Galan Vivas, Juanjo; Tähtinen, Sari; Staffans, Aija; Mladenovic, Milos

**Otaniemi : Towards and integrative Vision**

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OTANIEMI: Towards and integrative Vision

1. INITIAL DIAGNOSIS

L-Campus Group, Aalto University 2015

Planning Team: Juanjo Galan (coordination & author of drawings), Sari Tahtinen, Aija Staffan, Milos Mladenovic
Digitalization and improvement of drawings: Pilar Llop and Alberto Zaragoza
Towards a continuous Green Infrastructure

A Biodiverse Green Infrastructure
1.2. INITIAL DIAGNOSIS_Buildings network and spatial qualities

Buildings in the landscape and How to densify

Some compositional elements in Otaniemi

Central building
Hidden building
Side building

Build up
Increase footprint

Chimney
Chapel

Forest
Farmland

Landmarks & protected buildings
Meadows

2 historical elements
Interactions between land uses and people in a denser and more diverse Otaniemi?

Otaniemi in the Metropolitan & Local context and some extra questions in Otaniemi: Filling in?, Opening buildings? Cars?
The current Car-Park Logic... Options for Car-Parks... Seasonal patterns in the use of means of transport (Now and After?)

Alternatives for the Grey Infrastructure?
OTANIEMI: Towards and integrative Vision

1.5 Character and Genius Loci

Red brick architecture?

Grouping and Mixing?

Densification and Land covers?

Just human centered?
1.6 Coordination of planning scales and planning systems
Otaniemi: a modelic small town

New people, new needs, new services
Otaniemi: new social interactions, more shared services

New uses of the open space for a new social collage
Otaniemi: a digital infrastructure

Otaniemi: digitalization and changes in ways of living?

- Eating
- Doing exercise
- Socialising
- Innovative Education & Research
- Getting info, easier & faster

Clearer digitalized Campus
OTANIEMI: Towards and integrative Vision (L-Campus Group, Aalto University 2015: Juanjo Galan, Sari Tahtinen, Aija Staffans, Milos Mladenovic, Collaborations in drawings: Pilar Llop, Alberto Zaragoza)

1.9 Visual Otaniemi
1.10 Open Spaces

Buildings / Car-parks / Green

A hierarchical system for the open spaces

A gradient of urbanity
1.11 Sustainability

SUSTAINABLE PIECES
- Sustainable buildings
- Oranges, terraces, energy...

SUSTAINABLE OPEN SPACES
- Sustainable open spaces
- Rainwater management

SUSTAINABLE TRANSPORT
- Sustainable transport
- Efficient public transport

SUSTAINABLE NATURAL SPACES
- Sustainable natural spaces
- Protection of ecosystems and biodiversity

SUSTAINABLE WAYS OF LIVING
- Food production
- Orchards, kitchen gardens...

SUSTAINABLE CAMPAIGN
Campus as a metabolism with different layers

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1.12 Hierarchies & Navigation / Seasonal changes / Ecotones and transitions

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ACTIVE ECOTONE: 
TRANSITIONS 
AND ORIENTATION

HIERARCHY

WIDTH ROADS / MATERIALS

LIGHTING/SIGNAGE

MATERIALS AND HIERARCHY IN OPEN SPACES

OBJECTIVE
ACTIVE 24/7/365

HOW?
Making these spaces comfortable

MAIN PUBLIC SPACES

WINNING

HUMAN SITES

PSYCHOLOGICAL COMFORT

Physical comfort

Humidity
Natural pavements generate humidity

Stored heat
Plasing materials can store heat from sun

Lifelss spaces
Transparent buildings

Car parks

Food production

Wild meadows

Biodiversity

Invasive forest

Farm

Wild meadows

Biodiversity
OTANIEMI: Towards and integrative Vision

2. INITIAL DIAGNOSIS

L-Campus Group, Aalto University 2015

Planning Team: Juanjo Galan (coordination & author of drawings), Sari Tahtinen, Aija Staffan, Milos Mladenovic
Digitalization and improvement of drawings: Pilar Llop and Alberto Zaragoza
2. STRATEGIES FOR PLANNING

1. PRINCIPLES
   - ABOUT CHANGING
   - ABOUT SUSTAINABILITY
   - ABOUT THE PARADIGM CITY

2. PROGRAMME
   - ABOUT IDEAS & LAND USE
   - ABOUT COMUNITY & INTERFACES
   - ABOUT TIME & SPACE
   - ABOUT MARKET APPROACHES

3. NETWORKS & SPACES
   - DIGITAL NETWORK
   - RESEARCH NETWORK
   - GREEN NETWORK
   - CULTURAL NETWORK
   - INTERFACE

VISION 1
VISION 2
A different Finnish Campus with self-identity. Don’t copy models.

Look for Otaniemi’s identity based on Technology, Art and Nature.


Feeling & enhancing Otaniemi’s & Aalto’s University identity.

3 existing character areas: The Campus in the forest
The Campus in the farmland (cultivated nature)
The Hybrid

Separated / Mixed / Interweaved users & networks.

Using contrast & equalization between indoors / outdoors.

Enhance & preserve character areas lacked to cultural or environmental values.

Plan & design considering always the whole Otaniemi. Promoting positive & fruitful interactions between users / networks / elements / sensations

Promote internal metabolisms & efficiency within Otaniemi

Working in terms of: Energy production
Waste management
Sustainable Transport
Food production
Water management

Communities & ways of living

Enhance & preserve character areas lacked to cultural or environmental values.

Promote sustainability principles through smart use of land & other resources.

Implement & explore internal metabolisms & sustainable communities

Promote sustainable ways of living using an ecological footprint app in Aalto.
1. PRINCIPLES

**Objectives**

- **A** Densification to create a more lively multifunctional Otaniemi.
- **B** Wildification to enhance Otaniemi’s identity and to promote an interaction between human & natural systems.
- **C** Enrich character experience in Otaniemi.
- **D** Create a more flexible, adaptable & resilient Otaniemi.

**Tools**

1. For densification: urban systems. Buildings & urban open spaces.
2. For wildification: Biotopes & ecological diversity. Water & forests...
3. For flexibility, adaptability & resilience: Hybridization & sinergetic combination of human / natural systems.

**Our decisions**

- Plan & design the Campus to achieve a positive & synergetic relationship between urban and natural systems. Networks as central backbones. Hybrids as resilience enablers.
- X Concretize the Strategic Vision

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2. STRATEGIES FOR PLANNING

**About the Paradox City**

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2. STRATEGIES FOR PLANNING

### 2. PROGRAMME

#### ABOUT USERS & LAND USES

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>From a University Campus to a Smart University City.</td>
<td>Horizontal &amp; vertical distribution of land uses.</td>
<td>Create the right spaces for a wide variety of land uses (housing, campus, offices, nature...) &amp; users (students, private, companies, retail, university staff, visitor, culture, sports...)</td>
</tr>
<tr>
<td>Diversify land uses &amp; users in Otaniemi.</td>
<td>OPEN BUILD-UP: Public / semipublic / semiprivate / private spaces.</td>
<td>Create attractive conditions for all the desired groups of users for living, working, visiting, studying...</td>
</tr>
<tr>
<td>Promote positive interactions between different users &amp; land uses.</td>
<td>Renting &amp; Buying prices AFFORDABLE for students &amp; ATTRACTIVE for private sector: Housing, offices, services...</td>
<td>Create the right infrastructure for the adequate functioning of the Smart University City (land uses &amp; users).</td>
</tr>
</tbody>
</table>

#### ABOUT COMMUNITY & INTERACTIONS

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote positive community feelings &amp; interactions.</td>
<td>Same tools as in “Users &amp; land uses”</td>
<td>Create the spaces &amp; opportunities for positive interactions &amp; effective participation.</td>
</tr>
<tr>
<td>Different degrees of interaction between university and other actors.</td>
<td>Shared programme &amp; Shared spaces and facilities: common events, open information...</td>
<td>Promote a shared programme in Otaniemi: - Physical programme: sports, culture... - Functional events.</td>
</tr>
<tr>
<td>Facilitate effective &amp; constructive participation of all the relevant stakeholders.</td>
<td>Digital + Analogical techniques.</td>
<td>Suggest different scenarios which promote different degrees of interaction &amp; community feelings.</td>
</tr>
<tr>
<td>Integrate digitalization in the way in which people will interact with the site &amp; with each other in Otaniemi.</td>
<td></td>
<td>Consider the potential &amp; possibilities of the Civic Center (metro station, service areas...) and of the local punctual university hubs and clusters in the definition of a richer community.</td>
</tr>
<tr>
<td>Use digitalization to facilitate the principles defined for Otaniemi in terms of sustainability, character and paradox city.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**OTANIEMI: Towards and integrative Vision**

(L-Campus Group, Aalto University 2015: Juanjo Galan, Sari Tahtinen, Aija Staffans, Milos Mladenovic, Collaborations in drawings: Pilar Llop, Alberto Zaragoza)
2. STRATEGIES FOR PLANNING

2. PROGRAMME

ABOUT TIME & USE

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Integrate seasonal changes as a positive quality of Otaniemi.</td>
<td>Treatment of the outdoor space &amp; interactions with buildings: shelter urban spaces, physical &amp; visual interactions between buildings and public space...</td>
<td>Combine active (365/365) comfortable civic spaces with highly seasonal open areas.</td>
</tr>
<tr>
<td>Keep the neurological central system of Otaniemi alive 24h/7 days/365 days</td>
<td>Work with the potentials of comfortable environment and warm buildings. Design principles or factors of surprise &amp; contrast. “Phasing Plan”</td>
<td>Integrate seasonal changes &amp; contrast between outdoors/indoors as an specific design factor (contrast &amp; unexpected experience). Work the transitions between indoors - outdoors.</td>
</tr>
<tr>
<td>Define an implementation plan phasing the development of Otaniemi and integrating the needs of all the stakeholders.</td>
<td></td>
<td>Develop a phasing plan as part of Masterplan.</td>
</tr>
</tbody>
</table>

ABOUT MARKET APPROACHES

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define contrasting scenarios addressing qualitatively different markets.</td>
<td>Market study (tool to define “the product”) Masterplan (tool to manufacture “the product”)</td>
<td>Develop 2 contrasting draftplans based in qualitatively different market aproaches and founded in the general strategic vision principles</td>
</tr>
</tbody>
</table>
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2. STRATEGIES FOR PLANNING

3. NETWORK & SPACES

**GREEN & BLUE NETWORK**

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -Integrate new functions and create an specific character in the</td>
<td>1. Protect and use the existing green natural areas</td>
<td>A -Protect and expand a Green-Blue network with a wild/natural</td>
</tr>
<tr>
<td>transitional stripes (Water/Forest/Backyards/buildings)</td>
<td>2. Integrate vacant, meaningless spaces in the network in order</td>
<td>character as the main matrix of the Otaniemi area.</td>
</tr>
<tr>
<td></td>
<td>to make possible its continuity and expansion, and also to</td>
<td>-Promote biodiversity and highly evolved forest and plant communities in the</td>
</tr>
<tr>
<td></td>
<td>include the backyards and transitional spaces.</td>
<td>green network.</td>
</tr>
<tr>
<td></td>
<td>3. Use the courtyards, buildings and civic spaces to develop a</td>
<td>-Integrate 3 green systems</td>
</tr>
<tr>
<td></td>
<td>system of urban nature (technological, geometrical,</td>
<td>Natural green THE QUIET LANDSCAPE</td>
</tr>
<tr>
<td></td>
<td>ornamental, etc.)</td>
<td>Urban green THE VIBRANT LANDSCAPE</td>
</tr>
<tr>
<td></td>
<td>4. Articulating the main civic and public areas.</td>
<td>PRODUCTIVE LANDSCAPE</td>
</tr>
<tr>
<td></td>
<td>5. Variations on the green natural matrix - Other species,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>other geometrical arguments?</td>
<td></td>
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<tr>
<td></td>
<td>6. Lawns and meadows around buildings --&gt; Keep them as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;neutral&quot; frames or increase their visual relevance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Seashore --&gt; Open views</td>
<td></td>
</tr>
<tr>
<td>B -Increase the usual presence of the water (seashore and swamps)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C -Create a continuous and strong green network which defines the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>matrix of Otaniemi.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D -Promote natural processes, biodiversity and mature forests in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otaniemi.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E -Connect the Otaniemi green network with other regional natural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F -Keep the natural character of the green areas and define more</td>
<td></td>
<td></td>
</tr>
<tr>
<td>managed green systems in the culturally important areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G -Define some criteria for the location and roles of the meadows and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>open greens.</td>
<td></td>
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</tr>
</tbody>
</table>

2. STRATEGIES FOR PLANNING

- Explore the possibilities of the transitional/ backyard areas as spaces to absorb new uses (food production, spontaneous gardens, nests of biodiversity).
- Associate the open green areas (lawns and meadows) to: Farmland historical landscapes
  Visual windows
  Open landscapes in main facades. Domestic resting areas
- Protect visual surroundings of protected buildings.
- Promote the presence and visual contact with water.
Different Finnish Campus with self-identity. Don’t copy models. Look for Otaniemi’s identity based on technology, art, and nature.


Feeling & enhancing Otaniemi’s & Aalto’s University identity.

3 existing character areas:
1. The Campus in the forest
2. The Campus in the farmland (cultivated nature)
3. The Hybrid

Separated/Mixed/Interweaved users & networks.

Using contrast & equalization between indoors/outdoors.

Enhance & preserve character areas lacked to cultural or environmental values.

Plan & design considering always the whole Otaniemi.

Promoting positive & fruitful interactions between users/networks/elements/sensations.

Promote internal metabolisms & efficiency within Otaniemi working in terms of:
- Energy production
- Waste management
- Sustainable transport
- Food production
- Water management

Communities & ways of living.

Enhance & preserve character areas lacked to cultural or environmental values.

Promote sustainability principles through smart use of land & other resources.

Implement & explore internal metabolisms & sustainable communities.

Promote sustainable ways of living using an ecological footprint app in Aalto.

- Play with heights and number of storeys to release the pressure over the open land.
- Consider the role of red brick buildings as part of Otaniemi character & Aalto legacy.
- Integrate new architectural materials and typologies as a parallel network to the red brick system.
- Use the buildings (new and existing) to reinforce the new civic/urban system (squares, streets) and the campus hubs.
- Promote horizontal and vertical multifunctionality.
- Define criteria for the relationship of buildings with their surroundings and networks.
- Support the “programatic” objective of increasing the offer of services in order to make Otaniemi a better place to study/live/work/visit....
- Combine the current contrast indoor/outdoor with some more open relationships.

Integrate housing in a hybrid system which makes possible and feasible the combination of private housing and affordable student housing. Reinforce the role of protected buildings as cultural and visual landmarks. Flexible and adaptable design, specially in buildings along streets and main civic areas.

(*) HYBRID SYSTEMS

- Protected
  - Services
  - University
  - Offices
  - Student housing
  - Private housing

NOW

AFTER

- Protected
  - Services
  - University
  - Offices
  - Student housing
  - Private housing
### Objectives

A. Play with heights and number of storeys to release the pressure over the open land.

B. Consider the role of red brick buildings as part of Otaniemi character & Aalto legacy.

C. Integrate new architectural materials and typologies as a parallel network to the red brick system.

D. Use the buildings (new and existing) to reinforce the new civic/urban system (squares, streets) and the campus hubs.

E. Promote horizontal and vertical multifunctionality.

F. Define criteria for the relationship of buildings with their surroundings and networks.

G. Support the “programatic” objective of increasing the offer of services in order to make Otaniemi a better place to study/live/work/visit....

H. Combine the current contrast indoor/outdoor with some more open relationships.

### Tools

1. **Existing buildings**
   - Permeabilization, addition of annexes
   - 1st floor becomes essential

2. **New buildings**

3. **Service buildings and metro station**
   - THE COMMUNAL INTERFACE

4. **Concepts**: Urban continuity, height, permeability, multifunctionality, character.

### Our decisions

- Integrate the red brick architecture with a possible new architectural system.
- In new buildings.

- Permeabilization, addition of annexes.
- 1st floor becomes essential.

- Integrate the red brick architecture with a possible new architectural system.
- Annexed to existing buildings.

- Explore ways to combine 2 types of architecture.
- Increase permeability along civic places (squares, streets).

- Increase the program of shared services and reinforce their connections.

- Explore different transitional options between indoor and outdoor.

- Combine a continuous and dense built up systems along streets and a discontinuous systems of peripheral areas around squares, streets.

### (*) HYBRID SYSTEMS

- Flexible and adaptable design, specially in buildings along streets and main civic areas.

- Integrate housing in a hybrid system which makes possible and feasible the combination of private housing and affordable student housing.

- Reinforce the role of protected buildings as cultural and visual landmarks.

- Flexible and adaptable design, specially in buildings along streets and main civic areas.
### 3. NETWORK & SPACES

#### 2. STRATEGIES FOR PLANNING

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<tr>
<th>Objectives</th>
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</thead>
<tbody>
<tr>
<td>A - Use densification and the metro station to create new dynamics and ways of arriving and moving inside.</td>
<td>- System of car parks to promote or discourage use of private cars.</td>
<td>- Develop two scenarios</td>
</tr>
<tr>
<td>B - Promote soft mobility in civic squares and campus hubs.</td>
<td>- Public transport</td>
<td>SOFT + PUBLIC</td>
</tr>
<tr>
<td>C - Develop a transport network to serve the expected new Otaniemi.</td>
<td>- Soft mobility (bikes, electric cars, walking...)</td>
<td>CONVENIENT + FREE</td>
</tr>
<tr>
<td>D - Promote public and soft transport within Otaniemi (GETTING IN/OUT // MOVING IN)</td>
<td>- Management---&gt;Bonus for people using public transport or bike?? In winter</td>
<td>- Relate main car parks to the main public/civic areas and the campus gates.</td>
</tr>
<tr>
<td>E - Provide the conditions for a convenient access to all the buildings.</td>
<td>- Streets/ Driveways/Roads--&gt; Hierarchy + character + comfort</td>
<td>- Redimension the secondary car parks to give service to buildings that are too distant to main car parks.</td>
</tr>
<tr>
<td>F - Take advantage of the metro to promote internal commuting to internal bus/bicycles.</td>
<td></td>
<td>- Emphasize the hierarchy in the driveways system by reducing the section or soften the edge of secondary streets or roads.</td>
</tr>
</tbody>
</table>

#### GREY NETWORK

- Improve the walking conditions of more intensively used streets or connectors.
- Improve orientation and way finding (lighting, signage...)
- Give a specific "University" and "Otaniemi" character to the Otaniemi metro station and its associated civic area.
<table>
<thead>
<tr>
<th>CULTURAL NETWORK</th>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-Protect and enhance the ARCHITECTURAL (heritage), VISUAL (farmland open landscape), INFRASTRUCTURAL (metro station).</td>
<td>1. Protected and valuable buildings/landscapes</td>
<td>-Enhance and redefine (if needed) character as cultural and artistic expression (atmospheres)</td>
</tr>
<tr>
<td>B</td>
<td>-Consider the existing character areas (forest, farmland and hybrid) as part of the cultural values of Otaniemi.</td>
<td>2. Narrative network</td>
<td>-Facilitate individual / collective artistic expression in some areas (transitional zones, metro station, communal buildings)</td>
</tr>
<tr>
<td>C</td>
<td>-Use the character areas to potentiate the identity of Otaniemi and its different areas</td>
<td>3. Character as cultural and artistic expression.</td>
<td>-Enhance, extend and balance the narrative network.</td>
</tr>
<tr>
<td>D</td>
<td>-Extend and enhance the narrative network in Otaniemi (now just in the north)</td>
<td>4. Isolated art/ temporary art / areas for public expression of art (landscape to create atmospheres, feelings)</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>-Promote positive interactions between art works, nature and architecture.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERFACES</th>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-Enrich the typology of open spaces</td>
<td>1. Take advantage of densification or wildification (+metro station) to recognize and diversify the open spaces.</td>
<td>-Hierarchy + more typologies</td>
</tr>
<tr>
<td>B</td>
<td>-Define some criteria for the distribution of different open spaces.</td>
<td></td>
<td>CIVIC CENTER (More constructed)</td>
</tr>
<tr>
<td>C</td>
<td>-Solve lack of hierarchy/ non-spaces/backyards.</td>
<td></td>
<td>DOMESTIC OUTDOORS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERFACES OTANIEMI GATES</th>
<th>Objectives</th>
<th>Tools</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>-Make recognizable and special the entrances to Otaniemi (Transmit Otaniemi’s character)</td>
<td>1. Areas around entrances : Nature/New buildings?</td>
<td>-Green gates to Otaniemi?? : forest/water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Contrasting gates (forest, technology ,arts, city?)</td>
</tr>
</tbody>
</table>
OTANIEMI: Towards and integrative Vision

3. Two Alternative Visions

L-Campus Group, Aalto University 2015

Planning Team: Juanjo Galan (coordination & author of drawings), Sari Tahtinen, Aija Staffan, Milos Mladenovic
Digitalization and improvement of drawings: Pilar Llop and Alberto Zaragoza
3. TWO ALTERNATIVE VISIONS_a Smart Otaniemi
3. TWO ALTERNATIVE VISIONS_a Smart Otaniemi
OTANIEMI: Towards an integrative Vision  
(L-Campus Group, Aalto University 2015: Juanjo Galan, Sari Tahtinen, Aija Staffans, Milos Mladenovic, Collaborations in drawings: Pilar Llop, Alberto Zaragoza)

3. TWO ALTERNATIVE VISIONS_a Utopian Otaniemi
3. TWO ALTERNATIVE VISIONS_a Utopian Otaniemi
3. TWO ALTERNATIVE VISIONS
3. TWO ALTERNATIVE VISIONS