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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

Indicators of community into biotopes

Avoid fragmented green spaces to give them a continuity through the vegetation
1.2. INITIAL DIAGNOSIS

Buildings in the landscape and How to densify

Some compositional elements in Otaniemi

- Central building
- Hidden building
- Side building

2 historical elements

- Landmarks
  - Chimneys
  - Chapel
- Meadows
  - Forest
  - Farmland

Build up
Increase footprint

Reset system with

Landmarks & protected buildings
Meadows
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
Otaniemi: Towards and integrative Vision

1.7 Users

Otaniemi: a modellic small town

New people, new needs, new services
**OTANIEMI: Towards and integrative Vision**

**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?

Clearer digitalized Campus

How can the digitalization change the way we use the campus?

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

1.10 Open Spaces

Buildings / Car-parks / Green

A hierarchical system for the open spaces

A gradient of urbanity

Non-spaces and Backyards

A hierarchical system for the open spaces

A gradient of urbanity

CONSTRUCTED

FLEXIBLE

Big streets and squares
Small squares and streets
Private courtyards

Everybody
Campus
Neighbors

City

Pavements

Main Car park
Small Car park

Nature
Private courtyards

Green spaces

NATURE
PRIVATE COURTYARDS

CONSTRUCTED / FLEXIBLE

Big streets and squares
Small squares and streets
Private courtyards

More constructed / flexible

More constructed

More flexible

Pedestrian

Work buildings

More flexible

Less flexible

Work buildings

More flexible

Less flexible

Less flexible

More flexible

Less flexible

Less flexible

More flexible

Less flexible
1.11 Sustainability

Sustainable Campus

Campus as a metabolism with different layers

Sustainable Pieces

- Sustainable buildings
  - Efficient public transport
- Sustainable open spaces
  - Rainwater management
- Sustainable transport
  - Ornaments, terraces, energy...

Sustainable Networks

- Sustainable natural spaces
  - Protection of ecosystems and biodiversity

Sustainable Ways of Living

- Food production
  - Orchard, kitchen gardens...
- Energy production
  - Biomas and other non-destructive processes
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1.12 Hierarchies & Navigation / Seasonal changes / Ecotones and transitions

ACTIVE ECOTONE: TRANSITIONS AND ORIENTATION

1. HIERARCHY

WIDTHER ROAD / MATERIALS

LIGHTING / SIGNAGE

MATERIALS AND HIERARCHY IN OPEN SPACES

ACTIVE 24/7/365

OBJECTIVE

Making these spaces comfortable

PHYSICAL COMFORT

Natural elements can shelter from wind

Natural pavements generate humidity

Big open spaces can’t shelter from wind

Stoned heat

Psychological comfort

Lifelike spaces

Transparent buildings

HAVE TO BE ALIVE 24h / week / year

MAIN PUBLIC SPACES
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2. INITIAL DIAGNOSIS

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2. STRATEGIES FOR PLANNING

IDEAS FOR THE DRAFTPLAN

1. PRINCIPLES
   - About Charactor
   - About Sustainability
   - About the Performing City

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

3. NETWORKS & SPACES
   - BlueNet
   - Biodiversity Network
   - Grey Network
   - Cultural Network
   - Interface

DECISIONS ABOUT THEM

2 DIFFERENT VISIONS

VISION 1

VISION 2
# 1. PRINCIPLES

### About Character

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tools</th>
<th>Our decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  A different Finnish Campus with self-identity. Don’t copy models.</td>
<td>1 3 existing character areas: The Campus in the forest The Campus in the farmland (cultivated nature) The Hybrid</td>
<td>Enhance &amp; preserve character areas lacked to cultural or environmental values.</td>
</tr>
<tr>
<td>D  Feeling &amp; enhancing Otaniemi’s &amp; Aalto’s University identity.</td>
<td></td>
<td></td>
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</tbody>
</table>

### About Sustainability

<table>
<thead>
<tr>
<th>Objectives</th>
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</thead>
<tbody>
<tr>
<td>A  Promote internal metabolisms &amp; efficiency within Otaniemi</td>
<td>1 Working in terms of: Energy production Waste management Sustainable Transport Food production Water management</td>
<td>Enhance &amp; preserve character areas lacked to cultural or environmental values.</td>
</tr>
<tr>
<td></td>
<td>2 Communities &amp; ways of living</td>
<td>Promote sustainability principles through smart use of land &amp; other resources.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implement &amp; explore internal metabolisms &amp; sustainable communities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Promote sustainable ways of living using an ecological footprint app in Aalto.</td>
</tr>
</tbody>
</table>
**1. PRINCIPLES**

**Objectives**

<table>
<thead>
<tr>
<th>A</th>
<th>Densification to create a more lively multifunctional Otaniemi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Wildification to enhance Otaniemi’s identity and to promote an interaction between human &amp; natural systems.</td>
</tr>
<tr>
<td>C</td>
<td>Enrich character experience in Otaniemi.</td>
</tr>
<tr>
<td>D</td>
<td>Create a more flexible, adaptable &amp; resilient Otaniemi.</td>
</tr>
</tbody>
</table>

**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

**ABOUT THE PARADOX CITY**

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2. STRATEGIES FOR PLANNING
2. STRATEGIES FOR PLANNING

2. PROGRAMME

ABOUT USERS & LAND USES

Objectives
A From a University Campus to a Smart University City.
B Diversify land uses & users in Otaniemi.
C Promote positive interactions between different users & land uses.

Tools
1 Horizontal & vertical distribution of land uses.
2 OPEN BUILD-UP. Public / semipublic / semiprivate / private spaces.
3 Renting & Buying prices AFFORDABLE for students & ATTRACTIVE for private sector: Housing, offices, services ...

Our decisions
A Create the right spaces for a wide variety of land uses (housing, campus, offices, nature...) & users (students, private, companies, retail, university staff, visitor, culture, sports...)
B Create attractive conditions for all the desired groups of users for living, working, visiting, studying...
C Create the right infrastructure for the adequate functioning of the Smart University City (land uses & users).
D Articulate adequately public areas and services.

ABOUT COMMUNITY & INTERACTIONS

Objectives
A Promote positive community feelings & interactions.
B Different degrees of interaction between university and other actors.
C Facilitate effective & constructive participation of all the relevant stakeholders.
D Integrate digitalization in the way in which people will interact with the site & with each other in Otaniemi.
E Use digitalization to facilitate the principles defined for Otaniemi in terms of sustainability, character and paradox city.

Tools
1 Same tools as in "Users & land uses"
2 Shared programme & Shared spaces and facilities: common events, open information...
3 Digital + Analogical techniques.

Our decisions
A Create the spaces & opportunities for positive interactions & effective participation.
B Promote a shared programme in Otaniemi:
   - Physical programme: sports, culture ...
   - Functional events.
C Suggest different scenarios which promote different degrees of interaction & community feelings.
D Consider the potential & 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.
### 2. PROGRAMME

#### ABOUT TIME & USE

<table>
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<tr>
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<tr>
<td>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>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>2. Work with the potentials of comfortable environment and warm buildings. Design principles or factors of surprise &amp; contrast.</td>
<td>Integrate seasonal changes &amp; contrast between outdoors/indoors as an specific design factor (contrast &amp; unexpected experience).</td>
</tr>
<tr>
<td>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><strong>A</strong></td>
<td><strong>B</strong></td>
<td><strong>C</strong></td>
</tr>
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</table>

#### ABOUT MARKET APROACHES

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<tbody>
<tr>
<td>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>
3. NETWORK & SPACES

**Objectives**

A. Integrate new functions and create an 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.

**Tools**

1. Protect and use the existing green natural areas.

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.

3. Use the courtyards, buildings and civic spaces to develop a system of urban nature (technological, geometrical, ornamental, etc.).

4. Articulating the main civic and public areas.

5. Variations on the green natural matrix - Other species, other geometrical arguments?

6. Lawns and meadows around buildings --> Keep them as “neutral” frames or increase their visual relevance.

7. Seashore --> Open views

**Our decisions**

- Protect and expand a Green-Blue network with a wild/natural character as the main matrix of the Otaniemi area.

- Promote biodiversity and highly evolved forest and plant communities in the green network.

- Integrate 3 green systems

  - Natural green
  - Urban green
  - Farmland historical landscapes

- Articulating connections, introducing nature in highly constructed areas. Adding variety and vibrations. Keep maintenance as low as possible. Use different species, ornaments or technologies.

- 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.
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.

**Objectives**

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.

**Tools**

**Our decisions**

- 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).
- 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.

**HYBRID (*)**

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**
Objectives

- 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.
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Tools

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

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   - THE COMMUNAL INTERFACE


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).
- Increase vertical multifunctionality. HYBRID
- Explore different transitional options between indoor and outdoor.
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(*) HYBRID SYSTEMS

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Flexible and adaptable design, specially in buildings along streets and main civic areas.
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2. STRATEGIES FOR PLANNING

3. NETWORK & SPACES

### GREY NETWORK

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

- **External (metro, bus)**
  - - Create systems of sustainable and fair mobility
  - - 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.

- **Internal circular bus??**
- **Campus bikes??**
### 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

### 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?)

---

**CIVIC CENTER**
(More constructed)

**DOMESTIC OUTDOORS**

**CAMPUS HUBS**
(More flexible)
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3. Two Alternative Visions

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3. TWO ALTERNATIVE VISIONS_a Smart Otaniemi
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