

PROJECT DATA

Project partner

Otto Wulff Bauunternehmung, Strategic Science Consult

Project costs

approx. 3.4 million Euro

Size of site

approx. 839 m²

Gross floor area

approx. 1,600 m²

Size of the utilisation units

approx. 50 to 120 m²

Architecture

SPLITTERWERK, Arup GmbH, B+G Engineers, Immosolar

Beginning of construction

December 2011

Completion

March 2013

Energy standard

Passive house

Energy supply

Integrated Energy Network Wilhelmsburg Central

BUILDING EXHIBITION WITHIN THE BUILDING EXHIBITION

Model houses are being constructed in Wilhelmsburg Central that will provide answers to the question of how we will be living and working in the 21st century. By 2013, a total of eleven projects will be realised that address the challenges of our time in relation to the sustainability of building and co-existence. Four themes for the model venture are summarised under the claim 'Building Exhibition within the Building Exhibition': Hybrid Houses, Smart Material Houses, Smart Price Houses and WaterHouses.



Visualisation: IBA Hamburg GmbH/bloomimages

INTERNATIONAL BUILDING EXHIBITION IBA HAMBURG

In the heart of the city of Hamburg the IBA seeks answers to the most urgent questions posed by contemporary urban planning. Wilhelmsburg, Europe's largest inhabited river island, Veddel and Harburg's inland port are the venues for the IBA's 60 or so projects, due to be completed from 2013 onwards. A stone's throw from Hamburg's inner city we give fresh impetus to urban design; socially, technically and culturally. We are building for and with local residents. We are creating housing and construct a new city within the city. We are taking a stand for more education and greater interpersonal communication, and we are working on new ideas for protecting the climate and the environment.

One City – Three Key Themes



Cosmopolis: How can we ensure that every resident benefits from Hamburg's cultural diversity? By creating 'New Opportunities for the City'.



Metrozones: How can Hamburg find new uses for Hamburg's inner-city margins? By finding 'New Spaces for the City'.



Cities and Climate Change: How can Hamburg become energy independent and protect the climate? By demanding 'New Energies for the City'.

EXHIBITION WILHELMSBURG CENTRAL

The drafts and designs of the Smart Material Houses can be viewed in the exhibition 'Wilhelmsburg Central - Building for the new city'. The exhibition provides a foretaste of the perhaps most innovative constructional neighbourhood in Europe. In 2013, we will be able to see in Wilhelmsburg Central how we will be building and living in the future.



Finanzbehörde
Immobilienmanagement



Contact

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Exhibition Wilhelmsburg Central

igs centre, Neuenfelder Str. 9,
21109 Hamburg

Opening times

Tuesday - Friday: 10 am - 6 pm
Saturday - Sunday: 2 pm - 6 pm

Free guided tours

Saturday: 4 pm, Sunday: 3 pm

How to get there

From S-Bahn station Wilhelmsburg by bus 13 to 'Hallenbad'



You can access additional information with a QR Code Reader.

INTERNATIONAL BUILDING EXHIBITION IBA HAMBURG

METROZONES

BIQ

Natural, efficient and innovative:
A Smart Material House



Published by: IBA Hamburg / Anke Hansing Editing: Christian Roedel, Harald Horster Design: Embassy Print: Dürmeyer GmbH Images: Otto Wulff, Hamburg Released: August 2012



Hamburg ahead

EMPLOYMENT OF INNOVATIVE MATERIALS

The BIQ is a cubic, five-storey passive house according to the design of the Architects Office SPLITTERWERK, Graz, with two differently designed facades. A second facade is introduced on the south-western and eastern side of the building, the bioreactor facade.

VISUALISATION



Algae will be cultivated here – for the generation of energy but also to control the light inflow and shading of the building. As a result of the consistent growth of the algae, the facade will be constantly in motion and changing its colour. The production of regenerative energy will not take place in an invisible energy centre, but will be an explicit component of the architectural concept.

A contrast to the bioreactor facades are the north-western and north-eastern facades, which will be encased by a rendered facade. Spacious loggias with a view will be a high-quality outside living area for each of the 15 apartments. The future residents will be able to observe the bioreactor facade from close quarters here.

IBA EXCELLENCE



The building can react to the changing requirements of its residents and its environment.



The project demonstrates the establishment of innovative energy procurement in urban development.

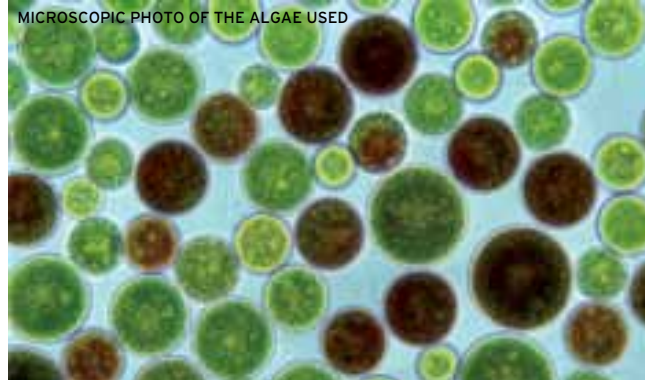


The development of new dwelling models makes a contribution to the future of living in the metrozones of Hamburg.

ENERGY CONCEPT

BIQ is the first building in the world to have a bioreactor facade as part of a holistic regenerative energy concept: Microalgae are cultivated in the permanently perfused plate-shaped glass elements arranged on the south-west and south-east facade,

MICROSCOPIC PHOTO OF THE ALGAE USED



where they product biomass and heat through photosynthesis and solar thermal energy. The heat is directly available to the house as heating energy, the biomass is energetically exploited in another location and converted into biogas.

Geothermal energy and the connection to the Integrated Energy Network Wilhelmsburg Central secure the heat supply and also serve as a long-term reservoir for the heat that is generated in summer. The extensively greened roof provides the opportunity to harvest electricity via the photovoltaic system.



OPINION

OF DR. MARTIN KERNER,
SSC Hamburg

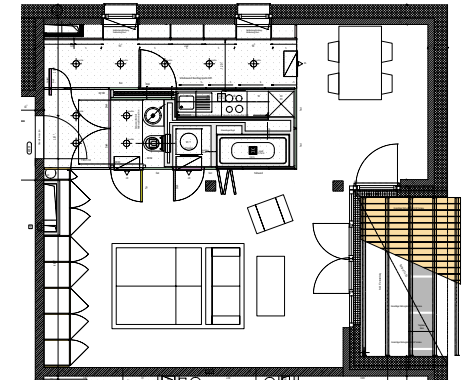
„With the BIQ, a building facade of photobiocollectors will be implemented for the first time in the world. This will lead to new

paths of energy generation and to an aesthetic design of architecture in the urban development sector.“

FLEXIBLE FLOOR PLANS

The concept of switchable rooms – dwelling on demand – has found its contemporary enhanced development in the BIQ. Rooms will no longer be mutually entwined, but functions will be alternatively or simultaneously ‘patched in’ to form a neutral zone.

EXAMPLE
FLOOR PLAN



The functions of the apartment such as bathroom, kitchen, sleeping areas are located in built-in furniture that will be standing within the neutral space. The time sequence and changing program of everyday life will therefore characterise the appearance of the apartment.

New interior impressions and functional relationships will be created and enabled in interplay with the furniture elements, user behaviour and the special finishing of the surfaces.

PROTOTYPES OF THE BIOREACTOR FACADE ELEMENTS

