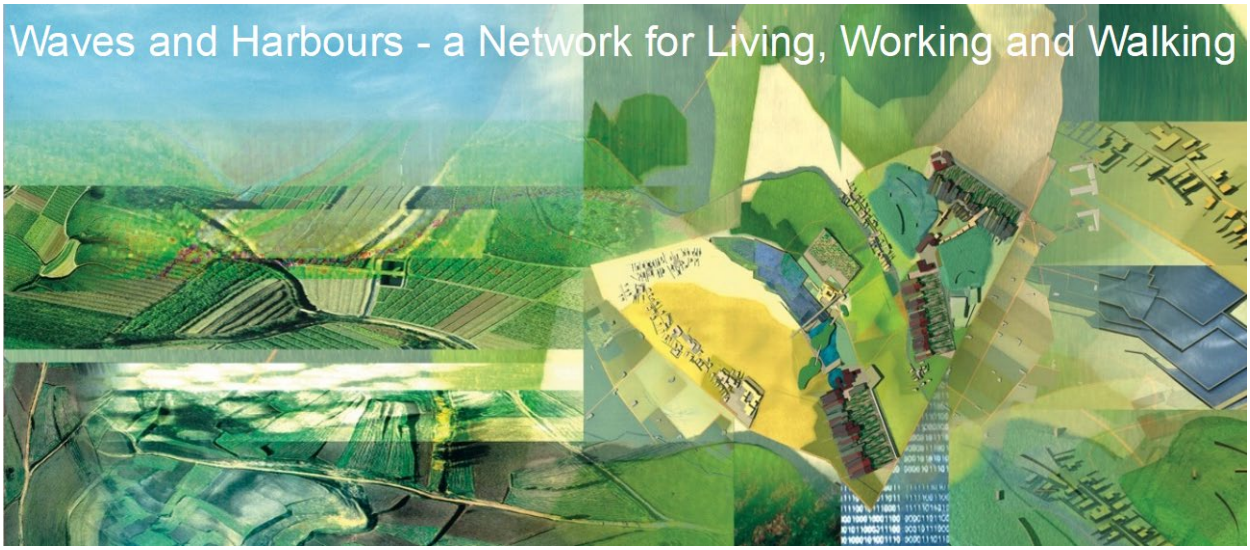
Glokale Wirtschaftliche Strukturen / Glocal Economic Structures
**Vienna City Hall, February 1995**

Waves and Harbours - A Network for Living, Working and Walking
Michel MOSSESSIAN, Atelier 4 Architecture (F/USA)

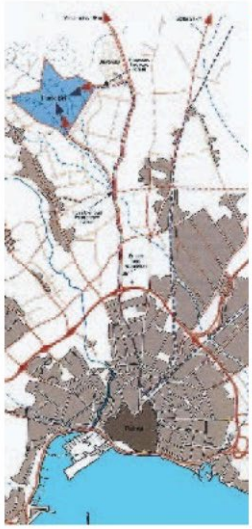

*Machines have become our messengers, pervading our mental space regardless of distance, changing our perceptions of near and far. Old territorial archetypes become obsolete as our perceptions of space and boundaries are replaced by representations of fields, waves and zones. Artefacts become smaller and smaller, entering into our private spaces, and adapting to our movements and gestures, becoming almost magical in their capacity to move and connect objects and people from ever more distant places.*
*This requires a re-evaluation of our relationship to space, both our external and our internal spaces.*

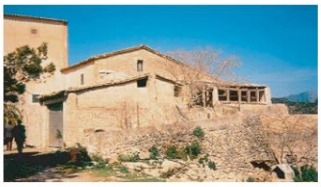
- *Michel Mossessian 1992*

We would like to present on one of our projects in Europe, on Mallorca island: "Waves and Harbours - a Network for Living, Working and Walking".



PARCBIT





Mas Son Espanol

Majorca

The site, Son Espanyol, is located in a rural area ten minutes from the centre of Palma de Mallorca, adjacent to the University of the Balearic Islands and bordered by a protected mountainous area. Essentially dry and sandy, two torrentially sourced streams cross the site from the northwest to the southwest. The paths throughout the site run alongside olive groves, almond trees and pasture meadows for horses and sheep. In the centre of this, a local stone farmhouse named Son Espanyol possession dominates this 140 hectare site.

These landscapes are the work of time, the work of nature, and the work of the farmers that applied their intrinsic knowledge of the land over many generations. However, while tourism has brought a viable economy to parts of the island, it has generated issues for these areas. Farmers left the farmland to support the coastline tourist economy, and while the hinterland remains uncultivated the land does not maintain itself. Side effects of this include rainwater not being retained by the land when it rains, and going straight to the sea. In other words, the tourism economy was slowly eroding the natural assets of the island, possibly turning Majorca into a desert island within fifty years from now. What would be there to attract tourists then?

The call here was to introduce new functions and uses for 10.000 inhabitants, making use of telecommunication and new technologies. Attracting a new population, whether nomadic or permanent, was crucial for the government of Majorca to tap into an alternative economy to the solely seasonal tourism economy.

We wanted to respond to the brief with a new approach and offer an opportunity and possible increased benefit to Majorcans by attracting new sorts of residents - a shift to bringing nature and economy into a more harmonious fit with each other.

SUSTAINABLE MASTERPLAN

## PARCBIT GLOBAL LOCAL
MAJORCA, SPAIN

This winning proposal for the 1994 ParcBIT development competition is on many regards echoing today's recent needs and new behaviours.

To provide the residents with the latest telecommunications technology to stay connected and work at a distance.

Water catch basins and full recycling treatment of used water to New water.

Live, Work, Play for Seasonal nomadic workers with their families

Weaving Culture to Nature

1994- **atelier 4 Architecture** , Michel Mossessian , John Veikos, Cathrine Veikos, Peter Erni.

ParcBit International competition for 30,000 inhabitants. 11 teams. Co- wining entry shared with Sir Richard Rogers

**Nature is Culture**

**Technology is Transparent**

**Point of Crossing:**
**From Territories, Borders and Limits to Zones, Fields and Waves**

mossessian architecture

The opportunity offered by telecommuting and remote working is a new micro economic paradigm which integrates emerging technologies with our desire to be in nature and surrounded by beauty. We are naturally attracted to both.

Bringing together these two conditions was the essence of this project. We worked on integrating the traditional richness of the location, not just in an aesthetic sense, but in an essential way, and paralleled it with a virtual layer of telecommunications to link a very local area to a global network.

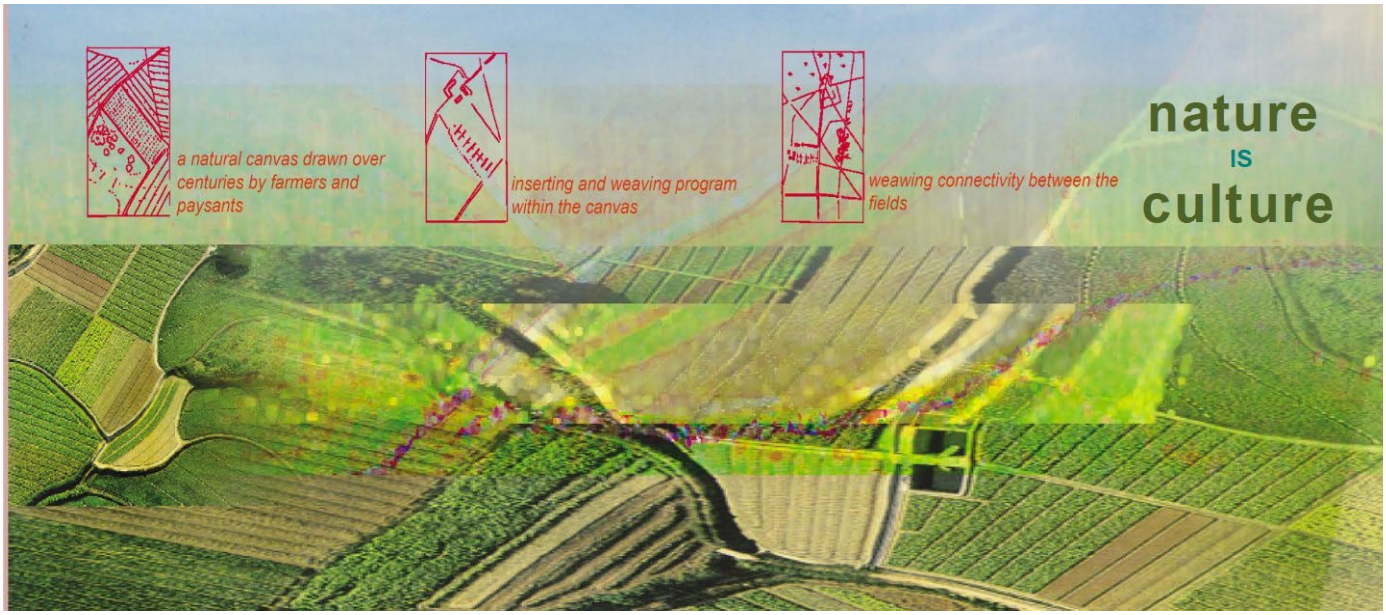
The design of an "intelligent community" with a high added value of technology in a rural environment in the Mediterranean basin, poses questions of a geo-economic nature with both local and global contexts. How will one affect the other, and vice versa?

Our response to the Balearic Government's appeal proposed a series of principles which juxtapose the global dimensions of our economy, with the specific attractiveness of the Balearic Islands' landscape and climate.

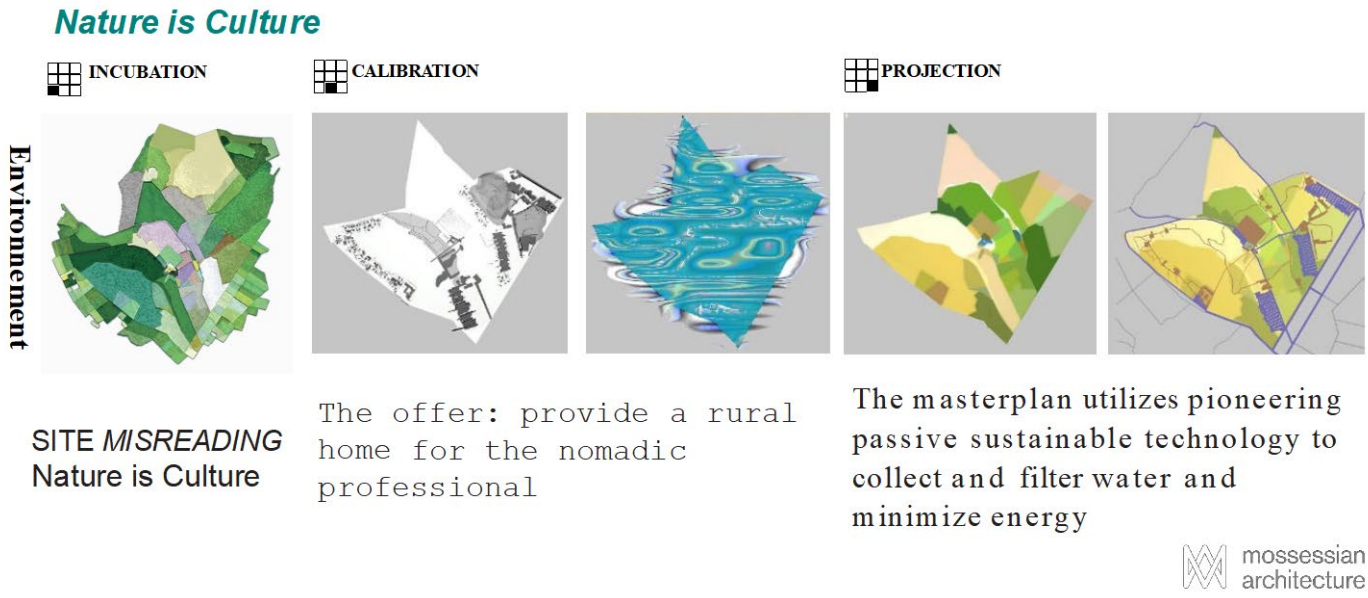
We set out to weave a harmonious interface between the old and the new, by reusing what can be found on the site as a guide which refers to the living memory of the place, while inserting a new program of activities for living and working for a community of ten thousand new inhabitants.

We set out a series of principles to allow urban, architectural, landscaping, and technological planning for the establishment of a community capable of supporting and self-managing its own energy needs, by means of soft, intelligent, and ecological technologies.

Imagine an environment where, early in the morning, you can pick an orange from its tree, connect to the web in the shade of an olive tree, before joining your team living in the park, or working 3 or 6 time zones away.




The context of the above image was inscribed by several centuries of peasant's work - a wonderful use of the land, tended to with care and know-how. Our 'page' was already written, already inscribed, almost saturated with information that had to be read, understood, analysed, perhaps sometimes misread, but it was all taken into consideration.



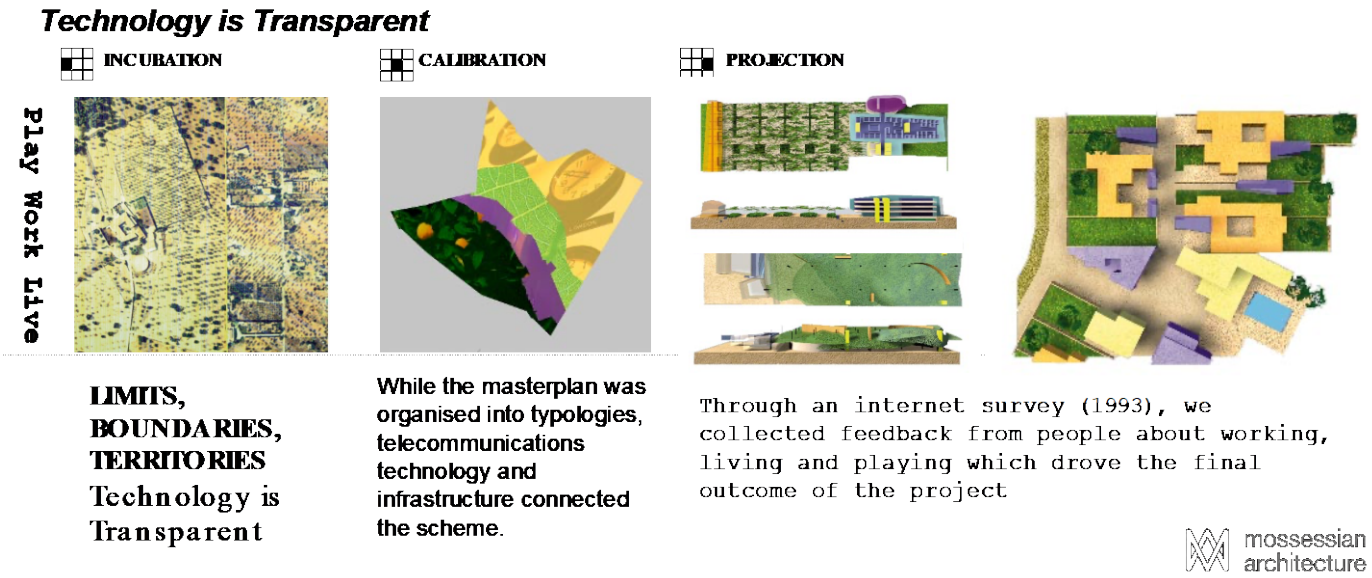

*We identified three guiding principles: the first principle that technology be transparent and invisible, the second to see nature as culture and, thirdly to work with the traces that were left by others on the site.*

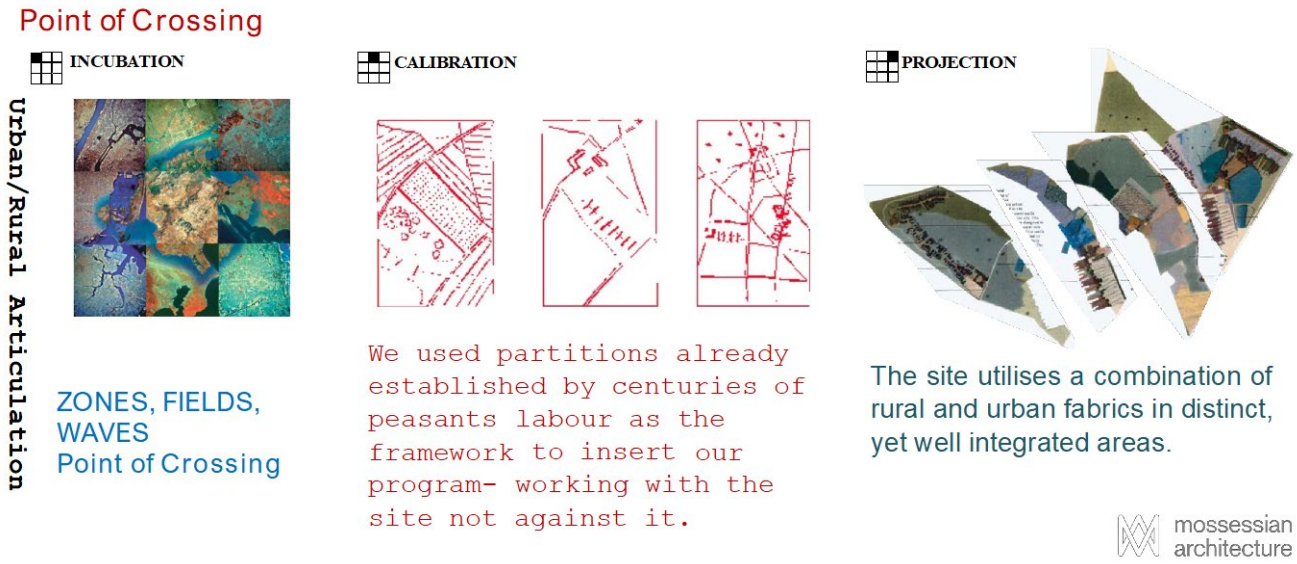
**Nature is Culture - The Landscape Metaphor**

The European rural space can be read like the manifesto of a culture. It can be read like a book written throughout history by the various actors who have left their imprints on the region through their uses, occupations, and conquests.

The wisdom of the paysans as well as the reasoned knowledge of the engineers have left their marks on the territory. On the one hand, we have the repeated partitioning of the fields into distinct and differentiated zones, on the other hand, the underground pipe marks are identifiable by the absence of vegetation. These natural lines are traces on a territory whose uses have changed radically, but whose

organizational logic and character remain preserved. These marks and contours served as a moderating outline of our project.



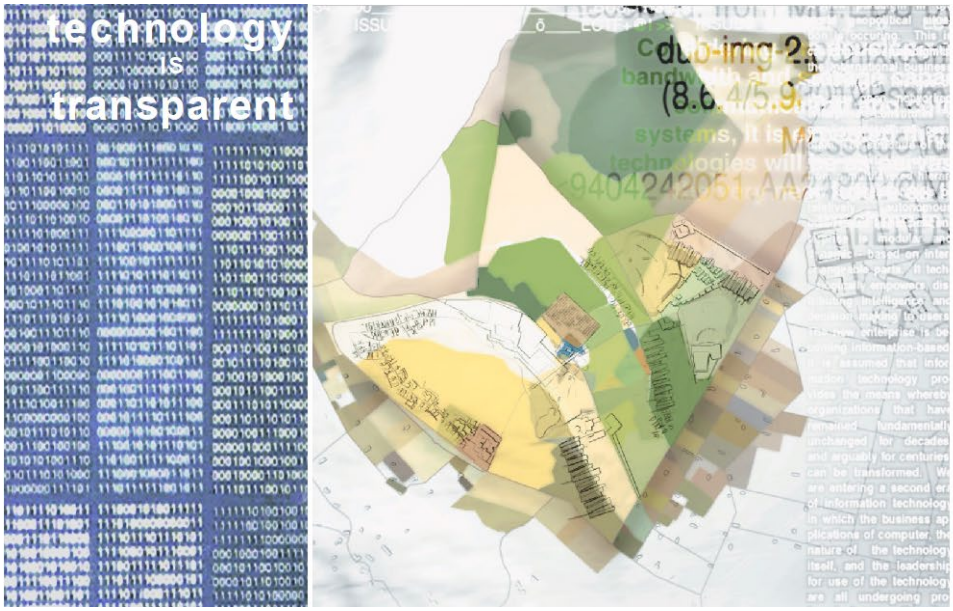




**Limits, Borders, Territories**

Boundaries, borders and territories were drawn into the rural landscape throughout the ages by our predecessors. Marks made by the attuned-to-nature peasant have shaped the landscape. The rural site is a harmonious manifesto of nature and culture, the lines of various walls which were built to demarcate the site, blending together and reading like a transcript of its multiple transformations through the ages.

Some lines mark the natural passage of torrential rains from the mountains. Others, made by the hands of men, offer additional support to divert the passage of these seasonal torrents. Still others mark the boundaries of properties or activities between planted fields and pastures. Paths run through the site, crossing fields of olive trees, almond trees and pasture meadows for horses and sheep. As much archaeological information as it is landscape science, these contours communicate to its reader many layers of information about the site.




**Call posted on the internet**
**February 1994**
**CIS:CYBERF tele-work park on island - a4A** 73122,707

Building Realities *" I am looking for feedback on the issues concerning the planning of a tele-community working from a remote but breathtakingly beautiful island in the Mediterranean. The technology park planned will provide professionals in different fields with access to the most advanced telecommunication technologies, whose emergence has made notions of distance, geographical boundary, and territory far less foreboding as hindrances to communication and trade. The virtual city is global as the physical city shrinks. The physical city has lost its most characteristic social feature as the setting for exchange, prematurely replaced by the virtual space of electronic communication, the meeting place of minds without bodies.*
*What are the ramifications of this to the physical environment? What are the new boundaries if any between work and play? Between home and office?*
*What is the physical character of the virtual workplace? Also, what would make you want to move there? "*

When we began the project, we used the internet to ask a question about what kind of community a teleworker or any kind of worker would like to be in. Many responses were received about the needs and nature of this type of community. From their responses it was clear that architects can play a key role in answering key questions about how to use space.

We came up with a way of addressing the brief vis-a-vis the material that we received from the government of Mallorca. First we came up with a series of new questions to help define the layers. The first layer was one that demarcated territories and boundaries, which basically has been the way of defining space throughout European cultures, from military and political powers that formalised the nature of identity and territoriality, to the ways and means the peasants have drawn the land generation after generation for thousands of years.

On top of this we superimposed a new layer of emerging technologies and telecommunication to provide an extension of our moves and actions, allowing us to be here while also being elsewhere. Leaving the land as immaculate as possible whilst staying in touch with the rest of the world – a second layer that is transparent and invisible.

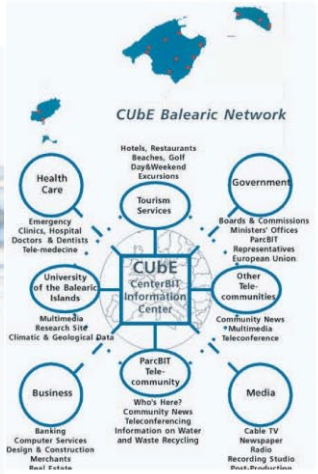
**Technology Is Transparent**

Telecommunications can be likened to waves in a vast open ocean of activities, with harbours being the points where we can anchor ourselves to a physical environment.

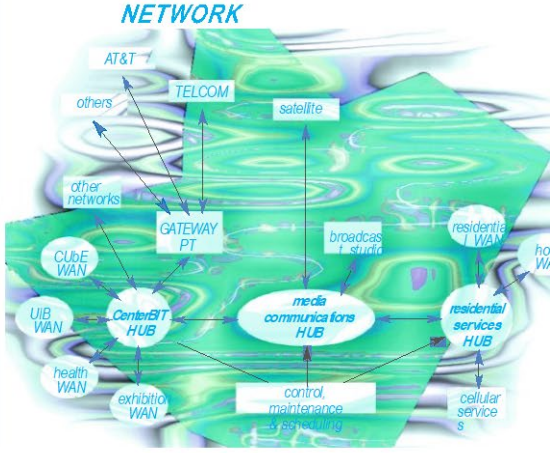
Telecommunication technologies are seemingly invisible. Wireless and cellular connections as well as underground fibre optic cable networks allow technological infrastructure to be superimposed without changing the landscape.

The latest telematics can operate in all existing typologies, thus being able to transform a place of residence into an efficient workspace, and offering the capacity to move the place of work far away from cities and towns.
This offers a new configuration with fewer barriers to communication and interaction, supporting the emergence of new economies within existing rural places and cultures.

Technology is Transparent




CUbE COMMUNICATIONS NETWORK



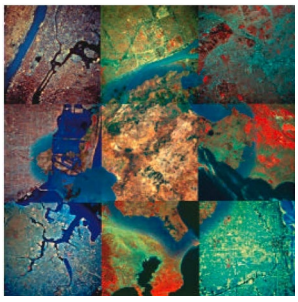

LIMITS BOUNDARIES

technology
IS
transparent

SITE MIS-READING

nature
is
culture

ZONES



Point of Crossing
From Territories,
Borders and Limits to
Zones, Fields and Waves

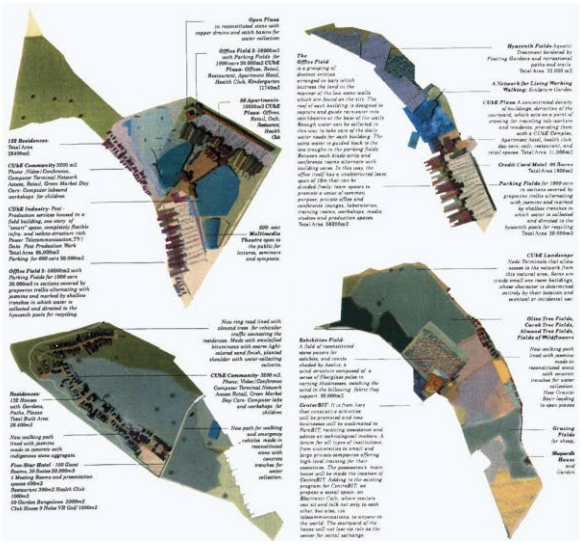
Our response didn't lock our design to a specific site, but presented a set of guidelines and a framework. It was not a masterplan; there were no rules, formal definitions, static systems or rigid formulations, but

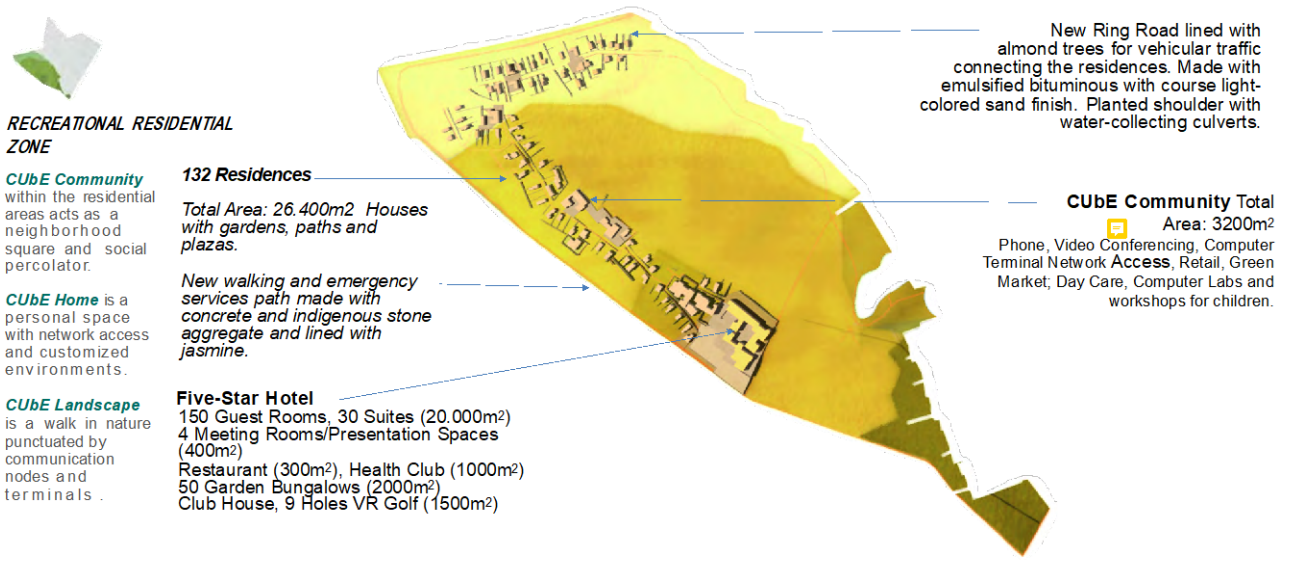
rather a set of principles that could be applied here and in many other places. The ambition of the government was not only to consider one site, but to link Mallorca, Menorca, and Ibiza. Then, once that was configured, to extend and connect to the world networks. Our purpose was also to address the Mediterranean culture and the conditions around the Mediterranean basin.

Thinking of the traces that were left as a design component was a very different approach from not so long ago in the 60's, when common practice was a tabula rasa style of pulling everything down and starting from scratch. We wanted to work with what was already there, refrain from imposing anything that didn't belong, and work in harmony with the existing elements, walls, and topography.

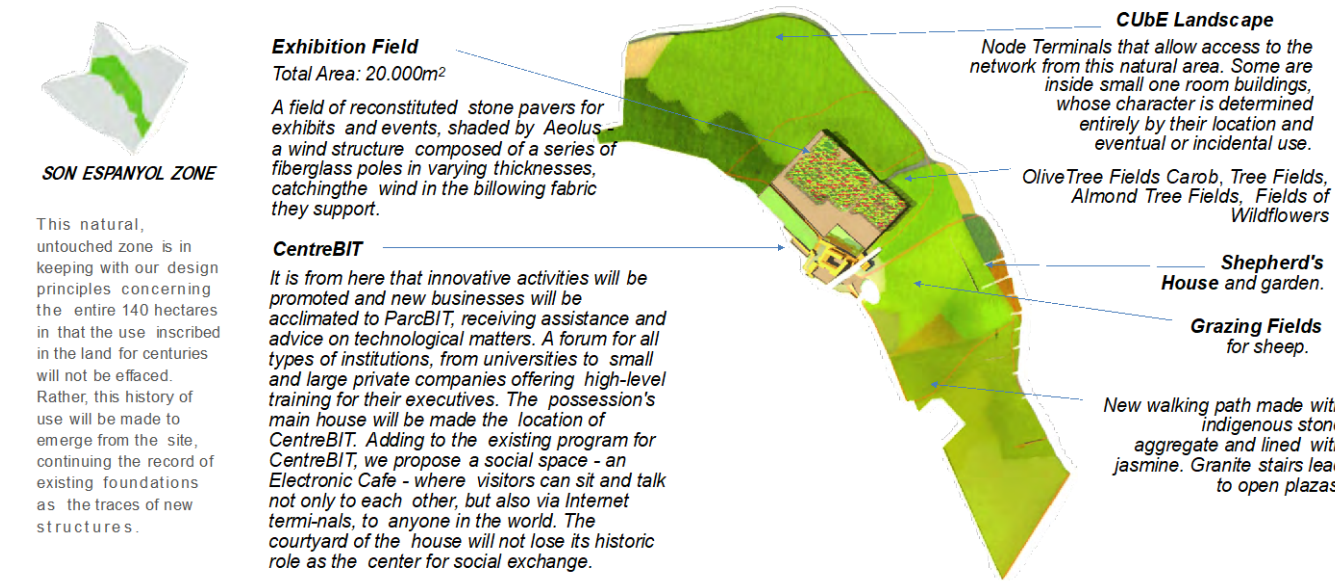

This is the final master plan. You can see that there are different concentrations and different phases organised with the intention to preserve water, to allow for cars, and to protect nature. The impression of the topography and the fields are predominant over the architecture.


*The four zones, fields and territories*

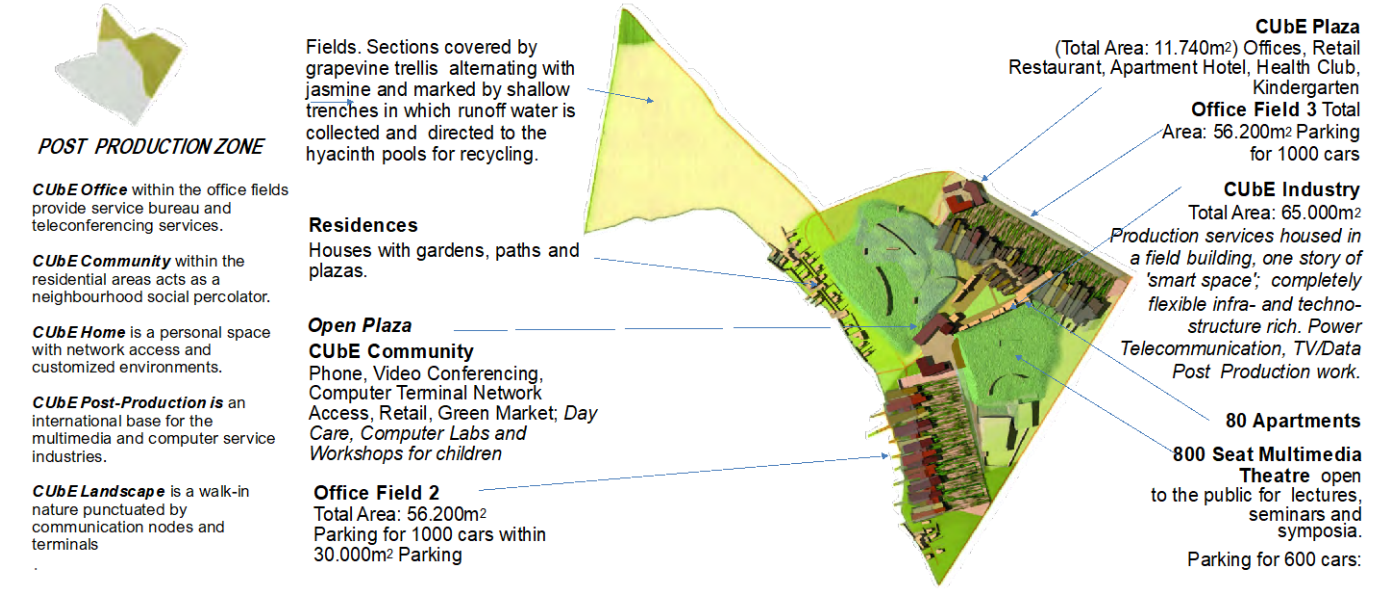





The central farm on the site would be first restored to be a telecommunication hub- or a telecentre, and would remain as a central core of the development; then the various phases, zones and other hubs would follow allowing the first communities of workers to use a series of 'office fields', a state-of-the-art facilities with an office environment, adjacent to the car 'parking fields'. The 'parking fields' are where visitors and residents can leave their cars and they would also serve as water collectors, connected to a water system to provide irrigation and recycled 'new water' to the community.

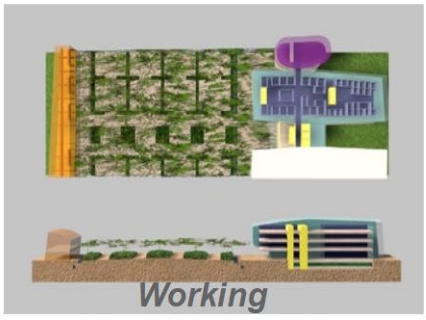



Each of the phases would be built with full accommodation to work, live, and walk. While isolated from the airport and about five minutes from Palma, access to the site remains by car. Adjacent fields would become parking lots that would also serve as water collectors under vines and plants and local vegetation grouped around office buildings. A community node marks each phase across various zones, all equipped with working hubs, a concept we called CUBE.

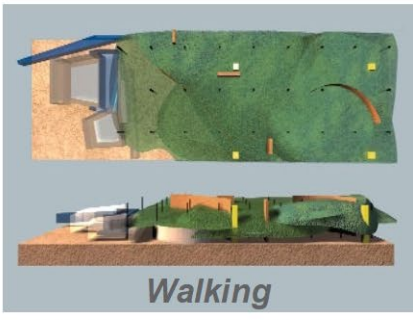



This is a transcription of the site once we processed it. It is like a map for us to refer to - basically the master plan in a camouflaged way.


RESIDENCES and CUbE COMMUNITY



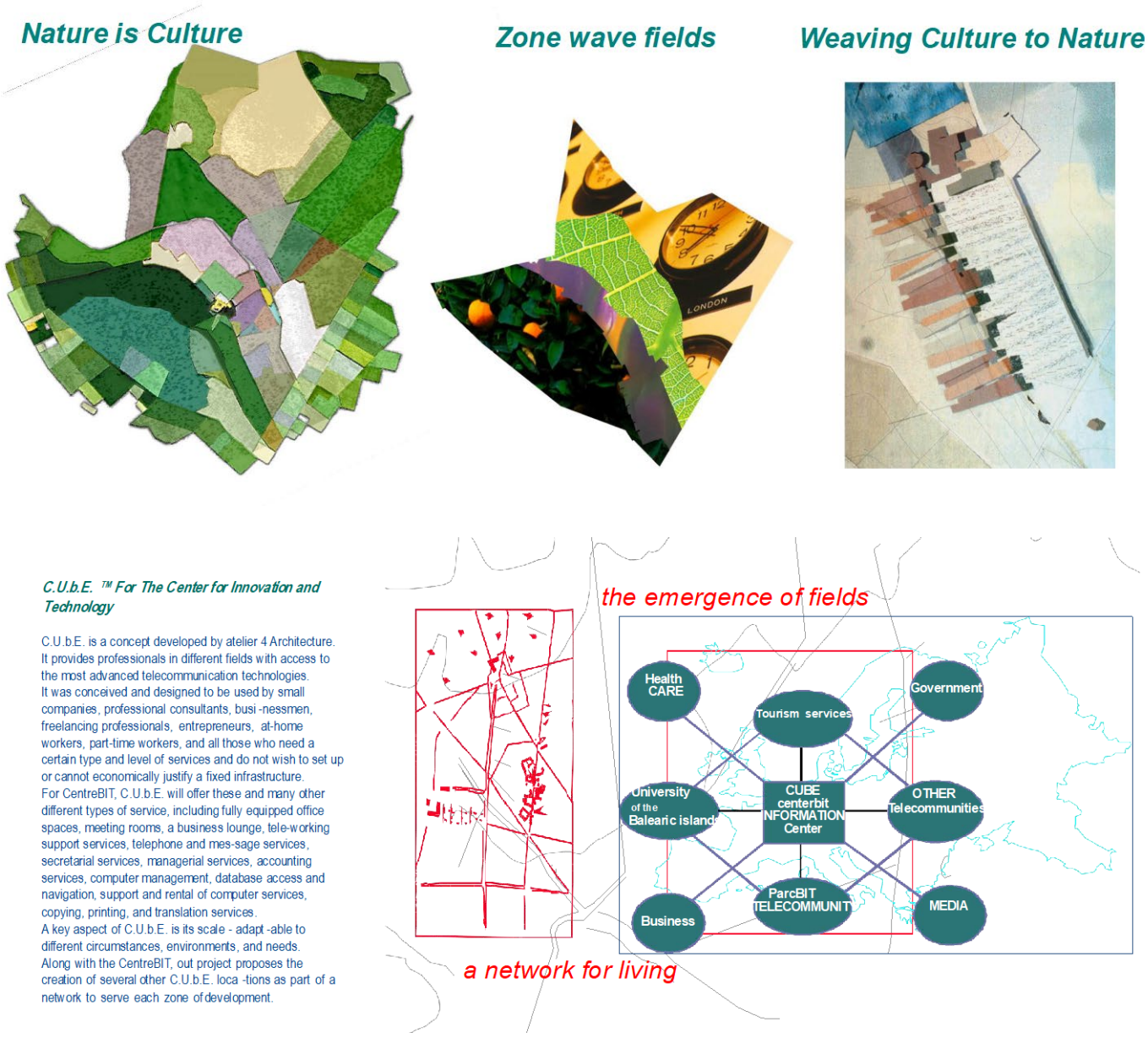

OFFICE and PARKING FIELDS



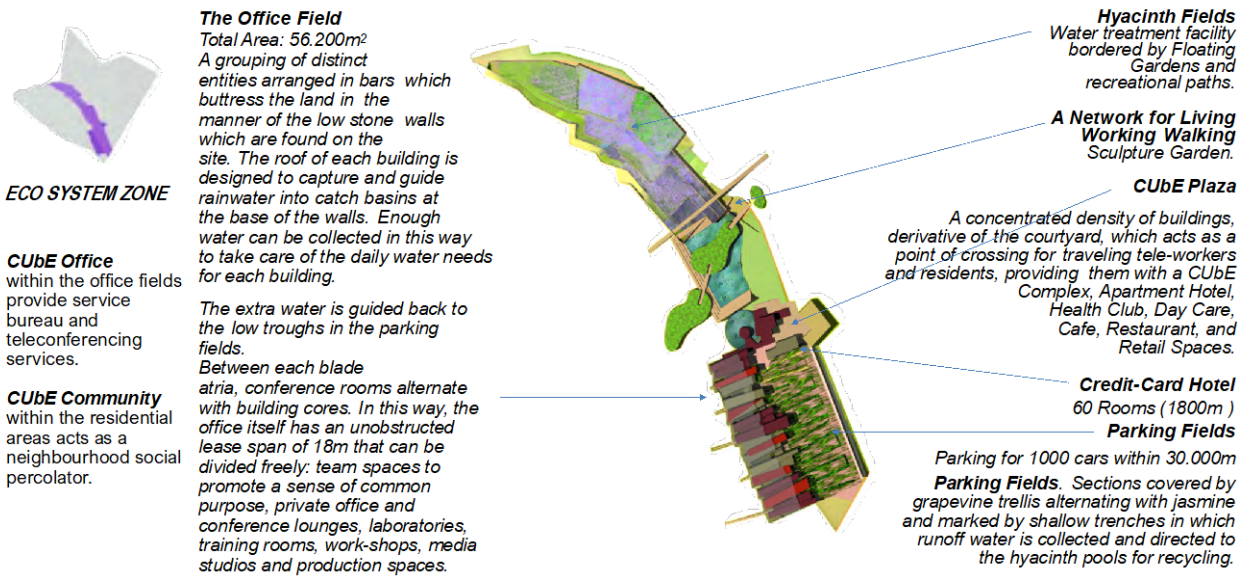

THEATRE and POST-PRODUCTION FIELDS

I think the concept that is proposed by remote working is that not only can you work from your home but that you can choose to work from anywhere in the world. The proposal of Mallorca was to combine their finest asset - their natural environment - with the most modern technology required by remote workers. We took care that our design concept preserved the essence of nature across the site.

The below diagrams illustrate the three themes that interconnect with and supplement each other. Technology and nature can exist and complement each other and not be in opposition.




Our CUBE concept proposes a series of connecting ‘nodes’. Initially designed for urban environments, they offer small nodes within the city for small entrepreneurs or self-employed people to perform work away from home and the traditional office. The nodes here in Mallorca or in the city are small entities that act as service centres as well as cafés where you can gather information and find the resources you need, material or intellectual.

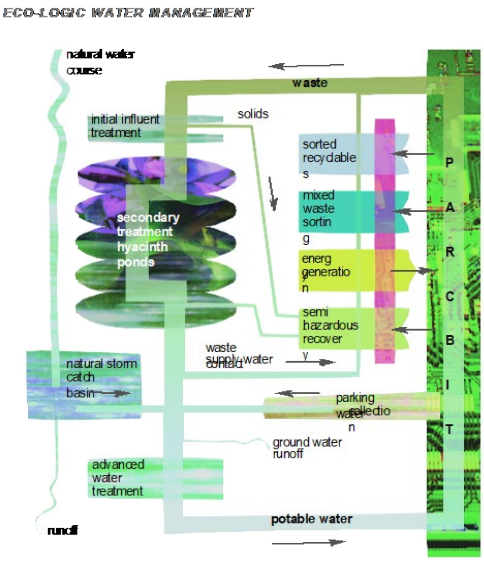



## The Water

The Balearic Islands suffer from a worrying problem: insufficient fresh water. The economy of the islands today is almost exclusively focused on tourism. During periods of great affluence, the water table drops below sea level. This problem may cause the Majorcan landscapes to dry up completely in the coming decades. Technologically cumbersome solutions are being applied to the water problem, such as desalination plants. These are solutions requiring heavy technological infrastructure and costly maintenance over time.

Bringing 10.000 people into a community entails some problems, one of which is the issue of water. We were concerned that people coming to Mallorca would put pressure on the existing and rapidly depleting water table in Mallorca. What we introduced in the centre of our project is an ecological system for recycling water. The whole site would be treated as a water collector. The water that comes down from the mountains from the north-west across the site would be collected. All the buildings would also be water collectors so that each building would be self-sustaining.

The hyacinth is a flowering plant with the capacity to draw toxins from water. What you see in purple in the diagram below are seven ponds of flowering hyacinth plants which can take the toxic water produced by the community and recycle it into table water. This is a system that is already working in San Diego and we collaborated with consultants from San Diego who had put a similar system into place there. The diagram shows a bit of how that system works and what its capacities are.

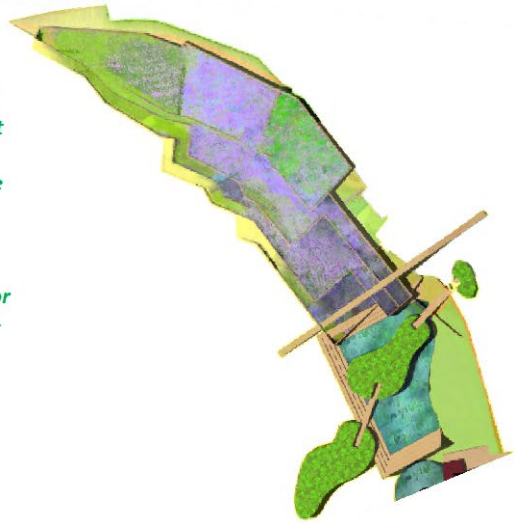


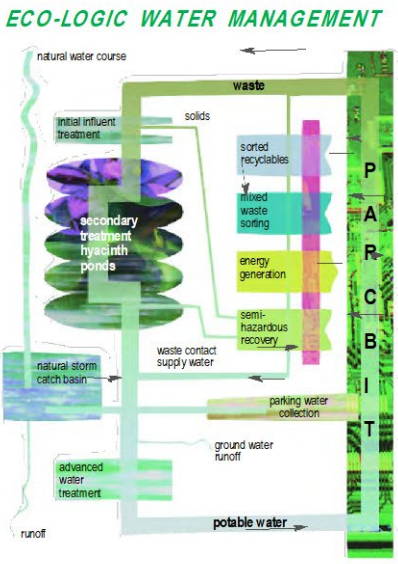

The hyacinth is a beautiful flower that blooms several times a year. In California they use it to deal with toxic waste and are able to achieve 90% drinkable purified water. For the last 10% it is a very expensive process, however 90% of the water recycled is plenty for a community to sustain itself. The last 10% are grey waters, and not toxic waters. This system could be extended to the whole Mallorca Island, as they have big concerns when the waterbed is under sea level at the peak tourism season in August causing salt water to come out of the taps.

We were asked about our concept by mega contractors with extensive experience of water treatments in Spain. Initially they said it was not possible. However we brought all the documentation from our consultants in California, and they acknowledged that maybe it was possible, but that they could not do it in Europe. The problem is that the engineering schools in Europe train people to think about engineering in terms of using pipes, technology, and machines, rather than considering natural and ecological solutions. The Hyacinth Field is an ecological system that needs about three years to attune to nature, and other benefits include addressing problems with mosquitoes and other types of vegetation. There are a lot of problems we can resolve by working with nature, if we apply some patience and knowledge of the natural world.

***Water Gardens and Hyacinth Fields***

***A complete waste management system for ParcBIT could function in conjunction with the hyacinth ponds.***
***The analogue waste stream reuse would create an energy source for the park as well as for surrounding areas, and will be - accomplished without mass incineration or land filling.***






We addressed this problem with gentle, sustainable, and self-sufficient technologies. Wastewater would be treated with hyacinth plants. A cycle of 7 basins is enough to make the water reusable and make it

drinkable at a lower cost. This system considers the environment, flora, insects and offers natural water treatment and recovery.

Another problem with arid regions is that they do not retain water and torrential waters flow directly into the sea. Recovery basins would allow water to be kept and recycled in the system. Rainwater would also be collected from the roofs of buildings as well as from car parks.

The critical issue of water conservation in Mallorca means that an ecological system with a goal of the total recovery of used waters is a central theme. The influx of human occupancy onto the ParcBIT site will create the need for a large supply volume of fresh source water, as well as the removal of an even larger volume of wastewater. Low and high technology concepts have been employed to catch, cleanse, and reuse water, as well as to recycle, and regenerate waste into both reusable material and energy. The strategy of reusing water will make use of the site as a porous filter and catch basin. In addition to the existing water runoffs, the "catch basin" concept will use the surface of the parking areas as water collectors, linking them to natural water course pathways and into the wastewater filtration system. Filtering of both black and grey wastewater from the ParcBIT program will be developed in a three-stage process:

In the first phase, influent treatment, the wastewater is filtered and released to the second stage, the hyacinth ponds, which operate in step feed mode with aeration and effluent recirculation. At this stage the water is 85% potable and adequate for use in irrigation. In the third phase, advanced water treatment (AWT) cleans the water to 100% if desired, using Ultraviolet Disinfection, Reverse Osmosis, Aeration, and Carbon Absorption. The initial and advanced treatment can be carried out within structures on or off site, or in an existing water treatment facility

This system also provides an opportunity to create water gardens, which is a very high tradition in Mediterranean basins. Below you see how the parking areas would be treated. We also worked with a French landscape architect who has previously done parking lots with plants and water collection.


The above is an image of the different fields we are dealing with.

1994 2019-2021

## A Grounded Network for Living, Working, Walking …. Playing together

## Weaving Nature with Culture