



## Competition Programme

Open international *architectural design competition*  
for Otaniemi central campus of Aalto University  
Phase 1: *5 April–10 August 2012*



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*Taking the leading role in creating groundbreaking research on an international level is something we strive for.*

# Campus 2015

## Open international *architectural design competition* for Otaniemi central campus of Aalto University

*Aalto University* was established to revitalise the Finnish innovation system by bringing together expertise in technology, business and art. The university's guiding principles are courage, ambition, high quality, internationality and communality. Implementing the principles of sustainable development is our key value and central objective. As stated in the university's campus vision, the new campus will provide the university with the physical framework that helps the university to achieve its objectives in the best possible way.

***Aalto University is now looking for brave, visionary and ground-breaking ideas for the campus*** – innovations that respect both the principles and the objectives of the university, as well as the surrounding, architecturally outstanding environment and the unique natural setting. Aalto University therefore hopes that the design competition will result in solutions that are both pioneering in spirit and are based on a profound understanding and vision of the functionality and the context of the new premises.

Aalto University began its operation as an independent, foundation-based university on 1 January 2010. The university was established on the initiative of its three founding schools (Helsinki University of Technology, the University of Art and Design Helsinki ja the Helsinki School

of Economics) with the objective of supporting the success and prosperity of the entire nation.

At the beginning of 2011, the Aalto University School of Technology was divided into four schools and on 1 January 2012 the Department of Architecture, formerly part of the School of Engineering merged with the School of Art and Design to form the School of Arts, Design and Architecture.

Aalto University now consists of six schools: the School of Arts, Design and Architecture, the School of Chemical Technology, the School of Economics, the School of Electrical Engineering and the School of Engineering and the School of Science.

### THE VALUES OF AALTO UNIVERSITY:

**PASSION** for exploration

**FREEDOM** to be creative and critical

**COURAGE** to influence and excel

**RESPONSIBILITY** to accept, care and inspire

**INTEGRITY**, openness and equality

The aim of Aalto University, the meeting point of science, art, technology and business, is to become one of the world's top universities by 2020.

*Tuula Teeri,*

President of Aalto University

# General Competition Information

## 1.1 ORGANISER, CHARACTER AND AIM OF THE COMPETITION

Aalto University Properties Ltd is arranging a competition for designing Aalto University's Otaniemi central campus and its main buildings. Phase 1 competition task consists of designing a lively central campus area for Aalto University and the entire science and research community in Otaniemi. The amount of floor area to be located in the competition area is between 48,000–52,000 m<sup>2</sup> (gross floor area). Additionally, a complementary building of 8,000 m<sup>2</sup> is to be located within the site of VTT Technical Research Centre of Finland.

The edges of the competition area are defined by the main building of the former Helsinki University of Technology and Main Library, both designed by Alvar Aalto, and a number of other buildings of cultural and historical value. The principal user of the new facilities will be the School of Arts, Design and Architecture, which began its operations at the start of 2012 when the Aalto University School of Art and Design merged with the Department of Architecture, formerly part of the School of Engineering. The image of the new building(s) is hoped to reflect this change and the new era.

The users of the campus consist of students, teachers, staff and customers visiting the commercial premises and using the services

offered there, metro and public transport passengers, passers-by and onlookers. What is sought is a new functional model: the university's and the whole Otaniemi science and research community's 'mental core', a dynamic centre which allows people to move freely in and out, stops and attracts them, awakens curiosity and – most importantly – inspires them to study. In its role as the 'stronghold for the arts' and as a neighbour to top research facilities, the campus shall communicate a dynamic approach and orientation towards the future as well as incorporating novel technical and ecologically sustainable solutions.

### **The objective of the contest is to find a comprehensive central campus model that:**

1. Supports the achievement of Aalto University's objectives and the construction of the new university's identity as part of the Otaniemi science and arts community.
2. Creates a central square that is a pleasant meeting place and buildings that constitute an impressive landmark, responding to the challenges posed by its distinguished location.
3. Constitutes a high-quality solution in terms of the urban landscape and architecture, with a balanced relationship between the central square, the buildings and the open areas surrounding it and successfully welds together new and contemporary building directions, volumes, masses and materials.

4. Forms an inspiring environment for studying, teaching, work, and leisure that combines both the objectives of the university and other organizations within Otaniemi.
5. Provides the conditions appropriate for the study and research of art, architecture, media and design as well as interaction between the various disciplines.
6. Supports an ongoing dialogue between theory and practice and a modern understanding of learning wherein the focus is on hands-on doing and testing of ideas, and of working in small groups.
7. Creates an attractive environment for pedestrian and bicycle traffic, as well as connections to public transport services and facilities for drop-off service, and connecting traffic.
8. Provides all users with efficient, technically advanced, healthy, and flexible facilities.
9. Provides the potential to create the world's best sustainable university campus.
10. Is feasible both economically and in terms of the project schedule.

## 1.2 COMPETITION FORMAT

The competition is arranged as an open international two-phase architectural design competition under the competition rules of the Finnish Association of Architects SAFA.

**Phase 1** of the competition focuses on producing a functional, overall plan of the central campus of the university. The competition jury will select approximately six entries for further development in Phase 2. The final number of entries to be selected will depend on the results of Phase 1.

**Phase 2** competition task is to produce a more detailed design. Design guidelines and further development recommendations will be provided after Phase 1.

## 1.3 PARTICIPATION RIGHT AND REGISTRATION

**Design teams eligible for the competition shall have a team leader with the legal right to practise the profession of architect in his or her native country or country of graduation or employment.**

Design teams are recommended to have expertise in new learning environments, service and innovation environments, urban planning and building design, landscaping, traffic planning and ecologically sustainable solutions.

Participants must register through the competition website. The design teams may be supplemented at the beginning of Phase 2.



*Aalto University aims to create a better world by developing research, innovations and solutions in all aspects of life.*



### **Design teams invited to Phase 2 must include:**

- An architect and a structural designer with a minimum of five years of professional experience of working with projects on a scale and level of challenge comparable to the competition assignment
- An architect with a chief designer's qualifications and experiences for comparable projects and with good knowledge of Finnish law, standards and regulations
- An energy technology specialist
- A traffic planner
- A landscape architect

Competitors selected for Phase 2 must produce proof of qualifications after the winners of Phase 1 are announced. The qualifications of all competitors selected for Phase 2 will be verified at the beginning of Phase 2. If a candidate fails to meet the minimum requirements, the jury may, at its discretion, opt not to select that candidate for Phase 2. Qualifications will be verified so that the anonymity of the competitors shall be preserved (see 7.4).

The competitors shall, moreover, commit to working through a registered company in the event that they receive a design commission after the competition (see registration).

#### **1.4 THE COMPETITION JURY**

Competition entries will be judged by a competition jury.

#### **Representatives of Aalto University on the jury are:**

*Helena Hyvönen*, Dean, Professor (chair person); *Tuula Teeri*, President of Aalto University; *Turkka Keinonen*, Professor; *Aija Staffans*, Architect, *Johan Celsing*, Architect, Professor, Stockholm; *Elina Tenho*, Arch. student (student member)

#### **Representatives of Aalto University**

**Properties Ltd:** *Kari Kontturi*, Managing Director

#### **Representatives of the Alvar Aalto**

**Foundation:** *Vilhelm Helander*, Architect, Emeritus Professor

#### **Representatives of Senate Properties:**

*Tuomo Hahl*, Architect

#### **Representatives of the City of Espoo:**

*Jukka Mäkelä*, Espoo City Director; *Olavi Louko*, Technical Services Director; *Ossi Keränen*, Architect, Director of City Planning and Urban Design

**Representatives nominated by the Finnish Association of Architects (SAFA):** *Aaro Artto*, Architect; *Trevor Harris*, Architect, Professor

Professional members constitute the majority of the jury.

**External specialists:** *Pekka Saarela*, Development Manager; *Seppo Junnila*, Professor, Sustainable Development; *Seppo Karppinen*, M.Sc. (Eng.), Traffic; *Arto Palo*, M.Sc. (Eng.) and *Tapio Holopainen*, Engineer, Costs

In addition to the competition jury, Aalto University shall appoint an expert panel consisting of 10–20 specialists in different fields for comments and assessments in the evaluation stage. The external specialists do not participate in the selection process. The competition project specialist and the secretary to the jury is *Eija Larkas-Ipatti*, Architect, Pöyry Finland Oy.

### 1.5 COMPETITION RULES

The competition is arranged in accordance with Finnish law, the competition programme presented here and the competition rules of the Finnish Association of Architects.

#### **In the event of conflict, the following order of precedence shall be observed:**

1. Finnish law
2. The competition programme herein
3. The principles of the competition rules of the Finnish Association of Architects

This competition programme and its attachments have been verified and approved by the organiser of the competition, the competition jury and the competition board of the Finnish Association of Architects.

### 1.6 COMPETITION LANGUAGE

The language of the competition is English.

### 1.7 PRIZES

The total prize sum in the competition is **300,000 EUR**.

#### **The prize sum will be distributed as follows:**

Each candidate qualifying for Phase 2 will receive **20,000 EUR** as soon as an approved Phase 2 entry has been received.

The rest of the prize sum, **180,000 EUR**, will be distributed as follows:

1st prize, 60,000 EUR

2nd prize, 45,000 EUR

3rd prize, 30,000 EUR

and at least three purchases of , 15,000 EUR each

The prizes will be paid via the Finnish Association of Architects SAFA. At least six candidates will be selected for Phase 2. The winners will be announced after the assessment of the Phase 2 entries.

The jury may divide the prize sum differently in accordance with the competition rules of the Finnish Association of Architects. The jury may, also, purchase more than three entries for Phase 2 and award honorary mentions.

### 1.8 COMPETITION SCHEDULE

Phase 1 begins on 5 April 2012 and ends on 10 August 2012. The jury will select competitors for Phase 2 by November 2012 at the latest. This is also when Phase 2 of the competition begins for those competitors who have been selected. The competition period for Phase 2 will be about three months.

The jury will make its decision on the winner of the competition within three months from the end of Phase 2.

The organiser of the competition reserves the right to present the competition entries of Phase 1 and Phase 2 on the website or in an exhibition arranged separately.



*We believe our biggest asset are our people.  
They truly make our university unique.*

# Technical Competition Information

## 2.1 COMPETITION DOCUMENTS

In Phase 1, the competition documents consist of this competition programme and the following attachments:

1. A base map with the competition area outline including a position marked for the approximate point of direction of the required external perspective.
2. Town plan maps and principal planning regulations.
3. Aerial photographs (an aerial view of the competition entry must be inserted into the oblique aerial photograph).
4. Basic information and drawings regarding existing buildings within and adjacent to the competition area.
5. Maps of the urban structure (existing and planned buildings).
6. Metro plans.
7. Traffic plans.
8. Ground conditions and relative suitability for building.
9. Map of the nature reserve area (as background info).
10. Information on weather conditions (as background info).
11. Strategy of Aalto University, Strategy Implementation of the School of Arts, Design and Architecture and the Aalto University campus vision.
12. Future space requirements for Aalto University and the summary of spaces.

The competition programme and the base map will be available from 5 April 2012 from the competition website ([campus2015.aalto.fi](http://campus2015.aalto.fi)). Downloading of other documents requires registration and a password, which will be sent to competitors after registration.

All information concerning the competition will be published through the competition website.

## 2.2 SUBMISSION OF QUESTIONS

Candidates may submit questions to the jury and request further information via the competition website until 25 May 2012. Questions are to be submitted under pseudonyms.

The questions will be answered at least in two batches: questions received by 25 April and those questions received by 25 May. The competition jury will answer only questions related to the competition assignment to which answers cannot be found in the competition programme or the attachments.

## 2.3 PUBLISHING OF RESULTS AND EXHIBITION OF ENTRIES

Pseudonyms of candidates selected for Phase 2 will be published on the competition website after the jury has assessed the Phase 1 entries.

Information about Phase 2 results will be provided immediately to the selected candidates.

It will be announced on the website when the competition has been resolved. The results of the competition will be announced at a separate prize ceremony. They will also be published on the competition website and the website of the Finnish Association of Architects ([www.safa.fi](http://www.safa.fi)).

Competition entries of Phase 1 and Phase 2, the identities of the winners, the result of the competition and the evaluation minutes will be published and presented in the exhibition after the competition (the place and time to be announced later).

## 2.4 FURTHER ACTIONS

On the basis of the results of the competition, the jury will make its recommendations concerning further planning and design tasks. It is the intention to commission the further planning and design assignment from the authors of the winning entry.

Decisions on project commissions will be made by Aalto University Properties Ltd. Consultant's fees will be negotiated on the basis of Aalto University Properties Ltd's reference projects. The principal project language of the design and building assignment after the competition will be Finnish.

## 2.5 INSURANCE OF COMPETITION ENTRIES

The organiser of the competition shall not insure the competition entries.

## 2.6 RETURNING OF COMPETITION ENTRIES

Winning and purchased competition entries of Phase 2 shall remain the property of the organiser and will not be returned. The other entries can be collected from the organiser of the competition within about a month from the publication of the results. Further instructions will be provided on the competition website after the results have been announced.

## 2.7 RIGHT OF USE AND PUBLICATION OF ENTRIES

Aalto University Properties Ltd is entitled to use and publish material from the competition entries in accordance with Finnish copyright law.

The design team that is awarded the potential commission is entitled to use ideas and designs from other entries in accordance with Finnish copyright law. Design copyright shall remain with the author of the competition entry.

The publication rights for entries receiving a prize or purchased shall remain with Aalto University Properties Ltd and the Finnish Association of Architects. The author(s) of the designs shall be mentioned in connection with all publications.

# Competition Area

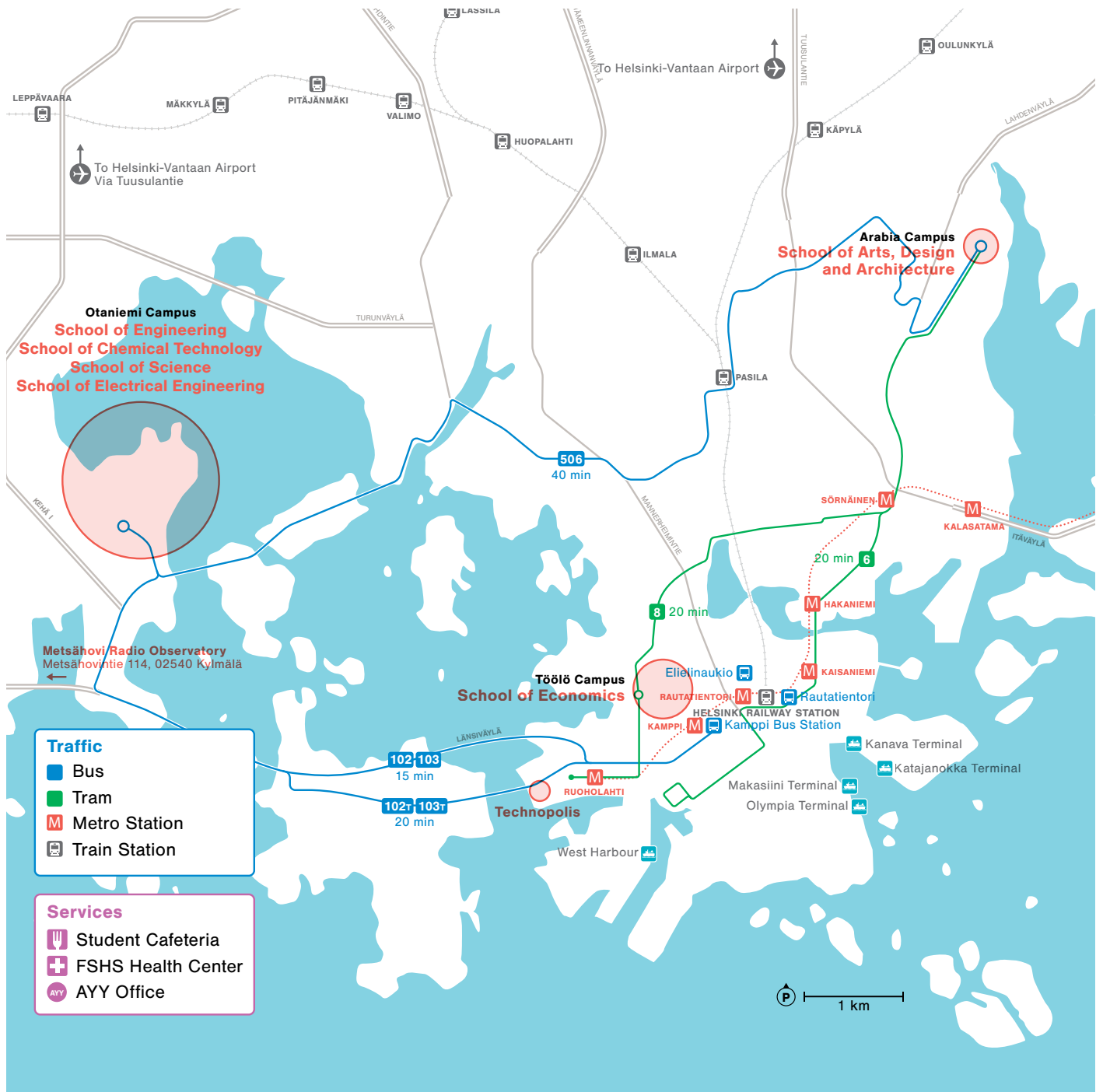
## 3.1 BACKGROUND

Aalto University began its operations on **1 January 2010**. It was established at the initiative of its three founding schools – the Helsinki School of Economics, the University of Art and Design Helsinki and Helsinki University of Technology – with strong support from the state and the business world. One outcome of the preparatory work was the challenge to **make Aalto University one of the top universities in the world within a decade**. Aalto University was established with the objective of supporting the success and prosperity of the entire nation. The university's key objectives include building a strong foundation for basic research, innovative application of the latest research findings and interaction with society and industry. One of the university's aims is to establish a culture centred on learning and bring the students into the focus of all activity. The best way to convey expertise from the university to the surrounding society is through students who graduate from its schools.

The six schools of Aalto University are at present, in different parts of the capital region: the School of Economics in the district of Töölö in downtown Helsinki; the School of Arts, Design and Architecture in the district of Arabia in Helsinki and in Espoo's Otaniemi; the School of Chemical Technology, the School of Electrical Engineering, the School of Engineering and the School of Science in Otaniemi. Preparations paving the way

for a decision on the university's central campus were started in June 2010, and in June 2011 the Aalto University Board decided to concentrate on **building up the main core of the new university in Otaniemi**.

The development of the central campus shared by all six schools of the university will begin with the gradual centralisation of all bachelor-level teaching in Otaniemi, starting in 2013. New university buildings will be built in Otaniemi, where the sharing of teaching and research facilities can be developed in an innovative and cost-effective way. Aalto University will continue to use its existing facilities in Töölö.



*Entrepreneurship is something we esteem and promote through various programs: Aaltoes for instance is a community for our current students and alumni who have set up startups.*

### 3.2 THE OTANIEMI CAMPUS AND ITS HISTORY

The rapid development of technical sciences after the Second World War necessitated large-scale laboratory facilities, and a decision to relocate *Helsinki University of Technology (TKK)* away from downtown Helsinki was made in 1948. In 1949, **the state purchased the grounds of Otaniemi Manor in Espoo in order to establish a new campus for Helsinki University of Technology and VTT Technical Research Centre of Finland.**

A town planning competition was arranged in 1949. The winner was the architectural firm of *Aino and Alvar Aalto*. The more detailed town plans designed later by Alvar Aalto were largely based on the winning entry. Alvar Aalto skilfully utilised the opportunities provided by the location and the terrain. The university buildings were located next to extensive green spaces formed from the old agricultural landscape, while housing areas and student facilities were placed on the surrounding forest-covered mounds. The main building and the accompanying library were located on the central mound that dominates the area, in the same place where the main building of Otaniemi Manor once stood. The old park avenues leading towards the mound were successfully included in the composition of outdoor space around the building.

More detailed planning of the main building began in 1953. The high, dominant part of the main building, the lecture hall with the form of a semi-circular amphitheatre, began to take shape in the plans.

The first university functions moved to Espoo in 1955. The main building, its lecture hall and

the library with its central plaza, terraces, and greenery, all designed by Aalto, form the heart that unites the campus. It is surrounded by ‘campus cells’ with their facility buildings and laboratories. The other buildings, mainly made of red brick and partly designed by other architects, are spaciouly grouped into oblong configurations with connecting pathways or into individual clusters of buildings. The main building has a distinctly individual shape, while the accompanying laboratories and facility buildings have the more simplified look of utilitarian buildings. With his creative architecture, Alvar Aalto developed an innovative combination of Finnish cultural landscape; Anglo-Saxon campus traditions, and, in the shape of the main building, distant echoes from the architectural cultures of the classical period and Mediterranean countries.

Part of the campus was reserved for student housing and pastimes. The first project to be completed was *Teekkarikylä*, built for the Student Union. The buildings of *Teekkarikylä* were also used for accommodation purposes during the 1952 Olympics. At present, *Teekkarikylä* houses more than 2,000 students of the technical sciences.

An excellent source of further information on the development of Otaniemi is the Alvar Aalto Foundation’s volume focusing on Helsinki University of Technology published in a series of monographs on Aalto’s works (available through the foundation’s web store at [shop.alvaraalto.fi](http://www.shop.alvaraalto.fi)), <http://www.shop.alvaraalto.fi/Products/Architecture>.

Images of the campus buildings, too, are available on the website of Aalto University Properties Ltd, [www.aaltonet.fi](http://www.aaltonet.fi).







*Aalto University is a unique combination of science, business and arts.*

### 3.3 THE OTANIEMI AREA

During the 1950s and 1960s, Otaniemi became one of the showcases of Finnish architecture. It was the largest unified district of its time dedicated to higher education, research and housing. In addition to the university's main building and the Otahalli sports hall that had been built for the Olympics, Aalto's office designed many other buildings in Otaniemi. The oldest student dormitories of Teekkarikylä, the restaurant *Servin mökki*, and the Otaniemi chapel were designed by *Heikki* and *Kaija Siren's* office, while *Dipoli* was designed by *Reima Pietilä* and *Raili Paatelainen*.

**The campus area is included in the National Board of Antiquities list of culturally important built environments** that entails an obligation to preserve the cultural heritage values of the area.

The former main building of Helsinki University of Technology is included in the selection of important Finnish architectural and environmental sites made by the international organisation Docomomo (which deals with documentation and conservation of buildings, sites, and neighbourhoods of the Modern Movement).

Espoo was granted city rights in 1972 and has rapidly grown into Finland's second-biggest urban centre based on its population size. The campus of the University and Technical Research Centre of Finland has expanded to include business incubators and a technology park. It has become one of Espoo's most important and famous districts. In the new millennium, Otaniemi provides a livelihood for approximately 16,000 employees and has 15,000 students.

**Otaniemi is the largest concentration of high technology expertise in the Nordic region.**

This built district is a unique combination of education, research and business activities. The European Commission has twice designated Otaniemi as one of Europe's key innovation zones.

The surrounding zone of companies extends from the Kehä I ring road via *Maarinsolmu* and *Technopolis* to *Hagalundinkallio* and on to *Keilalahti*. The district has attracted various corporate headquarters which attract continuously other similar companies. Keilalahti is already the home of such companies as *Nokia*, *Kone*, *Fortum*, and *Neste Oil*. New business and housing premises are planned. Aalto University's new Open Innovation House is being built on the Otaniementie thoroughfare next to the so-called *Tietotekniikan talo* building, which houses the computer science department. The companies themselves generate the service structure suitable for their needs in adjacent areas. Otaniemi and its surroundings boast Finland's most highly educated population.

In the City of Espoo's development strategy, Otaniemi, Keilaniemi and Tapiola form the '**T3**' district (so named in line with the Finnish words for technology ('teknologia'), art ('taide') and business ('talous')). For more information about the T3 district, see the presentation video 'Espoon T3' on YouTube). The City of Espoo is investing heavily in the development of a world-class study, research, residential and business environment in the area. As a result of the **building of the western metro line**, public and private investment in the T3 area over the next few years

will rise to 4–5 billion euros. The main objective is to create a more international and innovative area by combining science, art and finance with a safe and vital residential and business environment.

The centre of the well-known garden city of *Tapiola* will be completely renewed. Tapiola and Otaniemi will be joined by means of a green deck crossing Kehä I ring road. The deck will provide diverse opportunities for development of the area. The plans for this area include new housing development.

### 3.4 THE LANDSCAPE AND NATURE

The unique landscape of Otaniemi has evolved from the densely forested terrain of the past, which can best be seen around the shore zone. Seen from the direction of *Laajalahti*, Otaniemi's forested and green character seems even more pronounced. In the eastern part of the area, there is a chain of low ridges, and the competition area is located on their north-western side. The terrain in this part is even and low. Otaniemi Manor used to be situated on the hillside, and the former main building of Helsinki University of Technology was built on the same spot. Nowadays all that remains of the original forest areas are isolated patches, scattered around the area: this is due to the continuing construction of new buildings. During the manor house period new landscape features were also planted in the area. The most visible and characteristic of these are the lime tree avenue which used to continue from one manor to another. The western lime tree avenue, located in the competition area, is the best preserved of these.

North of the competition area lies the Laajalahti *Natura 2000* area, with the *Maarinranta wetlands* along its western border. The bay Laajalahti is

an internationally recognised bird area where approximately 250 pairs of water birds nest annually.

Maarinranta, east of the Kehä I ring road, is a natural-state wetland forest. Its primary tree species are the birch and goat willow, and it has a dense willow undergrowth. North of Maarinranta lies a natural-state wetland and floodplain area. The nature reserve area is presented in Attachment 9.

### 3.5 THE COMPETITION AREA AT PRESENT

#### The actual competition area

(where the required floor area of **48,000–52,000 m<sup>2</sup>** is to be located)

The competition area in Otaniemi, Espoo, principally consists of unbuilt parts of three separate blocks in the current town plan, a park area and the current traffic zone which will not remain in its current form. The objective is to modify the town plan on the basis of the results of the competition. The current permitted building volume is background information for forming a perception of the competition area.

#### The competition area is formed by parts of blocks 10016, 10017 and 10018 and the park and traffic areas between them:

- Section YO-2 is designated as an area for blocks of commercial buildings and buildings serving education and research activities.
- Section YO-3 is designated as an area for blocks of buildings serving educational and research activities.
- VP is the park area which includes a lime tree avenue that is to be preserved.

The competition area also covers the entire street zone of Otaniementie between Vuorimiehentie and Tietotie, including the central square formed by Otaniementie and Otakaari. The area includes also the parking areas in front of the former main building and the library in block 10001 as well.

There are no buildings at present in this actual competition area.

### **VTT-area**

(where the complementary building area of **8,000 m<sup>2</sup>** is to be located)

Section YO-1 of block 10017 is designated as an area for blocks of buildings serving educational and research activities. The area is currently used by VTT Technical Research Centre of Finland. It is comprising at present about 30,000 m<sup>2</sup> (gross floor area). VTT's outdoor areas are used for research activities and will be made clearly separate with fences between the buildings before the construction of the metro line is completed.

#### **3.5.1 Traffic and parking**

The competition area is currently traversed by Otaniementie, the principal feeder road of the district, with extensive car parks along the street. One of the aims of the competition is to change the junction of Otaniementie, Otakaari, and Biologinkuja into an attractive and enjoyable central square that forms the heart of the entire campus. It is the objective of Aalto University to eliminate car traffic entirely from the new central square.

#### **3.5.2 Ground conditions**

The site of the campus square is on a valley-like layer of clay that necessitates the use of a pile foundations (see Attachment 8).

#### **3.5.3 Public utility services**

The area is served by public utility services.

### **3.6 BUILDINGS WITHIN AND ADJACENT TO THE COMPETITION AREA AND OTHER IMPORTANT BUILDINGS**

The Otaniemi campus is an internationally important campus area. Architecturally, the area is exceptionally harmonious. The buildings designed by Alvar Aalto, Reima Pietilä, and Heikki and Kaija Sirén give the area its characteristic individual appearance.

Important buildings within or adjacent to the competition area and other buildings of note close by are presented in Attachment 4. The use of the existing buildings adjacent to the competition area will be planned and developed. So far, it has been decided that the former main building will be used for bachelor-level teaching and the premises now used for the teaching of architecture will be used for the teaching of art. The former Main Library of Helsinki University of Technology will constitute part of a more extensive information service unit.



*We emphasize multidisciplinary and encourage both our students and staff to work beyond disciplinary boundaries.*

# Design *Goals*

## 4.1 THE FUTURE UNIVERSITY CENTRE

The central campus will be the functional and intellectual centre of Aalto University. It will reflect the university's identity and symbolise its role and ambitious goals. The architecture should reinforce Aalto University's role as one of the international trailblazers in arts and sciences, whilst also strengthening its significances as part of the Finnish cultural landscape.

The architecture of the central campus will reflect Aalto University's values: passion for exploration; freedom to be creative and critical; courage to influence and excel; responsibility to accept, care and inspire; integrity, openness and equality.

## 4.2 LEARNING ENVIRONMENT, FACILITIES FOR RESEARCH AND ART

A learning environment of the future will integrate public and semi-public facilities, service producers and users. A shift is underway from the traditional, instructor-centric notion of teaching toward a new focus on students as active subjects. One of the tasks of universities is now to support group-based learning activities. Reaching this objective requires comprehensive re-examination of the current learning environment. In addition to lecture halls, studios and laboratories, learning is understood as taking place in various unofficial encounters and situations. The facilities should, therefore, promote and support active collaboration and interaction. The objective

is to find new concepts and create a lively and interactive environment for research and learning activities wherein work, studies, leisure and living are interwoven in a natural way and create the foundation for a university city of the future.

## 4.3 URBAN LANDSCAPE AND ARCHITECTURE

The purpose of the competition is to find a high-quality urban landscape solution in which the new buildings in the urban structure engage in a dialogue with the central buildings of the former Helsinki University of Technology. Furthermore, careful consideration should be given to the choice of surface, elevational and roofing materials to ensure a positive and stimulating balance between new and existing elements. The objective is to develop the centre of the campus into a more densely built urban area.

It is considered important to take into account the existing urban landscape characteristics and architectural and cultural-historical values of Otaniemi. The key views to the former main building of Helsinki University of Technology should be retained, particularly the view over Alvar Square (Alvarin Aukio) area from the east. The dominant role of the imposing main lecture hall of the old main building shall be preserved. The scale of the new buildings should be in harmony with the former main building and the library.

#### 4.4 LANDSCAPE OBJECTIVES AND INTEGRATION WITH THE NATURAL ENVIRONMENT

The goal with the new additions is a natural integration with Alvar Aalto's building groups and the surrounding green spaces and landscapes. The proximity of the sea together with the associated wind conditions and atmospheric humidity, must be taken into account in the building layout and planned volumes as well as the green areas. The aim of the landscape and drainage water planning within the central square is to unify and preserve the variety and uniqueness of the natural environment. The existing lime tree avenue is to be preserved as an echo of the environment and the landscape as it was before the university was founded.

Entries in Phase 1 are expected to demonstrate how the planning of the new buildings fits with the entire campus area and the nearby nature reserve area.

The design is, where possible, expected to include outdoor spaces sheltered from the wind and which are attractive and conducive to spending time outdoors. Noise protection and the establishing of 'quiet areas' is also desirable.

The area is expected to support and encourage natural, ecologically and socially sustainable behaviour of the community, such as the elimination of passenger-car traffic and a preference for sustainable use of resources such as water, energy and materials.

#### 4.5 CHANGES TO THE TOWN PLAN

The objective is to change the town plan on the basis of the result of the competition and to make changes partly already after the completion of Phase 1.

The general objectives of the City of Espoo and the region include the following:

- To develop the regional structure and mobility to ensure an attractive and enjoyable environment and a functional, ecologically sustainable urban community structure.
- To work toward the objectives set specifically for Otaniemi in the city's strategy for 2010–2013 with the aim of developing Otaniemi into a lively, competitive neighbourhood built on the principles of sustainable development and featuring an attractive network of campuses. Otaniemi is to be developed as part of the more extensive T3 zone as a focus area for the arts, sciences, business and physical activity.
- The metro stations of the area have to be of high quality, modern, comfortable and safe.
- Espoo city council has recommended that town planning of the Otaniemi–Tapiola–Keilaniemi districts should focus not only on the official facilities but also on the housing needs of Aalto University in the town plans.

#### 4.6 TRAFFIC ARRANGEMENTS WITHIN THE CAMPUS AREA

##### 4.6.1 General remarks

**The aim of the competition is to turn the existing junction area of Otaniementie, Otakaari and Biologinkuja into an attractive and enjoyable central square that forms the heart of the campus.** The university intends to eliminate car traffic from the area entirely, dedicating it to pedestrian and bicycle traffic and forming a meeting place for people (at present, the traffic volume of Otaniementie is approximately 8,000 cars per day).



#### 4.6.2 Pedestrian and bicycle traffic, including bicycle space

The network of pedestrian and bicycle routes will be linked to Otaniemi's existing networks. The section of Otaniementie between Vuorimiehentie and Tekniikantie will be dedicated primarily to pedestrian and bicycle traffic. Pedestrian and bicycle traffic will be clearly separated from each other.

Connections between buildings, both indoors and outdoors, must facilitate an easy flow of traffic and also be suitable for hand-operated wheelchairs in all seasons. Weather protective solutions for connections are needed between the new facilities, extending to the former main building and campus library.

About 3,000 people will use the new facilities. The number of bicycle storage spaces must be sufficient to promote cycling. The parking facilities for bicycles are to be arranged in the vicinity of the entrance area to the metro station. Bicycle stands must be sheltered or located in an internal space.

Facilities for washing/showering, changing clothes and storage of belongings should be reserved for 200 users (women and men: 100 + 100). The facilities and their location should promote and encourage walking and cycling instead of driving.

Ease of accessibility must be the key concept in all design decisions.

#### 4.6.3 Public transport

Metro traffic in the Helsinki Metropolitan Area will be extended from Helsinki to Espoo.

The western metro line (Länsimetro), will be completed by the end of 2015. It will connect Otaniemi to downtown and eastern Helsinki and to the western parts of Espoo. The main entrance of the Otaniemi metro station will be situated in the competition area with connection to the new buildings. The western entrance will be on Tietotie.

After the metro is completed, eight bus lines will also serve the Otaniemi area. Bus stops will be positioned in such a way that there are stops for all lines in the vicinity of at least one of the two metro station entrances. Suggested bus routes are shown in Attachment 7.

The goal of Aalto University is to design the public transport network so as to make the central square carless. The goal is also to have an internal, circular public transportation line, operating at frequent intervals and with free or low-cost access. This line should pass near a metro station entrance.

The plans of the metro station are presented in Attachment 6.

#### 4.6.4 Car traffic

The aim of Aalto University is to eliminate car traffic from the section of Otaniementie between Vuorimiehentie and Tekniikantie. The traffic network in the Otaniemi area must be viewed from a wide perspective in order to enable new connections to be made and ensure a smooth flow of traffic. These arrangements are not fully included in the competition and will be examined more closely in Phase 2.

A drop-off-area for vehicles that serves the metro station and the new buildings, will be located near the metro station entrance. It may be in connection with the underground parking facility.

#### 4.6.5 Parking

The required number of parking places is 200 for the university and 200 for the commercial facilities. These needs must be addressed in the entry. Parking places have been planned to be located under the central square in a parking basement with an entrance for cars from Otaniementie from the east (a reference plan is presented in Attachment 7) and from the west (unrestricted height 2.5 m). An entrance for service traffic (unrestricted height 4.5 m) will be arranged from the western side of the central square, preferably located in connection with the coming buildings. The competitor may express ideas on arranging parking facility connections in the area.

The parking facilities must include parking spaces reserved for electric cars and an electric-car charging point, and there shall also be a pick-up and return point for shared cars in the area.

Other parking garages in the university area will be located outside the competition area.

#### 4.6.6 Service traffic

The service traffic for the new buildings and commercial premises must be on the ground level behind the building, so that it will not pass through the central square and does not disturb the functioning of new or existing buildings.

The heavy service traffic access needed in the VTT block (10017) will be planned to pass within the block, in accordance with the reference plan shown in Attachment 7. Access for service and rescue traffic is needed between the VTT buildings and the new buildings.

Service traffic routes must be optimised to support the facilities, waste management and waste collection efficiently. Service traffic routes, the space required for loading and unloading, and adverse effects of emissions and noise are to be minimised through appropriate positioning of the facilities (such as waste collection points).

#### 4.7 ECOLOGICAL SUSTAINABILITY

A sustainable campus caters for ecological, social and economic sustainability. Ecological sustainability has three focus areas to be assessed, i.e. the buildings themselves, movement and sustainable consumption.

The buildings constructed in the area and their use (more details given in the second competition phase):

- The minimum requirement to be met is near-to-zero energy level in compliance with the EU directive and use of local energy.
- Durability of building parts and materials (can be verified with life-cycle analysis).

The main aims of moving both inside and outside the campus area are:

- Rail traffic
- Pedestrians and bicycles
- Virtual presence in order to decrease need to move

Vital, sustainable local services and solutions supporting them are desired in the area.

The positioning of the buildings and the building volumes must take into account the possibility of using the structures of the buildings as passive heating and cooling reserves. Opportunities for optimisation of the outer shell must be utilised in balancing heat loads and losses.

The implemented solution must establish the conditions for a versatile energy solution of the future that is based on locally produced, renewable and low-emission energy in terms of both individual buildings and the entire campus area.

#### 4.8 COST OF THE PROJECT

The objective is to develop an efficient and cost-effective solution.

**In Phase 1**, the chosen entries will be compared with their verified overall area, volume and efficiency. In addition, the areas of the external envelope and building parts and the number of special structures will be compared with an ordinary project of similar size.

**In Phase 2**, using the room programme for guidance, a target price will be calculated for the buildings. The extent of the entries will be checked, and the cost will be calculated on the basis of the total area and overall volume. This cost will be compared with the target price.

# Design *Guidelines*

## 5.1 GENERAL REMARKS

Key points to consider are the general characteristics of the learning environment of the university of the future, the overall usability of the facilities and spaces, the overall functional and ecological whole and its merits in terms of the urban landscape and architecture.

The purpose of Phase 1 of the competition is to design an attractive, lively centre for the campus area. The floor area to be located in the competition area is between 48,000–52,000 m<sup>2</sup> (gross floor area). Additionally, a complementary building area of 8,000 m<sup>2</sup> is indicated to be located on the site of VTT Technical Research Centre of Finland.

The competition task in Phase 2 is to produce a more detailed functional design for the buildings. The buildings will primarily be used by Aalto University. The School of Arts, Design and Architecture will use the majority of the spaces.

## 5.2 THE FACILITIES TO BE PLACED IN THE COMPETITION AREA

### 5.2.1 Aalto University School of Arts, Design and Architecture

The functional guidelines for the new facilities are presented in Attachment 12, Future Space Requirements for the Aalto University School of

Arts, Design and Architecture and in the summary of spaces (please, note that the areas of the spaces in the table are represented as net usable area-m<sup>2</sup>, NUA).

### 5.2.2 Restaurant facilities

Restaurants, cafés and covered passages are places where people tend to meet up with each other, by design or accidentally. Therefore, the strategic location of the restaurant facilities is extremely important within the campus. Today, there are not many restaurants or cafés operating in Otaniemi.

Restaurant facilities can be planned to be centralised so that various activities are linked together. Separate kitchen premises make it possible to divide and rent out the actual restaurant spaces between different firms, according to demand.

Student restaurant facilities will be sized for 3,000 persons (eating in about four shifts) and, correspondingly, the kitchen facilities to provide for 3,000 portions. The restaurant area will be divided into several zones. There shall also be a possibility to separate private lunch/meeting rooms from the more open, public spaces. The area given shall include also storage spaces and social facilities for the kitchen staff.



*At Aalto university we want to help you  
realize your dreams by creating concrete  
opportunities to do so.*

### 5.2.3 Commercial premises

During the history of the university, there have been very few commercial premises in Otaniemi. They have or are still located in the original shopping centre designed by Alvar Aalto (as noted in the attachments). There is a grocery shop, a pharmacy, an outlet of the university bookshop and a post office.

According to the report prepared regarding provision of commercial premises and on the basis of the fairly small population of Otaniemi, the main entrances to the largest shops should be located at ground level whilst part of these premises could be located on the lower or upper floor.

### 5.2.4 Planning of the metro station

The Otaniemi metro station is being designed by Consultant Consortium Arkkitehtitoimisto ALA Oy and Arkkitehtitoimisto Esa Piironen Oy (ALA-ESA).

Facilities may be built above the metro station within certain restrictions. Inside loadbearing columns are not to be built through the metro station to the bedrock. It is desirable that the metro station's ticket and escalator halls receive natural light.

The minimum amount of rock to be left between the roof of the tunnels or the platform hall and the lowest floor structures of the new buildings above is 10 m.

The metro station plans and the specifications for tunnels and air channels are presented in Attachment 6.

### 5.2.5 Summary of spaces

**Aalto University School of Arts, Design and Architecture 33,800–37,800 m<sup>2</sup>** (gross floor area, GEA). The university facilities are distributed among their end users as follows (approx.):

Art, 18.6%

Architecture and Landscape, 15.8%

Design, 24.8%

Media, 15.7%

Dean, 18.3%

Media Centre Lume, 6.8% (NOTE: this is only a part of the current facilities in LUME, the rest is to be placed outside the competition area, in block 10018).

These facilities must be positioned and planned so as to allow flexible modification of the distribution of space in accordance with future needs. Flexibility is usually easier to realize, if the especially high spaces are located centrally.

#### **Aalto University, common facilities**

**1,500 m<sup>2</sup>** (gross floor area GEA):

- Learning Centre
- Exhibition gallery
- Lobbies
- Cafés

In addition for students and other users:

**Restaurants facilities 3,700 m<sup>2</sup>** (gross floor area GEA):

- Student restaurant
- À la carte restaurant
- Fast food restaurant
- Kitchen facilities, including service spaces and social premises

Some of the facilities may be placed underground. However, daylight is required and essential for study and work spaces.

The campus will also house the following:

**Commercial facilities 7,200 m<sup>2</sup>** (gross floor area GEA):

- A grocery store, of about 1,800 m<sup>2</sup>
- Other, smaller commercial facilities

Some of these facilities may be placed underground, but the main entrance of the grocery store must be at street level.

**Metro station 2,000 m<sup>2</sup>** (gross floor area GEA): (this only applies to the area requirements for the ticket hall and above-ground area)

**New buildings total 48,000– 52,000 m<sup>2</sup>** (gross floor area GEA).

Additionally, **a complementary building area of 8,000 m<sup>2</sup>** (gross floor area GEA) for expansion of the VTT Technical Research Centre of Finland. (GEA, NUA, see Attachment 12, page 65)

### 5.2.6 Civil-defence shelters

The required civil-defence places will be reserved in existing underground spaces. Competitors do not need to provide a solution for this requirement.

## 5.3. ENERGY EFFICIENCY AND ENERGY SOLUTIONS

The most essential issues are:

1. Energy consumption (the level shall be proactively in compliance with the building regulations of 2018-2020, i.e. nearly zero-energy consumption levels).
2. Decreased energy demand (use of renewable energy solutions will be more available and easily resolved in the future).
3. Both passive (heating and cooling energies used in the area are recycled and stored within the structures themselves) and active (solar cells for service water, sun power, wind, biomasses, waste materials etc) use of local, short-range energy.

The area is within the municipal district heating network so the proposal can also utilise the existing district heating and electric power network for transmission of renewable energies to the campus area.

The functions of the campus area make it possible to utilise the heat loads generated within the area and provide the opportunity for using innovative hybrid solutions in the provision of heating and cooling systems.

Phase 2 entries must include ecological sustainability analyses, including those pertaining to the use of renewable energy, and information required for material calculations and carbon footprint breakdowns. The calculations, to be made by an external specialist, will be considered in the expert evaluation of each competition entry. The requirements will be specified in more detail at the start of Phase 2. The participants will receive instructions on how to provide the information.

# Assessment *Criteria*

## 6.1 GENERAL REMARKS

The principal evaluation criterion is the overall quality of the whole solution, which must fulfil and synthesise the requirements set out in the competition programme in an optimal way.

## 6.2 PHASE 1 ASSESSMENT CRITERIA

### Unique solution

The solution:

1. Must promote the image of a future-oriented university campus that fosters sustainability in its goals and values and inspires technological development; in other words, a significant benchmark project within the development history of university areas.
2. Shall be unique, memorable and generate enthusiastic interest worldwide.

### Usability as a learning environment and a centre for research and art

The solution:

1. Should promote the culture of the entire innovation community: multidisciplinary international cooperation, joint projects and occasional encounters.
2. Develops a basic solution for connecting indoor and outdoor areas in all weather conditions.
3. Should provide a suitable range of spatial solutions for all members of the Otaniemi community, with smooth and effortless connections between the various components.
4. Represents innovative values that promote international visibility and increase the appeal of the campus.

### Quality of urban landscape and architecture

The proposal:

1. Constitutes a high-quality and inspiring overall solution of the urban landscape and architecture, offering a balanced yet provocative relationship between the central square and the buildings and open/green areas surrounding it.
2. Forms a new appealing intellectual centre for the campus, linked to the metro station and other facilities.
3. Shall stimulate a dialogue with the important buildings in the neighbourhood and the immediate environment.



### **Ecological sustainability**

The solution:

1. Shall have a positive effect on the natural elements in the competition area and its surroundings (minimal disturbance, ensuring preservation and strengthening of the natural environment).
2. Shall promote walking, cycling and use of public transport in the area.
3. Shall also encourage use of the new metro line.
4. Shall be energy-efficient (both at a local and structural level).
5. Shall promote the use of sustainable materials.
6. Shall optimise service traffic and reduce the amount of waste (through prudent organisation of waste management, recycling and other utilisation of waste).
7. Shall promote ecological efficiency in an innovative way.

### **Feasibility**

The solution:

1. Is to be based on healthy, high-quality technical solutions.
2. Shall be feasible in time and costs-effectiveness.

The overall solution and its potential for further development have priority over perfection of individual details.

### **6.3 PHASE 2 ASSESSMENT CRITERIA**

The same grounds for evaluation will be used in Phase 2, but at a more detailed level.

# Entry Guidelines

## 7.1 REQUIRED DOCUMENTS, PHASE 1

1. Integration of the proposal with the surrounding environment (1:4000).
2. General layout plan, to a scale of 1:1000 (shadowed, at 45 degrees from the south-west).
3. Floor plans of the new building(s) (1:500).
4. Elevations and sections 1:500 for the essential elements and at least one cross section that shows the relationship of the new buildings to the former main building.
5. Part elevational study 1:200 (essential structure and materials).
6. Illustrations (at minimum, three illustrations, internal and external perspective views), one of these from the direction indicated on the competition area map.
7. An aerial view of the competition entry inserted into an oblique aerial photograph.
8. Summary report (1–3 x A4) (the summary report must describe the basic concept of the solution and demonstrate how it addresses the requirements specified in Subsection 1.1).
9. Other material that illustrates the entry (one panel at most).

All document text must be written in English. The maximum number of panels is 8. No other materials will be accepted.

The competitor shall also inform which picture from his entry he would like to publish and attach this separately in the electronic material (see 7.4). A description of a few sentences introducing the main idea of the proposal shall be attached to the picture.

## 7.2 REQUIRED DOCUMENTS, PHASE 2

1. General layout plan (1:1000).
2. Floor plans in 1:200 scale for the most important levels, such as integration with the metro station, whilst other floor plans are to be shown in scale 1 : 500.
3. Elevations and sections 1:500, with the most important elements 1:200.
4. 3D-illustrations (minimum: 3 internal and external perspective views).
5. Summary report .
6. Scale model 1:500.
7. The entrant may provide other material that illustrates the entry (one panel at most).

(The list is preliminary and it may be supplemented within the corresponding work).

## 7.3 PRESENTATION

The plans must be of publication-quality and durable, mounted on 594 x 840 mm rigid portrait (vertical) bases and are not to be covered with clear plastic in any form. All documents must be marked with the competitor's pseudonym.

### Further materials required:

- One series of copyable (not stapled) A3 reductions of all plans, the illustrations, and the summary report (the reductions must include scale markings).
- The full set of entry materials in electronic form on CD-ROM (in PDF or JPEG format, with a resolution of 300 dpi). All information that could identify the authors of the design is to be removed from the files.

#### 7.4 CONFIDENTIALITY

The competition is pseudonymous. All documents must be marked with the competitor's chosen pseudonym.

The competition documents must include a sealed, non-transparent envelope containing the pseudonym associated with the entry, the names of the authors and contact information for the workgroup's contact person. Also, the entry's copyright holder must be specified.

The names of the authors of the award-winning and purchased entries will be published in the form and extent in which they are given in the identity envelope. The identity envelope must be marked with the pseudonym and 'NIMIKUORI'.

The contact person specified in the identity envelope must be the contact person who was specified on the competition's registration form.

#### 7.5 SUBMISSION OF ENTRIES

The competition period for Phase 1 ends on 10 August 2012. Competition entries must be delivered no later than 3pm on the deadline date to the address below

*or*

be shipped via postal or other delivery service with documented proof of shipping on that date. It is the responsibility of the competitor to ensure that the entry arrives no later than 24 August 2012.

#### **Delivery address:**

**Aalto University Properties Ltd  
Lämpömiehenkuja 2 A  
02150 Espoo, Finland**

Please mark all consignments with the identifier '*Campus 2015*'.

Espoo, 5 April 2012

*The Competition Jury*



*[campus2015.aalto.fi](http://campus2015.aalto.fi)*