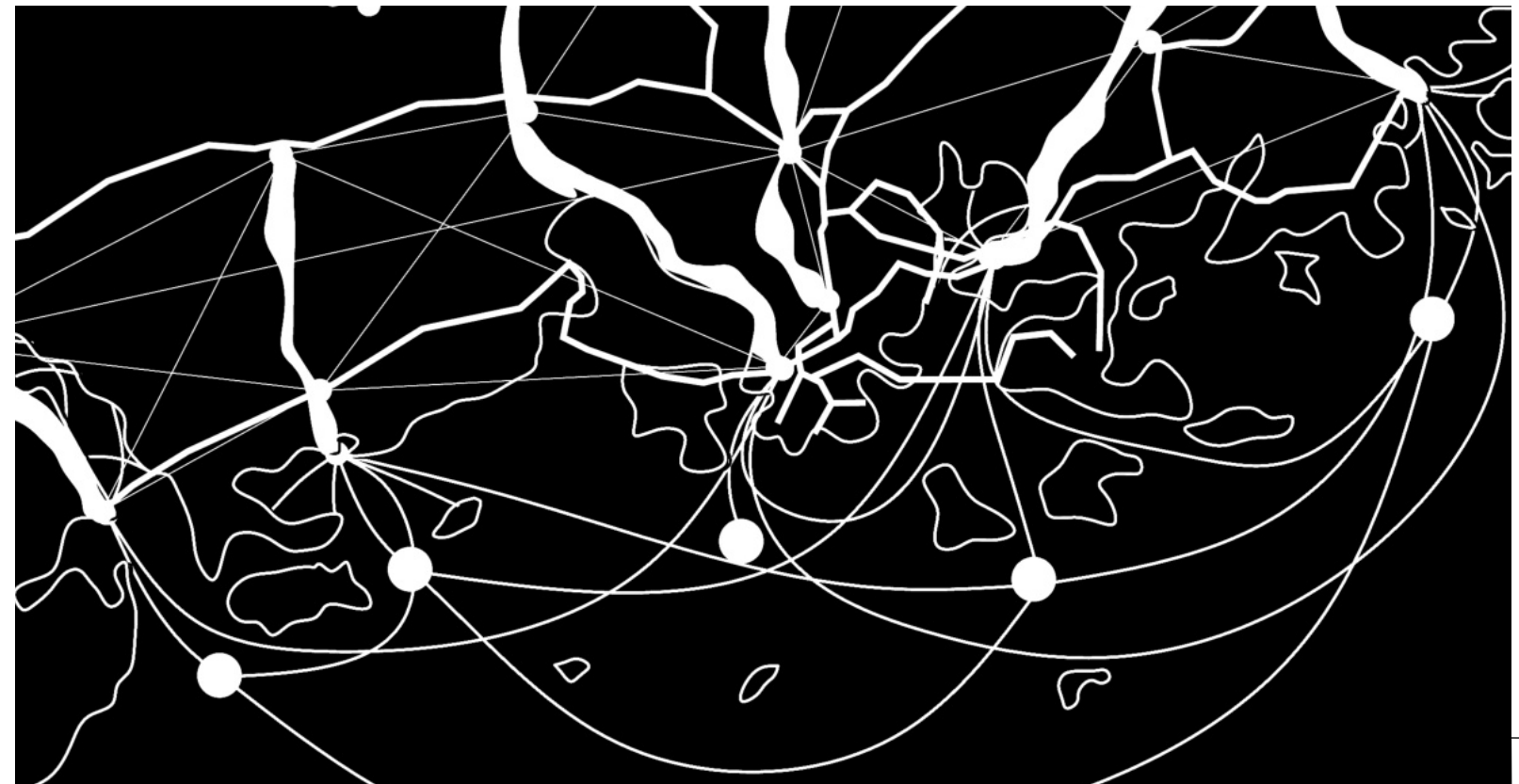


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Università IUAV di Venezia
Corso di Laurea Specialistica
Architettura per la Sostenibilità

GREATER HELSINKI VISION 2050

international ideas competition



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Università IUAV di Venezia
Corso di Laurea Specialistica
Architettura per la Sostenibilità
maggio 2007

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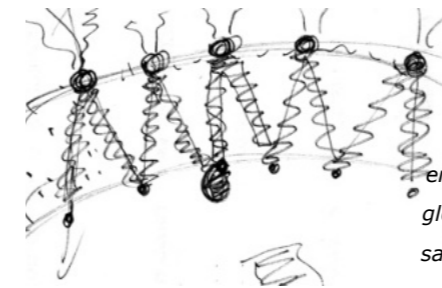
Nicola Maniero

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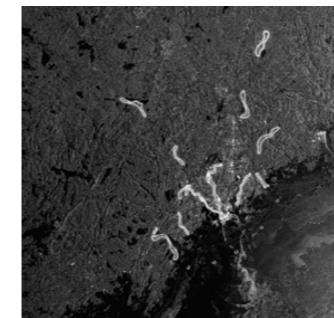
Maurizio Pioletti

Augusto Scalzotto

Ennio Simion



This proposal intends to provide open solutions in terms of its approach and its models, in order to develop sustainable strategies which aim at turning the metropolitan area of Helsinki into an attractive region made up of people, culture and investment, and at encouraging the city to acquire a leading role in today's knowledge and technology-based global society. The metropolitan area of Helsinki will become an environment of creativity, safety and wellbeing, in which men, women and children will be able to live and work in a lively and vital community.



In astronomy filaments are made up of galaxies. These galaxies often assemble into clusters and the filaments are dotted with these more luminous areas. Subsequently the clusters merge forming even bigger congregations, the superclusters, which are the largest visible elements in the universe. These superclusters are linked together by luminous galaxy filaments, which separate dark areas of empty spaces. If we compare the Helsinki metropolitan area to the cosmos, we'll notice that the particles tend to merge and congregate as a result of gravity, forming clumps of matter, a similar phenomenon occurs on earth as a result of arterial routes. Mobility and communication, which are the fundamentals of our future society, also will be the grid for the development of urban filaments which, taking the shape of superclusters and following their progressive congregation, are the new luminous fields, the new vital urban areas, the attractors of functions and social relations based on light-mobility on a human scale.

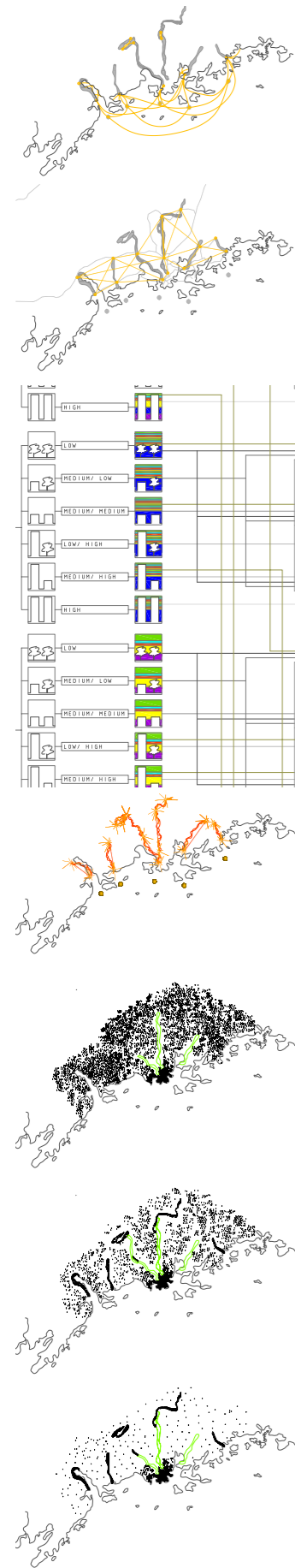


In 1918 Eiel Saarinen had already identified with considerable insight the need to create "CORRIDORS": green strands within the expanding structure of the compacted city. These vital openings still allow the city of Helsinki to breathe, as they form natural channels between the coastline and the hinterland. They separate and characterise a territory that has been saturated by a sprawl of low-density urbanisation. The project here presented is aligned with this cultural tradition.



In order to allow the metropolitan city to develop so as to hold two-million people, it is necessary to place new "corridors" alongside the existing system of "green corridors". These new strands will have an agglomerative function: extended ribbon developments of condensed humanity, urban FILAMENTS that will act as attractors and catalysts in the metropolitan area. The densely urbanized strands and the green open strands make up a complementary system which generates a new structure, in which full and empty volumes define the territory making it available and interconnected.

The anticipatory SCENARIOS for the region of Usimaa illustrate such differentiated ranges of situations developing over time and of final outcomes, to lead us to search for a way to



WHITESCAPE

define possible territorial layouts rather than trying to formulate definitive configurations. The variables of scenario, population, economy, employment, climate etc, exist alongside variables of location, morphology and types of settlement.

A MATRIX, designed like a "motherboard", allows for the cross-checking of the data related to the scenarios with that referring to the layouts. In this way, an exemplification of a finite number of possible final layout configurations can be obtained. The temporal factor is overlapped with the matrix in a non-linear sense, by multiplying the solutions exponentially.

The filaments act as GREAT ATTRACTORS; they form a system of connective axes and development vectors which create a new territorial framework of linear polarity. As an alternative to the centrifugal and exclusive development of territorial expansion, in which the radial and concentric qualities are inversely proportional to wealth, this system of connective/attractive filaments creates a parallel and non-hierarchical matrix. Owing to spatial density and connectivity, it utilizes the specific geographic and morphologic characteristics of the region to create a variation of places, new identities and new specific qualities.

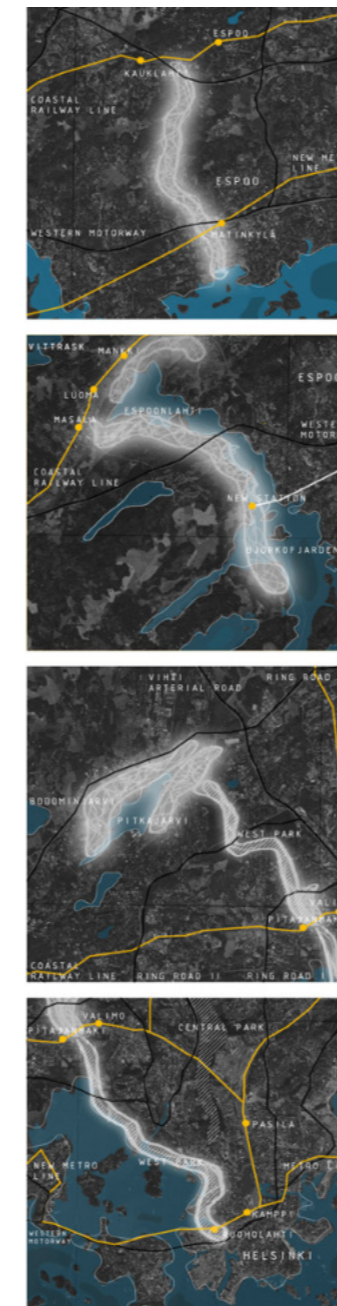
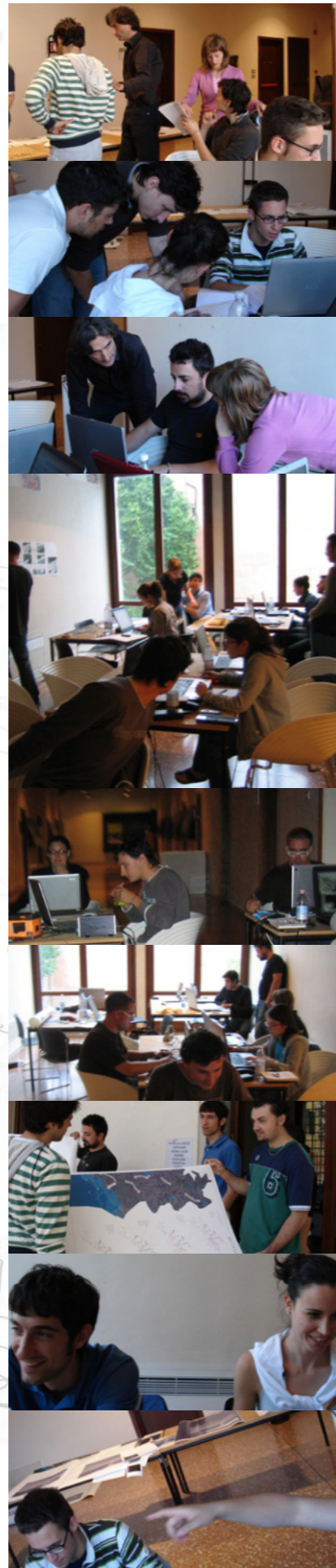
In the overall settlement plan, the urban condensation of the filaments is intended as complementary to the renewal of the coastline and the archipelago, located in front of the city like a large natural park for all the region, and towards the interior, both east and west, to the two large protected natural areas. The densely populated systems serve as connectors to the small scale suburban areas, and are also gateways for large natural systems which can, therefore, envelop and surround the metropolitan area.

The territorial condensation NETWORK is flexible and has a variable configuration. In relation to the evolution of the scenarios, it provides a continual reference system for the empty interstitial spaces located in the suburban sprawl. Hence, the filaments act both as territorial "compressors" and "tensors". They are recognisable topological matrices which establish links, and create new connections, giving new tension to the elements that already exist by creating something unprecedented, a multiple city, a "Place of places".

The STRATEGY of our proposal is to restore the balance of the area's monocentricity and to interconnect the suburban aspect, by applying a unifying process with a flexible configuration. Within this strategy the filament is seen as a Strategic Tool aiming to actuate a PROCESS which introduces a new MORPHOLOGY for which the agglomeration criteria has been defined, but not the final configuration.



overall strategy



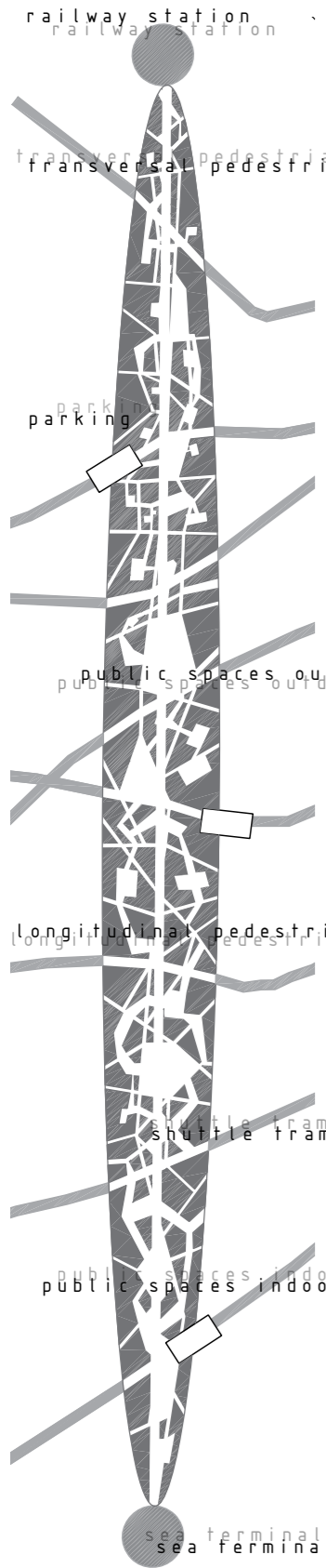
STRATEGY → PROCESS → MORPHOLOGY = LOOP

What we define as INNOVATION, that is the creation of knowledge and the ability to transform it into higher quality products and processes, is morphologically incorporated in the filament by combining spatial intensification and smart mobility, in order to produce a better quality of life, distribution of knowledge, movement and social relations in the city space. Loop-Filaments are both magnetic and open: they create links and attraction spots; they are based on ANCHOR POINTS. These are precise geographic areas, singled out for their strategic role in reference to mobility infrastructures (underground stations, railway stations, airports or ports) or for their specific natural qualities - as in the case of some lakes - and for their position which favours the intersection with other urban or park systems. The main filaments which make up the KEY PROJECTS are located in the Municipalities of Sipoo, Vantaa-Kerava, Kaunianen, Espoo e Kirkkonummi; other filaments are chosen to create territorial reference points in the areas of Mäntsälä, Järvanpää e Nurmijärvi. These locations define the specific characteristics and nature of the various filaments, creating a variety of new strong identities within an uninterrupted system. While WWH (WestWest Helsinki) overlooks the fjord and has a mainly asymmetrical structure, the layout of WH (WestHelsinki) near Espoo, will be mainly symmetrical with a central axis. Progressing further north, NWH (NorthWest Helsinki) will be a kind of Lake-city, with its urban area overlooking the lake which will be similar to a large public square, a partially inhabited stretch of water, the main landmark and predominant public space. NNH (NorthNorthHelsinki) has two strongly specific elements which are the existing lake and the International Airport Terminal. By consolidating the business and office activities linked to the terminal, a structure can be given to the extraordinary urban area which stretches as far as the lake and is connected from that point to the green "filament", most of which reaches the historical centre. To the east, the main strength of EEH (East East Helsinki) and EH (East Helsinki) lies in the outer head of the filament, its seafront, which functions as a port, and therefore acquires a strong urban character. All these filaments are firmly rooted to their strengths in terms of territory, geography and landscape. They build up new connections between areas that today are far and separate, and create new anchor points especially on the sea, like strongholds for the great archipelago. In the most central areas especially, the densely developed filaments are alternated to the green channels which re-validate the openings of Saarinen's project. Within the urban structure, these openings take on a new role, since they serve as connectors of light mobility transport between the central historical areas and the new outer urban areas, as in the case of the Vantaa and Sipoo filaments. The "green" corridor has an in-between function therefore it is a loop that attracts movement, functions and special widely spaced buildings.



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"CONSISTENCY": measurements, distance, proximity, connectivity, walkability



Lengthwise the strands/ribbons measure 6 km at the most; crosswise they never go over 500 metres. These dimensions allow for the creation of an urban area that is completely devoid of cars. A shuttle service that runs on a track placed flush with the road will provide a longitudinal crossing for the area, by creating a link to the fast transport terminals. The diagonal reduced depth allows people to get about on foot, by bicycle, skates and skis, without having to rely on mechanical means of transport in any spot.

MEASUREMENTS

DISTANCE AND MOBILITY

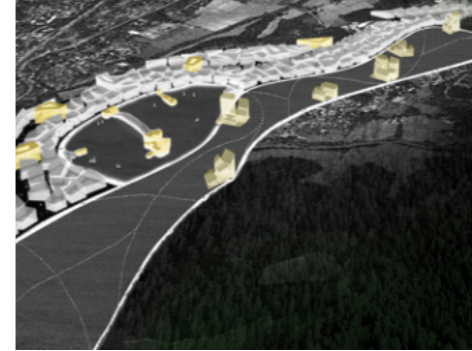
The basic concept is the development by parallel linear polarities. It is linked to the interrelation of the downtown area and the remaining territory with the high-speed and long-distance routes. The extended ribbons of pedestrianised urban areas connect and are in turn connected to two types of speed-transport networks: a land and a railway system.

The end of the filaments are always linked to railway stations for regional and long-distance transport. All along the area of urban ribbon development the new axes are interrelated by a thick network of diagonal light transport routes (bicycle lanes and ski runs). The parallel subdivision of the territory into full and empty filaments, creates new destinations within the suburban space. The new areas of the metropolitan city are the connection points which enable people to travel throughout the territory with the regional transport network. While the inner heads of the filaments are served by fast underground transport stations and long-distance trains, on the sea side they are served by new shipping terminals which provide passenger transport services throughout the archipelago; they also link the various filaments to each other and to the city centre. The navigation service completes the network of overland transportation: it creates a kind of transport that provides an alternative choice either during leisure time or during day-to-day travel, when the longer journey is compensated by a greater quality.

PROXIMITY

The density of buildings, spaces, places and activities make up a lively and vital urban area in which to meet, get to know each other, exchange information and knowledge. Such a place is founded on the concept of proximity: the proximity between things, houses and both free-time and work activities, and especially to nature. In each urban area the natural spots can be reached in two or three minutes. Vegetation is visible from houses and public urban spaces. Nature is felt and is always present, a light network of bicycle lanes and tracks interconnects the filaments and links them to the surrounding areas.

lake city _ green loop



fiord city _ loop on water

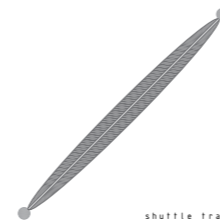
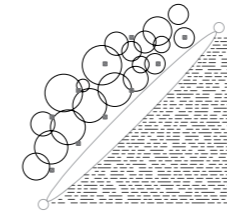


SEA ON ONE SIDE

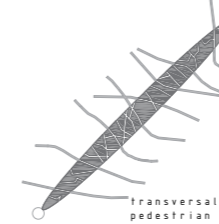
The filament has an asymmetric configuration, based on a lateral axis near the water.

All public activities take place along it, facing the water, while housing and private space are located near the wood.

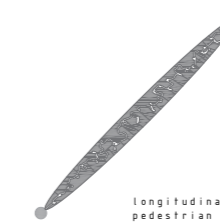
Complex buildings articulate indoor and outdoor public spaces.



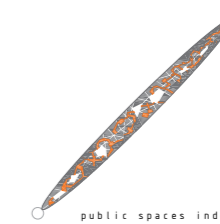
shuttle tram



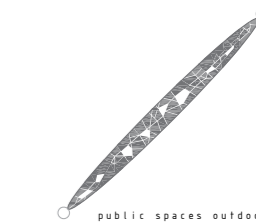
transversal pedestrian way



longitudinal pedestrian way



public spaces indoor



public spaces outdoor

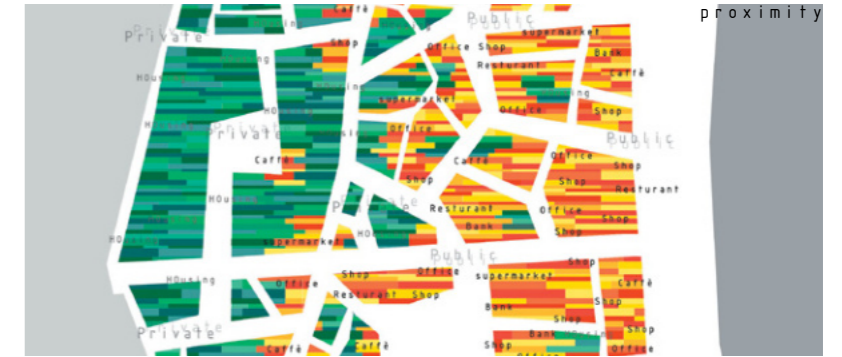
green loop



central public space on the water



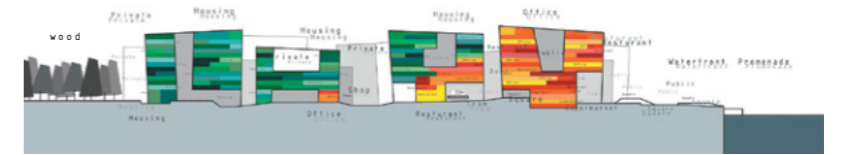
WHITESKAPE



overlapping of functions



indoor and outdoor public spaces

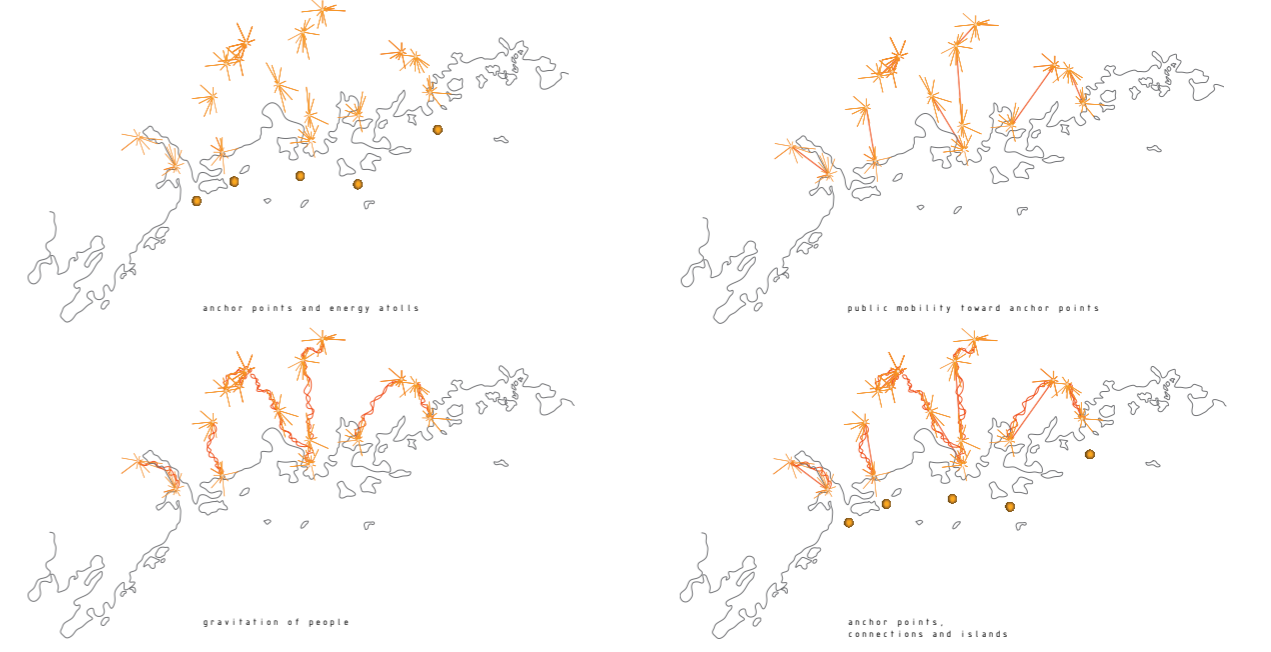
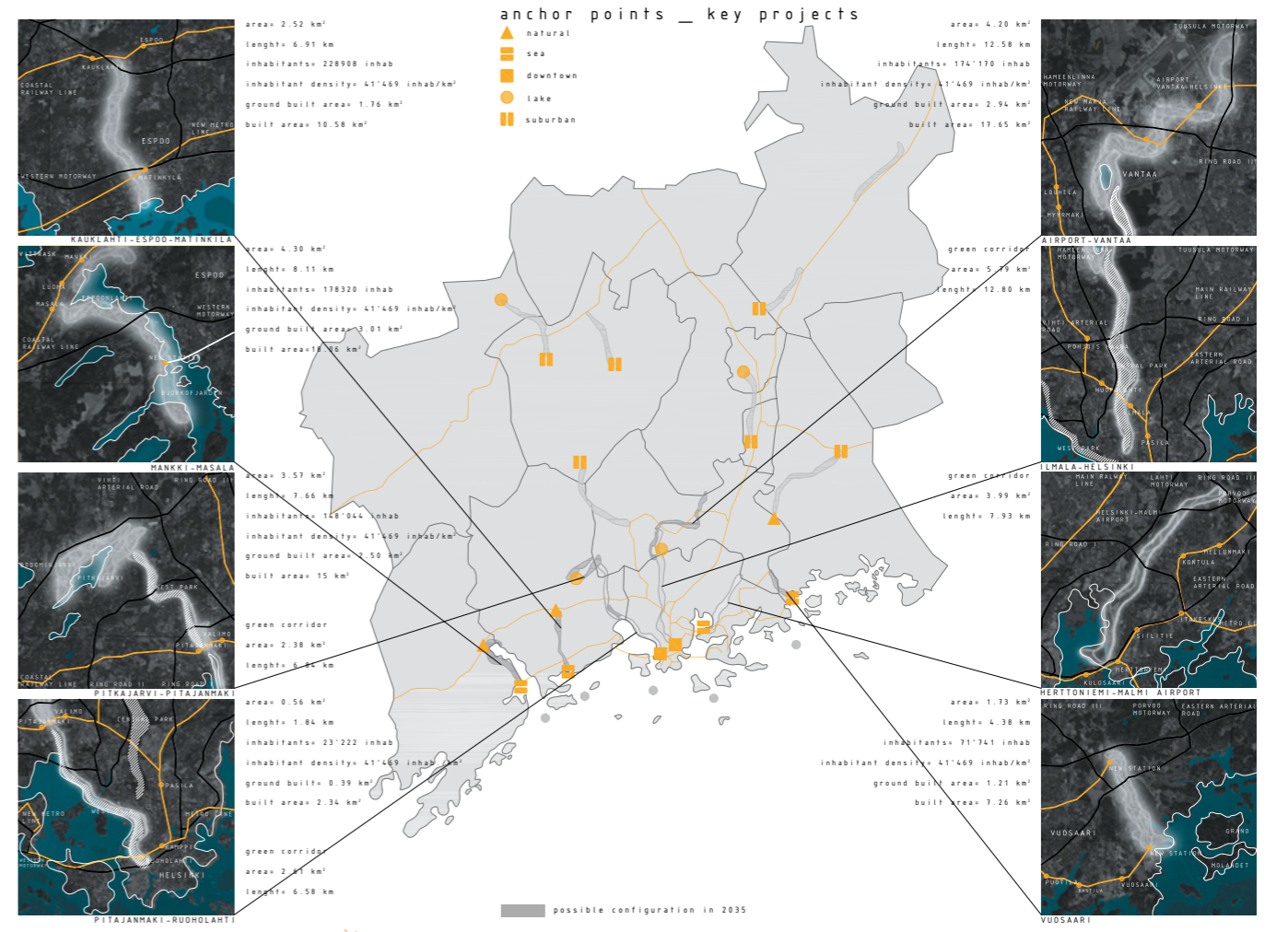


nature ← 400 m → water

WHITESKAPE

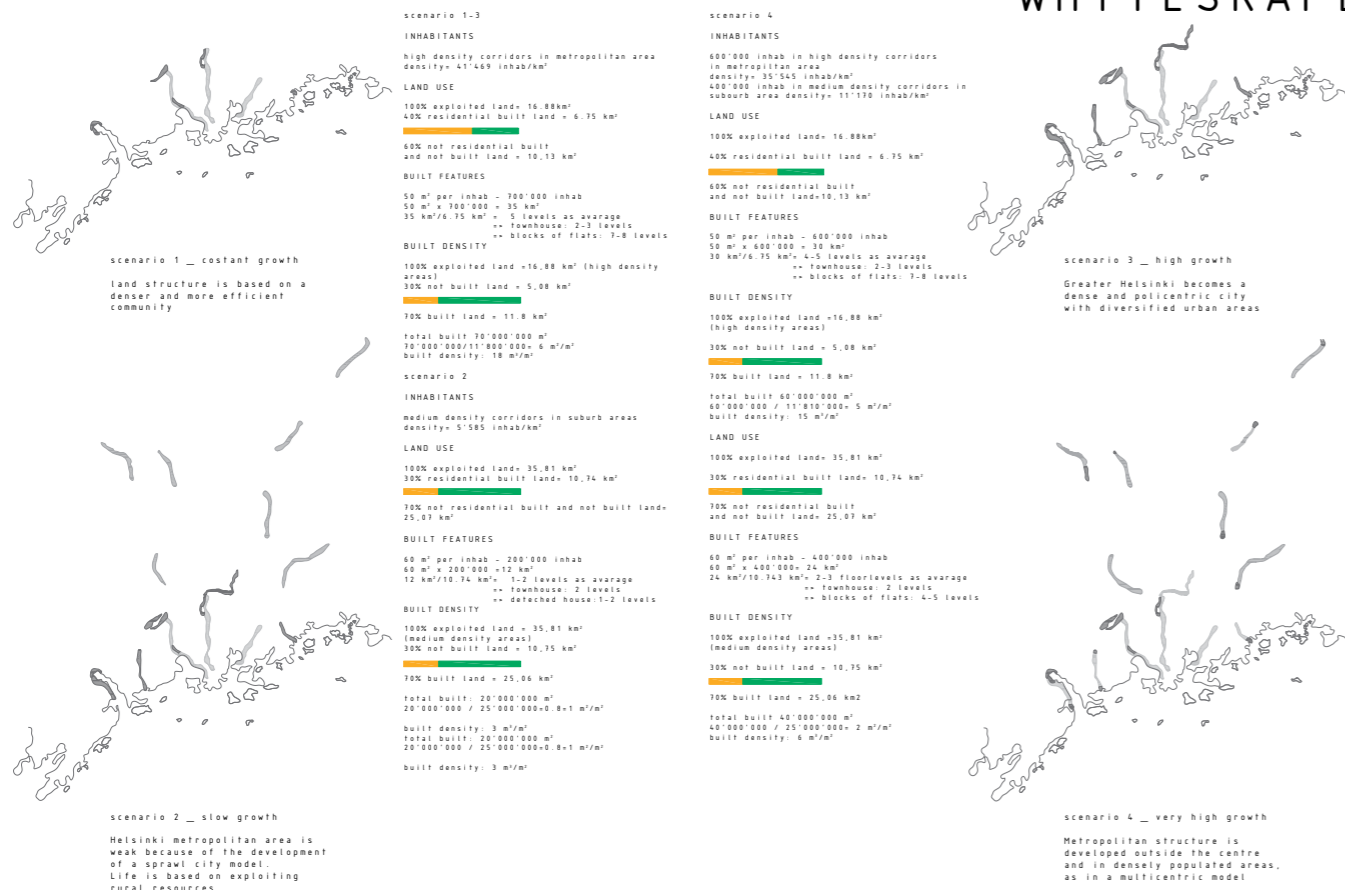
Consistency is the main feature of morphology

Four density values define four urban textures. There is no separation between full and empty space



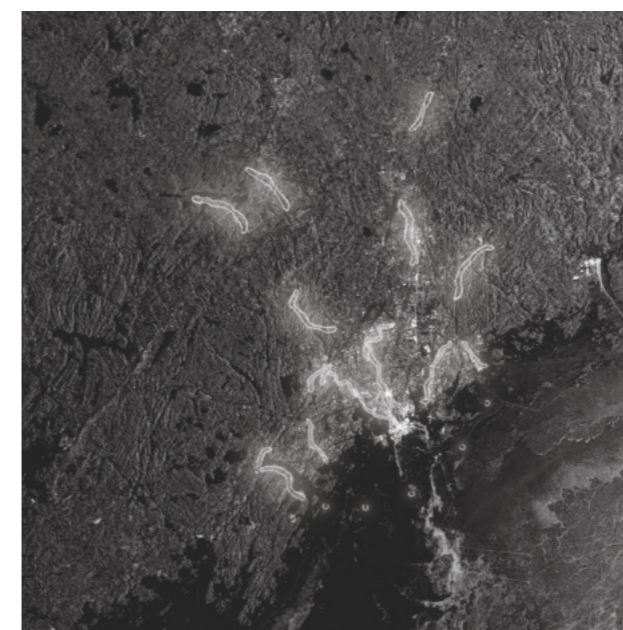
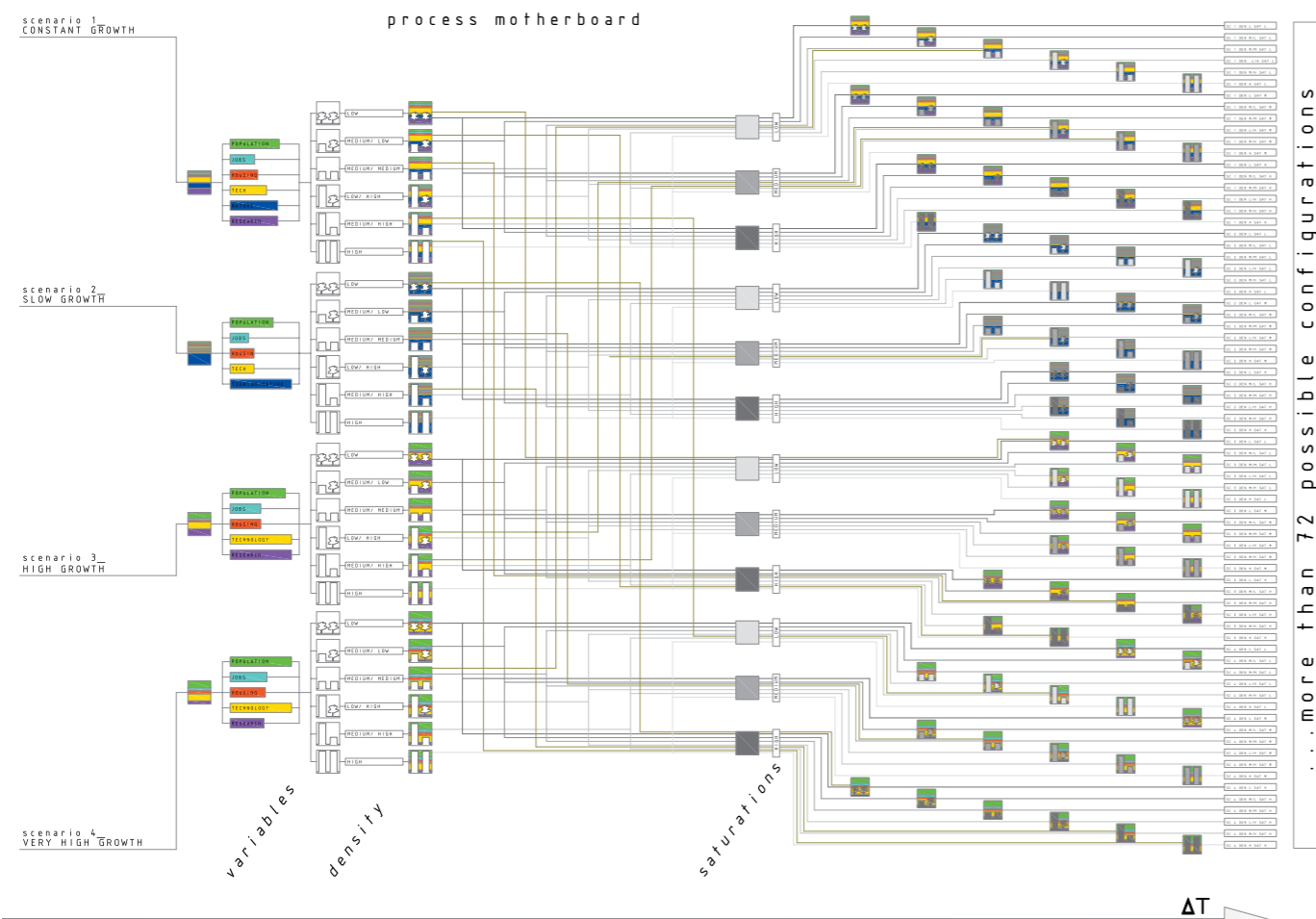
Panels

WHITESKAPE



GREATER HELSINKI VISION 2050

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The FILAMENTS act as great ATTRACTORS; they form a system of connective axes and development vectors which create a new territorial framework of LINEAR POLARITY. As an alternative to the centrifugal and exclusive development of territorial expansion, in which the radial and concentric qualities are inversely proportional to wealth, this system of CONNECTIVE/ATTRACTIVE filaments creates a parallel and NON-HIERARCHICAL MATRIX.

POPULATION IN 2006

Uusimaa population in 2006: 1'300'000 inhab

FUTURE POPULATION

Uusimaa population in 2050: 2'000'000 inhab
 Uusimaa population increase up to 2050: 700'000 inhab

scenario 1

average and constant growth
 bio-mono-environmental-welfare
 technologies as main business
 Uusimaa population in 2035: 1'600'000 inhab
 Uusimaa population in 2050: 2'000'000 inhab
 efficient land use,
 dense community structure

scenario 2

slow growth - tourism as major business
 Uusimaa population in 2035: 1'400'000 inhab
 Uusimaa population in 2050: 1'500'000 inhab
 construction mainly outside the Helsinki metropolitan area, vibrant countryside

scenario 3

high growth - expertise environment and new industry cluster, robotic and small enterprises
 Uusimaa population in 2035: 1'800'000 inhab
 Uusimaa population in 2050: 2'000'000 inhab
 urbanisation, dense regional structure,
 urban areas become denser and diversified

scenario 4

very high growth - technologies, excellence in R&D, entrepreneurship, culture&entertainment as main business
 Uusimaa population in 2035: 2'000'000 inhab
 Uusimaa population in 2050: 2'300'000 inhab
 multi-center structure, development outside the centres and densely populated areas, land use denser along railways

LAND

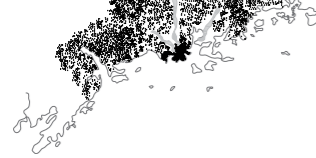
spread corridors areas: 35,81 km²
 medium density areas: 16,88 km²
 high density areas: 56,61 km²
 subtotal: 109,30 km²
 green corridors area: 16,30 km²
 spread total corridors area: 125,60 km²

LAND USE

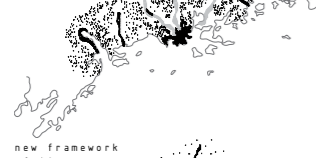
spread corridors areas:
 30%: not built
 70%: built (residential-not residential)
 medium density area: 35,81 km²
 built ground area: 24,5 km²
 high density area: 16,88 km²
 built ground area: 11,8 km²
 total density area: 56,61 km²
 built ground area: 36,3 km²
 green corridors area: 16,30 km²
 90%: not built
 10%: built (entertainment)

filaments as great attractors

monocentric existing structure



intermediate structure



new framework of linear polarity

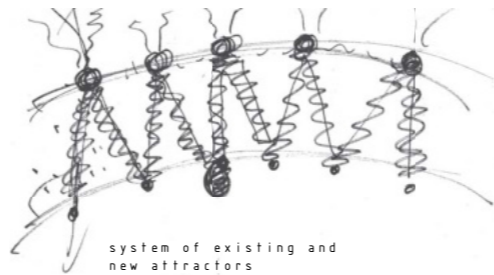


The strategy is to balance the monocentric city and interconnect the suburban city. The strategic tool is an aggregational process with a variable configuration. The result is a polycentric linear and non-hierarchical scheme. The filament activates a new process which introduces a new morphology: Aggregational rules are favoured over final configuration

filaments as territorial compressors and tensors

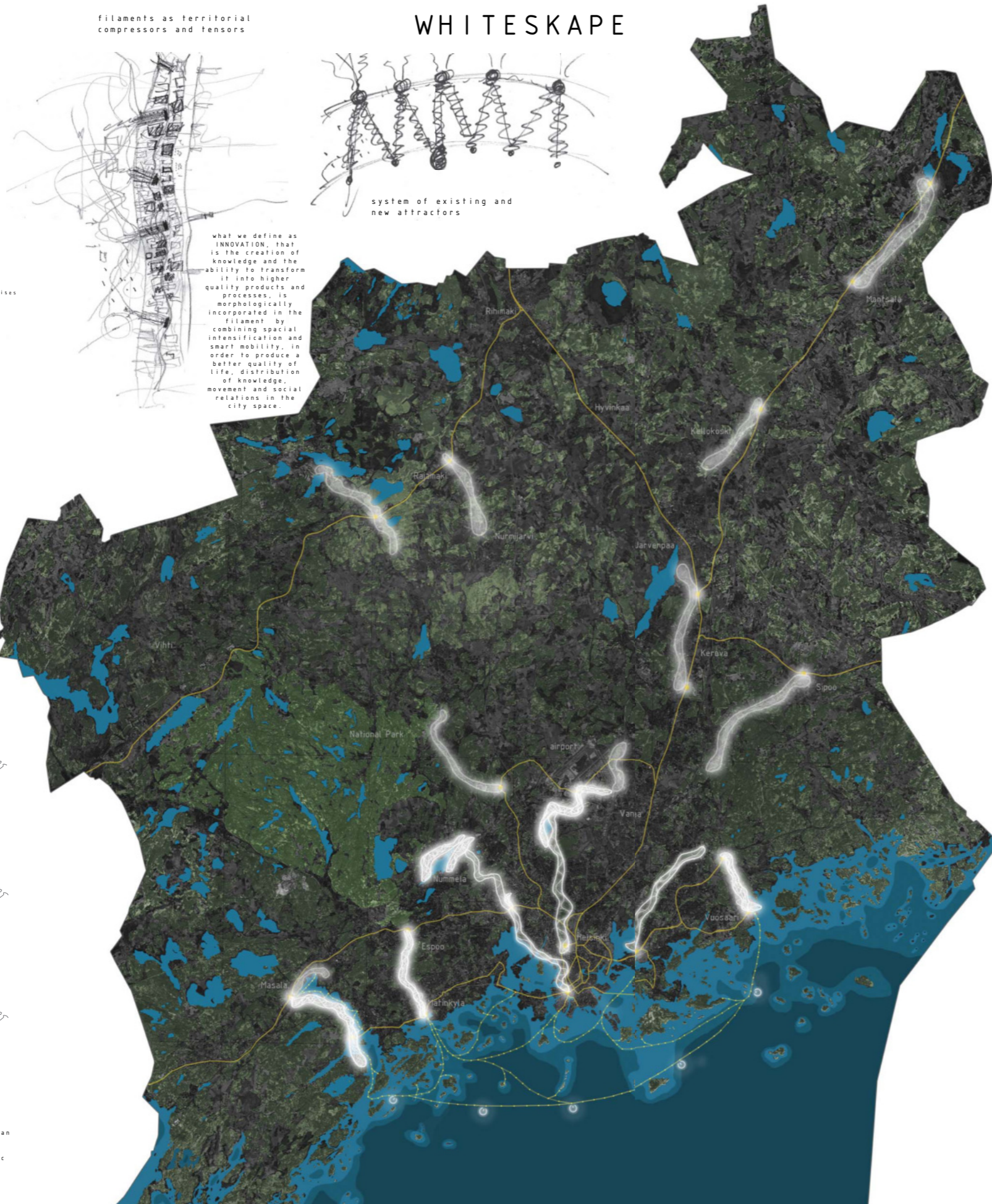


WHITESKAPE



system of existing and new attractors

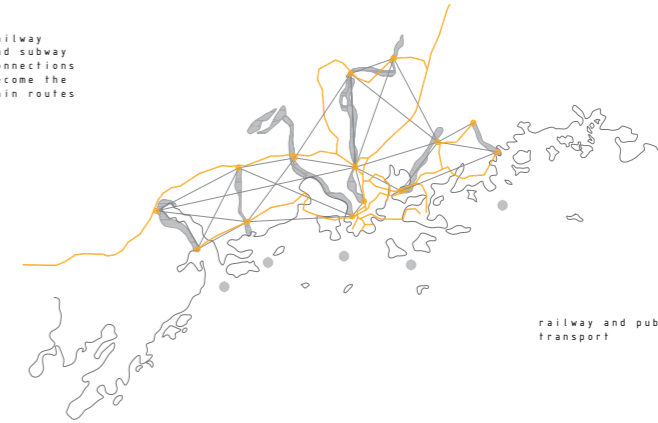
what we define as INNOVATION, that is the creation of knowledge and the ability to transform it into higher quality products and processes, is morphologically incorporated in the filament by combining spatial intensification and smart mobility, in order to produce a better quality of life, distribution of knowledge, movement and social relations in the city space.



WHITESKAPE

linking network

Railway and subway connections become the main routes



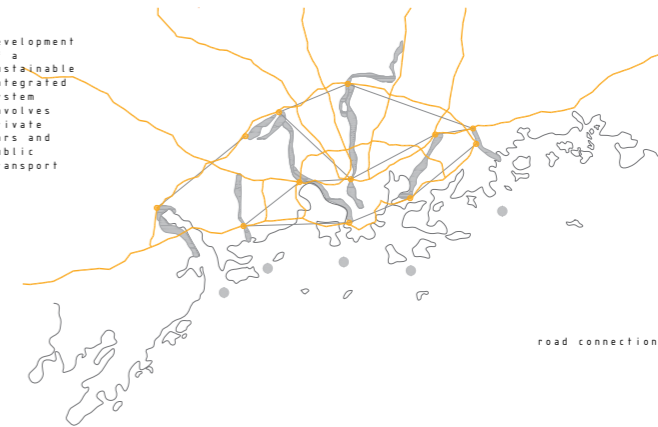
railway and public transport

Water routes offer new ways to travel throughout the metropolitan region of Uusimaa



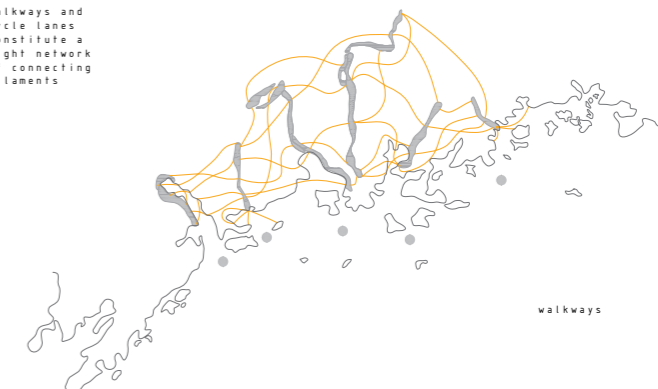
maritim routes

Development of a sustainable integrated system involves private cars and public transport



road connections

Walkways and cycle lanes constitute a light network of connecting filaments



walkways