

The Solution Concept – Bringing Bright Ideas to Light

HIGHER SAVINGS POTENTIAL & GREATER CONVENIENCE WITH VS LIGHT MANAGEMENT SYSTEMS

With our LiCS lighting control systems, your customers can save energy, achieve long-term reductions in maintenance costs and at the same time make a contribution to lowering CO₂ output. Provided that efficient technology is used in the right place, these systems can help to achieve savings of 30% to 70%.

LiCS Outdoor products make it possible to monitor and control luminaires operated with magnetic or dimmable electronic ballasts featuring a 1–10 V and a DALI interface. The system is suitable for both new installations as well as classic retrofits. It enables central, yet individual lighting control with the advantage of constant online connectivity and system surveillance.

Vossloh-Schwabe's LiCS Indoor system lets you control individual luminaires or whole luminaire groups, e.g. with the help of sensors or commonly available push-button switches. If necessary, the system can be flexibly reconfigured without needing any rebuilding work – or even a computer. All settings are made directly at the controller using a rotary push key, with the individual steps being displayed and explained on the controller screen (in a choice of 5 languages).

TOP QUALITY STANDARDS – EXTENDED WARRANTY PERIOD

Our gapless quality management system – starting with the procurement of raw materials and ending with the finished product – lets us provide an extended 5-year product warranty. We know how good our products are – and you reap the long-term advantage.

THE SOLUTION CONCEPT

For you, satisfying your lighting needs "from a single source" means benefiting from perfectly matching individual components and, with that, high efficiency ratings. There's just a single contact person to provide you with all the information you need on all system components, a single overall warranty and always the right solution for every application, whether indoor or outdoor.

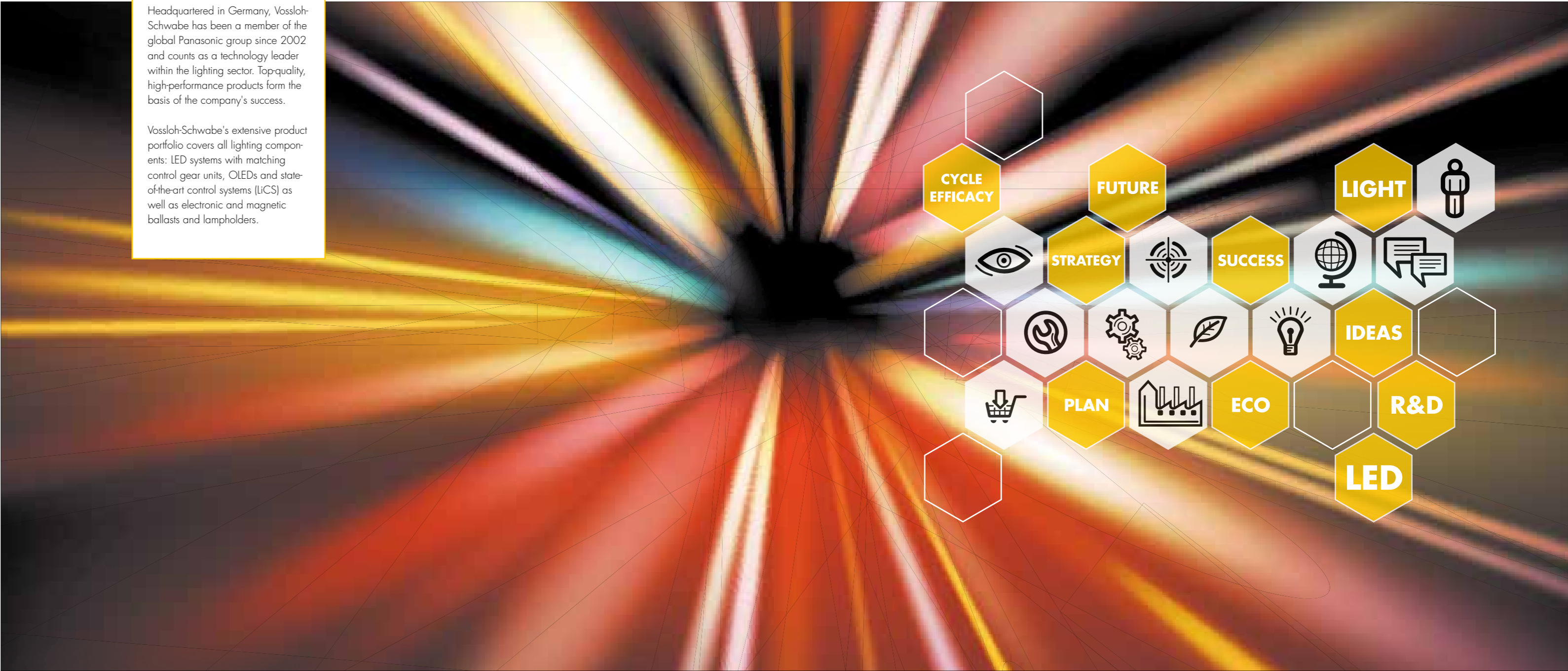
But we can also provide know-how in individual fields. Why not use our individual core competencies to relieve capacity bottlenecks or if you need a fast-paced result? All of our services and know-how can also be put at your disposal on an individual basis.



Whenever an electric light goes on around the world, Vossloh-Schwabe is likely to have made a key contribution to ensuring that everything works at the flick of a switch.

Headquartered in Germany, Vossloh-Schwabe has been a member of the global Panasonic group since 2002 and counts as a technology leader within the lighting sector. Top-quality, high-performance products form the basis of the company's success.

Vossloh-Schwabe's extensive product portfolio covers all lighting components: LED systems with matching control gear units, OLEDs and state-of-the-art control systems (LiCS) as well as electronic and magnetic ballasts and lampholders.



A member of the Panasonic group **Panasonic**

Vossloh-Schwabe Deutschland GmbH

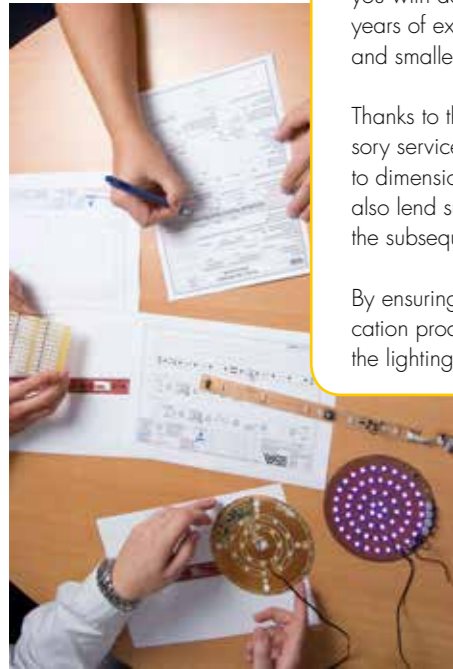
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Advisory and Planning Services

At Vossloh-Schwabe, meeting all your lighting needs "from a single source" also includes providing you with advice and assistance every step of the way. And the know-how gathered in almost 100 years of experience in the field of lighting technology more than qualifies us to complete both larger and smaller lighting projects.

Thanks to the highly experienced specialists who work in every area of Vossloh-Schwabe, our advisory services range from help with choosing components and consulting on turnkey systems right up to dimensioning lighting systems in concrete terms. When it comes to product development, we can also lend support in the form of specific simulations that will save you both time and money during the subsequent implementation stage.

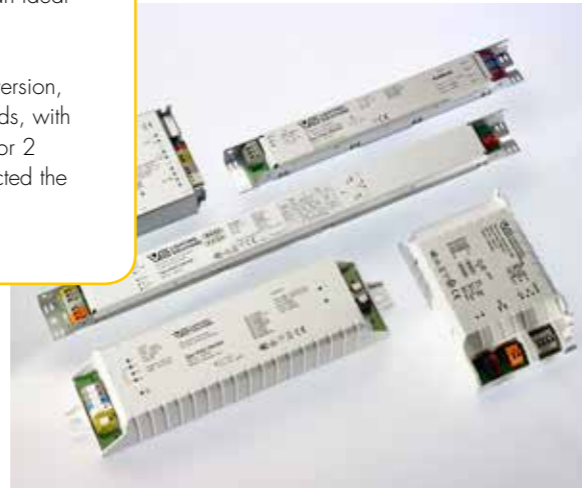
By ensuring the qualification of all individual VS components, we also help to simplify the later certification process of the entire luminaire. This forms a safe basis for the subsequent handover process of the lighting system as a whole.

Electronic Control Gear

Ballasts, other control gear and optics are all decisive for the overall efficiency of a lighting system.

In this regard, our LED drivers cover all output classes and deliver a high degree of efficiency, long service life, protection against overvoltages and overheating as well as compact dimensions. This makes them an ideal component for efficient LED systems.

Whether you choose a standard or dimmable version, with an IP20 or IP65 rating, with or without leads, with a rating of 60 to 1400 mA or a model with 1 or 2 channels, you can always be sure to have selected the best possible control gear for your application.



Individual LEDs and LED Modules

In comparison to conventional light sources, LEDs are very efficient and compact, light up as soon as they are switched on, are dimmable and, provided that thermal management requirements are observed, come with a very long service life.

Not only can Vossloh-Schwabe deliver both COB and SMD LED modules that are suitable for retrofitting existing luminaires, but we can equally break new ground in pursuit of implementing completely new luminaire design ideas in cooperation with you.

In every case, we attach great importance to maintaining close communication with our customers, ensuring rapid response times and enabling fast completion of individual project stages.

We can find the best solution for any light application: in offices and schools, in shops and residential settings as well as for street lighting – all the while guaranteeing excellent product features like L90/B10, CRI > 90 and high efficiency ratings.



Research & Development

Our R&D departments are engaged in testing new materials, running trials with innovative technologies and in subjecting the results to rigorous scientific debate. This forms the basis for individual Vossloh-Schwabe components and entire systems that create optimum lighting conditions.

In addition to standard systems, we also develop individual, customer-specific solutions, in which case your requirements will determine our starting point. Based on one of your product ideas, this then lets us design a suitable solution in line with your requirements and put together a concrete list of specifications that details every individual step.

Furthermore, as the prototypes we produce enable an initial visualisation of ideas and concepts, any flaws that could cause problems at a later point in time can already be weeded out during the initial design phase. And since Vossloh-Schwabe is part of the Panasonic Group, you can also draw on further international resources and know-how in this field.

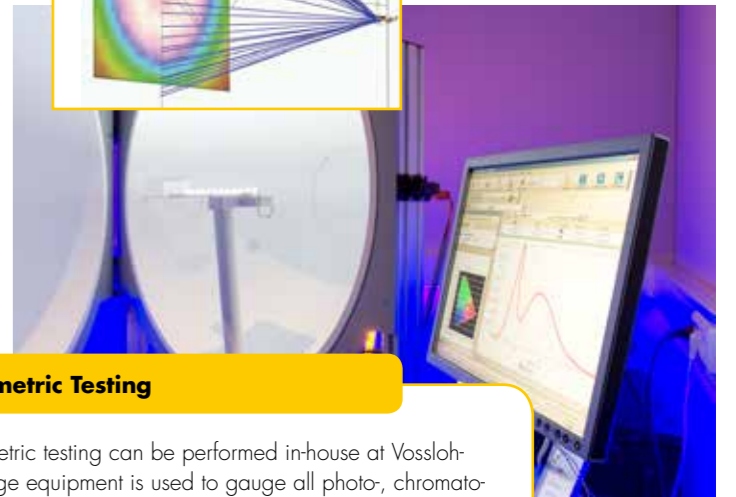
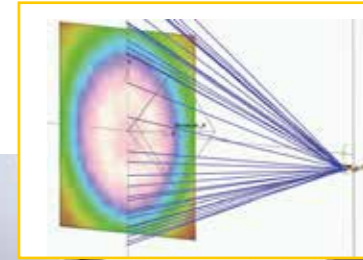


Competent in Tool Production

The construction of machine tools to produce ballasts, lampholders and individual components has formed a part of Vossloh-Schwabe's engineering remit for many years. Nowadays, this expertise is specifically employed in the tools we design and construct.

We can therefore design customer-specific tools in-house and construct these quickly at an affordable price, to which end our specialists from the respective departments work hand in hand throughout the entire process: from designing individual parts and producing the tool itself right up to manufacturing the final products and their ultimate assembly.

As a result, you benefit from high-quality tools with a long service life that are perfect for producing individual components or entire systems.



In-house Photometric Testing

All necessary photometric testing can be performed in-house at Vossloh-Schwabe. Cutting-edge equipment is used to gauge all photo-, chromatic and radiometric values as well as carry out thermal simulations. These kinds of thermal and optical simulations can help to gear the development of an LED module to suit the respective customer-specific application at a very early stage in the planning process. VS simulations are highly accurate and only negligibly deviate from the later photometric values of the finished product.

Accurate simulations provide you with the benefit of calculated lighting values that are very close to the final result, thus saving not only time, but money.

Our cooperation in key standardisation committees also comes with an advantage for you. Our LED systems are developed with future EU Directive updates in mind – giving you upfront planning certainty.



From Short Runs to Mass Production

The development of innovative products typically includes the production of prototypes and the possibility of first having the products manufactured in short runs and only later mass produced. Our production capacities and know-how let us provide the requisite flexibility in this regard.

We expect the quality of our products to satisfy the highest demands. All of our production steps – from the receipt of goods, through manufacturing, right up to delivery and installation at the customer's premises – must satisfy a set of strict criteria. Without such a stringent system, ensuring we only deliver products of the highest quality and reliability would not be possible. All VS production sites have been certified in accordance with ISO 9001 and ISO 14001.

Vossloh-Schwabe's high-quality individual components and assembly groups thus simply need to be combined and connected to make a complete system. Our future-proof components and systems let you choose the perfect parts for your application every time.

Our global presence – with locations in more than 20 countries – also reflects this closeness to our customers and the market.



Know-how in Plastics

The array of different plastics on the market is as diverse as the products they go to make. Lamp- and other holders as well as optics are all made using various plastics in our state-of-the-art manufacturing facility, which is also used to produce composite LED heat sinks consisting of plastic and metal parts.

Let our know-how help you in developing optics and reflectors to suit your specific needs as well as in using the right plastics in the right way to ensure optimum lighting results, to name but a few ways you might benefit from our services.