

### **ABOUT US**

Armacell is the inventor of flexible elastomeric foams for equipment insulation. We develop innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for our customers. Day in, day out, our products make a significant difference around the world. As a multi-material and multi-product company, we operate two main businesses: Advanced Insulation and Engineered Foams. Our product focus is on insulation materials enhancing the energy efficiency of technical equipment, high-performance foams for sophisticated and lightweight applications, recycled PET products and next-generation aerogel technology.



ARMACELL — WHEN IT MATTERS

- **04** DELIVERING SUPERIOR PERFORMANCE
- **05** OPTIMAL MEDICAL CARE
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# ARMACEL MATIERS

We know the needs and challenges our customers face.

We think in complete systems and in smart, application-oriented solutions.

We listen carefully and work closely with our customers to develop tailored solutions and innovations.

We ensure our products are as simple and user-friendly as possible to handle.

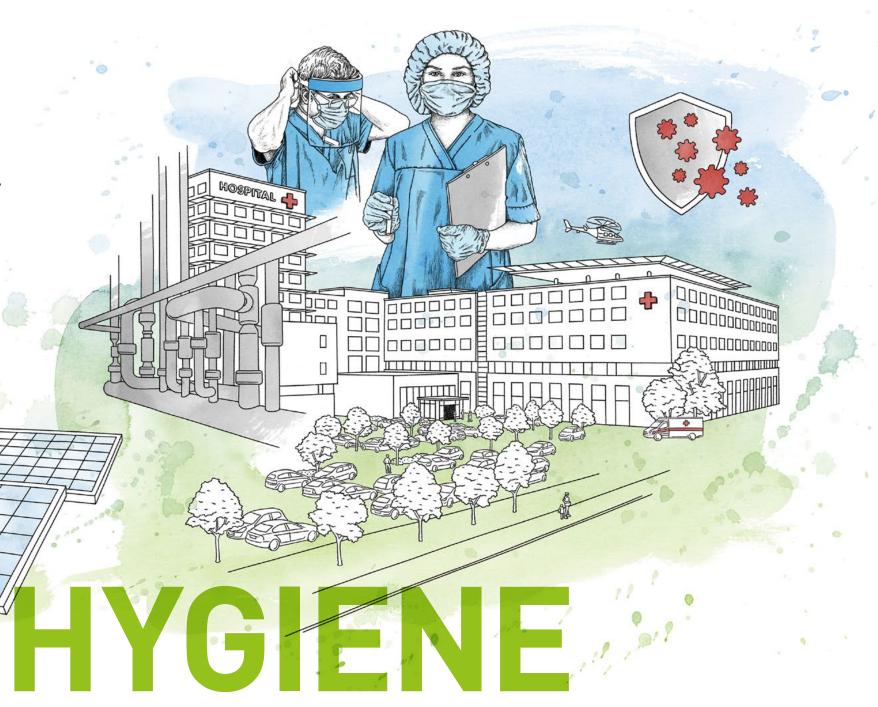
We apply the rules, regulations and specifics of local markets, and act accordingly.

Energy saved, noise reduced, food kept fresh, more comfort and safety – that is what increasingly matters in life. Whether people are at work or play, home or leisure, their lives are constantly being enhanced by our products' superior performance.



### WHAT MATTERS FOR OPTIMAL MEDICAL CARE

Hospitals and healthcare facilities have very strict hygiene and safety requirements to ensure patients enjoy optimal medical care. Through partnering with Armacell, they benefit from top-class indoor air quality, high energy efficiency, acoustic comfort, fire safety and reliable equipment.



ARMACELL ANNUAL REPORT 2021



Energy efficiency, urbanisation, acoustic comfort and vibration control, globalisation of the food supply chain, lightweighting, renewable energies and sustainability: megatrends are shaping everyday life around the world. Our high-performance products and solutions are delivering the value-enhancing answers markets are demanding. Answers we develop in close collaboration with our customers globally.

Customers in the residential, commercial, industrial, transportation, energy, and sports & leisure markets have very different insulation requirements. What they need is covered by our diverse mix of fit-for-purpose products and made-to-measure solutions.





### ArmaFix™

All mounting and fixing solutions

### **ArmaGel**®

All products based on aerogel technology

### ArmaLight™

All polyethylene-based materials

### **ArmaPET®**

All PET-based foams

### ArmaProtect™

All fire protection solutions

### **ArmaSound®**

All industrial acoustic solutions (incl. energy)



Enhancing guest experience while improving efficiency is a key challenge in the hospitality industry. Armacell's best-in-class equipment insulation and acoustic solutions save energy, help reduce operating costs and contribute towards a safer and more comfortable hotel environment.



# REGULATORY TRENDS



Ensuring efficient energy use in complex buildings is a challenging task.

The regulatory trends of relevance to Armacell are mainly those aimed at saving energy, reducing  $\mathrm{CO}_2$  emissions, mitigating noise pollution and improving fire safety. Increasingly strict regulatory requirements have been laid down by international treaties, government and industry regulations, and third-party certifications. Possibly the most influential moves have come from the EU, with its aim of cutting  $\mathrm{CO}_2$  emissions by at least 55% by 2030, and the 2021 UN Climate Change Conference (COP26), with its prime goal of securing global net zero by mid-century and keeping 1.5°C within reach. Mitigating climate change really matters for the future of our planet. Armacell's energy-saving solutions are addressing these sustainability goals.

### Buildings - key to tackling climate change

Throughout their life cycle – from initial construction to ultimate renovation or replacement – buildings consume energy, water and raw materials, all while generating waste and  $\mathrm{CO}_2$  emissions. International and governmental regulations, building codes and green building certifications such as LEED® or BREEAM® all aim to minimise the impact buildings have on the environment. This is even more important as increasing urbanisation and expanding commercial and industrial development, particularly in East Asia, are driving the demand for new buildings. At the same time, rising environmental concerns, high and volatile energy prices, and the impact on the health and comfort of building occupants are increasing awareness of the need for sustainable building insulation solutions.

Buildings account for 30-40% of  $\mathrm{CO_2}$  emissions and 40% of energy consumption worldwide. The energy savings Armacell insulation products make possible in HVAC ducts and systems, hot and cold water, heating, plumbing and refrigeration systems are thus key to a more sustainable future while Armacell's acoustic solutions are making life more pleasant for building occupants.

// Energy efficiency: Technical equipment is the second-most important source of energy losses from buildings worldwide; effective insulation is the number one energy-saving opportunity to reduce GHG emissions. Armacell has a broad portfolio of equipment insulation solutions to enhance the energy efficiency of buildings – old and new.

### REGULATORY TRENDS

Quieter, safer trains will encourage more people to switch from road to rail.





10

- // Noise mitigation: 20% of Europe's population is exposed to harmful noise levels; the mega-cities of Asia, Africa and the Americas are even louder. Armacell's acoustic insulation solutions decisively reduce noise pollution in buildings.
- // Recycled materials: France, for example, has introduced a new environmental regulation (RE 2020) to improve the carbon footprint of buildings and encourage recycling and reuse. 20% of the materials used in construction are now to be sustainable. Armacell offers the ideal solution as its ArmaPET® insulation products are made from recycled plastic bottles.
- // Fire-stoppers: One of Armacell's more recent innovations, ArmaFlex® Ultra with FlameDefense™ technology, combines best-in-class foam insulation with certified passive fire protection (PFP). This product was the first flexible elastomeric foam insulation to receive UL classification (UL 723), which means occupants and first responders have more time to escape or enter a burning building. The same is true of Armacell's patented ArmaPrene™ technology, as it reduces smoke development to improve visibility and respiration for building occupants. This is particularly relevant as building codes are evolving to include low smoke requirements.

»Our solutions help to mitigate climate change by saving energy.«

### Rail vehicles - enabling climate-friendly mobility

Railways are the most eco-friendly means of transport. Persuading people to switch from cars and planes to trains and businesses to move goods by rail are two ways of reducing our dependence on fossil fuels and making mobility more climate-friendly. The lighter a train, the more energy-efficient and cost-effective its operation becomes. Armacell's lightweight insulation and foam core materials offer the rail vehicle industry several significant advantages.



- // Fire-safe insulation: Flexible closed-cell insulation with integrated fire protection complying with the rail industry's strict EN 45545-2 fire safety standard ArmaFlex® Rail offers both, along with condensation control and improved indoor air quality.
- // Space-savers: In post-pandemic times, passengers want more space in a train. ArmaGel® Rail offers ultra-thin thermal and acoustic insulation with an excellent spaceto-volume ratio.
- // Acoustic comfort: Quieter trains are key to enhancing travel experience and attracting more passengers. The ArmaComfort™ Rail and ArmaComp™ Monarch product range offers best-in-class sound attenuation.
- // Improved carbon footprint: For structural sandwich applications in rail vehicles, ArmaPET® Struct products made from recycled plastic bottles offer a lightweight, durable solution for safer and more sustainable rail operations.

Rail travel is only one of the many application areas where Armacell products are making a difference by fulfilling regulatory requirements and offering customers sustainable solutions that benefit the environment, help to mitigate climate change and – a key point – are good for business. After all, what good are the most high-minded regulations if they are not put into practice?

### **TRANSPORTATION**



# CO-ENGINEERING & TEAMWORK



At Armacell, system solutions are always the outcome of co-engineering based on close collaboration with a customer.

Our expertise and experience in co-engineering are grounded on many years of projects conducted with customers from a wide range of end markets. Our partners in the co-engineering cases outlined here were from the shipbuilding, rail and wind energy industries, yet co-engineering for us goes beyond industrial projects. A pioneering application in Vienna's world-famous Burgtheater took Armacell into the world of culture. The common denominator in these highly diverse projects is that true teamwork is key to a successful conclusion.

### Collaborating with a leader in cruise shipping

Meyer Werft is one of the world's biggest and most modern shipyards. Founded in 1795, this seventh-generation family firm has specialised in building cruise ships since the 1980s. With shipyards at Papenburg and Warnemünde in Germany and Turku in Finland, the Meyer Group has built some of the world's most famous 'floating hotels'.

Since the 1990s, Armacell has been closely collaborating with this shipyard to deliver system solutions for insulating ship's piping based on AF/ArmaFlex® and ArmaFix® AF. Wall penetration is a significant fire protection issue on ships. To fulfil the Marine A60 insulation criteria, Armacell and Meyer Werft have cooperated in recent years to obtain A60 specification for ArmaProtect™ as piping insulation. A co-engineering project with a Dublin-based converter achieved IMO specification for the fire-protection properties of Arma-Chek® Juna, so this material could be used to insulate on-board beverage pipes. To ensure all insulation material functions perfectly, Armacell and the shipyard run regular training sessions for installers.

Can Armacell come up with a customised "Yes. Tell us your specific requirem and we'll developed and we'll developed."

»Yes. Tell us your specific requirements, and we'll develop precisely the right solution.«







Armacell's system solutions insulate piping on cruise ships built at Meyer Werft.

The foam core material for state-of-the-art wind turbine blades comes from Armacell.



### Co-engineered fire protection for rail vehicles

Enhancing space and energy efficiency is a key challenge for the rail industry. Armacell's ArmaFlex® Rail and ArmaGel® Rail help to make trains lighter, more efficient and more comfortable for passengers.

One recent example of a successful co-engineering project was the result of an idea put forward by the Swiss Federal Laboratories for Materials Science and Technology (EMPA). The resultant product, an aerogel blanket known as ArmaGel® Rail, achieved certification to the EN 45455 European railway standard for fire safety with the highest Fire Hazard Level 3 classification. In other words, this aerogel insulation material is ideally suited for installation in rail vehicles that travel through tunnels, for example. Another advantage of ArmaGel® Rail is that it takes up less space than competitors' products. And compact, lightweight, fire-safe insulation material is precisely what rail vehicle manufacturers want.

### Working to reduce waste from wind turbines

Thousands of blades are produced and installed in wind farms all over the world every year. Some are now over 100 metres long. For such enormous blades, a lightweight and extremely sturdy construction is more important than ever.

For over a decade, Armacell has been cooperating with a wind industry leader to deliver the foam core material for blades. As Armacell knew this customer wanted a blade with a lower-density core, it spent nearly nine months developing a product that met the customer's specifications. To comply with the customer's desire for leaner, greener and cleaner operations, Armacell committed to shorter-distance deliveries of its ArmaPET® products. By enabling replacement of balsa wood (ecologically suspect) with ArmaPET® (made from recycled plastic) as the core material for turbine blades, Armacell has enabled a significant step forward in sustainable sourcing.

### Because culture matters

ArmaSound® on stage – an unlikely combination? Not at Vienna's prestigious Burgtheater. Shredded ArmaSound® as the raw material for theatre props offers the key advantages of self-extinguishing, non-fire-propagating properties and acoustic insulation. This co-engineering project was launched after an enquiry from the Burgtheater. In the global theatre scene, there is great potential for these resource-conserving, environmentally sound props.

# SUPPORT & SERVICES

At Armacell, we see ourselves as a pioneering provider of industry-leading solutions in insulation technology. That means offering high-quality products and system solutions and providing our customers with the know-how, assistance and support they need for their installation and application. Through time-saving help in obtaining green or wellness building certification, practical calculation tools, various training measures or a Building Information Modelling (BIM) plug-in, for example, the support and services we offer are making a real difference in applications around the world.



LEED® and BREEAM® are two of the world's leading green building certification schemes. WELL® certification is focused on the impact of a built environment on human health and wellbeing. Nowadays, commercial and residential new buildings are required to fulfil an increasing number of green, clean standards, particularly in more advanced economies. Moreover, the construction industry and building occupants are becoming more and more environment-conscious.

// Our compliance cards assist designers, architects, engineers, consultants and developers by providing clear information about which features of our ArmaFlex® insulation products are of relevance to each certification scheme's specific categories. The respective requirements are listed in detail, along with how ArmaFlex® achieves compliance. This saves construction companies, building owners and operators and installation firms a great deal of hassle in applying for LEED®, BREEAM® or WELL® certification.



### Just how thick does thermal insulation material have to be?

This is a key question for specifiers, mechanical engineers, contractors and installers. After all, if the insulation is too thin, it will not do its job; and if it is too thick, it will take up too much space and cause the user unnecessary expense. That is why Armacell has developed a professional insulation thickness calculator tool (e.g. ArmaWin) with rules for calculating the heat transfer-related properties of building equipment.

// This stand-alone, cloud-based tool can be downloaded free from the Armacell website. Besides calculating the minimum insulation thickness required for a particular application, it also determines surface temperature, heat flow, temperature changes in flowing and stationary media, freezing times for water pipes and the most economical insulation thicknesses, i.e. those with the shortest payback periods. All in all, a most practical tool for the everyday work of installing Armacell's premium insulation products to ensure they deliver the best possible performance.





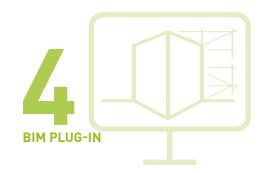
A BIM plug-in allows 3D simulation of technical equipment insulation to simplify and speed up planning.

Professional insulators and HVAC installers profit from practical product training.



Armacell offers customers application training, product knowledge and holistic advice through a variety of installation and application manuals, online tools and digital platforms.

- // Our practical seminars for customers worldwide give them a competitive edge by providing direct access to the latest products and most recent installation techniques. Participants who successfully complete a course of training receive either a passport or a certificate to verify their achievement.
- // Regular webinars are hosted for customer segments such as professional insulators, HVAC installers and refrigeration manufacturers. In addition, exclusive webinars are organised, on request, to train insulators from a single contractor on specific product applications. And to reach an even wider audience, specialists also provide detailed tips and instructions on how to install Armacell products and solutions via the company's corporate YouTube account.
- // The Armacell Academy launched in 2021 in North America is a free online learning platform designed to enhance the knowledge level of internal and external stakeholders, e.g. specifiers, contractors and distributors of our insulation products, and converters, fabricators and OEM customers of our engineered foams.



**Building Information Modelling (BIM)** is a computerised means of modelling in three dimensions the precise details of a construction's design, engineering and architecture.

- // BIM enables a construction process to be simulated prior to its execution, which helps to detect potential design or logistics issues early on and ultimately improves productivity.
- // Armacell offers a BIM plug-in that allows the technical equipment insulation for a building to be planned digitally, which is a faster and more efficient solution than doing it manually. This plug-in tool accesses all the data required, feeds it into the model and supports the user in selecting and configuring products. This error-free solution makes faster and simpler insulation planning possible.

### WHAT MATTERS FOR CLIMATE-FRIENDLY ENERGY

Climate change can only be mitigated by reducing our reliance on fossil fuels. Our rPET products made from recycled plastic bottles are used in sandwich constructions for the rotor blades of wind turbines. Over the years, they have helped to generate wind power equivalent to the output of around a hundred standard 500 MW coal power plants.





# BEYOND BETTER IN PLANNING AND IMPLEMENTATION

Teamwork in practice: At Armacell, we first listen to the differing needs of our customers in the various sectors. Then, we work closely with their specialists to develop and implement tailor-made solutions. In doing so, we employ our expertise to provide advice and prescribe system solutions that will achieve "Beyond Better" project performance.



### PLANNERS/CONSULTANTS

// We actively support architects, planners and specification consultants with the relevant information and application advice they need to transform their clients' demands into required reliable and long-lasting equipment specifications.

### **KEY ENGINEERING PARTNERS**

- Architects, planners & specifiers
- Mechanical, electrical & plumbing engineers
- HVAC consultants
- Energy segment consultants (EPCs)

### **CONTRACTORS/INSTALLERS**

// High quality standards and professional expertise are required to ensure Armacell products deliver on their promised performance. We offer technical and application support in dedicated training centres or on-site to ensure equipment systems and facilities function properly.

### **KEY INSTALLATION PARTNERS**

- General & mechanical contractors
- Specialist insulation companies
- HVAC installers & plumbers



### **DISTRIBUTION PARTNERS**

// Armacell is reliant on distributors and wholesalers who deliver to their customers on time, in the required quality and at the right price. The close relationships we enjoy with our distribution partners are proof that our products meet their requirements.

### **KEY CHANNELS**

- Insulation wholesalers
- HVAC equipment outlets
- Refrigeration specialists
- Building material distributors
- Heating & plumbing companies



### **OWNERS/OPERATORS**

// Building equipment is mostly invisible but essential for the performance of an entire building. We emphasise the long-term performance of our products and system solutions to building/facility owners and operators.

### **KEY FACILITY PARTNERS**

- Building/industrial operators
- Real estate developers
- Facility/hospital managers

### **OEM MANUFACTURERS/CONVERTERS**

/ We provide original equipment manufacturers and conversion specialists with tailor-made solutions on demand, and at the same time ensure full integrability into their operations and commercial activities.

### KEY SEGMENTS

- HVAC equipment manufacturers
- Fabricators
- Automotive/rail/marine equipment manufacturers
- Pre-insulated pipe producers
- Wind turbine producers







### BREAKING NEW GROUND

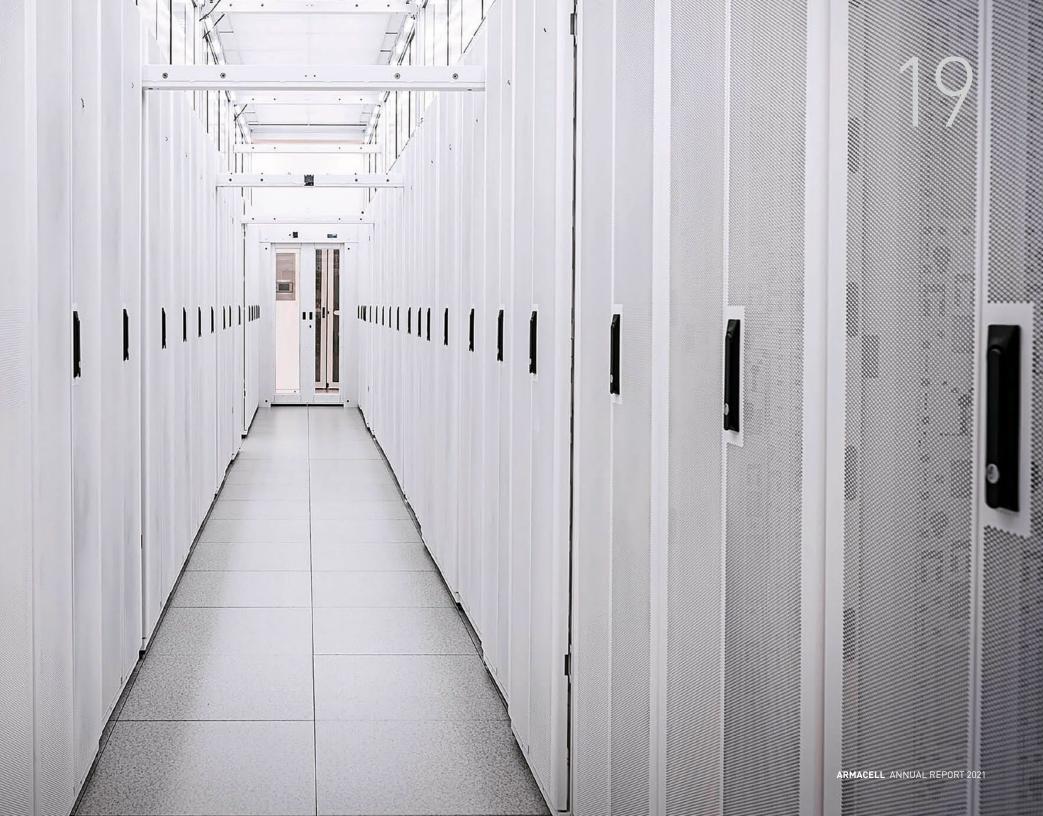
Powered entirely by renewable energy sources, the EcoDataCentre in Falun, Sweden, is the world's first climate-positive data centre. The excess heat from the large-scale facility is fed back to a heating plant where it is used to heat surrounding properties and produce biofuel.

### MAKING A DIFFERENCE

Due to its superior performance and flexibility, AF/ArmaFlex® tubes, sheets and the adhesives provided the right insulation for the data centre's innovative chassis-liquid cooling system.

### 1,000 m<sup>2</sup>

AF-19 mm sheets and 300 m AF-4 tubes



### **A WINNING FIELD**

For safety and performance, the success of a synthetic field starts under the turf. Armacell's turf underlayment shock pad, ArmaComp™ ArmaSport® TU2, achieved that goal for the University of Maryland's Field Hockey & Lacrosse Complex, which needed a winning field for their champions.

### **UNDERNEATH THE SURFACE**

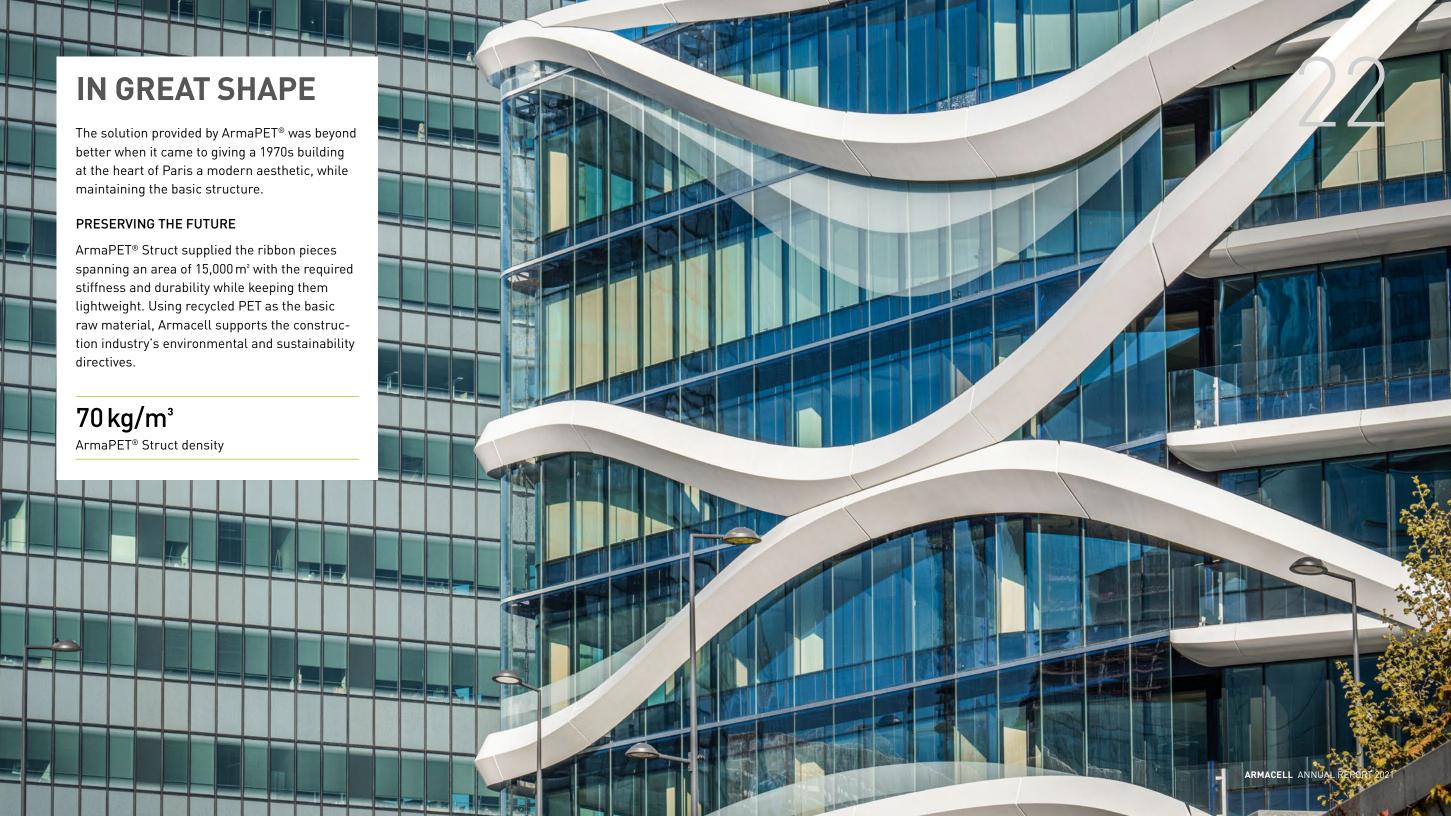
ArmaSport® pads are made of closed-cell foam manufactured in several thicknesses to meet the strictest specifications. Supplied in rolls, the long lengths and turf-carpet widths make installation fast and easy.

### 7,000 m<sup>2</sup>

ArmaSport® TU2 underlayment shock pad

**ARMACELL** ANNUAL REPORT 2021





# PERFORMANCE

ENABLING ENERGY EFFICIENCY FOR EQUIPMENT WORLDWIDE

24 PLANTS IN 16 COUNTRIES

€677m

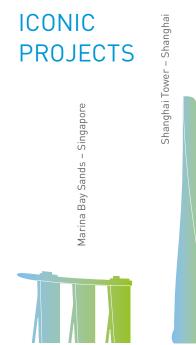
€527m NET SALES €150m NET SALES ADVANCED INSULATION ENGINEERED FOAMS

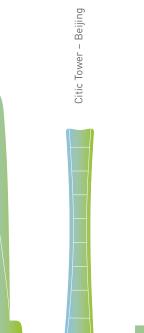
> €117m ADJUSTED EBITDA

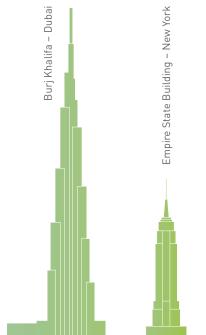
3,269 **EMPLOYEES** WORLDWIDE

**45**%











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### LETTER FROM THE CEO



# DEAR FRIENDS OF THE COMPANY,

when it matters — the theme of our annual report aptly describes 2021. This pandemic has taught us at a personal level what really matters in life. In the world of business, it is no different. When it really matters, it is through planners, implementers and Armacell working together well that added value is created. By staying in close contact with our customers and focusing on their needs, we have once again been making a difference around the world. When times are tough, that matters.

### Servicing global customers in a challenging year

In 2021, our business was affected by challenging economic circumstances: significantly higher raw material costs, raw materials in short supply, sea freight fraught with difficulties. In this context, our historically high sales were remarkable. Once again, Armacell has confirmed the strength of its business model and demonstrated its resilience.

### →»In a very challenging year, our record sales were remarkable.«

2021 was a year of fast recovery and capacity expansion. In the U.S., we purchased a production line for cross-linked polyethylene foams. In Turkey, we commissioned a new line for flexible elastomeric foam products at our manufacturing facility in Bursa. In China, we opened the first acoustic barrier production line at our Yingde plant and in Belgium, we inaugurated two new PET production lines in Thimister. In January 2022, we acquired the engineering business of SpiderPlus & Co. Ltd, Tokyo, Japan. Over the past twelve months, we launched important new products, such as ArmaFlex® Evo and ArmaPET® Eco. For ArmaGel®, 2021 was also an important milestone, and we had a significant project delivery for our aerogel blanket product.

The common denominator in all these developments is our continuing high level of investment to strategically increase our production capacities and capabilities, improve our product portfolio and manage our innovation project portfolio to sustain the company's growth.

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### LETTER FROM THE CEO

### **Business performance**

In the financial year ending 31 December 2021, our net sales rose by 14.6% from €590.5 million in 2020 to €676.6 million. Our adjusted EBITDA in 2021 was €116.8 million, and our adjusted EBITDA margin 17.3%. The net sales figures recorded by our business units were as follows: Advanced Insulation EMEA €250.7 million (+16.0%), Advanced Insulation AMERICAS €164.8 million (+13.0%), Advanced Insulation APAC €110.9 million (+20.3%) and Engineered Foams €150.1 million (+10.0%).

→ »Our innovative technologies are helping to make a more sustainable future possible.«

### Raw material shortages and cost inflation

Global supply chains are still under pressure for a wide variety of reasons, including labour shortages in key economies, severe congestion at major U.S., Chinese and European ports, and China's zero-tolerance Covid-19 policy, which is impacting the country's manufacturing output.

To cope with raw material bottlenecks, the shortage of suitable sales and production personnel and huge increases in energy costs, we changed some recipes and were always able to maintain our output levels despite the scarcity of some raw materials due to extraordinary demand. Our global procurement, logistics, operations and product conformity teams did a great job in analysing potential supply chain interruptions as early as possible and obtaining alternative suppliers or delivery routes.

Throughout the year under review, our production costs were constantly climbing due to soaring raw material, energy and freight costs. In the second half of the year, we raised our sales prices to offset the impact on our margins. In 2022, we are continuing to pass on these higher input costs to the market, and our customers generally accept our pricing policy.

### Making a sustainable future possible

In 2021, we put even greater emphasis on sustainability in our operations. In the development of innovative thermal, acoustic and mechanical solutions, we are particularly concentrating on aspects of relevance to climate, energy consumption and carbon emissions.

What we saw throughout 2021 was that our innovative technologies are helping to make a more sustainable future possible. They also open up new business opportunities, for example, by significantly reducing the density of our flexible elastomeric foam products and advancing our passive fire protection business. Armacell's high-performance rPET foams, which are manufactured from recycled plastic bottles, are also creating new business opportunities with a focus on insulation.

On behalf of the Executive Management Team, I should like to express our sincere gratitude to our customers and business partners for their continued trust in Armacell, and to all our employees for their passionate commitment to "making a difference around the world".

Yours sincerely,

Patrick Mathieu

President and CEO Armacell Group **CORPORATE STRATEGY** 

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CORPORATE RESPONSIBILITY

### 2022 EXECUTIVE MANAGEMENT TEAM

Armacell's executive team comprises ten highly experienced international managers representing six nationalities and a diverse set of skills. Their common purpose is to drive the company's future growth by fostering innovation, encouraging commitment and promoting entrepreneurship.



Adrian Yeandle
Chief Legal & Ch
Compliance Officer
Officer

Manages the legal and compliance affairs within the Armacell Group, ensuring that our operations comply with applicable laws and internal regulations.



**Roberto Mengoli** Chief Technology Officer

Safeguards and monitors the highest possible quality and safety standards by systematically optimising structures and processes throughout Armacell.



**Sophie Ancelin**<sup>1</sup> Chief Human Resources Officer

Fosters the talents of 3,000+ employees to enable Armacell's global growth and leads all training, talent acquisition and career development activities.



Wim Van Acker<sup>1</sup> Chief Financial Officer

Develops Armacell's strategic choices through capital structure optimisation, management of financial resources, taxation and risk, and efficient capital utilisation.



Guillerme Huguen<sup>1</sup> Chief Strategic Development Officer

Leverages his deep understanding of our industry, implements Armacell's external growth strategy, and heads corporate communications, innovation and purchasing.



Patrick Mathieu<sup>2</sup>
Chief Executive
Officer

Sets and executes Armacell's strategy in making the company a truly global leader in advanced material technologies and energy efficiency around the world.



**Ciro Ahumada** Vice President AMERICAS

Energises the synergies from multiple acquisitions in North and South America to deliver profitable, high-quality product solutions.



**Liam Douglas** Vice President APAC

Strives to strengthen Armacell's position and set up the Asia Pacific region for additional growth through a wide range of tailored solutions.



Bart Janssen Vice President Engineered Foams & Energy

**Malte Witt** 

Vice President

**EMEA & Chief** 

Marketing Officer

Grows Armacell's

shares in Europe.

position and market

enables a customer-

centric culture and

adds value through

sales & marketing

excellence programs.

Drives the development of the PET, Component Foams and Energy businesses, with a strong focus on nurturing the sustainability of product lifecycles.



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CORPORATE RESPONSIBILITY

<sup>&</sup>lt;sup>1</sup> Member of the Management Board

<sup>&</sup>lt;sup>2</sup> Chairman of the Management Board

### STRATEGY

Our vision is to be the global leader in providing innovative, technical insulation solutions and components to save energy and make a difference around the world.

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CURPURATE RESPUNSIBILIT

### **STRATEGY**

At Armacell, we continuously invest in the expansion of our production capacities and focus on creating sustainable value for our highly diversified global customer base. We have a long track record of growth, superior profitability and cash generation orchestrated by a proven management team who have positioned Armacell as the trusted partner in the energy conservation market.

### **GROWTH**

- // Operating in the €12bn global equipment insulation market
- // Multi-pillar growth strategy
- // Organic long-term growth rate of insulation business at approximately 5% p.a.
- // Total growth target of approximately 10% p.a. (including inorganic growth)

### **RESILIENCE**

- // Strategic development at the heart of six global megatrends
- // Broad range of end markets
- // Diversification across equipment verticals
- // Resilient through economic cycles
- // Asset- and capital-light business model
- // New opportunities from growing environmental awareness

### **MULTI-MATERIAL**

- // Successful track record of expanding into adjacent technical insulation sectors
- // Extension of temperature range and application horizon
- // Broadening of core insulation business, including rPET and aerogel
- // Addressable market size increased from €6bn to €12bn during the past investment period

### **INNOVATION**

- // Recognised as an industry and technology leader
- // Innovation is an integral part of our DNA
- // Driving industry-leading solutions and new technologies
- // Dedicated teams continuously develop IP portfolio (e.g. 350+ patents)

### **EXCELLENCE**

- // World-class standards and pioneering technologies protecting market leadership
- // Energy-efficient solutions
- // Reliable, certified product performance and extended lifetime
- // Operating efficiency and execution excellence
- // Governed by the World-class Armacell Mindset (WAM)

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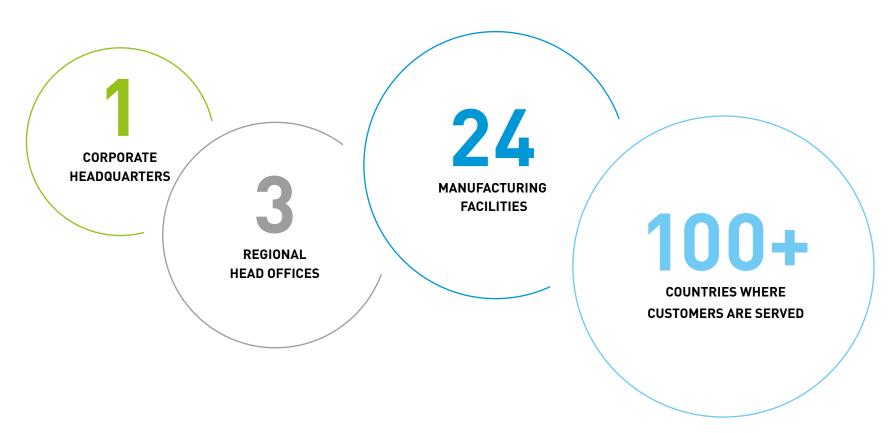
CORPORATE RESPONSIBILITY

FINANCIAL RESULTS

### FINANCIAL STRENGTH

- // Armacell's financial strategy drives dynamic growth
- // Best-in-class profitability levels
   (low capital intensity, high cash conversion)
- // Optimal use of raw materials, natural resources and energy
- // Maximum operational efficiency and low production costs

### **GLOBAL PRESENCE**



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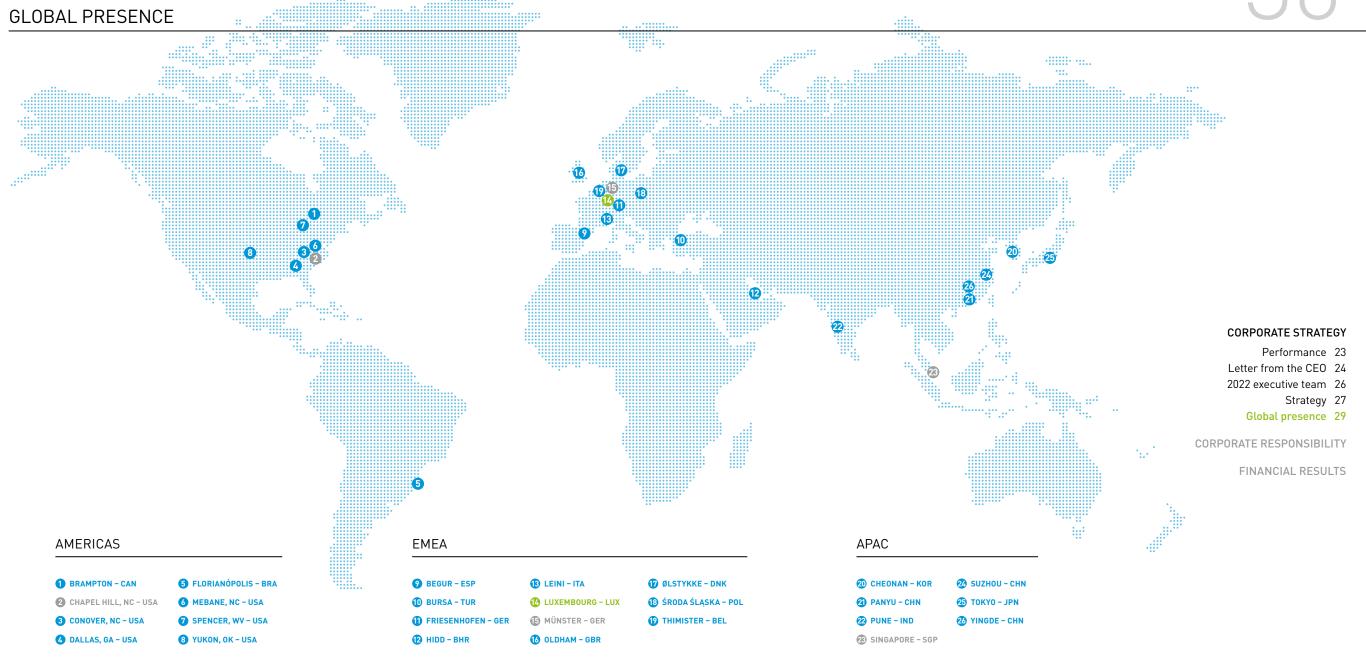
**CORPORATE RESPONSIBILITY** 

FINANCIAL RESULTS

### Global presence, local focus

Armacell is a truly global company managed from its corporate headquarters in Luxembourg and regional head offices in Germany, the USA and Singapore. Four product innovation centres spread around the world ensure a steady supply of pioneering innovations to meet customer and market requirements. Armacell customises its products locally at 24 manufacturing plants in 16 countries to guarantee a customer-centric product portfolio. In 2022, the global network was extended through the addition of new facilities in Japan and Singapore.

Throughout the world, Armacell works with national teams headed by local managers. In countries where Armacell does not have its own facilities, sales offices and distributors extend the Group's presence to guarantee a global network. With its regionally diversified production footprint, Armacell has long been a pioneer in exploring new geographies and is focused on expanding into fast-growing markets.



# CORPORATE RESPONSIBILITY

### COMMITTED TO ESG

Our environmental, social and governance (ESG) responsibility is expressed in our efforts to create sustainable value for our customers. We achieve this by placing sustainability at the heart of our business strategy, investment in innovation and product development. We work to ensure sustainability-related activities in core areas such as health and safety and environmental management are deeply integrated into our day-to-day operations. In striving to embed sustainability across the Armacell Group and in our employees' minds, we focus on four areas of commitment: Employees First – Furthering Sustainable Growth – Protecting our Planet – Enabling Governance.





CORPORATE STRATEGY

### CORPORATE RESPONSIBILITY

Committed to ESG 31

Areas of commitment 32

Sustainable development goals 34





### AREAS OF COMMITMENT



- // Providing a safe place to work and promoting employee satisfaction and people engagement
- // Fostering equal opportunities to grow and succeed at all levels
- // Improving the quality of life in local communities

310/o fewer lost-time accidents (LTAs) than in 2015

Safety at work



Gender diversity

23%

of our global and diverse workforce are women

# FURTHERING SUSTAINABLE GROWTH

- // Investing in low-impact and durable performance for our customers through innovative products and solutions
- // Maintaining the highest product **quality**standards and extending our sustainable
  solutions portfolio
- // Meeting regulatory requirements and demonstrating design capability to enhance safety and energy efficiency in our solutions

Quality management

Output

Ou



Innovative leadership

350+

active patents in 60 patent families – evidence of our innovative strength

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### AREAS OF COMMITMENT



- // Contributing to the transition to a low-carbon economy and reducing direct/indirect CO<sub>2</sub> emissions through innovative solutions
- // Developing design solutions that preserve natural energy resources
- // Promoting recycling of materials in our innovative solutions and accelerating our journey towards a circular economy

Saving energy

140x

more energy saved in an ArmaFlex® product lifetime than required to manufacture it



Climate-friendly

37x

fewer CO<sub>2</sub> emissions through manufacturing products using recycled PET flakes

# ENABLING GOVERNANCE

- // Driving compliance and fostering a culture of robust business ethics
- // Complying with the **laws and regulations** applicable in every country where we do business
- // Protecting our business continuity and reputation (supply chain management)

Anti-corruption

ZERO

-tolerance policy towards any form of corruption



UN Global Compact (UNGC)

10

principles of the UNGC we follow to conduct business in a responsible and ethical way

CORPORATE STRATEGY

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### SUSTAINABLE DEVELOPMENT GOALS

The UN 2030 Agenda for Sustainable Development defines a blueprint for peace and prosperity for people and our planet. The 17 Sustainable Development Goals (SDGs) at its heart are a call for action to countries and companies worldwide to play their part in achieving these goals. At Armacell, we are particularly committed to three SDGs that are intrinsically linked to our business.



# INNOVATIVE TECHNOLOGY

We develop and market innovative products and solutions that conserve energy and enable lightweighting solutions in the automotive, rail and wind energy industries.



More information about sustainability is available on our website:
www.armacell.com/sustainability

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FINANCIAL RESULTS



# HIGHER ENERGY EFFICIENCY

By enhancing energy efficiency and lowering  ${\rm CO_2}$  emissions in a wide range of industries, our products enable a more effective global response to climate change.



# LESS PLASTIC POLLUTION

Plastic debris is polluting the world's oceans. Our structured PET foams are made from recycled plastic bottles, which might otherwise have ended up in lakes, rivers or seas.



### FINANCIAL RESULTS

- // Net sales rose by 15% to €677 million by the end of 2021
- // Adjusted EBITDA at €117 million, resulting in an adjusted EBITDA margin of 17.3%
- // High level of investment to advance product portfolio and innovation
- // Continued price increases and other mitigating actions to compensate for higher input costs
- // Volume growth in all divisions confirms the strength of the business model and proves Armacell's resilience

### **CORPORATE RATINGS**



### **KEY FINANCIAL FIGURES**

201 <b>7</b> 8	2018	2019°	2020	2021
600.3	610.3	644.4	590.5	676.6
103.8	106.0	133.5	119.6	116.8
17.3%	17.4%	20.7%	20.2%	17.3%
84.8	86.4	102.7	87.5	80.9
14.1%	14.2%	15.9%	14.8%	12.0%
49.6	48.2	65.8	48.6	42.1
83.9	94.3	129.1	100.6	70.8
41.0	46.0	44.3	44.2	41.4
43.4	48.9	85.6	57.9	30.5
210.5	252.8	265.2	268.4	286.5
966.0	978.9	1,020.6	1,437.4	1,347.1
132.4	184.6	1,272.7	185.3	214.7
1,044.1	1,047.1	13.1	1,520.5	1,418.9
276.4	253.4	249.5	530.1	455.2
603.5	623.3	621.4	736.2	752.5
	600.3 103.8 17.3% 84.8 14.1% 49.6 83.9 41.0 43.4 210.5 966.0 132.4 1,044.1	600.3     610.3       103.8     106.0       17.3%     17.4%       84.8     86.4       14.1%     14.2%       49.6     48.2       83.9     94.3       41.0     46.0       43.4     48.9       210.5     252.8       966.0     978.9       132.4     184.6       1,044.1     1,047.1       276.4     253.4	600.3     610.3     644.4       103.8     106.0     133.5       17.3%     17.4%     20.7%       84.8     86.4     102.7       14.1%     14.2%     15.9%       49.6     48.2     65.8       83.9     94.3     129.1       41.0     46.0     44.3       43.4     48.9     85.6       210.5     252.8     265.2       966.0     978.9     1,020.6       132.4     184.6     1,272.7       1,044.1     1,047.1     13.1       276.4     253.4     249.5	600.3       610.3       644.4       590.5         103.8       106.0       133.5       119.6         17.3%       17.4%       20.7%       20.2%         84.8       86.4       102.7       87.5         14.1%       14.2%       15.9%       14.8%         49.6       48.2       65.8       48.6         83.9       94.3       129.1       100.6         41.0       46.0       44.3       44.2         43.4       48.9       85.6       57.9         210.5       252.8       265.2       268.4         966.0       978.9       1,020.6       1,437.4         132.4       184.6       1,272.7       185.3         1,044.1       1,047.1       13.1       1,520.5         276.4       253.4       249.5       530.1

### NOTES

- <sup>1</sup> Consolidated financial statements for 2020 were prepared for Neptune Holdco and included ten months of Armacell Group activities in 2020.
- <sup>2</sup> Adjusted for non-recurring items.
- <sup>3</sup> Adjusted for non-recurring items and asset impairments.
- <sup>4</sup> Adjusted for impairment loss on goodwill in 2021.

- <sup>5</sup> Adjusted for non-recurring items, depreciation and interest expenses on lease in 2019.
- <sup>6</sup> Adjusted for depreciation and lease interest expenses in 2019.
- <sup>7</sup> Includes shareholder loans.
- <sup>8</sup> Adjusted for expenses related to closure of operation.
- <sup>9</sup> IFRS 16 applied since 1 January 2019.

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# REPORTING STRUCTURE

On 4 December 2019, private equity funds managed by PAI Partners S.A.S. and KIRKBI Invest A/S, shareholders of Neptune Holdco S.à r.l. agreed to acquire Armacell Holdco S.à r.l. a limited liability company registered in Luxembourg and shareholder of Armacell International S.A. (hereafter also referred to as "Armacell" or "Armacell Group"). The transaction was closed on 28 February 2020. The Armacell Group's fiscal year starts on 1 January and ends on 31 December of each year.

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. The company focuses on insulation materials for technical equipment, high-

performance foams for high-tech and lightweight applications and next-generation aerogel blanket technology.

The Armacell Group is organised into two business divisions: Advanced Insulation and Engineered Foams.

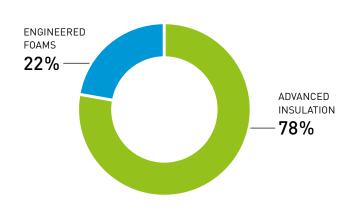
#### ADVANCED INSULATION

The Advanced Insulation (AI) division provides flexible foam insulation solutions to insulate technical equipment used for the transportation of energy. The typical applications include HVAC, heating and plumbing, refrigeration, industrial, energy, commercial and residential infrastructure, acoustics and passive fire protection. The principal value creation of the AI division is the co-design of energy-efficient installations. It is managed across three principal regions: Europe, the Middle East and Africa (EMEA), North and South America (AMERICAS), and Asia Pacific (APAC).

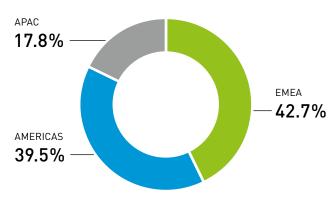
#### **ENGINEERED FOAMS**

The Engineered Foams (EF) division develops and produces custom-made high-performance and lightweight foams used across a broad range of end markets, including wind energy, transportation, infrastructure, industrial application and sports and leisure. Its portfolio consists 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. The principal value creation of the EF division is the customisation of the physical properties of semi-finished and finished components sold to converters and OEMs.

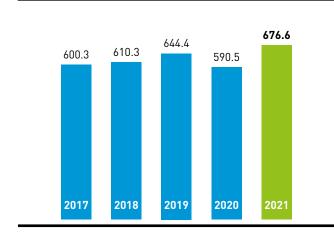
#### NET SALES BY BUSINESS DIVISION



#### **NET SALES BY REGION**



#### **NET SALES** in € million



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# OUTLOOK

In the complex and challenging environment of 2021, Armacell's business model again proved resilient, with record net sales generated in almost all geographies and business segments. Thanks to its global reach and multi-segment activities Armacell ended the year in good shape. Appropriate measures (e.g. price increases, the accelerated launch of new products and the selection of new suppliers) were taken to navigate the changing circumstances. The increasing degree of market penetration and substitution of legacy materials will be enhanced by growing public awareness of climate change and the development of new Armacell products for a wide variety of applications.

Global economic activity was less affected by the Covid-19 pandemic thanks to widespread vaccination campaigns in 2021. Overall, the global economy grew by 5.6% in 2021. In Q4, however, many countries reimposed mobility restrictions to tackle the rapid spread of a new virus variant. Other disruptive factors included supply chain issues and significantly higher inflation rates in many economies.

In 2022, the global economy is expected to grow more slowly due to ongoing supply chain issues, labour shortages in some major economies, the ongoing effects of Covid-19 and the spike in oil, gas, grain and other key commodity prices following the Russian invasion of Ukraine. Despite all this, the Group is still aiming to grow faster than the market through growth of its own base market, substitution of legacy materials and entering new geographies, markets and product applications. This growth will be both organic and external through acquisitions. In both OECD countries and emerging markets, a growing public

awareness of climate change has triggered a broad spectrum of political decisions to further the increased use of renewable energies and avoid energy wastage. For example, the European Union has repeated its commitment to reduce  $\mathrm{CO}_2$  emissions by 80–95% from 1990 levels by 2050. Armacell's senior management believes that greater environmental awareness and the sustainability trend will have a positive, long-term impact on the company's business. Insulation materials are seen as the most efficient way to save energy, while revised energy policies and regulatory frameworks are enhancing the opportunities to grow market segment shares across the entire business.

Besides the strategic initiatives undertaken in the Advanced Insulation business with the aim of becoming a leading multimaterial insulation market player, Armacell also foresees continuing growth opportunities in the Engineered Foams division that will exceed the upswing registered in 2021. Whereas in 2021, the demand for PET solutions in the wind energy market was impacted by reduced government subsidies in various countries, Armacell will continue to enlarge its customer base in the technical foams market and broaden its applications' spectrum with a focus on the transport and industrial segments. Furthermore, Armacell's high-performance rPET foams, which are manufactured from recycled plastic bottles, are also adding new opportunities with a focus on insulation.

In the R&D field, Armacell intends to strengthen its position as the technology leader and identify cross-regional opportunities for innovative products and technologies. Besides improving the company's cost basis, new recipes are also designed to significantly reduce the impact of rising raw material prices. In addition, Armacell is investing in new technologies to expand the

temperature range of its products, enlarge its product portfolio and provide customers with one-stop purchasing opportunities.

# Armacell's business model again proved resilient

These efforts will be accompanied by further improvements in productivity made possible by the substantial investment program initiated in recent years.

The opportunities outlined above are associated with the same uncertainties that are generally inherent to estimates that form the basis for corporate strategic planning. However, the outlined actions should have a positive effect on Armacell's earnings situation and financial position.

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### OUTLOOK

# // CONSTRUCTION

After the U.S. economy recorded the fastest recovery amongst the G7 economies in 2021, the outlook for its construction industry is positive overall, with 3–5% growth predicted in residential, non-residential and non-building construction output. Europe (including the UK) saw construction industry growth in 2021, but predictions for 2022 are shrouded in uncertainty due to the impact on Europe's economies of the Russian invasion of Ukraine and the related sanctions. The pace of growth in North-East Asia's construction sector is unlikely to match the high levels of the recent past.

### // TRANSPORTATION

Global production of light vehicles is expected to grow by 3.7% in 2022. The shortage of automotive-grade chips continues to affect the automotive industry and is likely to put a brake on demand. The transportation industry expects the current lightweighting, electrification and sound attenuation trends to intensify. Fuel efficiency standards are forcing manufacturers to reduce vehicle weight while advances in battery range, size and capacity are driving sales of electric vehicles. These trends are likely to boost the future demand for Armacell's Component Foams products.

# // WIND

Despite the slowdown in the expansion of global wind power capacity in 2021, the compound annual growth rate for onshore wind in the next five years is expected to be 0.3% and for offshore wind 31.5%. The future market outlook is still positive based on the resolutions passed at the UN Climate Change Conference in Glasgow (COP26) and the expectations of related government policies. The growing demand for renewable energies and the transition to sustainable energy sources are likely to make wind power the backbone of future energy supplies in many major economies.

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Sources: IMF World Economic Outlook Update (Jan. 2022), 92nd Euroconstruct Conference Summary Report, GWEC Global Wind Report 2021, Economist Intelligence Unit forecasts, IHS Markit, Carbon Brief

# **GROUP PERFORMANCE**

#### **NET SALES AND PROFIT**

In 2021, Armacell achieved total **net sales** of €676.6 million, an increase of 14.6% on 2020 (€590.5 million). This performance was driven by the continuing recovery in various markets, market share gains, sales price increases implemented to compensate for higher input costs as well as the growth of the new ArmaGel® product range. This growth was partially offset by a temporary slowdown of the wind blade industry following changes in incentive schemes in the USA and China.

Armacell generated an adjusted **EBITDA** of €116.8 million (2020: €119.6 million), which was 2.4% lower than 2020. The adjusted EBITDA margin was 17.3% (2020: 20.2%). EBITDA growth was partially offset by significantly higher raw material and freight costs. Compensating price increases and other mitigating actions were implemented, but a certain delay had to be respected beforehand.

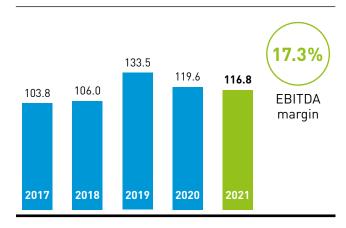
Non-recurring items totalled €10 million (2020: €33.9 million) and mainly related to shareholder-related expenses, expenditure incurred in broadening the Group's geographical footprint and restructuring expenses. The adjusted **EBITA** was €80.9 million (2020: €87.5 million) and the EBITA margin 12.0% (2020: 14.8%).

#### INVESTMENTS AND CASH FLOW

In 2021, Armacell continued to generate a strong operational **cash flow**, which was only partially offset by higher working capital needs due to strong growth and higher raw material costs. In the reporting period, the adjusted free cash flow amounted to €70.8 million (2020: €100.6 million).

In addition to the cash position and strong cash flow, the most important source of liquidity was a **revolving credit facility** of €110 million or equivalent in other currencies, of which €2.7 million was drawn as of 31 December 2021 [2020: €30 million].

#### Adjusted EBITDA in € million



### Adjusted EBITA in € million



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## **GROUP PERFORMANCE**

#### **BALANCE SHEET**

As of 31 December 2021, **total assets** were €1,633.6 million (2020: €1,705.8 million). Non-current assets totalled €1,347.1 million (2020: €1,437.4 million) and comprised property, plant and equipment totalling €313.0 million (2020: €290.9 million), other intangible assets of €376.6 million (2020: €404.1 million), goodwill amounting to €633.1 million (2020: €712.3 million) and other non-current assets of €24.4 million (2020: €30.1 million).

→ Total assets

€1,633.6 million

The decline on the prior year was largely attributable to lower goodwill and a decrease in other intangible assets and other non-current assets, which include derivative assets, plan assets for pensions and deferred tax assets. Current assets amounted to €286.5 million (2020: €268.4 million) and mainly consisted of inventories totalling €102.7 million (2020: €73.1 million), trade receivables of €87.8 million (2020: €82.2 million), cash and cash equivalents of €63.5 million (2020: €93.5 million) and other current assets of €24.9 million (2020: €13.0 million). The increase in current assets was mainly due to higher inventories and other current assets.

As of 31 December 2021, non-current **liabilities** (excluding the liabilities due to shareholders) amounted to  $\bigcirc 963.7$  million (2020:  $\bigcirc 990.4$  million). Non-current liabilities mainly consisted of long-term borrowings of  $\bigcirc 714.5$  million (2020:  $\bigcirc 746.9$  million), provisions for pensions and similar obligations totalling  $\bigcirc 104.9$  million (2020:  $\bigcirc 114.3$  million), deferred tax liabilities of  $\bigcirc 104.9$  million (2020:  $\bigcirc 114.3$  million) and other non-current liabilities of  $\bigcirc 104.9$  million (2020:  $\bigcirc 114.3$  million). Current liabilities of  $\bigcirc 114.3$  million (2020:  $\bigcirc 114.3$  million). Current liabilities of  $\bigcirc 114.3$  million (2020:  $\bigcirc 114.3$  million) included short-term borrowings of  $\bigcirc 114.3$  million (2020:  $\bigcirc 114.3$  million). The short-term liquidity ratio (excluding liabilities to shareholders) was  $\bigcirc 114.3$  million (2020:  $\bigcirc 114.3$  million (2020:  $\bigcirc 114.3$  million).

As of 31 December 2021, Armacell's economic **equity capital** amounted to €455.2 million (2020: €530.2 million). This amount included the preferred equity certificates and accrued interests subscribed by the shareholders of Neptune Holdco S.à r.l. to finance the acquisition of Armacell in 2020. At year-end 2021, the share capital was unchanged at €5.0 million, and Armacell's economic equity ratio was 27.9% (2020: 31.1%).

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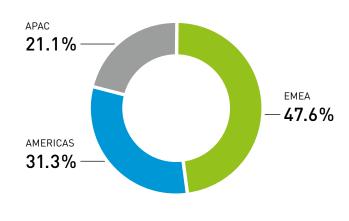
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# **BUSINESS PERFORMANCE**

#### ADVANCED INSULATION

In 2021, the net sales from Armacell's Advanced Insulation division amounted to  $\$ 526.5 million [2020:  $\$ 454.2 million], or 78% of total net sales in 2021 [2020: 77%].

#### **NET SALES BY REGION (AI)**



#### Advanced Insulation EMEA

In 2021, the EMEA business developed strongly in most core markets. As a new route to market, OEM delivered well and EMEA started to explore new applications such as passive fire protection and acoustics. To enable further growth, Armacell commissioned its new Guarto plant for acoustic products in Italy, opened a second line for flexible elastomeric foam products in Turkey, and signed new warehouse contracts in Poland.

The net sales of Advanced Insulation EMEA rose by 16.1% from €216.1 million in 2020 to €250.8 million in 2021. Excluding currency effects, sales revenues grew by over 17%. The positive sales performance in EMEA was due to a strong market recovery in the first half of 2021 and higher selling prices.

#### **KEY FIGURES - AI EMEA**

in € million	2019	2020	2021
Net sales	225.2	216.1	250.8

→ Net sales (AI)
€526.5 million

#### Advanced Insulation AMERICAS

In 2021, sales volumes in the U.S. plumbing, line-set, OEM and retail segments continued to increase. Armacell's solution portfolio approach gained further traction with success in key projects. Growth in Canada was driven by expansion in Western Canada. The performance in Brazil and other Latin American countries was supported by new product launches. Overall, this region has been successful in maintaining supplies to customers despite challenging supply chains.

The net sales generated by Advanced Insulation AMERICAS increased by 13% from €145.9 million in 2020 to €164.8 million in 2021. Excluding currency effects, sales revenues rose by over

17.1%. This increase was due to higher selling prices and sales volumes driven by a market recovery, particularly in the residential and retail segments.

#### **KEY FIGURES - AI AMERICAS**

in € million	2019	2020	2021
Net sales	162.7	145.9	164.8

#### Advanced Insulation APAC

Higher net sales in the APAC region were driven by ArmaGel® sales and a robust performance in China where Armacell further strengthened its acoustic insulation business through commissioning a new acoustic barrier production line. By year-end, Armacell had successfully completed the contracts for acquiring the SpiderPlus Engineering Division in Tokyo (the closing of this transaction was in January 2022), and Armacell's flexible elastomeric foam products were officially included in the Japanese Industrial Standard.

The net sales generated by Advanced Insulation APAC rose by 20.3% from €92.2 million in 2020 to €110.9 million in 2021. Excluding currency effects, the increase was close to 20%. The increase in sales revenues was mainly due to strong sales of aerogel and acoustic insulation products.

#### KEY FIGURES - AI APAC

in € million	2019	2020	2021
Net sales	114.3	92.2	110.9

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## **BUSINESS PERFORMANCE**

#### **ENGINEERED FOAMS**

In 2021, the net sales of Armacell's Engineered Foams division amounted to €150.1 million (2020: €136.3 million), or 22% of total net sales in 2021 (2020: 23%).

#### **KEY FIGURES - EF**

Net sales	142.2	136.3	150.1

→ Net sales (EF) €150.1 million

#### Component Foams

With significantly improved service levels and a further diversification of the product portfolio, the positive trend in the Component Foams business continued throughout 2021. To enable future growth, Armacell invested in additional capacity in various locations, including an additional extrusion line at its manufacturing facility in Yukon (OK), USA.

In 2021, net sales in Component Foams rose by 23.4% to €96.0 million (2020: €77.8 million). Excluding currency effects, the increase was 26.4%, which was mainly due to the market recovery, new business developments and higher selling prices.

#### PET

Armacell continued to invest in both its PET manufacturing footprint (with new lines in Belgium and Canada) and its diversification strategy. These investments will enable the company to further develop lower-density foam applications, the structural insulation segment and more lightweight applications.

In 2021, net sales from Armacell's PET business decreased by 7.7% from  $\$ 58.6 million in 2020 to  $\$ 54.1 million in 2021. This was mainly due to lower volumes in China and the U.S., which were primarily caused by a slowdown in the wind energy segment following changes to the incentives schemes in these two countries.

However, this decline was partly offset by the favourable development of ArmaPET® sales in EMEA, which were boosted by a further diversification of applications and higher production capacities. In addition to the fact that Armacell is an approved supplier to most of the leading wind turbine blade manufacturers, incremental diversification was generated in other end markets by adding new transportation, infrastructure and general industry applications.

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# **CORPORATE GOVERNANCE**

#### **RISK MANAGEMENT**

Armacell is exposed to various risks that are part and parcel of the entrepreneurial nature of its business. The potential sources of risk are continually monitored to identify and mitigate possible risks at the earliest possible stage.

#### Competition

There are significant barriers to entry in the flexible insulation and technical foam markets. This is particularly true with respect to the initial investment, the know-how and intellectual property required, and the necessary penetration of distribution channels via a global commercial organisation. The risk that new competitors will enter this high-end market and gain material market shares in the relevant mature markets is considered to be limited.

Armacell offers products developed by using state-of-the-art technologies based on prevailing industry regulations in premium segments. Hence, the company is in a position to continuously optimise its production costs and product recipe development. Nevertheless, Armacell continues to expect ongoing competitive pressure on prices and manages this risk by continuously focussing on its customers' price, quality, availability and service requirements.

#### Strategy and business model

In view of the highly diverse customer base and focus on recurring business from long-term customer relationships, Armacell does not foresee any material risks relating to its corporate strategy in 2022. The top ten customers account for less than 20% of net sales.

- // The focus continues to be on the Advanced Insulation business where Armacell is seeking to enlarge its addressable market and develop new opportunities through higher performance foams, new material technologies and system solutions.
- // In Engineered Foams Armacell is seeking to capitalise on the disruptive substitution potential of PET foams over legacy materials, such as balsa wood and PVC, in the wind energy, infrastructure and transportation markets. In Component Foams the pursuit of lightweight solutions across a variety of applications and industries is likely to drive the use of Armacell's high-performance flexible foam components at the expense of heavier solid-plastic solutions.

To mitigate risks, Armacell has introduced appropriate measures to align production capacity to the expected demand requirements. In addition, Armacell is continuously exploring and developing new and promising market opportunities, such as aerogel-based insulation, acoustic systems and solutions, passive fire protection solutions, accessories and PET foams, where it is pursuing a reinforced diversification strategy (wind turbines, lightweight transportation and industrial applications).

Armacell is continuously assessing its commercial excellence, routes to market and looking for opportunities to extend its geographic reach. Moreover, Armacell's already strong geographical diversification provides additional resilience and mitigates any material risks that would otherwise arise from single market concentration.

# // INNOVATION

Armacell strategically invests in R&D activities to mitigate the risk of margin deterioration due to direct product competition. The Group's technology platform is one of its main competitive advantages, and through strong innovation efforts, Armacell expects further sales and profitable growth opportunities. Two factors are driving this growth: advancements in existing products and the launch of new products with characteristics that bring customers added value. Lighter and thinner, Armacell products – combining thermal and acoustic properties – allow customers to substitute legacy materials at a lower overall cost.

#### Operating performance

Throughout the financial and economic volatility of recent years, Armacell's margins have proved resilient. Raw material price pressures are managed through ongoing multiple-sourcing, recipe optimisation and cost initiatives. The ability of Armacell's top management to implement relatively short-term price increases and thus pass on higher raw material costs has an additional attenuating effect.

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Competing products generally depend on similar raw materials, with prices determined by supply and demand. To this extent, Armacell continuously invests in its performance optimisation and improving its long-term relative competitiveness so as to be able to absorb adverse raw material volatility or pass on peak raw material prices to customers.

# Armacell continuously invests in its performance optimisation

#### Information technology (IT)

In line with its manufacturing peers, Armacell is exposed to risks arising from the digital disruption of its IT infrastructure. The security and continuity of Armacell's IT systems and data are safeguarded by a set of infrastructure and security measures defined and carried out by a global governance body comprised of corporate and local IT teams and conducted in accordance with group policies and best risk management practices.

In response to a cyber attack in 2020, various new cyber security measures were implemented, and a Group Cyber Security Policy published with guidance for all Armacell employees on how to ensure data security, safeguard the IT infrastructure and mitigate security risks. An Information Security Officer was appointed, ad hoc security policies, features and training measures were implemented, and Armacell's security status and cyber defences are being continuously monitored and regularly reviewed.

#### Financials

While facing the typical liquidity risks of private equity financing – high interest charges and comparatively low equity ratios – Armacell's leverage position is in line with the standard of private equity-owned companies. Armacell has implemented strong liquidity monitoring tools, and the financial risks from customer receivables are considered to be low. Besides the revolving credit facility of €110 million, Armacell can optionally access new financing sources in the event of acquisitions or investments in the business.

Armacell operates globally, and its trading results are affected by foreign exchange rate volatility. The reported results are impacted by two different kinds of foreign currency risk. Transactional risk arises from transactions denominated in currencies other than the functional currency of a subsidiary. Armacell does not hedge its transactional exposure as the business is, to a large extent, naturally hedged as local sourcing and selling activities are usually undertaken in the same currency.

Translational risk arises upon consolidation of the Group results and relates to exposure from translating the financial statement of subsidiaries using currencies other than the euro. About 35% of revenues are generated by entities using the euro as their functional currency and over 30% by entities that have the U.S. dollar as their functional currency. Other important foreign currencies within the Group are the CNY, CAD, INR and PLN.

Armacell's senior management continuously monitors the underlying risks. The company's decentralised organisational structure with local production facilities means that transactional risk has less of an impact than translational risk. The appreciation of the euro against some major functional currencies in 2021 negatively impacted the Group's net sales and expenditures.

The Group is exposed to interest rate risks from bank loans with variable interest rates. The main financing is based on an unchanged €710 million term loan with an originally agreed interest rate of Euribor +350 bps and a floor of 0%. During 2021, the margin was reduced to Euribor +325 bps, while the floor level remained unchanged. This loan will mature in 2027.

To balance the foreign currency risk between the cash flow generating currencies and the capital structure, the Group entered into three cross-currency swaps in the total amount of €360 million EUR/USD, effective January 2022 and expiring after three years.

Armacell has access to a revolving credit facility of €110 million. The originally agreed margin of Euribor +300 bps was reduced to Euribor +275 bps in 2021. The floor level was unchanged at 0%. This revolving credit facility will mature in 2026.

#### Overall risk exposure

At the time of writing, there were no identifiable risks relating to future developments that could endanger the Group's existence as a going concern. As Armacell has no special-purpose entities or investment vehicles, there is no risk that might emanate from such a source. Aggregation of the most significant individual risks is not appropriate as such risks are unlikely to occur simultaneously. The overall risk analysis indicates that Armacell's exposure to risk does not represent any lasting endangerment to the net assets, financial position and result of Group operations. The overall picture shows no underlying change to the previous year's risk situation.

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# CORPORATE GOVERNANCE

#### **GROUP MANAGEMENT**

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

#### **Supervisory Board**

- // Mathieu Paillat (Chairman)
- // Laurent Rivoire
- // Philipp Meyer
- // Jacob Chris Lassen
- // Peter Bason
- // Jørgen Jensen (since 22 October 2021)

#### **Audit Committee**

- // Peter Bason (Chairman)
- // Mathieu Paillat

#### **Remuneration and Nomination Committee**

- // Mathieu Paillat (Chairman)
- // Jacob Chris Lassen

#### Sustainability Committee

- // Jacob Chris Lassen (Chairman)
- // Philipp Meyer

#### **Management Board**

// Please refer to page 26

#### **Executive Management Team**

// Please refer to page 26

#### OWNERSHIP STRUCTURE

Since 28 February 2020, private equity funds managed by PAI Partners 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 PAI Partners

PAI Partners is a pre-eminent private equity firm investing in market-leading companies across the globe, with offices in Paris, London, Luxembourg, Madrid, Milan, Munich, New York and Stockholm. It manages over €17 billion of dedicated buyout funds and, since 1994, has completed 89 investments in 11 countries, representing over €65 billion in transaction value.



PAI has built an outstanding track record through partnering with ambitious management teams where its unique perspective, unrivalled sector experience and long-term vision enable companies to pursue their full potential – and push beyond.

www.paipartners.com

#### About KIRKBI

KIRKBI is the Kirk Kristiansen family's holding and investment company founded to promote a sustainable future for the family ownership of the LEGO® brand through generations. Its strategic activities, including 75% ownership of the LEGO Group, 47.5% ownership of Merlin Entertainments and investments in renewable energy. The company's investment



activities also include significant long-term investments in companies such as ISS, Nilfisk, Falck, Armacell, Välinge and Landis+Gyr as well as real estate investments in Denmark, Switzerland, Germany and the UK.

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Front page: Aerial view of Tokyo

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