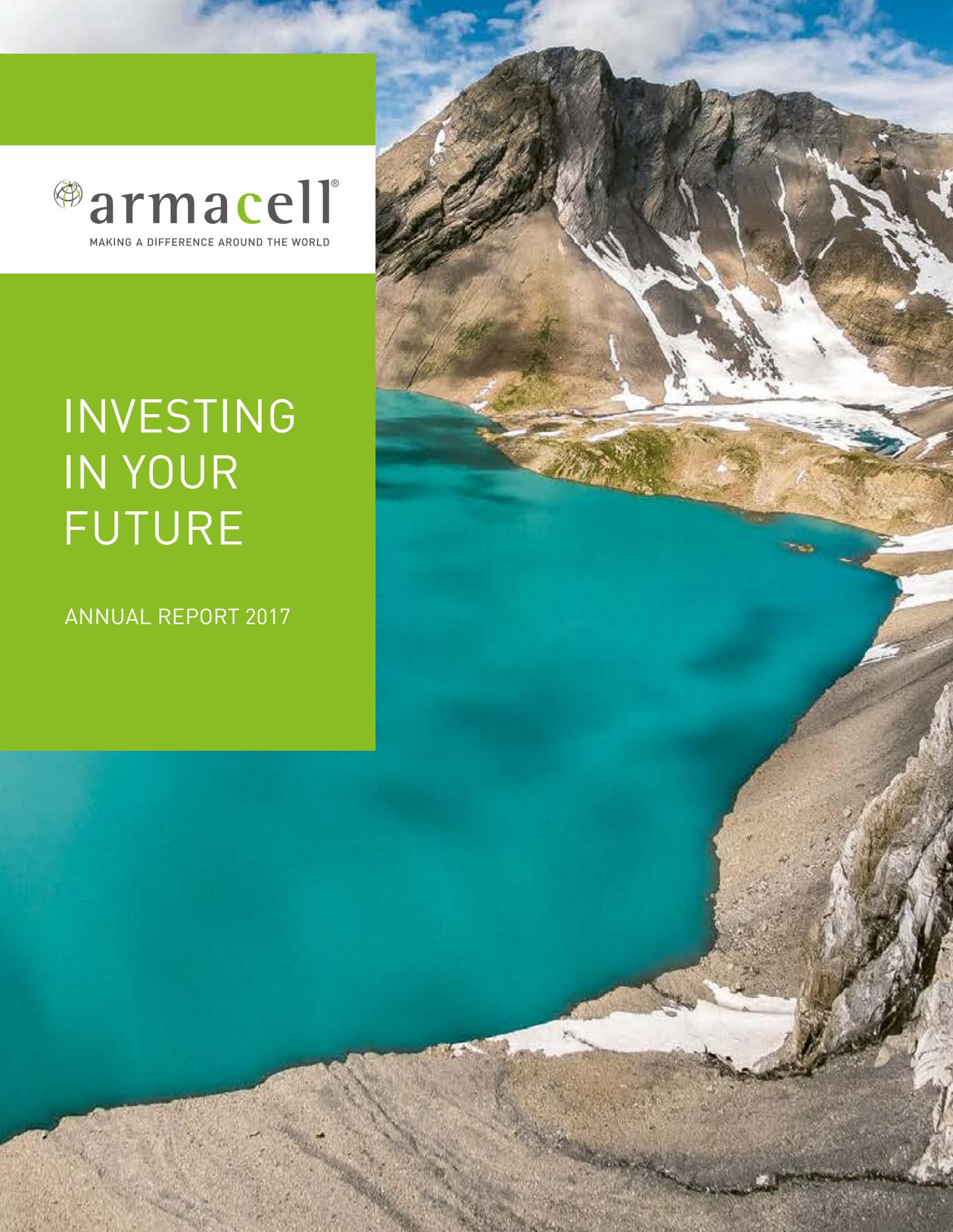




INVESTING IN YOUR FUTURE

ANNUAL REPORT 2017



ABOUT ARMACELL

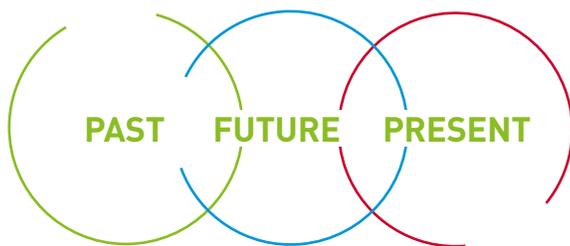
We are the inventors of flexible elastomeric foams for equipment insulation. Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Day in day out, our products significantly contribute to global energy efficiency and make a difference around the world. As a multi-materials and multi-product company, we operate two main businesses: Advanced Insulation and Engineered Foams. The product focus is on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next-generation aerogel technology.



LINTH-LIMMERN PUMPED-STORAGE POWER PLANT

One of today's most spectacular constructions is being built in the Swiss Alps: the Linthal 2015 project will increase the performance of the pumped-storage power plant many times over and allow flexible electricity generation. Halogen-free NH/ArmaFlex® insulation was installed on all refrigeration equipment and our flexible fire protection system ArmaFlex® Protect was used for pipe penetrations.

 Please see more of our projects on pages 09–11.



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INVESTING IN YOUR FUTURE

Intrinsic to Armacell is our pioneering spirit. You find evidence of this spirit as early as 1860. Today, we measure our success by the added value that our innovative solutions deliver to a diverse range of industries – benefits of societal and ecological significance. We dedicate our business activities to advancing and optimising energy efficiency for equipment and to closing the loop to achieve a more sustainable use of resources.



MAKING A



THE ARMACELL TRADITION: THE INVENTIVE SPIRIT DRIVING OUR SUCCESS

PIONEER



Since
1860

PAVING THE WAY TO GLOBAL LEADERSHIP

From cork insulation in Pittsburgh to best-in-class products for markets worldwide, Armacell's history is characterised by a pioneering spirit, entrepreneurial thinking and an open mind for new developments. This intrinsic attitude has spawned the search for specialisation and the development of in-depth know-how. Driven by the desire to deliver the best, Armacell has always strived to work for the good of society and manufacture products that benefit both diverse industries and broad consumer groups.

The nature and dedication of Armacell's employees has been a key success factor in our corporate history. Our staff have devoted their talent, inventive skills and professional expertise to deliver market-oriented and innovative solutions. They live Armacell's corporate culture every day. It is our employees' commitment that has positioned Armacell where it is today – a multi-materials and multi-product company steering its global operations from its Luxembourg headquarters with strong regional management teams. The current composition of Armacell's Executive Management Team underlines the company's global character: eleven members, nine nationalities.

RS



Thomas M. Armstrong
 An inventive spirit with consumers' requirements in mind

1860

1899

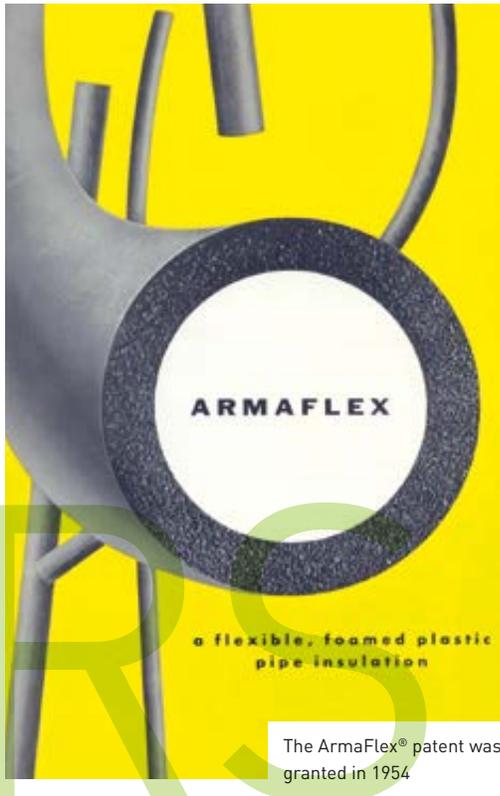
1954

- Date of interest
- Invention

Thomas M. Armstrong establishes a workshop to produce bottle corks in Pittsburgh, USA.

Armstrong produces the first cork insulation sheets made of ground cork, clay and bitumen.

The benchmark-setting flexible insulation foam material known as ArmaFlex® is launched in the USA.



2000

Armacell is founded as a management buyout carved out of the market-leading equipment insulation products division of Armstrong World Industries.

2001

Armacell begins expanding into a globally operating company via acquisitions and the establishment of production facilities in Asia Pacific, Europe, the Middle East and the Americas.

2005

Armacell develops green PET foam in Thimister, Belgium, making it the first manufacturer to succeed in foaming high-quality recycled bottle-grade PET on an industrial scale.

2009

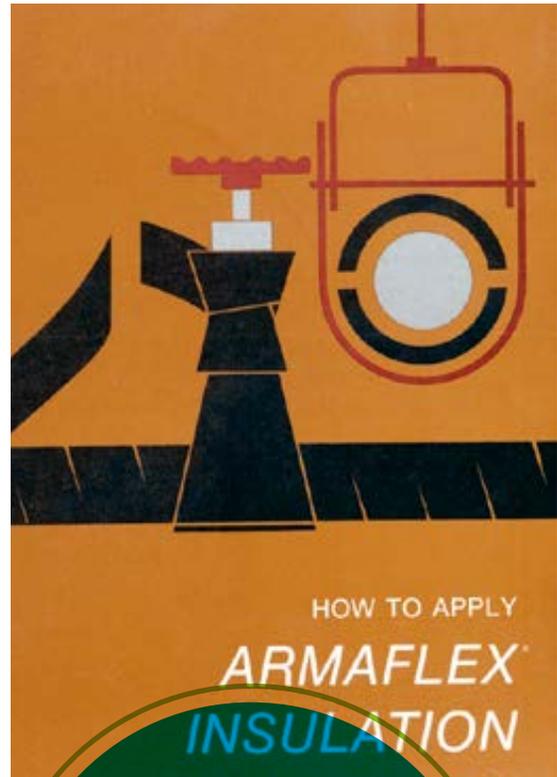
Armacell becomes the world's first manufacturer of flexible technical insulation products to present a lifecycle analysis.



Aerial view of our Münster facility, 1974



Lawrence Clark, the Father of ArmaFlex®



2012

2016

Armacell launches ArmaFlex® Ultima, the first technical foam insulation material with ultra-low smoke properties.

Armacell establishes a joint venture in South Korea to develop and manufacture silica aerogel blankets.

2017

5 million cubic metres of insulation foam produced per year



IMPACTING ON OUR WELLBEING
AND OUR PLANET'S HEALTH.
HOW WE RESPOND TO GLOBAL
MEGATRENDS WILL DEFINE
OUR FUTURE.

TREN



1 ENERGY EFFICIENCY

2 URBANISATION

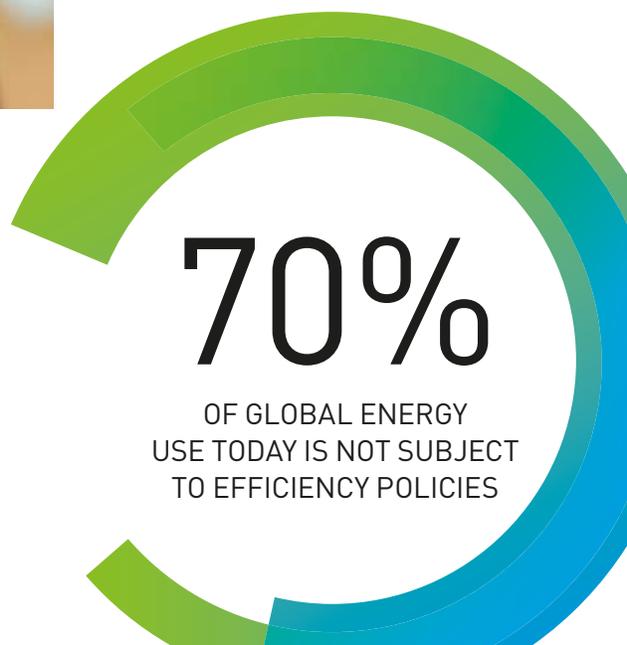
3 ACOUSTIC COMFORT AND VIBRATION CONTROL

4 GLOBALISATION OF FOOD SUPPLY CHAIN

5 LIGHTWEIGHTING



DS



70%
OF GLOBAL ENERGY
USE TODAY IS NOT SUBJECT
TO EFFICIENCY POLICIES

GLOBAL MEGATRENDS



OUR WORLD IS GENERATING MORE VALUE FROM ITS ENERGY USE THROUGH ENERGY EFFICIENCY GAINS. LATELY, PROGRESS HAS BEEN SLOWING. THE DEMAND FOR EQUIPMENT INSULATION IS GROWING WORLDWIDE.

In 2016 global energy efficiency investment rose by

9%

- // **Equipment:** second most important source of global energy loss
- // **Insulation:** largest energy-saving opportunity to reduce greenhouse gas emissions in cost terms
- // **New EU directive target:** 40% cut in CO₂ emissions by 2030

WITH 80 MILLION PEOPLE MOVING FROM RURAL TO URBAN AREAS EACH YEAR,

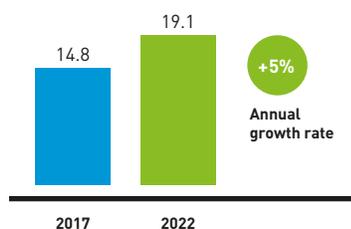
67%

OF THE GLOBAL POPULATION WILL BE URBANISED BY 2040, LEADING TO HIGHER ENERGY DISTRIBUTION REQUIREMENTS. STRICTER ENERGY EFFICIENCY REGULATIONS AND GREEN BUILDING CODES WILL BOOST THE DEMAND FOR HIGH-PERFORMANCE INSULATION.



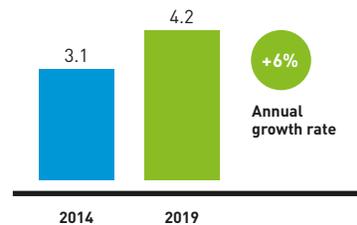
WITH THE VOLUME OF FRESH FOODS SUPPLIED TO DEVELOPED COUNTRIES INCREASING, TURNAROUND TIMES SHORTENING, THE DEMAND FOR LIGHTWEIGHT, COST-EFFECTIVE END-TO-END INSULATION SOLUTIONS IS GROWING.

GROWTH OF GLOBAL INDUSTRIAL REFRIGERATION SYSTEMS MARKET (€ BN)



NOISE AND VIBRATION ARE INCREASINGLY IMPACTING URBAN LIVING. GROWING HEALTH CONCERNS ARE LEADING TO MORE NOISE POLLUTION REGULATIONS. ACOUSTIC COMFORT AND VIBRATION CONTROL BRING MORE QUALITY OF LIFE TO URBAN RESIDENTS, COMMUTERS AND THE GENERAL ENVIRONMENT.

GROWTH OF GLOBAL ACOUSTIC INSULATION MARKET (€ BN)



GLOBAL TRENDS TOWARDS CO₂ REDUCTION AND RESOURCE EFFICIENCY ARE DRIVING THE USE OF LIGHTWEIGHT MATERIALS SUCH AS PET FOAM WITH ITS OUTSTANDING MECHANICAL RIGIDITY, STIFFNESS AND HIGH FATIGUE, TEMPERATURE AND CHEMICAL RESISTANCE. THE GLOBAL DEMAND FOR PET FOAM IS GROWING RAPIDLY, PARTICULARLY FOR WIND ENERGY AND TRANSPORTATION APPLICATIONS IN ASIA.

INSULATING THE FUTURE



ICONIC PROJECTS

EMPIRE STATE BUILDING, NEW YORK

LEED Gold® certification via energy-efficient insulation

An icon like the Empire State Building moves with the times too. An extensive LEED Gold® certification procedure involved all areas of the structure being carefully benchmarked to identify energy-saving potential. Although the AP/ArmaFlex® Duct Liner had been installed years before, it did not require replacement as the fibre-free insulation was (and still is) delivering energy efficiency, indoor air quality protection and noise attenuation.



INSULATING THE FUTURE



NUCLEAR FUSION REACTOR, GREIFSWALD

Cryogenic shield keeping superconducting coils ultra-cold

Mankind has long dreamed of harnessing the sun's energy. This is generated through nuclear fusion, which unlike nuclear fission produces very little radioactivity. At the Max Planck Institute for Plasma Physics in Greifswald, Germany, Armacell's innovative multi-layer ArmaFlex® Cryogenic System for ultra-low temperatures was installed to insulate the relief pipe in the Wendelstein 7-X nuclear fusion reactor, the world's largest stellarator.



GLOBAL AUTOMOTIVE INDUSTRY

Component Foams engineered for automakers

Armacell component foam products are installed in cars and trucks the world over. Used for parts ranging from gaskets, liners and panels to foam trim and acoustic or anti-rattle applications, these component foams fulfil the auto industry's strict quality standards. In addition, they are playing an essential role in addressing two of the global megatrends: the desire for acoustic comfort and vibration control, and the demand for lightweighting.



KING ABDULLAH RAILWAY STATION, JEDDAH

Structural insulation in state-of-the-art architecture

Millions of pilgrims travel to Mecca and Medina each year. Soon, they will be able to transit between the holy cities on the Haramain high-speed railway. Jeddah's King Abdullah Railway Station is being designed as an aesthetic icon on this 453 km route. ArmaForm® PET was installed as the core material for the station's structural roof panels due to its lightweight stiffness and strength, temperature stability, ease of installation and lower lifecycle costs.



More information about our projects on our website www.armacell.com

MARINA BAY SANDS, SINGAPORE

The eye-catching architecture of the Marina Bay Sands Integrated Resort is a standout feature of Singapore's skyline. Armacell supplied ArmaFlex® Class 0 tubes and sheets for chilled water pipes as well as refrigerant tubes and sheets for slab insulation.



NATIONAL UNIVERSITY HOSPITAL

Ensuring indoor air of outstanding quality

Clean indoor air is vital for a hospital. That's why 16,000 m² of fibre-free ArmaFlex® Class 0 was installed in the ventilation system of this 19-storey medical centre. ArmaFlex® Class 0 is also being supplied for the HVAC applications in Singapore's new National University Centre for Oral Health that is due for completion in 2019.

16,000 m²
of fibre-free ArmaFlex® Class 0

COMMITTED TO ADDRESSING GLOBAL REQUIREMENTS – NOW AND IN FUTURE

COMMIT

»We cannot solve our challenges with the same thinking we used when we created them.«

Albert Einstein



// Research & Development: focused on the future

Reliability, certified performance and sustainability are leit-motifs for Armacell's R&D activities. The use of raw materials is one focal point of Armacell's sustainability-oriented research:

- Development of corrosion-inhibiting foam systems
- Development of low-smoke elastomeric foams
- Development of green foam from recycled PET bottles

In line with our pioneering spirit, Armacell's R&D efforts are directed at developing innovative solutions and improving certified products. Continuous R&D investment ensures

Armacell's market leadership. The company focuses on multiple types of R&D initiatives.

- **Global Innovation:** Focuses on developing innovative solutions influenced by major external trends including a balanced portfolio of product innovations, process technology and customer experience
- **Global Product Conformity and Technical Competence:** Oversees quality control and testing and guarantees that up-to-date technical know-how and data are applied to our products

PRESENT

MENT



MANAGING INNOVATION

// Organisation

Armacell employs 57 people in R&D and spends approximately €9 million per year on R&D. The company operates a global research centre and regional development centres. "Our R&D activities are organised along product types, supported by internal expert teams in our regional product testing units," says CTO Roberto Mengoli.

// Outcomes

At Armacell, R&D activities are focused on developing innovative insulation solutions, improving certified products and ensuring process control. State-of-the-art product testing centres closely monitor product performances in-house enabling our R&D specialists to provide their production colleagues with first-hand feedback.

APPROXIMATELY

500

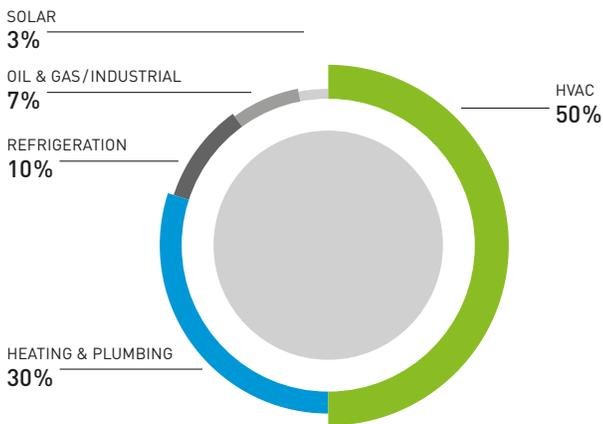
PATENTS

ACROSS 60 PATENT FAMILIES
DOCUMENT ARMACELL'S
INNOVATIVE STRENGTH

DIVERSE PRODUCT PORTFOLIO

EQUIPMENT VERTICALS

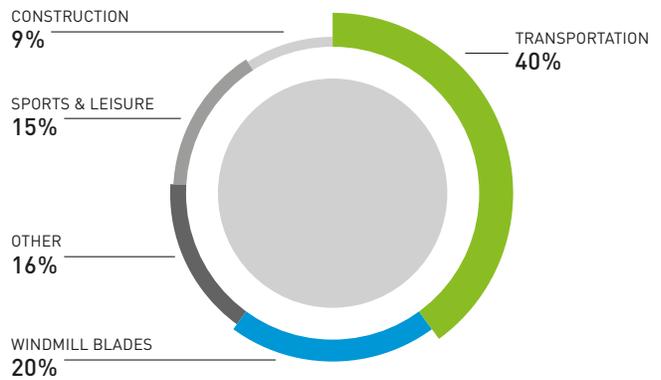
ADVANCED INSULATION (AI)



79%

Advanced Insulation products meet the demand for insulating equipment in markets where energy distribution matters

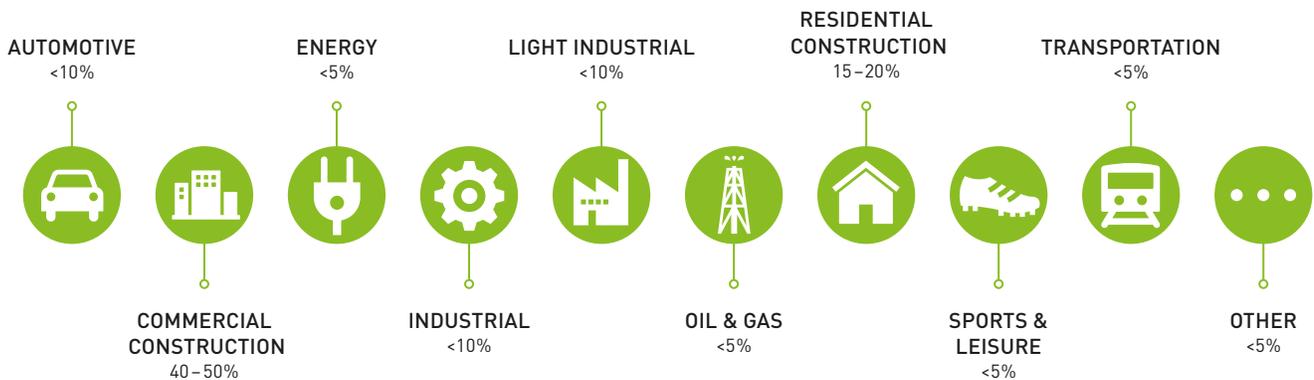
ENGINEERED FOAMS (EF)



21%

Engineered Foams: semi-finished and finished non-insulation products for a broad range of applications across multiple end markets

END MARKETS



WORLD-CLASS ARMACELL MINDSET (WAM)

»SALESFORCE.COM IS A KEY CRM TOOL IN CREATING A WORLD-CLASS CUSTOMER EXPERIENCE.«

Andrew Stearns, Chief Marketing Officer, Armacell Group

// Improved customer experience

With its WAM program Armacell strives to improve every day through continuous, structured and objective analysis. This mindset aligns with the pioneering, quality-conscious spirit that characterises the company. Two WAM areas, WAM Manufacturing and WAM Sales & Marketing, have so far been implemented. While WAM Manufacturing's prime objective is to improve operational efficiency as well as health and safety, WAM Sales & Marketing aims to create a world-class customer experience around the world. In 2017, WAM Sales & Marketing was refined across the company and upgraded with the introduction of salesforce.com as the key customer relationship management [CRM] tool, paramount in creating a world-class customer experience.



// Benchmark manufacturing standards

Two Armacell production facilities won WAM Bronze Awards in 2017: Pune in India and Oldham in England. Within two years, the Pune operations team embraced the mindset required to transform the plant to achieve world-class manufacturing standards. Over a period of four years, the Oldham team developed and implemented value-based processes, tools and training programs to attain world-class manufacturing practices and standards. These two Bronze Awards are the first step on Armacell's route to world-class manufacturing.

HIGH-PERFORMANCE PRODUCTS



// ArmaFlex®

ArmaFlex® is Armacell's product heritage. Today, in its 7th product generation, this flexible, lightweight, high-tech material features an insulating closed-cell structure with low thermal conductivity and an in-built vapour barrier.



≤32 mm
thickness

The standard ArmaFlex® product is manufactured across the Armacell world and customised to meet local requirements and often combined with other products into hybrid solutions.

A good example of product innovation is ArmaFlex® Ultima. Designed for HVAC systems with higher fire/smoke requirements, it is the world's first flexible technical insulation material with fire class B_L-s1, d0. ArmaFlex® Ultima is available in both tubes and sheets with an insulation thickness of up to 32 mm.



// ArmaSound®

ArmaSound® is an example of how an outstanding hybrid solution based on the ArmaFlex® product suite delivers additional customer benefits. By combining thermal insulation and noise reduction into a single modular solution, ArmaSound® Industrial Systems offer innovative solutions for industrial, marine and offshore environments – with a unique benefit:

ArmaSound® Industrial Systems minimises the risk of corrosion under insulation (CUI).



-50°C
+125°C

ArmaSound® Industrial Systems rely on multiple combinations of thermal and acoustic insulation layers of ArmaFlex® and ArmaSound®, mechanically protected by a high-density ArmaChek® R flexible cladding for optimised acoustic comfort.



// ArmaFix®

Pipe hangers are potential weak spots in an insulation system. If a pipe is not thermally isolated from the pipe hanger, thermal bridges will occur and condensation forms. This can lead to energy losses and increases the risk of CUI.



Zero
CUI

ArmaFix® pipe support solutions are the key to an enclosed insulation system, e.g. on refrigeration installations.

ArmaFix® pipe support reliably prevents thermal bridges, using fully-recycled PET structural insulation cores, is installed swiftly and easily due to its self-adhesive closure, and comes in a variety of designs to meet specific requirements. Through the acquisition of Danmat in March 2017, Armacell extended its cladding solutions, including PVC elbows, PVC foil, PVC ribbons and pipe support.



// ArmaForm®

Launched in 2017, ArmaForm® PET Multi-core features multiple densities in a single foam core to combine the benefits of high-density and low-density foam cores. It is designed to substitute traditional plywood-XPS and other multi-ply panels used in a variety of applications.



100%
recyclable

Made entirely of recycled PET bottles, ArmaForm® is a sustainable, 100% recyclable alternative to legacy materials.

Bonding multiple layers of composite solutions typically requires adhesives and cutting or perforating the foam sheets, both of which increase production costs and weight. Thermoplastic ArmaForm®, in contrast, applies a thermo-welding process delivering a uniform and well controlled bond line thus eliminating the core stress concentration witnessed when cutting the foam.



// ArmaSport®

ArmaSport® shock-absorption pads are turf underlayment of choice for professional and recreational sports fields. Unlike synthetic turf fields that depend on infill material, ArmaSport® installations provide protection across the entire sports field – without loss or migration of the cushioning material to the edges.

Using an ArmaSport® pad system under turf fields ensures more consistent shock attenuation across sports fields than other systems.



100%
protection

With more than 35 years of shock pad expertise, Armacell's closed-cell foam pads come in a variety of densities and firmnesses to meet the strictest specifications. Optional drainage systems and elastomeric material construction ensure greater field performance, durability and longevity.



// EnsoLite®

The EnsoLite® product line includes numerous closed-cell foams and expanded rubber products that are extensively used in industrial, automotive, sports and recreational applications.



50
years'
experience

50 years of foam expertise enable the design of optimised cell structures and densities for specific physical properties – custom-engineered to our client's requirements.

Available in continuous rolls, the Armacell EnsoLite® family improves shock absorption and meets general specifications for flame, fungus, chemical, heat, impact, low-temperature, fuel, oil, ozone and long-term weathering resistance.



NEW APPLICATION OPPORTUNITIES

ArmaGel next-generation aerogel blanket technology opens up new application opportunities and end markets in a wide range of industries, in particular as a reliable and safe solution for high-temperature operating environments.

+ 650°C

Our ArmaGel products extend Armacell's insulation portfolio to applications ranging from -200° to +650°C.

ARMAGEL: NEXT-GENERATION AEROGEL BLANKET TECHNOLOGY

// Superior thermal performance at a fraction of the thickness

By leveraging existing materials into new technologies, Armacell has added a new dimension to aerogel blanket technology. Designed for safety and flexibility, ArmaGel HT is the reliable solution for high-temperature applications up to 650°C. Non-combustible, lightweight and highly hydrophobic, its thermal performance matches competing insulation products at up to 80% less thickness. In spite of being so much thinner, ArmaGel HT offers customers superior sound attenuation.

ArmaGel's benchmark product features and flexibility make it the material of choice for use in a wide range of industries from manufacturing and automotive to oil & gas, power and transportation. As a result, this next-generation aerogel blanket technology is serving a sizeable global market.

// Aerogel – a fascinating high-tech material

Used by NASA to bring home a piece of a comet because it is strong enough to stop a bullet in its tracks, aerogel offers an exceptional array of physical properties – both thermal and acoustic – and thus holds incredible potential for insulation purposes. As the name suggests, aerogel is a solid derived from gel in which the liquid component of the gel has been replaced with air to make it dry and porous. As over 90% of the volume is empty space, aerogel is actually the world's lightest solid material. As it is 1,000 times less dense than glass, it is also the world's lowest density solid material.

The ArmaGel manufacturing process is unique. Whereas conventional aerogel blankets take 72 hours to produce, ArmaGel HT takes just 2 hours in a simple two-step process – first the aerogel particles are manufactured and then mechanically introduced into the blanket. This patented process delivers improved scalability and production efficiency along with new sizes and more choice than conventional aerogels do (four thicknesses of 5–20 mm).

OUTSTANDING BENEFITS

ArmaGel next-generation aerogel blanket technology provides multiple advantages:

ULTRA-THIN, ULTRA-LIGHT AND FLEXIBLE

ArmaGel offers a thermal performance that is comparable with conventional aerogels at a fraction of the thickness.

HYDROPHOBIC AND BREATHABLE

ArmaGel repels liquid water and allows water vapour to escape, helping to keep equipment drier for longer.

CUI PROTECTION

ArmaGel's hydrophobicity and breathability offer enhanced protection against corrosion under insulation (CUI).

INCREASED COVERAGE

The thickest ArmaGel quality, 20 mm, delivers more insulation coverage per man-hour than traditional aerogel insulation.

REDUCED COSTS

ArmaGel cuts easily and conforms to preferred shapes. That results in less waste, which is good news for installers.

LESS DOWNTIME

Removal of ArmaGel has been simplified, which reduces both downtime and the need to purchase replacement insulation during regular maintenance cycles.

ENVIRONMENTALLY SAFE

ArmaGel is chloride-free, landfill-disposable and features Armacell's innovative dust-reducing technology LoDust.



Up to

80% THINNER
than competing
insulation products

Up to

5x
superior thermal
performance

4

thicknesses available
for best fit

LETTER FROM THE CEO



DEAR FRIENDS OF THE COMPANY,

INVESTING IN YOUR FUTURE is the theme of this annual report and reflects our innovative and sustainable response to global megatrends such as urbanisation, globalisation of the food supply cold chain, acoustic comfort and vibration control, lightweighting and, above all, energy efficiency. As a global leader in flexible foam for the equipment insulation market and a leading provider of engineered foams, we offer much-needed solutions to the challenges associated with these megatrends.

Our pioneering past and innovative present are equipping us to address our planet's challenging future. Driven by the global trends outlined in this report, our strong, asset-efficient and highly automated business model will prove as resilient in the coming financial year as it did in the year under review, although 2017 was indeed a rather demanding one for Armacell.

Strong figures in a challenging climate

The significant increases of raw material prices, ongoing geopolitical tensions in the Middle East, Turkey and Russia, oil price volatility and the hurricane season in the USA each made their individual contribution. The encouraging fact is that Armacell coped well with these developments.

In the financial year ending 31 December 2017, we increased our revenues by 8% to €603.2 million from €558.6 million in 2016. Our EBITDA excluding non-recurring items was €102.1 million, up from €100.4 million in 2016, and our EBIT increased to €40.6 million from €37.4 million in 2016. That the 2017 figures were good is mainly due to the ingenuity, drive and passion of our employees worldwide. All our business units delivered a strong operating performance: Advanced Insulation EMEA recorded net sales of €207.9 million, Advanced Insulation AMERICAS €151.2 million, Advanced Insulation APAC €117.4 million and Engineered Foams €126.7 million.

Global expansion

In 2017, we continued to deliver on our international growth strategy and expanded the Group's market position across all regions. Armacell currently offers a complete portfolio of thermal and acoustic equipment insulation solutions. We successfully integrated two acquisitions – Danmat Iso Systems in Scandinavia and Nomaco's PE insulation business in the USA – and right now I am very much looking forward to the benefits of our Partnership For Excellence with Köpp, a leading manufacturer and processor of cellular rubber and polyethylene bun foam.

Our ongoing M&A activities in combination with our internal operational efficiency programs will drive significant synergies in 2018 and beyond. We are making good progress in expanding Armacell's global production footprint and adjusting capacity and technology requirements. The construction of our greenfield plant in the Kingdom of Bahrain, the launch of the commercial production of our PET foam core technology on the new extrusion line in Canada and the expansion of cross-linked polyethylene manufacturing in Spencer, USA, reflect the efforts of every single employee to calibrate Armacell for a sustainable future.

Continuous development driving innovation

We are proud of our recent innovations and the successful launches of ArmaForm® multi-density PET foam core and the next-generation aerogel technology, ArmaGel. The latter is our largest new product development since ArmaFlex® Ultima and drawing significant customer enquiries. We are targeting to monetise these products in 2018 as we expand the product portfolio and our ArmaGel manufacturing capacity in Cheonan, South Korea.

On behalf of the Executive Management Team and Management Board, I would like to express my gratitude to our customers worldwide for the confidence they have continued to place in Armacell and its products. I also thank all our employees for their engagement, commitment and ongoing contribution to our success. Furthermore, I would like to extend our special thanks to our two shareholders Blackstone and KIRKBI and the members of the Supervisory Board for their valuable guidance and support.

In 2018, we will continue to focus on expanding our market position, globally marketing our pioneering technologies and delivering on our international growth strategy. As a global leader in innovative technical insulation solutions and components, we truly make a difference around the world.

Yours sincerely,



Patrick Mathieu

President and CEO
Armacell Group

EXECUTIVE MANAGEMENT TEAM

Armacell's executive team is characterised by their diverse set of skills and worldwide experience. They work hand in hand to drive future growth based on our culture of innovation, commitment and entrepreneurship.



Jan Bir*
(Germany)
Chief Legal &
Compliance Officer

Jan Bir is responsible for the legal and compliance affairs within the Armacell Group. He manages these aspects of our business, ensuring that our operations comply with applicable laws and internal regulations.

Andrew Stearns*
(UK)
Chief Marketing Officer

Through his deep operational knowledge and understanding of Armacell's diverse set of applications, Andrew Stearns drives innovation and the substitution of legacy insulation materials. He thereby focuses on positioning Armacell as the specification maker and creating a customer-centric culture.

Keith A. Norwood
(USA)
Vice President
AMERICAS

Lifting the synergies of Armacell's largest acquisition to date (i.e. Nomaco's insulation business in the USA), Keith Norwood pursues a sustainable and value-driven approach, aiming to deliver high-quality and innovative product solutions.

Wendy Lim
(Singapore)
Chief Human Resources
Officer

Wendy Lim fosters the talents of 3,000 employees in 16 different countries, thus contributing to Armacell's global growth. She has more than 15 years of extensive international HR experience in various markets.

Dr Max Padberg*
(Germany)
Chief Financial Officer

Dr Max Padberg plays a central role in the development of Armacell's strategic choices, guiding the company to optimise its capital structure, manage financial resources, tax and risks, and ensure the most efficient capital utilisation. He is also responsible for controlling, accounting and IT.

* Member of the Management Board

Patrick Mathieu*
 (Luxembourg)
 Chief Executive Officer

With over 30 years of experience in the building and insulation materials sectors, Patrick Mathieu sets Armacell's strategy making the company one of the global leaders in energy efficiency around the world.

Guillaume Huguen
 (France)
 Vice President
 EMEA

Guillaume Huguen has over 20 years of experience in industrial management and is deeply familiar with the drivers and success factors of our industry, thus ensuring that customers appreciate Armacell as a trusted and reliable partner.

Bart Janssen
 (Belgium)
 Vice President
 Engineered Foams

Bart Janssen drives and implements the strategic development of our PET and Component Foams business on a global basis. He is a strong proponent of innovative solutions and green applications, thereby nurturing the sustainability of our product lifecycle.



Norman Rafael
 (Switzerland)
 Chief Corporate Development &
 Investor Relations Officer

Norman Rafael develops and implements the external growth strategy of Armacell and leads the dialog with possible takeover candidates as well as with international investors. He has extensive experience in business development, investing, capital markets and communications.

Roberto Mengoli
 (Italy)
 Chief Technology Officer

Roberto Mengoli has been in charge of global technology since 2013. Together with his team, he strives to make Armacell world-class, thus implementing highest possible quality and safety standards by systematically optimising structures and processes throughout the company.

Malte Witt
 (Germany)
 Vice President
 APAC

Malte Witt has extensive experience in the building materials industry and has been with Armacell since 2006, most recently as Managing Director of our Southern European business. He leverages this knowledge to strengthen Armacell's position and increase market shares in the booming Asia Pacific region.

STRATEGY

At Armacell we focus on creating sustainable value for our highly diversified global customer base. Our vision is to be the global leader in providing innovative, technical insulation solutions and components to conserve energy and make a difference around the world. We have a long track record of growth, superior profitability and cash generation orchestrated by a proven management team who have positioned Armacell to be recognised as the trusted partner in the energy conservation market.

1

// GROWING MARKETS

By enabling energy efficiency for equipment we have become the global leader in flexible technical foams. In an estimated €12 billion equipment insulation industry (for hot, cold and ambient temperatures), flexible foams have captured 10% of the market and going forward there is ample potential for Armacell to grow: estimated organic growth rate of approximately 5% in the insulation business, targeting total growth including M&A of approximately 10%.

4

// LEADING THE FIELD

Our world-class standards coupled with our pioneering technologies protect our market leadership. Armacell grows by providing energy-efficient solutions offering reliable, certified performance and extended lifetime. As a multi-materials and multi-product company, we expand into adjacent technical insulation sectors and continuously extend our temperature range and application horizon. We aim to increase our addressable market size from €6 billion today to €15 billion in future.

2

// STRONG BUSINESS MODEL

Armacell's strategic development is at the heart of five global megatrends. Our exposure to a broad range of end markets together with our diversification across equipment verticals provide a vast spectrum of growth opportunities and make us resilient through economic cycles.

5

// GLOBAL PRESENCE

Armacell is a truly global company with 25 manufacturing facilities in 16 countries and sales offices in many more. With additional external growth of approximately 5% p.a. Armacell will continue to pursue its M&A strategy in 2018 and beyond.

3

// ENVIRONMENTAL AWARENESS

Growing public awareness of climate change has driven extensive political decision making in favour of increasing the use of renewable energies and avoiding energy waste. This megatrend is positively impacting our business and with changing energy and regulatory policies, opportunities are opening up for Armacell to grow shares across the entire application range.

6

// FINANCIAL STRENGTH

Our financial strategy drives dynamic growth. We exhibit a low capital intensity and high cash conversion with sufficiently flexible financing pillars to enable us to adapt to changing market conditions. Armacell's continuous efforts to achieve world-class ensure optimal usage of raw materials, natural resources and energy, thereby safeguarding maximum operational efficiency and lowest production costs.

ARMACELL INDEX – OUR GLOBAL ORGANIC GROWTH BENCHMARK

In this year's annual report we are introducing the Armacell Index to our reading audience. The Armacell Index is the company's organic growth benchmark which we target to outperform year in year out. This index was launched in 2014 and today approximates Armacell's global application and geographic business mix. Going forward we plan to disclose the performance of the Armacell Index on a historic basis.

Since inception, average annual growth of the Armacell Index was 3.4% at group level. Over the same period, the Advanced Insulation (AI) index grew 3.9% and the Engineered Foams (EF) index 2.6%. Within Engineered Foams the Component Foams index increased by 2.3% and the PET index by 2.0%.

The Armacell Index chart exhibits the contribution of Advanced Insulation and Engineered Foams to the group growth.

Data

The Advanced Insulation index uses updated raw data from construction (residential and non-residential), HVAC, and refrigeration at a country-level, while the Engineered Foams index uses updated raw data from GDP forecasts, wind capacity and automotive production.

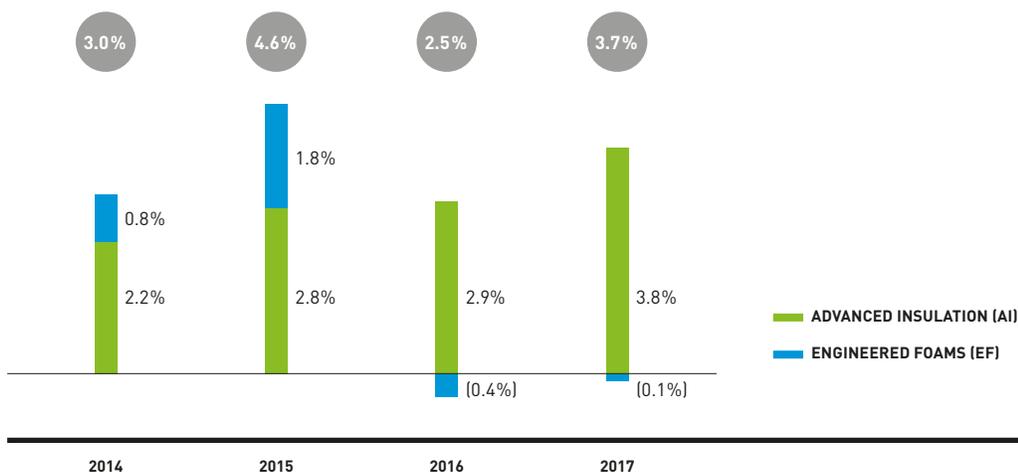
Weighting

The weighting of each end-market application, which varies per geography/country, is based on historical and latest available business mix. Geographical weighting is based on latest available sales contribution by country.

The Armacell Index excludes the substitution effect and is built using trusted, independent, third-party providers of construction, GDP, HVAC, general industrial output, refrigeration and wind capacity data.

In 2015, the strong performance of the company's growth benchmark was principally driven by an exceptionally strong wind market and in 2016 the softer performance was predominantly due to a significant retraction of the American automotive sector following years of strength.

ARMACELL INDEX



EXPANSION

Armacell's mergers and acquisitions (M&A) strategy is based on a global three-pillar strategy: new geographies, new technologies and new design capabilities. The transactions completed in 2017 and early 2018 have strengthened Armacell's position as a technology and market leader. At the same time, they have provided Armacell employees with a broader platform to grow the company and their own skills.

ACQUISITIONS

The acquisition of the insulation business of Nomaco, a leading US manufacturer of extruded polyethylene (PE) insulation foams, significantly increased Armacell's North American PE manufacturing footprint, extended its PE product portfolio in North America and increased regional sales coverage and customer service levels. This acquisition ticked the "new geographies" and "new technologies" pillars. The acquisition of Danmat Iso Systems, one of Scandinavia's leading providers of integrated cladding solutions, strengthened Armacell's presence in Northern Europe and enabled tailor-made cladding solutions. This acquisition ticked the "new technologies" pillar.

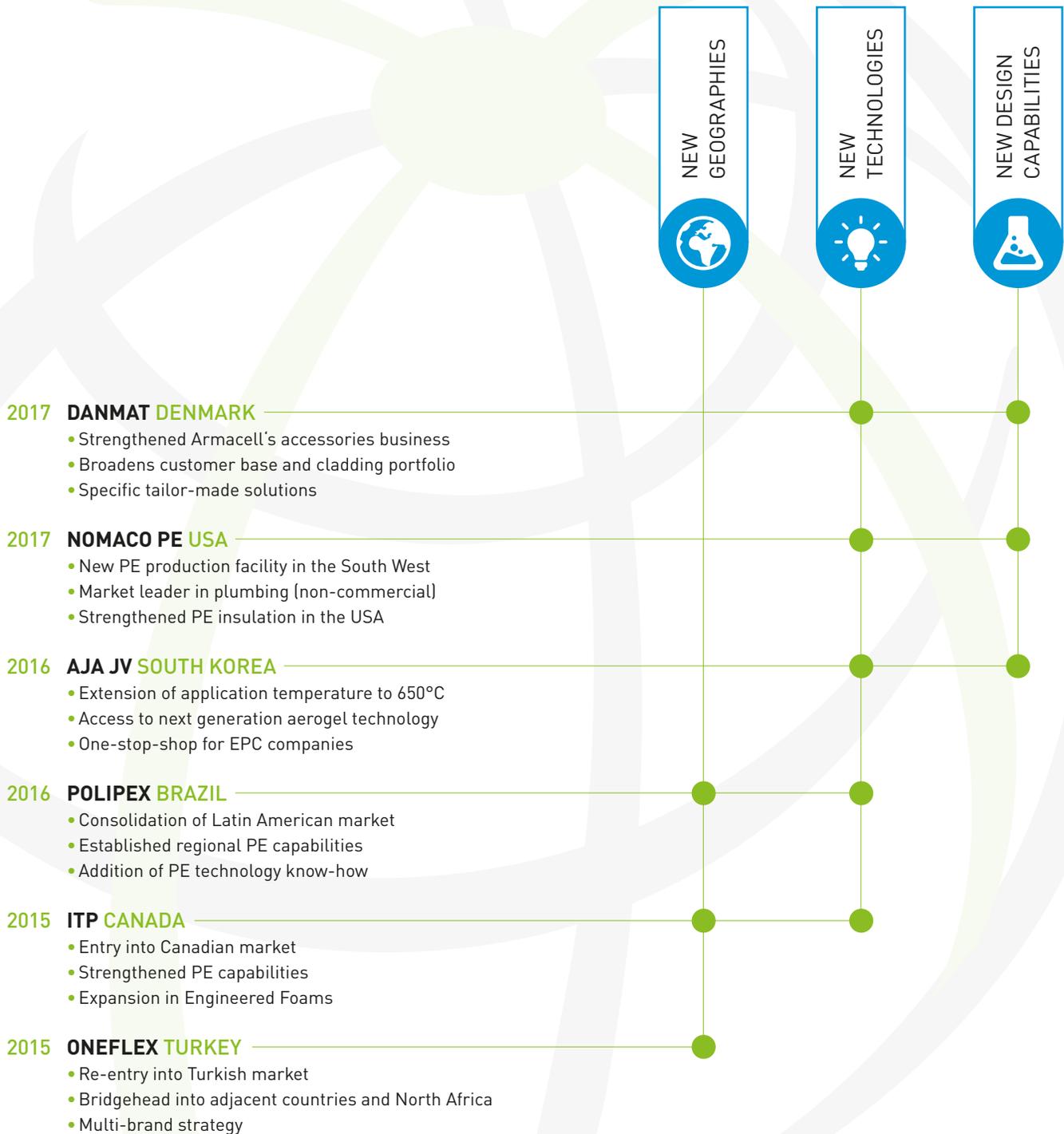
GLOBAL PARTNERSHIP

In February 2018, Armacell and Köpp, a leading manufacturer and processor of cellular rubber and polyethylene bun foam, announced a 15-year Partnership For Excellence. As part of this agreement, Köpp is transferring its proprietary and industry-leading bun foam technology to Armacell. Following an initial period of calibration, Armacell will launch commercial production at its US component foams manufacturing facility in Spencer, West Virginia. This partnership ticks the "new technologies" pillar and underlines Armacell's recent capacity expansion plans, drives product innovation and will provide Armacell's component foams customers worldwide with access to a broader suite of high-tech products and service levels.

GREENFIELD CONSTRUCTION

In May 2017, Armacell launched the construction of its manufacturing facility in the Kingdom of Bahrain. The greenfield construction of our own production site in Bahrain reinforces Armacell's commitment to the Gulf Region and strengthens the Group's presence in this high-growth market. Starting production in 2018, Armacell will manufacture a comprehensive range of products at the Bahrain International Investment Park, including high-density materials and elastomeric insulation for heating, ventilation and air conditioning systems.

THREE PILLAR GROWTH STRATEGY



GLOBAL PRESENCE

1

CORPORATE HEADQUARTERS

3

REGIONAL HEAD OFFICES

25

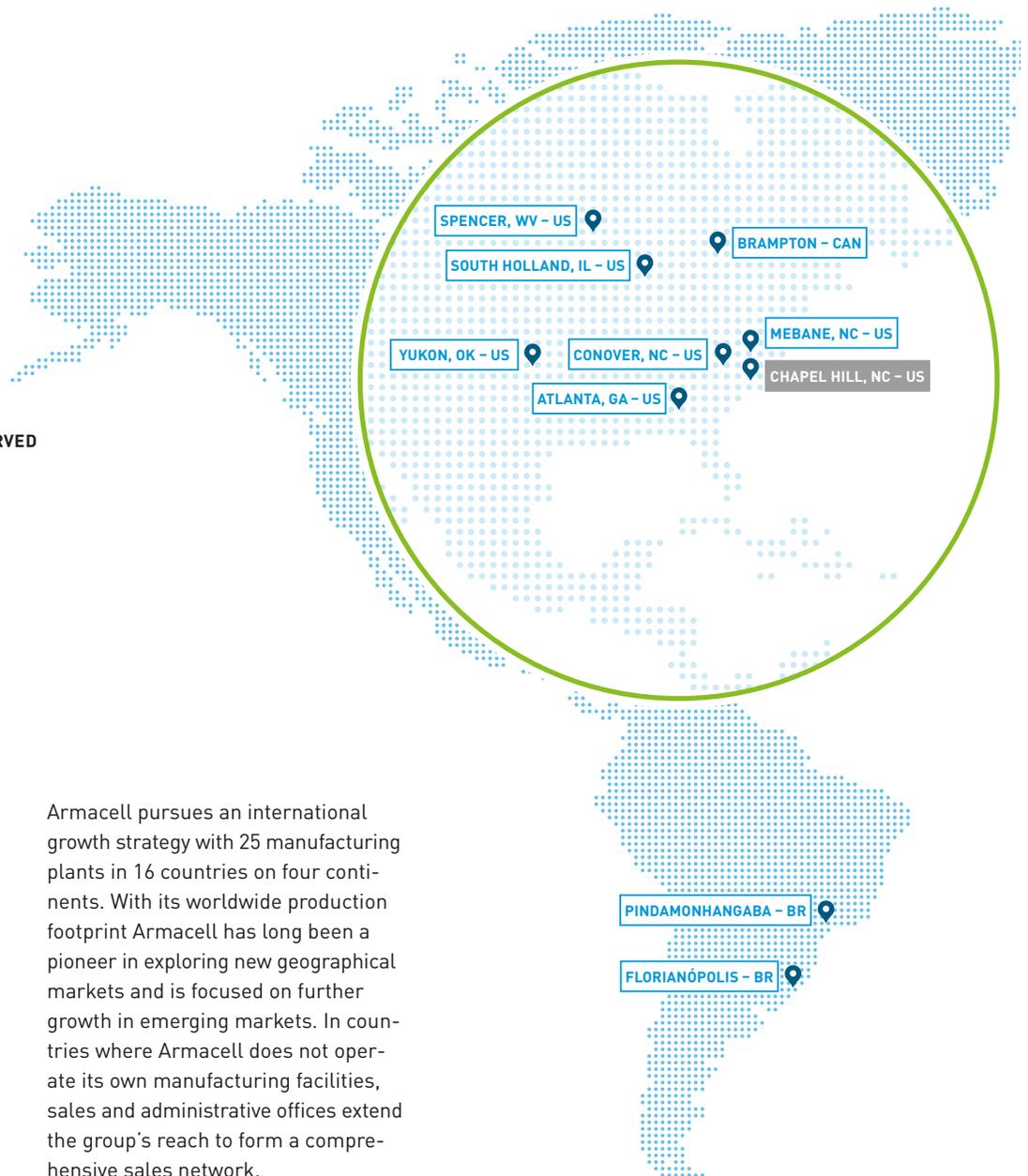
MANUFACTURING FACILITIES

100+

COUNTRIES WHERE CUSTOMERS ARE SERVED

450+

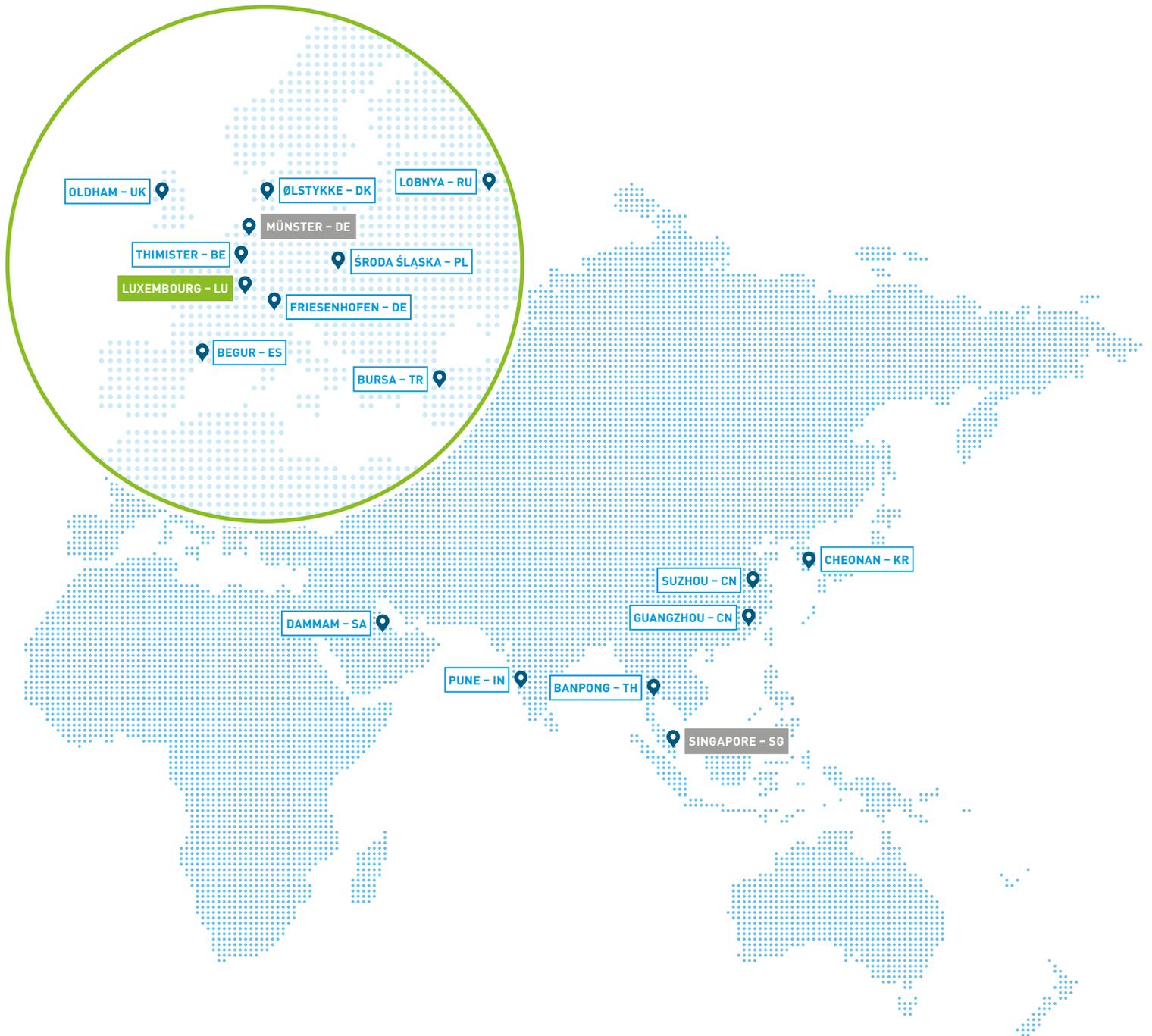
SALES AND ADMINISTRATION OFFICES



Global presence, local focus

Armacell is a truly global company and managed from its corporate headquarters in Luxembourg and regional head offices in Germany, USA and Singapore. Four product development centres spread around the world ensure a steady supply of pioneering innovations to meet customer and market requirements. Armacell's products are customised locally to meet customers' expectations around the world.

Armacell pursues an international growth strategy with 25 manufacturing plants in 16 countries on four continents. With its worldwide production footprint Armacell has long been a pioneer in exploring new geographical markets and is focused on further growth in emerging markets. In countries where Armacell does not operate its own manufacturing facilities, sales and administrative offices extend the group's reach to form a comprehensive sales network.



CORPORATE RESPONSIBILITY

COMMITMENT



In all its business undertakings, Armacell is committed to acting responsibly towards its employees, the environment and the communities it operates in. In 2006, Armacell joined the UN Global Compact initiative, the world's leading business network for sustainable globalisation. Armacell's Code of Conduct implemented in 2011 leads all its employees worldwide to act ethically.

ETHICS AND INTEGRITY

The Armacell Code of Conduct outlines the responsibilities of all Armacell employees to the company, to each other, and to our stakeholders. The Code builds on Armacell's basic corporate values (Customer Experience, Commitment, Empowerment and Accountability, Integrity and Sustainability), describes how these values are to be put into practice, defines rules for everyday work and provides ethical principles against which all business activities are benchmarked.

ANTI-CORRUPTION

In March 2017, Armacell enacted an updated anti-corruption policy reflecting the company's commitment to integrity. A key priority in our compliance efforts is the prevention of bribery and corruption. As we are committed to operating our business with integrity, fairness and transparency, we operate a zero tolerance policy.

SANCTIONS

Complying with economic, trade and financial sanctions is an integral part of our business ethics policy. These sanctions safeguard fundamental values such as human rights, the struggle against terrorism and the non-proliferation of nuclear weapons. These are values we identify with as a company. Our global Sanctions Policy was amended twice during 2017 in response to the changing international sanctions landscape.

»To date we have trained a significant part of managers globally regarding our sanctions policy, and are committed to further developing this process.«

Jan Bir, Chief Legal & Compliance Officer, Armacell Group

ANTI-MONEY LAUNDERING

In November 2017, Armacell enacted a new global Anti-Money Laundering Policy, raising staff awareness of the need to ascertain the identity of business people they are dealing with and to be on their guard for any potential money-laundering activity.

OUR PEOPLE

At Armacell we put our employees first. We motivate them, develop their talents and further their skills through a multitude of customised training opportunities. As a company we nurture a positive working environment. We encourage our employees to cultivate a climate of mutual respect, trust and reliability in which they can perform to the best of their ability to drive our company forward.

AWARDS

The number of applications for our A.R.M.A. Way Awards, which are presented for innovative or creative employee initiatives, increased from 168 in 2016 to 192 in 2017.

The A.R.M.A. Way Awards were presented to winning teams in these four categories:

- A** PPRECiate our customers
- R** AISE our efficiency
- M** ANAGE our cash
- A** CT to empower our employees



In 2017, the winning teams originated from the USA, Germany and India, while the runners-up came from Switzerland, South Korea, India, USA and Spain. This split highlights our global reach and innovative mindset of our employees.

Average tenure

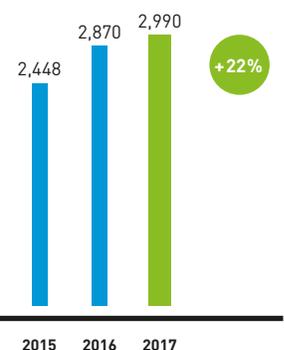
6.8

years

GENDER DIVERSITY



EMPLOYEES on 31.12.



Armacell is firmly committed to lifelong learning.



EVENTS

Our Global Armarium Days are an annual event gathering Armacell’s global leaders to share and discuss the company’s vision, mission, strategy and values. In 2017, the Global Armarium Days were held in Colombo, Sri Lanka, where we connected our global leaders with team responsibilities to communicate Armacell’s vision and business strategies to align execution, performance and behaviour. As Armacell continues to grow, acquires new companies and expands its footprint, the annual Global Armarium Days are supplemented by Regional Manager Days to reinforce and expand the company’s key messages.

TRAINING

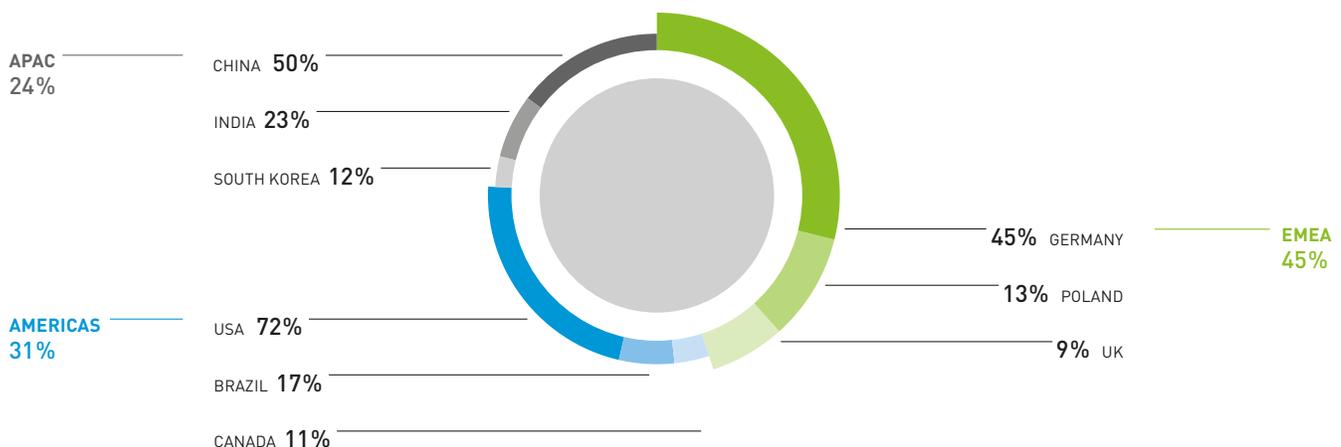
Besides initial vocational training courses, Armacell is firmly committed to additional training and educational measures for its global workforce, e.g. through approximately 1,000 different initiatives worldwide. Leadership@Armacell, the group-wide leadership training program running since 2013, has been completed by more than 500 managers. Demand Creation courses attracted approximately 300 attendees in 2017, while the Global Process program has had approximately 100 participants since its inauguration. Besides group-wide training activities, specific measures were conducted at a regional or national level to cater to local requirements.

WAM safety and environmental courses

As part of its WAM Manufacturing program Armacell conducted in-plant training courses for employees in a variety of areas. The safety training sessions covered topics such as reporting and analysis of safety-related situations, risk assessment, risk prediction, safety checks and near-miss analyses. In order to promote and reach a zero accidents mindset, Armacell implemented 47 standardised tool training courses. In the WAM Manufacturing program approximately 88 hours are required to implement 11 Quality & Process Control tools for the different manufacturing target groups (e.g. managers or operators).

In the environmental training sessions the focus was on topics such as environmental impact assessments, environmental checks and audits, waste management, chemical products management and identification and elimination of energy losses. Training courses were additionally conducted in professional maintenance, people development, focused improvement, logistics and customer service as well as workplace organisation.

TOP 3 COUNTRIES BY REGION employees in %

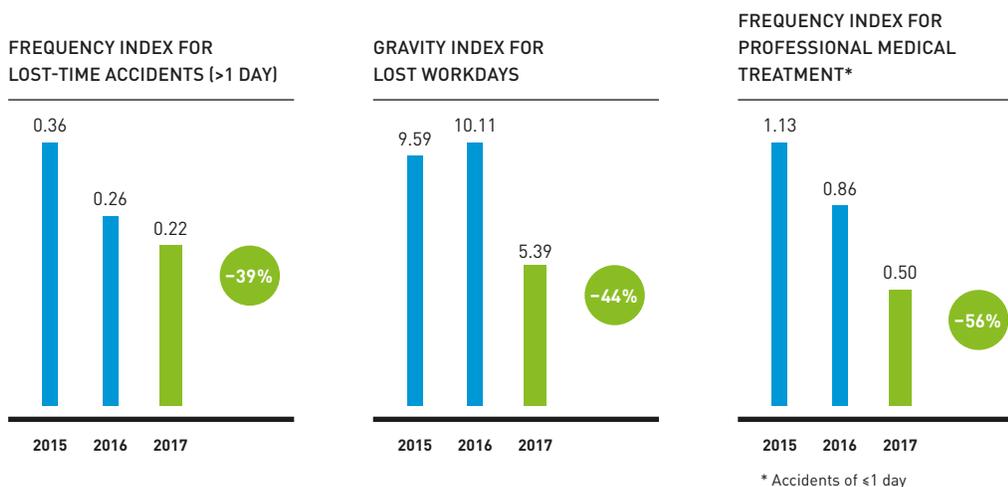


HEALTH, SAFETY AND OUR ENVIRONMENT

Our focus on sustainable, profitable growth goes hand in hand with our obligation to develop and manufacture products that positively affect our people, communities and the environment. Our commitment to environmental protection is part and parcel of our corporate philosophy and business strategy. After all, our insulation solutions play a key role in protecting equipment against energy losses in millions of applications worldwide. In environmental matters we are making good progress. We were the first manufacturer of flexible technical insulation materials to publish environmental product declarations (EPDs) and carry out lifecycle assessments. In view of the fact that 40% of global energy is consumed in buildings, we are proactive members of the European Alliance of Companies for Energy Efficiency in Buildings (EuroACE) and Renovate Europe, an EU-wide campaign to achieve 80% reduction in the EU building stock's energy demand by 2050.

HEALTH AND SAFETY FACTS AND FIGURES

The health and safety of our employees is paramount across Armacell. The positive trend in our safety statistics from 2015 to 2017 highlights this.



»Last year three of our sites celebrated 1,000+ days without a lost-time accident.«

Roberto Mengoli, Chief Technology Officer, Armacell Group



Armacell promotes a zero accident vision.



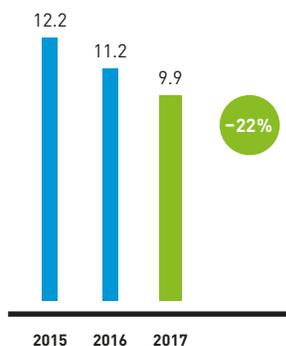
HEALTH AND SAFETY

On 24 February 2017, the Armacell plant in Spencer, West Virginia (USA), recorded 1,000 days without a lost-time accident (LTA). In 2017, the Spencer team saw their Safety and Health Achievement Recognition Award Program (SHARP) renewed, a status that identifies the plant as a model worksite in the state of West Virginia. The Armacell site in Begur, Spain, also celebrated 1,000 LTA-free days in 2017, an achievement that was only outperformed by the Friesenhofen plant in Germany where the team passed the 1,500-day mark without a single lost-time accident.

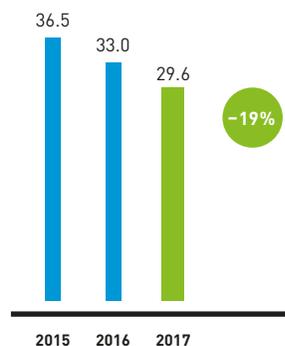
ENVIRONMENTAL FACTS & FIGURES

Our environmental performance is measured against a set of KPIs exhibiting a positive trend over the last three years. To enhance our environmental performance data accuracy and collection have been improved.

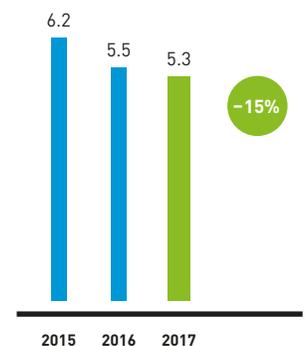
WATER CONSUMPTION* in l



ENERGY CONSUMPTION* in MJ



CO₂ EMISSIONS* in kg



* per metric ton of finished goods

ENVIRONMENT

The construction industry is one of the most resource-intensive sectors worldwide and responsible for 30–40% of global waste.

In 2017, Armacell became the first manufacturer of elastomeric insulation materials to introduce a return system for its off-cuts in Germany. Up to last year, reuse and recycling were typically commonplace for mineral materials, steel and copper. Today, Armacell is taking back off-cuts and returning them to the production cycle, thus reducing waste and conserving valuable resources.

The Armacell Eco-Cycle enables the collection of surplus insulation materials from job sites. This has both a positive effect on the environment and reduces our trade partners' workload. The recycling of elastomeric insulation material is more complex than PET, polyethylene or other thermoplastics, hence Armacell has developed a proprietary process allowing elastomeric materials to be reused to manufacture new products. The Armacell Eco-Cycle closes the recycling loop.

Armacell is currently in the process of updating its ISO 14001 certification of its environmental management systems from the 2009 to the 2015 version, in alignment with today's more stringent environmental requirements. 14 plants are scheduled to receive an updated certificate in 2018.

Armacell Canada is one of the frontrunners in environmental sustainability. The Ontario Chamber of Commerce recognises companies for their achievements in various categories with its annual Ontario Business Achievement Awards (OBAA). By demonstrating leadership in environmental sustainability, Armacell Canada won the OBAA Sustainability Award in 2017.

Armacell has spent years of intensive research to develop a process technology that enables production of consistent foam qualities from 100% post-consumer PET (ArmaForm® PET lifecycle).

ARMAFORM® PET LIFECYCLE

END-OF-LIFE

ArmaForm® PET can be recycled and reprocessed into full-value raw material if removed properly.

LIFETIME

The majority of ArmaForm® PET core applications generates additional environmental savings (e.g. wind turbines producing green energy).

CONVERSION

90% of the generated scrap is returned to the process and re-used for foam manufacturing. The finished product is packed on reusable wooden pallets protected with carton and PET strips.



RESOURCES

95% of raw materials come from recycling. Partnerships with key PET flakes suppliers guarantee the best quality of recycled feedstock.

GRANULATION

A fast and energy efficient granulation process allows us to fully control the quality and shorten the start-up time for foaming operations.

EXTRUSION

All additives are safe for people and the environment. We use nonhalogenated additives and our foaming agent has no ozone depletion potential with very limited global warming potential.

SOCIAL ACTIVITIES

Armacell serves customers in more than a hundred countries. This global footprint provides us with a worldwide responsibility to the communities we operate in. That is why we support a wide variety of citizenship projects in local communities. The social dimension of our corporate responsibility enables Armacell employees to make a difference in societies around the world.



Global Armacell Day – celebrating the Armacell family worldwide.



COMMUNITY ACTION

One of the standout events for “Making a difference” activities in local communities around the world is the Global Armacell Day. In Singapore, for example, the Armacell team cleared up litter along Changi Beach. In South Korea, Armacell employees cleaned up the cages of a home for abandoned dogs. Employees from the Mebane and Chapel Hill sites in North Carolina volunteered with Habitat for Humanity and helped to construct a home. And at two sites in Brazil, Pindamonhangaba and Florianópolis, the teams donated food to a charity institute and planted trees.





Known as Wan Dek, Thailand National Children's Day is celebrated in January.



CARING FOR CHILDREN IN NEED

Caring for children living in communities close to Armacell sites is a heartfelt concern for many of our employees. Several charity activities were organised at Armacell Thailand on Children's Day in January 2017. For the fifth time, Armacell employees in Germany collected clothes in good condition for a children's relief charity. Their donations were sent to needy children and adults in Bosnia and Romania. In the USA, Armacell employees regularly support the Marine Toys for Tots Foundation by filling boxes with toys for children living at or below the poverty level. These and many other activities helped in some way to alleviate the plight of needy children in local communities.

CYCLING FOR CHARITY

For the fourth time in succession, a highly motivated team from the Armacell site in Oldham, UK, participated in the 72-mile Manchester to Blackpool charity bike ride and raised funds for a hospice in Oldham. Armacell proactively participated in the fund-raising for a local distributor who cycled 1,545 km through Britain for Armacell and together with his team supported the All National Mozambique charity, which cares for orphaned and abandoned children.



FINANCIAL RESULTS

- // Net sales 2017 increased by 8%
- // 2017 adjusted EBITDA up by 2%, EBITDA margin today at 17%
- // The integration of acquired businesses is on track
- // Expansion of the Group's market position across all regions, confirming position as technology leader
- // Diversified global presence as a multi-materials and multi-product company
- // Investor confidence in our business model drove a significant reduction of interest cost of our outstanding debt during refinancing
- // Improved free cash flow and financial strength



FINANCIAL KEY FIGURES

in € million	2013	2014	2015	2016	2017
Income statement¹					
Net sales	415.7	452.2	540.2	558.6	603.2
Adjusted EBITDA ²	64.9	71.2	95.5	100.4	102.1
EBITDA margin	15.6%	15.7%	17.7%	18.0%	16.9%
Adjusted EBITA ³	51.7	56.1	78.8	82.4	82.0
EBITA margin	12.4%	12.4%	14.6%	14.8%	13.6%
Non-recurring items	24.0*	12.5	12.4	11.9	5.8
EBIT	10.6	21.7	40.7	37.4	40.6
Cash flow¹					
Adjusted cash flow from operating activities ⁴	54.5	56.3	73.1	83.7	84.0
Investments (excluding acquisitions)	16.3	20.6	28.4	25.7	41.0
Adjusted free cash flow	38.9	33.2	45.5	58.0	43.4
Balance sheet¹					
Current assets	124.1	159.1	187.6	191.0	210.5
Non-current assets	498.9	514.4	564.8	981.3	966.0
Current liabilities	81.4	118.3	106.4	145.8	132.4
Non-current liabilities and equity	541.7	555.1	646.0	1,026.5	1,044.1
Net debt – excluding shareholder loans¹					
Economic equity ⁵	122.4	93.1	96.7	306.5	276.4
Net debt	295.5	321.5	391.6	552.6	603.5

Due to a change of shareholders of the Armacell Group as of 2 July 2013, the financial data presented for the first half of 2013, and the second half of 2013 come from the Audited Combined Financial Statements for the respective periods reflecting the combined results of operations and financial position of the operational Armacell Group and are comparable to the 2014 financial data from the Audited Consolidated Financial Statements of Armacell International S.A. Luxembourg.

The 2013 financial data presented here is the result of the sum of the Audited Combined Financial Statements for the first half of 2013 and the Audited Combined Financial Statements for the second half of 2013.

* The increase in the amount of non-recurring items in 2013 was impacted by transaction costs associated with the change in shareholders of the Armacell Group.

¹ With the sale of Armacell to funds managed by Blackstone and KIRKBI in February 2016, consolidated financial statements were prepared for Armacell Holdco and included ten months of Armacell Group activities in 2016. To provide comparable numbers, the income statement and cash flow relate to Armacell International S.A. while the balance sheet is based on consolidated Armacell Holdco financials to reflect the full financing at Group level (see page 40).

² Adjusted EBITDA is the result before amortisation, depreciation, interest and taxes adjusted by non-recurring items.

³ Adjusted EBITA is the result before amortisation, interest and taxes adjusted by non-recurring items.

⁴ For the calculation of the adjusted cash flow, the impact of the non-recurring items and acquisitions are excluded.

⁵ Economic equity includes shareholder loan.



CORPORATE RATINGS

REPORTING STRUCTURE

On 29 February 2016, Armacell International S.A. was acquired by funds managed by Blackstone and KIRKBI via Armacell Bidco Luxembourg S.à r.l, which is a subsidiary of Armacell Holdco Luxembourg S.à r.l. On a consolidated basis, the acquiring companies only included ten months of activities associated with the Armacell Group in 2016.



More information about our business on our website www.armacell.com

The financial figures for the full fiscal year under review include 12 months of all the operating activities of the (former) Armacell International S.A. Group (Armacell) for the time period 2013–2016.

Armacell operates two main businesses, Advanced Insulation and Engineered Foams.

ADVANCED INSULATION

The Advanced Insulation (AI) division provides flexible foam insulation solutions for insulating technical equipment utilised for the transport of energy in commercial and residential construction, industrial applications and the oil & gas industry. Typical applications include heating, ventilation and air conditioning (HVAC), heating and plumbing (H&P), refrigeration, solar as well as accessories and acoustics.

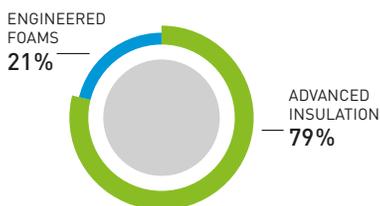
The division is managed across three regions: Europe, the Middle East and Africa (EMEA), North and South America (AMERICAS), and Asia Pacific (APAC).

ENGINEERED FOAMS

The Engineered Foams (EF) division develops and produces custom-made high-performance foams used across a broad range of end markets, including wind energy, automotive, transportation and sports and leisure.

Consisting of environmentally friendly structural PET foam cores and component foam solutions, i.e. engineered elastomeric and polyethylene foams as well as cross-linked polyolefin foams, this division addresses the requirements of specific markets and applications where weight as well as mechanical performance and tensile strength are paramount.

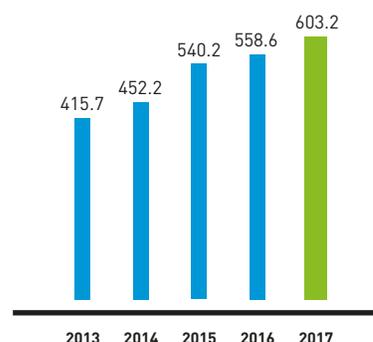
NET SALES BY BUSINESS DIVISION



NET SALES BY REGION



NET SALES in € million



OUTLOOK

In 2017, the global economy grew by 3.7%. In 2018 and 2019, the projections point to an increase in growth of 3.9%. This stronger growth is mainly driven by advanced economies where growth is expected to exceed 2% in 2018 and 2019 as a result of favourable global financial conditions and a positive sentiment supporting the strong demand.

Based on the favourable growth outlook for most regions in 2018 and 2019, Armacell expects ongoing growth of its revenue, EBITDA and EBITA with further support from M&A activities (constant currency based).

FAVOURABLE OUTLOOK GDP growth in %

	2017	2018	2019
Global economy	3.7	3.9	3.9
Brazil	1.1	1.9	2.1
Canada	3.0	2.3	2.0
China	6.8	6.6	6.4
Euro Area	2.4	2.2	2.0
India	6.7	7.4	7.8
Russia	1.8	1.7	1.5
USA	2.3	2.7	2.5
Middle East & North Africa	2.5	3.6	3.5

Source: IMF World Economic Outlook, January 2018

Demand for technical insulation materials correlates with the cycles of a variety of end markets in which the Group operates and to a lesser degree with increases or decreases in commercial and residential construction activities. Following recent positive trends, construction activity is expected to continue improving in the near term. In most countries, growth rates exceeding those of GDP are forecast for the equipment insulation market.

// CONSTRUCTION

The strong economic recovery had positive implications for construction sectors around the world. In Europe, construction increased by 3.5% in 2017 – the strongest increase since 2006. Non-residential construction in the US continued to gradually recover with 9.9% growth in 2017. This positive development was mainly driven by investments in civil engineering, community and government projects. Throughout Asia Pacific, governments and firms are taking steps to integrate markets and continue to invest in infrastructure, with China remaining at the forefront of these trends.

In addition to growth opportunities driven by positive economic development, Armacell has identified a number of organic and inorganic growth opportunities. These principally center around leveraging our global market leadership in equipment insulation and engineered foams to develop and innovate new specialty insulation products and technical foams, extend the application temperature range of our existing product portfolio, broaden our suite of products by developing multi-material solutions, increase customer service levels and focus on the sustainability of our product lifecycle. Such developments may broaden application reach and further increase diversification and cycle resilience.

// WIND

According to industry sources, the wind market exhibited a solid performance in 2017 with 59 GW of new wind power capacity installed globally – an increase of 8.8% over the 2016 figure of 55 GW. Looking ahead, moderate growth is expected in the near term with an acceleration expected towards the end of the decade. Global installed capacity growth rates are projected at 2.5% for 2018 and around 6–8% annually for 2019–2021.

// AUTOMOTIVE

In 2017, global automotive vehicle sales were 1.5% higher than in 2016. Looking ahead, sales of electric vehicles are set to accelerate towards 2030 as countries around the world move to tighten fuel economy standards and new market disruptors take one step ahead in vehicle electrification. In the medium term, the transportation industry expects the current trends towards lightweighting, electrification and sound attenuation to intensify.

Through continuous innovation, Armacell targets to strengthen its position as the technology leader. The company's demand creation programs identify further substitution opportunities and confirm Armacell as the specification maker. New product recipes allow replacement of raw materials and should reduce price dependencies significantly. From a manufacturing standpoint, these efforts are supported by a reinforcement of the best cost supplier position. Armacell will pursue higher efficiency by reducing complexity and leveraging the current fixed cost base.

Armacell will further implement initiatives to pursue organic growth, both through geographical expansion outside traditional markets as well as through product diversification and market enlargement inside the core business. Organic growth will be complemented by a voluntary external growth strategy. Since 2015 this has included two acquisitions in Turkey and Canada early in the year, the acquisitions of PoliPex, Brazil and the joint venture with JIOS, South Korea in 2016, as well as the insulation business of Nomaco, USA and the accessory business of Danmat Iso Systems, Denmark in early 2017. Most recently, Armacell announced its Partnership For Excellence with Germany-based Köpp to accelerate its Component Foams business.

Source: IMF World Economic Outlook, 84th Euroconstruct Conference Summary Report, Global Wind Energy Council Statistics 2017, U.S. Bureau of Economic Analysis, Moody's Global Credit Research, Cushman & Wakefield Asia Pacific 2018 Outlook, IMF Asia Pacific Regional Economic Outlook, WardsAuto Forecasts, Statistisches Bundesamt

GROUP PERFORMANCE

REVENUE AND PROFIT

In 2017, Armacell's **net sales** rose by 8.0% to a record level of €603.2 million (2016: €558.6 million). The Group's strategic business units delivered net sales of €207.9 million (2016: €200.0 million) for Advanced Insulation EMEA, €151.2 million (2016: €112.9 million) for Advanced Insulation AMERICAS, €117.4 million (2016: €119.2 million) for Advanced Insulation APAC and €126.7 million (2016: €126.5 million) for Engineered Foams.

EBITDA excluding unusual items increased to €102.1 million (2016: €100.4 million) with an EBITDA margin excluding unusual items of 16.9% (2016: 18.0%). Reported EBITDA including unusual items amounted to €96.3 million (2016: €88.5 million). Unusual items amounted to €5.8 million (2016: €11.9 million) and mainly consisted of non-recurring expenses related to acquisitions and new geographical footprints, restructuring expenses, expenses in connection with the refinancing of the Group and shareholder fees. **EBITA** excluding unusual items was €82.0 million (2016: €82.4 million) with an EBITA margin excluding unusual items of 13.6% (2016: 14.8%). **EBIT** before unusual items was €46.5 million (2016: €43.2 million).

INVESTMENTS AND CASH FLOW

Armacell continued to generate a strong cash flow and as of 31 December 2017 had a **cash position** of €50.5 million (2016: €35.4 million).

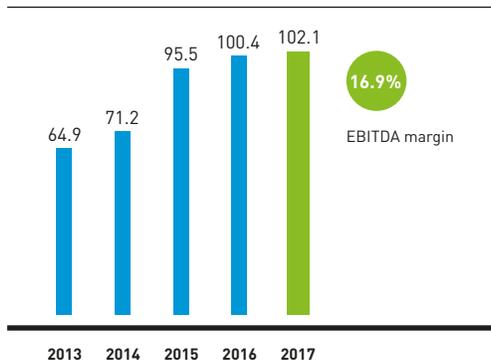
In 2017, the revolving credit facility of €100 million was drawn by €3.9 million (2016: €12.9 million) and remains the Group's most important available financing source besides its cash position and strong cash flow.

In the reporting period, adjusted **cash flow** from operating activities after income taxes amounted to €84.0 million (2016: €83.7 million). Cash outflows of €41.0 million (2016: €25.7) were related to the purchase of property, plant and equipment and intangible assets.

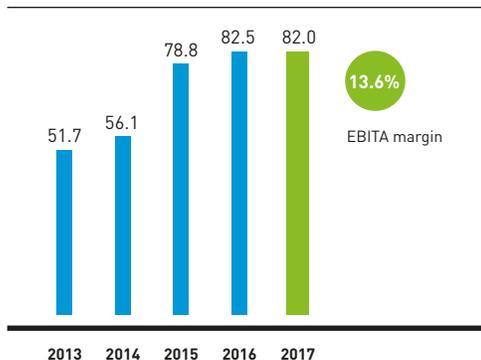
Net sales

+8.0%
in 2017

ADJUSTED EBITDA in € million



ADJUSTED EBITA in € million



BALANCE SHEET

As of 31 December 2017, total **assets** were €1,176.5 million (2016: €1,172.3 million). Non-current assets totalled €966.0 million (2016: €981.3 million), including other intangible assets of €304.0 million (2016: €325.1 million), property, plant and equipment of €198.5 million (2016: €188.4 million) as well as goodwill of €454.1 million (2016: €460.8 million). Other intangible assets mainly consisted of customer lists, know-how, patents, trademarks and brands. Additional non-current assets were derivative assets, deferred tax assets and other non-current financial assets. Current assets amounted to €210.5 million (2016: €191.0 million) and mainly consisted of trade receivables of €86.1 million (2016: €79.3 million), inventories including finished goods of €59.1 million (2016: €63.3 million) and cash and cash equivalents of €50.5 million (2016: €35.4 million).

Non-current **liabilities**, excluding the liabilities due to shareholders, amounted to €767.7 million (2016: €719.9 million) at the end of 2017. These primarily consisted of non-current borrowings of €620.3 million (2016: €545.8 million) and provisions for pensions and similar obligations of €84.4 million (2016: €91.7 million). Current liabilities were €132.4 million (2016: €145.8 million) and included current borrowings of €23.7 million (2016: €30.0 million). The net debt of Armacell at year-end 2017 was €603.5 million (2016: €552.6 million).

Economic equity capital, including the preferred equity certificates of Armacell's shareholders, amounted to €276.4 million (2016: €306.5 million). The share capital amounted to €17.9 million (2016: €17.9 million). The subscription of 321,982,359 preferred equity certificates, each with a par value of €1.00, was utilised to finance the acquisition of Armacell Group. The yield on these preferred equity certificates is 10.5% p.a. The economic equity ratio amounts to 23.4% (2016: 26.1%).

In 2017, Armacell raised €622 million of first lien term **debt** to replace the existing first and second lien term loan debt. The company paid back the outstanding amount of the second lien term debt and reduced the drawing on the revolving credit facility following the acquisition of the insulation business of Nomaco in the US in January 2017. The margin on the first lien term debt was reduced from Euribor +4.5% to Euribor +3.5%; the margin on the revolving credit facility was reduced to Euribor +3.25%.

BUSINESS PERFORMANCE

ADVANCED INSULATION

In 2017, revenues in Armacell's Advanced Insulation (AI) division increased by 10.3% to €476.5 million (2016: €432.1 million). Overall, 79% of Group sales were generated in AI.

ADVANCED INSULATION NET SALES BY REGION



Advanced Insulation EMEA

The European economy grew by 2.4% in 2017. This was driven by increased growth in the advanced economies from 1.8% in 2016 to 2.1% in 2017 and growth in Europe's developing markets rising from 3.2% in 2016 to 5.2% in 2017. Almost all the countries of Europe contributed to the increased growth in 2017, the strongest performers being Iceland and Romania (5.5%), Turkey and Malta (5.1%) and Ireland (4.1%). Germany, Europe's largest economy, is forecast to have grown by 2.2%. Following strong performances in recent years, growth in the UK decreased to 1.7%. Most European markets were

supported by the central banks' monetary policy, rising exports fuelled by the revival of global trade, moderate oil and commodity prices, and decreasing political risks and policy uncertainties. Growth in the Middle East and North Africa declined from 4.9% in 2016 to 2.5% in 2017 as a result of weaker growth in Saudi Arabia, Kuwait and Iraq.

This positive economic development is reflected in the growth of Armacell's 2017 Advanced Insulation revenues in EMEA. Armacell recorded net trade sales of €207.9 million (2016: €200.0 million), an increase of 4.0% over 2016. This revenue growth was impacted by a negative currency impact of €2.0 million as a result of the weaker pound sterling against the euro and the devaluation of the Turkish lira against the euro. Adjusted to take currency movements into account, growth would have been around 5%. The growth drivers were the strong recovery of South European markets and sound growth in Central and Northern Europe. Besides volume growth, higher product prices, which were raised to take higher material costs into account, contributed to the increase in sales in 2017.

KEY FIGURES - AI EMEA

in € million	2015	2016	2017
Revenues	199.2	200.0	207.9

Advanced Insulation

476.5

€ million revenues

Advanced Insulation AMERICAS

The US economy grew by approximately 2.3% in 2017 (2016: 1.5%). This growth was driven by a combination of increased personal consumption due to a sound labour market and expanding payrolls, an improved residential housing market, investment in domestic infrastructure and higher governmental expenditure. Canada is expected to have doubled its GDP growth from 1.4% in 2016 to approximately 3.0% in 2017.

South America's economies recovered with a growth rate of 0.6% from the recession in 2016. The main drivers were the recovery in Brazil (+1.1% in 2017 vs. -3.5% in 2016) and in Argentina (+2.5% in 2017 vs. -2.2% in 2016). This development is reflected in the significant increase in Armacell's revenues in Brazil in addition to the full-year effect of the PoliPex acquisition in the fourth quarter of 2016. Armacell further expanded its Latin American business across the continent and is present in most countries. Brazil, Argentina and Colombia are the largest contributors, while Argentina, Ecuador and Uruguay have exhibited the strongest growth.

Net trade sales of Advanced Insulation AMERICAS rose to €151.2 million (2016: €112.9 million), an increase of 33.9% from 2016. A series of drivers generated this positive development including the acquisition of Nomaco's insulation business in the US, the carry-over effect of the first full-year consolidation of PoliPex's insulation business in Brazil, and organic growth in North and South America following the implementation of the Group's demand creation program. Adjusted for the negative FX impact and the contribution of the acquisitions, Advanced Insulation AMERICAS would have organically grown by 5.6%.

KEY FIGURES – AI AMERICAS

in € million	2015	2016	2017
Revenues	103.6	112.9	151.2

Advanced Insulation APAC

Overall economic growth for emerging and developing countries in the APAC region increased from 6.4% in 2016 to 6.5% in 2017. China's GDP grew from 6.7% in 2016 to 6.8% in 2017 as the domestic economy rebalanced. In 2017, the ASEAN market achieved GDP growth of 5.3%. Japan's GDP grew from 0.9% in 2016 to an estimated 1.8% in 2017. South Korea's economy grew by 3.0%, which was more than in recent years. India's economy again performed well with GDP growth of 6.7% in 2017 (2016: 7.1%).

In Greater China, Armacell extended its strong market position following demand creation activities and accelerated its project and acoustic businesses. In India, the company gained market shares despite keen competition and managed to strengthen its local business through a combination of increased project generation and additional domestic product offering. In both countries, Armacell achieved double-digit growth compared to the previous year. In 2017, Armacell was awarded the final certification granting access to government projects, supporting strong growth in South Korea.

Armacell's net trade sales in APAC declined by 1.4% to €117.4 million (2016: €119.2 million). This was due to a lower oil & gas related project business (bundled in our Engineered Systems business within APAC Advanced Insulation), lower revenues in Australia following the relocation of the production facility from Australia to

Thailand in 2016 and the closure of our distribution network in Australia, as well as lower sales in ASEAN countries and Japan. Excluding FX headwind of approximately 1% and the negative impact of the oil & gas project business, the Advanced Insulation APAC business would have grown by approximately 8%.

KEY FIGURES – AI APAC

in € million	2015	2016	2017
Revenues	113.0	119.2	117.4

ENGINEERED FOAMS

In 2017, revenues in Armacell's Engineered Foams (EF) division were flat at €126.7 million (2016: €126.5 million). Lower volumes in the Component Foams business and a weaker US dollar were compensated for by higher revenues in the PET business based on strong volume growth in the APAC and EMEA wind markets.

KEY FIGURES – EF

in € million	2015	2016	2017
Revenues	124.4	126.5	126.7

Component Foams

Component Foams was impacted by lower demand from the automotive sector in the second half of 2017. The softness as a result of end-of-life vehicle ranges was partially offset by new applications and vehicle launches.

In 2017, Armacell launched a major investment project to reposition itself in the US component foams market as well as in the automotive market, sport and leisure industry and general manufacturing. This initiative will have positive effects across domestic manufacturing facilities, increasing North American capacity and customer service levels ultimately driving innovation and widening our product portfolio. The company's recent announcement regarding the Partnership For Excellence with Germany-based Köpp, will further accelerate this investment program.

PET

Applications combining lightweighting, mechanical and thermal performance based on a sustainable technology have driven the growth of the PET business from wind into transportation and other general industrial markets. The stringent performance requirements of the applications served and the benefits and quality of Armacell's PET foam technology have increased product recognition and adoption globally. Stronger financial figures reflect this trend in every region of the world.

Europe remains the leading region today, the USA and the APAC region are gaining momentum. Demand in China is growing strongly – initially in the wind market – with almost half of all new wind turbine installations globally being located in China.

The opening of the production line for PET core foams in Canada combined with the start of operations in China in 2018 will further strengthen Armacell's global leadership in this market.

Engineered Foams

126.7

€ million revenues

CORPORATE GOVERNANCE

RISK MANAGEMENT

In the course of conducting its business activities, Armacell is exposed to a number of risks that are inseparable from the entrepreneurial nature of its business. In order to identify and mitigate possible risks at an early stage, Armacell continuously monitors potential sources of risk.

Competition

The flexible insulation and technical foam markets bear significant barriers to entry. While initial investment outlay may be considered moderate and direct competition may seem low, it is a combination of innovation, intellectual property, technology and process technology know-how as well as a strong and global distribution and sales network that make it expensive and time consuming to enter these markets. Hence, the risk that a new competitor enters the company's high value and growth markets on a global scale is considered limited.

// R&D

In order to mitigate the risk of margin deterioration due to direct product competition, Armacell strategically invests in research and development activities. The Group's innovation and technology platform is one of its main competitive advantages and Armacell expects further sales and profitable growth opportunities with increased efforts in this area. This applies to both the continuous development of existing products and the introduction of new products with value-added characteristics – lighter and thinner products with combined characteristics such as extended thermal and acoustic properties – in order to substitute other materials at a lower overall installed cost.

Armacell, nevertheless, expects competition on price, in particular from low cost manufacturers in emerging economies. The company mitigates these efforts by continuously optimising manufacturing costs and focusing on sustained customer satisfaction. The latter implies an attractive value proposition in conjunction with product quality, availability, service and reliability.

Strategy and business model

To a certain degree, Armacell's business depends on the performance of the global equipment insulation market across multiple industries and a diversity of applications. Due to the fact that Armacell is active in businesses that benefit from more stringent environmental laws, it is expected that the Group has more industry-specific opportunities than industry-specific risks.

Although stricter environmental protection requirements may, in future, require plant modernisation measures, these regulations will certainly drive the need for insulation products and positively impact the Group's earnings.

Material risks in relation to corporate strategy are considered low since Armacell is focused on diversified stable and long-term customer relationships. The top ten customers account for less than 20% of revenues.

Demand in Europe, North America, and Asia plays an important role. Product sales into the wider construction industry are sensitive to the general level of economic activity as well as to overall economic and tax-related conditions. Armacell is geographically well diversified and risks arising from concentration in single markets are considered limited.

Operating performance

During the recent years of financial and economic crises, Armacell's margins proved resilient. Raw material price pressure is managed through multiple sourcing, ongoing optimisation of recipes and cost initiatives, and is attenuated by management's ability to implement relatively short-term price increases. Competing products generally depend on similar raw materials and their supply and demand balance. To this extent, Armacell is focused on continuously investing in performance optimisation and improvement of the Group's long-term relative competitiveness in order to be able to absorb adverse raw material price volatility.

Financials

Armacell faces the typical liquidity risks of private equity financing. These risks include high interest charges and comparatively low equity ratios. Besides the only partially drawn revolving credit facility of €100 million, the Group can optionally access new sources of financing in case of acquisitions or similar investments in the business. Armacell has implemented strong liquidity monitoring tools, including a daily cash status.

Armacell operates on a global basis and its trading results are therefore affected by foreign exchange rate volatility. The reported results are impacted by two different factors. The transactional risks arise from transactions denominated in currencies other than the functional currency of the subsidiary. In general, Armacell does not hedge its transactional exposure as the business is largely naturally hedged as local sourcing and selling is usually in the same currency. The translational risks arise upon consolidation of the Group results and relate to the exposure

from translating the financial statements of subsidiaries that use a functional currency other than the euro. Less than 40% of the revenues are generated by entities that use the euro as their functional currency. About one third of the revenues are generated by entities that have the US dollar as their functional currency. Other important foreign currencies within the Group are the CNY, HKD and CAD.

The Group is exposed to interest rate risks from bank loans, mainly with variable interest rates. The main financing of the Group is based on a €622 million term loan with an interest rate of Euribor +3.5% and a floor of 0%. In addition, the company has access to a revolving credit facility of €100 million with an interest rate of Euribor +3.25%. The Group hedges variable interest rates with interest rate swaps in EUR and USD. The USD swap was settled in 2017, the EUR swap will terminate on 30 June 2020. The EUR interest rate swap represents approximately 8% (2016: 10%) of the EUR denominated debt. On the date of the consolidated financial statements, the notional amount of the interest rate swap remained unchanged.

GROUP MANAGEMENT

The decision-making bodies of Armacell International S.A. consist of the persons listed below. Responsible for the long-term success of the Group, they set the strategic goals, establish standards, and ensure compliance.

Supervisory Board

- Lionel Assant (Chairman)
- Jürgen Pinker
- Natacha Jamar
- Adrian Kalt
- Jean-Carlos Angulo

Audit Committee

- Jürgen Pinker (Chairman)
- Adrian Kalt
- Jean-Carlos Angulo

Nomination and Remuneration Committee

- Lionel Assant (Chairman)
- Adrian Kalt
- Jean-Carlos Angulo

Management Board

- Please refer to pages 22–23

Executive Management Team

- Please refer to pages 22–23

OWNERSHIP STRUCTURE

Since 29 February 2016, funds managed by Blackstone have been Armacell's majority shareholder. The remaining shares are held by the holding and investment company KIRKBI and Armacell's senior management team.

About Blackstone

As one of the world's leading investment firms, Blackstone creates positive economic impact and long-term value for its investors, the companies it invests in, and the communities in which it works. Blackstone's global asset management businesses, with over US\$ 430 billion in assets under management, include investment vehicles focused on private equity, real estate, public debt and equity, non-investment grade credit, real assets and secondary funds.

About KIRKBI

KIRKBI is the holding and investment company of the Danish Kirk Kristiansen family. In addition to a broad investment portfolio, the company's strategic activities include the majority shareholding in the LEGO group, a significant shareholding in Merlin Entertainments plc and investments in renewable energy. KIRKBI has a long-term investment profile and is a responsible investor with a high ethical standard.

IMPRINT

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MAKING A DIFFERENCE AROUND





UND THE WORLD



MEGATRENDS

Armacell's energy-saving or noise- and vibration-attenuating solutions are principally addressing five global megatrends.



ENERGY EFFICIENCY



URBANISATION



ACOUSTIC COMFORT AND VIBRATION CONTROL



GLOBALISATION OF FOOD SUPPLY CHAIN



LIGHTWEIGHTING



2017 RESULTS

€603.2m

Total Net Sales

€102.1m

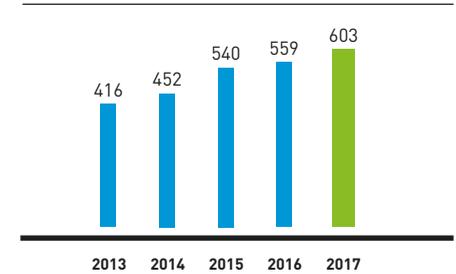
Adjusted EBITDA

€82.0m

Adjusted EBITA

2,990
Employees

NET SALES in € million



NET SALES BY BUSINESS DIVISION



NET SALES BY REGION



BUSINESSES

€476.5m

Revenues

79%

Advanced Insulation

€126.7m

Revenues

21%

Engineered Foams

CHAPEL HILL

CONOVER

MEBANE

PRESENCE

1

CORPORATE HEADQUARTERS

LUXEMBOURG

3

REGIONAL HEAD OFFICES

GERMANY - USA - SINGAPORE

25

MANUFACTURING FACILITIES

16 COUNTRIES - 4 CONTINENTS

ARMACELL NORTH CAROLINA

The employees pictured on the front are all part of our North Carolina operations team.

