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Cover Art: original watercolor by David Goodsell for Promega shows how bioluminescence can reveal the invisible world within a cell. An intricate encounter between complementary proteins transfers energy and generates glowing light—illustrated by the vibrant blue and red colors.

All chapter images also by David Goodsell, the Scripps Research Institute.
Overview

As we review and report on our practices and conservation for 2016, we are reminded that our Corporate Responsibility contributes to growth of people, preservation of the planet and profitability, cultivating sustainable potential for the long term.

We have made investments to establish the foundation for growth and sustainability. While our infrastructure and capabilities are fundamental to success, our most important investment is in our people. The contributions of each employee are critical to how we develop new technologies, build sustainable facilities, maximize operational efficiency, and support customers. Knowing this, we take active measures to create a transformational workplace of balance, purpose and reward, where each individual makes a difference.

We appreciate, that just like life itself, the notion of sustaining life for the long term is complex and interdependent. This report shares Promega philosophies, corporate mindset, product benefit, sustainability practices, work culture, and community outreach. For Promega, the intersection of commitments to environmental sustainability, innovation, employee wellbeing and philanthropy enable the generation of meaning and purpose for the company, the customers we serve, and the communities in which we work.
Since founding Promega forty years ago, we have envisioned it as an organization both profitable and transformational for its shareholders, employees, customers, communities and planet. In pursuing this vision with an eye to our 2078 centennial, we discovered that minding the bottom line and developing a corporate culture that calls forth human potential make each other stronger. By aligning our Maslowian values of trust, belonging and self-actualization with our focus on quality, innovation, and service all under an umbrella of life-giving architecture, we have produced steady growth, admirable profitability and an environment conducive to employee happiness.

As we grow the business, we continually strengthen the culture within. Predicated on decades of research and named the differentiating factor in a resilient culture with strong leadership, Emotional and Social Intelligence (ESI) is a core practice that we are proactively integrating into our Promega community. When ESI is at work in human relationships, people feel stronger, more capable and more alive. Emotionally intelligent leaders plant seeds of collaborative purpose, generate an optimistic view of the future, and motivate and inspire those around them to co-create it.

Underlying ESI is mindfulness—the critical reagent without which the entire ESI reaction ceases. A quality of non-judgmental awareness gives us the ability to work with events organically and allows Promega to be with its people, problems and events in ways that keep our innovation and creativity, our relationality and precision alive and well. When our neural networks relax, we become present to the flow of events and engage with others as multidimensional and uniquely intelligent. These conditions make Promega a place to which people want to come.

ESI is, perhaps, a new name for our long-term stewardship of the environments and principles we entrust to those who succeed us. These principles will live through the many lives and hands that give Promega its energy and lift into the future. Promega has harnessed ESI to fulfill our purpose in the growing ecological landscape of businesses that care not just about profits but about people, planet and purpose for the next century and beyond.

To potential, purpose and a prosperous future,

William A. Linton,
Chairman and CEO
Corporate Mind
2017 Corporate Responsibility Report
At Promega, our business is life science, but our lives are fueled by curiosity and life-long learning. Promega Corporation provides innovative solutions and technical support to researchers, technicians and analysts in life sciences, industry and government. We offer over 3,500 products to enable scientists worldwide to advance knowledge in the fields of genomics, proteomics, cellular analysis, molecular diagnostics, human identification, and applied biotechnology. Founded in 1978, the company is headquartered in Madison, WI, USA, with sales branches in 16 countries, over 50 global distributors, and manufacturing branches in San Luis Obispo and Sunnyvale, California, USA; Shanghai, China; and Seoul, South Korea. In 2016, revenue, headcount and building footprint continued to grow. Our revenue is approaching $400 million dollars (US); we have 1,440 full-time positions worldwide, and our global building footprint is over 1.1 million square feet (100,000 square meters).
Over 3,500 products | 38 million US dollars invested in research & development | 1,440 employees

Founded in 1978

1.1 million square feet of facilities

Sales branches in 16 countries
Conscious Leadership

At the heart of science is the understanding of the interdependent, complex and dynamic nature of systems. This complexity is increasingly true in business environments as well. In rapidly changing and uncertain environments, our leadership must have the latent capacity of mind and heart to flourish. We are actively and continuously developing an organizational environment that fosters the formation of deep personal connections, creates trust in the face of ambiguity to encourage conscientious and courageous action, and supports the simultaneous use of intuition and intelligence in developing vision and outlook. Ultimately we also want to provide space in which everyone has an opportunity for self-awareness, personal transformation and professional development.

Corporate Purpose, Vision and Values

**Purpose** Promega exists on an evolutionary frontier where the values of science, business and human well-being intersect. Acknowledging these interdependencies, Promega cultivates its environment to allow employees to flourish, develop deep and enduring relationships with all constituencies and create intelligent life-science solutions.

**Vision** Promega Corporation grows from a vision where success is measured in meaning generated for people and in relationships sustained by both value and purpose. With an eye toward a changing future, Promega continues to refine:

- Our life sciences tools to accelerate discovery and make possible increasingly innovative and practical applications of advanced technology
- Our commitment to improving human health
- Our work environments, which support and perpetuate curiosity, self-awareness and community integration
- Our capacity as a stable resource for the growth and transformation of the people and communities we touch

In essence, Promega’s vision includes all of life and moves us to act on the knowledge that we are all interdependent.

Promega uses an image of an animal cell to represent corporate organization because the cell represents non-hierarchical, interdependent structure.
Promega continues to evolve and reflect a set of living values that include:

- Contribution to the advancement of science for the improvement of life in the world community
- Appreciation that we operate as an adaptable living organism in which each element and human contribution is a vital part of a whole, capable of responding to the emerging complexities of our time
- Personal development through inner and outer exploration and practices of self-awareness
- Recognition that both work and home are places to cultivate wholeness and wholeheartedness through learning, offering the best of ourselves, integrating new insights and developing inner and outer qualities that allow each individual to be present and engaged
- Recognition and reward of achievement through creativity, risk taking, process improvements and innovation
- Adaptability and flexibility in the workplace

Promega complies with all local workplace regulations and ensures that our employees and community members are treated with respect and dignity. We hold the same expectations for our suppliers and look to align with organizations that uphold international human rights and labor standards.

As a member to the UN Global Compact, Promega follows all regulations regarding employment and has zero tolerance for violations of human rights. We are committed to upholding and advancing The Universal Declaration of Human Rights in how our business develops productive relationships around the world to continue working cooperatively among different customs and cultures.

Issues that we take very seriously include:

- Protection of children from exploitation
- Protection of all workers from compulsory labor
- Payment of at least minimum wages
- Safe working conditions

Promega complies with all local workplace regulations and ensures that our employees and community members are treated with respect and dignity. We hold the same expectations for our suppliers and look to align with organizations that uphold international human rights and labor standards.

As a global company, we believe in and practice equal opportunity and affirmative action. We acknowledge and honor the fundamental value and dignity of all individuals. We pledge ourselves to creating and maintaining an environment that respects diverse traditions, heritages, experiences, and perspectives. With offices in 16 culturally diverse locations, the organization benefits from the unique cultures and experiences of all employees. Women represent approximately 48% of employees worldwide and occupy 45% of management positions in the United States.
Corporate Governance

Promega is governed by a Board of Directors, while daily operations are led by the Corporate Leadership Team and global Branch Managers. This diverse group brings wide-ranging expertise and unique country experience to management decisions. As the guiding force of the company, this group is responsible for setting company strategy and providing organizational oversight.

Investments in the Future

Promega has long believed in the philosophy that to be truly sustainable, an organization must evolve as the world and customer needs change. The key to addressing this challenge is to have a long-term vision and strategy. As a result, we look at human needs in an effort to anticipate our customers’ needs while providing an inspiring place for employees to work. We continue to be committed to building a long-term sustainable future through investments in innovation, people, products and services, facilities and infrastructure.

Our focus on investing in the future continued in 2016 through scientific innovation, expansion of global facilities and advancing our technical and leadership capabilities. These investments helped in meeting customer needs and generating continued value.
Research Growing investment in innovative research resulted in 64 new patent filings in 2016, bringing our intellectual property library to over 300 granted patents and nearly 240 pending patents. In addition, 15 new products were launched fulfilling customer needs by:

- Aiding development of antibody-based treatments
- Advancing food safety testing
- Improving methods for studying cellular changes
- Expediting inquiry in research and clinical labs
- Optimizing test development in diagnostic labs

Branch Expansion Mindful focus on building a long-term sustainable organization, along with continued investment in infrastructure, will enable Promega to meet the rapidly changing needs of the scientific community.

- Promega Germany (GmbH) is designing and building a major new facility to house the European distribution hub, Promega GmbH (the largest overseas Promega operation), and the European branch of Terso Solutions. It will also have a substantial instrument service space, staff amenities and capacity to host moderate scale meetings. The three level facility will be about 150,000 square feet, and will comply with or exceed the strenuous energy performance and green building standards of German Building Codes. Promega Germany staff and the Global Planning Team are using high environmental performance values in the design with a goal to make this new facility a flagship green project representing Promega in Europe. Some key sustainable features of this building include a composite wood-concrete structure, a full green roof with photovoltaic panels, optimized day-lighting with automated exterior shading systems, HVAC systems that leverage natural ventilation with active slab heating and cooling using a geothermal heat pump as well as heat recovery. The project will be breaking ground in June 2017 and will be completed in early 2019.
A new Promega UK facility has been in preliminary planning and will soon be entering detailed design phase. The two level facility will be about 18,000 square feet and will comply with or exceed the strenuous energy performance and green building standards in the newest UK Green Building Council Code. Promega UK staff and the Global Planning Team are planning to incorporate high environmental performance values in the design of this new facility with the desire to make it a notable green project for the research park where it will be located. In addition, a training center consisting of a laboratory and lecture room will be incorporated into its design. This training center is intended in part for use with local schools and colleges for educating, inspiring and enthusing young people about life sciences. The project is on schedule for an early 2019 completion.

Renovation and expansion of labs and office spaces at Promega Biosciences, San Luis Obispo, began in 2016 and was completed in early 2017. As the organic chemistry center of Promega, this expansion increases analytical and process development capabilities while improving overall employee workspace and experience.

Supply Chain Management

Promega recognizes the effect and importance that suppliers have in the scope of our Corporate Responsibility, and forms partnerships with companies that have similar commitments. Our Supplier Code of Conduct outlines our expectations relating to business ethics, labor, health and safety, and environmental responsibility. This document is communicated to new and existing suppliers to encourage collaboration in these areas. A focus on sourcing from local suppliers also supports local communities and reduces environmental effects from shipping.
Product Reach

“Promega’s innovation driven by our scientific curiosity is focused on creating discovery tools that address the key challenges in the search for diagnostics and therapies to improve the quality of life.”

— Thomas Livelli, Vice President, Life Sciences

The biotechnology era started when researchers discovered that they could freely access DNA and create predictable recombinant molecules. For Promega, that era started by offering quality restriction enzymes that could cut DNA in specific ways. That early work in enzyme production was the cornerstone to quality that now allows Promega to offer Current Good Manufacturing Practice (cGMP) enzymes for use in clinical diagnostic assays.

Building on internal transcription and translation capabilities, Promega expanded the tools available to our customers including: coupled transcription and translation systems, amplification systems (PCR), DNA sequencing, and other tools for genomics and cell biology research. Some of these tools were applied to solve specific unmet needs in civil society including forensic human identification.

In addition to the fundamental in vitro tools and applications, Promega pioneered the applied use of bioluminescence enabling high throughput live-cell analytics. Drug discovery customers adopted Promega technology in reporter gene and cell viability assays as the gold standard in drug candidate screening. Oncology, infection, inflammation, neurodegenerative, and rare disease research segments each have examples of drugs developed using Promega bioluminescent technologies in the discovery process. In recent years this technology has greatly enhanced the development of new biologic based drugs for cancer treatment. Promega cellular analysis products have become so successful that many pharmaceutical companies now partner directly with Promega to create individually customized solutions for their unique needs.

Because of high-quality, reliable “tool kits” at their disposal, researchers have more freedom to focus on specific questions at the forefront of scientific discovery or clinical practice. The end result is better science, using better tools, for faster answers.
Customer Focus

Forensics and Paternity Laboratories

Forensics and paternity laboratories deal with tremendous caseloads and tight turnaround times. Dependable results, throughput, and reliable product supply are critical in this setting. These labs use limited, and often challenging samples to develop law enforcement leads from crime scenes. Sexual assault evidence kit backlogs and property crime samples are some of the more challenging samples for labs to process. Promega offers a menu of tools for forensic and paternity labs for each step in the forensic workflow, from pre-processing and differential extraction to quantification, STR amplification, and analysis. The new Promega custom Casework Direct Kit is designed for rapid processing of swabs from casework samples, cuttings of sexual assault swabs, or cuttings of stained fabric prior to quantification of human DNA. The streamlined protocol will enable crime labs to more efficiently and effectively address these difficult samples.

In addition, forensics and paternity labs help bring closure to families whose loved ones are missing or lost in mass disasters, and even help exonerate those who have been wrongly convicted of a crime. Researchers and analysts need to know that they will get optimal and reliable results from the valuable and often irreplaceable samples. Launching soon, the Spectrum CE System will enable more efficient STR analysis and enhanced workflow flexibility, built with input from analysts throughout the field. More than ever before, labs will be able to receive more information from challenging sample types, save time with increased sample processing capacity, and experience the flexibility to add samples during runs. All of this will be available with the same high level of service and support that customers have come to expect from Promega.

Promega has worked with forensic and paternity laboratories for more than 30 years and supports their challenging workflow by providing products for efficient DNA extraction through discriminating STR analysis.
Solving Challenging Human Identify Cases

**Case One:**

It can be agonizing for the families of crime victims when investigations go cold, leaving no leads and the possibility of closure elusive. That very scenario was playing out in China for the families of loved ones killed in three unrelated homicides from 2004, 2009 and 2010. In each case, there was little concrete evidence, no suspects, and diminishing hope that anyone would ever be convicted for the heinous crimes.

Then just last year, a DNA laboratory in the province of Qinghai made a startling discovery. After applying the Powerplex® 21 and Powerplex® Y23 Systems from Promega, analyses of the DNA data in China’s National Database led to three independent potential DNA matches. The advanced chemistry of these Powerplex® kits provided the data needed to link DNA evidence isolated from the three homicide cases from years before. All three suspects were subsequently arrested and sentenced, and the families of those victims obtained closure for which they had been waiting.

**Case Two:**

On October 23, 2016, three explorers unexpectedly stumbled upon bone remains in a dried-up salt lake, deep in the desert in the Qinghai Province of China. Next to the remains rested a knapsack, which contained a newspaper and several personal letters. From these valuable clues, investigators were able to piece together that the owner of the sack might have originally been from Bazhong, in the Sichuan Province, a distance of greater than 1000 kilometers.

Genetic analysts extracted DNA from bone remains and then used the Promega Powerplex 21® system to analyze the DNA. This information matched to a potential DNA profile in their database and led to a potential identity – a missing person named Zhong Hua Li who had left home in 1960, never to be seen again. Investigators succeeded in tracking down Mr. Li’s wife, now 88 years of age, along with their two daughters. Using DNA extracted from blood samples from these living relatives, a comparison to the DNA isolated from the bone remains confirmed Mr. Li’s identity, even though he had died 55 years earlier. Finally this family found closure, and a long-standing investigation into the disappearance of this man was forever closed.
Government and Academic Research Laboratories

Basic researchers in academic laboratories or government research centers are often early adopters of new technologies that are later incorporated into industrial settings. The ability to miniaturize or automate such technologies is important because it allows these scientists to focus exclusively on, and streamline, their research processes. Promega continues to develop improved technologies for routine DNA and RNA isolation, analysis and amplification, and protein and cellular biology that support researchers seeking to understand fundamental principles of biology.

Helping Scientists in the fields of Africa

While Promega has received many requests for donations over the years, one of the more interesting ones came from Virginia Riddle Pearson, elephant scientist. She was conducting fieldwork tracking strains of the herpes virus within elephant populations in South Africa and Botswana. The nature of her work required that she use a portable field lab (a tent) while she collected and analyzed samples. These conditions proved difficult in ensuring the quality of her samples and she needed a polymerase that could be transported for several days at room temperature. Enter GoTaq® G2 Taq polymerase from Promega. This donation from Promega allowed Virginia to continue successfully conducting experiments and pursuing her work. In a thank you note, she wrote, “The sequence results using Promega’s GoTaq G2 are providing superior data, so critical for the future survival of elephants in the wild.”

Ms. Pearson is currently working as a visiting scientist at the Fox Chase Cancer Center and continues to work towards identifying the variety of herpesvirus strains native to the elephant population. She has been comparing sequence results from saliva and blood samples she collected to test their efficiency as a pre-diagnostic tool for pathogenic herpesvirus treatment in the elephant population. Her current product of choice is GoTaq® G2 Hot Start Green Master Mix, which she describes as “my workhorse!”
Pharmaceutical and Biotechnology Industries

Scientists developing small molecule drugs within the pharmaceutical industry need reliable assays and reagents because they often screen up to hundreds of thousands of compounds at a time. Screening requires assay technologies that generate in vitro data predictive of in vivo results so that expensive failures such as “false positives” and off-target effects are avoided. As small molecule drug discovery has moved toward phenotypic screening, there is a new challenge identifying the specific target of the small molecule that produces the desired phenotypic change. Once the protein target of the small molecule is identified, scientists must be able to measure the drug’s activity, such as affinity and drug-target residence time. The Promega NanoBRET™ Target Engagement Assay enables measurement of compound binding at select target proteins in intact cells, in real time.

Scientists in the biopharma industry need the best analytical tools to functionally and structurally characterize large molecule “biologic” therapeutics. Promega has a suite of bioluminescent, cell-based reporter bioassays that are used in the discovery and development phases of biologics. Cancer immunotherapy has a bright future in the war on this pervasive class of diseases, and Promega has a rapidly expanding portfolio of such bioassays. In addition, Promega has generated many proprietary enzymes used in the structural characterization of biologics by mass spectrometry.

Applied Biotechnology and Agriculture

Today, biotechnology tools once used solely by researchers are used in applications to test food and water. Applications include tests for purity, bacteria and other elements to ensure safe products and authenticate quality claims.

For plant and food analysis, we provide sample preparation tools that can be used to extract DNA for use in pathogen and GMO testing for nearly all food matrices. Promega DNA purification chemistry is considered to be a reference standard in authenticity determination of meat products, and has been used by the European Union Reference Laboratory for Animal Proteins in feeding stuffs (EURL) to develop a Standard Operating Procedure for the extraction of DNA for downstream PCR-based detection methods for food testing. In water and hygiene analysis, our ATP bioluminescence expertise is already very well adopted. Several groups have published methods using the BacTiter-Glo™ luminescent ATP-based assay for the assessment of water quality and...
Ensuring Water Quality in Zurich

Zurich, Switzerland, built at the confluence of the River Limmat and Lake Zurich, is known for its excellent quality drinking water that flows from the city’s water taps, as well as from its 1,200 public fountains. Yet water quality is something that must be examined to ensure quality and public health. For many years, the Wasserversorgung Zurich (City of Zurich Water Utility) monitored microbial contaminations of the water supply using traditional microbiologic methods that took days to report a result. Promega is the global leader in creating tools to detect adenosine triphosphate (ATP) in living cells. ATP is an essential element in all living cells and organisms, so even the slightest change in ATP levels acts as an early warning system to help assess microbial load and the possible presence of dangerous pathogens in water. However, until recently, no one was able to provide a tool that could quickly analyze ATP levels in up to 96 samples containing a broad range of water-borne bacteria in less than 90 minutes.

In 2016, these techniques were implemented in a collaboration between Promega and the City of Zurich Water Utility using the new Water-Glo™ technology. ATP levels in complex mixtures of naturally occurring bacteria are difficult to detect. The Water-Glo technology uses a novel lysis and detection reagent combination to reach levels of detection 10-100 times lower than similar methods. Typically, processing multiple samples of water has involved using multiple culture plates and extensive hands-on labor. Now the 96-well plate method facilitates water quality monitoring of hundreds of sampling points in Zurich’s water treatment plants and the distribution net.

biofilm formation. The Water-Glo™ luminescent ATP-based assay builds on this with new applications to detect microbes in seawater desalination, drinking water and other industrial process applications to reduce energy consumption and improve plant operational efficiency. The Water-Glo™ luminescent ATP is in final development stages and currently offered through the Promega Custom Assay Services system.

The tools Promega offers make microbial contamination detection in crude oil and heavy fuels possible, thus reducing the use of bactericidal chemicals in those processes. The number and variety of projects is expanding significantly in areas such as minerals, microtox, or dairy product testing, and continues to grow as the quality of Promega products gains more and more visibility.
Clinical and Molecular Diagnostics Laboratories

Molecular diagnostic laboratories rely on access to high-quality, consistently performing products in their assays. Promega manufactures reagents under a rigorous quality program that contributes to robust and reliably performing molecular assays. Products are manufactured to the highest quality standards through maintenance of ISO 9001 & ISO 13485 certification as well as enhanced capabilities for cGMP manufacturing. The Promega PCR Optimization Kit, launched in 2016, allows customers to rapidly define their own unique PCR master mix for a variety of applications in research or clinical use. This is just one example of how we can provide flexible solutions with product customization options to meet clinical laboratory or IVD manufacturers’ needs.

Equipping Zika Researchers

In the beginning of 2014, Brazil was affected by several cases of fetal and newborn microcephaly, a congenital condition associated with incomplete brain development. In addition, the number of dengue and chikungunya cases continued to increase at alarming levels. Because the vectors of all three diseases are the same, researchers asked if those microcephaly cases were related to the vector.

Gubio Soares is a well-known Brazilian virologist who had discovered the presence of Zika Virus in Brazil, leading other researchers to report microcephaly linked to Zika Virus. Many of these laboratories never had any experience with qPCR assays before the emergence of these diseases. Because of the support of Promega scientists and reagents, today they are performing these critical assays independently.

Brazilian virologist Gubio Soares Campos. (Photo by Christophe Simon/AFP/Getty Images)
Quality Process and Product

The Promega campus in Madison, WI, USA, was first certified to international standards for quality management systems in 1998 and, along with Promega Biological Products, Shanghai, China, is currently certified to both the ISO 13485 and ISO 9001 standards. Certification to these standards ensures our customers that research products and medical devices are developed, manufactured, tested and delivered to the highest quality standards. Currently, 16 locations are certified to meet the requirements of ISO 9001, ISO 13485 or both.

Promega plays an essential part in ensuring compliance with applicable laws and regulations in the development and distribution of safe and effective products worldwide. We are committed to compliance with or exceeding the requirements of all applicable environmental, health, and safety laws and regulations.

Investments for the Future

To sustain contributions to scientific exploration and application, we will continue to invest in the development and discovery of new technologies. In 2016, over $38 million (US) was invested in research and development, and 64 new patent applications were filed. Promega has an extensive intellectual property portfolio because of sustained global investment in research and development.

We also work with academic institutions and other entities to license and develop promising technologies.
Employees work in a Feynman Center quality control lab at our Madison headquarters.

Promega continues to develop improved technologies for routine DNA and RNA isolation.
Because our most precious gift is our planet, there’s nothing more important to do than to protect it for us and the coming generations. Protecting means a daily engagement for everyone everywhere. If we do individually, we will be stronger and a more positive protector for our planet. Do it for all life! Protecting Earth is protecting life and everyone’s concern.

—Nicolas Bardonnet, General Manager, Promega France

Promega has a longstanding commitment to sustainability and continues to use it as a measure to evaluate operations globally. We are conscious that our decisions today will influence the future of our business, our communities, and our natural environment. Our long-term focus has resulted in investment in an infrastructure that will enable sustainable growth for many years to come. Environmental sustainability remains a core value for how Promega designs and builds facilities, as evidenced by energy benchmarking completed last year. Data from the Lawrence Berkeley National Laboratory has shown that our facilities are in line with the best-in-class laboratories on energy efficiency. This can be attributed to investments in facility operations, with the addition of several specialists trained in energy efficiency. Our Global Facilities Planning Team places an emphasis on designing and building highly efficient facilities that are durable, flexible and timeless that will serve for many decades.

In 2016, our global distribution hub, the Kepler Center, saw its first full year in operation. Our building footprint has increased by 84% since 2008 with over 90% of this growth in high energy intensive laboratory, manufacturing and logistics spaces. Even with this increase, we have been able to hold our carbon emissions constant relative to our building footprint.

We continue to work toward our environmental reduction goals in the areas of greenhouse gas emissions, electricity, natural gas, water, outgoing product distribution emissions, and waste. While our recent increase in building footprint has challenged this goal, it also has enabled the incorporation of cutting edge approaches to resource conservation across new and existing facilities. Our targets represent key sources of our environmental impacts, but our efforts are not limited to those areas. We recognize that there are opportunities in all aspects of our business, and we repeatedly evaluate how to reduce our affect on the environment at all operations globally.
90% increase in energy intensive facilities

6% decrease in our carbon footprint as indexed to building footprint using sustainable design practices & state-of-the-art technologies
Responding to Climate Change

Promega supports the move to limit anthropogenic greenhouse gas emissions and actively tracks contributions to climate change from all operations globally. We take into account direct emissions from fuel combustion (scope 1), emissions from purchased electricity (scope 2), and indirect emissions from business travel, outgoing distribution, water usage and paper usage (scope 3). Due to newly added facilities, meeting our 2020 carbon footprint target will be a challenge, yet Promega remains committed to reaching the goal.

Promega supports the move to limit anthropogenic greenhouse gas emissions and actively tracks contributions to climate change from all operations globally.
Minimizing Electricity Usage and Emissions

Emissions from energy account for over 70% of our gross carbon footprint. Efforts to offset impacts of electricity usage include investing in energy efficiency, generating electricity from rooftop solar panels and purchasing electricity from renewable sources. Additionally, we make a concerted effort to encourage every employee to minimize energy consumption on a daily basis. The additional energy usage by the Kepler Center in 2016 caused consumption to increase by 2% as indexed to revenue in 2016. Notable efforts to conserve energy in the last year included:

- Participation in the Wisconsin Focus on Energy’s “On Demand Saving Pilot Program” allowed our facilities team to monitor energy usage in real-time. This information led to optimization of control setting and other changes that reduced usage of air handling units on the Promega Madison campus.

- High energy efficient ultra-low temperature freezers for the global logistics headquarters, the Kepler Center, in Madison, WI, use up to 45% less energy than previous freezers.

- Installation of a more efficient process chiller in 2016 at the Rosalind Franklin Center in Madison, WI, enables more efficient cooling.

High efficiency ultra-low temperature freezers at Kepler Center in Madison, WI, help minimize energy usage.
Our use of renewable energy has increased by more than 18-fold since 2008. Promega facilities that use 100% renewable energy sources include:

- Promega Brazil in Sao Paulo
- Promega Italia in Milan
- Promega Biotech Ibérica in Alcobendas, Spain
- Promega Biotech AB in Stockholm, Sweden
- Promega GmbH and Promega Euro Hub in Mannheim, Germany
- The Aviation Operations building in Madison, WI, is our largest renewable energy producer with over 250 solar panels and geothermal wells for heating and cooling

Also, The da Vinci facility in Madison, WI, although it does not use 100% renewable energy sources, has 48 solar panels and extensive sky lighting.

**Conserving Natural Gas**

Natural gas is our largest source of direct air emissions and third in overall emissions for Promega. Natural gas is used primarily at manufacturing sites for heating and production-related processes. In the last year, our natural gas usage decreased by 2% as indexed to revenue as a result of investments to enhance the efficiency of existing facilities. Geothermal wells, solar water heaters, and heat capture technology in many facilities minimize heating requirements and related emissions. Recent initiatives to conserve natural gas usage include:

- Use of heat recovery systems on ultra-low temperature freezers to supplement heating for the Kepler Center. These systems also eliminate the cooling demand of the facility and conserve electricity.
- Completion of an environmental audit at Promega France has encouraged our team to evaluate options for more efficient heating and better insulation. Updates to this facility are in the planning phase and should be completed in 2017.

Direct air emissions are monitored from combustion of fuel purchased for heating and emergency generators in North America. Promega emissions fall below the threshold levels set by local and federal organizations, and we continue to explore further enhancements.

**Figure 4. Natural gas usage as indexed to revenue.**
Tracking and Reducing Impacts from Product Distribution

Promega invests significant effort to ensure that our products get to customers quickly and safely. We are focused on reducing air emissions from outgoing distribution by decreasing the size and weight of packaging materials and using efficient modes of transportation. As a result of this ongoing focus, we have seen emissions per revenue consistently decrease and are now down 25% compared to 2008. To understand the indirect emissions from outgoing shipments, data were collected from Promega-owned global distribution hubs on weight, distance, and mode of transportation.

The Promega Euro Hub, our distribution center in Mannheim, Germany, is continually focused on optimizing packaging materials to minimize environmental impacts. In 2016, Euro Hub successfully used 20% less dry ice per shipment which resulted in less weight and carbon emissions. Several projects in North America and Europe resulted in the use of smaller shipping boxes and packaging improvements that have reduced weight and the amount of dry ice used.

The 2016 Global Logistics Summit in Mannheim, Germany at our European logistics headquarters.

![Figure 5. Global distribution emissions as indexed to revenue.](image)

- smaller shipping boxes
- optimized packaging materials
- less dry ice

25% reduction in distribution emissions/revenue since 2008
Efficient Product Delivery with Our Helix On-Site Stocking System

Our state-of-the-art, on-site inventory management system, Helix®, further reduces emissions through precise consolidated restocking shipments. The Helix® program uses RFID technology that tracks product use in real time, and results in more efficient shipping practices. This automated inventory management system ensures that customers have uninterrupted access to supplies while reducing the impact on our planet.

In addition, Promega purchases carbon credits to offset the greenhouse gas emissions from energy use of the Helix® System from shipment to distribution to stocking. In 2016, Helix® offset 775 tons of emissions worldwide by supporting the following projects:

- Reforestation projects in Texas and Arkansas, USA
- Sichuan Household Biodigester Project in China

Since 2010, the Helix has offset over 4,500 tons of carbon dioxide. To see more information and learn how to participate, please visit www.promega.com/helix
Minimizing Impacts from Business Travel

Travel is essential for supporting our customers and working with collaborators. We are committed to minimizing impacts from travel by using fuel-efficient vehicles and environmentally sensitive modes of transportation. Business travel via air, automobile, and rail comprise approximately 10% of our current carbon footprint. In the last year we saw a 9% reduction in emission per revenue from business travel.

**Efficient Travel** For several years Promega has actively sought out fuel-efficient vehicles for our usage. Promega Benelux, Promega UK, Promega Italia, Promega AG in Switzerland and Promega KK in Japan have moved to a more efficient and ecologically sound fleet, leading to improved fuel efficiency of vehicles globally. In the United States, we have continued participation in the Emkay GoGreen fleet program which has enabled us to increase usage of high-efficiency vehicles. In addition, this program plants trees to compensate for unavoidable greenhouse gas emissions. Since our enrollment in 2009, we have offset 2,850 tons of CO\(_2\) exclusively through this effort. Our newest branch, Promega Biotech India, uses Metro Rail as the primary source of transportation to eliminate fuel usage and air emissions.

We also encourage the use of electric vehicles by employees to minimize greenhouse gas emission from transportation. We have installed electric vehicle charging stations across our Promega Madison campus, Promega Benelux, Promega BioSystems and Promega Biosciences in California. This covers two-thirds of our employees globally and we are looking to expand this at other locations.

![Electric vehicle at Promega AG in Switzerland.](image)
Alternative Transportation Alternate transportation programs have been implemented in a number of locations worldwide to reduce environmental impacts. Employees are encouraged to use public transportation, ridesharing or biking-to-work. All buildings at Promega Madison and Promega Biosciences in California offer bicycles for employees to use, as well as resources to support cyclists, including access to pumps and bike repair kits. Many locations worldwide have similar programs in place.

Preserving Natural Capital

Minimizing Waste

To reduce waste generation, Promega locations globally focus on improving recycling programs and increasing employee awareness of waste minimization practices. In the past this has included piloting composting programs, identifying specific materials to be segregated for recycling and encouraging reuse by providing permanent ware in cafeterias and kitchenettes. Employees embrace the mantra “Reduce, Reuse, Recycle” and have championed this effort. In 2016, we saw waste increase by 12% as indexed to revenue due to our newest facility, the Kepler Center. Recent efforts to reduce waste include:

• In 2016, we began recycling nitrile gloves and protective garments through the RIGHTCYCLE program in select Madison facilities. This diverted nearly 2,000 pounds of waste from landfills. Because of its success, this program is now being rolled out across all Promega Madison buildings and is being considered at other global facilities.

“Environmental problems are a growing concern, so cars that reduce CO2 emission are more likely to impress people than a showy sports car. We live in Tokyo, without a car, and that is probably our most important contribution to saving the environment.”

—Masahiro Ueda, General Manager, Promega KK
• An annual electronics recycling drive at our Promega Madison Earth Day celebration collected over 9,500 pounds of materials from employees.

• Promega has recycled more than 150,000 pipette tip boxes through a recycling program that diverts more than 5,000 pounds from landfills each year.

• A composting program piloted by Promega BioSystems in their Sunnyvale, California community, in addition to expanded recycling, resulted in an 80% reduction in waste going to the landfill.

• In Europe, we arrange for recycling of all instrumentation and electronics at the end of life in compliance with the Waste Electrical and Electronic Equipment (WEEE) directive and are looking to provide a similar program for instrument recycling in North America.

Managing Hazardous and Infectious Wastes In the biotech industry, manufacturing processes can require work with potentially hazardous substances. We understand the responsibility that comes with the use of these materials, as well as the obligation to reduce waste and ensure proper disposal. To further reduce emissions associated with hazardous waste, we have partnered with specialized handlers where over 90% of waste is treated for reuse as fuel or recycled to minimize environmental impacts.
Conserving Water

Promega continually evaluates initiatives to conserve water in manufacturing, landscaping, and daily office tasks. In the last year, water usage decreased by 2% as indexed to revenue. Notable reductions were seen at Shanghai Promega and Promega France.

Many global locations incorporate design features to conserve and ensure proper disposal of water. Offices in Sydney, Australia, collect rain water for cleaning, toilets, and irrigation of plants. Similarly, the Madison-based global headquarters uses rainwater collection and rain gardens for natural filtration. Promega Biosciences in San Luis Obispo, California, has a long history of water conservation projects, from automatic and low flow faucets, to a custom water recirculating system for distilled water. Since 2009, gross water usage has decreased by over 50% at this facility despite a significant increase in headcount and manufacturing levels.

Figure 9. Water usage as indexed to revenue.
Connecting with Customers without Paper

In 2008, Promega made significant efforts to transition away from printed catalogs, instruction manuals, print marketing, and a majority of other printed corporate communications. The adoption of electronic communications allowed total paper usage to be reduced by 80%.

Expanded use of modern technologies and emerging media channels in recent years has enhanced communication with customers and has further reduced the need for printed materials. Since 2012, we have seen paper usage reduce by an additional 50% as indexed to revenue. When paper is needed we use recycled paper and duplex printing to minimize paper consumption. Our commitment to reduce paper and its impact include:

- Integrating the use of iPads and other tablets to better serve customers while eliminating the use of printed resources. Field Application Specialists in North America, along with branches in Europe and Pacific Asia now regularly use tablets to avoid printing.
- Sending electronic copies of various documents to customers who do not want a printed copy, which has resulted in a savings of over 5,000 pieces of paper a month.
- Offering electronic invoices in our European branches to customers as a way to reduce unnecessary printing and paper usage. Promega Benelux has illustrated great success of this initiative with over 75% of customers using e-invoicing in 2016.

“**One of the true tests of leadership is the ability to recognize and deal with a problem before it becomes an emergency. Poor leadership deals with the emergency without recognizing the problem.**”

—Han Willems, General Manager, Promega Benelux
Reducing Packaging

Many Promega products are temperature sensitive, creating unique requirements in packaging that involve use of dry ice, gel ice, and foam coolers. We continually consider the impact of packaging on the environment, and search for innovative ways to reduce packaging, use environmentally friendly materials, and design for recycling or reuse. Environmental sustainability, product protection and quality are all key priorities.

To reduce environmental impacts of packaging, Promega has:

- Switched to smaller shipping boxes to use less packaging material.
- Incorporated new materials that provide better insulation and reduce dry ice needed.
- Implemented packaging designs that minimize air space that also reduce dry ice and weight of shipments.
- Changed to unbleached shipping boxes that contain sustainably harvested materials.
- Used biodegradable and recyclable air pouches that protect our products with fewer environmental impacts.

The overall material usage of product packaging has not been quantified, and we are looking at ways to capture this. We regularly evaluate procedures and investigate potential improvements to reduce environmental impacts of packaging and product handling.
People Care

“I believe that Promega provides the opportunity and space for each of us to grow as individuals and professionals. Our culture is one that cares about our people – our greatest asset.”

—Gayle Paul, Director Human Resources Operations

Employee well-being at Promega continues to be one of our most valued objectives and we support the passion and creativity employees bring to their work, their personal interests, and also their community involvement. We strive to enrich the lives of those who work here and invest heavily in supporting their well-being and growth. By allowing employees to develop strengths within their roles at Promega, we are able to support and nurture one another, and we ascribe our overall success to the dedication and commitment of our employees.

Our 19 worldwide locations embrace the relationship between employee and company by providing support in ways that meet individual needs in each region. Employees are given flexibility in how they work and can thrive in an environment where individual differences are respected. Promega aims to be a healthy place to grow oneself, our business, and our shared cultural spaces.
Work Environment

As a business based on creative output and employee loyalty and satisfaction, Promega pays considerable attention to environmental quality and stimulating experiences in the workplace. This is achieved by creating unique workspaces that incorporate ample natural lighting, original and rotating art, high-quality furniture, third spaces to evolve thinking, space to exercise and meditate, and local healthy dining options. Employees are engaged in design of new space and the renovation of existing workspaces to improve functionality, ergonomics and foster group collaboration. This process considers all aspects of a space from types and quality of lighting, sound levels, and air flow. Additionally, customizable office spaces for employees encourage creativity and collaboration. Architecture and design that “brings the outdoors in” encourages an appreciation of natural beauty. This was accomplished in the Feynman Center in Madison, WI, by incorporating native plants and materials from the surrounding prairie, and a winter garden featuring 7,000 plantings of 40 species of native and tropical plants inhabiting a living wall, adding life and warmth to the building. Locations globally incorporate local resources, art, and culture to provide comfortable, functional and unique work environments. The priority is to create environments with an attention to detail that is inspiring, flexible and aligned with the needs of employees.

“We want to make workplaces that people wish to come back to.”
— William A. Linton, President and CEO
The Promega Culture

A corporation’s values will guide its culture, so those principles must be deliberately woven into the fabric of the organization to be truly actualized. The psychology of the organization – the “cultural DNA” – provides a critical foundation through which company principles and operations are shaped. For Promega, these principles include:

1. The culture nurtures creativity, self-discovery and individual growth, creating an environment where the unique contributions of each employee are embraced.

2. A belief that both people and companies can self-actualize, and that growth at either level lifts the other into greater realization of its potential.

3. The underlying structures reinforce a culture where all constituencies (customers, employees, community and shareholders) can find growth and transformation through:
   a. Organizational reporting that provides for easy collaborative communication across and at all levels of the organization.
   b. Decision making that allows matrixed groups to collectively determine next steps. Decision making is shared, not controlled, and the organization remains nimble because people in key nodes are empowered to act, having considered all voices.
   c. Physical work environments, including design, lighting, communication systems and access to information.
   d. Focus on the resources employees need to do their best work.
   e. A financial structure that supports organizational goals and values for personal development. Economic metrics provide guidance on sustainable business practices, but are not the only drivers for business decisions.
   f. Selection and support of employees who reflect our values entering the organization.

4. The nature of the work is based on the premise that life science research and related discoveries have been and will continue to be important to society and human development. Our contribution to this field is to design and supply products, systems and services that simplify this research and give more reliable and accurate results.

Employee feedback from 2016 Climate Surveys and monthly employee sessions indicated that their greatest satisfaction comes from working with great people, having managers/leaders with high integrity and being a part of a great organization – employees are proud to say they work at Promega.

The culture nurtures creativity, self-discovery and individual growth, creating an environment where the unique contributions of each employee are embraced.
Cultivating Emotional & Social Intelligence (ESI)

To foster a supportive and dynamic work environment, Promega embraces the principles of emotional and social intelligence (ESI). ESI helps employees improve relationships, better manage stress, and influence others for the greater good. To introduce employees to the practice of mindfulness, the ProMindful program is offered. This is comprised of 15-minute community sessions including traditional silent and guided meditation, mindful movement, sound meditation, and monthly sessions for people new to mindfulness. Additionally, through a 3-week ProMindful Parenting course, employees learned ESI-imbued parenting practices and had a forum to share challenges and successes. These forums offer many different tastes of mindfulness while cultivating self-awareness and other-awareness, the building blocks for ESI. We have received much positive feedback, with employees sharing stories of improved patience and communication skills, creative problem-solving, compassion for self and others, and even physical changes like reduced headaches and improved blood pressure. Most of all, it brings us together to share our practice and see ourselves in new ways.

This year, our ESI teachings grew to include an “ESI Bootcamp”, an immersive experience designed to teach ESI skills and enrich the Promega culture of well-being. Participants took a deep dive into ESI through introspection, dialogue and group process and awakened towards areas of potential in themselves. Employees reported personal growth, new understandings about difficult life circumstances, enlivened relationships, greater happiness, and enthusiasm to share what they learned.

To embed these learnings, Promega employees also created the ESI Core Principles, a set of six practical in-the-moment behaviors to guide and encourage ESI across the company. Many teams are taking up the challenge to develop ESI “micro-experiments” to test ways they might contribute to a vibrant and healthy culture.
Inviting New Perspectives through ESI

“The foundation of the ESI program at Promega centers around 6 core principles – the first being “Check in with yourself.” As I began my training within this program, I gave the least amount of consideration to this principle because I felt as though it was something I had already mastered. Recently though, work challenges have had some negative impacts on my life – including my health (high blood pressure and lack of sleep) and my ability to focus efforts in key areas. As a leader I have always set high performance standards for myself, and when I feel like I am not doing all I can it has quite a negative effect on my ability to achieve. As I began to give more consideration to “Check in with yourself,” I realized what potential it held for improving my health and peace of mind. After spending some time reflecting on myself and looking inward I was able to collaborate with our corporate Wellness leader to develop a plan for self-care that included meditation (something I have never really believed in) which I now incorporate into my daily routine. Checking in with myself allowed me to better understand my limitations and gave me context as to why I may be inclined to react negatively towards myself when placed under stress in my role at work. While I undervalued this core principle in the beginning, I’ve truly begun to see how inviting a new perspective could affect me so positively.”

– Promega Leader
Promega Well-Being

Promega takes a multifaceted approach towards employee well-being, which when considered as a whole can positively impact our employees’ satisfaction and influence their ability to solve problems creatively. Wellness, fitness, benefits, and relaxation are the four pillars that make up our well-being program and each serve a unique purpose to ensure employees feel empowered to make healthy choices while continuing to excel in the workplace.

Promega Wellness

Employee Safety Employee health and safety is the highest priority. Environmental Health and Safety programs are committed to establishing, maintaining, and improving work environments for the safety and well-being of our employees as well as the communities in which we operate.

Promega Wellness Center Promega offers our employees convenient, on-site health access at the Wellness Center located at our Madison, WI, headquarters. Wellness consultations and counseling are available 5 days a week with routine care services available which include:

- Routine blood draws
- Routine immunizations
- Travel immunization consultations
- Consultation for general health concerns
- Physical examinations
- Physical Therapy

Fitness Classes offered every week

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“Know Your Numbers” Health Assessments

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Wellness Center Visits

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Eating Well
In an effort to continue to promote a culture of wellness, employees have access to fresh and local produce at our on-site community garden at the Madison Campus. Thousands of pounds of produce are harvested annually from the garden and in conjunction with over three dozen local farms, healthy and organic menus are available across the facility. Employees may also select their own plots within the community garden which they may use to exercise their own green thumbs.

Promega Fitness
Promega seeks to encourage healthy lifestyles among employees by providing a wealth of fitness options at our headquarters and global branches. The Madison campus has multiple fitness facilities and offers both group exercise and yoga classes to employees. Most locations also reimburse health club memberships and support for participation in sports or competitive events like marathons or triathlons.

A Journey to Well-being
“On my 39th birthday I decided to start a Couch to 5k (C25K) program as I had never completed one before and wanted to tuck the race under my belt before I turned 40. I had never played a sport in my life, so my 9 week journey to prepare for the race was an undertaking of dedication and perseverance. After completing my first race I was hooked and continued to train and compete in races, working my way up to 10ks and eventually half marathons. I received invaluable training advice from the Wellness Center staff and have utilized the physical therapy sessions on-site to help recover from a running-related injury to help get back in shape. The support and knowledge I have received at the Wellness Center was invaluable as I started and continue on my journey.” – Promega Employee

A Sense of Wellness at Work
“I have now been employed at Promega for 3.5 years. I continue to be amazed at how wonderful the Promega people are from management on down. We work hard at Promega, but it is always a rewarding experience and the appreciation shown for our efforts is beyond compare. I’ve worked at a number of different companies and this has been by far the best company I’ve ever worked at. Every day I thank my lucky stars for having the opportunity to work at Promega!” – Promega Employee
Active Team Building Cultivating an environment of unity between coworkers, teams, and management is an important component to life at Promega. Rapport built on trust and understanding helps employees work together cohesively and address difficult situations with understanding and empathy for one another. Locations worldwide have found ways to make these team building activities active in 2016:

Promega Singapore Explores Langkawi To celebrate their 10th anniversary, Promega Singapore went cycling and go-karting on a company retreat to Langkawi Island in Malaysia.

Promega AG Trek to Malta Our Swiss branch, Promega AG team went on a treasure hunt on their 25th anniversary trip on the island of Gozo. They used jeeps and hiked to discover the natural and cultural beauties of the island.

Hiking at Promega Shanghai The team at Promega Shanghai spent the day team building by hiking Huangshan in China. This mountain is famous for its unique views—while most mountains are enjoyed by looking up at them, this one’s splendor is appreciated most by looking downward.

North American Branch Goes Surfing During the fall meeting in California, the North American sales team spent time away from the conference room to learn how to surf or hike the cliffs overlooking the ocean.
Promega Biotech AB in Iceland  In 2016, our Swedish branch traveled to Iceland for their quarterly meeting and spent time hiking on glaciers and enjoying the natural wonders of the country.

Promega KK Long Distance Relay  In Japan, Ekiden is a long distance relay which typically involves a team of runners covering a distance of many kilometers over the course of a few days. The Promega KK branch put together a team to participate in a charity Ekiden road race in Tokyo in 2016.

Korean Road Race for Ocean Conservation  The branches of Promega Korea and Korea Biosystems both participated in a 10K run which aimed to bring awareness to ocean conservation.

Promega France Koh Lanta Training  In 2016 Promega France participated in a team building based off of the reality TV show Survivor. Employees were split into teams and participated in challenges that ranged from balance endurance to eating a plate of dried worms. This unique program allowed coworkers to get to know each other in a unique context and to creatively problem solve!
Promega Benefits

Promega employees are offered comprehensive benefit packages based on standards by country. These programs typically include medical, dental, and vision coverage as well as a competitive 401k plan and flexible spending accounts for healthcare. Short- and long-term disability insurance, life insurance, tuition assistance and paid time off are also provided in an effort to ensure the well-being of our employees and their families.

Investment in Advancement and Education Beyond our broad offering of benefits, Promega aims to help employees be their best selves at work by providing a wealth of accessible training and advancement. We strive to provide opportunities for everyone to equip themselves with the knowledge and skills they need to achieve success in their position.

Leadership Training Professional development courses such as Coaching for Leaders, Management Essentials, Leadership Forum, 7 Conversations for Exceptional Leaders and Manager Roundtable programs support managers. Customized training for departments is available, as well as organizational development services that include talent management resources, personality/leadership assessments, coaching and consulting. Furthermore, individually-targeted leadership development is available on site at work, or with external academic or training partners. These trainings have been done primarily in North America but are expanding to our international locations.

Scientific Training The Scientific Training team designs, develops and implements product and sales trainings for employees around the globe, which are delivered in live and virtual classrooms. While live courses are available in Madison, WI, Lyon, France and Singapore, there are a multitude of additional opportunities that address the training needs of employees globally. These facilities also incorporate video conferencing equipment to allow scientists and trainers to participate from off-site locations.

Employees in Singapore take time for training on new products like Spectrum.
**English Classes for Employees** Our branches in Korea, Japan, and Germany offer employees English lessons to improve communication across the company and with clientele as well. Our efforts are intended to help employees access the resources they need to advance their career.

![A group of employees get together for English lessons.](image1.jpg)

**Promega Relaxation**

An important aspect of sustaining work-life balance is the ability to find time for relaxation – be it time off for vacation, or the opportunity to meditate in one of Promega’s third spaces. The spaces to relax on our Madison campus are plentiful and include access to saunas and a Hammam steam room, acupuncture, Reiki therapy, and subsidized massage therapy. Individually, our branches make many efforts to provide opportunities for relaxation such as weekly yoga classes at Promega GmbH and Promega Biosciences.

**Fourth Spaces at Promega** The concept of “third spaces” at Promega was developed as an effort to help create work environments and meeting spaces that encourage people to think creatively with the intent of helping employees thrive. The term “fourth space” takes that premise a step further and was coined to describe a work culture energy oriented around curiosity, possibility, and flexibility – toward the self, employees, and the surrounding community. The intent behind fourth spaces is to encourage employees to think creatively, and be reminded that no idea or suggestion is too out of the box to explore.

**United by Love of Music** It is uncommon that employees have the opportunity to cultivate their talents and hobbies in a workplace environment, but at Promega those who are musically-inclined have joined forces to create the band “Lead Generation.” In 2006 a core group of employees – ranging from scientists, marketers, IT specialists, and administrators – came together to share their interests and spend time making music. The group has expanded today to about 35 active participants and performs at functions like all-company meetings and employee recognition breakfasts. Says a Madison employee “Fostering an environment where collaboration and creativity are rewarded really helps to create a sense of belonging, and creates a vibe of excitement that you just don’t find everywhere. Plus how cool is it to tell people that you play in a band? At work?”

![The Promega employee band, Lead Generation, jams out at an all-company meeting.](image2.jpg)
Community Touch

2017 Corporate Responsibility Report
Community Touch

“As a global company we leverage our capabilities to provide knowledge and tools in science for community growth and development. We help individuals and communities achieve their aspirations to become global citizens who are responsible and want to make a difference.”

—Nicholas Ng General Manager, Promega Singapore

The symbiotic nature of organisms is inherent to biology. Any longstanding interaction between two entities often means that each benefits from the other’s unique strengths, and mutual advancement can only be achieved by working in harmony. This same sensibility guides Promega in its engagement and exchange with each local community within which Promega operates. The benefit we receive from the unique strengths of our communities is invaluable to our success. Our growth is interconnected with the prosperity of our communities. In turn, as stewards of our communities, we actively strive to cultivate, give back and foster inspiration that comes with a symbiotic community bond.

As a global company, this exchange takes many forms. Each location has the autonomy to focus on the unique needs of its community thorough an integrative and authentic approach. The goal is to always provide meaningful support at a local level around the world. To accomplish this we tap into the passions of our employees. By providing tools and resources we hope employees feel empowered to get involved with causes that are close to their hearts. This can be achieved through avenues such as paid time for volunteering, matching employee donations or collaborations with non-profits.

To best leverage our unique strengths and benefit our particular communities, Promega focuses specifically on engagement and support in education, community wellness and creativity.
Supporting Education and Knowledge

Education brings growth, discovery and rich context for the future. Over 20 years ago, Promega helped to establish and continues to significantly support two cornerstone educational organizations: The BioPharmaceutical Technology Center Institute and Woods Hollow Children’s Center. In addition, Promega locations globally support various initiatives focused on expanding knowledge.

The BioPharmaceutical Technology Center Institute

Founded in 1993, the BioPharmaceutical Technology Center Institute (BTC Institute) is a not-for-profit, independent organization operated exclusively for educational, scientific and cultural enrichment opportunities. Promega serves as the primary corporate sponsor. Educational programs focusing on the life sciences are designed for a wide range of learners—from upper elementary school students to scientists in academia and industry, as well as the general public. During the academic year, approximately 3,400 middle and high school students from Wisconsin and Illinois visit the BTC Institute’s labs for hands-on, molecular biology-based field trips. For schools that cannot make the trip due to distance, cost or scheduling, an “on the road” program is growing that brings BTC Institute teachers and lab activities directly to classrooms. A new customized half-day option for the Institute’s Molecular Technology Basics for the Non-Scientist series of classes has opened laboratory-based scientific experiences to more adults who do not have a scientific background. A partnership with Hannam University in Daejeon, Korea, has led to Hannam students traveling to the BTC Institute to take advanced courses. Annually, the BTC Institute also hosts the International Forum on Consciousness, bringing together the worlds of natural and social sciences, as well as the Wisconsin Stem Cell Symposium, the latter in partnership with the UW-Madison Stem Cell and Regenerative Medicine Center.

The BioPharmaceutical Technology Center provides students access to hands-on, molecular biology-based laboratory experiences.
Experience with the BTC Institute Youth Apprentice Program

The BTC Institute offers a specialized program with the Dane County Youth Apprenticeship Program in Biotechnology where high school students must complete 900 laboratory work hours while also taking a four-hour class at the BTC Institute every Wednesday evening throughout the school year. A second-year program participant, Madhu, recently won the grand prize at the Capital Science and Engineering Fair in Madison, WI. She goes on to compete at the Intel International Science Fair. Madhu, a high school senior, has worked nearly 600 hours in a lab at UW-Madison Department of Surgery. Her project is based on her work in the UW lab, which has included characterizing bacterial communities (microbiomes) in the larynxes of mice; determining the best protocol for taking, storing, and extracting DNA from human laryngotracheal swabs; and co-authoring a review paper: Insights into the Role of Collagen in Vocal Fold Health and Disease [Tang, S., Mohad, V. and Gowda, M. (2016)]. All of these projects are relevant to human health. Somehow Madhu also finds time to volunteer at UW Hospital and for children’s summer science programs, as well as tutoring peers at her high school. Her extracurricular activities programs include varsity tennis, the National Honor Society, Mock Trial, Health Occupation Students of America, and playing violin.

“I have always been interested in the combination of medicine and biotechnology, and I got the chance to personally explore that because of the Youth Apprenticeship Program. The amount of hands-on, real-world experiences you can get in this program is unparalleled. I’m fortunate to have such a great mentor who is always eager to teach me more about otolaryngology and support me through everything. After having the opportunity to conduct my own research in laryngeal microbiology and collaborating on papers, I know I want to continue this work in college. I can truly say that the YAP-Biotechnology program has been the highlight of my high school academic career.” –Madhu
iGEM Competition Team Sponsorship  Promega has supported high school and university students in the International Genetically Engineered Machine (iGEM) Competition for many years. In 2016, our Germany branch, Promega GmbH, sponsored teams from Dusseldorf, Munich, Hannover, and Tuebingen, and Promega BNL (Netherlands) sponsored a team from Tu-Eindhoven. By sponsoring teams with a wide range of products, Promega enabled the groups to work on clean removal of cancer cells, modifying DNA for cancer treatment, tissue printing, hereditary fructose intolerance, and developing new proteins tools. Learn more about their work on the Promega Connections blog.

Woods Hollow Children’s Center aims to provide excellence in early childhood education and care.

Today’s Learners, Tomorrow’s Leaders  Woods Hollow Children’s Center, located on the Madison headquarters campus, is a nonprofit child care center for children 6 weeks to 10 years old available to Promega employees and the surrounding Madison community. With Promega as a substantial supporter, Woods Hollow strives to provide excellence in early childhood education and care, and is fully accredited by the National Association for the Education of Young Children. The center promotes parent involvement in all center activities as well as appropriate teacher compensation. This 25-year commitment to the well-being of children, parents, and staff offers a model for replication by other employers and organizations.
**Marine Biological Laboratory** Located in Woods Hole, MA, the Marine Biological Laboratory (MBL) is one of the largest nonprofit biological laboratories in the world, attracting leading scientists and students from around the globe. Fifty-six Nobel Prize winners are among the scientists significantly affiliated with the MBL. The Promega Discovery Fund, established in 2013, supports the MBL Education Department in offering highly competitive, discovery-based courses and research programs. Promega also provides tools and technologies, as well as a Promega scientist working on-site for six weeks to assist students during summer courses. Additional monetary support by Promega of the Director’s Vision Implementation Fund aims to ensure MBL’s future growth as the world’s leading year-round convening institute in the life sciences.

**Promega Award for Biochemistry** In recognition of important collaborations from innovative researchers in China, Promega partners with the Chinese Society of Biochemistry and Molecular Biology (CSBMB) to grant The Promega Award for Biochemistry to the scientist who makes the most significant advances in the study of stem cells each year. The 2016 recipient is Dr. Fuchou Tang, a Research Investigator from Beijing University, China. Promega continues to work with the awardees by sharing scientific knowledge to promote continued collaboration.

**Promoting Innovation and Young Scientists** The 2016 Voluntades Pyme Award has been presented to Promega Biotech Ibérica, S.L. for its Promega New Lab Startup program that promotes innovation, research and development. Promega Biotech Ibérica also has the Promega Sponsorship Fund that supports young scientists through micro funds aimed at promoting the communication of scientific work.
**International Symposium on Human Identification**

The International Symposium on Human Identification (ISHI) is the world’s largest conference focused on technologies, policies and innovations in forensic DNA analysis for human identification. Promega has sponsored ISHI since 1998. More than 950 scientists, DNA analysts, law enforcement professionals, and legal and ethical experts from 40+ countries participate in learning opportunities such as interactive workshops, presentations, case studies and scientific posters. Many labs and industry agencies count hours attended towards continuing education requirements. ISHI is an inclusive forum open to all practitioners and suppliers of DNA analysis for human identification.

**Scientific Journalism Workshops**

Promega GmbH organized workshops for journalists from regional newspapers to discuss new information and current trends in bioscience. Three journalist-scientist tandems were awarded with the “Main Focus Biology” award, sponsored by Promega. This award and workshop aims to promote transparency in the bioscience field between researchers and publication readers.

**New Perspectives at ISHI**

For the Phoenix Police Department, a connection made at the International Symposium on Human Identification (ISHI) became the ‘big break’ in an almost 25-year cold case for a serial murderer dubbed the “Canal Killer”. In the early 1990s two young women were murdered and DNA evidence connected a single suspect to the murders of two young women in the early 1990s, but there was little other evidence and the case went cold. In 2014, a novel approach described by genetic genealogist Colleen Fitzpatrick while in Phoenix at ISHI provided hope. By using Y-DNA that is passed down in males like surnames, in conjunction with public Y-DNA genetic genealogy databases, an unknown perpetrator's last name might be identified. Identifying the name ‘Miller’ from this approach was key for the detectives. This combined with all other information available allowed the Phoenix Police Department to quickly make an arrest and a trial is set to begin in 2017.
Madison Area Technical College Advanced Manufacturing Scholarships  Promega recognizes that supporting training in Advanced Manufacturing is vital to the company’s future wellbeing. Therefore, Promega Scholarships in Advanced Manufacturing provide education and training opportunities for students at Madison Area Technical College in this area.

Student Support in Impoverished Areas  There are still many poor mountainous areas in China where life can be difficult and conditions in schools fall behind developed regions. In the last year, Shanghai Promega donated hundreds of books to elementary school students in these impoverished areas. For the last two years, Promega Beijing has donated computer classrooms to elementary schools in these remote areas, most recently to a school in Zhonghe Town, Yongren County, Yunan Province.

Scientists in the Schools  Scientists from the Technical Services Department at Promega regularly go into the community to visit Madison-area elementary and middle school classrooms to give students hands-on experience in molecular biology. One lesson this year involved extracting DNA from strawberries. Students made an extraction solution using water, dish soap and table salt under the guidance of Promega scientists. They used pipettors, beakers, microfuge tubes, and flipper racks, to give them a glimpse of the tools scientists use every day. Scientists also share their own educational backgrounds and describe what it’s like to work in biotechnology. Promega has received positive feedback from both students and teachers who have learned about the fascinating world of heredity through this fun DNA extraction lab.
Promega Webinar Series  The Promega Webinar Series is a program that provides noncommercial live webinars to scientists around the world, free of charge. Scientific topics range from basic science concepts to highly technical research presentations. This communication channel allows unique interactions between young and senior scientists in the areas of genomics, proteomics, genetic identity, and cellular analysis.

Instructor Support  Promega offers educational resources such as complimentary lectures and lab teaching guides for teachers looking to enhance their curricula. Topics of interest have ranged from DNA purification to emerging infectious diseases. Our Training Support Program offers instructors at the high school, undergraduate, and graduate levels who teach courses using DNA, RNA, protein, or cell-based techniques, the opportunity to receive up to $2,000 in discounts off Promega products to supplement their classrooms.

For more information, please visit http://www.promega.com/products/pm/na/training-support-program/

Community Wellness
We appreciate the support that our communities provide to Promega and place an emphasis on giving back to organizations that address various needs within the community. Each location globally has autonomy to take action in areas that they feel are of most value to their community.

Cancer Research Support  Promega France helped raise funds and awareness for research into cancers that affect women through involvement in the event Courir Pour Elles (Running for Her). Only women participate as runners or walkers in this race, and men help out in a support role. Promega was a corporate sponsor and organized a team of employees to take part in the event. Courir Pour Elles also features cancer patients who not only run but share their stories of struggle and survival. These stories serve as a means to uplift and encourage those participants touched by cancer to help bring hope. The race had 12,000 participants, and raised over €300,000 (about $318,000 USD).
Habitat for Humanity

“It was an awesome opportunity for us to bond and feel the accomplishments of a hard day’s labor. That one day was probably the hardest work day I’ve had since I started with Promega five years ago. That day also had a very rewarding sense of accomplishment that was undeniable as I drove home with aching muscles, muddy clothes, dying of thirst, and anxious for a real bathroom. It was rewarding to have the comradery of coworkers who all pitched in together to get our tasks accomplished. It was most gratifying to meet the family weeks later at the Habitat for Humanity’s celebration where they took possession of their new home. That celebration also recognized the completion of 250 homes built by Habitat for Humanity in Dane County. To have been a part of it was humbling.” –Production scientist Kelly Rogers tells about her Ops In Action experience working with four other Promega co-workers building a Habitat For Humanity home.
**Ops In Action** Promega employees in general feel a deep responsibility to give back to their local and worldwide communities. To recognize and support this commitment, Promega created a pilot program for the operations group called Ops in Action. The program allows Madison employees to apply for paid time to volunteer for the charity or organization of their choice. Participants have given back in various ways from traveling to South Africa to help orphaned children affected by HIV/AIDS to coaching and mentoring Science Olympiad teams at Madison-area middle and high schools. One Ops in Action project raised funds to help build a shelter to shade a group of motorcycle taxi drivers in Kenya while they wait for customers. The contribution spurred the drivers to grow their business by also selling corn at the shade and eventually renting land so they can grow their own corn to sell, proving that a relatively small investment can go a long, long way.

**Outdoors for a Cause** The Promega Biotech Ibérica branch found a way to make outdoor activity even more valuable for its employees by donating one euro to the children’s oncology department of Hospital La Paz in Madrid for every kilometer its staff biked, walked or ran outside. The idea behind Kilometros Solidarios (Solidarity Kilometers) was simple but powerful: healthy activity leading directly to the wellness of others. During three summer months, employees got outside and the branch raised €1,884 (about $1,993 USD) toward the purchase of a much-needed portable ultrasound machine for the hospital. To keep track of their progress, employees used Strava, a free app that can track and automatically log physical activity using GPS. Users were also able to follow one another, access maps of recommended routes and post photos of their adventures.
**International Giving** Promega Australia has a long history of supporting local and international organizations to give back to their communities. In 2016, donations were made to World Vision’s Overseas Aid Fund and 40HR Famine Appeal, The Smith Family Learning for Life program, and the Salvation Army.

**Unified in Denim** On May 27, 2016, all men and women of Promega Italia participated in Denim Day by wearing a pair of jeans to bring awareness and stand against sexual assault. This movement started after a historic ruling in the Italian Supreme Court for a case centered on sexual assault which has led to the global movement that Denim Day has become.

**Community Action Team** The Community Action Team at Promega Biosciences in San Luis Obispo, CA is an employee-led group that works to support local organizations and nonprofits. In 2016, the team hosted four fundraisers and supported 13 different organizations including the ALS Association, Project Surf Camp and the United Way. To encourage involvement in the community, paid time is provided each month for employees to utilize and monetary donations are matched by the company. In addition to fundraisers, the Community Action Team organizes quarterly road clean ups to help maintain an adopted road.
As an outreach to the local community, facilities at the BioPharmaceutical Technology Center (BTC) on the Promega headquarters campus are made available for use by educational institutions, governmental agencies, community organizations, and businesses for educational, scientific, and business purposes, managed by Promega Corporation. Affordable rental rates for meeting rooms, the BTC’s 300-person auditorium, and even the building’s rooftop terrace are tiered for non-profit and for-profit organizations. Diverse types of groups—from the local library to one of the largest knitting guilds in the US—regularly rent out BTC space. The BTC cafeteria is also open to the public and attracts many people from surrounding businesses during the lunch hour.

**Food Bank Support** Promega Italia supported the Banco Alimentare, a food bank that not only provides distribution of food to the disadvantaged but also works to offer physical support and social inclusion to those in need. In addition, a portion of all Promega Italia expenses support social causes through the use of the UniCredit Card E.
Creativity and the Arts

The ability to think creatively has always been a cornerstone for scientific experimentation. At Promega, we have a long history of leveraging innovation to support creativity within the company and in our surrounding communities.

Recycled Artistry Discarded Promega pipette boxes and tip holders inspired Madison, WI, artist Victor Castro to zip-tie these plastic grids and boxes together to build installations of large, colorful wall hanging sculptures. He also shared the technique with children at the Madison Museum of Contemporary Art’s after-school community center art program as well as at other workshops, guiding young artists in creating their own slowly growing sculptures. The message, he says, is that small actions repeated over and over can lead to big change.

Creativity for the Community Marking its 20th Anniversary, the Promega Art Showcase is a quarterly art exhibit hosted on the Promega corporate campus that has featured the work of local and international painters, photographers, sculptors, and artists in many other media. The professionally curated exhibitions are free and open to the public, and offer both well established and up-and-coming artists a venue for their work while introducing the surrounding community to diverse perspectives. Showcase opening symposiums consistently attract hundreds of art enthusiasts. An annual employee art show highlights and encourages artistic creativity among Promega employees.
Cool Science Image Contest Images from microscopes, satellites, telescopes, cameras, and other technologies are informative, but they can also be true works of art. The annual Cool Science Image Contest, sponsored by Promega, challenges students, staff and faculty at the University of Wisconsin-Madison to seek out and share compelling science images. Winning images are showcased at Promega headquarters and at the Wisconsin Science Festival, and are also featured on UW-Madison websites and other communications. Winners have included a colorful infrared image of Madison-area lakes, a magnified photo of silver and gold stinkbug eggs, and jewel-like lactose crystals suspended in oil. An image of antibodies and proteins in human tissue and blood vessels created through a technique called “immunostaining” is reminiscent of a painting by Monet or Van Gogh.

Establish Creative Venue Support Promega Madison supports numerous cultural venues in the local community such as the Trinity Irish Dance Company, Forward Theater Company, the Madison Museum of Contemporary Art, and the UW-Madison’s Tandem Press, which teaches students and the public about art and the craft of fine printmaking in particular. Promega also partners with the American Players Theatre (APT) to support a program in which APT actors travel to schools around the state to bring the theater experience to thousands of students.
Economic Impact in Community

As showcased above, Promega encourages community outreach in the areas of education, community wellness, and creativity. The specific areas of support vary due to the diversity of employee passions and unique needs of each region. In addition to the value of employee volunteerism worldwide, monetary contributions exceed one million dollars annually. Beyond our direct contributions, Promega has a positive economic impact in the communities in which we operate. A third party economist has estimated a multiplied annual economic impact of more than $550 million in Wisconsin alone. This analysis accounts for direct, indirect, and induced impact of Promega from job creation to expense of goods and services.

We have a long history of leveraging innovation to support creativity within the company.
Additional Information

2017 Report Parameters

Reporting on Promega Corporate Responsibility progress is completed on a calendar year basis with information in this report sharing results and actions from January 1, 2016 to December 31, 2016. This is the ninth Promega report in this area following the initial report released in July of 2009. This process of reporting will continue annually in the future. Corporate Responsibility reporting attempts to focus on the environmental and social impacts of Promega operations worldwide using the framework established by the Global Reporting Initiative Guidelines and the principles of the United Nations Global Compact.

Information for this report has been gathered from all 22 Promega branch and subsidiary locations worldwide. Engagement with key internal stakeholders has been focused on areas identified as key impacts and opportunities. Our current process captures information on a wide range of indicators, but we recognize that there is still room for growth in the information we capture. In rare instances, additional or adjusted information for prior periods was captured resulting in slight variations from previously reported indicators.

Carbon footprint calculations have been made using emission factors provided by the World Resources Institute Greenhouse Gas Protocol on energy and business travel. Reported emissions from distribution were calculated with the conversion factors provided by DEFRA's 2016 Greenhouse Gas Conversion Factors and have incorporated the new methodology for emissions for air freight that include radiative forcing. Lastly, the Environmental Defense Fund’s Paper Calculator has been used for calculating the life cycle impacts of our paper usage. Current and previous years’ carbon footprints have been calculated using the most updated information and emission factors from the resources above.

Some sections of the GRI that were not covered in the report will be addressed below. In 2016 we had no incidents or issues in the following areas:

- Environmental fines or sanctions (G4-EN29)
- Incidents of discrimination and action taken (G4-HR3)
- Incidents of violations involving rights of indigenous people and actions taken. (G4-HR 8)
- Legal actions for anti-competitive behavior, anti-trust, and monopoly practices. (G4-SO 7)
- Fines and non-monetary sanctions for noncompliance with laws and regulations. (G4-SO 8)

Please contact sustainability@promega.com with any questions on the Promega Corporate Responsibility Report.

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<td>Incidents concerning provision and use of product</td>
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*Notable incidents would have resulted in fines or warnings.*
### Key Indicators

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<td>(Cubic Feet)</td>
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</table>
We are committed to transparent reporting on our environmental, social and economic performance. This report contains Standard Disclosures from the Global Reporting Initiative (GRI) Sustainability Reporting G4 Guidelines. The following table has been developed to help users locate specific information in the report.

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<thead>
<tr>
<th>Content</th>
<th>GRI Section #</th>
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<tbody>
<tr>
<td>Overview</td>
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<td>CEO Letter</td>
<td>G4-1</td>
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<td><strong>Corporate Mind</strong></td>
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<td>Overview</td>
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<td>Conscious Leadership</td>
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<td>Corporate Purpose, Vision and Values</td>
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<td>Respecting Human Rights</td>
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<td>Valuing Diversity</td>
<td>G4-15, G4-LA12, G4-HR2</td>
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<td>Supply Chain Management</td>
<td>G4-12, G4-EC9</td>
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## GRI Index (Continued)

### Product Reach

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Figure 1. Global Carbon footprint as indexed to revenue. This includes direct emissions from fuel combustion (scope 1), emissions from purchased electricity (scope 2), and indirect emissions from business travel, outgoing distribution, water usage and paper usage (scope 3).
**Figure 2.** Global carbon footprint composition.
Figure 3. Global electricity usage as indexed to revenue.
Figure 4. Natural gas usage as indexed to revenue.
Figure 5. Global distribution emissions as indexed to revenue.
Figure 6. Emissions from business travel take into account air, automobile, and rail travel at all global locations.
Figure 7. Non-hazardous waste as indexed to revenue.
Figure 8. Hazardous waste as indexed to revenue.
Figure 9. Water usage as indexed to revenue.
Figure 10. Paper usage as indexed to revenue.