

5.12.2006

**FUTURE HOME TODAY!  
INNOVATION COMPETITION FOR IMPROVING HOUSING QUALITY AND SERVICES**

**1 FUTURE HOME TODAY! INNOVATION COMPETITION**

1.1 Organizer, nature and purpose of competition

In order to better serve the changing demands of living and different customer groups NCC arrange an innovation competition for the students targeted at improvement of living.

1.2 Right to participate

The competition was open to all those studying in Estonia, Latvia, Lithuania, Finland and Russia.

1.3 Jury

The members of the Jury appointed by the organizer of the competition are as follows:

Timo U. Korhonen, M.Sc. (Eng), Managing Director, NCC Construction Ltd, Finland - chairman

Leonid L. Pritulik, Head of Administration, State Construction Inspection of St. Petersburg (not present)

Vilnis Strams, Architect, Director of City Development Committee of Riga (not present)

Olli Seppänen, Professor, Helsinki University of Technology

Pentti Kareoja, Architect, Professor, The University of Art and Design, Helsinki

Margit Mutso, Architect, Journalist, Estonia

Aivar Rehe, Chairman of Board, Sampo Bank Estonia (not present)

Jukka-Pekka Uuskoski, M.Sc. (Eng), Area Director, NCC, St Petersburg

Lasse Vahtera, Architect, Optiplan Oy, Finland

Heidi Hautala, Member of Parliament, Finland (not present)

The secretaries of the Jury are Communication Manager Ritva Norrgrann and Architect Antti Pirhonen.

1.4 Aims of the competition

In order to better serve the changing demands of living and different customer groups NCC arranged an innovation competition targeted at finding new innovations to improve the experience of acquiring a new

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home and living in it. The experience is very complex and is a sum of multiple variables. The following themes describe this complexity:

#### Functional and aesthetical innovations

Is there a way to get through the everyday routines at home more conveniently? The invention could have something to do with the layout of the apartment, flexibility, privacy, versatility of spaces or structures, storage, bathroom & kitchen solutions, home automation & control etc. Another area of innovation is the aesthetics attached to these functionalities and to structures, installations etc.

#### Innovations of operation

Maintenance and cleaning of a home should be as easy as possible. And the wear and tear should be minimized. Different customers have different demands and restrictions related to caretaking of home. Children, pets, allergies etc. create certain demands. On the other hand, the elderly can have certain restrictions when it comes to being able to take care of home. Could some ideas rise from hotel room design? They are designed so that cleaning is as fast as possible. Also innovations related to the maintenance of the whole building could create convenience to customers.

#### Life-cycle innovations

The issues related to environment, energy consumption, long term costs, etc. are nowadays an essential part of the living experience. Could the customer have more control over the environmental load or life cycle cost of living? Is there a way to ensure that the building is in good shape also in 20/50/100 years?

#### Innovations in financing and acquiring a home

Acquiring a home is a big process. The choices of ownership and financing models are few. Finding new ways to change homes and finance the home purchase could be the answer to the different financial situations of customers. Also different forms of ownership could be a solution for different needs.

### 1.5 Judging criteria

The Jury focused on the following matters when made the evaluation:

- Innovation of proposal
- Influence to housing and living quality
- Value to customer versus cost of innovation
- Influence to the housing production
- Practicability of proposal
- Development potential of proposal

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## 1.6 Arrival and approval of the entries

It was stated that the jury had received totally 16 entries.

## 2 CRITIQUE OF THE COMPETITION

### 2.1 General critique of the competition

The proposals show a lot of potential and techniques which are common knowledge but currently not used in the housing production. The clear message from the students was that, due to changing needs and new lifestyles, fewer customer groups are satisfied with the existing average offering of designed products. The customers are listened to, but in fact there is little room for personal choice. The highly varying lifestyles are setting new demands for the interaction between producer and customer which requires new tools and skills on both parties.

The proposals reflect an underlying need to integrate natural green elements into constructed space, introducing a way of living that is closer to nature but still taking place in a quite urban environment. The entries suggest new ways to combine nature and technology.

Most of the ideas presented in the competition are impossible to use, also because of the building regulations (at least in Finland).

We may say that, unless we can experiment on building projects, nothing new can be put into production. Is there a way of making such experiments, even in special cases?

### 2.2 Individual critique of the entries

#### 1. Soil-buried dwellings

The idea presented is old, well-known and based on ecological building principles. Energy saving is an important aspect which is far too seldom emphasised and considered in the housing industry – especially in Finland. Maybe the competitor's main point is to suggest that this kind of a building method should be used much more often. It is true that the architecture presented in the proposal is of an exceptional kind and practically not used in today's housing business.

The competitor brings up the idea of a rolling floor which allows to considerably raise the living standard in a dwelling like this, where the light is ideally taken in from the southern side. The rolling floor is also an idea promoted recently, but using it in such a building is something new.

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This type of a building could be used, for example, in response to special demands for natural milieu, for leisure activities etc.

It would have been interesting to consider some practical applications how this type of a building could be used as an element in a more urban environment. How would the traffic and services be organized, how dense could this kind of a housing area be?

## 2. Home beyond

This proposal comprises quite a profound analysis of changes taken place in people's lifestyles. It raises the dilemma of today's building production: building average homes for average people, or that the existing housing production is oriented to needs which have changed a lot already. The pictures in the proposal illustrate beautifully the rapid change that living has undergone over the past twenty years: people are much more on the move, their needs have diversified and requirements for quality risen, and they have become globalized. Living involves many different activities which are located at different addresses. What are the new criteria for living space? The entry shows an interesting vision of new housing services. One operator can be your "partner" and support your way of life, giving many different possibilities for leading an active life. It also allows you to choose some special, even luxurious elements for your living at a reasonable price. This idea requires a considerable volume and suggests a totally new way of combining housing and services. The idea allows the client to easily set up a customised living base and change it almost as easily. No doubt - the vision is absolutely right and many people are living accordingly already. But is it possible for one player to do it all? If yes, then what order of magnitude should it be? This proposal presents living from a new angle which is a great challenge to the existing investors. The proposal also represents a totally new business idea.

There are lots of specific needs which the traditional home is already unable to satisfy. The number of traditional type families is getting fewer but the design of flats is more or less the same.

The entry shows a method how you can choose just what you use. A very interesting and also innovating project.

## 3. HPCS cube

The proposed model rises from the analysis of the traditional "living in a woods" culture with forest, separated rooms and trails. The proposal is very brave, showing a new kind of community inside a greenhouse. The flats open to the a common open space and are only sheltered by the green "jungle". The way the space is handled here is very interesting. An example

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how the nature and urban living could be combined in a totally new way. Of course, the proposal is very idealistic when simply putting sliding open flats in a functioning greenhouse – with a pool for fishing in the basement. Why can't a residential block of flats also grow indoor plants? This kind of an idea could be most realistic in the very densest areas like Hong Kong etc.

This kind of a vision for an individual concept in a living machine is necessary in order to give us insight into the possibilities we have for living in an urban environment.

#### 4. Sliding space

The entry considers an ever-topical question of flexibility and space offered by the flat. A sliding door was used smartly already in the 1950s. It has only recently made a comeback, there are some new products which are easy to use as the proposal shows. However, the proposal deals nicely with the possibilities to enlarge and adjust the space in the flat. It provides added value especially to small flats.

#### 5. Block of yards

The entry presents a method for enlarging a flat and combining it with the green "yard" areas. The idea is to increase the occupier's living standard by providing him with an own yard. The yard is also a reserve for extending the flat. The idea itself has some value but also many technical problems: the yard areas are inevitably dark – too dark for growing plants, the insolation is difficult to implement when the flat is growing. Also this kind of a reserve for extension is difficult to arrange in economical terms. However, such green facades could create a very interesting milieu.

#### 6. Living box

A proposal for minimum living – a theme which has been studied a lot lately. The impression is that the competitor has examined these cases profoundly. A very professional plan even with details and an analysis of the use and character of the space in different uses and time of the day.

The main benefit of the box is that it is prefabricated, easy to move from one site to another, but it doesn't answer the needs of everyday living. This kind of an idea is best used as a solution for temporary and holiday living. It also raises the question of possible location. Could there be a village for such flats and if so, then what would it be like? The idea of such a prefabricated house already exists, but it hasn't been introduced into production – why?

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#### 7. Culpe

The proposal shows another possibility to use abandoned constructions for living – this time containers. To live in a container is reality for many people – normally by no choice of their own. The proposal shows how to make a normal permanent one-family house from old containers. There is little benefit from using a container as a framework only. The framework is covered from both sides, a new floor and roof must be built. Why not use a normal, for example, a wooden frame? Using the old containers for temporary housing (crisis accommodation) or some kind of lifestyle living (for leisure?) in a more honest way could have given better results and opened entirely new possibilities and ways to act.

#### 8. Curtain walls

An absolutely interesting way to give stretchiness and character to the interior design. The movable curtain walls are also practical: the material is elastic, gives a totally new form for a flat's walls, a possibility to divide the space in several ways, works well also in the acoustic sense. This technique can also be used to open the whole flat or divide it into far more spaces than with the use of normal walls. The material – felt – is beautiful, very suitable for the suggested use. This entry has a lot of potential to make a real product for modern flats with very specific needs – or maybe it works better in public spaces?

#### 9. Backpack

“Backpack” shows a product with some added value when used as a bay window. A very old and commonly used component also in blocks of flats – but not in our days anymore. This prefabricated construction could be extremely useful in renovation projects. It gives some functional and spatial value and a new status for the flat, but isn't comparable to a balcony. You can't use the same motive in all of the facades in any one area. By developing this idea further, you could also produce other prefabricated elements for renovation, for example, a French balcony or similar, so that there would be more variation – an entire product family.

#### 10. Home is a various space

The proposal presents some kind of a wish list of what should be changed in contemporary housing production. The competitor is right, but doesn't provide with any innovative insight by considering the existing standard more critically. It could have been interesting to consider some ideas on how to sell and produce such positive values to the customer.

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#### 11. Plock

Plock is a block which includes all the main techniques involved in a flat. It can either be prefabricated or built in situ at the construction site. The idea works best in a studio-type flat. The idea is maybe not as flexible as it is described, the drain lines of a block of flats should be more or less in the same place.

#### 12. Soft stage of life

The proposal deals with the minimum flat. It opens the space totally and gives the impression of a synthetic natural environment, arranged on varying floor levels. This vertical play creates some interesting value to the flat but also a lot of problems related to using the floor more freely. Retro living gives a real feeling of the 1960s.

#### 13. Trombe wall

This very old idea by Edison is an important solution with regard to energy saving and sustainable development. It is not much used in housing projects in the northern Europe, if at all. In a way, the proposal is an exclamation mark showing the absolute necessity for using the technique, and the variety of possibilities it has to offer in the architectural sense. But, as the competitor states – it is an old innovation.

#### 14. Theme-housing

The proposal raises a very important question: why are we trying to make all flats suitable for every need – which is a paradox – instead of designing specialized dwellings for the varying occupier needs in one housing area? The occupier could be served better at less cost. The diversity of the area is guaranteed, if it brings together all kinds of “specialized” housing. A very correct viewpoint which deals mostly with city planning.

#### 15. Re think

The proposal strips the building technology and design down to the basics. Why doesn't the design language support the building technology, why does the building technology fail to use all the existing options offered by pre-fabricated construction? The solution is a method which uses totally ready-made flat elements and heaps them up at the site. A beautifully clear, and a realistic proposal proving the potential of this technique which was used for the first time in Japan about twenty years ago.

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#### 16. Future home today

The proposal is dealing more with the spirit of the site and housing area. It turns around the existing approach to building business: the site must be easy and cheap to build. The entry shows how to improve the neighbouring environment by building new flats. The result surely represents high standards which is the starting point, but maybe not such an easy business for a big builder or investor. However, these kinds of site splinters are in many cases located in the existing expensive housing areas, which allows to improve the financial possibilities considerably. They make use of desolate areas that constitute a problem for the milieu. A topical theme in the European cities.

### **3 RESULTS OF THE COMPETITION**

#### 3.1 The decision of the jury

The jury unanimously decided to distribute the prizes and honourable mentions as follows:

1st Prize 7 000 euros to entry number 2

2nd Prize 5 000 euros to entry number 16

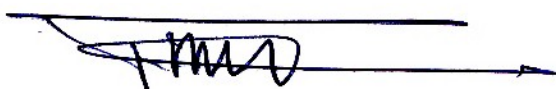
3rd Prize 3 000 euros to entry number 9

Honorary mention to entry number 3

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## 3.2 Affirmation of the jury report

In Helsinki 5th December 2006



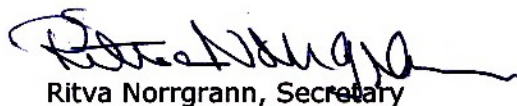
Timo U. Korhonen, Chairman



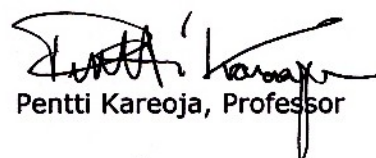
Margit Mutso, architect, journalist



Jukka-Pekka Uuskoski, Area Director



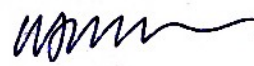
Ritva Norrgrann, Secretary



Pentti Kareoja, Professor



Olli Seppänen, Professor



Lasse Vahtera, Architect



Antti Pirhonen, Secretary

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### 3.3 Opening of the envelopes

1st prize: Entry number 2 “Home beyond”

Authors: Teemu Seppänen, arch. stud. HUT; Martti Kalliala, arch. stud. HUT; Aleksi Niemeläinen, arch. stud. HUT

2nd prize: Entry number 16 “Future home today”

Author: Anni Kärki, arch. stud. HUT

3rd prize: Entry number 9 “Backpack”

Author: Antti Karsikas, arch. stud. University of Oulu

Honorary mention: Entry number 3 “HPCS cube”

Author: Mikko Jakonen, arch. stud. University of Oulu