

Connecting Our World





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Connecting Our World

Transportation shrinks our world and connects us in ways that help develop communities and enable a modern society. Ensuring sustainable transportation solutions benefits our economies, enhances the environment and creates easy access to education, work, family and friends, our communities, and beyond. As a global chemical company that transports products around the world, we benefit from the advances in transportation that help reduce costs and open new markets, while shrinking our environmental footprint. We're also applying our ingenuity to create innovative products that help construct resilient infrastructure, encourage global commerce and empower mobility to bring our world closer together.

A LETTER FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER



Innovation is at the heart of Huntsman's diversified and differentiated chemicals business. Within our production processes, across our product and application portfolios and throughout our supply chains, we are constantly looking for new and better ways to operate and innovate. In this, our seventh edition of the Huntsman Sustainability Report, we highlight examples of how innovation in one particular business sector — transportation — is helping to connect our world.

We are presently working on a broad range of transportationrelated initiatives that help address such global megatrends as population growth, increasing wealth in emerging economies, finite hydrocarbon resources, reducing greenhouse gas (GHG) emissions and potential impacts on climate change. The shift toward clean energy, increased urbanization and globalization of trade and international travel leads to the need for more efficient, safe, clean and cost-effective transportation solutions. Over the following pages, we share how Huntsman products are strengthening transportation infrastructure, enhancing global commerce and improving personal mobility.

Transportation is only one sector in which we are shaping a sustainable future. We remain committed to the United Nations Global Compact and to aligning our policies with its Ten Principles encompassing human rights, labor, environment and anti-corruption. In everything we do, we have our eyes on our triple bottom line of people, planet and profit.

People: We are working to improve all aspects of our environmental, health and safety (EHS) performance, including personal safety for our associates, contractors and visitors. While our safety incident rate remains significantly below the U.S. chemical industry average, I am saddened to report that in 2016 a contractor was fatally injured while driving a mobile work platform into the production hall at one of our facilities in France. This tragic incident strengthens our resolve to do everything possible to see that no one is hurt working at a Huntsman facility. **Planet:** We strive for continuous improvement in our business, especially in our EHS performance. In recent years, we have focused heavily on process safety, investing financial resources to review and upgrade our process safety systems throughout our operations.

Profit: In 2016, Huntsman achieved our single most important financial objective: improving our free cash flow generation profile. We publicly committed to generate \$350 million free cash flow last year, and I am pleased to report we nearly doubled this commitment, delivering a record \$686 million in free cash flow and more than \$1.12 billion in adjusted earnings before tax, depreciation and amortization. This impressive cash flow enabled us to pay off \$560 million in debt to significantly strengthen our balance sheet. We will continue our efforts to improve inventory and working capital management. Without giving effect to the separation of our Pigments and Additives business, now called Venator, we expect to exceed \$350 million in free cash flow generation in 2017 to ensure a stronger, more sustainable future.

Peter R. Huntsman President and Chief Executive Officer

A LETTER FROM THE CORPORATE SUSTAINABILITY OFFICER



In our 2015 Sustainability Report, we shared insights into the ways Huntsman is addressing the energy challenge, both internally and externally, through energy conservation and efficiency within our manufacturing processes, our supply chain and our product innovation. This year, we turn our focus to a specific area of our business that impacts us as a company — and that also plays a role in our response to the markets we serve with innovative product solutions: transportation.

In this report, you will read about the various ways we are working with the transportation industry to enhance operations and meet long-term sustainability challenges. These include products to make vehicles lighter and more energy efficient, and transportation infrastructure solutions that enhance mobility and global commerce.

Our commitment to corporate sustainability remains strong, and we are pleased to share our progress through the key metrics highlighted in this report. This year's report includes our annual Communication on Progress to the United Nations Global Compact (page 13) and the relatively new 17 Sustainable Development Goals adopted by the United Nations. Seven of the 17 Sustainable Development Goals include one or more targets that address transport. In this report, we cover some of the ways we are addressing these goals. Huntsman rejoined the American Chemistry Council (ACC) in early 2017, reaffirming our commitment to the chemical industry's Responsible Care[®] program. We are pleased to engage with the ACC as it develops its strategic vision across the chemical industry.

At Huntsman, we believe sustainability should be about meeting the needs of our current stakeholders while ensuring a sustainable future for generations to come. Our sustainability program is shaped by the needs of our stakeholders — our associates, customers, plant communities and investors — and we welcome your feedback. In the year ahead, we will reach out to our stakeholders to ensure we retain a current view of these priorities so we can focus on aspects of sustainability that are most important to them.

Looking ahead, we plan to report Standard Disclosures from the GRI G4 Sustainability Reporting Guidelines. Next year's report also will reflect significant changes as a result of the separation of our former Pigments and Additives business division, now operating as Venator. This year's report is the last in which Venator data will appear.

While our company is growing and evolving, one thing remains constant: our commitment to a robust sustainability program. We look forward to sharing our progress with you.

Ron Gerrard Corporate Sustainability Officer

A LETTER FROM THE EXECUTIVE CHAIRMAN



With well over 50 years in the process and chemical industry – most of them leading the Huntsman companies – I am able to reflect, with pride, on the many innovations and improvements in technology and in the science of our industry that have brought incredible benefits to society. I am also proud of how we have improved the efficiency of our processes to reduce energy and water consumption, increase yield, lower waste and emissions, and improve the safety of our operations.

Such innovations and initiatives underpin the concept of sustainability. Many of the values I have held throughout my life and, I hope, instilled into the values of our company, represent the cornerstones of sustainability. These include our relentless emphasis on safety and Responsible Care[®] and good stewardship of the environment, our application of a strong code of business ethics and compliance, respect in the workplace, improving the assets we have acquired, and building world-class assets. Both personally and as a company, we have engaged in many social issues, ranging from education for the needy and underprivileged, combating domestic violence, responding to natural disasters and, perhaps most notably, leading the fight against cancer and building a worldleading cancer research institute and hospital. These are things I am most proud of, and they have been enabled by the success of our company, the hard work of Huntsman associates, and the support of our customers, for which we are always very appreciative and grateful.

We also never lose sight of the importance of our investors and shareholders. We hope they invest in Huntsman because they believe in the values we stand for and for the value we are creating for them now and in the future.

Sustainability is important for this and future generations. The principles of sustainability align with the values we hold and will continue to drive Huntsman in all our endeavors.

Jon M. Huntsman Executive Chairman and Director

HIGHLIGHTS

Joined the American Chemistry Council (ACC) in early 2017. President and CEO Peter Huntsman was appointed to ACC's Executive Committee and Board of Directors. Completed the sale of our European surfactants business to Innospec Inc. as part of a strategic transformation of the Performance Products division.

Commissioned a third ethylene oxide (EO) unit at our manufacturing facility in Port Neches, Texas, thereby becoming the largest singlesite producer of EO in North America. Inaugurated a 40,000m² campus in Shanghai, consolidating some 600 employees and contractors into one location to enhance collaboration, idea generation and speed of innovation. Delivered a record \$686 million of free cash flow in 2016 nearly double our commitment of \$350 million — thereby ensuring a stronger, more sustainable future.

Won BMW Group's prestigious Supplier Innovation Award for Sustainability for developing technology that reduces emissions from the highperformance polyurethane seating foam used in its vehicles by a factor of 10 without compromising comfort or quality. Huntsman was the only supplier to meet the BMW Group's ambitious requirements for molded foams.

Initiated the process of separating the Pigments and Additives business, now operating as Venator, by summer of 2017.



2016 KEY FIGURES

Field/Performance Indicator	Unit	2016	2015	2014
Economy				
Revenue	\$million	9,657	10,299	11,578
Net income	\$million	357	126	345
Adjusted EBITDA ¹	\$million	1,127	1,221	1,340
Capital expenditures ²	\$million	390	648	564
Free cash flow ³	\$million	686	(30)	99
Income tax expenses	\$million	87	46	51
Total products/co-products	million tonnes	8.36	8.12	9.17
Remediation and closure reserves ⁴	\$million	34	38	60
EHS capital expenditures	\$million	66	141	125
Environment				
Total energy	Terajoules(TJ)	54,768	53,519	57,031
Total greenhouse gas emissions	mmt CO ₂ e	3.37	3.48	3.57
Total air emissions ⁵ (excl. GHG)	tonnes	16,251	13,713	14,400
Total water discharge (COD)	tonnes	7,064	6,914	7,427
Total non-hazardous waste	tonnes	1,001,407	966,028	1,098,947
Total hazardous waste	tonnes	162,074	157,017	160,134
Society				
Regular full-time associates		14,654	14,295	15,806
US-based associates		3,280	3,267	3,160
Non-US associates		11,374	11,028	12,646
Contractors ⁶		6,811	7,575	7,195
Total recordable incidence rate ⁷	TRIR	0.40	0.43	0.40
US chemical industry average ⁸		TBD	2.10	2.30
Fatal work-related accidents, associates		0	0	0
Fatal work-related accidents, contractors9		1	0	0

- Net of femiour seriences of sol million, and sol million and sol

- 9. Work-related contractor fatality, see page 41.

For reconciliation, see page 46.
 Net of reimbursements of \$31 million, \$15 million and \$37 million in 2016, 2015 and 2014, respectively.

Air emissions are releases of volatile organic compounds (vOcs), carbon monoxide (cO), hitrogen oxides (vOx), sufficiency and other contaminants.
 Number of Full-Time Equivalents based upon annual reported hours worked by contractors in our safety statistics program.
 Does not include acquired Pigments and Additives sites.
 The Bureau of Labor Statistics is expected to publish the 2016 rate in October/November 2017.

Who We Are

For nearly 50 years, and in more than 100 countries, our nearly 15,000 associates have been using science and ingenuity to create innovations that play a critical part in the everyday lives of millions of people. Through our five divisions, we serve a broad and diverse range of consumer and industrial end markets, including energy and fuels, transportation, home life, paints and coatings, textiles, and construction. Huntsman is proud to deliver practical solutions that make and achieve the extraordinary.

In 2016, we announced our intention to separate our Pigments and Additives business, now operating as Venator. While this report includes Venator's 2016 data, this sustainability report is the last in which Venator data will appear.



Polyurethanes

We are a global leader in the manufacture of MDI*-based polyurethanes used to produce energy-saving insulation; comfort foam for automotive seating, bedding and furniture; adhesives; coatings; elastomers for footwear; and composite wood products.

Advanced Materials

We produce technologically advanced epoxy, acrylic and polyurethanebased polymer products that are replacing traditional materials in aircraft, automobiles and electrical power transmission. Our products are also used in coatings, construction materials, circuit boards and sports equipment.

Textile Effects

We are a major global manufacturer of textile dyes, digital inks and chemicals that enhance color and improve fabric performance — such as wrinkle resistance, water and stain repellency and fast drying — in apparel, home and technical textiles.

Performance Products

We manufacture chemical intermediates and specialty components, primarily based on amines, surfactants, maleic anhydride, and ethylene and derivatives. End uses include agrochemicals; oil and gas and alternative energy solutions; fuel and lube additives; detergents and cleaners; coatings; and polyurethane/epoxy curing agents.

Pigments and Additives Now operating as Venator

We manufacture and market a broad range of titanium dioxide pigments and performance additives, including color pigments, functional additives, and timber- and water-treatment chemicals. Our pigments and additives add performance and color to thousands of everyday items from paints, inks and cosmetics to plastics, pharmaceuticals and concrete.

* MDI: Methyl Diphenyl Diisocyanate

Board of Directors

Huntsman's highest governance body is our board of directors. Six of its eight members are independent or "non-executive." As executive chairman of the board, Jon M. Huntsman serves as an executive officer of the company and chairman of the board. As of the issuance of this report, the board was structured as follows:



Jon M. Huntsman **Executive Chairman** and Director



Peter R. Huntsman President, Chief Executive Officer and Director



Nolan D. Archibald* Vice Chairman of the Board, Chairman of the Nominating and Corporate Governance Committee and Lead Independent Director



Wayne A. Reaud* Chairman of the Litigation Committee and Director



Dr. Mary C. Beckerle* Director



M. Anthony Burns* Chairman of the Audit Committee and Director



Sir Robert J. Margetts* Director





Alvin V. Shoemaker* Chairman of the Compensation Committee and Director

*Independent

Independent Committees of the Board

The board appoints members to its independent Audit, Compensation and Governance committees. Each of these committees has a written charter approved by the board and available on the company's website. Independent directors currently comprise in full the membership of each of these three board committees.

Audit

M. Anthony Burns, Chair Dr. Mary C. Beckerle Sir Robert J. Margetts Alvin V. Shoemaker

Compensation

Alvin V. Shoemaker, Chair Nolan D. Archibald Wayne A. Reaud

Nominating and Corporate Governance

Nolan D. Archibald, Chair Dr. Mary C. Beckerle M. Anthony Burns Sir Robert J. Margetts

Sustainability Council

Led by Corporate Sustainability Officer Ron Gerrard, the council comprises senior representatives from the company's divisions and key functions. The council directs development of the corporate sustainability program and cultivates a common framework for sustainability, ensuring strategic alignment among the divisions, functions and executive team, led by President and CEO Peter Huntsman. During 2016, the council was structured as follows:



Delaney Bellinger Chief Information Officer



Chris Everhart Director Human Resources



Pavneet Mumick Global Vice President Technology and Innovation Polyurethanes



Todd Bloomfield Director, Purchasing Raw Materials



Barry Griffin Vice President, Operations Textile Effects



Ivan Marcuse Vice President Investor Relations



Gary Chapman Vice President, Global Communications



David Hatrick Vice President, Innovation Advanced Materials



David Nutt Director Legal Services



Ralph DiGuilio Vice President, Global R&D Performance Products



Troy Keller Vice President Government Affairs



Rob Portsmouth Vice President, Innovation Pigments and Additives Now operating as Venator

UNGC Communication on Progress

In 2011, Huntsman became a signatory to the United Nations Global Compact (UNGC), the world's largest voluntary corporate citizenship initiative. The UNGC brings together businesses and United Nations agencies to share and support business practices that contribute to a more stable and inclusive global market and help build prosperous and thriving societies. In this report, we share highlights of our progress during 2016 against the UNGC's Ten Principles encompassing human rights, labor, environment and anti-corruption.



Human Rights

Huntsman received its first official score on the Corporate Equality Index (CEI), a U.S. national benchmarking survey of corporate policies and practices relating to lesbian, gay, bisexual and transgender (LGBT) workplace equality. The survey is administered annually by the Human Rights Campaign Foundation. Our participation established the company's benchmark for continued improvement.

Labor

In accordance with the U.K. Modern Slavery Act of 2015, Huntsman prepared a statement describing our actions to help ensure slavery and human trafficking are not taking place in our supply chains or our business. To complement our Business Conduct Guidelines, Human Rights Policy and Vendor Code of Conduct — all of which forbid slavery and human trafficking — we developed a third-party due diligence program to help ensure our vendors and representatives comply with all applicable laws and regulations and Huntsman policies. This program emphasizes areas of the world that carry higher risk.

During preparations for the separation of our Pigments and Additives division, now operating as Venator, we increased engagement with European Works Councils (EWC) to ensure transparency in our processes and the free flow of information regarding changes affecting the work lives of some 4,800 associates. Additionally, while job reassignments from Huntsman to Venator were determined first by business needs, we also supported the free movement of our associates with preservation of service and benefits.

Environment

In response to the automotive industry's drive to reduce emissions and odor-generating impurities from seating foams, Huntsman's automotive team developed a unique MDI system, novel polyol and formaldehyde "scavenger" technology. This innovative chemistry enabled BMW to reduce total emissions from its seating foams by a factor of 10 — without compromising comfort or quality.

Anti-Corruption

All Huntsman associates completed annual online training in the company's Business Conduct Guidelines (BCG), which emphasizes our "zero-tolerance" policy against bribery and corruption. Our BCG applies to all Huntsman associates, all over the world. To encourage compliance, we conducted a global campaign to reintroduce "Speak Up," our 24-hour resource that enables associates to confidentially report in their native languages their concerns about possible violations of the BCG.

Sustainable Development

Sustainable business practices have always been one of our top corporate priorities, and we are pleased to announce that 2016 was a year of marked progress. Since their introduction in 2015, the United Nations' 17 Sustainable Development Goals have been a driving force in our sustainability efforts. While all 17 are important to our business, we particularly excelled in affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, climate action, responsible consumption and production, life below water, and life on land.







Connecting Our World: Sustainability in Transportation

Sustainability in Transportation

Transportation — of people, goods and raw materials - is essential to the function of the interconnected global economy and to its continuing growth. In fact, transportation infrastructure is often a necessary prerequisite for economic development - evinced by efforts such as the China-led Belt and Road Initiative, which contemplates connecting dozens of nations across Asia, Africa and Europe with a network of land and sea routes, pipelines, and other infrastructure. Such long-distance transportation can, however, add significant cost to trade and have wide-ranging effects on the environment. Whether on the highway, on rail, at sea or in the air, Huntsman innovations are helping to enable more sustainable transportation. From lighter aircraft to quieter trains, and from higherperformance textiles to lower-emission automobile interiors, Huntsman is working to make a sustainable difference for a world in motion.

Supporting Infrastructure

Roads, railways, airways and waterways keep our world connected. Transportation infrastructure is the foundation for global commerce. It connects us geographically, enabling mobility for business and personal travel, and it is vital for economic growth. Huntsman products play a key role in making the world's transportation infrastructure stronger, more efficient and more environmentally friendly.



Fueling Progress

ur innovations for improving transportation systems begin early in the value chain — with enhancements in the processing and production of transportation fuels.

Huntsman Performance Products has developed a new line of products that help refiners and gas-treating plants process sour crudes or complex, contaminated gases. The technology improves operability and lowers operating costs, while meeting tough emission requirements.

Today's natural gas reserves often contain high levels of organic sulfur, yet the limits for emissions continue to tighten. Gas plant operators are challenged to meet environmental mandates cost effectively, without compromising reliability. The same is true for refiners that process crude oils containing elevated sulfur levels.

Huntsman's JEFFTREAT[®] ULTRA is a new amine-based technology that removes hydrogen sulfide (H_2S) from the refining process to create low-sulfur diesel fuel. It is also being used by natural gas plants to remove H_2S from natural gas streams, significantly reducing the amount of sulfur released into the atmosphere.

Huntsman teamed up with Shell Global Solutions to market this new technology as part of the SCOT* ULTRA process, a step change in the conventional and most widely selected tail gas cleanup process used in sulfur recovery. The technology achieves sulfur recovery levels of up to 99.98 percent, helping operators satisfy stringent emissions regulations. Additionally, by employing JEFFTREAT ULTRA, gas plant operators are able to reduce both their energy requirements and operating costs, even when dealing with highly challenging and contaminated feeds.

The JEFFTREAT line of products also works extremely well at higher temperatures, reducing the amount of energy refiners need to remove sulfur in hotter climates.

Building Roads in an Environmentally Friendly Way

Huntsman's innovative additives enable our customers to pave asphalt roads at lower temperatures and recycle the aged asphalt from old roads. The warm mix asphalt (WMA) enabled by Huntsman's innovative additives allows customers to pave a road at 30-50 °C lower than



traditional hot-mix asphalt. The lower paving temperature directly reduces fuel consumption by 15 to 30 percent. In addition, the lower paving temperature directly reduces emissions by 30 to 60 percent without expensive new equipment or significant cost increase. By reducing the paving temperature to as low as 40 °C with the help of our additive, customers realize a 45 percent reduction in CO_2 and SO_2 emissions, a 60 percent reduction in NO_x , a 41 percent reduction in total organic material, and benzene soluble fractions below detectable limits. The WMA enabled by Huntsman additives provides a safer, more environmentally responsible process for workers and local communities.

Huntsman additives are also able to rejuvenate the aged and highly oxidized asphalt from old roads, enabling natural resource conservation. Recycling asphalt in this way reduces quarrying, mining and oil consumption by keeping old asphalt out of landfills. Further, compared with producing virgin asphalt materials, it reduces the consumption of resources such as fuel, machinery, transportation and labor.

Reduced Paving Temperatures Lower Harmful Emissions





Timo Van Amerongen Operations Director edilon)(sedra

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Huntsman has, like us, a strong focus on high-value products and sustainable solutions that address the needs of the railway market. We both share the same drive to develop technology that reduces total emissions, without compromising comfort or quality. Huntsman provides us with a competitive edge with technical breakthrough chemicals, which are part of, or complementary to, our rail track systems. Their technical support aligns with our goal of designing, supplying and building the best possible rail track systems in the world; systems that stand for optimal safety, durability, comfort and perfect vibration attenuation.



Enhancing Rail Travel

When it comes to sustainable travel, railway offers a comfortable, stress-free solution. Rail transportation is helping companies move their goods in a quick and sustainable way, while transporting millions of people to their workplaces each day.

Huntsman Polyurethanes' ACOUSTIFLEX® foam is used by the rail industry for acoustic and vibration control for durable train, tram, metro and crane track systems. Huntsman partners with a foam producer in Denmark to convert our system into mix foam blocks used by edilon)(sedra, a major rail supplier based in the Netherlands, to reduce noise and vibration in track systems around the world. The product is especially helpful for cities that want to reduce metro train noise.

The high-quality, cost-efficient ACOUSTIFLEX can be applied as a complement — or as an alternative — to rubber products in the marketplace. It is also used in the construction of high-rise buildings to reduce noise vibration and is currently being evaluated to make footwear more comfortable.

Enabling Space Travel

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Huntsman also plays a role in space travel. Our special iron oxide grades have been widely used in solid rocket propellant and igniters for a variety of systems, including the former U.S. space shuttle program and the current NASA Space Launch System (SLS). The product is also used by European propellant customers serving the European Space Agency.

Iron oxide acts as a burn rate catalyst in solid rocket propellant. Raw materials, including these iron oxides, are mixed together, poured into rocket segments and cured into solid propellant, which looks and feels like a pencil eraser.

Huntsman has partnered with Orbital ATK, the world's largest solid rocket manufacturer, for four decades. Currently, Orbital ATK is working with NASA to build solid rocket boosters for the SLS that will carry the Orion Multi-Purpose Crew Vehicle, as well as important cargo, equipment and science experiments, into deep space.



The SLS boosters are the largest, most powerful solid propellant boosters ever built. Standing 17 stories tall, each of the two boosters generates more thrust than 14 four-engine jumbo commercial airliners — and these boosters together provide more than 75 percent of the total SLS thrust at launch. Huntsman iron oxides are essential to controlling the burn rate of the booster propellant, which ensures the identical performance of the two rocket motors.

The SLS, which is expected to launch in 2019, will be NASA's first exploration-class vehicle since the Saturn V took American astronauts to the moon over 40 years ago. By providing iron oxide catalyst for propulsion, Huntsman will play a role in helping the SLS expand our reach into the solar system.



Kelly Egli Senior Buyer Orbital ATK



Mark Wallentine Propellant Program Manager Orbital ATK

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We have been using Huntsman iron oxide pigment for 40 years in our space exploration programs. With the use of iron oxide in our propellant, we can control the burn rate of the propellant to a third decimal point. We have a rocket booster on both sides of the vehicle, and it's critical that the motors burn exactly like they are supposed to. We have counted on Huntsman to provide good quality products that work right every time. Huntsman will provide iron oxide for the Space Launch System program well into the next decade.

Enabling Global Commerce

According to the World Trade Organization, the value of world exports has grown almost tenfold in the past 30 years. Global exports are expected to total US\$68.5 trillion by 2050 — four times their 2015 level according to a study by HSBC, one of the world's largest banking and financial services organizations. That growth is enabled by the cars, railways, ships and airplanes that deliver raw materials to manufacturers and goods and products to consumers.

Huntsman products help to improve the variety of transportation methods for shipping goods around the world by making everything from better, more energy efficient vehicles to improved product packaging. We're also continually looking for ways to improve our own shipping processes to ensure safer and more environmentally friendly methods for moving our products.



Durable Coatings Extend Vehicle Lifetimes

oatings play an important role in improving the durability, aesthetics and protection of vehicles. Huntsman's Pigments and Additives business, now operating as Venator, is a leader in providing titanium dioxide (TiO_2) pigments and performance additives that extend coating lifetimes in a variety of markets, from interior and exterior coatings to exterior structures such as bridges, buildings, ships, pipelines and oil rigs. About 60 percent of the 6 million tons of TiO_2 sold globally each year is used in the coatings market.

Today, a Venator coatings innovation team is working to develop a new titanium dioxide pigment that will significantly extend the lifetime of coatings targeted in a wide range of markets, including vehicles. The new, more efficient titanium dioxide pigments will provide a step change in protection against the harmful effects of solar radiation, while maintaining the highest level of coating aesthetic properties, including gloss, color consistency and paint coverage. With extended coating lifetimes, vehicles maintain a high-quality surface appearance for longer. The new coating is designed to be thinner and lighter to reduce vehicle weight and increase energy efficiency.







The Venator research and development team has produced the new product at full manufacturing scale and is presently testing samples with selected customers, including major players in the protective and marine coatings markets. Early results are promising. Venator believes the new coating product has the potential to greatly enhance the performance of coatings for aerospace, rail and automotive manufacturers.

Improved Shipping Methods

Huntsman also provides innovative solutions to improve transportation shipping methods. A major refrigerated trucks manufacturer in Europe has introduced a new series of refrigerated trucks made with sandwich panels that use Huntsman polyurethane rigid foam for insulation. Trucks in this new series feature a new formulation that provides reduced thermal transmittance, or U-value, for both energy and cost savings.

Typical insulation of reefer panels uses rigid foam with blowing agents pentane or halogenated fluorocarbons. Huntsman's new formulation technology uses a fourthgeneration blowing agent that reduces ozone layer depletion and global warming potential and provides better insulation value. This new series of reefer trucks is the first big step in introducing more environmentally friendly fourth-generation blowing agents in Europe.

With the new technology, a savings of several hundreds of liters of diesel per unit each year can be realized. With production of thousands of units per year, this translates to significant savings in fuel use.



Source: HSBC Commercial Banking, *Trade Winds: Shaping the Future of International Business*, 2015



Container Coatings

China produces more than 95 percent of the world's container coatings. The production of containers involves fast-rhythm and large-batch assembly line work, and a great deal of solvent waste gas is released during the spraying process.

With the Chinese government requiring a 10 percent reduction in VOC emissions by 2020, the container industry has committed to reducing emissions in the coating process. Huntsman's Advanced Materials ARALDITE® and ARADUR® waterborne epoxy systems are meeting this need for a cleaner, more sustainable spraying process. They replace solvent-borne systems and produce lower emissions, are non-flammable, non-combustible and fast drying for a safer work environment.

Safer, Durable Packaged Products

Today, many of the goods and services shipped around the world are packaged in bags, envelopes, pouches and wraps made from flexible packaging material, such as film, foil or paper sheeting. When filled and sealed, the packages have a pliable shape. Adhesives based on Huntsman Polyurethanes technology bond are used in producing solvent-free flexible packaging for a variety of products, from food items and household goods to healthcare and pharmaceutical products. Our SUPRASEC®/DALTOBOND® solvent-free flexible packaging adhesives emit fewer air emissions than traditional solventbased adhesives, reducing fire risk and resulting in a safer work environment for employees.

China is one of the largest markets for flex-pack applications in the world, with an estimated total of 300,000 metric tonnes (mt) of solvent-based polyurethane adhesives and 30,000 mt solvent-free adhesive applied in the industry. Use of solvent-free polyurethane adhesives has grown in China on average by 50 percent in the last five years and is expected to continue a 30 percent growth rate over the next five years due to more stringent government emission requirements.

The solvent-free adhesives can be tailored to the lamination of various transparent and metalized films to meet the most demanding flexible packaging requirements, and are a prime example of Huntsman's commitment to developing environmentally sustainable technologies and products.



Greener Shipping Methods

We are also looking for more sustainable ways to transport our own products. In 2015, the company became a founding member of the BICEPS* Network, an initiative to reduce emissions in the shipping industry. This network of shippers is working to accelerate the global shipping sector's transition towards greater sustainability. The potential impact is great considering that more than 100,000 ships travel the ocean every day and 90 percent of goods get to market via ship. (Just 17 container ships emit as much sulfur per year into the atmosphere as all the cars on the planet.)

Shippers of goods that join the network are granted access to the BICEPS Rating System, which provides insights into the sustainability rating of shipping lines. The rating system qualifies carriers on their performance in reducing emissions of CO₂, sulfur and black carbon, and improving the treatment of onboard waste, reducing the biodiversity impact of ballast water and instituting end-of-life cycle programs for vessels.

Over the past year, the BICEPS Network has worked to expand its membership and develop a robust carrier rating system that will drive sustainability, reduce environmental impact and promote best-practice sharing among members. Current network members represent an annual volume of 600,000 containers per year. Today, approximately 30 percent of Huntsman's global business is allocated to carriers with an A rating from BICEPS. Huntsman will continue to work to increase the percentage of its shipments with carriers that have a high BICEPS rating.

In Rotterdam, the Netherlands, Huntsman is working to develop a similar collaborative initiative to reduce its environmental impact on a local level. Huntsman is bringing together a coalition of manufacturing plants near our Polyurethanes manufacturing facility to increase shipment of products by barge instead of road. While the Rotterdam site has moved most of its long-distance transports to rail, it still has hundreds of smaller distance road transports each year. To minimize road transports and reduce CO_2 emissions, Huntsman is working with other plants in the area to transition from road transport to barge. Collectively, the sites have enough volume to justify barge travel and make a long-term environmental impact. Furthermore, this effort will help to alleviate the congested roads and driver shortages currently affecting the area.

Advancing Personal Mobility

We're a planet on the go. Today, the world has 1.1 billion cars and 377 million trucks. The number of cars on the road and miles flown in planes are expected to nearly double by 2040. Huntsman plays a key role in making vehicles lighter, stronger, safer and more energy efficient, enabling us to go from here to there in comfort, style and safety.

Low-Emission Flexible Foam Seating

untsman is a leader in MDI-based polyurethane solutions for the automotive and transportation industries. Our automotive seating solutions provide comfort and durability and improve vehicle fuel efficiency.

There is also a growing drive across the automotive industry to reduce emissions and odor-generating impurities in vehicle interiors, ultimately improving passenger comfort and the overall driving experience. Automotive original equipment manufacturers (OEMs) are instituting stringent in-car air emissions targets.

Huntsman's Polyurethane automotive team recently developed a unique MDI-based system using a "scavenger" technology that reduces total emissions from seating foams by a factor of 10 without compromising comfort. The patented technology, developed in conjunction with our Performance Products division, helps lower the emissions of VOCs and other specific components of concern.

This ultra-low emission foam is currently used in the seating of leading global OEMs. BMW awarded Huntsman the BMW Supplier Innovation Award for Sustainability in September 2016 in recognition of our work to reduce emissions from polyurethane seating foams. A long-term



BMW Group technology partner, Huntsman is the only supplier to exceed the BMW Group's ambitious in-car air emissions requirements.

With even tighter Chinese, European and U.S. vehicle interior air quality requirements anticipated in the coming years, Huntsman is working closely with its customers to reduce emissions across all vehicle components. Improved interior air quality is particularly important in China, where consumers are more sensitive to odors than in other markets. Huntsman plans to invest in a new laboratory in China to better understand the odor issue.

Better Acoustic Systems

Today's consumers value comfort and convenience in their automobiles. For more than 20 years, Huntsman Polyurethanes has been a leading supplier of acoustic systems that help deliver advanced comfort, improve driving experience and reduce energy consumption.

Automobile OEMs continue to focus on ways to reduce vehicle weight, while providing comfort and convenience for drivers and passengers. Our ACOUSTIFLEX® technology can be found in flexible high-resiliency and viscoelastic foam carpet underlay, dash insulators and



stuffer pads. Our semi-rigid foam is used in wheelhouse, transmission tunnel and pillar cavity fill insulators and elastomeric, heavy-layer noise barriers.

Continuous innovation and sustainability focus make ACOUSTIFLEX® the product of choice in the automotive industry, enabling the production of automotive components that are lightweight, offer good thermal performance, have ultra-low emission levels and can be tailored to meet fire and/or acoustic requirements depending on customer needs and OEM specifications. All this makes vehicle journeys smoother, quieter and more comfortable.

Lighter-Weight, More Fuel Efficient Recreational Vehicles

Huntsman also provides automotive adhesives that enable recreational vehicle manufacturers to reduce vehicle weight while increasing fuel efficiency and insulation properties. Our Advanced Materials ARALDITE® panel bonding adhesives, typically used in flooring and garage door construction, are now used to make bonded sandwich panels for recreational vehicles (RVs) in the United States. The product is solvent-free, improving workplace safety.

By replacing the aluminum structural components traditionally used in RV panel construction with these high-strength bonded sandwich panels, manufacturers are able to dramatically lower weight — by as much as 900 pounds per vehicle. That results in greater fuel efficiency and enables the addition of more comfort features in RVs, which are subject to highway weight limits.

Bonded assemblies also prevent the distortion that can occur with mechanical fastening and offer excellent stress distribution and fatigue resistance. Walls, sidewalls and other adhesively joined components are impact resistant, reduce noise and vibration, and can withstand exposure to temperature and weather extremes as well as ultraviolet light.

In 2016, Huntsman surveyed key automotive industry stakeholders to gain greater market insight into vehicle light-weighting technologies. Adhesive technology will continue to be a solution for semi-structural and interior applications to help the recreational vehicle industry make RVs lighter and more energy efficient.



Arved Westerkamp Managing Director Rökona Textilwerk GmbH & Co. KG

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As part of the Rösch group, Rökona produces textiles for the automotive industry. Huntsman provides the dyes and the chemicals we need in the finishing process. Understanding the requirements of the automotive market is quite demanding. It requires a different class of dye material. The degree of innovation from Huntsman meets our requirements and our expectations for high quality. It's a very satisfying partnership based on open communications which helps us create new products to increase our business.



By 2040 there will be 1.8 billion cars, light trucks and SUVs in the world … hybrid and electric cars will make up 25 percent of the market

Source: ExxonMobil, The Outlook for Energy: A View to 2040, 2017

Improved Color, Comfort and Performance

Because of the amount of time we spend in our cars, consumers want interiors that are pleasant, attractive and will continue to look new over the lifetime of the vehicle. Car producers also are targeting a "fresh new look" for a threeyear minimum for a greater resell value, as many cars today are under lease and sold to consumers after a lease period of two to four years.

Huntsman Textile Effects provides a unique colorperformance system comprised of TERATOP® HL dyes and UV-FAST® light-fastness improvers, which ensure polyester car fabrics stay fresh and bright.

Huntsman's range of TERATOP[®] inks are formulated for direct printing on all types of polyester fabrics and provide a wide range of shade options and design possibilities. Our UV-FAST[®] range of UV absorbers are used for fabrics that face a high exposure to light, particularly car upholstery and interior trim fabrics. Together, they are highly resistant to heat, preventing color change during processing, assembly and daily use.

Huntsman has also developed high-technology digital printing inks for automotive applications that offer substantial advantages in terms of flexibility and costs. Our line of TERASIL® disperse dyes are easy to apply and offer



durable performance and colorfastness over the lifecycle of a car. They provide a wide range of color shades, with almost no limit in design possibilities.

Automobiles of the Future

By 2040 there will be 1.8 billion cars, light trucks and sport utility vehicles (SUVs) in the world, up from 1 billion today. Cars of the future will be more energy efficient, and hybrid and electric cars will make up 25 percent of the market.

Huntsman Advanced Materials works with automakers to develop new chemistries that enable the creation of more lightweight cars, thereby reducing fuel consumption and CO₂ emissions. Our ARALDITE[®] structural composite systems are being used to build lightweight pressure vessels and composite wheels, as well as whole-body structures and other vehicle parts, such as leaf springs and trailing arms. Carbon-composite wheels using ARALDITE[®] are typically 25 to 40 percent lighter than equivalent aluminum wheels and reduce wheel inertia the resistance of turning components — by 50 percent, resulting in significant energy savings while driving.

Carbon composites are also being used today in suspension systems for light- and heavy-duty trucks.

Replacing the steel leaf springs with lighter weight and more durable materials such as fiber-reinforced composites reduces the weight of a light-duty truck by 200 pounds.

Electric vehicles will play an increasing role in transportation in the coming years. China is leading the way today with the introduction of electrical motorbikes and scooters. Huntsman epoxy resins are used to make structural carbon composite parts in order to decrease the overall vehicle weight — compensating for the additional weight of the batteries, which are expected to weigh about 1,400 pounds in mid-size and large passenger cars.

Another way to reduce CO_2 emissions is to use hydrogen for fueling cars. Huntsman epoxy resins are used to make carbon composite hydrogen pressure vessels and enable the high-pressure resistance required in this application. The pressure vessel is built into the car and works in conjunction with a fuel cell to convert hydrogen into electrical energy to power the vehicle. Huntsman is currently investing in testing, demonstration equipment and people to introduce its products to the China market as the country works to reduce air pollution from combustion engines.



Rita Tellers Manager, Materials & Processes Engineering Cirrus Aircraft

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During development of the adhesive for our new Vision Jet, Huntsman was challenged — and succeeded — in providing an adhesive that would meet processing and performance needs, while staying cost competitive. The current adhesive allows us to build our composite jet with structural integrity, while meeting our cost, weight, delivery and safety requirements. Huntsman has proven to Cirrus that they value our partnership through their commitment to new product development, continuous improvement, quality, cost and delivery.



Meeting Demand for Lighter-Weight Aircraft

As disposable income and living standards improve in developing countries across the globe, the demand for personal and business air travel is growing rapidly. Last year, a record 3.7 billion passengers flew safely to their destinations, according to the International Air Transport Association. With air travel demand projected to double by the year 2035, the demand for new, lighter aircraft is also taking off.

For more than 70 years, Huntsman Advanced Materials has developed high-performance adhesives and composite resin systems that have greatly reduced the overall weight of an aircraft, resulting in greater fuel efficiency and fewer emissions. Airplanes today are up to 25 percent more fuel efficient, enabling airlines to lower their No.1 operating expense over the life of an aircraft — fuel.

Huntsman partners with major aircraft OEMs to develop new adhesive products for next-generation aircraft made of lightweight composites that make aircraft stronger, lighter and faster. Our high-strength, high-performance adhesive materials also help manufacturers improve productivity, enabling OEMs to build more aircraft in less time to meet the growing demand. Huntsman innovations can be found in many new aircraft coming to market — from Bombardier's C series commercial aircraft that feature clean-sheet composite designs, to the Airbus A380, the world's largest passenger airliner, to Boeing's 787 Dreamliner long-haul aircraft.

The latest technology innovations, such as composite wing design, are being adopted by all segments of the air transport market. Boeing's 777-9 features a unique composite wing design with folding wingtips that allow it to access any airport.

Huntsman is also providing structural adhesive for a whole new category of aircraft — the personal jet. The Cirrus SF50 Vision Jet features groundbreaking carbon fiber technology for an advanced seamless monocoque carbon fuselage that is lighter and stronger. Our EPIBOND® 100 aerospace adhesive replaces traditional bolts and rivets and is used to bond together the major carbon fiber composite structural components of the Vision Jet. Using this technologically advanced, high-performance adhesive reduces corrosion and aerodynamic drag while increasing opportunities for fuel efficiency.







With the aircraft industry considered a key strategic, sustainable market for Huntsman, over the past several years, we've invested more than \$60 million at our specialty resins factory in McIntosh, Alabama. The expansion supports the future growth of the aviation industry by more than doubling the site's production capacity for specialized resins used in aircraft and composite construction.

Enabling Active Mobile Lifestyles

When consumers aren't in their cars or traveling via train, ship or plane, they can be found participating in a wide range of sports and outdoor activities. Sportswear and "athleisure" wear are increasingly prevalent, not only for use during physical activity, but also as everyday apparel — as consumers have come to appreciate the comfort and aesthetic benefits of advanced textiles. The market for this clothing has boomed in recent years.

To address the needs of this growing market, Huntsman Textile Effects has developed a range of eco-friendly, intelligent textile effects that — when applied in clothing — enable water-repellence, sun and friction protection, and enhanced comfort. Created using non-fluorinated formulations, the HIGH IQ[®] range of textile effects contributes to a cleaner supply chain and delivers true peace of mind to consumers who wear these pieces daily.

In addition to their enhanced functionality, our line of HIGH IQ[®] intelligent textile effects contribute to our sustainability goals by satisfying strict environmental, health and safety standards.





Connecting Our World: Sustainability in Transportation

Data On Performance

Our sustainability program enables us to follow trends and report metrics in important areas like energy usage. We continue to prepare for our transition to the GRI G4 reporting guidelines.

Our intention is to always present our data so that stakeholders can easily track our progress. In the fourth quarter of 2014, Huntsman acquired the Performance Additives and Titanium Dioxide businesses of Rockwood Holdings, Inc., and absorbed the acquired sites into Huntsman's Pigments and Additives (P&A) division. In this report, we present the 2014, 2015 and 2016 data from those sites separately from our usual corporate metrics graphs. These data are shown in squares below each bar graph. With the completion of the separation of our P&A division, now operating as Venator, this year's report is the last in which Venator data will appear.

The list of disclosures on which we are reporting can be found on page 48.

Please contact us at sustainability@huntsman.com with any questions or comments about these changes.

Production Intensity

"Production intensity" is a demonstration of the impact of a given metric weighed against the unit of production. In the context of energy, for example, if you look at the absolute total for the amount of energy we used in a given year and divide that by the amount in tonnes of products and co-products we manufactured in that same year, the result would be the production intensity value of energy consumed per tonne of product for that year. Or, more simply, energy intensity. We use these values to demonstrate changes in the efficiency of our operations.



Total Energy Consumption

HOW WE DID

Total energy use in 2016 was just above our 2006 baseline and increased relative to 2015. However, production intensity decreased slightly because of modest increases in production levels compared to 2015.

untsman has continued to stay competitive by improving the energy efficiency of our operations, thereby reducing our energy impacts and enhancing our financial efficiency. We continue to improve the reliable and economical supply and use of energy at our sites, using efficient technologies to generate steam and electricity, as well as energy-efficient production processes. We have implemented comprehensive energy management plans to help analyze and continuously improve energy efficiency at our plants.

Total Energy Consumption



Non-Greenhouse Gas (GHG) Emissions to Air

HOW WE DID

Total hazardous air pollutant emissions increased in 2016 compared to 2015. This was due in part to a planned outage of key pollution control equipment for inspection and repairs, along with increased production.

On a routine basis, Huntsman monitors, tracks and reports chemical emissions to the atmosphere – whether specifically permitted, part of routine operations or the result of accidental releases. Air emissions are releases of volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter and other contaminants. Permitted air emissions are typically generated during routine manufacturing operations, volatilization from chemical storage, wastewater treatment and equipment emissions.

Non-GHG Emissions to Air



Total GHG Emissions

HOW WE DID

Our total carbon dioxide (CO_2e) emissions in 2016 are below our 2006 baseline and increased relative to 2015. Production intensity decreased in part because of increased production levels.

untsman continues to focus on managing our environmental footprint and delivering solutions to help our customers manage theirs. Increased use of renewable-based energy is limited, but does affect our trends in a positive manner. We also capture exhaust CO₂ from some sites and sell it into the industrial gas market.

Total Direct and Indirect GHG Emissions by Weight



SOURCES OF GHG

The combustion of fossil fuels needed to manufacture chemicals and to generate electricity and steam releases CO_2 , methane and nitrous oxide — all greenhouse gases. Other GHGs that may be released during chemical processing operations are hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulphur hexafluoride (SF₆). These are typically released from manufacturing equipment that uses these chemicals as refrigerants.

GHG EMISSIONS FROM HUNTSMAN MANUFACTURING FACILITIES WORLDWIDE

Defined by various protocols, Scope 1 emissions are GHG emissions attributable to the combustion of fossil fuels at our sites or non-combustion GHGs emitted from manufacturing processes or refrigeration units. Scope 1 GHG emissions from Huntsman are generally proportional to our direct energy consumption. Scope 2 emissions are associated with the generation of indirect energy and are proportional to our indirect energy consumption (i.e., purchased electricity).¹ Huntsman does not measure or disclose Scope 3 emissions as defined below.

Greenhouse gases are reported in standard units of million metric tonnes of CO_2 equivalents (MMT CO_2e) to describe the magnitude of GHG emissions or reductions. Therefore, our 2006 baseline year emissions were 3.58 MMT CO_2e . (Huntsman's baseline of 2006 emissions excludes the Base Chemicals and Polymers division, which was divested in 2006 and 2007, and the acquired Pigments and Additives businesses.)

- The GHG Protocol defines direct and indirect emissions as follows:
 Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity.
 - Indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity.

The GHG Protocol further categorizes these direct and indirect emissions into three broad scopes:

- Scope 1: All direct GHG emissions.
- Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.
- Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, etc.



Total Indirect GHG Emissions by Weight

Total Direct GHG Emissions by Weight



TONNES

2006 baseline year
 (2,486,938 tonnes)

TONNES

TONNES
Discharges to Water

HOW WE DID

For five consecutive years, chemical oxygen demand (COD) levels continued to drop compared to 2010 levels and are well below our 2006 baseline. Reductions are due in part to tighter permit limits and additional government controls over discharges. Production intensity decreased in part due to higher production levels.

untsman's discharges to water have decreased since 2010 through 2015 and remained nearly flat in 2016. There are two reasons for this trend. First, we are complying with — and in many cases exceeding increasingly strict water quality standards. Second, we understand water quality's direct connection with water scarcity. Keeping water clean goes hand-in-hand with the efficient use of water. Huntsman's improvements on water quality strengthen the company's commitment to conserving water.

Discharges to Water



Total Water Usage

HOW WE DID

Water use decreased slightly in 2016 due to slightly higher production rates. Overall production intensity also decreased compared to 2015 due to increased production.

Reporting of global water use for Huntsman began when we conducted our first-ever global Water Risk Assessment in 2014. This is our third year of reporting water use.



Water Usage - Water Out



Total Waste

HOW WE DID

Both hazardous and non-hazardous waste totals increased in 2016. This was due in part to event-driven wastes and increased production at some of our larger facilities.

Non-hazardous waste and hazardous waste, as defined by local laws, are strictly monitored and reported separately at each of our manufacturing facilities. The reported waste generation includes waste that is sent to offsite landfills, injected into deep underground wells, sent to third-party treatment facilities or reclaimed/reused/recycled (including that burned as fuel — waste cogeneration.) This category also includes waste generated during normal operation and maintenance activities.

Total Hazardous and Non-Hazardous Waste by Weight







Non-Hazardous Waste

HOW WE DID

Disposal of non-hazardous waste increased in 2016 but remains below the 2006 baseline, as it was in 2015. Production intensity also increased slightly.

Non-Hazardous Waste (Million Tonnes)

t is Huntsman corporate policy to prevent and reduce waste. We regularly carry out audits to inspect external waste management plants and ensure that our waste is disposed of correctly. Since our baseline year, the majority of Huntsman's total non-hazardous waste is consistently made up of iron-based salts and gypsum, generated by the Pigments and Additives business. Ongoing efforts by our Pigments and Additives division to reduce these wastes and improve environmental performance have been very successful, with sites turning potential waste into co-products with potential beneficial uses. For example, the Pigments and Additives division has secondary sales of iron-based salts and gypsum into water treatment, agriculture and building construction markets.

Hazardous Waste

HOW WE DID

Disposal of hazardous waste in 2016 increased slightly but remains below the 5-year running average. This is due in part to increased production.

azardous waste disposal for 2016 increased and also remains above the 2006 baseline. Production intensity for 2016 is nearly equivalent to 2015.





Hazardous Waste by Weight



 2006 baseline year (146,849 tonnes)

Injury and Illness Rate

HOW WE DID

In 2016, Huntsman had an OSHA Total Recordable Incident Rate (TRIR) of 0.40, not including the performance of the acquired Pigments and Additives businesses (former Rockwood sites). This rate is slightly below last year's 0.43 TRIR and remains significantly below the 2015 U.S. Chemical Industry Average of 2.10.

n 2016, the TRIR for the former Rockwood sites was 1.18, which is significantly lower than the 2015 TRIR rate of 1.99. The TRIR rate reflects 39 recordable injuries, which is a 43 percent decrease in injuries from 2015. If the 2016 performance of the former Rockwood sites were included in our calculation of total recordable incidents, Huntsman's TRIR would be 0.54. Incident rates are calculated using the US Occupational Safety and Health Administration (OSHA) formula: Total Recordable Incident Rate = # of injuries and illnesses x 200,000 / # of work hours.

Contractor fatality

Unfortunately, our 2016 safety record does include one fatality. The incident occurred when a contractor was fatally injured on a mobile work platform in the production hall of one of our French facilities.



Hand safety campaign

Due to a large number of incidents involving hand injuries, we launched the hand safety campaign "Safety is in Your Hands" in late 2016. Hand safety awareness efforts will continue in 2017 with new tools and materials being shared.

Injury and Illness Rate



Total recordable incident rate

Process Safety Implementation Rate

HOW WE DID

By the end of 2016, company-wide implementation of Huntsman's world-class Process Safety Management standard reached 98.7 percent completion.

Process safety has always been a Huntsman core value and an integral part of our global EHS standards. Several years ago, Huntsman's senior leadership embarked on a journey to develop and install a more robust world-class process safety management system across all Huntsman facilities. We are making steady progress with the implementation of this multiyear commitment.

Today, we have a Global Process Safety Center of Excellence staffed by highly skilled and experienced process safety experts. Guided by this team, Huntsman's senior leadership has conducted process safety leadership workshops in every region of the world in which Huntsman operates to ensure all levels of management understand their role in proactively preventing process-related incidents.

% implementation complete

Process Safety Gap Closure Status



Percentage of Associates Trained in Compliance and Anti-Corruption

HOW WE DID

In 2016, 99 percent of Huntsman associates completed compliance courses.

untsman has zero tolerance for illegal behavior. Our Business Conduct Guidelines (BCG) outline the ethics and values of the company and are shared with all associates. Core compliance training modules include Respect in the Workplace, Business Conduct Guidelines, Records Management, EHS Protection, Anti-Corruption, Global Anti-Bribery and Huntsman Data Privacy Program. Courses are offered in both computer-based and instructor-led formats.

Total Training Hours on Policies Concerning Human Rights

HOW WE DID

In 2016, more than 22,535 training hours were completed on these topics, covering more than 99 percent of associates.

untsman expects all associates to be aware of and understand the company's core policies and procedures. All new associates are required to take core compliance training, which includes information on human rights policies and covers regulations on child labor and industrial labor laws. Huntsman associates are periodically required to complete online training on Respect in the Workplace, Code of Business Conduct and the Huntsman Privacy Program. Average Hours of Training and Development Per Year

HOW WE DID

Huntsman provides associates training and development to further enhance their professional skills. These training and development courses include EHS, compliance, soft skills, technical skills and leadership development.

Region	Total Hours Completed	Number Of Associates	Average Training Hours Per Associate
Americas	166,251	3,985	42
APAC ¹	129,477	3,880	33
EAME ²	100,735	6,762	15
Totals	396,463	14,627	27

1. Asia/Pacific

2. Europe/Africa/Middle East

These compliance training hours are for classroom and e-learning courses. Values include the acquired Pigments and Additives (P&A) sites with the exception of P&A sites in Germany.

Total Training Hours in Leadership

HOW WE DID

In 2016, 861 associates participated in various leadership development courses that we offer for a total of 24,705 total leadership training hours.

untsman develops associates who are in or will assume supervisory or management positions in the organization to ensure these associates feel comfortable dealing with employee-related matters, such as setting objectives, coaching, career development plans and performance management. This training is made available in local languages.

Number of New Hires by Region

HOW WE DID

In 2016, we hired a total of 1,224 new associates, which accounted for 8.3 percent of the total Huntsman headcount.

Voluntary Turnover Rate by Age

HOW WE DID

In 2016, 799 associates voluntarily left the organization. This equates to a voluntary global turnover rate of 5.4 percent of total headcount.

Region	New hires
Americas	380
APAC	347
EAME	421
Other	76
Total	1,224

Age group	Voluntary turnover
70–79	1%
60–69	17%
50–59	15%
40-49	14%
30–39	31%
20–29	22%

Global Promotions/ Transfers per Headcount

HOW WE DID

In 2016, 1,058 associates, or 7.1 percent of total headcount, received promotions and 1,561, or 10.6 percent of total headcount, were transferred.

Direct Economic Value Generated and Distributed

HOW WE DID

In 2016, we generated revenues of \$9.7 billion. Net income for 2016 was \$357 million. Our company achieved solid earnings and we continued to focus on growing our sales and earnings in the downstream specialty markets. Further, we generated robust free cash flow, which enabled us to reduce our debt and further strengthen our balance sheet.

Year Ended December 31, 2016	In millions
Revenues	\$9,657
Gross profit	\$1,678
Interest expense, net	\$202
Net income	\$357
Adjusted EBITDA ¹	\$1,127
Capital expenditures ²	\$390
Total assets	\$9,189
Net debt ³	\$3,770

1. For a reconciliation of net income to adjusted EBITDA, see table at right.

2. Net of reimbursements of \$15 million.

3. Net debt calculated as total debt excluding affiliates less cash.

Reconciliation of Net Income to Adjusted EBITDA			
	Year ended December 31,		
In millions	2016	2015	2014
Net income	\$357	\$126	\$345
Net income attributable to non-controlling interests	(31)	(33)	(22)
Net income attributable to Huntsman Corporation	\$326	\$93	\$323
Interest expense, net	202	205	205
Income tax expense	87	46	51
Income tax benefit from discontinued operations	(2)	(2)	(2)
Depreciation and amortization	432	399	445
Acquisition and integration expenses and purchase accounting adjustments	23	53	67
EBITDA from discontinued operations	6	6	10
(Gain) loss on disposition of businesses/assets	(119)	2	(3)
Loss on early extinguishment of debt	3	31	28
Certain legal settlements and related expense	3	4	3
Plant incident remediation costs, net	1	4	-
Business separation costs	18	-	-
Amortization of pension and postretirement actuarial losses	65	74	51
Restructuring, impairment and plant closing and transition costs	82	306	162
Adjusted EBITDA	\$1,127	\$1,221	\$1,340

Reconciliation of Cash Flow from Operations to Free Cash Flow	Yea	r Ended December 3	31,
In millions	2016	2015	2014
Net cash provided by operating activities	\$1,088	\$575	\$760
Capital Expenditures	(421)	(663)	(601)
All other investing activities, excluding acquisition and disposition activities	11	58	(60)
Business-separation-costs	8	_	_
Free cash flow	\$686	(\$30)	\$99

Report Parameters

We follow a calendar-year reporting period as we have with previous annual sustainability reports. Our most recent report was for 2015, published in September 2016.

or this 2016 sustainability report, we consider input from third-party questionnaires, external ratings and general indices, as well as feedback from stakeholders consulted throughout the year. The metrics and data provided in this report reflect that input and feedback and help us continue to enhance our reporting and improve our sustainability program.

The report includes data related to all Huntsman enterprises where we have operational control (more than 50 percent) and joint ventures where we have management control. The data reported have been obtained primarily from our financial management reporting systems, various human resources information systems and the Huntsman corporate reporting systems for environmental, health and safety performance indicators. We are confident in the overall reliability of the data reported, but recognize that some of these data are subject to a certain degree of uncertainty, inherent to limitations associated with measuring, calculating and estimating data.

Minor corrections in historic data may be due to data errors or other approved reasons. Each year, energy consumption and environmental emission estimates are recalculated and revised for all years in the annual sustainability report, as attempts are made to improve both the analyses, through the use of better methods or data, and the overall usefulness of the report.



A publicly held company, Huntsman Corporation's global headquarters is in The Woodlands, Texas, USA.

As of December 31, 2016, total common stock outstanding was 236 million shares.

For more information, please see the Investor Relations section of our website, **www.huntsman.com**

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Global headquarters

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