

Sustainability Report

Lasting success goes hand in hand with responsible corporate behavior. As an international technology group and one of the world's largest suppliers of process technology to the food industry, GEA is acutely aware of its responsibility with respect to the economy, society, and the environment. One of its prime enterprise goals is therefore to supply solutions that combine a high level of efficiency and social benefit with assisting our customers to protect the environment.

Sustainability for GEA means securing its future viability on the basis of a stable economic and social foundation and an intact environment. Sustainability management also serves to limit economic, social, and reputational risks to the group. Major global trends such as sustained population growth, increasing urbanization, and advancing climate change present the world with mounting challenges. In the future, people will continue to require an adequate supply of food, energy, and pharmaceutical products, all of which will have to be produced in a manner that helps to conserve precious resources. GEA has its own companies and production sites in the world's growth regions and directly supplies local markets. Its product portfolio of technical components, machinery, and systems provides key solutions to these challenges. At the same time, the Company regards its commitment to corporate social responsibility (CSR) as an investment in the economy, society, and the environment, and hence in its own future – in line with the group motto “engineering for a better world.”

Sustainability at GEA

Economy

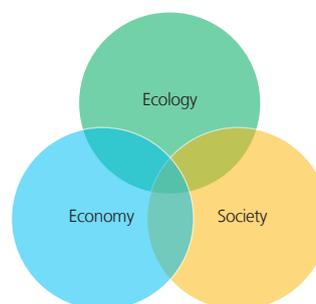
- Code of conduct
- Compliance
- Corporate governance
- Leadership principles
- Safety management
- Shareholder value

Society

- Company values
- Diversity
- Pension and healthcare provision
- Responsible employer
- Social commitment

Ecology

- Climate protection
- Environmentally friendly production
- Resource-efficient products



GEA aims to safeguard the interests of its shareholders, customers, and employees for the long-term future, and to fulfill its responsibility toward society, by strengthening its international competitiveness and boosting its business performance. The group pursues this objective first and foremost by being a dependable partner with an attractive and sustainable product line to its customers, as an exemplary employer to its global workforce of approximately 24,500 employees, as a taxpayer, and as a supporter of charitable projects.

Although energy consumption and emissions during production are relatively low in the engineering sector, GEA regularly examines all areas for opportunities to improve efficiency in this sphere as well. The group's workforce provides a vital contribution to this process via the ideas and improvement management system.

The group not only ensures that its own processes along the value chain are based on ecological principles, but also helps its customers to protect the environment by providing efficient products and process solutions. As a rule, these customers employ very energy-intensive technologies and processes, with the result that potential energy savings and reductions in emissions and waste now play an increasingly significant role in their capital investment decisions. For many years now, GEA solutions have served as the benchmark for the successful combination of economic and ecological factors (see page 29 ff.).

Economically sustainable

The production of processed foods and beverages is one of the world's most stable growth markets, and one that can also be expected to see continuous growth over the coming decades. As a technology leader, GEA Group supplies this market with machinery, components, systems, and plant that guarantee safe process management and the highest standards of efficiency and hygiene.

What is more, the world's demand for energy is continuing to grow. GEA is a leading international supplier of power plant cooling and thermal engineering systems, providing its customers with technology that not only delivers an attractive price-performance ratio but also helps protect the environment by making sparing use of resources.

Detailed information on GEA's basic strategic principles, its segment structure, and its business orientation can be found in the chapters entitled "Organization and Structure" and "Business Activities" (see page 9 ff.).

Corporate governance

GEA places the highest priority on transparent and responsible corporate governance and management aimed at long-term value enhancement. Its activities are based on recognized corporate governance principles and comply fully with the recommendations of the German Corporate Governance Code. In addition, GEA Group has an extensive compliance organization.

A detailed presentation of the topic of corporate governance can be found in the Corporate Governance Report included in this Annual Report (see page 67 ff.).

Code of conduct

Together with its European Works Council, GEA Group Aktiengesellschaft issued a code of conduct in March 2006, which formulate a binding set of values, principles, and modes of behavior that are to governing corporate conduct at the GEA group. With these ethical and legal standards, GEA is making a clear commitment to free and open world trade as a vital precondition for continued global economic growth. Wherever possible, the group supports measures designed to combat underdevelopment in the countries of the Third World and fully accepts its corporate social responsibility. Likewise, GEA welcomes the principles of the UN Global Compact and, as part of the process of progressive internationalization, endorses all internal and external corporate social responsibility (CSR) initiatives. The group pledges to respect human rights and the core labor standards developed by the International Labour Organization (ILO). In addition, GEA fully complies with the OECD guidelines for multinational enterprises. In order to ensure the greatest possible transparency, GEA Group has also published its Global Business Conduct Policy on the company website (http://www.gea.com/en/investoren/corporate_governance.html).

Compliance

Compliance is accorded the highest priority at GEA. All managers and employees must comply with the law and the relevant guidelines. GEA has drawn up detailed guidelines with binding principles for conduct, including, in particular, an anticorruption guideline. Regular training measures and monitoring help to provide early warning of, or prevent, improper behavior.

Further information on the issue of compliance can be found in the Corporate Governance Report included in this Annual Report (see page 67 ff.).

Incorporation in the organizational structure

In addition to the compliance organization described in the separate Corporate Governance Report, there are also areas within group management dedicated to diversity, company values, and crisis management. Moreover, an environment, health, and safety (EHS) organization has been established over the period since 2010.

Leadership principles

At GEA, we are convinced that much more can be achieved by working with, rather than merely alongside, one another. In order to establish this kind of corporate culture, GEA has defined clear principles which managers must follow, and has created the core competencies necessary for this.

What GEA expects of its managers:

1. The will to lead
2. Management capabilities
3. Personal integrity
4. Passion – not obsession
5. Creativity



All our managers are committed to information exchange and cooperation, strengthening the GEA group as a whole. This, too, has been a key factor in cementing GEA's position as one of the most successful engineering companies worldwide – an achievement from which each segment and every single employee profits.

Safety management

Unexpected incidents such as natural disasters or terrorist attacks can also have extreme consequences for GEA. Such incidents can also jeopardize the safety, health, and even the lives of group employees. The topic of employee safety is presented in detail on page 22 f.

In order to prepare as effectively as possible for such major corporate risks, GEA Group has implemented a comprehensive safety management strategy at all levels of the company. The group's Major Incident Manual provides clearly defined criteria for all employees regarding the detection, evaluation, and

reporting of critical incidents. This manual also contains measures and detailed contingency plans designed to ensure a rapid and appropriate response in an emergency, and names qualified contact persons within GEA Group.

Socially sustainable

GEA fully accepts its obligation to make a contribution towards the sustainable development of society, both within the Company, as a responsible employer, and in the wider social context.

A responsible employer

GEA's vision and its corporate values are the mainstays of its management philosophy. They are likewise the key elements of its common corporate identity.

Detailed information on the topics of personnel marketing and human resources development at GEA can be found in the "Employees" chapter (see page 58 ff.).



Fair Company label:
widely recognized seal of
quality for GEA

Diversity

GEA operates in a challenging international market environment with a large number of players who influence the Company in many different ways – ranging from customers, competitors, and employees down to the government and society in general. Companies can rise to the many challenges associated with this culturally extremely diverse environment

by being aware of diversity and by actively creating it within its own ranks. Diversity is defined as the composition of the workforce in terms of nationality, gender, age, and qualifications. GEA recognizes that diversity is a strategic success factor – that diversity is strength.

As a consequence, GEA has instituted corporate diversity management procedures at group management level with the aim of making diversity a firmly established part of its corporate culture and hence support the business activities of all its segments.

Through the creation of a diversity organization in all segments, diversity management is now institutionalized at the group. Our international team of diversity managers, which comprises women and men from a very wide range of functions, aims to represent the spirit of diversity on all levels of the group.

In order to promote diversity on as many levels as possible and thereby create, for example, an attractive working environment, GEA has also resolved to implement greater flexibility with regard to working hours, and to increase mobility within the Company.

Diversity criteria are included as a matter of course when appointing personnel. One of the objectives is to recruit more women to GEA and to involve a greater number of talented female employees in internal employee development initiatives. Furthermore, diversity management is one of the key ways in which employee potential and talent can be reliably identified. In line with this, the entire pool of future executives is to be developed in accordance with the GEA diversity criteria, as described above.



GEA Diversity
Making a difference!

In order to be able to measure achievements and progress in the area of diversity, GEA also introduced a catalog of diversity performance indicators in mid-2012, taking the situation in 2012 as the benchmark. Applied on the group management, segment, and company level, these will serve to determine the degree to which targets are met and the success of diversity measures, which must always be evaluated on the basis of three criteria: performance, potential, and diversity.

In a clear affirmation of diversity within its own working environment, GEA Group has already ratified eight European diversity charters. This clearly demonstrates its commitment to promoting diversity and equal opportunity in the workplace, irrespective of, for example, nationality, gender, age, disability, or religion. A diversity charter is a document signed by companies and public institutions on a voluntary basis.

Because of its importance to corporate culture, the topic of diversity will be increasingly woven into GEA Group's company values. In this respect, diversity is a force for change, promoting greater pluralism in thought and action.

Company values

Over the past two years, GEA Group has formulated its company values – “excellence”, “responsibility”, “integrity”, “passion”, and “GEA-versity” – and communicated them in a series of interactive workshops worldwide. This process has involved all GEA Group employees in a constructive dialog.

With these company values, GEA has created an orientation system and frame of reference that provide managers and employees with a shared understanding and guidelines as to how to behave

at an individual level, particularly in ambiguous situations. This gives managers and employees at GEA greater security in their dealings not only with one another but also with the outside world. Ultimately, the company values should also boost levels of efficiency and professionalism in all GEA segments and companies.



Work and family

GEA has implemented a host of measures to help employees reconcile the demands of work and family life, e.g., company-organized childcare, flexible working hours, and opportunities to work while on the move. In the District of Unna/Germany, for example, the GEA Farm Technologies Segment has been commended for best practice in its policy toward employees returning to work from parental leave.

Employee safety

In order to work productively and develop their potential to the full, employees need a pleasant and safe working environment. The requirement to offer all employees safe conditions in the workplace is likewise enshrined in the code of conduct, which obligates our managers to guarantee the best possible health and safety conditions in every GEA Group workplace worldwide. Even in countries with less stringent safety requirements, locations are still subject to GEA Group's higher standards. In addition, group employees regularly receive first-aid training, thereby ensuring that competent help is rapidly available in an emergency.

GEA Safety Management also provides a comprehensive service for all employees traveling worldwide on behalf of the group. This includes detailed travel and safety information for every region of the world. Should, nonetheless, a group employee become caught up in an emergency situation, he or she has access to the 24-hour GEA Group Security and Support Hotline. If necessary, this service can also rapidly organize personal protection for any employee and at any location worldwide. The Medical Support Service Hotline provides assistance with health-related issues and, in the event of illness, provides appropriate medical care or even transport back home.

GEA also maintains a continuously updated database with the locations of all employees on business trips worldwide. In the event of a regional crisis, this so-called Travel Tracker enables it to respond rapidly and provide employees with active assistance.

GEA Aid Commission

Employees who suddenly get into difficulties, following, for example, a severe accident or a sudden illness, require rapid and unbureaucratic financial assistance. In a group-wide agreement with the Works Council, GEA has pledged to provide this form of assistance in such cases. Employees affected in this way, and also the families of employees who suddenly die, can apply to the GEA Aid Commission.

Company pension plan

GEA wants all its employees to be able to enjoy their well-deserved retirement. This also includes the financial security to enjoy an appropriate standard of living. In many countries, however, the impact of demographic change, increased life expectancy, and high unemployment is placing a growing financial burden on the state pension system. Private and, especially, company pension plans are playing an increasingly significant role in making up the shortfall. The Company therefore provides an efficient pension plan for all employees.

The company pension plan for GEA managers is, like the remuneration system, based on a mixture of fixed components and performance-related parameters.

GEA Group also offers an attractive performance-related pension plan for employees below senior management level. In Germany, for example, this is based on an employee-financed deferred compensation plan. Employees can opt not to be paid out part of their salary, instead putting the money toward their pension. If an employee chooses this option, GEA Group tops up the basic employee contribution with an additional employer (company-financed, performance-related) contribution.

Comprehensive healthcare provision

A health-conscious workforce is important for the long-term, sustainable development of a company, because healthy employees are more productive, more reliable, and more motivated. GEA therefore supports its employees with a variety of active healthcare offerings.

GEA Care

This program to promote employee health comprises a broad range of measures to prevent illness. These include cancer screening, seminars on how to give up smoking, partnerships with fitness studios, training to improve driving safety, instruction on ergonomics in the workplace, nutritional advice, and the opportunity to participate in company runs. For example, the GEA Farm Technologies Segment has been awarded the “Deutscher Unternehmenspreis Gesundheit” (German Company Award for Health) in recognition of its healthcare offering for employees.

For the under-50s among GEA Group's top-level executives, there is the special option of a comprehensive health checkup every three years. For the over-50s, this service is available every two years.

Healthcare coaching

Programs held in special development and assessment centers, and with the assistance of external coaches, provide employees with a range of information on the beneficial effects of exercise, greater fitness, and a healthy diet. Where possible, the theoretical information is supplemented by practical exercises. All preventive measures are based on the actual living and working environments of the employees concerned. In addition, the group also offers individual coaching with fitness tests or health checks.

The GEAktiv Sport Forum

GEAktiv is an online portal established by GEA to help employees meet up for joint sporting activities. Hosted in the GEA intranet, it enables people to find training partners in their specific sporting activity or to post their own events. GEAktiv already covers more than 30 different sports and is growing all the time.

Socially committed

As a global enterprise, GEA is also involved in a host of projects outside its own companies, where support is given directly to local people.

The fascinating world of engineering

GEA focuses particularly on projects with children and adolescents, including schemes to introduce them as early as possible to the fascinating world of engineering. For visitors to the "Stöbertage" (Exploration Days) at the GEA Mechanical Equipment Segment, this starts even before they reach school age. Groups of kindergarten children are invited along to learn about tools and machinery, and to discover the world of engineering. At the same time, GEA also supports a variety of establishments such as schools and kindergartens.



The "Stöber Tage" at GEA are a fun experience for kids.

School-Business Cooperation Network

By easing the transition between school and the world of work, and by encouraging school students to think about their future vocation or program of study, cooperation between schools and industry helps ensure that companies – especially in technical fields – are able to recruit a sufficient supply of new labor. This is why GEA is involved in the School-Business Cooperation Network. This covers activities such as information events at participating schools, assistance for students with job applications, and joint projects between school students and the Company's vocational trainees. In addition, the cooperation network is involved in staging a special exhibition of works by students and in organizing the program to mark the opening of the art exhibition "Family and Friends" in Bochum.

“Technik ist Zukunft” (“Technology is the Future”)

In future years, GEA Group will continue to need creative young people with a passion for science and engineering. In order to convince students of the variety and appeal of a career in engineering and to show them the career opportunities on offer, GEA has joined forces with other companies in a variety of projects, including the “Technik ist Zukunft” (Technology is the Future) initiative. In addition to the Company’s financial support for the initiative, its employees go to meet potential recruits face to face at the various “Technik ist Zukunft” action days that are held at schools. Here, students can learn from their graphic accounts about the work of the group, the products and services it offers, and the career openings available. GEA also regularly invites groups of school students for tours of group locations, offering them an in-depth view of production operations and the daily working routine at GEA Group.

Girls’ Day

All GEA Group segments and the companies belonging to them participate in the German Girls’ Day, an initiative designed to encourage girls from year five onward to think about their future career options. It provides them with an opportunity to find out more about a variety of professions in science and engineering. This mix of open day and detailed information event offers participants a hands-on encounter with technology and is intended to stimulate an interest in an engineering career at an early age.

Helping underprivileged young people

True to its principles of diversity management, GEA is also helping to improve the economic situation of disadvantaged members of society in South Africa. As part of this initiative, the group has been involved since 2009 in a program to provide work opportunities for young black people with disabilities.

Participants receive job training from specially trained instructors and also have the opportunity to earn money at the same time. The trainees, accompanied by a mentor, are employed for a one-year training period. Regular monitoring ensures that the program’s quality standards are being met. Graduates of the program receive the national certificate in Business Administration Services and are regularly taken on by GEA Group.

Running against cancer

The American Cancer Society provides support for cancer sufferers and their families. One of the society’s regular fund-raising events is the Relay for Life. For many years now, a team from GEA has taken part in this run. GEA pays the entry fee and provides a donation to support the team. In addition, group employees also donate to this cause. The money is largely raised on so-called Blue Jeans Days, when normal dress code is suspended. Anyone wishing to come to work in jeans and sneakers donates five dollars.



GEA employees in the U.S.A. support the American Cancer Society

“Kunst in der Rotunde”

GEA Group’s “Kunst in der Rotunde” (Art in the Rotunda) exhibition program has been enlivening the art world in the Ruhr region since August 2000. The program derives its name from the glass rotunda at GEA’s administrative building in Bochum. It offers an ideal forum for painting, graphic art, sculpture, found objects, photography, and installations.



Even now that group management has relocated to Düsseldorf, GEA still organizes several exhibitions a year in the GEA Center Bochum. A major selection criterion is whether an artist has a connection to the Ruhr region. Each exhibition features, as a rule, two or three artists, and kicks off with a vernissage and an introductory presentation of the works. An accompanying booklet is also published.

Works of art purchased from previous exhibitions now adorn the corridors, offices, and conference rooms of a number of GEA locations. GEA also has a scheme enabling employees to rent out works from this collection and also to buy them at the end of the rental period.

Closely connected to “Kunst in der Rotunde” is a special exhibition regularly held in the summer by the name of “Family and Friends.” This program is intended to offer all GEA employees with a creative bent, along with their family and friends, a platform to present the fruits of their artistic labors. The “Family and Friends” exhibitions have also been held since the year 2000. Over the years, they have become increasingly popular among the global GEA family and are now a firm fixture in the events calendar.

Ecologically sustainable

Sustainability in the ecological sense is based on the principle of protecting nature and conserving its limited resources. GEA’s innovative products make an important contribution to this cause. In the world of process technology and engineering, the days are long gone when economics and ecology were conflicting goals. Our customers can help promote climate protection by using machinery, components, systems, and plant produced by the group. Equally, environmental protection is accorded its proper status within the Company.

Environmental protection at GEA Group

GEA’s main environmental objectives are saving energy, optimizing plant design, and conserving resources.

At GEA, all key environmental parameters are monitored locally and their significance and impact on products and services analyzed to identify ways of improvement. Monitored environmental parameters include:

- Emissions
- Energy consumption
- Hazardous goods handling, including water-polluting agents such as acids and alkalis
- Waste
- Noise
- Waste water/water consumption

Measures taken at the group’s production operations to protect the environment frequently exceed the statutory requirements – as confirmed by the environmental certifications obtained in accordance with DIN EN ISO 14001. In-process environmental protection, resource conservation, and comprehensive

health and safety measures are all standard practice throughout the group. This means, for example, that production waste is sorted and, wherever possible, recycled. Any further environmental impact is largely avoided through the use of exhaust gas filters and collecting vessels, and through the treatment and recycling of process liquids.

Optimized production

Examples of the group's efforts to optimize the environmental performance of its production activities include the project at the GEA Mechanical Equipment Segment's main plant in Oelde/Germany. This is currently the largest investment project within the group and is described earlier in the chapter entitled "Engineering, Production, and Investment" (see page 13). Thanks to its emphasis on conserving resources, the project received financial support in the form of a low-interest loan, which was awarded under Kreditanstalt für Wiederaufbau (KfW)'s Environmental and Efficiency Program, following approval by the Federal Ministry for the Environment and the Federal Ministry of Economics. The project comprises a range of integrated environmental measures designed to promote efficient use of energy as well as waste elimination, air pollution control, and noise reduction. For example, the waste heat produced during power generation at the plant's own combined heat and power plant is used to heat the production buildings. In addition, installation of a centralized cooling lubricant and chip disposal system will more than halve water consumption and wastewater production. All in all, this investment will reduce energy consumption by around one-third per unit of production.



The new separator plant in Oelde

Selected initiatives

Carbon Disclosure Project

As in previous years, GEA Group took part in the Carbon Disclosure Project (CDP) survey in 2012. CDP is an independent, not-for-profit organization currently representing more than 650 institutional investors. Each year, it gathers information on the greenhouse gas emissions of major listed corporations and their strategies to combat climate change. The results are then made available to current and potential investors. In the survey, GEA Group also provided an assessment of the opportunities and risks related to climate change, and information on the measures it employs to protect the climate. From GEA's perspective, any potential risks arising from a shift in demand will at the very least be offset by equally large opportunities to supply customers with energy-efficient solutions for their production processes from our wide range of products.

As yet, there is no uniform system in place throughout the group to measure CO₂ emissions. However, CO₂ emissions are measured in the segments on the basis of national and international standards such as ISO 14001 or the CO₂ Saver Certificate.

The Blue Competence sustainability initiative

GEA Group has been an alliance member of Blue Competence – an initiative of the German Engineering Federation (VDMA) – since 2012. The members of the initiative have pledged to develop and promote sustainable engineering solutions in accordance with the demands of economy, ecology, and society.

In this way, they are also assuming responsibility for prosperity, education, safety, and nature. The industry associations, organizations, and companies involved in this initiative – including GEA – are also factoring in the consequences of urbanization and globalization into their strategies.



The VDMA Blue Competence initiative

The COOL-SAVE energy conservation project

GEA Refrigeration Technologies joined the COOL-SAVE energy conservation project in 2012. Founded as part of the European-wide Intelligent Energy Europe (IEE) program, this project aims to increase the energy efficiency of refrigeration systems used in the food industry. This is being done by collecting



The IEE COOL-SAVE energy conservation project

data at the refrigeration plants of selected food producers that will serve as a benchmark in developing best-practice measures to improve the efficiency of refrigeration systems. Like the IEE program, the COOL-SAVE project is intended to boost the competitiveness of climate-friendly and sustainable energy technology. A total of nine companies from six EU member states are partners in the COOL-SAVE project.

Enhanced fleet efficiency

In addition to sound economic grounds, there were also strong environmental reasons behind GEA's decision to upgrade large portions of its vehicle fleet. The group has opted for a more environmentally friendly model as its standard, particularly for service, pool, and high-usage vehicles. Efficiency and safety were key selection criteria for the new model. Three different variants of engines and features with average CO₂ emissions of 120 g/km have been defined for the selected vehicle type. This will not only save fuel but also further reduce CO₂ emissions compared to the current fleet.

From 2013 onward, new fleet management software means that key data on parameters such as kilometers driven, fuel consumption, and the related CO₂ emissions for each vehicle can be recorded on a central basis. This system is being introduced initially in Germany, where the largest share of the vehicle fleet is in operation, creating the basis for ecological fleet management.

Sustainability – for climate and customer

Energy consumption is an increasingly important factor in the total cost of ownership of a machine or item of equipment. GEA believes that global climate change creates major potential for the use of its energy-efficient products.

Water is a key factor in the sustainability of GEA's products. Around one-fifth of consolidated revenue is generated by products that are related in some way to the careful management of this precious resource. These include bottling systems that require substantially less water for cleaning purposes, air-cooled condensers whose closed-circuit design prevents water loss, efficient generator coolers, and separators and decanters for drinking water production or for wastewater treatment plants.

The following examples show the savings potential for a variety of resources that is provided by machinery, components, systems, and plant from GEA Group.

GEA Food Solutions

TiroBox Plus from GEA Food Solutions is an extremely ecological packaging solution based on a cardboard-plastic film laminate. It not only meets all of today's requirements with regard to functionality and performance but also enables a high-grade presentation of the end product. The new packaging material is based on a simple construction of cardboard on the outside with a plastic film on the inside, with the two being separated by a layer of air. The cardboard can be fully printed. After use, the cardboard and the plastic film are disposed of separately. This solution relieves the environment in two ways: on the one hand, the film is relatively thin, while on the other over 60 percent of the packaging is made of renewable or reusable materials.



The TiroBox Plus packaging system

GEA Farm Technologies

GEA presented the XScrew, its new screw separator for energy-efficient manure management, at EuroTier, the world's largest trade fair for animal husbandry and management. Environmental and cost reasons mean that professional manure management is becoming increasingly important. Effective separation of liquid and dry matter enables the sustainable and diverse use of manure as fertilizer, bedding conditioner, or energy feedstock. The XScrew uses a screw to compress the manure within a sturdy housing, making it easier to pump off and transport the liquid. The XScrew separator can be used with any size of herd and has been designed in such a way as to run with an especially economical electric motor.



The XScrew screw separator

GEA Heat Exchangers

The new GEA Adia-DENCO® cooling system provides indirect free cooling in combination with adiabatic humidification. It was unveiled at Chillventa, the International Trade Fair for Refrigeration, Air Conditioning, Ventilation, and Heat Pumps. The system has been specially designed for climate control of computing centers and has a short amortization period as a result of its extremely low annual operating costs.



The GEA Adia-DENCO® cooling system

The adiabatic cooling system is based on the principle that water removes heat from its surroundings as it evaporates. The GEA Adia-DENCO® meets the new environmental recommendations for computing centers, which accept a maximum temperature for supply air of 27°C. With the GEA Adia-DENCO®, computing centers in the moderate to cold climatic regions of the world can largely dispense using compression refrigeration, saving up to 70 percent of the energy otherwise required and reducing their operating costs accordingly.

GEA Mechanical Equipment

In 2012, the GEA Mechanical Equipment Segment unveiled the GSI 125v, a new separator for clarifying beverages in medium-scale production operations. This means that the segment now provides a separator with all the advantages of energy-saving integrated direct-drive technology for operations with an output of up to 350 hectoliters per hour.



The GEA GSI 125v separator with integrated direct drive

The bowl is directly driven by an integrated, infinitely variable three-phase motor. The separator's enhanced efficiency means it requires significantly reduced installed motor power, which results in energy savings of up to 30 percent. The direct drive also reduces the space requirements for the separator by 35 percent. In addition, the drive concept is especially maintenance-friendly, since the motor does not require separate mounting and therefore needs no lubrication, which also reduces the need for spare parts.

GEA Process Engineering

Thanks to superheated steam drying technology (SSD™) from GEA Barr-Rosin, the GEA Process Engineering Segment now has a drying system with which up to 90 percent of the thermal energy can be recovered and reused.



A bioethanol plant with superheated steam drying technology

SDD™'s intelligent system integration cuts production costs for ethanol and animal feed and also significantly reduces CO₂ and greenhouse gas emissions.

GEA Refrigeration Technologies

The GEA Refrigeration Technologies Segment was presented with the Dutch Refrigeration Prize in February 2012 for its combination of a refrigerating unit and a heat pump. The Energy Enhancer uses an ammonia heat pump to raise the temperature of waste heat from cooling compressors from approximately 35°C to a useful level of around 80°C. Heat of this temperature can be used in areas such as milk production (for pasteurization), French fry production (for blanching), and meat production (for cleaning machinery). Other possible areas of use include leisure centers that need to refrigerate a skating rink and heat a swimming pool at the same time.

The Energy Enhancer transforms the waste heat produced by conventional cooling systems – and which is often discharged into the environment unused due to its low temperatures – into usable energy with a higher temperature. This results in a significant reduction in operating costs and CO₂ emissions. In addition, the system uses ammonia, a natural refrigerant that does not deplete the ozone layer.



Dutch Refrigeration Prize
for Energy GEA's Enhancer
