

Corporate Social Responsibility and Non-Financial Information



Soldiers playing cards (1917)

Fernand Léger

Born: February 4, 1881, Argentan, France

Died: August 17, 1955, Gif-sur-Yvette, France

Initially trained as an architect, before moving in 1900 to Paris, where he supported himself as an architectural draftsman.

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Corporate Social Responsibility and Non-Financial Information

I. Vision and ambition

The world is experiencing several global challenges which affect our business in a strategic way. Besi monitors these challenges and assesses their impact on its strategy, business operations and long-term value creation. As a responsible citizen, we address these challenges in an appropriate way and contribute solutions to our people, our stakeholders and to the locations and communities in which we operate.

Besi's business is the development and sale of semiconductor assembly equipment. Our leading edge equipment forms a part of production processes and systems used in the digital revolution. In our vision, the digital revolution and digitization of society is only in its infancy phase although the digital world is already deeply incorporated in the world's daily life. We anticipate that the digital revolution will play an increasingly important role in our lives over the next decade.

Besi's objective is to be a meaningful partner in the digital revolution adding value to society through the development and sale of its systems for next generation applications in the digital economy as well as to further advance information and communication technology ("ICT"). ICT can help stimulate the share-economy and reduce material consumption with accompanying environmental benefits. For example, the Global e-Sustainability Initiative ("GeSI") issued the GeSiSMARTer2030 report in which it estimates that ICT has the potential to generate by 2030 a 20% reduction of global CO₂ emissions from 2015 levels and decouple economic growth rates from emissions growth rates.

From a product perspective, many of Besi's assembly systems are utilized for applications to promote the digital society and digital economy such as smart phones, tablets, high-end sensors, intelligent automotive electronics, driverless cars, cloud servers, data mining, artificial intelligence and the Internet of Things ("IoT"). The advent of the IoT for smart cities, smart manufacturing, smart mobility and self-driving electric cars with artificial intelligence could lead to real breakthroughs in how society functions in a safer, more ecologically responsible manner. Through its products, Besi favorably influences sustainability themes such as energy usage as it delivers system solutions which contribute, among other things, to longer battery life for electronic devices, more efficient solar cells, lower power consumption and heat dissipation in smart phones and increased automotive electronic content and intelligence which can help foster the development of next generation electric and driverless vehicles without fossil fuel generated combustion engines.

In the social domain, access to information can enhance education and individual freedom which holds the potential to create opportunities and improve living standards. The use of Besi's systems for the computing world can help promote greater access to information.

In this way, members of society can benefit from increased education and individual freedoms which hold the potential to create opportunities for advancement, improve living standards and further social mobility. We seek to encourage such progressive societal developments in a way that enriches society as a whole. As such, Besi's corporate social responsibility ("CSR") policy is to balance ecological, social and economic interests and outcomes in promoting its business development to benefit all stakeholders, partners and communities in the locations and supply chains in which we operate.

We are also committed to running our operations in accordance with recognized international standards for all human aspects related to Besi's business, such as safeguarding safe and healthy working conditions and respecting human rights in the supply chain. In addition, we are committed to reducing the impact on the environment of our operational footprint.

Important societal trends related to our business

We believe that CSR requires vigilance, obligation and active engagement. Our CSR is motivated by global trends which affect our business such as the scarcity of critical raw materials, a growing concern about climate change and many challenges in the social domain such as diversity, human rights and the recruitment of qualified technical personnel. Besi observes several societal developments and challenges which influence its CSR strategy.

Several current global trends will influence our business direction and CSR strategy in the years to come. A renewed focus on clean technology is one such topic for which semiconductors could play an important role. In November 2015, the issue of climate change became a more important agenda topic as a result of the COP21 Paris conference. World leaders agreed that:

- Average global temperatures should not rise more than 2 degrees.
- Emissions should be reduced such that maximum temperatures do not rise by more than 1.5 degrees by century end.
- A balance between global CO₂ emissions and the earth's absorption capacity should be reached by 2050.

The Intergovernmental Panel on Climate Change ("IPCC") calculated that a maximum global warming of 2 degrees means that CO₂ emissions must return back to 1990 levels by 2050. In 2018, the IPCC will present an overview for which reductions by members will be required to limit global warming to 1.5 degrees. As a responsible citizen, Besi agrees to use its best efforts to reduce its CO₂ emissions in accordance with such objectives.

In our view, global governmental and industrial initiatives will accelerate the so called low carbon economy for which semiconductors are important contributors. For example, the United Nations launched its Global Goals

for Sustainable Development in September 2015, for which companies were asked to make contributions to address the pressing challenges outlined. In addition, research and new product development have proliferated in recent years in the healthcare and automotive sectors, for example, which will also favorably influence our business as they require more advanced semiconductors and assemblies for leading edge applications.

The expanded use of semiconductors in the IoT – making our homes, offices, hospitals, factories, mobility and municipalities more intelligent – is also an area that will contribute to the more efficient utilization of energy, water and other natural resources in the global environment. Other new consumer product applications such as virtual reality, wearable devices and ever more intelligent smart phones, mobile devices and cars also hold similar promise for ecological benefits.

Another trend potentially affecting Besi's business is the circular economy. As opposed to a linear economy in which we make, use and dispose of materials, a circular economy emphasizes (i) the usage of materials for as long as possible, (ii) the extraction of their maximum value while in use and (iii) the recovery and regeneration of products and materials at the end of each service life. Besi has already participated to a degree in this concept as it continually looks for opportunities to extend the useful lives of its materials, facilities and products from both a business and ecological perspective.

The rapid development of Asian economies and associated increase in semiconductor demand also is an important influence affecting our business and CSR. Underlining this point, revenue from Asian customers represented 70.4% of Besi's revenue in 2017. Similarly, production and supply chains are moving to Asia to reduce expenses and transport costs which have the beneficial effect of supporting local economies. In recent years, Besi has significantly increased its production, engineering and supply chain capabilities in Malaysia, China and Singapore to increase its local customer presence and make its operations more efficient. As a more active Asian participant, Besi will also have more interaction with local communities and governments and may be confronted with issues of corruption and human rights violations which is a significant topic in the region. As a consequence, we have increased our surveillance, internal auditing and response capabilities relative to issues such as corruption, fraud and human rights violations in both our Asian and global operations.

The topic of conflict minerals has been growing as a corporate issue over the past few years. Several countries have been or are developing laws and regulations regarding the use of these materials which have increased attention on the semiconductor supply chain as well. Companies are expected to develop policies and mechanisms to eliminate conflict minerals in their supply chain. Besi has developed a Conflict Minerals Policy that seeks to identify and mitigate the usage of conflict minerals in its product design and supply chain wherever possible.

Stakeholders

Stakeholder appreciation is at the core of our CSR strategy. Besi identifies its key stakeholders based on the nature and level of their engagement with us as well as our impact on them. We strive to understand and exceed stakeholder expectations whenever possible. Engagement with stakeholders helps Besi identify the opportunities, issues and risks that affect its business and performance. We gather vital intelligence through internal and external audits, supplier audits and customer dialogue, management reviews and surveys.

Shareholders are engaged through quarterly and annual conference calls, presentations, roadshows, conferences and participation at its Annual General Meeting of Shareholders ("AGM"). Shareholders expect Besi to protect their investment and provide a competitive return on invested capital while operating responsibly as a corporate citizen. Our investor relations activities ensure that we remain in close contact with investors, invite them to attend meetings and encourage them to ask questions during our earnings calls, meetings and AGM.

Investor interest in CSR is growing as a consideration in their investment process, particularly for large European pension funds. Investors are also requesting more CSR information from us than in previous years particularly in the areas of conflict minerals and climate change as well as fossil fuel and CO₂ reduction strategies.

Customer relationships are vital to Besi's growth and its ability to improve its sustainability efforts. Providing superior customer support is central to our corporate philosophy. We have a very experienced sales and service team whose aim is to maintain close, strategic relationships with key customers as they provide valuable insight into semiconductor device roadmaps, assembly requirements and future market trends. Moreover, they provide partnership opportunities to develop new assembly systems and sustainability solutions for the market. Customer satisfaction is an important measure to determine if customer needs are being fulfilled along with areas for improvement. Besi conducts annual customer satisfaction surveys to assess existing relationships and identify areas for improvement. We see an increasing number of customers paying attention to CSR topics as evidenced by our 2017 interactions. Special topics include conflict minerals, labor conditions, human rights, environmental performance, innovation and compliance with the Electronic Industry Citizenship Coalition ("EICC") Code of Conduct.

Employees expect Besi to use high social and ethical standards and to provide inspiring and safe working conditions with competitive terms and conditions. A high level of employee satisfaction is a basic precondition to achieve our revenue and profit growth.

Suppliers expect a long-term relationship that is mutually beneficial and based on trust. We engage with our suppliers through direct dialogue and constructive audits. Besi performs a third-party external audit annually for all significant production and development facilities with respect to its ISO 9001 and ISO 14001

capabilities. Social and ethical CSR topics are put on the agenda as well. But most of all, we try to work together with suppliers to lower our joint environmental footprint and create sustainable products.

Society expects Besi to respect national and international laws and regulations, minimize negative outcomes and provide transparency on economic, environmental and social issues. Besi abides by appropriate social, ethical and environmental standards for its operations which typically exceed minimum legal and regulatory compliance levels.

Local governments expect compliance with local laws, regulations and care for the health, safety and security of their communities. In Asian countries such as China, CSR topics such as clean technologies are being given higher priority particularly in light of serious environmental issues in local communities. In all its operations, Besi uses European social and ethical standards wherever possible and participates in dialogue with local chambers of commerce as appropriate.

Besi relies on healthy and stable **local communities** in the regions where it operates. We aim to have a positive impact on communities through good corporate and employee conduct and invest in several community projects, particularly in Asia. Besi senior managers review concerns raised by local communities and try to communicate issues and best practices to all stakeholders.

We listen to the concerns of our stakeholders and try to be as responsive as possible in the context of our business conduct. To date, we believe that information on our website and annual report has been responsive to stakeholder concerns. In 2015, Besi developed a Conflict Minerals Policy and made information available on the website to satisfy stakeholder requests. Both in 2016 and 2017, Besi updated its Whistleblower procedure to meet market best practices. Besi continually seeks to identify CSR and performance related topics of interest to its various stakeholders to define new CSR goals and activities for the coming years in a pragmatic step by step manner.

CSR materiality assessment and key themes

Besi regularly evaluates CSR topics deemed important to the conduct of its operations and the development of our corporate culture. We reassess periodically CSR priorities and our societal impact, taking into account stakeholders' expectations. In our evaluation, we utilize GRI G4, the international guideline for sustainability reporting, which provides an overview of potential CSR related themes of a material nature. Initially, a list of relevant topics was created for which high and medium assessment priorities were defined based on relative significance to Besi and its most important stakeholders. We have broadened the scope of the assessment in recent years by asking 20 senior Besi managers to participate and rate the topics against two axes:

- Significance of the theme for Besi
- Significance of the theme for stakeholders

The 2015 survey resulted in a number of slight adjustments to the ranking of high and medium assessment priorities and allowed us to further refine Besi's CSR strategy and strategic CSR themes. In addition, it resulted in narrowing the focus of our CSR strategy to a more limited number of specific themes applicable to our business for which we gradually develop programs appropriate to Besi's size, nature and culture. Each theme is addressed and monitored by a number of key performance indicators ("KPIs") to highlight any requisite actions. In 2017, we made no adjustment to the outcomes of the 2015 assessment as we still consider these themes to be the most material to our business. We will again revisit this topic in 2018 in close cooperation with senior management and external stakeholders.

Sustainable supply chain

We feel a shared responsibility for sustainability issues not only in our operations but also in our supply chain including the sourcing of virgin materials and semi-finished products. We discuss and audit our suppliers on a number of sustainability issues such as conflict free minerals, human rights and child labor conditions as well as environmental issues. By dialogue and auditing, we hope to enhance sustainability throughout the entire supply chain.

Employees

We can only assure our profitability, sustainability and long-term growth if our employees are engaged and motivated in a corporate culture which encourages good working conditions and career advancement. Besi strives to be a good employer by engaging, supporting and developing its people and treating their safety and well-being as a paramount concern. The issue of human well-being deserves considerable attention especially given our increased presence in Asian countries.

Environmental impact of operations and transportation

Besi recognizes the environmental impact of its operations and aims to significantly and systematically decrease its environmental footprint through both reduced CO₂ emissions and costs. Our internal energy program encourages and helps employees make positive changes in work place energy consumption. We also focus on water usage and efficiency and a reduction of the total waste generated from our operations. We place particular emphasis on transportation and packaging activities where we have identified significant potential for reductions of CO₂ emissions, waste and cost.

Ethical behavior

Besi operates with proper ethical standards in compliance with the relevant laws and regulations in its local jurisdictions. Because of growing semiconductor demand, Besi has shifted its production and supply chain network to Asia to increase efficiency, improve its local customer presence and to support local economies. As a more active Asian participant, Besi will also have more interaction with local communities and governments and may be confronted with issues of compliance and corruption. We aim to minimize these risks in our operations.



Besi Leshan employees, China

Community involvement

We contribute to the well-being of those living in the environments in which we operate and consider it an important aspect of our CSR strategy. For each of our operations, we develop tailor made activities addressing the needs and customs of the local society.

Product quality and sustainable impact

We contribute to a more efficient and cleaner industry through our products, particularly low carbon products and services. Besi continually seeks potential opportunities to develop new ways to assemble semiconductors and components used in advanced electronic applications. We invest in the development of low carbon products and services to help our customers operate more efficiently and in a more environmentally friendly and cost saving manner, for instance by introducing products with fewer and lighter materials.

Besi works closely together with its suppliers to reduce the customer's total cost of ownership by means of higher accuracy, greater throughput, smaller footprint, lower energy consumption and lead-free board usage, all of which should favorably influence a customer's usage of environmental resources.

Transparency

Besi seeks to be fully transparent in its communications with stakeholders in order to promote meaningful dialogue in an environment of trust. We participated for the first time in 2017 in the Dutch Transparency Benchmark survey. The benchmark was established by the Dutch Ministry of Economic Affairs to improve the content and quality of CSR reports of Dutch companies. In 2017, we placed ninth out of a total of 45 companies in the technology sector.

Organizational governance

Accountable to the Supervisory Board and to shareholders, Besi's Board of Management is responsible for achieving its strategy and CSR objectives. Our CSR management approach is fully aligned with Besi's hierarchical structure. Line managers are responsible for CSR issues in their respective departments. Besi has assigned independent staff officers in the fields of human resources, environment, quality and integrity at all locations to support line managers. In addition, we have implemented externally certified ISO 9001 and ISO 14001 management systems in order to manage quality and environmental issues in our production operations. Health and safety have been included in our ISO 14001 management system. Besi APac in Malaysia has its own Health & Safety Committee as required by law. Our external auditor was not engaged to perform an audit or review of the non-financial (CSR) information. The information was evaluated by the external auditor only in the context of their audit of the Consolidated Financial Statements.

Progress and developments in the field of CSR are discussed between the Board of Management and the Supervisory Board regularly and are reported in the Annual Report on an annual basis. We intend to introduce an internal CSR monitoring and review system with data presented twice a year in order to better monitor progress. This initiative has not yet been implemented given operational restructuring and strategic planning activities which have required a substantial amount of senior management time and attention. A third party CSR consultant was hired in 2017 to assist in the development of such analyses and systems.

Our Remuneration Policy describes our compensation system (see "Report of the Supervisory Board" on pages 73 to 77). Several non-financial goals such as succession planning, corporate governance, organization and CSR are included in the determination of variable

remuneration payable to the Board of Management and represent 20% of the variable compensation. In addition, part of the variable short term incentive compensation of the senior vice president of operations and the vice president strategic supply chain is also tied to CSR objectives such as supplier and customer compliance with EICC standards and its Code of Conduct.

II. CSR and non-financial risks and risk mitigation measures

Besi evaluates its CSR and non-financial risks that could affect both its CSR strategy and business operations. Besi's CSR strategy is influenced by global trends such as the scarcity of critical raw materials, a growing concern about climate change and waste and challenges such as diversity, human rights and the recruitment of qualified technical personnel. Short and long-term effects of CSR issues are assessed through such measures as materiality analysis, key performance indicators for energy, water and waste usage, customer and employee satisfaction metrics, supplier audits as well as via continuous stakeholder dialogue.

Besi's CSR and non-financial risks are governed by a set of guidelines and instructions regarding the following topics:

- ISO 14001 Environmental management certification
- Conflict Minerals Policy
- Code of Conduct
- Supply Chain Policy
- Code of Ethics for Senior Financial Officers
- Whistleblower procedure
- Guidelines regarding authorizations
- Reporting of fraudulent activities

Set forth below is a summary of Besi's most important CSR related and non-financial risks and risk mitigation measures related thereto. For a summary of Besi's strategic, industry, operational, financial and ordinary share related risk factors, please refer to "Risks and Risk Management" on pages 32 to 40.

Recent regulations related to conflict minerals may force us to incur additional expenses, make our supply chain more complex and result in damage to Besi's customer reputation.

Both US and European regulatory authorities have issued regulations for companies that use certain minerals and metals, known as conflict minerals, in their products, regardless of whether these products are manufactured by third parties. These regulations require companies to conduct due diligence and disclose whether or not such minerals originate from the Democratic Republic of Congo ("DRC") and/or certain adjoining countries. The implementation of such regulations could adversely affect the sourcing, availability and pricing of minerals used in the manufacture and assembly of semiconductor devices. In addition, since Besi's supply chain is complex, verification of the origins of these materials in our products through due diligence procedures that we implement may be difficult and costly and may not be

possible at all, which may harm Besi's reputation. In such event, we may also face difficulties in satisfying customers who require that all our product components be certified as conflict-free.

Besi's product specifications to suppliers specifically prohibit the usage of conflict materials. In addition, as Besi buys its feedstock from parts manufacturers, it is positioned several tiers away from the smelter. As such, we have made an assessment that Besi is not adding any conflict minerals itself to its customers' products. Even so, it is difficult to assess definitively whether 3TG materials have been actually used during the smelting, component or subassembly process before arrival at Besi. This is due to the variety of potential unspecified or upstream processes utilized by a variety of supply chain participants. Nevertheless, we are dedicated to the usage of conflict free minerals from the DRC and its neighboring countries so that responsible mining in the area is encouraged. Consequently, Besi's Conflict Minerals Policy requires suppliers to:

- Make a commitment to eliminate conflict minerals from the DRC or one of its neighboring countries in its supply chain.
- Identify and disclose all smelters or refiners of tantalum, tin, tungsten or gold.
- Utilize smelters validated by an independent private sector audit firm.

By such measures, we aim to mitigate the risk of conflict mineral usage in Besi's supply chain.

Besi is subject to environmental rules and regulations in a variety of jurisdictions.

We are subject to a variety of governmental regulations relating to the use, storage, discharge and disposal of chemical by-products of, and water used in, our manufacturing processes. Environmental claims or the failure to comply with any present or future regulations could result in the assessment of damages or imposition of fines against Besi, suspension of production or a cessation of operations. New regulations could require us to acquire costly equipment or to incur other significant expenses. Any failure by us to control the use or adequately restrict the discharge of hazardous substances could subject Besi to future liabilities.

Besi's ISO 14001 environmental management certification for all its operations helps us to monitor all relevant environmental laws and regulations. Further, it helps us to manage our environmental impacts and to continuously assess and improve the quality of our operations.

Our business, reputation and financial position may be harmed by unethical behavior and non-compliance with our Code of Conduct.

Besi seeks to conduct its business in accordance with internationally recognized standards and best practices for all relevant human aspects. We have adopted social, ethical and environmental standards for our operations

that typically exceed minimum legal and regulatory compliance levels and applied European social and ethical standards wherever possible. Besi has established a Code of Conduct which governs the behavior of our employees worldwide on matters such as corruption and human rights behavior as integrity and ethical behavior are important values to the Company.

However, we might still encounter unethical behavior and breaches to our Code of Conduct due to intentional fraudulent behavior by individual employees. Issues can arise unintentionally as well from a lack of adherence to appropriate rules and regulations. Unethical behavior and misconduct could lead to fines, penalties and claims by injured parties as well as material financial loss and damage to the reputation of Besi and its stakeholders.

Besi has several risk mitigating procedures in place to prevent the risk of fraud, bribery and corruption in its operations. Systems and procedures include (i) behavioral analysis by the Internal Audit department, (ii) an enhanced cost tracking system through SAP, (iii) the rotation of personnel and segregation of duties in supply chain activities such as purchasing, warehousing and logistics and (iv) an established Whistleblower procedure. In addition, an external advisor reviews and assesses supply chain related risks associated with operations at Besi APac.

Our business may be harmed if we fail to attract and retain qualified personnel.

Besi's future operating results depend in significant part upon the continued contribution of its senior executive officers and key employees including a number of specialists with advanced university qualifications in engineering, electronics, software and computing. In addition, our business and future operating results depend in part upon our ability on a timely basis to attract and retain other qualified management, technical, sales and support personnel for operations, particularly to help expand Asian production and technical capabilities. Besi's business and future operating results also depend on the continuous monitoring and adjustment of our Asian production capabilities given increased seasonal influences on order rates. We believe that our ability to increase the manufacturing capacity of subsidiaries has from time to time been constrained by the limited number of such skilled technical and production personnel. Competition for such personnel is intense and we may not be able to continue to attract and retain such personnel. The loss of any key executive or employee or the inability to attract and retain skilled executives and employees as needed could adversely affect our business, financial condition and results of operations.

In order to find personnel with the appropriate qualifications, backgrounds and maintain excellence in technological leadership, we work with headhunters, especially for recruiting senior management. In addition, we provide new recruits with training and career development for a number of tasks critical to their

advancement and incentive compensation plans for select middle and senior management in the form of both cash and share based compensation to promote loyalty to the firm.

Increased Asian production and personnel expansion could expose us to additional risks related to human rights issues in the region.

In recent years, we have significantly increased our production, engineering and supply chain capabilities in Asia to increase Besi's local presence and make our operations more efficient. As such, Asian personnel have grown to represent 71.1% of our total headcount at year end 2017 and revenue from Asian customers represented approximately 70% of consolidated revenue in 2017. As a more active Asian participant, we have more interaction with local communities and governments and may be confronted with issues of corruption and human rights violations which is a significant topic in the region. In addition, our expanded operations in Asia could expose us to the risk of fraud or bribery in our supply chain activities.

In response, we have increased our surveillance, internal auditing and response capabilities relative to corruption, bribery, fraud and human rights violations in both our Asian and global operations. We engaged an external advisor starting in 2015 to assess, develop and help us implement new systems and procedures to combat potential violations which might occur at our Besi APac operations in the future, with a particular focus on procurement, warehousing and logistics activities. Our Whistleblower procedure can also aid internal efforts to monitor and identify possible areas of concern.

In addition, a large and growing share of Besi's operations is now located in Malaysia, China and Singapore. At present, there are neither labor unions nor Works Councils in those jurisdictions. However, we hold town hall meetings each quarter to inform employees of corporate developments. Malaysian employees are represented by a member of our Health & Safety Committee. This committee monitors workplace conditions and informs employees of measures taken to ensure their health and safety. In Singapore, China, Taiwan and Korea, quarterly employee sessions are organized where the senior vice president shares information about Besi's progress.

III. CSR activities and results 2017/2016

SELECTED CSR ACHIEVEMENTS 2017

- **Improvement in KPI metrics for supply chain activities**
- **Conducted surveys:**
 - Company wide employee engagement
 - Customer satisfaction
- **First time participation in:**
 - Carbon Disclosure Project
 - Transparency Benchmark by Dutch Ministry of Economic Affairs

Quality and sustainable impact of products

Customer satisfaction

Customer satisfaction is an important measure to determine if customer needs are being fulfilled and to identify areas for improvement. We receive ongoing feedback about our products and services through Besi's sales and service departments. Many of our customers regularly perform supplier performance evaluations in which we are asked to perform self-assessments and be audited. Increasingly, these evaluations include CSR aspects such as human rights, labor practices, conflict minerals and the environment. We are pleased to participate in such evaluations.

Once a year, we perform our own customer satisfaction survey through which we measure our performance with customers on service and support, technological issues and quality and product management. The survey results form part of the management review per product group. The 2017 survey included 96 respondents. Overall customer satisfaction in 2017 "exceeded customer expectations" and improved slightly versus the 2016 survey with particular strength in Project Management and Commercial and Administration aspects this year. Relative to competitors, customers are particularly satisfied with the reliability and durability of Besi's products as well as our technical support and customer service. In general, Besi has experienced improving customer satisfaction survey results since 2010.

Perhaps the best indicator of customer satisfaction is the amount, breadth and diversity of customer orders as only a satisfied customer will generate increasing, repetitive order volume. A clear indicator of customer satisfaction in 2017 was our substantial order growth from a diverse customer base and increased market share. We also gained share of wallet at some customers and increased the breadth of product revenue through new products, customers and end user market opportunities. Another external objective indicator of product quality is warranty cost which remains at historically low levels as a percentage of revenue. Lower after-sales warranty cost implies improved product quality and fewer service calls.

Besi's target for 2018 is to realize "exceeding customer expectations" for all categories.

Sustainability impact of products

Besi contributes to a more efficient and cleaner industry through its low carbon products and services. We continually seek opportunities to develop new ways to assemble semiconductors and components used in advanced electronic applications such as smart mobile internet devices, logistical systems, cloud servers, intelligent automotive electronics, electric and hybrid electric cars, the IoT, wearable devices, artificial intelligence, data mining, advanced medical equipment, solar and renewable energy, high-end rechargeable batteries and LED devices.

Besi invests in the development of environmentally friendly products and services to help our customers operate more efficiently and in a more environmentally friendly manner. We have introduced in recent years new systems with significantly higher accuracy and throughput with fewer, lighter and non hazardous materials and improved energy efficiency. Such efforts have served to reduce the customer's total cost of system ownership.

In 2016, we began an investigation into the replacement of lead used in our systems with a more environmentally friendly option. In addition, Besi revised its R&D criteria to increase emphasis on (i) energy efficiency, (ii) the recycling potential of applied materials utilized in our operations, (iii) increasing the recycled content of our products, (iv) minimizing the usage of hazardous components in our systems and (v) an explicit exclusion to the usage of conflict materials in the design process. In addition, Besi examined its usage of scarce materials such as virgin versus recycled content by monitoring its material streams in terms of volume and character. The investigation of all such matters continued in 2017.

Besi's products also co-exist well with the new emphasis on the circular economy. Our systems typically have a long life span of approximately 10 to 15 years, can be reused and repurposed by customers depending on end use applications and can be upgraded via the purchase of kits, additional parts and/or software without a new system purchase. The use of upgrade kits can add more value to the customer in certain lower technology applications by extending system life versus a new purchase. Our multi module die bonding series and full line of packaging systems have commercially available upgrade kits. We continue to evaluate the introduction of system upgrade kits for other product series as well.

Product safety

Besi responsibly designs its products so that customers can use them safely at high levels of performance. We have hired an external agency that performs audits of newly developed products according to local and international regulations and standards. In addition, customers can specify additional features to further enhance product safety and usage for which audits can be performed. In 2017, Besi did not receive any customer complaints concerning product safety.

Employees and culture

Human resources strategy

Besi is committed to being a good employer and to promote a workplace culture conducive to the achievement of its business and CSR objectives. We seek to be a preferred employer by offering flexible working conditions, good training and development programs, competitive pay and attractive short and long-term incentive compensation programs for management personnel. Our human resources ("HR") strategy is based on four pillars: (i) improving HR service excellence, (ii) increasing diversity, (iii) developing leadership talents and capabilities and (iv) developing a workplace culture that is collegial and friendly and which encourages our employees to grow and excel in their careers.

Besi is registered with the EICC. We apply EICC policies to our supply chain as well as our own organization including labor conditions and human rights, discrimination and safety and health management policies.

HR organizational hierarchy

HR managers are responsible for a region and/or product group and oversee local HR officers per country. The regional HR managers report to product group or global operations senior vice presidents, who further report to the Board of Management. Twice a year, all HR managers meet to discuss corporate HR procedures and timelines.

Improving HR service excellence

Besi's HR policies can vary per region due to the different work performed per facility, local circumstances and customs and government regulations. In recent years, we have actively pursued the automation and harmonization of systems and procedures of the various product groups and geographic locations through the staged adoption of a SAP enterprise software system. In this manner, we can better monitor personnel hours, engagement and utilization levels. The harmonization process is ongoing.

Diversity

Besi values and encourages cultural, age and gender diversity in its workforce and management. We try to create an all-inclusive culture to help broaden our perspective and contribute to growth. Equal opportunities are provided to all employees and applicants which is embodied in our Code of Conduct. Besi aims to increase the number of female and young employees in its operations, but, despite all efforts, this process has gone slowly.

Diversity was encouraged in 2017 through targeted hiring programs at both Besi's Singapore and Malaysia facilities and internship programs at our Austrian operations. In general, the available pool of female engineers in the communities in which we operate is still relatively low, particularly in Europe. In Austria, Besi is working with FemTech, a program initiated by the Austrian government, in order to attract female employees. FemTech's goal is to raise awareness and enhance the visibility of women in research and technology.

An overview of female participation in Besi's workforce for the past three years follows below:

Indicator	2015	2016	2017
Female employees			
Malaysia	22%	24%	23%
China	11%	12%	12%
Singapore	33%	33%	30%
Switzerland	13%	14%	14%
Austria	11%	10%	9%
Netherlands	10%	9%	9%
Other	6%	6%	7%
Total	16%	16%	16%

Female employees in management positions

Malaysia	18%	21%	23%
China	22%	16%	14%
Singapore	43%	29%	17%
Switzerland	11%	12%	10%
Austria	4%	8%	4%
Netherlands	8%	10%	11%
Other	0%	0%	4%
Total	14%	14%	13%

Training and development

One of Besi's main challenges is to attract and retain skilled workers in both its European and Asian operations. Competition is intense for qualified and experienced technical personnel with skill sets compatible with the semiconductor assembly equipment market. As such, a key component of Besi's HR strategy is training and talent development.

In this regard, Besi provides a variety of education and training programs to its employees. Currently, there are training programs targeted to promote the advancement of skill sets and leadership capabilities in the areas of research and development, sales and general management as well as the development of prospects through internships. On average, Besi employees receive approximately 30 hours of training per annum. Many training programs are offered to employees through sessions at recognized training facilities. We also encourage technical knowledge exchanges amongst our employees and the development of cross functional skills by organizing training and short or long-term overseas exchange projects. Besi APac offers employees an online training application program under which they can browse training programs offered and propose to managers any listed training that is deemed beneficial. In addition, local and international students have the opportunity to work at Besi as an intern.

Besi performs semi-annual and annual employee reviews and has a performance management system with KPIs for all employees. Individual training needs are identified and a program formulated based on functional requirements and competency profiles. These are communicated in annual reviews. Training is organized and provided both at the department level and by the HR department.

In 2016, Besi implemented a talent management and succession planning program for key employees at all Besi locations worldwide whose purpose is a systematic identification, development and retention of talent. The objective is to build a talent pool of eligible candidates for successful short, mid and long-term succession planning. Particular attention is paid to the development of talented personnel for whom a career path and personal development plan will be created.

Besi APac, the Company's largest employer, introduced in 2016 an internal mobility metric to measure the percentage of personnel moving from one corporate location to another. The unit seeks to promote the movement of highly performing employees by providing opportunities internally for promotion either to fill vacancies within their group, to change groups or perform different functions. Approximately 30% and 13% of all job vacancies at Besi APac in 2016 and 2017, respectively, were filled internally. In addition, 37 employees from Besi APac were placed to fill openings available at Besi Singapore and Besi Leshan in 2016, all of which served to significantly reduce aggregate recruiting and training costs. There were no significant opportunities to place Besi APac employees at other locations in 2017 given the substantial revenue growth Besi experienced during the year.

Headcount development and turnover

The chart below presents some important metrics related to Besi's headcount development between 2015 and 2017. During this period, we experienced a substantial increase in headcount and new employee hires to meet significant business growth with an employee turnover rate that varied little despite such growth.

Indicator	2015	2016	2017
Total headcount fixed	1,489	1,549	1,724
Employee turnover	12%	9%	11%
New employee hires	12%	13%	20%

Employee satisfaction

Engaged and satisfied employees are critical to our success. As such, Besi monitors employee satisfaction across regional operations through periodic employee surveys.

At Besi APac, our largest business unit, employee surveys are conducted typically on a biennial basis. The main concerns expressed in the 2016 survey were performance management, compensation, benefits, communication and collaboration. As a result, a focus group was set up to discuss how these topics could be improved. Management also engaged in dialogue with employees on compensation and benefits to be more transparent in the context of current policies. The focus group established action plans including one-on-one employee/supervisor coaching sessions, dialogue on communication and performance management and other engagement activities. Based on feedback, some benefit changes were made and lower turnover rates were observed, particularly in comparison to market turnover rates. The next survey is scheduled for 2018.

At Besi product group locations in Switzerland and Austria, an evaluation of employee satisfaction is included in the yearly performance appraisal. Results are analyzed and discussed with the Works Council and local management. When required, appropriate measures are taken to improve issues addressed by employees. Prior surveys indicated that internal communication could be improved and, as a result, a monthly information session for employees with the product group senior vice president was introduced. In addition, the frequency of meetings between the Works Council and the senior vice president was increased from quarterly to monthly.

At Besi locations in Singapore, Korea and Taiwan, an employee dialogue and survey is done annually. The HR department discusses concerns raised in the surveys with line managers and develops a responsive action plan. Each year, the HR department follows up on the action plans to ensure that all issues are being addressed and staff feedback is given. Based on the most recent survey, 95% of employees in Singapore, Korea and Taiwan are satisfied with employee conditions. 99% of them feel motivated to work for Besi and 98% feel that their employment position meets their expectations.

In the Netherlands, which includes both the Packaging and Plating product groups, the Works Council conducted a survey in 2015 on employee reactions to Besi's business strategy including the development of European development centers and Besi's Asian production transfer. The survey was finalized in 2016 and resulted in improved communication in 2017 through periodic plant meetings and personnel development plans.

In 2016, the Board of Management requested that the regional HR managers develop a global employee engagement survey to replace the current surveys conducted at the country levels in order to better harmonize employee assessments and management's response thereto. In 2017, the first global employee engagement survey was conducted for which 93% of Besi employees participated. Of those who responded, 92% said they were "highly satisfied" with their jobs. The overall score was 5% above the average benchmark of high tech companies globally participating in the survey. We scored highest in areas such as transparent communication and teamwork. Areas for improvement

included better dialogue with respect to disruptions caused by Besi's rapid operational growth and restructuring activities in recent years. We are currently conducting internal workshops with management and employees to address such issues.

Health, safety and well-being

Besi treats its employees' safety and health with the utmost importance. All of Besi's production sites have environment, health and safety ("EHS") officers and committees and a health and safety management system. These committees have representatives from each department and are responsible for inspection, enforcement and promotion of health and safety within the workplace. EHS Committee inspections are conducted quarterly to identify and address any unsafe acts and conditions that exist. Employees regularly receive EHS training.

Besi regularly monitors industrial and traffic accident cases. In 2016, we had a limited number of incidents, one of which was a non work place related fatality. In 2017, there were neither material incidents nor fatalities reported. When incidents happen, causes are analyzed and measures are taken to prevent repetition.

Besi also tracks sick leave rates to monitor employees' health status. During particularly busy periods, Besi pays extra attention to the well-being of its employees and tries to recognize their commitment to the Company. In general, sickness rates are declining on a consolidated basis, particularly in Besi's European operations.

Indicator	2015	2016	2017
Sickness Rate			
Total	1.9%	1.8%	1.7%
Asia	1.2%	1.3%	1.5%
Europe	2.7%	2.4%	2.0%

In Malaysia and China, medical insurance is provided to employees although there is no formal requirement by law. In Malaysia, benefits for employees with critical illnesses are not defined by law. In contrast, Besi provides critical illness benefits to Malaysian employees in which full salary is provided for a period ranging from two to six months. Subsequently, employees receive half salary payments for a period of time based on their years of company service. All European and American employees are provided medical coverage in accordance with local requirements.

Communication and dialogue

Besi considers open and constructive labor relations as a key ingredient for success. We encourage an atmosphere of open dialogue between managers and employees and apply several ways to safeguard such a dialogue. During performance appraisal conversations, we encourage employees to raise their concerns and interests to their managers and vice versa. Employee interests are communicated in a more institutional way via Works Council representation. In Europe, we hold meetings with the Works Councils twice a year to listen to the views of employees and communities.

A large and growing share of Besi's operations is now located in Malaysia, China and Singapore. At present, there are neither labor unions nor Works Councils in those jurisdictions. However, Besi holds a town hall meeting each quarter to inform employees of corporate developments. Some have a general character and others address a special theme such as safety. In addition, Besi APac employees are represented by a member of its Health & Safety Committee. This committee monitors workplace conditions and informs employees of measures taken to ensure their health and safety. In Singapore, China, Taiwan and Korea, quarterly employee sessions are organized where the senior vice president shares information about Besi's progress.

Sustainable supply chain policies

Besi adheres to high ethical standards and expects the same from its suppliers. As such, we have adopted three policies to promote a sustainable supply chain: a Conflict Mineral Policy, a Supply Chain Policy and an EICC Supplier Code of Conduct policy ("EICC CoC").

In addition, Besi has registered with the EICC to develop its sustainable supply chain network. Founded in 2004, the EICC provides tools such as audit schemes and collective initiatives for improvements to sustainable supply chain networks. In addition, it requires participating members to follow specified social and environmental guidelines, labor and ethics management practices and health and safety management procedures. At year end 2017, Besi's Supply Chain Policy and Supplier Code of Conduct were fully in accordance with EICC requirements.

All of our suppliers are requested to follow the EICC CoC, particularly in such areas as human rights, product quality, health and safety and environmental matters. Besi also asks its suppliers to have their own suppliers understand and promote the EICC CoC. In addition, our General Work Agreement ("GWA") includes an appendix which outlines the EICC CoC requirements and required conflict minerals due diligence. This agreement, including the appendix, must be signed and recognized by every supplier.

Further, Besi has provided a side letter for signature by its suppliers designed to increase their commitment to follow EICC CoC requirements, particularly with respect to matters of fraud. In 2017, we contacted 1,560 suppliers by mail and asked them to sign the GWA side letter. For 2017:

- 401 suppliers agreed to follow the EICC CoC.
- 30 suppliers indicated that they have in place and follow their own Code of Conduct.
- 333 suppliers signed a side letter including a penalty clause for non compliance with the EICC CoC.
- 27 suppliers completed a self-assessment questionnaire as per the EICC CoC and are in compliance therewith.

Defining risk suppliers and self-assessments

In 2016, Besi performed the EICC CoC self-assessment to identify suppliers which fell below expectations for compliance with EICC methodology and definitions. Subsequently, we asked our 41 high and medium risk suppliers (approximately 65% of Besi APac's purchasing volume) to update the EICC self-assessment of which 4 suppliers (10%) complied fully in 2016. In 2017, we asked 27 high and medium risk suppliers to update their EICC self-assessment of which all 27 complied fully. No material issues were found with our high and medium risk suppliers in 2017 as a result of the assessment.

In 2015, Besi performed a self-assessment on itself. We scored 80.3% on the total evaluation score. Management did not perform a self-assessment in either 2016 or 2017 as we consider our supply chain approach consistently applied since the first assessment in 2015. In recent years, Besi has organized several information and training sessions to inform suppliers of our Supply Chain Policy and the importance of compliance.

Supplier audits

We regularly perform audits of our key suppliers with a significant increase taking place in 2017. In 2016 and 2017, Besi performed a total of 19 and 59 supplier audits, respectively, of which 8 and 32 represented supplier performance measurements, and 11 and 27 were on-site supplier audits. Audits are conducted by multi disciplinary teams from Besi's Quality and Product Development departments and are divided into new and existing supplier categories. Key suppliers audited in 2016 and 2017 represented 85% and 70%, respectively, of our total purchases.

For existing suppliers, initial audits and operational audits are performed. In the initial audit, the supplier is given a score on several topics to assess their competency in the corresponding area. The EICC self-assessment results also form a part of the audit scorecard. Any findings from the audits will be communicated back to the supplier including proposed follow up actions and deadlines for improvement. The scorecard for Besi's 30 top key suppliers who have passed the initial audit is reviewed every quarter. 50% of the score depends on business KPIs and 50% on quality KPIs. The sub criteria and their weights are presented in the adjacent tables.

On-site audits are required to qualify new suppliers and are performed against a comprehensive set of criteria, including policies for environmental management, ethics and human rights matters. New suppliers are only registered if they pass the audit. Otherwise, a new supplier must be selected. All supplier audit results become part of Besi's Business Quality Report.

(Non-)Operational criteria	Max points
<i>Operational criteria</i>	
On time delivery	25%
Reject replacement / RPO management	10%
ECN management	10%
Flexibility	20%
Packaging & labeling	5%
Subtotal	70%

<i>Non-operational criteria</i>	
Cost Management	15%
RFQ	5%
EICC adaptation	10%
Subtotal	30%

Quality criteria	Max points
<i>Quality performance criteria</i>	
Line down & purging - quality related	20%
Supplier rejection rate	20%
SCAR effectiveness	15%
Subtotal	55%

<i>Field quality performance criteria</i>	
OOBQ & customer complaint	15%
Subtotal	15%

<i>Quality management & technical capability criteria</i>	
Quality control & quality management	20%
Supplier's competency	10%
Subtotal	30%

Managing non-compliance

Besi evaluates compliance with EICC requirements by means of its Business Quality Review process under which areas of improvement are identified and corrective actions implemented as necessary. Priority issues are re-audited typically one to three months post the audit to determine success. Besi collaborates with suppliers whenever possible to implement corrective actions. However, Besi may terminate a supplier relationship and look for an alternative supplier if no structural improvement is realized over a reasonable period of time. Two supplier relationships were terminated in 2017 in accordance with our Business Quality Review process.

The table below shows our progress in applying and implementing the EICC CoC with suppliers. In 2017, the EICC Code of Conduct was replaced by the Responsible Business Alliance (“RBA”). We intend to convert 100% of Besi’s EICC Code of Conduct KPIs to RBA measurement metrics in 2018.

KPI EICC Code of Conduct	2016 (number)	Target 2017 (number)	2017 (number)	Target achievement 2017 (%)
Suppliers informed of EICC CoC	41	41	41	100%
Supplier feedback collected and condensed	30	41	27	66%
Supplier signature GWA EICC CoC Agreement	8	28	68	243%
Supplier self-assessment questionnaire (SAQ) updated	4	22	27	123%
Supplier Performance Scorecard with EICC CoC criteria established	30	30	41	137%
Supplier corrective actions initiated	0	30	6	20%
Supplier EICC CoC status report delivered	17	30	27	90%
Supplier policy checked and rated	5	22	22	100%

The KPI measurements above indicate significant improvement versus 2016, but that there is still work to be done to organize full supplier compliance with EICC standards. Not all suppliers have fully participated given the time, cost and administrative effort for full compliance. Management intends to improve its performance metrics in upcoming years and targets 100% achievement in 2018 in the area of “Supplier corrective actions initiated”. In addition, we anticipate including two KPI measurements in 2018: (i) to increase the number of self-assessment questionnaires distributed such that the total number distributed equals 65% or more of Besi’s purchases and (ii) to transform signed side letter agreements into signatures of Besi’s GWA such that total GWA signatures represent more than 50% of Besi’s purchases.

Conflict minerals

The issue of conflict minerals utilization is an important supply chain topic currently, particularly in Europe and the United States. The supply chain of conflict minerals is highly complex, consisting of many tiers formed by traders and producers before the smelter is reached and even more tiers that lead to the actual mine. The term “conflict mineral” includes coltan (from which tantalum is derived), cassiterite (tin), gold, wolframite (tungsten), or collectively “3TG”. These minerals are commonly used in the electronics industry. Profits from conflict minerals found in the DRC have supported armed conflict, human rights violations and labor and environmental abuses in the region for years. Besi is dedicated to mitigating the usage of conflict minerals in its supply chain.

In late 2016, the EU announced their intention to ban profits from conflict minerals found in the DRC. In May 2017, the EU passed a new regulation to stop conflict minerals and metals from being exported to the EU, to stop global and EU smelters and refiners from using conflict minerals and to stop mine workers from being abused.

Besi’s product specifications to suppliers specifically prohibit the usage of conflict materials. In addition, as Besi buys its feedstock from parts manufacturers, it is positioned several tiers away from the smelter. As such, we have made an assessment that Besi is not adding any conflict minerals itself to its customers’ products. Even so, it is difficult to assess definitively whether 3TG materials have been actually used during the smelting, component or subassembly process before arrival at Besi. This is due to the variety of potential unspecified or upstream processes utilized by a variety of supply chain participants. Nevertheless, we are dedicated to the usage of conflict free minerals from the DRC and its neighboring countries so that responsible mining in the area is encouraged. As such, Besi’s Conflict Minerals Policy requires suppliers to:

- Make a commitment to eliminate conflict minerals from the DRC or one of its neighboring countries in its supply chain.
- Identify and disclose all smelters or refiners of tantalum, tin, tungsten or gold.
- Utilize smelters validated by an independent private sector audit firm.

Compliance by suppliers with Besi’s Conflict Minerals Policy can be fulfilled by officially signing a Conflict Minerals Review Template (“CMRT”) declaration, the EICC CoC, the conflict mineral due diligence agreement and Besi’s GWA. As such, Besi is fully aligned with the Conflict Free Sourcing Initiative (“CFSI”) as empowered by EICC and the GeSi. Upon contract or GWA renewal, Besi asks its suppliers to sign this CMRT declaration. In addition, Besi asks all suppliers between itself and the smelter to adopt its policy and take the same measures for compliance.

In its conflict minerals due diligence, Besi has focused on compliance relative to the requirements as defined in the Dodd Frank Act in the United States. We shall also consider requirements as defined by the EU and the China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (“CCCMC”) in the near future.

In 2016, we conducted a conflict mineral due diligence exercise whose objective was to identify smelters for 3TG minerals. As a result of such investigation, Besi was able to further increase the number of approved smelters identified in 2017. The table below tracks Besi’s progress during 2017 applying and implementing its Conflict Minerals Policy in its supply chain.

KPI Conflict Minerals Policy	2016 (number)	Target 2017 (number)	2017 (number)	Target achievement 2017 (%)
Suppliers informed of new policy	56	56	56	100%
Supplier feedback collected and condensed	40	56	56	100%
Supplier policy signed GWA/conflict minerals agreement	8	40	68	170%
Supplier risk assessment updated and corrective action taken	0	30	0	0%
Suppliers signed CFRT declaration	8	30	14	47%

In general, Besi improved its performance in 2017 versus 2016 and will focus in 2018 on target improvements in the areas of conflict minerals supplier risk assessments and CMRT declarations signed. In 2018, we also intend to include conflict minerals KPI metrics to better monitor and assess our supply chain compliance with conflict minerals best practices of which one new KPI will target an increase in the number of due diligence CMRTs conducted by suppliers such that the total number of due diligence CMRTs represents at least 65% of Besi’s purchasing volume.

Local sourcing

The substantial majority of Besi’s supply chain has been moved to Asia consistent with its Asian production transfer and the geographic revenue mix of its customers.

Our objective is to (i) be closer to our customers to increase potential revenue opportunities and direct shipments and (ii) reduce transportation costs and the environmental impact from the extra transportation and packaging steps involved in shipping systems back and forth from Europe to Asia prior to final customer delivery. Wherever possible, Besi intends to source as many materials, components and subassemblies as possible in the country where its production facilities are located. Local sourcing both stimulates local economies and reduces transportation costs and the environmental impact on our upstream supply chain. In 2016 and 2017, we sourced approximately 70% and 83%, respectively, of the material needs of our Asian operations from Asian vendors. We anticipate that the local sourcing percentage will increase in the years to come.

Managing the environmental impact of our operations and production processes

Besi attempts to limit its impact on the environment at all subsidiaries and facilities from initial marketing and sales through product development, purchasing, assembly, final delivery and after-sales customer service. All operations have a certified ISO 14001 management system in place ensuring a high level of quality and safety in the production process. In 2016, Besi completed the renewal process for its ISO 14001 certification in compliance with current standards and realized 100% conformance with ISO 14001:2015 contractor management requirements during the year. In 2017, Besi APac was the first business unit to be fully certified.

Managing Besi’s environmental impact throughout its supply chain

We try to enhance the sustainability of our supply chain via a number of measures including tracking the transportation methods of our products and services, assessing on an ongoing basis the recyclability and reusability of packaging materials as well as the ability to recycle parts, components, modules and sub assemblies used in Besi’s systems. In recent years, Besi (i) has moved to a direct shipping model eliminating duplicative transportation and logistics activities between its European and Asian operations, (ii) increased its use of water versus air transport for its heavier products which can significantly reduce air pollution, (iii) increased local sourcing and shipments to customers thereby reducing overall transportation cost and pollution and (iv) increased its usage of recyclable materials in its products. Further, we aim to minimize the use of toxic materials like lead in our products although a good substitute has not yet been found for the purposes and specifications required in Besi’s systems.

Climate change and energy

We want to combat climate change wherever possible in our operations by reducing energy usage and our CO₂ footprint. Besi's energy consumption can be detailed as follows: (i) energy required for facilities (light, air conditioning, PCs etc.) and (ii) energy for production processes (machines, engines, motors etc.). The majority of our energy consumption is represented by air conditioning for facilities, storage and offices. Sophisticated climate control is essential to protect against corrosion and damage to our systems, particularly in Asian locations that have a high degree of heat and humidity during much of the year.

We have implemented a Besi Energy Saving Program to increase our energy savings and reduce CO₂ emissions. The program helps employees make small changes to workplace energy consumption that can make a big difference ultimately. In 2016, the program focused primarily on the replacement of traditional fluorescent lighting with LED lighting. In 2017, the program focused primarily on using LED lighting in all existing buildings including the new capacity expansion at Besi's Leshan, China facility. In 2017, Besi performed an energy audit at Besi APac as part of a multi year program to investigate additional potential energy savings pursuant to a grant from the Malaysian government.

The table below details our energy consumption both in absolute and relative terms:

Indicator	2015	2016	2017
Electricity (GWh)	13.9	12.5	15.2
Other energy use (GWh)	2.5	2.1	2.5
Total energy use (GWh)	16.4	14.6	17.7
Relative energy use*	0.047	0.039	0.030

* GWh/revenue (in euro millions).

Over the past three years, Besi has realized significant relative energy savings despite substantial revenue growth and a large expansion of our Asian operations. Such savings have resulted from lower lighting costs via the replacement of virtually all fluorescent tubes and more efficient air conditioning usage at our Asian operations and a reduction of European energy costs primarily due to a reduction in production capacity and office space.

Besi participated for the first time in 2017 in the Carbon Disclosure Project, a global investor benchmark which annually assesses climate related company performance, such as the management of climate-related risks and carbon emissions. As a first time participant, Besi was judged to be on the industry average "Awareness" level in its performance relative to the climate. We would like to improve Besi's measurement of emissions data company-wide and further reduce our carbon footprint in the future so as to increase our rating to above industry average.

We are also exploring other avenues to lessen energy usage and combat climate change throughout the organization. One such area is the usage of renewable energy. To date, we have had limited success in this area as a result of factors which are out of our control in the Asian jurisdictions in which our production is predominantly located. For example, there is no renewable energy available on the market in Malaysia as it is a local fossil fuel driven economy. In addition, it is impossible to put solar panels on the roof of our Malaysian facilities. In China, Besi's facilities are also not suitable to generate renewable energy currently.

Packaging and waste

Besi wants to reduce the generation of material waste in its operations and has encouraged a high degree of waste conservation among employees. In all facilities, waste separation systems are in place and the recycling, reuse and reduce concept is communicated to employees.

Additional company-wide efforts to reduce waste are mainly focused on the packaging process. We carefully package all parts and equipment for transport in order to ensure their quality and performance and use materials such as plastic, wood and cardboard to ensure their proper protection. To minimize waste, packaging quality has been improved to better protect products during transport and existing packaging is reused multiple times. In general, inbound packaging is either returned to the supplier or reused for product shipment to customers (outbound packaging). In some cases, if a supplier is located close to our operations, inbound packaging can be eliminated completely.

Besi has introduced some new initiatives to reduce packaging waste in its operations. At Besi APac, we introduced circular packaging for almost all modules and subassemblies to reduce the amount of packaging materials utilized as well as the structural reuse of packaging for the evo 2200 (one of Besi's most significant product lines). This latter action has reduced on a relative basis the number of system packages used since 2015. In addition, we introduced a double-use packaging system in close cooperation with our suppliers. In this approach, a supplier delivers a system and, upon final assembly by Besi, the original packaging is reused for shipment to the customer. Besi APac has also eliminated the usage of all polystyrene packaging materials from its dining and recreational facilities.

In 2017, we pursued initiatives to reduce relative waste in our operations including (i) an assessment of how extensively recycled materials can be used in the organization, (ii) increased usage of sea container shipments for goods above 100kg (150kg currently) and (iii) an increased usage of reusable packaging from current levels.

As a result of our efforts, we have achieved a 30% reduction in relative waste usage between 2015 and 2017.

Indicator	Unit	2015	2016	2017
Hazardous waste	Ton	21	30	30
Non-hazardous waste	Ton	134	156	153
Total waste ton	Ton	155	186	183
Relative waste	kg/revenue*	444	496	310

* In euro millions.

Transportation activities

The transportation of Besi's equipment, spare parts and assemblies has been a particular focus in terms of requisite speed, reliability, cost and environmental impact necessary for the proper conduct of our operations. We have implemented a number of measures to increase direct shipments and improve delivery times to our predominantly Asian installed base of customers and to reduce transportation costs and their environmental impact. First, Besi is procuring more on a local level, because sourcing products, materials and components locally decreases aggregate transport cost as well as its associated environmental impact and results in shorter lead times for delivery to customers. Second, the transportation of heavy parts (>100 kg) is now carried out by boat instead of by plane. Finally, we encourage suppliers to follow our transportation and logistics methods to both reduce related costs and minimize any adverse environmental impact. As a result, we were able to reduce freight costs as a percentage of revenue from 2.5% to 1.9% between 2015 and 2017.

Water usage

Water usage is also an important component of our production processes. Considerable effort is put into the prevention of leaks and spills of contaminated water at all production sites. We are proud that there have been no material leakages or spills at Besi facilities for at least the past five years. At present, Besi's Chinese facility is the only one which uses water as part of its production process. We have bought several new machines with better water management, recycling and filtering capabilities and a new water filtration system which enabled us to reduce in 2017 relative water consumption in our operations via increased recycling.

Neither of Besi's Asian production facilities operates in locations with serious water issues such as scarcity or flooding. In addition, in each facility worldwide, the effluent of water utilized is discharged into the municipal water sewage system. Besi is also in compliance with all local requirements regulating concentrations of contamination substances.

Indicator	Unit	2015	2016	2017
Water usage	m ³	28,820	26,207	32,562
Water usage efficiency	m ³ /revenue*	83	70	55

* In euro millions.

As per the table above, there has been a significant improvement in Besi's water usage efficiency between 2015 and 2017.

Ethical behaviour

Anti-corruption and bribery

The importance of appropriate anti-corruption policies and measures has increased with Besi's expansion of its Asian operations, supply chain and logistics activities. As a result, we appointed a Director of Internal Control for both Europe and Asia in 2015 who reports to the senior vice president Finance and Chairman of the Audit Committee. We also completed an internal risk assessment of anti-corruption policies and procedures in the organization. In addition, an external assessment was conducted by an independent accounting firm of policy content and implementation, the initial results of which were discussed and implemented in 2016. A second phase of this assessment focused on detailed testing of identified fraud risks which was finalized in 2017. The outcomes of this assessment will be discussed by senior management in 2018 and actions taken, where appropriate, as a result of their recommendations.

Code of Conduct

Besi has a Code of Conduct to guide the activities of all its employees. The Whistleblower procedure sets out responsibilities, steps to take and support for reporting violations of the Company's Code of Conduct. Besi's Code of Ethics for Senior Financial Officers sets out further responsibilities for those employees in positions of leadership across the business. These procedures are made known to employees through the website, intranet, employee handbook and via new employee orientation. Employees can raise concerns through help lines, the HR department and management. The Whistleblower procedure was updated in both 2016 and 2017 to meet best practice standards and published on the Company's website. In both 2016 and 2017, violations of the Code of Conduct were reported by means of the Whistleblower procedure. These incidents were promptly responded to by Besi senior management, adjudicated in a satisfactory manner and were immaterial to our 2016 and 2017 financial results.

Responsible tax practices

Besi follows the principle of responsible tax practices, meaning full compliance with tax obligations in the areas where the factual economic activities of its operations take place. Besi's production and sales activities determine where taxes need to be paid.

Community involvement

Besi supports several activities in the local communities in which it operates, particularly in Asia where the support is more greatly needed. Besi also supports local technical universities in the regions in which it operates through interchange and dialogue.

Since 2014, Besi APac has supported the IDEAS Academy (Education is for ALL), a local non-profit organization which provides education to underprivileged Malaysian youth, especially refugee children. Besi supports the organization financially as well as through the provision of laptops. Three Besi employees are also part of the organization's Executive Committee.

In 2017, Besi APac conducted a health and safety campaign focused primarily on heart disease which afflicts many people in Malaysia. Employees donated 15,000 Malaysian ringgit to a heart foundation as part of this awareness raising campaign.

Many of Besi's Dutch employees are actively committed to social projects in the communities in which they live. Each year, employees can donate unused leave days at the end of the year to a specific charitable organization chosen by the group which varies each year. Besi's Austrian employees engage with local professional schools such as the HTL Jenbach and the Management Center Innsbruck to promote Besi as an employer and to attract talent at an early stage of their career development. Approximately 500 students receive education at these schools located in the Tirol area. On average, Besi Austria offers approximately 10 internship opportunities per year for professional school students for which they can receive school credit, receive practical business knowledge and become better acquainted with Besi as a potential employer.

In China, we work closely together with local authorities, the Chinese government and employees to identify and make contributions of money and time to support deserving projects. In 2017, local schools in mountain villages in the Leshan region were supported financially to help improve teaching facilities and class rooms and to fund scholarships. In addition, Besi Leshan has been supporting a school for disabled students for the past four years.

Performance in the area of community involvement is not yet measured on a quantitative basis.

Shareholders

In 2017, Besi actively promoted an investor relations program in Europe and North America which resulted in 265 meetings with shareholders, research analysts and other investment professionals. In this manner, we have engaged in important face to face dialogue with such stakeholders and received valuable feedback about our business and CSR issues.

IV. Outlook

Besi is committed to further expand and refine its CSR initiatives, management and metrics. In consultation with the Supervisory Board, we hired a third party CSR consultancy firm in 2017 to perform analyses of our sustainability policies, reporting and KPI metrics. The dialogue is ongoing. For 2018, Besi's major CSR priorities include (i) the implementation of recommendations resulting from our ongoing risk assessment project with a particular focus on enhancements to our fraud and corruption policies in Asia, (ii) the development of initiatives in response to the 2017 employee engagement survey and (iii) further increasing compliance by our supply chain with the EICC Code of Conduct and CMRT.