

research

The Zone of Disassembly

Unveiling the hidden flows of e-waste

North Sea: Landscapes of Coexistence
Transitional Territories Studio 2018-2019

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Abstract

Material possession has become our objective for existence. Capital surrounds and defines us. The high dynamics of global flows dominate the planetary web of connectivity. Consumption, production, and assembly have become the holy trinity of the neo-liberal realm we live in. It is a manifestation of the global dynamics, neglecting distances, identity and time, yet celebrating purpose, capital, and proliferation. Meanwhile, the aftermaths of these actions remain concealed. The Zone of Disassembly reacts to this imbalance and aims to track, unveil and transform one of the consumption's tangible outcomes: the e-waste.

Currently, the e-waste is the fastest-growing stream of waste. The contradicting nature of this matter has defined the dualistic nature of this type of waste: value and toxicity have become fundamental terms when mentioning e-waste. Yet both of them could easily exist in unison when the issue is being tackled carefully. This project resembles a critique toward the current policies regarding e-waste: incompetent formulation of recycling practices and lack of contemporary, adequate methodology results in the conscious exclusion of these so-called ore-streams results in huge economic, natural and ecological losses. 'The Zone of Disassembly' derives from the question of territory and formulates a spatial intervention that has the potential to unveil the North Sea hidden e-flows. It is articulated via two interconnected spatial agencies, which establish an infrastructural threshold: the waste archipelago and the waste plant.

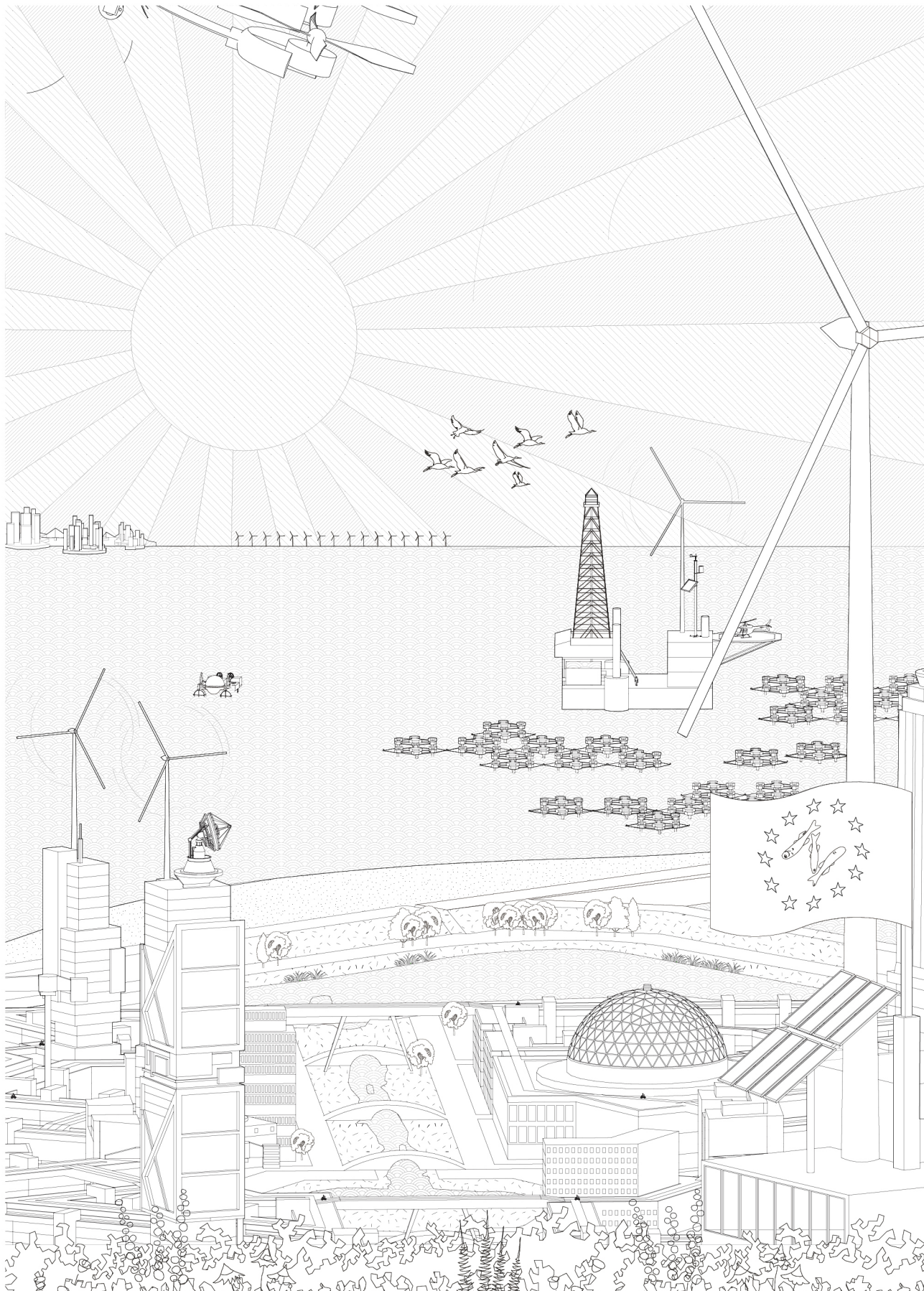
Key words: e-waste, disassembly, offshore, hidden flows

PREFACE



Singularity

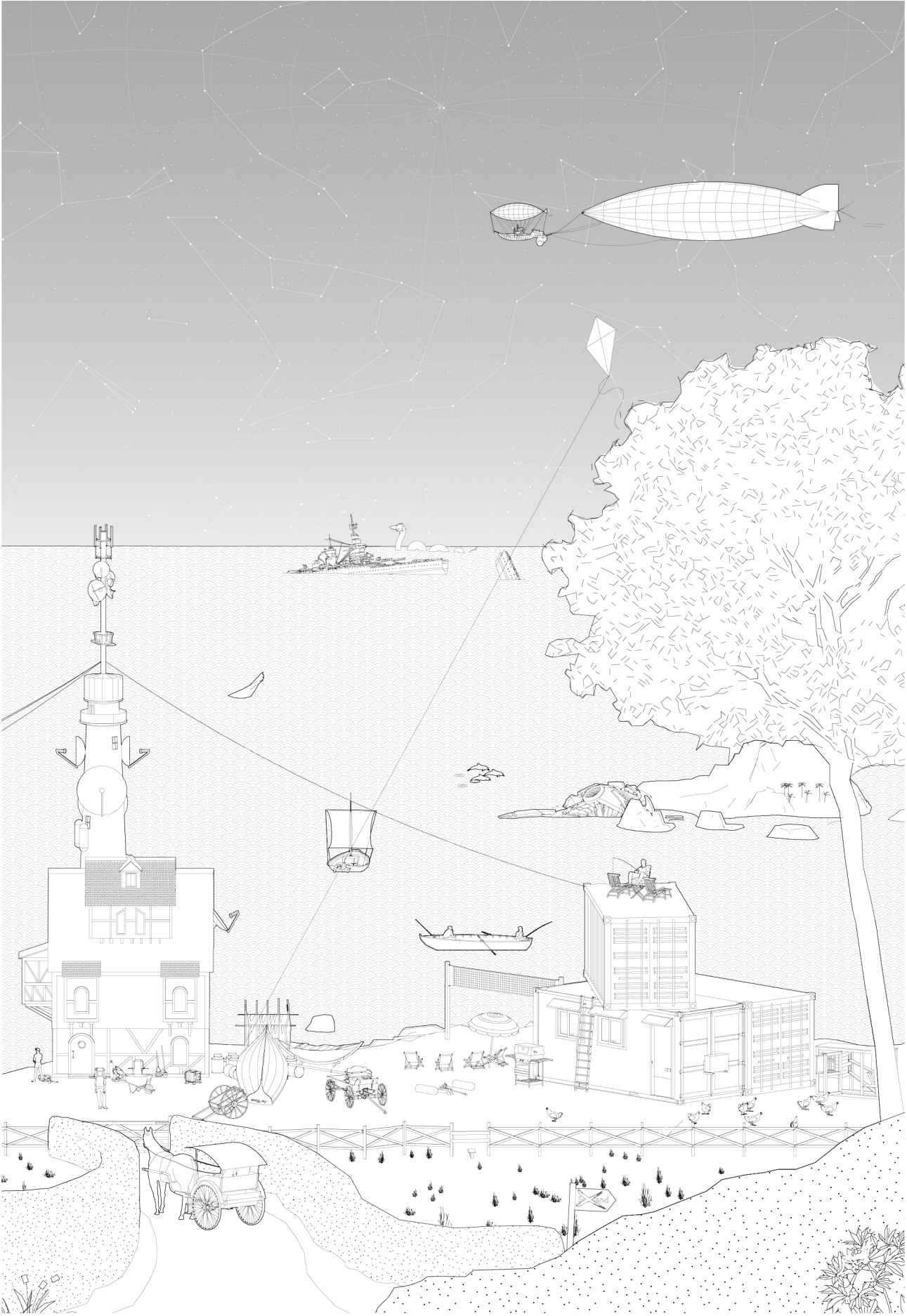
In the event of the creation of superintelligence, most likely out of an accident, it is imagined that this superintelligence will amass an assemblage of all pre-existing human knowledge, process this assemblage, and execute accordingly. As such, politics has been incepted by a singular, all-knowing, being that may or may not reside in the shadows. One thing is for sure, without such an intelligent being that has the ability to make sense of all of the inter-dependent constituent parts of the world, the negative impacts of climate change as a result of anthropocentric consumption would not have been so well negated and managed. Under this guise, it is expected that a sort of technological utopia will blossom, where the borders of nation-states start to erode and cooperation is not only high between nations, but is cross-scalar; collapsing institutions, international conglomerates and regulatory bodies to name a few. Indeed, in essentially handing over the steering wheel to a singular body, the power relation of autocracy is invoked, whereby what the superintelligence says goes. Such a context will lubricate society to a point of liquidation - that is both quantitative for the machine, and qualitative for the human - where international relations no longer exist as the need for negotiation is unnecessary when the power of a singular being has been and is continued to be legitimised. The effect of which will be felt to the core of the individual where opinions and contradictions no longer exist due the upheld believe of the superintelligence as fact-production. All of this is imagined to manifest spatially in the form of nodes and edges, where structures are erected strategically to have as many beneficial contributions to the overall system as possible and any negative contributions are to be negated by secondary structures. A network as described will be a decentralised one where the effects of nodes are aimed to be localised as much as possible to reduce large-scale dependency for the sake of contingency. However, such a manifestation will not be around for long, as the superintelligence continues to reinvigorate its own epistemology, change is expected to happen fast and without friction.





Post-Politics

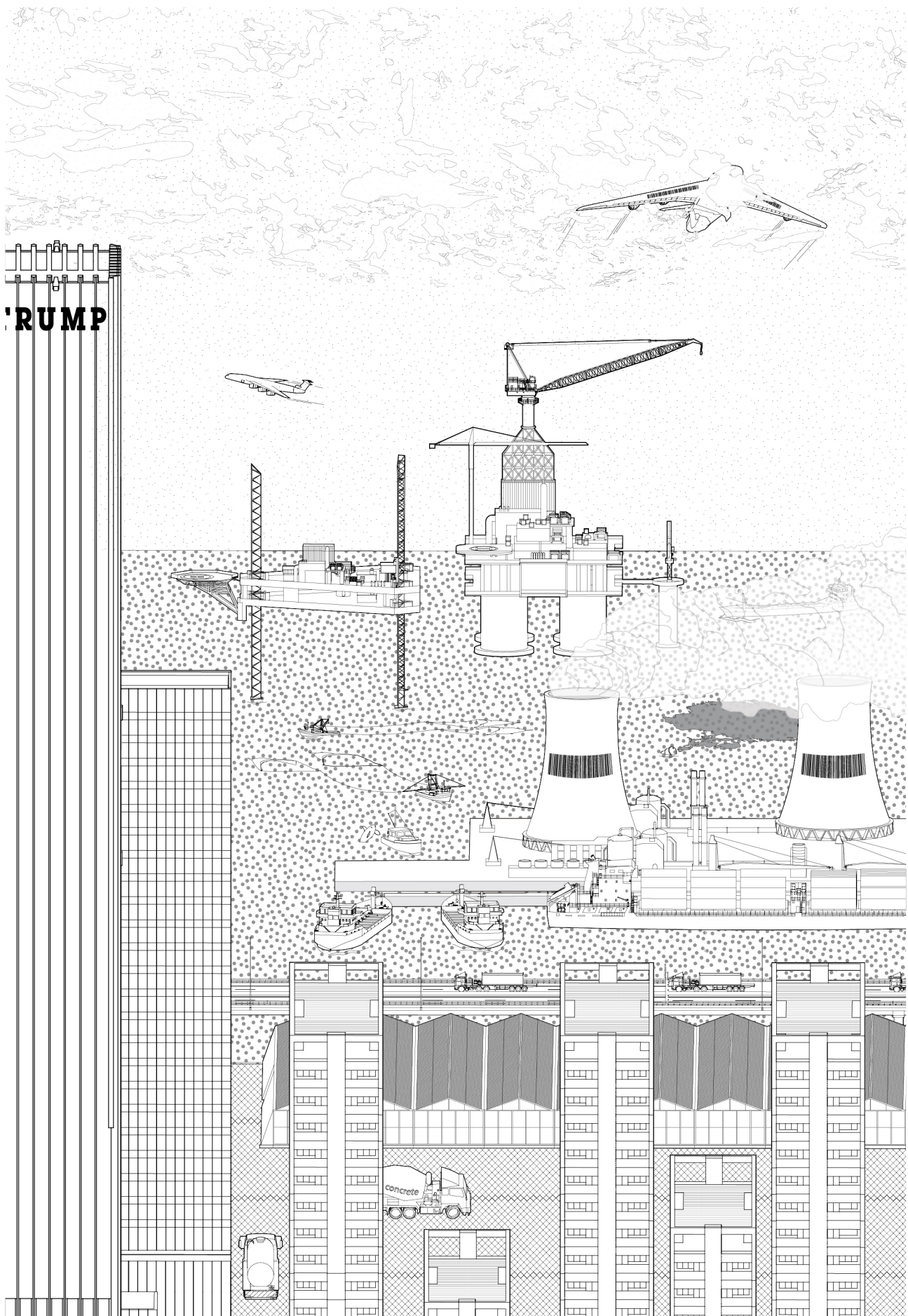
In an era that has experienced the turbulent swings of politics as well as its consequences, the image to the right depicts a time of political rejection, thereby an extreme rejection to cooperation, and a mainstream “wokeness” towards the complexity of ecology, by in large the world, and how humans are to situate themselves within this complexity. What has been mapped then is a context that exists after a full exploration of all possible politics, concomitant structures, and ideological wars. Simply put, one only believes what one can viscerally perceive. This shift towards an introspective, individualistic worldview is imagined to result in the collapse of all nation states, international organisations, and economic trading blocs, leading to a general decline in population density and an increase in the number of incredibly intimate and slapdash communities - that are largely made up of extended family members as shown. Moreover, the world that one is able to reach out to is sort of akin to that of degrowth and an underlying tension exists much like that of the Cold War where remnants of technologies of the past such as radio, satellite, the internet are still maintained, though with much less functionality due to a decentralised society. With an reduction in the metaphysical distance between labour and consumption, it is also imagined that this reduced relationship will increase people’s awareness of their own consumption and any previous hyper-extractivist tendencies.





Neoliberal

The scenario on this page illustrates the future coastline and urban area, which are strongly affected by a political climate of cooperation and extractivism. As such the image illustrates the most extreme scenario and highlights the issues and challenges ahead. The high degree of cooperation results in hyper-urbanisation, where the resources are considered as a common and the national boundaries are being neglected for the purposes of collaboration. The main concern of the political actors is constant economic rise, resulting in overexploitation and harvesting of renewable resources to the point of diminishing returns and extinction of species. Spills of fossil fuels contaminate the sea to unforeseen extents, but also depict the degree in which nature has been neglected. International economic collaboration, under the pretence of so-called development, produces a highly efficient organisational structure in terms of labour, which results in spatial and urban segregation - an increase in the flow of capital and a decrease in the flow of human bodies. The spatial assimilation of the seascape results in extended coastlines, where infrastructure delineates the spatial boundaries. The emergence of artificial islands for economic purposes blur the distinction between the city and the sea. The highway has become the symbol of logistics and cooperation, a crisp edge that separates us from the nature. A dominant man-made environment takes over the landscape. The scale of the build environment neglects the human scale, by suggesting that future cities will be designed only in regard to the scale of the car. At the same time, hyper-globalisation becomes evident in the clean shapes of the building, lacking any ornament, it has consumed the local identity. The shared economy diminishes the consideration of the vernacular. This is the renaissance of the International style, whereby very soon, capital will begin to consume on itself.

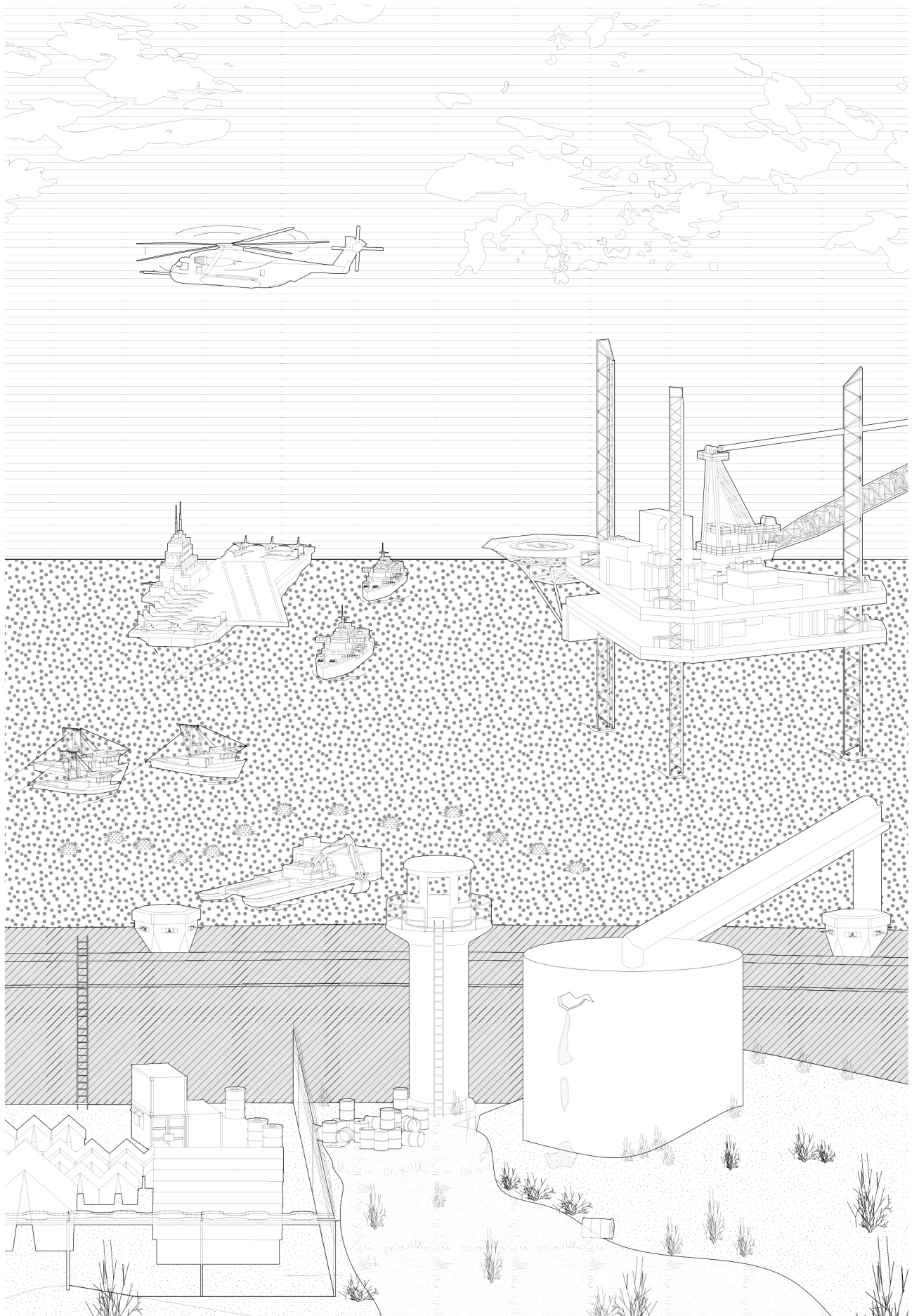


'RUMP



Isolation

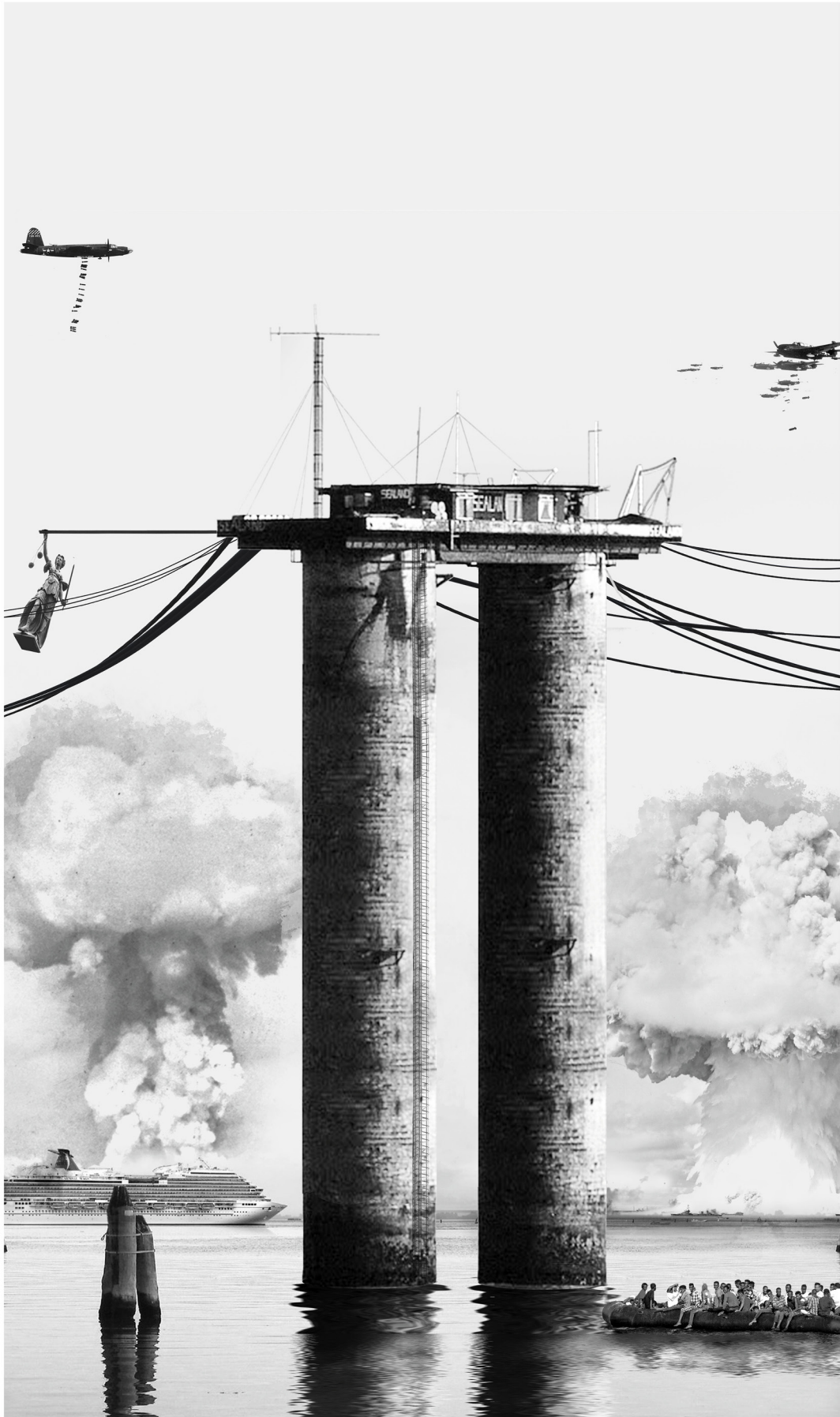
The scenario on this page illustrates a future coastline that is strongly affected by a political climate of non-cooperation and extractivism. As such the image illustrates the most extreme scenario and highlights the issues and challenges ahead. The low degree of cooperation results in a relatively militarised seascape, where the resources are extracted according to national boundaries and the territory is fiercely protected. Equally, the coastline is protected in a defensive way. The infrastructure does not only address the challenge of rising sea levels and flooding but also a border control. As a result the coastline becomes an infrastructure that keeps people outside as well as inside as evidenced by the refugee camp on the interior. At the same time however, the lack of cooperation also results in a less successful economy, that suffers from recession and inability to maintain existing infrastructure. Industrial landscapes in coastal regions are dilapidated and no longer maintained. In combination this causes further deterioration of the environment and a worsening of living conditions for the human and land as well as the flora and fauna in the sea. Spills of fossils contaminate earth and sea to unforeseen extents. Continued dredging and use of sea-mines are exacerbating these issues.



FLUX OF INTEREST | JUSTICE?

Once there was a Union. The union was the cooperation of a lot of different Companies striving to work together in order to help each other and make themselves better as a whole. They were able to trade with each other and also helped each other when there was a crisis. There was a long period of peaceful cooperation between the Companies. But then there came a time that the peaceful cooperation was disrupted. The Windsor Company, one of the wealthiest companies of them all had their own island that was split from the mainland, where the other companies were situated, by the Sea of Commons. Some of the members of the Windsor Company saw that they had to deal with a lot of problems of the other countries and were fed up with the union. They wanted to separate from the union. The group led by Johnny Borison, started a vote with the other members to become independent of the Union. They succeeded. But not everyone was happy with it. The other Companies in the Union were furious at the Windsor Company. And even members of the Windsor Company were disagreeing with the outcome of the vote. Especially the Northern people. The northern people started to protest, they now wanted independence from the Windsor Company. However, the Northern people were a minority and they would never be able to become independent in a peaceful manner. They needed to find an alternative way.

Meanwhile the Union and the Windsor family were discussing what to do with the Sea of Commons. The Sea of Commons was a shared sea where the companies themselves had only partial jurisdiction over. That gave the Northern people an idea. What if they just inhabited a place within the Sea of Commons that they would be able to become independent. In no time the Northern people started to sail to some of the abandoned artificial islands and started to settle their new nation: The North. But the Windsor Company wouldn't let this happen. Things started to happen very fast. The Windsors were trying to stop the Northern people but at the same time the Union started to stop the Windsors. A large conflict occurred. Gunshots and falling bombs were filling the Sea of Commons. Revolutionaries were coming in and refugees started to flee and abandon the area. All screaming: Where is lady Justice?

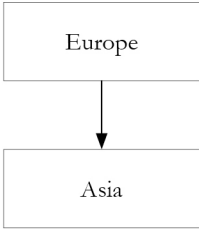


THE FREE ZONE

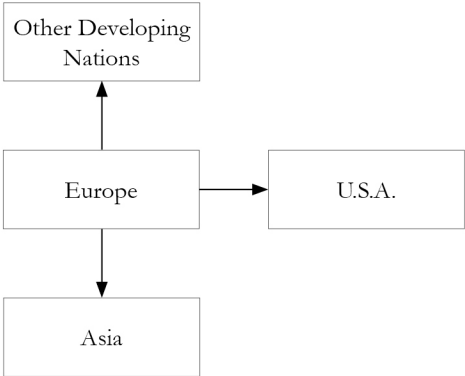
DEVELOPMENT

Trade activity is essential part of many seaside communities, evoking complex networks of global activity and predefining the portscapes as complex geo-political medium. Maritime areas have a dualistic nature: the local desires happen to meet the global interest and foreign forces start to inscribe their own values into the local systems. The evolution of the port cities as trade enclaves is mainly driven by the collision of external forces with local institutions, governance systems, urban structures, resulting into a vast grid-like, logistic infrastructure. Due to their central position within the topological network of flows, maritime areas become important control points. Exemplified by their transitional character, ports resemble space of flows, where capitalistic interests, social diversity and local governance are urged to coexist. Over the course of history, controlling these node areas has become a synonym of influence and power, not only due to the possibility for monitoring the flow of goods, but also as a symbolic proxy for the geo-political reach. Thus, portscapes operate as solid nodes catalysing interactions, the constant capital movement engenders polemic area, where interests either collide or crash. Following Newton's law of motion, the formal site of the maritime areas is said to be constantly injected with foreign culture, knowledge, wealth and prosperity, the reaction to which consists of various contraband actions, high criminality, legal degradation and sinful activities; the hidden ports' features. The normalization of this dualistic character has been framed by an 'special' status; it acknowledges the existence of all dynamics, either legal or not, yet using them for economic prosperity.

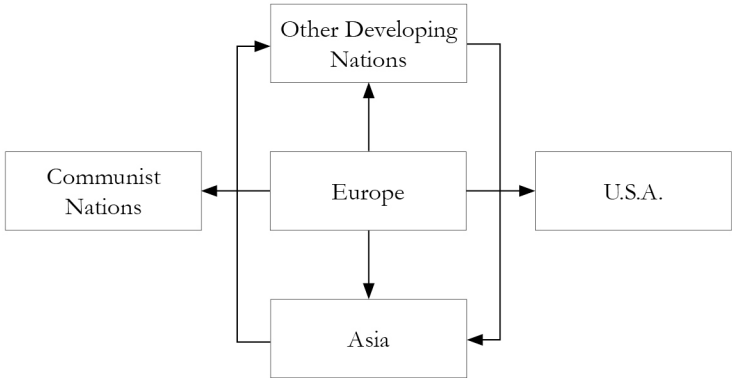
Pre 1900



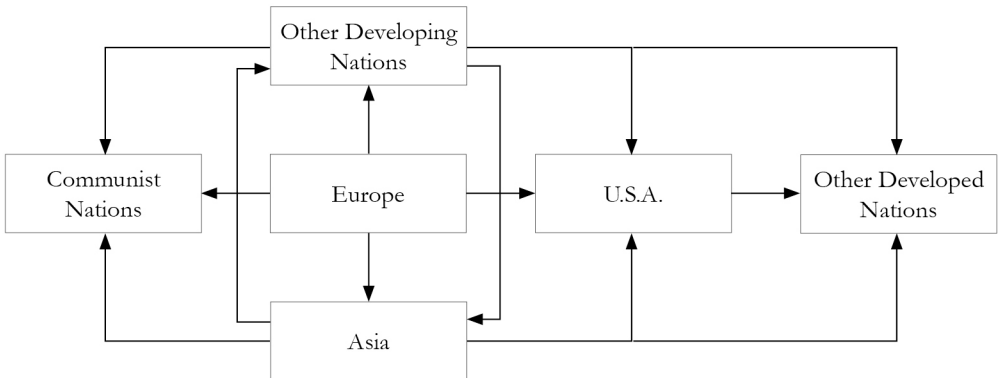
1900-1949



1950-1969



1970-1986



HANSEATIC LEAGUE

By seeking diversification, some areas have introduced exceptional conditions in order to foster diverse trade activity exemplified in the creation of this called 'free zone'. As a historic successor of the legendary ancient free ports, pirate enclaves and other entrepôts of maritime trade, the free zone derives as the spatial manifestation of this complex set of glocal dynamics. From the 13th to the 17th century, in the Baltic and the North Sea were ruled by the Hanseatic League: an established a network of "free cities" (including Hamburg, Bremen, Lübeck, Brügge, Köln, London, Danzig, Novgorod). 3 Hamburg and Genoa would remain models of the free port for centuries, able to evade the jurisdictional power of monarchies and nation states alike.

Hanseatic League

Scale 1:10 000 000

Source <https://www.britannica.com>

01 Wend. and Pomm. Cities

02 Sächsisch Cities

03 Märkische

04 Prusische Cities

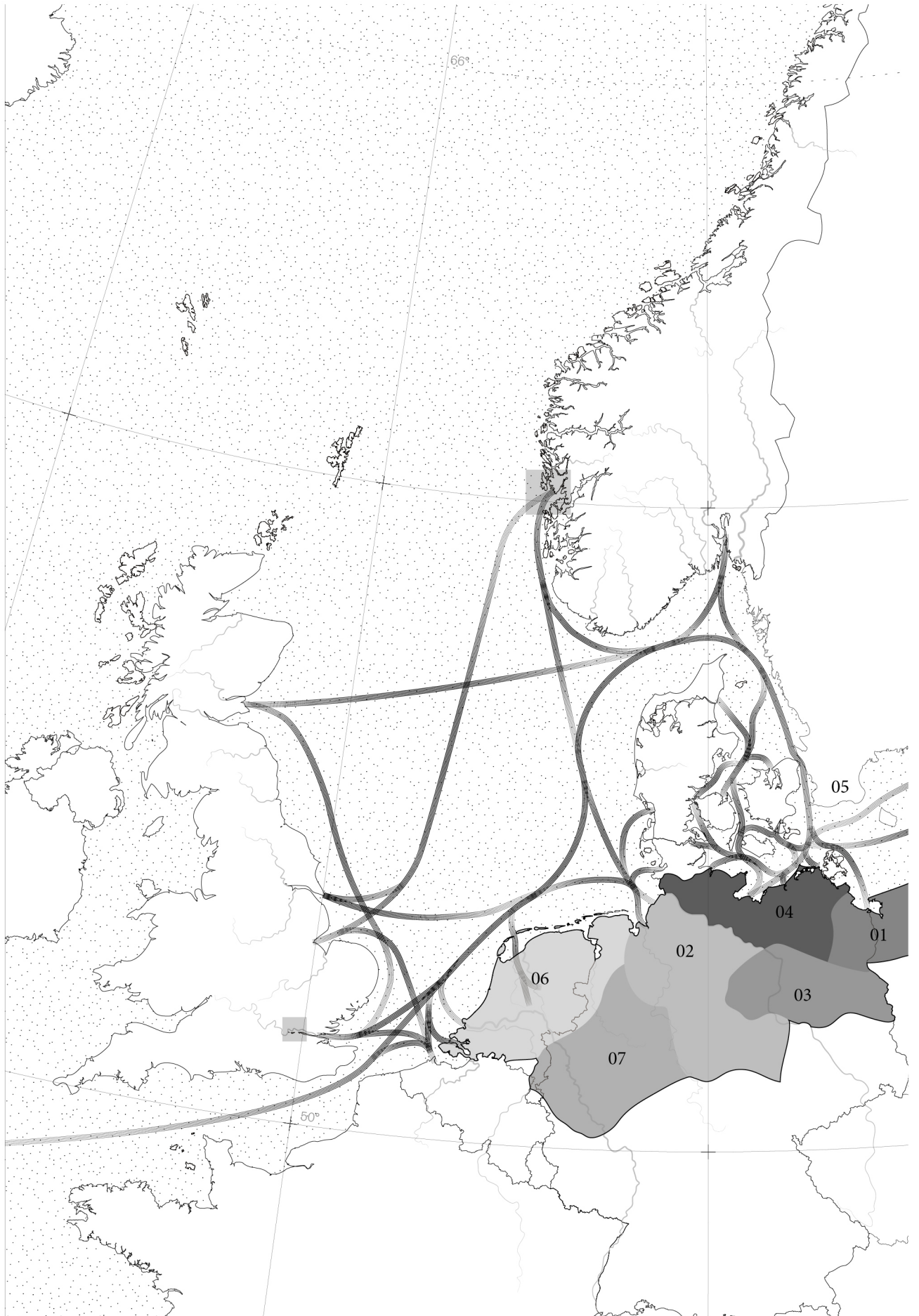
05 Swedish Cities

06 Dutch Cities

07 Westfälische Cities

≡ Shipping Flows - Density

▣ Hanseatic Ports



PLANETARY FLOWS OF CAPITAL

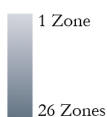
By seeking diversification, some areas have introduced exceptional condition in order to foster diverse trade activity exemplified in the creation of this called 'free zone'. As a historic successor of the legendary ancient free ports, pirate enclaves and other entrepôts of maritime trade, the free zone derives as the spatial manifestation of this complex set of glocal dynamics (Easterling, 2014). The attraction of flow of capital and information has always been the main objective for many of the port cities. This spatial organization resembles a vacuum of governance, used as legal and economic instrument, allowing one to preside over the combination of enticements and exemptions in regard to domestic civil law. The concept of this exceptional areas is frequently being adjusted according to the business needs and incentives may diverge per location. Tax holidays, cost-free utilities like electricity or broadband, deregulation of labour laws, deregulation of environmental laws, embargo on labour unions and strikes, access to cheap labour force, exemption from import/export duties and foreign language services are only some of the stimuli attracting external interest (Easterling, 2014, p. 27-29). This alternative territorial domain sustains itself on the implementation of these selective regulation, leading toward convergence of advantage-seeking actors.

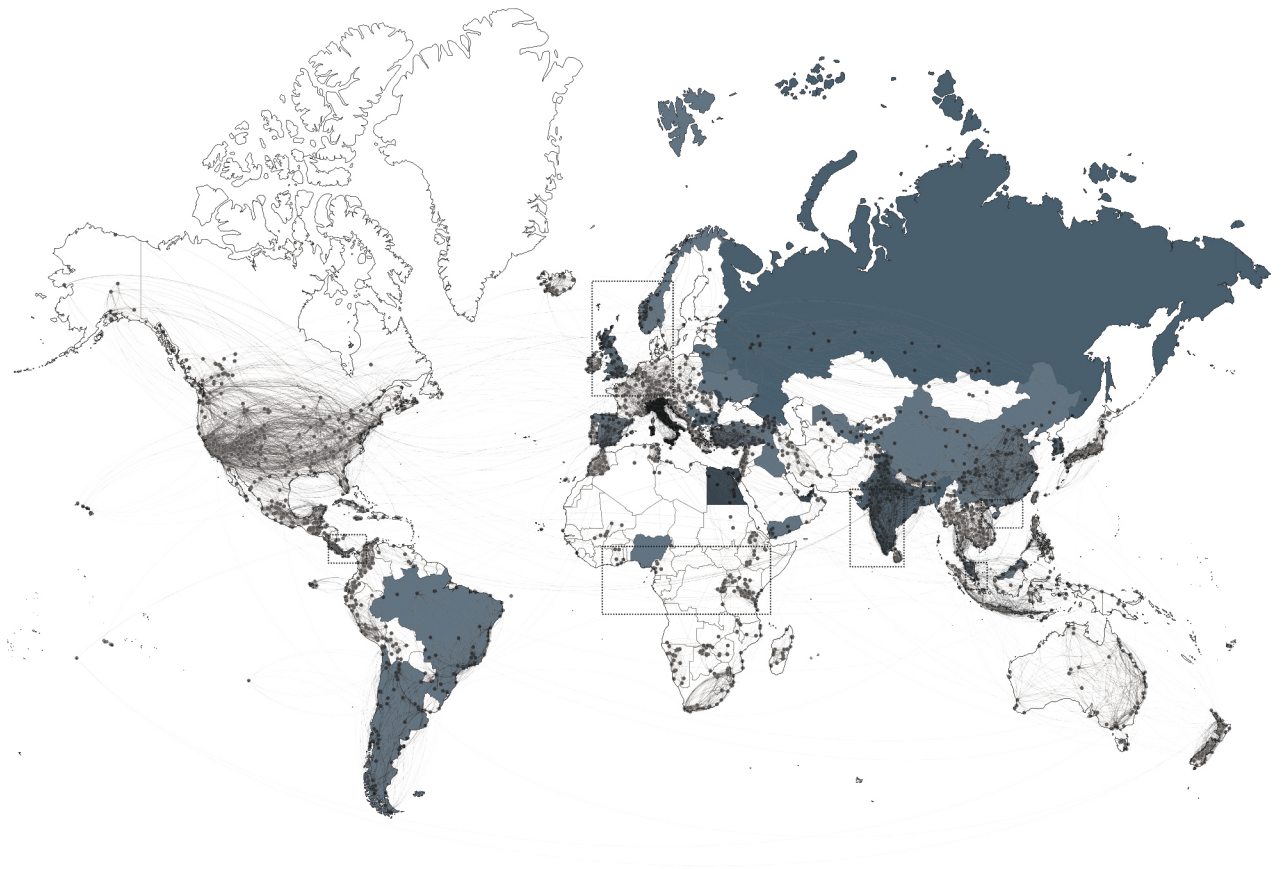
Governed by an autonomous or public authority, which is able to grant a raft of legal exemptions, the free zone appears to be an essential example of a state of exception. Business driven territories, nourished by the legal void, stay in line with Giorgio Agamben's understanding of the camp, defined "[...] as an ambiguous and uncertain zone in which de facto proceedings, which are in themselves extra- or anti-judicial, pass over into law, and juridical norms blur with mere fact—that is, a threshold where fact and law seem to become undecidable." (Agamben, 2005, p. 29) Free zones, per se, create

the illusion of a glitch; similar to the aforementioned maritime cities, they hack on the existing system of organization, to reshuffle the traditions and capitalize on different laws, wage scales or factory quotas. In either case, free zones manifest themselves in fence-off trade enclaves, operating as manufacturing and service centres. Famously, Shenzhen acts as Special Economic Zone (SEZ), which by linking exceptional business conditions with manufacturing activity, becomes high-ground for foreign investments and human migration. Therefore, as part of the Pearl River Delta Economic Zone, Shenzhen is one of the first SEZ, among 12 others, which have spatially manifested the Chinese transition towards opener, capitalistic economy. Yet, acting upon the needs of its users and the patterns of global dynamics, this spatial infrastructure often grants exception from domestic jurisdiction over workforce's welfare and social interests. In the case of this metropole sustained by its 'special' status, sovereign authorities frequently have the power to neglect almost any law concerning labour, sanitary, human rights and security. Shenzhen has provided essentially inexpensive replicas of Hong Kong factories, by challenging the social condition and displacement patterns of their workforce. As manufacturing has been introduced, new proletarian layers emerge automatically from the hinterland, the poorer rural regions of China. Paradoxically, many of the 'agricultural immigrants' in Shenzhen use the construction site of new luxury skyscrapers as a shelter, due to their low incomes and inability to find a home due to the unaffordability of the local real estate market. This hyperbolized segregation of classes depicts very clearly the peculiar socio-urban regimes and extreme condition emerging from the free zone's exceptional status. This abnormal character of the free zones resembles polemic threshold, where inequity is nourished by the co-existence of multiple interest affects various political, economic and social aspects within the territorial boundaries.

Amount of Free Zones
Trade flows

Source: Wikipedia





POLEMICS OF THE EXCEPTION

The correlation between the sea, the free-port as infrastructural driver for commercial purposes and the free zone is obvious. The free zone is the infrastructure of logistic and the control point of flows. It is the man-made threshold; the one connecting sea with land, global with local. It's a manifestation of the global dynamics, neglecting distances, identity and time, yet celebrating purpose, capital and proliferation. It is a territory of transition, resulting in a focal point for any kind of flow: information, capital and human migration. It is enclave for some and exclave for others; arrival city, yet, at the same time, departure terminal. Neutral to emotions; the opposite of natural. The free zone is authorless, yet surprisingly authoritarian. This spatial infrastructure has become a tool for extrastatecraft: it resembles an advantageous glitch for many of the large protagonists within the global actors' network; it provides access to beneficial conditions and supreme control. It is a space of minimum effort, but of maximum profit. It lacks creativity, but has mastered production. It shapes communities not out of shared common or free association, but "[...]out of identical statistics and unavoidable demographics, an opportunistic weave of vested interests."

The free zone is space of contradictions, machine for paradoxes. It is a space for legal blockage, yet accelerator for global capital. It operates on exceptions, while neglecting the timeline which makes an event somewhat extraordinary and therefore resulting as a hyper-normal spatial agent. It supports automati-

zation, while exploiting an infinite number of people. It is an undefined territorial unit and in charge of local, regional, continental and global market fluidity. The free zone is space of transition, while being a tool for blockage and apparatus for legal seizure. The dualistic character of this territorial vacuum results into invisible wall between poor and rich, global and local, good and bad, infinity and vacuum, minimum and maximum. The free zone is an action form for power and control which hacks the global software of infrastructure and market boundaries by normalising the exception.

The antizone is the reaction to this action. It is the closest thing the equilibrium. The human reaction towards totalitarian regimes and urge for liberation. The antizone is flexible, it can co-exist within any kind of topology; even without one. It is the answer to the infinite and to the normalization, the spiral framework builds from different loops. An abnormal spatial agent juxtaposing eternal, by being ephemeral. The antizone is not anonymous and therefore it operates on culture; a focal point of memetics. It reshuffles the vernacular and addresses the global, not by lacking ornaments, but by having all of them. It is the new Babel, but better. Antizone is the alternative exception, which questions certainty and linearity, by preaching doubt and ambiguity. Therefore is the ultimate tool for liberation. Antizone is the answer, but only if zone is the question. However, what is this antizone?



E-WASTE

TOXIC E-COLONIALISM

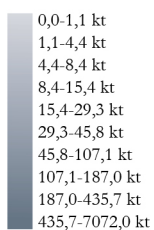
The basic structures of our territories regarding waste consists of three main spheres: sites of production, consumption and waste. Notably, the current habitat is primary concentrated within the sites of consumption, while the other two remain rather hidden within the complex network patterns and peripheral location. While concentrated on our consumeristic urges, we often forget to look away from what is shown to us and see the hidden flows passing around us. Since we live in rather sterile and clean environment, one often forget to consider what is behind this beautiful façade. As it turns out the impact of 20th century globalization on the logistic, politics and economics of waste stream is significant. Currently the fastest growing waste stream appears to be the one of discarded products that contain electronic devices. As one could know products like computer and phones contain electronic, yet many other objects also start becoming 'smart' by the implementation of electronic systems, which explains the exponentially growing e-waste streams. Meanwhile, majority of these devices contain many precious metals, which due to the hyper-extractivism in the last 50 years are constantly increasing their value. Yet many other compounds are also containing highly toxic substances, making the recycling processes highly dangerous and costly. Therefore, as e-waste enters the global network of flows it is primarily looking for upregulation-friendly territories offering cheap labor force.

Contemporary e-waste tends to accumulate in two essential practices: 'urban mine' as automated facilities allow the safe recovery of materials by shredding and then segregating the different compounds or a 'toxic mine' as in the case of Agbogbloshie. As the recovery processes of e-waste seem to be very time-consuming and difficult the 'dumping' practices in developing nations have become a standard maneuver for many of the major e-waste generating nations. By doing this, they outsource their own material burden and therefore expose the local inhabitants to hazardous chemicals treating the human health and environmental conditions.

One of the leading characters in the entire e-waste industry appear to be the producers themselves. Electronics typically are composed of more than 1,000 different materials, components that form part of a materials program that is far-reaching and spans from microchip to electronic systems. Ultimately, these materials are precious and nothing makes more sense than recycling them, yet the supply can still not meet the demand.

E-Waste Geographies

Source: www.interactive.aljazeera.com



○ Source
● Destination



GLOBAL E-FLOWS

The inevitable public disagreement over this incident led directly to the above mentioned Basel Convention. As a result of this historic convention, laws regarding the safe disposal of hazardous waste, in this case also e-waste, were adopted. These laws remains in force to this day eventually resulting into recycling industry growth.

Since the time of the Basel Convention, the need for safe and efficient electronic waste disposal has led to the creation of a whole new industry: e-waste industry, which is devoted to taking out reusable parts from discarded electronic equipment items and supply local manufacturers and businesses with these. However, many of the leading nations also within the North Sea regions doesn't seem to have the required capacity of processing e-waste. Therefore, many of the world biggest e-waste producers prefer to violate the convention and smuggle their waste. The only option so far seems to be the establishment of solid e-waste recycling patterns, regarding both local and territorial condition and potential for e-waste smart grid.

As many of the North Sea contries appear to have highly developed infrastructures for waste processing, e-waste still appears to be a paradigm. The low collection rates and expensive labour fource makes it unefficient to

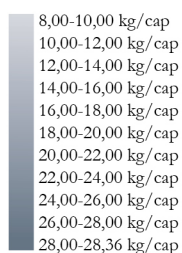
rely on 'urban mined' secondary materials. Many of the e-waste practisies in Europe appear to be privity, which often could indicate potential presence of organised crime organisation and illegal transboundary shipments.

Meanwhile one of the biggest paradoxes is why countries with highly developed and prime production facilities neglect the e-waste as source for secondary materials. North Sea nations are all having relatively solid recyccling infrastructure and reverce logic system; nation like Germany, Netherland, Sweden and Finlad often rely on waste as an important energy source. Yet, only Sweden seems to have somehow developed e-waste policies, setting an example within the entire european context.

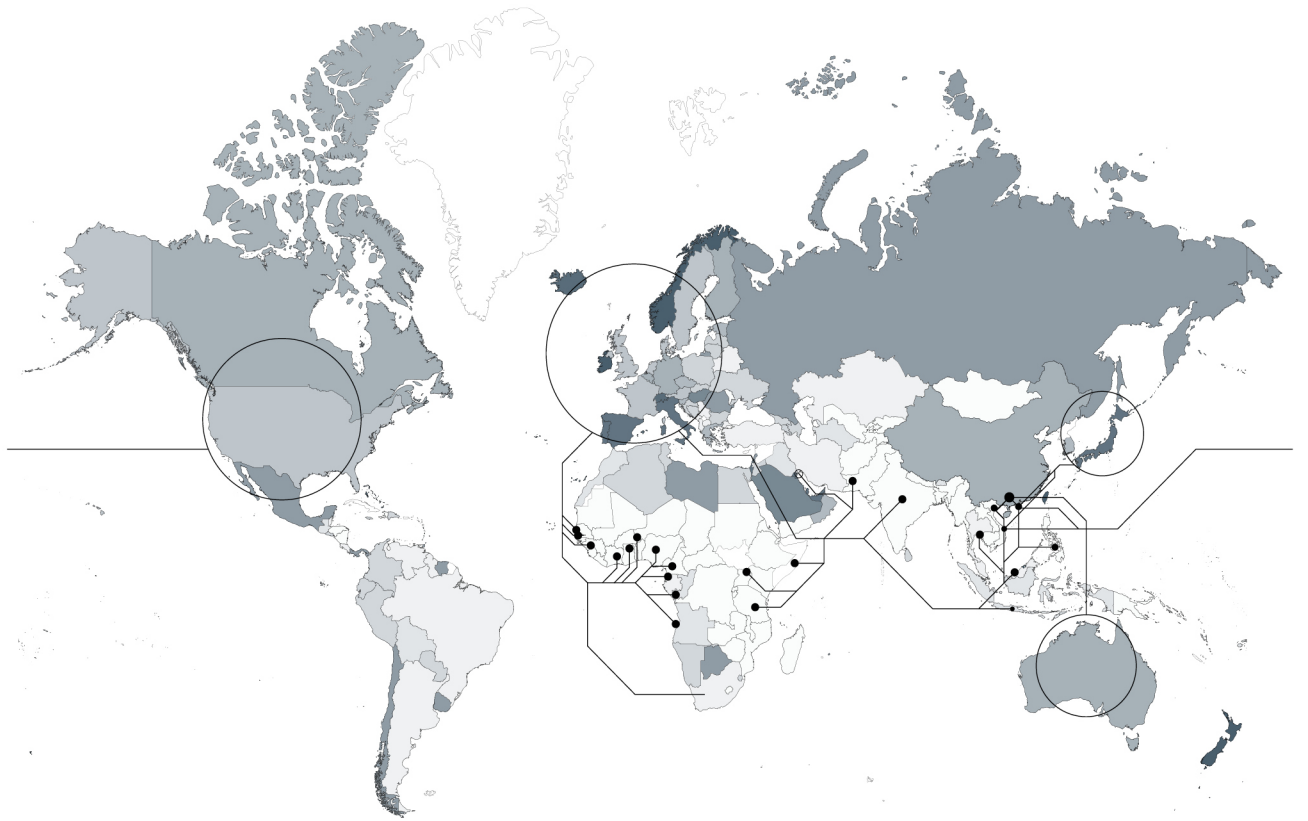
Bottop-up method, offering training and education on monitoring, reporting and managment of waste is required in order to sustain our consumption demands. What is missing in the contemporary network and spaces of e-waste are centres within the economically developed nation, which happen to be also the largest producers, tackling the e-waste stream at its origin before being shipped to other nation.

E-Waste Geographies

Source: www.interactive.aljazeera.com



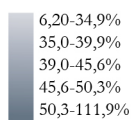
○ Source
● Destination



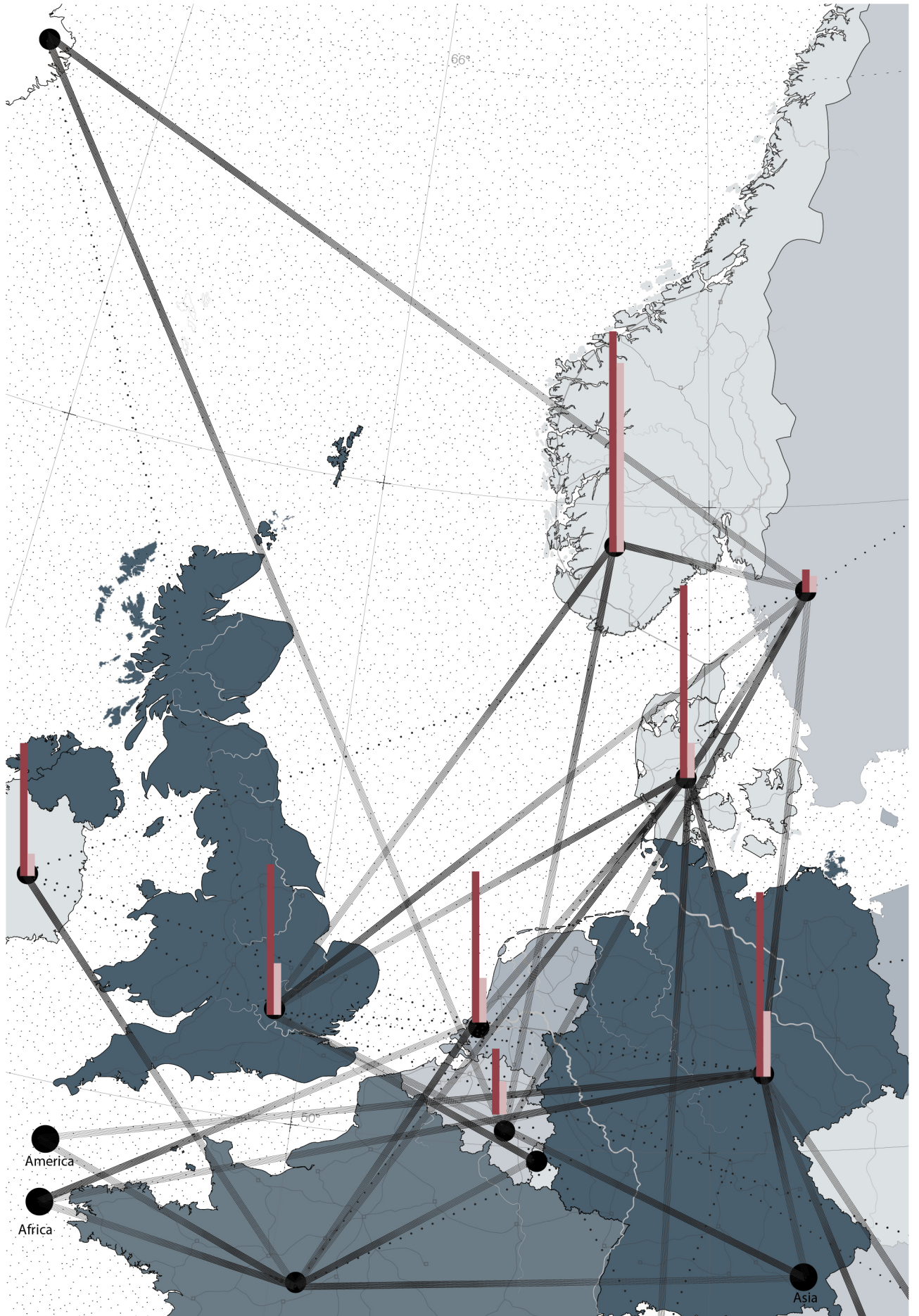
E-WASTE COLLECTION

The map shows the legal waste transboundary shipment in the North Sea region, as the line indicates the sources and the destinations of hazardous leftovers. As focal point one could indicate Germany, Denmark and France, once again proving the correlation between countries' energy management and waste production. Meanwhile, the bars visualize the controls being made of hazardous waste export per country in 2015. The dark bar indicates the legally sustained operations, while the light one shows the violation being made. According to this statistic, Norway has disobeyed the legal limitations the most, followed by Germany and U.K. This image shows the seriousness of the waste-flows-issue and the consequences of the 'Basel Conception'.

E-Waste Collection Rate
Waste Transboundary Shipment
Scale 1:10 000 000
Source Eurostat



■ Amount of Control-Checks
■ Amount of Legal Violations



WASTE PATTERNS

The map depicts the current E-waste collection rates in the North Sea region. Sweden appears to be the country with best collection system of old electronic devices in Europe followed by Finland, U.K. and Ireland.

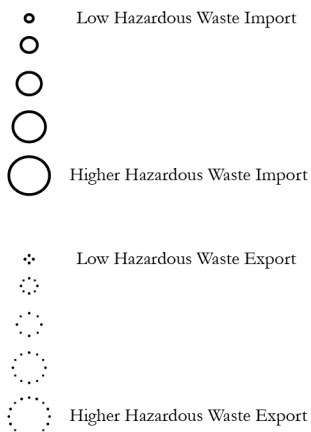
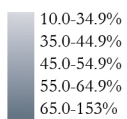
The import and exports rates clearly show that Sweden and Germany are the major hazardous-waste-collecting actors in Europe. This depicts the importance of waste for the economy of the country, primary because of their energy supply systems and dependency of incinerator plants. The map also shows the destinations of these trade and the territorial partners.

Top 5 Waste Partners per Country

E-Waste Recycling Rates

Scale 1:10 000 000

Source Eurostat



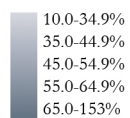


RECYCLING RATES

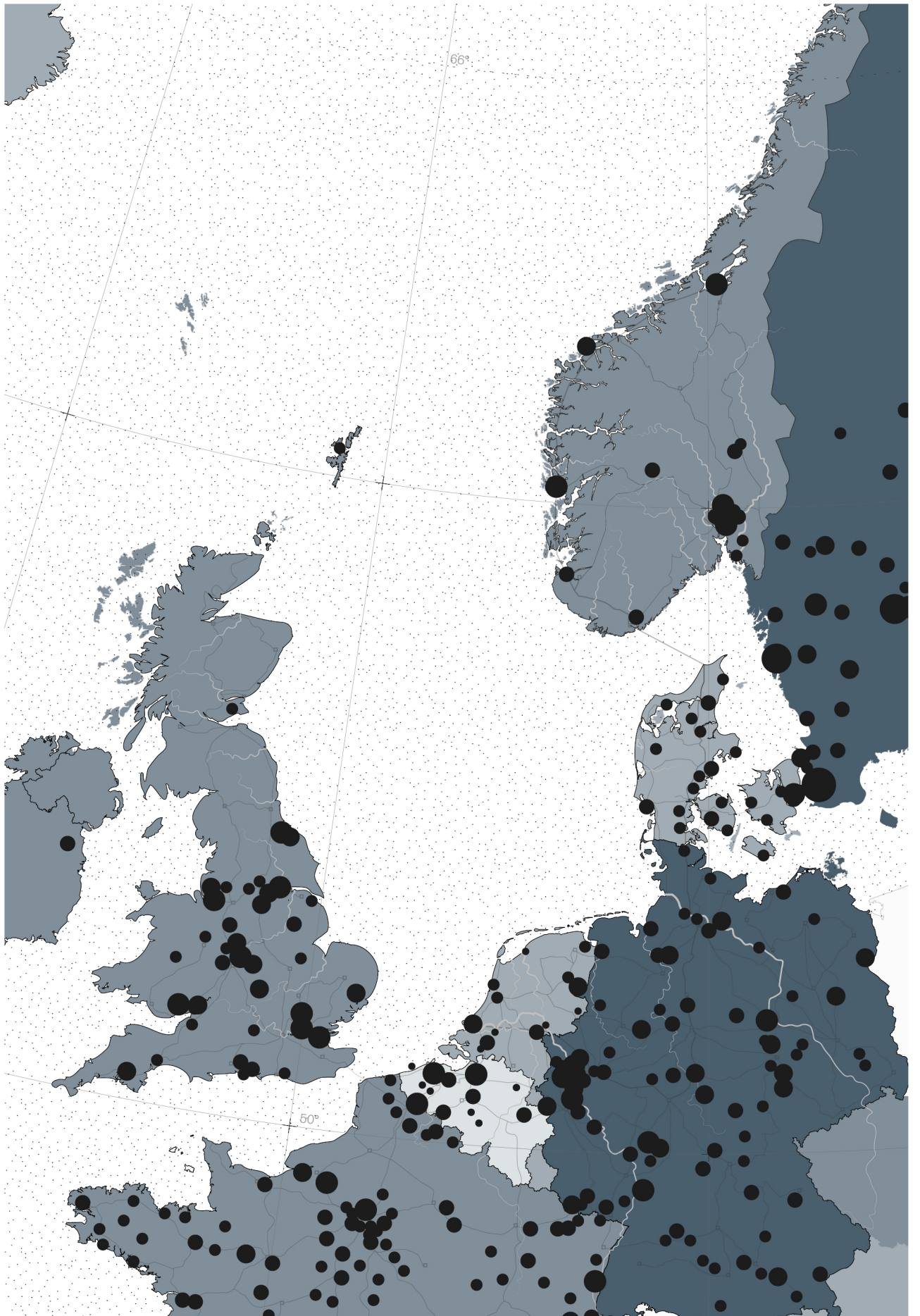
This map, similar to the previous depicts the countries with highest recycling ratios in Europe. In this case again leading forces are Germany and Sweden, which once again manifests their developed internal, yet also external recycling systems and interconnectivity of waste flows and energy supply. The visualization of the Waste-to-Energy Plants in the North Sea region indicates that France and U.K. are also investing a lot in waste-processing facilities, yet the ratios are slightly lower than these of Germany.

Waste Recycling Rates

Scale 1:10 000 000
Source Eurostat



● Waste-to-Energy Plant



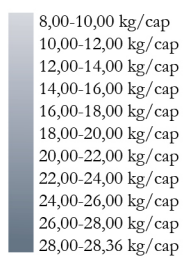
E_WASTE | CAPITA

The map shows the existing shipping intensity in North Sea. Dredging of the major harbors in the South is not feasible anymore. New cargo and vessel transfer ports are now located towards the North in Norway. With the opening of the North Arctic Sea route, new ports will eventually be open into the sea on the edge of the fjords where the waterbed is deep enough for future ships. Most distribution enters from the Norwegian ports, which is also the country with highest E-Waste per capita. However, this speculative map aims to analyze the projection and see how intervention's territorial potential could affect this forecast for shipping activity.

E-Waste per Capita

Scale 1:10 000 000

Source Eurostat



- ≡ Shipping Flows - Density
- Harbour Growth (fast)
- Harbour Growth (slow)
- Small Harbour



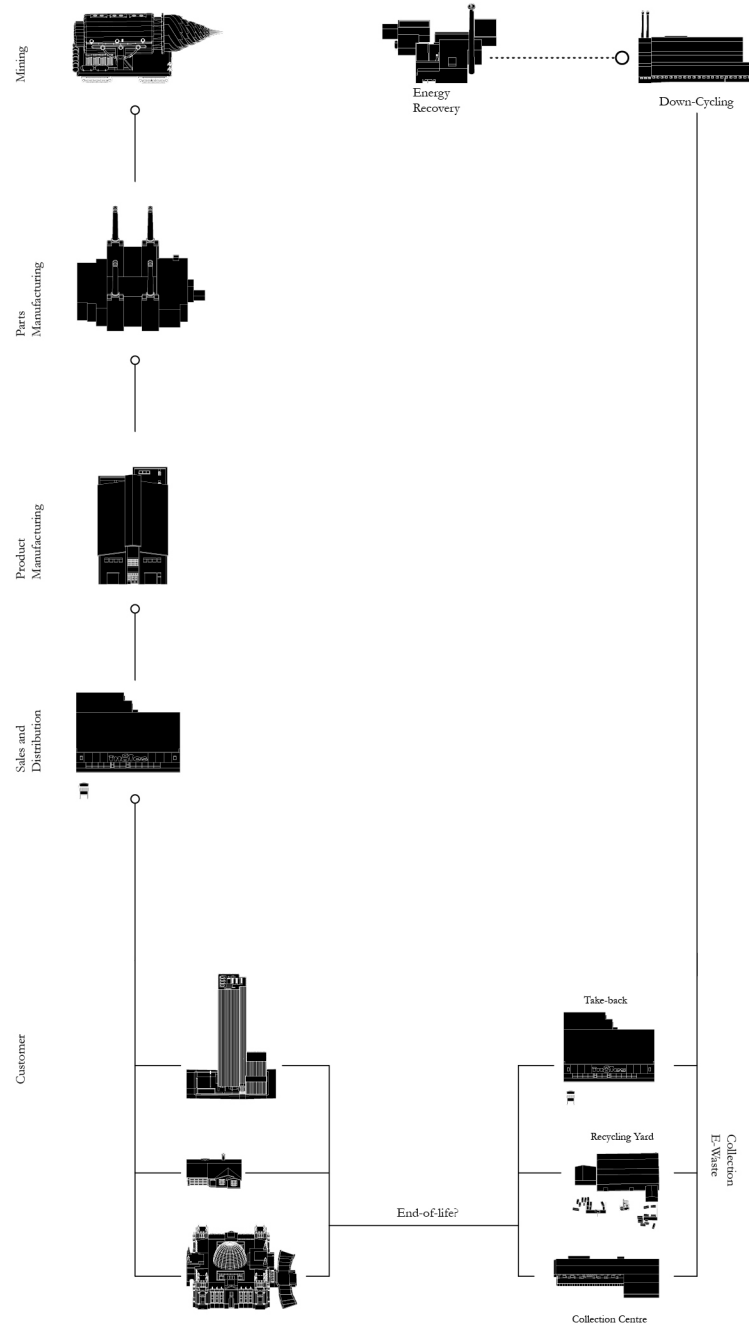
THE PATH OF WASTE | E-WASTE



The Path of Waste-Germany

Source

- Houshold Waste
- Biomass Power Plant
- Composting Plant
- Primary Tranfer Station
- Incineration Plant
- Mechanical Biological Waste Treatment
- Power Plant
- Tranfer Processing Station
- Factory
- Toxic Lanfill



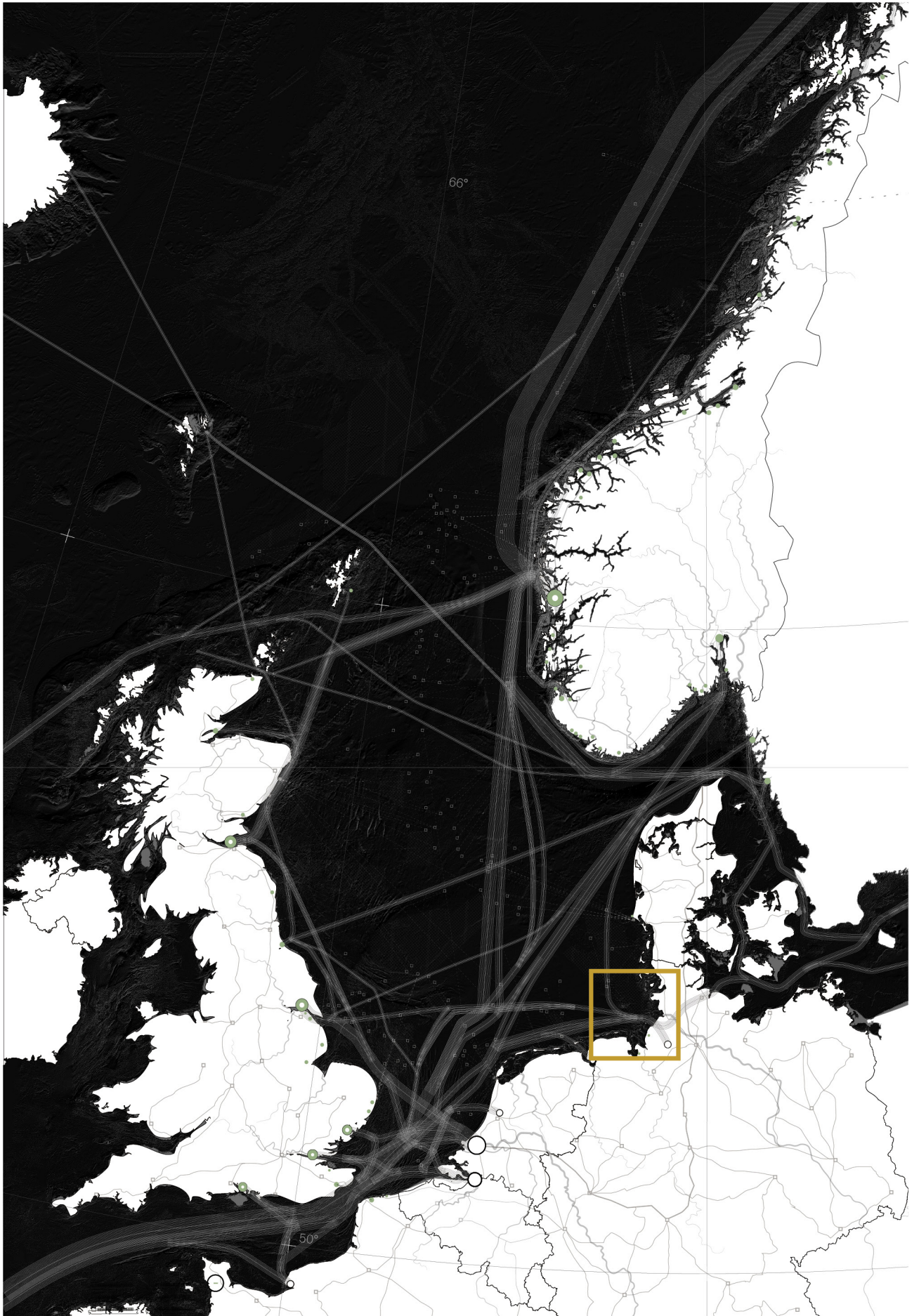
RESEARCH OBJECTIVE

The main site objectives are to reshuffle the territorial flows, by establishing a E-Waste Checkpoint within the North Sea territory. The map depict the choice of location and speculative prediction on how the future projection of potential flows may re-arrange its structure because of a new infrastructure for waste collection.

The speculation also has a goal to create a systematic case study regarding the German context, which can then be multiplied around the entire territory of the sea, as the utopian objective is to siege the outgoing flows of electronic crap and treat the right at the place.

Logisitic of visible flows

- ≡ Shipping Flows - Density
- Harbour Growth (fast)
- Harbour Growth (slow)
- Small Harbour



RESULT

GERMAN COAST

The port of Hamburg is the main 'water-door' to Germany's and third-busiest in Europe, just after Rotterdam and Antwerp. It's location is naturally nourished by the branching Elbe river, creating an ideal condition for port complex and transshipment facilities.

The port's history is strongly interrelated with the one of the city of Hamburg. It was found in 1189 by Frederick I mostly because of his strategic position and has later become a focal point during the age of the Hanseatic League. Orienting its trading activities towards the other North Sea nation, Hamburg managed to acquire privileges in England and Flanders, ultimately establishing trade branches in London, Bruges, Amsterdam, Scandinavia, but also with the German hinterland. During the 19th century it becomes Europe's main port allowing transatlantic connection evolving into important economic driver and its free status became legendary.

The end of the 19. Century Hamburg was labelled free port. This manoeuvre enabled foreign actors to ship and store their goods within the territory of the port without any customs. This political and economic decision fostered Hamburg's port position in the global trade context and enhanced exchange with other North Sea countries. One of the most iconic areas within the city of Hamburg is considered to be the Speicherstadt: 350 000 m² large area, fully occupied with warehouses. This wharf of the port is considered to be essential within the Free Port dynamic, allowing infrastructure for storage of various goods.

The current area of Heligoland Bight is important offshore catalyst for the German wind energy supply. Many of the planned projects still have not been executed, however the entire offshore zone is expected to be heavily industrialized in the upcoming years. An additional island located just within the Exclusive Economic Zone of Germany is also being planned as service hub for the many wind parks project.

Schleswig-Holstein, Hamburg, Niedersachsen and Bremen are the four German regions exposed to the North Sea territory. Meanwhile, the entire region is being strongly influenced by the presence of the Port of Hamburg. As it is Germany's prime hub for sea trade many of the industries have evolved exponentially with the ports. Many of the industries have shaped various clusters around the port complex, taking advantage of this seascape's threshold character and importing goods toward the Hinterland. Therefore, the river Elbe and the Port are results into heavy industrialized economical nodes, fostering the transition between the global system of flows and the industrial demand of the German Hinterland industry.

In close proximity to the canals dyke, which separates this waterway infrastructure from Elba, many of the major Chemical Industries are being located. Some Waste-to-Energy Plants are also present in this area, manifesting Germany's high dependency on waste as a tool for energy. Being also evident in the North Sea analysis, Germany appears to be the highest waste importer in Europe, mostly because of incinerators' central energetic role within the German context.

Therefore, one could conclude that the port of Hamburg as Germany's main access to international capital flows is also the main hub for import of waste within Germany. The easy access to optimal infrastructures resembles an excellent opportunity for location of potent projects. Therefore, the Port of Hamburg and the delta of Elbe provide an excellent foundation for positioning infrastructural projects aiming for strong international impacts and access to global logistic streams.



PROBLEM STATEMENT

The entire German Bight is being influenced by the dominant presence of the port of Hamburg. Historically being an essential geographical location for the Hanseatic League, this context is nourished by the trade activities. It resembles a central point to the infrastructure of Germany, since Hamburg is the primary port for this country's economic power. The port is however losing its global influence, since many of the German trade activities are being processed rather by the port of Rotterdam. The distance of 100km between the sea body and the port – the river Elbe – is reducing the efficiency of the port.

In order to handle the incoming global e-waste flows the shipping time should be reduced. Since the port efficiency is a crucial factor for its development, optimization of the access to it is seen as urgent. Therefore, an establishment of an offshore area, processing the territorial and global waste flows, is demanded. As Germany is a European leader in waste transboundary shipment, mainly transferred through Hamburg. However, many legal violations are also nourished by the insufficient waste processing capacity of the port. By increasing recycling capacity of the regions like Hamburg, Schleswig-Holstein and Niedersachsen, one could speculate that the port of Hamburg may become a legal force in processing e-waste flows. This can boost not only the utility of the port, but also 'invite' new industries to this North Sea region by providing them easy access to secondary raw materials. Analogous to Denmark, the offshore port can also support the practice of declaring waste containers before entering the main port without influencing the normal organization of vessels' flows.

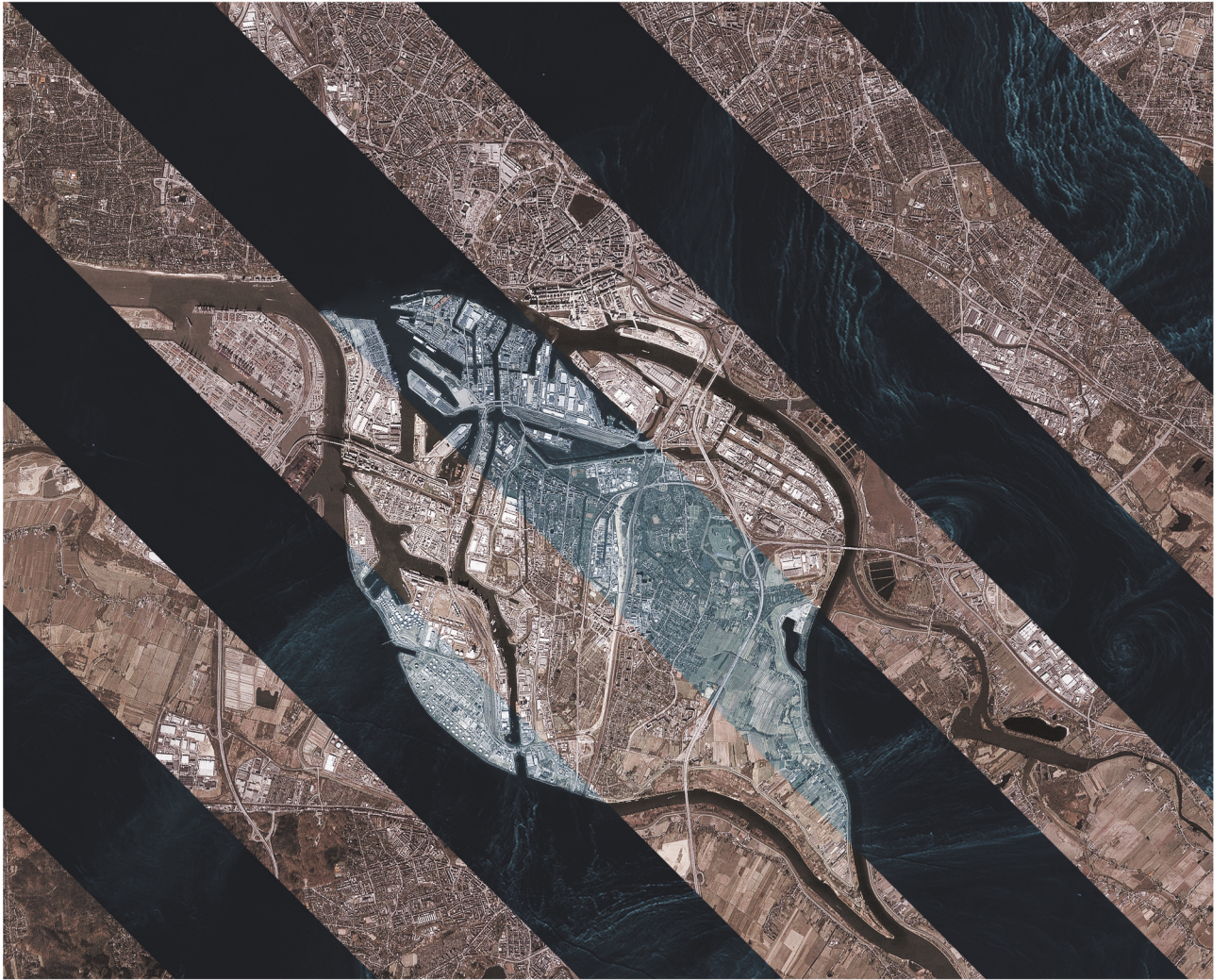
The entire delta of the Elbe river will take place in the territorial intervention, fostering the access to the local infrastructure systems and profiting from the preexisting facilities. Therefore, two are chosen along the vector Heligoland Bight- Hamburg, will form the 'Zone of Disassembly' and re-invent the connection to the North Sea.

Territorial Question

How can one unveil the hidden e-streams regarding the global network of flows?

Architectural Question

How can one expose the sensitivity of the e-waste issue and the hidden dynamics which catalyze it?



Hamburg/ German Bight

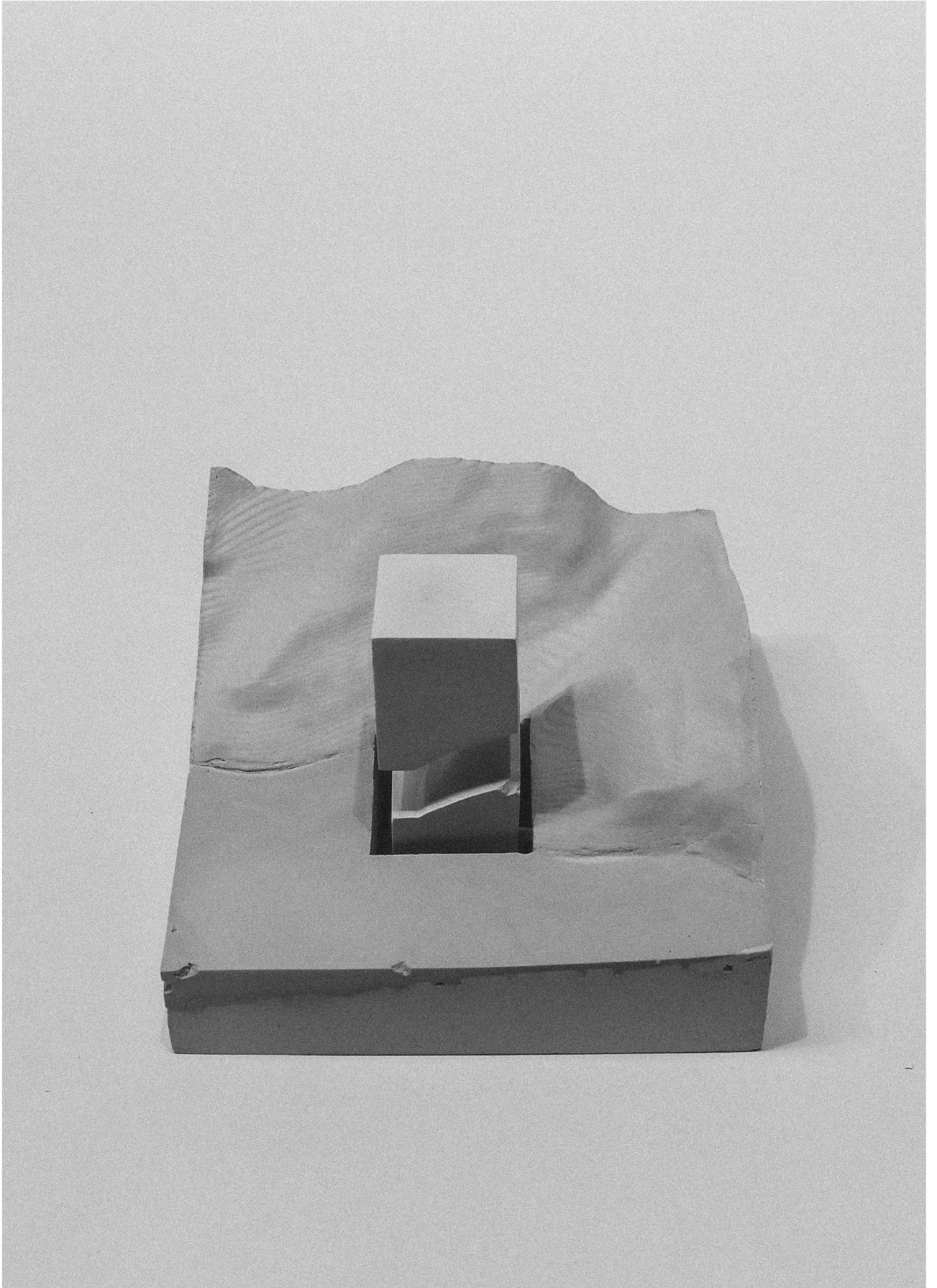
DESIGN PROPOSITION

The correlation between the sea, the free-port as an infrastructural driver for commercial purposes and the emergence of the so-called 'free zone' is apparent. This space of transition, connecting sea with land and global with local, operates strategically as a bifunctional entity. It is an enclave for some and an exclave for others – an arrival city and at the same time a departure terminal. Hence, FEZs are a manifestation of the global dynamics and the power of infrastructure, neglecting distances, time and identity. Yet, they conceptually and physically celebrate purpose, capital and accumulation. Operating as a centralized node within global networks of flows, the 'free zone' appears to be a tool for supreme control. Moreover, nourished by its exceptional status, this spatial entity positions itself purposefully as a focal island within the global trade and logistic dynamics.

By re-establishing the interrelation between capitalistic organizations and governing power, these global domains have evolved into urban organizations, far beyond their primitive maritime boundaries. Regarding the historic context, 'free zones' have become a form of power and control, which 'hack' the software of global infrastructure and market boundaries by normalizing this exception. In other words, they cheat; the exceptions' application has always been very exclusive, as they provide features mostly for pre-selected capitalistic interests: infinite production and manufacturing. One could conclude that as free zones diverge, so does the effectual pattern towards its inhabitants. It is de facto a dualistic system, constraining some and liberating others. From inside-out it is an exclave, while from outside-in it is an enclave. It is the modern 'No-Man's Land' of Assemblage.

This infinite production, however, dominates only the visible layers of our environment. Meanwhile, just as huge waste flows remain highly invisible for the users. E-waste flows are currently the fastest growing stream in the world. It is considered precious, yet because of its high toxicity many of the developed nations simply prefer to outsource it. Analogous to the free zone, this 'burden' is being often dumped in the developing countries, where cheap uneducated labor force has to re-process it in fairly primitive ways. The Basel Convention aimed to sieve this transboundary shipping procedures towards the 'third world' countries, yet many of the North Sea nations find their way around its legal terms; they simply smuggle it.

The formation of 'Zone of Disassembly' seems urgent in the present territorial context of North Sea. An island of inclusion, which could safely 'mine' and reintegrate the unwanted e-waste by easing entire electronics' recycling process. Integrated within the regional context, the 'Zone of Disassembly' will aim to reshuffle the currents global and territorial shipping. An exceptional place, which derives from the free-zone-concept, yet addresses urgent environmental and social inequities, nourished by the constant hyper-consumption.



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