TRILUX
SIMPLIFY YOUR LIGHT.
LIGHTING
REFURBISHMENT
WITH TRILUX
ARE YOU READY
FOR THE TECHNOLOGY
TRANSFORMATION?
SWITCH NOW. SAVE ENERGY.
www.trilux.com/refurbishment

LIGHTING REFURBISHMENT WITH TRILUX

ACCEPT NO COMPROMISES WITH QUALITY OF LIGHT

NEW RULES OF THE GAME THROUGH LAMP BANS. BYE-BYE WASTERS, HELLO LED!

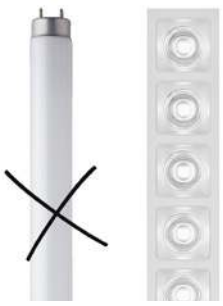
Now it's getting serious: new EU regulations relating to energy efficiency (the Ecodesign directive) and the use of mercury in light sources (the RoHS directive) make refurbishing with LED luminaires inevitable in the long term.

LED technology has now reached such a high level that it can replace virtually all conventional light sources. In particular, lamps with poor efficiency or toxic ingredients such as mercury are incrementally no longer permitted to be placed on the market.

We have summarised the detailed steps from February 2023 onwards in accordance with the European RoHS Directive for you in this table. Be one step ahead of the technology transformation, and therefore also the associated procurement problems or even downtimes. TRILUX supports you in refurbishing your lighting installation.

SWITCH NOW. SAVE ENERGY.
Are you ready for the technology transformation?

The following lamps (see table on the right) will no longer be available on the market after 2023.



Where sustainable, future-proof solutions are required, compromises are not all that helpful. Retrofit lamps are one such compromise that we do not offer to any customer. This is because a retrofit lamp is a replacement lamp with LED technology that is merely integrated into the existing lighting system. In our view, this solution is too short-sighted. Because in a professional environment, in addition to energy and investment costs other factors have to also be taken into account:

- Overall efficiency
- Compliance with guidelines and standards
- Safety and warranty
- Quality of light and use

An overview of the most important points to consider when using retrofit lamps:

- The control gear units used in a luminaire design can be technically very different. However, retrofit lamps of the same size do not work with all of these control gear units. Their use must therefore be individually checked because the lamp must be matched to the specific ECG.
- Likewise, the permissibility of retrofit lamps for operation in tandem circuits must be checked in advance on the basis of the technical product data sheets (until now: 2 fluorescent lamps with 18W wattage connected in series to one control gear unit).
- When using retrofit lamps, the information on failure rates and lifetimes must be observed.
- Retrofit lamps may have low colour consistency (SDCM).
- Unlike LED luminaires, retrofit lamps are excluded from most government subsidies.
- The light quality of retrofit lamps varies greatly, but is at best roughly comparable to the previous operation of the lighting system with fluorescent lamps.

Phase-out period	Lamp type			Standards
1st September 2021		CFL-i	Compact fluorescent lamp, integrated control gear unit	(EU) 2019/2020 Ecodesign Regulation
		FL - T2/T7	7 mm – fluorescent lamp	
		FL - T12/T38	38 mm – fluorescent lamp	
25th February 2023		CFL-ni	Compact fluorescent lamp, also non-integrated control gear unit	RoHS
		Longlife LFL	Fluorescent lamp > 25,000 h	RoHS
		FL – R T5/T16	16 mm – circular fluorescent lamp	RoHS
		HS... CRI > 60 (<80, ≤ 105 W)	High pressure sodium lamp with improved colour rendering index	RoHS
25th August 2023		FL - T8/T26	26 mm – fluorescent lamp	RoHS
		FL - T5/T16	16 mm – fluorescent lamp	RoHS
25th February 2025		FL- R T9	29 mm – circular fluorescent lamp	RoHS
25th February 2027		HS...	High pressure sodium vapour lamp	RoHS
		HI...	High pressure metal halide lamp	RoHS

LIGHTING REFURBISHMENT WITH TRILUX

LED SOLUTIONS AND
LIGHTING REFURBISHMENT

EVERYTHING EXCEPT STRESS

For you and your company an unusual project, for us pure professionalism: lighting refurbishment with LED. Our experience, our expertise and our portfolio: all ensure that processes are smooth and the result is perfect. Everything complete. And completely without stress.

Many solutions, one contact

We are a full-service provider. Regardless of whether the tasks are simple or complex, small or large. We'll do it for you. From planning to installation and maintenance. And to ensure that even complex issues stay simple for you, you always have a fixed contact p erson to answer all your questions.

Your future security: with smart light management, reliable cloud services and, if necessary, IoT.

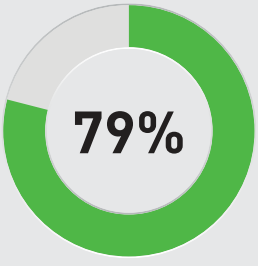
Simply ask us – we will be happy to advise you.

INTELLIGENT, SUSTAINABLE AND COMPLETE LED REFURBISHMENT

Older lighting systems consume unnecessary quantities of electrical energy, require intensive maintenance and often no longer comply with standards. The good news is that a conversion can usually be financed by the savings in operating costs. With increased quality of light at the same time.

Everything quite simple, and as needed:

- **Quality of light is quality of life:** Well-being and safety are supported directly by the right light.
- **Uncomplicated refurbishment:** With our full service offer. From simple luminaire replacement to leveraging the complete range of potential. We accompany you with fixed contact persons and our large partner network.
- **Everything but standstill:** We also refurbish during operation and thus reduce downtimes.
- **Holistic product solutions also in special cases:** We offer you the right, energy-efficient and holistic LED solution for every type of old luminaire. In special cases, we develop customised solutions for you.
- **Your lighting system can do more:** In addition to the LED refurbishment, our LiveLink light management system provides further energy-saving potential through light control and presence detection. Running light or cloud monitoring are additional features that can be integrated according to your individual needs.
- **Light as a Service:** You can also simply rent your new lighting system. If you wish, an all-round carefree package allows you to benefit from the many advantages in addition to optimum lighting during the entire contract period.
- **Let the government support you:** In contrast to retrofit solutions, LED luminaire systems are usually subsidised with attractive government grants.
- **Financing:** Tailor-made financing instruments for your lighting installation, because light is money.



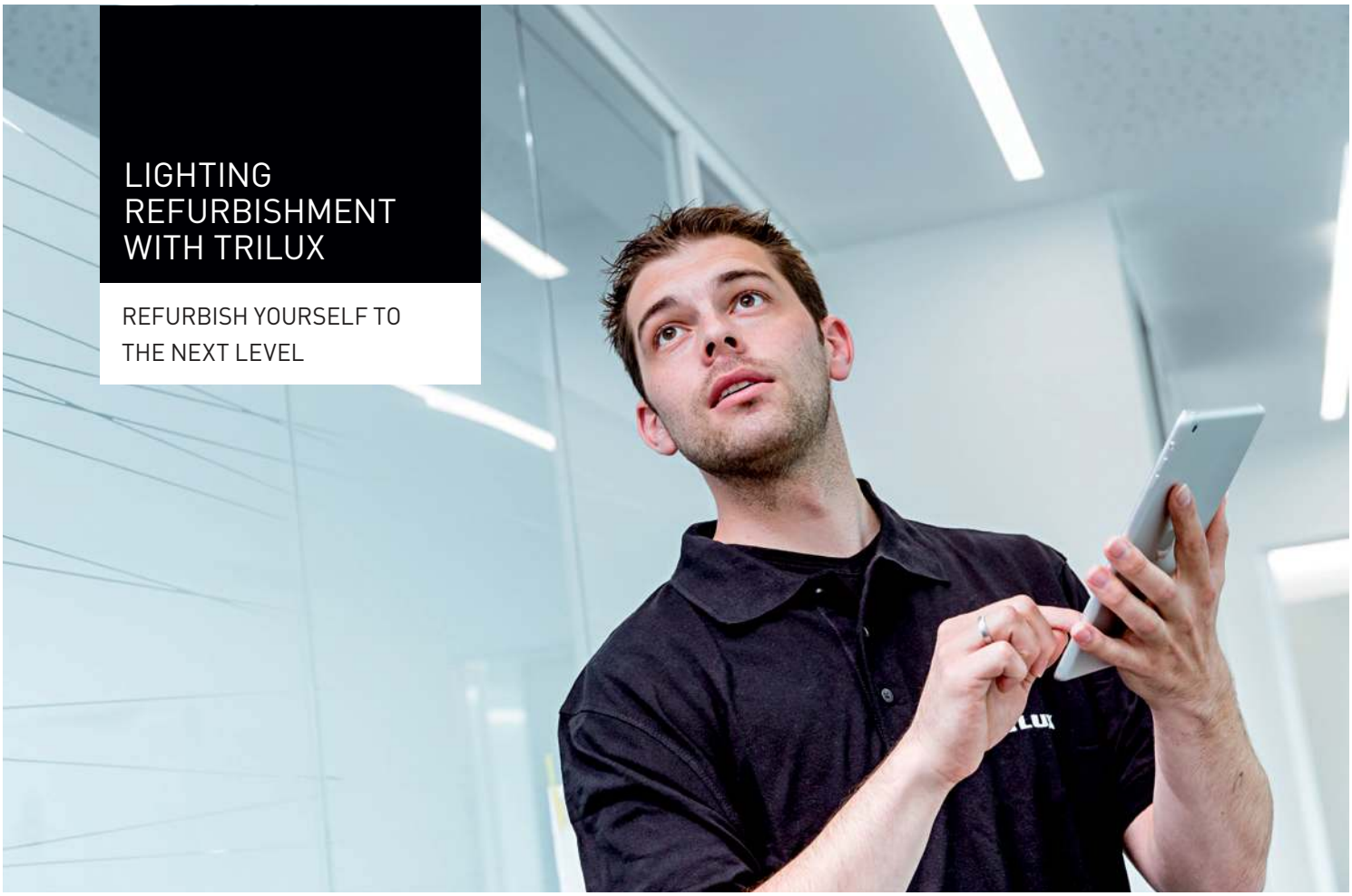
Cost saving

34,637 € **7,368 €**

Calculation example: Production hall at TRILUX in Arnsberg, Germany, floor space approx. 2,000 m² with a former stock of 328 E-Line T8 luminaires, 1 x 58W, LLCG (21,648W), replaced by E-Line Next Active luminaires, 6,000 lm, 39W (12,792W). The new lighting system makes it possible to adapt the colour temperature to the daily course of natural light (circadian sequence) in the sense of Human Centric Lighting (HCL) and to set a higher lighting level if required.

Current costs: € 34,637/year. New costs: € 7,368/year
Cost savings: € 27,269/year
Savings: 79%

Assumption: Price for electrical energy: € 0.40/kWh Operating times with 2-shift operation: 4,000 hrs./year Maximum illuminance if required: 880 lx, regulated to 500 lx. Additional savings from daylight-dependent control: 35%



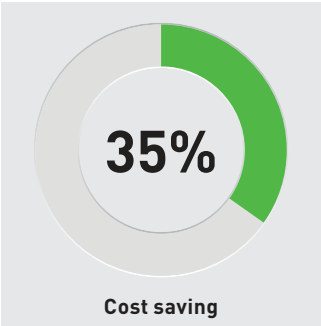
LIGHTING REFURBISHMENT WITH TRILUX

REFURBISH YOURSELF TO THE NEXT LEVEL

Networked lighting systems can do more: dimmability, daylight-dependent control and presence or time switching offer a wide range of savings options and also increase visual comfort. In the past, complicated installation and operation hindered getting started in the world of networked light. LiveLink from TRILUX puts a stop to this. The system enables intuitive and reliable control of the lighting. In addition, each light point becomes a data point – and thus part of the building infrastructure. In larger building complexes, this opens up numerous other options ranging from energy monitoring to predictive maintenance.

LiveLink SwarmSens – safety and orientation in low-traffic areas

With LiveLink SwarmSens, refurbishing indoor and outdoor low-traffic areas is child's play. Because LiveLink SwarmSens only provides light when it is needed. LiveLink SwarmSens is the right choice particularly where the structural conditions do not allow subsequent installation of DALI control lines. All necessary components are already integrated into the luminaire and networking of the luminaires is simple and straightforward via Bluetooth. The high-frequency sensor in the luminaire helps to save energy and only switches the lighting on when needed. Thanks to intelligent networking of the luminaires, the light runs ahead and additionally provides orientation and safety, for example in corridors and car parks.



Cost saving

Comfortable without cables

With the LiveLink radio solution, a light management system can be installed quickly and easily even when refurbishing existing lighting installations.

LiveLink

Intuitive control with tablet or smartphone

As well as with standard push-buttons on walls, LiveLink can also be conveniently controlled using the intuitive user interface on mobile end devices. Dimming, switching or calling up light scenes is then done quite simply with a touch of the finger.

trilux.com/livelink

Overview of LiveLink variants and their functions

	LIVELINK SWARMSENS	LIVELINK BASIC	LIVELINK WI-FI	LIVELINK WIRELESS	LIVELINK CONNECT	LIVELINK PREMIUM
Presence detection	✓	✓	✓	✓	✓	✓
Daylight-dependent control		✓	✓	✓	✓	✓
Threshold function	✓					✓
Light scenes			✓	✓	✓	✓
Light sequences			✓	✓	✓	✓
General light	✓	✓	✓	✓	✓	✓
Human Centric Lighting			✓		✓	✓
Master-slave networking	✓				✓	
Plug & play installation	✓	✓	✓			
Cloud connection			✓	✓	✓	✓
Light and energy monitoring					✓	✓
Emergency lighting monitoring, single battery			✓		✓	✓
Radio networking (mesh)	✓			✓		✓
Integration of building plans						✓
Connection to building control system						✓
Control via push-button	✓	✓	✓	✓	✓	✓
Control via app		✓	✓	✓	✓	✓
Control of outdoor lighting around buildings				✓		✓

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