

INNOVATIVE

2015 ANNUAL AND SUSTAINABLE DEVELOPMENT REPORT



DESIGNED
BY ARKEMA



CLOSE TO
CUSTOMERS

10 YEARS
AND COUNTING



CONNECTED
TO THE
WORLD



ARKEMA
INNOVATIVE CHEMISTRY

**THANK YOU
TO OUR CUSTOMERS
SHAREHOLDERS
PARTNERS AND
EMPLOYEES
FOR EXPLORING
THE FUTURE
AT OUR SIDE**

Arkema is celebrating its tenth year. Ten years of progress and innovation. You have driven our successful transformation. You have helped us meet our daily challenges, helped us become the designer of materials and innovative solutions we are today. Together, let's continue the innovation that drives our growth and performance.



**ARKEMA, DESIGNER
OF MATERIALS
AND INNOVATIVE SOLUTIONS**

ARKEMA
INNOVATIVE CHEMISTRY

FOREWORD

WHAT'S CHANGED IN 10 YEARS?

We are a company always on the move, proudly creating shared growth through our commitment and passion. We are driven by the collective energy of our teams, customers and partners and by a shared goal that is unchanged. Without compromising our deeply held convictions, we have remade ourselves. Without sacrificing our agility, we have grown into a global player.

WE ARE MORE THAN "JUST" A CHEMICALS PRODUCER

We are a designer of materials and innovative solutions, creating and developing high-value-added, real-world applications. We are part of the sustainability revolution, laying the groundwork for more fuel-efficient cars, growth in renewables and sustainable housing. We have become one of the most innovative companies in the world.

NOW MORE THAN EVER WE ARE
ALWAYS ON THE MOVE
ALWAYS INNOVATIVE

A TRANSFORMATIVE 10 YEARS

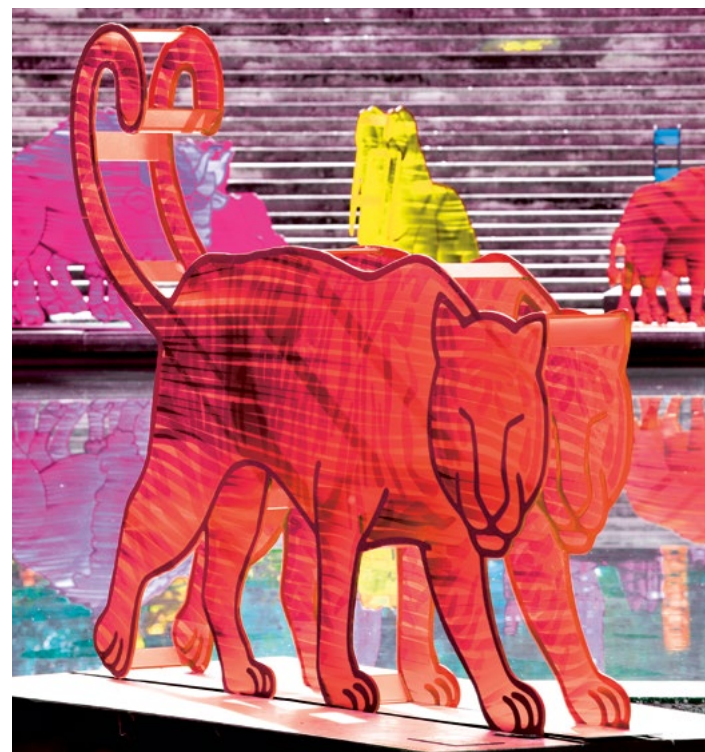
Thierry Le Hénaff, Arkema's Chairman and CEO, revisits 2015's strong performance, the tangible outcome of the disruptive strategy pursued since the company was publicly listed on May 18, 2006. His analysis also looks at the future, which he envisions as a new era of growth led by expansion in Asia, high-performance materials and innovative solutions to promote sustainability.



2015 PERFORMANCE UP SHARPLY

Thierry Le Hénaff > In a mixed global business environment, Arkema posted very solid earnings in 2015, exceeding the goals that had been set. Our revenues totaled €7.7 billion, up 29% from 2014. We also sharply improved our profitability, reporting EBITDA of €1.057 billion, an increase of 35% year-on-year and 13% on a like-for-like basis.

Several factors contributed to this performance. Our thiochemicals production complex in Kerteh, Malaysia, in early 2015, commissioned quickly became a technological and business success. We're very pleased, since this kind of investment is decided five years in advance and a lot can happen in five years. Our acquisition of the world's third-ranked adhesives producer, Bostik, effective in February, also appreciably boosted our results. In its first year with Arkema, Bostik posted an EBITDA of €183 million, up from €158 million in 2014 — another bet on growth that paid off. In 2015, our six innovation platforms, which focus on solutions to promote sustainability, continued to fuel our growth. Our results were also buoyed by



“
Arkema
is a robust, agile,
GLOBAL
manufacturer.
”

the strides in operational excellence made by all our teams, which yielded €30 million in savings.

Our performance in 2015 confirms that the strategic business directions we have chosen are the right ones. We continue to adjust our regional presence: Asia now accounts for 24% of our revenues and Europe's share has dropped further, to 38%. Growth in our High-Performance Materials segment, which delivers significant value-added, is picking up speed. Lifted by Bostik's arrival, it now accounts for 44% of Arkema's sales, alongside our Industrial Specialties (32% of revenues) and Coating Solutions (24%) segments. This brings our share of so-called cyclical business activities, which are sensitive to economic fluctuations, down by 10%.

GROWTH OUTLOOK

Thierry Le Hénaff > Arkema's macroeconomic assumptions for 2016 are prudent, to reflect volatile energy and feedstock prices and currency exchange rates. But we're confident in our ability

to keep improving our profitability. Our short-term priorities will be growth through innovation and the company's continued transformation.

We plan to accelerate the expansion of Bostik, which still has many regional opportunities to tap, and strengthen its synergies with the rest of Arkema. The thiochemicals complex in Kerteh will continue to ramp up until it reaches full capacity this year. Our fluorogas business will forge ahead with its recovery plan, which was introduced after a tough 2014 and started delivering results in 2015. Lastly, Arkema will continue with the €500 million divestment program for the period 2015-2017.

These priorities are part of our longer-term roadmap. We are aiming for revenues of €10 billion in 2020. And we're banking on a balanced distribution of one-third each for the three major regions: the Americas, Europe, and Asia and the rest of the world.

DESIGNER OF MATERIALS AND INNOVATIVE SOLUTIONS

Thierry Le Hénaff > Today's Arkema is almost unrecognizable from the Arkema of 10 years ago. Once known as a major manufacturer of specialty chemicals, we are now positioned as a “designer of materials and innovative solutions.” In our R&D centers and production plants, we “shape” materials to develop practical applications that address the contemporary world's major challenges. When our materials are used in smartphones, they connect people. When they make a vehicle lighter, they help fight climate change by enhancing fuel efficiency. In a solar panel or a battery, they produce and store tomorrow's energy. Our support for our customers tracks closely with their needs: we accelerate their performance and competitiveness by devising solutions that help them bring disruptive innovations to market.



**V 10 YEARS OLD
TODAY BUT WITH OUR EYE
ON THE FUTURE**

Thierry Le Hénaff > Arkema was publicly listed in 2006, a few months after being created. Ten years later, the company has been almost totally transformed. We are now an innovative, agile, global chemical producer with a regionally balanced portfolio, providing specialty chemicals and advanced materials. By tripling our operating income in a decade and doubling our EBITDA margin, we have proved our ability to ride out the ups and downs of the world economy and fluctuations in currencies and energy costs. Lastly, our market capitalization virtually tripled over the same period.

The success of Arkema and our people is no accident. It is the result of the company's profound transformation, guided by a bold strategy. From the outset, we have looked to emerging markets: our capital spending on production capacity in Changshu, China, and Kerteh, Malaysia has boosted Asia's share of our revenues from around 10 to 24%, while Europe's has been reduced to below 40%.

Thanks to a selective divestment and acquisitions strategy, we have sharply reduced our dependence on cyclical activities and commodities, shifting our focus to higher-value-added specialty chemicals. Our recent acquisition of Bostik and its immediate contribution to our results is yet another example of the change.

Arkema has made innovation a growth driver since day one. Named one of the Top 100 Global Innovators by Thomson Reuters for the last five years, we have six R&D platforms, focusing on performance materials that tackle the environmental challenges of the future.

Lastly, we are strongly engaged in a process to improve our corporate social responsibility performance. We had one of the lowest recordable injury rates in the industry in 2015. Environmentally, in 10 years we have slashed our greenhouse gas emissions 64% and our air emissions 43%. And we are shrinking our energy bill every year.



WE ARE

**STRONGLY
POSITIONED
TO KEEP
OUR
MOMENTUM
GOING:**

**WE HAVE THE PEOPLE,
THE PROJECTS AND THE
DETERMINATION IT TAKES.**



The last 10 years were just the first step. The next milestone is already set for 2020. In keeping with our roadmap and drive, we will continue to transform the company. Our focus on innovation, emerging markets, sustainability and performance materials gives us myriad growth opportunities. Arkema is strongly positioned to keep our momentum going: we have the people, the talent, the projects and the determination it takes. ■



1

Ambition

In 2006, Arkema went public with **1 clear strategy** and an ambitious transformation plan focused on:

Growing our business in emerging economies

•
Innovation

•
Targeted acquisitions

We are now more streamlined, more expert, more innovative and more future-focused than ever, with confidence and new goals.

Up by 2

Arkema is a more profitable, competitive company today.

In 10 years our revenue has soared by **€2 billion**, to €7.7 billion in 2015.

•
Our **EBITDA margin** has **more than doubled**, from 6.2% in 2005 to 13.8%.

•
And our EBITDA has **tripled** to €1.057 billion.

The Power

of
3



3

major host regions:

- Europe
- Asia
- North America

3

major business segments:

- High-Performance Materials
- Industrial Specialties
- Coating Solutions

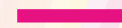
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R&D hubs:

- France
- United States
- Asia

Fantastic

4



We are committed to growth while practicing Arkema's **4 core** principles:

Simplicity



Solidarity



Responsibility



Performance

In line with our values, our HR teams emphasize diversity, teamwork, problem-solving skills and initiative.

The Famous

5

(CSR Commitments)

5 major commitments tracked using indicators, that bring our corporate social responsibility (CSR) performance to the level of the world's best chemical producers.

Rank with the best in class in the chemical industry for **safety**.

Significantly shrink the **environmental footprint** of our activities.

Promote the **personal and collective development** of our people.

Make sustainable development solutions a centerpiece of our **innovation policy** and our product lines.

Maintain open **lines of communication** with our stakeholders.

Ath

6

Sense

Innovation

6 forward-looking, solution-oriented R&D platforms to support our customers' growth and sustainable development.

 Bio-Based Products

 New Energies

 Water Management

 Electronics Solutions

 Lightweight Materials and Design

 Home Efficiency and Insulation

The

7 Wonders of the (Chemical) World

Otherwise known as 7 of our best innovations! In the last 10 years Arkema has developed lighter, more efficient materials to meet energy and sustainability challenges.

1

Pebax® Rnew

The first bio-based, high-performance elastomer

2

Rilsan® HT

A light polymer that can withstand very high temperatures and replace metal in car engines

3

Altuglas® ShieldUp

A transparent, ultra-solid acrylic glass that is twice as light as real glass

4

Elium®

A resin to make the first recyclable composites

5

Kepstan®

An "extreme" polymer that withstands temperatures of 360°C

6

Bostik® gel

A flame-retardant adhesive to assemble composite structures in airplanes

7

Axios™ Tri-linking™ Technology

For flooring adhesives that block moisture and reduce noise

Thomson Reuters has included Arkema in its list of Top 100 Global Innovators, all business sectors combined, for five years in a row.

Slate

of

8

8 acquisitions have changed the shape of Arkema and shifted our global footprint and our portfolio toward specialty chemicals and performance materials.

• **Coatex**

Additives, thickeners and dispersing agents for paper and paint

• **Dow Chemical assets**

Acrylic acids and esters, latex emulsions

• **Cray Valley**

Resins for paints and coatings

• **Sartomer**

Photocure resins

• **Bostik**

The No. 3 adhesives maker in the world

• **Casda Biomaterials and Hypro Polymers**

Sebacic acid and bio-based polyamides

• **Jurong Chemical's acrylic acid assets**

in China

Creation of the Sunke joint venture

• And a pool of innovative start-ups in high-value-added materials such as **AEC Polymers** and its structural adhesives and **Piezotech** and its piezoelectric materials

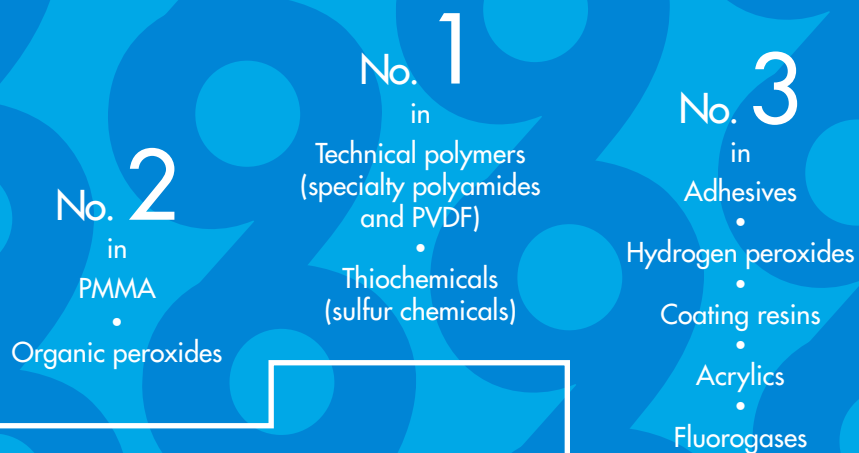
In 2016, these new activities make up 40% of Arkema's portfolio.

Leadership

9

That Shine

Over the years
Arkema has become a global leader
in our 9 main product lines.



10

Years Old Today

10

Priorities for 2020

- # Reach €10 billion in revenue
- # Attract top talent and rank among the "best companies to work for"
- # Have organic growth and acquisitions each account for half the growth in our revenue
- # Keep growing our dividends
- # Keep improving our financial performance
- # Strengthen safety and operational excellence
- # Make 50% of our revenue from high-performance materials
- # Provide new sustainable solutions for major social and environmental issues
- # Achieve a perfect geographical balance among Europe, Asia and North America
- # Have sustainability-related inventions account for close to half of the patents we file

10 out of 10 for the course we've set!



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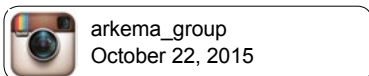
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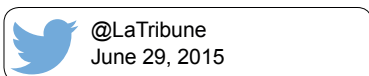
INNOVATIVE

#SOCIALMEDIA

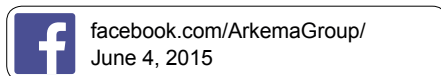
Arkema creates buzz on social media. Here's a small sampling of 2015 posts and news items on Twitter, Facebook, Instagram and LinkedIn. Follow us to stay connected!



Transat Jacques Vabre
A nice spotlight on César and Lalou, of the Arkema Transat Jacques Vabre team, on Instagram. More on page 9.



French chemical producer #Arkema invests **€60 million** at its Honfleur site.

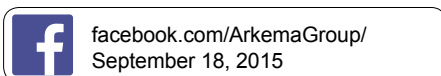


It took **3 years** to complete this enormous project in Malaysia. A Facebook retrospective through a milestones photo album and key figures.

Kerteh is the biggest construction project ever carried out by Arkema. Work began in 2012 and was not completed until 2015. The other statistics are just as mind-boggling

Nearly €200 million invested. As many as 1,800 workers at the building site at one time. Some 2,400 people in all worked to make its construction a success. 70 linear kilometers of pipes and 2,000 tons of structural steelwork on a 14-hectare site.

With Kerteh's help, Arkema continues to grow in the animal feed, petrochemicals and refining markets.



THE 140 ANIMALS SCULPTED OUT OF ALTUGLAS® IN THE ARCHE DE NOÉ CLIMAT (CLIMATE NOAH'S ARK) ARE UNVEILED TO THE PUBLIC. FOR MORE ABOUT THIS IMPRESSIVE EXHIBITION, SEE PAGE 49.

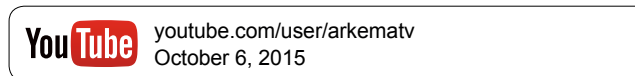


Top 100 Innovators

For the fifth year in a row, Arkema has been ranked among the top 100 innovating companies and organizations in the world, across all business activities. The Group features among the 3 French companies selected for this award.



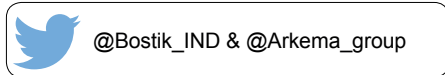
WITH A TRIP OF 0 IN 2015, THE CHANGSHU SITE IN CHINA, ARKEMA'S BIGGEST PRODUCTION COMPLEX, WON THE SAFETY AWARD.



Pebax Powered™ - Lightweight

Arkema
323 vues

INTERESTING FACT
More than half of the players competing in the 2014 FIFA World Cup wore shoes with soles made of Pebax®, a material in high demand for its exceptional properties. A review of its high-tech characteristics on YouTube.



Bostik Industrial @Bostik_IND - Dec. 2, 2015
#Bostik is proud to be an #Arkema company! @ASIMagazine stated it's a Top 100 Global Innovators for the 5th year!

Arkema @Arkema_group - Feb. 8, 2016
[#SailforWater] Mission in #Haiti: 84 #DrinkingWater filters handed out!

#THE NUMBERS

€7.7 billion
REVENUE

19,000
EMPLOYEES

136
PRODUCTION PLANTS

50
OPERATIONS IN COUNTRIES

2.7%
OF REVENUE ALLOCATED TO R&D

1,500
RESEARCHERS
AT
3
REGIONAL R&D CENTERS

DISPLAYING ARKEMA'S

Arkema and subsidiary Bostik put their brand colors on public display in 2015 using billboards, poster campaigns and sports sponsorships, in the air, on land and at sea.

#1 BOARDING WITH ARKEMA

What better time for a poster campaign presenting our new corporate positioning to the general public than COP21? Starting in late November and for the duration of the climate talks in Paris, we were seen on all of the scroller displays at the Roissy-Charles de Gaulle and Orly airports, advertising Arkema as a "Designer of materials and innovative solutions" and our commitment to helping address climate change. The campaign reached nearly five million passengers in transit, including the visitors from all over the globe who attended COP21. ■



358
scrollers

Each scroller seen
by an average of
25,000
passengers



COLORS



#2 SETTING SAIL FOR INNOVATION AND PERFORMANCE



Board Arkema's trimaran for the start of the Transat Jacques Vabre race.

For three years Arkema's Multi50 trimaran, skippered by Lalou Roucayrol, has been competing in one trans-Atlantic race after another. It's nothing less than a floating laboratory for our materials and adhesives. After finishing second in the Route du Rhum race in 2014, the Multi50 finished third in its category in the Transat Jacques Vabre in November 2015. Next up is the legendary solo crossing of the North Atlantic, The Transat, in May 2016. Buoyed by our experience with the Multi50, Arkema has opted to recommit to Lalou Roucayrol through 2018. ■

In addition to the Multi50, the partnership is building a Mini 6.50 monohull, packing a wide range of Arkema innovations into it from the get-go. A hull made of Elium® thermoplastic composite and carbon fiber, AEC Polymers structural adhesives for the bracing inside the boat and a wheelhouse window of Altuglas® ShieldUp acrylic glass are a few examples. Quentin Vlamynck, a young sailor mentored by Lalou Roucayrol, will skipper the high-tech prototype. Set to be launched in 2016, it will compete in 2017's flagship race for its category, the Mini-Transat. ■



#4

BOSTIK IN THE SADDLE FOR THE TOUR DE FRANCE



10 million spectators turn out to watch the Tour de France

200 Bostik customers hosted from eight countries

420,000 giveaways distributed

#3

BOSTIK ADHESIVES FLY HIGH

Bostik's colors took to European skies aboard a Boeing 737-800 flown by Transavia Airlines, an Air France-KLM subsidiary. A 250-square-meter flying advertisement was "glued" to the plane's body, allowing Bostik and its parent company Arkema to demonstrate their know-how in aircraft adhesives and materials that meet the aviation industry's lofty requirements. This unique experiment showcased Bostik's expertise in making adhesives for industry, construction and consumers. Millions of travelers saw the plane at Orly Sud and at 45 stopovers in 17 countries. The six-month-long, wide-ranging campaign helped Bostik boost

its brand awareness across Europe and the Mediterranean and supported the brand presence in big-box DIY stores. ■

45 airports served in 17 countries

145,000 passengers over six months carried on four daily flights

Bostik is the world's **3rd** largest producer of adhesives



Bostik's instantly recognizable gecko is becoming a fixture in the publicity caravan in the hill-climbing race-against-the-clock known as the Tour de France. Bostik, an official supplier for three years, has four vehicles decked out in the brand's logo and colors. The campaign gives the adhesives-maker broad visibility among the general public, through the distribution of giveaways and advertising merchandise to spectators. It's also an opportunity for Bostik to offer customers a once-in-a-lifetime experience. In 2015, more than 200 of them from eight countries were hosted over the 24 stages of the race, enjoying an up-close view of the competitors from official cars. The sponsorship was also a chance to deploy a poster and promotional campaign in DIY stores across France and to hold a contest offering 100 bikes as prizes. ■



Watch the "Bostik Boeing" being prepared



Arkema is working with a mix of technology and industry partners to design the materials of tomorrow. Christian Collette, Vice President, Research & Development, spells out our strategy, which is based on openness, agility and anticipating the future.

ANTICIPATING

THE

FUTURE

// **Open Innovation**
Steers Our R&D to
THE BEST Expertise

//
A Conversation with Christian Collette,
Vice President, Research & Development

What prompted Arkema to opt for a strategy of open innovation?

Christian Collette > Our open innovation strategy makes our R&D efficient by syncing it with precisely identified, real-world issues or challenges. Working with partners worldwide helps us fine-tune our market and tech intelligence, get a jump on major societal, industrial and technological changes, better target our research and, ultimately, progress more quickly on promising projects. For basic research, we seek out complementary expertise from universities, top-ranked engineering schools and labs. For applied research, we team up with manufacturers to accelerate the development and marketing of applications using our materials. This enables us to take a “big picture” approach to a project, tapping the best specialists in their fields to devise products that provide real value-added to our customers.

Can you give us an example?

C.C. > We’re developing thermoplastic composites that lighten vehicle bodies and also provide recyclability. For this project we’ve teamed up with European carmakers and equipment suppliers, a South Korean laboratory internationally renowned for thermoplastic composites, and a French institute of applied technology specializing in infusion processes for composite parts. We enhance our own innovation processes with the knowledge, methods and technologies we need wherever they can be found.

How do you choose your R&D partners?

C.C. > We work with top-flight academic institutions. They can offer rare expertise, collaborative research, and project assessments

by scientific committees. For a still-emerging technology, we sometimes partner with high-potential start-ups. On the industry side, we give priority to companies that are market leaders. Our joint development agreements in such cases stipulate exclusive commercial use of the resulting material. Given the capital expenditure required, our partners must be able to promote and distribute the new product on a large scale.

You have organized your R&D into six innovation platforms. Why is that?

C.C. > Our six platforms cover lightweight materials and design, electronics solutions, new energies, home efficiency and insulation, bio-based products, and water management. All six address major social challenges and offer strong potential growth. More importantly, we’re entirely credible in these niches: we have recognized expertise in the materials used in many of these applications. Lastly, each platform pools the energy and drive of international teams into targeted research to achieve genuine technological advances.

What are the key factors to successfully carry out your R&D projects?

C.C. > Pace and momentum are crucial. You need a tight-knit team of researchers with clearly defined roles and objectives. Every six months, we reassess a project’s status before moving on. Success also requires knowing when to call time on projects that are going nowhere. We shut down about a quarter of them every year — always a tough call — and redeploy the resources elsewhere. We measure the vitality of our R&D by the number of patents filed: nearly 200 each year. And by the fact that in 2015,

Thomson Reuters named Arkema one of its Top 100 Global Innovators for the fifth straight year.

You’ve also created an incubator.

What does it do?

C.C. > Our incubator is a cross-functional, independent program that serves both the platforms and the R&D goals of our business lines. Its role is to nurture high-potential innovations based on technologically disruptive materials. The program involves 50 seasoned professionals who work through all the aspects of development, from design and manufacturing to positioning and marketing. They deliver proven innovations to the business lines responsible for marketing them. The incubator brings precursor products, such as carbon nanotubes, piezoelectric polymers and polyether ketone ketones (PEKK), to market. ■

Ludwik Leibler,

Winner of the European Inventor Award and partner of Arkema



A member of the French Académie des Sciences, researcher with the French National Center for Scientific Research (CNRS) and associate professor

at ESPCI ParisTech school of industrial physics and chemistry, Ludwik Leibler has been working with Arkema for more than 20 years on new materials development and applications. He is the inventor of vitrimer, a plastic that is heat-formable like glass and pliable like rubber at room temperatures. This revolutionary polymer won him the European Inventor Award 2015 in the “Research” category.

#1 LIGHTWEIGHT MATERIALS AND DESIGN

THE WEIGHTY QUESTION OF ENERGY

Arkema designs high-performance thermoplastics that can replace metal and that offer an innovative mix of lightness, flexibility and excellent mechanical strength. Naturally recyclable, thermoplastics become “composites” when reinforced with carbon or glass fibers. They can then stand in for thermoset composites, which are widely used but not easily recycled. Lightweight thermoplastic composites are ideal materials for lightening vehicles and planes. “They’re one of the most effective ways to improve fuel economy and cut carbon emissions from fuel,” stresses Michel Glotin, Director, Materials Science at Arkema. We work with around 30 manufacturers, in transportation or high-potential wind power, to improve production processes and help them grow their businesses.



**EFFIWIND
Recyclable
Wind Turbine
Blades**

We are working with 10 technology and industry partners on the Effiwind project in France to develop wind turbine blades made of thermoplastic composite. The initiative is backed by the Aquitaine region. Quicker to produce and more efficient, the blades are also fully recyclable, unlike the thermoset composite blades used in the world’s wind turbine farms today, which weighed in at 550,000 tons of materials installed through 2014. Effiwind will reach a major milestone in 2016 when it produces three, 25-meter blades for an experimental wind turbine.

EFFICIENCY



OTHER ARKEMA PARTNERS IN FRANCE

M2P Institute of Technology Research in Metz tests our composite materials production processes.

Jules Verne Institute of Technology Research develops for aerospace applications 3D parts made of polyether ketone ketone (PEKK), Arkema’s ultra-high-performance polymer.

Saint Exupéry Institute of Technology Research develops thermoplastic composites for aerospace applications.

Canoe a technology center based in the Aquitaine region, works on advanced materials and composites.

**1 COMPOFAST, FAST RTM AND FAST FORM
Putting Cars on a Diet**

Arkema is conducting three major R&D programs, in partnership with PSA Peugeot Citroën, Renault and several French automotive OEMs, all within the French government’s Investing in the Future initiative. The first program, called Compofast, is winding up now. We and our partners developed thermoplastic composites that can replace the welded sheet metal components known as bodies in white (BIW) and other vehicle structural parts. The advantage: they sharply reduce car weight and carbon emissions. The next two programs, Fast RTM and Fast Form, call for building an industrial pilot for high-speed production of composite auto parts at M2P, a materials, metallurgy and processes research institute in Metz, France (see “Plus”).



**JOINT COMPOSITES
LAB
Arkema Teams Up
with South Korean
Expertise**

“ The laboratory that Arkema recently opened at Hanyang University brings the company closer to its customers in Asia. Our university benefits in many ways: internships for our students, expertise shared with our research faculty, technology transfers and marketing jointly developed materials. We’re partnering to develop thermoplastics for wind turbine blades and automotive and aerospace parts. ”

Sung Kyu Ha, Professor, Department of Mechanical Engineering, Hanyang University, Seoul, South Korea. A world-renowned expert in composite structures and materials, he heads the Ha Structures and Composites Laboratory.



PRINTING

Leading the Field



Arkema has developed a complete line of high-performance materials for today’s additive manufacturing technologies — aka 3D printing. A revolutionary production technology, 3D printing can produce complex, custom parts that are often lighter than molded ones. Arkema teams up with major market players, including 3D printer manufacturers, design and engineering firms, and end users. “Our partnerships aim to do two things: come up with the best machine/product match and prepare the technologies of the future,” explains Ilias Iliopoulos, Science Director at Arkema. ■

#2 BIO-BASED PRODUCTS

PARTNERING FOR SUSTAINABLE, LOWER-CARBON PRODUCTION OF CHEMICALS

Arkema has long been involved in developing bio-based products. We are the world's leading producer of the technical polyamide-10 and -11 grades made from castor oil, widely used in the automotive industry and offshore piping. We also make biomaterials from soybean or linseed oil and conifer resins. These materials are employed in diverse markets, including pharmaceuticals, paints, lubricants and road paving. A bio-based chemicals pioneer, we're a key player in large-scale collaborative projects to develop new renewable feedstocks.

The Plants of the Future Are Growing in COSMOS

Alongside 17 European partners — businesses, agricultural institutes and universities — Arkema is participating in the COSMOS research project, supported by the European Union and launched in March 2015. It is studying agro-industrial uses for camelina and crambe, two little-known oilseed plants. Both contain fatty acids that are not widely found in nature and are potentially convertible into high-grade bioplastics. Other virtues include thriving in poor soils and being harvest-ready in just three months. This means they could be cultivated as sustainable crops that don't compete with food and reduce Europe's reliance on imported oleochemical plant oils.

With our partners, we are exploring the entire value chain, from crop optimization and rotation to biomass use, fatty acid extraction and transformation, product and byproduct marketing and life cycle analysis. Check back in three years for a complete rundown on these seed champs. ■



“ The Center for Renewable Energy Sources (CRES) is conducting open-grown field trials of camelina and crambe in Greece, in addition to trials at agricultural universities in the Netherlands, Italy and Poland, to cover the diversity of European geoclimatic conditions. We're analyzing crop growth, yields and quality. We're sharing our data with Arkema to confirm potential uses in green chemical production. Leveraging our interrelated expertise, we're starting to put together the entire value chain for the two oilseed crops. ”

Christou Myrsini,
Center for Renewable Energy Sources (CRES), a Greek public research organization and partner of the COSMOS project.



BioMA+ : A partnership between Arkema and French start-up Global Bioenergies to convert renewable resources such as sugar, grains and green waste into biocomponents for acrylic paints.

#3 WATER MANAGEMENT

THE ULTRAFILTRATION MEMBRANE REVOLUTION

Arkema is committed to helping tackle the planet's looming scarcity of potable water. One of our innovation platforms is dedicated to water management and to the development of materials that make filtration processes more efficient and less energy-intensive. To speed industrial and commercial development, Arkema is forming partnerships with stakeholders in the water treatment chain. An example is the new nanostructured Kynar® PVDF, which will soon be used to make the first durable hydrophilic ultrafiltration membranes.

A Sustainable Collaboration

Arkema has been working for several years with Polymem, a French membrane maker specializing in low-pressure filtration systems, to develop new hollow-fiber ultrafiltration membranes with durable hydrophilic properties. Made from a brand-new grade of nanostructured Kynar® PVDF fluoropolymer developed by Arkema, the new membranes contain pores as small as 20 nanometers, or 10 times finer than ordinary microfiltration membranes, and can remove the minutest particles — viruses and bacteria — from water without adding chemicals. Their long-lasting

hydrophilic properties yield a filtration flow rate 20% faster than conventional membranes — without using any more energy — and extend the membrane's filtration service life from five to ten years. Polymem is preparing a production line for the membranes, intending to bring them to market in 2017. This green and economical solution is currently undergoing full-scale testing in a municipal treatment plant in Toulouse, in partnership with Veolia. There is also a range of potential applications in the manufacturing and residential sectors. ■

“ Arkema sought out Polymem as a recognized filtration module manufacturer for the tests and evaluation protocols for the Kynar® PVDF ultrafiltration membranes. We were able to prove their effectiveness quickly using a demonstrator set up in our buildings. Our partnership enabled us to get this new technology to market faster. ”

Jean-Michel Espenan,
CEO, Polymem SA

#4 ELECTRONICS SOLUTIONS

"PLUGGED-IN" **ELECTRONIC POLYMERS**

Futuristic organic electronics promise new applications for Arkema. Our nanostructured polymers are a leap forward in microelectronics and our electroactive polymers pave the way for a host of functionalized, connected objects. Our expertise in high-value-added polymers, developed in partnership with basic research laboratories, start-ups and semiconductor manufacturers, makes us a pioneer in this high-tech niche. "We've seen how the polymers that come out of our labs stack up against their potential applications and production requirements," explains Ian Gayrefourcq, Vice President, Emerging Technologies at Arkema.

Nanolithography: The Challenge of Printed Circuit Miniaturization

Current microelectronics technology using photolithography on silicon to make printed circuits has reached its limits, unable to push resolution below 40 nanometers. In France, Arkema has joined forces with the research institute CEA-Leti in Grenoble and the organic polymer chemistry lab LCPO in Bordeaux in a high-stakes project to develop electronic nanocomponents. Called "directed self-assembly" (DSA) lithography, the process relies on the ability of certain copolymers to self-organize on a nanometric scale (one billionth of a meter). The resulting geometric patterns — or nanocircuits — offer extremely fine resolution (5 to 10 nanometers) and can be precisely customized. Nanolithography makes it possible to design less energy-intensive circuits with ten times more capacity. Thus continuing to miniaturize chips, doubling processor performance every 18 months in accordance with "Moore's Law," which has guided the semiconductor market for more than 40 years.

Following successful laboratory testing, Arkema teamed up with various semiconductor leaders — including Intel, STMicroelectronics and Brewer Science — on two projects supported by the European Union: Placyd and CoLiSA. The goal is to build pilot production lines and move a step closer to commercial scale-up.

The Connected Object and Haptic¹ Interface Revolutions

Through our subsidiary Piezotech, we are developing a line of fluoropolymers that are electroactive, or piezoelectric. That means that they change shape when stimulated by an electrical field and, conversely, generate current under mechanical pressure. They set the stage for objects that are interactive and connected. Examples in medicine include sensors to measure temperature and blood pressure or surgical guides that can be positioned to within one millimeter; applications in transportation include sensors that can recover mechanical energy and store it as electrical energy. Electroactive polymer films will also be used for ultra-sensitive touch interfaces that will transmit very realistic sensations to users. Examples include a paper-thin flexible keyboard with keys that vibrate when struck, an interactive car dashboard, and flexible smartphones. Arkema is collaborating here with the U.S. start-up Novasentis to develop miniaturized haptic interfaces, a major innovation in electronics.

1. Haptics refers to the science of touch, as acoustics refers to sound and optics to sight.

Printed Electronics: Circuits on (Almost) Any Substrate

We and our subsidiary Piezotech have a piezoelectric polymeric ink that will permit printed electronics on substrates such as fabric, paper and flexible plastics. It turns out that it's much simpler and cheaper to print with these conductive inks than to make silicon-circuit-based components. Many everyday objects including smart labels and clothing, connected packaging and medical monitoring devices will be printable using such inks and will act as sensors (temperature, impact, moisture and more) and real-time information relays. ■

" Our research focuses on the use of piezoelectric polymers in printed electronics. The polymer's formulation and the type of ink are decisive for component performance and printing processes. We formed a partnership with Arkema to take advantage of their expertise in such materials. We're optimizing the structure and weight of the molecules and the composition and purity of the materials. "

Professor Shizuo Tokito, Director, Flexible Organic Electronics Laboratory, Yamagata University, Japan

#5 NEW ENERGIES

TWO HEADS
ARE BETTER THAN ONE

In the booming market for new energies, we partner with specialized laboratories, industry and end-users to conduct our research. Our capital spending focuses on two main areas: photovoltaics and next-generation batteries. "We're developing materials to boost the efficiency and durability of photovoltaic panels and lithium-ion batteries and cut their production costs, and we're working on new lithium-sulfur technology," says Ian Cayrefourcq, Vice President, Emerging Technologies at Arkema.

PARTNERSHIP #1

INES/CEA

+

Arkema

=

Seeking a Place in the Sun

In 2010, Arkema and the French Alternative Energies and Atomic Energy Commission (CEA) created, through France's National Solar Energy Institute (INES), the first public-private laboratory dedicated to polymer materials for photovoltaic (PV) panels. The laboratory, located in Chambéry, France, combines our expertise in polymers for encapsulating silicon cells and protective films for solar panels with INES's expertise in design and production processes for silicon and thin-film PV technologies. Light, durable and resistant to moisture, high temperatures and ultraviolet radiation, Arkema materials have everything they need to shine!

PARTNERSHIP #2

Hydro-Québec

+

Arkema

=

Improving Today's Batteries

Arkema and Canadian power utility Hydro-Québec have created, through the utility's subsidiary SCE France, a joint R&D laboratory in southwestern France dedicated to energy storage. The laboratory will develop a new generation of materials used to make lithium-ion batteries for hybrid and electric vehicles, including binders based on Kynar® PVDF, electrolytes (solvents, lithium salts) and conductive additives (carbon nanotubes, conductive polymers).



PARTNERSHIP #3

Oxis Energy



Arkema



Setting Our Sights on the Batteries of the Future

Since 2012, Arkema has been cooperating on research with Oxis Energy, a U.K.-based company that is designing, developing and manufacturing lithium-sulfur batteries, the next generation of rechargeable batteries. Oxis has already filed more than 75 related patents. ■

"

Arkema brings us its materials expertise to enhance the efficiency of the electrodes and electrolytes in the lithium-sulfur batteries. The new technology has five times the energy density of lithium-ion batteries. It is also lighter, more reliable and cheaper to produce. It has many potential applications, from electric vehicles to satellite systems and aviation.

"

Huw Hampson-Jones,
CEO, Oxis Energy

#6 HOME EFFICIENCY AND INSULATION

GREEN CONSTRUCTION
IN THREE WORDS

Since 2015, we have increasingly focused our R&D on sustainable building materials and solutions. Today, a sixth innovation platform and partnerships with major players in the industry will get a jump on where construction technologies and methods are headed.



Acquisition

In 2015, our acquisition of Bostik expanded our portfolio of materials for housing construction and comfort. We now offer lines of non-polluting sealants, adhesives, binders, mortar and grout that help improve thermal or sound insulation. Armed with these solutions and committed to

more sustainable housing, Arkema has created a new "Home Efficiency and Insulation" innovation platform.

Platform

All Arkema and Bostik products used in construction are showcased in the Smart House by Arkema project and the neighboring showroom. Inaugurated in 2015 at the R&D center in Venette, France, this one-of-a-kind housing lab is designed to serve as a collaborative and futuristic showplace. It brings Arkema researchers together with partners from science and industry and customers to transform R&D concepts into innovations that will make buildings more sustainable in 2030.

Solution

This concept develops and demonstrates solutions that can meet the major challenges of tomorrow's housing, including energy efficiency, environmental protection and the comfort and health of occupants (see pages 46 and 47). ■

THERE'S A **LITTLE ARKEMA** IN EVERY HOME...

You might be surprised to learn that Arkema materials are an unobtrusive part of your apartments, homes and gardens. They're definitely "in the house!," beautifying your surroundings and making them more comfortable, helping to keep food fresh and protecting your plants. Here are a few recent "Designed by Arkema" innovations as efficient as they are low-key.

Windows Smart, Insulating Window Glass

Arkema's low-emissivity Certincoat® flat-glass coatings make windows smarter and improve building insulation. A huge plus in cold climates, they let the sunlight in and keep heat from getting out. The end result: heating savings of 30%. Another product in the range, designed for warm climates, limits the amount of heat from the sun that gets inside and reduces the need for air conditioning.

Window Panes

Keeping Moisture Out

The Siliporite® molecular sieves made by CECA, an Arkema subsidiary, 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 perforated aluminum frame, the sieves protect the window's features for years. CECA recently developed a new grade of powder sieves that can be added to the polymer used to make the seals of double-pane windows. This saves time and optimizes the cost of manufacturing the windows.

Outdoors Keeping You Safe From Processionary Caterpillars

Pheromones are an eco-friendly way to fight processionary caterpillars, which attack pine forests. Introducing pheromones causes mating confusion and disrupts the pest's reproductive cycle. Arkema subsidiary Coatex has designed a micro-encapsulation technique that allows controlled release of the chemical substance into trees. Applied via paint ball, it protects the pines for the 120 days of the caterpillars' lifecycle. Applications for this pesticide-free biocontrol solution exist for other types of arboriculture.

Kitchen Sterilization to Suit Every Kind of Package

The food-grade cardboard used to make brick packs for soup, milk or fruit juice is sterilized with hydrogen peroxide prior to assembly. Arkema has also developed an ultrapure grade of hydrogen peroxide to sterilize the increasingly popular plastic PET bottles with screw caps. Slender nozzles can be used to spray microdroplets of the residue-free disinfectant inside each bottle during manufacture.

Walls Brighter and Thriftier Colors

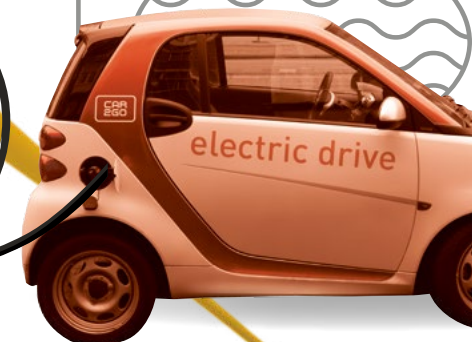
Wall paints usually contain between 30 and 40% titanium dioxide (TiO₂). This mineral pigment's tiny particles refract light and give it excellent hiding power. But TiO₂ is becoming more and more scarce and expensive. Two Arkema innovations are helping paint manufacturers use less TiO₂ and lower their costs. Tiny hollow particles made of Celacor™ polymers replace up to 12% of the TiO₂ in some formulations with no loss in performance. And Coatex's Bumper Technology™ optimally disperses the TiO₂ within the paint, ramping up its refraction and hiding properties.

A Coating That Insulates

Bostik has developed a leveling coat that incorporates glass microbeads to provide thermal insulation. The first of its kind, this prep coat reduces heat loss by 15%. It can be applied with a roller or a paint spatula and does just as good a job prepping walls for painting as conventional coatings. It's a two-in-one, saving time and ultimately cutting energy costs.

INNOVATIONS THAT TAKE YOU PLACES

Used to produce energy and in vehicles and communications devices, Arkema materials help you get around and stay in touch. "Designed by Arkema" innovations are futuristic yet part of our daily lives. They set the stage for low-carbon, eco-friendly transportation, greener electricity and longer-lasting smartphones.



Motorcycles Switching to "Acrylic Glass"

Flawlessly transparent, superbly tough, and moldable into almost any shape, what's not to like about Altuglas® ShieldUp? It already enjoys a solid fan base among manufacturers of roofs and windshields for cars and motorcycles — and their users. The unique material's secret? Mixing polymethyl methacrylate (PMMA), also known as acrylic glass, with a nanostructured elastomer. This combination yields outstanding transparency combined with optimized shock and chemical resistance. Another weighty argument in its favor: Altuglas® ShieldUp is only half as heavy as glass, helping make vehicles lighter and more fuel-efficient.

Transportation A Purer Fuel, Service Included

Arkema also provides technical assistance. Our Careflex® teams help oil companies remove sulfur from their fuels, as required by regulations. Our technicians step in at the end of the production cycle in refineries all over the world. Using proven procedures, they inject a compound — called DMDS, for dimethyl disulfide — to activate a chain reaction that removes the sulfur from the fuel. Since sulfur released by gasoline or diesel combustion contributes to acid rain, the teams and their operational know-how are invaluable.

Automotive Air Conditioning Goes 4G

The air conditioning of the future is here now! Arkema developed a process to make a new refrigerant for car air conditioning systems, HFO 1234YF, that complies with European Union regulations. These require that manufacturers use low Global Warming Potential (GWP) fluids in all new vehicles sold in Europe after January 1, 2017. HFO 1234YF (hydrofluoroolefin) is a so-called fourth-generation refrigerant. Highly energy-efficient, 4G refrigerants emit ten times less greenhouse gas than hydrofluorocarbons (HFCs), the third-generation fluids found in today's vehicles.

Ousting Steel

Rilsan® HT is a flexible plastic that can withstand very high temperatures and replaces metal and rubber in a number of automotive engine parts. The substitution yields significant weight savings: Rilsan® HT is six times lighter than steel, so using it helps boost fuel efficiency. But that's not the only green thing about it. Rilsan® HT is a bio-based technical polyamide, containing up to 70% renewably sourced carbon obtained from castor oil.

Smartphones Never Run Out of Juice

One-third of the lithium-ion batteries in laptops, cell phones, tablets and smartphones contain Kynar® PVDF. Used to assemble electrodes, the material's electrochemical stability extends the life and improves the performance of batteries (see Electric Vehicles, right). We're also tapping our expertise in fluorochemicals to develop a new electrolyte, the medium in which ions form and travel between the electrodes. The goal is to make a more powerful, safer and durable battery.

Wind Power Nicely Coated Blades

To avoid exposing their personnel to styrene, makers of wind turbine blades are turning to acrylic coatings from Sartomer, an Arkema subsidiary. Applied as a surface coating, photocure acrylic coatings harden instantly under ultraviolet light. This new protective technology is greener than green: it is solvent-free and emits zero volatile organic compounds (VOC).

Electric Vehicles Going the Distance

Electric and hybrid vehicles owe some of their improved range to Arkema's Kynar® polyvinylidene fluoride (PVDF). A special grade of this fluoropolymer is used in their batteries to "bind" the active particles to the anode and cathode that produce the current. Kynar® PVDF's electrochemical properties, durability and conductivity improve the battery's performance — shorter charging times, greater range and longer service life.

PERFORMANCE



BERNARD PINATEL



MARC SCHULLER

A Conversation with Bernard Pinatel and Marc Schuller, Operational Executive Vice Presidents

Bernard Pinatel is in charge of High-Performance Materials. Marc Schuller is responsible for Industrial Specialties and Coating Solutions. These two operational Executive Vice Presidents engage at different links in the value chain but share the same vision: bringing the right products and expertise to boost the performance and competitiveness of their customers. We sat down for a conversation on how they go about it.

What does being customer-focused mean in your business lines?

Marc Schuller > We're much more about selling innovative solutions than products. That seems pretty obvious for the High-Performance Materials activities — which have downstream applications — Bernard manages. But it's also true moving back upstream, in Industrial Specialties and Coating Solutions. This shift in our activities hasn't gone unnoticed by our customers: we sell fewer and fewer molecules picked straight from the catalogue. Increasingly, our products are custom-developed to suit specific applications.

Bernard Pinatel > For performance materials, we strive to offer technological breakthroughs, enhance our products beyond their primary function and make them smarter. That requires a deep knowledge of the market. We work closely with our customers and often reach out farther still, to the customers of our customers, to better pinpoint or anticipate needs.

Could you give us some examples?

M.S. > We recently developed a specific grade of hydrogen peroxide to spray on plastic food packaging to sterilize it. This booming niche is a new market for a product

that began as a bleaching agent for paper pulp. Getting to this point involved listening to customer needs and working closely with aseptic filling system manufacturers, who were running into performance and cleaning issues with existing hydrogen peroxide grades. We were looking for new applications for this product — a recognized oxidizing agent and disinfectant. And we discovered common ground for development.

>

B.P. > Bostik makes adhesives that do a lot more than just hold things together. Diaper adhesives change color to indicate wetness. The adhesives used in train or airplane interiors act as flame retardants. We developed these with our customers, to meet consumer expectations or regulatory requirements. In the automotive industry, when we replace the steel in certain parts located near the engine with a renewably sourced polymer — Rilsan® HT — we reap the rewards of research conducted over many years with carmakers and their suppliers to lighten vehicles. We also sometimes meet with the customers of our products to better discern how our products could improve an end application. This kind of end-user selling allows us to be especially innovative and to make custom-designed products. That's especially true for technical polymers.

How do you choose the focus of your customer-based developments?

M.S. > We try to understand our customers' challenges and how our materials and solutions could meet them, make our customers more competitive, accelerate their performance and thus become a game-changer. The solutions we provide — the technological advances we are known for — can be very different in type: an improved process, lower production costs, streamlined logistics and, of course, more environmentally responsible solutions. This last advance is, moreover, central to our strategy.

B.P. > In the field of sustainable construction, we opened the Arkema Smart House in 2015 (see pages 46 and 47), next to the Bostik research center near Compiègne, France. This housing lab is a forerunner of the housing of tomorrow, energy self-sufficient and built around occupant comfort and convenience. We invite our customers, suppliers and partners to stop by, so we can understand their techniques and research focuses. We invite discussions with architects and watch how skilled tradespeople apply our products, especially the adhesives, sealants and caulks. In less than a year, more than 2,500 people have already visited the Smart House.

Does staying close to your customers also mean being geographically nearby?

B.P. > Of course. That's what our investment strategy is all about. In 2015, Bostik opened plants in Mexico, India, Egypt and China to produce adhesives for personal care products. These new sites bring us closer to our big customers that make diapers and personal hygiene products and are major players in those populous countries.

M.S. > On our side, in 2015 we opened the first thiochemicals complex in Asia, in Kerteh, Malaysia, after three years of construction work. There we produce sulfur derivatives for the continent's flourishing refining, petrochemicals and animal feed markets. Globally, this plant joins our long-standing thiochemicals sites based in Europe and the United States.

Are you looking to globalize your production through your capital spending projects?

M.S. > It's a global initiative, but the local dimension is important. Needs vary from place to place. You don't grow in emerging economies simply by copying what's being done in Europe or the United States. Here too, we have to move closer to the front lines and reformulate our solutions for local markets. So in Kerteh, we combined three things: capitalizing on our thiochemicals know-how, seizing a market opportunity and offering an innovative, more sustainable process. To do that we worked with our local partner CJ CheilJedang, an animal feed specialist, to incorporate biomass feedstock into the process and supply them with the sulfur-containing feedstock they need to make bio-methionine. The Kerteh plant is a great example of innovation inspired by local market needs.

B.P. > You find the same thing in the construction and coating markets. People don't build in China the same way they do in Europe. That's why it's important to have an R&D center in Changshu, near Shanghai, to adapt our materials to local requirements. We do that for the coating resins used in paint, the Kynar® PVDF in solar panels and the polyamides for automotive hoses, among other examples. Having global production

capabilities also meets a requirement of our customers: we can deliver from several source sites if needed, securing their supply. This is a must if you want to work with market leaders.

Does working this closely with your customers require any special skills and expertise?

M.S. > Yes, of course. The talent aspect is important. We have talented people promoting these kinds of custom solutions at every level: a market focus rather than product focus, applications-oriented R&D, and sales teams organized to work closely with customers. For each one, we have to find the right balance, the right amount of closeness, offering a single dedicated contact to streamline dealings with us, while also respecting each activity's specific requirements. That's the challenge produced by the breadth of our lineup: we offer multiple solutions to the same customer.

B.P. > We met this challenge, for example, at Boeing, where several business lines coordinate their work. We supply Boeing with technical polymers such as Kynar® PVDF for airplane cabin window casings and ducts, thermoplastic composites to lighten aircraft structures and Bostik adhesives for assembly. The relationship is regarded as an outstanding success. They trust us so much that we hold Innovation Days at their facilities to present our products. In 2015, Boeing recognized the quality of our relationship by presenting us with a silver Boeing Performance Excellence Award for suppliers.

The acquisition of Bostik in early 2015 was Arkema's first foray into B2C. How do you get closer to the very specific customer class of consumers?

B.P. > Just before joining Arkema, Bostik redesigned its visual identity, adopting the gecko as its new emblem. We intend to become a global brand recognized by both consumers and construction professionals. Bostik continued to display its colors in 2015, both at the Tour de France and on a Transavia Airlines Boeing plane. We also want to raise awareness among consumers

for our technical polymers: Pebax® in athletic shoes is becoming a consumer preference, promoted with the "Pebax® Powered" label denoting performance and a video campaign on social media. We are showcasing the technical properties of Pebax® in a way that influences buying decisions in stores. That's our way of helping our direct customers — sports brands — promote their products.

M.S. > In B2B too, we realize that we have very strong brands that are well established with manufacturers. Altuglas® acrylic glass, the Careflex® service for the petrochemicals industry and Coatex for coatings and paint are storied names in their respective sectors.

How does digital fit into your approach to customers?

B.P. > Digital is becoming essential not only in B2C, but also B2B. Bostik has a digital marketing strategy, complete with reworked procedures and a revamped web presence. We want to do more than just present our products. We want to offer smarter solutions and services to consumers, recognizing their profile and interests and guiding them more quickly to the products they're looking for and to nearby retail outlets. The next step is activating social media, online marketing campaigns and other communications initiatives, such as webinars and testimonials. Bostik also has a YouTube channel, with a comprehensive program of tutorials for consumers and tradespeople on how to use our products.

M.S. > Digital also supports the marketing of some of our Industrial Specialties and Coating Solutions business lines and that's going to pick up in the years ahead. For example, in the coatings market, Sartomer, our photocure resins subsidiary, uses the web and social media to spotlight its solutions in the many markets it serves, as an adjunct to a more conventional trade show and media presence. Showcasing our expertise on the web, compelling content and SEO have become key across the value chain and in every aspect of customer relationships. Although we don't yet sell on line, customers today use the web to learn more about our solutions, compare them to competitors' and

get in touch with us. Prospects all over the world can contact us easily via the web. So we have to show that we're connected and responsive.

How do you gauge customer satisfaction with Arkema, beyond sales and revenue figures?

M.S. > I measure it by the steady rise in the number of projects and developments we're conducting that are directly inspired by our customers' expectations. That's where our ability to innovate sets us apart. And our innovation goes well beyond R&D and products. It can involve improved packaging or processes, or new types of web-based transactions.

B.P. > I notice that we're offering more and more services to our customers. Using the Internet to help a consumer find and use a Bostik adhesive is a service. At Boeing, we provide a real service by designing innovative materials. We hold open houses at our technical polymers research center to show European carmakers and their suppliers our latest materials innovations for the automotive industry. We help glass manufacturers use our glass coating solutions to lengthen the life of bottles. Marc could add the highly technical Careflex® service at refineries, essential for removing the sulfur in fuels. It's a long and very telling list in terms of how close we are to our customers. ■

“
Accelerating
customer
performance
BY IDENTIFYING
customer
needs.
”

GOING WHERE THE **GROWTH** IS

In line with our roadmap, we are building capacity globally and putting down roots close to our strategic markets. In 2015 we invested €431 million in our industrial projects, divided equally between upgrading our production base and building new plants.

1

A GLOBAL STRATEGY

With our Kerteh complex in Malaysia up and running, we now have world-class thiochemicals plants in Asia, North America and Europe. We continue to realign our activities regionally, to achieve an equal balance across Asia, Europe and the Americas by 2020.

2

A GROWTH STRATEGY

The big industrial projects initiated by Arkema allow us to serve fast-growing markets and cement our leadership. Facility start-ups and capital expenditure in 2015 targeted petrochemicals and refining, construction, hygiene products and animal feed.

3

A LOCAL STRATEGY

Both regionally and nationally, we build production plants near our customers and markets. Our plant in Malaysia is one street away from the CJ CheilJedang site, our main customer. In India and Mexico, where population growth is soaring, Bostik is moving closer to disposable hygiene product manufacturers.

Americas

BOSTIK/ Mexico

Bostik is upgrading and expanding its production base in Mexico. At end-2015, the “gecko brand” cut the ribbon on a new, state-of-the-art plant at its Monterrey site. The facility will make hot-melt, pressure-sensitive adhesives close to its customers in the disposable hygiene product industry in Mexico and Central and South America. The engineering and operations excellence of other Bostik production sites was incorporated into the plant’s design. Bostik supplies major global manufacturers of baby diapers and feminine hygiene and adult incontinence products. Its value-added adhesives produce fasteners that offer elasticity, wetness indicators and stretch.

BOSTIK/ United States

In mid-2015, Bostik opened a new plant to make tile adhesives and flooring prep products in Dallas, Texas. This new production facility in the United States strengthens Bostik’s industrial network in an immense housing and construction belt. The site also has a cutting-edge training center for customers and brand distributors.



Europe



The investment in Honfleur enables CECA, the world’s second-largest manufacturer of molecular sieves for petrochemicals and refining, to keep up with the market’s growth, estimated at 6 to 7% a year, especially in Asia and the Middle East. Stepped-up production of synthetic textiles and PET bottles in emerging economies is driving the growth.

CECA/France

CECA, an Arkema subsidiary specializing in adsorption and filtration, launched a project in 2015 to double its production capacity for specialty molecular sieves in Honfleur, France. The €60 million capital expenditure will go to build a new production line to make adsorbents that remove petrochemical aromatics. The new unit will begin production in two steps — in the summer of 2016 and in January 2017 — and will create 15 jobs.

Asia

BOSTIK/ India

In 2015, Bostik ramped up its capacity to produce hot-melt, pressure-sensitive adhesives in India by commissioning a new unit at its Bangalore site. The expansion increases Bostik’s ability to supply regional customers making disposable hygiene products, by meeting the high-growth market’s requirements.



ARKEMA/Malaysia

With a price tag of €200 million and a start-up in early 2015, the Kerteh thiochemicals complex in Malaysia is Arkema’s biggest capital spending project since the company was publicly listed in 2006. At this site, built from the ground up in barely three years, we produce DMDS for the refining and petrochemicals industries, along with methyl mercaptan. The latter is used by nearby CJ CheilJedang to make biomethionine for animal feed using an innovative bio-based process. Positioned in two growing markets, the Kerteh plant contributed to Arkema’s earnings in its very first year of operation.



Two key Bostik markets: disposable hygiene products and construction.

GLASS COATING PROTECTING GLASS CONTAINERS WITH ULTRA-EFFICIENT INVISIBLE COATINGS

A world leader in container glass protection, Arkema has unmatched expertise in hot- and cold-end coatings. These clear treatments sprayed on in thin coats at the start and finish of glassmaker lines make new bottles more scratch-resistant and deliver flawless surface properties and finishes. We're also developing solutions for bottlers – the customers of glassmakers – to keep returnable bottles looking good longer. Both makers and bottlers look to us to supply recognized technical solutions and equipment alongside technical support, auditing and training services.



Launch of an End-to-End Solution, Certinadvance®

Arkema offers glassmakers expertise and solutions they can't find elsewhere in the market, under the brand Certinadvance®. We not only supply hot-end and cold-end spray-on coating solutions on the bottle-making line, but also the industrial hoods and spray guns required to apply them, plus a full suite of end-to-end services. Our people help install and maintain the equipment, provide training and perform technical audits to certify that the glass coatings are being applied correctly or recommend process adjustments. Recent improvements to our equipment deliver flawless application and assure compliance with the latest food standards.

CERTINADVANCE®
BY ARKEMA

The Glass Coating Academy

Bottlers have become more demanding about glass quality, creating a need to train the market's glassmakers and bottlers in the importance of proper coating use. So in 2015 Arkema, as a recognized specialist in the field, created the Glass Coating Academy, an online training program to educate the industry about the new quality standards and the importance of applying coatings as intended.

THE WEBINARS, LED BY AN ARKEMA EXPERT AND FOLLOWED BY A QUESTION AND ANSWER SESSION, LAST 20 MINUTES.

THREE TRAINING LEVELS
THE ACADEMY OFFERS BEGINNER, INTERMEDIATE AND EXPERT LEVEL COURSES FOR EACH MARKET: HOT- AND COLD-END COATING AND RETURNABLE BOTTLES.



" The Glass Coating Academy has made Arkema a recognized stakeholder in relationships between the glass industry and bottlers.

" **Marc Maggiani,**
Business Director,
Glass Coatings, Arkema

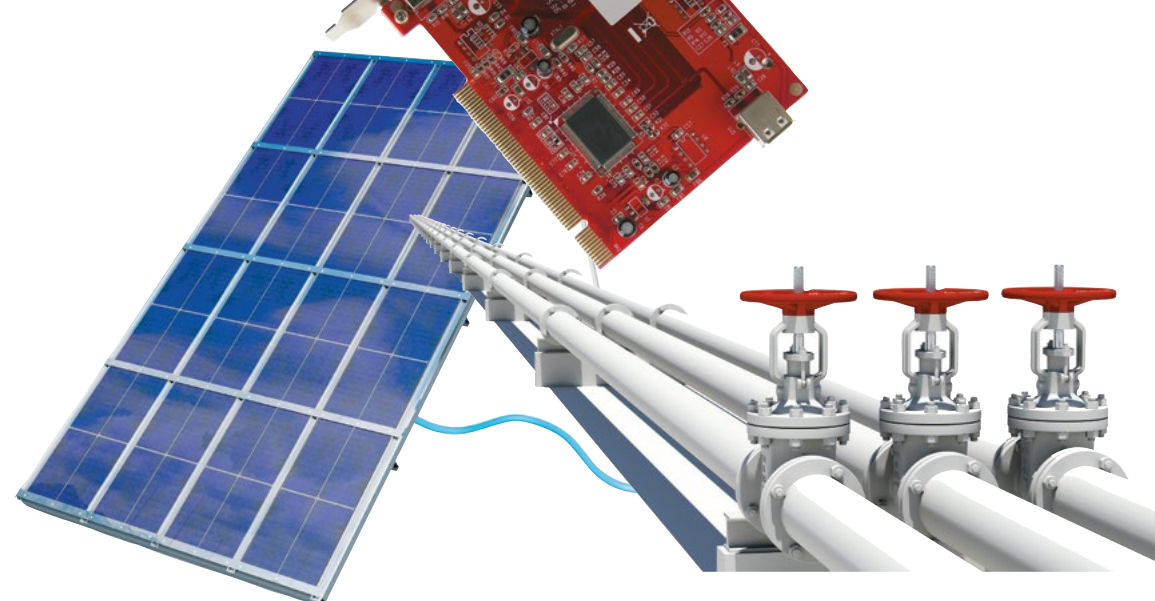
SEE FOR YOURSELF



Making Returnable Bottles Like New

Bottles are returnable in a number of countries, including Colombia, Germany and South Africa. Arkema offers local bottlers (brewers, mineral water and carbonated or non-alcoholic beverage producers) two interrelated technologies that greatly enhance the appearance and longevity of returnable bottles. The protective emulsion Kercoat® delays the appearance of scratches and white scuff marks. Opticoat®, a masking product, camouflages too-obvious scuffing, making the bottle look new again. These two solutions keep bottles in use at least twice as long — 50 cycles instead of 25 — while keeping them attractive to end consumers. This yields significant economic and environmental gains for bottlers. ■

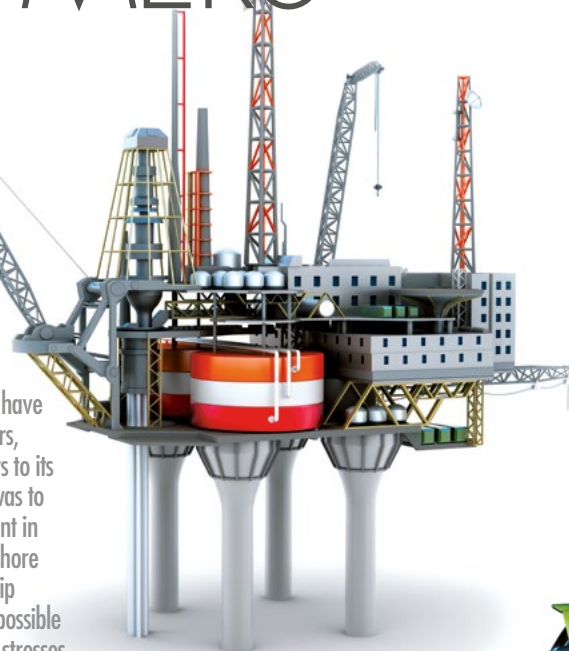
From skyscraper rooftops to offshore platforms, no challenge is too daunting for Arkema's technical polymers. Customer events to celebrate Kynar® 500's fiftieth anniversary were hosted in 2015, which also saw an R&D seminar for the automotive industry, end-user outreach in the electronics and photovoltaic markets and a long-term consulting assignment at Technip. All designed to help us do one thing: understand as much as possible about the needs of our customers and end users.



TECHNICAL POLYMERS, TAILORED TO CUSTOMERS

Offshore Platforms

In a mark of trust between two partners who have been working together for more than 40 years, Technical Polymers loaned one of its specialists to its customer Technip. His year-long assignment was to objectively advise the energy engineering giant in the use of high-performance materials in offshore oil extraction. "For some specifications, Technip chose solutions faster than would have been possible without our advanced materials knowledge," stresses Philippe Bussi, the expert-on-loan. Arkema provided especially innovative answers for using thermoplastic composites in deep offshore drilling applications.



Automotive

Some 20 representatives of automakers and major automotive suppliers from across Europe met for an R&D seminar at Cerdato, the Arkema research center in Serquigny, France. The two-day program featured technical presentations, lab tours and discussions of future developments in engine parts. "It was a great opportunity to zero in on customer needs and present our work on specialty polyamides capable of withstanding high temperatures and chemical damage," explains Sébastien Vautier, Global Market Manager, Transportation.



In Touch with End Users

Photovoltaic Solar Panels

In October 2015, Arkema co-organized a conference in China with Trina Solar, a Chinese solar energy leader developing a sweeping program of PV solar farms in the western part of the country. To an audience of more than 300 people from panel assemblers and power utilities, Technical Polymers presented KPK®, an exceptionally durable film to protect PV panel surfaces, developed with German manufacturer Krempel. KPK® consists of a PET core sandwiched between two Kynar® PVDF sheets.

Semiconductors

In the semiconductor market, we support our partner Georg Fischer, a specialist in ultra-pure water systems for major electronics manufacturers such as Intel, Samsung, TSMC and GlobalFoundries. Semiconductor manufacturers require systems that produce and deliver water with high chemical purity. By meeting with them, we can promote our ultra-high-purity Kynar® PVDF for system components and, most important, better pinpoint end customer requirements.

Chemicals

A real leader accompanies the customer to the customer's customer. In the chemical process industry (CPI) market, Technical Polymers met many times with the customer's customer — or the end user — in 2015. "We supply Kynar® PVDF pellets to Simona and to Gehr, who specialize in the production of pipes, valves and fittings for facilities operated by major chemicals and petrochemicals producers," explains Christophe Le Roy, Global Market Manager, CPI. "We find ourselves sitting down with the end users more and more, to understand their needs and come up with solutions in partnership with our customer, their supplier." ■

KYNAR® 500 ARCHITECTURAL
COATINGS: STILL ON TOP AT 50!

1

In June, Arkema jointly organized a prestigious conference in Shanghai with a long-standing partner, the paint manufacturer PPG. At the lectern, Eric Tomich — the architect behind the Burj Khalifa skyscraper in Dubai — praised Kynar® 500's qualities to the prominent people gathered at the event.

2

In October at the MetalCon trade show in Tampa, Florida, a highlight of the metal construction industry's calendar, we showcased Kynar 500®. We dedicated most of our display to the anniversary, including a series of videos featuring the iconic buildings clad in Kynar®.

3

In another 2015 anniversary event, we held our first University of Kynar® session in Dubai. It drew distinguished consultants, architects, and several major customers, among them Spectrum and Beckers. The event was a review of Kynar® 500's advantages and Arkema's licensing program. It will be repeated regularly, at the request of the region's architects.

STRETCHING THE LIMITS WITH PEBAX® POWERED

More flexible, more impact-resistant and lighter than its competitors, Pebax® elastomer is now recognized as a bona fide performance enhancer for athletic shoe soles and ski boot shells. Arkema's new Pebax® Powered marketing campaign aims to better highlight Pebax®'s advantages to equipment makers and build awareness of the brand among consumers. The goal is to make Pebax® a "must have" for savvy consumers, heightening the appeal of our customers' sports equipment brands.



Taking **comfort** and **performance** to new levels, Pebax® heightens the **APPEAL OF BRANDS.**



Watch skiers explain why they chose Pebax®.



PRE-GAME A Marketing Kit for Sports Brands

Preparation is key in every sport. That's why the Pebax® Powered program kicked off in 2014 to tout the toughness of athletic shoes made using this material. There's even a Pebax® Powered brand book. Equipment makers interested in showcasing the material in their products can consult it to find all the ways they can use the brand, its logo and its baseline "Stretch the Limits™." The guide was personally presented to marketing managers of prestigious brands such as Nike, Puma, The North Face and Mizuno. Standardized QR code labels, translatable into several languages, are also available. At the same time, branding has been simplified. Gone are the overly technical details. And the logo has been updated in two styles: Pebax® Clear for the transparent version and Pebax® Rnew for the bio-based version.

GAME TIME Pebax® vs. TPU: Five Elite Match-Ups

Why are more and more athletic shoes Pebax® Powered? Get the answers in a series of five entertaining, educational YouTube videos made with the help of Arkema R&D center Cerdato. Mixing science experiments and showmanship with sports commentary, each video pits Pebax® against its nearest rival, thermoplastic polyurethane (TPU), in a contest selected to highlight a key characteristic such as impact resistance or elasticity. And when the referee-slash-experimenter blows the whistle at the end of the competition, the results are beyond dispute: Pebax® comes out the winner in every game or sport.



Watch Pebax® face off with TPU.

MVP A Star Turn at the ISPO Munich Outdoor Show

Pebax® Powered nabbed a fantastic showcase in January 2016 at ISPO Munich, the sports industry's biggest trade show in Europe. Emblazoned on a huge poster at the entrance, the fledgling brand was also splashed across banners on the ceiling of the main aisle. Not a bad way to work yourself into the scenery — and the conversations of exhibitors! Visitors were also able to check out K2's new Pinnacle 130 ski boot, which incorporates Pebax® Rnew and has the Pebax® Powered logo printed on the shell. This launch adds to the list of makers labeling their brands as Pebax® Powered, including Scarpa, Scott and Fischer in the ski market and The North Face for ultra trail shoes.

TRAINING Athletes and Buzz for the B2C Niche

Following up on the outreach to equipment manufacturers in 2015, the Pebax® Powered offensive is branching out and targeting the general public in 2016. Elite athletes such as the freeride skiing star Giulia Monego have been filmed in action. The campaign was carried out in partnership with Scarpa, Fischer and Dynafit. Relayed by the brands, social media and specialized blogs, these spectacular videos help create buzz and raise the brand's profile. When the ski season ends, the focus will shift to other sports in which Pebax® is performing feats: running and especially soccer. The 2016 UEFA European Championship will provide an opportunity to spotlight new performances. ■



The photocure, or UV-hardened, resins made by Arkema's subsidiary Sartomer improve the performance of chemical formulations in a wide range of markets, from inks and protective coatings for wood floors to adhesives and nail polish. Working closely with customers, Sartomer's teams cultivate a genuine culture of co-innovation, backed by extremely effective marketing.

Made-to-Order Co-Innovation

Some of Sartomer's R&D results from direct interaction at customers' co-innovation events. These happen twice yearly with the teams of the paint, stains and coatings maker Sherwin Williams. Sartomer's technical teams also took part in an R&D seminar held by the ink maker Sun Chemicals and arranged discussions with Fuji UK, a leader in ink-jet printing, with a view to signing a development agreement.

Before, During and After Trade Shows

Sartomer meticulously prepares for every key event in its markets, including the European Coatings Show, the RADTech Conference & Expo on UV and EB curing technologies, the IRC-DKT Rubber Conference and Trade Exhibition and more. It issues news releases, updates presentation materials, leverages social media before, during and after the shows, holds preparation meetings with technical and marketing teams and debriefs participants so

that marketing teams and technical managers can follow up on contacts made during these events.

Getting Interactive

Sartomer will offer a wide range of online services at its website in 2016. Dropdown menus will help customers locate the solutions that best meet their needs, based on application type and desired properties and performance. The Sartomer site will also offer secure access to highly technical documents and samples. ■

CONSTRUCTION SOLUTIONS ON EVERY FLOOR

Bostik's communications cater to the four major customers of building materials in the United States, promoting a comprehensive and innovative range of adhesives, surface preparation products, mortars, grouts and sealants.



Skilled Trades and Installers

Bostik supplies B2B wholesalers with everything they need to create a showroom in their sales outlets dedicated to the Bostik brand and its products' advantages. A smart way to get skilled tradesmen and installers to think of Bostik first. The brand also invests in hands-on training programs to teach proper techniques, to make sure that professionals use its products the right way.

+ A network of regional training centers around the world.

Retailers and Distributors

Bostik is a true business partner of its retailers and distributors. The brand works alongside them to analyze the market and understand its trends, to help them grow their businesses. "We look at things from their perspective," stresses Mike Jenkins, Business Director, Construction and Consumer Business Unit at Bostik in the United States. Bostik and its partners share key performance indicators to implement growth strategies.

+ The Smart Selector, an interactive online tool to help choose the right product for the job.

Consumers

To reach the seasoned, semi-pro DIY target, Bostik is present on social media, especially YouTube. The brand has its own studio, where it produces videos that include product demos and technical explanations, as well as interviews with experts on topics such as earth-friendly construction and advanced adhesives technologies. Designed for DIYers of every stripe, the videos also provide information useful to retail sales teams, professional installers and architects.

+ Available worldwide in 1,600 DIY consumer retail outlets.

Architects and Interior Designers

To reach architects, interior designers and designers, Bostik deploys the full gamut of marketing and customer relationship tools, from CRM and emails to the trade press. That way its technical solutions are referenced right from the outset and can be included in building specs as early in the process as possible. The brand promotes the functional, smart qualities of its installation and adhesive solutions — clean indoor air, soundproofing, appearance — to these influencers. Bostik recently held a competition for architectural designers using its solutions: the winner's signed mosaic mural will be permanently installed at the MGM Grand Las Vegas Hotel & Casino.

+ Brochures by building type, such as schools, hospitals and hotels.



ENGAGEMENT

//
Our Employees Have Made
Sustainability
PART OF THEIR DAILY LIVES
//

In 2015 we made progress in all five of our corporate social responsibility (CSR) commitments, namely environmental footprint, innovations, stakeholder dialogue, safety and employee development. We owe these improvements to strong employee engagement.

A Conversation with Heike Faulhammer, Vice President, Sustainable Development

How did Arkema do on CSR in 2015?
Heike Faulhammer > We continued to improve in line with our sustainable development policy commitments (see pages 44 and 45). On the environmental front, we shrank our carbon footprint some more. In all, we have slashed our emissions of greenhouse gases by 64% and of volatile organic compounds by 43% in the last 10 years. Facility upgrades and a push for operational excellence by our organizations are paying off. At the same time we've stepped up our investment in future-oriented solutions: nearly a third of the 193 patents Arkema filed in 2015 focused on sustainability issues such as bio-based materials, new energies, water treatment, lighter materials and sustainable housing. We expect the percentage of sustainability-focused patents to reach 50% in the relatively near future. We've also strengthened our dialogue with stakeholders. During 2015, we implemented

over a thousand Common Ground® initiatives around the world (see page 42), half of them with people living or working near our plants.
To what do you attribute your progress?
H.F. > At Arkema, CSR is not the preserve of a single department. CSR policy must be part of our daily life and operations to be worthwhile and beneficial for both stakeholders and the company. Employee buy-in and support are pivotal and stem from the development of our people as we adapt to a changing world — another basic cornerstone of our CSR policy (see pages 50 and 51). We rely on our employees, empower them and prepare them for the challenges to come. In return, they're involved and engaged. Safety is a great example. Our total recordable injury rate (TRIR)¹ for 2015 is 1.5, on par with the best in the chemical industry (see page 45), thanks in part to 190,000 hours >

Heike Faulhammer was appointed Vice President, Sustainable Development in October 2015. A graduate of the Freiburg Institute for Macromolecular Chemistry in Germany, she joined Arkema in 1997 as an R&D engineer at Cerdato, our research center in Serquigny, France. Four years later, she took over responsibility for a production line at the same site. She then moved into more business-oriented positions — marketing and subsequently product manager — in 2006. She took over as manager of the GRL research center in Lacq, France in 2009.

⁽¹⁾ Per million hours worked.

> of targeted health, safety and environmental training during 2015. In addition, our CSR performance is hard to miss and is recognized outside Arkema, in the ratings from Vigeo, EcoVadis and the Carbon Disclosure Project (CDP) for example, and through our inclusion in sustainability indexes such as FTSE4Good. But we will not rest on our laurels; we have the potential to rank with the best in class.

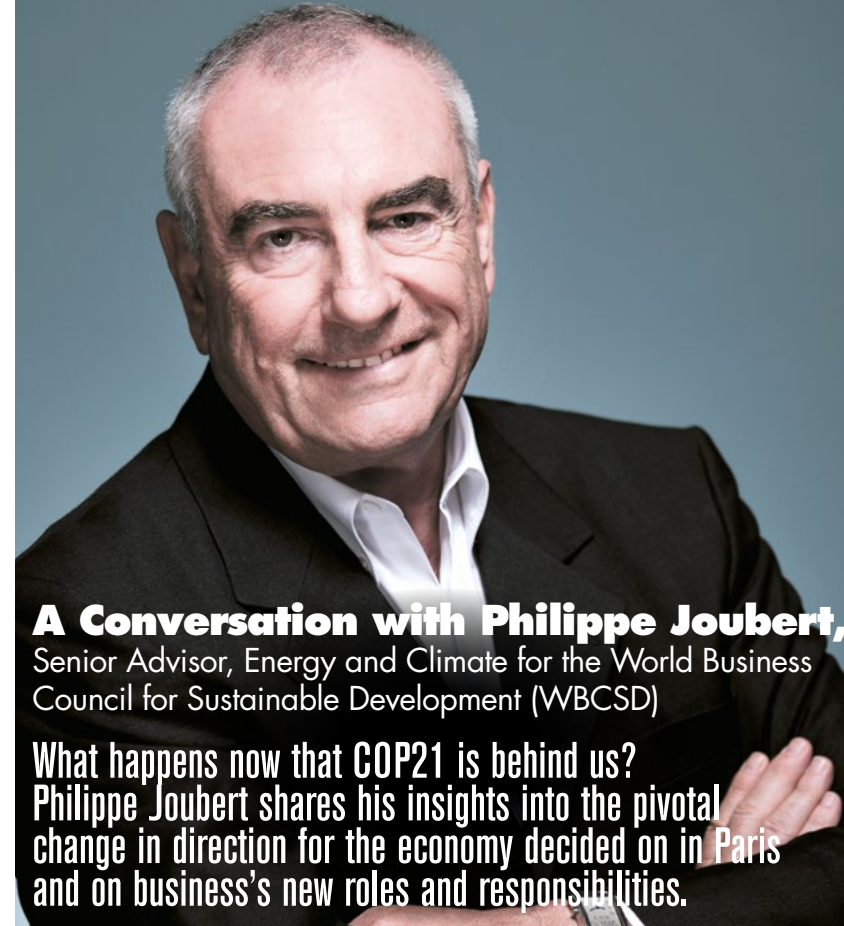
COP21 was held in Paris in 2015. What role did Arkema play in what will go down in history as the first universal climate agreement?

H.F. > Arkema is among the businesses that will help meet the Paris Agreement goals set at COP21. Through our commitments and concrete actions, we continue to shrink our environmental footprint. Progress will be made both in our plants and for our customers, by offering them technological solutions that promote sustainability. Arkema participated in various COP21-related events: we attended the Business & Climate Summit held in Paris in June 2015 during the preparation phase,

and we were a principal sponsor of the *Arche de Noé Climat*, or Climate Noah's Ark, a traveling exhibition to educate the public about climate issues. The latter was conducted by the French Ministry of Ecology, Sustainable Development and Energy across France. We took part in several panels during COP21 itself. A highlight was our signing of the French Companies Act on Climate, an initiative by 39 major French companies that sets goals in anticipation of COP21. We confirmed our plans to invest around €100 million a year in low-carbon R&D and industrial projects through 2020, an average of 20% of our capital expenditures. ■

1,014 Opportunities to Make Friends

2015 was a record year for open houses at Arkema sites. A total of 1,014 events (up from 985 in 2014 and 644 in 2013) were held through Common Ground®, our program to foster dialogue between our sites and their neighbors. Priority was again given to discussions with neighbors (58% of events), followed by educational partnerships with schools (28%) and support for local nonprofits (14%).



A Conversation with Philippe Joubert, Senior Advisor, Energy and Climate for the World Business Council for Sustainable Development (WBCSD)

What happens now that COP21 is behind us? Philippe Joubert shares his insights into the pivotal change in direction for the economy decided on in Paris and on business's new roles and responsibilities.

companies are already opting for low-carbon growth, using an internal carbon price to guide both their industrial investment and their R&D portfolio. Indeed, like Arkema, some businesses are basing their development today primarily on products that will help boost energy efficiency and spur the expansion of new energies and on solutions that make transportation and housing more energy efficient and less carbon intensive.

So industry and business will play a major role in the future?

P.J. > Yes, absolutely. The energy transition to a low-carbon society can't happen without strong business involvement. Businesses have the solutions for the future. And COP21 genuinely changed businesses' image: they are now seen as the engine of change instead of culprits that pollute. ■

Safety, Woven Into Our Culture

Thanks to a comprehensive behavior-based program, Arkema now ranks in the top 20% of global chemical producers for safety performance.

Just Half As Many Accidents As in 2013

In 2015, Arkema's total recordable injury rate (TRIR) per million hours worked was down 22% from 2014, for an overall 50% decrease since 2013. In real-world terms, more than 100 of our 136 sites finished the year without any accident at all. The Changshu, China and Clear Lake, Texas plants, two of our biggest, have logged more than 4 million accident-free hours. In absolute numbers, we reported two fewer accidents than in 2014 (63 versus 65), despite the fact that our reporting base expanded significantly with the arrival of Bostik.

The Effectiveness of Observation

In 2015, 14,000 employees completed a session of the Safety Academy, our internal training program that aims to instill safety awareness in everyone, even employees who are not based at plants. The 5,000 newly acquired employees at Bostik will have their turn in 2016. The number of employees worldwide qualified to audit facilities using the Arkema Integrated Management System (AIMS) — a guideline to assess the HSE management system — has risen to 77. We continue to promote peer observation: front-line operators correct one another's

practices by referring to safety rules established through a program called The Essentials. ■



What makes the Paris Agreement signed in December historic?

Philippe Joubert > It is the first truly global commitment to seriously fighting climate change. The 195 countries that adopted it are aiming to keep the long-term global temperature rise below 2°C and limit the increase even further to 1.5°C this century if possible. The agreement includes a mechanism to regularly monitor goals and drive continuous improvement. For the first time an agreement everyone has signed also spells out the willingness of developed countries to support the transition of developing countries and finance it to the tune of \$100 billion a year. That money is also earmarked for climate change "adaptation," to minimize its impacts and repair the damage that has already been done.

What role did businesses play?

P.J. > They were listened to and included in the discussions for the first time, alongside a number of key civil society stakeholders — regions, cities, nonprofits and NGOs. Their commitments are part of the solution. That's

also something new: even though governments are the signatories, other stakeholders have clearly committed to a set of publicly announced actions.

What does the agreement change?

P.J. > Absolutely everything, because it commits the signatory countries to a sustainable development path they've initiated, to achieve a "net-zero emissions" society by the second half of the century. Each country sent in its own, freely designed roadmap to curtail carbon emissions. For now, these proposals move us toward a 2.7°C reduction — still over the desired target — but their commitments will be reviewed and improved every five years.

How will businesses contribute?

P.J. > They'll be critical, but insofar as the market can't regulate itself, governments will have to adopt policies. After that, we'll need clear signals like carbon taxes and global regulation of the carbon market. In anticipation of this new business model, some big international

// By the second half of the century we'll live in a **low-carbon society** — and business will drive the transformation. //

CORPORATE SOCIAL RESPONSIBILITY

ARKEMA WINS RECOGNITION FOR CSR PERFORMANCE

In 2012, we set out five major commitments to corporate social responsibility (CSR) and sustainability, backed by an effective monitoring process and aligned goals. In 2015, we updated the entire program. Several socially responsible investing (SRI) rating agencies recognized our CSR and sustainability performance in 2015, earning us a number of awards.



FIVE STRONG COMMITMENTS

1 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. Since the company was publicly listed, a shared safety culture across Arkema has steadily improved our safety performance.

2 SHRINK THE ENVIRONMENTAL FOOTPRINT OF OUR ACTIVITIES

We focus on three things: trimming 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.

3 MAKE SUSTAINABLE DEVELOPMENT A CENTERPIECE OF OUR INNOVATION POLICY AND OUR PRODUCT LINE

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 and the use of bio-based feedstocks. After acquiring Bostik in 2015, a new R&D platform was added: home efficiency and insulation.

4 FOSTERING THE PERSONAL AND COLLECTIVE DEVELOPMENT OF OUR PEOPLE

Everywhere in the world, Arkema's employee relations policy revolves around two concerns: personal development of our employees and social development through improved collective working conditions.

5 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.

An Award-Winning CSR Process

We won the Carbon Disclosure Project's (CDP) "Improvement Award – France" for sharply boosting our score from the previous year through improvements in transparency and performance. The CDP is an international organization representing more than 800 major investors that analyzes how well publicly listed companies integrate climate change into their strategies.

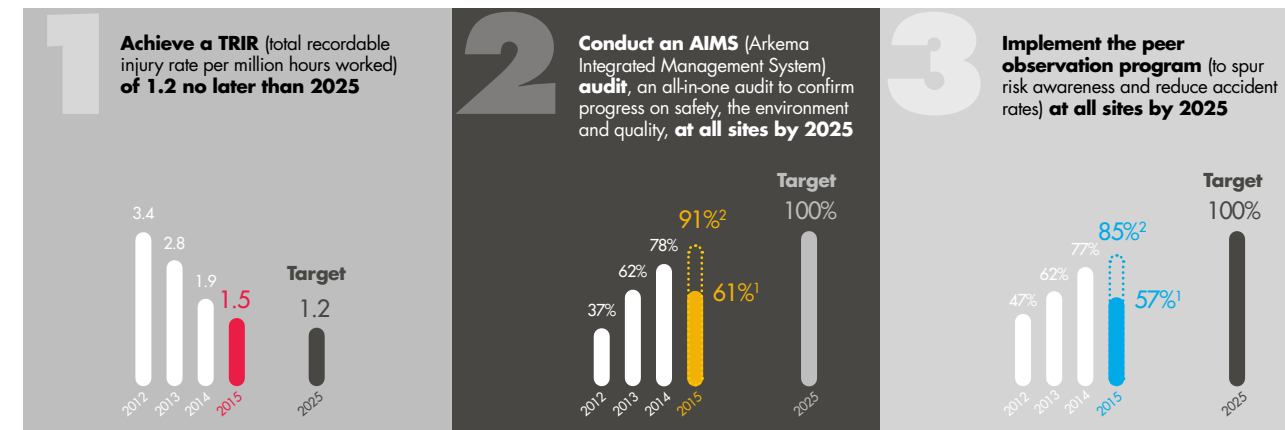
Arkema has also been included in the FTSE4Good Index Series, which tracks the performance of companies worldwide that demonstrate strong environmental, social and governance (ESG) practices.

In addition, Arkema earned a gold rating from EcoVadis¹, ranking us among the top 5% of companies with the highest CSR performance. Lastly, Arkema has moved up on the Vigeo² index and now ranks among the top 10 European chemical companies for sustainability performance.

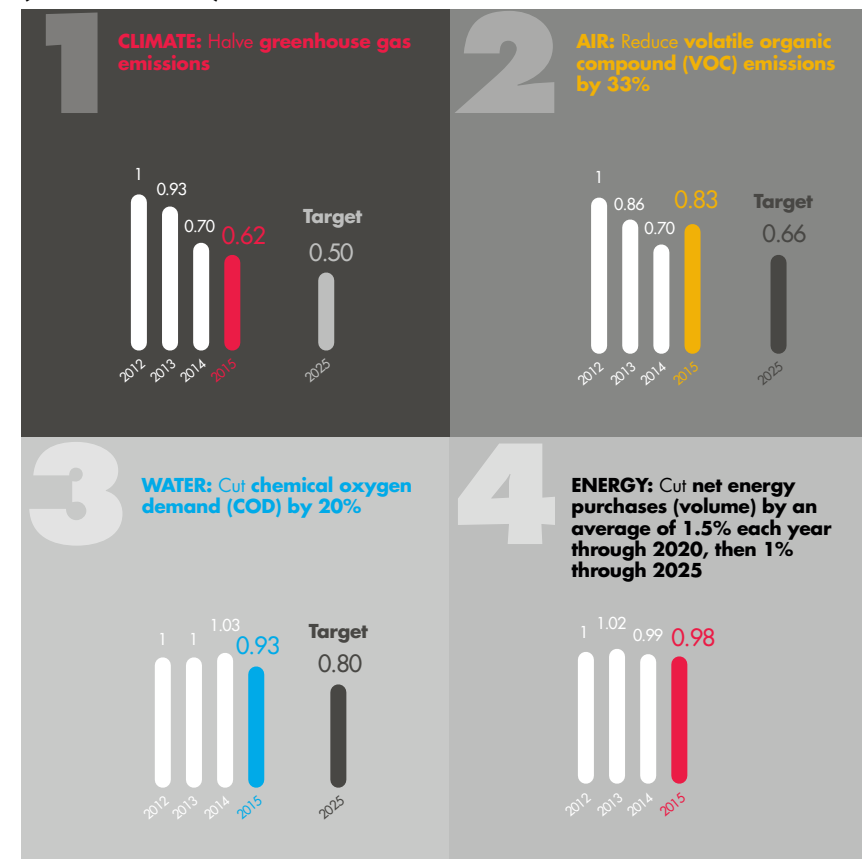
New Safety and Environmental Goals

We rank among the best in class for workplace safety and environmental footprint. To build on our excellent results and continuous improvement over the last 10 years, we have now strengthened our long-term targets in these areas. Our ambitious corporate social responsibility framework for 2025 is underpinned by our highly engaged people, our technological know-how and a targeted investment strategy. ■

2025 TARGETS SET FOR THREE SAFETY INDICATORS



TARGETS SET FOR FOUR KEY ENVIRONMENTAL INDICATORS³ (BASELINE 2012)



“ Our employees fulfill their obligation TO BE VIGILANT WITHOUT PROMPTING: it's one of the keys to achieving zero accidents. ”

Paul Leonard, Vice President, Health, Safety and Environment at Arkema



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.

1. 2015 figure includes Bostik.
2. Excluding Bostik. Data prior to 2015 does not include Bostik.
3. To track our environmental performance accurately, we have set targets based on Environmental Footprint Performance Indicators (EFPIs) that consider changes in Arkema's reporting base and the production of our plants

SMART HOUSE

MEET THE FUTURE

The house of the future is here now. Chock-full of innovations, Arkema's Smart House, located just outside Paris, helps us preview a future of sustainable buildings that keep their occupants nice and comfy. We take you on a guided tour.

Arkema's Smart House, a one-of-a-kind harbinger of the future, is to construction what a concept car is to automobiles. Dreamed up by Bostik and opened in October 2015, this futuristic "housing lab" is a daily life simulator and a true-to-life testing ground for tomorrow's materials and equipment. It gives Arkema a tool for designing net-zero-energy, green, comfortable homes that are healthy for the people who live in them. ■



IN DOORS

VISIONARY MATERIALS
The home's window glass was custom-made using innovative techniques that are not yet commercially available. The Smart House has a 60-square-meter curtain wall on its south side. Adapted to the building's requirements, it combines a 60-millimeter-thick, triple-pane bay window and shutters that can be repositioned depending on the light. The whole assembly weighs a whopping four tons.

MULTIPLE SUSTAINABLE CONSTRUCTION CERTIFICATIONS
The Smart House is the world's first home to boast four international sustainable building certifications: LEED® and BREEAM® green building and Passivhaus® and BePOS® Effinergie energy-efficiency certifications. It gives us and our partners from industry and universities a state-of-the-art laboratory to conduct our research, foreshadowing housing in 2030.

FIVE VIRTUAL OCCUPANTS IN 160 SQUARE METERS
The Smart House recreates a living space for a family of five plus one dog, complete with fully equipped kitchen, bedrooms, bathrooms, toaster, TV and more. But no one actually lives there. Researchers run the bath or open a window in the house remotely. With the help of an ultra-sophisticated home automation system, they set in motion the comings and goings of daily life from a control room in a neighboring building. A hundred sensors allow them to monitor how the home is behaving in real time.

OUT DOORS

ENVIRONMENT
The construction industry is responsible for 30% of all greenhouse gas emissions. The Smart House helps us think up solutions that shrink the environmental footprint of homes, using more sustainable materials designed from the outset to be recycled and less resource-intensive, such as concrete that requires less water.

COMFORT
To make the home of the future even more enjoyable to live in, the Smart House takes into account what its occupants see, hear, smell and feel. Room temperatures can be adjusted to the weather and exposure to sunlight, all the more effectively because the home is well insulated. The bay window's shutters control the amount of light let in, so people can see comfortably, without squinting, at any time of the day. Innovative flooring adhesives reduce noise. These are just some of the benefits.

ENERGY EFFICIENCY
With a rooftop blanketed in solar panels, the Smart House produces its own power. But the energy it generates has to be stored and used intelligently. That's the rationale behind the research conducted on regulating heating, ventilation and air-conditioning. Other potential innovations aim to boost the insulating properties of materials such as adhesives, caulks, sealants and other coatings.

HEALTH
Arkema has signed the International Council of Chemical Associations' Responsible Care® Global Charter. We make sure that our products do not create any health issues. The Smart House helps us understand the interactions between construction materials in living spaces that are increasingly airtight, to achieve better air quality. It promotes the development of more healthful, less allergenic products, such as varnishes and adhesives that emit fewer volatile organic compounds.



CORPORATE SPONSORSHIP

ACCESS TO CLEAN DRINKING WATER

Positive that the chemical industry must help solve the planet's scarcity of clean drinking water, Arkema has made water management a research focus. At the same time, we support practical action by sponsoring the NGO Sail for Water.

Sail for Water is a humanitarian-slash-adventure project dreamed up by three young Frenchmen. The challenge: to complete the first sail around the world that promotes universal access to clean drinking water. They set sail in late 2015 on a three-year circumnavigation, with around 20 stops along the way. At each stop, the crew reaches out to low-income communities, supply them with water filters and teach them how use these to produce drinking water self-sufficiently. The three-man Sail for Water crew distributed more than 130 filters to schools and healthcare centers during their first two stops, in Cape Verde and Haiti. The easy-to-use filter is a highly effective barrier, eliminating 99.99% of the bacteria in the water. ■

9 COUNTRIES
ACCOUNT FOR 60% OF THE WORLD'S WATER RESOURCES

28 COUNTRIES
EXPERIENCE REGULAR WATER SHORTAGES

1 BILLION PEOPLE WORLDWIDE
DO NOT HAVE ACCESS TO CLEAN DRINKING WATER, DESPITE THE FACT THAT THIS IS RECOGNIZED BY THE U.N. AS A FUNDAMENTAL HUMAN RIGHT

LOGBOOK

FOLLOW THEIR PROGRESS AT WWW.SAILFORWATER.ORG

 **5** continents

 **35,000** nautical miles

 More than **20** stops

 **1,000** filters to distribute

 **1 filter =** 3,500,000 liters of drinking water

"The Arche de Noé Climat is a festive, grass-roots undertaking that helps rally civil society. The problem affects everyone and everyone can take action."

Ségolène Royal,
French Ecology, Sustainable Development and Energy Minister



"Noah's Ark is a universal symbol. Today global warming is evident in localized torrential downpours, melting glaciers and rising sea levels. It imperils the very future of the human race. The Arche de Noé Climat borrows that image of a world at risk, with animals that come into city centers to warn children and families and solicit their ideas for shaking things up. A material such as Altuglas® is a perfect fit for the installation. It can be recycled over and over again. It is part of a circular economy, providing one solution to the problem of global warming."

Gad Weil, street artist and creator of the Arche de Noé Climat



GLOBAL WARMING

A NOAH'S ARK TO SOUND THE ALARM

In late 2015 Arkema teamed up on the Arche de Noé Climat project, an original work by the French artist Gad Weil. The idea was to rally the public to the cause of global warming in time for the Paris COP21 conference. The 140 animals of made out of Altuglas®, Arkema's acrylic glass, served as emissaries from the French to the world's leaders.

A whole nation of animals sculpted in eye-popping colors arrived on barges in late September. The Arche de Noé Climat, or Climate Noah's Ark, created by the street artist Gad Weil, made quite a splash in Paris. The massive multicolored menagerie then made its way to several of the capital's iconic sites, before kicking off a weeks-long tour through a handful of big French cities.

Exhibited in public spaces, the Arche de Noé Climat project aimed to educate the French, especially children, about the stakes and challenges of the fight against climate change. The artwork even offered them a video platform to contribute their ideas for saving the planet. Their suggestions were shared via the Internet and social media and forwarded to the Paris Climate Conference (COP21) participants in Le Bourget, where the Arche de Noé Climat ended its trek in early December. Commissioned by the French Ministry of Ecology, Sustainable Development and Energy, the modern-day Noah's Ark bridged the gap between the general public and the COP21 delegations. ■



Listen to de Gad Weil and Thierry Le Hénaff talk about the inspiration for the Arche de Noé Climat project.

140

SPECIES OF ANIMALS
The diversity of domestic and wild animals around the world is mirrored in the Arche de Noé Climat collection, from cats and giraffes to turtles and eagles.

15

TONS OF ALTUGLAS®
We lent the artist our industrial know-how and our contractors' technical expertise, to supply, print and cut the colored acrylic sheets that brought the ark's animals to life.

5

EXHIBITION SPACES IN FRANCE DURING THREE MONTHS

After Paris, the Arche de Noé Climat traveled to meet the public in Toulouse, Strasbourg and Aix-en-Provence, before returning to Le Bourget for COP21.

7

COLORS
In another nod to nature and our planet, Gad Weil opted to create his sculptures in the seven colors of the rainbow.

A Conversation with Dominique Massoni,

Vice President, Human Resources & Internal Communication Development

Arkema's story over the last 10 years has been intense, with people the driving force, each in their own field. We rely on more than 19,000 technically expert, professional, efficient employees based all over the world. To nurture this collective energy, we make it a point to develop talent.



Combining Talent and Values

For all our business lines, we recruit recent graduates and experienced professionals who are looking for demanding, intellectually stimulating responsibilities. Talent is the only thing that counts: Arkema hires, without regard to age, gender, ethnic origin or disability, people who are both ready to work and able to think ahead to help us build our future. Early career hires are often surprised by the freedom they have to make decisions in our action-oriented organization. Our work practices are based on our core principles of simplicity, responsibility, performance and solidarity.

Production, processes, logistics, marketing, finance and human resources — all are ways to get your foot in the door at Arkema. In France for example, we offer doctoral researchers a chance to pursue their theses in polymer chemistry, chemical engineering or human sciences through industry agreements involving training through research (CIFRE) and through partnerships with universities and engineering schools.

Developing All Types of Skills

A growing company, we rely more than ever on our employees to move our projects forward. Teams are changing in step with our company. People are and will be our strength going forward. Transfers to other business lines, to subsidiaries or new companies such as Bostik, expatriate assignments, project start-ups (see pages 52 and 53) and the opening of new sites offer opportunities for advancement to any and all at Arkema.

We pursue a policy of actively promoting from within. We're committed to developing employees in both expert and management tracks. Investing as much in our experts as we do in our managers is a cornerstone of our HR policy. We have developed specific talent management approaches for Arkema experts.

Supporting Career Paths

Human Resources at Arkema supports career development and planning for all employees. In Asia, we created a Talent Manager function in 2015 (see page 54) modeled after those established over the last few years in the United States and Europe. Talent Managers foster talent in the host country by offering responsible positions, both locally and internationally. Employee development requires sharing progress goals based on professional interests and areas for improvement and building action plans. In 2015 Human Resources introduced a development program focused on self-assessments and regular interviews. It helps create development goals, based on training or career milestones, that enhance and add to skills.



Promoting Operational Excellence From the Ground Up

Who better than employees to give feedback on the strengths and flaws of a site's organization? To improve operational excellence, Arkema has embarked on a program to gather improvement ideas from the front line. We want to make hands-on experience central to the analysis and tap the expertise of our people by listening to their suggestions. Facility layout (see page 55), safety, ergonomics and working conditions are areas where experienced employees can contribute, based on their detailed knowledge of the activity and the product line.

Encouraging Female Talent

Some 35% of Arkema's middle managers are women. And we have set a goal of reaching this percentage among senior executives. To avoid a glass ceiling and support the advancement of our female employees, we recently created a mentoring program. Volunteer mentors — male or female senior executives — are trained to coach and assist their mentees in career development. Heike Faulhammer is supporting this initiative for the Sustainable Development Division.

" Our people are **our strength going forward.** "

Maintaining Quality of Life in the Workplace

For the past several years, Arkema has deployed an active policy to prevent stress and other psychosocial risks and emphasize the quality of worklife. Both managers and employees receive training in stress management and occupational physicians are enlisted to help them. A pioneer in workplace wellbeing, Arkema created a central stress monitoring database seven years ago, to spot high-risk situations at French sites. Similar initiatives are under way in the United States. Each year our "Netiquette Week" reviews tips for achieving online-offline balance, in a humorous, educational way. Workplace wellbeing is an Arkema core value, which is why we're so vigilant about it. ■

KERTEH START-UP IN MALAYSIA

THE POWER OF POOLING COMPETENCIES

To assure the successful start-up of their new thiochemicals plant, the Kerteh teams in Malaysia enlisted the expertise available at sister units in Europe and the United States and the Engineering Department based in France.

FRANCE + UNITED STATES + MALAYSIA

American Sojourns

Long before the Kerteh facility opened, Arkema's production site at Beaumont, Texas in the United States hosted two teams of six Malaysian operators, production supervisors and engineers. For three weeks, each team was immersed in the day-to-day production of methyl mercaptan at Thiochemicals' American unit. Working with their U.S. colleagues, they covered every aspect of the theory and practice involved in their future responsibilities, including organizing teams, running the plant, and technical and safety processes. "I really appreciate everything the teams at Beaumont did to help us and hope that we'll be able to work together again on technology transfer," comments Azizi Mohamad, Operations Manager at the Kerteh site.

Assistance On Site and from a Distance

The teams were given on-site support in Malaysia in the run-up to the plant's commissioning in January 2015. Staff reinforcements from Thiochemicals and the Engineering Department, sent from Beaumont in Texas, Lacq and Pierre-Bénite in France, and Rotterdam in the Netherlands, were on hand for seven months. The baton was successfully passed. "The Kerteh plant quickly achieved a high degree of reliability on its own," says a pleased Jean Morch, Production Manager in Thiochemicals. Kerteh personnel still rely on advice from their counterparts on other continents, delivered from a distance. One of the best offshoots of this sharing of experience: the friendships formed between employees at the different sites. ■

90
EMPLOYEES AT THE KERTEH PLANT

2
TEAMS OF 6 PEOPLE TRAINING FOR 3 WEEKS IN BEAUMONT IN 2014

40
EXPERTS FROM BEAUMONT, LACQ, PIERRE-BÉNITE AND ROTTERDAM AT KERTEH FOR MORE THAN 7 MONTHS IN SOME CASES, BEFORE AND DURING THE PLANT'S START-UP



TALENT PROGRAM

MAKING POTENTIAL BLOOM

The Talent Program launched in 2015 gives managers who are early in their careers a chance to spend several years in Arkema subsidiaries outside their home countries, an exciting opportunity to gain unmatched, engrossing international work experience.

The Talent Program was created for managers in every business line who have completed a stint in their first position at Arkema. Martin Pouzet, a French engineer who went to India as a technical manager in Polyamides, and Shaojun Chen, a Chinese engineer who came to France to work in the Feedstock & Energy Procurement Department, are among the first in the new program. These promising managers are sent abroad to work on assignments entailing real responsibility, often carried out on a project basis, giving them an opportunity to apply their expertise in a different cultural environment for two or three years. A stimulating boost to a career, this immersion in Arkema's international operations is an asset as they move up the ladder.

"The Talent Program is for managers who by virtue of being early in their professional careers are usually freer to move and are more open to being sent to a range of places. We offer them ideal conditions for unique personal and professional experiences and at a cost that is more manageable for the company," says Arnaud Putz, International Mobility Manager at Arkema ■

" After working two years at Arkema's research center in Japan as a technical support engineer for Polyamides, I was offered this newly created position in India. I'll liaise between Arkema's research centers in Japan and France and our prospects and customers in India. There are some interesting cultural, organizational and business challenges to tackle: adopting new work methods, providing value-added in a small team and strengthening our marketing in a country with a booming economy. It's exciting.

Martin Pouzet, Technical Manager for Polyamides in India



TALENT MANAGER IN THREE WORDS

PROFESSION:
TALENT DEVELOPER



Lao Zhan, based in Shanghai, has been our talent manager for Asia since early 2015. She encourages career advancement and skills development for Arkema employees. Her role is vital to our growth.

Facilitator

Lao Zhan sums up her job as talent manager in one word: "facilitator." In Asia's vibrant, fast-moving job market, it's up to her to offer Arkema employees new opportunities in the region. Based in China, her job requires pragmatism and creativity, to build bridges between divisions, functions and sites on a highly diverse continent.

Career Committee

Lao Zhan meets regularly with employees, line managers and Human Resources managers to understand their ideas, needs and desires for career development. She holds a Career Committee meeting twice a year, bringing together around 20 regional unit, project and site managers. "They share information on their employees' potentials and the kinds of skills they're looking for," explains the talent manager. This internal job market has resulted in transfers for people still in their first year with the company.

Mentoring

There's more to success than skills alone. Buying into the company's culture is essential. To help new hires advance within Arkema in Asia, Lao Zhan has developed a mentoring program. It's a success: eight mentors are already supporting and advising 14 mentees. Mentors have no reporting authority over their charges. They simply share their perspectives and their experiences, passing on the company's values to their "protégés." ■

Asia's Tight Job Market

SOURCE: 2016 HAYS ASIA SALARY GUIDE

31%

OF EMPLOYEES HAD BEEN WITH THEIR CURRENT EMPLOYER FROM TWO TO FIVE YEARS

21%

OF EMPLOYEES HAD BEEN WITH THEIR CURRENT EMPLOYER FROM ONE TO TWO YEARS

27%

OF EMPLOYEES HAD BEEN WITH THEIR CURRENT EMPLOYER FOR LESS THAN A YEAR

44%

OF EMPLOYEES REPORT THEY ARE ACTIVELY LOOKING FOR A NEW JOB

60%

OF EMPLOYERS EXPECT TO INCREASE THEIR BUSINESS ACTIVITY IN 2016

ARKEMA ASIA

4,000

EMPLOYEES, INCLUDING 3,000 IN CHINA

NEW CECA UNIT

A PARTICIPATORY PROCESS
IN HONFLEUR

The CECA site in Honfleur, France, will start up new production lines for molecular sieves (see pages 30 and 31) in the summer of 2016. Operators have been involved in designing their future shop, weighing in on ergonomics, safety, access and procedures. This participatory approach incorporated their experiences early on in the design process.

IDEA

The Front Line's Value-Added

CECA teams in Honfleur started writing improvement reports in 2009 and their combined suggestions provide real value-added. Michael Werth, project manager for the new production lines, is convinced that operator proposals help drive competitiveness. "They have the best vantage point to propose the right choices for layout and organization of the plant and work environment," he says. So when the project to expand the site began in 2015, operators naturally attended the meetings, aiming to improve plans for their future shop. The design and engineering firm incorporated their comments, vetted by the plant manager and the project manager. Arkema's senior management is watching this efficient and personally rewarding collaboration with interest.

RESULT

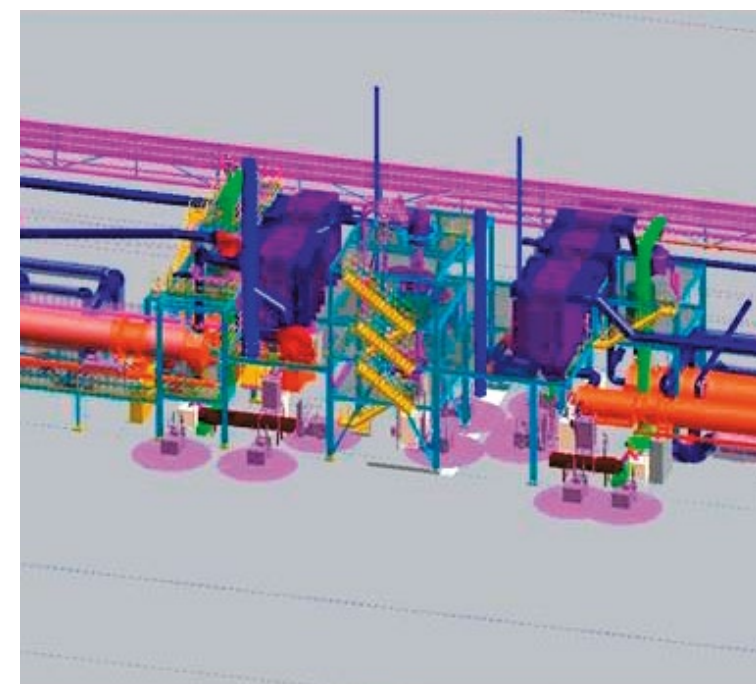
95% On-Point Suggestions

CECA operator Jean-Marie Delaporte participated in the discussions on the construction project. "Using 3D plans and our experience on the front line, we were able to make suggestions to improve shop design. Everyone feels involved in the project from start to finish. It's great." Some 230 safety, ergonomic, access and process improvements were suggested. Most were adopted: adding stairs here to make it easier to get around, installing a maintenance crane there, moving an access point somewhere else. Plus, throughout the construction phase, operators used virtual reality to "walk through" the new areas, to make sure no detail was overlooked. ■



" Operators have the best vantage point to propose the right choices for layout and organization of the plant and work environment. "

Michael Werth,
project manager for CECA
Honfleur's new production lines



BOARD OF DIRECTORS

MONITORING WITH COMPLETE INDEPENDENCE

The Board of Directors uses its expertise to steer the business in the right direction and closely monitor the implementation of our growth strategy. Chaired by Thierry Le Hénaff, the Board has 12 members, including nine independent directors – four of whom are women – and a director representing employee shareholders.

As is the case at most large, publicly listed French companies, Arkema's Board of Directors has opted to have Thierry Le Hénaff serve as both Chairman of the Board and Chief Executive Officer, a dual mandate that enables decision-making bodies to respond quickly.



PATRICE BRÉANT
Arkema France employee

LAURENT MIGNON
Chief Executive Officer, Natixis

MARC PANDRAUD
Chairman, JP Morgan for France and Belgium



THIERRY MORIN
Chairman, Thierry Morin Consulting (TMC)



PHILIPPE VASSOR
Chairman, Baignas SAS



BERNARD KASRIEL
Company Director

The Board of Directors has two permanent specialized committees.

THE AUDIT & ACCOUNTS COMMITTEE

The Committee is chaired by Philippe Vassor and made up of three other directors, Claire Pedini, Isabelle Boccon-Gibod and Hélène Moreau-Leroy. In accordance with France's AFEP-MEDEF Corporate Governance Code of Listed Companies, all its members have financial or accounting expertise. In 2015, it met six times with perfect attendance by all members. In 2015 it principally focused on reviewing the accounts and financial statements, approving the statutory auditors' fees, examining internal control procedures and the internal audit program and reviewing Arkema's risks, tax situation and information systems security and Bostik's integration.

THE NOMINATING, COMPENSATION & CORPORATE GOVERNANCE COMMITTEE

The Committee is chaired by Thierry Morin and comprised of three other directors: François Énaud, Bernard Kasriel and Victoire de Margerie. In accordance with France's AFEP-MEDEF Corporate Governance Code of Listed Companies, none of its members holds a management position in the company and all have been recognized as independent by the Board. In 2015, it met four times with perfect attendance by all members. In 2015 it primarily examined the compensation for the Chairman & CEO and the members of the Executive Committee, performed the annual evaluation of the Board of Directors and the committee itself, reviewed the candidates for directorships (election or re-election), in particular Hélène Moreau-Leroy, and oversaw the creation of performance share plans, the succession plan for the Executive Committee's members, changes in Arkema's governance and the employee share issue project.

A FOURTH WOMAN ON THE BOARD OF DIRECTORS

On June 2, 2015, the Annual Shareholders' Meeting approved the election to the Board of Directors of Hélène Moreau-Leroy, Chairman & CEO of Hispano-Suiza (Safran Group), for a four-year term. Arkema's Board of Directors will benefit greatly from her senior management know-how, recognized industrial expertise and years of international experience.

APPOINTMENT OF A SENIOR INDEPENDENT DIRECTOR

In early 2016, the Board of Directors decided to appoint François Énaud, independent director since 2006 and member of the Nominating, Compensation & Corporate Governance Committee, to serve as senior independent director. He will be responsible for making sure that our governance structure runs efficiently, that there are no conflicts of interest and that shareholder concerns about governance are being adequately addressed.



THIERRY LE HÉNAFF
Chairman & Chief Executive Officer

FRANÇOIS ÉNAUD
Chairman, FE Développement SAS

ISABELLE BOCCON-GIBOD
Company Director, permanent representative of Fonds Stratégique de Participations

CLAIRE PEDINI
Senior Vice President in charge of Human Resources, Compagnie Saint-Gobain

VICTOIRE DE MARGERIE
Chairman, Rondol Industrie

HÉLÈNE MOREAU-LEROY
Chairman & Chief Executive Officer, Hispano-Suiza (Safran Group)



Arkema's investor relations are based on transparent, open communication with shareholders. The Shareholders' Notebook describes our governance organization, our 2015 financial performance, our share performance over the last 10 years and our calendar in 2016. More information is available at www.arkema.com/en/investor-relations.

GOVERNANCE

ARKEMA'S FIRST 10 YEARS, SEEN BY THE EXECUTIVE COMMITTEE

The Executive Committee is responsible for the day-to-day management of Arkema. The team of seven is headed by Thierry Le Hénaff, Chairman and Chief Executive Officer. Some members have been part of our story from the beginning, others joined more recently, but all have been instrumental in transforming Arkema over the past 10 years. Our first-decade milestone is an opportunity to size up the initiatives and projects they have led or supported.



THIERRY LE HÉNAFF
Chairman &
Chief Executive Officer

// Although we couldn't be prouder of how far we've come and of the company's rapid rise, our first 10 years are just the beginning. I'm convinced that, buoyed by our people's engagement worldwide, our first-rate technologies, our drive, our innovative spirit and our desire to serve our customers ever better, our best days are still ahead.

//



MARC SCHULLER
Executive Vice President,
Coating Solutions
& Industrial Specialties

// Since Arkema's creation we have established a global presence in all our major product lines. Examples include acrylics, thiochemicals and fluorochemicals, for which we now have world-class production sites in Asia, Europe and North America. We've also been able to form solid partnerships with major global leaders in each of those sectors, and have cemented Arkema as a new leader and powerhouse in coating solutions.

//



MICHEL DELABORDE
Executive Vice President,
Human Resources
& Corporate Communication

//

More than half of our 19,000 employees worldwide weren't with us when Arkema was created 10 years ago. What makes us strong is our ability to bring them on board and help them embrace our culture and values so that, together, we can build and develop Arkema over the next 10 years.

//



LUC BENOIT-GATTIN
Executive Vice President,
Industry

//

Thanks to targeted capital spending plans and robust employee involvement, we drastically reduced our workplace injury rate by more than 85% and cut our carbon emissions by almost two-thirds over 10 years. We're very proud of this performance.

//



THIERRY LEMONNIER
Chief Financial Officer



BERNARD PINATEL
Chief Executive Officer, Bostik
and Executive Vice President,
High-Performance Materials

// With Bostik's arrival, we're proud to have helped accelerate our growth in High-Performance Materials and strengthened Arkema's image as a designer of innovative materials.

//



BERNARD BOYER
Executive Vice President, Strategy

//

During these first 10 years we supported Arkema's growth by financing major projects including the recent construction of our thiochemicals complex in Malaysia and the acquisition of Bostik. It's a great source of satisfaction to have been able to make these changes while keeping Arkema's balance sheet sound and gradually improving our cash flow.

//

2015 RESULTS

SOLID FINANCIAL PERFORMANCE

We reported very solid earnings in 2015 in a contrasting and volatile global business environment. Our impressive performance was driven by several transformative developments, including Bostik's integration and the start-up of the new thiochemicals complex in Malaysia.

€7,683m
REVENUE
up 29%

Revenue was up sharply from 2014, buoyed by acquisitions — primarily of Bostik, which was finalized in early February 2015 — and by a favorable currency impact. Bostik has posted revenue of €1.5 billion since being added to our reporting base. Volumes were stable overall, in a global environment of moderate growth. Lower prices during the year reflect the acrylics cycle and, in some cases, the effect of cheaper feedstocks on selling prices.

€1,057m
EBITDA
up 35%

EBITDA increased considerably from the prior year, led by the integration of Bostik and strong growth in most product lines, except for acrylic monomers, as was expected at the bottom of its cycle. Several structural factors drove our robust performance and successful transformation, including the smooth integration of Bostik, the ramp-up of our new thiochemicals complex in Malaysia and a gradual improvement in fluorochemicals earnings. A currency gain (conversion only) of around €80 million, lower prices for some feedstocks and improved operational excellence also contributed to Arkema's enhanced performance.

13.8%
EBITDA MARGIN

€312m
ADJUSTED NET INCOME

up 27%

€285m
NET INCOME GROUP SHARE

up 71%

€4.23
EARNINGS PER SHARE

€442m
FREE CASH FLOW

Excellent Cash Generation

Arkema reported free cash flow of €442 million, an impressive jump from €21 million in 2014. Along with our sharply improved EBITDA, this performance reflects our good management of investments and working capital in an environment of less expensive feedstocks.

The high, 42% free-cash-flow-to-EBITDA ratio illustrates our pursuit of improved cash generation.

€1,379m
NET DEBT

We have paid down our debt faster than expected, just one year after acquiring Bostik. At December 31, 2015, net debt was 1.3 times EBITDA and the net debt-to-equity ratio was back below 40%.

Performance by Business Segment

24%
COATING SOLUTIONS
Held up well thanks to downstream integration

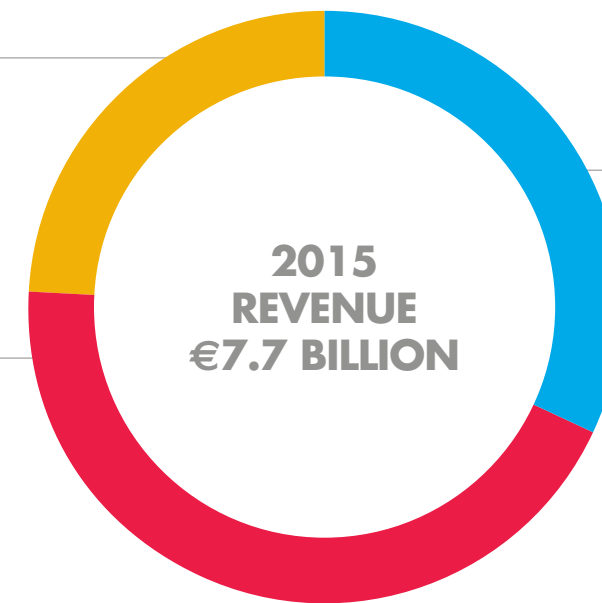
Revenue: €1.8 billion, down 4% from 2014
EBITDA: €190 million, down 6% from 2014
EBITDA margin: 10.3%

44%
HIGH-PERFORMANCE MATERIALS
Successful integration of Bostik and new materials innovation

Revenue: €3.4 billion, up 9.4% from 2014
EBITDA: €506 million, up 61% from 2014
EBITDA margin: 15.1%

32%
INDUSTRIAL SPECIALTIES
An excellent performance by each product line

Revenue: €2.5 billion, up 8% from 2014
EBITDA: €418 million, up 34% from 2014
EBITDA margin: 17.1%



Key Indicators

INCOME STATEMENT (in millions of euros unless otherwise indicated)	2015	2014	Change
Revenue	7,683	5,952	+29.1%
EBITDA	1,057	784	+34.8%
EBITDA margin (%)	13.8	13.2	-
Recurring operating income	604	447	+35.1%
Net income – Group share	285	167	+70.7%
Adjusted net income	312	246	+26.8%
Earnings per share (in euros)	3.87	2.53	+53.0%
Adjusted net income per share (in euros)	4.23	3.72	+13.7%
Dividend per share (in euros)	1.90 ¹	1.85	+2.7%
BALANCE SHEET (in millions of euros unless otherwise indicated)			
Shareholders' equity	3,949	3,573	-
Net debt	1,379	154	-
Gearing (%)	35	4	-
Capital employed	6,466	4,565	-
Working capital to revenue ratio ² (%)	14.6 ²	16.1	-
Net provisions ³	907	751	-
CASH FLOW (in millions of euros unless otherwise indicated)			
Cash flow from operating activities	858	507	+69.2%
Free cash flow ⁴	442	21	x21
Capital expenditure	431 ⁵	470	(8.3)%
Capital intensity (investments/revenue - %)	5.6	7.9	-

¹ Dividend recommended to the June 7, 2016 Annual Shareholders' Meeting.

² Working capital to revenue ratio, as defined in Section 4.1.7 of the 2015 Reference Document.

³ Provisions net of non-current assets, as defined in Section 4.1.7 of the 2015 Reference Document.

⁴ Cash flow from operating activities and investing activities excluding impact of portfolio management.

⁵ Excluding capital expenditure related to portfolio management, as defined in Section 4.1.9 of the 2015 Reference Document.

INVESTOR RELATIONS

TRANSPARENT AND OPEN

Quarter after quarter, the financial information we publish confirms Arkema as a must-have for investors in the chemical industry. A decade after our public listing, the ground we've gained shows that our transparent, open communication with shareholders is alive and well.

Institutional Investors: Ongoing Dialogue

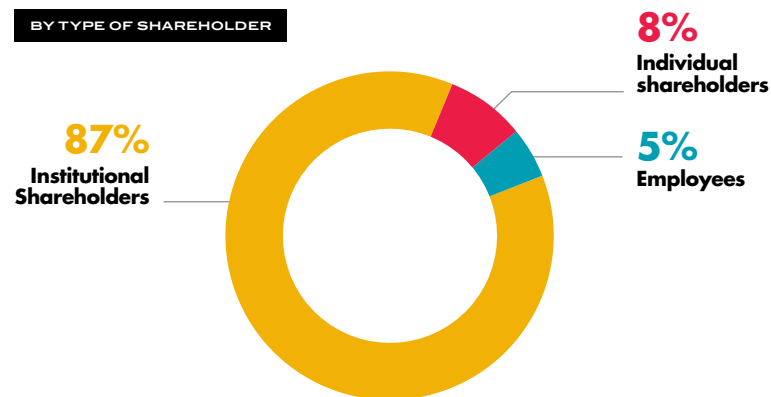
On June 29, 2015 in Paris, Arkema's 5th Investors Day attracted some 60 institutional investors and analysts. Hosted by Thierry Le Hénaff and several Executive Committee members, the event confirmed Arkema's ambitions for 2017 and 2020 and featured a detailed presentation of our strategy, our main growth investments and the latest innovations produced by our R&D. This commitment to sharing our long-term vision and tying a quantified outlook to innovation and development projects underpins our communications with institutional investors and analysts. Beyond this special meeting held about every other year, dialogue continues year-round via quarterly earnings reports, frequent meetings and events, roadshows in the world's leading financial centers, and conferences.

Individual Shareholders: Welcome to the Club

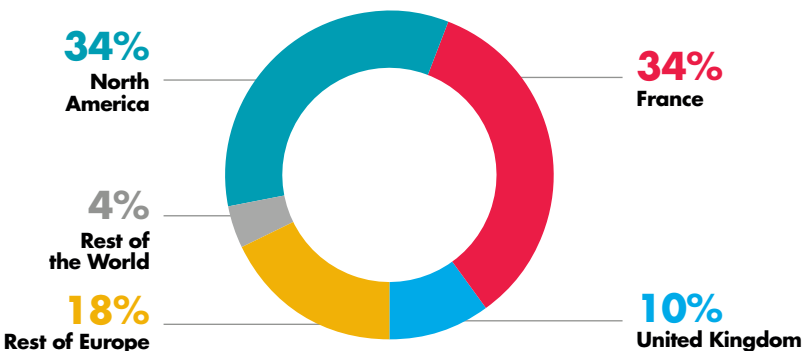
We also do a number of things to retain our individual shareholders, who continue to account for around 8% of the shareholder base. Besides the Annual Shareholders' Meeting, a highlight event for informing and interacting with shareholders, we hold shareholder meetings in various French cities each year to present our strategy and outlook and introduce Arkema to potential new shareholders. The Shareholders' Newsletter and the events and site tours organized by the Shareholders' Club also keep the lines of communication open. ■

Shareholder Base (at December 31, 2015)

BY TYPE OF SHAREHOLDER



BY REGION

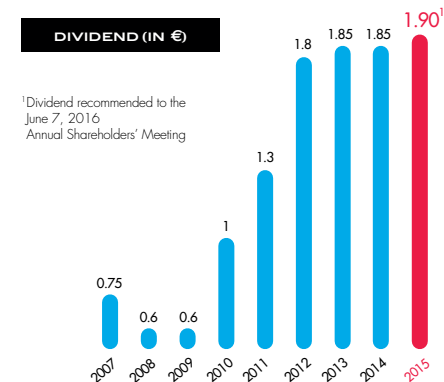


RECOGNITION FOR SHAREHOLDER OUTREACH DURING 2015

Over and above the information required by regulations, we provide very detailed quarterly information about Arkema's activity, performance and outlook. We also publish an annual Reference Document that covers all these aspects for the previous full year and outlines our principal strategic directions, our corporate social responsibility policy and our core governance principles. Our shareholder outreach and our transparency earned recognition during 2015, including second prize for Corporate Governance Process in the 2015 Corporate Governance Awards of the French business and financial newspaper L'Agefi.

Dividend Up for the Sixth Year in a Row

At €1.90 for 2015, Arkema's recommended dividend has increased for the sixth straight year. This reaffirms the importance we put on the dividend, a key component of our shareholder return policy. Arkema ranks among the best in industry with a dividend equal to 2.9% of the share's value on December 31, 2015 and a payout of 45% of adjusted net income.



143%

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 6%.



Sophie Fouillat,
Vice President,
Investor Relations

“Since Our Public Listing 10 Years Ago, the Financial Markets Have Hailed the Scale of Our Transformation”

“Arkema's share price has significantly outperformed the CAC 40 index since we were publicly listed in May 2006. Our market capitalization has tripled. This remarkable performance reflects the work done to persuade investors of our transformation's scale and quality. Over 10 years, Arkema has gone from an unknown to a must-have for investors in the chemical industry. We have built brand awareness and are now on an equal footing with our main competitors. We've changed the way the market looks at us through ongoing dialogue with the financial community, tying together our ambitious financial targets and information about our activities, our development projects and our strategy. This transparency has resulted in strong relationships with our institutional investors, our individual shareholders, and the 15 analysts who follow us and regularly publish about Arkema.”

Arkema Share Performance Since Public Listing



Arkema Share Performance in 2015

Performance since January 1, 2015 (Situation at December 31, 2015)	+17.29%
Price at year-end (€)	64.59
Average of 30 most recent closing prices (€)	65.27
High (€)	75.75
Low (€)	50.43

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+33 (0)1 49 00 74 63

Calendar




June 7, 2016
Annual Shareholders' Meeting
(Palais Brongniart, Paris)

August 3, 2016
First-Half 2016 Results

November 10, 2016
Third-Quarter 2016 Results



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External Communications Division

Arkema - a French *société anonyme*, registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790

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