

# CRYSTAL TOWER Business Center

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**Building Type** : High office tower > 28m  
**Construction Year** : 2011  
**Delivery year** : 2011  
**Address 1 - street** : 48 Iancu de Hunedoara Bvd 10000 BUCHAREST, Romania  
**Climate zone** :

**Net Floor Area** : 20 000 m<sup>2</sup> Useful area (It)  
**Construction/refurbishment cost** : 35 000 000 €  
**Number of Work station** : 1 200 Work station  
**Cost/m2** : 1750 €/m<sup>2</sup>

## General information

Featuring modern, sophisticated and elegant architectural design and introducing the double skin glass façade - the first in Romania - CRYSTAL TOWER is a new landmark in Bucharest. With high architectural and technological standards, efficient office spaces, special emphasis on environmental sustainability and energy savings, the project is the perfect combination of functionality, flexibility and people friendly atmosphere.

See more details about this project

<http://www.buildgreen.ro>

## Stakeholders

### Stakeholders

Function : Investor  
Plaza Development

Mihaela Draghici – PR Manager Mobile :+40731038674 Email :mihaela.draghici@searchltd.ro

<http://www.crystaltower.ro>

Function : Certification company  
BuildGreen Romania

<http://www.buildgreen.ro>

## Contracting method

General Contractor

## Type of market

Realization

## Energy

### Energy consumption

Primary energy need : 99,00 kWhpe/m<sup>2</sup>.year

Primary energy need for standard building : 154,00 kWhpe/m<sup>2</sup>.year

Calculation method : Primary energy needs

### Envelope performance

Envelope U-Value : 0,73 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

The double skin façade of the building, a premiere in Romania, reduces the transfer of caloric energy in both directions. This generates important energy savings in the consumption of ventilation and heating and implicitly reduces the consumption of electricity.

Building Compactness Coefficient : 0,20

Indicator : I4

### More information

NA

## Renewables & systems

### Systems

Heating system :

- Gas boiler
- Heat pump

Hot water system :

- Individual electric boiler

Cooling system :

- VRV Syst. (Variable refrigerant Volume)

Ventilation system :

- Free-cooling
- compensated Air Handling Unit

Renewable systems :

- Heat pump

### Smart Building

BMS :

The intelligent active shading system with power drive exterior blinds operates efficiently with sensors activated by the level of natural light. Thus the system provides an optimal use of the daylight in the workplace with effective protection against he

## Environment

### Urban environment

The development is located in Bucharest center, near Victoriei square, with direct and easy access to public transportation. The construction provides adequate bicycle parking spots and the terraces of the building are designed to be green offering the occupants the opportunity to enjoy nature in their proximity

Land plot area : 1 862,53 m<sup>2</sup>  
Built-up area : 24 728,00 %  
Green space : 540,00

## Products

### Product

Double skin facade

Product category :

The double skin façade of the building, a premiere in Romania, reduces the transfer of caloric energy in both directions.

This generates important energy savings in the consumption of ventilation and heating and implicitly reduces the consumption of electricity.

VRV II system

Product category :

The VRV II is a significantly improved version of the original VRV, which revolutionised air conditioning for buildings. Some of the main upgrades are quieter operation, smaller units, sleeker design, and simpler installation and maintenance, along with a higher COP. The most advanced technologies were employed in designing the VRV II to create a system that completely fulfills the needs of our customers.

Crystal Tower is the only office building in Romania provided with the VRV II system.

It is an efficient, reliable, energy saving way to heat and cool all types of buildings with minimum installation time or disruption. The volume of air flow is accurately matched to the required heating or cooling loads thereby saving energy and providing more accurate temperature control and comfort.

## Costs

### Construction and exploitation costs

Global cost/Work station : 29166.67

Global cost : 35 000 000,00 €

## Carbon

### GHG emissions

GHG in use : 14,05 KgCO<sub>2</sub>/m<sup>2</sup>/year

Building lifetime : 60,00 year(s)

## Contest

