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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

1.1. INITIAL DIAGNOSIS_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

BUILDING DISPOSITIONS

Central building
Hidden building
Side building

BUILDING DENSITY

Build up
Increase footprint

LANDMARKS

Chimney
Chapel

MEADOWS

Forest
Farmland

2 historical elements

Reset system with

Landmarks & protected buildings
Meadows
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?
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)

1.4 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
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1.7 Users

Otaniemi: a modellic small town

New people, new needs, new services
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1.7 Users

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?
1.9 Visual Otaniemi
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1.10 Open Spaces

Buildings / Car-parks / Green

A hierarchical system for the open spaces

Non-spaces and Backyards

A gradient of urbanity
1.11 Sustainability

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SUSTAINABLE PIECES
- Sustainable buildings
  - Roof
  - Orchards, Terraces, Energy...
- Sustainable open spaces
  - Rainwater management

SUSTAINABLE NETWORKS
- Sustainable transport
  - Efficient public transport
- Sustainable natural spaces
  - Protection of ecosystems and biodiversity

SUSTAINABLE WAYS OF LIVING
- Food production
  - Orchards, kitchen gardens...
- Energy production
  - Biomas and other non-destructive processes

Campus as a metabolism with different layers
1.12 Hierarchies & Navigation / Seasonal changes / Ecotones and transitions

**Objective:**

- Active 24/7/365
- Making these spaces comfortable

**How?**

**Physical Comfort**
- Big open spaces can’t shelter from wind
- Natural elements can shelter from wind
- Natural pavements generate humidity
- Paving materials can store heat from sun

**Psychological Comfort**
- Lifelike spaces
- Transparent buildings

**Areas:**
- Car parks
- Garbage areas
- Food production
- Wild meadows
- Nest of biodiversity
- Invasive forest
- Wild meadows
- Biodiversity
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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
   - About Sustainability
   - About The Prolific City

2. PROGRAMME
   - About Ideas & Land Use
   - About Community & Interactions
   - About Time & Use
   - About Market Approaches

3. NETWORKS & SPACES
   - Business Network
   - Residential Networks
   - Grey Network
   - Cultural Network
   - Interface

VISION 1
VISION 2
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2. STRATEGIES FOR PLANNING

1. PRINCIPLES

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.

2. STRATEGIES FOR PLANNING

A About Character

Objectives

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

B Separated / Mixed / Interweaved users & networks.

C Using contrast & equalization between indoors / outdoors.

Tools

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

A About Sustainability

Objectives

A Promote internal metabolisms & efficiency within Otaniemi

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

C Communities & ways of living

Tools

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

### 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.
- Concretize the Strategic Vision
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### 2. STRATEGIES FOR PLANNING

#### 2. PROGRAMME

<table>
<thead>
<tr>
<th><strong>About Users &amp; Land Uses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
</tr>
<tr>
<td>A. From a University Campus to a Smart University City.</td>
</tr>
<tr>
<td>B. Diversify land uses &amp; users in Otaniemi.</td>
</tr>
<tr>
<td>C. Promote positive interactions between different users &amp; land uses.</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
</tr>
<tr>
<td>1. Horizontal &amp; vertical distribution of land uses.</td>
</tr>
<tr>
<td>3. Renting &amp; Buying prices AFFORDABLE for students &amp; ATTRACTIVE for private sector: Housing, offices, services...</td>
</tr>
<tr>
<td><strong>Our decisions</strong></td>
</tr>
<tr>
<td>A. 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>B. Create attractive conditions for all the desired groups of users for living, working, visiting, studying...</td>
</tr>
<tr>
<td>C. Create the right infrastructure for the adequate functioning of the Smart University City (land uses &amp; users).</td>
</tr>
<tr>
<td>D. Articulate adequately public areas and services.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>About Community &amp; Interactions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
</tr>
<tr>
<td>A. Promote positive community feelings &amp; interactions.</td>
</tr>
<tr>
<td>B. Different degrees of interaction between university and other actors.</td>
</tr>
<tr>
<td>C. Facilitate effective &amp; constructive participation of all the relevant stakeholders.</td>
</tr>
<tr>
<td>D. Integrate digitalization in the way in which people will interact with the site &amp; with each other in Otaniemi.</td>
</tr>
<tr>
<td>E. Use digitalization to facilitate the principles defined for Otaniemi in terms of sustainability, character and paradox city.</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
</tr>
<tr>
<td>1. Same tools as in “Users &amp; land uses”</td>
</tr>
<tr>
<td>2. Shared programme &amp; Shared spaces and facilities: common events, open information...</td>
</tr>
<tr>
<td>3. Digital + Analogical techniques.</td>
</tr>
<tr>
<td><strong>Our decisions</strong></td>
</tr>
<tr>
<td>A. Create the spaces &amp; opportunities for positive interactions &amp; effective participation.</td>
</tr>
<tr>
<td>B. Promote a shared programme in Otaniemi: - Physical programme: sports, culture... - Functional events.</td>
</tr>
<tr>
<td>C. Suggest different scenarios which promote different degrees of interaction &amp; community feelings.</td>
</tr>
<tr>
<td>D. 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>
</tbody>
</table>
## 2. STRATEGIES FOR PLANNING

### 2. PROGRAMME

#### ABOUT TIME & USE

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<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 an 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 “Phasing Plan”</td>
<td>☑ Work the transitions between indoors - outdoors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 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>A Define contrasting scenarios addressing qualitatively different markets.</td>
<td>1 Market study (tool to define “the product”)</td>
<td>☑ Develop 2 contrasting draftplans based in qualitatively different market aproaches 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>

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**3. NETWORK & SPACES**

- **A.** Integrate new functions and create a specific character in the transitional stripes (Water/Forest/Backyards/buildings).
- **B.** Increase the usual presence of the water (seashore and swamps).
- **C.** Create a continuous and strong green network which defines the matrix of Otaniemi.
- **D.** Promote natural processes, biodiversity, and mature forests in Otaniemi.
- **E.** Connect the Otaniemi green network with other regional natural systems.
- **F.** Keep the natural character of the green areas and define more managed green systems in the culturally important areas.
- **G.** Define some criteria for the location and roles of the meadows and open greens.

### Green & Blue Network

<table>
<thead>
<tr>
<th><strong>Objective</strong></th>
<th><strong>Tools</strong></th>
<th><strong>Our decision</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>-Integrate new functions and create an specific character in the transitional stripes (Water/Forest/Backyards/buildings)</td>
<td>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>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>Use the courtyards, buildings and civic spaces to develop a system of urban nature (technological, geometrical, ornamental, etc.)</td>
<td>Natural green THE QUIET LANDSCAPE Main matrix Wild Low/No maintenance</td>
</tr>
<tr>
<td>-Promote natural processes, biodiversity and mature forests in Otaniemi.</td>
<td>Articulating the main civic and public areas.</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>-Connect the Otaniemi green network with other regional natural systems.</td>
<td>Variations on the green natural matrix - Other species, other geometrical arguments?</td>
<td>PRODUCTIVE LANDSCAPE</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>-Lawns and meadows around buildings --&gt; Keep them as “neutral” frames or increase their visual relevance.</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>
<tr>
<td>-Define some criteria for the location and roles of the meadows and open greens.</td>
<td>-Seashore --&gt; Open views</td>
<td>Farmland historical landscapes Visual windows</td>
</tr>
</tbody>
</table>

**4. STRATEGIES FOR PLANNING**

- Associate the open green areas (lawn and meadows) to: 
  - Protect visual surroundings of protected buildings.
  - Promote the presence and visual contact with water.
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.

**Objective**

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

2. New buildings
   - Service buildings and metro station
   - THE COMMUNAL INTERFACE

3. Service buildings and metro station
   - University Dwellers
   - Offices
   - Services


**Tools**

- Integrate the red brick architecture with a possible new architectural system
- Annexed to existing buildings
- Explore ways to combine 2 types of architecture
- Promote 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
  - Services
  - University
  - Offices
  - Student housing
  - Private housing

**NOW**

**AFTER**
- 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.

---

**Objectives**

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

- New buildings

- Service buildings and metro station
  - THE COMMUNAL INTERFACE


**Tools**

**Our decisions**

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

- Explore ways to combine 2 types of architecture.

- Increase permeability along civic places (squares, streets).

- Promote 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**

- Protect
- Red brick building
- Other materials
- Hybrid

**NOW**

**CHANGES OF MATERIAL IN CIVIC AREAS**

**RED BRICK CORE**

**AFTER**
# 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

### 3. NETWORK & SPACES

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<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Use densification and the metro station to create new dynamics and ways of arriving and moving inside.</td>
<td>1 - System of car parks to promote or discourage use of private cars.</td>
<td>SOFT + PUBLIC</td>
</tr>
<tr>
<td>B - Promote soft mobility in civic squares and campus hubs.</td>
<td>2 - Public transport</td>
<td>CONVENIENT + FREE</td>
</tr>
<tr>
<td>C - Develop a transport network to serve the expected new Otaniemi.</td>
<td>3 - Soft mobility (bikes, electric cars, walking...)</td>
<td>- Relate main car parks to the main public/civic areas and the campus gates.</td>
</tr>
<tr>
<td>D - Promote public and soft transport within Otaniemi (GETTING IN/OUT // MOVING IN)</td>
<td>4 - Management---&gt;Bonus for people using public transport or bike??</td>
<td>- Redimension the secondary car parks to give service to buildings that are too distant to main car parks.</td>
</tr>
<tr>
<td>E - Provide the conditions for a convenient access to all the buildings.</td>
<td>5 - Streets/Driveways/Roads--&gt; Hierarchy + character + comfort in winter</td>
<td>- Emphasize the hierarchy in the driveways system by reducing the section or softening the edge of secondary streets or roads.</td>
</tr>
<tr>
<td>F - Take advantage of the metro to promote internal commuting to internal bus/bicycles.</td>
<td></td>
<td>- Create systems of sustainable internal mobility</td>
</tr>
</tbody>
</table>

- 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.

**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
- CIVIC CENTER (More constructed)
- DOMESTIC OUTDOORS
- CAMPUS HUBS (More flexible)

**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

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
OTANIEMI: Towards and integrative Vision

3. TWO ALTERNATIVE VISIONS_a Smart Otaniemi
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(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
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