

Through light, we care.

Facts 2012/13



zumtobel group

Report profile

This is the fourth Sustainability Report of the Zumtobel Group. The structure of the report takes its lead from the internationally recognised Guidelines of the Global Reporting Initiative G3.1 (► [GRI index: p. 43](#)). Using these Guidelines as a template ensures transparency and makes it possible to compare different companies' sustainability performances. By its own assessment, the Zumtobel Group attains Level B with regard to the application of GRI's G3.1 Guidelines.

This year's report is divided up into a Magazine section and a Facts section and is published in German and English. All the report's contents are available as a complete document and as individual chapters and can be downloaded as PDF files. More information about sustainable development is published in the course of the year on the website (► www.zumtobelgroup.com/en/corporate_responsibility.htm) and on the brands' websites. In order to avoid duplication and ensure data is easily manageable, links are provided between the sustainability report and digital media wherever it is possible and sensible to do so (► [www](#)). The quantitative data was largely drawn from the SAP database that is used across the Zumtobel Group. This applies above all to key financial indicators and data concerning employees. In addition, data was obtained by direct enquiries addressed to central functions and local contacts. The collection of key indicators was coordinated by Corporate Controlling.

The report relates – unless otherwise indicated – to the Zumtobel Group in the 2012/13 financial year and its three brands: Thorn, Tridonic and Zumtobel. Comparable data from previous years is available for most indicators. Where Tridonic is concerned, the scope of consolidation covers all its plants as a rule, as in previous years. For the Zumtobel and Thorn luminaire brands, the scope of consolidation was extended worldwide to all its plants in the period under review.

The Group's financial year begins on 1 May and ends on 30 April of the following year. The Zumtobel Group publishes an annual Sustainability Report.

In this report, for the sake of simplicity and better legibility, the masculine form of personal pronouns was used to refer to both men and women. The report contains forecasts based on current expectations and assumptions. Actual results and developments may, in reality, differ from the estimates stated in this report due to various circumstances, risks and uncertainties.

The Zumtobel Group in brief

The Zumtobel Group, based in Dornbirn, Austria, is a global player in the international lighting industry and provides integral professional lighting solutions, luminaires, lighting management systems, lighting components and LED modules. The Group consists of three brands: Zumtobel and Thorn make up the Lighting Segment and Tridonic makes up the Components Segment.

The present-day Zumtobel Group originated as "Elektrogeräte und Kunstharzpresswerk W. Zumtobel KG", which was founded in Dornbirn in 1950. The company has been a stock corporation since 1976. With the acquisition of the Thorn brand in 2000, the family-run business began to step up its international focus. The initial public offering came on 12 May 2006 when the company was first listed on the Vienna Stock Exchange. To this day, the Zumtobel family remains the largest single shareholder, with a 35% stake in the firm. The free float is currently around 65%.






The Zumtobel Group has 20 production facilities spread across four continents and sales companies in over 100 countries, making it the current European market leader in professional lighting and the global No. 4 in components.

The Group has been managed by Dr. Harald Sommerer, CEO of Zumtobel AG, since 1 May 2010. The Lighting Segment is managed by the Management Board as an operating holding company. The Component Segment (Tridonic) is organised as an independent subsidiary.

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Savings potential in the value creation chain of a lighting solution:

LED light sources / modules	Control gear	Luminaires	Light management	Lighting solutions
				
<p>Savings potential of LEDs:</p> <ul style="list-style-type: none"> • 30–50% compared with fluorescent lamps • 20–40% compared with HID lamps • up to 85% compared with incandescent light bulbs 	<p>Electronic ballasts/LED converters are essential for intelligently controlled lighting solutions.</p>	<p>Optimisation potential:</p> <ul style="list-style-type: none"> • glare-free optics • thermal management • luminaire design • light distribution <p>Savings potential up to 25%</p>	<p>Savings potential:</p> <ul style="list-style-type: none"> • daylight-based control, up to 70% • presence and time management, up to 50% • maintenance control 10–15% 	<p>Further savings potential through optimal lighting planning:</p> <ul style="list-style-type: none"> • consultancy • EcoCALC software for energy/cost budgeting • Vivaldi software for visualisation of dynamic lighting solutions
<p>TRIDONIC</p>	<p>TRIDONIC</p>	<p>THORN ZUMTOBEL</p>	<p>TRIDONIC THORN ZUMTOBEL</p>	<p>THORN ZUMTOBEL</p>

Sustainability in the Zumtobel Group

Corporate strategy and sustainability

Acting sustainably and responsibly is deeply embedded in everything the Zumtobel Group does. The company has engaged in numerous activities in both the ecological and social arenas over the decades in order to achieve this. A sustainability strategy that was consistent with our corporate objectives was adopted in 2009 in order to ensure that our commitment to sustainability could be controlled more effectively. This strategy covers four fields of action which are each associated with principles and objectives (► [www](#))* and help breathe life into the Zumtobel Group's sustainability vision:

Through light, we care.

We provide innovative lighting solutions that fulfil the needs of individuals and the environment.

The Zumtobel Group's commitment to greater sustainability is closely linked to its core business; artificial lighting does, after all, consume 19% of all the electricity generated worldwide and therefore makes a significant contribution towards global energy consumption. It is possible to make a considerable contribution towards reducing the consumption of resources by using more energy-efficient, intelligently controlled lighting technology. (► [Figure to the left and "Day Cloud": Magazine pp. 4–5](#)).

The Zumtobel Group's individual brands pursue these objectives in areas such as dimmable ballasts, LED light sources and intelligent control systems in order to offer the market an innovative portfolio of energy-efficient products (► [Product responsibility: pp. 10–18](#)). In order to vividly demonstrate the Group's contribution to energy efficiency, calculations based on these key figures were carried out in order to give some

idea of the magnitude of the potential savings that the company brought to the market in the period under review.

(► [Details of the calculation see www](#)).

Assuming these figures, the Zumtobel Group helped realise energy savings of 642,289 megawatt-hours in 2012/13 (PY: 563,461). This corresponds to the annual power consumption of 214,096 two-person households. Compared with the previous year (563,461 MWh), this energy-saving potential has increased by about 13% despite the slight decrease in sales. This illustrates how much continuous technological innovation may contribute to saving energy, in particular in the areas of LEDs and control systems.

Sustainability organisation

Responsibility for sustainability lies with the CEO of the Zumtobel Group (► [Talking with ..., Magazine, pp. 2–3](#)), who also chairs the Sustainability Committee. Representatives of the following departments are members of this committee: Quality and In-process Environmental Protection, Supplier Management, Logistics, Marketing and Product Management, HR, Investor Relations, Internal Auditing, Research & Development, Communications, Controlling & Risk Management. Communications coordinates the Sustainability Committee and is responsible for reporting. In the lead-up to this year's Sustainability Report, discussions regarding sustainability activities, monitoring old targets and defining new targets took place for the first time within the framework of set, pre-arranged management sessions. Production-related subjects were dealt with first in the Zumtobel Group Operations Council (► [p. 25](#)), then the issue of sustainability was put on the agenda of the Management Meetings held by each of the brands. Finally, the sustainability programmes of the three brands thus arrived at (► [www](#)) were then discussed and adopted by the Management Board.

* The reference (► [www](#)) refers to the following link:
www.zumtobelgroup.com/en/corporate_responsibility.htm

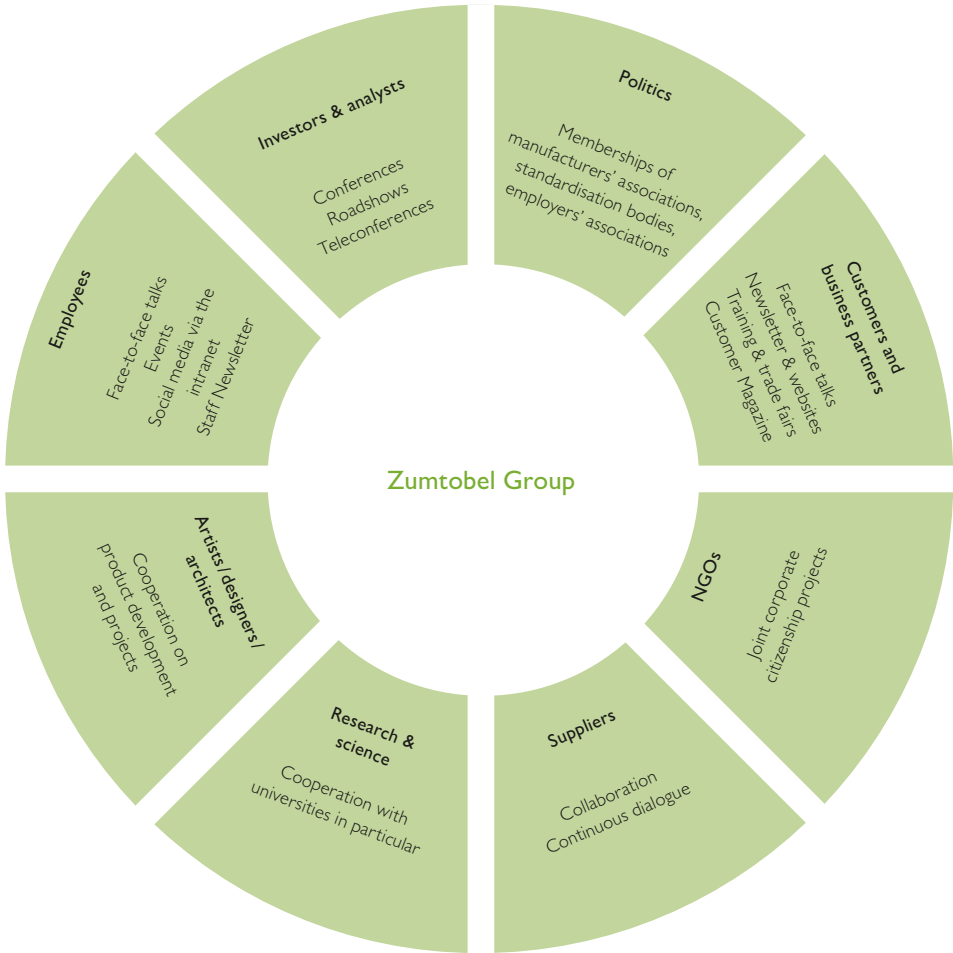
To bring the financial year to an end, a worldwide survey of business managers in all the subsidiaries based on a questionnaire was conducted again in the period under review. Survey topics included essential aspects of the GRI framework, compliance with legislation and standards and the reporting of possible incidents having legal implications.

The current version of GRI (G 3.1) was amended in the period under review and aspects relating to human rights in particular were extended.

Stakeholder dialogue and committee work

The Zumtobel Group fosters open exchanges of information with interest groups. The company uses this dialogue to exchange information and views, understand the expectations and wishes of the various groups and integrate these into its corporate activities. This dialogue also helps identify risks and opportunities at an early stage and build trust.

The Zumtobel Group's stakeholder universe



Close, direct dialogue, especially with customers and partners involved in project business, contributes to the development of trendsetting, sustainable lighting solutions. Cooperation with research partners, universities and suppliers as well as artists, designers and architects provides the Zumtobel Group with fresh impetus to innovate. The Zumtobel Group engages with industrial associations, standardisation bodies and lighting associations in order to maximise the likelihood of the lighting industry, its customers and users achieving optimum energy efficiency and superb lighting quality. The company participates in various national and international initiatives for sustainable building and is involved in the certification of energy-efficient buildings. The Zumtobel Group's engagement also includes its membership of respACT (Austrian Business Council for Sustainable Development), a platform for CSR in Austria, and corporAID, an Austrian platform for business, development and global responsibility. A list of all the company's memberships can be found on the Internet (► [www](http://www.zumtobel.com)).

The following activities highlight just a few examples of the diverse range of communication activities in the period under review (► [further examples can be found in the Magazine](#)):

- The Zumtobel Group is a founding member and board member of the European LightingEurope industry association set up in Brussels in December 2012. The organisation represents national lighting associations and leading companies in the lighting sector throughout Europe and is dedicated to jointly tackling the challenges of technological change, actively shaping the future of lighting and promoting innovation, quality and sustainability in the lighting industry (► www.lightingeurope.org).
- An in-house survey on the subjects of energy saving and sustainability involving the European country representatives of the Zumtobel and Thorn brands was conducted in the summer of 2012. The aim was to get a comprehensive picture of national developments, trends and the challenges facing the brands and also to ask for recommendations regarding ways of improving our sustainability performance.
- "ALU+"; an exhibition of sustainable LED luminaires made of aluminium, was held in Zumtobel's Light Forum in Vienna in cooperation with the Vienna University of Technology in October 2012. Lighting objects were created with the label "EcoLUCY" in an attempt to blend aluminium, light, sustainability and design.
- An exhibition on "Sustainable Design" by the Institute of Design Research in Vienna was organised in the Vorarlberg Design Forum in March 2013. The exhibition's aim was to create scenarios for new, complex ways of reshaping the environment and encourage critical debate on topics such as sustainability and consumer culture. A staff member of Zumtobel's R&D Department and Harald Gründl (EOOS Design) held accompanying workshops.
- The first Thorn Energy Expert Conference was held in Landskrona in Sweden in October 2012. The conference was designed as a training initiative dealing with energy-efficient lighting for Thorn's sales team and Thorn Energy Partners (► <https://tep.thornlighting.com>). Particular emphasis was placed on information about the very latest technological developments and standards and swapping best-practice concepts.
- Brand Equity Monitoring was carried out for all the Zumtobel Group's brands in 2011 and 2012. Brand equity monitoring was used to investigate brand awareness, brand evaluation and the likelihood of customers recommending the brand to others. Over 8,000 customers and 4,000 employees from 65 countries were surveyed in 14 different languages. The findings of this survey will be used to plan future activities. In the period under review Zumtobel and Thorn then focused on internal communications and putting the findings into practice. Two series of 12 and 22 workshops involving approximately 120 and 230 employees and managers, respectively, were devoted to this topic.
- "Straight Talking" events involving dialogue between top management, works councils and employees were held in all Zumtobel's European plants in autumn 2012. This initiative will be continued in the summer of 2013 with Tridonic's new senior management.

Compliance & Corporate Governance

The Zumtobel Group's corporate values (► www.zumtobel-group.com/en/corporate_values.htm), its Code of Conduct which applies throughout the Group and Group policies provide a framework that ensures behaviour in conformity with the law, fair, trust-based dealings with colleagues and business partners and underpins the fight against corruption. Moreover, the Zumtobel Group has been a member of the Part-

nering Against Corruption initiative (www.weforum.org/paci) since 2004. The Zumtobel Group has committed itself to compliance with the July 2012 version of the Austrian Code of Corporate Governance in order to ensure transparent management of the company and corporate control. In line with the "Comply or Explain" philosophy of the Code, an explanation was issued in the few cases where the company was not in compliance with the Code in the period under review ([CGR: www](http://www.zumtobel.com/CGR)).

Our risk management system, our system of internal controls and the corporate internal audit function help ensure that these rules are respected throughout the Group. The risk management system also takes into account critical elements of sustainability, such as environmental impacts, shifts in HR structures and geopolitical risks. Internal control through financial data has been improved since 2011/12. Among other controls, not only IFRS, but also local monthly and annual accounts are subjected to regular internal audits, and the head office Treasury system is used to reconcile local bank accounts and bank credits. There were two material infringements of the Code of Conduct in the period under review and these were dealt with at Board level. One of these resulted in termination of employment and a written warning was issued in the other case.

Company management encourages employees to report suspected infringements of the Code of Conduct on a confidential basis. Trained colleagues from the Legal Department and the Corporate Internal Audit function, as well as the Zumtobel Group's Ethics Officer, are available to assist employees in this. Other in-house contact persons include works councils and HR Department staff. Employees' knowledge and awareness of the Code of Conduct have improved

markedly in recent years. In the period under review, employees actively made use of the facility to consult specialist departments regarding compliance issues. This can also be regarded as reflecting the results of numerous information and training activities. Around 80 top managers worldwide were invited to take part in the online Legal and Financial Essentials (LEAF) training programme in the period under review. Management staff received training on technical financial topics and in areas such as the system of internal controls, compliance and fraud awareness during the course of four webinars. These training sessions were recorded and can be referred to at any time via the company's intranet. The description of the Code of Conduct on the intranet was supplemented by lists of questions & answers for employees; these deal with individual topics in greater depth and provide guidance on use in day-to-day working life. The Legal Department also gave talks, primarily in sales organisations, on compliance and the Code of Conduct.

A Fraud Awareness Check is carried out at least once a year throughout the entire Group by conducting an online survey. This is intended to heighten management's and employees' awareness of fraudulent actions. Among other things, the April 2013 survey revealed that those surveyed were significantly more familiar with the rules in the Code of Conduct than before. There are plans to continue training measures for both management and employees in the 2013/14 financial year.

The Zumtobel Group's Compliance Management System was scrutinised by an independent external auditor in the period under review. The findings of this audit will provide a starting point on which further development of the organisational design and processes of the compliance management system will be based in 2013/14.

Strategic Target	Measure	Brand	Status
Ensure consistent compliance and complete integrity	Systematic expansion and even more transparent design of the compliance management system	Groupwide	Continuously

Business development

The 2012/13 financial year was influenced by a generally difficult economy and significant challenges arising from the technological shift to LED. This radical transformation process does offer the company medium and long-term growth opportunities – especially as far as energy efficiency is concerned – but it also brings in its wake extensive structural changes. Technological change also demands development efforts and investments on a much larger scale than the lighting industry has hitherto been used to. R&D expenditure (including capitalised development costs and the cost of developing special luminaires), for instance, climbed to €85.2 million in the period under review, a figure that represents a new record 6.9% of revenues. Sales of innovative LED products grew by 49.8% compared with the previous year to €274.5 million in the period under review – a very encouraging result. This validates the Zumtobel Group's strategy of investing in expanding its innovative product portfolio in a targeted manner despite difficult underlying economic conditions.

The market environment for the late cyclical professional lighting industry weakened substantially, above all during the second six months, with the result that revenues were lower than originally forecasted at the beginning of the reporting year. Group revenues fell by 2.9% to €1,243.6 million. Revenue in the Lighting Segment (Zumtobel/Thorn) dropped by 1.4% to €935.7 million. Difficult economic conditions and public sector spending cuts led to dwindling revenues in core markets in the UK and France and in warehousing business with wholesalers in the case of Thorn in particular. The shift to LED continues to represent a major challenge for the Components Segment (Tridonic brand). Progress in the development and sale of LED converters and LED modules was still unable to offset the market-related and structural decline in the demand for conventional components during the reporting year. After a sharp drop of 6.7% in revenues during 2011/12, segment revenues fell again by 7.4% to €377.7 million in 2012/13.

Structural adjustments

Extensive restructuring measures were implemented in both segments during the reporting year to bring cost structures in line with the lower revenues and to also meet the challenges of the technology shift in an effort to make sure that the company remains fit and lean enough to function effectively in future. As well as changes in several of Zumtobel's and Thorn's European distribution organisations, there were restructuring measures at Thorn's plant in Landskrona/Sweden and Tridonic's plant in Ennenda/Switzerland. Early in the year, Zumtobel USA announced that it would be concentrating its manufacturing activities at its site in Highland, New Jersey. Consequently, its smaller manufacturing plant in Fair Lawn, New York will be closed. Ledon Lamp GmbH, a start-up company that was set up in 2009 for LED lamps intended for end consumers, was sold to a strategic investor in February 2013. This step was taken in order to focus business activities more closely on our core business – professional lighting. In March Tridonic announced that around 60 employees in the indirect area worldwide would lose their jobs due to falling sales of conventional lighting technology products. In 2012/13 these measures led to negative special effects of €14.0 million and a reduction of 3.9% in the number of full-time employees to 7,162.

Slight improvement in profitability

Thanks to timely HR and structural measures, the adjusted EBIT of €35.7 million is a slight improvement on the previous year (€35 million) despite lower sales levels. Because of negative non-recurring items, the annual result fell to €6.1 million (PY: 15.2).

Focus on global growth strategy

Despite the weak market environment, the Board stuck with its global growth strategy that was introduced in 2011 and relies on LEDs, energy efficiency and global market opportunities as growth drivers. This strategy is underpinned by all the brands' broad-based market access, in-depth lighting application know-how, a strong technology position and the company's extensive coverage of the value chain.

Key operating areas vary depending on the brand in question: In future, the premium Zumtobel brand will concentrate more on globalising its market presence, adding more innovative products to its portfolio, increasing control activities and expanding the service business, all this while improving profitability.

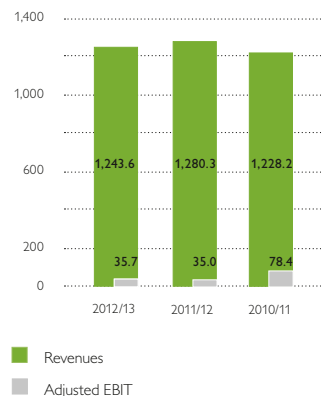
In the case of the Thorn brand, the restructuring programme implemented in recent years included key measures to mod-

ernise the product portfolio, focus the sales approach and make sustainable improvements in the efficiency and performance of the plants. These measures will now be continued with great intensity to make the Thorn business model independent of economic cycles and sustainably profitable.

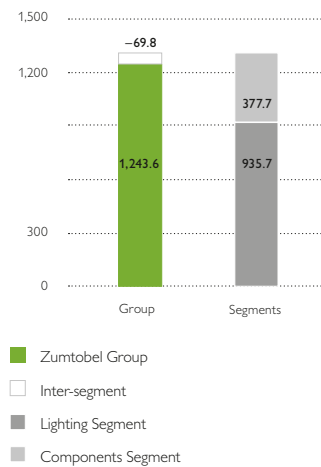
In the case of the Tridonic brand, the technology shift has triggered extensive changes in business. The challenge is, on the one hand, to bring cost structures in the conventional lighting technology product area in line with sales and, on the other hand, to invest quickly in new, innovative LED products and expand global activities. Tridonic will be looking to form an increasing number of strategic partnerships in the future.

For all other details, especially data relating to GRI EC1 and EC3, readers should refer to the Zumtobel Group's Annual Financial Report, which was issued at the same time as the Sustainability Report (► FAR).

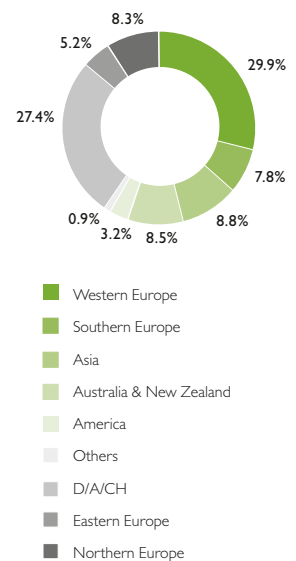
Revenues and adjusted EBIT in EUR millions



Revenues acc. to segment in EUR millions



Revenues acc. to region



Product responsibility and customer dialogue

Overview of the brands

11 Zumtobel

Innovation leader in integral lighting solutions

As a premium international brand, Zumtobel is synonymous with high-quality luminaires and lighting control systems, outstanding product design and superior lighting technology. Zumtobel focuses on project business and primarily offers investors, architects, lighting designers and electrical consultants professional lighting for all essential application areas in and around buildings.

14 Thorn

The global player for technically and functionally impressive lighting

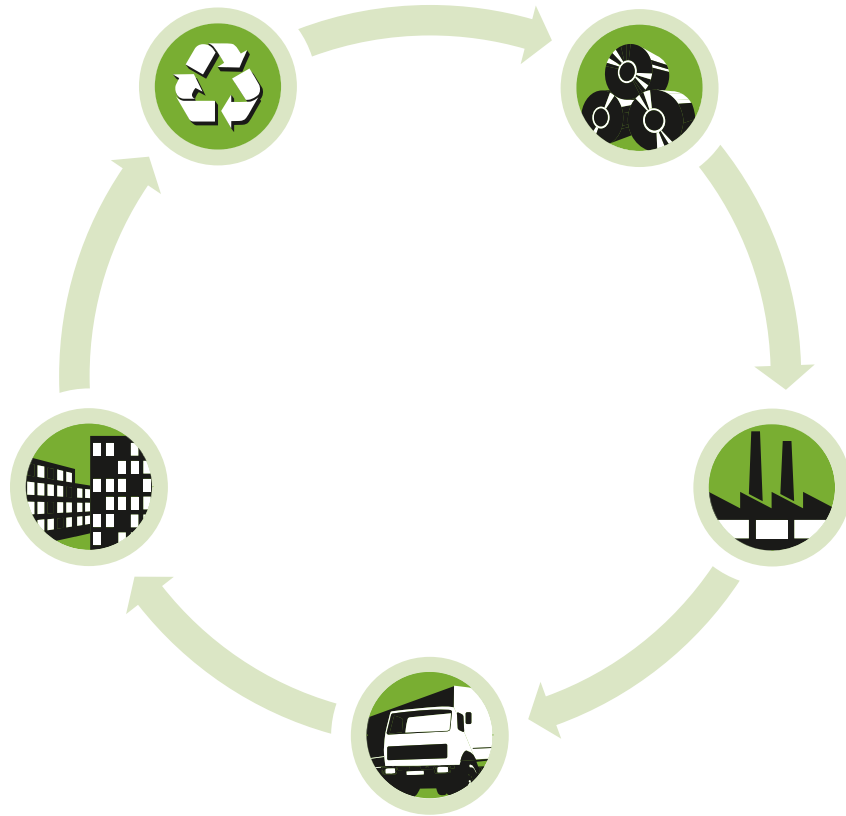
The Thorn brand is globally recognised as a leading supplier of both outdoor and indoor luminaires and integrated controls. Today the brand delivers product and service innovations to broad-based target groups, from wholesalers and contractors through to public and private specifiers and end users. Thorn's products are used in buildings and their surrounds, roads, cityscapes and sports facilities in more than 100 countries.

16 Tridonic

The specialist in operating, adjusting and controlling light

Tridonic is a leading manufacturer of lighting components, lighting management systems and LED modules, which it supplies to luminaire manufacturers worldwide. Tridonic's continuous innovation, uncompromising quality and customised solutions enable its customers to implement functionally and economically superior lighting solutions.

Life-cycle responsibility at product level



Selection of materials

- Compliance with legislation and guidelines (such as REACH, RoHS, ErP)
- More efficient use of materials thanks to Design for Six Sigma, Material Finder etc.
- Transparent documentation of environmental impacts of products in Environmental Product Declarations
- PVC-free cables
- Material compliance software used to check components used

Manufacture

- Enhancement of process quality via Lean Six Sigma
- ISO 9001 Quality Management System
- 14001 Environmental Management System and environmental programmes based on this in all factories
- Roll-out of the ISO 50001 Energy Management System
- Use of product, transport and re-packaging as environmentally sustainable as possible
- Take sustainability aspects into account when making investment decisions

Transport

- Document the CO₂ emissions produced by transport
- Take sustainability aspects into account when selecting transport companies
- Efficient transport logistics thanks to aggregation in hub system
- Double-stacking in case of intercompany traffic
- Project in Vorarlberg designed to move traffic from road to rail
- Promotion of environmentally sustainable employee mobility

Period of use

- Use of energy-saving lighting technology, especially LEDs and controls
- Design, planning and consultancy services for sustainable lighting solutions

Recycling

- Participation in take-back systems for used electrical equipment
- Compliance with statutory provisions (WEEE)

Zumtobel

By using innovative technologies, the Zumtobel brand offers its customers a product portfolio that delivers an optimum mix of lighting quality and energy efficiency. In doing so, Zumtobel concentrates on complete lighting solutions. This starts with a well thought-out lighting design and the use of energy-efficient light sources and luminaires and is topped off with intelligent lighting management. Lighting must minimise environmental impacts and foster people's sense of well-being, thereby laying the foundations for health, happiness and optimum performance. The Zumtobel brand promotes the use of sustainable lighting solutions through an extensive package of training and consultancy services that concentrate on resource-saving lighting concepts. We attach great importance in this respect to the environmental certification of buildings and providing Environmental Product Declarations (▶ [EPDs: www, Glossary | Chapter R & D: p. 30](#)).

Challenges and strategy

The Zumtobel brand's main objective is to provide the best light for individuals and the environment through individually well thought-out lighting designs. Zumtobel defines targets for individual product categories and the proportion of total revenues that they account for as a way of illustrating the ongoing refinement of its innovative product portfolio. In the period under review, the target proportion of revenues for eco+ products of 35% was narrowly missed with 34.2%. Zumtobel awards the eco+ label to products providing a special benefit for people and the environment. These products are therefore subject to strict criteria in terms of environmental impact, energy efficiency and application quality. For instance, they undercut all existing national and international directives in terms of energy consumption by at least 20% (▶ [eco+: www, Glossary](#)). eco+ products' share of revenues is set to be 45% by 2014/15. It is precisely because LED technology provides massive scope for energy savings that we intend to continuously grow the proportion of revenues accounted for by LED products. As in the previous year, in 2012/13 this share (31.2%) significantly exceeded the target of 26%. Against this backdrop, the medium-term target was adjusted upwards significantly in the period under review: we aim to earn half our revenues from LED products by 2014/15.

Energy efficiency can also be improved further still by using electronically dimmable control gear. The planned 28% target was just achieved in the period under review with 28.1%. The

targeted medium-term (2014/15) proportion of revenues was increased by two percentage points to 35%. Lighting controls also make a significant contribution towards reducing energy consumption by controlling lighting in a situation-appropriate manner. Although the targeted 6% proportion of revenues for controls was not achieved in 2012/13 with 4.6%, the medium-term target of an 8% share of revenues in 2014/15 still remains valid. The use of intelligent control systems was promoted in the period under review with the aid of targeted marketing tools such as an electronic planning and design Handbook, project reports on "Saving energy by lighting management" and a web app for simple lighting management systems (DIMLITE).

The Zumtobel brand has underscored its determination to achieve superb process and product quality by providing, since April 2010, a five-year guarantee that covers its entire product range, including LED modules. As cables that contain PVC may release toxic substances in the event of fire, the Zumtobel brand uses PVC-free cables for its wiring.

Building certification

Building certification (▶ [DGNB and LEED: www, Glossary](#)) is becoming increasingly relevant and artificial lighting plays a crucial role in this. In the case of LEED certification, for instance, an optimum lighting solution has an effect equivalent to as much as 28 points (out of a maximum total of 110 points). In the period under review, Zumtobel provided LEED training courses for sales employees and marketing managers who are authorised to participate in LEED building certification projects as team members. It is expected that ten employees will have successfully completed their LEED Green Associate examination by 2013/14. As the next stage, individual employees will receive more in-depth training to become LEED Accredited Professionals.

Research projects for greater sustainability and improved lighting quality

Research work is extremely relevant to the Zumtobel brand. Extensive application know-how underpins our user-oriented design process and the development of lighting solutions that offer customers and users decisive added value. This includes investigating parameters such as user acceptance and human

well-being. Our research concentrates on investigating the effects of light on people. Among other projects, the effects of dynamic lighting on sleep patterns (► [Magazine p. 11](#)) were investigated in cooperation with Human Research (Weiz/Austria) and the effects of various lighting scenarios on purchasing behaviour were examined as part of a research project conducted with the Nymphenburg Group in the period under review. Experiments on thermal building effects in interaction with controlled lighting are currently being conducted as part of a research project with the Test facility for energy and room-climate experiments (VERU) in Holzkirchen and the Fraunhofer Institute for Building Physics (IBP). The objective is to acquire more energy-balance data.

Tools for greater sustainability at Zumtobel

For a lighting solution to be able to achieve maximum performance – even after changes in operation or layout – the system must be serviced and optimised on a regular basis. In the 2012/13 financial year, Zumtobel developed its MAINTENANCE service packages which focus on lighting quality, energy efficiency and safety. With the aid of these services, investment in lighting is made as profitable as possible from the outset, constantly high lighting quality is maintained and regular optimisation also yields energy savings of up to 15%.

By supplying Environmental Product Declarations (EPDs) Zumtobel is responding to customers' demands for product-related environmental data, which is important in the context of Green Building certification among other things. This data can also be used to fill in online product platforms for sustainable building, e.g. DGNB Navigator (► www.dgnb-navigator.de).

In future, more attention will be paid to radio as a transmission medium in the area of lighting management. It allows energy savings in existing building stock and cuts expenditure on cabling (copper, plastic) and hence reduces the use of resources considerably (RadioDIM). In early 2013, Zumtobel issued a structured description of the potential energy savings that were made possible by switching over to LEDs and intelligent lighting management systems in a detailed information brochure that was part of a climate protection initiative backed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety which involves a funding programme for communal LED projects.

Tools for measuring and designing sustainable lighting solutions

Zumtobel uses measurement criteria in the form of the Ergonomic Lighting Indicator (ELI) and Lighting Energy Numeric Indicator (LENI) in order to assess these aspects quantitatively. The ELI-LENI Calculator is a tool for assessing the energy efficiency and lighting quality of a lighting solution. ecoCALC 2.2 software, used to analyse the costs of a lighting solution over its entire life cycle, and Vivaldi 3.5 software, used to visualise lighting quality and energy efficiency when designing lighting scenes and planning dynamic lighting concepts, both help design sustainable lighting solutions.

Training for employees and external partners

Zumtobel offers employees and external partners numerous practical and theoretical training opportunities, thereby raising awareness of and improving technical expertise in the area of sustainable lighting solutions. In the 2012/13 financial year, sales employees, including distributors, completed a total of 1,900 training days (PY: 2,184) as part of on-the-job "Zumtobel Lighting Solution Consultant" training. Sales staff are made aware of the importance of sustainability through this thorough technical training, which includes a specific module devoted to this subject. This module will devote more time to the subject of "Environmental certification of buildings" in order to make and inculcate the link between theory and practice. Trained lighting solution consultants convey this aspiration to achieve the best possible combination of lighting quality and energy efficiency to customers. Following on from an expanded online learning offering, there are plans to start providing further e-learning opportunities in future. The monthly "Web Application Forum" webinar, which deals with various lighting topics, took place in 2012/13 and was very well received. The webinars are held in two languages at three different times of the day in order to allow all employees to participate. They are also recorded and can be called up via the intranet at any time.

To increase people's awareness of sustainable lighting solutions, Zumtobel is training some employees and selected electricians as "Zumtobel Lighting Solution Partners". The planned increase in the number of lighting solution partners to 870 was not achieved in the 2012/13 period under review; the actual figure was 760. This initiative will nevertheless be intensified in the coming financial year and the number of solution partners will grow to at least 900.

As planned, at least four customer training courses a month were organised for the ecoCALC and Vivaldi simulation tools in the period under review. This will continue in the coming financial year. Customer training courses on the uses of lighting were also held on an international basis: primarily in Asia and the Middle East/North Africa (MENA) in the period under review.

Through its Lighting Competence Programme, Zumtobel provides assistance, information and qualifications for electrical consultants in order to promote sustainable lighting designs. Besides a variety of seminars on subjects of topical interest such as LEDs, emergency lighting and lighting controls, participants are given access to Zumtobel's design tools and other information. The figure of 150 participants in the period under review is set to double by 2013/14. After the successful completion of a seminar to train external partners' apprentices in autumn 2012 at the head office in Dornbirn, which was attended by 21 apprentices, two further seminars will be organised in 2013/14 (► [Magazine p. 10](#)).

The Zumtobel brand's Light Forums and Light Centres

Zumtobel regards intensive dialogue with customers and on-site knowledge transfer to customers and partners as essential. Customers and employees can find out about energy-efficient lighting solutions and actually experience them in various applications at a total of three Light Forums and 15 Light Centres. The 15th Zumtobel Light Centre was opened in London in June 2012. The Light Forums and Light Centres received approximately 26,000 visitors in the 2012/13 financial year.

► [More information on innovative projects, project references and selected initiatives can be found in the Magazine.](#)

Strategic target	Measures		Date	Status
Offer sustainable & energy-efficient products	Increase the proportion of revenues accounted for by eco+ products	to 35%	2012/13	34.2%
		to 40%	2013/14	Ongoing
		to 45%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by electronically dimmable ballasts	to 28%	2012/13	28.1%
		to 32%	2013/14	Ongoing
		to 35%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by LED products	to 26%	2012/13	31.2%
		to 38%	2013/14	Ongoing
		to 50%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by lighting controls	to 6%	2012/13	4.6%
		to 7%	2013/14	Ongoing
		to 8%	2014/15	Ongoing
Increase know-how in sales organisation	Increase the number of certified LEED Green Associates and the number of certified LEED Accredited Professionals	to 10	2013/14	Ongoing
		to 2	2013/14	Ongoing
	Proportion of certified lighting solution advisors	75–85%	2015/16	Ongoing
Improve partnership with customers	Increase ecoCALC/Vivaldi customer training courses to at least	4 a month	2013/14	Ongoing
	Number of "Lighting Solution Partners"	870	2012/13	760
		> 900	2013/14	Ongoing
	Number of participants in our Lighting Competence Programme	300	2013/14	Ongoing

Thorn

The Thorn brand is a leading worldwide supplier of professional outdoor and indoor luminaires as well as intelligent control systems. Thorn's mission is to supply products and services that allow customers to specify, install and maintain outstanding, energy-efficient lighting technology.

Challenges and strategy

Thorn's key tasks are to reconcile energy efficiency, performance and convenience and to heighten customers' awareness of environmentally sustainable lighting concepts. Thorn manages to achieve superb lighting quality combined with low energy consumption thanks to a combination of intelligent lighting controls, efficient ballasts and innovative light sources such as LEDs plus various initiatives, tools and training programmes.

Thorn regularly defines target revenues to be earned from specific product categories that make a significant contribution towards saving energy. For instance, the proportion of total revenues accounted for by selling LED luminaires is set to rise continuously to 20% in the 2014/15 financial year. This target will be fulfilled by developing new luminaires and fitting existing luminaires with LED technology. The 10% target for the period under review was exceeded (12.5%). The proportion of revenues accounted for by luminaires with electronically dimmable ballasts is set to grow from 15% in the period under review to 20% in the medium term (2014/15). In contrast, the proportion of less efficient magnetic ballasts is expected to continuously fall in the medium term to 10% by 2014/15. The planned figure of 16% was not achieved in the period under review (17.5%) because progress in converting outdoor lighting was slower than expected. Intelligent lighting controls allow further energy savings. This is why we aim to keep increasing the proportion of total revenues accounted for by lighting controls. The 6.5% proportion of revenues accounted for by lighting controls in 2012/13 significantly exceeded the 3% target thanks to several large orders. In the medium term, this proportion should sustainably exceed 5%.

Thorn also provides its customers with Environmental Product Declarations for all its new products (► [R&D: p. 30](#)). EPDs make it easier for customers to base their purchasing decisions on environmentally relevant criteria and emphasise the importance that Thorn attaches to offering environmentally sustainable lighting concepts.

It is extremely important to tell customers and business partners all about the possibilities and benefits of sustainable lighting solutions and to inspire them. Thorn uses its eControl campaign and its PEC programme to achieve this. The Thorn brand's sustainability promise is to deliver performance, efficiency and comfort. These hallmarks are the cornerstone of Thorn's solution-oriented PEC programme (PEC: Performance / Efficiency / Comfort) which can be used for all Thorn's application areas and acts as our highest guiding principle. For more information, please refer to: (► www.thornlighting.com/com/en/aboutus_efficiency_comfort_f.htm). In order to emphasise its high quality standards, Thorn provides a 5-year guarantee for its products.

eControl

"eControl" is a concept that makes it easier for customers to understand, specify, install and maintain premium-quality, energy-efficient lighting. It is a comprehensive consulting package that includes eight initiatives, thus giving customers access to the right tools, measures and products. The "eControl Experience", a digital demonstration programme that vividly demonstrates the various approaches, was developed in the period under review (► http://www.thornlighting.com/com/en/eControl_f.htm).

The basic idea behind the "Thorn Energy Partnership" initiative (► <https://tep.thornlighting.com>) is to use the partnership between Thorn and lighting experts to promote energy-efficient lighting solutions without making any compromises when it comes to performance and convenience. The initiative aims to save 25,000 tonnes of CO₂ by 2015/16, thereby also saving customers €7.5 million in energy costs. A hundred networks, each involving ten to 15 partners, are to be set up throughout Europe in order to achieve this. Over 250 partners have already been signed up in the UK, Benelux, France and Italy. In the period under review, training courses on key topics of "Energy-efficient lighting", "15 ways to save energy", simulation tools and the transfer of knowledge in networks have already made it possible to realise substantial energy savings for partners (► [Magazine p. 16](#)).

This initiative is facilitated by software such as energyCALC, daylightCALC and ecoCALC 2.0; the latter is used to calculate the life-cycle costs of a lighting solution (► www.thornlighting.com/com/en/products_ecocalc_f_f.htm).

With the “Thorn Energy Solutions” programme (TES), Thorn provides its final customers with a comprehensive service offering for realising turnkey, energy-efficient lighting solutions. The programme is intended to improve energy efficiency in case of refurbishment work. After positive feedback in the UK, the programme was rolled out to Austria, Germany and France in the period under review.

The “Migration” initiative is used to inform customers who installed Thorn lighting more than ten years ago about the possibilities of upgrading to sustainable lighting solutions. Thorn uses this initiative to pro-actively flag up potential energy savings.

With its interactive “Smart Building Experience” decision-making aid (http://www.thornlighting.com/smart_city), Thorn combines specific product suggestions with tools for sustainable lighting solutions, e.g. ecoCALC software for calculating life-cycle costs or “15 ways to save energy”. A “Smart City” enhancement is currently under development.

Thorn Academy of Light and other training courses

Thorn’s Academy of Light offers customers and employees training courses on sustainable lighting solutions, products and methods. In the 2012/13 financial year 1,863 internal and external customers attended the Thorn Academy of Light (PY: 1,478). Thorn also organises special seminars worldwide aimed primarily at architects and lighting consultants. Sustainability is one of the core subjects covered by these seminars. Thorn sales staff completed 671 days of training (PY: 394). Approximately 1,400 people took part in monthly training sessions via the “Expert Forum” online training platform in the period under review. Because online training facilitates knowledge transfer to more people and also saves resources, we plan to continuously expand this offering. The aim is for every member of sales staff to participate in this online training in future or for recorded sessions to be made available to them via the intranet. To make sure that every employee in the sales organisation is able to effectively advise customers on energy-efficient lighting solutions, all sales staff will receive extensive training on the eControl initiative through online and classroom training.

► [More information on innovative projects, project references and selected initiatives can be found in the Magazine.](#)

Strategic target	Measures		Date	Status
Offering the market sustainable & energy-efficient products	Reduce the proportion of revenues accounted for by luminaires with magnetic ballasts	to < 16%	2012/13	17.5%
		to < 14%	2013/14	Ongoing
		to < 10%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by luminaires with electronically dimmable ballasts	to > 14%	2012/13	15%
		to > 17%	2013/14	Ongoing
		to > 20%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by LED products	to > 10%	2012/13	12.5%
		to > 15%	2013/14	Ongoing
		to > 20%	2014/15	Ongoing
	Constant proportion of revenues accounted for by lighting controls	of > 3%	2012/13	6.5%
		of > 5%	2013/14	Ongoing
		of > 5%	2014/15	Ongoing
Improve know-how in sales organisation	Extend online training courses		2013/14	Ongoing
	Extend training courses on energy-efficiency tools (eControl, energyCALC, etc.)		2013/14	Ongoing
Improve partnership with customers	Increase the number of network partners within the scope of the “Thorn Energy Partnership” programme	to 800	2013/14	Ongoing
		to 1,000	2014/15	Ongoing
	Help customers achieve 25,000 tons of CO ₂ reduction through the “Thorn Energy Partnership”		2015/16	Ongoing

Tridonic

As a partner of luminaire manufacturers, Tridonic develops, produces and distributes electronic control gear, LED modules and converters, lighting management systems and connection technology. Some 18% of its revenues are accounted for by intercompany sales to the Zumtobel and Thorn brands.

Challenges and strategy

Tridonic's business activities continue to be shaped by technological change. Although the company continues to service the conventional market, at the same time it is also investing in building up a comprehensive LED product portfolio. In doing so, the brand is confronted by the challenge of ever shorter innovation cycles and the fact that business is moving away from individual components to increasingly complex systems.

Tridonic regularly defines targets for the proportions of its total revenues accounted for by energy-efficient products. The company uses these targets as an indicator of the extent to which the market is accepting energy-efficient products. The targeted 76% proportion of revenues was not achieved in the period under review (71.1%) due to the still considerable quantity of magnetic ballasts sold. The planned growth to 82% by 2014/15 nevertheless remains valid. The planned increase in the proportion of revenues accounted for by LED products to 20% was almost achieved in the period under review (18.9%). The growth targets of 25% in the coming financial year and 35% in 2014/15 were also confirmed. The target of increasing the proportion of revenues accounted for by dimmable electronic ballasts to 15% was actually exceeded (16.4%). This figure is set to rise to 20% by 2014/15. The targeted 7.5% proportion of revenues accounted for by lighting controls was narrowly missed (6.5%). The reason for this was delayed product launches. The medium-term target until 2014/15 was revised significantly upwards to 18% based on scheduled extensive new product developments in the Controls & Systems area.

Patents continue to be a strategically highly relevant area for Tridonic. Thanks to its own patents and cross-licensing, Tridonic enjoys considerable freedom to operate; this means that the company and its customers can use the very latest technologies without infringing third-party copyrights (► [R&D: p. 30](#)).

Strategic partnerships with other companies exploit synergies and encourage innovation. Collaboration with Schneider Electric aimed at promoting intelligent, energy-efficient building management is an example of this (► [Magazine p. 22](#)). Strengthening and expanding such partnerships in future, especially in the field of product development, is one of Tridonic's strategic objectives.

Energy-efficient products

Energy efficiency is one of the crucial issues faced when developing new products and system solutions. Tridonic has been selectively investing in the development of new environmentally-friendly products for decades. As part of implementing the EU Eco-Design Directive (► [www.Glossary](#)), the company began to develop components in extremely high energy efficiency classes (in accordance with the Energy Efficiency Index, ► [EEI: www.Glossary](#)) very early on. The market launch of a new platform of electronic ballasts was completed with excellent commercial success in the period under review. This was a decisive reason why the proportion of Tridonic's total revenues accounted for by new products significantly increased to 46% in the period under review.

Thanks to their low energy requirements and long service life, LEDs make a significant contribution to saving energy. Where this new, innovative technology is concerned, Tridonic also offers its customers a consistently well-matched product portfolio: products ranging from LED light sources and matching converters right through to application-specific controls. This enables luminaire manufacturers to get on board at various stages of the LED luminaire and lighting solution production value chain.

Successful market launches in the period under review included LED light engines for surface lighting with higher efficiencies and integrated emergency lighting functions (linear and square designs), LED light engines for downlights and spotlights with best-in-class efficiency values (compact design) and light engines for wall and ceiling lighting; also high-performance LED converters as system components or stand-alone products (linear and compact designs).

The roll-out of a new platform for LED control gear is currently a particularly important milestone. Following on from

the launch of the TALEXXconverter TEC series, the TALEXX-converter ECO series and then the TALEXXconverter TOP series will round out the new platform by the start of the 2013/14 financial year. With these three performance categories, Tridonic can supply the right LED converter to meet all requirements for any application.

In the period under review, TALEXXengine STARK SLE was the first Tridonic product to achieve Zhaga certification (► [R&D p. 31](#)). The LED site in Jennersdorf/Austria won the 2012 Burgenland Innovation Prize for developing the TALEXX-engine STARK SLE LED light engine and its manufacturing process. Besides evaluating the product and the manufacturing process, the award focuses on the effects of innovation on the market, the environment and the national economy.

Tridonic has been supplying a highly efficient OLED module that ushers in a new performance category since early 2013. Despite measuring just 99 x 99 mm, LUREON REP achieves a luminous flux of more than 100 lm for the first time. In addition, LUREON REP achieves a system efficiency of over 50 lm/W in intermediate white, which is much higher than that achieved by comparable products. OLEDs allow 100% use of generated light without the losses caused by using reflectors. These features, together with great energy efficiency, make sure that resources are used sparingly: less expenditure on energy, fewer emissions and less environmental pollution when worn-out light sources are disposed of.

A lighting control system helps make lighting installations even more energy-efficient. Tridonic's goal is, by linking individual components, to offer intelligent technical solutions that coordinate and tailor light, and hence energy usage, precisely to match specific needs. The product line ranges from sensors for individual luminaires right up to integrated systems that control lighting in complex buildings. Intelligent DALI lighting management (► [www, Glossary](#)), combined with individually addressable, dimmable DALI control gear for conventional light sources as well as for LEDs, makes it possible to realise significant energy savings. These lighting control systems, when combined with dimmable electronic ballasts and sensors, are already capable of producing energy savings of up to 80% compared with static, conventional lighting. In the period under review, Tridonic modified its DALI x/e-touch PANEL 02 multifunctional operating unit by improving its mechanism and incorporating new functions. This means that DALI lighting control is now even more convenient and more flexible.

Tools for greater sustainability at Tridonic

Tridonic sets out sustainability guidelines for all its corporate activities in its "ecolution" sustainability initiative. Tridonic takes its social responsibility to society and to its employees just as seriously as it takes its responsibility for ensuring environmental protection and manufacturing energy-efficient products.

The "ecolution" campaign is constantly being reinvigorated with up-to-the-minute content, e.g. EPDs, REACH and RohS activities, as well as our commitment to more climate protection. Individually tailored advice given by experienced sales staff is an important part of the "ecolution" initiative because it is during the use of a luminaire that there is the greatest scope for saving energy. Advice can also be provided with the aid of visualisation programs such as the Electronic Application Handbook (elAPP) online tool, which can be used to flag up technical requirements and associated specifications as well as potential energy savings, ease of operation and integrability.

Tridonic supplies Environmental Product Declarations (► [EPDs: www, Glossary](#)) for its dimmable and non-dimmable electronic ballasts as well as for other product ranges, especially LED products (► [R&D, p. 30](#)).

Tridonic Academy

The Tridonic Academy offers basic and advanced training programmes in the form of workshops, seminars and online courses for both employees and customers on a regular basis. In the 2012/13 financial year, the focus was mainly on system sales of high-quality LED solutions, as well as on technical product training. By restructuring the Tridonic Academy it was possible to reduce training man-days to 405 (PY: 595) while maintaining quality and even significantly increasing training frequency: the technological change from conventional to LED technology requires reorientation from pure presence-based training towards an increased use of combined online and presence-based courses. The high proportion of online training courses attended, which rose from less than 3% of all training initiatives to over 22%, is proof that this reorientation was a success. The newly introduced concept ensures not only a higher frequency on a global scale, but also high efficiency, both with regard to the effect the training has on employees and as regards time and travel effort.

In addition to the web-based programmes provided to train the company's own sales staff, two local training cycles were introduced in the 2012/13 financial year in order to consolidate consultant skills across different applications.

► [More information on innovative projects, project references and selected initiatives can be found in the Magazine.](#)

Online training for customers started in individual markets in the period under review. Topics included the use of LEDs. There are plans to extend this training in the coming year.

Strategic target	Measures	Date	Status	
Offer sustainable & energy-efficient products	Increase the proportion of revenues accounted for by energy-efficient products	to 76%	2012/13	71.1%
		to 76%	2013/14	Ongoing
		to 82%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by electronically dimmable ballasts	to 15%	2012/13	16.4%
		to 17%	2013/14	Ongoing
		to 20%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by LED products	to 20%	2012/13	18.9%
		to 25%	2013/14	Ongoing
		to 35%	2014/15	Ongoing
	Increase the proportion of revenues accounted for by lighting controls	to 7.5%	2012/13	6.5%
		to 15%	2013/14	Ongoing
		to 18%	2014/15	Ongoing
Improve know-how in sales organisation	Extend online training courses		2013/14	Ongoing
	Strengthen application know-how & LED systems/ solutions know-how	2 training cycles	2013/14	Ongoing
Improve partnership with customers	Increase webinars for customers		2013/14	Ongoing

Working for the Zumtobel Group

The entrepreneurial success of the Zumtobel Group can be attributed, to a very large extent, to its qualified, committed, motivated employees. As of 30/4/2013, the Zumtobel Group employed 7,162 FTEs worldwide (PY: 7,456), including 230 temporary staff. Structural changes as a consequence of technological change and weak market conditions in Europe are the main reasons for the fall in the number of employees; the most important measures are described more precisely in the section that deals with economic developments (▶ p.7).

The Corporate Human Resources (CHR) department formulates the key points of its HR policy in line with the corporate strategy in close cooperation with senior management. CHR works out global guidelines, processes and projects that apply throughout the entire Zumtobel Group in areas such as further training, remuneration and employer branding, with the involvement of local HR business partners. When implementing strategic projects, particular attention is paid to integrating local know-how and training HR business partners.

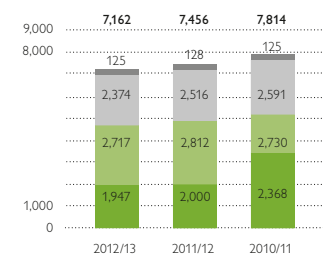
Challenges and strategy

The Zumtobel Group is countering the challenges brought by technological change with a sustainable, responsible HR policy. The qualifications of existing employees, recruiting fresh talent and training colleagues to tackle new markets are among the biggest challenges the Group faces. Besides personal and professional staff development, performance-related pay, full integration into internal networking and corporate values that are lived up to lay the foundation for long-term business success.

Through its HR work, the Zumtobel Group wants to keep on increasing the proportion of unsolicited job applications it receives because this is an indicator of how the company is perceived in the labour market. In German-speaking countries, this proportion was around 23% (PY: 17) in the period under review, measured in terms of all the applications submitted via the online tool.

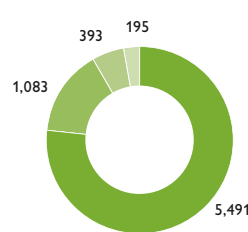
Headcount incl. contract workers (full-time equivalent)

Acc. to market



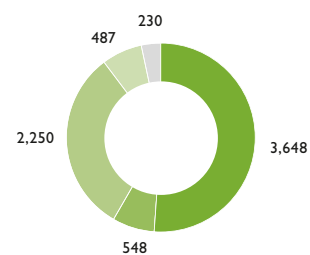
- Zumtobel AG
- Thorn
- Zumtobel
- Tridonic

Acc. to region



- Europe
- Asia
- Australia & New Zealand
- America

Acc. to activity



- Production/Manufacture
- Research and Development
- Sales
- Administration
- Other

Corporate Values

The Zumtobel Group can build on a strong corporate culture that has evolved over several decades. The Group's day-to-day actions are underpinned by the three core values Passion, Performance and Partnership, which are inextricably linked to its corporate strategy. Workshops were held worldwide to instil these values in the period under review. In organising these workshops, senior management was assisted by local HR business partners as well as "value ambassadors", employees who have been specially trained for this purpose. More than 80% of employees had attended these workshops by the end of the period under review (► [Magazine p. 37](#) and at www.zumtobelgroup.com/en/corporate_values.htm).

Employee development meeting

The employee development meeting is an important tool for improving cooperation between employees and their line managers. This structured meeting is used to develop a shared understanding of values, corporate strategy and objectives, compare each other's expectations and identify development potential systematically. Employee development measures are defined jointly in accordance with individuals' needs.

After reviewing the employee EDM process the previous year, implementation of the process began in the period under review. Preparatory training on this was provided for all senior management. Implementation is scheduled to be completed by the end of 2013/14 in order to pave the way for carrying out employee development meetings for all employees once a year. This process has now been roughly 60% implemented.

Information gleaned from employee development meetings is providing the information basis for an Employment Development Conference which was piloted for the Zumtobel brand in Europe in 2012. The aim is to identify areas where action is needed and problem areas, as well as to spot talent and position skills in a targeted manner. After the pilot project, this concept will be rolled out globally in the coming financial year.

Cooperation with universities and career fairs

Cooperation with educational establishments plays a vital role in the recruitment of up-and-coming junior employees. This also enables the company to benefit from two-way knowledge transfer. All the brands have been collaborating closely with schools, technical colleges and universities, especially in the fields of technical training, architecture and engineering, for many years. All the brands offer internships and help with thesis work in many locations. You can read about a few examples of cooperation with universities in the magazine (► [p. 17, p. 46](#)) and a summary of all our cooperative ventures can be found at (► [www](#)).

Vocational training and career entry

In-company vocational training is an important way of coping with shortages of skilled employees caused by demographic change. Especially in Germany and Austria, the Zumtobel Group provides training in a total of eleven technical and commercial professions (► <http://www.zumtobelgroup.com/en/careers.htm>).

The number of trainees throughout the entire Group rose from 158 in the previous year to 179 FTEs. Apprentices at the head office in Dornbirn are trained in a purpose-built training workshop. Once again this year we were able to take on 24 new apprentices. A dual course of study is offered at the Lemgo/Germany site: commercial training at the Hanse Vocational College is combined with a distance learning business management course. Interior designers and architects are also trained as lighting designers.

In the period under review, the Zumtobel brand organised a seminar for its business partners' young apprentices in Dornbirn for the first time ever.

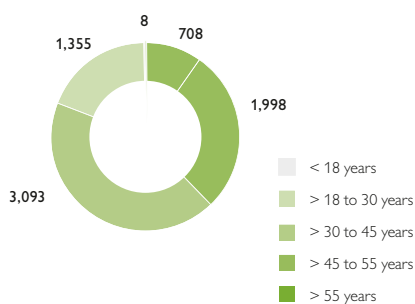
The Zumtobel Group offers an international graduate programme for university graduates. Two trainees joined the Marketing and Sales department and five trainees joined Operations in the 2012/13 financial year. There are plans to take on two trainees in Product Management in 2013/14.

Employee diversity

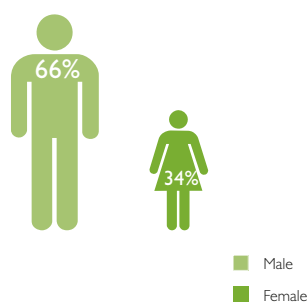
For this presentation, headcounts and full-time employees have been partly mixed. The data quality is being continually improved.

The data refer to worldwide employees of the Zumtobel Group.

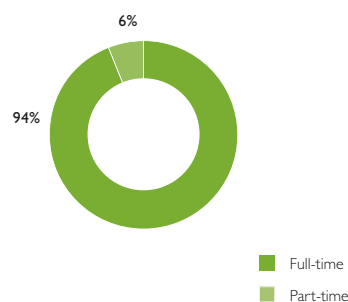
Age structure



Gender distribution



Part-time employment



Internal and external further training programmes

The Zumtobel Group promotes employee development for its staff all over the world. Building on the employee development meeting, the entire employee development process was further extended in the period under review, in particular with a view to strengthening employees' personal responsibility for further training and inculcating the fact that HR development is a key management task.

Besides external further training courses, employees also have the opportunity to attend an extensive range of internal training courses. In the specialised brand academies, course content includes brand-specific skills, primarily for sales and marketing staff, e.g. technologies, applications, customers' requirements, but also energy efficiency and sustainable lighting solutions (► [brand-specific chapters Zumtobel, Thorn, Tridonic, p.9](#)). All the brands provide a varied range of further training opportunities that are intended to ensure efficient processes and improve employees' technical skills (► [Quality: pp. 25–28](#)).

The Zumtobel Group selectively promotes junior staff who have outstanding abilities. The "Our Leaders Make the Difference" initiative, which underwent further development in 2012, is an integral induction process that places emphasis on values, an understanding of leadership and management tools. In the period under review, 74% (PY: 73) of all senior management positions were filled internally.

One focus of interest intended to ensure more sustainable further education is developing in-house communication skills to reinforce our "Learning from each other" corporate value (Partnership). Internal exchanges of know-how and experience were significantly widened through presence workshops as well as online training sessions in the 2012/13 financial year. A newly installed "Learning & know-how" page on the intranet provides valuable study content for all Group employees. The mentoring programme in Asia, which currently involves 20 pairs of mentors and mentees, is making knowledge transfer easier and helping to establish contacts and build networks. The Tridonic Academy ran several training workshops in the period under review in order to intensify the exchange of information between the brands, thereby improving collaboration within the Group.

Within the framework of corporate training, management, methodological and social skills are provided. In the period under review, staff members and executives completed a total of 490 training days (PY: 800). In addition, more than 500 training days for all executives were organised by local HR managers, with the support of Corporate HR. This resulted in significant improvements in terms of both content and coverage. The focus of this year's meeting of top 100 executives worldwide, which was held in April in Brand/Austria, was on the issues of leadership & cooperation and innovation & efficiency. During the two-day conference, the participants, assisted by external process tutors, prepared tangible

solutions. The methods applied promote a culture of cooperation and innovation and will be used as management tools beyond the scope of the conference.

The online training offering is constantly being expanded given the significant savings it yields in terms of time, travelling and costs and the larger number of potential participants. An extended induction process for career entrants will be implemented in the next financial year; this will make provision for longer and more intensive support for those joining the Group.

Dealing with temporary staff

The Zumtobel Group employs temporary staff to enable it to respond flexibly to fluctuations in orders. The Zumtobel Group generally strives to offer temporary staff the same conditions as its core workforce in terms of further training opportunities, allocation of work and voluntary fringe benefits among other things. The works agreement for the Dornbirn lighting factory is regarded as an exemplary model for all European plants. In principle, temporary staff should never represent more than 15% of the core workforce. After continuous employment for more than 18 months, there is provision for transfer to permanent employment status.

Human rights and labour standards

The Zumtobel Group's Code of Conduct stipulates that compliance with the core labour standards of the International Labour Organization (► [ILO: www.ilo.org](http://www.ilo.org)) is absolutely mandatory. In order to review compliance with these standards, an extensive enquiry involving the managers of all subsidiaries throughout the world, who must confirm this compliance, is conducted every year. Other areas covered by the enquiry include human rights, fringe benefits, the health and safety of employees and many other issues. Depending on the needs of local employees, many subsidiaries pay various voluntary fringe benefits, including allowances or company schemes for medical, accident or life insurance.

Equal opportunity and diversity

The Zumtobel Group does not tolerate discrimination in any form whatsoever. Accordingly, all personnel decisions are based on performance and qualifications. Around 34% of the Zumtobel Group's workforce is female; the Group does

not operate target quotas for appointing female employees to management positions. Basically, because of shortages of skilled employees, attracting qualified job applicants and recruiting the right skilled employees for particular positions are huge challenges. The proportion of management positions held by women is currently approximately 10.1%.

Achieving a good mix of all age groups and hence a balanced age structure in the organisation is a major concern for the company (► [diagram on p. 21](#)). This ensures that new employees benefit from the know-how of experienced old hands and that the latter are energised by the innovative impetus provided by fresh young talent.

The Zumtobel Group regards the advancement of female employees in technical professions as vital. Among other schemes, the company supported the Vorarlberg labour market service's "FiT-Frauen in Technik" (Women in Technology) initiative in the period under review. The annual "Girls' Day" in Dornbirn is now an established tradition. Electrical engineering training courses for women are being offered in Lemgo/Germany in 2013/14 as part of the government's "Network integration through qualification" project.

The Zumtobel Group attaches great importance to internationalism and interculturality, not least because of its global growth strategy. Short-term exchange programmes and longer-term foreign assignments offer employees attractive development opportunities. This is backed up by language courses and intercultural training sessions as well as various activities intended to facilitate the integration of international employees. At the company's headquarters in Dornbirn, this is accomplished through international, inter-company, informal round-table meetings or special events such as joint excursions among other activities. A Group-wide guideline for short-term and long-term foreign assignments ensures a coordinated and globally consistent remuneration structure for such assignments. A scheme for promoting short-term and long-term international exchange programmes was also adopted in the period under review.

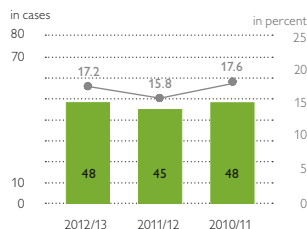
Remuneration

The Zumtobel Group operates on the basis of a uniform remuneration system that is designed to ensure high levels of transparency and performance-related pay. As a rule, company pay is in excess of statutory or collectively agreed rates. Internal and external salary comparisons are performed to make sure that wages and salaries are in line with market

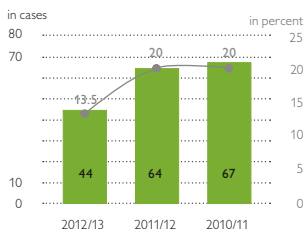
Injuries and absence

TRI (total recorded injuries: number of occupational accidents per million hours worked)

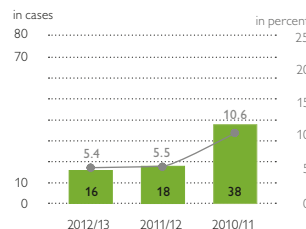
Zumtobel



Thorn



Tridonic



rates. The Zumtobel Group also pays wages that are above the legally stipulated minimum wage in countries where wage levels are lower.

The rules regarding variable pay for middle and senior management were modified in May 2012. Sliding variable pay scales over three years with tiers that are based on the extent to which targets for the respective year are fulfilled make sure that managers focus on sustainable decision-making. The key performance indicator is the absolute EBIT (► [www.Glossary](#)), which is compared with the results of similarly structured companies (peer group).

Pay is basically classified by systematic grading; this ensures that remuneration is in line with technical qualifications and is also fair and appropriate. This also excludes the possibility of any gender-specific unfairness. In the period under review, implementation of this grading system was completed at Zumtobel and Thorn in Austria. Roll-out of the grading system throughout the Group will be completed by 2020.

Balancing career and family

The Zumtobel Group offers its employees as much support as possible to balance their career and family life. The company supports part-time working and working from home for instance. In the period under review, the proportion of part-time employees was 6% of the total FTEs. The company actively supports the reintegration of fathers and mothers who return to work after maternity and parental leave. The proportion of employees who return to work in the company after parental leave was surveyed in Germany, Austria and Switzerland for the first time and is approximately 75%. These figures can, however, only be measured and compared to a limited extent due to the different statutory provisions in the various countries. There will be another survey, starting with

the period under review, which should reveal any year-on-year trend.

The Zumtobel Group supports the inter-company childcare project at the Dornbirn Campus as a cooperation partner. All employees at the Dornbirn site and other cooperation partners will – depending on the availability of places – be able to make use of this facility from September 2013 onwards. Tridonic Ennenda supports its local kindergarten by making an annual contribution. The Tridonic plant in Dornbirn has been cooperating with a nearby public kindergarten for many years now.

Integration of individuals with disabilities

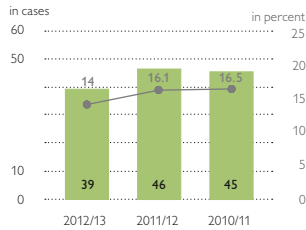
The Zumtobel Group wants to make a contribution towards integrating handicapped youths and promoting the gainful employment of handicapped adults. The best possible assistance is provided to employees with physical impairments in individual companies of the Zumtobel Group. Where we are not able to achieve the legal quota for disabled employees at a specific facility, the Zumtobel Group pays the stipulated compensation. In the period under review this amounted to €135,425 in total. These payments are made in Austria, Germany, France and China. In the largest plant, the Zumtobel luminaire plant in Dornbirn, 31 handicapped people are employed. Here we were able to achieve the quota; accordingly, only €336 had to be paid.

There has been a career support scheme for young people with disabilities at Zumtobel's Dornbirn plant since 1989. Twenty-four out of the 78 young people who have been trained since this initiative started have been given a permanent employment contract. Eight young people are currently employed under this scheme. In the period under review Zumtobel spent €113,000 on this scheme. At its

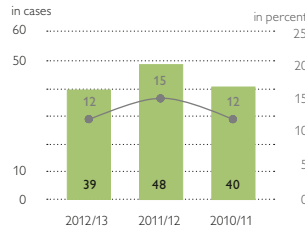
Injuries and absence

LTI (lost time injuries: number of occupational accidents involving lost working time per million hours worked)

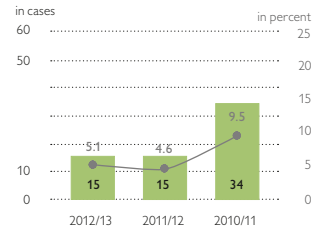
Zumtobel



Thorn



Tridonic



Spennymoor/UK site, Thorn is working with the disability charity Scope. Scope provides financial assistance to encourage the employment of people with disabilities. Some plants have supplier relationships with various sheltered workshops; these include plants in Spennymoor/UK, Lemgo/Germany, Ennenda/Switzerland and Wetherill Park/Australia ([Further examples of the Zumtobel Group's social engagement can be found in the Magazine](#)).

injuries are those caused by cuts. In the medium term, the Zumtobel Group is aiming to reduce the TRI rate to 10. The LTI rate ([www.Glossary](#)) is also measured in order to differentiate industrial accidents according to severity. Current values ([LTI and TRI tables](#)).

Occupational safety

Preventing accidents, and safety in the workplace, are important aspects of a company's responsibility. All the brands observe specific environmental, health and safety guidelines that are monitored by local safety officers. The occupational health and safety management systems of the Tridonic plants in Dornbirn and Innsbruck have achieved certification in accordance with the internationally recognised OHSAS 18001 Standard ([www.Glossary](#)). Measures are being taken and investments are being made on an ongoing basis in order to improve occupational safety, e.g. employee training, improvements in protective clothing, upgrading of installed machinery and safety audits. TRI rates ([www.Glossary](#)) are surveyed every month in all plants. All incidents, regardless of their effects, are included in the calculations. The most frequent

Promoting health in the workplace

Preventive health protection is not only a social obligation, it is also an expression of a responsible corporate culture. All the brands in the Zumtobel Group offer their employees various preventive healthcare and counselling services. The Zumtobel Group also encourages its employees to indulge in sporting activities by providing a varied range of opportunities to play sports. Several examples ([Magazine p. 35](#)).

The company also takes the health of its employees into account when equipping workplaces. For example, when planning the workstations on its new soldering machines, Tridonic Dornbirn concentrated on their ergonomic design. Electrically height-adjustable benches, special foot mats that reduce fatigue when standing for long periods, modern seating and lifting stations at removal workstations make employees' movements easier.

Strategic target	Measures		Company	Date	Status
Welcome and integrate new employees	Further improve the induction process		Group-wide	2013/14	Ongoing
Individual employee development	Roll-out employee development meetings	60% implementation	Group-wide	2012/13	Achieved
		80% implementation	Group-wide	2013/14	Ongoing
		100% implementation	Group-wide	2014/15	Ongoing
Creating a safe working environment	Reducing accident frequency (measured in TRI)	to 10	Group-wide	2014/15	Ongoing

Quality management

Quality and Safety

The Zumtobel Group is committed to the superlative levels of quality. Quality means much more than just defect-free manufacturing, it also means uniform processing and service quality across all divisions of the company worldwide. The Group aspires to supply customers with the products they want, fulfilling the functions they require at the right time, plus all requisite services. The Zumtobel Group has equally high expectations when it comes to its suppliers' quality.

As part of their continuous improvement efforts, all the brands strive to eliminate redundant processes, reduce waste and rejects due to manufacturing defects and avoid unnecessary transport, thus using resources sparingly. This minimises external and internal costs as well as environmental impacts.

The brands employ a wide variety of methods and inspection measures in order to constantly improve process quality and, hence, product quality as well. Great emphasis is placed on Total Quality Management (► [TQM: www.Glossary](#)) and Lean Six Sigma (► [LSS: www.Glossary](#)). TQM uses various tools to establish a quality culture among all employees in every workplace. Lean Six Sigma is designed to eliminate sources of defects and minimise activities that do not create value. The quality-relevant performance indicators and objectives that are used for internal control purposes are not published.

Because the quality of a product is basically defined by the customers' requirements and the way in which they perceive the product, the Zumtobel Group sees complaints as an opportunity to enhance product quality. Smooth-running complaint management procedures ensure that any faulty luminaires delivered are quickly remedied. Subsequent defect analysis helps avoid future defects and improve quality as well. The Zumtobel and Thorn brands offer their customers a five-year manufacturer's guarantee in addition to the legally stipulated warranty period. Apart from the two small plants in the USA and New Zealand, all the Zumtobel Group's manufacturing plants throughout the world operate quality management systems that have achieved certification in accordance with International Standard ISO 9001 (► [www.Glossary](#)). The Zumtobel brand's sales organisations in Austria, Germany,

Switzerland, Italy and Benelux, Thorn Sales in Sweden and Tridonic Sales in Germany have all achieved this certification.

Zumtobel Group Operations Council

In the period under review, the Zumtobel Group Quality Council and the Production Council were merged to form a new joint "Zumtobel Group Operations Council" to facilitate the coordination of key issues such as plant planning, investments, production technologies, quality, in-process environmental protection and sustainability across the entire Group (► [www.Quality](#)).

Standards and regulations

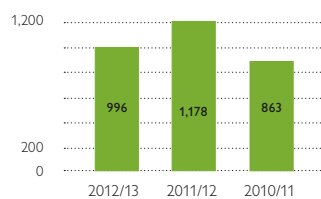
The Zumtobel Group guarantees that all its products meet all applicable standards and regulations. This applies in particular to regulations regarding lighting quality and energy efficiency and to mandatory marking requirements. Applicable legal regulations include, among others, CE marking (conformity with EU Directives, ► [www.Glossary](#)) and WEEE marking (Directive regulating the disposal of Waste Electronic and Electrical Equipment), REACH (EU Regulation on chemicals, ► [www.Glossary](#)) and RoHS (EU Directive on the restriction of hazardous substances in electrical and electronic equipment, ► [www.Glossary](#)).

Preparations to implement material compliance software throughout the Group were carried out in the period under review; this software helps ensure that suppliers' compliance with standards and regulations is reviewed and documented. This software enables suppliers to load material declarations straight into the documentation system. This implementation project will shortly be completed at Tridonic.

The Zumtobel and Thorn brands also take European standards for indoor lighting (lighting of workplaces, emergency lighting, sports facility lighting) and outdoor lighting into account when developing their products. In addition, consumption values for lighting systems are based on the Energy Performance of Buildings Directive (► [EPBD: www.Glossary](#)). Both brands are able to use the ENEC Mark for more than

90% of their products ([▶ www, Glossary](#)). The same applies to around 90% of Tridonic's lighting components and electronic control gear. Rather than set up its own collection points, the Zumtobel Group makes use of the facility to use communal and other collection points on a paid-for basis. This gives customers an easy way of returning their WEEE-labelled products to public collection points.

Return fees in acc. with WEEE
Zumtobel and Thorn (Europe, thous. EUR)



Tridonic is subject to the WEEE Directive only in respect of prohibited substances. The products of Tridonic are regarded as components for which no disposal fees require to be remitted to the collection and recovery organisations.

Quality at Zumtobel

In the period under review, implementation of the new quality concept continued in manufacturing areas as planned by the Zumtobel brand. The project covers production, but also complaint and supplier management, as well as new product development. Almost 90% of production cells at the Dornbirn, Lemgo and Usingen sites are already working to the new quality standards. Minor changes had to be made to the concept to cater for pre-production requirements. Preparations for roll-out started in the Highland/USA lighting plant, with staff training among other activities. The quality concept is set to be implemented in all production areas in 2013/14.

Preparations for a quality programme for new product development began in the 2012/13 financial year; this programme is expected to be launched in the next financial year as 12 sub-projects prior to full-scale roll-out in 2015/16. Quality Engineering and Lean Six Sigma (QUELSS) meetings attended by quality managers from the Dornbirn, Lemgo and Usingen plants take place quarterly. Topics in 2012/13 included the continuous improvement process and fault coding. A comprehensive quality report is also produced annually; this document is used as a basis for discussing potential improve-

ments and measures with all relevant management staff and the Board.

Particular attention was paid to ESD management in the period under review. Because damage to electronic components caused by electrostatic discharge (ESD) can be particularly harmful in LED production, the challenge is to protect critical production areas in order to avoid premature failures of shipped luminaires and system components. A comprehensive ESD concept was devised together with the LED module development department and training was organised in order to achieve this. The concept has already been extensively implemented in the factories with newly appointed ESD coordinators. Zumtobel has set itself the goal of cutting the complaint processing time from 27 to 20 days in 2013/14 in order to boost customer satisfaction and improve the customer complaint process.

These ambitious quality targets also apply to administrative and service areas, not just to manufacturing-related departments. A Lean Administration Model was worked out in order to optimise business processes in the period under review, for instance. The first training workshop was successfully completed and work is currently in progress on the first pilot projects. Lean Administration is to be introduced at Zumtobel on a wider scale in the 2014/15 financial year, thereby improving the efficiency and quality of administrative processes as well. Process descriptions and instructions for the existing management system are to be transferred completely to the new process map on the intranet in the 2013/14 financial year.

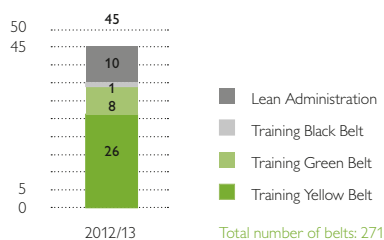
The Zumtobel brand carried out stricter supplier audits ([▶ www, Glossary](#)) in the period under review in order to review and safeguard high quality standards. In particular, quality assurance agreements were also concluded with critical suppliers ([▶ Suppliers: p. 40](#)).

In the 2012/13 financial year there will be more training activities for production employees such as Belt training courses or "skilled production worker" training, which focuses heavily on quality-relevant issues in order to improve technical skills. The number of employees who have completed Belt training courses is expected to remain at the same level next year. Twelve chargehands are to be given further training, in electrical engineering at Dornbirn in 2013/14 and the number of employees who have successfully completed "Inspector training" is expected to grow by 25. In the period under review, 145 employees completed their "skilled production worker" training in Dornbirn, this training will be extended

to cover all production employees in the core workforce at Dornbirn by 2015/16.

Completed Lean Six Sigma belts

Zumtobel certifications



Quality at Thorn

Implementation of Total Quality Management (TQM) to improve processes continued at Thorn in the period under review. This included advanced product quality planning, including a Design for Six Sigma (DfSS) project ([www.Glossary](#)) and an initiative for improving supplier quality, which was introduced in Europe in the period under review. The DfSS project was rolled out for new product development in the period under review. A TQ Kaizen programme ([www.Glossary](#)) was launched in Asia, Australia and New Zealand by way of further process steps and the project to achieve optimal customer satisfaction was rolled out to sales organisations in Australia and New Zealand.

The TQM and LSS teams in Europe meet every month in order to ensure continuous improvement and exchange information about tried-and-tested methods.

A complaint management handling system at Thorn is used to measure and monitor technical, logistic and wholesaler complaints throughout Europe. In the period under review, the complaint processing time was further reduced, thus improving service levels. The goal is to reduce the average complaint processing time from the present eleven to five working days by 2015/16.

A further step towards achieving optimal customer satisfaction was made in the period under review by implementing a systematic callback system. In addition, LSS Green Belt projects to decrease the number of commercial complaints and reduce defective parts were carried out.

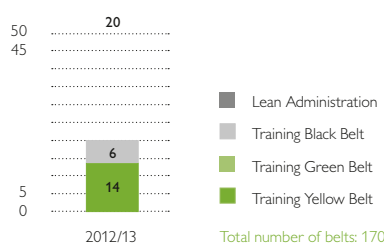
Because control gear has a significant impact on the quality of products, a joint Thorn and Tridonic initiative to encourage the exchange of know-how and improve troubleshooting and defect analysis was begun in 2012. During the first six months of collaboration, control gear faults were already reduced by 15%.

As scheduled, Thorn began implementing the global quality management system for the intranet as a shared work platform for all employees involved in the period under review. Thanks to the online tool, including Audit plan and Dashboard, conformity, usability and continuous improvements are to be ensured, exchange of information across all sites and brands improved, and awareness of quality-relevant performance indicators and efficient processes increased. This online platform has been set up both for Thorn and for Zumtobel.

Belt training courses for employees were held as scheduled as part of the Lean Six Sigma development plan to improve technical skills. The current figure of 70 trained Green Belt employees is expected to rise to 94 by 2015/16. The number of Back Belt training courses is set to rise from the current figure of 14 to 38 employees by the end of 2015/16. Moreover, manufacturing staff members at the Spennymoor plant were trained in "Performance Manufacturing Operations".

Completed Lean Six Sigma belts

Thorn certifications



Quality at Tridonic

Cost of Poor Quality ([CopQ: www.Glossary](#)) is used by Tridonic as a source of improvement projects as part of the LSS programme. Since the start of the period under review, all aspects of COPQ have been fully rolled out, thus making it possible, in 2012/13, to slash the internal costs incurred by electronics sites as a result of quality deficiencies or general faults by more than 35% compared with the previous year.

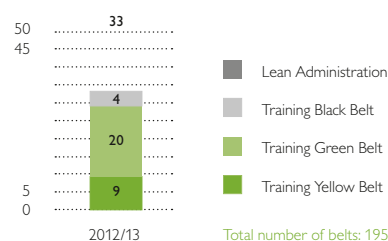
In September 2012, the globally valid Master Management System for standardisation of processes was applied to the Document Management System using SharePoint. Subsequently, the local management systems of the Dornbirn Controls & Systems, Innsbruck and Jennersdorf sites were also integrated into the new system. In the coming financial year, the Ennenda and Spennymoor sites will follow.

For products manufactured by Tridonic, a batch tracking system using SAP was implemented at the Dornbirn, Fürstenfeld, Jennersdorf, Spennymoor, Shenzhen sites and in the Lauterach and Singapore HUBs ([www, Glossary](#)) in the period under review in order to further improve customer satisfaction. In the coming year, this system is scheduled to be extended to commercial goods and will be rolled out to the Basingstoke/UK, Turkey, Dubai and Shanghai sites as well. For the Dubai/Turkey/Shanghai sites, an EDI link ([www, Glossary](#)) to external logistics service providers is going to be implemented as part of the Batchtrace project. During the course of the project, necessary process optimisations will also be made in the areas of re-packaging and labelling.

LSS Belt training activities took place only to a limited extent in the period under review because sufficient employees have already been trained. In the coming financial year, the number of certified Green Belts is expected to rise to 90, while the number of Black Belts (7) will remain the same. Exchanges of information between the brands are being encouraged in order to achieve continuous improvements. Tridonic, for instance, regularly swaps information with Zumtobel's new product development in Lemgo and Thorn quality managers.

Completed Lean Six Sigma belts

Tridonic certifications



Strategic target	Measures	Company	Date	Status
Ensure compliance with standards and directives	Start implementation of new material compliance software	Group-wide	2012/13	Achieved
Ensure customer satisfaction	Roll out SAP batch tracing system for finished goods	Tridonic	2013/14	Ongoing
	Reduce complaint processing time from 27 to 20 workdays	Zumtobel	2013/14	Ongoing
	Reduce complaint processing time to < 5 workdays	Thorn	2015/16	Ongoing
Increase employees' professional know-how (LSS)	Increase the number of certified LSS Green Belts to 82 and of LSS Black Belts to 26	Thorn	2013/14	Ongoing
	Increase the number of certified LSS Green Belts to 90 and keep current number of certified LSS Black Belts (7)	Tridonic	2013/14	Ongoing
	Keep current number of certified LSS Green Belts and keep current number of certified LSS Black Belts (26)	Zumtobel	2013/14	Ongoing

Research & Development

Thanks to the development and use of new technologies, Research & Development (R&D) is a decisive success factor for the Zumtobel Group's global growth strategy. The key areas on which R&D activities focus are derived from lighting's "functional change": light source, optic, control gear and lighting control system. Crucial subjects include: LEDs and OLEDs in the case of light sources, new optical concepts for directing light in the case of LEDs, new control gear for operating LEDs and OLEDs, and fresh approaches to the management of lighting installations. These key areas of research create possible ways in which the company can differentiate itself from competitors in terms of lighting quality, energy efficiency, additional benefits and intelligence. Within the Zumtobel Group, R&D therefore adds sustainability to the innovation process.

Total expenditure on R&D, including capitalised development costs, rose from €69.8 million to €85.2 million in the period under review. This is equivalent to R&D expenditure, as a proportion of total revenues, of 6.9% (PY: 5.4). The costs (€7.2 million) of the Product Support and Special Luminaires departments were restructured and assigned, in accordance with the costs-by-cause principle, to the Development department in the last financial year so as to make the way that accounts are presented more meaningful.

According to work carried out by consultancy firm Booz & Company in October 2012, the Zumtobel Group's (absolute) expenditure on Research & Development was the third-highest in Austria.

Employees and organisation

After a clear reduction in staffing levels in previous years, the headcount in the R&D department rose to 548 employees in the 2012/2013 financial year (PY: 512). This is, however, mainly explained by changes in the way that staff are assigned. Twenty-nine employees from Product Support and Special Luminaires were counted as R&D staff in the 2012/13 financial year. Tridonic had to reduce its indirect costs due to lower sales for conventional ballasts. In this context, around 30 employees in the R&D department lost their jobs but this will not show up until the figures for the 2013/14 financial year are released. The individual brands are responsible for their own product development because closeness to product management and production makes an important contribution to ever more rapid development processes. In contrast, coordinating tasks such as promoting research and committee work, standardisation and further development of tools such as CAD and simulation programs and filing, administering and defending industrial property rights are taken care of at Group level.

Technological change

The R&D department continues, as in previous years, to be heavily impacted by LED technology; conventional technology is becoming less important.

R & D expenditure			
<i>in EUR millions</i>	2012/13	2011/12	2010/11
R&D expenditure through P&L	69.1	58.7	48.6
Capitalised R&D	16.1	11.1	14.1
Total R&D	85.2	69.8	62.7
R&D as % of revenues	6.9	5.4	5.1
R&D headcount (FTE)	548	512	450

One of the greatest challenges in this respect is short life cycles, which demand fast and increasingly rapid development processes and sharply increased R&D expenditure. Development work must take into account the ongoing development of LEDs in design terms, including a shift from LED to OLED technology. This is accompanied by the need for greater systems skills, more exacting quality requirements and ever fiercer competition.

Besides selectively promoting and steering employees' qualifications in the direction of electronics and systems skills, we can rise to these challenges by having a modular product portfolio, by using technical platforms and by internal and external standardisation (see Zhaga). In future, development partnerships are set to assume even greater importance. Long-term strategic partnerships with suppliers, research institutes and industrial partners such as the Lighting Competence Centre (► [www.Glossary](#)), LG Innotek and Schneider Electric (► [Magazine p. 22](#)) are already making a valuable contribution in this respect.

In addition, our R&D organisation needs to be further developed across European boundaries. For instance, Thorn needs to establish an R&D network with China and Zumtobel must improve its collaboration with the USA. The objective is to ensure knowledge transfer in the field of new technologies, to use the same tools and to create standardised processes that take into account the shift towards global products for global markets.

Innovations

An extensive range of patents in the field of new technologies protects the Zumtobel Group's brands' growth, competitive edge and access to strategic cooperation with other companies.

In the period under review, the Lighting Segment filed 108 patents (PY: 81) and the Components Segment filed 80 patents (PY: 91). According to the Austrian Patent Office, the Zumtobel Group therefore ranks fourth in terms of the number of patents filed in Austria in 2012. In addition, the proportion of revenues accounted for by new products (not older than three years) is increasing year on year. In the 2012/13 financial year, new products accounted for 33.1% of Zumtobel's, 16.9% of Thorn's and 46% of Tridonic's revenues (worldwide; PY: 36.0).

The number of active industrial property rights, currently around 6,700 – including 4,100 patents – and the proportion

of total revenues accounted for by new products speak volumes about the company's innovative energy.

Reducing environmental impact

Product managers and R&D set out decisive prerequisites for producing a product that saves resources early on in the product development process. All the products that we develop must ensure good lighting comfort but also have very little impact on the environment.

Reducing energy consumption, miniaturising products, and hence cutting the use of resources, but also technologies such as compensating for decreases in luminous flux over the service life of a lamp all make a decisive contribution towards resource-efficiency.

The Zumtobel Group was the first company in the lighting industry to supply Environmental Product Declarations (EPDs) in conformity with ISO 14025 and EN 15804 for all its new products. These declarations systematically document all the environmental impacts of a product over its entire life cycle. The production of EPDs has been formally built into the development and launch process and was audited and successfully re-verified by a member of the committee of independent experts of the Institute of Construction and Environment (IBU) (► [www.Glossary](#)).

EPDs make it possible to answer customers' questions about product-related environmental data that is needed, for instance, as part of Green Building certification. This data also makes it possible to fill in online product platforms for sustainable building. The DGNB Navigator in Germany, Sundahus in Sweden and the The Future Build in Dubai are examples of this.

In the period under review, the Zumtobel brand developed an easy-to-use tool, the Environmental Monitor, for assessing the environmental compatibility of materials and design alternatives. This will be integrated into the development process in the 2013/14 financial year. It is intended to enable developers to take into account ecological aspects when selecting materials at the earliest possible stage in the development process. The quantitative basis of the tool is Life Cycle Assessment data – this is consistent with the data basis used when preparing environmental product declarations. The Material Finder was developed in close liaison with the Federal Materials Testing and Research Institute, which acted as a critical, independent expert.

Thorn, Tridonic and Zumtobel use the “Design for Six Sigma” and “Voice of the customer” tools (► [www.Glossary](#)) to collect and evaluate customers’ requirements so that they can be taken into account during the design phase of new products. During the development process, the Zumtobel brand also systematically checks that their products fulfil eco+ criteria (► [Zumtobel, p. 11](#)).

Research cooperation and research projects

Cooperative research supplements our own research work and gives innovation a push. The research projects which the Zumtobel Group’s brands are constantly conducting with their partners deal primarily with the effects of light on people and the environment in various applications besides dealing with the development of new technical solutions.

Such partners include universities, which play a crucial role in selectively promoting young talent. Examples include Ilmenau University of Technology (TH)/Germany, Berlin University of Technology (TU)/Germany, Hamburg University of Applied

Sciences (HAW)/Germany, the Universities of Technology in Graz/Austria and Lund/Sweden, the Swiss Federal Institute of Technology (ETH) in Zurich/Switzerland and Durham University/UK. The Fraunhofer Institute for Manufacturing Engineering in Aachen/Germany is another important Zumtobel Group network partner.

Zhaga Initiative

Huge numbers of different LED module designs continue to be developed at a fast pace since there are still no recognised standards available. This is why more than 180 companies in the lighting sector are already supporting the Zhaga initiative, which aims to standardise LED light sources. Internationally standardised specifications defining details such as voltage, dimensions or thermal characteristics will enable customers to use modules made by different manufacturers in their luminaires in future. The Zumtobel Group, especially Tridonic, is part of this consortium and is involved in several working groups.

Strategic target	Measures	Company	Date	Status
A sustainable, energy-efficient product range	Introduction of Environmental Product Declarations (EPDs) for all new products	Group-wide	2012/13	Achieved

Production and the supply chain

In-process environmental protection

The Zumtobel Group sets great store by environmental protection. Environmental protection is a paramount concern, not only with regard to developing energy-efficient products, but also in relation to environmentally friendly manufacturing. This includes dealing with resources prudently and efficiently, and avoiding and preventing emissions and waste throughout the entire life cycle of each product (► [Figure p. 10](#)). Since the beginning of the 2013/14 financial year, when making decisions on the fittings of manufacturing buildings and investing in plant and equipment, the decision-making process has systematically taken ecological factors into account.

Environmental management

The Zumtobel Group's environmental management is built on three pillars: consistent compliance with both internal and external guidelines, certified environmental management systems in accordance with the ISO 14001 Standard (► [www.Glossary](#)) and the use of Lean Six Sigma methods (► [www.Glossary](#)). A coordination centre that operates at a global level is responsible for organising environmental management; it ratifies guidelines and lays down structures for measures intended to continuously improve the company's environmental performance. In order to respond effectively to local requirements, operational responsibility lies with the environmental officer of the plant in question. In agreement with management, this officer sets out individual key issues and objectives and is responsible for the implementation of measures.

The concept of environmental protection is enshrined in Zumtobel's and Thorn's Code of Conduct, environmental protection, health & safety and quality guidelines and in Tridonic's company policy.

In order to continuously boost environmental protection performance, identified potential improvements are consolidated into schemes at every plant location and worked through in a structured manner (► [various examples in the Magazine](#)). Identified potential improvements that are very environmen-

tally relevant are dealt with by the Zumtobel Group Operations Council (► [p. 25](#)).

Following the certification of Thorn's Guangzhou/China site, seven out of Zumtobel's and Thorn's twelve manufacturing plants and all Tridonic's electronics plants as well as Tridonic's connection technology site in Innsbruck have now achieved certification in accordance with ISO 14001. Zumtobel and Thorn are currently preparing for the certification of other sites outside Europe. These are scheduled for 2013/14. Zumtobel's and Tridonic's plants in Dornbirn were awarded the "ÖKOPROFIT®" operational certificate in 2013 for the 16th time in recognition of the way in which they actively protect the environment.

Training

In addition, there are training courses to make employees aware of the importance of environmental protection. As part of the induction plan, for instance, specific training is provided on environmental topics for new employees.

Employees in all European plants are trained in various areas of responsibility as appropriate; these include subjects such as avoiding waste, the segregation of waste, and selecting and procuring environmentally sustainable materials. Annual information events that deal with amendments to environmentally relevant legislation are also held in the Zumtobel and Thorn brands' six European manufacturing plants. Belt training courses for all the brands' production workers, which are organised as part of the Lean Six Sigma development plan (► [Quality: p. 28](#)), also help improve the plants' environmental performance.

Materials

One of the Zumtobel Group's objectives is to minimise expenditure on materials – and not just because of rising raw material prices. Manufacturing as resource-efficiently as possi-

ble without compromising high quality is an overriding concern that reflects the company's determination to act in an ecologically responsible manner. A list of the essential materials used to manufacture products is available on the Internet. Potential savings to reduce material consumption are identified as part of the Lean Six Sigma methodology ([www.Glossary](#)), and appropriate initiatives are developed. The company suggestion scheme also comes up with valuable ideas on ways of reducing the consumption of materials and energy. All materials used are selected in line with stringent quality criteria. The Zumtobel brand takes ecological factors into account early on in the development process thanks to methods and tools such as Design for Six Sigma and the new Material Finder, and also by giving consideration to eco+ criteria. Environmental Product Declarations supply information about the materials used during manufacture, among other details ([R&D: p. 38](#)).

The Zumtobel brand put material flow management projects into action across all processes in Lemgo and Dornbirn. The overarching objective is to boost resource and material efficiency and to create sustainable cycles. Improvement measures that are fit for purpose are underpinned by greater process transparency thanks to material flow analyses, both in production and in administrative departments. Analyses in Dornbirn revealed considerable scope for savings, especially in the case of the three main material flows (aluminium, steel and plastics). There are plans to tap into approximately 25% of these potential savings by the end of the 2013/14 financial year. The material flow management method also provides the basis for establishing an energy management system in accordance with ISO 50001 ([Magazine p. 25](#)).

The Zumtobel Group uses products, transport and re-packaging that are as environmentally sustainable as possible, prefers cardboard made from waste paper and, wherever possible, replaces polystyrene foam with environmentally friendly

materials. The Zumtobel Group's print media in Europe bear the PEFC certificate ([www.Glossary](#)), which guarantees that paper products are sourced from sustainably managed forests.

Hazardous substances and regulations

Another important aspect of environmental protection is the correct handling of hazardous and other critical substances. The Zumtobel Group strictly observes all applicable national and international legal regulations. Material Compliance software ensures that suppliers' compliance with standards and regulations is monitored ([p. 40](#)).

Only those products that definitely contain no prohibited materials or contain them only within the permissible limits, or for the use of which a statutory exemption applies, are released. There is, for instance, such a regulation on mercury, which is found in minimal amounts in fluorescent lamps. These lamps are, however, increasingly being replaced by LEDs. The harmful nickel cadmium in batteries for emergency lighting is, wherever possible, being replaced by nickel-metal hydride batteries in all latest-generation products in accordance with EU Directive 2006/66/EC. There continue, however, to be exemptions due to the inherent thermal constraints of battery technology. As cables that contain PVC may release toxic substances in the event of fire, the Zumtobel brand uses PVC-free cables for its wiring.

Energy consumption

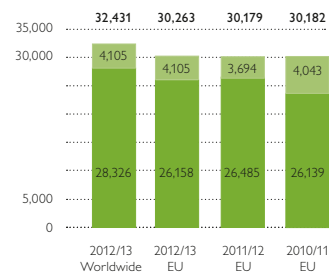
Zumtobel's total energy consumption in the period under review was 49,886 MWh (PY: 45,451). In the period under review, Thorn's consumption of direct and indirect energy

Direct energy consumption (MWh)

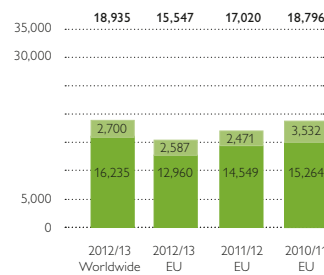


Indirect energy consumption (MWh)

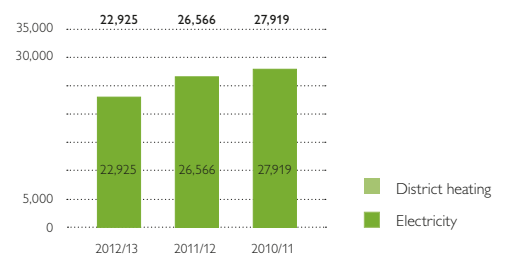
Zumtobel



Thorn



Tridonic



was 34,574 MWh (PY: 28,527). Widening of the scope of consolidation explains the increases in the case of both brands. This was the first time that Thorn's sites in Auckland/New Zealand, Wetherill/Australia, Guangzhou and Tianjin/China and Zumtobel's sites in Fair Lawn and Highland/USA had been taken into account. The energy consumed for each 1,000 luminaires manufactured by Zumtobel was 7.54 MWh (PY: 6.58) and 4.71 MWh in the case of Thorn. The significant improvement compared with the previous year (8.98) results from taking into account the non-European sites as well. Tridonic's total energy consumption fell by 13.8% to 29,221 MWh. This is due to implementation of energy-saving measures at individual sites and lower utilisation of production capacity. The energy consumed for each 1,000 manufactured units was reduced to 0.52 MWh (PY: 0.58).

Although the lighting industry is not energy-intensive compared with other sectors, the objective of all the brands is to continuously reduce their energy consumption relative to the quantities of goods they produce. To ensure better control, energy reporting was rolled out to all manufacturing plants in the case of Zumtobel and Thorn in the period under review as planned. It is not currently possible to state more concrete savings targets because energy consumption is significantly influenced by

the product mix (which is highly variable in project business) and by weather conditions (especially heating in winter).

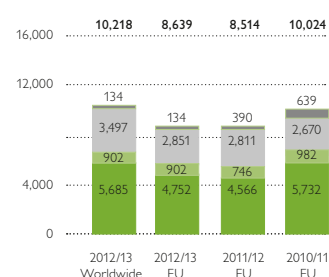
Tridonic began implementing the ISO 50001 (www.Glossary) Energy efficiency standard at its head office in Dornbirn in the 2012/13 financial year. Certification is scheduled for 2013/14 ([Magazine p. 25](#)). Five other plants are to be certified in the long term. Following on from evaluation projects at Zumtobel and Thorn, Zumtobel plans to obtain preliminary certification according to ISO 50001 in Dornbirn in 2013/14.

Emissions

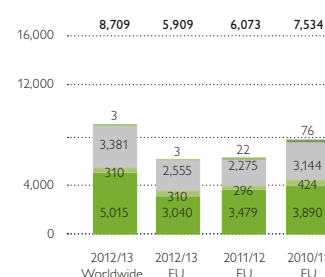
The lighting industry is a relatively clean industry in terms of its greenhouse gas emissions. Nevertheless, the Zumtobel Group aims to keep emissions as low as possible. The Zumtobel Group's environmentally relevant emissions include carbon dioxide (CO₂), dust and noise. The Zumtobel Group complies with all EU Directives and location-specific limit values. Emissions of volatile organic compounds due to the use of solvents and ozone-depleting substances from the operation of refrigeration equipment are virtually negligible owing to the low volumes involved and are not recorded.

Direct and indirect greenhouse gas emissions (t CO₂)

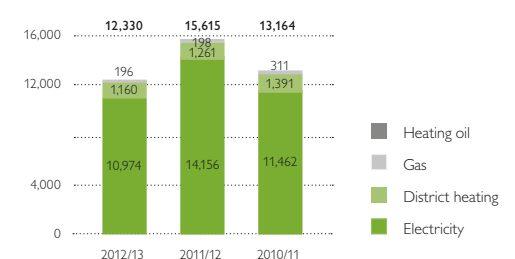
Zumtobel



Thorn

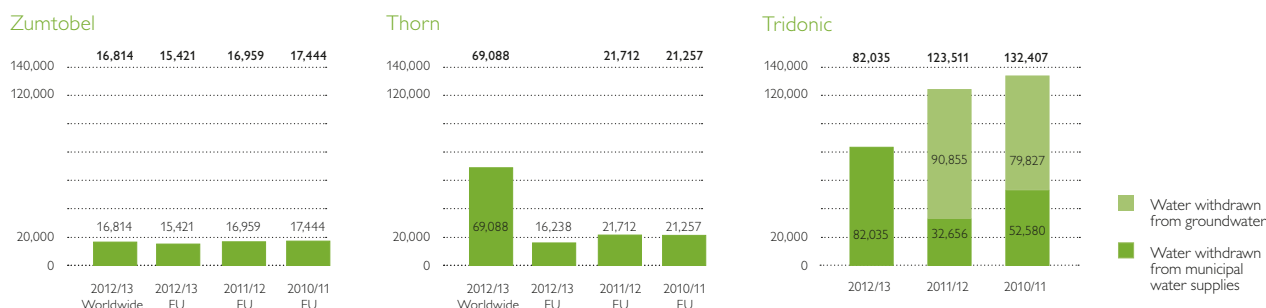


Tridonic



Water consumption/ Total wastewater discharge (m³)

Water consumption volume corresponds to the total volume of wastewater discharge.



Zumtobel and Thorn minimise the use of varnishes containing solvents as far as possible and replace ozone-damaging coolants wherever possible.

CO₂ emissions

The CO₂ emissions determined for both segments are made up of "direct emissions" produced by consuming fuel oil and gas, and "indirect emissions" produced by consuming district heating and electricity.

Zumtobel's total CO₂ emissions due to manufacturing were 10,218 tonnes in the period under review (PY: 8,514) and Thorn's emissions rose to 8,709 tonnes (PY: 6,072). As with the higher energy consumption figures, this can be explained by the widened scope of consolidation. In the case of Tridonic, CO₂ emissions shrank 21% to 2,330 tonnes of CO₂; this is attributable to lower energy consumption. CO₂ emissions for each 1,000 manufactured luminaires fell to 0.22 tonnes (PY: 0.27). In the case of Zumtobel, CO₂ emissions for every 1,000 manufactured luminaires grew to 1.54 tonnes (PY: 1.23) and in the case of Thorn there was a significant drop in emissions to 1.19 tonnes of CO₂ (PY: 1.91).

The CO₂ emissions produced by transporting products was recorded for the first time in this financial year (► [Transport and logistics, pp. 37–38](#)). This will add "Other indirect emissions" due to transportation of goods to the previously determined CO₂ emissions and will bring us more in line with the requirements for working out a carbon footprint (► [Carbon Footprint: www.Glossary](#)) in accordance with the Greenhouse Gas Protocol (► [www.Glossary](#)). Data is available for the period under review. This information will be updated monthly in the 2013/14 financial year and will be published in the next Sustainability Report.

Water

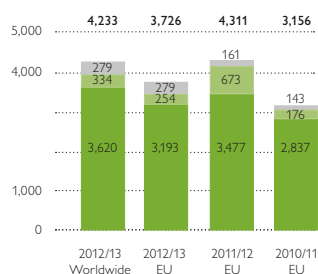
Although water consumption is not a crucial aspect of the Zumtobel Group's environmental impact, this precious resource is used as responsibly and sparingly as possible. Despite the scope of consolidation having been widened, Zumtobel's water consumption remained at the previous year's level – 16,814 m³ (PY: 16,959). The water consumed for each 1,000 manufactured luminaires was 2.54 m³ (PY: 2.46). In the case of Thorn, there was a significant increase in water consumption to 69,088 m³ in the period under review (PY: 21,712). The water consumed for each 1,000 manufactured luminaires also rose to 9.41 m³ (PY: 6.83). Water consumption was recorded for the first time at the Guangzhou/China plant and was disproportionately high; the reasons for this are currently being investigated.

There was a significant drop in Tridonic's total water withdrawal in the period under review to 82,035 m³ (PY: 123,511). This drop is attributable to specific problems that affected water withdrawal at the Innsbruck plant. The quantity of water for each 1,000 manufactured units fell to 1.47 m³ (PY: 2.13).

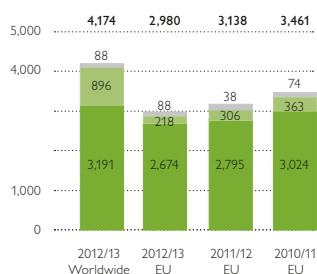
Zumtobel and Thorn obtained 100% of their freshwater from the municipal water supply. Tridonic obtained 65% of its water from groundwater and 35% from the municipal water supply. Compared with other manufacturing companies, manufacturing the Zumtobel Group's products requires relatively little process water. The degreasing baths used in the Lighting Segment are an exception to this. In order to reduce water consumption, little grease is applied to the parts, which are then kept as clean as possible throughout the production process. Only a small proportion of water is contaminated so heavily during the production process that it has to be specially treated before being discharged into the public drain.

Weight of waste by type and disposal method (t)

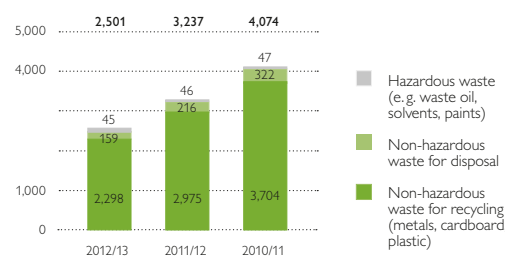
Zumtobel



Thorn



Tridonic



Waste and recycling

In the period under review, the total volume of waste produced by Zumtobel fell slightly to 4,233 tonnes and waste per 1,000 manufactured luminaires rose slightly to 639.7 kg (PY: 624.4). The total volume of waste produced by Thorn rose 33% to 4,174 tonnes due to the inclusion of plants outside Europe. The waste produced for each 1,000 manufactured luminaires dropped significantly by 42% to 568.7 kg.

In the case of Tridonic, the volume of waste produced in the period under review fell significantly by 22.7% to 2,501 tonnes. The waste produced for each 1,000 manufactured units also fell to 44.83 kg. The main reasons for this drop in the volume of waste were measures to improve quality in the production process, smaller inventories and the scrapping of plant.

Recycling quotas were approximately 85%, around 76% and 92% in the case of Zumtobel, Thorn and Tridonic, respectively. The disposal of old machinery and plant equipment can result

in enormous increases in waste volumes, especially in case of steel. This is usually offset by the procurement of new energy and resource-saving plant.

Consideration is given to avoiding waste during production and the possibility of recycling the finished product from the outset when a product is first developed. Manufacturing processes optimised in accordance with the Lean Six Sigma management approach also reduce waste and scrap during production.

Waste is segregated according to material (plastics, wood, paper, cardboard, metals, magnetic waste and electronic waste) at all plants to facilitate optimum recycling. Hazardous waste (lubricants, oils, varnish residues, resin waste, solvents, adhesive residues etc.) are recycled or disposed of by local waste disposal companies. Participation in take-back systems for used electrical equipment ensures the return of equipment from the Lighting Segment.

Strategic target	Measures	Company	Date	Status	
Continuously reduce energy consumption for each 1,000 manufactured units	Systematic evaluation of sustainability aspects as part of investment decision-making process (CAPEX)	Group-wide	2012/13	Achieved	
	Number of sites certified in accordance with ISO 14001	4	Zumtobel	2013/14	Ongoing
		5	Thorn	2013/14	Ongoing
		7	Thorn	2014/15	Ongoing
	Number of sites included in energy reporting	5	Zumtobel	2012/13	Achieved
		7	Thorn	2012/13	Achieved
	Number of sites certified in accordance with ISO 50001 Energy Management System	1	Zumtobel	2013/14	Ongoing
		3	Zumtobel	2014/15	Ongoing
		3	Thorn	2014/15	Ongoing
1		Tridonic	2013/14	Ongoing	
4		Tridonic	2015/16	Ongoing	

Transport & logistics

Efficient transport logistics reduces the consumption of resources, cuts emissions and costs and ensures that all products are delivered to the right place at the right time. Almost all transport activities in the Zumtobel Group are outsourced from external service providers in order to enable us to react quickly and flexibly to changing market conditions of the kind brought about by technological change among other factors.

As planned, we started measuring the CO₂ emissions produced by transport activities in the period under review. This is intended to give a fuller picture of the Zumtobel Group's CO₂ balance and ensure transparency, thus enabling long-term reductions in emissions. Data is available for the period under review. This information will be updated monthly in the 2013/14 financial year and will be published in the next Sustainability Report. A listing of transport activities, broken down by brand and transport method (rail, road, sea, air), can be found in the [► Magazine on p. 30](#).

Logistic networks

All the brands use logistic networks in order to ensure efficient transport logistics. These transport networks have a central hub ([► HUB: www.Glossary](#)) and improve both freight fill rates and efficiency. Double-stacking ([► www.Glossary](#)) also optimises cargo space utilisation in case of shipment between hubs. The fact that all transport services are provided by external carriers makes it possible to avoid trucks running empty, since along with the main hub, trucks can also call at the relevant haulage company's hub. Trucks can also pick up goods for other customers, making optimum use of their payload capacity. Where it seems sensible to do so because of the volume of the load, plants can also be linked to each other directly (full loads). In the UK, Thorn uses the "milk-run" system. Wherever it makes sense, return trips from customers are used to transport raw materials and semi-finished products to the respective production plants.

Selection of transport service providers

Transport companies are selected on the basis of specified criteria that safeguard quality aspirations, ensure efficient logistics and take into account sustainability aspects. Although economy and deadline considerations are at the forefront, the

transport option that is economically the best is usually also the most sensible in ecological terms as well.

The selection criteria include:

- Costs
- Quality (schedule effectiveness and damage in transit)
- Preference is given to accredited service providers (ISO 9001, ISO 14001, Ökoprofit)
- Exhaust emissions standards met by vehicles (at least EURO-5-NORM)
- Service providers who offer rail transport are given preference
- Double-stacking (Zumtobel and Thorn only)

Optimisation of transport activities

Group-wide projects involving Procurement, Production and Logistics are currently underway in order to optimise transport activities. The objective is to cut inventories and throughput times, bundle shipment volumes by consolidation and improve the transport mix (air and sea). In the long term the Zumtobel Group aims to carry on cutting the proportion of airfreight by optimising our planning and consolidating collective shipments. Zumtobel and Thorn have set themselves the target of reducing the proportion of costs accounted for by airfreight by 20% in the coming financial year. Shipping activities between Asia and Europe are also to be improved by consolidating suppliers and using shared customs warehouses.

At Zumtobel, a new delivery concept was introduced for consignments from Dornbirn to the UK in the period under review. This concept will lead to additional efficiency improvements. The central warehouse for despatching goods within Europe, which is currently located at the Dornbirn plant, is to be hived off to an external service provider in the coming financial year in order to make further efficiency improvements. This will have the positive side effect of a significant reduction in the volume of traffic on the factory site and in the adjacent residential area.

Haulage management in Thorn's Nordic region was reorganised in the period under review in order to improve vehicle load factors further still, thus cutting CO₂ emissions. In the period under review, warehousing activities in Scandinavia were outsourced from a service provider to increase flexibility, thereby improving distribution services for customers. The

reorganisation of haulage in the UK and the use of newer, more efficient vehicles will yield an annual reduction in CO₂ emissions of 300 tonnes.

Cooperation

Tridonic has been working with the Austrian Economic Chambers, Rail Cargo Austria and the Logistics Network Association (Verein Netzwerk Logistik) since 2011 in order to improve the attractiveness of rail transport. Solution concepts to promote rail freight and make transport more environmentally sustainable in the region were worked out in joint workshops in the period under review. You can read more about sustainability initiatives in the logistics area in the round-table discussion ([► Magazine p. 30](#)).

Employee mobility

The Zumtobel Group endeavours to make transport activities as efficient and environmentally sustainable as possible not just in terms of its products: various measures at different sites are deployed to minimise the ecological impact of employee mobility.

In Dornbirn this is done, for instance, by handing out free-of-charge annual travel cards for local public transport, offer-

ing company bikes that can be used in lunch breaks, installing charging points for electric bikes and supporting participation in the "FahrRad" competition, a Vorarlberg (Austria) initiative to encourage cycling. At Tridonic's site in Ennenda/Switzerland the "Mobility Jackpot" provides an incentive for people to leave their cars at home and cycle instead or form car pools.

A systematic mobility concept was devised for the lighting plant in Dornbirn in the period under review. Prior to doing so, an employee survey, to which 884 employees responded, was conducted in autumn 2012. The mobility concept is being put into practice in 2013/14. Communications and employee awareness, transparency and monitoring of success by web-based data capture and the principle of employees volunteering to participate are essential features of this concept.

Company guidelines regarding company cars were also revised in the period under review. A budget is made available to entitled employees and they can configure the car of their choice within this budget. The purpose of this review was to discourage people from choosing large fuel-hungry company cars without making them perceptibly less attractive to employees. The introduction of CO₂ limits for each vehicle category encourages the use of fuel-efficient cars without adversely affecting the range of available optional extras. Besides making a crucial contribution towards reducing CO₂ emissions, the company also benefits financially by making savings on running costs of roughly 15%.

Strategic target	Measures	Company	Date	Status
Continuously reduce costs and resources in the field of transport activities	CO ₂ report for outbound and intercompany transport activities	Group-wide	2012/13	Achieved
	Reduce air freight shipments	Zumtobel and Thorn	2013/14	Ongoing
	Use synergies in global freight management between brands	Group-wide	2014/15	Ongoing

Supplier management

For the Zumtobel Group, a sustainable supply chain means long-term supplier relationships built on mutual trust and fairness. These relationships help the Zumtobel Group safeguard security of supply for all raw materials and intermediate products in an economically, ecologically and socially responsible manner while, at the same time, ensuring extremely high quality.

Strategies

The global procurement market continues to be shaped by economic uncertainties, sharply fluctuating demand and the effects of volatile currency exchange rates as well as increasing shortages of raw materials. At the same time, technological change is making procurement increasingly complex and making it necessary to adapt processes because, alongside traditional lighting technology, fast-growing LED technology, which involves significantly shorter life cycles, also has to be catered for. Sales in the global market for LED packages sold for general lighting outstripped those for all other LED application areas in 2012 for the first time ever. The Zumtobel Group's defined procurement strategies ensure maximum security of supply and minimise risks posed by unforeseen events. The rapid growth of LEDs means that component procurement, primarily from Asia, requires consistent risk management in order to identify, minimise or avoid potential bottlenecks and risks at an early stage.

New product development has to systematically specify multiple-use components and choose alternative suppliers for LED/electronic components and take these into account at the time of market launches. Supply is ensured even in the event of unexpected events beyond the company's control and fluctuations in demand thanks to a platform and multi-sourcing strategy. This strategy of establishing at least two suppliers for each product is indispensable in the case of high-volume products, in particular, in order to be able to respond flexibly.

Both Segments adopt the "lead buyer" system. The aggregation of demand and requirements in individual material groups by specialist buyers improves cooperation and leverages possible courses of action with suppliers who operate on a global scale and makes it easier to perform risk assessments for suppliers and countries of origin thanks to procurement market analyses and continuous dialogue with suppliers. Strategic partnerships with suppliers help us to respond flexibly to changed environmental circumstances and also encourage innovation.

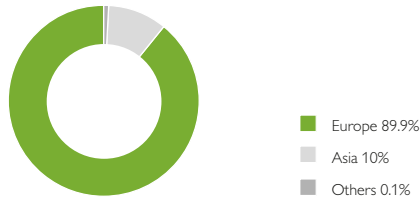
Supplier relationships

In Europe alone, Zumtobel and Thorn procure their merchandise through a network of approximately 1,180 suppliers, with 7% of these suppliers accounting for roughly 80% of all purchases. The brands aim to cut the number of suppliers by 20% by the end of 2014. The number of suppliers has been cut by 5% since this project started, despite new technologies, thanks to explicit agreements with the European plants.

Supplier relationships are long-term in nature: we have had business relationships with over half our suppliers for more than 15 years. Tridonic's network is characterised by high levels of standardisation: approximately 10.6% of Tridonic's suppliers account for about 80% of its purchasing volume. All the brands obtain essential raw material such as steel, copper, aluminium and nurdles from central Europe. Electronic and LED components are purchased primarily in Asia. Outside Europe, the overwhelming majority of raw materials and intermediate products are sourced locally wherever possible. Tridonic obtains 81% of its goods from Asia, but this proportion (10%) is smaller at first sight in the case of Zumtobel and Thorn (first-tier suppliers). However, if one considers lower supply tiers, Tridonic accounts for 20% of supplies and is the biggest component supplier to Zumtobel and Tridonic, followed by other large electronic component suppliers. This makes it clear how important the transparency of a supply chain is in terms of risk management and sustainability.

Country of Origin Supplier

Lighting Segment



Components Segment



Environmental and social standards

The Zumtobel Group expects all its suppliers to comply with basic social and environmental standards. All new suppliers to the brands must sign the company's Code of Conduct (▶ [Code of Conduct: www, Glossary](#)) or be able to provide evidence of compliance with an equivalent standard of their own and proof that a verifiable environmental management system is in place. Proof of suppliers' environmental management systems, among other things, is required as part of quality assurance agreements and is evaluated by supplier audits. By signing the Code of Conduct, suppliers agree, among other things, to comply with ILO core labour standards (▶ [www, Glossary](#)) and to combat corruption. The confirmation of the Code of Conduct includes a passage that covers relevant upstream suppliers' compliance with the standards. The Zumtobel Group is not aware of any cases in which its suppliers have failed to comply with ILO core labour standards in the period under review. In principle, any breach of the Code of Conduct or environmental standards by business partners must be documented and remedial action must be enforced. If this does not happen within a reasonable period, legal measures will be taken or business relations will be terminated.

The Zumtobel Group's brands cooperate with suppliers in order, for example, to optimise ecological factors all the way down the supply chain and throughout a product's life cycle. Tridonic, for instance, is jointly developing a guideline with partners for wound components in order to ensure resource-saving manufacture right from the outset.

As a company that operates internationally, the Zumtobel Group invariably respects the applicable national laws when

operating outside Austria and requires its business partners to act likewise. Similarly, all bought-in materials must meet statutory requirements with regard, for instance, to REACH (▶ [www, Glossary](#)), RoHS (▶ [www, Glossary](#)) and JIG-101 (▶ [www, Glossary](#)). Preparations to implement material compliance software throughout the Group were begun in the period under review; this software helps ensure that suppliers' compliance with standards and regulations is reviewed and documented. In addition, the standardisation of contracts that was begun in 2013 and takes into account their multi-jurisdictional nature will make it easier to comply with conformity requirements in the global supplier portfolio.

Supplier assessment and audits

All the brands have established a standardised process for assessing suppliers. This assessment is coordinated by Strategic Procurement and is carried out in collaboration with Engineering, Procurement and the Supplier Quality department. As well as success factors such as delivery reliability, quality and service, aspects such as sustainability (environmental management system, Code of Conduct) are required and evaluated. Audits are carried out on the basis of a systematic audit plan. Besides indicators such as quality, cost and delivery reliability, environmental and social aspects are crucial issues. These aspects have been investigated in greater depth since the period under review thanks to an enhanced audit questionnaire. The lighting brands' supplier approval process was overhauled in the period under review and put into effect in order to make sure that all new suppliers are able to meet all the Group's standards and sustainability targets.

In the period under review, Zumtobel and Thorn carried out 44 supplier audits worldwide; these involved 20 existing suppliers and 24 potential new suppliers. The approval criteria were not met in eight cases and those suppliers were not approved. Supplier management continues to be optimised, with the help of inspection plan audits, at Zumtobel and Thorn as part of the Supplier Excellence initiative. Emphasis is placed on preventing defects and, in the event of quality problems, on remedying defects on a sustainable basis – something that is especially important in the life cycle of a product in the case of LED and electronic components because after sale it is too late to replace faulty components.

Tridonic carries out annual audits in accordance with an approved supplier audit plan, mainly in Asia. Measures to rectify weaknesses and safeguard delivery quality in the long term are jointly agreed with suppliers as part of our ongoing development and qualification measures. Tridonic aims to carry out focused sustainability audits with its top ten suppliers in the coming financial year. In order to strengthen supplier relationships and as an incentive to make further performance improvements, Tridonic will be honouring its best suppliers in the period under review by bestowing its Excellent Supplier Award in autumn 2013.

<i>Strategic target</i>	<i>Measures</i>	<i>Company</i>	<i>Date</i>	<i>Status</i>
Ensure supplier compliance with environmental and social standards	Enhanced supplier questionnaire including more detailed questions on environmental and social aspects used in 100% of audits	Tridonic	2012/13	Achieved
	Supplier audit plan: carry out 67 audits	Zumtobel and Thorn	2013/14	Ongoing
	Focused sustainability audits for top 10 suppliers	Tridonic	2013/14	Ongoing
Ensure supplier efficiency	Reduce supplier complexity (cut number of suppliers by 20%)	Zumtobel and Thorn	2013/14	Ongoing

Corporate citizenship

The Zumtobel Group takes its social responsibility seriously as part of the society in which it operates, as an employer, as a neighbour and as a business partner.

The Zumtobel Group uses the term "corporate citizenship" to define its active, voluntary contribution towards promoting the public good. Many sites already live up to this engagement in an exemplary manner. In the 2012/13 period under review, emphasis was placed on formulating a strategic approach that included the Board and local Divisions because corporate citizenship had previously been handled in an uncoordinated manner within the Group and there were some activities that were not conducive to the fulfilment of our objectives.

This issue was addressed and new rules were set out in the form of a corporate citizenship strategy and a policy derived from this strategy in December 2012. In future the Zumtobel Group will focus its engagement at a local level, especially in locations where the company is based and through brands that are locally well known. Three areas will be singled out: education, integration and empowering communities. Activities will be coordinated at plant locations by "ambassadors" in future. The fourth pillar – humanitarian aid – will continue to be handled centrally by Group Communications. The company expects this central control to provide a better focus. The goal here is to set up partnerships with NGOs, who will support international aid projects involving lighting or human sight. The selection of suitable projects is currently being discussed.

Corporate citizenship, like sustainability, will be organisationally enshrined in Group Communications. Tasks which are currently in progress include internal communications, rolling out the strategy, setting up local ambassador teams and selecting and initiating appropriate humanitarian aid campaigns that are viable on a long-term basis.

The new policy will ensure clear delineation from sponsoring, which has a business benefit as its end purpose; responsibility for sponsoring is assumed at brand level. Several examples of corporate citizenship are available ([▶ Magazine p. 44](#)).

Strategic target	Measures	Company	Date	Status
Assuming social responsibility	Roll-out of the corporate citizenship strategy	Group-wide	2013/14	Ongoing
	Establishing two humanitarian aid programmes	Group-wide	2013/14	Ongoing

GRI Index

Legend

light grey	Indicators marked in light grey are additional indicators where reporting is optional.
pp. 24, 38	Page numbers refer to information in the current Facts section.
Mag p. 24	Magazine section of the present Zumtobel Group Sustainability Report.
FAR	Further information can be found in the Zumtobel Group's current Financial and Annual Reports.
CGR	Further information can be found in the Zumtobel Group's current Corporate Governance Report.
www	Further information is available on the website www.zumtobelgroup.com
Level of reporting	<ul style="list-style-type: none"> • • This indicator is reported in full • This indicator is partly reported × This indicator is not currently reported

Organisation and Report Profile

Nr.	Profile	Comments	Level of reporting	Page / Reference
1.	Strategy and Analysis			
1.1	Statement from the Chief Executive Officer about the relevance of sustainability		••	Mag pp. 2–3
1.2	Description of key impacts, risks and opportunities		••	p. 3
2.	Organisational profile			
2.1	Name		••	cover
2.2	Primary brands, products and services		••	p. 9
2.3	Operational structure		••	cover
2.4	Headquarters		••	cover
2.5	Countries where the organisation operates		••	cover
2.6	Nature of ownership and legal form		••	cover
2.7	Markets served		••	cover, p. 8
2.8	Scale of the organisation		••	p. 7
2.9	Significant changes during the reporting period regarding size, structure or ownership		••	p. 7
2.10	Awards	In the ranking of the Austrian economic journal TREND, the 2011/12 Sustainability Report came up second. In the "Governance" special category, third place was achieved.	••	
3.	Reporting parameters			
3.1	Reporting period		••	cover
3.2	Date of most recent previous report	27 June 2012	••	
3.3	Reporting cycle		••	cover
3.4	Contact point for questions regarding the report		••	Mag cover
3.5	Process for defining report content		••	cover
3.6	Scope of the report		••	cover
3.7	Specific limitations on the scope or boundary of the report		••	cover
3.8	Basis for reporting on enterprise units		••	cover
3.9	Data measurement techniques and bases of calculations		••	cover
3.10	Explanation of the effect of any restatements of information	The facts and figures in this report cover the financial years 2010/11, 2011/12 and 2012/13.	••	cover
3.11	Significant changes from previous reporting periods		••	cover
3.12	GRI Index	This document.	••	pp. 43–47
3.13	External assurance for the report	There is no external assurance for the report.	••	
4.	Corporate Governance, Commitments and Engagement			
4.1	Governance structure		••	CGR, www
4.2	Indicate whether the Chairman of the Supervisory Board is also an executive officer		••	CGR, www
4.3	Number of independent members of the highest governance body		••	CGR, www
4.4	Mechanisms for shareholders and employees to provide recommendations	The legal requirements are met.	••	
4.5	Linkage between compensation for members of the highest governance body		••	CGR, www, p. 22
4.6	Ensure conflicts of interest are avoided		••	CGR, www, p. 4
4.7	Qualifications and experience of members of the highest governance body		••	CGR, www
4.8	Internal mission or value statements, codes of conduct and principles		••	p. 5
4.9	Procedures of the highest governance body for overseeing the organisation's sustainability performance		••	p. 3
4.10	Evaluating the highest governance body's own sustainability performance	Cf. Supervisory Board's activity report.	••	FAR, CGR, www
4.11	Whether and how the precautionary approach or principle is addressed by the organisation		••	pp. 3, 11, 12, 14, 15, 17, 19, 25, 29
4.12	Externally developed sustainability charters, principles or other initiatives		••	pp. 4, 5
4.13	Memberships in associations and advocacy organisations		••	www, p. 4
4.14	List of stakeholder groups engaged		••	p. 4
4.15	Basis for identification and selection of stakeholders		••	www, p. 4
4.16	Approaches to stakeholder engagement		••	p. 4
4.17	Topics and concerns raised through stakeholder dialogue		••	www, p. 4

Management Approach and Performance

Nr.	Profile	Comments	Level of reporting	Page / Reference
	Economic			
	<i>Management Approach</i>		••	FAR
EC 1	Direct economic value generated and distributed		••	FAR, p. 7
EC 2	Financial implications for the organisation's activities due to climate change		••	p. 3, Mag pp. 4–5
EC 3	Organisation's defined benefit plan obligations		••	FAR
EC 4	Significant financial assistance received from government		••	FAR
EC 5	Local minimum wage		••	p. 22, Mag p. 38
EC 6	Locally-based suppliers		••	p. 39
EC 7	Locally-based employees	Altogether, less than 1% of positions are filled by expatriates (international assignments); all other positions are filled by local employees.	••	Mag pp. 25–29
EC 8	Infrastructure investments and services provided primarily for public benefit	The Zumtobel Group is actively engaged in the local municipalities. However, no major investments are made in the infrastructure. Major emphasis is placed on cooperation with schools and universities.	••	p. 42, Mag pp. 11, 17, 22, 42, 46
EC 9	Indirect economic impacts		•	pp. 3–6
	Environmental Performance Indicators			
	<i>Management Approach</i>		••	p. 32
EN 1	Materials used		•	p. 32
EN 2	Materials used that are recycled input materials		×	pp. 33, 36
EN 3	Direct energy consumption		••	p. 33
EN 4	Indirect energy consumption		••	p. 34
EN 5	Energy saved and energy efficiency		••	p. 34, Mag pp. 25–29
EN 6	Energy-efficient or renewable energy-based products and services		••	pp. 3, 11–13, 14–15, 16–18
EN 7	Initiatives to reduce indirect energy consumption		••	Mag pp. 25–29
EN 8	Total water withdrawal		••	p. 35
EN 9	Water sources significantly affected by withdrawal of water	Water consumption by the Zumtobel Group does not cause major impact on any springs.	••	
EN 10	Percentage and total volume of water recycled and reused	No process water is treated and reused, as the luminaire industry uses relatively little water.	••	
EN 11	Impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity	No risk results from operations.	••	
EN 12	Impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity	No risk results from operations.	••	
EN 13	Habitats protected or restored	No risk results from operations.	••	
EN 14	Strategy, aims and measures for managing impacts on biodiversity	No risk results from operations.	••	
EN 15	Endangered species in areas affected by operations	No risk results from operations.	••	
EN 16	Direct and indirect greenhouse gas emissions		••	pp. 34–35, 37–38
EN 17	Other relevant indirect greenhouse gas emissions	No other relevant greenhouse gas emissions have been defined.	×	
EN 18	Initiatives to reduce greenhouse gas emissions		••	pp. 34–35, 37–38 Mag pp. 30–31
EN 19	Emissions of ozone-depleting substances	Emissions are negligible in terms of quantity and are not surveyed.	•	
EN 20	NOx, SOx and other significant air emissions	Only occur within the limits of the currently applicable clean air legislation.	•	
EN 21	Total water discharge	Treatment of process water complies at least with requirements specified by the authorities, and the quantity of waste water discharged is equal to the quantity of water withdrawn.	••	p. 35
EN 22	Waste by type and disposal method		••	p. 36
EN 23	Significant spills	There were no significant incidents in the reporting period.	••	
EN 24	Waste deemed hazardous transported	Hazardous waste is disposed of properly and professionally by an authorised local waste disposal operator.	••	
EN 25	Water bodies and related habitats significantly affected by the reporting organisation's discharges of water and runoff	There were no significant incidents in the reporting period.	••	
EN 26	Mitigate environmental impacts of products and services		••	pp. 9–18, 32

Nr.	Profile	Comments	Level of reporting	Page / Reference
EN 27	Percentage of products sold and their packaging materials that are reclaimed		••	p. 36
EN 28	Significant fines and sanctions for noncompliance with environmental laws and regulations	There were no significant incidents in the reporting period.	••	
EN 29	Environmental impacts of transport activities		•	p. 37
EN 30	Total environmental protection expenditures	Total expenditure is currently not recorded across the entire Group. Environmental aspects are systematically included in investment planning.	×	
Product Responsibility				
	<i>Management Approach</i>		••	pp. 25, 29
PR 1	Life cycle stages in which health and safety impacts of products are assessed	The legal requirements are met.	••	pp. 11–12
PR 2	Incidents of noncompliance with regulations concerning health and safety impacts of products and services	There were no incidents in the period under review.	••	
PR 3	Product and service information required by procedures		••	p. 25
PR 4	Incidents of noncompliance with regulations concerning product and service information	There were no incidents in the period under review.	••	
PR 5	Practices related to customer satisfaction		••	pp. 4, 26–28
PR 6	Responsible advertising	Not relevant, as no business-to-consumer advertising is conducted.	••	
PR 7	Incidents of noncompliance with regulations and voluntary codes concerning advertising	Not relevant, as no business-to-consumer advertising is conducted.	••	
PR 8	Substantiated complaints regarding breaches of customer privacy and losses of customer data	There were no incidents in the period under review.	••	
PR 9	Fines for noncompliance with laws and regulations concerning the provision and use of products	There were no significant incidents in the period under review.	••	
Labour Practices and Decent Work				
	<i>Management Approach</i>		••	p. 19
LA 1	Total workforce		••	p. 19
LA 2	Total number and rate of employee turnover		×	
LA 3	Benefits provided to full-time employees only	Part-time employees have the same entitlement to company benefits as full-time employees.	×	p. 22
LA 4	Percentage of employees covered by collective bargaining agreements	All employees are employed in accordance with the legal provisions. Wherever collective bargaining agreements are provided for, these are applied.	•	Mag pp. 38–39
LA 5	Minimum notice period(s) regarding operational changes	The legal requirements are met.	••	
LA 6	Percentage of total workforce represented in management – worker health and safety committees	The legal requirements are met.	••	
LA 7	Injuries, occupational diseases, lost days and absenteeism		••	pp. 23–24
LA 8	Health care and consulting		••	p. 24, Mag p. 35
LA 9	Health and safety agreements with trade unions	There are no health and safety agreements with trade unions. Industrial health and safety issues are governed, as a rule, within the framework of works agreements or in appropriate corporate policies.	•	
LA 10	Average hours of training per year per employee		•	pp. 20–21
LA 11	Programmes for skills management and lifelong learning		••	pp. 20–22
LA 12	Percentage of employees receiving regular performance and career development reviews		••	p. 20
LA 13	Diversity in the workforce and governance bodies		•	p. 22
LA 14	Ratio of basic salary of men to women		••	pp. 22–23
LA 15	Return rate after parental leave		•	p. 23

Nr.	Profile	Comments	Level of reporting	Page / Reference
	Human Rights			
	<i>Management Approach</i>		••	CGR, www, pp. 22, 40
HR 1	Investment agreements that include human rights clauses	The Zumtobel Group's investment activities do not pose any potential risk in terms of infringement of human rights.	••	CGR, www
HR 2	Suppliers and contractors that have undergone screening on human rights		••	p. 40
HR 3	Employee training on aspects of human rights		x	
HR 4	Total number of incidents of discrimination and actions taken	No incidents.	••	
HR 5	Right to exercise freedom of association and collective bargaining may be at risk	According to a survey among CEOs of all companies, freedom of association is ensured in all group companies.	•	pp. 22, 40
HR 6	Child labour	According to survey of CEOs of all companies: no child labour.	••	pp. 22, 40
HR 7	Compulsory labour	According to survey of CEOs of all companies: no compulsory labour.	••	pp. 22, 40
HR 8	Security personnel trained in aspects of human rights	Not relevant to the Zumtobel Group.	••	
HR 9	Incidents of violations of the rights of indigenous people	No risks ensue from the operations of the Zumtobel Group and its brands.	••	
HR 10	Assessment of operative business with respect to its impact on human rights	The survey among CEOs worldwide was extended by aspects in the field of human rights in particular.	••	
HR 11	Complaints with respect to infringement of human rights	According to a survey among CEOs of all companies: no complaints.	••	
	Society			
	<i>Management Approach</i>		••	CGR, www, pp. 4, 22, 42
SO 1	Programmes and practices that assess and manage the impacts of operations on communities		x	pp. 4, 42, Mag pp. 2–3
SO 2	Business units analysed for risks related to corruption	Within the scope of the institutionalised and regular risk assessment process, risks were identified and assessed in all plants worldwide. The risks identified are subject to regular monitoring by Corporate Audit and Corporate Controlling.	••	pp. 5–6, 40
SO 3	Employees trained in anticorruption policies/procedures		•	pp. 5–6
SO 4	Actions taken in response to incidents of corruption		••	p. 6
SO 5	Participation in public policy development and lobbying		••	p. 4
SO 6	Contributions to political parties and politicians	As a matter of principle, the company does not make donations to politicians and/or political parties.	••	
SO 7	Number of legal actions for anticompetitive behaviour	There were no incidents in the period under review.	••	
SO 8	Fines and sanctions for noncompliance with laws and regulations	No significant incidents.	••	
SO 9	Avoidance and mechanisms for mitigating negative effects on local communities		•	pp. 29, 32
SO 10	Operative business with negative effects on local communities		•	pp. 3–6

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Zumtobel AG
Corporate Communications
Höchster Strasse 8
AT-6850 Dornbirn
www.zumtobelgroup.com

Responsible for content

Astrid Kühn-Ulrich, Zumtobel AG

Editors

Astrid Kühn-Ulrich, Zumtobel AG and
Ulrike Ahrens, Schlange & Co, Hamburg, Germany
in cooperation with the members of the
Sustainability Committee of the Zumtobel Group

Data acquisition

Jürgen Andres, Helmut Rebhandl,
Georg Schaffgotsch
Corporate Controlling, Zumtobel AG

Graphics

Lisa Pfurtscheller, Zumtobel AG

Translation

All Languages, Vienna, Austria

Proofreading

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Andrew Leslie, Stuttgart, Germany

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Further information

astrid.kuehn@zumtobel.com



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