



Troldtekt A/S Corporate Social Responsibility

Troldtekt® 
Natural acoustic solutions

Report on CSR for UN 2012

– Cradle to Cradle is a move away from the throwaway culture; a sustainable innovation concept which embraces social and economic considerations to create new business opportunities.

Peer Leth, CEO of Troldekt

Leadership, vision and values

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Balanced climate plan

At the end of 2011, the Danish government presented 'Our Future Energy', a climate plan that looks as far ahead as 2050. The positive initiatives include a wish to see businesses showing greater respect for international principles and support for the UN Global Compact. In addition, the Danish government wants to highlight those companies which are already taking a professional approach to Corporate Social responsibility (CSR). This will be effected through supporting the CSR Awards, which are organised by the CSR Foundation and for which Trolldtekt has been nominated for a prize in 2012.

However, it is of some concern that the Danish government is choosing to profile two labelling schemes – the EU Ecolabel and the Nordic 'Swan' Ecolabel – rather than other outstanding schemes such as Danish Indoor Climate Labelling and the Cradle to Cradle certification programme. The Nordic Ecolabel is problematic because, in addition to costs associated with certification, each producer also pays an annual revenue-based fee

for using the label. Despite this, the climate plan looks promising.

2011 was also the year in which the European Commission published its new definition of CSR. While the policy used to be "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis", the EU is now putting forward a new definition of CSR as "the responsibility of enterprises for their impacts on society". The hope is that it will create more focus on the entire process involving CSR activities, also including dialogue with the company's stakeholders. At Trolldtekt, we fully support the new definition.

In 2012, Trolldtekt achieved Cradle to Cradle certification in the silver category for its acoustic natural panels. We are very proud of this achievement. Cradle to Cradle is a move away from the throwaway culture; a sustainable innovation concept which embraces social and economic considerations to create new business

TROLDTEKT A/S VALUES

- A** > **Acting responsibly**
We are positive, helpful and respectful of others
- C** > **Customers are kings**
We ensure our customers a truly sound experience
- O** > **Ongoing development**
We actively incorporate innovation and improvements
- U** > **Uniform quality**
We maintain a consistent and high quality while focusing on improvements
- S** > **Service is top of our agenda**
We provide superior service and consulting
- T** > **Trustworthy and loyal**
We stand by what we say and do
- I** > **Innovation creates value**
We create results
- C** > **Consulting**
We provide professional guidance
- S** > **Solutions**
We develop state-of-the-art solutions

opportunities. This philosophy ties in completely with Trolldtekt's own vision of being a trendsetter within intelligent acoustic solutions that focus on a sustainable indoor climate. This and much more is described in detail in our new CSR report.

I hope you find it an interesting read.
CEO, Trolldtekt,
Peer Leth

Leadership, vision and values

CSR should be part and parcel of company strategy. Read more about our leadership visions for responsibility.

OBJECTIVE AND STATUS FOR LEADERSHIP, VISION AND VALUES

Objectives 2011-12

- › At Troldekt, we will take a targeted approach to incorporating social, ethical and environmental activities into all parts of our business and supply chain. In other words, it must be possible to trace our global responsibility in our daily work routines as well as in our long term strategic decisions.

Status 2011-12

- › In 2012, we have formulated the following three strategic objectives:
Vision: Trendsetter in intelligent acoustic solutions
Mission: Creator and provider of innovative acoustic solutions
Guiding principle: Sustainable indoor climate

Objectives 2012-13

- › Same as in 2011-12.

REGULAR ACTIVITIES

- › Working on the basis of the ACOUSTICS values / [Page 3](#)
- › Is affiliated to the UN Global Compact (CSR report) / [page 5](#)
- › CSR activities anchored at executive level



Global principles – local responsibility



The UN Global Compact is the world's biggest voluntary initiative for corporate social responsibility with 8,700 member enterprises and organisations in more than 130 countries. Troldekt joined in 2010.

The aim of the UN Global Compact is a worldwide strengthening of businesses' corporate social responsibility (CSR) initiatives. By participating in the UN Global Compact initiative, businesses commit themselves to observing ten principles within the areas of human rights, labour rights, the environment and anti-corruption. These principles must be reflected in the individual organisation as well as its activities and an annual progress report must be submitted to the UN.

At Troldekt, our activities and strengths have been focused on the environment and labour rights for many years. However, in developing our Code of Conduct (see page 14), we are now also focusing on human rights and anti-corruption in our supplier management.

Useful management tool

Global Compact embraces the most significant principles and by joining it Troldekt gets a set of useful guidelines which on the one hand entail certain obligations while on the other driving and directing our CSR initiatives. All our CSR reports are available for downloading at www.troldekt.com and a German version at www.troldekt.de. Employees and close business associates receive a printed version of the report, while employees are continuously informed via our intranet.

The CSR report's seven focus categories have been taken from a report prepared by the Ashridge Centre for Business and Sustainability for the Danish Business Authority. The reporting period always runs from October to October.

Every year, Troldekt makes a voluntary financial contribution to the Foundation for the Global Compact. The money is used for raising awareness of corporate social responsibility worldwide.

The 10 principles of the UN Global Compact

HUMAN RIGHTS

1. Businesses should support and respect the protection of internationally proclaimed human rights
2. Businesses should make sure that they are not complicit in human rights abuses

LABOUR

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining
4. Businesses should support the elimination of all forms of forced and compulsory labour
5. Businesses should support the effective abolition of child labour
6. Businesses should eliminate discrimination in respect of employment and occupation

ENVIRONMENT

7. Businesses should support a precautionary approach to environmental challenges
8. Businesses should undertake initiatives to promote greater environmental responsibility
9. Businesses should encourage the development and diffusion of environmentally friendly technologies

ANTI-CORRUPTION

10. Businesses should work against corruption in all its forms, including extortion and bribery

Market place activities

At Trolldtekt, we go out of our way to give our customers peace of mind. This section describes how we measure, weigh and label our products.

OBJECTIVES AND STATUS FOR MARKET PLACE ACTIVITIES

Objectives 2011-12

- > At Trolldtekt, we will endeavour to test and label our products according to voluntary schemes to give consumers extra peace of mind in relation to the product's durability, healthy properties and environmental impact.

Status 2011-2012

- > Rambøll is in the process of documenting how Trolldtekt contributes with points for the three building certifications LEED, DGNB and BREEAM.
- > In collaboration with the Danish Technological Institute, we are currently putting the finishing touches to our Environmental Product Declaration (EPD).

Objectives 2012-13

- > Same as in 2011-12.
- > In Q1 2013, we expect our Environmental Product Declaration (EPD) to be ready with actual data.

REGULAR ACTIVITIES

- > CE-labelling of products in accordance with EN 13964 and EN 13168
 - > MK approval no. 6.31/0379. Class A material for Class 1 cladding
 - > Ball impact resistance test of a range of constructions using Trolldtekt according to DIN 18032 / EN 13964 (MPA Stuttgart)
 - > Trolldtekt is certified to the best indoor climate categories by Danish Indoor Climate Labelling
 - > M1-labelled (Finnish indoor climate labelling)
- > [Read more in Trolldtekt's CSR report for 2011 \(pp. 6 and 27\) and at \[www.trolldtekt.com\]\(http://www.trolldtekt.com\)](#)

FOCUS IN 2012

- > Report on contributions to LEED, DGNB, BREEAM / [Page 7](#)
- > Trolldtekt's Environmental Product Declaration in the pipeline / [Page 8](#)

Responsible building practices can be measured and weighed

Being handed a sheet of paper which documents a building's sustainability is becoming increasingly widespread. It ensures tangible documentation for precisely the social, economic and environmental indicators which are important for clients.

At the moment, Rambøll is busy documenting how Troldekt specifically contributes to the three leading voluntary building certifications within sustainable building: The US LEED, the British BREEAM and the German DGNB certifications. In future, it will therefore be easier for auditors to find the precise product properties and data. Green Building Council Denmark has decided to follow the guidelines in DGNB, which has therefore recently launched a version adapted for Denmark.

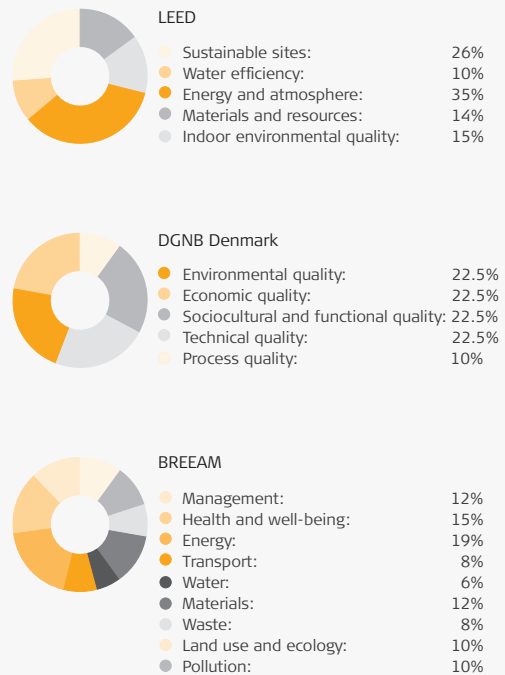
– The voluntary building certifications LEED, BREEAM and DGNB enable clients to see which specific types of sustainability they are getting. The comprehensive third party documentation ensures that the initiative will be seen through to completion. Consequently, certifications are a growth area, says Hanne Tine Ring Hansen, Chief Consultant at Rambøll.

Individual strengths

Even though DGNB has been chosen as the Danish reference system, the US LEED and the British BREEAM assessment methods are still relevant for Danish clients and consultants, believes Hanne Tine Ring Hansen.

– Multinational businesses are already often using LEED or BREEAM and want to stick to just one scheme. It makes sense for the foreign subsidiaries or departments of Danish companies to use the system which is preferred locally. Moreover, the Danish adaptation of DGNB has, so far, only been developed for office buildings, whereas LEED can be used for all building types, while BREEAM can be tailored for particularly complex buildings, she says.

The following shows which criteria carry most weight in the three building certifications:



Source: Byggeriets Evaluerings Center



Check the environmental impacts of acoustic panels

It must be easier for customers and business associates to obtain clear information regarding the environmental impacts of Trolldtekt products. Therefore, the Danish Technological Institute is in the process of drawing up Environmental Product Declarations that document the sustainability of Trolldtekt acoustic panels from “cradle to gate”.

In 2013, the EU’s new Construction Products Regulation (CPR) comes into force. This will require manufacturers to document the sustainable aspects of their products. However, it is hard to stay abreast of the scheme as the “rules of the game” are still an unknown quantity and will not be implemented in production standards for several years.

A clearer environmental profile

Despite this, we have asked the Danish Technological Institute to prepare declarations that will highlight the environmental profile of our products. This is being done for the sake of transparency and to make it easier for our customers to compare our products with competing products, for example in connection with tenders. As it is not possible to gather data on demolition and waste handling at building sites, our declarations will focus on each product’s total environmental impact right up until delivery, i.e. from “cradle to gate”.

Focus on production flow

– The aim of the new European Environmental Product Declaration is to make it possible to compare information about the environmental impact of products across the EU states and thereby remove barriers to trade, says Peder Fynholm, a civil engineer at the Danish Technological Institute.

To produce an Environmental Product Declaration, it is possible to use both generic and factual information. Generic information is based on regional, national or global average considerations.

– Trolldtekt’s declarations will, to the greatest extent possible, be based on actual figures so as to provide the most accurate picture of the environmental impacts of Trolldtekt’s products. In practice, we will examine Trolldtekt’s entire production flow and collect data for example electricity, water and fuel consumption as well as waste and recycling volumes. The data is then entered into our software, which calculates the overall environmental impact, explains Peder Fynholm.

The Danish Technological Institute is very familiar with Trolldtekt’s materials and acted as consultants for the company when we were recommended for Danish Indoor Climate Labelling in 1997. The Danish Technological Institute also conducts regular tests of Trolldtekt’s products in connection with Danish Indoor Climate Labelling.

Minimum requirements for an Environmental Product Declaration

Trolldtekt is CE-labelled according to product standard EN 13964 for suspended ceilings and EN 13168, which is the standard for factory-made wood wool products. It is expected that, under the coming scheme, Environmental Product Declarations will be drawn up according to EN 15804 and contain information such as:

- > General information
- > Environmental impact indicators
- > Resource use indicators
- > Waste category indicators
- > Output flow indicators
- > Scenarios and technical data
- > Scenarios for dangerous emissions

Workforce activities

Prevention, retention and fairness are keywords at Trolldtekt. This section describes the activities which are designed to ensure job satisfaction and wellbeing.

OBJECTIVES AND STATUS FOR WORKFORCE ACTIVITIES

Objectives 2011-12

- › At Trolldtekt, we want to support and look after our employees and to provide the best possible basis for high levels of job satisfaction and wellbeing for all our employees.

Status 2011-12

- › Installing a thickness planer with a cabin has reduced noise levels by 15 per cent.
- › Trolldtekt has taken out accident insurance for all employees.

Objectives 2012-13

- › Same as in 2011-12.

- › We take a targeted approach to keeping annual absence due to illness cases below 2 per cent and the number of work-related injuries to less than five a year.

- › **Industrial injuries:** 6 (1/7 2011 – 31/6 2012)
- › **Absence due to illness:** 2.82 per cent (1/7 2011 – 31/6 2012)

- › Same as in 2011-12.

REGULAR ACTIVITIES

- › Flexible working hours for employees with special needs
- › Health insurance offered to all employees
- › Guidelines for reducing absence due to illness, industrial injuries etc.
- › Packing robots to relieve employees
- › Presentation of the Hammerich grant from the Trolldtekt A/S foundation for current and former employees with special needs
- › Regular first-aid courses
- › Defibrillators at the factory with annual refresher course for employees
- › [Read more in Trolldtekt's CSR report for 2011 \(pp. 8-9\) and at \[www.trolldtekt.com\]\(http://www.trolldtekt.com\)](#)

FOCUS IN 2012

- › Portrait of a flexitime worker / [page 10](#)
- › Intern at Trolldtekt / [page 11](#)
- › Hammerich fund: Rafaz's story / [page 11](#)
- › Danish Heart Foundation van visits Trolldhede / [page 12](#)
- › Spinning via gross pay scheme / [page 12](#)



Flexitime job gives Heidi a reason to get out of bed

After a fateful handball match when she was a young teenager, Heidi Elisa Larsen has been in and out of the public health system more than most. Today, Heidi still suffers from pains in her knee and back but she has found a new sense of purpose as a flexitime employee at Troldekt.

Thirty-seven year-old Heidi Elisa Larsen is employed under a flexitime scheme at Troldekt's production office in Troldekte. Here, she spends fifteen hours a week helping her three office colleagues, for example writing freight bills and entering production figures into the system. However, for many years she was excluded from the labour market due to the pains she suffers in her knee and back.

During a handball match when she was only thirteen years old, she damaged her knee, resulting in no less than five operations and endless physiotherapy. Now as she has got older, the pain has spread to her back.

Refused early retirement

For many years, Heidi was in and out of the public health system. It wasn't until she attended a course at one of

Denmark's competence centres that she was introduced to the idea of flexitime work. The competence centres assess whether people who have been unemployed for a long time are suited for flexitime employment or whether they should be granted early retirement. Initially, Heidi was deemed unsuited for a flexitime job, both by her own doctor and by a specialist in rheumatic complaints.

– It was incredibly hard for me emotionally, but I simply refused to take early retirement. I contacted my case handler at the local authority and my family doctor and asked them to reconsider their decision. They listened to me and a short time later a job consultant started making calls on my behalf to various local companies. That was how I got in touch with Troldekt, says Heidi Elisa Larsen.

Part of the team

In November 2008, Heidi started a month long traineeship at Troldekt for fifteen hours a week to find out whether she was ready for a proper flexitime job - and she was.

– It means a great deal to me being able to work in a flexitime job. The prospect of having to take early retirement at such a young age was unbearable. I think it is important to have something to get up for in the mornings and to feel part of a team. Also, it's nice knowing that other people depend on what I do, says Heidi Elisa Larsen, who feels that Troldekt has made her feel at home ever since her first day there.



– As a company, Troldekt is characterised by very high levels of activity. I started working here just before the summer holidays when numerous schools and institutions needed to have new ceilings fitted.

Kasper Thordal-Christensen, intern at Troldekt.

Troldekt intern soaks up new knowledge

On 12 June 2012, Kasper Thordal-Christensen started a two-year internship with Troldekt. Kasper holds a vocational degree in international trade and marketing from Business Academy Aarhus, which will now be supplemented with practical experience from business life.

During his internship, Kasper will be given a thorough introduction to Troldekt's products, customers and internal organisation. The first part of

his training will take place in internal sales, where Kasper will, among other things, service customers and business associates over the phone and acquire a better understanding of Troldekt's corporate culture. After a while, Kasper will transfer to exports, where he will be responsible for selected export markets.

– As a company, Troldekt is characterised by very high levels of activity. I started working here just before the summer holidays when numerous

schools and institutions needed to have new ceilings fitted.

It was an intensely busy and exciting period of having to field lots of technical questions from customers, says Kasper Thordal-Christensen, who is looking forward to acquiring lots of knowledge which he can use in his future career.

Update



> Rafaz Mohammed – happy ending in sight

Last year we described the predicament facing one of our employees, Rafaz Mohammed, whose wife was refused a residence permit in Denmark even though the couple have two children together, one of whom was only two months old at the time. We therefore decided to support Rafaz financially via Troldekt's Hammerich Foundation which could cover some of the legal costs for the family's lawyer. Now, a year on, Rafaz's wife has still not been granted a residence permit. However, as the new Danish government has introduced less strict rules in this area, Rafaz and his family – and their lawyer – are now more optimistic and expect the application to be approved soon.

Danish Heart Foundation van visits Trolldhede



Employees at the factory in Trolldhede had a good discussion about smoking and eating habits when the Danish Heart Foundation's van stopped off to offer a thorough health check. As part of the visit, everyone had their blood pressure and cholesterol measured.

A healthy employee is a happy employee. Also, a healthy employee has fewer days off sick, more energy and a higher life expectancy. To encourage our employees to adopt a healthier lifestyle, on 6 June 2012 we invited the Danish Heart Foundation's mobile 'heart van' to stop off at the factory in Trolldhede. All employees were offered a health check and individual advice on diet and exercise. During the health check,

which lasted about fifteen minutes for each employee, the health professionals measured blood pressure, cholesterol count, blood sugar level and waistline. It was also possible to have a talk about smoking, alcohol and stress. The employees received a print-out of the readings which they could take home – the results were confidential information which was not passed on to Trolldtekt.

News in brief 2012

> Company-paid health insurance

At Trolldtekt, we are constantly endeavouring to improve working conditions for our employees for the sake of their job satisfaction and well-being and to encourage them to stay with us for many years. We are therefore pleased that, from 1 September 2012, we are offering all employees a company-paid health-insurance plan. The insurance includes counselling services and financial help if an employee's home has to be modified or if they have to change their workplace or retrain in the event of disability.

> Spinning via gross pay scheme

Once a week, a group of cheerful fitness enthusiasts from Trolldtekt mount the spinner bikes at the local sports association Trolldhede Gymnastik- og Idrætsforening and pedal flat out for an hour. The exercise bikes were donated at the end of September last year by Trolldtekt, whose employees were then able to use them free of charge until Christmas 2011. In 2012, when employees could no longer exercise free of charge, Trolldtekt gave them the chance to become members of the local sports association through a gross pay scheme. This means that Trolldtekt employees are now able to offset their membership fee against their pre-tax pay, which equates to a good discount.

Supply chain activities

The supplier's production conditions are reflected in the end product. This section describes how we are working to promote good practice throughout the entire supply chain.

OBJECTIVES AND STATUS FOR SUPPLY CHAIN ACTIVITIES

Objectives 2011-12

- › Troldekt will work to have its Code of Conduct effectively integrated by those product-related suppliers whose sales to us exceed DKK 100,000 a year.

Implementing the Code of Conduct:

- 90 per cent in 2013
- 75 per cent in 2012
- 50 per cent in 2011

Status 2011-12

- › On 31 December 2011, 81 per cent of our suppliers had signed our Code of Conduct. It is therefore realistic to expect that we can achieve the target of 90 per cent of suppliers in 2013, despite plans to change a small number of suppliers.

Objectives 2012-13

- › Same as in 2011-12.

REGULAR ACTIVITIES

- › Implementing the Code of Conduct

FOCUS IN 2012

- › Behind Troldekt's Code of Conduct / [page 14](#)
- › Supplier interview: Aalborg Portland / [page 15](#)



Responsibility at many levels

Our Code of Conduct is designed to ensure that our suppliers adhere to similar environmental, ethical and social standards.

A Code of Conduct provides effective rules for our suppliers. Today, our acoustic panels are already made of sustainable wood and cement which is produced according to strict environmental requirements. Our Code of Conduct enables us to systematically focus on all major suppliers and achieve a sustainable purchasing policy throughout the supply chain.

Work in practice

In order to ensure a structured approach to supply chain management, we have brought together our purchasing functions. In practice, we have divided the company's 100 biggest suppliers into types and categorised them according to sales volumes. Our ambition is that 90 per cent of the product-related suppliers which account for 90 per cent of total purchases will have signed our Code of Conduct by 2013 at the latest.

Everything rests on dialogue

At Troldekt, we are continually categorising our suppliers into three risk groups according to their strategic significance and the risk of them breaching the guidelines. The suppliers in the low-risk group are asked to sign our Code of Conduct. The medium-risk group is asked to submit a self-evaluation form, while the high-risk group is also likely to receive a visit from Troldekt. At the moment, 95 per cent of our product-related suppliers are in the low-risk group, 5 per cent are in the medium-risk group while there are none in the high-risk group. Should conditions change for existing suppliers, or if we start using suppliers who fall into the high-risk group, our basic premise is that we want to continue collaborating with these suppliers; through dialogue, we will seek to encourage the companies to raise their standards.

Code of Conduct for Troldekt A/S

At Troldekt, we ask our suppliers to sign our Code of Conduct whereby they commit to meeting international standards in relation to:

- > Compulsory labour
- > Child labour
- > Non-discrimination
- > Freedom of association
- > Working environment
- > Terms of employment
- > Accidents and health
- > Company products
- > Environmental protection



A common set of values for social responsibility

At Aalborg Portland, the environment has been high on the agenda for many years. When, in 2011, the company signed a joint Code of Conduct with Troldekt, it was based on a shared goal of having better documented and more sustainable production.

In December 2011, Aalborg Portland confirmed that it will commit to complying with recognised international standards within areas such as environmental protection, the working environment and corruption. This happened when the company signed Troldekt's Code of Conduct for suppliers and sub-suppliers. That same year, the Aalborg-based cement manufacturer was nominated for the distinguished EMAS (EU Eco-Management and Audit Scheme) Awards as a result of its special environmental efforts:

- At Aalborg Portland, we believe in sustainability as a long-term business model. However, even though we have been focusing on the environment and social responsibility for many years, entering into a binding collaboration such as this is a new step for us, says Poul Arne Kloster, Sales Director DK at Aalborg Portland.

Changed routines

According to Poul Arne Kloster, signing Troldekt's Code of Conduct has required slightly different purchasing routines:

- Before, we asked our suppliers to sign a set of rules which they had to follow. In addition, their employees had to do an introductory course before being allowed to perform work at our factory. This still happens obviously but with Troldekt's Code of Conduct more resources will be devoted to ensuring that the values are observed by our own suppliers. Contract work will be slightly more extensive but it will undoubtedly help to improve quality checks of our suppliers in future, explains Poul Arne Kloster.

After the NOx storm

At the end of 2011, Aalborg Portland was the focus of considerable media attention when it entered into negotiations with the Danish Minister for Taxation Thor Möger Pedersen in connection with the increased NOx tax which, in a worst-case scenario, would entail a twenty-fold increase in the costs related to the NOx tax.

- We are already subject to very high duties. If we hadn't met a certain level of flexibility in the form of a basic

deduction for the NOx tax, it would have equated to a tripling in costs for Aalborg Portland since 2009 when we paid DKK 33 million in duties, says Poul Arne Kloster.

He acknowledges that the company has a high level of emissions compared with other manufacturing companies. However, compared with other cement manufacturers, buying Danish cement is still environmentally attractive.

- Don't forget that, over the past ten years, we have reduced our NOx emissions by 70 per cent, so that we are now best in class, says Poul Arne Kloster. At the same time, he is delighted at the growth in the number of new, international certification tools such as DGNB and BREEAM which he believes will help to systematise the relationship between sustainability and economy – and lead to more innovative solutions in the construction sector.

Stakeholder engagement

Knowledge-sharing, openness and dialogue are important tools for Troldekt in looking after the interests of our stakeholders. Read why here.

OBJECTIVES AND STATUS FOR STAKEHOLDER ENGAGEMENT

Objectives 2011-12

- › Troldekt wants to show the greatest possible consideration for its stakeholders' wishes, needs and welfare.

- › Troldekt will continually develop and improve its website and web solutions to support greater dialogue.

- › Troldekt will encourage players in the construction sector to consider acoustics at an early stage of the planning process.

Status 2011-12

- › Particle filters fitted to exhaust air outlets in production to prevent dust being emitted to the local area.

- › troldekt.com is being brought up to date with a new and smartphone-friendly design featuring user-friendly tools.

- › The 'Troldekt acoustics professional' concept has been launched to give tradesmen throughout Denmark the information they need to advise public and private customers on good acoustics. So far, we have certified more than 70 acoustics professionals.
- › In 2012 we have organised five large and 40 mini acoustics seminars for architects.

Objectives 2012-13

- › Same as in 2011-12.

- › Same as in 2011-12.

- › Same as in 2011-12.
- › Increase the number of Troldekt acoustics professionals from 70 to 100.
- › We expect to hold the same number of acoustics seminars but this year also for local authorities.

REGULAR ACTIVITIES

- › Advises architects on acoustics requirements in public institutions
- › Offers web-based acoustics calculations for architects and other players in the construction business
- › Is behind acousticsuniverse.com, which offers a more visual approach to acoustics – for example for private customers and institutions
- › Is an active member of the trade organisation DI Byg, part of the Confederation of Danish Industry (DI)
- › Participates in DI's special building policy committee
- › Actively seeks to influence the Danish Association of Timber Merchants (TUN) to prioritise sustainable materials
- › [Read more in Troldekt's CSR report for 2011 \(pp. 16-19\) and at \[www.troldekt.com\]\(http://www.troldekt.com\)](#)

FOCUS IN 2012

- › Troldekt acoustics professional / [page 17](#)
- › Acoustics seminar for architects / [page 18-19](#)
- › Updated website / [page 19](#)
- › Support for the BIM Finland conference in Aarhus / [page 19](#)
- › New particle filters cut dust emissions / [page 19](#)



Troldtekt now training acoustics professionals

More and more homeowners want good acoustic solutions in their homes. Troldtekt A/S has therefore created the 'Troldtekt acoustics professional' concept, which is designed to gear carpentry firms for advising on acoustics at an early stage of the planning process – and installing Troldtekt panels quickly and correctly.

The trend for minimalist architecture with high ceilings and hard surfaces has increased the need for acoustics consultancy services. It is for this reason that Troldtekt is launching its 'Troldtekt acoustics professional' concept, which is intended to provide smaller carpentry firms with useful advice for passing on to customers.

To become a 'Troldtekt acoustics professional', carpenters must learn about terms such as reverberation time and absorption area as well as completing specific exercises on the installation of acoustic panels and on good acoustics. It will enable the tradesman to 'read' a room and correctly assess its acoustic challenges. If necessary, he can also perform a

simple calculation of the room's acoustics even before commencing the actual building work.

72 acoustics professionals ready

In June, Troldtekt certified the first group of acoustics professionals. Now, a total of 72 carpenters throughout Denmark are able to market themselves as a 'Troldtekt acoustics professional' after attending the course. They include Steen Stensgård, a carpenter from Lemvig in western Jutland, for whom acoustics is an increasingly important parameter when discussing projects with customers.

– During the past ten years, acres of plasterboard ceilings have been fitted and tile floors laid, which unfortunately cause a lot of unpleasant reverberation. Fortunately, it is possible to alleviate the problem with materials like Troldtekt, says Steen Stensgård, who often uses Troldtekt's acoustics calculator to draw up reverberation tables and illustrate for customers the effect of installing Troldtekt panels.

As an extra service, he has fitted Troldtekt in his meeting room so that

customers can hear for themselves the difference between Troldtekt and the traditional tongue-and-groove ceiling which he still has in his office. Both rooms have hard wooden floors which normally pose a considerable challenge for the acoustics.

Six good reasons for choosing an acoustics professional

Customers get a carpenter who:

1. Really knows about good acoustics
2. Installs Troldtekt professionally with a good finish
3. Understands how different materials influence sound
4. Follows Troldtekt's instructions and recommendations
5. Suggests the right ceiling solution to suit customer needs
6. Is fully informed and up to date on the latest possibilities with Troldtekt





Free acoustics seminar for architects

STI value. Reverberation time. Absorption. There is a lot for architects to think about when planning good acoustics. Therefore, last year Troldekt organised a free acoustics seminar for firms of architects throughout Denmark.

The architect is often the key to good acoustics. With this in mind, Troldekt is offering free acoustics seminars for firms of architects throughout Denmark. The seminar equips the architect and his or her colleagues with relevant knowledge about good building acoustics. The seminar provides the architect with valuable insight into the importance of building materials for sound and shows specific tools for calculating acoustic properties while projects are still on the drawing board.

Two types of seminars

There are two different versions of the seminar: A full seminar for at least fifteen people which alternates between presentations by experts and specific calculation exercises. The speakers include the acoustics specialist Jan Voetmann, who describes the most important concepts and terms within acoustics. In addition, we offer a mini seminar targeted at smaller groups. Here, Troldekt gives an introduction to acoustics and to the Troldekt acoustics calculator. The larger of the two seminars lasts about three hours

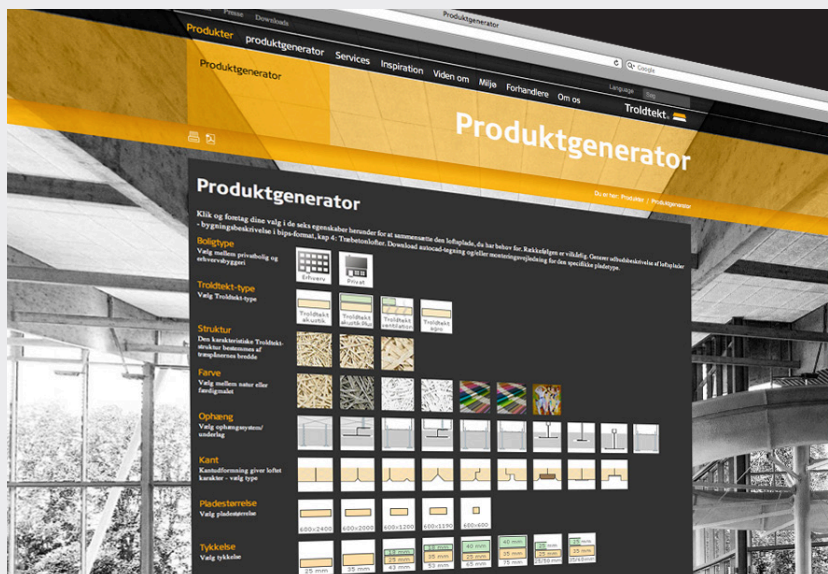
and usually takes place at the architects' own drawing offices.

Popular knowledge sharing

The seminar was developed in close collaboration with architects and has become extremely popular. In the first half of 2012, Troldekt held five full acoustics seminars and 40 mini seminars for architects and individual dealers.

– Acoustics is a topic about which we architects know far too little. We are therefore extremely pleased to have been given a professional introduction at Troldekt's mini seminar to fundamental acoustics terms such as reverberation time, STI values and frequency areas.

Katja Viltoft, seminar participant from JJW ARKITEKTER



> See more at trolldtekt.com and acousticsuniverse.com

Digital tools in new guise

Trolldtekt has a stated mission of communicating our acoustics know-how in the best possible way, and an important part of this takes place on-line. Therefore, we are now relaunching our website, which will make it even easier for architects and tradesmen to learn more about acoustics.

In winter 2012/2013, we are launching a new and up-to-date website that is adapted for mobile units. The update will make it easier to find products and guides as well as visual inspiration about good acoustics. Popular tools such as the acoustics universe and the acoustics calculator can still be found on the website. At acousticsuniverse.com, customers can experiment for themselves with sound and different

materials – and hear the results with their own ears. Trolldtekt's acoustics calculator helps architects and other consultants to calculate a room's reverberation time and its sound-absorbing properties – already at the drawing board stage. All they have to do is enter details about the room's dimensions and an acoustics report will then be sent to their Inbox.

News in brief 2012

> Particle filter reduces dust

In spring 2012, we fitted a particle filter to the factory's filter system in the phase hall. The particle filter is intended to prevent dust emissions and thus inconvenience to the factory's neighbours. The filter, which is calibrated according to current legislation, provides a warning if dust emissions rise, allowing remedial action to be taken before it leads to dust problems in the local area.

> BIM FINLAND sponsor

On 20 September 2012, BIM AARHUS turned the spotlight on international developments within building digitalisation. This happened at the BIM FINLAND conference which was held at the Aarhus School of Architecture. Finland is a pioneering country within Building Information Modelling – otherwise known as BIM – which is basically a database that can handle all conceivable data at every stage of a building project and usually supplemented with geometric 3D models. Trolldtekt sponsored the event with a DKK 5,000 contribution to support digitalisation in the building sector, which is a natural continuation of our own work at developing digital tools for the building sector.

Read more at bimaarhus.dk

Community activities

No company is an island. In this section, you can read about the students and hearing-impaired for whom good acoustics are particularly important.

OBJECTIVES AND STATUS FOR COMMUNITY ACTIVITIES

Objectives 2011-12

- › Troldekt will maintain and develop its collaboration with societies and associations which can use our competences within acoustics and sound.

Status 2011-12

- › The Danish Association of the Hard of Hearing has visited the factory in Troldehede to learn about good acoustics. For the visit, we had installed audio induction loops and subtitled a production film which had been specially edited for the Danish Association of the Hard of Hearing.
- › Troldekt has supported the Danish Association of the Hard of Hearing's centenary with a DKK 5,000 donation. In addition, we have purchased centenary raffle tickets from the association and distributed them to our employees together with last year's CSR report.

Objectives 2012-13

- › Same as in 2011-12.

- › Troldekt will strengthen its collaboration with relevant educational institutions to foster knowledge exchange and provide inspiration for the benefit of individual students, the institutions and Troldekt. In 2012, the Troldekt prize will take the form of an international architectural competition that will appeal to students from a wide range of different design cultures. It will happen under the name of the Troldekt Award.
- › In 2012, the international Troldekt Award became a reality. Architectural and design students from 23 countries worldwide participated in the competition and submitted a total of 65 proposals.
- › The Troldekt Award will be held next time in 2014 – again as an international competition.

PERMANENT ACTIVITIES

- › Sponsor for the Danish Association of the Hard of Hearing
- › Sponsor for the Danish Acoustical Society (DAS)
- › Sponsor for the Danish Association of Young Timber and Building Merchants (FUT)
- › Develops targeted initiatives for the hearing-impaired
- › Holds the Troldekt Award for design and architectural students
- › Participates in committee work within acoustics and the indoor climate
- › Read more in Troldekt's CSR report for 2011 (pp. 16-19) and at www.troldekt.com

FOCUS IN 2012

- › Troldekt Award 2012 / [pages 27-30](#)
- › Ambitious Troldekt trainee / [page 30](#)
- › Sponsor for the KFUM's Soldatermission (YMCA's soldiers' mission) / [page 26](#)
- › Free ceilings for family with hearing-impaired children / [pages 22-23](#)
- › Hearing association visits Troldehede factory / [side 21](#)
- › Supporting the Danish Association of the Hard of Hearing's centenary / [page 21](#)
- › Troldekt supports new art pavilion in Videbæk / [pages 24-25](#)



Hearing association was all ears

The Danish Association of the Hard of Hearing's Aarhus members were very interested when they visited the factory in Troldehede for an inspirational day about good acoustics.

The Danish Association of the Hard of Hearing represents the interests of more than 800,000 Danes. To gather inspiration for its ongoing work aimed,

for example, at providing information about aids for the hearing-impaired, the association's Aarhus department visited the factory in Troldehede in summer 2012. The event kicked off with a brief introduction to Troldektek, after which the guests were shown around the factory.

After a sandwich, the curious visitors from the Danish Association of the Hard of Hearing heard a short talk about sound and acoustics and

saw a demo video with subtitles for the hearing-impaired. Audio induction loops had been specially installed in the room in preparation for the visit so that everyone could follow the presentation.

> Read more about the Danish Association of the Hard of Hearing at hoeforeningen.dk.

NEWS IN BRIEF 2012

> Support for the Danish Association of the Hard of Hearing's centenary

Troldektek is a regular sponsor of the Danish Association of the Hard of Hearing. When, in early 2012, the association celebrated its centenary, Troldektek donated DKK 5,000 and bought anniversary raffle tickets for all its employees. The raffle tickets were distributed together with the tenth issue of the Troldektek magazine and our latest CSR report. Read more at hoeforeningen.dk

> Troldektek nominated for CSR award

"Troldektek is a company which has put hearing concerns on the agenda while improving the lives of the hearing-impaired in our association." These were the Danish Association of the Hard of Hearing's grounds for proposing Troldektek for the CSR Voluntary Award for promoting innovative collaboration with voluntary associations. The award will be presented at the CSR Foundation's awards event on 12-13 November 2012 by the National Council for Volunteering (Denmark).

Read more at csrfonden.dk



Hearing loss called for better acoustics

After the two boys, aged six and nine, were diagnosed as being hearing-impaired, the Holm Simonsen family has become much more aware of noise and echoes in their home. Therefore, they were delighted when Troldekt decided to donate an acoustic ceiling to the family. The hope is now that the ceiling – in addition to reducing noise levels – will also lead to fewer misunderstandings and stressful situations on a daily basis.

In most families with young children, it can be hard to maintain peace and quiet around the dining table. However, for the Holm Simonsen family in Hammerum near Herning, noise has a much bigger impact. The two boys, aged six and nine, lost much of their hearing when they were five and therefore find it difficult to hear what is being said – especially when they are in a noisy room with considerable echo. The reason for the significant loss of hearing of about 65 decibels is unknown.

– If you lose 80 decibels, it basically means that you are deaf, so a 65-decibel loss means that you are suffering from ‘medium’ hearing loss. Both our boys wear hearing aids, but they often misunderstand us and each other. This leads to more conflicts because they have not been able to hear what was actually being said, says the boys’ mother, Rut Holm Simonsen.

The two boys also have a three-year-old sister and they are all hoping that she won’t suffer the same problems.

Irritated by echoey noise

When Rut Holm Simonsen and her husband built their standard house in 2005, they had no idea that acoustics would come to play such an important role for the family. Like most modern homes, their house is designed in a minimalist style with tiled floors.

– It was very echoey in our kitchen/living room where we spend most of the time and where mealtimes are often noisy even though we make a point of speaking one at a time. If you are wearing a hearing aid, the noise sounds terrible. A hearing consultant

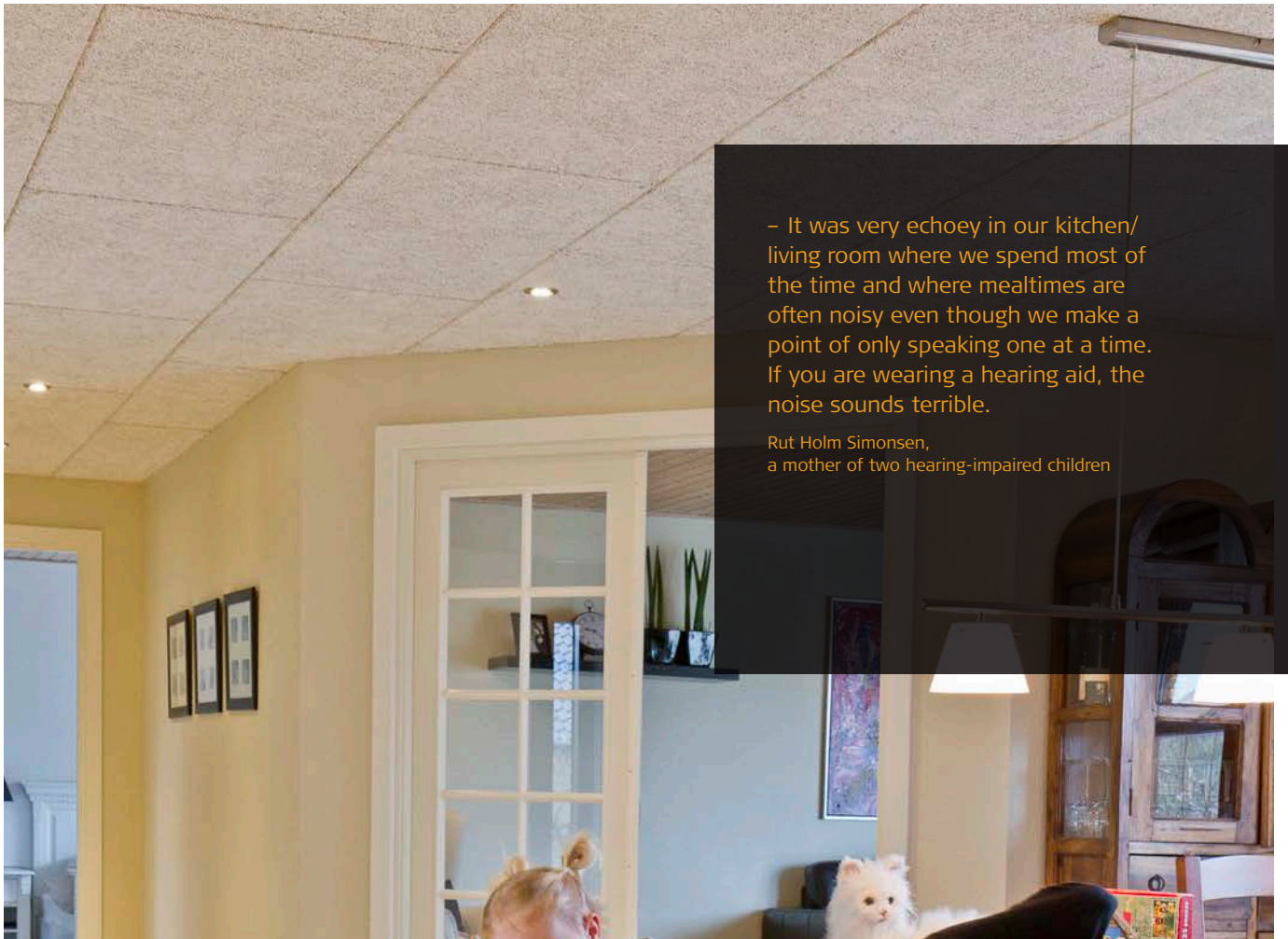
told us that, by 3 o’clock in the afternoon, our boys will have already expended the same energy that most of us use in a whole day, says Rut Holm Simonsen.

Easier evenings

In 2011, Rut Holm Simonsen’s mother saw that Troldekt A/S was holding a competition for an acoustics ceiling, and even though the family in Hammerum did not win, Troldekt nevertheless decided to donate a free ceiling which is now installed in the utility room, entrance areas and the kitchen/living room.

– It is amazing how effectively it has dampened the echoey noise. The ring and spread of the sound in the rooms is now completely different and the Troldekt ceiling has made the stressful period around supper much easier, says Rut Holm Simonsen, who was also positively surprised by the aesthetic appeal of the white-painted Troldekt acoustic panels.

However, it is still too early to say how big an effect the new ceiling has had on the boys’ conflicts.



– It was very echoey in our kitchen/ living room where we spend most of the time and where mealtimes are often noisy even though we make a point of only speaking one at a time. If you are wearing a hearing aid, the noise sounds terrible.

Rut Holm Simonsen,
a mother of two hearing-impaired children

– Good hearing or not, there will always be conflicts between boys of that age. But we hope that they now manage to speak a bit more quietly so they don't get quite as stressed by the noise, says Rut Holm Simonsen.



The art pavilion in Videbæk Park is a cultural beacon for all of the Municipality of Ringkøbing-Skjern and aims to focus on emerging design, art and architecture.





Troldtekt supports art pavilion in Videbæk

The 400 square metre art pavilion in Videbæk Park resembles a Japanese tea house, beautifully situated with views of the lake and gardens. The aim is for the pavilion to make Videbæk more attractive to young artists and their clientèle.

On 1 June 2012, the West Jutland Art Pavilion in Videbæk was inaugurated during the Videbæk Festival Week. The art pavilion is a cultural beacon for all of the Municipality of Ringkøbing-Skjern and aims to focus on emerging design, art and architecture.

The artist Jens Lund and the architect Henning Larsen, who both have links with Videbæk, are behind the initiative.

The building consists of two floating horizontal square discs separated by a lightweight glass façade and a system of obliquely angled façade sections. The geometry is a play on Videbæk's town symbol, the V. Troldtekt has sponsored the project with acoustic ceilings both inside and out.

> Read more at henninglarsen.com



On 1 January 2010, Nathalie and Troels Moesgaard were appointed managers at Soldaterhjemmet, a soldiers' recreation centre in Holstebro.



Recreational home for returned soldiers

As a way of honouring returning soldiers with scarred souls, the YMCA's soldiers' mission (KFUMs Soldatermission) is now establishing three new recreational homes at different locations in Denmark. Troldekt is sponsoring one of the homes by donating a free ceiling.

Soldiers who have been posted on international missions often come home bearing scars that are much more than skin deep. Many of them also have scarred souls and therefore find it difficult to resume their normal lives with a family and job.

To help them return to society, the YMCA soldiers' mission now plans to establish and run 'KFUMs Soldater-Rekreation', a place where Danish soldiers can live in calm and noise-free

surroundings while coming to terms with their experiences. Initially, such recreational homes will be established at the barracks in Holstebro in western Jutland, in Hvorup near Aalborg in northern Jutland and in Høvelte on Zealand where the Life Guards are based. Troldekt is sponsoring the project in Holstebro with acoustic panels to a value of approx. DKK 28,000.



KFUMs Soldaterhjem

Vi er jo lige her

PROTEKTOR H.K.H. KRONPRINSESSE MARY

Troldtekt Award 2012 goes to imaginative cloud sculpture

Troldtekt has challenged international architectural and design students to apply their talents to submitting proposals for completely new ways of using our traditional acoustic panels. No limitations – pure imagination and creativity.

Read more on the following pages >





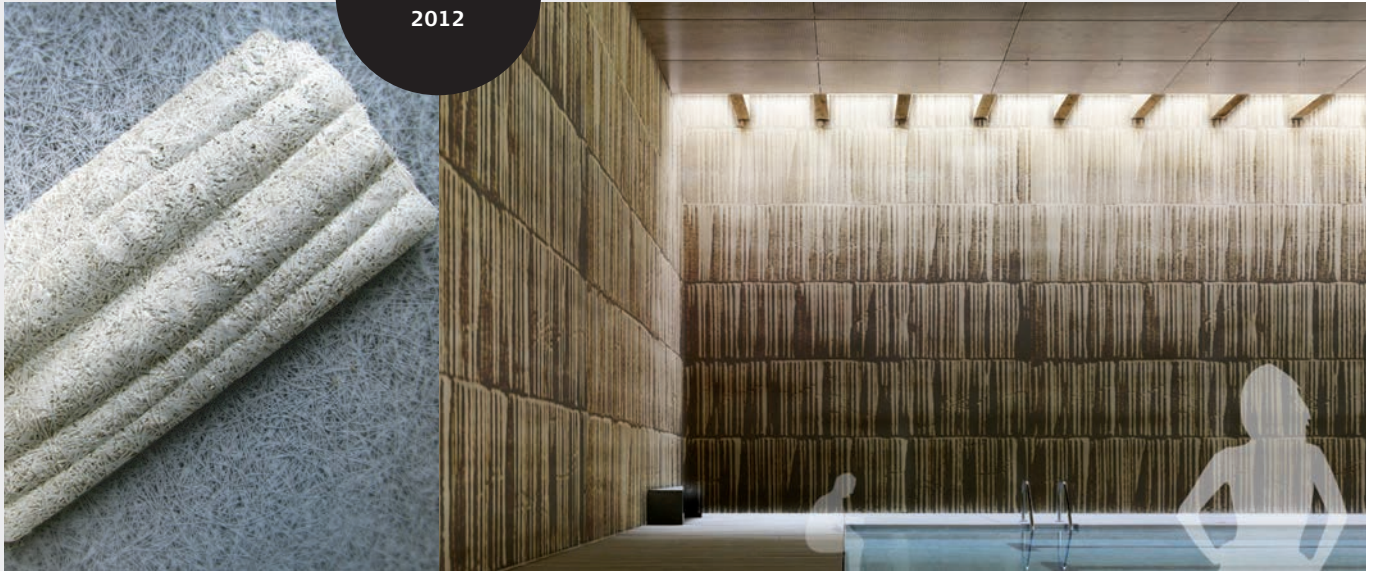
– The idea is fun yet simple. It appeals strongly to the imagination and could easily be put into production.

said the judges about the winning project.

**TROLDTEKT
AWARD 2012**



**JUDGES'
SPECIAL AWARD
2012**



Judges' special prize

All the creative entries for the Troldekt Award were of such a high standard that the judges' committee decided to award a Special Prize. This went to Amy Linford, a student at Newcastle University in the UK, for her project '(Fabric)ated'.

See more at www.troldekt.com/award

Matthias Kisch from the Royal Danish Academy of Fine Arts Schools won the Troldekt Award 2012 for his acoustic cloud sculpture made of Troldekt panels. Architectural and design students from 23 countries entered the concept competition, submitting an extensive array of creative and original ideas for new uses of the traditional acoustic panels.

Blocks functioning as partitions, a lounge chair for relaxation and a shelter for refugees. A wealth of creative proposals were submitted for the Troldekt Award 2012 after Troldekt A/S invited Danish and foreign architectural and design students to come up with new ways of using its acoustic panels. In all, Troldekt received proposals from students in 23 countries – from Venezuela to Germany – and it is absolutely wonderful that a Danish construction material can spark so much interest around the world.

In addition to a number of Troldekt representatives, the judges' committee was made up of three architects: Mikkel Frost, co-founder of CEBRA A/S, architectural photographer Helene Høyer Mikkelsen and the German architect Jens Ludloff, who has his own architectural practice in Berlin. In assessing the proposals, the committee was unaware of both the nationalities and the names of the architects and designers behind the proposals.

Floating cloud appeals to the imagination

The judges' committee was unanimous in selecting the winner of the Troldekt Award 2012, which came with a prize of EUR 5,000. The award goes to Matthias Kisch from the Royal Danish Academy of Fine Arts in Copenhagen who has conceived a flexible modular system of Troldekt panels under the name 'Acoustic Synecdoche'. To illustrate the idea's potential, he has created a floating sculpture – or acoustic cloud – which is designed to hang

above a table, with the option of integrating lighting into the structure. Commenting on the winning entry, Mikkel Frost said:

– The open assignment to create something new using Troldekt has inspired many students regardless of what they already knew about the material. However, the winning proposal stands out by being both fun and simple. It strongly appeals to the imagination and inspires me as an architect. At the same time, it is an idea which could easily be put into production.

Award-winner Matthias Kisch was honoured to receive the prize, and glad that the competition has made people think more about buildings and their acoustics.

– Many architectural students and architects have a tendency to overlook the acoustics because they are so visually oriented. However, good sound is also an important part of the architecture, which is why my project tries to give Troldekt a more prominent place in the room, he says.

The five members of the judges' committee were bowled over by the high standard of entries for this year's Troldekt Award.



High standard triggers special prize

The standard of the entries was so high that the judges' committee also awarded a special prize and highly commended four other students for their outstanding proposals. The spe-

cial prize went to Amy Linford from Newcastle University in the UK who, with her '(Fabric)ated' entry, conceived a brand new and unique Troldekt panel with an irregular, wavy surface.

News in brief



> Ambitious intern at Troldekt

It means a lot for young students to be able to supplement their theoretical know-how with work experience in the fast-paced world of business. Troldekt is therefore happy to open its doors to curious interns.

To conclude his two-year Marketing Management programme from Business Academy Aarhus, Christian B. Nielsen decided in spring 2012 that he would like to do his internship at Troldekt. Earlier in his studies, Christian and a group of fellow students had done an assignment about Troldekt's sales strategy which he thought was very interesting and something he would like to pursue further. For three months Christian thus became a permanent member of Troldekt's marketing team, where he was responsible for conducting a competitor survey, participated in meetings about Troldekt's new website and assisted at the TUN trade fair in Fredericia.

- My time at Troldekt has given me considerable insight into how the private sector operates and has confirmed my desire to specialise in media and marketing, in particular how companies present themselves to the outside world, says Christian B. Nielsen, who is currently studying for a bachelor's degree in international marketing.

Environmental activities

Troldtekt seeks to incorporate sustainability into the entire product life cycle. This section describes our environmental activities in more detail.

OBJECTIVES AND STATUS FOR ENVIRONMENTAL ACTIVITIES

Objectives 2011-12

- > Troldtekt wants to minimise the environmental impact of its activities and those of its suppliers – throughout the entire lifespan of each Troldtekt product.

- > In 2013, 70 per cent of our timber purchases must be PEFC-certified.

Status 2011-12

- > Troldtekt has obtained Cradle to Cradle certification in the silver category.

- > Between September 2010 and September 2011, the proportion of PEFC-certified wood was 73.63 per cent. However, in 2012 our demand for PEFC-certified wood has been so high that suppliers have been unable to keep pace. This meant that at the end of May 2012 the proportion of PEFC-certified wood had fallen to 58.88 per cent.

After a meeting with our timber suppliers, HedeDanmark has promised to supply 100 per cent PEFC-certified wood in the second half of 2012 while 75 per cent of supplies from SkovLink & Haderup will be PEFC-certified. Thus, the total proportion will increase again before the end of 2012.

Objectives 2012-13

- > Same as in 2012-13.
- > Same as in 2012-13.
- > Painted Troldtekt panels are currently being analysed, and are expected to obtain Cradle to Cradle certification in 2013.

REGULAR ACTIVITIES

- > Work based on a sustainable product life cycle – cradle to cradle
- > Using PEFC-certified wood to an increasing extent
- > Only using cement from Aalborg Portland
- > 95 per cent of energy consumption for heating the production premises comes from CO₂-neutral wood waste and bark
- > Raw materials sourced locally, thereby reducing the environmental impact of transport
- > Troldtekt panels release a minimum of

gases during use (Danish Indoor Climate Labelling)

- > Troldtekt's production waste is sent for composting at KomTek A/S
- > Is a member of CO₂ Neutral Website
- > Has made all printed communication matter available on the website
- > Uses digital printing to reduce waste, energy consumption and chemical discharges
- > Collaborates with Zeuner Grafisk, which supplies climate-neutral printed matter
- > Collaborates with We Produce, which offers energy-friendly digital printing

- > Read more in Troldtekt's CSR report for 2011 (pp. 20-31) and at www.troldtekt.com

FOCUS IN 2012

- > Troldtekt's natural grey and natural wood panels have obtained Cradle to Cradle certification in the silver category / [pages 32-33](#)
- > Product life cycle in five phases / [page 34](#)
- > Climate partner agreement with DONG Energy / [page 35](#)
- > Troldhede CHP plant – follow-up / [page 35](#)



Acoustic panels from cradle to cradle

Troldtekt is one of only a handful of building materials to have obtained Cradle to Cradle certification in the silver category for its natural grey and natural wood acoustic panels.

The Cradle to Cradle concept is a counter-reaction to the consumer throwaway culture and encourages the reuse or recycling of all materials.

– The classic Troldtekt panels are manufactured using an increasing degree of renewable energy as well as local renewable materials. The product provides value both when it is being used and afterwards, when the panels can be composted or used for energy-generation purposes, says Søren Lyngsgaard, Creative Director at Cradle to Cradle Denmark, which has just certified Troldtekt's natural grey and natural wood acoustic panels in the silver category.

Green business model

Traditionally, sustainability has involved minimising harmful effects by reducing energy consumption, minimising CO₂ emissions and living a simpler life. Cradle to Cradle takes a different approach, based on the realisation that it is not possible to reduce and regulate your way to sustainability. In addition, the middle classes are simply growing too fast in the developing countries.

– Cradle to Cradle is an innovation concept where environmental, social and economic components are integrated into new, green business models, says Søren Lyngsgaard, while adding: – Concerns for the natural world must not be perceived as an inconvenient expense but as a value-creating part of the design.

Biological cycle



Troldtekt contains no harmful substances and can therefore be returned to the natural cycle as compost.



Three sustainable principles

Cradle to Cradle Denmark is Denmark's leading organisation within the optimisation and verification of products according to the three Cradle to Cradle principles: That everything is a resource for something else, that production must be based on renewable energy and that diversity is valuable. The certification documents the product's current sustainability profile and sheds light on how its sustainability can be further enhanced in future.

FACTS about cradle to cradle



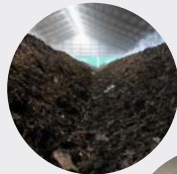
There are four categories of Cradle to Cradle certification: basic, silver, gold and platinum. A new bronze category is in the pipeline.

- Product certification is based on the following five categories:
1. Material health (based on human and environmental health)
 2. Material reutilisation
 3. Energy consumption and energy sources
 4. Water consumption and discharge
 5. Social responsibility

Troldtekt is one of only a handful of building materials to have obtained Cradle to Cradle certification in the silver category.

1. Materials

Danish raw materials – PEFC-certified wood from the forests of Jutland and cement from Aalborg Portland.



5. Disposal

Compostable and reusable as fertiliser.

2. Production process

Top modern and environmentally conscious production in Trolldhede.

3. Transport processes

Sourcing raw materials locally minimises transport requirements.

4. Use

Certified in the best Danish Indoor Climate Labelling categories.



Five-phase product life cycle

Materials, production, transport, use and disposal. Throughout the entire product lifespan – from cradle to cradle – Trolldtekt goes out of its way to minimise the environmental impact of its production and its products. That is the idea behind the product life cycle which provides a green and sustainable foundation for the company's environmental vision.

1: Materials chosen with care

Trolldtekt is a completely natural product made from Danish raw materials. It is also PEFC-certified, guaranteeing that the wood can be traced back to sustainable forestry. The wood comes from trees felled in Jutland, where they have grown for at least 50 years without the use of fertilisers, pesticides or other chemi-

cals. The cement comes from Aalborg Portland, which is subject to strict environmental standards.

2: Green heating

Trolldtekt is produced in Trolldhede in western Jutland in a closed process without any waste-water discharge. Ninety-five per cent of the energy for heating Trolldtekt's modern factory comes from CO₂-neutral wood waste and bark stemming from the production process.

3: Minimum transport

As Trolldtekt sources its raw materials locally – wood from the forests in Jutland and cement from Aalborg Portland – the environmental impact of its transport activities is significantly reduced.

4: Indoor climate best in category

As far back as 1997, Danish Indoor Climate Labelling awarded Trolldtekt the best category of indoor climate labelling. In practice, this means that Trolldtekt emits a minimum of particles and gases during its use.

5: Back to nature

KomTek A/S processes the waste from the production line in Trolldhede to produce soil improvers. The production waste makes a particularly good compost, as the high proportion of lime in the cement boosts oxygen levels while the fibre content in the panels produces a high quality compost.



New climate partnership agreement with DONG Energy

Facts about wind power

When a company signs a climate partnership agreement in which it states that wind power is the energy source, the company is buying a guarantee that DONG Energy produces electricity at one of their certified wind farms corresponding to its consumption. The guarantee is obtained through RECS (Renewable Energy Certificate System) certificates.

As one of the first manufacturers of building materials in Denmark, Troldekt A/S has signed a climate partnership agreement with DONG Energy. In doing so, Troldekt is committing to ensuring that 50 per cent of the company's electricity consumption in 2015 comes from renewable energy such as wind power. The goal is stable energy supplies with zero CO₂ emissions.

Troldekt and DONG Energy have both committed to taking responsibility for global warming. This has entailed signing a climate partnership agreement where we will together find out how

Troldekt can reduce its energy consumption – and thereby its CO₂ emissions. The target is that in 2015 at least 50 per cent of our energy consumption will come from power produced by wind turbines, i.e. wind power.

Supports local production of green energy

The power will come from DONG Energy's new wind farm near the island of Anholt, supporting local production and renewable energy expansion. By the end of the first quarter of 2013 at the latest, all production in Troldekt will be assessed by an energy consultant from DONG Energy, who will help identify potential energy savings and

CO₂ reductions. The intention is a gradual changeover, so that in 2013 the energy from wind power accounts for 30 per cent of our total energy consumption and 40 per cent in 2014.

DONG Energy will also make climate specialists available at our seminars for architects, hopefully inspiring them to incorporate climate partnership agreements and sustainability into their project descriptions.

Update

> Troldekt CHP plant

Last year, we talked about our plans to sell surplus heat to Troldekt CHP plant. Thanks to this collaboration, the CHP plant will be able to reduce its heat production, cut its CO₂ emissions and offer cheaper heating to the town's citizens. Now however, new measurements show that the amount of surplus heat from the Troldekt factory is less than was first assumed, and that it is primarily during the summer months that we can supply surplus heat to the CHP plant. The project has therefore been put on temporary standby while a team of consulting engineers makes further financial calculations.

Troldtekt A/S

Address	Head office Sletvej 2A, DK-8310 Tranbjerg J Production and warehouse Østergade 37, Troldhede, DK-6920 Videbæk
No. of administrative employees	25
No. of production employees	43
Sector	Building industry
Contact	Tina Snedker Kristensen Head of Marketing and Communications tkr@troldtekt.dk +45 8747 8100

About Troldtekt

Troldtekt acoustic solutions for ceiling and wall cladding are among the leading products for ensuring good acoustics, efficient fireproofing and a healthy indoor climate. The main product is acoustic panels manufactured from wood and cement. Troldtekt acoustic panels are installed in all types of building from offices and factories to schools, institutions, sports centres and private homes. Troldtekt A/S was founded in 1855 as a trading company in Aarhus. Since 1935, the company has produced Troldtekt wood wool in Troldhede in western Jutland.

Acknowledgements



Troldtekt
natural panels