

Sustainability2012

Imprint

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TRILUX Executive Management **Statement**

Welcome to the TRILUX Sustainability Report 2012 that documents our responsibility towards the environment, our employees and society in general. It creates transparency, enables detailed insights and summarises the living practice of our family-managed company: value-oriented, sustainable measures across the complete spectrum of activities.

The report reflects how the philosophy of sustainability within the TRILUX Group determines our everyday business processes. The bandwidth ranges from the early "potato money" (page 56) right up to the CO₂ footprints of our products (page 46). The report looks both into the past as well as into the future, and documents how we have always faced up to our responsibility over the past decades in both social and ecological areas.

The Sustainability Report that from now on will be regularly updated is also intended to serve us as a determination of our position and as an incentive for further efforts aligned to sustainability. With this in mind we wish you highly interesting reading.





TRILUX Locations In the sign of light



TRILUX - representing perfection in the sign of light – across Germany, across Europe and also on distant continents. 5,500 employees commit themselves to making "New Light" a little better every day, both for indoors and outdoors, and specialists within the TRILUX Group make the range of services complete. Whether a retail store wants to place its products in the right light, an especially high level of perfection is needed in an operating theatre or an architect requires a custom solution, our lighting solutions always offer the right choice. Lighting expertise in fact from a single source. This of course also includes electronic components and ballasts.



TRILLIX GROUP



TRILUX Group Concentrated lighting expertise

Luminaire Group





TRILUX Medical Lighting, supply and telemedical systems for normal care,

and decorative luminaires for indoor and outdoor areas.

intensive care and operating theatres.

As market leader in Germany, our core brand represents professional



RSL

TRILUX

RSL implements custom luminaire requirements for architects, lighting planners and construction authorities.



oktalite

Our specialist for retail lighting offers sales promotion with use of professional light.



ZALUX

Our Spanish subsidiary specialises in functional OEM weather-proof luminaires.

Electronics Group

BAG electronics Globally one of the premier addresses for lighting electronics, including ballasts for example.

watt24

The highly simple and rapid online shop for electronic components and luminaires.

ICT

Electronic components for the lighting industry, telecommunications, household and entertainment electronics (OEM).



TRILUX Facts Economic situation



Development of human resources

Across the world the TRILUX Group employs over 5,500 people. While employee development at the German locations has been characterised by continuity, growth mainly in the Asian region has been stronger. At the end of 2011 almost 1,400 people worked for us in Germany, and around 4,150 employees internationally. Twelve foreign subsidiaries and 34 global partners belong to the TRILUX Group.







TRILUX Viewpoint Sustainability pays

Sustainability as we understand it is not just an empty word. It is based on economic activity that reflects the responsible handling of our available resources and is dependent on regeneration.

We have an important role to play here as a leading company in the luminaire industry, because there exist only a few forms of investment that permanently reduce carbon dioxide emissions so convincingly as energy-efficient lighting systems. A McKinsey survey found out that 1 euro spent on efficient lighting has the same effect as around 110 euros invested in wind or solar projects.

The sustainability report published by TRILUX is the first of its kind and the result of international teamwork. All companies belonging to the TRILUX Group, whether in Europe or Asia, prepared their figures according to the GRI (Global Reporting Initiative) standard and contributed editorial reports covering selected projects.



In this way we do not only want to document the current state of affairs but also achieve transparency. Our sustainability management has the aim of driving forward the dynamics of corresponding processes and projects and to initiate a dialogue with external interested parties.

Harald Dickel

Head of Sustainability Management and Strategic Projects



Standardisation Preparing the way for LED

What would have happened to the good old incandescent lamp with its pear-shaped glass bulb if the E27 screw cap from Thomas Alva Edison had not been implemented at an early time can only be speculated upon today. It's a safe bet though to assume that users and the industry have both benefited from the unification. This is why the Zhaga industrial consortium wants to prepare the way for LED via early standardisation.

Zhaga-compliant LED products were exhibited for the first time at Light+Building 2012 by over 30 companies. Consortium members agreed upon specifications that ensure the interchangeability of six different LED light sources. This in turn enables the reduction of risks with market launching and less costs with the development of new LED products. Creativity and design flexibility of the individual companies are not affected, and competition is not intended to be prevented but promoted. Zhaga is an international association founded in 2010 by TRILUX and Acuity Brands Lighting, Cooper Lighting, OSRAM, Panasonic, Philips, Schréder, Toshiba and the Zumtobel Group. In the meantime it has 180 members. One of the primary aims of Zhaga is to achieve confidence in the new technology.



TRILLIX GROUP



Compliance Management A bulwark of another type



It's the same everywhere in life: those who don't abide by the rules get what they earn sooner or later. This includes the economy as well.

A compliance management system (CMS) sees itself as a bulwark against damage caused by the misconduct of individuals in a company or in the supply chain. It also sets ethical and moral standards that form a backdrop for responsible activity in everyday situations. TRILUX implements this sense of responsibility on a wide front.

We want to be on the safe side in all fields of activity, whether this concerns occupational safety, protection against discrimination, social insurance and income tax rights, export controls, preservation of our own or other protective rights, product safety, environmental directives or anticorruption guidelines.

Several effective instruments are available to help, and one of these is the Code of Conduct. For our executive managers at all levels this forms a fixed part of their employment contract. The code defines in great detail which activity is for the benefit of the company and which is not. At the end the principle of traffic lights achieves clarity. Green means "you can do that", yellow means "please ask your supervisor" and red means "stop, that's not permitted!". TRILUX has commissioned its own compliance manager to permanently anchor this theme into the company. Independent of this, the compliance processes are an effective warning system to block unpopular developments in good time. Supplements to the Code of Conduct and an additional anti-corruption guideline achieve corresponding refinements in this field.

More than half of all employees in the TRILUX Group already work according to the Code of Conduct, based on a draft from the Zentralverband Elektrotechnikund Elektronikindustrie (Central Association of Electrical Technology and Electronics Industry (ZVEI).



Risk Management

Caution is the mother of wisdom is an old in adage. Who dares wins is another. Both t aspects characterise business activity. To make sure nothing tips the balance, we at TRILUX have installed a sophisticated risk management system.

Step by step, each division, department and expert was looked at under the magnify-

ing glass and analysed carefully according to possible dangers or weak points. A risk inventory was drawn up following their identification. After the evaluation TRILUX decided to continually monitor 30 top risks and regularly generate reports. These risks are found not only in production but also in the areas of finance, legislation, sales and marketing. Those who wish to handle risks with responsibility have two options: they can reduce the probability of their occurrence or minimise the effects.

If for example an obsolete IT system endangers security then a second or even a third one has to be installed. Easier to fix but more difficult to detect is knowledge that only exists in the heads of individuals. For

example if only one long-term employee in the coating facility knows of an important step in the manufacturing process, then immediate documentation and the training of other employees is urgently needed.

At TRILUX, risk management as a higherlevel structure docks mainly onto quality management, but also benefits from other



TRILLY GROUP

processes in the company. "It's an authority that reaches further and also permits other methods of viewing," says Oliver Thissen, Head of Finance and Legal at TRILUX New Light. Warning signals are detected early and this enables the future to be looked at with more of a sense of calm.

TRILUX Expertise The pillars of energy efficiency

Just as good needs evil, efficiency needs squandering, perhaps because the useful image of a foe is needed or else to make progress clear. Differences after all are a yardstick for successful activity. This can be seen with the pioneering role taken by TRILUX in terms of energy-efficient products.

Energy efficiency with TRILUX not only has a long tradition but is one of the core areas of expertise of our company. In fact it is programmed into the genes of our engineers, and new milestones have been constantly set by us. In 1948 we drove forward implementation of fluorescent lamp technology, developed one of the first electronic ballasts in 1981, and implemented practical utilisation of LEDs in 2004 with an award-winning downlight.

TRILUX products represent pleasant, healthy and also energy-efficient light. The pillars of energy efficiency are born by high performance optics, intelligent lighting electronics and system solutions that with custom-designed lighting situations ensure a high level of acceptance with users. A glance at our product portfolio also shows that efficient technology in no way excludes successful design.

Our luminaires show strength in "duty" and our lighting management systems are optimal in terms of "voluntary service". Both together represent the greatest enemy of squandering. If a lighting installation from the 1970s is replaced with a new TRILUX system featuring presence detection and daylight control, energy consumption can be cut by up to 75%. And if here in Germany we were able to consistently exchange old light for new, then three power plants could be shut down at a single stroke.



TRILUX Highlights Our milestones

The world of (artificial) light has been characterised decisively in past decades by innovations originating from the Sauerland in Germany. TRILUX engineers have more than once triggered or accompanied a paradigm shift. Driven by enthusiasm for the technically feasible and imaginable, they have ensured lighting solutions that are ultimately guided by a single theme: energy efficiency.



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2010

2012

A record: LED luminaire with 98 lumens per watt (Belviso)

Top marks: specular louvre with 91% light output ratio

Product Development The evolution of efficiency

The energy consumption of professional luminaires from TRILUX has been sinking for decades, whatever the technology used, and while fluorescent lamps in recent years have come up against limits, LED technology is currently at the beginning of its evolution.

In 2011 alone, the energy efficiency of LED has increased by 25%. This is not only due to the light source itself but also because of highly convincing luminaire construction. Only those who are masters of thermal management and light control technologies as TRILUX are can effectively exploit the benefits of LED.

Belviso LED typifies what we understand to be an energy-efficient luminaire. With 98 lumens per watt it achieves a world record and also beats the competition hands down in terms of luminous efficacy. The luminaire is not only an extremely economic solution but thanks to microprismatics it emits highly glare-free and harmonious light. Both in fact go hand in hand, because without corresponding user acceptance the energy efficiency is not worth half as much.

Incidentally: Belviso LED won't stay a world record holder for long. Our development engineers are just about to send an even more energy-efficient successor to the podium. The evolution continues.

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Fluorescent Lamps





LED Technology

Daylight Utilisation A philosophy beyond the window

"Some people can't think beyond the window," Wilhelm Busch, the pioneer of comics, succinctly summarised over 100 years ago. Our engineers though cannot be accused of this. Although they have dedicated themselves to artificial light with spirit and commitment, they certainly don't lose sight of natural light on the other side of the window, because clever use of daylight achieves even greater energy efficiency.

Just a small, inconspicuous dome, half as large as a fingernail, but a dome that conceals a sensor measuring the ingress of daylight and forwarding this information to the lighting electronics. The lighting level is then increased or dimmed according to the intensity of the sun's rays. Together with presence detection, far in excess of 50% of energy used can be saved compared to conventional luminaires.

Ever more of our customers recognise the potential for saving offered by such a lighting solution, and around one fifth of all TRILUX systems supplied are now dimmable and can thus adapt their light output to levels of daylight.

We'll never know if Wilhelm Busch would have been keen on energy-efficient daylight control, but it definitely pays to follow his wisdom and "think beyond the window". At least that's what we do.





LED Light becomes digital

The LED belongs to the future, and this makes light digital. This in turn means that luminaire manufacturers must continuously think anew, face the challenges of this technology and gather expertise to be able to remain successful in the market.

the "New Light moves" slogan with life. For the first time only new products based on LEDs were shown at Light + Building 2012 in Frankfurt, and with this TRILUX declared their belief in the new technology that is set to revolutionise the lighting sector.

The light emitting diode itself does not ensure optimal light. Those who aim to exploit the new technology must have light "in their blood" and must have a high level of expertise with thermal management, light guidance and precise controllability with electronic control units. This in turn TRILUX saw this a long time ago and filled requires deep knowledge and a clear passion for artificial light. TRILUX engineers have both: expertise that has been continuously developed over the past hundred years and an unquenched thirst for technical challenges. Only in this way can we meet our own stringent demands: making light a little bit better every day.



Research The day after tomorrow mission

The compass needle is pointing towards innovation. Without this, the basis of which is research, the TRILUX Group would hardly be as successful. Research at TRILUX is not only a guarantee for the future but also a form of passion for better light and an inspiration for more intelligent systems. To achieve this we also implement external expertise, and search for and initiate common research projects with highly regarded partners.

The example of Placar: together with the Institute for Low Temperature Plasma Physics in Greifswald, the Charité in Berlin, OSRAM in Munich and others, we attempt to identify the effects of artificial light on the Circadian rhythm. It is already known that this can support the biological cycle of people: the right light aids performance capability but can also have a calming and relaxing effect. We can already see today that light in the future will form an essential part of our sense of well-being. The example of Office 21: we research the office worlds of tomorrow together with the IAO Fraunhofer Institute in Stuttgart. What does the meeting culture of the future look like? How will knowledge be structured, handled and stored? How will future workstations be, and primarily where will work be carried out – at desks that change daily, in aeroplanes, in trains or at home? The TRILUX Group in this regard not only sees itself as a source of funds but also as an essential generator of impulses. Innovation teams have contributed fundamental ideas towards this project.

The example of Olympus 2014: this common research project is intended to lead not to the pinnacle of the mountain of the gods but to the peak of knowledge, conducted together with the Physical Technical Federal Institute, Osram OS, Merck, BJB and Ledon among other contributors. The aim is to develop system solutions for organic LEDs (OLED). A wide application spectrum awaits transparent, pliable and specular OLEDs, and these can be either a perfectly illuminated make-up mirror or a window that is both a source of light and a photovoltaic module simultaneously.

Mission future: TRILUX is always part of it.





TRILUX Medical Sauerland inventive genius

One of the most important achievements of modern patient rooms originates from the Sauerland in Germany: medical supply systems, belonging as standard to hospitals since 1963, come from TRILUX Medical. Since that time, more than 400,000 beds have been equipped with systems produced in the Sauerland. According to a study by the business consultancy KMC, the market share in Europe amounts to 46%.

TRILUX Medical is a certified manufacturer complying with medical products legislation and thus fulfils maximum demands in terms of safety. The supply units make available connections for power, communication and medical gases, and one of the most elemental features of the equipment, now as before, is light. "It was actually us that made it possible in the first place for patients in bed to read comfortably," remembers Ralf Wenner from TRILUX Medical. TRILUX Medical also fulfils requirements for more cosiness in patient rooms. Individual solutions are designed in cooperation with the planning architects that bring a more comfortable hotel character into the otherwise often sterile atmospheres of hospitals.

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In the fifty years of its existence, TRILUX Medical has continuously drawn attention to itself with its innovations. "Our fundamental principle is: we don't do what is possible but what is needed," says Ralf Wenner.

This also includes an Aurinio. The LED OT light does not dehydrate wounds but supplies individually settable light enabling doctors to differentiate between various types of tissue, and its low levels of heat dissipation ensure pleasant working climates. That's what the Sauerland inventive genius looks like for the benefit of patients.



Light in Schools **Smart Alec and Fidgety Philip**

Those who learn in school under good light learn better. Not because they see more, but because the right light ensures attentive pupils and helps them to concentrate. The key here is that TRILUX light influences the formation of melatonin in the human body.

While activating light with a high blue component improves the learning capability and learning readiness of young people, red light components bring a sense of calm for pupils. Activating light can be compared to a cloudless day with radiant sunshine, and as everyone knows this can be highly invigorating and can arouse a high level of energy.

If though a more relaxing effect is desired, for example after a break following running about in the school playground, then teachers select a profile with a high red component in the light. This effect is comparable to the relaxing mood of gazing at a softly glowing fire in the hearth, and here as well red achieves a sense of calm.

Thanks to integral light management, New Light from TRILUX is also exceedingly energy efficient. An example from an "energy-sinner" in the German Sauerland exemplifies this: after refurbishment of lighting at a secondary school its energy consumption could be cut by 81%. Thus electricity costs are reduced yearly by at least 14,000 euros, and with increasing tendency. In addition, this also means 36 tons less of carbon dioxide for the environment, corresponding to the immission from 206,578 kilometres travelled by car.

In this regard such systems are highly exemplary for sustainability, and so light for clever young people really does pay.









Light offers security

Light is not only life, light is also quality of life. This becomes especially clear in care homes for dementia patients.

Anxiety often accompanies the lives of patients suffering from dementia. An antidote to this is to give them a feeling of security, to ensure safety and to clearly structure daily processes. Light in all of its facets can help in this. It offers orientation, can activate and also calm down.

Those who really want to help have to see the world through the eyes of this patient sector. Dementia patients see shadows as hindrances, slipperiness and wetness are suggested by reflective surfaces and silhouettes trigger fears. Shadow-free illumination is the supreme requirement and does not hinder the often increased urge to movement of such people. Cold white light with a high blue component has an activating effect and promotes concentration. This is especially useful in common rooms and meeting areas, because keeping busy means that dementia patients gain a window to here and now. Warm white light with red components on the other hand has a calming effect and is used in patient rooms. A carefully selected illumination supports the circadian rhythm and helps reduce the intake of medication such as sleeping pills.

Dementia homes that depend on the right light have a more relaxed and motivated atmosphere. The sense of well-being is high and the quality of life of each individual can thus be significantly increased.



BAG electronics The soul of efficiency

Modern light cannot be imagined without ballasts. The task of the small boxes filled with electronics is to regulate lamp operation, and without them, light can become an explosive situation in the true sense of the word that would be the end of any lamp.

Ballasts can also be seen as the very soul of efficiency in this regard. They are not only a decisive factor for the operating life of the system, electronic ballasts also extract even more light out of a lamp and save energy as well.

The guardian of this expertise and a simultaneous driver of innovation in the TRILUX Group is BAG electronics. 3,500 employees worldwide produce electronic ballasts for fluorescent lamps, components for LED lighting and systems for light control. One of the milestones in the company history was the development of the electronic ballast (ECG) in 1978. Compared to the standard conventional ballasts (CCG) and low-loss ballasts (LLCG) used at that time, energy efficiency was improved by up to 24% – with an identical luminaire and identical lamp. "That was a jump in development comparable with the carburetor to injection system with cars," emphasises Guido Nattkemper, Head of Product Management at BAG. "We were the first company to develop an ECG designated with the 'blue angel', and until today we remain the only company."

Multi-lamp technology that makes possible the use of different lamps with the same electronic ballast can also be added to the account of the TRILUX Group, and this in the meantime has become the market standard.





TRILUX Project Green forever

It's green. Grass-green to be precise. A really fresh colour tone on the facade and interior that lights up the Freiherr-vom-Stein Secondary School in Münster as if by itself. The "green" philosophy also takes on specific forms in other areas as well, whether as plants on all visible roof areas or the intelligent, energy saving lighting concept that has been implemented in the modern school building complex. Light is one of the most decisive factors for learning. Those who need to concentrate have to feel comfortable, and balanced, reflection-free light contributes significantly to this. Daylight has a central role to play: it achieves a pleasant spatial feeling in connection with large window areas, and the integration of daylight into the lighting concept also saves 67% of energy and significantly reduces carbon dioxide immissions.

This is achieved not only with the use of efficient luminaires but also with sophisticated light management systems. These function according to the quantity of daylight and create optimal lighting levels in classrooms at all times.





TRILUX International **Global teamwork**

Teamwork that knows no national borders, that overcomes time zones and is enriched by differing work cultures has a strengthening effect and ultimately achieves success. The Nextrema LED luminaire, designed with the international cooperais living proof of this.

The innovation team comprising ZALUX, BAG and TRILUX product development members provided the technology concept. TRILUX central marketing, sales marketing and product management accompanied the "birth" and market launching of the LED luminaire.

The luminaire is a completely international product: the driver (the ballast for a fluorescent lamp is the driver with LEDs) is produced in India and the LED modules in the Czech Republic. The luminaire is assembled at ZALUX in Spain. "And all under tion of TRILUX and its foreign subsidiaries the direction of TRILUX in Germany," says Michael Spall from BAG engineering.

> Their traditional application sector, as implied by the name itself, is anywhere where extreme conditions dominate for the lighting technology. Vibration, air humidity, dust and cold have no effect on the tough weather-proof luminaire, even in extreme cases. As with all LED luminaires from TRILUX, Nextrema has been conceived for a service life of at least 50,000 hours.





TRILUX Akademie New learning

New Light needs new knowledge: the TRILUX Akademie in Arnsberg, Germany has taken on the task of the transfer of expertise to customers, partners and employees.

A total of 6,000 customers allowed themselves to be convinced by the attractive spectrum of seminars in the first four months alone since the opening in late summer. TRILUX invested one million euros in rebuilding and equipping the academy complex, and an environment was created in which learning becomes easier: colourful design, state-of-the-art presentation technology and a dialogueoriented concept for tuition. Fifty specialist lecturers from TRILUX are available for the seminars which take place mostly over a period of two days. "We don't want to work with three or four universal speakers but purposefully place an emphasis on experts that source their know-how from daily practice," said Heiner Hans, the TRILUX Akademie manager, of the concept. The aim is to accompany customers and partners along the rapidly progressing transformation of technology and to show them all that is possible with New Light.

A good example of this is the "LED driving license". The seminars not only communicate and demonstrate the new technology of how planning and designing is implemented with LEDs but go significantly further. Areas such as economy calculations and active sales support are also intensively worked on together with the participants. With active sales support, small-sized groups practise how sales discussions for LED systems in the real world lead to success.





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A further important pillar of the academy is qualifications for in-house personnel. The first step is dedicated to identifying any deficits with each participant, then the most suitable training options are identified. Each employee is able to take advantage of these training possibilities for a total of 15 hours each year.

Responsibility Being on the safe side



Business activity at TRILUX has always been guided by the principle philosophy of security and care. Occupational safety and the welfare of employees are part of the foundations of our economic success.

Certification of the occupational safety management system at TRILUX complies to the internationally valid OHSAS 18001 standard. Nobody in the company experiences safety at work as a bureaucratic millstone; on the contrary it is practised day by day with its integration into all company processes.

And our efforts in this sector are effective. This can be seen in the number of work accidents that must be reported and that for years are only familiar with one direction: downwards. The number of accidents in the past ten years has been cut by more than half from 40 to 18, and seen over twenty years this significantly exceeds 80%.



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In all of life's situations

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Our social service offers help in depth when life becomes tough. Employees with psychosocial, financial or health problems are given a point of contact that shows the way to qualified, sensitive and discreet solutions.

The company social service at TRILUX provides effective help for personal problems and crises, when a difficult discussion with colleagues or supervisors has to be prepared, as backing in long-term phases of illness, with conflicts at the workplace, with debt, emotional illnesses and when alcohol or drugs become a problem.

The transformation to a strongly performance-oriented society demands new options in the area of prevention. Burnout, the state of physical, emotional and spiritual exhaustion caused by excessive pressure, is met by TRILUX with specific seminars for executive managers. Here the management is taught to recognise symptoms of burnout with their colleagues.



Climate Protection **Footprints create transparency**

When it comes to climate protection and sustainability then it may well happen that apples are confused with oranges. That can have ideological reasons or be based on ignorance. Thus transparency is of prime importance. CO_2 footprints achieve this and specify in detail the climatic effects of a TRILUX product.

Nextrema LED is a weather-proof luminaire that, as its name implies, is highly robust and is installed in car parks, industrial areas, cold stores and washing facilities. The CO₂ balance of Nextrema over the complete service life of at least 50,000 hours is 1.25 tons of carbon dioxide. In comparison: a car with an average speed of 60 k.p.h. emits 540 tons of the climate-destroying gas in these 50,000 hours.

With Nextrema LED, almost 97% of carbon dioxide immissions are on-site at the customer. Our largest contribution to environmental protection is thus to develop energy-efficient products.

Concerning green building: those who place value on climatically compatible and energy-saving products and technology, meaning those who aim to build sustainably, are given an optimal aid for orientation with CO_2 footprints. At TRILUX in the future, key products within a luminaire family will have corresponding certificates. The calculations required for these will be carried out by independent experts commissioned by the TRILUX Group.





The value of a talent

Where fields of force grow

How valuable a talent is was already shown several centuries before the birth of Christ. A talent corresponded to the equivalent amount of a complete merchant ship in the ancient coinage system of Greece. Today we understand something else with this term, but those who aim for success need to discover talents and promote them. Seen in this way, the personnel sector is the largest research department at TRILUX, always on the lookout for people with special capabilities.

Identifying potential and supporting this is a main priority at TRILUX. It's a case of always remaining one step ahead to avoid the ever increasing deficiency of specialist personnel in the future having a braking effect on growth. "People ensure innovation, and strength of innovation is a decisive competitive advantage in Germany," testifies TRILUX Managing Director Johannes Huxol.

And where external experts cannot be recruited then it's a matter of qualifying the company's own young employees, and not due to reasons of necessity but because of conviction. Own up-and-coming employees are familiar with internal structures and mechanisms and are also not yet infected by the feared operational blindness. "A highly qualified education, tailor-made programmes of support and an individual development program are our means of freshening up the patterns of thought in our company," adds the Managing Director. In the area of physics, potential is the dimensional unit for the strength of a force field. At TRILUX this is the ambition of young employees.

We give these forces free reign as part of the young employee support programme. Every two years we put together a group consisting of a dozen young people that want more – more knowledge and more capability, and that want to test out their own limitations.

At the beginning is the Assessment Center. Here it's clarified whether a career as a management executive or as an expert should be aimed at. Seminars then follow in the areas of project and process management, methodology and didactics, rhetoric and coaching. "The participants have to use at least 25% of their work time for this qualification as well. That's a significant surplus load to the normal work quantity," explains Beate Koerdt, Head of Personnel Development.

The royal discipline though is working with genuine projects, says Koerdt. "These projects are directly specified by the executive management and are always important for the company." Branching off the medical division into an independent company was just such a task. The training is rounded off by a stay of six months with a foreign subsidiary in Europe or elsewhere.

Klaas Keur and Bernward Nierhoff are two employees that have successfully completed the young employee support programme. Their progress at TRILUX will be followed on the following pages.



TRILUX Curriculum Vitae Made by trust



With personnel development, people are keen to talk of an "investment in the future" when discussing young people with potential. We prefer to call this donating trust.

Klaas Keur (28) decided long ago that professional success goes hand in hand with above-average personal commitment. That can be clearly seen with his Curriculum Vitae: after completing secondary school he attended advanced commercial school with specialist graduation. He then underwent TRILUX training as an industrial clerk and completed studies as an industrial engineer for machine construction.

He gained his academic graduation as part of cooperative studies. TRILUX provided financial support, three years long and month for month. As a countermove, Klaas Keur worked in his holiday periods on specific projects and gained important practical experience. Today, almost three years following the completion of his studies, he knows that he did everything right, because as a Junior Product Manager he admits to finding his "dream job". The diversity of work in product management proved to be fascinating from the very beginning. "Whether marketing, construction, sales or contact with customers, we are the connecting element," says the 28-year-old.

He always had a great deal of support within the company. The fact that his direct supervisor always believed in him was a particular motivation. And where there were problems, personal deficits were identified and eliminated by specific training, for example with foreign languages.

TRILUX for its part is certainly sure that with Klaas Keur the company is following the right path. We see the young professional as a management leader of tomorrow.





TRILUX Curriculum Vitae Always on the ball

With some professional advancements it can be seen straight away what type of person somebody is. Bernward Nierhoff (30) is just such a case. Initially an apprenticeship as energy electronics technician, then practical work as a specialist, further training at the evening school to become an electrical technician and then training as a state-certified business economist on top. Bernward Nierhoff knows what he wants, has always known this and has tracked his targets with the requisite focus. Today he works at TRILUX as a master and monitors the robot systems for luminaire wiring with 62 employees.

As a member of the young employee support programme at TRILUX, in parallel to his daily work he has prepared intensively and extensively for his leadership tasks. "The time itself was a real challenge, and not only because of the double load," summarised the 30-year-old. He was given the opportunity though together with others to look beyond the horizon. That boosted his self-confidence greatly and helped him, as he emphasises, to build up a personal network.











TRILUX Life Journeys A family group

100 years of TRILUX and over 50 years for the Sonnenbergs: the men of the family now work in their third generation at our company. A connection has existed for a good fifty years between the Sonnenbergs and TRILUX that is primarily characterised by a high sense of mutual respect. We know what we can expect of the others, in the very best sense.

The father Heinz Sonnenberg, born in 1937, came to TRILUX in 1958 and remained loyal to the company for a proud 41 years as a master for metal processing. His three sons, Heinz-Josef, Martin and Thomas, followed in the father's footsteps, completed their training at TRILUX and are today employed by the company. The sons of Martin Sonnenberg, Marco and Patrick, and as such the youngest of the family, didn't really have to be asked where they see their futures; they had already been told about the high training standards from their father, uncles and grandfather. The Sonnenberg family represents values that are important at TRILUX and that have made the company the size it is. It is a life existing between the eternal fields of modern technology and family tradition, rapid transformations and reliable permanence. The family members represent a living employee culture that functions across generations.

The term sustainability is permanently rooted in this area of our company as well. It does not always need large-scale personnel analyses to know that employees feel at home and do their very best. Sometimes it's simply a matter of whether a grandfather or father recommends an employer to their sons and grandchildren.



Extra Services A helping hand

Seven hundred times more equality of opportunity

Offering a helping hand that makes life easier is a matter of course for our corporate culture. A wide diversity of extra services exists that in some cases were introduced many decades ago. These may well be a reflection of their particular times, but the unifying element behind them is a simple, fundamental conviction: not just the company but everyone should profit from economic success.

There were times when all employees were paid a so-called cellar allowance, called "potato money" by most people. That was money that secured basic needs after the war and was paid until 2006. Today this more often takes the form of building loans and health allowances, valued highly as extras.

Interest-free mortgages for "Trilux houses" have existed since the 1960s. This makes moving into our region somewhat easier for new employees, which is good for the individuals and good for TRILUX. This in fact also echoes our philosophy oriented to sustainability. The Unterstützungskasse Lenze e.V. charity fund has also provided support in cases of death and illness since 1958. Today this support is aimed more towards allowances for dentures, visual aids and hearing aids as well as health cures and medical treatment subsidies. In total, 60,000 euros were paid in 336 cases in 2010 alone.

We place equal importance on subsidies for weddings, births, communion, confirmation and wedding anniversaries. After all, the greatest strengths are usually created by the happiest moments of our lives.

The extra support is not seen by us as "generous benefaction" that demands a 1:1 mutual return. If our employees are happy, and are loyal and true to the company, then that's the best "cash back" we could imagine. In former times they were called talents, today they are termed "high potentials". To promote such people and enable suitable studies for them was and remains the task of the Wilhelm-Lenze Support Foundation for the Gifted. This has been providing financial support for over 50 years for young people, and is thus now celebrating its anniversary.

Almost 700 scholars have been given a helping hand in these five decades with a regular, monthly subsidy. At the moment around 80,000 euros are being distributed to the beneficiaries. The foundation's basic stock currently amounts to 1.3 million euros.

Anyone can apply that does not have a corresponding financial background, is studying for the first time and is aiming for full-time studies at a university, technical high school, technical college or other educational institution.

The Wilhelm-Lenze Foundation sees itself as an instrument for more opportunity equality when it comes to educational and professional options for young people.



BAG India With smaller steps



It is often termed "think big" if somebody wants to get something moving at our company. In many countries on our planet it's the smaller steps though that sustainably improve the quality of life for people and the environmental situation. Projects from BAG electronic in Bhivari, India help in this sense.

The company has been in charge of the management of a landscaping project there for the past three years. BAG had trees planted in a school that despite the deficiency of water in the region have flourished impressively. Now BAG electronics is active in the provision of clean drinking water.

In the Purandar province, clean water for drinking is not a matter of course, yet still represents the decisive basis for all life and productivity as anywhere else in the world, and especially in regions such as West India. Natural water in the countryside there is a particularly valuable commodity, and unclean water often causes serious illnesses that anywhere else would have been wiped out a long time ago.

That's reason enough to show solidarity: in cooperation with the local authorities, BAG electronics had a 3,000 litre-sized drinking water tank designed and constructed. This is now available to the pupils of the local primary school. The number of illnesses that can be traced to soiled water has now been considerably reduced.







TRILUX Mobile Every kilometre counts

Everyone holds the key for sustainable activity in their own hands. Although sometimes it's the legs. Around 3,700 kilograms of the CO_2 climate destroyer have been saved by TRILUX employees because on their way to work they travelled 20,000 kilometres on bicycles.

84 colleagues exchanged the gas pedals in their cars for muscle-driven bicycle pedals over a course of several weeks. As a part of this, a great deal was demanded from the participants of the project – after all, the Sauerland is well known for its varied topography with quite a few ups and downs. They all managed it though.

Consequently not only the environment benefited but TRILUX employees were shown a way to do something for their physical fitness and general sense of wellbeing over the long term.

Some of those who left their car in the garage and swung themselves onto their iron horses in wind and rain continue to do so, day after day, following the finish of the project. Others keenly admit that it was fun but keep a close eye on the weather. And yet the more the car stays put, the more the environment benefits and health in general too. After all, every kilometre counts.





In the sustainability storeroom

If it is assumed that sustainability could be stored, then TRILUX's European Distribution Center (EDC) is surely a good address. The EDC has proven itself as the linchpin of our company and is characterised by efficiency through and through. The latter applies not only to our products stored there, but the finely configured delivery chain that comes together there and the building itself also fall under this category. The highbay racking was constructed in compliance with stringent energy efficiency criteria with daylight-dependent, intelligent lighting. Around 70% of the complete electricity requirement can be met by the photovoltaic system almost as large as a football field on the EDC roof.

24,000 pallet positions are available in the EDC on around 16,000 square metres. The building is 12 metres high, has 903 square

metres of office and social space and 400 running metres of cantilever shelving. The modified space consists of 230,000 cubic metres.

The EDC represents sustainability and growth right across Europe. It serves to optimise the clarity of sales structures, ensures fluent processes and also delivery according to deadlines. We are justly proud of the service level achieved that is significantly higher than the branch average. In many European areas for example this is 95%. Our goods are consequently always at the right place at the right time.







Solar Energy **Sunny times**

As large as an official football field and strong enough to provide 150 homes with power – these are the key figures for the TRILUX Group photovoltaic facilities at the Arnsberg headquarters.

The solar systems have been operating since 2010 on the roofs of the European Distribution Center (EDC) and the TRILUX Medical works. On the EDC alone, 6,240 collectors have been installed, and at TRILUX Medical there are a further 3,432 modules. The installed peak output consists in total of 716 kilowatts, and power generation of both facilities was 696,000 kilowatt hours in 2011, all thanks to the power of the sun. Something else can shine as well: the environment. The immission of carbon dioxide could thus be cut by more than 380 tons yearly.

Whichever way it's looked at, sunny times are there to stay on the TRILUX roofs.



TRILUX Detail Global Reporting Initiative Index



Indicator	Description	Comments	Page
1.1	Statement from the most senior decision-maker of the organization		2
2.1	Name of the organization		4-6
2.2	Primary brands, products, and/or services		4-6
2.3	Operational structure		4-6
2.4	Location of organization's headquarters		4-6
2.5	Number of countries where the organization operates		4
2.6	Nature of ownership and legal form		2, 8
2.8	Scale of the reporting organization		8
2.9	Significant changes during the reporting period	None	
2.10	Awards received in the reporting period	None	
3.1	Reporting period for information provided	2011	
3.2	Date of most recent previous report	First Report	
3.3	Reporting cycle	Every 3 years	
3.4	Contact point for questions regarding the report or its contents	Sustainability@trilux.com	10
3.5	Process for defining report content		10
3.6	Boundary of the report		4-6
3.7	State any specific limitations on the scope or boundary of the report	Except RSL and Oktalite	
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations		4-6
3.12	Table identifying the location of the		66-68

Indicator	Description
4.2	Indicate whether the Chair of the highest governance body is also an executive officer
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body
EC7	Procedures for local hiring
EN1	Materials used by weight or volume
EN2	Percentage of materials used that are recycled input materials
EN3	Direct energy consumption by primary energy source
EN4	Indirect energy consumption by primary source
EN6	Renewable energy
EN7	Initiatives to reduce indirect energy consumption and reductions achieved
EN8	Total water withdrawal by source
EN10	Percentage and total volume of water recycled and reused
EN11	Location and size of protected areas
EN12	Description of impacts of activities on biodiversit



Comments	Page
	2
	2
We attempt to hire from across the region with a focus on hiring local employees wherever possible	
12,900 t	
Up to 15 %	
19,991 MWh gas 3,222 l LPG 51,989.9 l diesel	
22,475 MWh	
	64
Building management technology, energy efficient control, multiple use of production water, daylight-dependent lighting control, new injection molding machines, new air conditioning system	64
Building management technology, energy efficient control, multiple use of production water, daylight-dependent lighting control, new injection molding machines, new air conditioning system 245,132 m ³	64
Building management technology, energy efficient control, multiple use of production water, daylight-dependent lighting control, new injection molding machines, new air conditioning system 245,132 m ³ BAGI: 70 % ICT: 100 % BAGP, TRILUX, TRILUX Medical, ZALUX: 0 %	64
Building management technology, energy efficient control, multiple use of production water, daylight-dependent lighting control, new injection molding machines, new air conditioning system 245,132 m ³ BAGI: 70% ICT: 100% BAGP, TRILUX, TRILUX Medical, ZALUX: 0% TRILUX Group Total real estate size: 160,754.6 m ² TRILUX – total real estate size: 53,467 m ² , from this protection zone as flooding area of the Ruhr approx. 12,000 m ²	64

TRILUX Detail Global Reporting Initiative Index



Indicator	Description	Comments	Page
EN16, 17	Greenhouse gas emissions	TRILUX: • Scope 1: 6,089 t • Scope 2: 7,869 t • Scope 3: 2,893 t ZALUX: 1,663 t ICT: 1,262 t BAGI: 129 t CO₂ sum: 19,905 t	
EN20	NO_x , SO_x and other significant air emissions by type and weight.	S0 _x : 78.032 kg N0 _x : > 1 g	
EN21	Total water discharge by quality and destination	36,054,9 m³	
EN22	Total weight of waste by type and disposal method	Waste: 3,108 t Hazardous waste: 95 t	
EN19, 29, 23	Total number and volume of significant spills	None	
EN26	Initiatives to mitigate environmental impacts of products and services	Waste disposal policy and methods	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category	TRILUX: 100 % ZALUX: 1% ICT: 60 % BAGP, BAGI: 0 %	
EN28	Fines for non-compliance with environmental laws and regulations	None	
LA1	Employees		8
LAB	Prevention and risk-control programs in place to assist workforce members, their families, regarding serious diseases	TRILUX: in-house health group, subsidy fund (spectacles, dentures, hearing aids etc.) ZALUX: Ley 31/1995 BAGI: medical check-up for all employees and their families, health insurance, sensitisation schemes for serious diseases BAGP: vaccination scheme against influenza, cervical cancer, hepatitis B. Discussions on precautionary health, prevention of hypertension, cholesterol. Rules for the prevention of pulmonary tuberculosis and drug abuse	

Indicator	Description
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation
HR2	Percentage of significant suppliers contractors and other business partners that have undergone human rights screening and actions taken.
HR3	Percentage of employees trained of human rights
HR4	Total number of incidents of discrimination and corrective actions taken
HR6	Operations and significant suppliers identified as having significant risk
HR10	Percentage and total number of operations that have been subject to human rights
PR1	Life cycle stages in which health and safety impacts of products are assessed for improvemen
PR6	Programs for adherence to laws, standards, and voluntary codes



Comments	Page
Job training and year plan	48-52
same salary for men and women	
In progress	14
TRILUX: 15% BAGI: 25% ICT: 100% BAGI: 100%	14
None	
None	
100 %	
Electrical safety tests (EN 60598) ENEC Certificate VDE Compliance	
ZVEI Code of Conduct	