



# TWIN-C REPORT

ARCHITECTURE | BREMEN'S WESER TOWER



CURRENT INFORMATION  
ON INTELLIGENT LIGHTING CONCEPTS  
THAT ARE MADE BY WALDMANN

# STATE OF THE ART LIGHTING

As a part of Bremen's "Überseestadt" district city development project, the grounds of the former Weser train station are currently flourishing. The heart of the development is the glass Weser Tower. The office building on the shore of the Weser River that was designed by the architect Helmut Jahn (Chicago) was completed in 2010 and offers a tremendous view of Bremen's old town. With its height of 82 meters, the tower is currently Bremen's highest office building.



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## Modern Architecture

An area of 18,000 square meters is distributed among 22 floors and offers space for a total of 800 workstations. The main tenants are technology and communications subsidiaries of the EWE AG electric utility, including BTC AG, BREKOM, EWE TEL, nordcom, and the hmmm multimediahaus AG.

Considering that sustainability was a main focus for architect Helmut Jahn, the high-rise was the perfect branch location for a modern electric utility like EWE.

The construction is characterized by its innovative and technology-oriented design. At the same time, the ceiling-height glass facades give the skyscraper a dynamic, open feel. A highly flexible layout on the individual levels supports this dynamic.

## Efficient Use

The glass building envelope not only ensures an open atmosphere and daylight-flooded spaces, but also meets the challenges presented by the climatic conditions and high demands for energy efficiency.

In the summer months, flexible sun filters prevent heat from penetrating the building. The natural heat of the sun is captured by the panes in the winter. This is made possible by 10,000 square meters of special glass, which, in a process taking place in a vacuum atmosphere, is vapor-plated with a layer of silver. Temperature and fresh air supply are regulated using a sophisticated ventilation system.

Additional heat or pleasant coolness is generated using geothermal energy. This makes use of the temperature differences above and below the earth's surface: during the winter, the temperature below ground is higher than above ground. This heat is extracted from the ground using a heat exchanger and is then conducted into the building. The relative coolness underground is used as an environmentally friendly means of cooling the high-rise during the summer.

The lighting solutions also needed to be perfectly integrated into the sustainable building concept.



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### The TWIN-C solution – ATARO free-standing luminaire with PIR sensors

EWE AG decided to furnish all of the offices and meeting rooms in the entire building with Waldmann luminaires. ATARO free-standing and desk-mounted luminaires were chosen throughout.

#### Extensive Flexibility

Means to maximize dynamic use of the tower were already incorporated at the planning stage, making allowances for tenants' changing spatial needs or a change of tenant.

A high degree of lighting flexibility was required for this situation. It had to be not only variable in terms of the location, but also concerning its integration options. Because the luminaires need to be integrated into the companies' various furnishings: from traditional and more conservative settings to creative working environments. ATARO's timeless forms and materials optimally blend into the skyscraper's diverse office environments.

1|2 The illuminated Weser Tower.

3 A public area overlooking Bremen.

4 A welcoming working atmosphere.

5 ATARO desk-mounted luminaires in an open-space office.

Image concept/Image source: Waldmann, Lutz Wilke



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### Great Savings Potential

The Waldmann TWIN-C philosophy is also convincing when it comes to efficiency. Comparative measurements proved that considerable potential savings are possible when only areas that really need lighting are lit, and only when an employee is at their workstation, as opposed to ceiling-integrated general lighting.

The luminaire sensor system makes sure that light is only switched on when needed. Firstly, the passive infrared sensor system (PIR) detects presence so that when a workstation is unattended, the light automatically switches off after a delay so that no unnecessary energy is used. The Waldmann PULSE PIR light management system's motion sensor takes a thermal image to this end. The coverage area can be individually adjusted thanks to the ball shank.

Secondly, a light monitor regulates the luminous intensity dependent upon incident daylight when someone is present. If there is enough natural light, the artificial light shuts off completely.

This results in enormous energy-saving potential for the light-flooded offices in the Weser Tower that feature ceiling-height glass fronts.

All ATARO luminaires in the Weser Tower are equipped to be connected to a KNX building management system. Accordingly, further energy-saving potential can be achieved if status information is exchanged between the separate heating, climate control, ventilation, and lighting subsystems. User comfort also increases, if, for example, a presence sensor in the luminaire automatically activates the air conditioning system.

### Long Life and User Comfort

The sensors reduce the operating time of the lamps, increasing their lifetime accordingly and offering yet another economic advantage. The high-quality materials also contribute to the long life of the luminaires.

Aside from their energy-saving potential during use, the ATARO luminaires distinguish themselves through a high level of user comfort.

With the AMBIO glare-free technology developed by Waldmann, there is no direct glare and, most importantly, no reflection on monitors. Disturbing shadows are also prevented.

The luminaires are easy to switch on or off by hand from both a sitting and a standing position. The dimmer function allows for simple illuminance adjustment for individual lighting needs. This can vary strongly, especially as people grow older. For example, a 60 year old employee can need twice as much light as his 20 year old colleague.

Details available at [www.waldmann.com](http://www.waldmann.com)



6 The individually designed conference rooms are furnished with ATARO free-standing luminaires.

7 Perfectly integrated into the bench workstations: ATARO desk-mounted luminaires.

