

## press information

architecture / technology centre / urban design / vienna / sustainability / competition / award

**Competition 1<sup>st</sup> Prize**  
**Technology Centre**



# aspern IQ

aspern: Vienna's Urban Lakeside, 1220 Vienna, Austria



## concept for the overall complex

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A basic premise of the project is the **rejection of the limitations of the traditional perimeter block**. By breaking open the block a series of smaller, distinct built volumes is created which reflect the planned phases of construction.

The result is a series of individual **objects organised in line with the radial geometry of the site**. The axes of the buildings are focussed on both the square in front of the development and the area of water which forms the heart of the radially organised urban plan for the new district.

Thus, the project takes full account of the urban design and development requirements of the masterplan.

The act of breaking open the block in such a way creates both **connections** between the **large open space at the heart of the block** and the surrounding area and a choice of **routes through the project for both pedestrians and cyclists**.

By locating the highest building elements along the perimeter road and the major Southeast axis a **strong urban edge** is created as a means of **defining the streetspace**. At the same time, however, the perforation of this edge ensures that the project site remains fully integrated into its context and that both people and bicycles are offered a maximum of possibilities for moving around the area.

The space at the heart of the site which is set aside for leisure activities and which offers a direct access to each building becomes both the central square and the communicative heart of the project. By not only orienting the main entrances to each of the key buildings towards this square but also grouping common facilities (restaurant, canteen, seminar

spaces and a bicycle store with showers) around it, a **dynamic urban campus** has been created – **and this is a real gain for Aspern**.

The volumes which emerge from the breaking open of the blocks are then restructured in detail as a **series of smaller volumes of maximum permitted height and optimum depth** which, taken together, are the flexible technology centre campus.

The ensemble owes much of its identity to the four **varied attractive façades**. The result is that the visitor has the permanent impression of being in a different part of the technology centre. The central open space can be seen from every side, which gives it the character of an inviting semi-public space.

The complex is divided into **four building phases** with the buildings of phase one being located on the major Southeast axis. The result of this is that this phase can be seen immediately from the principle access roads.

## concept for the open space

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### An open space at the “lakeside”

The location of the aspern IQ technology centre close to the edge of the lake at the centre of the development - together with its proximity to the banks of the Danube - becomes the central design theme for the open space. A primary network of footpaths and cycle paths makes the campus both easily accessible and highly legible for pedestrians and cyclists.

There is a four-layered hierarchy to this network of paths. Paved with large concrete panels, the principal paths can be easily distinguished from the coloured asphalt of the perimeter walkway. Timber decks connect the various spaces for relaxation and a fourth level of gravel paths offers visitors something of an adventure as well as permitting the maintenance of the green spaces.

Access is made easier by the fact that the entrances to the buildings can all be seen from the main path. Furthermore, areas of coloured in-situ concrete set like carpets into the green space in front of the entrances to the buildings enhance the experience of arrival.

These generous entrance spaces provide both employees and visitors with a place for meeting and communicating.

In addition to this, various relaxation spaces aimed at different user groups are located across the campus. These include the timber decks surrounding the central water feature, the restaurant terraces and the secretive niches in front of the seminar area.

A generous scheme of planting across the open space creates an agreeable atmosphere as well as having a very positive effect on the microclimate. By creating the effect of reed beds, large areas of special grasses reinforce the lakeside atmosphere. And yet, as the height of these grasses does not exceed one metre, the manageable scale of the development is not compromised.



Urban plan of the  
entire project site

# functionality



**Open Space  
at Ground Floor Level**

The building complex is fully functional and flexible in all construction phases.

Deliveries are made by small trucks via a series of access roads with turning circles and parking bays arranged around the building volumes.

Shortly after driving onto the site cars descend a ramp into an underground garage which is laid out to operate flexibly in all construction phases.

The open space is designed to optimise the experience for both pedestrians and cyclists.

It is from this area that not only the individual blocks but also the restaurant, cafe and seminar rooms can be accessed – as a result of which the open space is transformed into a dynamic communication area for the entire project.

The buildings are functionally organised with the twin objectives of permitting optimal, flexible use patterns and (through the creation of divisible multifunctional and office areas) of making it possible to create the smallest possible individual units.

The formal entrance areas (accesses to the main circulation cores) and the general areas at ground floor level are oriented to both the open space and to the street.

The multifunctional areas with their more robust range of uses and – for reasons of both daylighting and communication - large areas of glazing, are oriented towards the access and delivery roads and the surrounding street network.

# 1<sup>st</sup> building phase

The building to be built in the first phase has an H-form, with a central lobby at ground floor level. The main entrance is accessible from the open space in front of the building and can be easily seen from the road. Such general areas as the restaurant, café and seminar centre are oriented towards either the major Southeast axis or to the open space. From the central lobby with its reception one can directly access the central naturally lit main stair and lifts. The main transverse corridor, which guarantees an optimal circulation at all levels, gives access to the secondary stairs, the multifunctional areas and all such ancillary spaces as the showers for cyclists.

The upper levels house the flexibly divisible offices. Based on a grid of 1.30m these optimise the potential for sub-division into individual, combi-, group or open-plan offices. The generous column grid further maximises flexibility as does the grouping of the ducts and sanitary areas centrally and around the circulation cores. At every level this main transverse corridor ends in centrally accessible balconies or terraces which can also be used by the employees as spaces for relaxation and communication.



Ground Floor



First Floor



Third Floor

## energy efficiency

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The energy concept – with its **use of regenerative energies** in connection with a specifically developed building services approach - ensures that energy consumption is minimised and fossil energy preserved.

The **passive house standard** is guaranteed by the compact, air-tight building envelope, high insulation standards, a minimising of thermal bridging and an energy efficient constructional approach with a minimum use of harmful materials.

### **Building Services**

The building services system is designed to minimise both maintenance and operating costs. The primary energy needs of the building are supplied by district heating and groundwater cooling.

In addition to the cooling of the building via the water-based activation of the thermal mass of the building, source ventilation adjacent to the façade guarantees high comfort levels in the office areas.

### **Light**

Floor lamps with a system of automatic lighting regulation based on both physical presence and the illumination levels of the surroundings ensure the comfortable and energy efficient lighting of the workplace.

### **Integrated Design**

The integrated design process together with the use of building physics, thermal building simulation, daylight simulation and building ecology makes it possible to optimise the primary energy requirement of the building.

**The plus energy standard is integrated into the building concept by means of integrated photovoltaic elements and small-scale windpower equipment.**

## add-on

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Additional functions – **energy generation and green landscaping** – were overlaid upon the compact functional building in a series of layers.

The **theme of the landscape of the banks of the Danube** is extended from the open space in the form of the reeds which also grow on the façade of the building, creating a buffer to the street. Physical support to this low maintenance, symbolic and highly flexible façade greenery is provided by a sub-structure carrying planting troughs which is placed in front of the building. The reed beds create an attractive urban space and act as an anti-pollution screen to the windows as well as – through the endless variation of the greenery – giving the internal spaces a particular quality.

Photovoltaic elements are placed in front of the greenery of the Southeast façade. While providing shade in the summer months these are fully integrated in the design concept. They are then continued onto the roof of the lower building volume in the form of cantilevered PV elements.

The positioning of a small wind power plant above the main circulation axis both emphasises the exemplary role of the wind turbines in the overall concept for the technology centre and creates a vertical symbol for the building.

## project information

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**Client:**

Wirtschaftsagentur Wien. A fund of the City of Vienna

**Location:**

1220 Vienna, aspern Vienna's urban lakeside

**Project Information:**

Competition: January 2010

Construction Start: May 2011

Completion: July 2012

Total Built Area (total BGF): approx. 12,682 m<sup>2</sup>

Usable Space (NF): approx. 8,843 m<sup>2</sup>

Total Built Area (total BRI): approx. 50,254 m<sup>3</sup>

**INTEGRATED DESIGN**

ATP Architects and Engineers, Vienna

Overall Project Leader: Wolfgang Wildauer

Project Leader, Design: Hannes Achammer

Architecture: Marton Hittner, Manuela Resch

Structural Engineering: Martin Krautgartner, Wojciech Tomczak

Mechanical Engineering: Rudolf Bedenk, Peter Hennerfeind

Electrical Engineering: Helmut Vince, Radoslav Simacek

Tender Process: Markus Schlaffer, Markus Tendl

**Competition Team:**

Horst Reiner, Dario Travas, Renate Weissenböck,

Markus Lentsch, Florian Schaller, Anna Ghon,

Sabine Holzweber, Tatiana Winkelmann, Linda

Wong, Michael Haugeneder, Carin Frotschnig,

Helmut Vince, Egmont Pruggnaller, Martin Krautgartner,

Rainer Sturm, Tina Stauch, Jens Glöggler

**Specialist Experts / Sub Contractors**

**LANDSCAPE DESIGN:**

Idealice – Alice Grössinger, Korbinian Lechner

BUILDING PHYSICS AND THERMAL BUILDING SIMULATION:

IBO – Thomas Zelger, Felix Heisinger

DAYLIGHT SIMULATION

hailight – Andreas Haidegger

FIRE PROTECTION CONCEPT

Prüfstelle für Brandschutztechnik – Wolfgang Steinkellner

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Urban Design Concept