

Lodam report on social responsibility, 2016

# Social responsibility

# Lodam at a glance

# 102 2012 13 & 17

No. of employees on date of issue of this report.

Date of signing the UN Global Compact: 13 March 2012.

The two Global Goals that Lodam supports in particular: 13. Climate action and 17. Partnerships for the goals.

# 1.180 80% 9

Tonnes of CO2 per employee in 2015.

Accomplished and agreed competence development.

No. 9 on the Great Place to Work® Institute's list of the best workplaces in Denmark 2015.

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### Lodam's values

#### Professionalism

We strive to be a competent, reliable business partner. A partner that keeps its promises and consistently delivers above the bar in terms of quality, service and value.

#### Inclusiveness

We believe in individualism with a respect for diversity and the many cultures that come together to work under our roof. We are driven by good attitudes, the mutual desire to achieve job satisfaction and our preparedness for change.

#### Good business acumen

We are driven by sound business practices in all daily decisions, both internally and externally. All decisions should be ethical and to the benefit of the company as a whole.

## Management statement

We are pleased to present Lodam's new report on social responsibility. The report provides an overview of our internal and external activities from May 2015 to April 2016. The aim is to provide our customers, employees and other stakeholders with insights into Lodam's work with social responsibility as well as our ambitions to contribute to social responsibility.

People responsibility is important to us, and we keep measuring employee well-being via the Danish "Great Place to Work" employee survey, organised by the Great Place to Work® Institute. In November 2015, Lodam was ranked no. 9 in the category of medium-sized companies in the Best Workplaces in Denmark list, which represents an advancement on the year before. Lodam also received the Communication Award and was nominated for the Diversity Award, clearly reflecting our commitment to being a great workplace for our employees.

In the past period, we have been busy tailoring our organisation and strategies to meeting the requirements of our customers. We have focused on setting the direction of the company and communicating it to all our employees, and we have focused, in particular, on de-

veloping our cross-organisational collaboration, which is decisive to succeeding with complex development and production projects.

In May 2015, Lodam entered into a partnership with the technical humanitarian organisation Engineers Without Borders Denmark with the aim of contributing to advancing a number of broader societal goals such as the Sustainable Development Goals, ref. page 6.

Lodam joined the UN Global Compact initiative in 2012, and we continue to support the UN Global Compact and its ten principles on human rights, labour, the environment and anti-corruption. These principles reflect our continued commitment to running our business in a responsible and serious way.

Lodam Management,

*Anna Marie Damgaard Kristensen*  
Anna Marie Damgaard Kristensen,  
Managing Director

*Henning Højberg Kristensen*  
Henning Højberg Kristensen,  
Managing Director



Anna Marie Damgaard Kristensen  
Managing Director



Henning Højberg Kristensen  
Managing Director

"The aim is to provide our customers, employees and other stakeholders with insights into Lodam's work with social responsibility."



# Lodam electronics

Our mission is to be a global player within intelligent electronics for HVAC&R. We provide cost-effective and high-quality solutions, enabling our customers to consistently outperform their peers in usability, serviceability and energy efficiency.

Lodam possesses extensive knowledge and know-how about developing, producing and implementing innovative and efficient electronic climate control solutions. Lodam's most important asset is its staff in the form of more than 100 dedicated employees who work either at our modern facilities at our headquarters in Sønderborg, Denmark, or at a branch office in Aarhus, Denmark.

Lodam is a member of the BITZER Group, one of the largest groups in the global refrigeration and air-conditioning compressor industry.

Employee satisfaction is important to preserving an inspiring and creative working environment and the commitment which is essential to securing the future development of innovative and energy-efficient solutions.

Lodam's control solutions are important and reliable integrated parts of our partners' total systems – and help create a perfect climate for humans as well as optimised storage conditions for foods and other commodities.

Today, Lodam's innovative climate control solutions are used all over the world, for instance in the following areas:

- OEM solutions for heat pump and ventilation systems
- Compressor electronics
- Frequency converters for air-conditioning and refrigeration compressors
- Transport refrigeration for sea and land transport.

## Mission

Energy efficiency through intelligent controls.

Our mission is to be a global player within intelligent electronics for HVAC&R. We provide cost-effective and high-quality solutions, enabling our customers to consistently outperform their peers in usability, serviceability and energy efficiency.

## Vision

Our vision is to be the preferred company in the eyes of our customers and employees

- Lodam wants to continuously grow through innovative solutions.
- Lodam wants to improve customer satisfaction, as measured in our annual surveys, by having a Net Promoter Score (NPS) exceeding 25.
- Lodam wants to be one of the best places to work in Denmark with a trust index of 95% as measured by the Great Place to Work® Institute.

## Lodam in short

- Danish company owned by the German company BITZER.
- Lodam produces electronic control devices for OEM products within the HVAC&R\* industry.
- Products are developed in-house and produced by global partners.
- Our export share is about 75%.

\* Heating, Ventilation, Air Conditioning & Refrigeration



# Lodam and social responsibility



## The Global Goals

In September 2015, world leaders committed to 17 Global Goals to achieve three extraordinary things in the next 15 years: End extreme poverty, fight inequality and injustice and fix climate change. Ref. [www.globalgoals.org](http://www.globalgoals.org).

Lodam is committed to supporting the 17 Global Goals. Given the nature of our business and our products, we contribute, in particular, to achieving two out of the 17 goals:

**13. Climate action:** Take urgent action to combat climate change and its impacts.

Lodam contributes through the supply of energy-saving electronic climate control solutions. Read about our products and how they save energy on pages 16-22.

**17. Partnerships for the goals:**

Strengthen the means of implementation and revitalise the global partnership for sustainable development.

Lodam is a partner of Engineers Without Borders Denmark, which is a technical humanitarian organisation that aims to help the world's poorest in building a better and more sustainable future.

## Looking outwards

As an international company, we also look outwards when it comes to human rights and social responsibility. In 2015, Lodam entered into a three-year partnership with Engineers without Borders – Denmark (EWB-DK), [www.iug.dk](http://www.iug.dk), which are part of Engineers without Borders International. EWB-DK is a technical humanitarian organisation that, through the vision “building a better tomorrow”, aims to help the world’s poorest in building a better and more sustainable future in their local environment. EWB-DK supports projects in developing countries using technical skills to support local development and fight poverty. EWB-DK’s core areas are environment (including renewable energy and waste), water, sanitation, hygiene and health (WASH), food security, and emergency and disaster relief.

In 2015, Lodam again participated in the ‘World’s Best News’ initiative, a Danish campaign conceived by

the UN, Danida and a number of Danish NGOs; Lodam has contributed to spreading the news that the Millennium Development Goals are a success: The developing countries are making real progress. See [www.worldsbestnews.dk](http://www.worldsbestnews.dk).

## Participating in customer’s responsible procurement programme

Lodam supplies Maersk Container Industry with controllers, which are used in the Star Cool refrigerating units, and has done so since the launch of the units in 2006. One of Maersk Container Industry’s sustainability targets is to reduce energy consumption, which is one of the reasons why they have chosen Lodam’s energy-efficient cooling control solutions for their reefer containers, ref. page 22.

In 2011, Maersk Container Industry invited Lodam to take part in its Responsible Procurement programme, and in November 2015 they asked Lodam to participate

in a sustainability status interview in order to learn about Lodam’s experiences.

These are some of Lodam’s experiences from participating in Maersk Container Industry’s responsible procurement programme:

“Maersk Container Industry’s request was a chance to look at our work with CSR from a strategic point of view. At the time, we were already adhering to the principles of social responsibility, but hadn’t formalised our CSR activities. It made sense for Lodam to take this step. Not only because we are engaged in business activities worldwide but also because we were going through a phase of substantial growth – which meant doubling the number of employees. The programme triggered a strong focus on our CSR activities, and we also decided to join the United Nations Global Compact as a natural part of this process”.

INGENIØRER  
UDEN GRÆNSER





## Social responsibility partnerships and networks

Lodam is member of a number of networks, supporting social responsibility activities together with other companies and organisations. The list below illustrates Lodam's commitment to human rights, environmental innovation

and organisations that support the local communities in which we are present.

Lodam also supports a number of local clubs and associations, e.g. sports clubs in which our employ-

ees or their children are active. The employees can apply for sponsorships once a year.

### Human rights

- UN Global Compact, [www.unglobalcompact.org](http://www.unglobalcompact.org)
- World's Best News, [www.worldsbestnews.dk](http://www.worldsbestnews.dk)
- Engineers Without Borders Denmark / Ingeniører uden grænser, [www.iug.dk](http://www.iug.dk)

### Environment

- Project Zero, [www.projectzero.dk](http://www.projectzero.dk)
- CO2-neutral websites, [www.CO2neutralwebsite.com](http://www.CO2neutralwebsite.com)

### Local cultural branding

- Cultural and sports sponsorships: Kultur i Syd, Sønderborg Hus, Sønderjyske Elite Sport and Dybbølhallerne
- Sponsorships for local clubs and associations in which Lodam employees are active

### Employer branding and attraction

- Great Place to Work® Institute, [www.greatplacetowork.dk](http://www.greatplacetowork.dk)
- Work Live Stay, [www.work-live-stay.dk](http://www.work-live-stay.dk)
- Career in Denmark, [www.careerindenmark.com](http://www.careerindenmark.com)

- Dansk HR, [www.danskh.dk](http://www.danskh.dk) (in Danish)
- Cabi, [www.cabiweb.dk](http://www.cabiweb.dk) (in Danish)
- cleantech.talentattractiondenmark.com

### Education

- Cooperation agreements with University of Southern Denmark and Aalborg University
- Energy sponsor programme at Aalborg university
- The panel of employer representatives at the University of Southern Denmark, [www.sdu.dk](http://www.sdu.dk)
- Guest lectures in e.g. technology and innovation, sales and marketing and CSR

### Innovation and technology

- TEGnology, [www.tegtechnology.dk](http://www.tegtechnology.dk)
- CLEAN, Danish cleantech cluster, [www.cleancluster.com](http://www.cleancluster.com)
- Member of Mechatronics Cluster Denmark, [www.mechatronicscluster.com](http://www.mechatronicscluster.com) (in Danish)
- Partner in local project "Green Power Electronics Test Lab", supported by e.g. Green Labs dk

- SPM, [www.spm-erfa.dk](http://www.spm-erfa.dk)
- Delta – EMC Klub, [www.emc-klubben.dk](http://www.emc-klubben.dk) (in Danish)
- Delta – Wireless Klubben, [www.wirelessklubben.dk](http://www.wirelessklubben.dk) (in Danish)
- Fachverband Gebäude-Klima, [www.fgk.de](http://www.fgk.de) (in German)
- ASERCOM – Association of European Refrigeration Component Manufacturers, [www.asercom.org](http://www.asercom.org)

### Industrial cooperation

- Confederation of Danish Industry (Dansk Industri, DI), [www.di.dk](http://www.di.dk)
- Member of DI's CSR network and Conflict Minerals network, [www.di.dk](http://www.di.dk)
- Industrigruppen Sønderborg
- Member of Sønderborg Vækstråd, [vaekstraad.sonderborg.dk](http://vaekstraad.sonderborg.dk)

### Results goals and actions (May 2015 - April 2016)

#### Goal:

Continue to anchor the awareness of Lodam's social responsibility activities and policies among Lodam employees. Measured as part of the annual employee satisfaction survey (Great Place to Work®), above 95%.

#### Result:

96% of all Lodam employees answered "I feel good about the way we contribute to society" in the Danish Great Place to Work 2015 survey, organised by the Great Place to Work® Institute.

### Goals and actions (May 2016 - April 2017)

#### Goal:

Continue to anchor the awareness of Lodam's social responsibility activities and policies among Lodam employees. Measured as part of the annual employee satisfaction survey (Great Place to Work®), above 95%.



# UN Global Compact

## The world's largest corporate sustainability initiative

The UN Global Compact is a call to companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance societal goals.

The UN Global Compact believes it is possible to create a sustainable and inclusive global economy that delivers lasting benefits to people, communities and markets.

To make this happen, the UN Global Compact supports companies to:

1. Do business responsibly by aligning their strategies and operations with ten principles on human rights, labour, environment and anti-corruption; and
2. Take strategic actions to advance broader societal goals, such as the UN Sustainable Development Goals, with an emphasis on collaboration and innovation.

Reporting to stakeholders in a transparent and public manner is fundamental for companies committed to sustainability. Each company's annual Communication on Progress (COP) is a key component of the company's commitment to the UN Global Compact.

## The UN Global Compact strategy:

By encouraging companies to operate responsibly and take strategic actions that support society, the UN Global Compact works to ensure that business activity adds value not only to the bottom-line, but also to people, communities and the planet.

The UN Global Compact asks companies to take a comprehensive approach to sustainability, and lays out 5 essential elements of corporate sustainability which the UN Global Compact helps business put into practice:

Foremost companies must (1) operate responsibly in alignment with universal principles and (2) take strategic actions that support the society around them. Then, to push sustainability deep into the corporate identity, companies must (3) commit at the highest level, (4) report annually on their efforts, and (5) engage locally where they have a presence.

Source: [www.unglobalcompact.org](http://www.unglobalcompact.org)

## The ten principles of the United Nations Global Compact

### Human rights

1. Businesses should support and respect the protection of internationally proclaimed human rights; and
2. 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. the elimination of all forms of forced and compulsory labour;
5. the effective abolition of child labour; and
6. the elimination of discrimination in respect of employment and occupation.

### Environment

7. Businesses should support a precautionary approach to environmental challenges;
8. undertake initiatives to promote greater environmental responsibility; and
9. 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.

Lodam supports the UN Global Compact and its ten principles on human rights, labour, the environment and anti-corruption.



# Environmental responsibility



Lodam takes an environmentally responsible approach to the running of our business, and we focus on the areas with the greatest potential for minimising environmental impact. One such area is our products that reduce energy consumption for end-users, ref. pages 16-22. We also require that our suppliers take care of the environment, ref. our Supplier Code of Conduct, pages 25-27.

In-house, we look at optimising our facilities. We keep a list of ideas for environmental improvements. The list is available to all employees, who are welcome to add ideas to the list. The ideas are evaluated at regular CSR meetings, where it is decided which ideas to look further into or implement. Many ideas have already been implemented, and new ideas are constantly being added to the list.

The ideas that have been implemented since the last report range from insulation of a building to serving tap water to guests instead of bottled water (which makes perfect sense in Denmark as we have some of the cleanest tap water in the world).

These are some of the other areas we focus on:

## Localisation

Localisation is about streamlining logistics, increasing transport efficiency and manufacturing our

products close to the markets for which they are destined. Our strategy is an efficient logistics approach, which we call “in the area, for the area”. The purpose of Lodam’s localisation project is to ensure that our manufacturers are sited near our main customers. Furthermore, Lodam is working to find quality-conscious sub-suppliers which are located near the manufacturers. All in all, transport and logistics are minimised, saving money, time and energy.

In the past period, we have focused on reducing air transport as this is both the most expensive, and also the most energy-intensive mode of transport. We have specifically focused on monitoring and reducing our use of air transport of product parts and components. Furthermore, we have looked into and evaluated potential sub-suppliers which are located near the manufacturers. In particular, we have been looking for sub-suppliers of heavy components, which have the greatest impact during air transport.

The result is a considerable fall in use of air transport, and in general a decrease in sea and land transport.

The project continues, and our focus will now be on the implementation of the processes in the long term.

## Refurbished spare parts, pilot project

Lodam has completed a pilot project that involved looking into introducing refurbished spare parts. Apart from following developments in national legislation on the recycling of electronic waste, we looked into whether spare parts for one of our products could be refurbished, and to what extent. The pilot project was a success, and following evaluation by the customer, it was included in our regular scope of supply.

Based on our experience from the pilot project, we are now considering extending the concept to other customers. We see considerable long-term potential.

Apart from the obvious environmental benefits, our aim is for the refurbishment of spare parts to bring considerable advantages for customers in terms of both cost-efficiency and quality.

## Environmental certification

Lodam has looked into the process of obtaining ISO 14001 certification in terms of scope, costs, risk analyses and strategy, and we have established a detailed overview of the steps involved. An actual plan for the certification process will be made, either if requested by one of our customers, or if Lodam believes that this would be a good idea and in line with Lodam’s strategies.

## Air and heating

Lodam’s main building is heated by water-borne floor heating. The heat comes from (ground-to-water) heat pumps, which we have developed and produced ourselves. When the temperature drops below freezing point, we supplement this heating solution with natural gas. We have seasonal control of our heating to ensure a more homogeneous indoor temperature and save energy.

Lodam has rented a set of pavilions, which we use as extra meeting rooms. However, these pavilions are heated by electricity, which is not ideal, neither from a cost nor from an environmental point of view. However, we have concluded, that initiating new activities will be too expensive as our present plans are only to keep the pavilions for a few more years.

Ventilation systems are installed in all buildings (except the pavilions). These are very energy-friendly solutions, which also improve the indoor climate. From January 2016, all ventilation systems are again controlled by week programs (active on working days from 6 am until 6 pm). The week programs have been switched off for some time due to internal testing in our development department (the ventilation systems are controlled by Lodam software), so we expect the energy savings to be reflected

in our consumption figures next year.

## Energy savings for employees

For our employees, we have introduced a number of initiatives that may help them save energy at home. We have two energy meters, which the employees can borrow to check the energy consumption of various types of electrical equipment at home. It is also possible to borrow a thermal imaging camera to help identify insulation problems. In addition, we have a site on our intranet for discussing and exchanging ideas on how to save energy at home.

In March 2016, we held an after-hours meeting for employees, where one of our employees gave a talk on energy logging at home, based on experience from Lodam’s own product development department.

## Energy consumption figures

The tables on this page shows our energy consumption and CO2 emissions for the past years relative to floor area and number of employees.

	2009	2010	2011	2012	2013	2014	2015
kWh per sq m, total	110	152	127	122	142	137	143
kWh per sq m, ordinary facilities and activities	-	-	-	93	122	119	128
kWh per sq m, product testing	-	-	-	29	20	18	15
kWh per employee	5601	6801	5485	4649	5301	4649	4648

Notes:

In 2010, we extended our facilities with approx. 1,000 sq m. During the period of construction, our ground-to-water heating system was switched off.

In 2012, we split the measuring of energy consumption into energy used for product testing and energy for our ordinary facilities and activities in order to monitor how energy is used.

In 2013, we extended our facilities with a new 396 sq m building. This building was not as well-insulated as the other buildings, and thus more energy was used

during the winter period in 2013.

The low figures for 2014 are partly due to a very mild winter and partly to the insulation of the building acquired in 2013.

In the 2015 report, we based the 2014 figures "kWh per employee" and "Tonnes of CO2 per employee" on the wrong number of employees. Instead of using the average number of employees for the year, our calculations were based on the number of employees in December. The figures have been restated in the 2016 report.

	2009	2010	2011	2012	2013	2014	2015
Tonnes of CO2 per sq m	0.040	0.043	0.050	0.039	0.043	0.043	0.036
Tonnes of CO2 per employee	2.043	1.921	2.167	1.493	1.609	1.448	1.180

Notes:

Some of our energy consumption relates to natural gas, which is weighted more highly in the CO2 emission calculations.

The above CO2 calculations are made using a tool on [www.klimakompasset.dk](http://www.klimakompasset.dk).

### Environmental inspection

The Danish local authorities inspect local companies to ensure that they comply with environmental regulations governing the minimisation of pollution. Due to the nature of Lodam's business activities, inspections are only carried out about every three years.

November 2008: 1 remark  
(paper sorting handled incorrectly).  
March 2012: 0 remarks

The next inspection is due to take place in 2016 (it has yet to be carried out at the time of release of this report).

### Energy audit according to 2012/27/EU

As part of the BITZER Group, a large international group, Lodam is subject to the EU Energy Efficiency Directive (2012/27/EU). Therefore, an external consultant performed an energy audit of our facilities in January/February 2016.

The audit resulted in a report with a few recommendations for improvements to the existing installations.

The recommendations will be added to Lodam's list of initiatives and will subsequently be evaluated and implemented where it makes sense. Lodam's facilities are generally energy-optimised and in a good condition.

### Printed matter

All printed matter, including this report, is printed using environmentally friendly ink on FSC-certified

paper. We always print a limited number of copies. Our current supplier of printed matter is located very close to Lodam, which saves energy for transport. See [www.fsc.org](http://www.fsc.org).

### Results goals and actions (May 2015 - April 2016)

Goal:

Keep and maintain a list of initiatives within the area of environmental protection at the Sønderborg headquarters as well as looking into and implementing the initiatives that make most sense.

Result:

Lodam has a list of proposed initiatives. This list is evaluated at all regular environment meetings, and new initiatives are added while decisions are made as to which initiatives to look further into or implement. In the past period, we have pointed and insulated all our windows in one of our buildings, we have started serving tap water to guests instead of bottled water, and we have run a "print-on-both-sides" campaign. The list is available to all Lodam employees on the intranet.

Goal:

Continue to work with our localisation project to streamline logistics, increase transport efficiency and manufacture products close to the markets for which they are destined. We will especially monitor our use of air transport.

Result:

The result so far has been a considerable fall in the use of air transport, and a general decrease in sea and land transport as well.

Goal:

Prepare a stepwise plan in 2015 on how to obtain ISO 14001 certification.

Result:

Lodam has looked into the certification process, and we have established a detailed overview of the steps involved. However, a detailed stepwise plan for a certification process has not been prepared. An actual plan will be made, and certification will be initiated, either if requested by one of our customers, or if Lodam believes that this would be a good idea and in line with our strategies.

### Goals and actions (May 2016 - April 2017)

Goal:

Keep and maintain a list of initiatives within the area of environmental protection at the Sønderborg headquarters as well as looking into and implementing the initiatives that make most sense.

Goal:

Continue to work with our localisation project to streamline logistics, increase transport efficiency and manufacture products close to the markets for which they are destined. Our focus will be on anchoring the processes in the long term.



# Lodam's energy-efficient products



"Innovative control solutions used all over the world."

Lodam develops innovative control solutions for climate system applications. Today, the solutions are used all over the world, for instance in the following areas:

## OEM solutions

- Heat pumps
- Ventilation systems

## Compressor electronics

- Compressor protection and monitoring
- Frequency converters

## Transport

- Reefer containers
- Truck & Trailer units

## Heat pumps

Lodam's heat pump controllers ensure COP (coefficient of performance) optimisation of individual systems and add knowledge about additional aspects such as anti-legionella control of domestic hot water. The controllers can be used in both domestic and industrial heat pumps.

## Ventilation systems

Lodam's ventilation control solutions are key to creating perfect comfort and climate for people – e.g. in homes, industrial buildings and schools.

## Frequency converters

Lodam's converter solution electronically controls compressor capacity to match actual cooling demands by changing the compressor speed. The result is improved part-load performance, thus saving energy and cutting CO2 emissions.

## Accessories

Multiple accessories are available for all Lodam controllers to add extra value to the solutions: Innovative and user-friendly user panels with colour displays, remote communication devices, sensors and data loggers, web modules and Windows-based multi-tools for communicating with the controllers.

# Heat pump controller

## Controlling domestic hot water and heating

Lodam's heat pump controller makes it possible to gain total control of domestic hot water and heating for domestic comfort. The optimised control ensures low energy consumption and is combined with a user panel for easy operation.

You can remotely control and monitor the heat pump via the internet, and download a data log for service and diagnostic purposes.

Furthermore, with the Lodam heat pump controller, you can make your heat pump Smart Grid-ready.

## How does the Lodam heat pump controller save energy compared to other products?

- The unit cuts energy consumption and costs through intelligent capacity control via a frequency converter.
- It includes intelligent defrost scheduling, which saves energy and ensures low capacity waste.
- Pre-programmed outside temperature compensation curves adapt to the fastest control/better comfort.
- The controller can be used for heat pumps with air or water/brine as source. Supplementary heat sourcing from solar panels or electric heaters is possible.



# Case: Green heat pump controller



Torben Lauridsen and Vesttherm heat pumps.

## LDH 105 Green heat pump controller complies with new EU requirements for standby power

One of Lodam's very good customers for many years, the Danish company Vesttherm A/S, produces heat pumps for single-family houses. Lodam has supplied the LDH 105 heat pump controller for Vesttherm's heat pumps for many years.

As from 2015, Vesttherm had to comply with new limits for energy consumption when the heat pump is in standby mode.

Having been contacted by Vesttherm, Lodam immediately set to work redesigning the heat pump controller to produce a new version which complies with the new regulations – the new controller is called LDH 105 Green. The LDH 105 Green controller had to be tested and approved by the Danish authorities (Danish Energy Agency).

The Lodam heat pump controller controls and monitors the heat pump to ensure intelligent control of the heat and minimise energy consumption and cost. In compliance with the new regulations, the LDH 105 Green now also ensures that the heat pump uses less than 1 watt when in standby mode.

Torben Lauridsen, Managing Director of Vesttherm, says: - As soon as we became aware of the new regulations, Lodam set to work on the redesign, delivering the new controller on time, at the same price level and to the same high standards as before.

Vesttherm is a Danish manufacturer of hot water heat pumps.

The company has supplied high-quality heat pumps to the European market for more than 30 years.

[www.vesttherm.dk](http://www.vesttherm.dk)

The Energy Labelling Directive (2010/30/EU) establishes a framework for labelling and consumer information regarding energy consumption.

# Ventilation controller

## A perfect climate everywhere with minimum energy consumption

With Lodam's ventilation controller, a perfect climate can be created everywhere with minimum energy consumption due to demand-driven ventilation. The ventilation controller operates in both household and industrial units.

The supply of fresh, filtered air to maintain air quality is key to an optimised indoor climate and comfort. As ventilation costs energy, the

goal is to ensure optimised comfort using as little energy as possible.

Lodam's ventilation system has a number of features that contribute to that goal. Some of the features include remote access, which allows support and service from the office, as well as advanced status alarms to facilitate fault finding.

### How does the Lodam ventilation controller save energy compared to other products?

- The ventilation controller controls the supply and exhaust air with energy-saving EC fans or AC fans with converters.
- The controller ensures demand-driven ventilation by means of CO2 and humidity sensors; if the humidity and CO2 values rise above a stipulated level, ventilation is stepped up, and as soon as the humidity and CO2 values are acceptable, the level of ventilation is reduced again. In this way, only an absolute minimum of energy is consumed to maintain a given level of comfort.
- The ventilation can be adjusted according to outside temperature and day-and-night or weekly requirements.





# Remote caretaking

## A perfect indoor climate at all hours

### How does the Lodam remote caretaking service save energy?

- Optimising the operation of ventilation systems ensures a perfect indoor climate with minimum energy consumption. However, if one or more systems are turned off, either due to technical errors or by a tenant, there will be an instant increase in energy consumption. With the remote caretaking service, it is possible to monitor that all systems are running in the most optimised way, receive alarms if one or more of them are not, and subsequently remotely reconfigure and restart them.

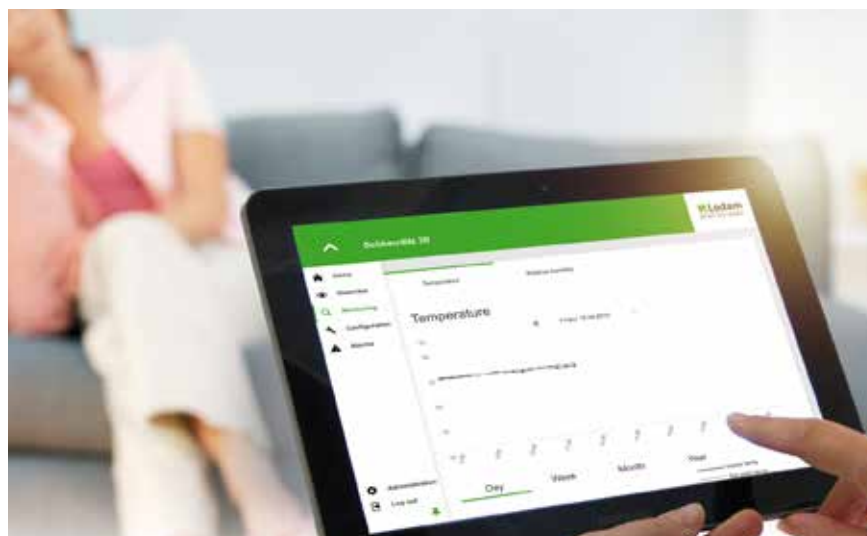
With Lodam's remote caretaking service, it is possible to monitor and configure all ventilation systems in a building or a block of flats from a central location via a web-based application on a PC or via a smartphone application.

Remote access to ventilation systems is a unique opportunity to ensure optimised operation of the ventilation systems level at all times.

The caretaking service has three significant advantages:

- By remote-controlling all ventilation systems, you do not have to arrange service visits to each individual flat. This is convenient and saves time for both landlords and tenants.

- By ensuring that the systems run efficiently at all times, it is possible to prevent outbreaks of mould in flats. Mould is unhealthy for those living in the flats and expensive for the landlord to remove.
- In case of fire near a building or block of flats, it is possible to remotely turn off all ventilation systems in order to prevent smoke from entering the building or flats and causing smoke inhalation injuries.



# Case:

## Remote monitoring prevents unhealthy indoor climate

You can prevent mould in flats by installing ventilation systems – but only if they are switched on and work.

An average person produces about 2.5 litres of water/humidity a day. A family of four would thus easily produce 10 litres of water in one day. Lack of proper ventilation can result in a bad indoor climate and, in a worst-case scenario, in mould. A ventilation system in a flat prevents the formation of mould, but only if it is switched on and in proper working condition. A remote monitoring service of the ventilation systems in a block of flats, which alerts the landlord if a ventilation system in a flat is switched off, will both help guarantee a healthy indoor climate for the residents and save the landlord the trouble of visiting the flat – and ultimately the costly removal of mould.

Lodam's remote caretaking service offers surveillance of both central and local ventilation systems by means of advanced status alarms which quickly alert the landlord if a system is not running properly or has been turned off – either due to technical problems or by a tenant. Swift action can thus be taken to restart the ventilation system, thereby avoiding the formation of mould.

In addition to saving time in connection with the monitoring of the ventilation systems to avoid the formation of mould, the landlord also saves money in connection with the servicing of the systems. Through remote access to the ventilation systems, the manufacturer's service division can access and support all systems from the office or, if necessary, plan a service visit for much swifter fault finding.

### Mould facts:

Moulds are simple, microscopic organisms that can grow virtually anywhere.

Moulds thrive at the same temperatures that humans prefer. To grow, most moulds require the presence of considerable moisture.

The presence of a lot of mould can be a health hazard to humans.





# Lodam Star Cool controller

Lodam's transport cooling control solutions cater for a range of applications:

- Reefer containers
- Truck & Trailer Units

Reefer container operators depend on reliable and economical equipment.

Maersk Container Industry produces the Star Cool reefer container, which features a controller developed by Lodam. The Star Cool reefer container controller meets the increasing demands for high quality and low operating costs, easy and user-friendly functionality and optimised serviceability. In fact, customers using Star Cool reefer containers have cut operating costs and energy consumption

by an average of 30%, but savings of up to 50% are possible compared to using conventional reefer containers.

The Star Cool controller features a unique humidity control system, which minimises weight loss and guarantees even higher product quality upon delivery. Furthermore, the Star Cool controller sets new standards for user-friendliness and safety.



Lodam develops innovative control solutions for climate system applications.



# Supplier responsibility

Lodam's suppliers are our close partners. They have been carefully selected based on their quality, innovation and flexibility. We strive to select suppliers that are committed to maintaining high ethical standards in the same way that we are. The incorporation of social responsibility into our supply chain is an ongoing process, and we generally experience a positive attitude and approach from our partners in this matter.

Lodam performs regular audits of our strategic suppliers, and our supplier audit templates include environmental, health and safety issues, ISO 14001 certifications and deviations, if any. The templates also include the use of solvents, discharge of waste water and disposal of waste in general at our

suppliers' production facilities. For the time being, these registrations are used for monitoring purposes only.

For some of our suppliers, we also perform audits of their suppliers, i.e. at the next supplier level, using the same supplier audit templates. This is the case for selected, strategic suppliers, or suppliers where we know from experience that it would be a good idea. The main purpose is to ensure the right quality of their deliveries; however, the audits also cover environmental, health and safety issues.

## Conflict minerals

Conflict minerals are raw materials that come from particular parts of the world where conflicts occur and affect the mining and trading

of those materials, e.g. tin, tungsten, tantalum and gold. These minerals are part of our electronic products through the components procured for our solutions. At present, we do not have the full picture of the origin of these materials, but we have started requesting the necessary information from our suppliers. Due to the complexity of our supply chain, this is an ongoing process.

## Results goals and actions (May 2015 - April 2016)

Goal:  
Introduce and implement Lodam's social responsibility policies within our supply chain:  
a. Supplier contract with code of conduct to be signed by all main suppliers.  
b. Continue to introduce our Supplier Code of Conduct to new suppliers, and repeat the compliance request to existing suppliers on a regular basis.

Result:  
a. Our Supplier Code of Conduct is part of the supplier contracts that we are working on with our strategic suppliers. Some contracts have been signed, while others are still in progress (April 2016).  
b. We still introduce our Supplier Code of Conduct to new suppliers.

## Goals and actions (May 2016 - April 2017)

Goal:  
Introduce and implement Lodam's social responsibility policies within our supply chain:  
a. Supplier contract with code of conduct to be signed by all main suppliers.  
b. Continue to introduce our Supplier Code of Conduct to new suppliers, and repeat the compliance request to existing suppliers on a regular basis.

# Supplier code of conduct

## Preface

Lodam strives to select suppliers who are committed to maintaining high ethical standards. We are a signatory to the United Nations' Global Compact, and we expect our suppliers to share the fundamental principles of the UN Global Compact initiative, whether signatories or not.

The Supplier Code of Conduct comprises the following specific areas:

- Remuneration and employment conditions
- Working hours
- Freedom of association and the right to collective bargaining
- Discrimination
- Harassment and disciplinary measures
- Child labour
- Forced labour
- Health and safety
- Environment
- Corruption and bribery
- Conflict minerals

Furthermore, our suppliers are required to comply with all relevant national legislation and regulations.

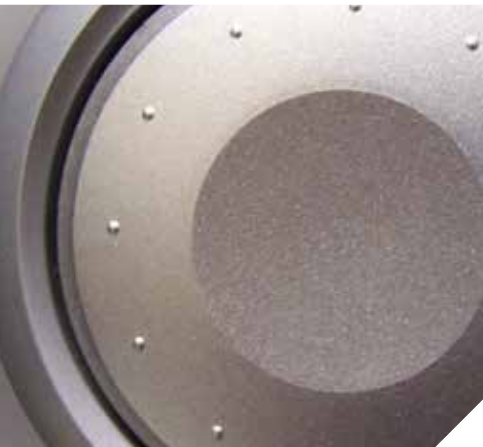
The purpose of Lodam's Supplier Code of Conduct is to outline in greater detail the standards we expect our suppliers to adhere to. Lodam views these requirements as an integral part of our business relationship with individual suppliers. We believe that ethical, social and environmental standards will provide competitive advantages for the benefit of Lodam and our suppliers.

This Code of Conduct applies to suppliers doing business with Lodam. Suppliers must comply with this code of conduct in all aspects of their operations that relate to their business with Lodam. Supplier companies must ensure that their employees comply with this code of conduct in all activities related to the suppliers' business with Lodam.

We expect our suppliers to ensure that their sub-suppliers are aware of and comply with the principles expressed in this code of conduct.



# Supplier code of conduct



## Specific requirements

### Remuneration and employment conditions

We expect the supplier to comply with all legislation and regulations governing pay and working hours, including those pertaining to minimum pay, overtime pay, sick leave, piece rates and other compensatory elements.

### Working hours

We expect the supplier not to require employees to work more than 60 hours per week including overtime, or more than the limits on regular and overtime hours permitted under local law, whichever is the lower. Workers must be entitled to at least one non-working day in every seven-day period.

Particular employees with unusual working conditions may be exempted from this general requirement when covered by specific national or international legislation; however, in the course of 12 weeks no employee must be required to work more than an average of 60 hours per week, including overtime.

### Freedom of association and right to collective bargaining

We expect the supplier not to prevent employees and other workers from associating freely with any lawful workers' association or collective bargaining association of their choice.

## Discrimination

We expect the supplier's hiring and employment practices (including promotion, training and rewards) not to be discriminatory on the grounds of race, colour, ancestry, religion, gender, gender identity or expression, sexual orientation, age, physical or mental disability, health condition, pregnancy, political opinion or affiliation, national, social or ethnic origin, union membership, marital status, citizenship status or veteran status.

### Harassment and disciplinary measures

We expect the supplier not to use or permit the use of corporal punishment or other forms of mental or physical coercion, disciplinary actions or sexual harassment.

## Child labour

We expect the supplier to ensure that no person is employed at an age younger than 15 (or 14 where the law of the country permits) or younger than the age for completing compulsory education in the country of manufacture where such age is higher than 15.

The supplier must protect young workers of legal working age, up to the age of 18, from any type of employment or work which, by its nature or the circumstances in which it is carried out, is likely to jeopardize their health, safety or moral.

If a child is found working, the supplier must act in the best interest of the child, and any measures taken must aim to improve and not worsen the child's situation.

## Forced labour

Forced, bonded or indentured labour or involuntary prison labour is not to be used.

## Health and safety

We expect the supplier to provide safe and healthy working conditions and take appropriate precautionary measures to protect employees from work-related hazards and anticipated dangers in the workplace.

The supplier must comply with all applicable local legislation and regulations to prevent accidents and injury to health arising out of, linked with, or occurring in the course of work or as a result of the operation of the employer's facilities.

We expect the supplier to continuously improve working conditions and reduce workplace-related risks and hazards by e.g. setting targets and conducting appropriate training.

## Environment

We expect the supplier to meet all relevant local and national environmental regulations and to strive to

minimise damaging effects to the environment.

## Corruption and bribery

We expect the highest standards of integrity in all business interactions. The supplier must not engage in any form of corrupt practices, including extortion, fraud or bribery, whether direct or indirect.

## Conflict minerals

We expect the supplier to initiate a process to ensure delivery of "conflict-free minerals" products and to implement a conflict minerals policy that prohibits the purchase and use of conflict minerals.





# People responsibility



Lodam is still one of the very best workplaces in Denmark. In 2015, our trust index was 93%, and we are ranked no. 9 among medium-sized companies in Denmark by the Great Place to Work Institute®, which represents an advancement from the year before. Furthermore, we received the Communication Award and were nominated for the Diversity Award.

In this report, we have chosen to present some of the areas that we have focused on in particular since the last report in order to meet our vision, which is to be one of the best places to work in Denmark with a trust index of 95% as measured by the Great Place to Work Institute®.

## Management and leadership

We have improved our employees' view of the management's ability to manage and delegate, see goals and results on page 31. A particular focus point has been the allocation by individual managers of more time to leadership.

Focus has also been on increasing the empowerment of the organisation, i.e. delegating decision-making power from the management level into the organisation. Management seminars have been held for the management, which has also discussed the issue with Lodam's Advisory Board, which comprises both employees and managers.

From a top-level perspective, we have focused on setting the direction of the company and communicating it. At the beginning of 2016, the managing directors met with the individual departments to present the strategy, focusing in particular on the 2016 goals. The various departments then focus on converting the strategy into relevant actions, based on contributions from individual departments and employees. The strategy process also involves follow-up, focusing on leadership and co-operation guidelines.

## Cross-organisational collaboration

Cross-organisational cooperation and knowledge sharing is decisive to the success of our complex development and production projects. We have worked to strengthen our ability to match and align expectations, including our dialogue skills, with a view to meeting our goals.

As part of our cross-organisational collaboration, agreements are made on specific issues between two departments. One example of this is an agreement between Sales and R&D on how to strengthen relations between customers and R&D, under which the two departments have agreed to use the same terms and definitions – in other words, to speak the same language.

Other tools include value stream mapping projects and the design of a detailed project model to serve as a common basis for cross-organisational collaboration.

Dialogue and communication are thus key to everything we do. Receiving the Communication Award from the Great Place to Work Institute® in 2015 is a sign that we are on the right track, but we still have work to do.

Cross-organisational collaboration is very much supported by a strong sense of team and family spirit, and we are therefore continuously working to improve this.

In the years to come, improved cross-organisational collaboration through improved organisational cohesion will remain a focus point.

## Diversity

Inclusiveness is one of our values. This value is multifaceted and also includes training and educating people to become strong members of the workforce.

These are examples of how we contribute:

- Under an agreement with the local university (SDU), we offer four student jobs each year for students of engineering
- Every year, we offer four internships for students of engineering

- Two to three students write their thesis at Lodam every year
- We always have one PhD student
- We always have at least one apprentice. At the moment, we have two, one of them an apprentice from a new upper-secondary school programme (EUX) in electronics
- We take on new graduates, if possible, most recently a university graduate who was employed by Lodam on normal conditions as part of a job rotation arrangement
- We accommodate employees with special employment needs. At the moment, one of our young production workers comes from a school for young people with special mental health challenges.

## Lodam's values

Our values are the foundation of our organisation. They help us to make business decisions and influence all of our interactions within the company – personal and professional.

## Professionalism

We strive to be a competent, reliable business partner. A partner that keeps its promises and consistently delivers above the bar in terms of quality, service and value.

## Inclusiveness

We believe in individualism with a respect for diversity and the many cultures that come together to work under our roof. We are driven by good attitudes, the mutual desire to achieve job satisfaction and our preparedness for change.

## Good business acumen

We are driven by sound business practices in all daily decisions, both internally and externally. All decisions should be ethical and to the benefit of the company as a whole.

People responsibility goals

The indicators below relate to Lodam's ability to maintain and improve employee well-being, motivation and job satisfaction.

Furthermore, they give an idea of Lodam's ability to retain employees, recruit new employees and create new jobs.

Description	2012	2013	2014	2015	Target 2016	Comments
No. of employees	82 employees at 1 January 2013  An increase of 26%	91 employees at 1 January 2014  An increase of 11%	102 employees at 1 January 2015  An increase of 14%	101 employees at 1 January 2016  Target was an increase of less than 5%	An increase of 7-8%	
Staff turnover	2.66%	6.9%	6.8%	11.9 (3% of whom retired)  Above target, which was below 5%	An increase of 3%	Measured as the no. of employees who left the company compared to the average no. of employees.
Sick leave	1.52%	1.31%	1.7%	1.66  The target was not to exceed 1.5%	Not to exceed 1.8%	Including long-term sick leave.
No. of physical injuries	0	0	1	0	0	Lodam focuses on preventive activities.
No. of psychological injuries, e.g. stress	0	0	0	1 case of stress-related sick leave	0	Lodam focuses on preventive activities. All managers have attended a course on how to prevent and spot stress at an early stage.
Agreed and accomplished competence development	-	85%:  67% accomplished and 18% scheduled (1 May 2014)	86%:  67% accomplished and 19% scheduled (1 May 2015)	80%  61% accomplished and 19% scheduled (1 May 2016)	80% accomplished and scheduled (1 May 2017)	The final 20% (of the target figures) are courses that cannot be accomplished for various reasons (cancelled by the organiser, postponed etc.).

Notes:  
These indicators follow the calendar year, except for the competence development goal.

The goals set out below relate to our overall goals and vision of being one of the best places to work in Denmark with a trust index of 95% as measured by the Great Place to Work® Institute.

Lodam wants to improve in all areas measured by the Great Place to Work® survey; however, the goals set out below are specifically important to us.

Description	2011	2012	2013	2014	2015	Goals
Significantly improve the management's ability to manage and delegate the work.	66%	81%	79%	71%	81%	Above 90%
Significantly improve the employees' experience of team and family spirit.	80%	81%	84%	88%	88%	Above 90%
Trust index: Refers to the Trust Index® Employee Survey, which measures employee engagement by surveying employee opinions, attitudes and perceptions on the level of trust between colleagues and between management and employees.	89%	93%	93%	92%	93%	95%

Notes:  
These goals follow the GPW calendar. The survey is carried out in September, and the results are available in November.





# Anti-corruption



“Lodam has an internal gift policy based on the reasonability principle.”

Lodam strives to maintain strong ethical standards and to be a company of good standing and integrity. Lodam’s anti-corruption policy is based on the UN’s Convention against Corruption as well as our obligations under the tenth principle of the UN Global Compact initiative: Businesses should work against corruption in all its forms, including extortion and bribery. Corruption is defined by Transparency International as “the abuse of entrusted power for private gain.”

Within our supply chain, we ensure that our partners work against corruption as well, by asking our suppliers to comply with our Supplier Code of Conduct (see pages 25-27), which includes a paragraph on corruption and bribery.

Lodam has an internal policy regarding gifts. Gifts to and from external partners must respect a reasonability principle, whereby they do not act as a means of persuading someone to do something which is dishonest, illegal or represents a breach of confidence.

Gifts from Lodam, including business partner care, are also based on the reasonability principle. We do not give individual Christmas gifts, but we may give gifts to show our appreciation of special efforts, also based on the reasonability principle. Moreover, we prefer to give gifts to a group of people instead of just one person. The gifts that Lodam or a Lodam employee may receive are accepted only if they comply with the reasonability principle; if not, they are returned. Furthermore, all the gifts received are donated to Lodam’s Christmas lottery, in which all employees can participate.

Our focus area has been and will continue to be on awareness and understanding of this issue. The instruction held for all employees includes information on grey areas between corruption and building relationships and what the reasonability principle means.



## Results goals and actions (May 2015 - April 2016)

### Goal:

Continued communication of Lodam’s anti-corruption policies:

- An annual general instruction to all employees.
- Special annual instructions to employees with considerable external contacts (sales managers, purchasing officers etc.).
- Registration of incidents of corruption, if any.

### Result:

- An annual general instruction was held in January 2016. The instruction is part of Lodam’s general internal training programme.
- Special annual instructions to employees with many external contacts were held in January and February 2016. Participation is registered.
- No incidents have been registered (as per 1 May 2016).

## Goals and actions (May 2016 - April 2017)

### Goal:

Continued communication of Lodam’s anti-corruption policies:

- An annual general instruction to all employees.
- Special annual instructions to employees with considerable external contacts (sales managers, purchasing officers etc.).
- Registration of incidents of corruption, if any.





96% of all Lodam employees feel good about the way Lodam contributes to society.

## Final words and facts

Lodam's report on social responsibility is one of five accountings that Lodam accomplishes each year. The other four are our financial statements, our quality assurance accountings, our customer satisfaction survey and the Great Place to Work® employee survey. These are accountings in which we measure ourselves in relation to our targets and goals.

The overall purpose of the report on social responsibility is to report on Lodam's continued, prioritised

efforts within the framework of UN Global Compact and to demonstrate our social responsibility towards customers, suppliers and employees.

As a socially responsible company, Lodam will continue to implement and incorporate the ten principles of the UN Global Compact initiative into our strategies and our daily work.

### Facts

Date of issue of this report on social responsibility (Communication on Progress, ref. the UN Global Compact): 2 May 2016

Company name and address:  
Lodam electronics a/s  
Kærvej 77  
DK-6400 Sønderborg

VAT/CVR no.: DK21340006

Bank: Sydbank A/S, CVR no.: DK12626509

No. of employees on date of issue: 102

Management:  
Anna Marie Damgaard  
Kristensen, Managing Director  
Henning H. Kristensen, Managing Director

Board of Directors:  
Christian Wehrle  
Gianbattista Parlanti  
Rainer Große-Kracht  
Frank Hartmann  
Kristian Strand

Date of signing the UN Global Compact: 13 March 2012

This report has been printed using environmentally friendly ink on FSC-certified paper in a limited number of copies. See [www.fsc.org](http://www.fsc.org).

## Innovative and energy saving climate control

When it comes to climate control Lodam is one of the most experienced you can turn to. For more than four decades we have developed, produced and implemented electronic solutions dedicated to optimising applications like:

- Compressors
- Condensing units
- Heat pumps
- Air conditioning
- Refrigerated truck and trailer
- Reefer containers

We know the importance of reliable, energy-efficient operation – and constantly push technological boundaries to bring you the most innovative and forward-thinking solutions.

As part of the BITZER Group we are backed by one of the world's leading players in the refrigeration and air conditioning industry. This alliance provides us with extensive network and application knowhow and allows us to stay at the forefront of climate control innovation. And to help ensure comfortable surroundings for humans and reliable protection of valuable goods anywhere in the world.