

AC Meeting October 23. – 25. 2010 Berlin

Visited Projects

O₂ World Arena, Berlin



Contract owner Anschutz	EntertainmentDevelopment Group Berlin
Gross area	78,240 m ²
Building costs	165,0 M EUR
Number of seats	ca. 17,000
Opening	10 th September 2008

Anschutz Entertainment Group is the client and operator of the O₂ World. The O₂ World is part of a far-reaching strategic, interactive and international partnership of Anschutz Entertainment Group and Telefónica O₂ Germany. The contract is signed for 15 years.

The O₂ World did set high standards to save energy and protect the environment. The facts in detail:

O₂ World is a multi-use indoor arena, in the Friedrichshain neighborhood, of Berlin, that opened in September 2008. Developed by Anschutz Entertainment Group, it was named O₂ World, when Telefónica O₂ Germany purchased the naming rights.^[5] With a capacity of 17,000 people^[6], it is home to the Eisbären Berlin ice hockey club and the ALBA Berlin basketball team, and is used for other ice hockey, basketball and handball matches as well as concerts. The surrounding area will be filled with various entertainment venues including a cinema, a casino, a hotel and various bars and restaurants.^[5] The arena hosted the 2008-09 Euroleague Final four.

The Building:

- The thermal resistance values of roofs and walls more than meet the requirements of energy saving regulations, so that hardly any energy permeates the outer enclosing wall area.
- The window area is equipped with an anti-glare shield.
- An extensive green area on the roof of the arena binds a part of the released carbon dioxide.



Location:

Accessibility is a Main issue for an multipurpose arena for 17.000 visitors.

- The O₂ World possesses an optimum access to public transportation.
- The “Warschauer Straße” Berlin subway stop along with the suburban railway and tramway is located in the immediate vicinity.
- The proximity of East Central Station provides connection to regional and nationwide rail transport.
- With the O₂ World levy the venue owns its private pier.
- 400 bicycle stands are positioned directly at the arena.
- On the area of the O₂ World the Deutsche Bahn AG (German Railways) offers a bike rental service. Bicycles can be rented at the O₂ World and returned to every railway station in Berlin.

Energy-saving Technology:

- The air conditioning systems are equipped with heat recovery. The exhaust air crosses the stream of the inflowing fresh air. An interchange takes place and the fresh air is pre-heated by the exhausting air.
- Water-saving flushes are installed in all toilets.
- A central control system allows an exact consumption control. Thus an energy optimized operation takes place.

Heat Supply:

- Three gas-powered boilers are operated in the O₂ World.
- The total output of the facility averages 5.5 MW
- The supply of the low temperature boiler takes place using a connection to the network of GASAG. The zamboni is also driven with GASAG natural gas.

Energy Supply:

- The electrical energy supply is realized through the 10kv – medium-voltage power grid of the local utility.
- Five 1,600 kVA transformers are used for the general supply and two come into operation for the stage supply.

Cooling Supply:

- A chiller with a performance of 828kW supports the cooling of the ice. Ammonia is used as refrigerant, which is compressed by three simultaneously working reciprocating compressors. The ice is cooled to a maximum of 16°C.
- The cooling serves the air conditioning plants as well as the after coolers inside the suites. The climate water with a temperature of 5°C / 7°C is compressed by two duo-screw-type compressor sets. Ammonia is used as refrigerant. The machine has a refrigerating capacity of 5,000 kW.
- Secondary coldness, the climate water (14°C / 20°C) powers the electronic operating rooms, offices and concessions. The ecologically compatible R407c is used as a refrigerant.
- The chill rooms and dispensing systems are refrigerated by several cooling systems that are remotely arranged in the arena. All machines are equipped with the non-polluting cooling R404A. The machines have a capacity of 230 kW.



Maintenance:

- Solely non-polluting cleaning and caring products come into use.
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- During winter service gritting and snow-clearing services will be set aside.

Size and Technical Data

Length:	160 m
Amplitude:	130 m
Height:	35 m
Gross Cubic Volume:	ca. 500,000 m ³
Interior Room Volume:	230,000 m ³
Total Area:	60,000 m ²
Seating Area:	12,000 m ²
Maximum Area for Events:	60 m x 40 m
Endstage:	up to 288 m ²
Hockey Playing Field:	60 m x 30 m
8 escalators and 8 lifts	

The Architect



Helmut W. Joos founded an architecture studio in 1963, which currently employs a total staff of more than 150 in Frankfurt/Main, Berlin, Düsseldorf, Brunswick, Munich, Hamburg, Baden-Baden, Basel, Warsaw and commands an annual construction volume of around two billion euro. Apart from classical architecture, **JSK Architekten** supplies a wide variety of planning and consultancy services. These include urban planning concepts, general planning and consulting, implementing public-private-private partnerships, studies and assessments and planning for facility management.

