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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

1.1. INITIAL DIAGNOSIS_Green Infrastructure
1.2. INITIAL DIAGNOSIS_Buildings network and spatial qualities

Buildings in the landscape and How to densify

Some compositional elements in Otaniemi

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)
1.3 Land Uses

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?
1.4 Transport and Mobility

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?
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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
1.7 Users

Otaniemi: a modellic 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?
OTANIEMI: Towards and integrative Vision

1.9 Visual Otaniemi
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1.10 Open Spaces

Buildings / Car-parks / Green

A hierarchical system for the open spaces

A gradient of urbanity
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1.11 Sustainability

Campus as a metabolism with different layers

SUSTAINABLE PIECES

SUSTAINABLE NETWORKS

SUSTAINABLE WAYS OF LIVING

SUSTAINABLE OPEN SPACES

Sustainable buildings
Roof:
Orchards, Terraces, Energy...

Sustainable transport
Efficient public transport

Sustainable natural spaces
Protection of ecosystems and biodiversity

Food production
Orchards, kitchen gardens...

Energy production
Biomas and other non-destructive processes

(Prepa Group, Aalto University 2015: Juanjo Galan, Sari Tahtinen, Aija Staffans, Milos Mladenovic, Collaborations in drawings: Pilar Llop, Alberto Zaragoza)
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1.12 Hierarchies & Navigation / Seasonal changes / Ecotones and transitions
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 CHARACTER

Objectives
A  A different Finnish Campus with self-identity. Don’t copy models.
B  Look for Otaniemi’s identity based on Technology, Art and Nature.
D  Feeling & enhancing Otaniemi’s & Aalto’s University identity.

Tools
1  3 existing character areas: The Campus in the forest
   The Campus in the farmland (cultivated nature)
   The Hybrid
2  Separated / Mixed / Interweaved users & networks.
3  Using contrast & equalization between indoors / outdoors.

Our decisions
△ 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.

ABOUT SUSTAINABILITY

Objectives
A  Promote internal metabolisms & efficiency within Otaniemi

Tools
1  Working in terms of: Energy production
   Waste management
   Sustainable Transport
   Food production
   Water management
2  Communities & ways of living

Our decisions
△ 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

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Densification to create a more lively multifunctional Otaniemi.</td>
<td>1. For densification: urban systems. Buildings &amp; urban open spaces.</td>
<td><img src="#" alt="Plan &amp; design the Campus to achieve a positive &amp; synergetic relationship between urban and natural systems. Networks as central backbones. Hybrids as resilience enablers." /></td>
</tr>
<tr>
<td>B Wildification to enhance Otaniemi’s identity and to promote an interaction between human &amp; natural systems.</td>
<td>2. For wildification: Biotopes &amp; ecological diversity. Water &amp; forests...</td>
<td></td>
</tr>
<tr>
<td>C Enrich character experience in Otaniemi.</td>
<td>3. For flexibility, adaptability &amp; resilience: Hybridization &amp; sinergetic combination of human / natural systems.</td>
<td><img src="#" alt="Concretize the Strategic Vision" /></td>
</tr>
</tbody>
</table>
## 2. STRATEGIES FOR PLANNING

### 2. PROGRAMME

#### ABOUT USERS & LAND USES

<table>
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<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> From a University Campus to a Smart University City.</td>
<td>1. 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><strong>B</strong> Diversify land uses &amp; users in Otaniemi.</td>
<td>2. 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><strong>C</strong> Promote positive interactions between different users &amp; land uses.</td>
<td>3. 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>
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<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
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<tbody>
<tr>
<td><strong>A</strong> Promote positive community feelings &amp; interactions.</td>
<td>1. 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><strong>B</strong> Different degrees of interaction between university and other actors.</td>
<td>2. 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><strong>C</strong> Facilitate effective &amp; constructive participation of all the relevant stakeholders.</td>
<td>3. Digital + Analogical techniques.</td>
<td>Suggest different scenarios which promote different degrees of interaction &amp; community feelings.</td>
</tr>
<tr>
<td><strong>D</strong> 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><strong>E</strong> Use digitalization to facilitate the principles defined for Otaniemi in terms of sustainability, character and paradox city.</td>
<td></td>
<td></td>
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</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)
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2. STRATEGIES FOR PLANNING

2. PROGRAMME

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<tr>
<td>A Integrate seasonal changes as a positive quality of Otaniemi.</td>
<td>1 Treatment of the outdoor space &amp; interactions with buildings: shelter urban spaces, physical &amp; visual interactions between buildings and public space...</td>
<td>A Combine active (365/365) comfortable civic spaces with highly seasonal open areas.</td>
</tr>
<tr>
<td>B Keep the neurological central system of Otaniemi alive 24h/7 days/365 days</td>
<td>2 Work with the potentials of comfortable environment and warm buildings. Design principles or factors of surprise &amp; contrast.</td>
<td>V Integrate seasonal changes &amp; contrast between outdoors/indoors as a specific design factor (contrast &amp; unexpected experience).</td>
</tr>
<tr>
<td>C Define an implementation plan phasing the development of Otaniemi and integrating the needs of all the stakeholders.</td>
<td>3 &quot;Phasing Plan&quot;</td>
<td>C Develop the transitions between indoors - outdoors.</td>
</tr>
</tbody>
</table>

| ABOUT TIME & USE |

| ABOUT MARKET APPROACHES |

<table>
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<th>Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>A Define contrasting scenarios addressing qualitatively different markets.</td>
<td>1 Market study (tool to define “the product”)</td>
<td>A Develop 2 contrasting draftplans based in qualitatively different market approaches and founded in the general strategic vision principles</td>
</tr>
<tr>
<td></td>
<td>2 Masterplan (tool to manufacture “the product”)</td>
<td></td>
</tr>
</tbody>
</table>
### 2. Strategies for Planning

#### 3. Network & Spaces

<table>
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<tr>
<th>Objectives</th>
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</thead>
<tbody>
<tr>
<td>-Integrate new functions and create an specific character in the transitional stripes (Water/Forest/Backyards/buildings)</td>
<td>1. Protect and use the existing green natural areas</td>
<td>-Protect and expand a Green-Blue network with a wild/natural character as the main matrix of the Otaniemi area.</td>
</tr>
<tr>
<td>-Increase the usual presence of the water (seashore and swamps)</td>
<td>2. Integrate vacant, meaningless spaces in the network in order to make possible its continuity and expansion, and also to include the backyards and transitional spaces.</td>
<td>-Promote biodiversity and highly evolved forest and plant communities in the green network.</td>
</tr>
<tr>
<td>-Create a continuous and strong green network which defines the matrix of Otaniemi.</td>
<td>3. Use the courtyards, buildings and civic spaces to develop a system of urban nature (technological, geometrical, ornamental, etc.)</td>
<td>-Integrate 3 green systems</td>
</tr>
<tr>
<td>-Promote natural processes, biodiversity and mature forests in Otaniemi.</td>
<td>4. Articulating the main civic and public areas.</td>
<td>Natural green THE QUIET LANDSCAPE Main matrix Wild Low/No maintenance</td>
</tr>
<tr>
<td>-Connect the Otaniemi green network with other regional natural systems.</td>
<td>5. Variations on the green natural matrix - Other species, other geometrical arguments?</td>
<td>Urban green THE VIBRANT LANDSCAPE Articulating connections, introducing nature in highly constructed areas. Adding variety and vibrations. Keep maintenance as low as possible. Use different species, ornaments or technologies.</td>
</tr>
<tr>
<td>-Keep the natural character of the green areas and define more managed green systems in the culturally important areas.</td>
<td>6. Lawns and meadows around buildings --&gt; Keep them as “neutral” frames or increase their visual relevance.</td>
<td>PRODUCTIVE LANDSCAPE</td>
</tr>
<tr>
<td>-Define some criteria for the location and roles of the meadows and open greens.</td>
<td>7. Seashore --&gt; Open views</td>
<td>-Explore the possibilities of the transitional/ backyard areas as spaces to absorb new uses (food production, spontaneous gardens, nests of biodiversity).</td>
</tr>
</tbody>
</table>

- 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.

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


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 the red brick architecture with a possible new architectural system. Annexed to existing buildings. Explore ways to combine 2 types of architecture. Increase ways to combine 2 types of architecture. Promote permeability along civic places (squares, streets). Increase permeability along civic places (squares, streets). 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. 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.
**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


**Our decisions**

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

- Annexed to existing buildings.

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

- Increase vertical multifunctionality. HYBRID

- 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.

- 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
- Red brick building
- Other materials
- Hybrid

**NOW**

**CHANGES OF MATERIALS IN CIVIC AREAS**

**RED BRICK CORE**

**AFTER**
### Objectives

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Use densification and the metro station to create new dynamics and ways of arriving and moving inside.</td>
</tr>
<tr>
<td>B</td>
<td>Promote soft mobility in civic squares and campus hubs.</td>
</tr>
<tr>
<td>C</td>
<td>Develop a transport network to serve the expected new Otaniemi.</td>
</tr>
<tr>
<td>D</td>
<td>Promote public and soft transport within Otaniemi (GETTING IN/OUT // MOVING IN)</td>
</tr>
<tr>
<td>E</td>
<td>Provide the conditions for a convenient access to all the buildings.</td>
</tr>
<tr>
<td>F</td>
<td>Take advantage of the metro to promote internal commuting to internal bus/bicycles.</td>
</tr>
</tbody>
</table>

### Tools

1. System of car parks to promote or discourage use of private cars.  
   - Internal  
   - External (metro, bus)
2. Public transport
3. Soft mobility (bikes, electric cars, walking...)
4. Management--->Bonus for people using public transport or bike??
5. Streets/Driveways/Roads--> Hierarchy + character + comfort in winter

### Our decisions

- Develop two scenarios
  - SOFT + PUBLIC
  - CONVENIENT + FREE
- Relate main car parks to the main public/civic areas and the campus gates.
- Redimension the secondary car parks to give service to buildings that are too distant to main car parks.
- Emphasize the hierarchy in the driveways system by reducing the section or soften the edge of secondary streets or roads.
- Create systems of sustainable internal mobility  
  - Internal circular bus??  
  - Campus bikes??
- 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.
### CULTURAL NETWORK

**Objectives**
- Protect and enhance the ARCHITECTURAL (heritage), VISUAL (farmland open landscape), INFRASTRUCTURAL (metro station).
- Consider the existing character areas (forest, farmland and hybrid) as part of the cultural values of Otaniemi.
- Use the character areas to potentiate the identity of Otaniemi and its different areas.
- Extend and enhance the narrative network in Otaniemi (now just in the north).
- Promote positive interactions between art works, nature and architecture.

**Tools**
1. Protected and valuable buildings/landscapes
2. Narrative network
3. Character as cultural and artistic expression.
4. Isolated art/ temporary art / areas for public expression of art (landscape to create atmospheres, feelings)

**Our decisions**
- Enhance and redefine (if needed) character as cultural and artistic expression (atmospheres)
- Facilitate individual / collective artistic expression in some areas (transitional zones, metro station, communal buildings)
- Enhance, extend and balance the narrative network.

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### INTERFACES

**Objectives**
- Enrich the typology of open spaces
- Define some criteria for the distribution of different open spaces.
- Solve lack of hierarchy/ non-spaces/backyards.

**Tools**
1. Take advantage of densification or wildification (+metro station) to recognize and diversify the open spaces.

**Our decisions**
- Hierarchy + more typologies

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### INTERFACES: OTANIEMI GATES

**Objectives**
- Make recognizable and special the entrances to Otaniemi (Transmit Otaniemi’s character)

**Tools**
1. Areas around entrances : Nature/New buildings?

**Our decisions**
- Green gates to Otaniemi?? : forest/water
- Contrasting gates (forest, technology, arts, city?)
OTANIEMI: Towards and integrative Vision

3. Two Alternative Visions

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3. TWO ALTERNATIVE VISIONS_a Smart Otaniemi
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)

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