

Making our World a Better Place

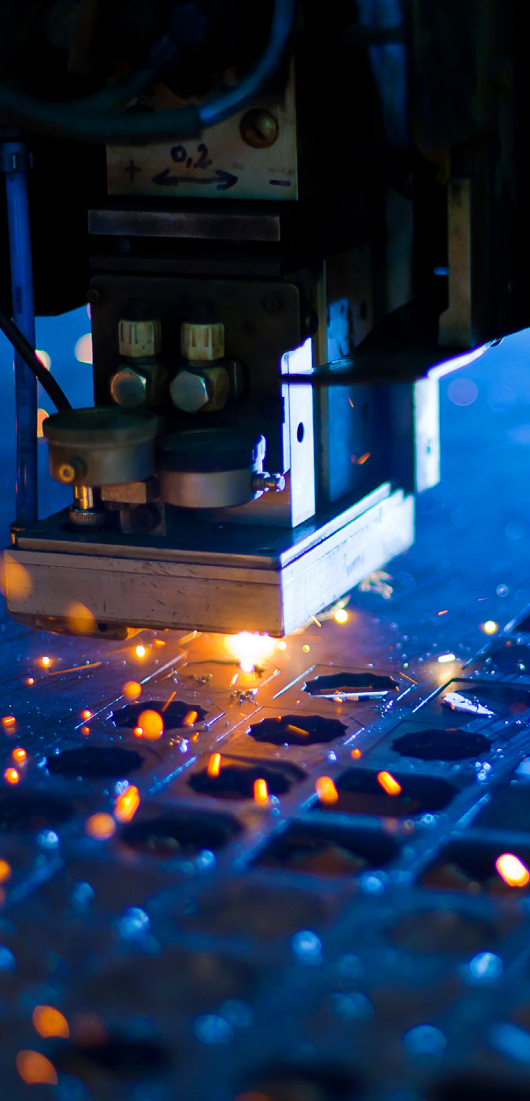
2016 Corporate Social Responsibility Report



Barnes Group Overview - Who We Are

Founded in 1857, Barnes Group Inc. is an international industrial and aerospace manufacturer and service provider, serving a wide range of end markets and customers. The highly engineered products, differentiated industrial technologies, and innovative solutions delivered by Barnes Group are used in far-reaching applications that provide transportation, manufacturing, healthcare products, and technology to the world. Barnes Group's skilled and dedicated employees around the globe are committed to achieving consistent and sustainable profitable growth. We operate under two global business segments: Industrial and Aerospace.





Segment Overview - What We Do

Industrial is a global manufacturer of highly-engineered, high-quality precision parts, products and systems for critical applications serving a diverse customer base in end-markets such as transportation, industrial equipment, consumer products, packaging, electronics, medical devices, and energy. Focused on innovative custom solutions, Industrial participates in the design phase of components and assemblies whereby customers receive the benefits of application and systems engineering, new product development, testing and evaluation, and the manufacturing of final products. Products are sold primarily through its direct sales force and global distribution channels. Industrial's Molding Solutions businesses design and manufacture customized hot runner systems, advanced mold cavity sensors and process control systems, and precision high cavitation mold assemblies, including cube molds - collectively, the enabling technologies for many complex plastic injection molding applications. Industrial's Nitrogen Gas Products business manufactures nitrogen gas springs and manifold systems used to precisely control stamping presses. Industrial's Engineered Components businesses manufacture and supply precision mechanical products used in transportation and industrial applications, including mechanical springs, high-precision punched and fine-blanked components, and retaining rings. Engineered Components is equipped to produce virtually every type of highly engineered precision spring, from fine hairsprings for electronics and instruments to large heavy-duty springs for machinery.

Aerospace is a global provider of complex fabricated and precision machined components and assemblies for original equipment manufacturer (OEM) turbine engine, airframe, and industrial gas turbine builders, and the military. The Aerospace aftermarket business provides jet engine component maintenance, repair, and overhaul (MRO) services, including services performed under our Component Repair Programs (CRPs), for many of the world's major turbine engine manufacturers, commercial airlines, and the military. The Aerospace aftermarket activities also include the manufacture and delivery of aerospace aftermarket spare parts, including the revenue sharing programs (RSPs) under which Barnes Group has the exclusive rights to supply designated aftermarket parts over the life of certain aircraft engine programs.



Corporate Social Responsibility at Barnes Group

Barnes Group is committed to corporate responsibility. We believe this allows us to create value for our stakeholders and is key to our success as an organization. Since the launch of Barnes Group's formal company-wide Corporate Social Responsibility (CSR) initiative in 2014, we continue to work to identify and implement ways we can benefit the environment and society while we execute our vision and strategy within our businesses. This initiative is led by our Director of Health, Safety & Environmental Affairs (HSE), with the full support of our company's Senior Leadership.

This report provides an update on our 2016 CSR performance and the goals we have set as we drive improvements in environmental sustainability, diversity and inclusion, and social and charitable impact.



Governance

Barnes Group is a publicly held company that trades on the New York Stock Exchange under the ticker symbol “B”. The Board of Directors is our highest governing body, and is actively engaged in risk management oversight, succession planning, and corporate governance matters. We have a standing Audit Committee, Compensation and Management Development Committee, and Corporate Governance Committee. Our Board is comprised of ten directors, the substantial majority of whom are independent.

Barnes Group maintains a comprehensive set of policies and procedures to enable effective corporate governance. The following documents are available on the Investor Relations section of our corporate website at www.bginc.com:

- *Corporate Governance Guidelines*
- *Audit Committee Charter*
- *Compensation and Management Development Committee Charter*
- *Corporate Governance Committee Charter*
- *Political Activity Policy*
- *Conflict Minerals Policy*
- *Code of Business Ethics and Conduct*
- *Policy Regarding Reporting of Complaints and Concerns*
- *California Transparency in Supply Chains Act Disclosure*



Ethics, Culture and Values

We strive to conduct business with the highest ethical standards, always mindful that our values define who we are and what we can be, both as employees and as a company. At Barnes Group, we believe in:

Integrity – We maintain the highest ethical standards, honoring our commitments and being open and honest in all that we do.

Empowerment – We recognize that our people are the source for our success. We enable everyone to make a positive personal impact while being accountable for their behaviors and the results they deliver to our communities, customers, and stockholders.

Emotional Intelligence – We identify our own emotions and styles of learning along with those of others. We motivate others and ourselves to achieve results while also managing our relationships with understanding and reason.

Collaboration – We build inclusive teams that leverage our collective experience and expertise to find differentiated solutions for our customers.

Competitiveness – We drive relentlessly forward to gain sustainable superiority in the marketplace for our products and services.

Continuous Improvement – We create a culture that embraces change and innovation, improves processes, eliminates waste, and builds on an unwavering commitment to quality.

Workplace Fairness – We provide opportunity, dignity, and respect for our employees in a safe and mutually rewarding environment.

Globalization – We embrace the expansion of our business around the world as an opportunity, and value diversity and inclusion as we work seamlessly across borders. We partner with employees, vendors, and customers of different cultures while respecting and contributing to the communities and environments in which we operate.



Compliance and Accountability

Barnes Group's Code of Business Ethics and Conduct ("Code of Conduct") lays out the principles that guide the behavior of our employees, officers and directors as we do business around the world. Our Code of Conduct, which is available in multiple languages for our global employee population, provides guidelines, practical direction and helpful resources to promote ethical conduct and support compliance with applicable laws and regulations.

All employees are expected to complete annual Code of Conduct training, at which time they re-affirm adherence to the Code of Conduct. A segment of our leadership also completes an annual certification process to further monitor compliance with anti-corruption policies. Certain employees are assigned, based on factors such as role and geographic location, more targeted ethics and compliance training on topics such as anti-corruption and export compliance. In 2017, Barnes Group will continue to enhance its employee training program based on role and risk exposure.

Barnes Group encourages employees to raise questions and concerns. We offer multiple channels for doing so, including through our newly-created Ombuds Program. Anonymous reporting tools, both online and telephone, are also available. We periodically pulse our officers and business leaders on key compliance areas and provide opportunity to notify of concerns or conflicts of interest.

Barnes Group takes every question and concern seriously and will not tolerate any form of retaliation against any person for raising a question or concern in good faith. Employee concerns are addressed through management discussions, employee communications, and appropriate corrective action measures.



Health, Safety, and Environmental Affairs (HSE)

Barnes Group strives to ensure that all aspects of our operations are conducted in conformance with applicable laws and regulations, as well as with all of our corporate policies pertaining to workplace safety and protection of the environment.

In certain cases, the Company or its strategic business units (SBUs) may establish more stringent requirements as policies, procedures or directives. At the corporate level, these requirements are documented as BGI HSE Standards.

The BGI HSE Standards are consistent with our commitment to worker health and safety and to environmental protection, as well as prevailing regulatory frameworks in place around the globe. All locations are required to meet the local laws and regulation, or the BGI HSE Standards, whichever are more stringent. Furthermore, our internal corporate audit program measures and monitors progress using standard protocols, actions are tracked to closure, and results are reported to Senior Leadership.



Safety Info

Barnes Aerospace's Singapore OEM and MRO divisions have worked more than 4 years, which represents more than 2 million hours, without a lost time injury.



Waste Info

Consistent with our efforts to minimize the environmental impacts of our operations, 11 of our Barnes Group facilities' environmental management systems have been registered under ISO 14001.

Compliance

We focus our time and resources on identifying and controlling hazards in the workplace to ensure compliance and our employees' safe return to their homes and families at the end of their work day. Across the globe in 2016, Barnes Group had one HSE non-conformance for which we paid a fine; this deficiency was related to submission of storm water monitoring reports. The missing reports were resubmitted using storm water sampling data on file at the facility, and the lessons learned were shared across the organization. Our goal continues to be to eliminate HSE non-compliance.

Safety

Barnes Group is committed to promoting and maintaining a safe workplace for our employees. Through initiatives such as the Critical Risk Mitigation Program, behavior-based safety, and other injury prevention activities, Barnes Group reduced our recordable incident rate by 35% since 2013, and our lost time incident rate by 32%. In addition, in 2016, more than two-thirds of our manufacturing facilities worked the entire year without a lost time injury. We are proud of our safety accomplishments, especially in light of our diverse manufacturing processes. We believe this is a testament of our commitment to our employees and our culture of empowering teams to identify and report potential safety issues through HSE Audits and Inspections, Gemba Walks, and Near Miss programs.

Waste

Barnes Group operations report waste generation data using a common online system according to the framework established in our corporate environmental standards. Centralized reporting of both non-recycled and recycled industrial process wastes began in 2014 and enabled us to identify pollution prevention and waste minimization opportunities, as well as to drive towards recycling a greater percentage of our industrial waste streams.

Highlight ★

Recycling at Associated Spring Raymond

Associated Spring Raymond Maumee, Ohio division introduced a cardboard compactor that eliminates cardboard from going into a landfill. The cardboard is recycled and the division receives rebates for the amount of cardboard recycled. In 2016, the division successfully recycled over 12 tons of cardboard which would have otherwise been destined for a landfill.

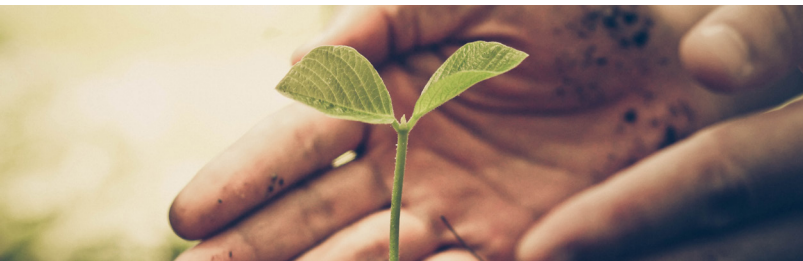
Highlight ★

Recycling at Synventive

Molding Solutions' Synventive facility in Peabody, MA implemented a recycling program in March 2016. Through their efforts to sort recyclables such as paper, glass, plastic, and cardboard, they have reduced the amount of waste destined for landfill by over 25%.



Highlight ★



Composting at Associated Spring

In 2015, Associated Spring Mexico City division set a goal to reuse organic wastes generated in the cafeteria and gardening through composting. Previously, organic wastes were mixed with non-recyclables and sent to landfills. Now, these organic wastes are combined with leaves and other compost materials and used as fertilizers to enrich dry soils around the facility. The composting project successfully diverted organic materials from the landfill, reduced waste disposal costs, and resulted in beautification of the facility grounds.

Highlight ★

Mercury Elimination at Barnes Aerospace

Barnes Aerospace Ogden, Utah division implemented a project to eliminate mercury-containing bulbs in the Fluorescent Penetrant Inspection area in 2016. Previously, the division used mercury-containing black light lamps, which required special handling and disposal, and would heat up to 200°F during use. Ogden replaced the bulbs with new LED black lights, eliminating the need for special waste disposal, as well as the risk of burns associated with the high temperature of the mercury bulbs. The new LED lights are projected to last up to 40,000 hours before being replaced, which is equivalent to decades of 8-hour work days. This simple replacement eliminated a mercury waste stream, reduced disposal costs, and should result in energy savings.





Water Info

Water Usage is defined at Barnes Group as the total amount of water measured in gallons consumed by a facility including municipal water (supplied to a facility from a public distribution system), well water, and water withdrawn from surface water and groundwater resources, including non-conventional anthropogenic water sources such as water produced at desalination plants.

Highlight ★

Metal Powder Recycling

Barnes Aerospace West Chester, Ohio division continued to process metal powder waste from our grit blasting and grinding operations, preventing the material from being disposed of as waste in landfills. The division successfully diverted 26 tons of material from landfill in 2015, and in 2016 an additional 35 tons of metal waste material that would have previously headed to the landfill was diverted and recycled.

Associated Spring Campinas, Brazil division also started working with a recycling firm that processes metal powder waste from our grit blasting and grinding operations. The firm reclaims metals and resubmits the iron powder to foundry companies, preventing the material from being disposed of in landfills. The division successfully diverted 32 tons of material from landfill in favor of recycling in the second half of 2016.

Water

Barnes Group operations have been tracking water usage data for three years now, and we are pleased to report that our divisions successfully implemented several new conservation projects in 2016 to reduce consumption. Some of the water conservation initiatives implemented include:

- Our Associated Spring Mexico City division started collecting and using rain water for service activities such as cleaning the factory and floors. Their reuse during 2016 totaled approximately 20,000 Liters, thus saving the equivalent volume in municipal water usage. The division also installed devices to reduce the volume of water used in rest rooms.
- Our Männer Bahlingen, Germany facility installed a new heating and cooling system for Plant II in 2014 to reduce its dependency on groundwater. In 2015 after a full year in operation, the facility experimented with operating the new system without using any groundwater. The trial was successful and the groundwater usage was reduced significantly in the second half of the year. The groundwater usage for heating and cooling in Plant II was therefore eliminated completely in 2016.
- Our Associated Spring facility in Corry, Pennsylvania replaced several non-contact cooling water uses with air-cooled heat exchangers to reduce water consumption in the snap ring and die spring departments.

Energy

Continuing our quest to reduce our energy footprint, our operations were again asked to identify and implement energy conservation projects for 2016. Some of the projects completed include:

- Five additional facilities implemented energy-efficient LED lighting and motion-sensors.
- Molding Solutions' Männer, Bahlingen, Germany facility implemented a daily inspection of each technical room to optimize equipment operation and proactively detect and control issues to prevent energy losses. The effort resulted in a reduction in energy usage despite increased production levels in 2016.
- Barnes Aerospace West Chester, Ohio installed a specialized ASTEC® CoolRoof roofing system, designed to increase occupant comfort and productivity while reducing cooling demands and HVAC maintenance costs.
- Associated Spring Campinas, Brazil division replaced its aging air compressor and dryer fleet with a new Kaeser System. The system is performing extremely well with no operational issues, uses 35% less energy, and is resulting in more than \$50,000 in annual cost savings. The division also upgraded its capacitor bank and fitted harmonic filters to electronic equipment, both of which will further reduce electricity consumption.
- Engineered Components' Seeger-Orbis division installed new energy-efficient windows in two of its buildings.



Highlight ★

Energy Conservation in Barnes Industrial

Barnes Industrial, NGP, Brecksville, Ohio replaced its aging air compressors with a state of the art combination solution coupling a variable speed compressor and a fixed speed compressor in January 2016. The new system has been providing compressed air for the operation ever since with 100% reliability. The new solution is programmed to meet the needs of the plant during times of maximum demand, while also capable of throttling back energy consumption during low demand periods. With the new system, the plant will consume over 170,000 KWH less energy per year, representing a 14% energy savings and \$18,776 annual cost savings.

Barnes Aerospace Lansing Division

Barnes Aerospace Lansing, Michigan Division was approved for the Michigan Department of Environmental Quality (DEQ) Clean Corporate Citizen (C3) designation in 2016 for having exemplified corporate environmental responsibility through its efforts to maintain, protect, and enhance Michigan's environmental resources. The Lansing facility demonstrated its environmental ethic and stewardship by meeting the criteria for C3 designation: the development and implementation of an environmental management system, the practice of pollution prevention, and a strong environmental compliance record. Integrating environmental factors into the daily operations, the Lansing team successfully:

- Reduced nitric acid consumption by 50% and hydrofluoric acid consumption by 30%
- Recycled machine oil and glycol coolant
- Integrated LED lighting
- Installed a variable frequency drive air compressor
- Reduced landfilled waste by 12,000 pounds in 2015

The C3 designation validates the effort and focus that the team placed on improving our environmental performance. Leveraging green technologies and industry best practices, we've continued to grow the business while simultaneously reducing our environmental footprint. Lansing received a Certificate of Recognition and will report progress with their environmental management system and pollution prevention programs annually to maintain the C3 status. Lansing was only the second business in its county to receive the C3 designation.





People, Training, Wellness

At Barnes Group, we believe it is never too late to improve your lifestyle and to make the most of your health and well-being. Our wellness programs have been designed with this goal in mind – to provide tools, resources, and support for employees and their family members to adopt healthier lifestyles and create meaningful and lasting change towards their personal well-being and to ensure a stable workforce for the Company. We also support professional well-being by offering a diverse set of training and development programs.



Diversity and Inclusion

At Barnes Group, success begins with having a passionate and energized workforce. Barnes Group employs approximately 5,000 employees around the globe.

U.S. Ethnic Minorities by Category	2016
American Indian / Alaskan Native	Less than 1%
Asian	5%
Black / Not Hispanic Origin	5%
Hispanic	6%
Native Hawaiian or Other Pacific Islander	Less than 1%
Two or More Races	Less than 1%
White / Not Hispanic Origin	81%

To help us maintain this energized and engaged workforce Barnes Group strives for diversity at all levels of the organization. Additionally, we look to increase women in hourly, management, and salaried leadership positions. The recruitment process is an important element in achieving a more diverse population throughout our businesses.

Representation of Women by Classification	2016
Hourly	15%
Non-Exempt	49%
Professional	39%
Management	20%
Leadership	21%

Training and Development

Training and Development at Barnes Group provides a wealth of opportunities for employee development at all levels of the organization, including conferences, formal leadership and skills training programs, tuition reimbursement, and online learning through our e-learning portal, Barnes University.

During 2016 we initiated a major redesign of our development programs as a result of our new competency model, which was rolled out in 2015 as part of our integrated Talent Management System. We expect to have these programs ready for implementation in late 2017.

Our leadership development programs are aligned with our Corporate Values and our new Core Competencies, and are designed to expose our high performing depth and breadth leaders to key and critical development opportunities that will further enhance their leadership skills and capabilities.

Other skill building training in areas such as project management, presentation skills, and general supervisory skills are also available to employees as needed. Lastly, we also provide Individual Development Plans, formal and informal coaching, as well as mentoring programs designed to guide employee career path decisions. These tools help employees make the most of the development career opportunities available at Barnes Group worldwide.





Wellness

Barnes Group is committed to improving the health and well-being of our employees and their families around the globe. Our innovative health programs support a holistic approach to well-being by providing access to comprehensive tools, information, and guidance designed to improve employee health, productivity, and engagement, making our Company a stronger and healthier place to work.

Highlight ★



Wellness Notable Achievements

Barnes' wellness program provides a number of ways for employees to assess their current health and wellness, and offers options for those looking to improve including: self-directed workshops, health assessments, and team-based wellness challenges. Financial incentives are provided for participation and achieving health outcomes.

2016 demonstrated strong employee engagement and produced positive results in the United States:

- 55% of our facilities hosted an on-site Metabolic Syndrome Screening event, with 75% of participants achieving healthy outcomes.
- Employee participation in our health screening programs increased 33% from the prior year.
- Approximately 25% of our employees participated in our quarterly wellness challenges, focused around exercise, daily step goals, and living a balanced & healthy lifestyle.



Beginning January 1, 2017, Health Advocate has assumed administration of our Health Directions wellness program. In addition to now having one, consolidated portal for wellness, EAP, and health advocacy, the new partnership has introduced free health coaching to all employees.



Community

At Barnes Group, we believe that being a good corporate citizen begins with being a great community leader, which is why we encourage philanthropy, compassion, and change through our Barnes Group Foundation. Founded in 1945 and funded by Barnes Group, the Barnes Group Foundation is committed to the support of education, the arts, civic and youth activities, and health-related charities in the communities in which the Company operates. Since 2000, the Foundation has supported more than 400 schools, cultural centers and health-related charities, helping to ensure a legacy of community involvement for the future.



Barnes Group Foundation

The Barnes Group Foundation is a private grant-making organization supported by Barnes Group as a vehicle for providing a balanced contribution program to accomplish the Company's objective of good corporate citizenship.

The Foundation's highest priority is organizations and projects in communities where the Company has offices and other facilities. The Foundation also makes a limited number of contributions to organizations with programs that have broad impact on the community and exhibit an innovative and resourceful approach to the solution of difficult local, national, and international problems.

Year	Total
2016	\$1,100,000
2015	\$1,152,000
2014	\$1,152,000
2013	\$1,130,000

Student Scholarship Program

The Barnes Group Foundation has established a scholarship program to assist an employee's child who plans to pursue post-secondary education in college and vocational programs. Renewable scholarships are offered each year for full-time study at any accredited post-secondary institution of the student's choice.

The scholarship is administered by Scholarship Management Service, a department of Citizens' Scholarship Foundation of America, Inc. (CSFA). CSFA is a national nonprofit educational support and student aid service organization that seeks to involve and assist the private sector in expanding educational opportunities and encouraging educational achievement. Awards are granted without regard to race, color, creed, religion, gender, disability, or national origin.

Year	Total
2016	\$292,800
2015	\$352,600
2014	\$365,600
2013	\$347,500

Matching Gifts Program

Barnes Group provides a 2-to-1 matching gifts program for employee donations made to qualified nonprofit organizations, up to a yearly cumulative maximum of \$4,000 per employee/spouse. Qualifying organizations must be recognized as tax-exempt under Section 501(c)(3) or Section 170(c)(1) of the Internal Revenue Service Code and fit into one or more of the following categories:

- Education
- Cultural and Arts
- Civic and Youth
- Health and Welfare

Year	Total
2016	\$175,769
2015	\$174,857
2014	\$183,841
2013	\$188,512



Volunteer Action Awards

The Foundation believes it is vital to the health of every community that citizens be active in local organizations. Employees who volunteer a minimum of 30 hours to assist a local charitable organization during the year are eligible to apply for a Volunteer Action Award. Volunteer Action Awards are grants of up to \$2,000 presented to the charitable organization at which the employee has donated his/her time.

Year	Total
2016	\$2,000
2015	\$2,500
2014	\$6,000
2013	\$4,000



Charitable Giving Program

Barnes Group also supports charitable giving at our international locations through our 1-to-1 matching program. All locations are eligible for the matching gift given for employee projects that involve the entire location and support a charitable organization or project that has a positive impact on the community.

\$1,786

Associated Spring
Mexico

\$1,276

Associated Spring
Brazil

\$840

Associated Spring
Singapore

\$12,720

Barnes Aerospace
Singapore

United Way Campaign

Barnes Group has a long and proud tradition of supporting the United Way through local campaigns held annually at each of our United States locations. We have earned our reputation as a great community leader, helping our neighbors in need. Through the Barnes Group Foundation, all donations made to the United Way are matched 1-to-1, increasing our total contribution.

Together, the Company and its employees have contributed over \$2 million to the United Way over the past eight years, assisting the United Way's more than 1,300 member organizations. For the 2016-2017 campaign, employees were encouraged to LIVE UNITED and support their local campaigns. Living United means being a part of the change. It takes everyone in the community working together to create a brighter future.

Year	Total
2016	\$209,331
2015	\$229,531
2014	\$229,997
2013	\$234,258



Barnes Group global employees once again showed their outstanding generosity and commitment to community during the 2016-2017 Barnes Group United Way Campaign. Employees across the U.S. raised \$214,122 for the campaign, for a grand total of \$428,244 with the corporate match! In addition, Barnes Aerospace, Singapore raised \$11,729, for a total of \$23,458; Associated Spring, Mexico contributed \$2,379, for a total of \$4,758; and Associated Spring, Brazil raised \$2,379, for a total of \$4,758.

Highlight ★

Barnes Aerospace Celebrates Another “Summer Of Community” Service

This past summer, Barnes Aerospace (BA) rolled out their fourth annual “Summer of Community,” a series of community service initiatives involving BA employees across all eight Barnes Aerospace locations worldwide. Barnes Aerospace created the Summer of Community in 2013 to provide opportunities for their employees to volunteer in ways that would directly benefit their local communities.

This year’s area of focus was “People in Need.” Each location reached out to the local organization(s) of their choice and lent a helping hand, supporting the following events:

The Ogden Division participated in several events over the summer months. Their most memorable event was supporting The Lantern House, a homeless shelter in Ogden, Utah. The team prepared a barbeque for over 200 homeless people or individuals in need. The experience not only touched the hearts of all who were fed, but it left the BA Ogden volunteers with a feeling of gratitude and a smile on their faces.

The West Chester Division assisted in assembling emergency care packages for an organization called Matthew 25 that serves areas impacted by natural disasters and also third world countries. The team also served at a local food bank, where they boxed care packages that were dropped off to seniors who are unable to leave their residences and shop for food.

The Lansing Division once again supported Ele’s Place, a local Michigan healing center for grieving children and their families. Volunteers stuffed over 1,000 goodie bags for participants of the annual 5K run/walk which directly benefits Ele’s Place. In addition, the Committee members joined the Habitat for Humanity “Rock the Block” initiative which helps local families with the renovations of several homes in the area. Lansing volunteers also donated sports equipment and enjoyed lunch with the children of St. Vincent’s Catholic Charities (STVCC). The Children’s Home provides residential care for children who suffer from extreme abuse and neglect and come to STVCC to begin the healing process.

The Singapore Division supported the Singapore Food Bank, which was founded by Nichol and Nicholas Ng in 2012. Volunteers helped collect, sort, and box non-perishable food that was later delivered to various family centers, homes, and soup kitchens.

The East Granby Division held an ice cream social to raise money for the local East Granby Lions Club. Donations to the Lions Club help support scholarship grants for graduating high school seniors, a drug-free graduation program, boy and girl scouting, little league and other youth activities within East Granby, as well as other charities within Connecticut.

The Windsor Division held their first on-site blood drive in several years to support the American Red Cross, which supplies about 40% of the nation’s blood supply. 25 donors attended, which met BA Windsor’s participation goal! The next blood drive has already been scheduled, and the division plans to host regularly scheduled blood drives going forward.

The Summer of Community volunteers were proud to be part of this coordinated team effort to “give back” across the globe, to live our Corporate Values, and to recognize our communities as key stakeholders of our business.



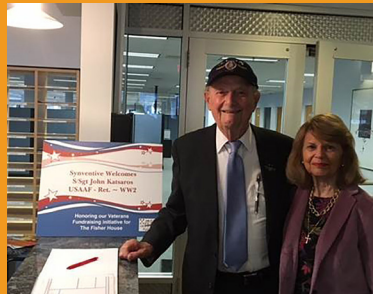
Pictured: Barnes Aerospace West Chester Division employees assembling care packages for an organization called Matthew 25.



Highlight ★

Synventive North America Pays Tribute to Veterans

This year, Synventive North America held their first Veterans Day fundraiser called "Celebrating our Veterans." In addition to employees who are veterans and reservists, Synventive has a rich history of employees' families who have served and are currently serving in the military. All funds raised were donated to The Fisher House in Boston, which provides support and a place to stay for family of wounded military recovering in Boston hospitals.



The fundraising campaign featured a Wall of Honor which displayed stars dedicated to employees' families or friends, past or present, who have served our country. The display of stars honored veterans from World War I to those currently serving in Afghanistan.

Synventive also hosted "A Lunch with an American Hero." Local sandwich shops donated the food for an employee lunch with Staff Sergeant John Katsaros, United States Airforce Retiree. Mr. Katsaros is a highly decorated World War II Veteran and author of the book, *Code Burgundy: The Long Escape*. The book tells his story of being shot down over Germany, his capture by the Gestapo, and his rescue by the French Resistance. Mr. Katsaros gave an amazing presentation!

The fundraiser concluded with a 50/50 raffle and a "Hockey Night with Gayfer" raffle. As Steve Gayfer, Vice President and General Manager of Synventive North America, is a big Maple Leafs hockey fan, tickets for an upcoming Bruins vs. Leafs game were raffled off. Nine lucky Synventive employees accompanied Steve to the game!

Highlight ★

Barnes Group Volunteers Walk for a Cure at Relay For Life

For several months in 2016, Barnes Group employees from our Bristol and Farmington facilities worked to raise money for the American Cancer Society at the Bristol Relay For Life. The Relay was held on June 11, 2016 at Bristol Eastern High School, where Barnes volunteers and their family members gathered with dozens of community teams to walk the track and raise funds. By soliciting donations, organizing a “Happy Hour for Hope” event at a local brewery, and holding raffles, the Barnes Group team raised \$19,378 and was the top team fundraiser at the Bristol Relay for the fourth year in a row! The Barnes Group Foundation later provided a 2 to 1 match for qualifying gifts, bringing the team total to over \$20,000.

Synventive in Peabody made their Relay For Life campaign debut by arranging a fundraising challenge, organizing a bake sale, and holding raffles, raising a total of \$7,326 for the Relay for Life of Peabody, MA. The team donned custom-made shirts designed by Stephanie Muise, daughter of Lauren Muise, Logistics Manager, Synventive. Lauren and Stephanie collaborated on the concept of bringing Synventive’s product to life on their shirts. Although employees from all corners of Synventive North America supported the event, two male team members in particular issued a challenge to each other – to wear high heels during one lap on the track. From there, the company got involved and added wigs, helmets, and pocketbooks to the challenge (pictured below). This fundraiser alone raised approximately \$800!

Relay For Life events are overnight community fundraising walks that honor cancer survivors, remember lost loved ones, and support the fight back against one of the nation’s biggest health concerns. For 31 years, Relay For Life has provided inspiration and hope for millions of cancer survivors and caregivers. Each year, more than 3.5 million people in 5,000 communities in the U.S., along with additional communities in 20 other countries, gather to take part in this global movement to raise awareness and funds to fight cancer.





Products

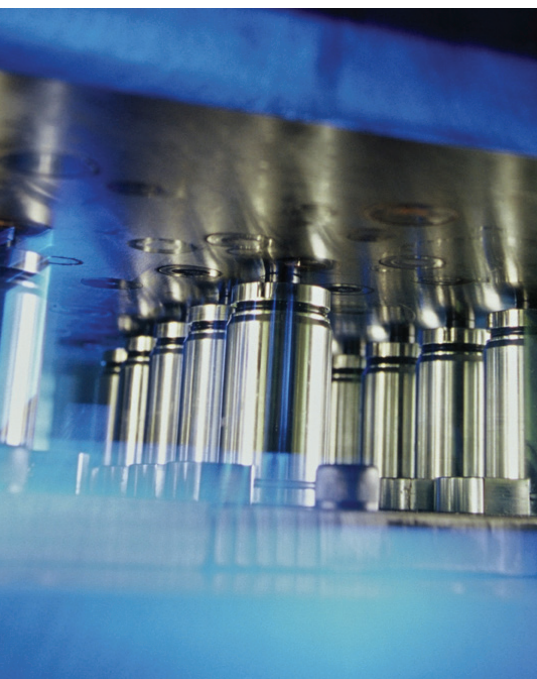
At Barnes Group, we are committed to making sustainability an integral part of product and process innovation. We strive to ensure that newly designed products and processes are as resource-efficient as possible. The intention is to develop new product concepts that solve customer problems and create customer value, based on sustainable solutions and processes.

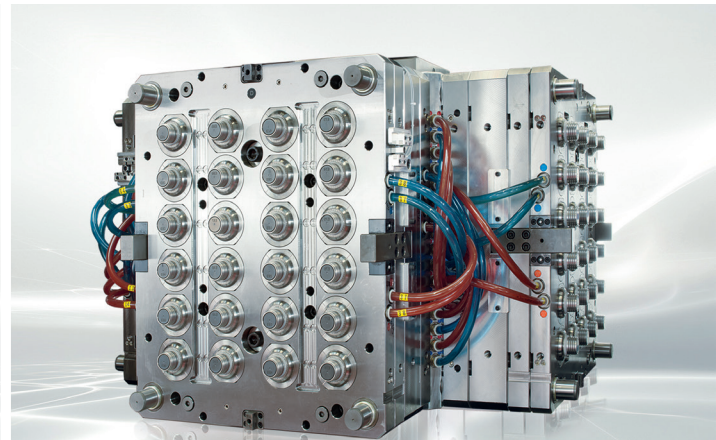
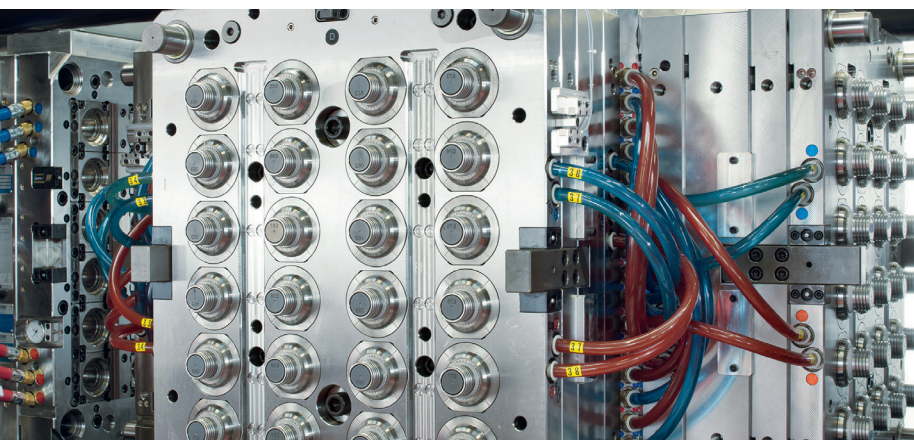


Sustainable Products and Processes

In 2016, Barnes Group developed sustainable cutting-edge technology products for our customers in the transportation and plastics industries. These include:

- Development of a multi-component spring assembly that reduces vehicle weight and related use of excessive hydraulic fluids and historical braking cylinders. Its use in light-weight vehicles is a primary step in advancing driver safety and the use of automatic braking systems.
- The introduction of Advanced Valve Technology primarily used in industrial compressors that opened the way to lighter and more efficient compressors. End-user benefits includes the flexibility in the placement of the compressor within the application, improving ergonomics along with allowing the design of a more compact and lighter weight unit.
- The development and use of light-weight suspension springs that replace high-cost and much heavier components yields greater fuel efficient off-road vehicles.
- Production launch of our advanced spring washers for multi-speed transmissions, allowing the introduction of smaller transmissions, lighter weight, more fuel efficient vehicles on the path to meeting new automotive industry standards.
- GEN-II Friction Dampening of m-Struts®– Gen-II friction dampening allows for increasingly complex dampening curves, but also increased robustness for the harshest environments. This key differentiator in the mechanical strut marketplace ensures dampening survives the rigors not just the spring force. Gen-II friction dampening has led to market share increases in the heavy duty hood strut truck market far at the onset. ASR has transformed the art of dampening into a science.





Molding Solutions Uses Advanced Controls Technology and Advanced Manufacturing to Bring Sustainability to Plastics Injection Molding

Priamus Systems Technologies, a business of Barnes Group's Molding Solutions SBU, specializes in the development, manufacturing, and support of in-mold sensor based control systems for injection molding. These systems contribute to sustainability by reducing the amount of plastic used and reducing demand on energy. Monitoring and controlling part quality lowers or eliminates scrap and rework of plastic parts. Scrap reduction means less plastic is used and less energy is needed to reprocess plastic and extend machine utilization. Priamus systems can also alert the operator or automatically shut down an operation that starts producing unacceptable parts. In addition, Priamus technologies are used to increase the efficiency of injection molding by, for example, enabling higher cavitation molds which means higher output per machine thus improving efficiency and lower energy usage. One of the newest development projects that Priamus is involved in with partners is an in-mold marking system that will provide a unique ID for each plastic part produced with traceability to the operation and process data used to produce the part. Among other things, this technology can ensure that only factory certified parts are used in assemblies thereby reducing the risk of potentially serious outcomes in consumer and medical applications.

FOBOHA, the newest member of the Molding Solutions SBU, is a specialist in the development and manufacturing of complex plastic injection molds for packaging, medical, consumer, and automotive applications. FOBOHA manufactures advanced "cube" mold systems that combine up to 4 operations on a single mold. These systems provide high volume output of completed plastic parts and may include operations that would normally be outside of the injection molding machine, such as a blowing operation for blow molding parts used in food containers for example. By increasing the output per machine and per minute, energy is saved compared to running longer operating times or additional machines thereby improving sustainability. The addition of secondary operations into the molding machine reduces cycle time, reduces the movement of material, and improves machine utilization also saving energy.

Highlight ★

Heinz Hänggi Incorporates Dynamic FEA Software to Improve Speed to Market

Heinz Hänggi, a business of Barnes Group's Engineered Components strategic business unit (SBU), is a world leader in micro stamping technology. Utilizing dynamic material flow simulation software, Hänggi is able to reduce the time to market. Normally, tool and part development is an iterative process, taking several steps before the part is deemed acceptable. With our new simulation software, Hänggi is successfully building tools that generate conforming parts the first time. Hänggi has also utilized this process to support a medical customer by developing a needle with less insertion force than the current ground needle.



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