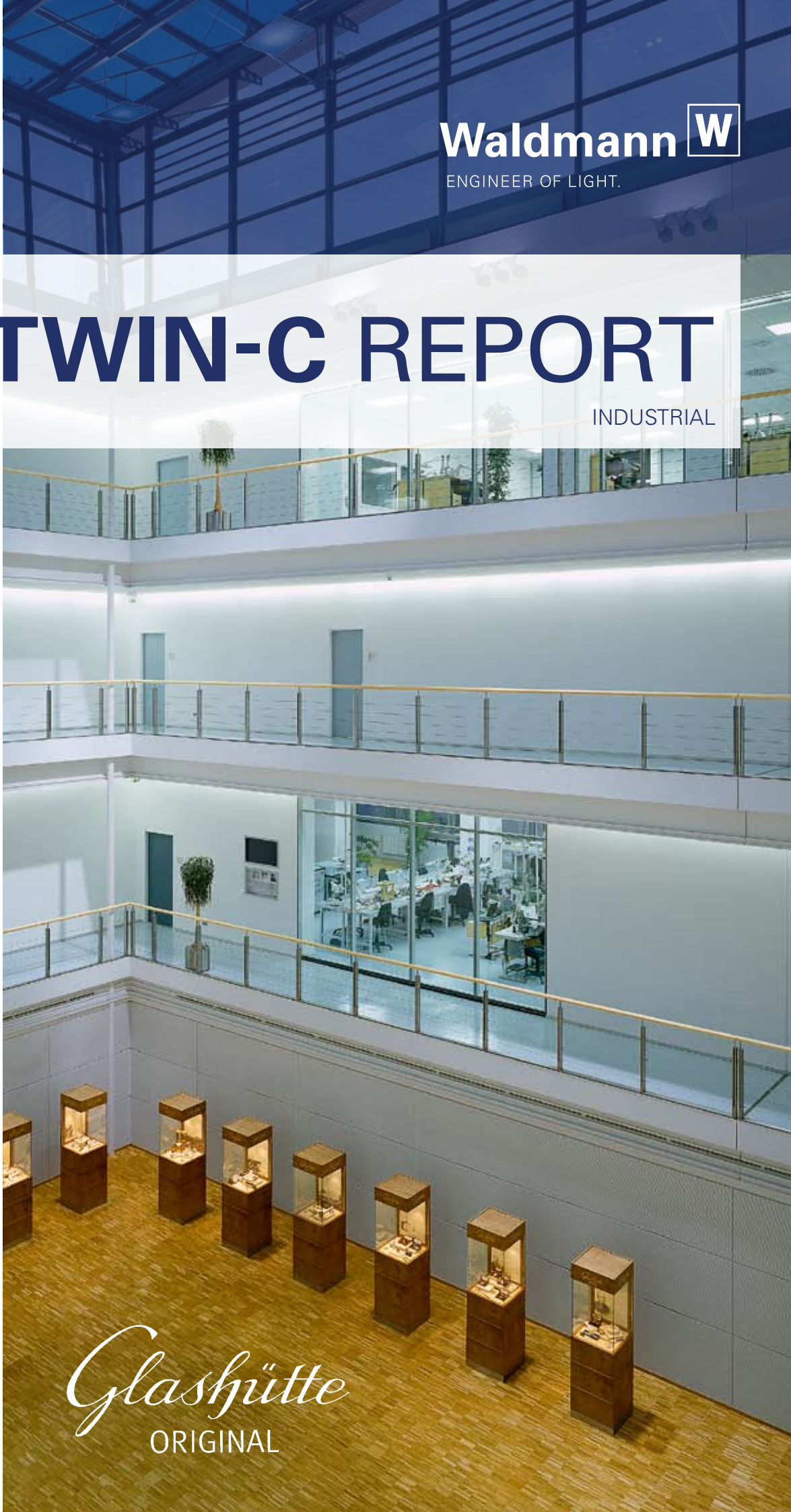




# TWIN-C REPORT

INDUSTRIAL

UP-TO-DATE INFORMATION ABOUT INTELLIGENT LIGHTING SOLUTIONS FROM WALDMANN | JANUAR 08



*Glashütte*  
ORIGINAL

# A NEW DIMENSION

## TWIN-C SETS NEW STANDARDS FOR EFFICIENT LIGHTING SOLUTIONS

Waldmann luminaires have always stood out because of their high quality. The specific product features of the individual models have been precisely tailored to the requirements of the respective applications. Glare-free products, high flexibility, and consistent quality have set standards for proper lighting in the workplace for decades.

The new TWIN-C philosophy precisely addresses this issue and combines the distinct quality profiles of individual luminaire models to form integrated lighting concepts. The results, in every case, are highly individual lighting solutions that are tailored exactly to the requirements and enable a completely new dimension of quality classification. The goal is more than defining ideal workplace lighting. Instead, productivity, safety, health, and comprehensive energy savings are the qualitative cornerstones of a new category of efficient lightplanning.

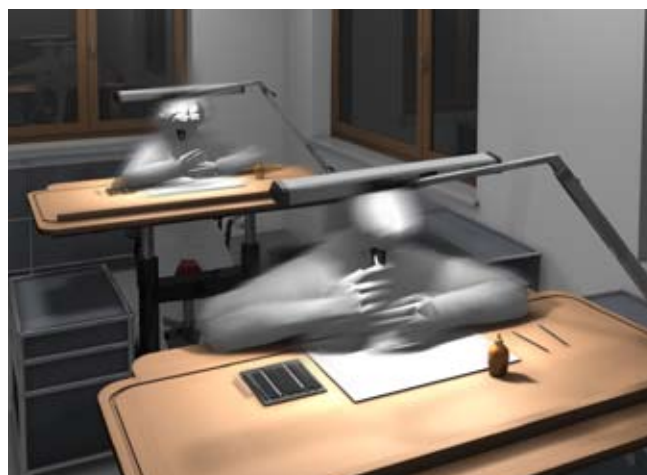
As a result, the customer's objectives become the focal point of all considerations and are reflected in the questions:

1. What makes the customer successful?
2. What lighting concepts and lighting components can be used to increase this success?

Without exception, the implementation of the new TWIN-C philosophy results in considerably improved metrics. Comparative assessments show a prompt, precisely definable amortization of the required investments.

TWIN-C is always individual. In all areas, TWIN-C combines the complex factors of daylight and ambient lighting with the necessary quality criteria of workplace lighting.

The reference example of the "Glashütte Original" watch manufacture demonstrates the influence that light has on extremely sophisticated work processes.



During the final assembly of the watches, utmost precision is required. An assembly error, such as the slipping of the screwdriver, may destroy the entire clockwork. It is therefore extremely important for the watchmaker to have not only a table that is ergonomically tailored to him, but also an individual lighting component.



## THE MASTER OF PRECISION



*Glashütte*  
ORIGINAL

Connoisseurs refer to the noble creations from the Saxonian manufacturer as „Haute Horlogerie“, or in English „high watch making“. The unique collections are sought after all over the world and excite collectors and watch aficionados alike. Angling, Breguet overcoil, chaton, guilloche, réglage, and tourbillon – these technical terms, frequently of French origin, used by watchmakers attest to a decades old tradition of master craftsmanship. Due to the high quality standard, most work processes, particularly the production and assembly of the unique clockworks, are performed in inhouse shops.

Considering the variety of difficult and different steps, optimum lighting solutions that are tailored to the respective task must be installed in all production areas.

For example, in basic production, spot illumination with the highest brightness level is needed.

For other visual tasks, broad illumination is more appropriate. It is obvious that the necessary high brightness levels for „fine assembly activities“ (DIN EN 12464, 1500 lx) cannot be achieved with a ceiling-mounted, directly emitting lamp.

In the light of steadily rising electricity costs, the immense expenses for energy alone of such a solution would be prohibitive. In addition, qualitative deficiencies would occur, such as a high glare factor and excessive heat. The extremely small work areas for most work processes demand specialized lighting solutions.

An important criterion in the model selection of the luminaires was also the shade produced by the light. In work processes that require soft shadow formation, flood lamps of the STE 136 and SNE 118/136 series with highly dispersive prismatic screens and flicker-free electronic ballasts were installed. The design is especially important for luminaires of this type.

Because high-gloss materials, particularly metals, are being handled, the rods and joints are designed so that the lamp head can be easily adjusted using one hand. Annoying light reflections are eliminated by the variable lighting direction.

Other work steps require glare-free spot lighting with high luminance, with the pronounced shadowing visually emphasizing three-dimensional material shapes of the workpiece.

Individual workplaces were equipped with SNLE series magnifiers, whose lighting features can be individually switched and which due to the integrated, pivotable wide range magnifier provide for optical enlargement of the field under observation.

Taking the aspects of productivity, safety, health, and energy savings into consideration, a lighting solution was installed, which creates ideal lighting at the workplace and pays off for the “Glashütte original” watch manufacture in the form of production that maximizes quality and is free of defects in the manufacturing process.

# TWIN-C – NEW LIGHTING SOLUTIONS

TWIN-C is the combination of intelligent lighting solutions (Concepts) with compatible components (Components) – to provide proper lighting in the right location. The effects for the company are extraordinary:

## 1 PRODUCTIVITY:

Increases of up to 40% are possible! Light, when used correctly, increases a company's productivity. TWIN-C lighting concepts make the most of any manufacturing environment and aid in better illumination of workstations in production.

## 2 SAFETY:

Up to two thirds fewer accidents! Light promotes safety because the employees and operators are able to see and recognize things better. Learn how you can prevent errors, accidents and downtime with TWIN-C lighting concepts.

## 3 HEALTH:

Considerably lower absenteeism! Light promotes a sense of well-being if it is adjusted individually to employees. Waldmann demonstrates how TWIN-C lighting concepts can make the work environments more ergonomic, promote a sense of well-being among employees and lower absenteeism.

## 4 ENERGY SAVINGS:

Double-digit percentage energy savings are not uncommon. Light saves energy when it is not used across the entire factory area. Waldmann demonstrates that, all things considered, TWIN-C can save energy and lower costs, despite selectively higher brightness levels.

## NEW TWIN-C TOOLS



### TWIN-C Microsite

Discover the new lighting philosophy live on our TWIN-C microsite!

Especially in the industrial sector, proper lighting in the right location is a crucial factor for greater productivity and employee motivation. To allow you to quickly and easily determine the hidden potenti

als in your company, you have the option of performing a TWIN-C check.

Simply go to our TWIN-C microsite and you're on your way!

[www.waldmann-twin-c.com](http://www.waldmann-twin-c.com)



### TWIN-C brochure

Learn in our new TWIN-C brochure how industrial workplaces can become even more productive through lighting. EN 12464-1 defines how to optimize industrial workplaces with lighting technology. Waldmann goes even a step further: It focuses not only on complying with the standards from a technical aspect, but also on the financial benefit for the customer. EN 1837 defines the requirements of machine-integrated luminaires. Machine manufacturers are obligated to comply with this standard and do-

document their compliance. This is not a problem with a TWIN-C lighting solution from Waldmann. Request our brochure to learn more about the applicable standards. We will show you based on different TWIN-C lighting concepts how „the right lighting combination“ can increase your company's success.