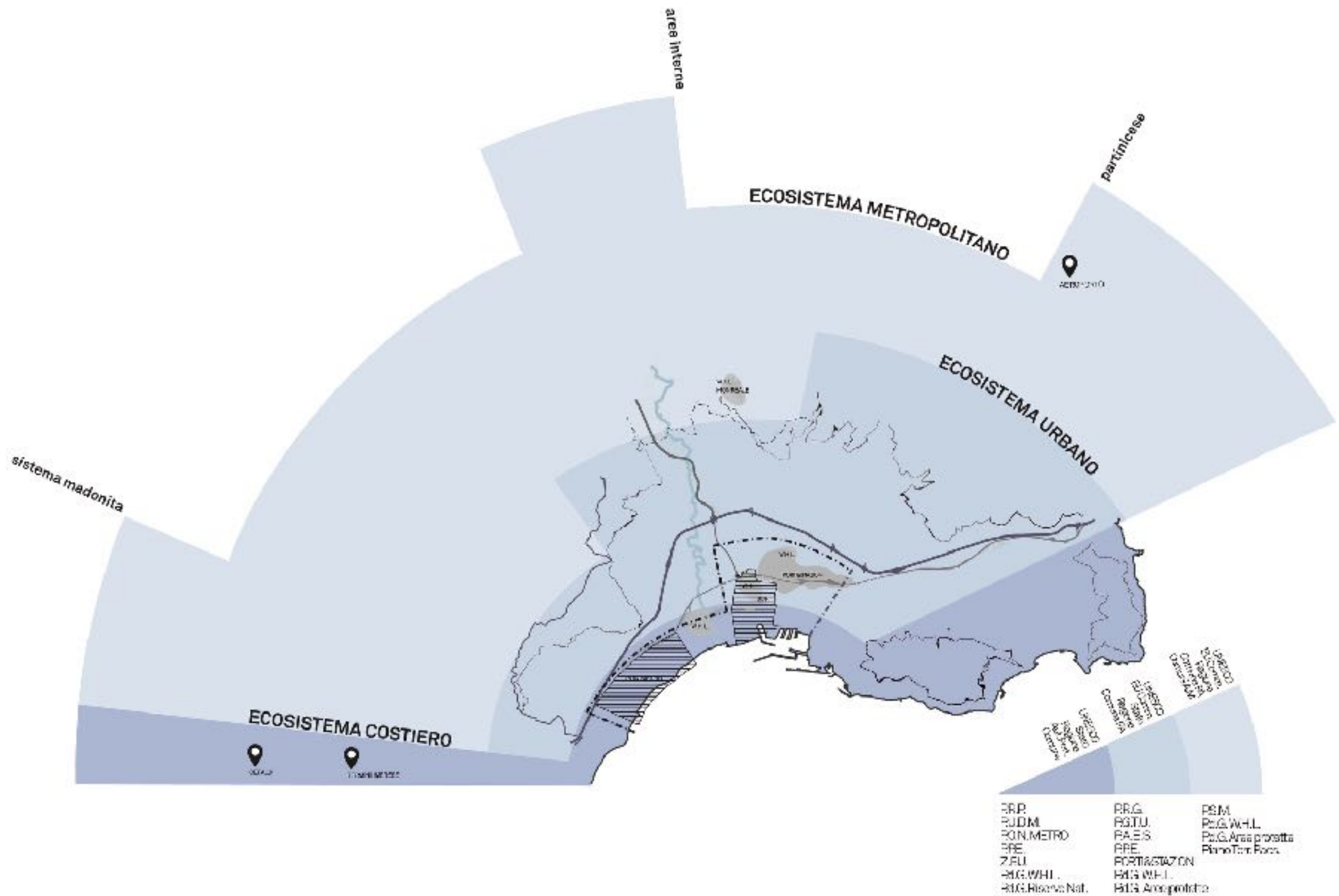




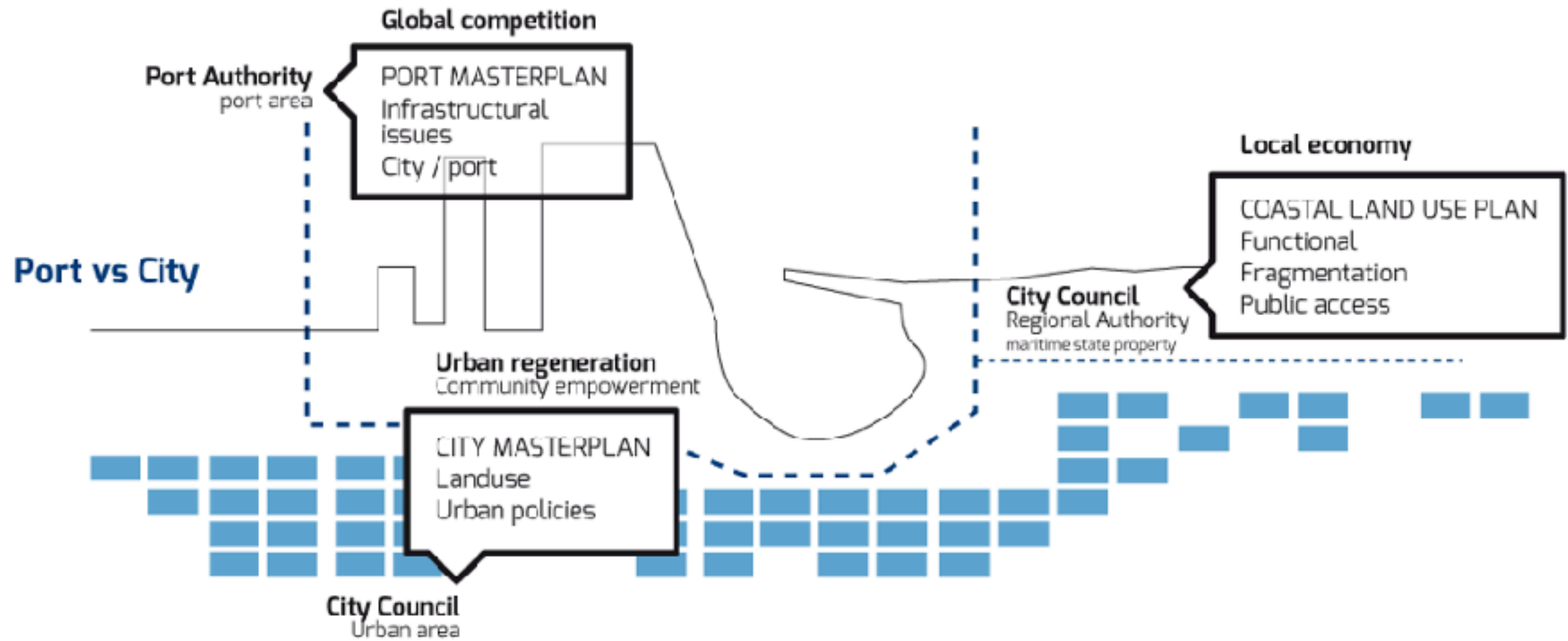




metropolitan multilevel governance

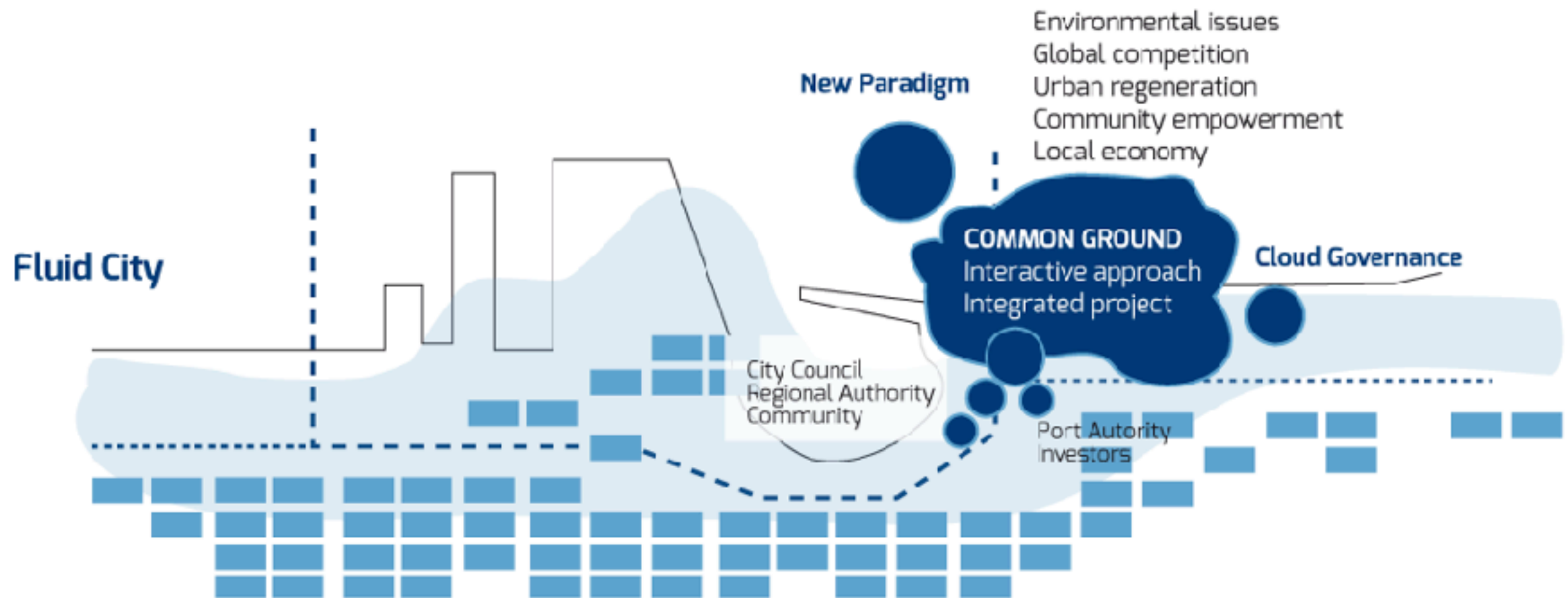


Conflict / Separation



from waterfront as land of conflicts to waterfront as common ground

Integration / Interaction



from waterfront as land of conflicts to waterfront as common ground

#fluidmetabolism

TALENTI URBANI DELLA CREATIVITÀ: CULTURA, COMUNICAZIONE E COOPERAZIONE



TALENTI URBANI DELL'INNOVAZIONE: ENERGIA, PRODUZIONE E MOBILITÀ

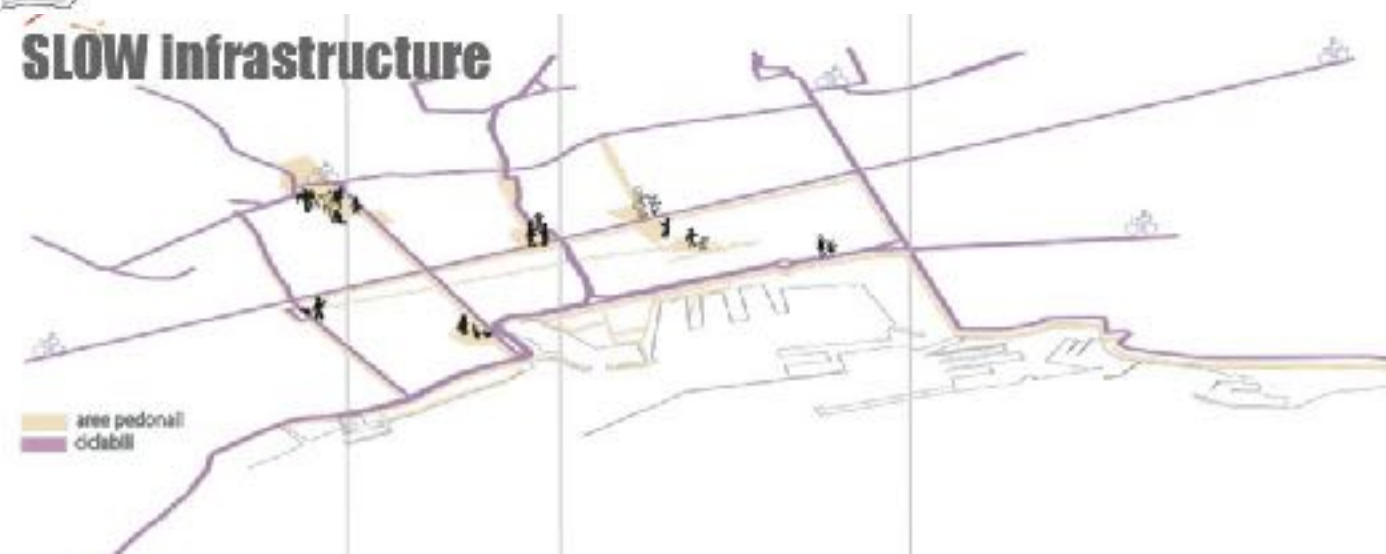


metabolism of **talents**

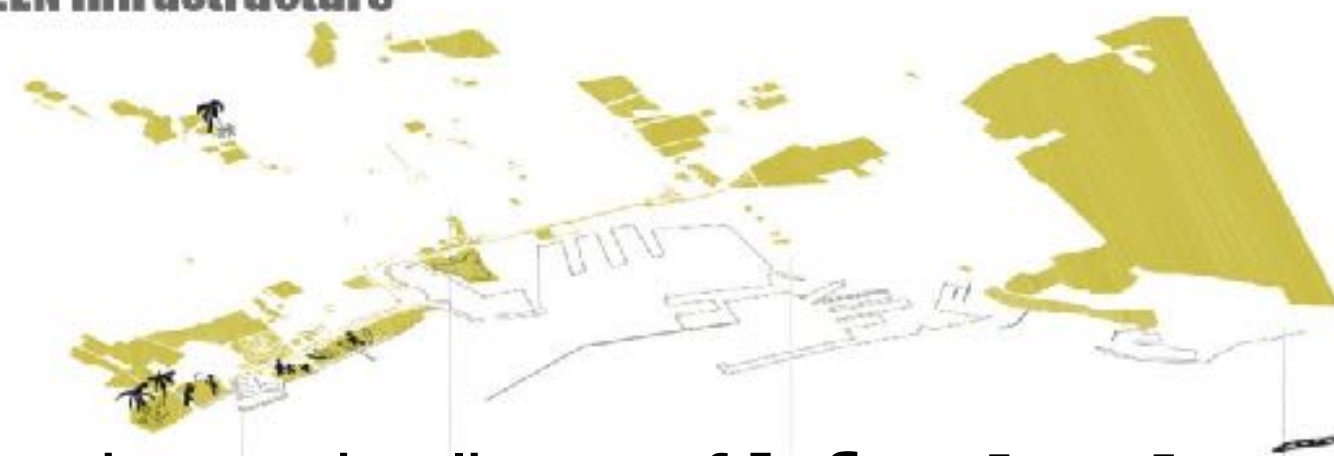
NODI E CONNESSIONI PER LA RETE ECOLOGICA METROPOLITANA



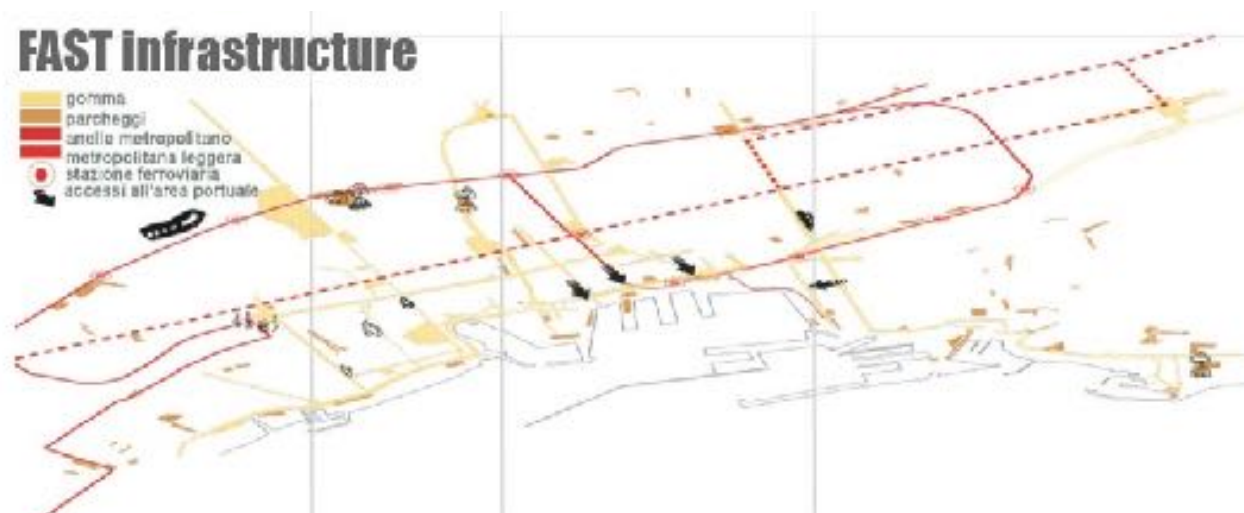
SLOW infrastructure



GREEN infrastructure

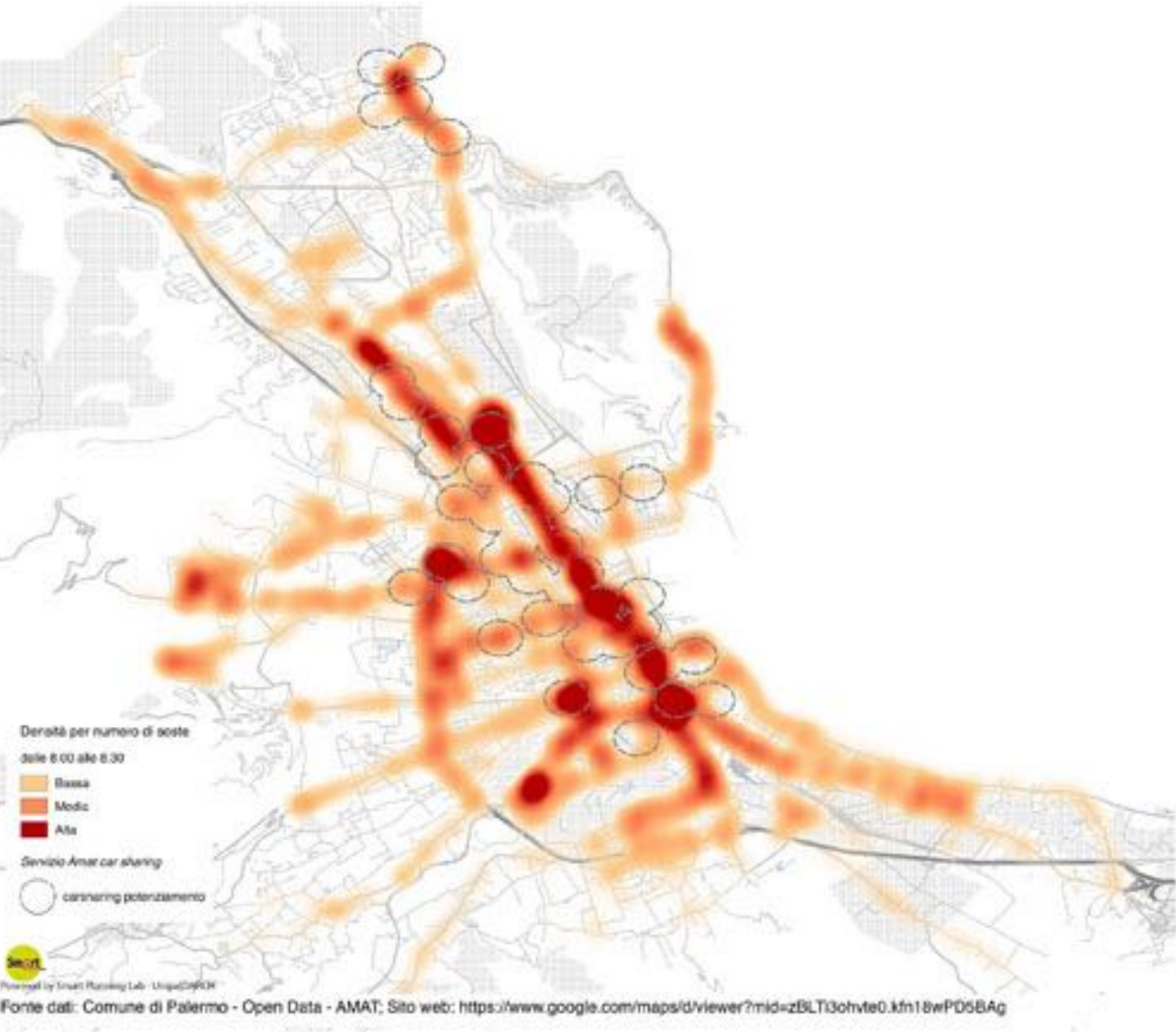


FAST infrastructure

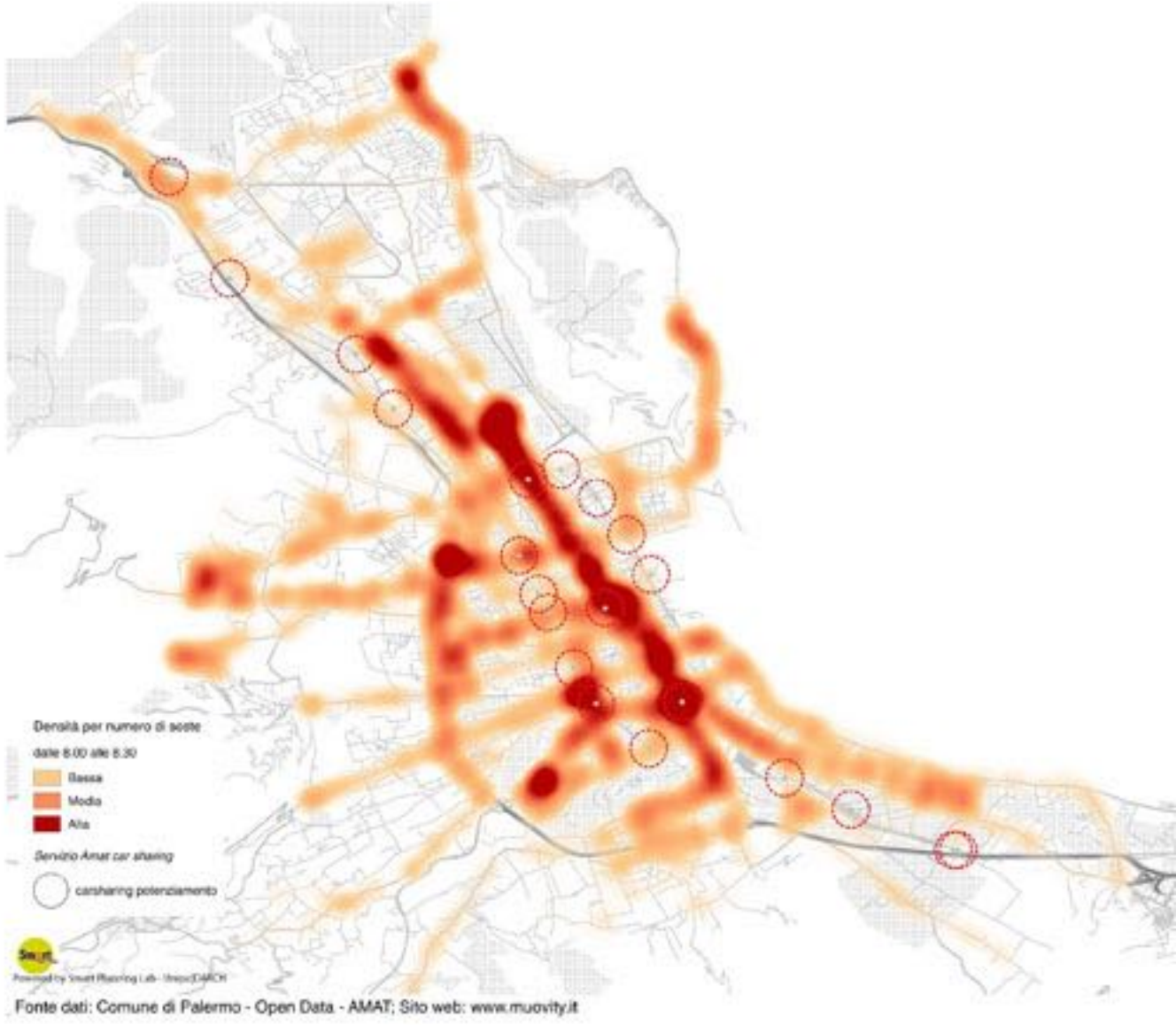


imetabolism of **infrastructure**

SCENARIO MOBILITÀ MEDIO TERMINE
SOSTE TPL PROGRAMMATE NELLO SCENARIO BUS+TRAM (H. 8.00 - 8.30)



SCENARIO MOBILITÀ MEDIO TERMINE
SOSTE TPL PROGRAMMATE NELLO SCENARIO BUS+TRAM (H. 8.00 - 8.30)





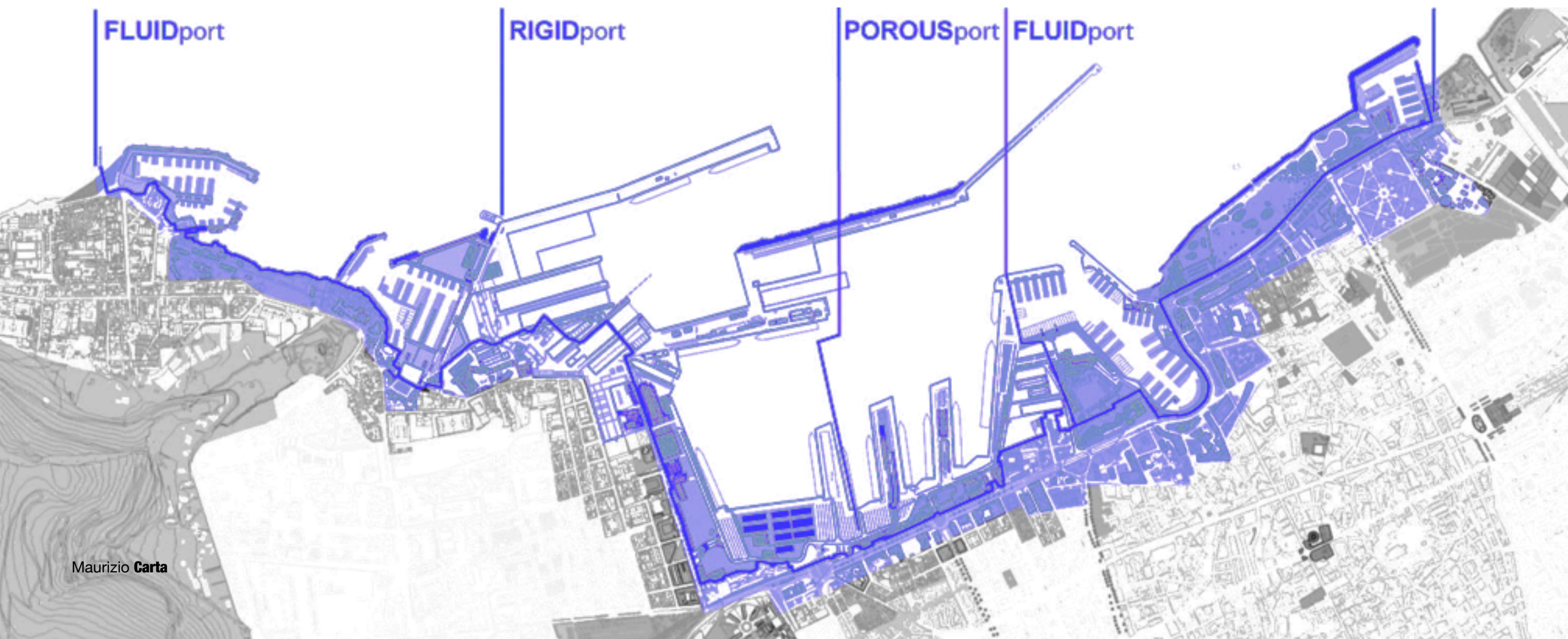
metabolism of **integration**



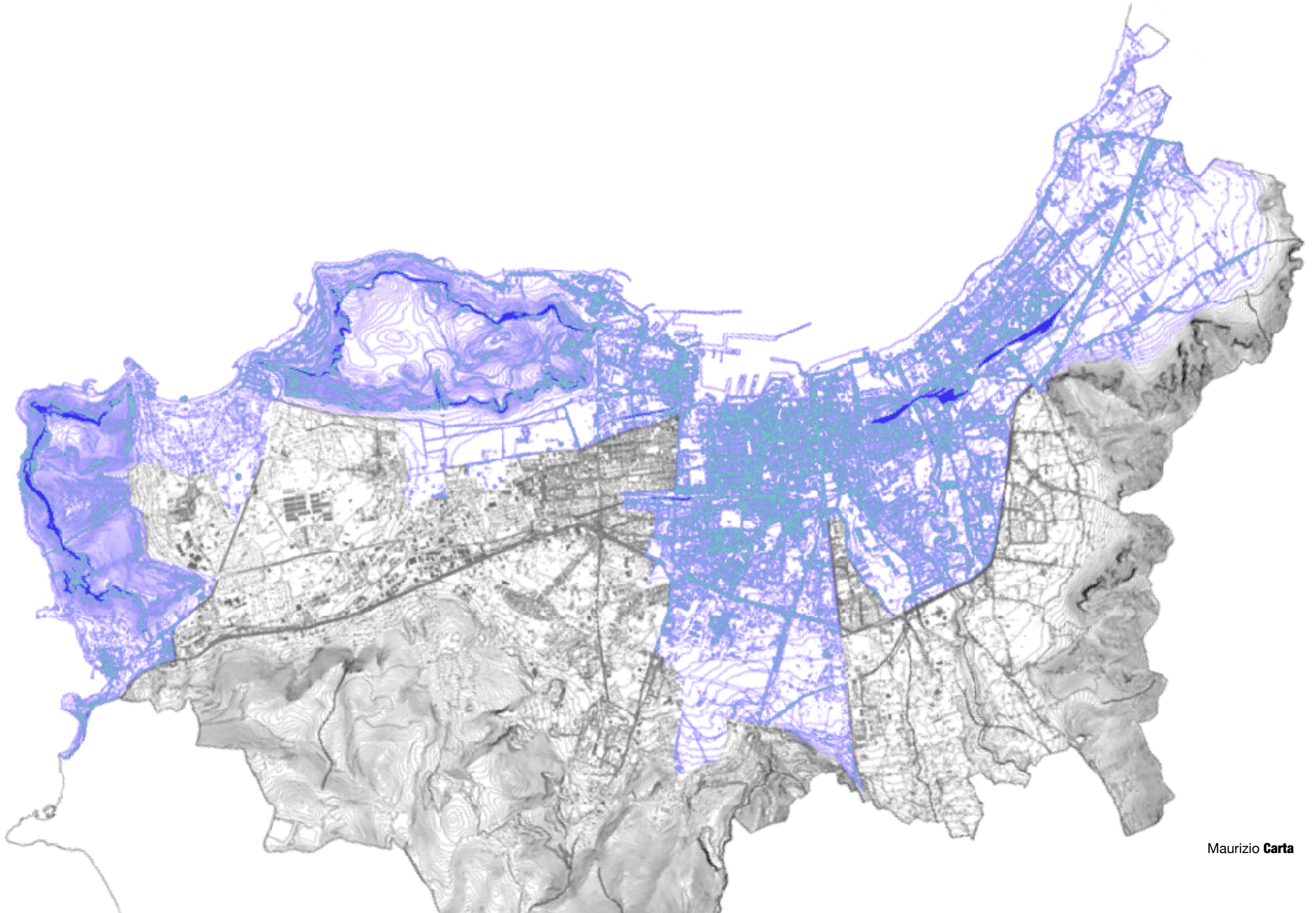
metabolism of **performing**

fluidpalermo

from waterfront ...



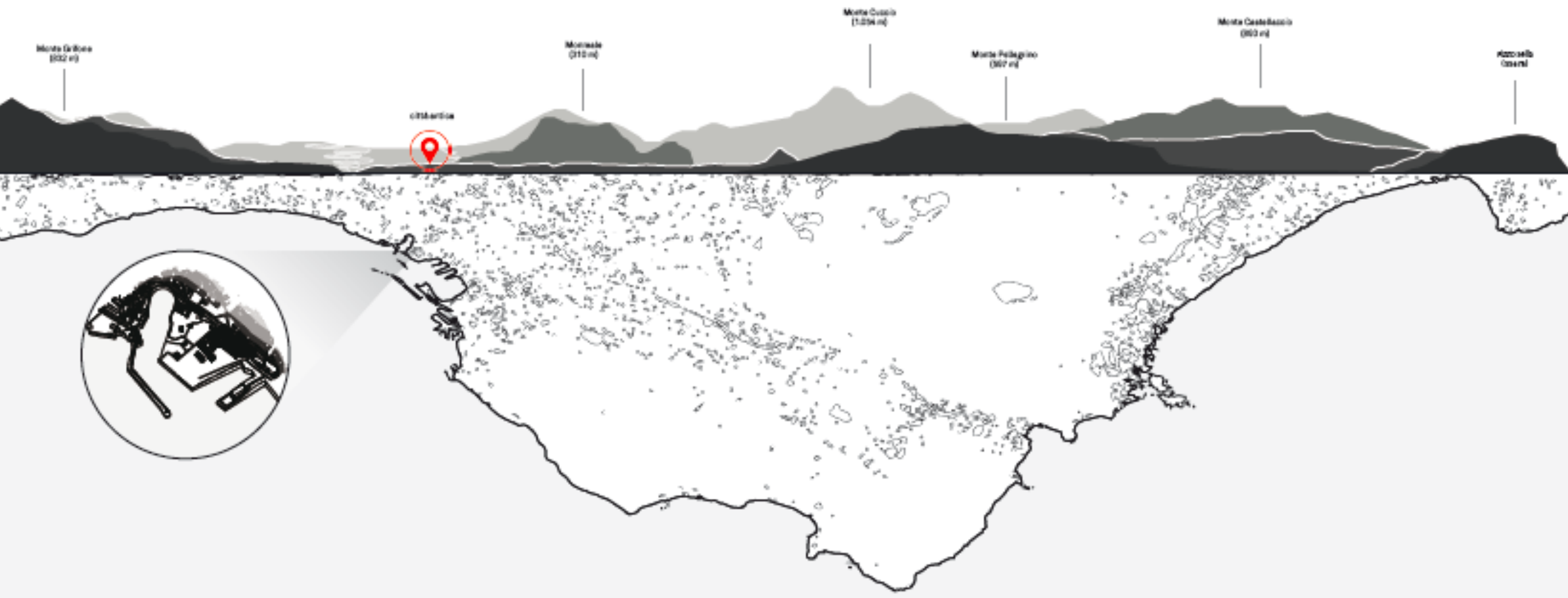
... to fluid city



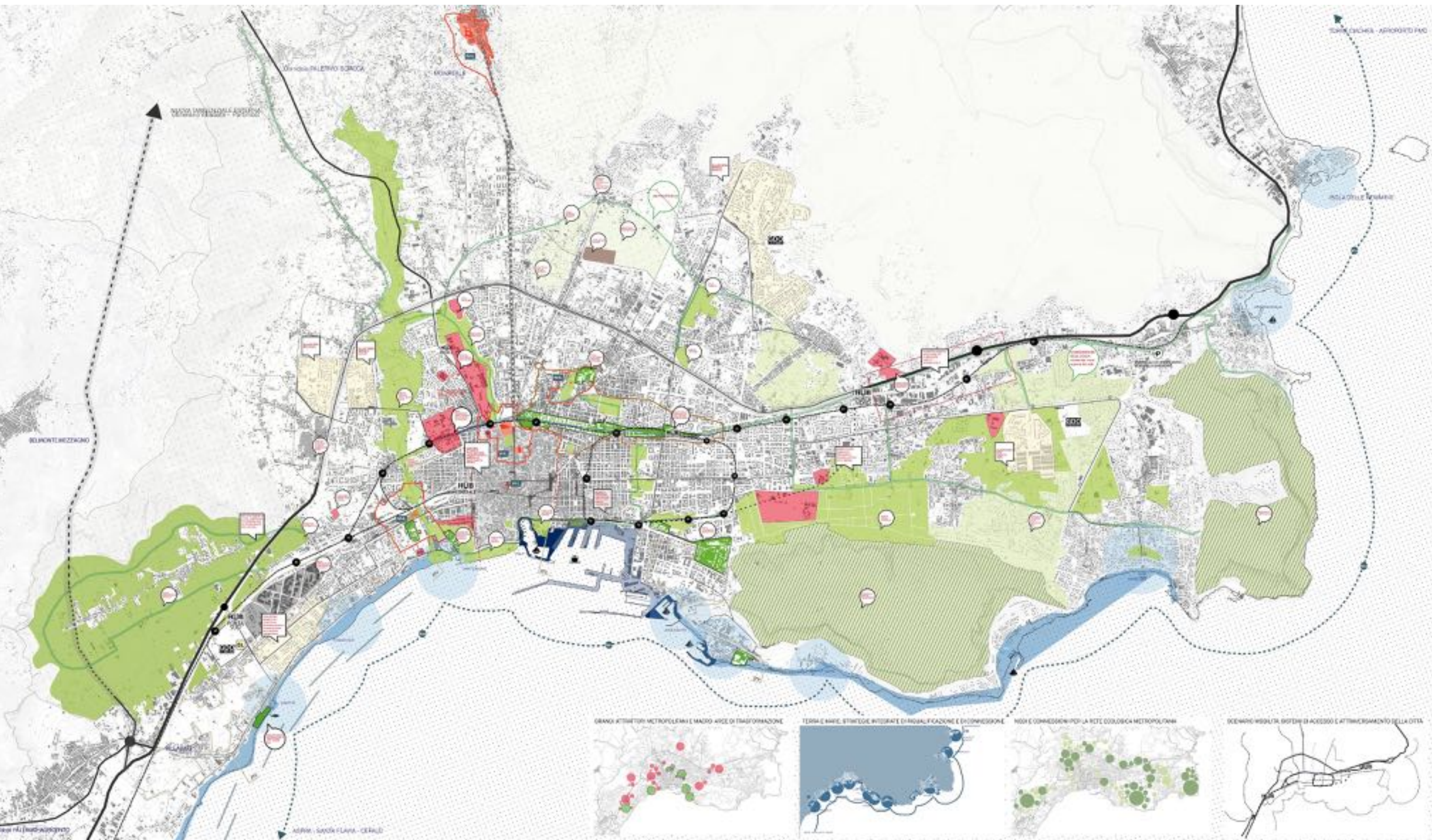
IL PAESAGGIO DI CONTESTO

La piana su cui sorge la città è racchiusa tra mare e monti. La piana vista dal mare disvela il porto come il cuore di un articolato sistema paesaggistico.

fluid city as landscape



waterfront is a key of the URBAN REGENERATION STRATEGIES



Ab.5

AREA BERSAGLIO 5

Acquasanta ed ex Manifattura Fabaschi: area di trasformazione con servizi ricettivi, commerciali e per il tempo libero

Ai.6

AREA DI INTERFACCIA 6:

Acquasanta:
area per il tempo libero e servizi legati alla nautica da diporto

Ab.4

AREA BERSAGLIO 4:

Area Sempino-Ortofrutticolo-Ucciarдоне-Fierz:
nuova centralità urbana, parco urbano e centro di municipalità (servizi culturali, ricettivi, ricreativi e congressuali) integrati con funzioni logistiche nei piani interrati

Ai.5

AREA DI INTERFACCIA 5:

Arsenale:
Polo Culturale dell'Arsenale e servizi per il tempo libero

Ab.3

AREA BERSAGLIO 3:

Borgo Vecchio:
nuove connessioni con la città storica consolidata

Ai.4

AREA DI INTERFACCIA 4:

Area crociere:
area di filtro città-porto con servizi misti urbano-portuali

Ai.3

AREA DI INTERFACCIA 3:

Molo Trapezoidale:
area con funzioni commerciali, servizi ricettivi, tempo libero

Ai.1

AREA DI INTERFACCIA 1:

Castello a Mare-Cala:
Parco Archeologico e porto turistico

Ai.2

AREA DI INTERFACCIA 2:

Foro Italico-Sant'Erasmo:
area per il tempo libero e servizi legati alla nautica da diporto

Ab.2

AREA BERSAGLIO 2:

Area ex Gasometro:
nuova centralità urbana con attività culturali, ricreative, ricettive

Ab.1

AREA BERSAGLIO 1:

Centro Storico

Nuovo piano particolareggiato del Centro Storico

the **masterplan** for the new port

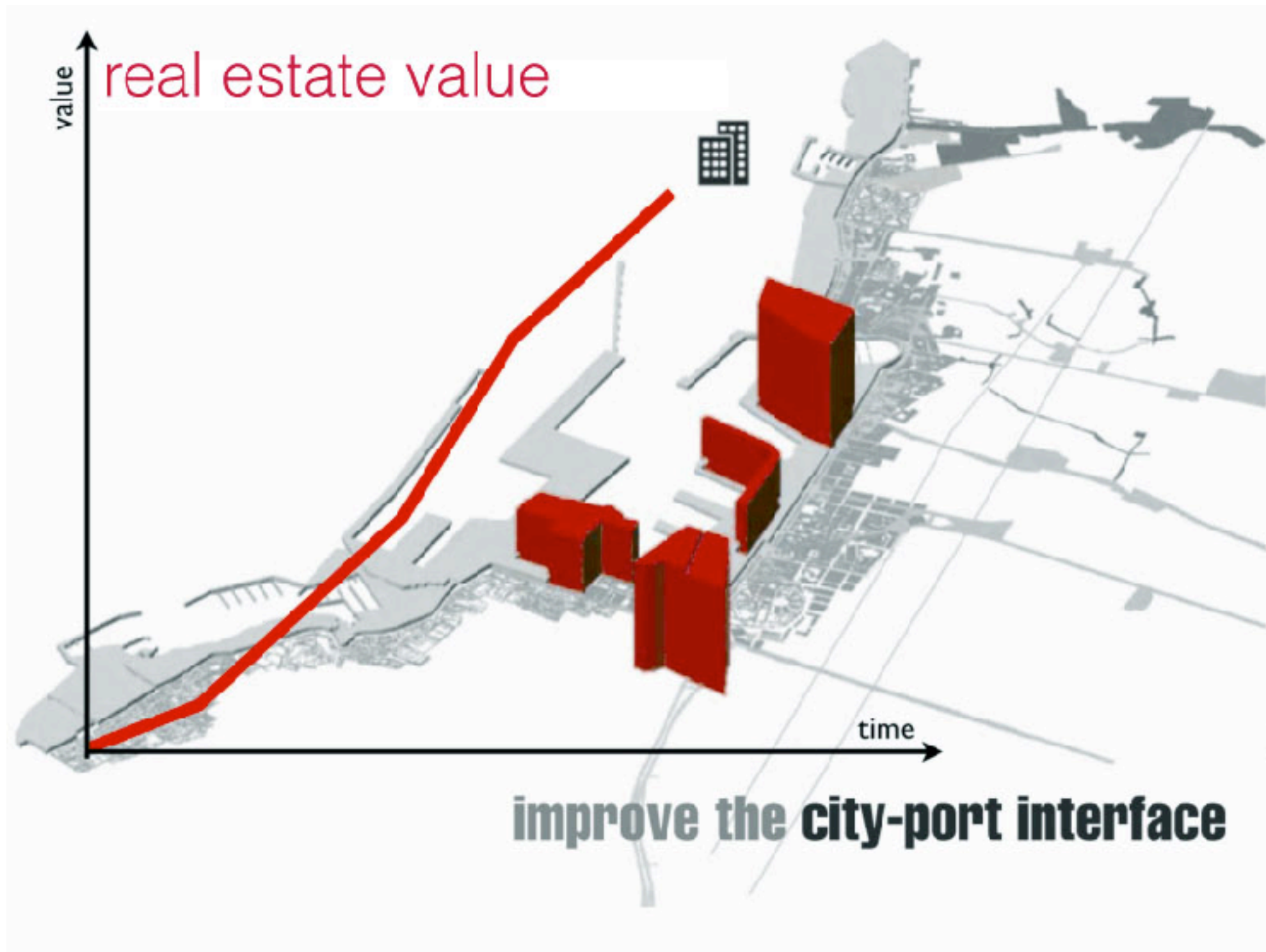




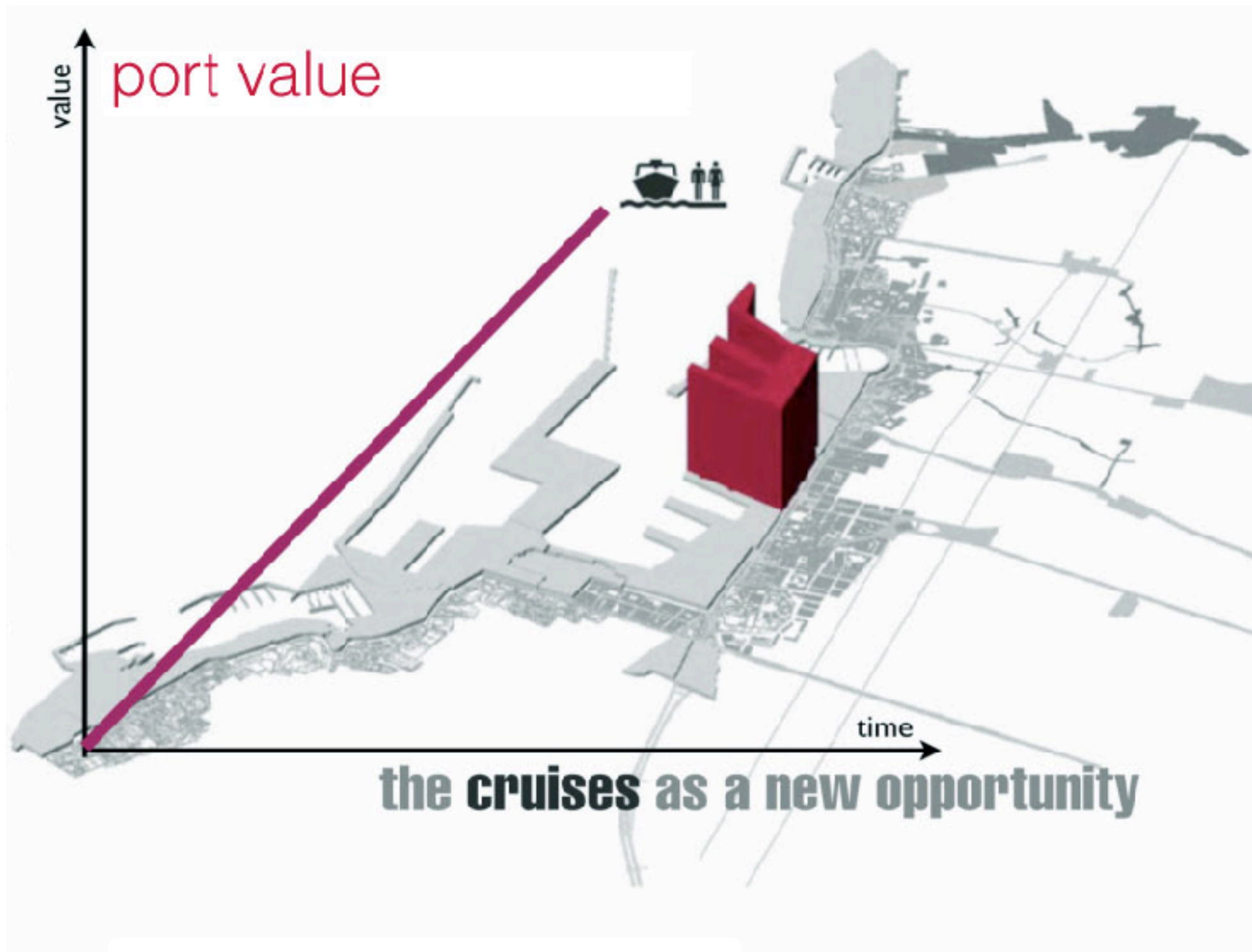




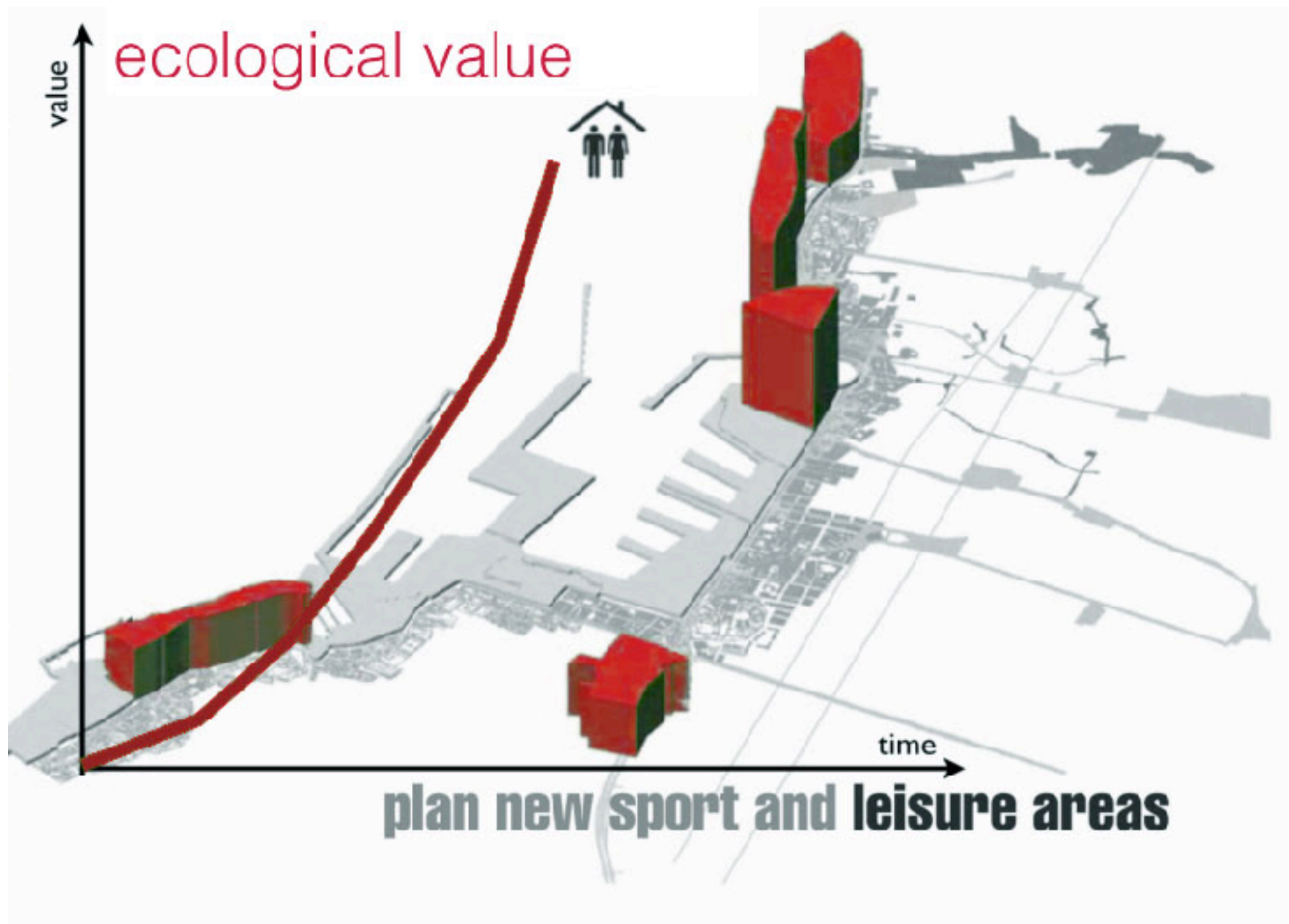




the new waterfront as multiplier of urban economies.





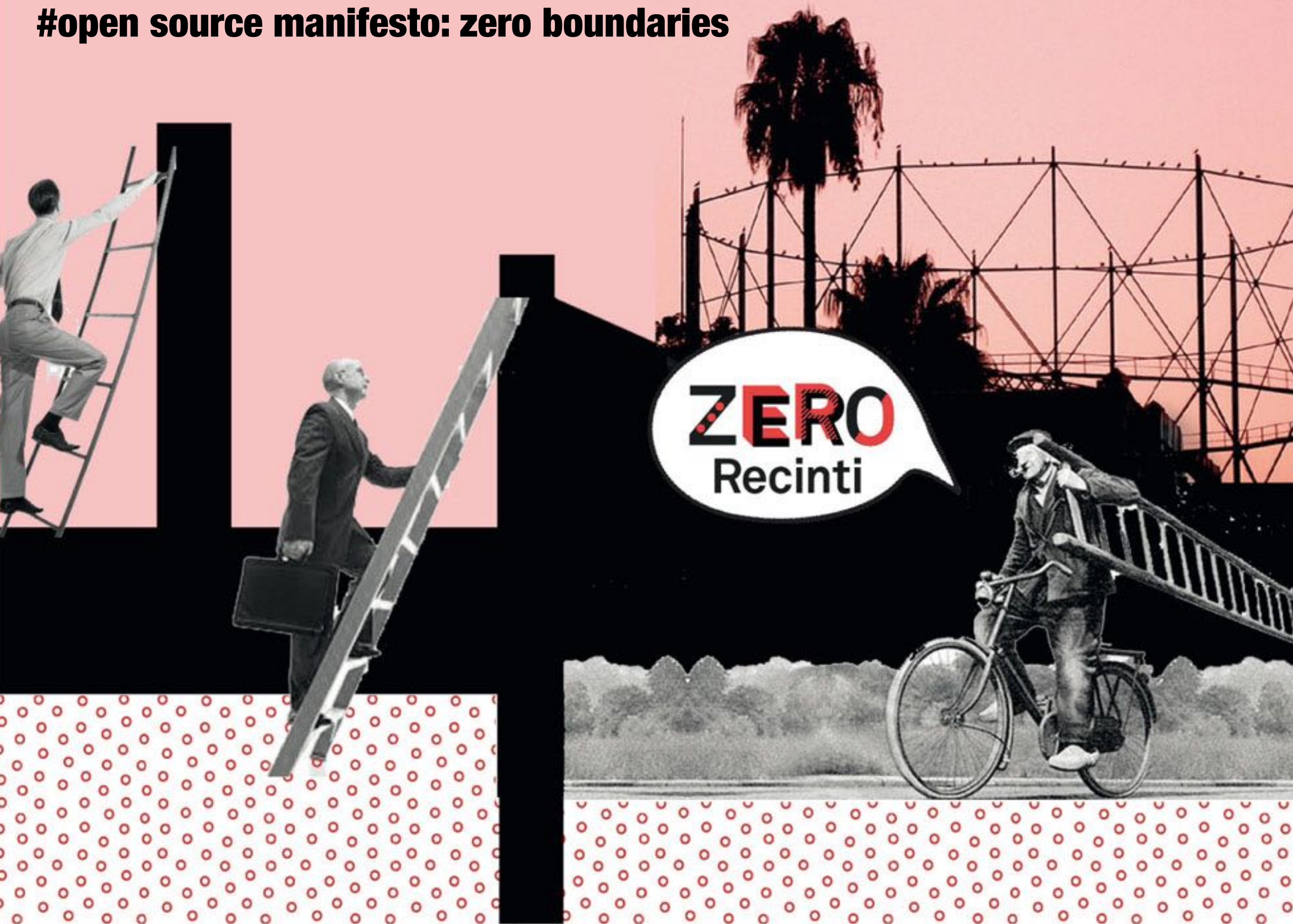




open source waterfront
incremental and adaptive planning



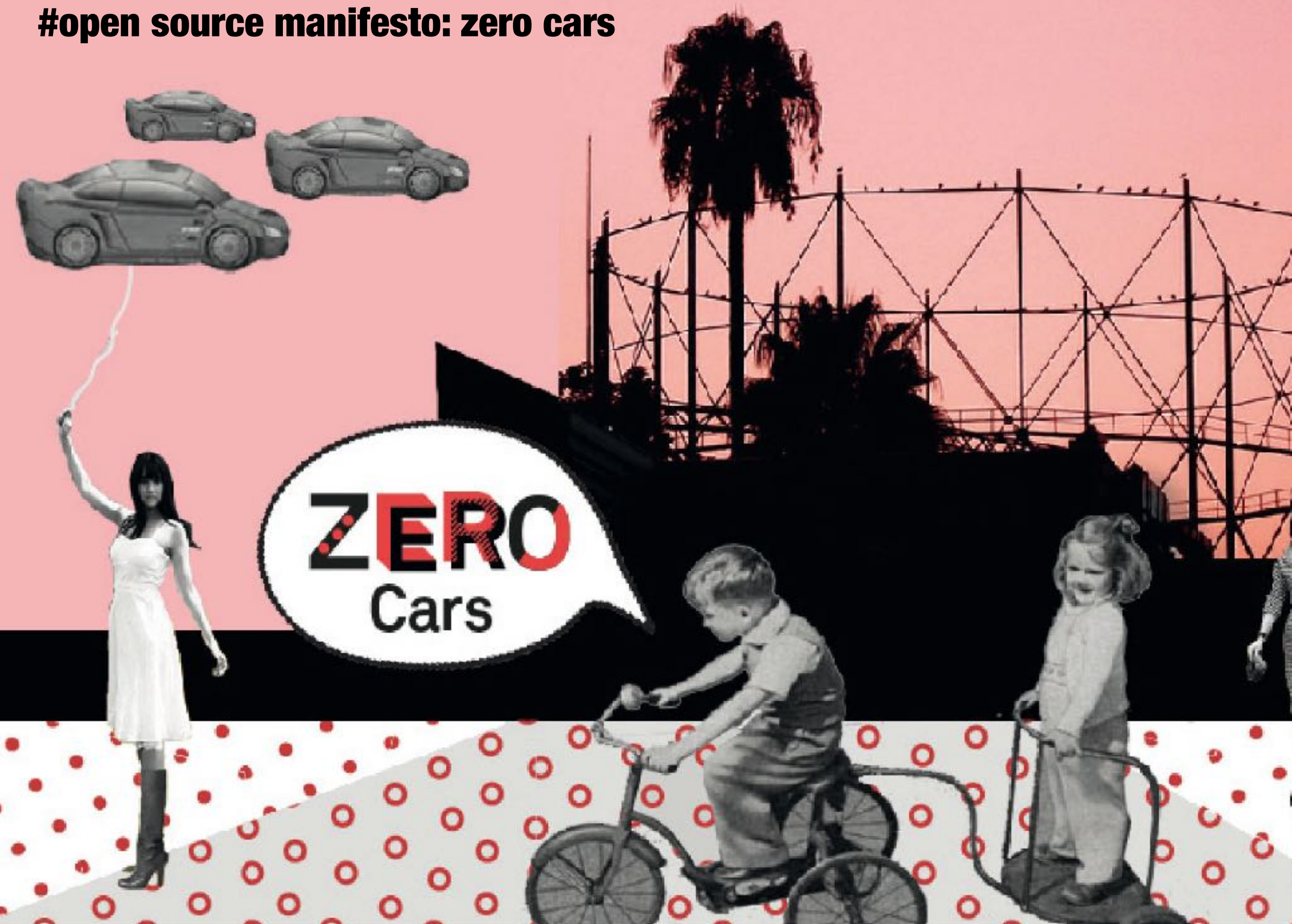
#open source manifesto: zero boundaries



#open source manifesto: zero waterproofing



#open source manifesto: zero cars





Autorità di Sistema Portuale
del Mare di Sicilia Occidentale

PALERMO città porto

CONCORSO INTERNAZIONALE DI IDEE PER LA PROGETTAZIONE DEI NUOVI TERMINAL
CROCIERE E RO-RO E RELATIVE AREE DI INTREFACCIA CON LA CITTÀ, NELL'AMBITO
DELLE PREVISIONI DEL PIANO REGOLATORE PORTUALE DEL PORTO DI PALERMO

Documento preliminare di progettazione (DPP)

Gennaio 2018

FLUID

PALERMO CITTA' PORTO

Documento preliminare per la progettazione
dei terminal crociere e passeggeri del porto di
Palermo

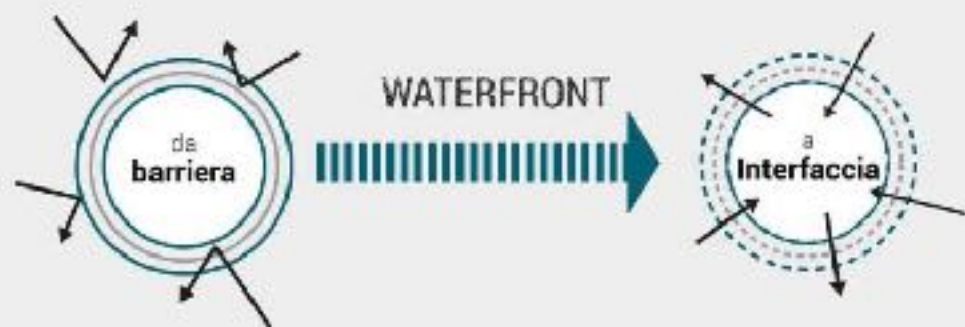
committente

**Autorità di Sistema Portuale
del Mare di Sicilia
Occidentale**

progetto
Maurizio Carta
anno
2017

ALLEGATO 2

Da barriera a **interfaccia liquida**



FLUID

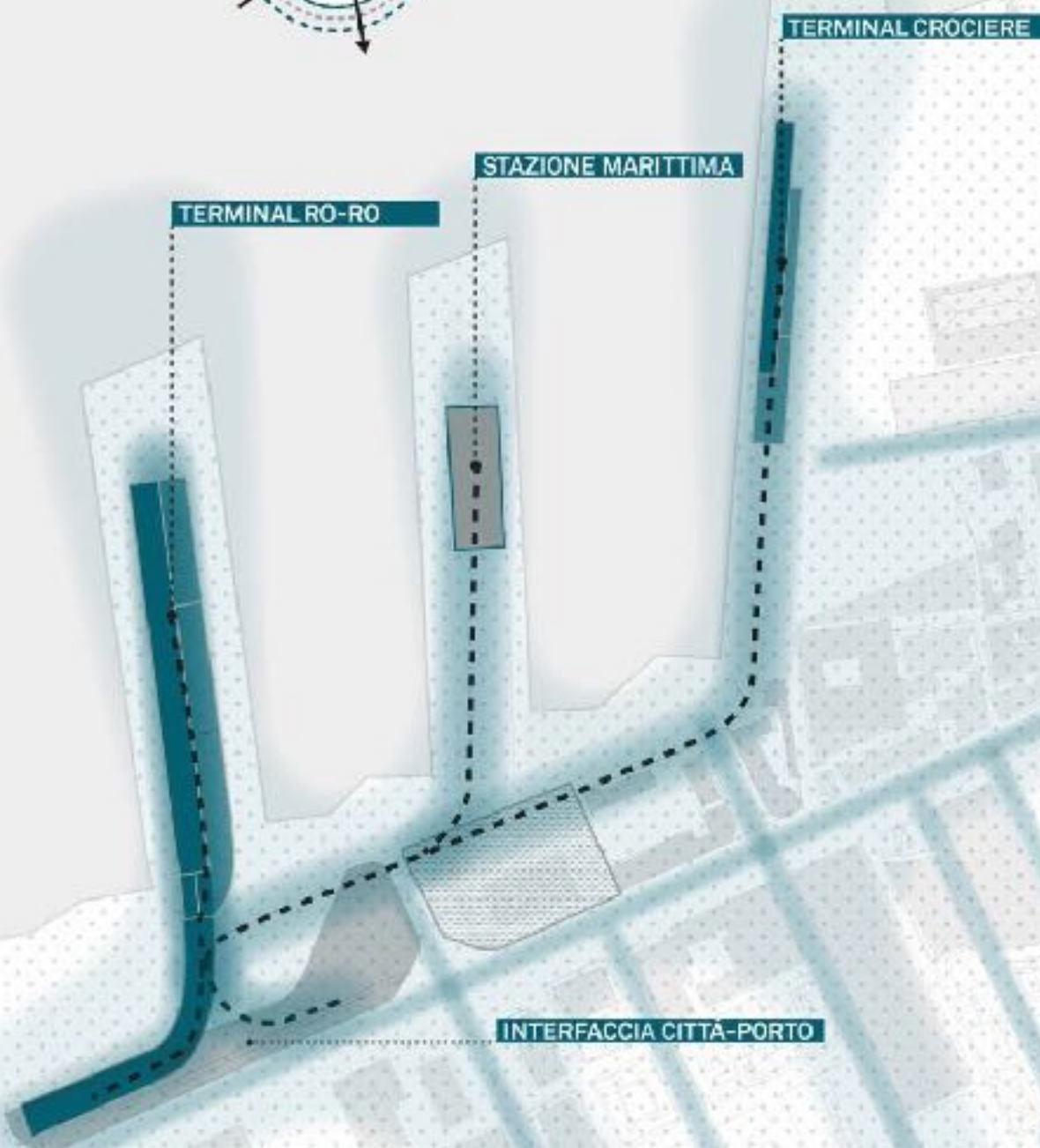
PALERMO

CITTA' PORTO

Documento preliminare per la
progettazione dei terminal crociere e
passeggeri del porto di Palermo

committente
**Autorità di Sistema
Portuale del Mare di
Sicilia Occidentale**

progetto
Maurizio Carta
anno
2017

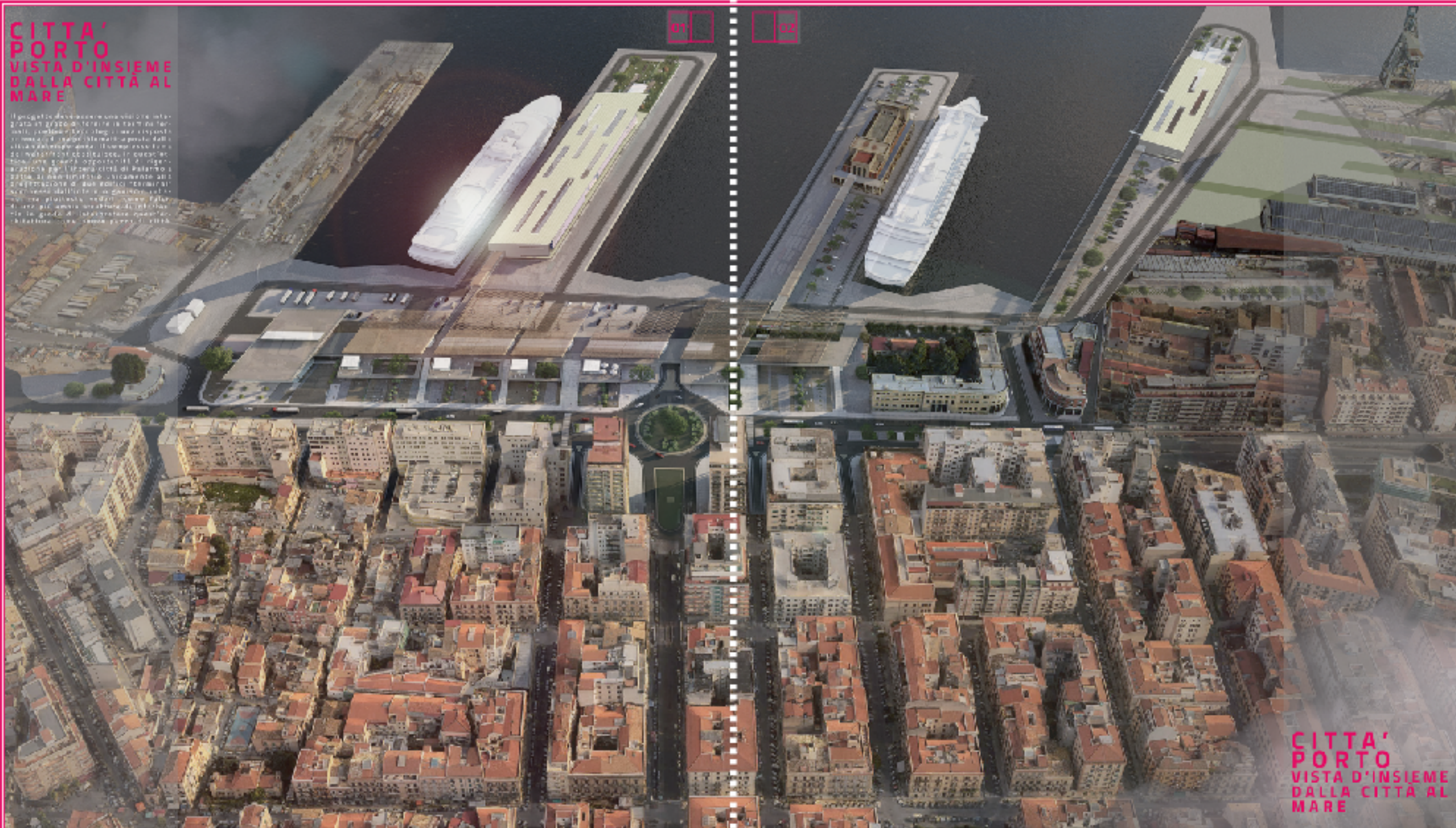


**CONNETTERE TERRA E MARE,
PORTARE LA CITTÀ VERSO IL PORTO**

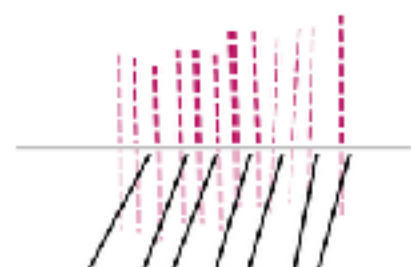
[illegible]

CITTA' PORTO VISTA D'INSIEME DALLA CITTA' AL MARE

Il progetto deve essere una visione integrata al grado di fornire la base per la realizzazione di un piano di sviluppo urbano che possa essere adottato dalla città di Palermo. Il progetto deve essere una visione integrata al grado di fornire la base per la realizzazione di un piano di sviluppo urbano che possa essere adottato dalla città di Palermo.



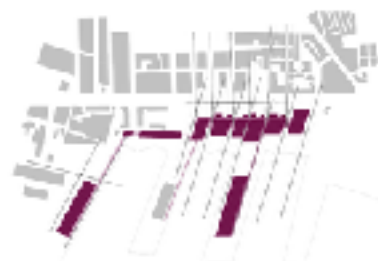
CITTA' PORTO VISTA D'INSIEME DALLA CITTA' AL MARE



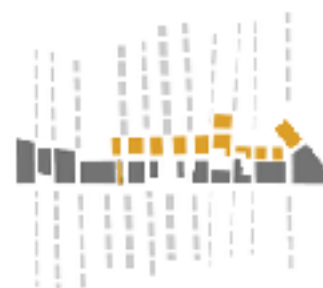
TESSITURA



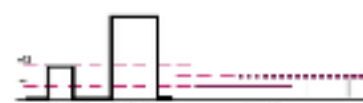
RICUCITURA



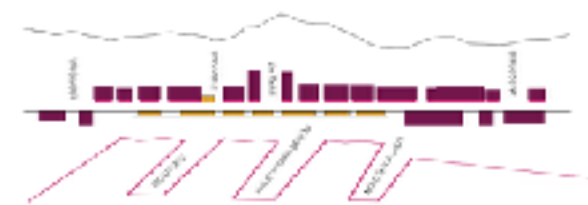
FORMA



FRAMMENTI



MORFOLOGIA



INTEGRAZIONE

INTERFACCIA DA VIRCO SANTALUCIA A VAREO AMARI



LA LINEA DEL TERRA
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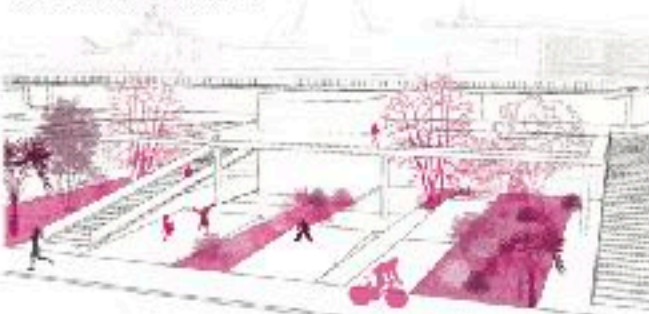
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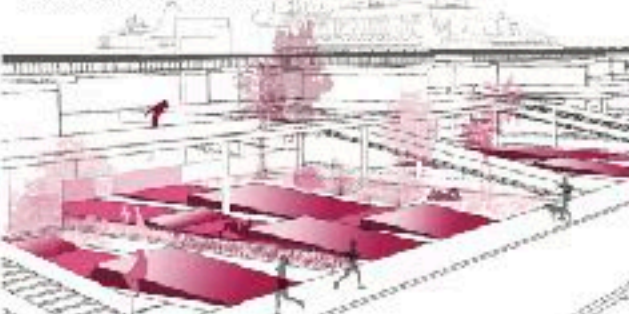
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LE ESSENZE DEL GIARDINO

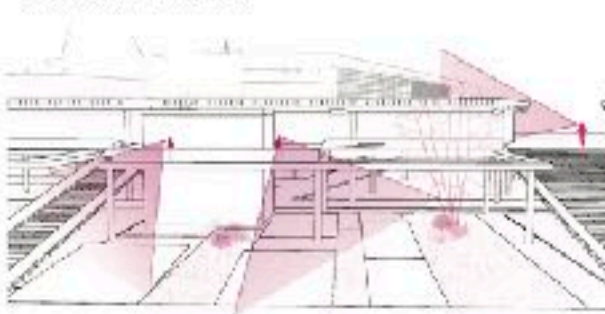
IL VERDE CHE PROMPE



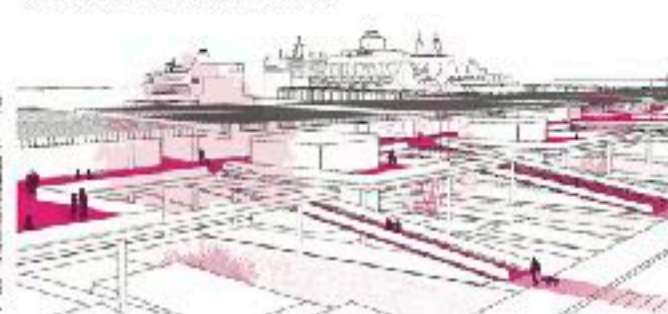
CINQUE COME ARREDO URBANO



PLURALITÀ DI VISUALITÀ



POSSEGGIATE VERSO IL MARE



I MATERIALI DELL'INTERVENTO



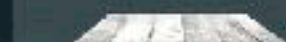
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INTERFACCIA DA VAREO AMARI A VAREO SANMUZZO



NUOVO TERMINAL CROCIERE

CRUISE TERMINAL



13

14

CRUISE TERMINAL



TERMINAL RoRo



TERMINAL RoRo





the challenge of the Southern Coast



PMOSUD

HYPER-CYCLING PALERMO SOUTH COAST

Workshop Internazionale di progettazione per il Piano
di rigenerazione urbana della Costa Sud di Palermo

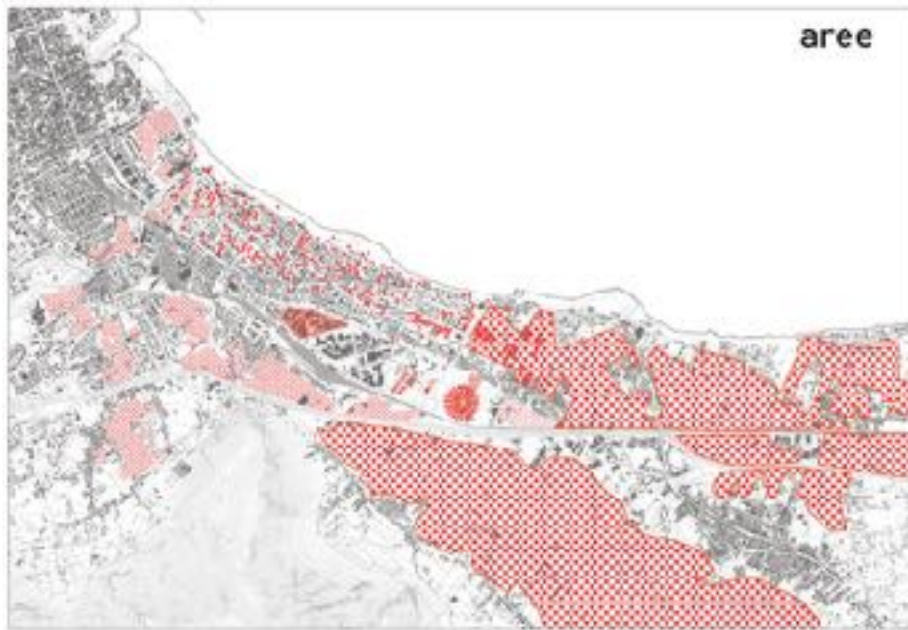
committente
Comune di Palermo

progetto
Maurizio Carta, Dipartimento di
Architettura dell'Università di Palermo
anno
2014

Costa Sud: risorse e opportunità

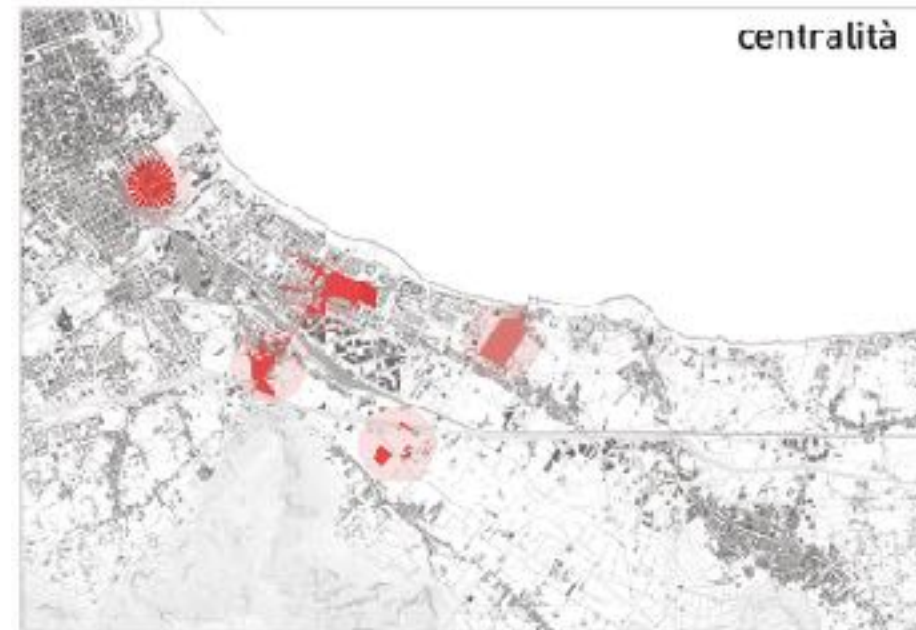
Maurizio Carta

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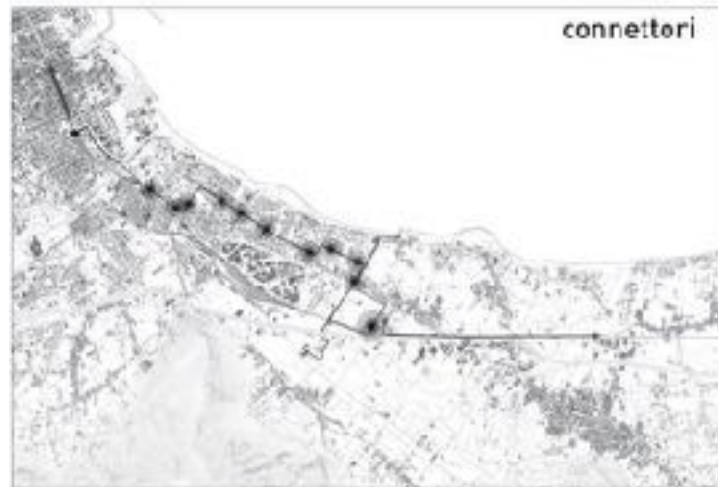
aree

Brown Cycle/
Nuova
produzione
e paesaggi
produttivi per
la riattivazione
dell'economia
dei quartieri
e lo stimolo
dell'innovazione
sociale.



centralità

Red Cycle/
Riattivazione
delle
componenti
culturali ed
identitarie
per accogliere
nuovi attrattori
urbani capaci
di ridislocare i
centri della città
(Energy District,
Social District,
Città d'acque,
Agri/Fablab).



connettori

Grey Cycle/
Potenziamento
infrastrutturale
della mobilità
tranviaria come
generatore di
nuove modalità.



porosità

Blue Cycle/
Riattivazione
delle
connessioni
fluide costa-
tessuti urbani e
potenziamento
della porosità.

densifying without consuming,
connecting by porous interfaces,
fluidity as ecosystem strategy.

Cityforming Protocol

actions for creative colonization

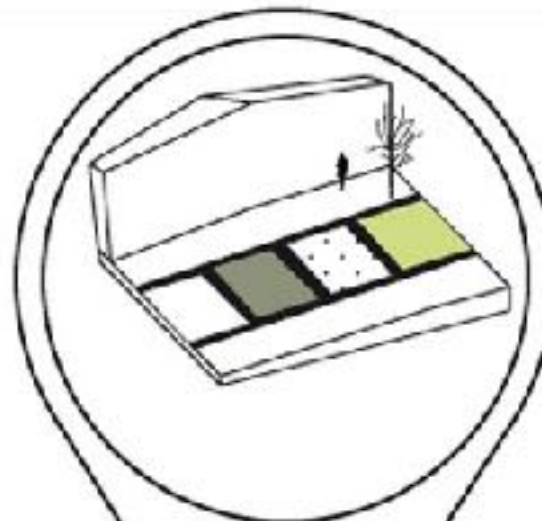
Agopuntura urbana, spazi adattivi, cantieri leggeri per attrezzature per la fruizione della costa.



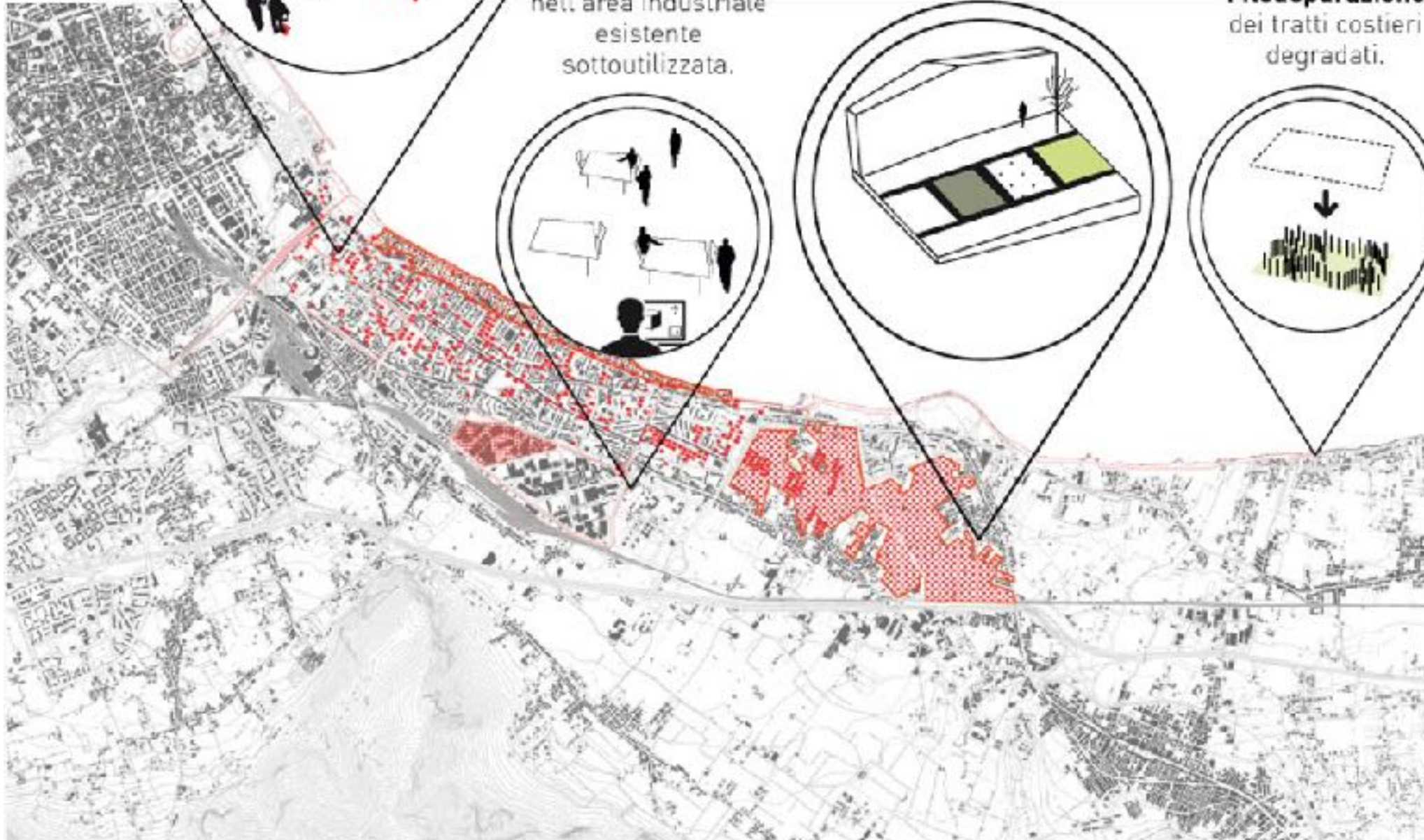
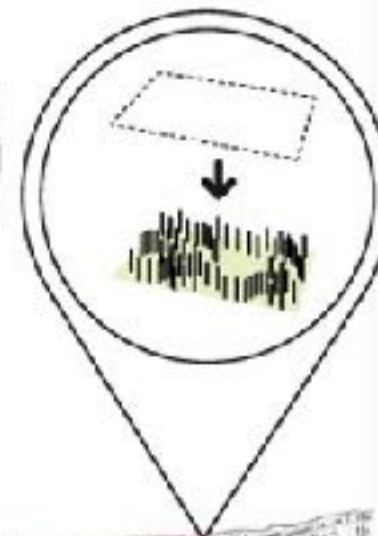
Incubatori di imprese innovative nell'area industriale esistente sottoutilizzata.



Orti urbani di quartiere per l'autoconsumo e la fruizione didattica.



Fitodepurazione dei tratti costieri degradati.

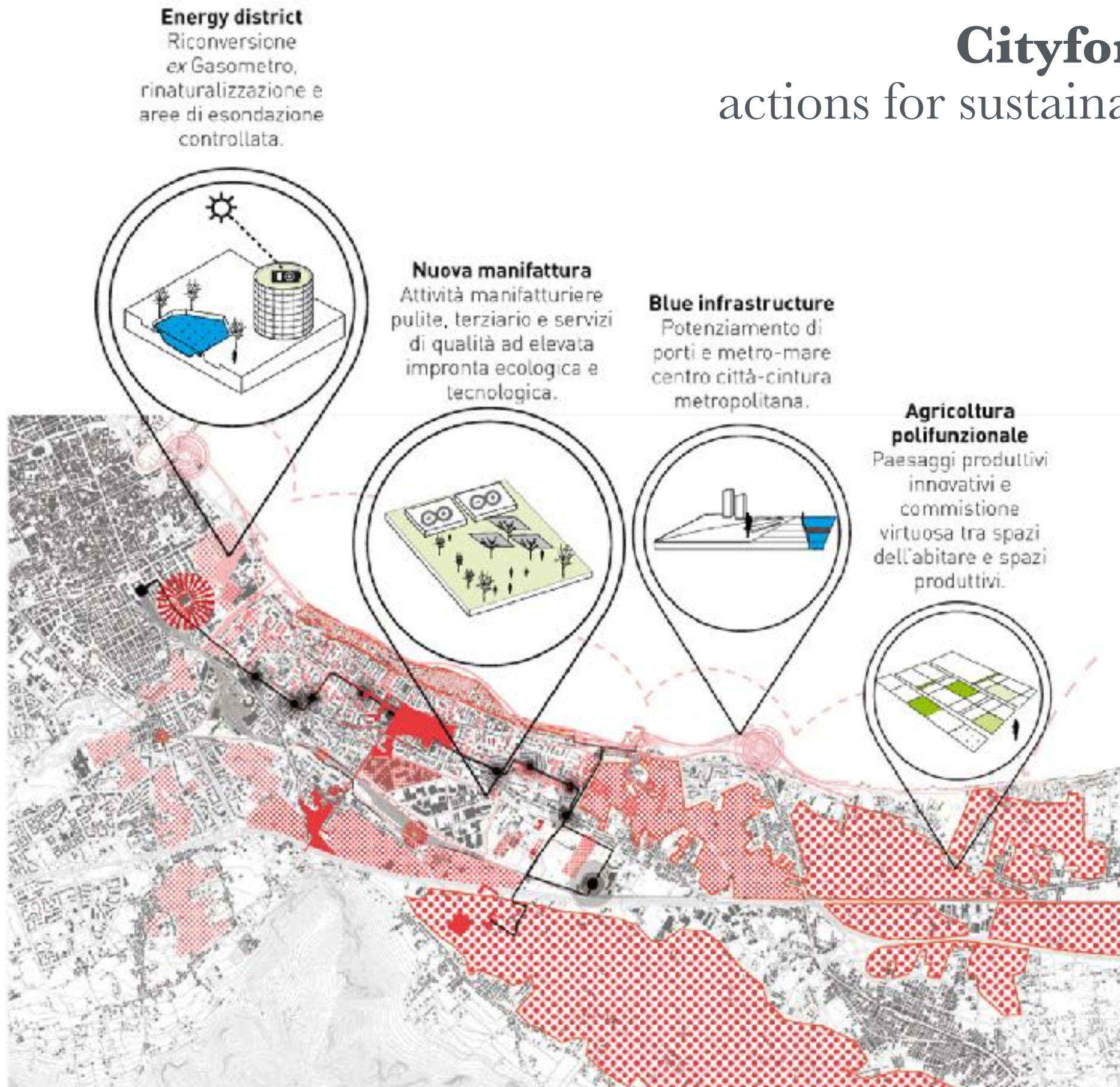




Maurizio **Carta**

Cityforming Protocol

actions for sustainable consolidation





Maurizio **Carta**



PMOSUD

HYPER-CYCLING PALERMO SOUTH COAST

Workshop Internazionale di progettazione per il
Piano di rigenerazione urbana della Costa Sud di
Palermo

committente

Comune di Palermo

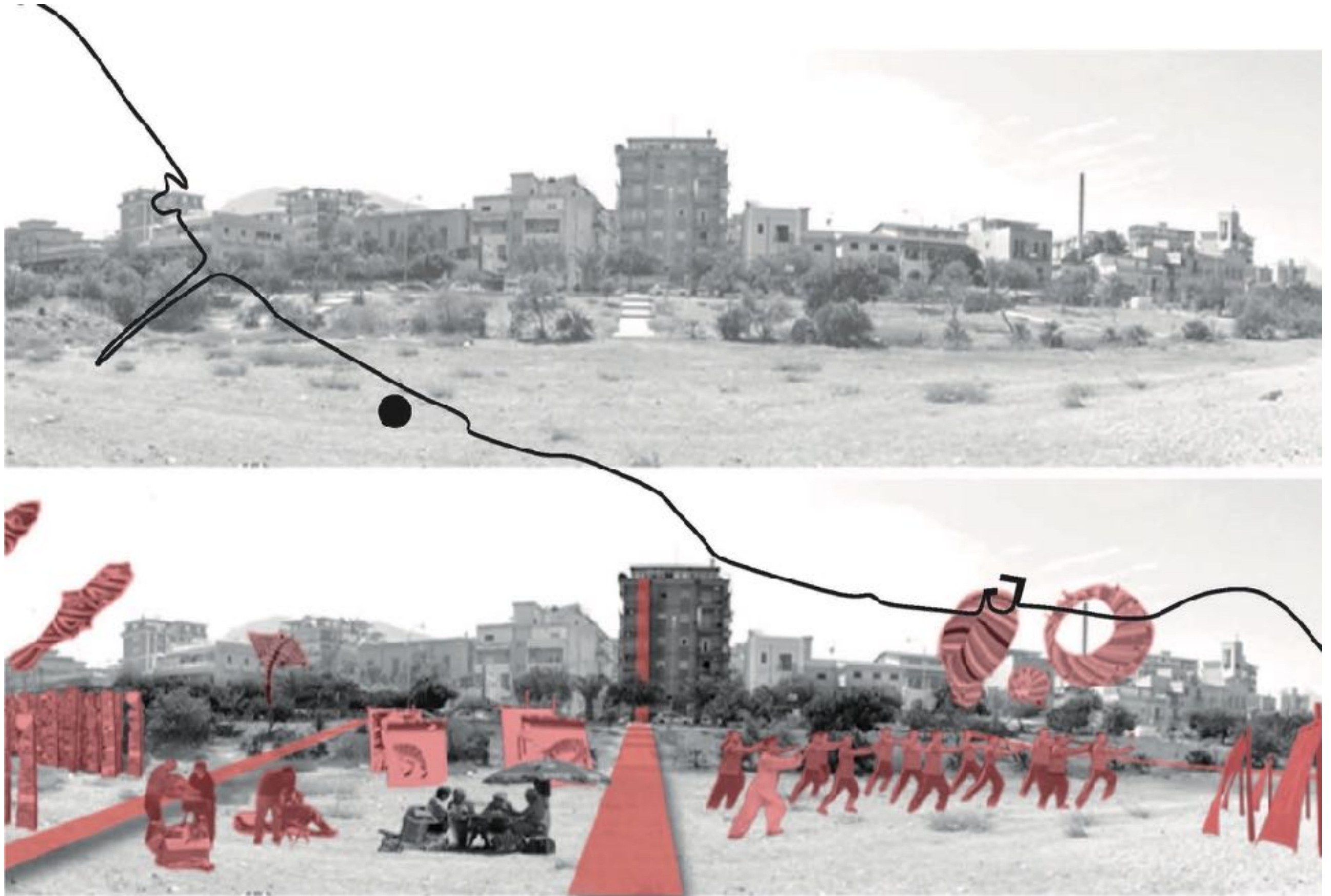
progetto

**Maurizio Carta, Dipartimento di
Architettura dell'Università di Palermo**

anno

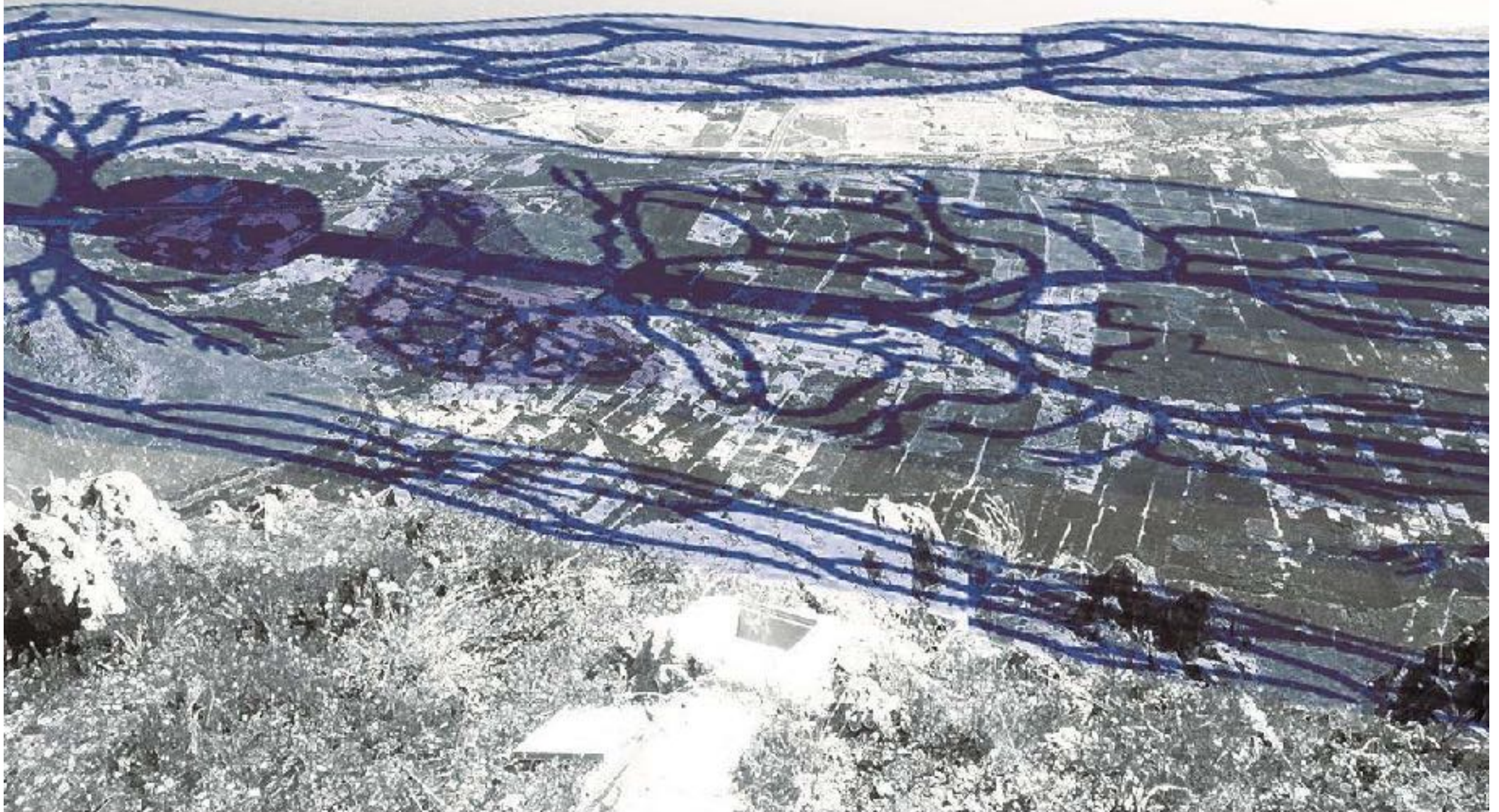
2014

Nature is back!

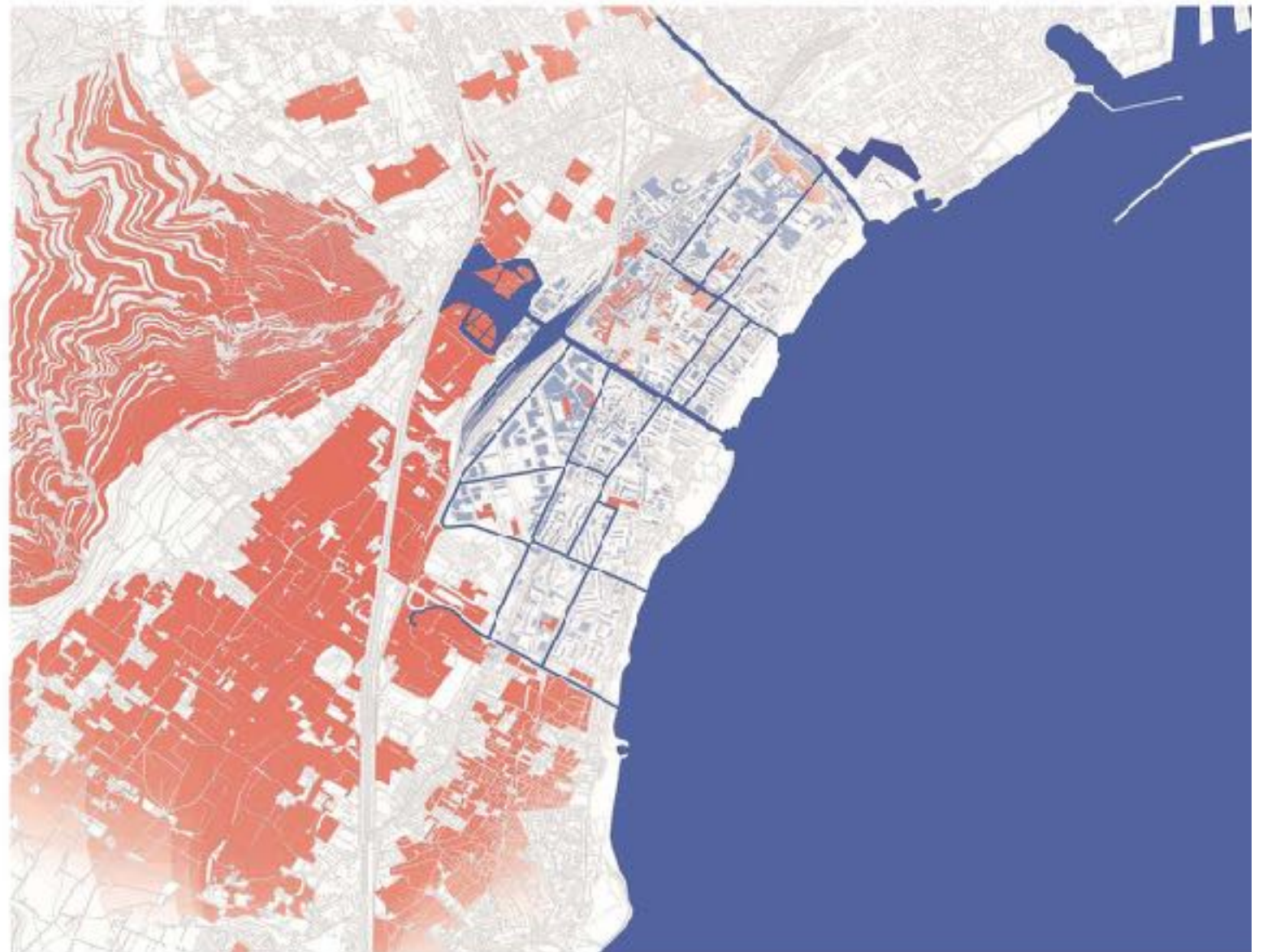
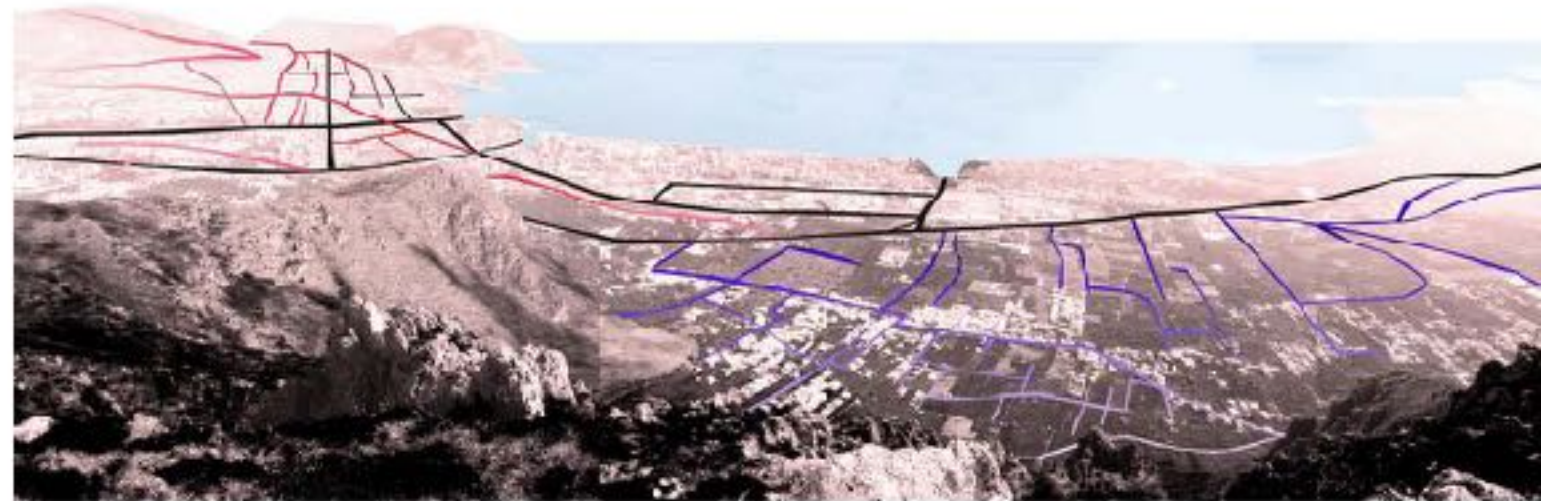
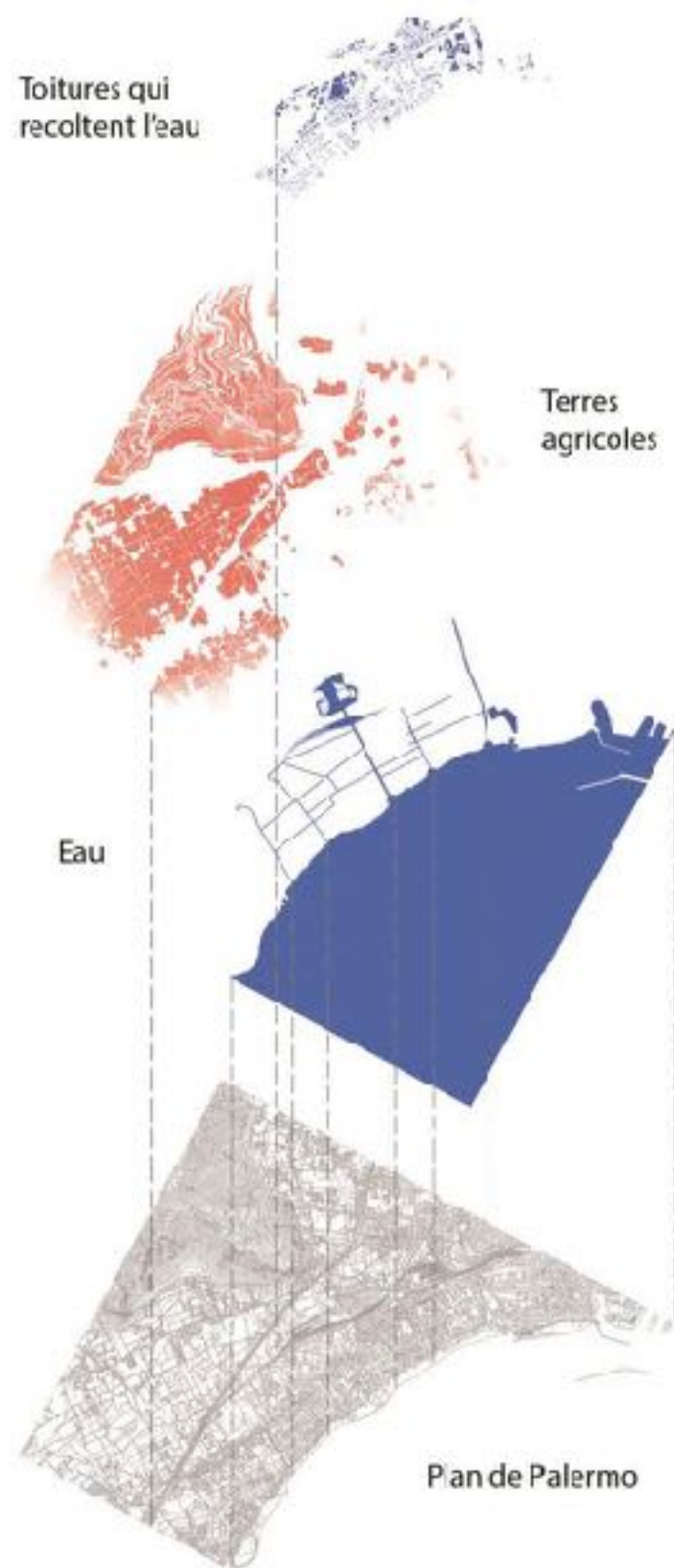


BlueCycle

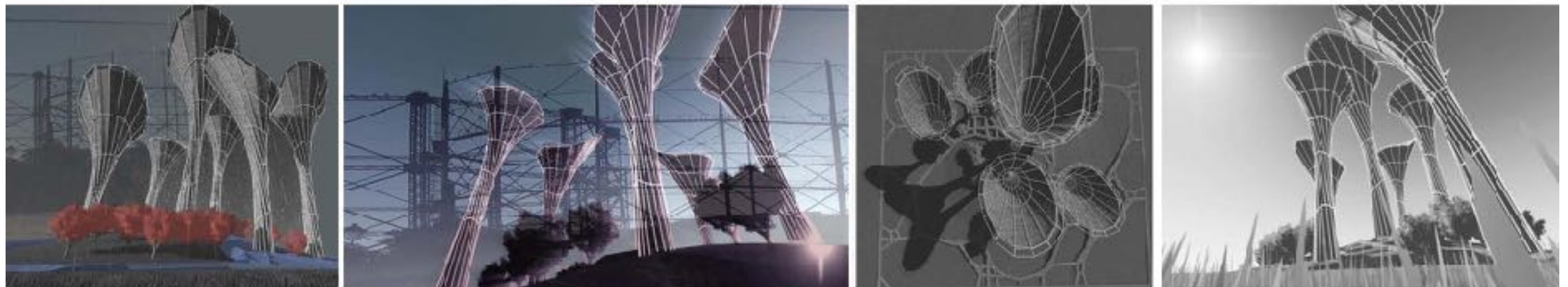
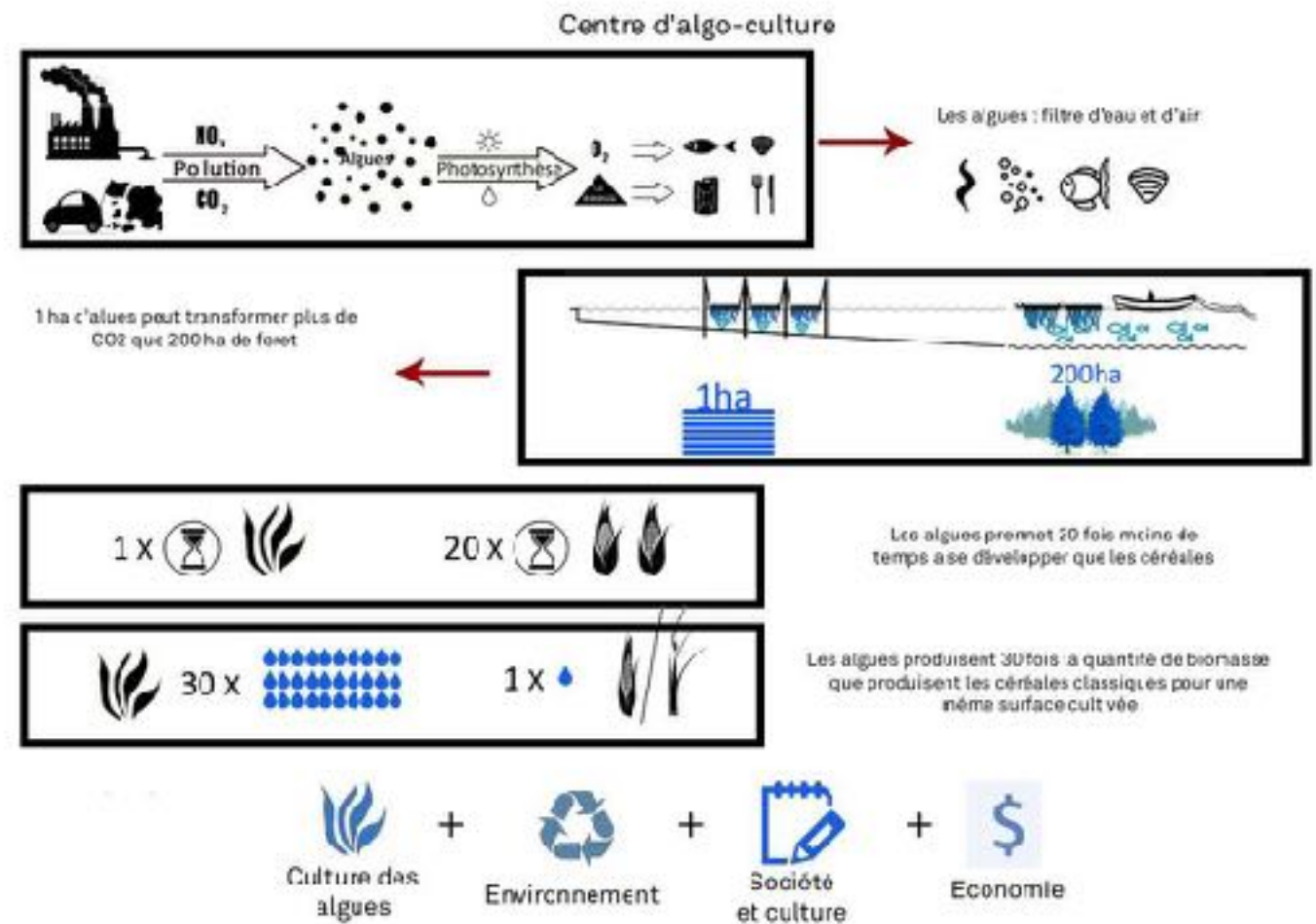
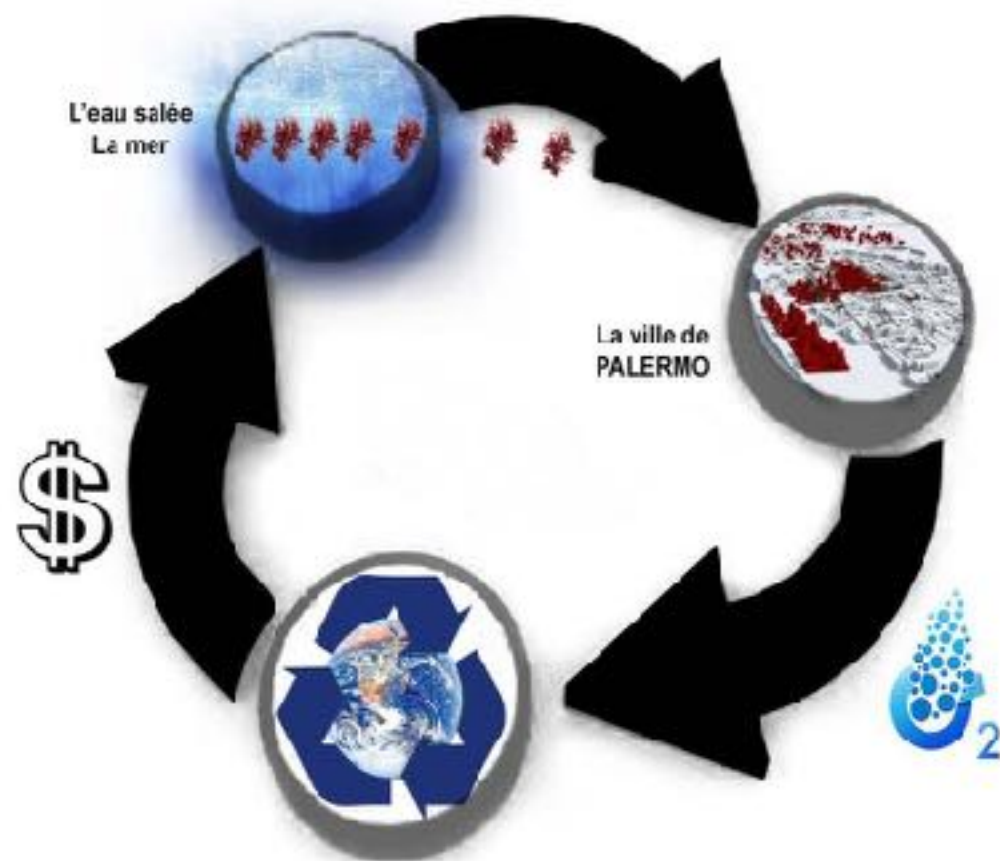
L'exploitation des ressources permet la réactivation des **cycles vitales** et la régénération de la ville dans un **processus écologique** et dans un nouveau **métabolisme urbain** qui tend à créer un waterfront interne à **Palerme**.



BlueCycle • Fluid City



BlueCycle • Fluid City





In Palermo, the reconquest of the sea is above all a great
cultural, social and political goal
and therefore a

human challenge

Maurizio Carta