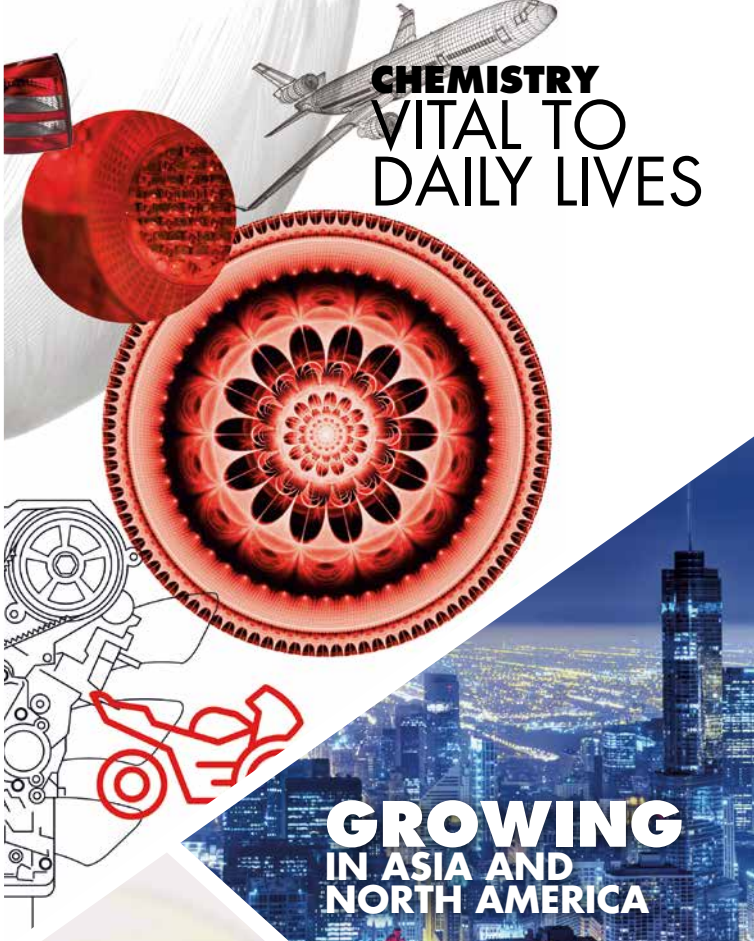
INNOVATIVE

2016 ANNUAL AND SUSTAINABLE PERFORMANCE REPORT

INNOVATING FOR TOMORROW



CHEMISTRY VITAL TO DAILY LIVES

GROWING IN ASIA AND NORTH AMERICA

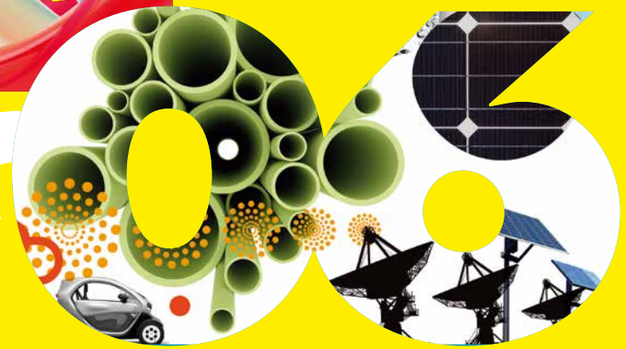
ENGAGING WITH OUR STAKEHOLDERS

SHARING OUR 2016 HIGHLIGHTS

ARKEMA

INNOVATIVE CHEMISTRY

SHARE



INNOVATE

GROW

ENGAGE

10 YEARS
OF SUCCESS GIVES US CONFIDENCE IN THE FUTURE

Arkema turned 10 in 2016.
Ten years that transformed us into a world-class, efficient, creative, agile producer of specialty chemicals and advanced materials, with a balanced regional footprint.
Ten years that proved we have both the right strategy and solid foundations for moving forward with confidence and ambition.

Tackling the future with confidence means **SHARING** a bold ambition to design and invent materials and innovative solutions that are ever more useful in addressing society's major energy and environmental challenges.

This goal spurs us to **INNOVATE** continuously and make our customers the core focus of our growth. We innovate through applied R&D that helps improve our customers' competitiveness in increasingly demanding markets. We innovate by investing in disruptive projects that anticipate their needs. And we also innovate in terms of our internal processes, such as our digital transformation, to better serve them.

It also means continuing to **GROW** by identifying and seizing opportunities in all our markets and in the most dynamic regions.

Lastly, it means becoming even more **ENGAGED** in corporate social responsibility (CSR) and sustainability. We take steps to improve our environmental footprint and the safety of our employees and neighbors, innovate to meet major social challenges, foster our employees' collective and individual development, and cultivate interactions with our stakeholders.

The 10 years spent transforming ourselves demonstrate the soundness of our major industrial projects, the value of our innovation efforts, and the collective energy of our workforce of 19,700 talented individuals.

All these advantages give Arkema tremendous growth potential. There's no doubt in our minds that this 10-year-old has a bright future ahead.

share

2016 was a year of record financial results for Arkema. It was also an eventful year. We celebrated our 10-year anniversary at our sites worldwide. We made promising investments in production capacity, especially in technical polymers and to acquire Den Braven, which makes our subsidiary Bostik a global leader in high-performance sealants. And it was a year that brought partnerships and awards for our innovations, success for our Pebax® polymer at the UEFA Euro 2016, and top finishes for our trimaran and monohull racing boats thanks to the materials used in their construction. We're proud to **share** all our successes and highlights with you.

sharing INTERVIEW WITH
THIERRY LE HÉNAFF
Chairman & Chief Executive Officer

AN OUTSTANDING **PERFORMANCE**

Our excellent performance in 2016 confirms the wisdom of our last decade, which remade the company into one focused on specialty chemicals, innovative materials, growth regions and corporate social responsibility.

>

RECORD EBITDA OF
€1.19 BILLION
AND EBITDA
MARGIN OF
15.8%

> How would you describe Arkema's performance in 2016?

T. L. H. > Arkema reported record earnings last year. In an environment of moderate global growth, we generated €7.5 billion in revenue and increased our volumes by 3.2%. Our EBITDA rose 12.5% to €1.19 billion — its highest level ever. EBITDA margin grew to 15.8%, gaining two points over last year. And our adjusted net income increased by 34%. All three business segments — Industrial Specialties, High-Performance Materials and Coating Solutions — contributed to these results. Our people can be proud of their performance.

What drove Arkema's performance?

T. L. H. > Beyond financials, 2016 was an inflection point: several major projects realized their full potential. We began reaping the rewards of adding Bostik — which achieved its 2017 growth targets a full year ahead of schedule. In Malaysia, our Kerteh plant, which started up in 2015, came to full operating capacity, confirming the growth potential of thiochemicals in Asia. And, buoyed by innovation, our technical polymers were hugely successful.

How does this performance fit into Arkema's history?

T. L. H. > It is the direct result of the transformation begun the moment the company was created and of unflagging innovation. Ten years later, you would hardly recognize Arkema. For one thing, we've shifted the focus of our product portfolio to specialty chemicals and innovative materials. Innovation has become our essence; Arkema has made the list of the World's Top 100 Global Innovators for the sixth year in a row. For another, we rebalanced the company regionally to strengthen Arkema in Asia, close to emerging marketplaces, and in North America, an area of stable growth.

How are you approaching the next few years?

T. L. H. > With confidence and ambition. For 2017, we're maintaining the bold EBITDA target of €1.3 billion set in 2014. If we achieve that, our EBITDA will have risen by more than 65% in three years, a growth rate among the best in the industry. We now have very solid foundations, including several product lines with strong prospects. They include Bostik's adhesives, strengthened by the acquisition of Den Braven in 2016, technical polymers, molecular sieves, downstream acrylics (with Sartomer and Coatex) and thiochemicals. We see our first decade as a step and a springboard to even better things. Our clear goal is to keep growing in the future, thanks to the solidly established growth platforms I mentioned.

How do corporate social responsibility (CSR) and sustainability contribute to Arkema's success?

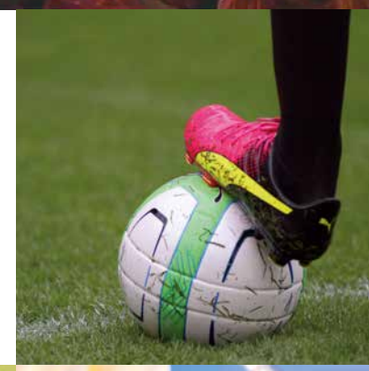
T. L. H. > CSR and sustainability are integral to our performance. Our CSR and sustainability commitments — safety, the environment, innovation, personal and collective development and open lines of communication with our stakeholders — are backed by quantified targets for 2025. To establish that our CSR and sustainability processes are on track, we surveyed our stakeholders in 2016 through a "materiality assessment." It confirmed that our priorities match the expectations of the internal and external stakeholders we surveyed. We halved our total recordable injury rate between 2012 and 2016. Innovations that promote sustainability — especially in lightweight materials, water filtration and new energies — are core to our growth strategy. Our human resources staff has taken steps to develop the leadership skills of women and non-French nationals. The Arkenergy program has cut our energy usage 6% since 2014. In 2016, we introduced the Optim'O program to reduce our water bills by 15%. All these improvements are positively reflected in ratings by specialized agencies. –

"OVER 10 YEARS, ARKEMA HAS CREATED EXCEPTIONAL VALUE FOR SHAREHOLDERS."

share

2016

sharing 2016, AN EVENTFUL YEAR



A YEAR
OF CELEBRATIONS

FOR ARKEMA'S TENTH ANNIVERSARY

MAY 2016:
ARKEMA TURNS 10

In May 2006, a few months after its creation, Arkema was publicly listed. Ten years later you would hardly recognize us. Arkema is now an innovative, agile, regionally balanced global company that produces specialty chemicals and advanced materials.
All our employees celebrated 10 years of a complete metamorphosis. From May 17 to 28, countless events marked this milestone anniversary at every site. Among the 50 countries participating were Denmark, Spain, France, Italy, Dubai, Malaysia, the Netherlands, the Philippines, Poland, Singapore, Thailand, Turkey, the United States and China.

THE EXECUTIVE TEAM ALSO HOSTED MAJOR CUSTOMERS AT THREE EVENING CELEBRATIONS IN PARIS, PHILADELPHIA AND SHANGHAI.

A YEAR IN SPORTS

WITH PEBAX®, STAR ELASTOMER

ARKEMA STEPS UP COLLABORATION WITH PUMA
In June, Puma unveiled its new evoSPEED and evoPOWER shoes for the UEFA Euro 2016 and Copa America 2016 soccer championships. Both feature high-end outsoles containing Arkema's Pebax® thermoplastic elastomer, which is appreciated by sports equipment manufacturers for its unique combination of light weight, flexibility, energy return and exceptional reliability.

PEBAX®, BEST GOAL SCORER OF THE UEFA EURO 2016!
Three hundred of the 552 UEFA Euro 2016 players, including Antoine Griezmann, Olivier Giroud, Gianluigi Buffon and Cesc Fabregas, wore shoes with Pebax® elastomer outsoles and shanks, which provide support. As of the final on July 10, players wearing shoes containing Pebax® had scored 62% of the goals and made 60% of the passes that led to goals, according to the detailed calculations of specialists.

PEBAX POWERED® TEAMS UP WITH MIZUNO RUNNING
For the launch in October of the new Wave Rider 20 running shoe, which has a Pebax® outsole, Arkema teamed up with Mizuno in a new video to promote Pebax®'s outstanding properties.

Watch the Pebax Powered® Running with Mizuno video

Stretching the limits of performance with Pebax Powered®

A YEAR OF GROWTH

FOR BOSTIK ADHESIVES

BOSTIK EXPANDS MANUFACTURING CAPABILITIES IN SOUTHEAST ASIA AND SWEDEN TO KEEP UP WITH GROWTH IN THE CONSTRUCTION MARKET

In April, Bostik, our specialty adhesives business line, opened a new plant in the Philippines, in Misamis Oriental Province. This increase in cementitious powder production capacity is based on its cutting-edge polymer modified binder (PMB) technology. The new Bostik facility can now supply construction customers in the high-growth Mindanao and Visayas regions with tile adhesives, wall finishing products and other construction systems.

The company also invested in Malaysia and Sweden to supply the same innovative products. In May, Bostik expanded production capacity at its Seremban plant in Malaysia to meet growing demand from the construction market in the Central, Northern and Sabah regions. A month later it opened a new manufacturing plant in Helsingborg, Sweden to meet rising demand in the construction market in northern Europe and the Baltic states.

BOSTIK EXPANDS IN HIGH-PERFORMANCE SEALANTS WITH THE ACQUISITION OF DEN BRAVEN

In December, Bostik finalized a deal to acquire Den Braven, a leader in sealants for insulation and construction in Europe (€350 million in revenue). It's a great opportunity for Bostik to help consolidate the still-fragmented adhesives and sealants market. Through this acquisition, we are actively pursuing growth in our High-Performance Materials business segment, which is expected to account for 50% of Arkema's revenue in 2020.

Watch an exceptional racing boat take shape

A YEAR AFLOAT

WITH THE ARKEMA LALOU MULTI TEAM

THE TRANSAT BAKERLY: ARKEMA TRIMARAN FINISHES SECOND IN NEW YORK

On Monday, May 16, Lalou Roucayrol crossed the finish line in New York in second place in the Multi50 class. Sailing without a daggerboard for six days, the skipper defied the odds to finish the legendary solo transatlantic race.

FIRST RECYCLABLE MONOHULL DESIGNED USING ARKEMA MATERIALS

In late 2015, we began work on a high-tech prototype monohull that incorporated our materials and innovations from the rough sketches onward. Six months later, in June, the yacht performed its first tacks in Port Médoc, France. Developed and built in partnership with Lalou Multi, a small business based in southwestern France, the Mini 6.50 has an innovative hull and deck made of the recyclable thermoplastic resin Elium®, a world first.

ARKEMA MULTI50 TRIMARAN WINS TRANSAT QUEBEC SAINT-MALO RACE

At 4 a.m. on July 20, Arkema's Multi50 and its crew, led by Lalou Roucayrol, crossed the finish line of the 9th Transat Québec Saint-Malo, winning its first transatlantic race.

Experience the trimaran's arrival in St. Malo, France

A YEAR OF INVESTMENT

IN ASIA AND THE UNITED STATES

ARKEMA OPENS AN INNOVATION CENTER IN SOUTH KOREA

In June, to support our growth in Asia, Arkema opened an innovation center in South Korea on the campus of the prestigious Hanyang University in Seoul. The new laboratory embodies a years-long partnership between Arkema and the university. It will focus on research into high-performance polymers and renewable energies, two fields in which Hanyang University excels.

ARKEMA INCREASES ITS SPECIALTY POLYAMIDE CAPACITY IN CHINA AND THE UNITED STATES

To support our customers' growth around the world in the sports, consumer electronics and automotive markets, we continue to expand our bio-based specialty polyamide production capacity. In September, we announced expansions at the Zhangjiagang site in Jiangsu province in China and the Birdsboro, Pennsylvania facility in the United States.

ARKEMA EXPANDS IN POWDER COATING RESINS IN INDIA

In October, we announced plans to build India's first facility to manufacture polyester powder resins. The project, built within Arkema's resin production complex in Navi Mumbai, Maharashtra state, represents an investment of $15 million and consists of a world-class manufacturing unit and a dedicated laboratory to provide technical support.

ARKEMA INCREASES ITS KYNAR® FLUOROPOLYMER CAPACITY IN CHINA

In October, Arkema announced a 25% increase in Kynar® PVDF manufacturing capacity at the Changshu complex near Shanghai. The investment will enable us to keep up with high Kynar® demand for batteries and water treatment.

A YEAR **OF AWARDS**

PARTNERSHIPS AND INNOVATIONS

ELIUM® THERMOPLASTIC RESINS FOR COMPOSITES EARN A "TECHNOLOGY SHOWCASE" LABEL FOR ARKEMA
In June, at a ceremony attended by Emmanuel Macron, then the French Minister of the Economy, Industry & Digital Affairs, the chairman of the French NGO Alliance Industrie du Futur awarded the "technology showcase" label to Arkema's new thermoplastic resins for composites.

ARKEMA COLLABORATES WITH HP INC. AS IT GETS INTO THE PRODUCTION OF 3D PRINTERS
In May, Arkema announced a partnership with HP Inc. through the HP Open Platform. Arkema will design materials for HP's new Multi Jet Fusion™ 3D printers and spur our own customers' innovation — in the sports, automotive, aerospace and healthcare industries — by giving them the option to use HP's manufacturing process and our own range of 3D printable materials.

WITH JARYSOL®, ARKEMA EXPANDS ITS RANGE OF SOLUTIONS FOR SOLAR ENERGY
In September, Arkema inaugurated the MicroSol-R solar micro-power plant with the French National Center for Scientific Research's PROMES laboratory at its Font-Romeu-Odeillo-Via facility in southwestern France. It uses our Jarysol® heat transfer fluid, developed by researchers at our Jarrie site in southeastern France.

ARKEMA IS THE LEAD PARTNER IN THE REVERPLAST INITIATIVE, UNDERSCORING OUR COMMITMENT TO "GREEN" GROWTH
In April, Arkema signed the Reverplast agreement, a project to use recycled materials to produce new thermoplastics for the automotive, boatbuilding and wind turbine markets. The other signatories were Ségolène Royal, French Minister of the Environment, Energy & Marine Affairs, Emmanuel Macron, at the time French Minister of the Economy, Industry & Digital Affairs, and four other partners. The initiative is part of a new program — Green Growth Commitments — launched by the French government to support businesses' efforts to create a circular economy.

Find out about Kynar®'s advantages for water filtration

KYNAR® GRADE FOR WATER ULTRAFILTRATION: FIRST PRODUCTION LINE AND AN AWARD!
This innovative PVDF material developed by Arkema can be used to make a new generation of more efficient, energy-saving hollow fibers used in ultrafiltration modules for water treatment. In February, we announced we were building, at our partner Polymem's plant, the world's first production line to make the hollow-fiber Kynar® membranes. In June, the Kynar® membranes won the Pierre Potier Prize, a French award given to chemical innovations that promote sustainable development.

AND IN 2017...

Revenue
€7.5 billion
of which
2.9%
allocated to R&D

19,700
employees

Present in
50
countries

133
production
sites

3
regional R&D
and innovation hubs
in Europe, Asia
and North America

sharing OUR STANDING

3 BUSINESS SEGMENTS AND 9 BUSINESS LINES

COATING SOLUTIONS
- ACRYLICS
- COATING RESINS AND ADDITIVES

24%
OF REVENUE

INDUSTRIAL SPECIALTIES
- PMMA (ALTUGLAS INTERNATIONAL)
- THIOCHEMICALS
- FLUOROCHEMICALS
- HYDROGEN PEROXIDE

30%
OF REVENUE

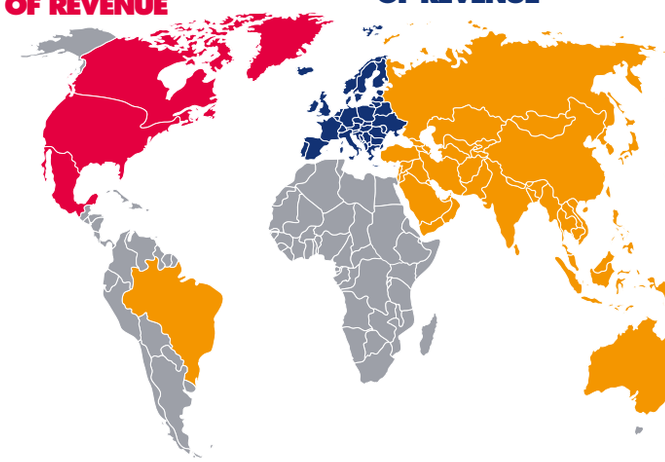
HIGH-PERFORMANCE MATERIALS
- SPECIALTY ADHESIVES (BOSTIK)
- TECHNICAL POLYMERS
- PERFORMANCE ADDITIVES

46%
OF REVENUE

A GLOBAL MANUFACTURER

NORTH AMERICA
34%
OF REVENUE

EUROPE
36%
OF REVENUE



ASIA AND REST OF THE WORLD
30%
OF REVENUE

WORLD NO. 1 TO WORLD NO. 3 IN OUR MAIN BUSINESSES

No. 1
- Specialty Polyamides
- PVDF
- Thiochemicals

No. 2
- Organic Peroxides
- PMMA

No. 3
- Adhesives
- Fluorogases
- Hydrogen Peroxides
- Acrylic Monomers
- Coating Resins

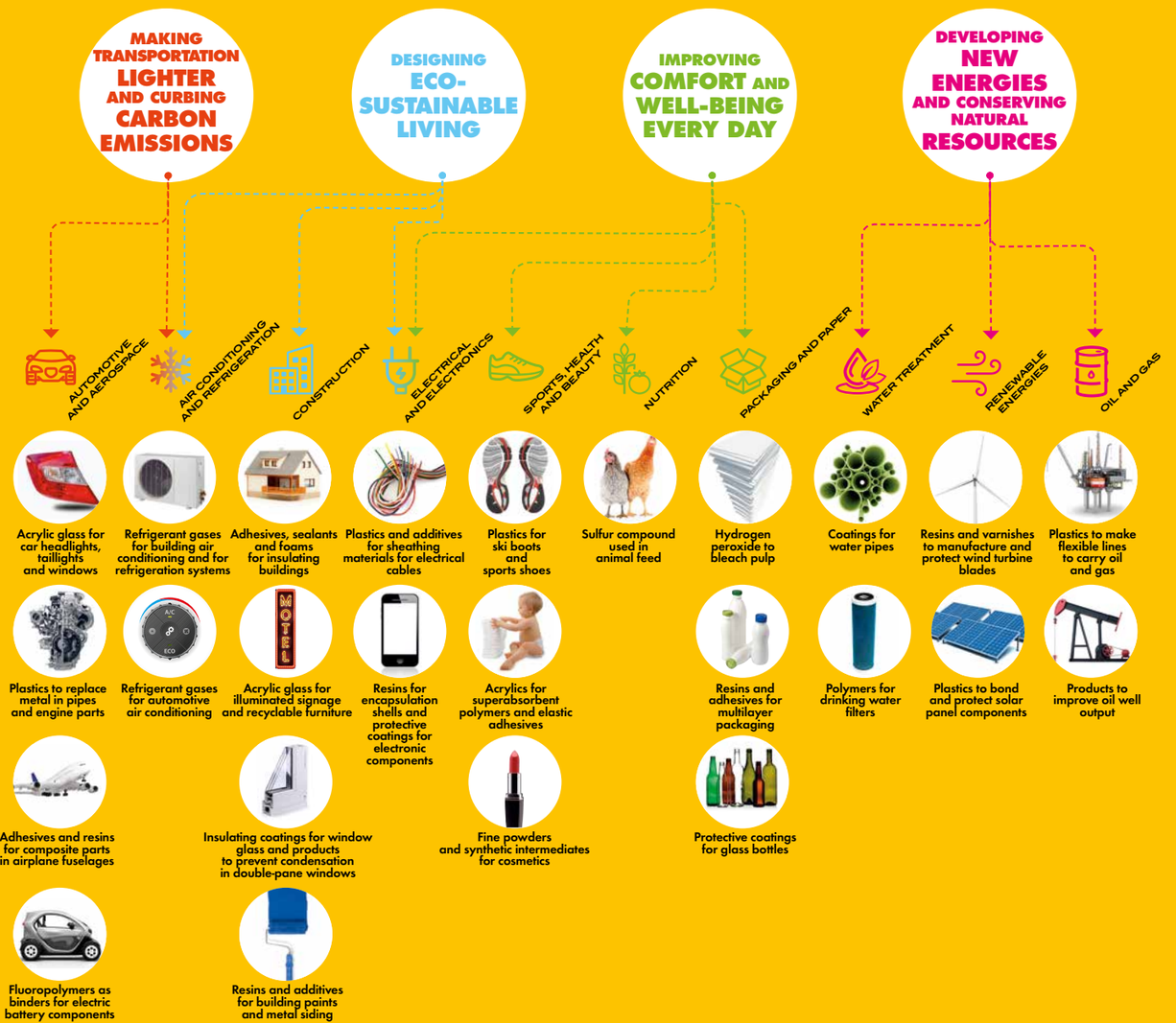
innovate

Chemistry is infinite in its variety. We develop a wide range of state-of-the-art materials and solutions vital to many key markets. We pioneer disruptive innovations that anticipate our customers' changing markets and requirements. **Innovating** is a part of our essence that goes beyond product R&D. Innovation is a hallmark of our industrial processes, support functions and customer relationships: our digital transformation is a prime example.
Explore the wide range and strengths of "Designed by Arkema" innovations in the following pages.

innovating IN ALL **OUR MARKETS**

CHEMISTRY, A WELLSPRING OF INNOVATION

Chemistry is vital to our daily lives. By supplying chemicals and materials to other industries, Arkema's chemistry helps to clothe, transport, feed, house, and communicate. Our R&D focuses on resins for paint, high-performance plastics, adhesives, additives, fluorogases, hydrogen peroxide, sulfur-containing compounds and other products to meet the world's biggest challenges both today and tomorrow. In other words, curbing carbon emissions, building eco-sustainable homes, making our daily lives better and more comfortable, developing new energies and conserving natural resources.



The Challenge of LIGHTWEIGHTING
TRANSPORTATION

Arkema thermoplastics can be substituted for metal or glass to make parts that weigh less, for lighter vehicles and aircraft with improved fuel efficiency and lower carbon emissions. And these thermoplastics have a big advantage over thermoset plastics — they are 100% recyclable!

Trimming 100 kilograms off the weight of a car saves 0.40 liters of fuel and 10 grams of carbon per 100 kilometers. Reducing an airplane's weight by 1,000 kilograms saves 6,000 tons of jet fuel, or 20,000 tons of carbon, over the plane's 30- to 40-year lifespan.

1

LIGHTWEIGHT, RECYCLABLE CARS

Thermoset composites are widely used in aerospace, automotive manufacturing and wind turbine blades. They are light, have excellent mechanical properties and provide a solution to the weight challenge. But they are hard to recycle, at a time when end-of-life concerns are becoming a major issue. So Arkema developed Elium®, the only liquid thermoplastic resin that is processed like a thermoset resin, yet makes fully recyclable composite parts. Elium® is revolutionizing the composites sector, finding its way into passenger compartments, hoods and wind turbine blades (see pages 22 and 23).

2

ULTRA-HIGH-PERFORMANCE BOSTIK ADHESIVES FOR COMPOSITES

Bostik skin-to-core composite adhesives bond various substrates in aircraft cabins. They apply easily in thin layers (14 to 72 grams per square meter), reducing the amount required and cutting waste.

3

ENGINE PARTS MADE OF HIGH-TEMPERATURE PLASTIC

Rilsan® HT (High Temperature) high-performance polyamide weighs six times less than steel and can resist temperatures of up to 220°C. Its outstanding properties mean it can replace steel and aluminum in complex auto engine parts, reducing weight and cutting fuel consumption. It is also a "green" plastic, made 70% from castor oil.

4

REINFORCED PMMA: BETTER THAN GLASS

Altuglas® ShieldUp is an even tougher version of conventional polymethyl methacrylate (PMMA) that combines two components — PMMA and an elastomer — organized on a nanometric scale. The result is perfect transparency combined with very high mechanical strength and chemical resistance. Half the weight of glass, it is already being used by many motorcycle and car brands as an alternative to glass in windshields and sunroofs.

5

READY-TO-USE COMPOSITES

Polystrand® products are continuous fiber-reinforced tapes and prepregs made of thermoplastic polymers. These ready-to-use polyamides, polyvinylidene fluoride (PVDF) and polypropylenes weigh 30% less than aluminum but provide similar rigidity and impact resistance. These lightweight composites are used in structural parts to make airplane cargo containers and truck panels and to reinforce the front ends of cars.

6

FULL BEAMS ON PMMA

Altuglas® polymethyl methacrylate (PMMA) polymer, or acrylic glass, offers outstanding resistance and transparency superior to glass. One of its star applications is taillights. Around 92% of light passes through Altuglas®, making taillights bright and easy to see. It's also used today to make cockpit windows for some small airplanes and helicopters. Look for Altuglas® to be used in airliners in the future.

7

AN EXTREME POLYMER

Kepstan® PEKK (polyether ketone ketone) polymer offers exceptional properties suited to the extreme demands of aircraft engines. It boasts excellent resistance to chemical damage and abrasion and can withstand continuous high temperatures above 200°C. Reinforced with carbon fibers, it is used to make light, rigid composites for structural and fuselage parts, replacing metal for about half the weight.

innovating IN ALL
OUR MARKETS

DESIGNING ECO-SUSTAINABILITY

Preventing heat loss and minimizing energy usage in buildings, improving acoustic insulation, or using more sustainable or recyclable materials are all ways that Arkema solutions help make our homes and cities greener.

The construction and housing sector uses 43% of the world's energy and generates 23% of greenhouse gas emissions. It offers significant energy-savings potential.

1

"GREENER" ROADS

Recycling existing materials when building or repairing roads helps cut down on the amount of new aggregate needed for the job. Adding Cecabase RT® additives to asphalt increases the use of recycled aggregate by up to 70% compared to standard technology, by making it easier to mix into the asphalt. The additives also lower the asphalt's application temperature, cutting energy usage by as much as 50%.

2

TRANSPARENT NOISE BARRIERS

Recognized for its sound insulating properties, Altuglas® PMMA can be used as a noise barrier on highways, beltways and other high-traffic roads. The biggest advantage of Altuglas® PMMA barriers is transparency, of course. They let the light through and blend into their surroundings.

3

SMART WINDOWS

Siliporite® molecular sieves are tiny beads that adsorb around a third of their weight in water. Window manufacturers use them to prevent condensation in double-pane windows. Placed inside a frame between the panes, the sieves protect the window's features for decades. Another product, Certincoat®, is a huge plus in cold climates. This low-emissivity flat-glass coating makes windows smarter by letting sunlight in and keeping heat from escaping. The end result: heating savings of 30%.

4

WHITE ROOFS AS AN ALTERNATIVE TO AIR CONDITIONING

White roofs and building walls in sunny countries reflect light and allow people to cut back on air conditioning. White paint that is protected by a top coat containing Kynar Aquatec® PVDF acrylic resin offers much higher light reflectance than conventional paint. Kynar Aquatec® keeps the paint white for nearly 20 years, without maintenance, and lowers the need for air conditioning by 15%.

5

GAS FOR REVERSIBLE AIR CONDITIONING

Reversible air-conditioning systems, or heat pumps, are gaining popularity in the residential market. Easy to use and producing three to four times less carbon than a fossil-fuel-fired furnace, they keep temperatures optimal year round, providing heat in the winter and cool in the summer. Forane® 410A is recognized as one of the most efficient refrigerants for heat pumps.

6

A COATING TO KEEP WALLS SNUG

Bostik has developed a leveling coat that provides thermal insulation and reduces heat loss by 15%. It preps interior walls for painting just like conventional coatings. It's an ideal choice for renovating old buildings and improving their thermal insulation.

7

BEAUTIFUL, QUIET FLOORING

What could be nicer than a wood floor that doesn't lose its shine and doesn't scratch? The secret to getting one? Install flooring already coated with fast UV-cured Sartomer® resins. This coating protects against scratches and stains for years. Install it with Bostik's Axios™ Tri-Linking™ polymer technology; it is much more than an adhesive. The membrane it forms when dry keeps the wood from splitting, acts as a barrier against substrate moisture and dampens sound by 38 decibels — leaving you with a comfortable living environment and happy ears.

8

ENERGY-EFFICIENT ILLUMINATED SIGNS

For backlit signs, Arkema has developed Altuglas® PMMA sheets with outstanding light transmission. Lighting intensity can be reduced by 20% and the sheets can be paired with energy-efficient LED lamps. Not a bad way to shrink your power bill.

9

SOLVENT-FREE, ODORLESS PAINT

Synaqua® resin can be used to formulate waterborne, solvent-free paints that have the same high gloss and resistance as conventional solvent-based ones. Made 97% from bio-based materials, the resin can be used to produce paints with very low rates of volatile organic compounds, or VOCs. Its main applications are in interior decorating. Coapur® thickeners optimize paint texture and viscosity, helping them go on easier without splattering.

innovating

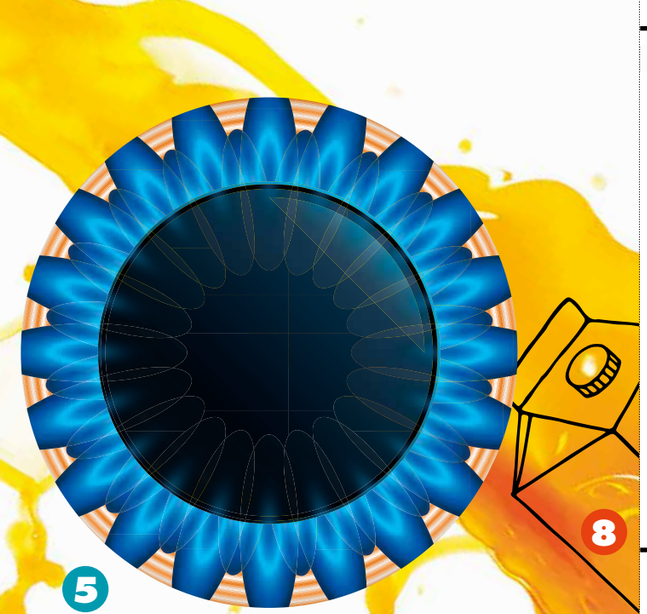
IN ALL
OUR MARKETS

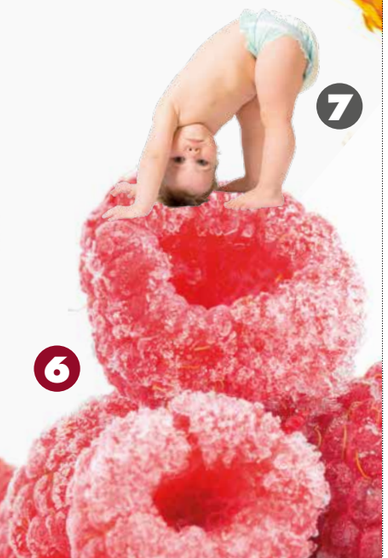
IMPROVING EVERYDAY

COMFORT and Convenience

You'll find them at home, in sports equipment, personal care products, cosmetics, eyewear, smartphones, packaging and even the pages of this report. Sometimes invisible but always vital, Arkema's products play a big part in enhancing our daily lives.

Our products for consumer applications make up 21% of our sales.





1 QUALITY WHITE PAPER

Albone® hydrogen peroxide and Alpure® sodium chlorate are vital for bleaching pulp. Arkema's affiliate Coatex has unique knowledge and expertise to improve paper coating. Its Rheocoat™ and Rheocarb™ additives control the viscosity of the liquid coatings applied to the paper's surface.

2 LIGHTWEIGHT DESIGNER EYEWEAR AND SMARTPHONES

Rilsan® Clear is one of the few polymers to combine chemical and impact resistance with thinness, lightness, softness, transparency and deep, high-gloss colors. Eyewear makers prize these qualities for creating imaginative designer styles. Rilsan® Clear weighs 20% less than polycarbonate and 40% less than aluminum. Tablet and smartphone manufacturers have recently adopted it to make ultra-light, streamlined internal casings. Rilsan® Clear is also a "green" plastic, made from castor beans.

3 ALL-NATURAL BEAUTY

There's strong demand in the cosmetics market for natural products. Oleris® is a 100% bio-based (castor oil) synthetic intermediate for flavors and fragrances. Orgasol® Green Touch is another bio-based innovation, an ultrafine powder used as a texturizing agent in makeup (lipstick, mascara, powder), skincare creams and sunscreens.

4 PEBAX® GIVES SHOES A BOOST

Pebax® elastomer has made diehard fans out of the big sports brands. Its unique combination of strength, lightness and flexibility goes into their high-performance soccer and running shoe outsoles, ski boot shells and more. How do we know this? Two-thirds of the goals in the UEFA Euro 2016 were scored by players wearing shoes with Pebax® outsoles!

5 SAFER, "SMELLABLE" GAS

We detect gas leaks at home or on the street immediately by their distinctive smell. Yet gas has no natural odor. Spotleak®, a sulfide-containing odorant, is added by gas companies to make it safe to transport gas. The smell disappears when the gas is burned.

6 FLUIDS THAT KEEP IT COOL

Forane® refrigerants can be found wherever cooling or freezing is required. Examples include home appliances, car and building air conditioning, industrial refrigeration, supermarket cases and refrigerated trucks.

7 KEEPING BABY DRY

ZeroCreep Avancé™ is the latest-generation Bostik adhesive for disposable diaper fasteners and elastic side strips. It offers maximum elastic stretch and perfect adhesion, to move with baby and prevent leaks. It only takes two or three grams of the adhesive to assemble a diaper's 20 components. Another product for diapers that gets the job done is the superabsorbent polymer (SAP) made with Arkema acrylic acid. Less than 10 grams of this gel can absorb up to 100 times its weight in liquid.

8 LONG-SHELF-LIFE FOOD PACKAGING

Multilayer food packaging — bottles, bricks, bags and trays — are commonplace thanks to the excellent adhesive properties of our functional polyolefins Orevac®, Lotader®, Lotryl® and Evatane®. Manufacturers use these adhesives to combine the advantages of different materials (plastic, cardboard, aluminum) and manufacture packaging that acts as an oxygen barrier and keeps food fresh.

9 MORE DURABLE RETURNABLE BOTTLES

Certincoat® and Tegoglas®, two glass surface treatment solutions applied when bottles are manufactured, ensure more robust performance and prevent scratches. Bottle manufacturers use Kercoat® protective coating to delay the appearance of scratches and white scuff marks on glass and Opticoat® to mask the scuffs that do occur. Together they can lengthen the life of returnable bottles by as many as 50 cycles.

10 KEEPING FOOD FRESHER

Bostik's Reseal® adhesive for food packaging seals in freshness, yet lets you open and reclose cheese, ham and other deli packages dozens of times, until it's all gone. Food keeps longer and you waste less.

innovating

IN ALL
OUR MARKETS

Developing
RENEWABLE ENERGIES

CONSERVING
Natural Resources

Arkema materials used in solar panels, wind turbine blades and electric batteries support society's transition to new energies by making them cheaper to produce and more efficient. Arkema is also developing solutions to conserve water and make it available to as many people as possible.

Worldwide, green energies posted record growth in 2015: investments totaled $286 billion, or twice what was spent on new coal- and gas-fired facilities ($130 billion), according to the Renewables 2016 Global Status Report.

1

MORE EFFICIENT BATTERIES

Battery range and durability determine the growth of the market for electric vehicles. We have developed a specific grade of Kynar® polyvinylidene fluoride (PVDF) that improves battery performance. Because it is inert to the electrolyte — the conductive substance the ions pass through — Kynar® is an excellent binder for the active particles in the cathodes and anodes that "capture" those ions. Its effectiveness makes it possible to decrease the amount of binder by two-thirds and increase by one-third the number of active particles that drive the battery's performance.

2

DURABLE WATER PIPES

Rilsan® Fine Powder high-performance coatings are used in place of stainless steel to protect water pipes, pumps and valves from abrasion and corrosion. Made from renewable materials, Rilsan® powder coatings use less energy and emit less carbon than metal coatings. Their long service life also lowers the costs of maintaining pipe systems.

3

HEAT TRANSFER FLUID FOR SOLAR CONCENTRATORS

Micro solar power plants are becoming increasingly common. Parabolic troughs focus the sun's rays onto a tube filled with Jarysol® heat transfer fluid, which collects and stores the heat and power. This fluid has excellent thermal, chemical and environmental properties and was specifically developed and approved for solar concentrators.

4

LONGER-LIFE SOLAR PANELS

Kynar® PVDF is a fluoropolymer used in protective sheets for solar back panels to help lengthen their life. It offers excellent protection against the elements — high temperatures, abrasive dust, moisture and UV rays — while staying white and reflecting light to the silicon in the photovoltaic cells.

5

A SOLAR ACRYLIC GLASS

Altuglas® acrylic sheet replaces tempered glass as the face sheet of photovoltaic panels. Its optical properties — crystal clear transparency and UV resistance — make it especially well-suited for the solar power market. It helps focus the sun's rays directly onto the thin silicon wafers, making the panel more efficient.

6

PROTECTING SOLAR CELLS

Evatane®, a polyolefin hardened with Luperox® organic peroxide, is used to encapsulate silicon photovoltaic solar cells and protect electrical circuits. Its high UV resistance and excellent transparency (better than 92%) make it a valued, durable, and economical material for protecting photovoltaic solar cells.

7

BETTER-FILTERED DRINKING WATER

Arkema has developed a new, particularly sustainable filtration material. It combines Kynar® PVDF's intrinsic ultrafiltration properties — it is capable of removing even bacteria and viruses — with hydrophilic properties. Filtration systems made with this material treat 20% more water without using any more energy and last an extra five to ten years in service.

8

PROTECTED WIND TURBINE BLADES

Photocure acrylic coatings made by Sartomer, an Arkema subsidiary, are used as a surface coating for wind turbine blades. Acrylic coatings harden instantly under ultraviolet light, making this new protective technology greener than green: it is solvent-free and emits zero volatile organic compounds (VOCs). Tomorrow's turbine blades may eventually be manufactured using our new Elium® thermoplastic resin, making them recyclable (see page 22).

9

INDUSTRIAL WATER FREE OF SULFUR RESIDUE

Effluents from refineries, petrochemical units and food processing plants contain sulfur compounds that build up in treatment plants, creating unpleasant odors. Arkema has developed a hydrogen peroxide-based process, Albone®, which eliminates this waste sulfur without generating treatment sludge or toxic byproducts. The epitome of a clean reagent, hydrogen peroxide's only byproducts are water and oxygen.

innovating WITH DIGITAL **TECHNOLOGY**

A Digital Transformation SERVING GROWTH

As everything today goes digital, we view our own digital transformation as an opportunity to step up our manufacturing and marketing performance. Christophe André, Executive Vice President, Technical Polymers & Performance Additives, is leading Arkema's digital transformation project. He fills us in on how things are evolving.

How would you describe Arkema's digital transformation?

C.A. > New digital practices and tools are radically changing the way we work, collaborate, do business and interact with our customers and suppliers. Chemical manufacturing, like all industry, doesn't exist in a bubble. We see digital technology as a tremendous source of innovation, decisive to our growth. The transformation will update practices across all our businesses and functions, leverage our know-how and create more value added.

What concrete benefits do you expect from the switch?

C.A. > Several projects at the plant or business activity level have paved the way and shown digital's potential. For example, we have used 3D simulations to accelerate the start-up of new production units, shortening engineering time and training operators more efficiently. In some of our business activities we've begun targeted e-marketing campaigns, collecting more detailed data in the process. We boosted share of mind and visibility among both customers and end users, for example, with the Pebax Powered® campaign aimed at athletes looking for high-performance shoes. Ultimately all this improves our performance and benefits our customers.

How will you cascade the digital transformation across Arkema?

C.A. > In 2016, Arkema's digital transformation became an established project — an ambitious, global project managed at the Executive Committee level. It has three major cornerstones. The first is business-centric. It aims to improve the customer experience and their awareness of the Arkema brand, to provide our business partners with more services and showcase our knowledge and expertise. The second centers on operations and improvements in production, logistics or support > functions. The last covers organization, management and culture: the idea is to tap our collective intelligence, become more collaborative, share information and work together, by promoting and adopting new digital practices.

What will your next steps be?

C.A. > Each of the three cornerstones will have several aspects, each complete with tangible goals. Examples include website performance audits to make sites more user-friendly and better manage contacts and leads to optimize business relations. Another is effective collection and use of data from production plants to make facilities more reliable and move toward predictive maintenance. And a third is improved knowledge sharing and collaboration using an enterprise social network. We're conducting pilot projects on these topics to confirm that the digital resources and tools provide benefits and are used properly. This will help us understand the best practices essential for broader deployment. We're advancing in steps, in a targeted, iterative way.

What are the key factors in the success of a project like this?

C.A. > You can't just order people to embrace digital technology. Adoption hinges on a mix of culture and skills. That's why our HR teams put together digital awareness programs specific to each business and occupation. We're also going to tap into the skills of millennials — defined as 17 to 35-year-olds, born in the digital era — and lean on "advocates" to encourage people to learn today's new digital work methods. All this will also make us more attractive to the new talents we need, in big data for example. Our digital transformation is a challenge that we must meet to improve our production, sales and marketing performance. –

SIMPLIFYING EACH STEP IN THE CUSTOMER EXPERIENCE

Digital technology is central to marketing performance, including B2B, whether using digital media to attract prospects, analyzing data or transforming the customer experience through customer relationship management (CRM). Every step in the customer experience can be simplified by today's new digital practices. That includes quickly locating a material or product for a specific application on a website, having the website recognize customers and point them toward customized information, then placing an order and tracking its progress and delivery online in a dedicated space. "Customers are at the center of our digital transformation," emphasizes Isabelle Torelli-André, head of Customer Experience & Digital Marketing at Arkema. The first tangible signs of the transformation will be visible in 2017. They include showcasing products on social media; strengthening a simpler, comprehensive market-based approach on the web; multi-criteria searches (by application, properties); and online sample ordering. It's the beginning of a thorough transformation of the customer experience, coordinated with the marketing and sales teams of every Arkema business line.

1. Strengthen and intensify **relationships with customers and markets**; showcase Arkema's brands and know-how.
2. Streamline and improve our **production, innovation and functional support practices**.
3. Expand digital culture and practices to increase our agility, cross-functionality and **collective intelligence**.

"ARKEMA SEES DIGITAL TECHNOLOGY AS A TREMENDOUS SOURCE OF INNOVATION TO CREATE MORE VALUE ADDED."

DIGITAL TECH ENHANCES INDUSTRIAL PERFORMANCE

For several years now, we've been harnessing the potential of innovative digital tools to build and start up our new plants. To design the new molecular sieve production line that began operating in Honfleur, France in 2016 for example, Arkema enlisted immersive 3D display systems. Operators could use the spatial representation and virtual reality applications to project themselves onto their future shop floor and make suggestions to improve efficiency. "This frontline feedback in the design phase let engineers build a more ergonomic, safer work environment for operators. It's a great demonstration of collective intelligence," comments Laurent Baseilhac, Vice President, Processes at Arkema.

In late 2015, the Kerteh thiochemicals plant in Malaysia began commercial-scale production just six weeks after it was commissioned. "That's a record for a plant its size, whose paint was barely dry. Our digital tools saved us valuable time," says Laurent Baseilhac. Arkema used simulators to train operators to run the facility, in the same way as airlines use flight simulators to train pilots. The operators were ready to respond to any potential situation as soon as they stepped into their jobs. "This eliminated 'rejects' and lots of the minor incidents that tend to happen during start-up phases. And most important, we delivered to our first customers very quickly," Laurent Baseilhac adds. Spurred by these successes, Arkema's design and engineering team is working on next-generation tools. Examples include 4D modeling — the fourth dimension being time — for plant construction and smart, mobile solutions to help production operators with decision-making.

innovating IN OUR APPROACH **TO CUSTOMERS**

TECHNICAL POLYMERS

Paints a Picture

In order to bring our technical polymers to a wider audience, we redesigned the way we market them. We began by putting ourselves in our customers' shoes. "They're looking for innovative, ultra-high-performance solutions that can meet the technical challenges of the future, such as lighter, more fuel-efficient vehicles, tougher solar panels and faster additive manufacturing," explains Kevin Hanrahan, Chief Marketing Officer for Arkema's Technical Polymers.

THAT'S HOW ARKEMA'S "EXTREME MATERIALS" WERE BORN IN LATE 2016. The new banner encompasses three major product families: Kynar® fluoropolymers, Pebax® thermoplastic elastomers and Rilsan® polyamide resins and alloys. The deceptively simple tagline — "An Extreme World Needs Extreme Materials" — is illustrated by a video that highlights their ability to tackle the challenges of a world in which technical requirements are being pushed to the limit. At the same time, we are underscoring each iconic brand's identity with a color: red for Kynar®, orange for Pebax® and green for Rilsan®.

Our extreme materials have taken up residence on the Internet. But the www.extrememateriales-arkema.com website is much more than a showcase: it guides web users browsing it. "We sketched out scenarios for three visitor profiles: market shoppers, who are seeking a solution for a specific market, product shoppers, who want to explore a particular product line, and data shoppers, who are looking for specific properties," says Kevin Hanrahan. Visitors can pick from three entry points: Markets and Applications, Product Families, and Materials Database, which features over 200 available materials.

From there, visitors navigate intuitively through the content — markets, products, applications, technical data — for a seamless experience modeled after B2C sites. They're eventually invited, using "Let's Run Together™" sports visuals, to contact Arkema's sales and marketing teams. "The website is where we meet our existing or future customers. It reflects our aim of making ourselves more attractive in our target markets, instead of just presenting a catalogue of products. But it's also only step one in a top-to-bottom transformation of the entire customer experience," says Kevin Hanrahan. ▬

PEBAX POWERED® TACKLES ATHLETES
Lightweight, impact resistant and flexible with high energy return, Pebax® soles mean outstanding performance for runners and soccer players. To win over this demanding group, we launched an online video campaign in partnership with two brands, Puma and Mizuno. The videos show what Pebax Powered® shoes can do during intense effort. "We promote Pebax® to athletes so they associate it with enhanced performance and ask to have it included in their gear," says Kevin Hanrahan.

Technical Polymers takes a new position.

ARKEMA EXTREME MATERIALS BY THE NUMBERS
- **9 markets: Automotive and Transportation; Chemical Industry and General Industry; Powder Coatings and Adhesives; Construction (Coatings); Consumer Goods, Sports and Healthcare; Electronics and Electrical; Energy (Oil & Gas); Renewable Energy; and Water and Environment.**
- **3 product families: Kynar®, Pebax® and Rilsan®.**
- **200+ grades.**

Before Sartomer's new website went live, customers had a print catalogue — a sample card — to help them identify which grade had the properties they were looking for. Then they requested a sample or technical literature from a technician or salesperson. This entire process can now be completed online.

Click Your Way TO 300 Sartomer Items

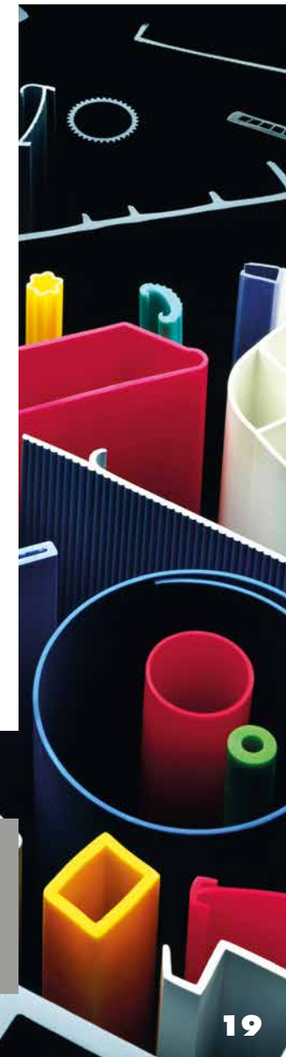
With 700 customers in Europe and nearly 300 products in all, used in markets as varied as 3D printing, adhesives, coatings and food packaging, Sartomer's photocure resins business is inundated with requests for information. "Our customers and prospects are formulators. Their markets change very fast and they need new recommendations on products all the time. We receive countless requests for information," says Caroline Bastien, Chief Executive Officer of Sartomer Europe.

IN 2016 SARTOMER DECIDED TO GO DIGITAL and offer its customers a very high-value-added service that would also attract new customers. "Lots of requests can be handled without direct contact. We redesigned our website with Internet users in mind. The goal is to make it easier for them to get information and process their request on line immediately," explains Julie Haevermans, Marketing Communications Manager at Sartomer.

In October, the original shop-window website built around products was replaced by a user-friendly, intuitive search tool. Visitors choose a family of resins and refine their selection based on several criteria, including type of product (monomers, oligomers), target application, properties and attributes. They can also download technical and safety literature and order product samples. "We've created an online technical assistance option," sums up Caroline Bastien.

Users create an account and log in to gain access to functions. "Their account helps us better understand their needs and ultimately customize their experience," adds Julie Haevermans. It provides an opportunity to mine new contacts and leverage the company's online presence as a powerful sales prospecting tool.

Sartomer is aiming to become the sector's leading online platform, the one Internet users turn to first for information. That would give it a huge competitive advantage. ▬



FLYING COLORS
As with any digital marketing initiative, traffic statistics and analytics help to measure its quality. The numbers are good for Sartomer: in four months, nearly 400 accounts were created at its website and almost 60 orders for samples were placed on line. The site logs an average of 700 visits a week. "Most Web visitors are not current customers and they come back regularly to find new information," says a pleased Julie Haevermans. The figures will get even better in 2017, when the site is set to add new content and features.

innovating FOR **TOMORROW**

R&D FOCUSED ON **Sustainability**

Six innovation platforms

BIO-BASED PRODUCTS

NEW ENERGIES

WATER MANAGEMENT

ELECTRONICS SOLUTIONS

LIGHTWEIGHT MATERIALS AND DESIGN

HOME EFFICIENCY AND INSULATION

These six platforms address societal issues described among the 17 Sustainable Development Goals (SDGs) established January 1, 2016 by the United Nations 2030 Agenda for Sustainable Development. Governments, the private sector and civil society all have a role to play for the goals to be reached.

196 priority patents filed in 2016 of which **60%** involve sustainability issues

7,678 patents held by Arkema

2.9% of company revenue allocated to R&D

1,500 researchers

13 R&D centers in three major regional R&D hubs: Europe, North America and Asia

1 incubator to develop disruptive innovations

2016 TOP 100 GLOBAL INNOVATORS Clarivate Analytics

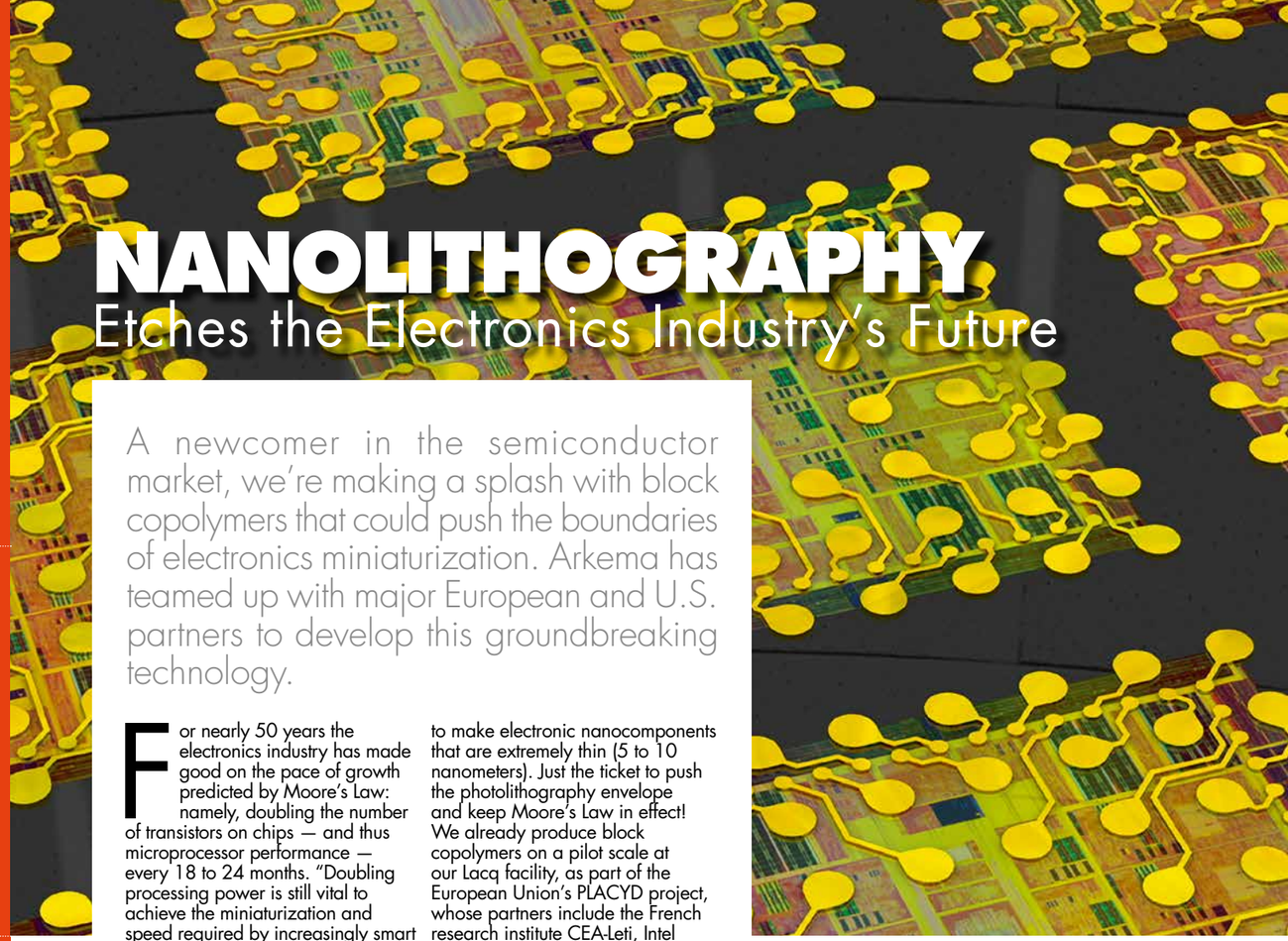
A TOP 100

GLOBAL INNOVATOR

In 2016 and for the sixth straight year, Arkema was included in the Top 100 Global Innovators ranking — compiled by Clarivate Analytics, formerly Thomson Reuters.

MORE THAN 50 PARTNERSHIPS

We pursue open, connected innovation, using the best scientific expertise and the latest tools, through partnerships with 50 top schools, universities, and public research organizations around the world.



NANOLITHOGRAPHY
Etches the Electronics Industry's Future

A newcomer in the semiconductor market, we're making a splash with block copolymers that could push the boundaries of electronics miniaturization. Arkema has teamed up with major European and U.S. partners to develop this groundbreaking technology.

For nearly 50 years the electronics industry has made good on the pace of growth predicted by Moore's Law: namely, doubling the number of transistors on chips — and thus microprocessor performance — every 18 to 24 months. "Doubling processing power is still vital to achieve the miniaturization and speed required by increasingly smart products, such as smartphones, computers, tablets and connected devices," explains Ian Cayrefourcq, Science Director at Arkema.

BUT CONVENTIONAL PHOTOLITHOGRAPHIC TECHNIQUES ARE NOW RUNNING INTO A PHYSICAL LIMIT: the wavelength of the beam used to pattern printed circuits. "This floor — around 40 nanometers — can still be lowered, but only through complex processes that increase production costs. For the first time ever, the price of electronic components is no longer falling," notes Ian Cayrefourcq.

THIS IS WHY ARKEMA'S BLOCK COPOLYMERS ARE SPARKING SO MUCH INTEREST. They can self-assemble their molecules on a nanometric scale, creating geometric patterns — nanolines and nanocontacts — that can be precisely adjusted. This directed self-assembly lithographic process, also known as DSA nanolithography, can create patterns to make electronic nanocomponents that are extremely thin (5 to 10 nanometers). Just the ticket to push the photolithography envelope and keep Moore's Law in effect! We already produce block copolymers on a pilot scale at our Lacq facility, as part of the European Union's PLACYD project, whose partners include the French research institute CEA-Leti, Intel and STMicroelectronics, among others. The Lacq line can turn out block copolymers with the consistent quality the electronics industry requires.

BUOYED BY THESE RESULTS, ARKEMA HAS SIGNED AN R&D AND MARKETING PARTNERSHIP AGREEMENT WITH THE U.S. COMPANY BREWER SCIENCE, a global leader in materials for the microprocessor industry (see opposite). The pairing creates a serious contender to reach the next technology milestone set by the Semiconductor Industry Association[1]: circuit etching smaller than 10 nanometers by 2019. Arkema and Brewer are banding together to tackle this immense challenge. ■

1. The Semiconductor Industry Association includes all of the industry's manufacturers. In its International Technology Roadmap for Semiconductors 2.0 (ITRS 2.0), it regularly sets new technological milestones (or nodes) for them to achieve.

partner interview

DARRON JURAJDA, SEMICONDUCTOR BUSINESS UNIT LEADER AT BREWER SCIENCE

What does the strategic partnership between Brewer Science and Arkema aim to achieve?
D. J.: We're combining our strengths to commercialize the materials needed for the next generation of semiconductors.

What steps have you already completed?
D. J.: Working as a team, Brewer Science and Arkema scientists and engineers have demonstrated pilot-scale production of high-quality directed self-assembly (DSA) materials. It's an important step in bringing DSA from R&D up to commercial semiconductor production.

What is the partnership's greatest strength?
D. J.: The way we complement one another. Arkema brings its expertise in block copolymer manufacturing and Brewer Science brings knowledge in formulating resins to produce materials for the semiconductor industry. This enables us to deliver high-value-added products that meet the emerging needs of semiconductor manufacturers.

innovating FOR **TOMORROW**

ELIUM®

FOR RECYCLABLE COMPOSITES

Elium®, a thermoplastic resin developed by Arkema, reinforced with carbon or glass fibers, makes tough, lightweight composite parts. Elium® composites make vehicles lighter and improve the performance of wind turbine blades. And, unlike thermoset composites, they are fully recyclable, – better for the environment.

CREATING
the Wind Turbines of the Future

THE WIND AT ELIUM®'S BACK

The number of wind turbines installed worldwide grew 17% in 2015[1]. We are on the cutting edge of innovation in this booming market, working with our partners to develop a new generation of wind turbine blades made from Elium® thermoplastic resin. High-performance composite parts manufactured using Elium® resin reinforced with glass fiber offer serious advantages. First, Elium® resin can be processed using the same methods employed for thermoset resins, thus requiring no additional capital outlay. Second, Elium® composites have ten times greater fatigue resistance than epoxy thermoset composites. Lastly, unlike thermoset composites, Elium® thermoplastic resin is recyclable (see opposite). Arkema's Elium® is a breath of fresh air for wind power.

1. Source: Global Wind Energy Council (GWEC)

Arkema has teamed up with Plastinov and other innovative small businesses on the Effiwind project in France. The goal is advanced wind turbine blades made from Elium® resin. In late 2016, Effiwind achieved a milestone when it crafted an initial 25-meter blade. "We proved the project's industrial viability," comments Michel Glotin, Director, Materials Science at Arkema. "Elium® resin is currently the only thermoplastic compatible with conventional blade-making equipment and processes." Soon to be tested at the Plougras wind farm in Brittany, France, the first Elium® blades could reach the market by 2019.

LESS ADHESIVE

Current wind turbine blades made of thermoset composites require adhesives that are often time-consuming and expensive to process. Blades made from Elium® thermoplastic resin can be assembled using low-temperature adhesives or, for some parts, simple heat welding. Less adhesive means lower manufacturing costs.

ELIUM®: THE RECYCLABILITY BONUS

The installed base of wind turbines around the globe spins blades totaling several million tons of epoxy or polyester composites. These thermoset materials are challenging to recycle, a fact that will pose a growing environmental headache as installations multiply and age. Arkema meets this challenge with Elium®, the first thermoplastic resin for recyclable wind turbine blades.

PARTNERING WITH A SPECIALIZED COMPOSITES LAB

Arkema is working alongside the Institute for Advanced Composites Manufacturing Innovation (IACMI), a major U.S. program to invest in composites. In January 2017, we and our partners produced a nine-meter blade prototype made of Elium® resin to demonstrate its industrial feasibility, mechanical properties and environmental benefits.

Find out about Elium®'s advantages for wind power

REDUCING
Automobile Pollution

LIGHTER VEHICLES WITH ELIUM®

To comply with increasingly strict carbon emission standards, carmakers are striving to trim vehicle weight. We're a key partner in this weight-loss program. Up to 30% lighter than aluminum and 50% lighter than steel, Elium® resin composites offer the mechanical properties auto body parts demand and are lightweight replacements for metal structural parts like welded sheet metal components, flooring, and reinforcing bars. They have two major advantages over thermoset composites: superior impact resistance compared to thermoset composite parts and recyclability that enables carmakers to comply with the new European Union regulations on recycling end-of-life vehicles. The first cars featuring Arkema composites are expected to roll off assembly lines in 2020.

A 95-GRAM TARGET

In 2020, the carbon emission cap for new cars in the European Union will drop from 130 grams to 95 grams a kilometer. To achieve this target, carmakers are designing lighter vehicles by replacing metal with composites. At once light, tough and, most important, recyclable, Arkema's thermoplastics are a part of this solution.

In partnership with the M2P Institute of Technology Research in Metz and several French carmakers and automotive OEMs, Arkema joined the Fast RTM Technology Platform in 2015. "In June 2016, we set up a pilot-scale unit to demonstrate the feasibility of mass-producing automotive parts made of Elium® composite, at the speeds required by automakers: a part every two minutes," says Michel Glotin, Director, Materials Science at Arkema. A winner for process technology at the most recent JEC Innovation Awards, Fast RTM is expected to run through December 2017. And pave the way for lighter, lower-carbon-emission vehicles featuring "Made by Arkema" thermoplastic composites.

Fast RTM Project

Rilsan® Matrix for composite automotive parts

SHEDDING MORE WEIGHT: THE INNOVATIVE RILSAN® MATRIX

With the support of the Canoé R&D center in southwestern France, Arkema has developed Rilsan® Matrix tape. Introduced in March 2017 at the JEC World 2017 international composites event in Paris, Rilsan® Matrix is a high-temperature-resistant polyamide ribbon reinforced with continuous carbon fiber and packaged in tapes and rolls. Automotive OEMs will make composite parts by using robots to position the thermoplastic tape in preforms, then hot-stamp these in a press. The stamped part will withstand high temperatures and enable carmakers to combine metal and composite parts in a single vehicle body.

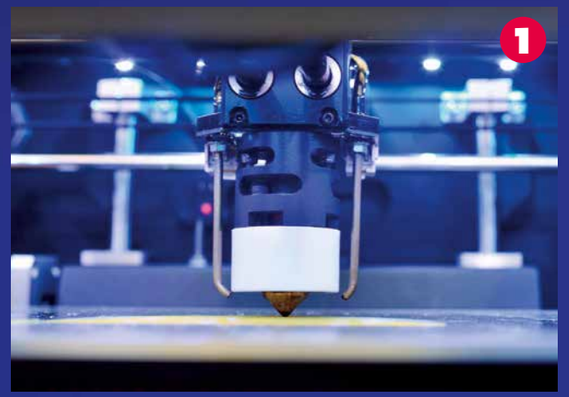
innovating FOR **TOMORROW**

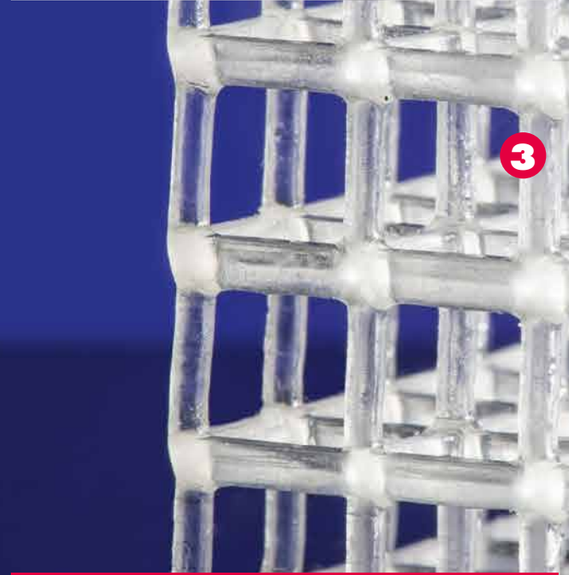
The Future OF MANUFACTURING **3D Printing**

3D printing — or additive manufacturing — is a revolutionary new production method. Arkema plays a leading role in this booming market, providing materials for a wide array of manufacturing applications ranging from aeronautics to medical devices to athletic gear.

According to a SmarTech Markets industry report published in 2015, 3D printing posted global revenue of $4.7 billion that year. Some $900 million of that was attributed to polymers and resins, which are growing 25% annually. Arkema brings to this particularly vibrant and innovative market a range of materials covering every type of printing technology. Examples include Rilsan® and Orgasol® polyamide powders and Kepstan® PEKK powders for selective laser sintering; Sartomer N3xtDimension™ photocure resins for stereolithography and material jetting; and thermoplastic resins used in the Fused Filament Fabrication, or FFF, printing process.

ARKEMA PRODUCES THE "FUELS" FOR A REVOLUTION THAT IS SHAKING UP MANUFACTURING METHODS IN EVERY SECTOR. 3D printing gives professionals and businesses a way to make customized objects without the long and costly process of building a mold. Functional prototypes, small-run finished parts, and industrial instruments and devices can be produced in record time using in-house printers or those available at fabrication laboratories ("fablabs") and specialized design offices.





1. **Fused Filament Fabrication (FFF) technology based on depositing a continuous fine filament of thermoplastic resin.**
2. **Prodways, an Arkema partner, offers two types of printers: one that polymerizes photocure resins using UV light and another that employs a laser to sinter polyamide powders. The printers can be used to mass-produce small parts or more technical prototypes.**
3. **Close-up of a part made from Sartomer N3xtDimension™ resin, showing the quality of the finish.**

LIGHTWEIGHT MATERIALS AND DESIGN

WELCOME TO THE N3XTDIMENSION™

In November 2016, Sartomer launched N3xtDimension™, a new range of photocure 3D printing materials that yields ultra-high-definition prototypes and parts with superior mechanical properties. N3xtDimension™ materials may take 3D printing from prototyping to mass production.

PARTNERSHIP

COLLABORATIVE R&D

We work hand in glove with our customers and partners to develop additive manufacturing solutions. In May 2016, Arkema announced a partnership with HP Inc. to develop materials for their new Multi Jet Fusion printers. In November we signed a partnership agreement with Prodways, a French 3D printing specialist, which will allow us to quickly bring to market new powders that meet the 3D challenges facing the automotive, aerospace and medical industries.

IMPACT RESISTANCE

KEPSTAN® MAKES A STRONG IMPRESSION

Often referred to as an extreme polymer, Arkema's Kepstan® PEKK offers a remarkable set of mechanical properties. Light and tough, Kepstan® PEKK is nonflammable and can withstand exposure to high temperatures, abrasion and chemicals. It is perfectly suited to additive manufacturing parts for aeronautics, aerospace, and oil and gas extraction, industries looking for lighter products and fatigue resistance under extreme conditions. Plus, Kepstan's® chemical structure optimizes the 3D printing process: all of the powder is used up, leaving no waste. Economical, ultra-high-performing and light, Kepstan® gives even the most demanding industries new options.

$15 billion

The estimated size of the global 3D printing market — printers, materials and production services — by 2020. That's three times higher than in 2015. (Source: SmarTech Markets 2015 report)

"WE SUPPLY OUR MATERIALS TO FOUR MAIN TYPES OF CUSTOMERS." says Ilias Iliopoulos, Scientific Director at Arkema, **"ORIGINAL EQUIPMENT MANUFACTURERS, SUPPLIERS OF 3D PRINTING SOLUTIONS,** service providers, and end users – mainly in industry." We partner with customers to provide products tailored to their current needs and products that anticipate future technologies and applications. In 2016, Arkema announced a new materials partnership with HP Inc., which has just entered the 3D printer market, and another with Prodways, a French specialist in 3D printing solutions (see opposite).

THROUGH SUCH PARTNERSHIPS, ARKEMA IS THE LEADING MATERIAL SUPPLIER IN A NUMBER OF MARKETS. In **aeronautics**, additive manufacturing exploits the advanced mechanical properties of Rilsan® and Kepstan® powders (see opposite) to produce complex airplane parts much faster and more cheaply than the usual molding and assembly processes. Additive manufacturing in the **automotive industry** uses Arkema powders and resins for small-run prototypes, tools, molds and customized parts. Recent converts to 3D printing, **medical device makers** use Arkema materials to produce hearing aids, dental and other prosthetics, and medical instruments. Makers of **athletic gear** create new designs for innovative, higher-performing equipment. **Lastly, engineering professionals, architects and designers** make highly attractive mockups and models using Sartomer resins.

Arkema is reaping the rewards of a very active R&D policy, one that closely tracks emerging market demand and is open to partnerships with the major users of 3D printing. —

"WE ARE STRENGTHENING OUR POSITIONS IN THE BOOMING 3D PRINTING MARKET BY OFFERING A WIDE, VARIED, INNOVATIVE AND HIGH-PERFORMING RANGE OF MATERIALS."

ILIAS ILIOPOULOS,
SCIENTIFIC DIRECTOR AT ARKEMA

grow

With revenue up from €5.6 billion in 2006 to €7.5 billion in 2016, Arkema has never stopped **growing** and investing in growth regions. We have spent 10 years working on a strategic rebalancing of our activities among Europe, Asia and North America.Now, thanks to our targeted acquisitions policy and major investments in production facilities, we're more international than ever and tapping into the vitality of fast-growing regions.
See our "growth" destinations in Asia and North America on the pages that follow.

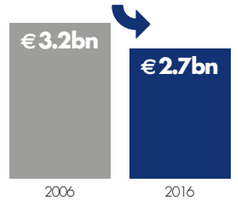
growing WHERE MARKETS ARE EXPANDING

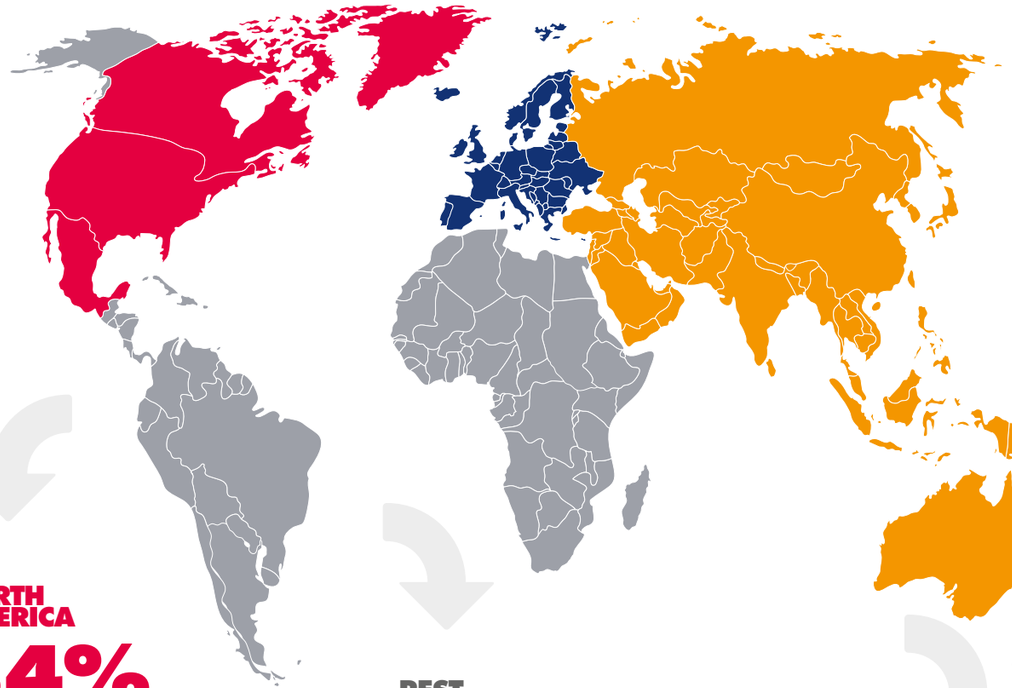
THE LAST TEN YEARS HAVE SEEN EUROPE'S SHARE OF REVENUE DECREASE, WHILE ASIA'S AND NORTH AMERICA'S HAS RISEN.

EUROPE

36%

of revenue in 2016
versus 58% in 2006

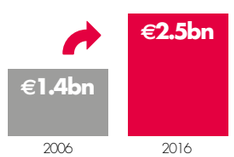




NORTH AMERICA

34%

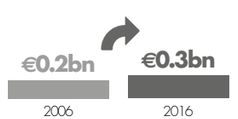
of revenue in 2016
versus 25% in 2006



REST OF THE WORLD

5%

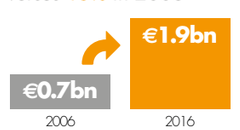
of revenue
in 2016 and in 2006



ASIA

25%

of revenue in 2016
versus 13% in 2006



A Winning STRATEGY IN NORTH AMERICA

North America accounts for some 34% of Arkema's revenue. We've grown steadily here over the last five years, reaping the returns of strategic choices, including a product portfolio focused on high-growth markets, a targeted production ramp-up, and R&D tied directly with our customers.

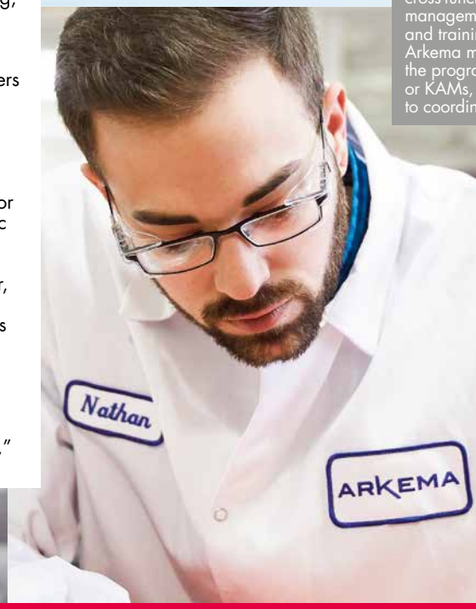
The size of its economy and its regular growth — 2 to 2.5% a year since 2010 — make North America a key region for Arkema's development. We now earn 34% of our revenue here, up from 25% in 2005. All our business lines are active in North America, with solid positions in many markets, including transportation, packaging, electronics and construction. "We've been able to take advantage of new opportunities by strengthening our product and service offering and leveraging Arkema's global production technologies and assets," sums up Rich Rowe, CEO of Arkema Inc. In 2016, Arkema posted growth of 3.5% in North America.

THE MOST DRAMATIC CHANGE IN THE LAST FEW YEARS has been integrating our acrylics segment in the United States. The acquisition of Dow assets in 2010 gave Arkema upstream acrylic monomer plants, in Bayport and Clear Lake, Texas. We invested $200 million to upgrade them in several steps. These units feed our downstream activities in rheology additives, coating resins (see next page) and photocure resins, themselves the products of acquisitions: Coatex in 2007, Cray Valley in 2011 and Sartomer in 2012. This has cleared a path for Arkema in thriving markets such as super-absorbents for disposable diapers and personal care products, decorative paints, and finish coats. In 2015, we also branched out into specialty adhesives by acquiring Bostik, which has nine sites in the region.

TO DRIVE OUR GROWTH IN NORTH AMERICA, we draw constantly on our ability to innovate. "Our R&D centers play a crucial role, giving us access to the most vibrant segments of the economy," explains Rich Rowe. In industrial specialties, we upgraded our fluorogas range, used in air conditioning, to bring it in line with new environmental regulations. To make lighter cars and airplanes, Arkema's researchers work closely with U.S. manufacturers to replace steel with tough, lightweight technical polymers. Another focus is innovative energy storage, especially batteries for electric vehicles and electronic devices. Here our R&D teams have exploited the properties of Kynar® PVDF fluoropolymer, a flagship Arkema material developed in the United States more than 50 years ago. This innovative work has created positive effects for Arkema worldwide. "When it comes to R&D, we work for Arkema, ignoring regional boundaries," concludes Rich Rowe.

AIMING FOR SALES EXCELLENCE

In 2012, Arkema introduced in North America a pilot program for sales and marketing excellence, taking it company-wide in 2016. The program goal is to stay focused on customer expectations and promote better solutions by speaking with one voice. The program draws on tools that support this cross-functional approach, including customer relationship management (CRM) systems, sales rep meetings by market, and training. Because a single customer often buys several Arkema materials, each made by a different business line, the program instituted global key account managers, or KAMs, based as needed in North America, Europe or Asia, to coordinate the different activities and offer the best solutions.



2007 Acquisition of Coatex and with it the Chester, South Carolina plant where it manufactures rheological additives.

2008 Acquisition of Odor-tech, which produces and distributes natural gas odorants in North America.

2010 Acquisition of Dow's acrylic monomer and emulsion assets, including the Bayport and Clear Lake plants in Texas. Announcement of a $110 million plan to upgrade, repurpose and increase the capacity of both sites between 2012 and 2014.

2011 Acquisition of Total's coating resin (Cray Valley, Cook Composite Polymers) and photocure resin (Sartomer) activities, including five production units in the United States.

2014 Acquisition of Bostik, including eight production units in the United States and two in Mexico.

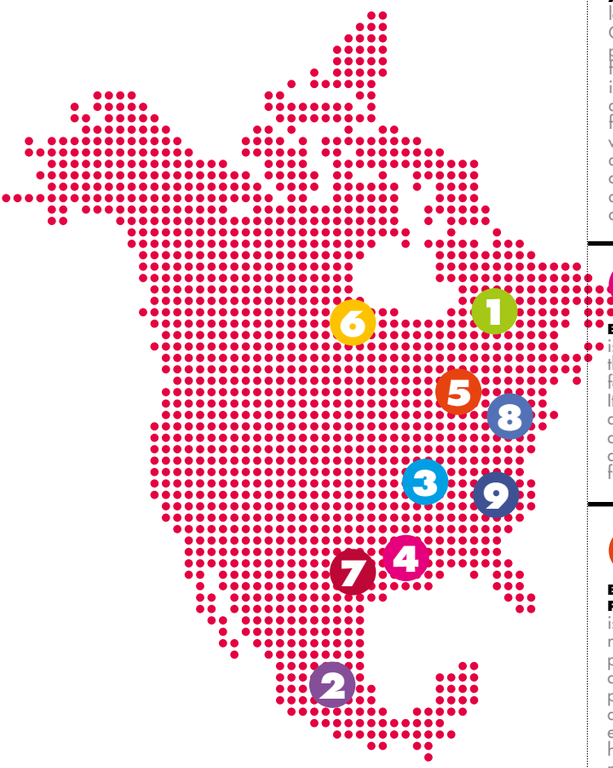
2015 Bostik opens new units in Dallas, Texas and Monterrey, Mexico.

2015 Invented in the United States and famous as the base for long-lasting coatings and finishes, Kynar® PVDF fluoropolymer resin celebrated its 50th birthday.

2016 Investment in new bio-based polyamide production capacity in Birdsboro, Pennsylvania.

2017 $90 million invested to upgrade the Clear Lake, Texas, acrylics plant.

growing IN NORTH AMERICA



All Arkema business lines have a marketing and manufacturing presence in North America. Our successive acquisitions, notably in acrylics and of Bostik, have pushed the number of production facilities in the region up from 26 in 2012 to 37 today.

MOST OF THESE PRODUCTION FACILITIES — 31 to be exact — are located in the United States, where Arkema employs 3,100 people.

1. In Canada, Arkema has 60 employees and one plant that produces hydrogen peroxide for the pulp market.
2. In Mexico, we employ 480 people at four production sites: two for Bostik, one for Altuglas® PMMA and one for organic peroxides.

3 **ARKEMA'S BIGGEST PRODUCTION SITE IN NORTH AMERICA** is located in Calvert City, Kentucky. It produces Forane® fluorogases, used in air conditioning, and Kynar® PVDF fluoropolymers, which go into a wide range of industrial and electronic applications.

4 **BEAUMONT, TEXAS** is home to our thiochemicals unit for North America. It produces sulfur derivatives used in animal feed and agricultural soil fumigants.

5 **BIRDSBORO, PENNSYLVANIA** is home to the regional plant that produces Rilsan® and Rilsamid® polyamides and Pebax® elastomer. These high-performance materials are used to make high-temperature flexible lines and hoses for the automotive industry, gas and oil pipes, ski boot shells and athletic shoe soles.

6 Bostik is headquartered in **WAUWATOSA, WISCONSIN**. The subsidiary has 12 production plants in North America, including two in Mexico. The region accounts for 28% of Bostik's sales.

7 **AT THE CLEAR LAKE, TEXAS SITE,** we announced in early 2017 that we would invest $90 million to further upgrade our acrylic monomers unit. In 2015, Bostik opened its ninth production site in the United States, paired with a training center, in Dallas, Texas.

8 **ARKEMA, INC.** is headquartered in King of Prussia, Pennsylvania. Some 600 people work there. The Sartomer business line has several production facilities nearby.

THE KING OF PRUSSIA R&D CENTER develops solutions for seven business lines. It works on both local and global needs, networking with Arkema's European and Asian R&D centers.

9 Arkema's **COATING RESIN ACTIVITIES** in North America are managed from Cary, North Carolina. The facility also houses a coating resins R&D center.

$2.5 billion
in revenue in 2016
or
34%
of Arkema's sales

3,700
employees
including
3,100
in the United States

37
production sites
including
31
in the United States

$900 million
in capital expenditure
in 10 years

3
R&D centers

R&D THAT IS AHEAD OF CUSTOMERS' EVOLVING NEEDS

Arkema has a North American R&D center in King of Prussia, Pennsylvania. About 125 people work there to develop new materials and new applications for our products. "We have to offer solutions to our customers' technical challenges — and anticipate their needs even before they've articulated them," explains Ryan Dirkx, Vice President, R&D at Arkema, Inc. Working in close consultation with our sales and marketing teams, our researchers strive to foster quality technical relationships with our customers. We often acquire the same equipment as our customers to mirror their operating conditions and guide our product development.
King of Prussia's research has yielded several major innovations. These include the use of Kynar® PVDF as a binder in lithium-ion batteries; optimized Altuglas® PMMA grades for better LED light diffusion in buildings and vehicles; and the development of resins for 3D printing. All address tomorrow's major energy, environmental and technical challenges.

SERVICE MAKES THE DIFFERENCE IN COATING RESINS

After a series of acquisitions — Dow, Cray Valley, Cook Composite Polymers — our coating resins business has seven production units in the United States and generates 40% of its sales in North America. It supplies the biggest paint manufacturers, offering them a comprehensive range of binders, emulsions and additives. "They find everything they could possibly need at a single supplier," says Dr. Richard Jenkins, Global Group President for Coating Resins.
However, to formulate a paint, manufacturers also need the right ingredients at the right time and in the right amounts. Arkema's coating resins business is organized to be very responsive and to simplify the supply chain, for example by delivering from among several thousand components the specific ones that go into a paint, all at the right time. "In addition to a wide range, formulators appreciate anything that makes their job less complicated," points out Richard Jenkins.

BREAKTHROUGH IN B2C

Bostik has about 35% of the U.S. market for wood-flooring adhesives and surface preparation materials. Over the last four years, a big share of Bostik's growth has come from increased B2C activities, notably its growing presence in specialty flooring stores, which offer both professionals and do-it-yourselfers a complete flooring system that meets their project requirements.

BOSTIK FORMULATES EVER MORE INTELLIGENT ADHESIVES

Bostik, Arkema's specialty adhesives business line, has 12 production sites, three technical centers (R&D and support) and 1,000 employees in North America. It is active in three main markets: construction (mortars and grouts, adhesives, sealants), personal care products (disposable diapers and feminine hygiene products) and industry (packaging, labeling and assembly). "Bostik products, chosen for the value they add, are used in almost 60 different applications," comments Bob Marquette, Senior Vice President at Bostik Americas. In 2016, Bostik continued to expand its line of adhesives for wood flooring and preparation materials. These products are sold as a complete flooring systems offering acoustic sound and moisture protection, with enhanced cleanup properties during installation. In the personal care market, Brilliance™, a new generation of adhesives, offers manufacturers greater uniformity and precise application. Bostik's fire retardant adhesives, used to assemble interior panels for airplanes, increase passenger safety. Bostik provides innovation-driven products that do more than just stick things together. ▬

CHINA, Arkema's Growth ENGINE IN ASIA

Our share of "made in Asia" revenue jumped from 13% in 2006 to 25% in 2016. To capture the region's growth opportunities, we've invested in large-scale production capacity in China and Malaysia and located our R&D teams close to local customers.

As soon as Arkema was created in 2006, we set our sights on Asia, with two goals in mind: to tap into the continent's economic vitality and to rebalance our global footprint. Ten years later, we're on track to achieve both goals. Our revenue in the region has increased an average of 10% a year and Asia now accounts for a quarter of our total earnings. "All Arkema business lines are contributing to this result," says a pleased Xavier Durand-Delacre, Senior Vice President, Arkema Asia-Pacific and President, Arkema Greater China.

CHINA HAS SERVED AS BOTH A BUSINESS ENGINE AND A REGIONAL PIVOT POINT IN OUR RISE IN ASIA. The country's development offered — and still offers — growth potential for many of our specialties, including coating resins and construction industry adhesives, polyamides for lighter automotive materials, fluoropolymers for batteries and photovoltaic applications, and high-quality hydrogen peroxide cleaning agents for electronics. We adapt our innovative solutions to local market requirements at our Changshu R&D center (the CRDC, which works for all Arkema business lines) and our Shanghai technical laboratory (for Bostik). "China accounts for just over one-third of Arkema's sales in Asia, or 10% of our revenue," emphasizes Xavier Durand-Delacre. To serve our customers we have developed production capacity in China on a par with our regional ambitions. In 10 years we've invested more than €500 million in our Changshu site, now our biggest industrial complex worldwide with eight production units (see opposite). We have also doubled the capacity of our Shanghai hydrogen peroxide plant.

AT THE SAME TIME, SELECTIVE ACQUISITIONS HAVE STRENGTHENED KEY SECTORS. Examples include Casda Biomaterials (sebacic acid) and Hipro Polymers (technical polymers), acquired in 2012 and rechristened Arkema Suzhou Polymers, and the Sunke joint venture (acrylics) with Jurong Chemicals in 2014. What's more, Sartomer and Bostik, acquired in 2011 and 2015 respectively, also have dedicated production sites in the country. "Arkema has eight production complexes in China and manufactures 500,000 tons of product each year," sums up Xavier Durand-Delacre. Our strong presence in China, along with facilities in neighboring countries — including the thiochemicals plant in Kerteh, Malaysia and the R&D center in Kyoto, Japan — gives us a solid, sustainable base for continued growth in Asia. "While China is seeing its growth rate level off, other countries such as Malaysia, Vietnam, the Philippines and Indonesia offer attractive opportunities. We have all the strengths we need to go after them," says Xavier Durand-Delacre.

CHANGSHU, ARKEMA'S LARGEST INDUSTRIAL COMPLEX
The Changshu industrial site epitomizes our exponential growth in China. Located near Shanghai, it had 250 employees and three units in 2006. By 2016, it was our biggest production complex worldwide, employing 800 people in units manufacturing organic peroxides, specialty polyamides, fluoropolymers (Kynar® PVDF), rheology additives, coating resins and fluorogases. It is also home to an R&D center, the Changshu Research & Development Center, or CRDC.

1984 First sales and marketing office in China.

1993 Opening of the Kyoto Technical Center (KTC), an R&D facility, in Japan.

1996 Launch of the Changshu industrial project in China.

1998 Creation of the copolyamide joint venture in Shanghai, China. Acquisition of the PMMA plant and investment in the organic peroxide unit in South Korea.

2000 Start-up of the first units in Changshu, China, producing fluorogases and polyamides. Start of hydrogen peroxide production in Shanghai, China. Start of copolyamides production in Shanghai, China. Our distribution affiliate begins operating in Shanghai, China.

2005 Start-up of a unit to produce organic peroxides in Changshu, China.

2008 Doubling of hydrogen peroxide production capacity in Shanghai, China.

growing IN ASIA

After a decade of investment and targeted acquisitions, all nine of our business lines have production sites in Asia. "The plants are intended to meet regional needs," says Xavier Durand-Delacre, Senior Vice President of Arkema Asia-Pacific.

AMBITIONS BEYOND CHINA

We offer our entire portfolio of specialties in Asia via marketing operations that blanket the region. Outside China, we employ almost 200 people in Japan and South Korea, where we earn 17% of our regional revenue.
The 10 countries of Southeast Asia account for 15% of regional revenue. Arkema has 650 employees there, including 120 at the Kerteh plant in Malaysia.

1

ARKEMA OPERATES 12 PRODUCTION UNITS within a 200-kilometer radius of Shanghai. Nine are located in or around Changshu, eight within our biggest industrial complex (see previous page) and a Bostik plant close by. We operate a hydrogen peroxide production site in Shanghai, a technical polymer plant (PA10 polyamides) in Zhangjiagang and the Sunke acrylic monomer unit, a joint venture with Jurong Chemicals, in Taixing. A thirteenth unit, located 1,000 kilometers further north in Hengshui, manufactures sebacic acid.

ARKEMA has an R&D center in Changshu, China (see opposite) and a Bostik technical laboratory in Shanghai.

2

GUANGZHOU includes a production unit and a laboratory for Sartomer specializing in photocure resins and a unit to produce Bostik adhesives.

3

SOUTH KOREA has two Arkema production sites: PMMA resins in Jinhae-gu and organic peroxides in Chilseo through a joint venture with Seki. A local innovation center has been based on the Hanyang University campus in Seoul since 2016.

4

IN JAPAN, THE KYOTO TECHNICAL CENTER (KTC) adapts technical polymers to the local automotive, electronics and sports gear markets. Sartomer has a laboratory in Yokohama. The organic peroxides business line also has a production plant (a joint venture with Yoshitomi) in Fukuoka and Bostik has created the Bostik-Nitta joint venture in Osaka.

5

IN MALAYSIA, Arkema has set up a thiochemicals unit in Kerteh serving all of Asia. Operational since early 2015, it is our largest industrial investment to date.

BOSTIK has two plants, in Johor Bahru and Seremban, specialized in cement-based construction products: adhesives and sealants for tile and expansion joint sealants for flooring. The Seremban plant's capacity was expanded in 2016 to keep pace with the growth of the construction market in the region.

6

ARKEMA OPERATES IN SOUTHEAST ASIA out of our sales and marketing office in Singapore, which provides commercial representation for most of our nine business lines. Coating Resins & Additives has a production facility in Malaysia. Bostik has five sites in the region, in Thailand, the Philippines, Indonesia, Vietnam and Malaysia.

€1.9 billion
in revenue in 2016
or
25%
of Arkema's sales

4,500
employees
including
2,900
in China

29
production sites
8
of them
in China

Nearly
€800 million
in capital expenditure
on production facilities
in Asia over 10 years

2
R&D centers
2
technical laboratories

TECHNICAL POLYMERS, THE RECORD-SETTER

One of our oldest business lines in China, going back to the 1990s, Technical Polymers has become our biggest in Asia. "Year after year, we jumped on opportunities, reporting average growth in the double digits for the last decade. 2016 was a record year for us in terms of volumes and market share in our strategic markets," says a pleased Julie Zhang, Group President of the Technical Polymers business line for the Asia-Pacific region.
Its success has been driven by adapting products to local market needs with the support of the Arkema R&D centers in Japan, France and the United States, enhanced since 2013 by the addition of the Changshu R&D center. "The opening of the CRDC was a shot in the arm for our activities," says Julie Zhang. Technical Polymers' achievements include validating Rilsan® HT polyamide to replace metal in automotive applications and the adoption of Kynar® PVDF for use in electric vehicle lithium-ion batteries and to protect photovoltaic panels.
Thanks to our substantial investments, Technical Polymers has three production units in China: PVDF fluoropolymers and copolyamides in Changshu and bio-based polyamides in Zhangjiagang. This production capacity will be further scaled up consistent with our ambitions for Asia.

STRATEGIC PRESENCE IN JAPAN

The Kyoto Technical Center (KTC) in Japan works closely with the biggest names in electronics, automotive manufacturing and sports gear and tailors technical polymers to their requirements. "Mizuno and other well-known brands use Pebax® in their high-performance running shoes and soccer shoes," comments Denis Tual, President at Arkema Japan and Arkema South Korea.
Marketing teams maintain key relationships with leading Japanese manufacturers that are global Arkema partners. Examples include Daikin for refrigerants in China and Sumimoto Seika for superabsorbent polymers in France.

THIOCHEMICALS AT FULL CAPACITY IN KERTEH

Commissioned in 2015, the regional thiochemicals complex in Kerteh, Malaysia reached full capacity in 2016. It produces sulfur derivatives for the agrochemical and petrochemical markets as well as mercaptans supplied to downstream partner CJ Bio, which manufactures bio-based amino acid L-methionine for animal feed. "In this relatively non-cyclical market, demand remains quite high," comments Kenny Gan, Managing Director for Southeast Asia at Arkema.
Built in under three years, the greenfield Kerteh complex was Arkema's biggest industrial investment since 2006, with a price tag of about €200 million.

Kerteh Complex by the Numbers
14 hectares
2,000 tons
of structural steel
70 kilometers
of pipes

CHANGSHU: R&D UNABRIDGED

The Changshu R&D Center (CRDC), which opened in 2013, employs nearly 60 people. "Most of our researchers are Chinese and have international experience," points out Denis Bortzmeyer, the Director. It's an ideal combination that fits into the local innovation ecosystem while leveraging Arkema's international reach.
The CRDC has two missions. First, it develops and upgrades processes at Asian units to make new products, adapt production sites to changing regulations and trim manufacturing costs. Changshu's R&D teams, for example, doubled the life of an expensive catalyst used to produce fluorogases.
Second, the center tailors Arkema products to the specific features of all Asian markets, including electronics, automotive, energy (batteries and photovoltaics) and sports equipment. For instance, it developed a special grade of acrylic emulsion for paints sold in the Chinese market that was later adopted in Europe because of its performance. This kind of product localization occurs in all the business lines. Increasingly, the center goes beyond just local needs, creating innovative products specifically for the Asia region.
The CRDC is a part of the Arkema R&D network that includes the KTC in Kyoto, Japan, the brand-new innovation center in Seoul, South Korea, as well as its European and U.S. counterparts.

2010
Start of third-generation fluorogas production by Arkema-Daikin Advanced Fluorochemicals.

2011
Start-up of units to make Kynar® PVDF and Coatex rheology additives in Changshu, China.
Acquisition of Cray Valley Coating Resins and Sartomer in China.

2012
Acquisitions of Casda Biomaterials and Hipro Polymers in China.

2013
The Changshu R&D Center (CRDC) opens in China.
The coating resins emulsion plant in Changshu, China comes on line.

2014
Creation of the Sunke joint venture to produce acrylic monomers in China.

2015
Acquisition of Bostik and its technical center in Shanghai, as well as its units in Changshu and Guangzhou, China; India; Thailand, the Philippines, Indonesia, Vietnam and Malaysia in Southeast Asia; and Australia and New Zealand.

2015
Start-up of the thiochemicals plant in Kerteh, Malaysia.

2016
Opening of an innovation center in South Korea, at Hanyang University in Seoul.

engage

Corporate social responsibility (CSR) and sustainability are integral to our growth strategy. Steadily improving safety and environmental indicators, product development that always considers environmental impacts, new staff diversity targets and nearly 1,000 initiatives that reach out to our site communities — these actions make our CSR ambitions clear: **engaging** all employees to meet the sustainability challenge and making Arkema a responsible, acknowledged leader in corporate social responsibility.

Adding the Next Dimension to CSR and Sustainability

THROUGH BROADER DIALOGUE With Our Stakeholders

In step with current trends, we are inviting external stakeholders, such as customers, suppliers, NGOs and journalists, to assess our corporate social responsibility (CSR) and sustainability commitments. Heike Faulhammer, Vice President, Sustainable Development at Arkema, provides more details.

Why did Arkema commit to having its CSR and sustainability performance and issues assessed by its stakeholders?

H. F. > From the beginning we've endeavored to assess our performance using indicators for each of the five focuses of our CSR and sustainability policy: safety, environmental footprint, innovation, employee development and community engagement. Our results in the last few years, especially our progress in 2016 (see pages 40 to 42), show that our approach works.
Yet we don't set Arkema's directions based solely on what we believe.
As a responsible company, connected to the world around us and attuned to our times, we want to more closely involve our internal and external stakeholders in our CSR and sustainability process. That's why we decided last year to initiate a materiality assessment, a survey of stakeholders through conversations about Arkema's CSR challenges.

What did you learn from talking to stakeholders?

H. F. > The results were very positive. In form, the materiality assessment method used interviews (see following page) that encouraged give and take with the individuals, organizations and partners engaged with Arkema's growth. It's a dialogue we want to continue. In substance, the results showed that the 25 topics we concentrate on — personal safety, developing sustainable solutions, our environmental footprint, etc. — match the expectations of the internal and external stakeholders we surveyed. The consensus ranking of topics based on importance lets us know we're on the right track.

How will you follow up this first materiality assessment?

H. F. > We confirmed that our approach is comprehensive and aligns with expectations. Now we need to prioritize our action plan and strengthen certain initiatives. CSR and sustainability are a collective undertaking and commitment; the steering committee is working with the relevant departments to focus on equal opportunity and diversity, resource management, innovative solutions and process safety. We want to showcase current initiatives that deserve more attention. For instance, we compare favorably with our peers on diversity, but we really want to stand out. We've created a phased action plan to boost the proportion of women in top management from 18% today to 23 to 25% in 2025. The added new dimension involves our dialogue with stakeholders. Through regular materiality assessments, stakeholder communications will become a permanent fixture at Arkema and increase with time. This is a logical extension of the sustained local discussions we've had for many years through our community outreach initiative, Common Ground®. ▬

Materiality Assessment: A CSR and Sustainability **Roadmap**

External and internal stakeholders share their perceptions of the materiality assessment and Arkema's CSR and sustainability strategy.

There are two reasons to conduct a materiality assessment. First, to discover stakeholder expectations and second, to provide a tool for steering strategy by identifying CSR and sustainability priorities. The results are analyzed using a grid that plots how important specific topics are to the company versus how important these topics are to stakeholders. Each intersection shows the mutual priority given to the issues. "The map shows us where to focus our efforts, while making sure that the overall policy is coherent," says Sophie Huguier, Sustainable Development Manager at Arkema.

Now common in CSR and sustainability, the concept of materiality was borrowed from financial auditing practices. The materiality threshold indicates whether or not an action is significant.

The materiality assessment also showed that initiatives engaged with certain stakeholders over the years are on the right track. That's true for purchasing in particular. "Our CSR process has gained new momentum, especially in our supplier relationships for example. Since joining Together for Sustainability (TfS), the chemical industry's initiative to promote sustainable supply chains, we have performed hundreds of evaluations and dozens of field audits of our suppliers. We benefit from TfS's scope," explains Sophie Huguier. "In this way we help improve our suppliers' CSR performance, promoting lasting relationships based on trust." ■

FACTS & FIGURES

- **30 different types** of stakeholders surveyed
- **50% employees** (site managers, R&D, employee representatives, etc.)
- **50% external stakeholders** (suppliers, customers, rating agencies, journalists, etc.)
- **25 topics** covered
- Repeated every **3 years**

Didier Muller, Vice President, PMMA Product Manufacturing, Arkema

"With this assessment, Arkema is showing it has a mature corporate social responsibility process. The post-COP21 signing of the Paris Agreement constituted global recognition of the crucial challenge of curbing greenhouse gas emissions, and has mobilized businesses. I urge Arkema to join the Science Based Targets initiative, which offers companies a way to ensure their targets are compatible with keeping global warming within 2°C. The next big challenge is managing water sustainably, a ticking time bomb."

Sylvie Latieule, Journalist and Managing Editor of the French-language publication *Info Chimie Magazine*

"In Asia, especially China, Arkema's stakeholders have high CSR and sustainability expectations. The people and companies we deal with genuinely want and appreciate strong positions on the environment, health, safety, and employee insurance and benefits, as well as openness to the wider world. Arkema's CSR and sustainability process also helps suppliers, customers, partners and others connected with our business make lasting progress."

"Talking with local communities around our plants about vital issues such as safety, the environment and jobs is now part of our production sites' culture. The Common Ground® community outreach and communications initiative that began almost 15 years ago is an integral part of Arkema's CSR and sustainability strategy and has really improved our social standing. This latest aspect of stakeholder dialogue implemented company-wide is another sign of our commitment to being a responsible chemical producer."

Laurent Babikian, Director of Investor Engagement at rating agency CDP

"I see Arkema as a company striving to meet the major challenges of the future by constantly innovating in high-performance materials. Its portfolio includes a number of solutions for manufacturing lighter-weight cars and planes, more robust and recyclable wind turbine blades, more efficient batteries and solar panels and more effective water filtration systems. It has also long been committed to developing bio-based materials, which help sustainably curtail carbon emissions."

Xavier Durand-Delacre, Senior Vice President, Asia-Pacific, Arkema

Frédéric Laroche, President, Mission Vallée de la Chimie project (Greater Lyon, France)

"Arkema's decision to seek stakeholder input on its CSR and sustainability goals is in some ways an extension of the local dialogue pursued for many years through its Common Ground® community outreach and communications initiative. It's also in sync with the partnership project initiated by Greater Lyon, called the *Appel des 30!*, which aims to attract new cleantech chemical, energy and environmental businesses to production sites. Arkema, a key player in France's 'Chemical Valley', is a company open to the wider world, helping to advance the business, social and environmental interests of the site."

PRIORITIES

- **Safety:** Personal and process safety
- **Environmental footprint:** Resource management
- **Innovation:** Sustainable solutions; product stewardship and responsibility
- **Employee development:** Diversity and equal opportunity; training and individual development
- **Community engagement:** Dialogue and listening

"As citizens, employees feel more affected by environmental issues. Arkema is on the right track, making safety, innovation, employee development and community engagement the focus of our CSR, alongside the environment. Internally, we also need to take steps to better explain our targets and all the progress we've made in these areas. All employees must keep CSR and sustainability in mind."

William Garcia, Executive Director, HSSE, Energy & Climate Action, The European Chemical Industry Council (CEFIC)

"Involving CEFIC in this kind of initiative is a first and demonstrates Arkema's commitment to CSR and sustainability, an extension of its engagement in Responsible Care®. Enriched by this kind of open-mindedness, the company is following in the footsteps of the best in environmental reporting. Already deeply involved in reducing employee exposure to chemicals, Arkema must continue its efforts to promote product stewardship, which remains a critical topic in the years ahead."

Patrice Bréant, Arkema Director representing employee shareholders

Keep Getting Better,

with Indicators and Objectives TO BACK US UP

Arkema aims to rank with the best in the chemical industry in CSR and sustainability. In 2012 we set five major commitments, backed by a formal management process and indicators to track the results across all our activities. We have had well-established safety and environmental objectives for several years. In 2016, we set two new targets for employee development, designed to increase diversity at the company. The date for meeting all targets is 2025.

FIVE STRONG COMMITMENTS

RANK WITH THE BEST-IN-CLASS IN THE CHEMICAL INDUSTRY FOR SAFETY

Arkema's industrial safety process is deployed globally and focuses on the three interrelated topics of technical, organizational and human (Behavior Based Safety) factors. A shared safety culture across Arkema has sharply improved our safety performance in the last decade.

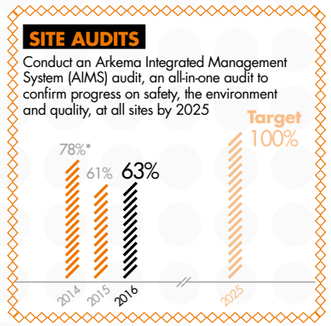
Our three targets for 2025 reflect our commitment to continuously improve our safety performance.

WORKPLACE ACCIDENTS

Reduce the total recordable injury rate (TRIR) per million hours worked to less than **1.2**

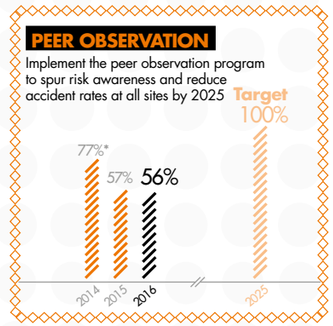
SITE AUDITS

Conduct an Arkema Integrated Management System (AIMS) audit, an all-in-one audit to confirm progress on safety, the environment and quality, at all sites by 2025



PEER OBSERVATION

Implement the peer observation program to spur risk awareness and reduce accident rates at all sites by 2025



* 2015 figure includes Bostik. None of the data prior to 2015 include Bostik.

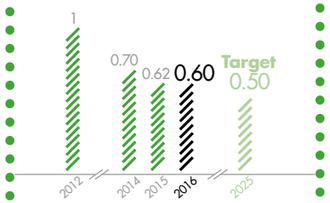
SHRINK THE ENVIRONMENTAL FOOTPRINT OF OUR ACTIVITIES

We focus on three things: curbing our emissions, reducing resource consumption and stepping up our use of renewable resources. We also make sure that our products do not undermine either human health and safety or the environment.

We have set four environmental targets that are measured by Environmental Footprint Performance Indicators. EFPI are not impacted by changes in scope, allowing us to better track Arkema's performance.

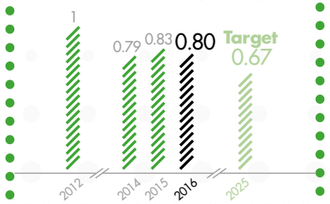
CLIMATE

Halve **greenhouse gas emissions**



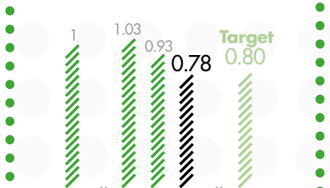
AIR

Reduce **volatile organic compound (VOC) emissions by 33%**



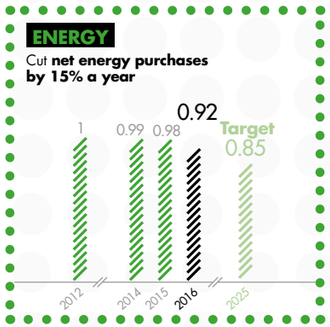
WATER

cut **chemical oxygen demand (COD) by 20%**



ENERGY

Cut **net energy purchases by 15% a year**



RECOGNITION BY SPECIALIZED RATING AGENCIES

Our CSR approach is regularly assessed by external stakeholders, especially customers and ESG (environmental, social and governance) rating agencies such as CDP, EcoVadis[1], Vigeo[2], RobecoSAM, Oekom and Sustainalytics.
In addition, in 2015, reflecting our strong performance, Arkema was included in the FTSE4Good Global Index, which uses environmental, social and governance criteria to rank companies.

CDP DRIVING SUSTAINABLE ECONOMIES

ecovadis SUPPLIER SUSTAINABILITY RATINGS

vigeo

ROBECOSAM We are Sustainability Investing.

oekom research

SUSTAINALYTICS

FTSE4Good

1. EcoVadis is a French agency that rates corporations based on sustainable purchasing and environmental and social performance.
2. Vigeo is a European company that assesses and rates the environmental, social and governance (ESG) practices and performance of corporations and organizations.

MAKE SUSTAINABLE DEVELOPMENT A CENTERPIECE OF OUR INNOVATION POLICY AND OUR PRODUCT LINES

Working with our customers, we create solutions that help meet the planet's challenges, which include new energies, fighting climate change, access to clean drinking water, the use of bio-based feedstocks, and home efficiency and insulation.

NUMBER OF SUSTAINABILITY RELATED

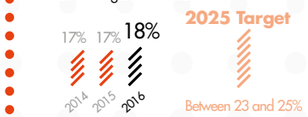
patents filed

FOSTERING THE PERSONAL AND COLLECTIVE DEVELOPMENT OF OUR PEOPLE

Everywhere in the world, Arkema's employee relations policies revolve around two concerns: the personal development of our employees and social development through improved collective working conditions. In 2016, two new human resources indicators were introduced to track the number of women in senior management positions and the number of non-French nationals in positions of responsibility.

WOMEN AS A PERCENTAGE

of senior managers and executives



NON-FRENCH NATIONALS

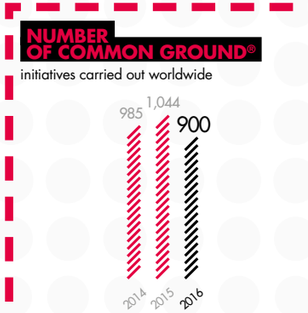
as a percentage of senior managers and executives

KEEPING OPEN THE LINES OF COMMUNICATION WITH ALL STAKEHOLDERS

Our Common Ground® initiative encourages dialogue with all our stakeholders. This fosters close relationships with our plants' neighbors, local schools and colleges, and our suppliers, to build balanced, sustainable relationships based on trust.

NUMBER OF COMMON GROUND®

initiatives carried out worldwide



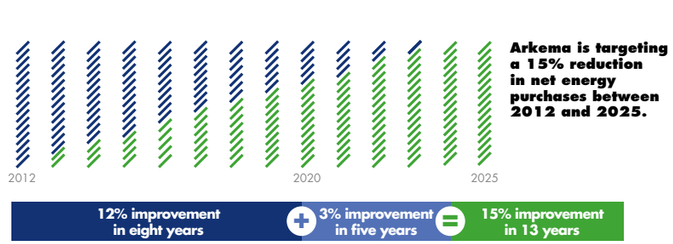
engaging IN SUSTAINABLE GROWTH

More Efficient Production, USING LESS WATER and Energy

Two programs — Arkenergy, introduced in 2014, and Optim'O, begun in 2016 — set us on a path toward excellence in energy use and water management.

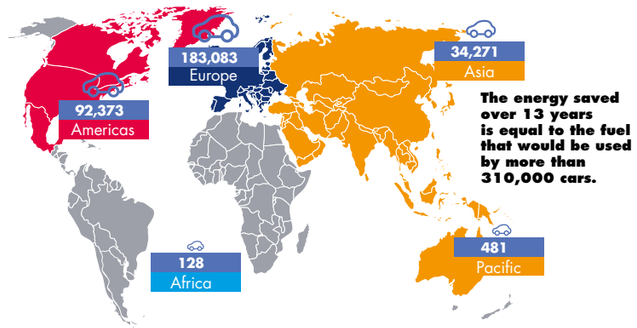
ARKENERGY

Arkema has targeted a **15% REDUCTION IN NET ENERGY PURCHASES BETWEEN 2012 AND 2025** through the Arkenergy program. Since the program's launch in 2014, our energy bill has already decreased by 6% without a corresponding drop in activity, in line with the roadmap. Independent audits regularly track progress. In 2012, spending on energy accounted for around 8% of our variable costs.



Arkema is targeting a 15% reduction in net energy purchases between 2012 and 2025.

ARKENERGY COMPRISES HUNDREDS OF INITIATIVES supported by a network of energy leaders. "We leave no stone unturned," says Béatrice Maggiochi, Project Manager. "We fine-tune equipment configurations, adjust certain processes, install energy recovery and reuse systems and switch to more efficient technologies." —



The energy saved over 13 years is equal to the fuel that would be used by more than 310,000 cars.

OPTIM'O

MANAGING WATER TO BOOST PRODUCTION PERFORMANCE

Introduced in 2016, the Optim'O program aims to trim 15% off the costs of water supply, purification and treatment. The program will also lower the chemical oxygen demand — COD, regulated by environmental standards — of effluents by an average of 20%. Both by 2025. "Besides complying with regulations, we're aiming to enhance production performance," explains Jean-Yves Robin, Global Water Project Director. At the 30 Arkema plants with the highest water use or COD, an initial baseline inventory was begun in 2016 to quantify all water flows by activity and usage. It identified a wide range of improvements, from locating and repairing leaks to closed-circuit cooling, and specified a timetable for implementing them. A similar process will be conducted at 40 other plants in 2017.

SPREADING THE WORD ABOUT ARKEMA'S BEST PRACTICES WILL BE A MAJOR STRENGTH for the Optim'O program. An example is our 17 coating resin plants, which use large amounts of pure water. "Paying attention to water usage and quality is a core part of our culture," explains Tim Gaughan, Global Director, Health, Environment and Safety at Arkema Coating Resins.
"We monitor water flows in real time through a network of flow meters and track down even the smallest leak. Every plant has a water quality analysis laboratory and we have two state-of-the-art effluent treatment units." —

experience

CÉLINE DUCASSE, ENERGY LEADER, LACQ-MOURENX, FRANCE

"The distillation train of the methyl mercaptan unit at Lacq requires a lot of steam. We made it more efficient two years ago by tracking steam use daily and adjusting equipment configurations based on operating conditions. Replacing the insulation in the reaction stage also cut back on energy use. Plus we're working on lowering our power usage through a huge program to replace motors."

engaging IN SUSTAINABLE **GROWTH**

Circular ECONOMY and Life Cycle Analysis

Arkema is committed to managing the company's activities responsibly. Life cycle analysis lets us assess the full environmental impact of our products across the value chain, from raw materials to end of life. Arkema is also involved in organizing recycling processes for flagship materials such as PMMA.

THE INTEGRATED LIFE CYCLE ANALYSIS (LCA) method adopted by Arkema (ISO 14040-44 standards) aims to quantify a product's environmental impacts along the value chain, from raw material extraction to end-of-life disposal. "We enumerate all the inputs and outputs involved in making a product and calculate its environmental footprint through indicators such as energy and water usage, greenhouse gas emissions, and its impact on biodiversity and the ozone layer," says Hervé Thiébaud, Head of the Environmental Assessment & Process Analysis Department at Arkema.

ARKEMA NOW DOES THIS KIND OF ANALYSIS FOR A NUMBER OF PRODUCT RANGES FREQUENTLY INTENDED FOR CONSUMER APPLICATIONS, including Rilsan® and Pebax® polyamides, Kynar® PVDF, Forane® refrigerants, Altuglas® PMMA and Bostik's adhesives. "LCAs are conducted in partnership with our customers, on a voluntary basis. Some customers are involved in the process themselves, which facilitates the sharing of data," says Hervé Thiébaud. The method also creates very interesting R&D opportunities, enabling a product's environmental impact to be factored in at an early stage.

ARKEMA RELIES ON A NETWORK OF AROUND 20 EXPERTS based at the Rhône-Alpes Research Center and correspondents in the business lines to collect data and keep the initiative going, notably through our internal training courses. We are also involved in industry organizations to standardize and improve LCA methods, for example, to incorporate the benefits of product recycling into them. ▬

OTHER CANDIDATES FOR POLYMER RECYCLING

"The development of recycling processes, much like our development of bio-based materials, is now an integral part of our R&D strategy. In addition to the Reverplast initiative for PMMA, we're mulling collection processes for other products, such as the polyamides widely found in cars. Right now we're analyzing volumes, because the economic viability of recycling processes depends on the potential for high-volume collection and cutting logistics costs."
Jean-Luc Dubois, Scientific Director at Arkema

DEFINITE COMMITMENTS

At a symposium on the circular economy held February 1, 2017 at the French Ministry of the Environment, Energy & Marine Affairs and attended by 33 leading French companies, Arkema made three major commitments:

- To promote the recycling and recovery of waste and byproducts.
- To limit our resource use and cut our greenhouse gas emissions.
- To continue organizing a process to recycle PMMA.

THE GOAL OF THE REVERPLAST INITIATIVE IS TO CREATE A PMMA OR ACRYLIC GLASS RECYCLING PROCESS.

Spearheaded by Arkema in association with Paprec, a plastics recycling specialist, the Canoé R&D center in Bordeaux and INDRA, a leader in end-of-life (EOL) vehicle recycling, Reverplast was the result of an agreement signed April 27, 2016 with Ségolène Royal, French Minister of the Environment, Energy & Marine Affairs, and Emmanuel Macron, the then French Minister of the Economy, Industry & Digital Affairs, as part of the government's pledge to promote green growth.

1 RECOVERING PMMA

An analysis conducted by Arkema and partner Paprec of "reservoirs" of recyclable PMMA is expected to be completed in mid-2018. "The first focus is vehicle taillights," explains Nicolas de Warren, Vice President, Corporate Relations at Arkema. "We're studying how wrecking centers for end-of-life vehicles could organize recovery economically." Illuminated signs (service stations, urban signage, bus shelters) and interior decor items (retail furniture, trade shows and exhibitions) are also targets for the mass collection of end-of-life PMMA.

2 DEVELOPING PROCESSES

Arkema and the Canoé R&D center are working on small-batch testing and in-lab proof of concept for PMMA recycling and subsequent equipment specifications. The process will need to be economical enough to produce recycled PMMA that is cheaper than a virgin equivalent.
"We expect to have an initial technology up and running by the end of 2018 with available volumes of several thousand tons," says Nicolas de Warren.

3 SECURING MARKETS

Short term, the first applications for recycled PMMA will be in mixtures with other polymers and recyclable thermoplastic composite materials. We will work with customers and partners in the plastics processing industry to more effectively organize the downstream end of the process. "For example, we're planning to formulate resins that will go into recyclable composite wind turbine blades," says Nicolas de Warren. Applications are also possible in the automotive and boatbuilding markets.

ALTUGLAS® PMMA[1] IS ONE OF THE EASIEST THERMOPLASTIC POLYMERS TO DEPOLYMERIZE AND RECYCLE AND AN IDEAL MATERIAL FOR THE CIRCULAR ECONOMY. Reclaimed PMMA can be mechanically ground into pellets that can be reused in molding and extrusion processes. When heated under appropriate conditions, PMMA can also be split apart into its original monomer, methyl methacrylate (MMA). This depolymerization process is used industrially to recycle PMMA and to produce MMA that can be used again.

1. PMMA: polymethyl methacrylate

engaging WITH **SAFETY**

Keeping Our COWORKERS SAFE **Through Peer Observations**

Ten years after peer safety observations were first introduced, employees continue this constructive practice because it works.

SAFETY REALLY IS ALWAYS IN MIND AT ARKEMA. We've been encouraging peer observation on the job for 10 years. Nearly 60% of Arkema sites now practice this method of collaborative, constructive critique.

There are two ways a peer observer might step in. Either a peer sets out to watch a colleague performing a task or a peer responds to a coworker's request for an outside take. The purpose is the same: a safety debriefing based on the comments jotted down during the observation.
"The exercise encourages us to reach out to each other and talk about the safety of a frontline situation," explains Paul Leonard, Vice President, Health, Safety and Environment at Arkema. "Safety isn't just for specialists."

THE PROCESS ENGAGES AWARENESS OF PERSONAL SAFETY and the safety of colleagues and has proved highly effective. "Peer observation has clearly made our teams more vigilant," says Paul Leonard. For evidence you have only to look at the sharp reduction in the total recordable injury rate, or TRIR, per million hours worked, which has dropped by 50% in the last three years. ▬

"Peer Observation Discovers Details We Missed"

Simon Hou, HSE Engineer, Sartomer plant, Guangdong, China

"More than 60% of our people have been trained in peer observation, three years after it was introduced at the plant. In 2016 alone, our 85 employee volunteers carried out almost 1,900 observations, an average of over 20 each. This shows how invested our teams are in the method, which also benefits members personally. Spotting an at-risk situation not only lets you correct a behavior — thereby improving safety — it also points up a technical or organizational problem that was missed. For example, following observations on several machines, we replaced tools that were found hard to use."

"Everyone Pays More Attention to the Safety of Others"

Mariusz Lewandowski, HSEQ Manager, CECA plant, Inowroclaw, Poland

"Peer observation starts conversations. Through constructive double-checking, everyone pays more attention to the safety of others. Vigilance becomes a collective effort. Our adoption of this method last year uncovered at-risk situations. Five percent of the 190 observations conducted in 2016 led to corrective actions, such as cleaning filters to cut down on dust and reminding people of the proper body mechanics for moving heavy objects. Our observers — two-thirds of our staff — are big supporters of the practice, which helps us come up with simple, tangible solutions to problems identified on the front lines."

SMART IS ONE MORE WAY TO DRIVE **Operational Excellence**

The SMART program encourages employees to share their experiences, problems and good ideas with managers every day. The goal is to engage frontline employees in making progress and improving our operational excellence. An interview with Jérôme Fady, Arkema's Vice President, Operational Excellence, and Arnaud Oblinger, SMART Project Manager.

What are the basics of the SMART program?

J. F. > The SMART program facilitates communication by encouraging frontline employees to interact and talk about their successes and difficulties. The program's key elements are a daily performance review, housekeeping and problem-solving reviews, and visual measurements, that is, status dashboards that are seen by everyone and updated daily. This kind of feedback focuses attention on site performance and encourages everyone to get involved to achieve specific goals.

How was SMART designed?

A. O. > We implemented a range of initiatives to get employees involved at specific sites. Working closely with corporate HR, we carefully picked best practices and put together a unique program. The ultimate goal is to move beyond local initiatives and share the principles across Arkema faster, driving company-wide success that benefits everyone.

How will the program be deployed?

J. F. > Our teams will be trained, coached, and supported in applying best practices by a network of SMART facilitators. Employees will select and track indicators, conduct daily meetings on the front line and more. Resources will be provided to deploy this collaborative approach, including information panels and methods for solving problems and organizing work areas.

What benefits do you expect?

A. O. > The program is just getting started, but we already have 17 sites that want to implement SMART's principles. It is one more driver of operational excellence. Making decisions on the front line empowers people, promotes responsiveness and efficiency, and is an effective way to solve problems. ▬

interview

"Everyone plays a part in site performance."

JACQUELINE TRIFT-FERRADINI, GENERAL MANAGER OF BOSTIK'S PLANT IN RIBÉCOURT, FRANCE, WHERE THE PROGRAM WAS FIRST TESTED

"The SMART program was launched in three production units and the logistics team. A short meeting is held daily on the front line, with team members taking turns providing feedback on safety, quality, scheduling, production or other problems they may be having, their successes and their positive experiences. It's a simple way to track the unit's performance and identify the practices to be improved and solutions to be implemented. Because their opinions are taken into account, operators are willing to speak out. They're aware of how they contribute to the site's performance. The result has been a significant improvement in output of products that are 'right the first time' — the RFT quality indicator — and in delivery turnaround times."

engaging TO KEEP
OUR TALENT

OUR EMPLOYEES
Are Our Value Added

We owe our company's performance and growth to our employees. To develop them to their fullest potential, Arkema offers development training, rotational career assignments (mobility) and ongoing coaching and support. An interview with Dominique Massoni, Vice President, Human Resources & Internal Communication Development.

What were Arkema's human resources priorities in 2016?
D. M. > Both geographic and job mobility remain central to our career support and planning (see pages 52 and 53). We hope to accommodate each employee's desire for advancement, without set tracks but with regard for each business' specific requirements. Welcoming Bostik to the fold has created new career opportunities. And we hope that our newly introduced Talent Program is suited to newer hires, who often want to get international experience by working outside their home countries for a few years.

What projects did you introduce in 2016?
D. M. > As part of our diversity push, we now offer a mentoring program for women that encourages the development of their leadership skills. Twenty participants were enrolled in the 2016 program (see page 51). We also developed a new employer brand that includes Bostik and asserts our common hiring position (see opposite). Lastly, we introduced our new Arkema Leadership Academy, which is scheduled to begin classes in 2017 (see opposite).

Tell us more about what you call "expert tracks."
D. M. > Designated "expert tracks" give us a framework to help develop, recognize and reward technical experts in all areas of the company. The tracks provide avenues to senior technical positions based on a stepwise approach to expertise development in a variety of technologies, from research to manufacturing and managerial processes to project management.

Is talent management deployed everywhere?
D. M. > The answer today is yes. In 2015, a talent manager was appointed in Asia, to fill a role similar to the ones in France, Europe and the United States. This now well-established position develops employee's skills and potential in a region famous for its churning labor market. The result: in 2016, 6% of our managers in Asia rotated into new assignments, up from 4% the year before. Business improvements like this show how our employees are at the center of our growth strategy and enhance our collective skills and capabilities Arkema-wide. Our employees are our value added. ■

12%
of Arkema's **managers** rotate or get promoted to new roles each year

1,700
new, full-time employees were hired in 2016 (480 in Europe, 530 in North America, 690 in Asia and Rest of the World)

1,800
Projected hiring in 2017

ENGAGEMENT?
In 2016, Arkema Inc. surveyed its 2,500 employees in the United States, Mexico, Brazil and Canada and at Sartomer worldwide. It does this every two to three years to gauge employees' level of personal investment in the company's performance and future and to give everyone a chance to share their views and expectations of their managers and the company as a whole. And overall the company achieved a total engagement score of 78%, an 11-point improvement over 2013. This high level — above average for U.S. companies — confirms Arkema's appeal in a competitive job market. Targeted action plans by both business unit and function are planned for 2017.

88%
of employees participated in the survey, which is a tremendous rate of response, and shows the level of commitment employees have to providing feedback on the company's continuous improvement process.

ARKEMA LEADERSHIP ACADEMY: TRAINING THE LEADERS OF TOMORROW
We offer instruction, tools and resources to help key managers in business and support function roles move up the ladder. Specific courses to develop their leadership skills are organized in partnership with prestigious management schools. After success in the United States, it is Europe and Asia's turn to introduce the program. Developed with the elite French business school HEC, an initial weeklong session is planned for 30 people in the fall of 2017. Nearly 200 Arkema managers are expected to enroll in the Arkema Leadership Academy between now and 2020.

employer brand

"Join Us and Make a Difference!"

Using a slogan employees created themselves and bright, attractive colors, our new employer brand conveys our identity and shows what new employees will find when they join us. Arkema used Bostik's integration as an opportunity to assert a stronger hiring position. On our video-rich Careers website, employees from around the world talk about their experiences, describe opportunities for growth and advancement at Arkema, and encourage new talent to join us. You can't miss our job offers on social media; we have an active presence on Twitter and Facebook and a global partnership with LinkedIn for campaigns featuring specific professions. We attracted more than 10,000 new followers in just a few months on LinkedIn and prompted a flood of applicants at job fairs.

engaging TO KEEP
OUR TALENT

MENTORING, DRIVING EQUAL OPPORTUNITY **at Arkema**

Last year, Arkema began a mentorship effort in France. The initial focus has been on women in helping to better prepare them for senior management positions.

Twenty-one women employees volunteered to pair up with a program mentor — a male or female Arkema executive volunteer in the Colombes office — to regularly discuss their careers and opportunities for growth at Arkema. The relationship is fairly informal. The mentor listens and offers experienced, incisive advice to mentees. Backed by the Diversity Steering Committee, the program will continue in 2017. –

experience

"My mentee demonstrated her potential and built her network in just one year."

CHANTAL DEGRENDÈLE, ENVIRONMENT DIRECTOR, EUROPE

"Sharing experiences is a very effective way to proactively move women up the corporate ladder. I tell my mentee about my successes as well as the problems I have encountered. I'm fortunate to coach a talented young woman working in a field I'm not familiar with. But she has the same questions I had and the issues we share reassure her. I help her clarify her plans, articulate her expectations and show what she can do without fear of failure. And I encourage her to broaden her network. Example is a good way to motivate people and keep them from holding themselves back. It's a constructive, supportive relationship and our meetings are useful breathers in the calendar."

experience

"What makes mentoring so interesting is motivating people to go for it."

CHRISTIANE CHAPUIS, VICE PRESIDENT, FINANCE & CASH MANAGEMENT

"Too many women still voice doubts about their ability to advance to positions of responsibility. My role as a mentor is to build confidence and motivate them to take the leap and explore new avenues. I check in with my mentee often, without any formal processes or reporting relationship and in strict confidentiality. She's very open with me about her aspirations and questions and, on my side, I try to work out broader career opportunities with her. By drawing on my experience and knowledge of the company, I help her think about her future in the organization and envision paths she thought were out of reach and hadn't dared to talk about."

experience

"Helping young women managers advance gives Arkema the benefit of their skills and capabilities."

HENRI KOUACHE, VICE PRESIDENT, GLOBAL MANUFACTURING

"Women bring a different approach and viewpoint, which is a real asset for the company. I've seen it over and over again throughout my career. Mentoring is a way for me to share my experience, help new talent succeed, and support young women so that they move to higher management positions. I sit down with my mentee for two hours every six weeks. The trust we've established lets us talk about how Arkema works, career choices and work-life balance. Over my career I've been lucky enough to get some invaluable advice. It's my turn to give back."

what mentees say

"We established trust immediately through regular meetings, easy discussions and very strong support at critical moments."

"The mentoring was the start of a very rewarding encounter that will last well beyond the program. Our discussions always deal with daily concerns. There's no need for formal preparations."

"Having a supportive ear has helped me a lot, especially in an environment where organizations and strategy are changing."

ERGONOMICS: Leveraging Frontline **Experience**

In keeping with a new agreement in France to prevent physical hardship on the job, we are improving working conditions by making ergonomics a priority.

Arkema educates employees on the value of a safe, practical and comfortable work environment. In an agreement signed with French labor unions in March 2016, ergonomics became the centerpiece for workplace improvements. "It's all connected: by working on ergonomics, we reduce physical hardship and improve working conditions," says Raphaële Grivel, Recruitment, Diversity & Employee Development Manager.

THE AGREEMENT RENEWS THE COMMITMENTS WE MADE IN JANUARY 2012, such as adapting workstations and including ergonomics in production design. In both cases, frontline experience is irreplaceable. The design of a new production line in Honfleur last year provides an example. "We modified the layout around several pieces of equipment based on comments operators made about the scale model," remembers Bertrand Merlet, Engineering Manager in the Engineering Department at Pierre-Bénite in France.

THE INITIATIVES INTRODUCED THROUGH THE 2016 AGREEMENT WILL MAKE ERGONOMICS A DAILY FOCUS. Arkema has deployed a network of "ergonomics resource people" in France (see opposite) and created physical hardship prevention and ergonomics groups at each site. For its part, the Purchasing Division will now use ergonomics as a criterion when choosing suppliers. –

opinion

"An early warning system."

PHILIPPE FILIPIAK, HSE MANAGER IN THE ENGINEERING DEPARTMENT IN PIERRE-BÉNITE, FRANCE AND ERGONOMICS RESOURCE PERSON

"Input from plant operators is vital to designing workstations and drafting certain procedures. At meetings with the frontline teams, the design group facilitated by an ergonomics resource person tries to identify the issues. Then the responsible departments act on the information the study group forwards to them. Our role is to be a sort of early warning system, providing information and, most of all, facilitating improvements based on our training."

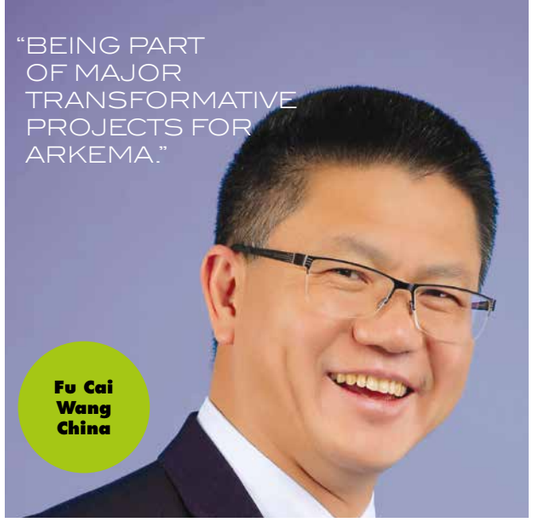
20

That's the number of employees in the ergonomics resource person network in France. Trained for this added role in 2016, they usually work in engineering and design, human resources (HR) or health, safety and the environment (HSE).

engaging WITH DEVELOPING **TALENT**

Why WE ENJOY WORKING **at Arkema**

Engaged, enthusiastic employees share their thoughts about the company, the values, and the opportunities they found at Arkema.



CONTRIBUTING TO ARKEMA'S INTERNATIONAL SUCCESS

"Over my 13 years at Atofina and then Arkema, I've had a chance to work in production and business, in France, Finland, the United States and now China. I've been Regional Group President, Fluorochemicals Asia-Pacific, since 2015. I've participated in large-scale projects that reflect Arkema's strategy. Over my career I've both witnessed and helped create Arkema's success in Asia. And with my technical background — I have a PhD in macromolecular materials — I appreciate the fact that Arkema is consistently innovative."

PUTTING PEOPLE FIRST

"I started at Arkema in 2005, just before the spin-off. Arkema had a lot to do to get off the ground, something I found really motivating. I was quickly offered new challenges, such as managing a team to purchasing to strategic planning. I recently became Business Director, Fluorogases Europe. Every assignment has been exciting, demanding and stimulating. I've worked with highly motivated, supportive colleagues and accessible management, and have never felt that being a woman has held me back. This people focus is vital for us to advance together and feel fulfilled in our work."

SIMPLICITY OF PERFORMANCE

"After 18 years at two other chemical companies, I joined Arkema in 2013. I was offered an intriguing mission: to oversee logistics and manage resources for the Fluorochemicals business line and to combine three regional departments into one. The collaborative work atmosphere and trust at the company allowed us to tackle complex problems together. Arkema's values of solidarity and simplicity resonate with me and contrast with my past experiences at other organizations. Arkema is both detail-oriented and open to creativity."

REAL OPPORTUNITIES FOR ADVANCEMENT

"You don't get locked into a career track at Arkema. I was hired in 2013 as Director, Logistics & Supply Chain for the hydrogen peroxide business in North America. I then transitioned to Senior Business Director for hydrogen peroxides in North America. Since March 2016, I've been Regional Vice President of Purchasing for North America, focusing on feedstock, energy and packaging. My career highlights the opportunities that exist for engaged, motivated employees who seize the chances that come up and are ready to rise to challenges."

engaging WITH EDUCATION
AND YOUTH

Reaching Out to the Citizens OF THE FUTURE

During 2016 we organized, led and funded almost 900 initiatives associated with Common Ground®, our local community outreach and communications program. Several of these initiatives focused on young people and education in China and France.

A Pair of Textbook Cases **IN CHINA**

THE ARKEMA CHEMART GREEN INNOVATION CLASS IS AN EDUCATIONAL PROGRAM LAUNCHED IN 2015. At two primary schools, sixty employee volunteers led fun chemistry activities, including the Noah's Ark made of PMMA and creative workshops, teaching students about current and future environmental challenges. "The idea is to help foster civic awareness while stimulating the students' creativity through play," comments Daria Gong, External Communications Manager. Local plants also loaned their skills — in foreign languages and IT, for example — to the schools, which were chosen for a specific reason. "Many students have a parent employed at one of our plants. The children are proud to see their parents in the classroom," says Daria Gong. The program is being expanded to other Chinese schools in 2017.

common ground®

WHAT IS COMMON GROUND®?

Common Ground® aims to build trust with our neighbors through dialogue and openness. The program sponsors education and awareness initiatives that focus on understanding our neighbors' expectations, creating dialogue, and preventing risk. Started in 2002 in France, Common Ground® is now deployed in the 50 countries where Arkema operates.

A LITTLE ENGLISH PRACTICE IN HENGSHUI

Liminlu Elementary School is located in Hengshui, Hebei province, home to the Casda facility. A Common Ground® member since 2016, the school has been getting a little foreign language learning support. Every two weeks Arkema employees teach classes on environmental protection and sustainable development in English.

CHEMISTRY CONNECTS ART AND SPORTS IN ZHANGJIAGANG

Employees from our Shanghai headquarters and the Changshu and Zhangjiagang production sites visited Lvfeng School in Zhangjiagang in Jiangsu province. They led several student workshops on environmental protection, everyday safety and creativity in the arts. A donation was also made to expand the library's science collection and IT hardware was upgraded. At a separate event in December, 100 students competed in a sports field day organized by Arkema.

Fostering STEM Careers **IN FRANCE**

IN JUNE 2016, ARKEMA TEAMED UP WITH C.GÉNIAL [IT'S GREAT], A FOUNDATION THAT PROMOTES STEM (SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS) TRACKS TO MIDDLE AND HIGH SCHOOLERS IN FRANCE.
The program has two parts.
The first, called *Professeurs en entreprise*, takes teachers on tours of Arkema's plants and R&D centers. Nine sites — Mont, Pierre-Bénite, Feuchy, Serquigny, Lannemezan, La Chambre, Carling, Venette and Lacq — took part in *Professeurs en entreprise* in November 2016, hosting several groups of teachers. The teachers went on guided tours, chatted with employees and discussed potential opportunities. "Teachers are involved in student guidance and appreciate getting concrete information about career opportunities in the chemical industry," commented Aline Teyssier, in charge of Partnerships at Arkema.

The second, *Ingénieurs et Techniciens dans les Classes*, invites volunteer technicians and engineers to talk about what they do at schools located near our sites. **ARKEMA CARRIED OUT TWO INITIATIVES UNDER THIS PART OF THE PROGRAM.** At a Tarbes middle school, three women employees talked to students about their careers in science. At the Venette Research Center, we hosted the young winners of the 2016 C.Génial contest, a fun science competition. It was a thumbs-up experience, according to Aline Teyssier: "Our employees love to share their enthusiasm for their profession."

experience

"Rekindle interest in our fields."

ALINE TEYSSIER, IN CHARGE OF DEPLOYING THE COMMON GROUND® PROGRAM

"By illustrating how chemicals improve everyday life and explaining to young people the industry's growing place in the future economy, we break through popular misconceptions and rekindle interest in our fields. We also show that our industry offers career opportunities equally to women and men."

notebook

Shareholders' Notebook — A few pages to learn more about our governance bodies, understand our financial performance and track our share price for the last 10 years.

notebook BOARD OF DIRECTORS

INDEPENDENT **Oversight**

The Board of Directors sets Arkema's strategy and ensures it is applied. Chaired by Thierry Le Hénaff, the Board has 12 other members, including nine independent directors, a director who permanently represents shareholder Fonds Stratégique de Participations (FSP), a director representing employee shareholders and, since July 2016, a director representing employees. In 2016, the Board of Directors met eight times, up from six times in 2015. The meetings had an attendance rate of 95%, versus 93% in 2015.













1 • THIERRY LE HÉNAFF, Chairman & Chief Executive Officer
2 • ISABELLE BOCCON-GIBOD, permanent representative of the French equity fund Fonds Stratégique de Participations (FSP)
3 • PATRICE BRÉANT, Director representing employee shareholders
4 • MARIE-JOSÉ DONSION, Chief Financial Officer, Alstom[1]
5 • FRANÇOIS ENAUD, Chairman, FE Développement SAS
6 • BERNARD KASRIEL, former Chief Executive Officer, Lafarge[2]
7 • VICTOIRE DE MARGERIE, Chief Executive Officer, Rondol Technology
8 • LAURENT MIGNON, Chief Executive Officer, Natixis SA
9 • HÉLÈNE MOREAU-LEROY, Chief Executive Officer, Safran Transmission Systems
10 • THIERRY MORIN, Chairman, Thierry Morin Consulting[3]
11 • NATHALIE MURACCIOLE, Director representing employees
12 • MARC PANDRAUD, Vice Chairman of Investment Banking for Europe, the Middle East and Africa, JP Morgan[3]
13 • PHILIPPE VASSOR, Chairman, Baignas SAS[2]

1 The Board of Directors' decision, announced November 9, 2016, to appoint Marie-José Donsion as director to replace Claire Pedini, who resigned, is subject to approval by shareholders at the May 23, 2017 Annual Meeting.
2 The terms of Bernard Kasriel and Philippe Vassor will expire at the Annual Shareholders' Meeting on May 23, 2017.
3 Renewal of the terms of Thierry Morin and Marc Pandraud is subject to a vote of approval at the Annual Shareholders' Meeting on May 23, 2017.

A SIXTH WOMAN ON THE BOARD OF DIRECTORS IN 2017

At its February 27, 2017 meeting, Arkema's Board of Directors recommended that Yannick Assouad, Chief Executive Officer of Latécoère, be elected as an independent director. She will bring Arkema both her experience as a senior corporate executive and the production skills and expertise she acquired throughout her career in the aerospace industry.
If the Annual Shareholders' Meeting approves her election and that of Marie-José Donsion, there will be six women on the Board of Directors, bringing the percentage to 45%, as required by French law. (Nathalie Muracciole, the director representing employees, is not counted in the gender equity calculation, in accordance with France's AFEP-MEDEF Corporate Governance Code of Listed Companies.)

TWO PERMANENT SPECIALIZED COMMITTEES

THE AUDIT & ACCOUNTS COMMITTEE

The Committee is chaired by Philippe Vassor[2] — who will be replaced after the 2017 Annual Shareholders' Meeting by Marie-José Donsion[1] — and is made up of two other directors, Isabelle Boccon-Gibod and Hélène Moreau-Leroy. Thierry Lemonnier, Arkema's Chief Financial Officer, is its Secretary. The primary responsibilities of the Audit & Accounts Committee are to ensure the quality of internal control procedures and the reliability of the information provided to shareholders.

THE NOMINATING, COMPENSATION & CORPORATE GOVERNANCE COMMITTEE

The Committee is chaired by Thierry Morin[3] and comprised of three other directors: François Énaud, Bernard Kasriel[2] and Victoire de Margerie. Michel Delaborde, Executive Vice President, Human Resources & Corporate Communication, is its Secretary. The Nominating, Compensation & Governance Committee makes recommendations and proposals concerning the Board and its committees, Arkema's compensation policy, and corporate governance principles and best practices.

THE DECISION-MAKING **Body**

The Executive Committee is responsible for the day-to-day management of Arkema. Made up of eight members — including two people new to the team in 2016 — it is chaired by Thierry Le Hénaff, Chairman & Chief Executive Officer. In addition to the Executive Committee, in 2016 we created a Management Committee.

EXECUTIVE COMMITTEE

The Executive Committee consists of Chairman & CEO Thierry Le Hénaff, three executive vice presidents in charge of operations and four executive vice presidents with functional responsibilities.

THIERRY LE HÉNAFF,
Chairman & CEO

THREE EXECUTIVE VICE PRESIDENTS IN CHARGE OF OPERATIONS

MARC SCHULLER,
Executive Vice President, Coating Solutions and Industrial Specialties

CHRISTOPHE ANDRÉ,
Executive Vice President, Technical Polymers & Performance Additives

VINCENT LEGROS,
Executive Vice President, Bostik

FOUR EXECUTIVE VICE PRESIDENTS WITH FUNCTIONAL RESPONSIBILITIES

BERNARD BOYER,
Executive Vice President, Strategy

MICHEL DELABORDE,
Executive Vice President, Human Resources & Corporate Communications

LUC BENOIT-CATTIN,
Executive Vice President, Industry

THIERRY LEMONNIER,
Chief Financial Officer

A NEW DECISION-MAKING BODY, THE MANAGEMENT COMMITTEE

In addition to our Executive Committee, in 2016 we created a Management Committee chaired by Thierry Le Hénaff. Its members comprise the Executive Committee plus a limited number of senior executives from the business lines, regions and support functions. It meets four times a year.
A key task of the Management Committee is to conduct a quarterly review of our HSE, financial and operational performance. It also oversees major projects and priorities and discusses Arkema's medium- and long-term strategic goals and directions.

TWO NEW EXECUTIVE COMMITTEE MEMBERS IN 2016: VINCENT LEGROS AND CHRISTOPHE ANDRÉ

Christophe André joined the Executive Committee on September 1, 2016.
He oversees Technical Polymers & Performance Additives (filtration, organic peroxides and photocure resins) and leads Arkema's digital transformation project.
Mr. André, 45, graduated from France's École Nationale Supérieure des Télécommunications engineering school. He also has a degree from the ESSEC business school and an MBA from INSEAD Business School.
After several positions in telecommunications, he joined the specialty chemicals manufacturer Rohm & Haas in 2001, where he oversaw business development for the Monomers Division before heading up the Adhesives & Packaging Division. In 2008 he joined ArjoWiggins, the world's leading manufacturer of technical and creative fine papers, as head of ArjoWiggins Graphic, one of the company's five divisions. In 2012, he joined Arkema as head of the Thiochemicals business line.

On September 1, 2016, **Vincent Legros** became Executive Vice President, Bostik and member of our Executive Committee, succeeding Bernard Pinatel.
Mr. Legros, 43, is a graduate of the École Polytechnique and Ponts et Chaussées engineering schools in France and has a postgraduate degree in production and business organization. He joined us from Saint-Gobain, where he had spent his entire career.
He started there in 1998 as a production engineer at the Pont-à-Mousson plant, then served successively as manager of the Toul factory, assistant manager of the Pont-à-Mousson plant, head of the pipes, fittings and valves business and, in 2006, head of operations for Saint-Gobain Pont-à-Mousson. From 2009 to 2013, he led Saint-Gobain PAM International in China. From 2013 on, he served as Executive Vice President of Saint-Gobain PAM International and head of the company's pipe business.

FINANCIAL PERFORMANCE **Makes Gains**

Arkema turned in an excellent financial performance in 2016, including its highest EBITDA since 2006.

€7,535M
Revenue
(€7,683M in 2015)

Volumes were up 3.2%, in a global environment of moderate growth. They increased in all three of our business segments, driven by innovation in technical polymers, adhesives' expansion into new regional markets, steadier demand for acrylic monomers and the ramp-up of the thiochemicals plant in Malaysia. This solid performance almost entirely offset a negative 3.7% price effect, reflecting the impact on selling prices of the drop in feedstock costs in the first nine months quarters of the year. The impact of the change in business scope was close to zero. The currency effect was minus 1.3%.

€1,189M
EBITDA up 12.5%
(€1,057M in 2015)

EBITDA was up sharply from the prior year, setting a record. The increase was driven by Bostik's successful integration and growth, significant innovations in technical polymers and downstream acrylics, and the recovery in fluorogas earnings, in line with the announced plan. That means major internal projects accounted for roughly three-quarters of EBITDA growth for the year. Lower prices for certain feedstocks and measures to promote operational excellence also made positive contributions.

15.8%
EBITDA margin
(13.8% in 2015)

€418M
Adjusted net income
(up 34% from 2015)

€427M
Net income – Group share
(up 50% from 2015)

EXCELLENT CASH GENERATION

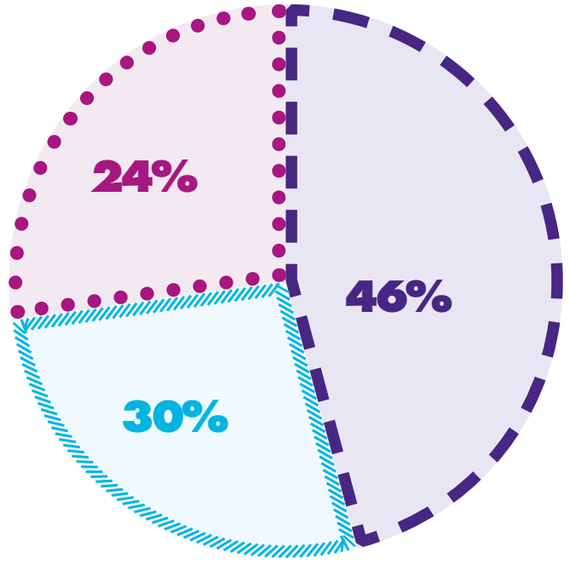
In 2016, Arkema reported a very solid free cash flow[1] of **€426 million**. This excellent performance reflects our good management of investments and working capital, despite higher activity and less favorable feedstock prices at the end of the year. The 36% free cash flow-to-EBITDA ratio was in line with our medium-term target for Arkema's operating cash flow-to-EBITDA ratio.

1. Cash flow from operating activities and investing activities excluding impact of portfolio management.

NET DEBT: €1,482M

At December 31, 2016, net debt was **1.2 times EBITDA** and the net debt-to-equity ratio was stable compared to the prior year at **35%**, despite the acquisition in December 2016 of Den Braven for an enterprise value of €485 million.

PERFORMANCE BY BUSINESS SEGMENT



COATING SOLUTIONS
- Performed well and showed signs of an acrylic monomer recovery at year-end
- Revenue: **€1.8 billion, down 4.2% year-on-year**
- EBITDA: **€208 million, up 9.5%**
- EBITDA margin: **11.7%**

HIGH-PERFORMANCE MATERIALS
- Bostik's targets achieved a year early and new materials innovation
- Revenue: **€3.4 billion, up 1.9% year-on-year**
- EBITDA: **€570 million, up 12.6%**
- EBITDA margin: **16.7%**

INDUSTRIAL SPECIALTIES
- An excellent performance by each product line
- Revenue: **€2.3 billion, down 5.5% year-on-year**
- EBITDA: **€473 million, up 13.2%**
- EBITDA margin: **20.4%**

KEY INDICATORS

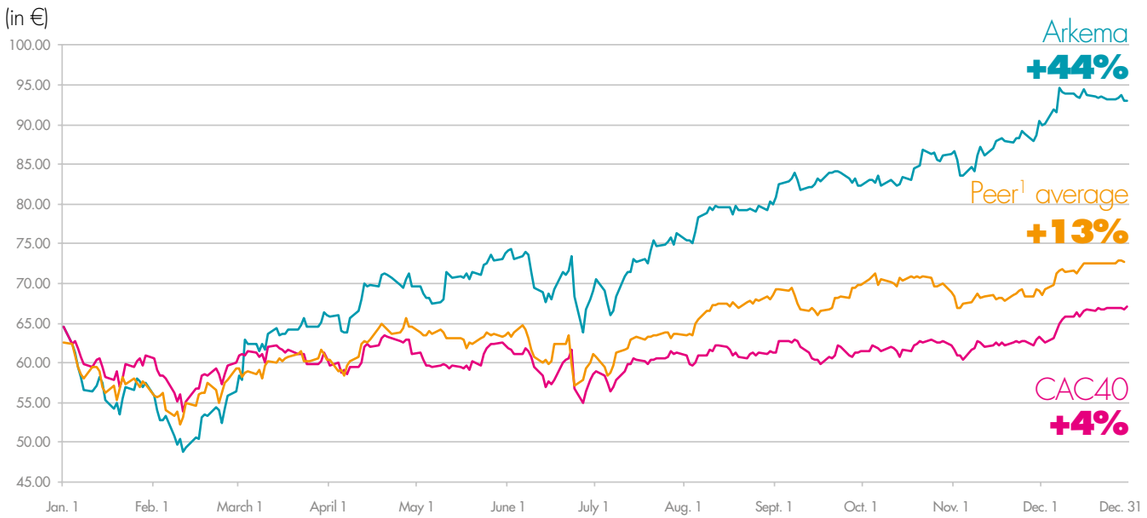
INCOME STATEMENT *(in millions of euros unless otherwise indicated)*	**2016**	2015	% change
Revenue	**7,535**	7,683	-1.9%
EBITDA	**1,189**	1,057	+12.5%
EBITDA margin (%)	**15.8%**	13.8%	-
Recurring operating income	**734**	604	+21.5%
Net income – Group share	**427**	285	+49.8%
Earnings per share (in euros)	**5.68**	3.87	+46.8%
Adjusted net income per share (in euros)	**5.56**	4.23	+31.4%
Dividend per share (in euros)	**2.05** [1]	1.90	+7.9%
BALANCE SHEET *(in millions of euros unless otherwise indicated)*			
Shareholders' equity	**4,249**	3,949	
Net debt	**1,482**	1,379	
Net debt-to-equity (%)	**35%**	35%	
Capital employed	**6,829**	6,466	
Working capital-to-revenue ratio[2] (%)	**14.5%** [2]	14.6%	
Net provisions[3]	**863**	907	
CASH FLOW *(in millions of euros unless otherwise indicated)*			
Cash flow from operating activities	**821**	858	
Free cash flow[4]	**426**	442	
Capital expenditure[5]	**423**	431	
Capital intensity (investments/revenue - %)	**5.6%**	5.6%	

1. Dividend recommended to the May 23, 2017 Annual Shareholders' Meeting.
2. Working capital-to-revenue ratio, as defined in Section 4.1.9 of the 2016 Reference Document.
3. Provisions net of non-current assets, as defined in Section 4.1.9 of the 2016 Reference Document.
4. Cash flow from operating activities and investing activities excluding impact of portfolio management.
5. Capital expenditures, as defined in Section 4.1.7 of the 2016 Reference Document.

A Remarkable STOCK MARKET RIDE

Arkema's share price has significantly outperformed the CAC 40 index since we were publicly listed in May 2006. Over 10 years, Arkema has gone from an unknown to a recognized chemical manufacturer.

ARKEMA SHARE PRICE IN 2016



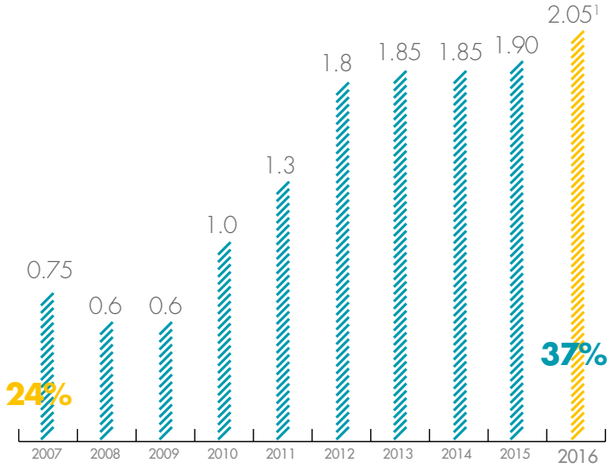
PERFORMANCE OVER 10 YEARS

Arkema: up 250% **Average for peers[1]: up 68%** **CAC40: down 1%**

1 AkzoNobel, BASF, Clariant, DSM, Evonik, Lanxess, Solvay

DIVIDEND UP FOR THE SEVENTH YEAR IN A ROW

DIVIDEND AND PAYOUT (IN € PER SHARE AND %)



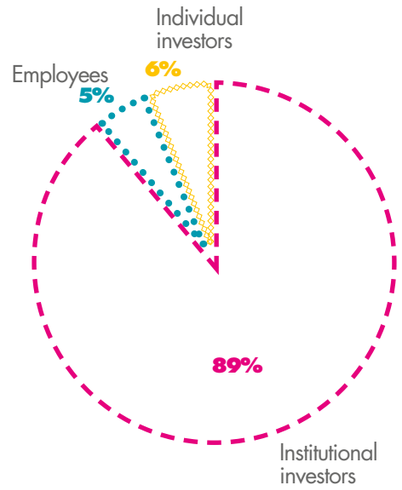
1. Dividend recommended to the May 23, 2017 Annual Shareholders' Meeting

Dividend Up 8% in 2016

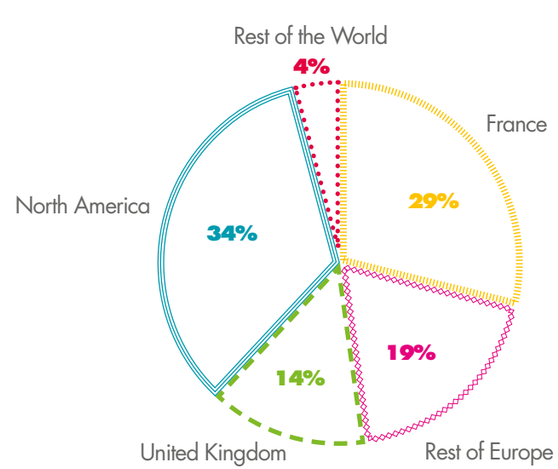
The Board of Directors reaffirmed dividends as a key component of shareholder return. The €2.05 dividend proposed for 2016 is 8% higher than in 2015. It represents a payout of 37% of adjusted net income and is equal to 2.2% of the share's value on December 31, 2016.
The decision shows how confident the Board of Directors is in our growth outlook and in the robustness of our cash flow and balance sheet.

SHAREHOLDER BASE AT DECEMBER 31, 2016

BY TYPE OF SHAREHOLDER



BY REGION



UP 250% in 10 years

The Arkema share's cumulative gain since we were publicly listed in May 2006. Over the same period, other CAC 40 companies saw their share value decline by an average of 1%.

ARKEMA SHARE PERFORMANCE IN 2016	
Performance since January 1, 2016 *(situation at December 31, 2016)*	+43.9%
Price at year-end *(in euros)*	92.94
Average of 30 most recent closing prices *(in euros)*	91.75
High *(in euros)*	95.28
Low *(in euros)*	48.17

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+33 (0) 49 00 74 63

CALENDAR

May 23, 2017
Annual Shareholders' Meeting
(Théâtre des Sablons, Neuilly-sur-Seine)

August 2, 2017
First-Half 2017 Results

November 9, 2017
Third-Quarter 2017 Results

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TACKLING TOMORROW'S CHALLENGES TODAY

Lighter vehicles, wind turbine blades, phone batteries, water management, sustainable housing and more — Arkema designs advanced materials and innovative solutions to meet tomorrow's challenges today.

ARKEMA, DESIGNER OF MATERIALS AND INNOVATIVE SOLUTIONS

ARKEMA
INNOVATIVE CHEMISTRY

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INNOVATIVE

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INNOVATIVE CHEMISTRY