

# Smart solutions out of fibers

CAPITAL MARKETS DAY  
NOVEMBER 12, 2019



AHLSTROM  
MUNKSJÖ

# Capital Markets Day 2019

## Agenda

09:00 - 09:30	<b>Coffee and registration</b>
09:30 - 10:15	<b>Strategy</b>
10:15 - 10:30	<b>Strategic opportunities for Decor business</b>
10:30 - 10:50	<b>Break</b>
10:50 - 12:15	<b>Smart solutions</b>
12:15 - 13:00	<b>Financials</b>
13:00 - 14:00	<b>Lunch</b>



# Company overview

Hans Sohlström  
President and CEO



# Ahlstrom-Munksjö – Global leader in fiber-based solutions

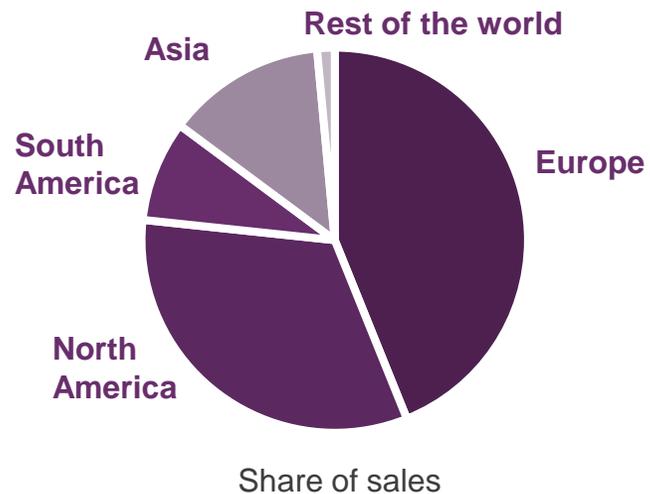
- Fibers are at the core of what we do and the common denominator for our products and solutions
- Natural fibers represent 94% of our total fiber use
- We offer custom made specialized fiber-based materials
- Our value proposition is based on innovation, quality and service
- Our offering contributes to a more sustainable everyday life by providing renewable materials that are alternatives to non-renewables, and solutions that make the end product more sustainable

## Key facts

- Global network of sales offices and 45 plants and converting sites in 14 countries, approximately 8,000 employees
- More than 7,000 customers in over 100 countries
- Pro forma 2018 net sales of approximately EUR 3 billion
- Shares listed on Nasdaq Helsinki and Stockholm
- Head office in Helsinki



# Balanced end-use and geographical exposure



## KEY STRENGTHS

- Leading position in chosen segments
- Operating in growing markets
- Balanced geographical exposure to a broad range of end-uses
- Designed sustainable and innovative solutions for customers



# Smart solutions out of fibers



**Trinitex® Advance W3200** for gas turbine filtration products



**Extia® 1000** for industrial filtration applications



**TrustShield™**, single-use fabrics for ultimate protection



**ReliaMAX™** microfilters for sample preparation and particle removal



**HighFlow** - a reinforcement fabric for wind and marine industry



**TEX-STYLE™** - an extra resistant composite abrasive backing



**Optilam™** - a release material to optimize RFID inlay lamination



**CelluStraw™** - a fiber-based solution for paper drinking straws



**GenReleaz™** specimen collection card for cost-effective biosamples



**World of Colors** gives heavyweights papers a great design look



Strategy



# Strategy overview

## MISSION

Sustainable and innovative fiber-based solutions

## VISION

Global leader in chosen growth segments

## CORNERSTONES

Local accountability

Efficiency and agility

Customer value

Profitable growth

## FINANCIAL TARGETS

- EBITDA > 14% over a business cycle
- Net gearing < 100%
- Dividend: stable and annually increasing, paid bi-annually

### FILTRATION & PERFORMANCE



### ADVANCED



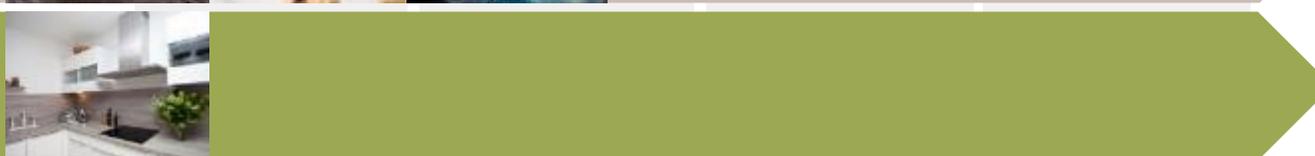
### INDUSTRIAL



### FOOD & TECHNICAL



### DECOR



## VALUES

Long-term commitment | Teamwork | Passion to innovate and improve



# Sustainable everyday life

## MISSION

### Sustainable and innovative fiber-based solutions

#### BETTER PERFORMANCE

Filter materials to purify air and protect people from viruses and bacteria



#### SAFER MATERIALS

Formaldehyde free abrasive backings and fluorfree food packaging materials



#### FEWER RESOURCES

Diagnose diseases and purify polluted drinking water



#### LOWER IMPACT

Plastic free and compostable tea and coffee materials



#### PEOPLE



Human rights



Community engagement



Employee well-being



#### PLANET



Supply chain



Energy, water and waste



Carbon dioxide



#### PROSPERITY



Profitability

EcoDesign Tool



Innovation



Business ethics



# Sustainable solutions in the heart of new product development

- Important instrument of our sustainability strategy
- Principle: new products to provide a more sustainable solution than the existing products
- Implementation is progressing well with structured approach
- Strategic link to customers' sustainability issues
- Complementing our customer service

## EcoDesign tool

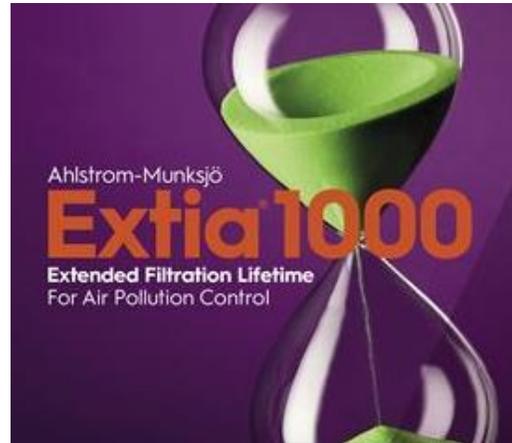


# Better performance

## Functioning better than alternative solutions



**Trinitex® Advance W3200** is a unique gas turbine filtration product specifically designed for pulse jet gas turbine applications.



**Extia® 1000** is the first product on the Extia® platform, a range of highly durable filtration media, specifically designed for industrial filtration applications. Extends filtration lifetime by over 40%.



**ViroSël™** Breathable Viral Barrier fabric is constructed for the most critical areas of a surgical gown designed to keep medical professionals protected and comfortable.



**Optilam™** is an antistatic release material used during the lamination process of RFID prelaminate inlays, improving the final quality of the inlay. It is a sustainable alternative to plastic release films.



# Safer materials

Comprising safer materials than alternative solutions



**Grease-Gard® FluoroFree®** papers are designed to deliver outstanding grease resistance without the use of fluorochemicals (PFAS).



**TEX-STYLE** – the first product in the RE-VOLUTION range, a new category abrasive backings of paper substituting cloth backings.



Pre-impregnated, formaldehyde-free foil base papers are suitable for furniture, doors, separation walls, ceilings and wall paneling.



**ParaFree™** Wax Alternative Papers are paraffin wax free, reducing the dependency on petroleum-based ingredients.



# Fewer resources

## Consuming fewer resources than alternative solutions



**Specimen collection cards** provide an alternative solution to liquid sampling. By removing the need for cold chain and special transport, they can be used for DNA screening, the diagnosis of genetic diseases, and others.



**Acti-V®** supercalendered release papers for silicone coating play an active role in the silicone curing and anchorage process. Curing is faster and requires less catalyst. Anchorage is stronger and more stable.



**HighFlow Wind Energy** is a platform of reinforcement fabrics for lightweight composite materials, allowing a reduction of about 15% in total cost ownership in wind mill blade manufacturing.



**Disruptor®** – product line of electroadsorptive filter media that improves water quality through a natural positive charge.

# Lower impact

## Lower impact than alternative solutions



**Fiber+** a plastic free, compostable tea bag materials product range, a solution for every application and covers all manufacturing platforms.



**GreenPod™** - compostable plastic free coffee pod material for espresso.



**CelluStraw™ U** is a new fiber-based solution for U-shaped paper drinking straws, enabling the food industry to provide consumers an alternative to single-use plastic straws.



**Coralpack** compostable, grease resistant wrapping papers reduce the environmental impact of packaging waste.



# Implementing our strategy



# Implementing our strategy

- Profitability
  - Product development and differentiation, service and quality
  - Flexible asset model – use capacity in most efficient way
  - Commercial excellence and cost efficiency
- People
  - Develop and strengthen our leadership, talent, culture and teamwork
- Platform
  - Role and responsibilities
  - Strengthening our synergistic operating platform
- Portfolio
  - Grow most attractive businesses through organic investments and synergistic acquisitions
  - Best structure for our businesses

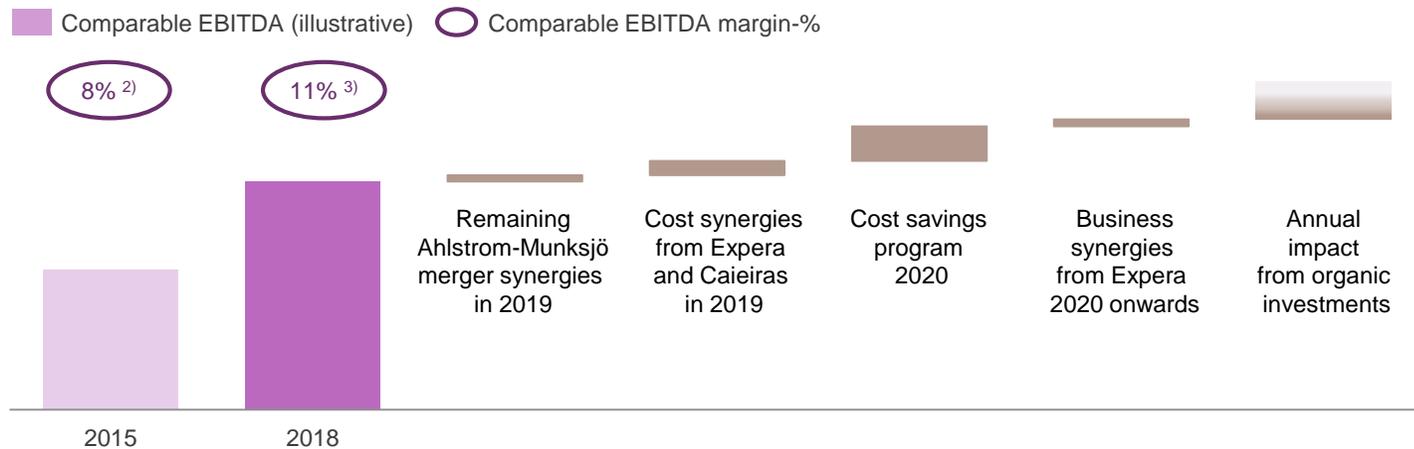


# Profitability

## Strategic transformation supporting profitable growth



### Measures underway to maintain and improve competitiveness, and drive growth<sup>1)</sup>



Variations in volumes, selling prices and raw material costs also impact profitability

1) Illustrative (not necessarily in scale), not to be considered as guidance  
 2) Munksjö's reported adjusted EBITDA margin for 2015  
 3) Pro forma comparable EBITDA margin in 2018



Profitability

## Promised cost synergy benefits exceeded

### Synergy benefits:

Near-term cost synergies  
**EUR 11m NASS**  
**EUR 10m Caieiras**  
by the end of 2019

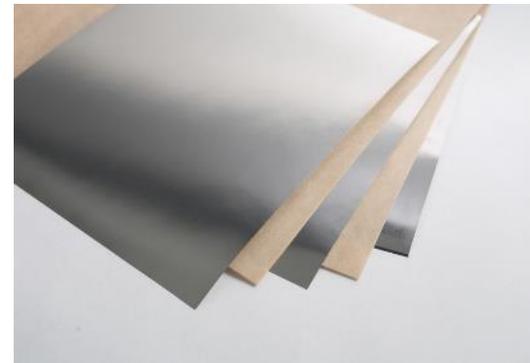
Business synergies  
of at least **EUR 10m**  
with a gradual impact  
from 2020 onwards

SG&A

Sourcing

Cross-selling  
Production optimization  
Technology sharing

SG&A = Selling, General and Administrative expenses



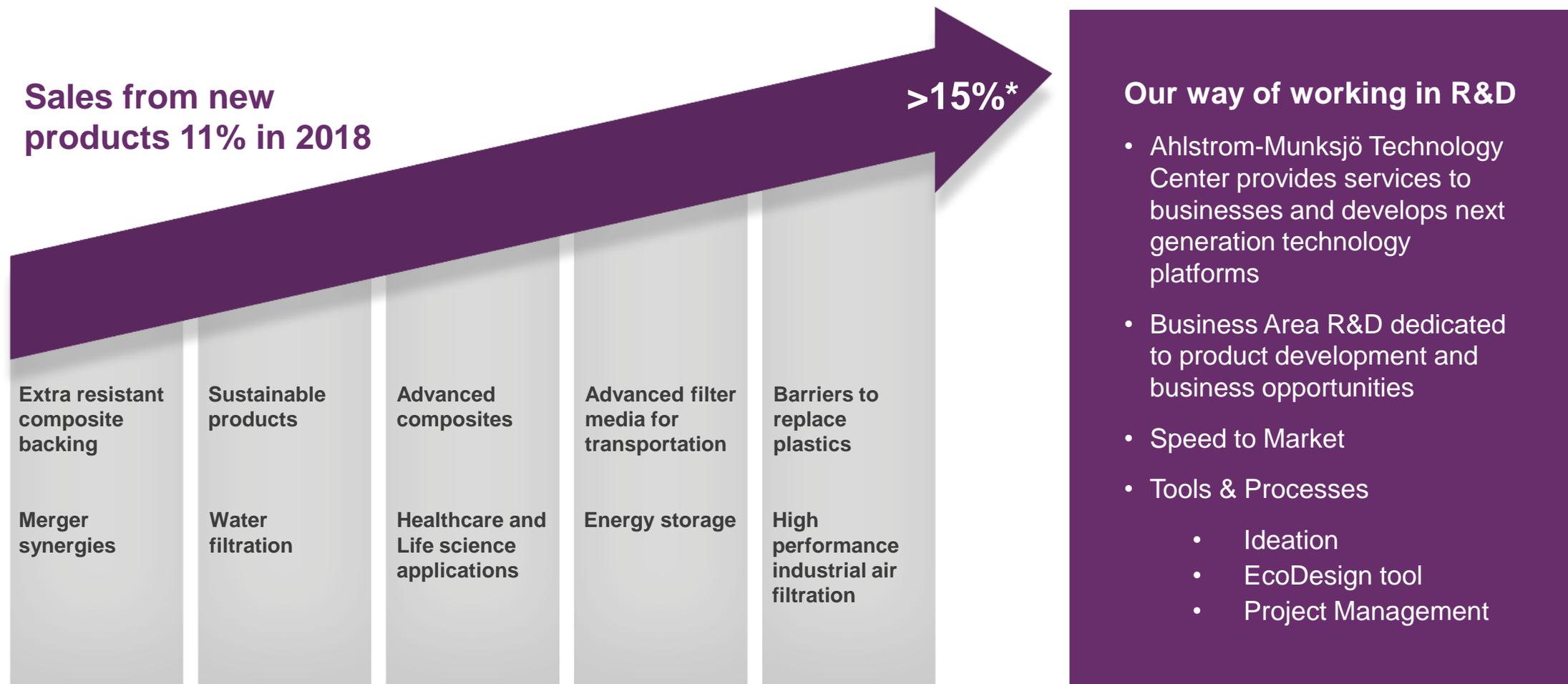
Profitability

## Cost savings program to maintain and improve competitiveness

- Market remains uncertain and does not promise much tailwind
- Measures to maintain and improve competitiveness
- Identified cost savings of at least EUR 50 million for the year 2020 compared to 2019 mainly relating to procurement and production
  - Change in recipes
  - Larger rebates
  - Centralizing indirect spend
  - Production optimization
  - Waste reduction
  - Streamlining



# Value creation driven innovation



## Our way of working in R&D

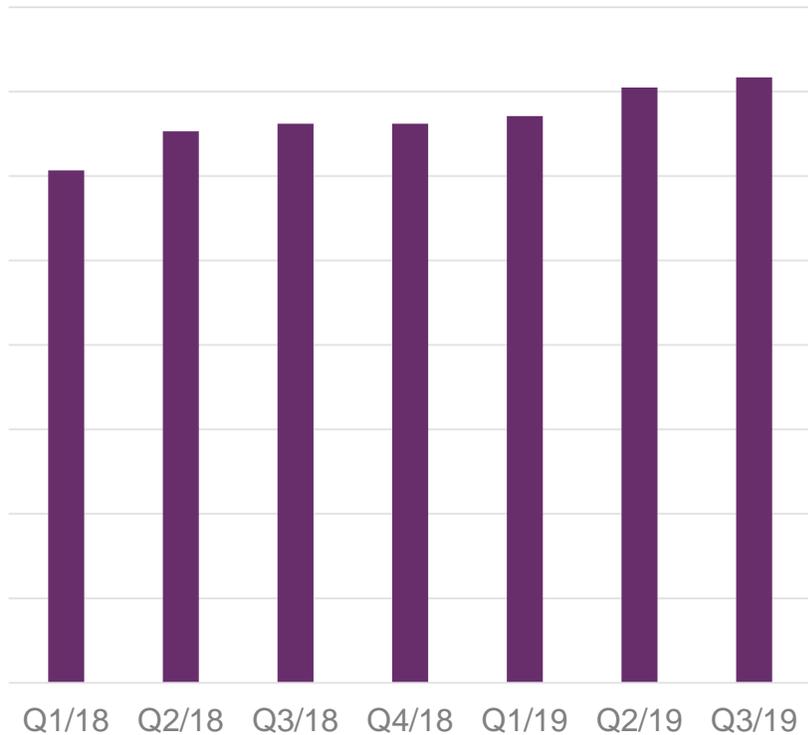
- Ahlstrom-Munksjö Technology Center provides services to businesses and develops next generation technology platforms
- Business Area R&D dedicated to product development and business opportunities
- Speed to Market
- Tools & Processes
  - Ideation
  - EcoDesign tool
  - Project Management

\* By 2025



# Successful commercial strategy

Gross margin for product



## Successively increasing gross margin for product

- Compensating for sharply increasing variable costs in 2018
- Supported by gradually lower variable costs in 2019



# New structure based on core capabilities and business characteristics

## *“Product excellence”*

*New product development and technologies  
Mainly global customers and business*

## *“Performance excellence”*

*Product quality development, efficiency and continuous improvement  
Mainly regional customers and business with regional PM optimization*

### **Filtration & Performance Solutions**

**Businesses:**

Filtration  
Nonwovens  
Building & Wind  
Abrasive

### **Advanced Solutions**

**Businesses:**

Liquid Technologies  
Medical  
Beverage & Casing  
Tape  
Precision Coatings

### **Industrial Solutions**

**Businesses:**

Release Liners  
Coated Specialties  
Insulation

### **Food Packaging & Technical Solutions**

**Businesses:**

Food Packaging  
Parchment  
Technical

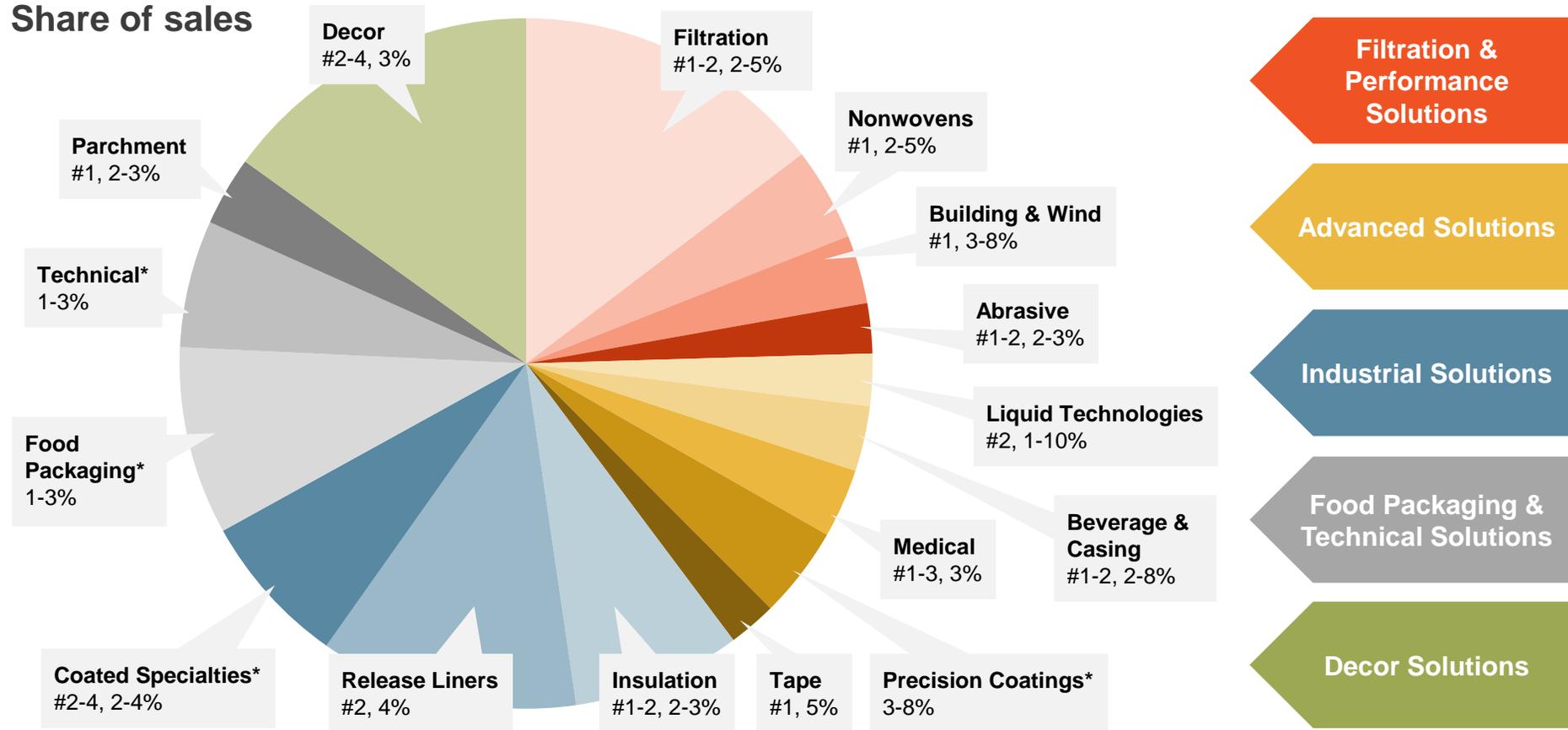
### **Decor Solutions**

**Business:**

Decor



# Leading positions in chosen growth segments



# Market position in strategic segments  
 % Market growth in percentage  
 \* One of the leading suppliers in the relevant segments

Figures are based on management estimates.



People

# Leadership is key to our success

We are committed to develop consistent and inspiring leadership based on our leadership model



Sales and customer service



## JUMP

Young professionals with demonstrated success and desire to grow



## PIONEER

New managers getting their first role leading others



## LAUNCH

Plant managers



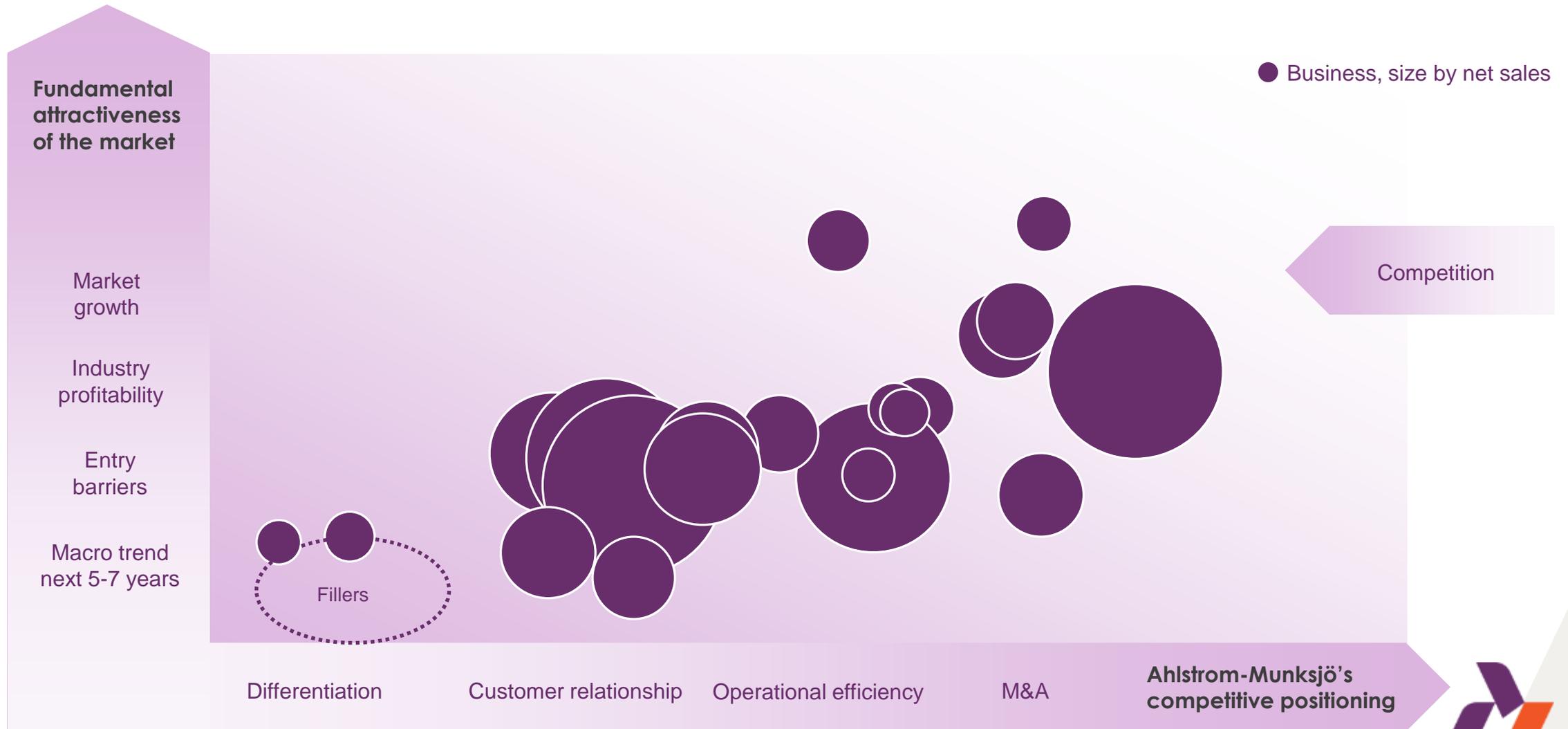
## LEAD

Top leaders



# Portfolio

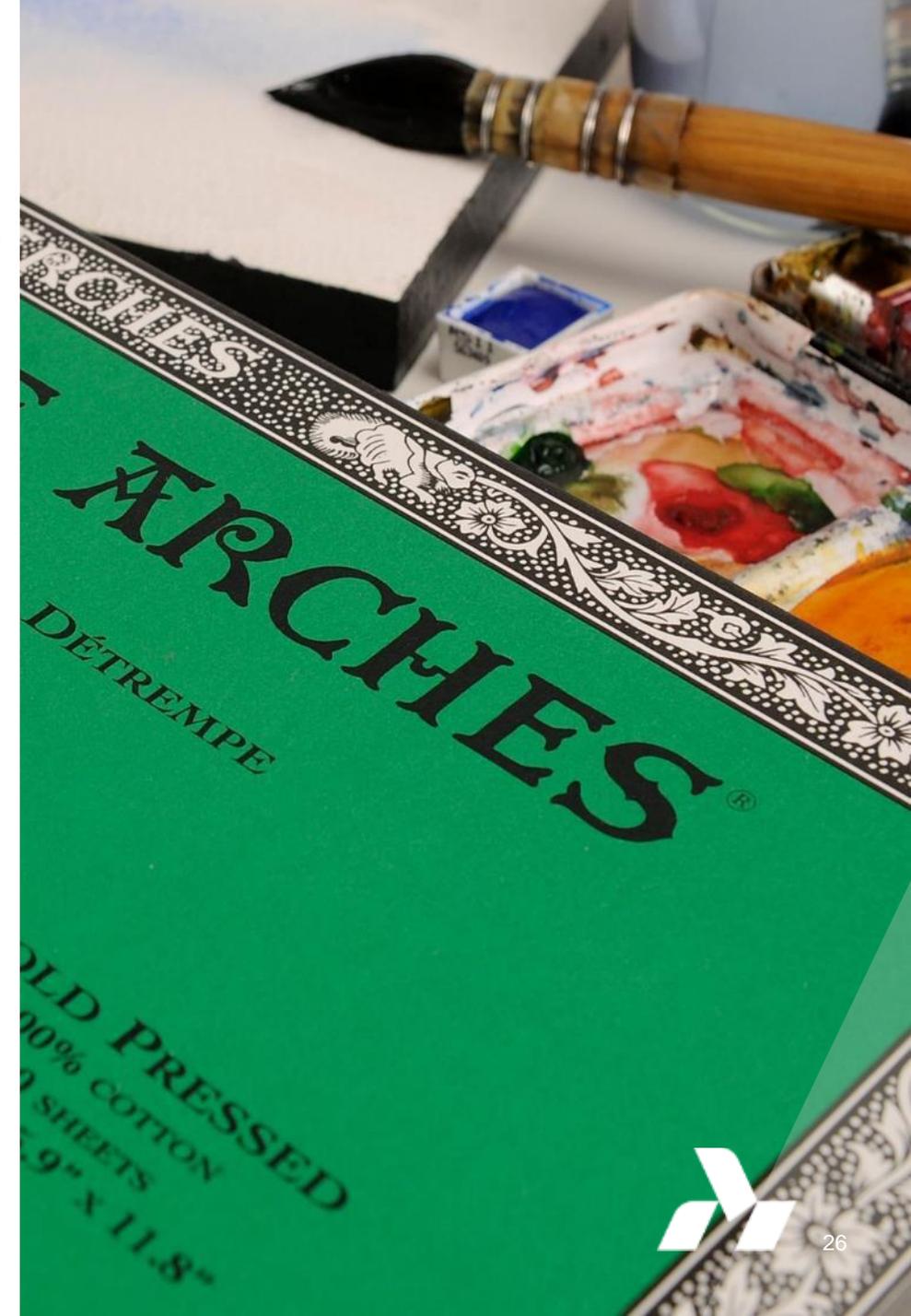
## Our portfolio of businesses



## Portfolio

# Non-binding memorandum of understanding to divest fine art paper business

- Non-binding memorandum of understanding to divest fine art paper business, ARCHES®, to F.I.L.A. (Fabbrica Italiana Lapis ed Affini S.p.A. Group) of Italy
- Debt free purchase price about EUR 44 million
- Pro forma net sales are expected to be about EUR 13 million and comparable EBITDA in excess of EUR 4 million in 2019
- ARCHES paper is mainly used for watercolor painting, art publishing as well as printing and writing
- Two dedicated machines at the Arches plant in France
  - Ahlstrom-Munksjö will continue to operate five machines at the site for Abrasive and Decor businesses
- Transaction is subject to labor consultation and finalization of discussions between the parties to sign binding agreements
- Transaction is expected to be completed in Q1 2020



## Exploring strategic opportunities for Decor business with suppliers in China

- Ahlstrom-Munksjö is committed to the Decor business and wants to develop and grow the business in a sustainable manner
- Partnering with a Chinese supplier would be based on strong strategic and financial rationale
- Investigating the possibility to attract outside capital into the Decor business in order to speed up the execution of strategy



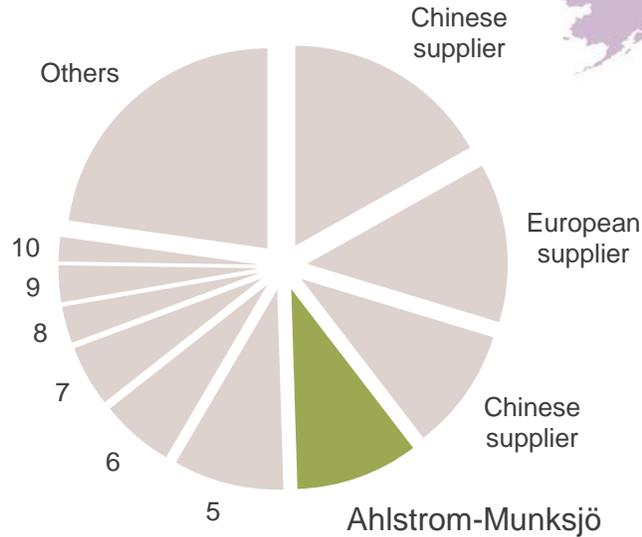
# Exploring strategic alternatives for Decor business

Tomas Wulkan  
Executive Vice President  
Decor

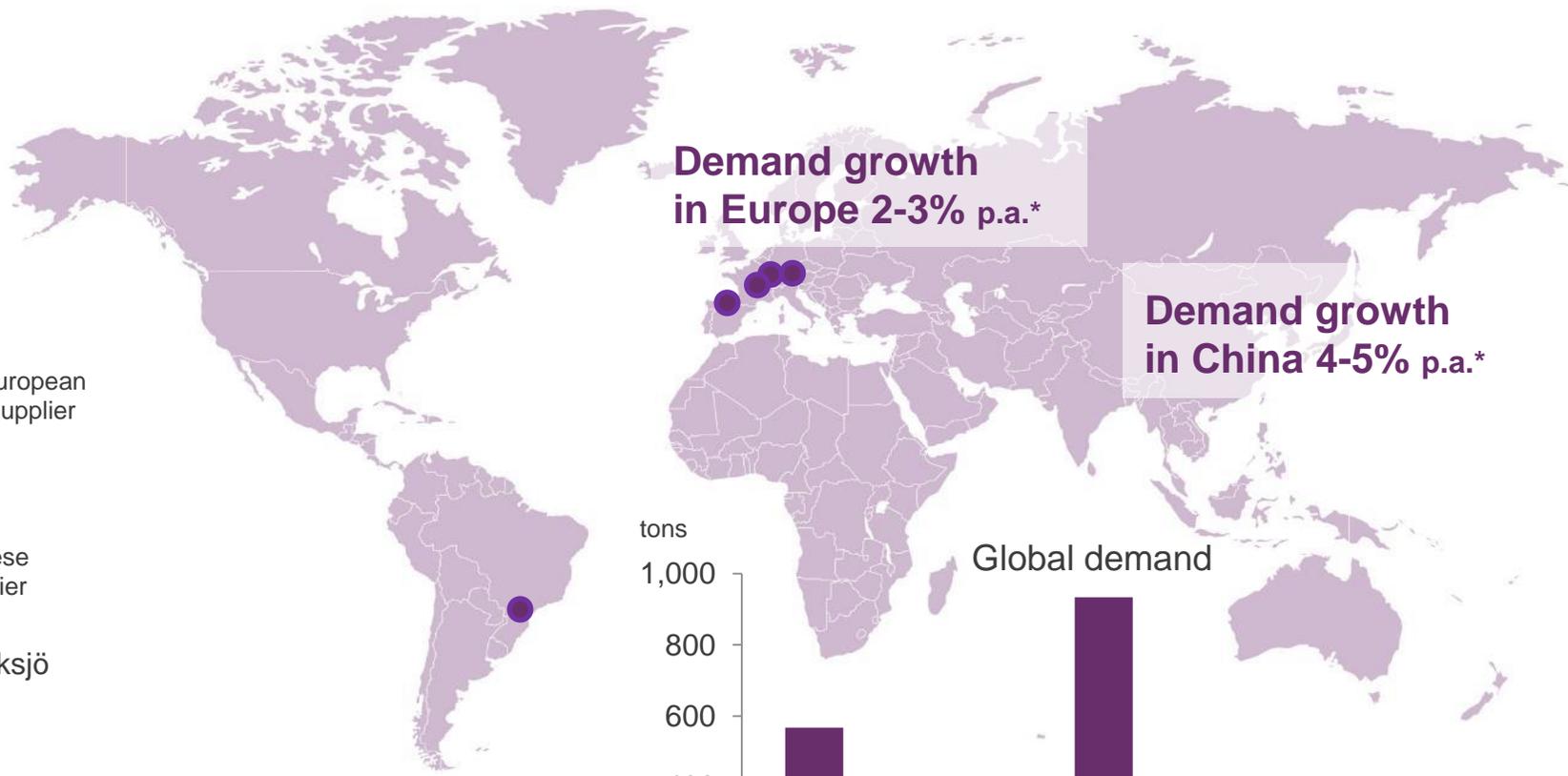


# Strong in Europe and Americas, leading brand globally

Share of global capacity

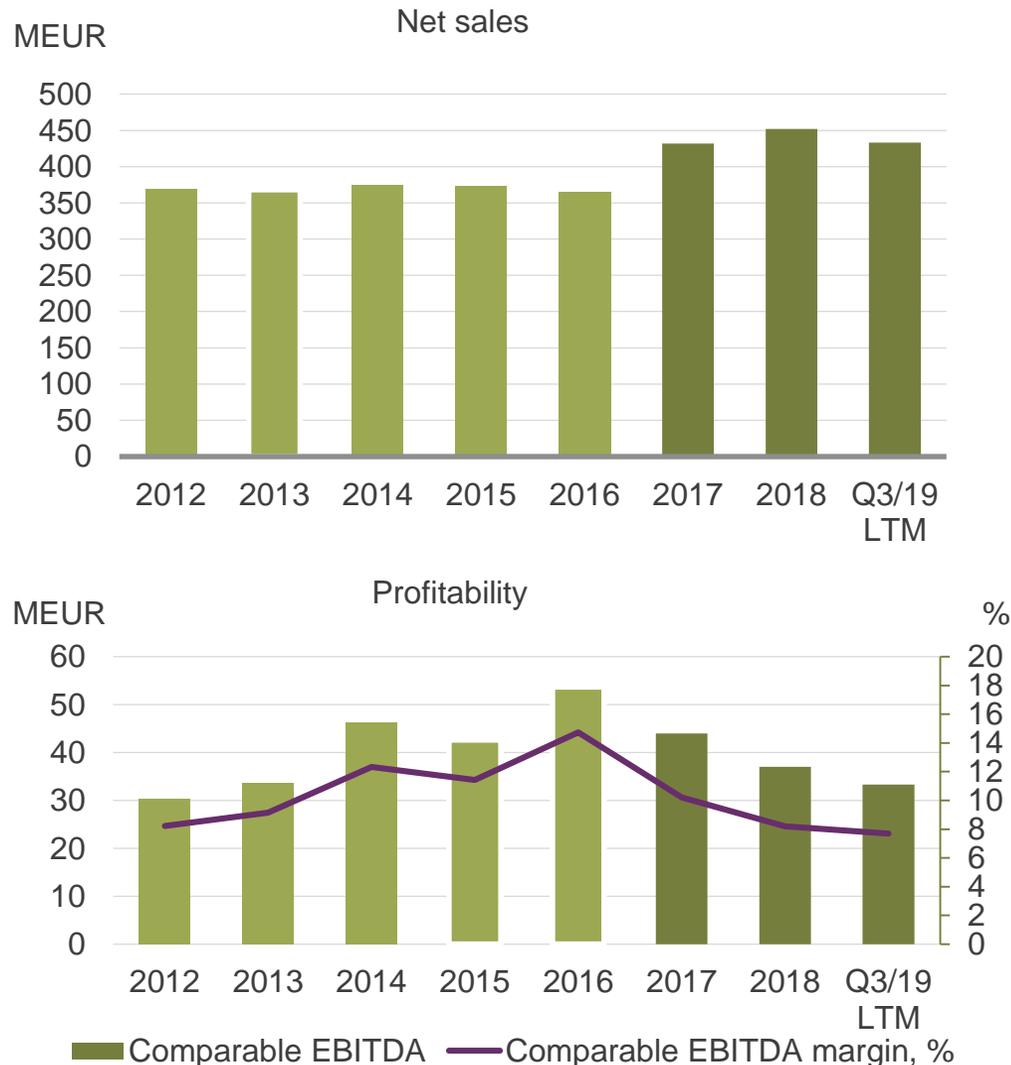


● Ahlstrom-Munksjö's manufacturing site  
 \* Estimated market growth



## Financial background

# Volatility in profitability driven by fluctuating raw material costs and market demand



### 2012- 2016

- Strong underlying market growth
- Price and mix management driving margin improvement

### 2017

- Rapidly escalating raw material costs driving price increases, margin erosion and inventory build-up across the industry
- Sharp price increases giving oversea customers incentive to shift volumes to new Chinese competition

### 2018

- Gross margins per ton restored through successful price increases
- Oversea volume losses impacting sales and EBITDA
- Industry-wide de-stocking following the peak of TiO<sub>2</sub> prices in the summer adding further negative impact on sales in 2H
- Sharp decline in market demand

### 2019-

- Weakest market since the crisis back in 2009-10. Poor demand and rapidly falling pulp prices leading to strong price pressure
- Successfully maintained high margins
- Low volumes driving low EBITDA



# Strategic Priorities – the way forward

**Defend and grow leading positions  
in Europe and North America**

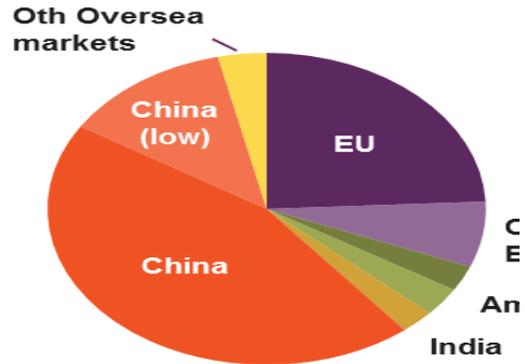
**Establish a strong growth platform  
in South America**

**Entry to China**



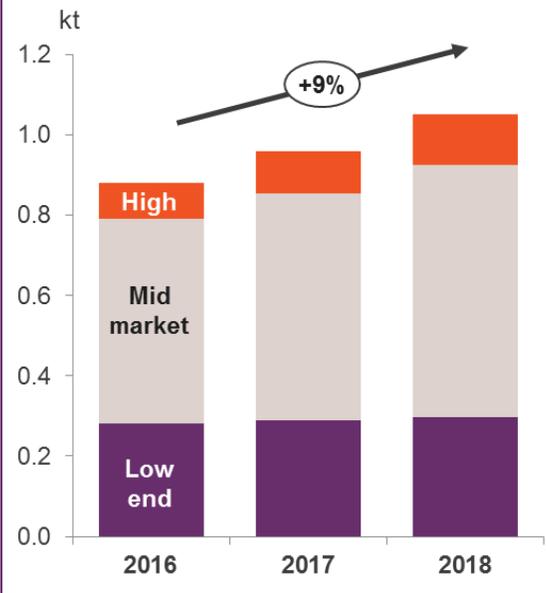
# Chinese decor paper market – the growth engine of the global decor paper market

**Global Decor paper market  
- By Region -**



**Demand (2018): ~1,8 million**

**China Decor paper market  
- Growth by quality segment -**



- After two decades of remarkable growth, China is today the worlds largest Decor paper market
- CAGR 2008-18: 21%!
- Demand surpassed 1 million ton 2018
- Around 2/3 of the projected future global growth (5 yrs) will come from China (+250 kt)
- **The high-quality segment is growing significantly faster than the overall market (>15%)**
- Limited growth in low-end (1-2%)

# Exploring strategic opportunities for Decor business

- Ahlstrom-Munksjö is committed to the Decor business and wants to develop and grow the business in a sustainable manner
- Partnering with a Chinese supplier would be based on strong strategic and financial rationale
  - Create global leader with strong presence in the world's two largest markets
  - Leverage Ahlstrom-Munksjö's leading brand and capabilities to build a leading position in the fast-growing Chinese high-end market
  - Strengthen the business and abilities to serve our customers in the short- and long-term
- Investigating the possibility to attract outside capital into the Decor business
  - Speed up the execution of strategy
  - Outside capital will enable investments to grow and develop Decor business and strengthen our operations into a stand-alone global operation
- Enable us to remain an attractive employer



# Smart solutions out of fibers

Robyn Buss  
Executive Vice President  
North America Specialty Solutions



# Release liner for pre-impregnated carbon fiber fabric



**Issue:** Growing aerospace industry seeking increased efficiency. The key to obtaining these efficiencies is the automated laydown of composite pre-impregnated materials to manufacture parts for the next generation aircrafts.

**End-use:** The AEROBAK™ release liner plays a critical role in both the manufacturing and delivery of the composite pre-impregnated material.

**Opportunity:** A customer requested help, after a competitor's product failed at Boeing. The failure to dispense the product was jeopardizing the qualification of their composite pre-impregnated material. Addressable market EUR 185 million.

**Key advantages:**

- Ability to develop and control the release liner back to the fiber
- In aerospace applications this capability is unique and of great importance to the customer
- The integration of our business model allowed Ahlstrom-Munksjö to compress the developmental cycle time by 75%

**Way forward:** Continue to leverage our integration and long-standing relationships with the top 3 aerospace composite manufacturers.

**Other potential / adjacent end-use applications:** Develop new product platform for the increasing requirements of the automation associated with the next generation aerospace composites.



# Fluorochemical-free barrier papers for the food packaging industry



**Issue:** Coop Food Stores in Denmark declared they were removing microwave popcorn from their stores due to the products being packaged in bags containing fluorochemicals. The move forced brands and converters to identify suitable fluorochemical-free structures.

**End-use:** Fluorochemical-free barrier papers for the food packaging industry. Working with our customers as well as European brand owners, a FluoroFree® microwave popcorn bag was designed.

**Opportunity:** Leading North American brands including ConAgra, PopWeaver and PopSecret are expected to make decisions on moving to fluorochemical-free microwave popcorn structures. Addressable market EUR 55 million.

## Key advantages:

- No proven fluorochemical-free microwave popcorn paper in the marketplace beyond our solution, making it a very defensible product
- Ahlstrom-Munksjö has unique capabilities to produce very high-barrier papers which are difficult for competitors to replicate
- Currently have high market share and solid customer relationships, currently viewed as an innovation partner

**Way forward:** Offer global FluoroFree® solutions by transferring technology across Ahlstrom-Munksjö locations (ex Rottersac). Identify investment opportunities across multiple mills to expand FluoroFree® capacity and reduce manufacturing cost.

**Other potential / adjacent end-use applications:** Pet food and quick service restaurant Packaging



# Smart solutions out of fibers

Dan Adrianzon  
Executive Vice President  
Industrial Solutions



# Plastic-free solutions for U-shaped drinking straws



**Issue:** Plastic single-use drinking straws ban due to their non-sustainable end of life.

**End-use:** CelluStraw™ is a renewable, biodegradable and recyclable paper-based solution for single-use paper straws whether straight or U-shaped.

**Opportunity:** Expected annual volume ~4000 tons, net sales EUR 6 million (conservative estimate)

**Key advantages:**

- Nature friendly compostable solution for cold drinks single-use straw
- Convenient and safe for consumers, compliant with food contact regulations
- Trouble-free run on high-speed converting machines
- Remains in good shape once converted for storage and transportation

**Way forward:** Create and develop Ahlstrom-Munksjö share in an emerging and fast-growing market segment requiring plastic-free solutions.

Close collaboration with straw converters and machine producers is key-attribute for longer-term positioning. Our path forward lies in offering a differentiated solution vs. competition (which is expected to amplify in coming months.)



# Expanding the use of paper in flexible packaging



**Issue:** Sustainable packaging replacing plastics is becoming a higher priority for consumers worldwide and the main brand-owners.

**End-use opportunity:** Working with the main chocolate & confectionary brand-owner in Brazil on two projects aiming to launch the first paper-based flexible packaging to replace plastic film in a mass consumption chocolate brand in the country. Addressable market EUR 10 million.

- **Primary packaging:** Direct contact with food. The paper needed is highly technical and needs to provide high level of barrier.
- **Secondary packaging:** No direct contact with the food. Less demanding project as no barrier is requested.

## Key advantages:

- Paper is the most suggested material for flexible packaging in single use products:
  - Renewable, biodegradable, compostable and recyclable characteristics
  - The challenge lies on functionality and process productivity

**Way forward:** Position Ahlstrom-Munksjö as the best flexible packaging paper solution in the region with a wide range portfolio. Create solid partnership with converters to play a decisive roll in the plastic to paper transition.

**Other potential / adjacent end-use applications:** Single use food products as like cookies and hygiene products like bar soap.



# Smart solutions out of fibers

Tomas Wulkan  
Executive Vice President  
Decor



# Ahlstrom-Munksjö – the leader in pre-impregnated decor paper



**End-use:** Self-assembly furniture (bookshelves, wardrobes, storage racks, etc). Main end-customer is IKEA.

**Opportunity:** After printing and lacquering, pre-impregnated decor paper can be shipped directly to furniture manufacturers, where the so-called *finished foil* is cut to fit-size and glued directly onto wooden panels. In short, a simpler value chain than for other decor papers. Although *finished foils* is a cost attractive alternative to the end-customer, it is therefore a value-added product for paper producers and lacquerers.

Ahlstrom-Munksjö is the market leader, and one of two suppliers globally that can offer a range of high quality, formaldehyde free pre-impregnated decor papers.

## **Key advantages:**

- Ahlstrom-Munksjö is the innovation leader and offer the broadest (# of grades, colors, gsm's), high-quality range of formaldehyde free pre-impregnated decor papers worldwide.
- Good service/ flexibility and close cooperation with customers.

**Way forward:** Following quality investments and a set of commercial initiatives sales volumes are up >10% in 2019, which has allowed Ahlstrom-Munksjö to run the Dettingen plant with full capacity utilization in a very weak market. Further initiatives will follow in 2020.



# Smart solutions out of fibers

Markus Westerkamp  
Vice President  
Food Packaging



# Combating climate change with Disruptor<sup>®</sup> media for water purification



**Issue:** Climate change, scarcity of water, plastic pollution, safe water, growing population, industrialization.

**End-use:** Ideal use in personal use and residential applications such as pitchers, countertop and dispensers devices, as well as reusable water bottles. In residential applicable at point-of-entry and point-of-use. Addressable market EUR 75 million.

**Opportunity:** Disruptor<sup>®</sup> is an electro-adsorptive technology not comparable to any existing water purification technologies currently in the market.

## Key advantages:

- Removes a wide range of harmful contaminants (submicron particulates, organic acids, virus, bacteria, cysts, cell debris and trace pharmaceuticals) from water, making it safe to consume
- No energy needed for the water purification process.
- No chemicals needed for the removal of contaminants
- Contributes to the reduction of single-use plastic bottle

**Way forward:** Build market awareness and confirm technology adoption in existing target segments, while proceeding with initiatives to broaden the scope of the new technology.



# Cards for collection of biosamples – Dried Blood Spot: a sustainable technology for accurate results at affordable prices



*The patient collects a blood sample from finger prick onto the card in any environment. No appointment, no travel to the clinic, no queuing in line.*

**End-use:** Collection of biosamples for a various range of applications, including newborn screening, infectious disease screening, cancer detection, clinical trials, human identification, rare diseases detection, genomics and animal screening

**Opportunity:** New technology for biosample collection and storage alternative to traditional blood and saliva extraction and storage in liquid. Addressable market EUR 40 million (mainly Newborn screening, forensics and some infectious diseases) providing significant growth potential as the technology becomes widely adopted for new applications.

#### **Key advantages:**

- Our portfolio offers simple and cost-effective collection, transportation and storage of biosamples at ambient temperature, bringing efficiency and simplicity to the biological fluids sampling process.
- Less invasive for the patient, as a very small quantity of blood is needed, it does not require particular skills. Dried Blood Spot is considered by many the future of convenient home blood testing.
- Plastic-free, no venipuncture kits are needed and storage in plastic vials.

**Way forward:** Further strengthening our market position in life science through product development, support to validation studies for technology adoption and partnerships with e.g. kit assemblers.



# Parchment solutions for sustainable food and industrial applications



**Issue:** Non-sustainable use or end of life in landfill and/or incineration of food packaging, baking materials and non-food consumables.

**End-use:** Genuine Vegetable parchment (GVP) is a cellulosic material with unique intrinsic technical characteristics, well positioned to answer market needs in the war on plastic. Besides cooking and baking applications, parchment is used in food packaging, coffee capsules, furniture laminates, textile tubes and as a process material producing inlays for credit cards and passports. The Pure-barrier grade is the only 100% cellulosic material providing an oxygen barrier.

**Opportunity:** Addressable market approximately EUR 250 million.

**Key advantages:**

- Home and industrially compostable
- Ultimate grease barrier without added chemicals, naturally fluoro-free “best in class” heat resistance
- Does not contain any loose fibers, no risk for dust
- Customizable with colors and ink free patterning
- Fully customizable release properties

**Way forward:** Leveraging unique specification in more profitable markets

**Other potential / adjacent end-use applications:** Clean-room applications



# Smart solutions out of fibers

Robin Guillaud  
Vice President Business Development  
Filtration and Performance



# How we became recognized expert for technical plasterboard facers

## LARGE AND FAST GROWING MARKET

- 1.6 billion m<sup>2</sup> in EMEA only\*; this is 3.2 billion m<sup>2</sup> of facers per year
- A fast growing segment, +5% CAGR in EMEA, supported by the growth of dry construction methods

(1) Source EuroGypsum

## TECHNICAL APPLICATIONS REQUIRE FACERS



Facers requiring fire resistance



Facers requiring wet resistance



Facers requiring wet resistance and supporting marketing activities



- Needs to run efficiently on plasterboard production lines
- Ensure great internal cohesion between the core and the facer
- Be comfortable for the worker to use - itchniness traditionally an issue

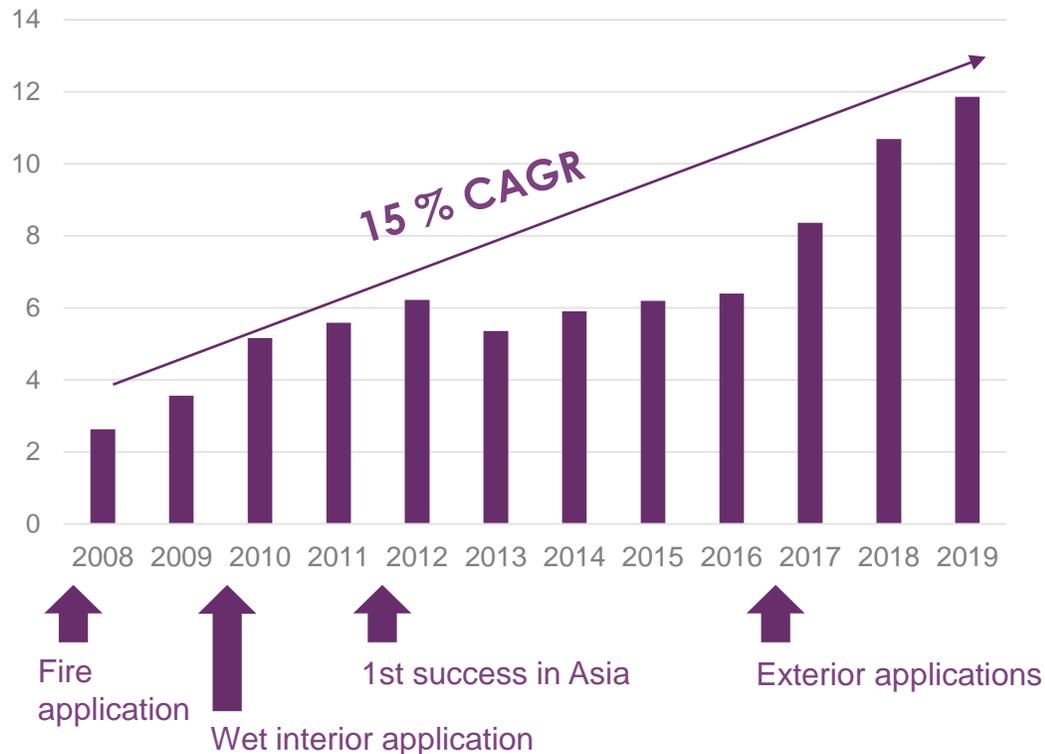


# How we became recognized expert for technical plasterboard facers

## Unique capabilities

- Great asset fit (machine width), the ability to make two-sided materials (one soft, one structured)
- Established IP position, enabled by the deep market understanding we gained
- A unique technical and market know – we can “talk” plasterboard

Deliveries

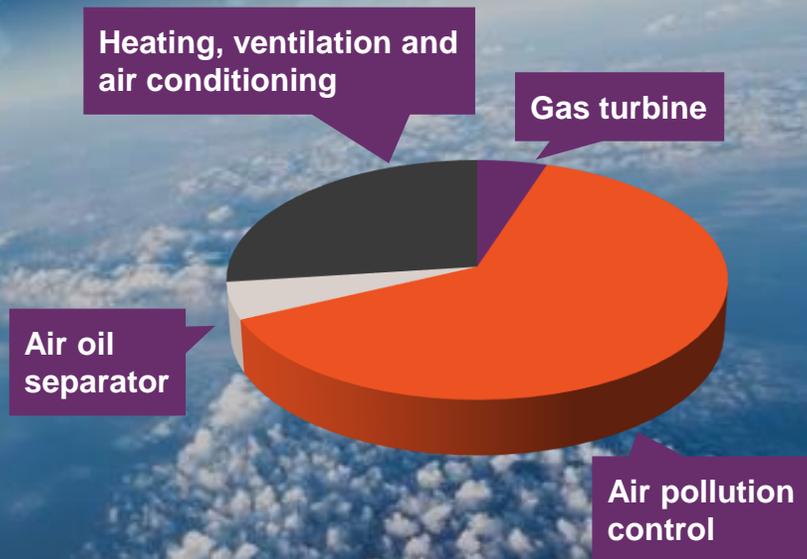


## There is still room for us to grow

- Market share gain
- Customer base expansion EMEA
- Customer base expansion APAC
- Product range extension (Fire)



# Industrial air filtration market EUR 1.5 bn



Source: SuP

## Our Industrial filtration road map

- EUR 1.5 billion market with high growth potential, strongly supported by ever increasing standards for air quality
- A significant growth opportunity for us as we already have key capabilities established to succeed here
- Decision in 2017 to strategically focus on this segment, with dedicated sales & product development team and clear management focus
- Clear ambition to significantly grow this business

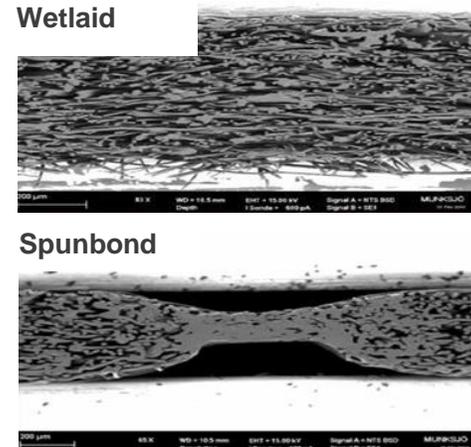
## Critical milestone along the way

- Sales growth close to 20% per annum since 2016, now reaching close to EUR 70 million and 20% of filtration business
- Decision to invest EUR 28 million to develop our industrial platform in EMEA, paving the way for future growth
- Expansion of micro glass capabilities
- Product range expansion
  - Trinitex Advance for gas turbine (Nov. 2017/March 2018)
  - Launch of Extia for air pollution (Nov. 2018–Sept. 2019)

# Expanding product offering in air Pollution application with Extia



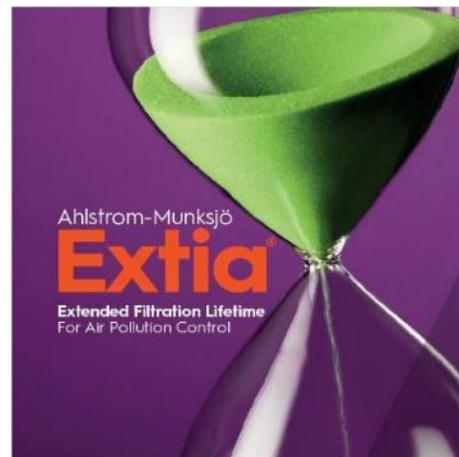
Air Pollution Control Unit



Cross section of filtration media and associated attributes

- Very good filtration performance
- Limited mechanical strength
- Very high mechanical strength
- Poor filtration performance

➔ EUR 100-150 million opportunity



Filter equipment  
Cost factors

Compressed-air cost (82%)

Fan electricity cost (15%)

Filter media cost (3%)

Maintenance costs

Replacement costs

Reduced with Extia thanks to *lower pressure drop*

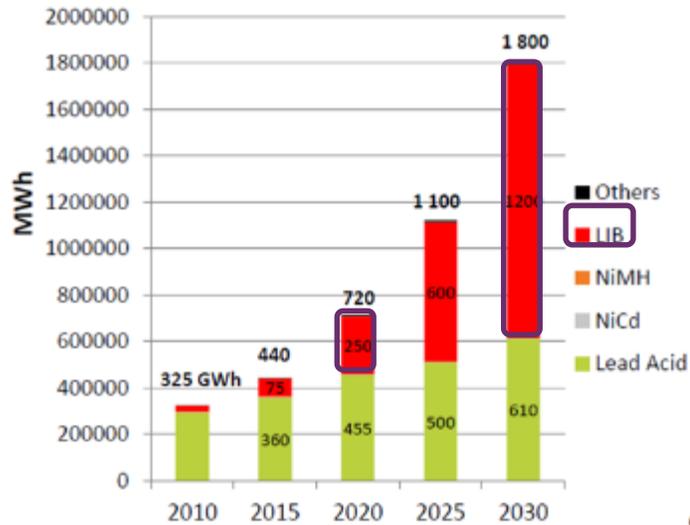
Reduced with Extia thanks to *longer life time*

Source: SuP



# Entering the Li Ion battery market

## The opportunity



Battery market forecast – Source Avicenne

## The challenge *(among many others)*



Fire on electrical car

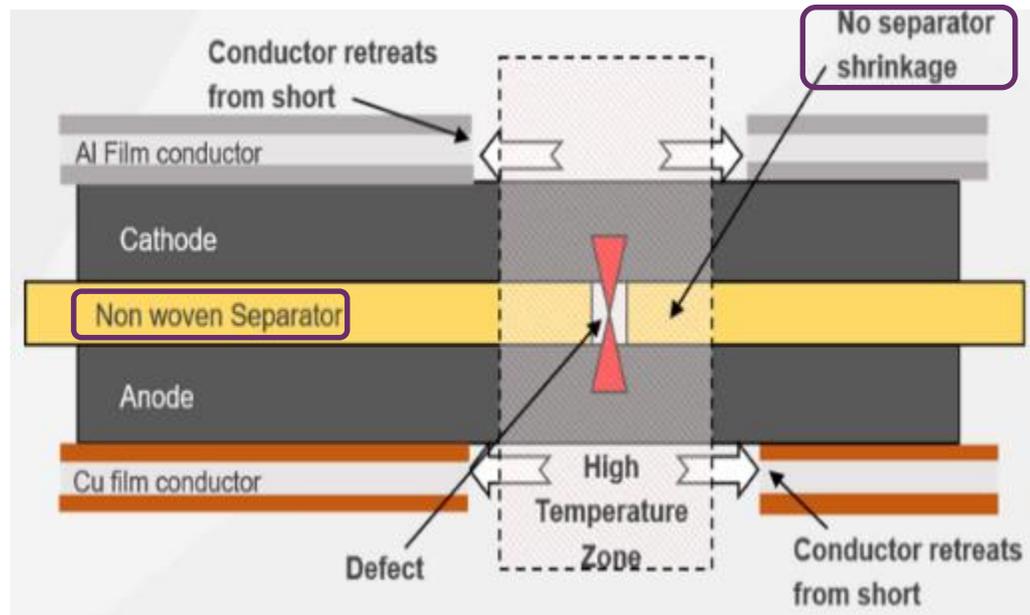
## And the root cause



Nail penetration test in Li Ion cell

# Entering the Li Ion battery market

## THE SOLUTION?



Soteria cell architecture concept



Industrial trial Oct 18<sup>th</sup> 2019 in Brignoud, France



- A unique business model: intellectual property licenced to USA-based start up; consortium to industrialize
- A game changing technology at competitive cost in a fast growing market
- A great business opportunity – the race is on!



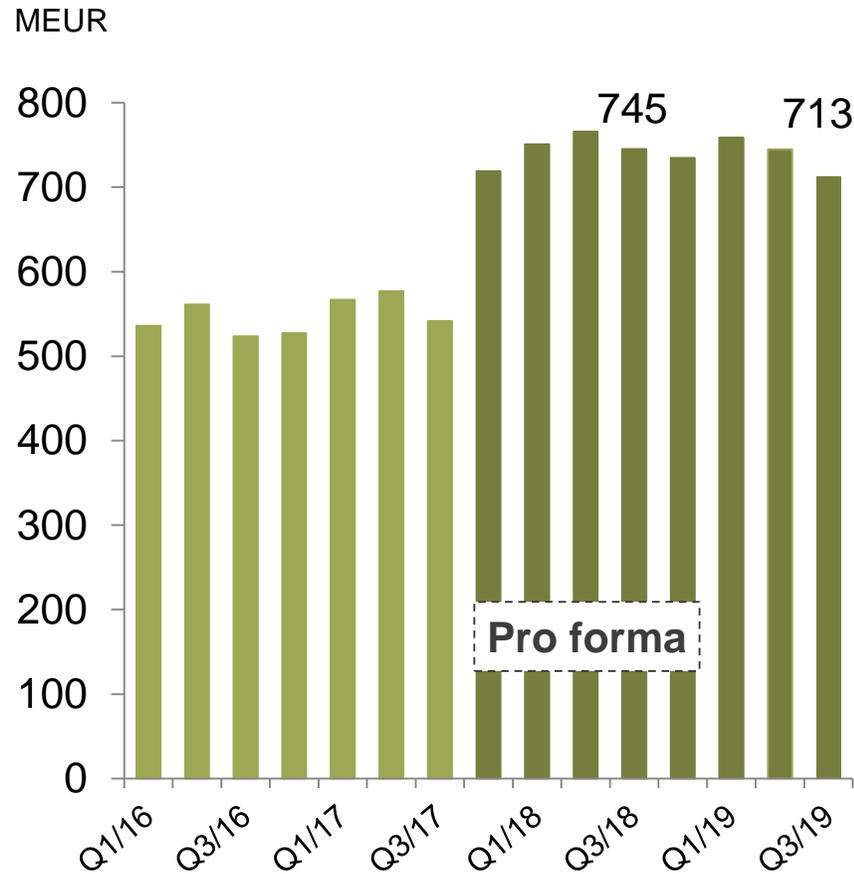
# Financials

Sakari Ahdekivi  
Deputy CEO and CFO

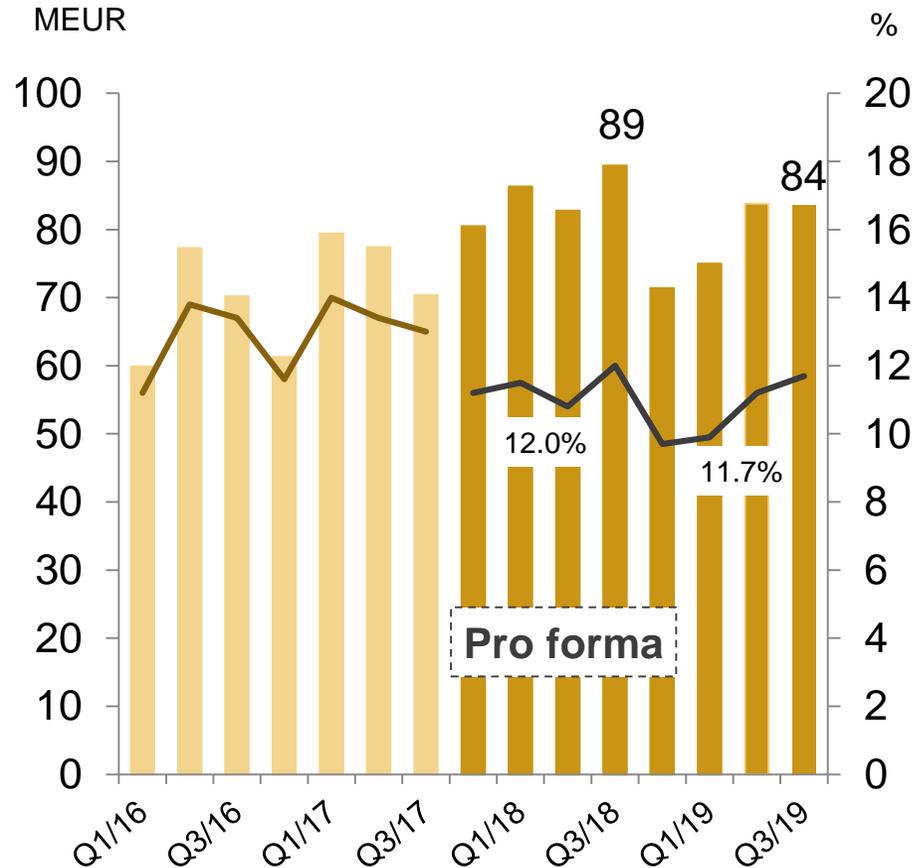


# Net sales impacted by lower volumes, stable profitability

## Net sales\*



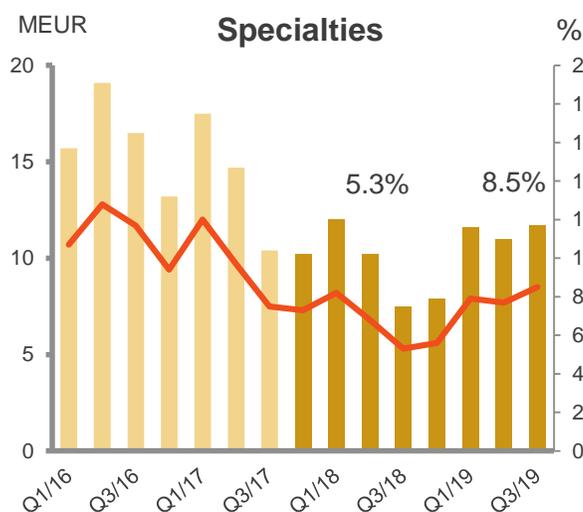
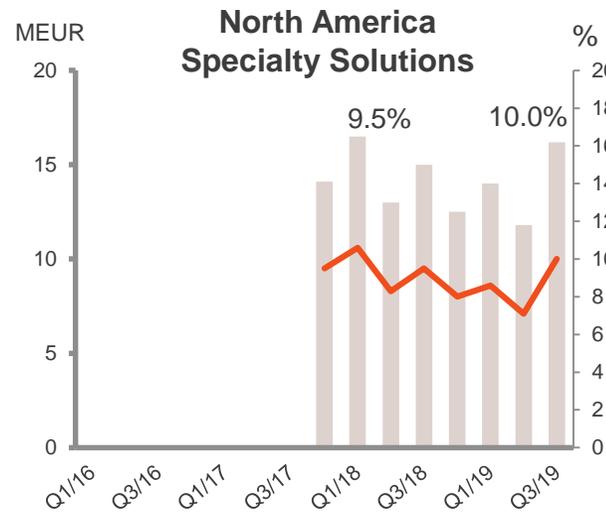
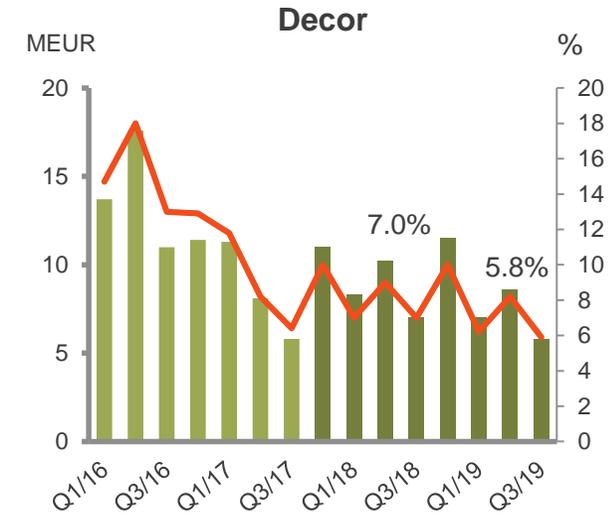
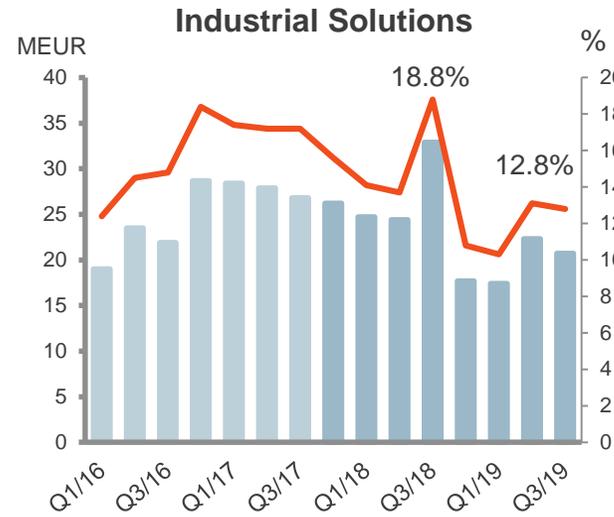
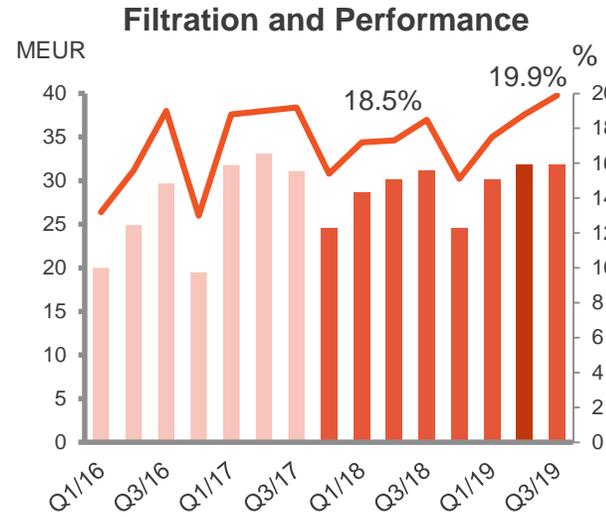
## Comparable EBITDA and margin\*



\*Years 2016-Q3/2017 Ahlstrom-Munksjö excluding NASS and Caieiras



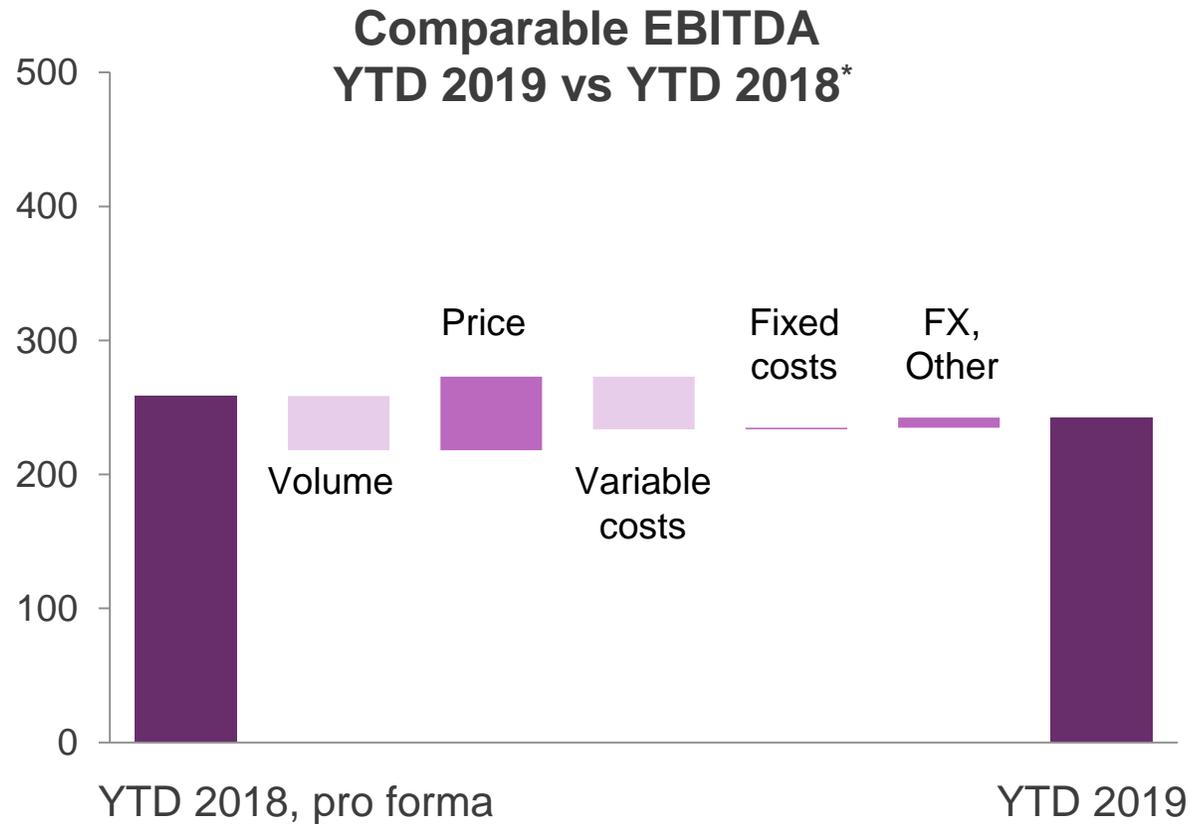
# Comparable EBITDA and margin by business area\*



\*Years 2016-Q3/2017 Ahlstrom-Munksjö excluding NASS and Caieiras



# Stronger than expected market headwind



\* January-September, Illustrative

## EBITDA impacted by:

### Volume headwind in several businesses

- Supply chain destocking
- Weaker demand
- Stiffer competition

### Successful management of selling prices, more than offsetting higher variable costs

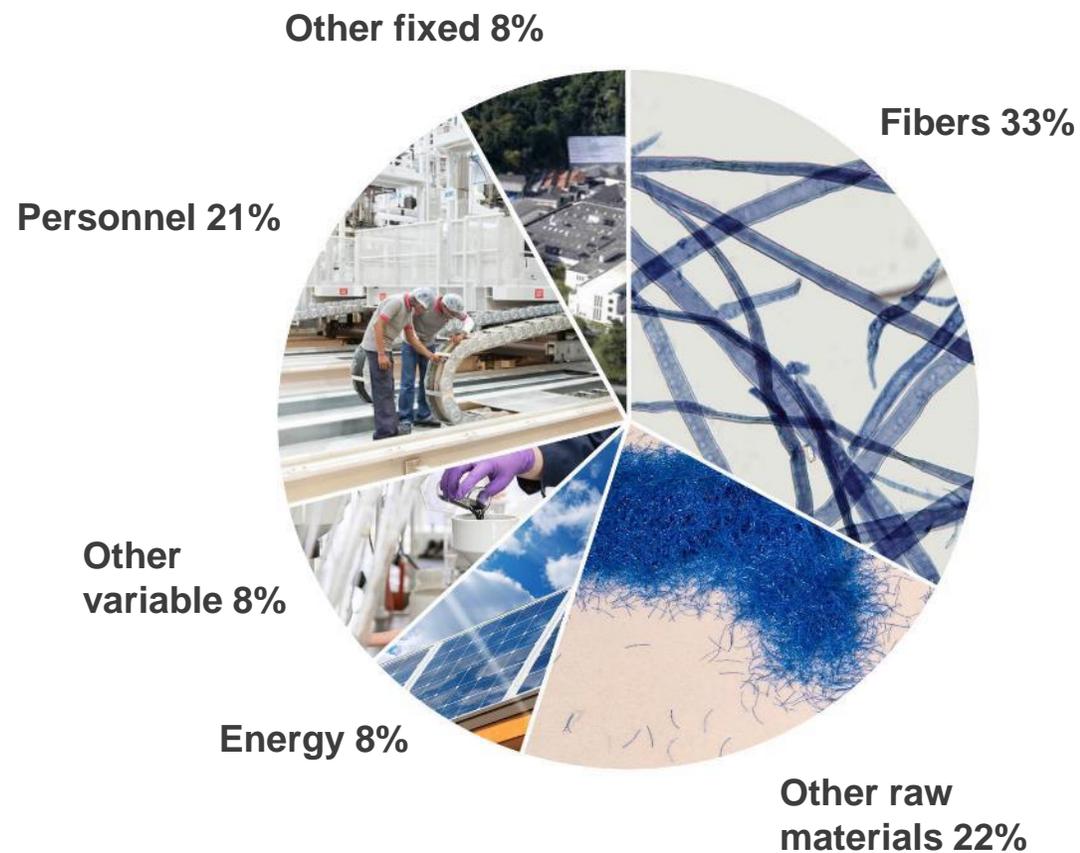
- Record gross margin for product

### Stable fixed costs

- Inflation mitigated by fixed cost saving
- Higher fixed costs per ton



# Breakdown of operating costs



Pro forma breakdown of operating costs

## Approximate impact on EBITDA of a 10% increase in costs:

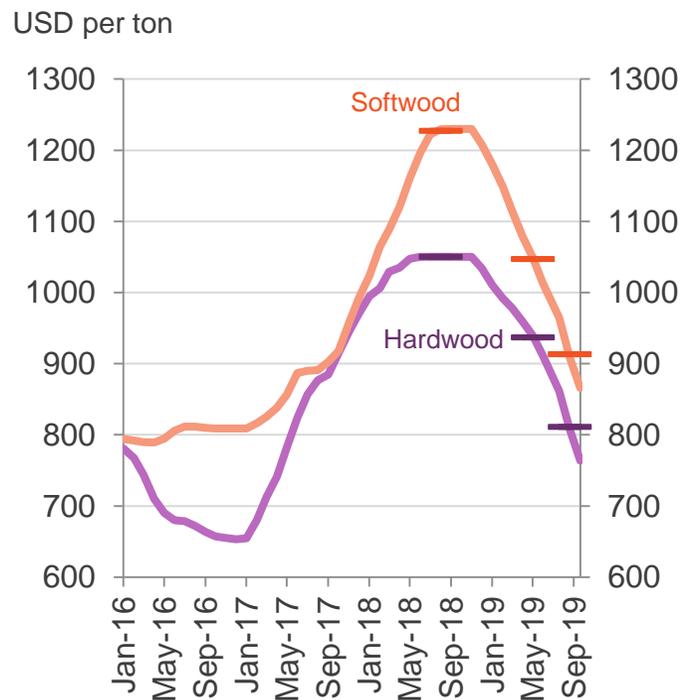
Hardwood pulp	-30
Softwood pulp	-11
Tio2	-12
Chemicals	-7
Energy	-20

Figures in EUR million



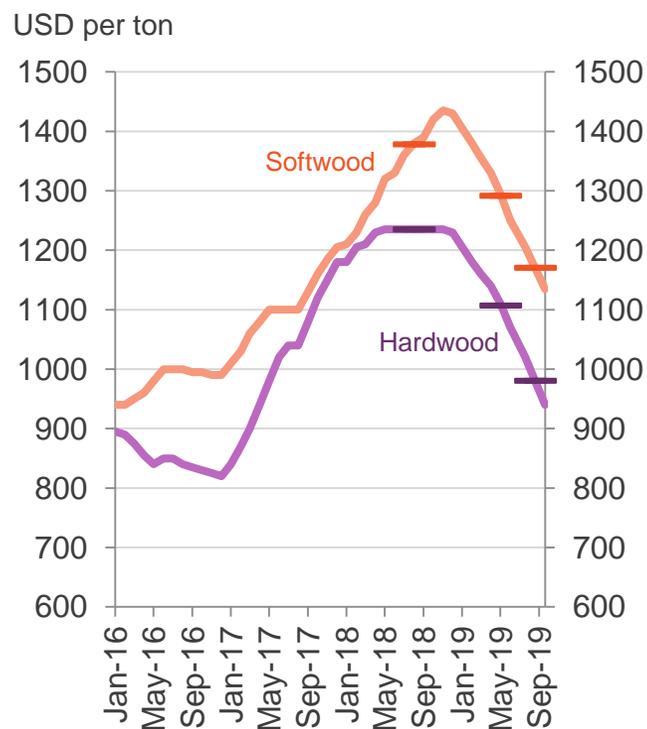
# Pulp price development

## Europe



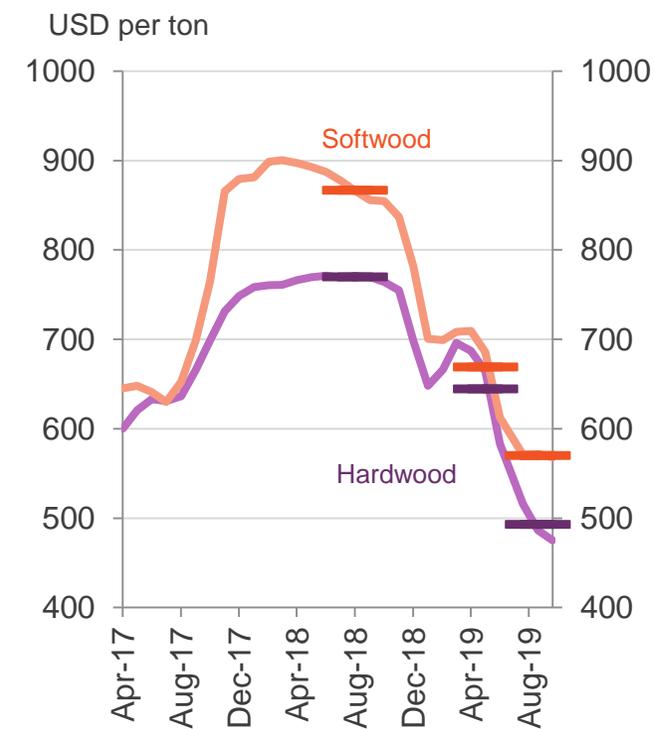
Europe		
Price change, %	Q3/Q3	Q3/Q2
Hardwood	-23	-13
Softwood	-16	-13

## North America



North America		
Price change, %	Q3/Q3	Q3/Q2
Hardwood	-26	-11
Softwood	-15	-9

## China

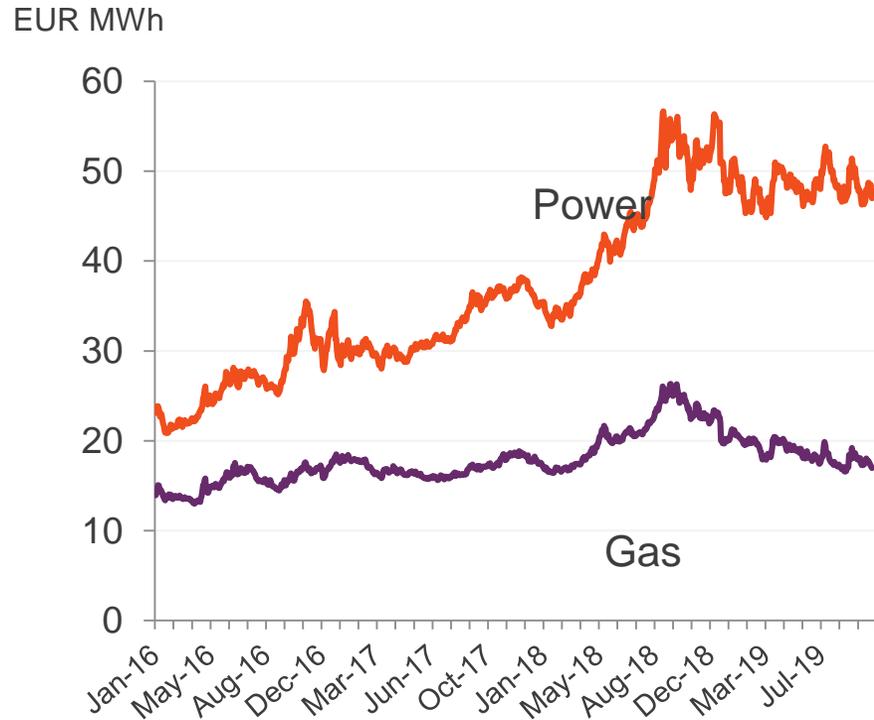


China		
Price change, %	Q3/Q3	Q3/Q2
Hardwood	-36	-24
Softwood	-34	-15



# Energy and titanium dioxide

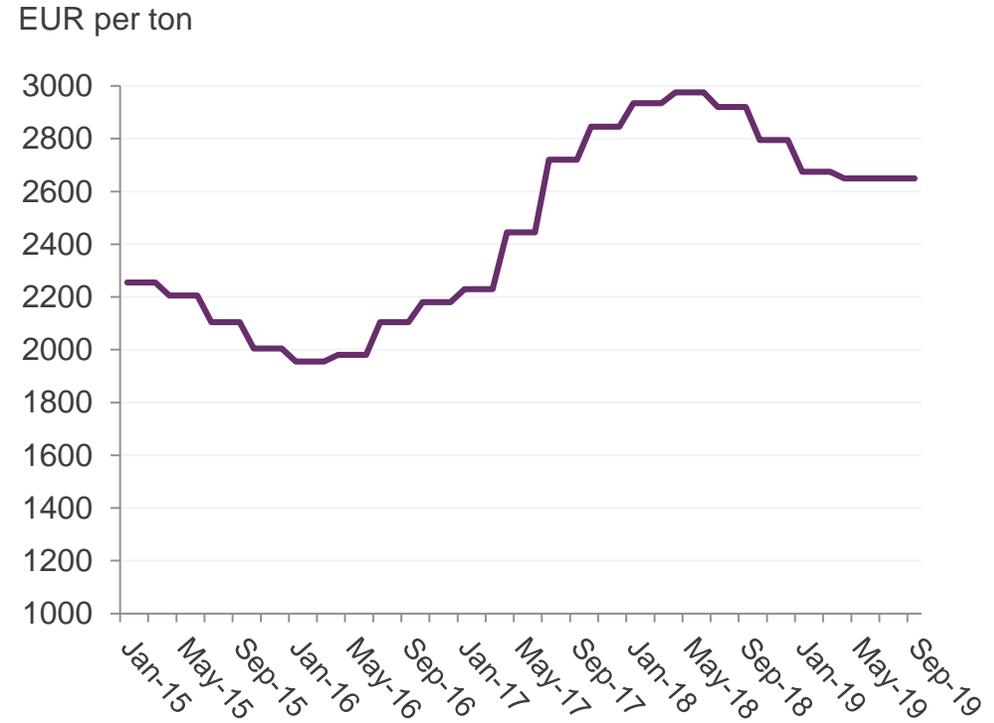
## European forward power and gas prices



Change %	Q3/Q3	Q3/Q2
Power	2	2
Gas	-21	-6

Source: E&C consultants

## Titanium dioxide



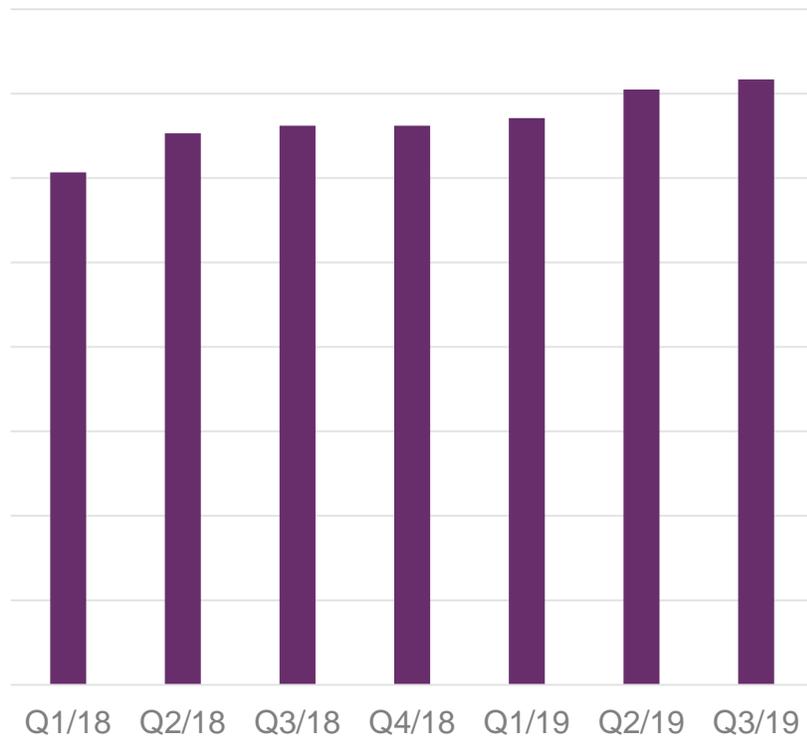
Change %	Q3/Q3	Q3/Q2
Tio2	-3	0

Source: ICIS Europe FD



# Successful commercial strategy

Gross margin for product

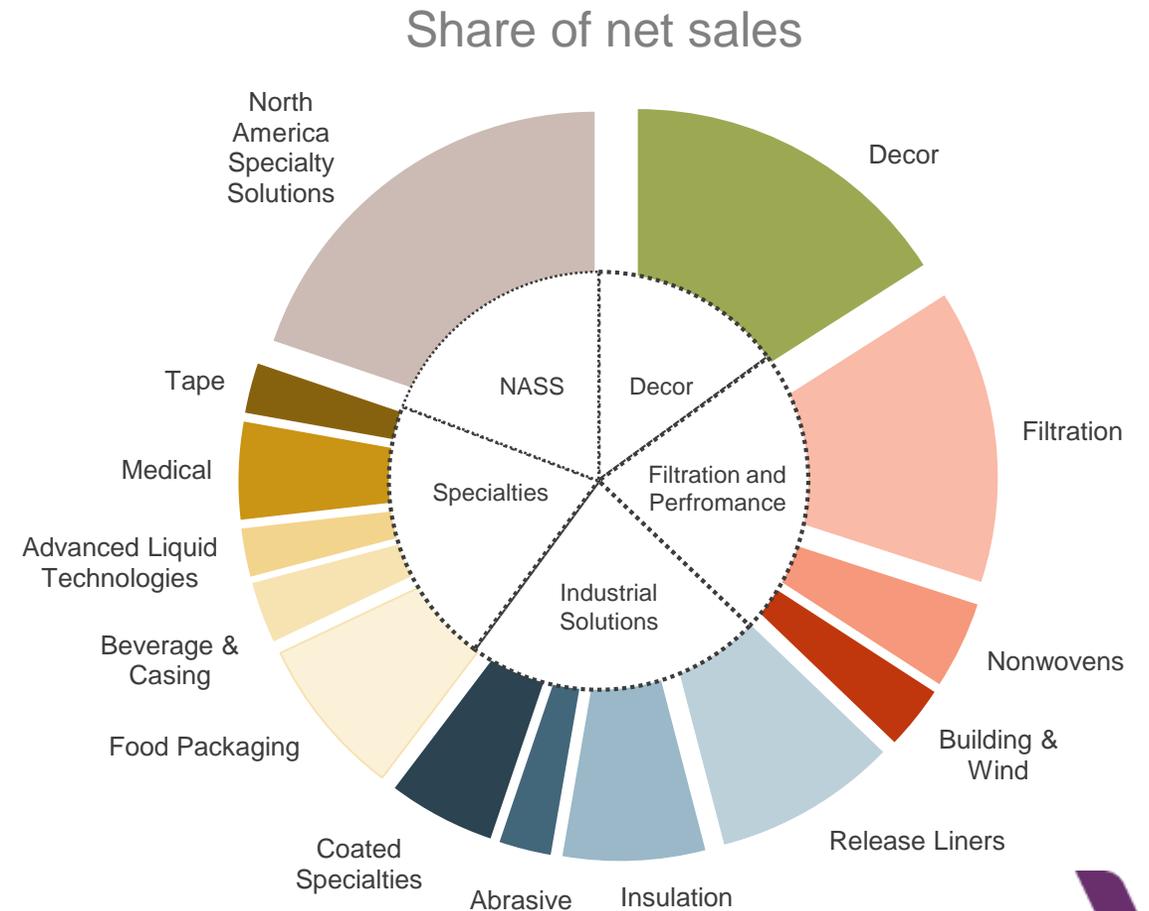
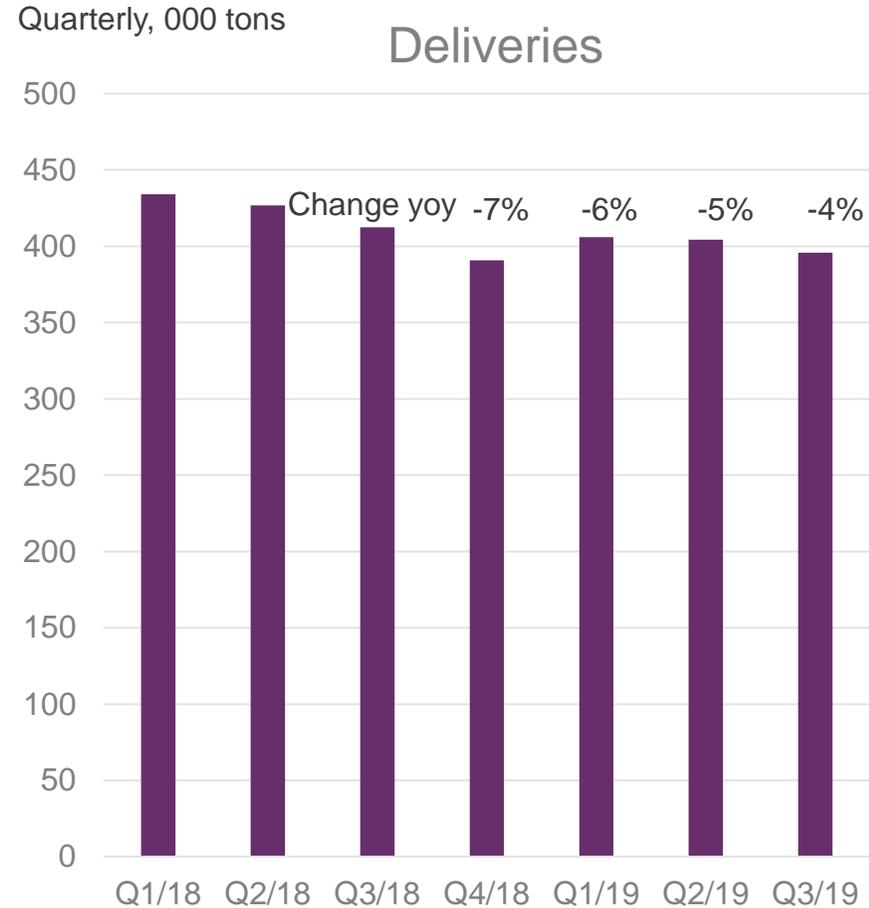


## Successively increasing gross margin for product

- Compensating for sharply increasing variable costs in 2018
- Supported by gradually lower variable costs in 2019



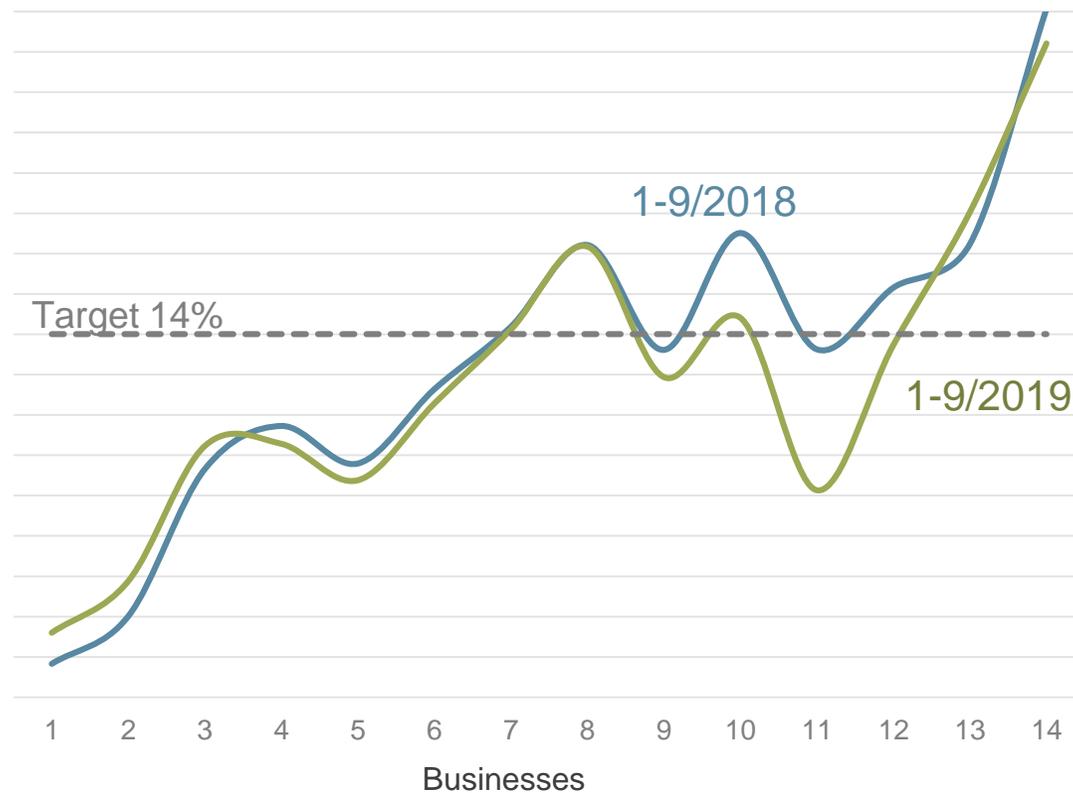
# Deliveries impacted by destocking, slowing demand and stiffer competition



# Some businesses are doing better, some worse, due to various reasons

## Comparable EBITDA margin %

EBITDA margin %



### Business performance

#### Deterioration

Weaker markets (4)

Stiffer competition (4)

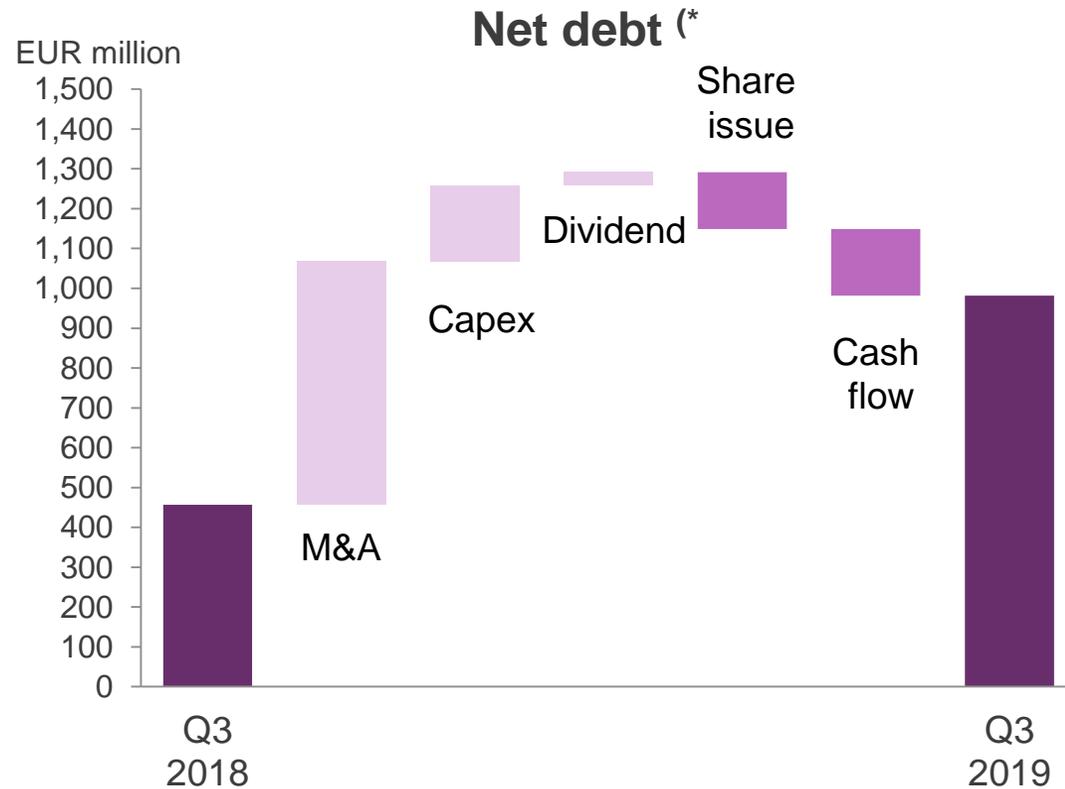
#### Improvement

Stable performance (3)

Improved performance (3)



# Investment driven increase in debt

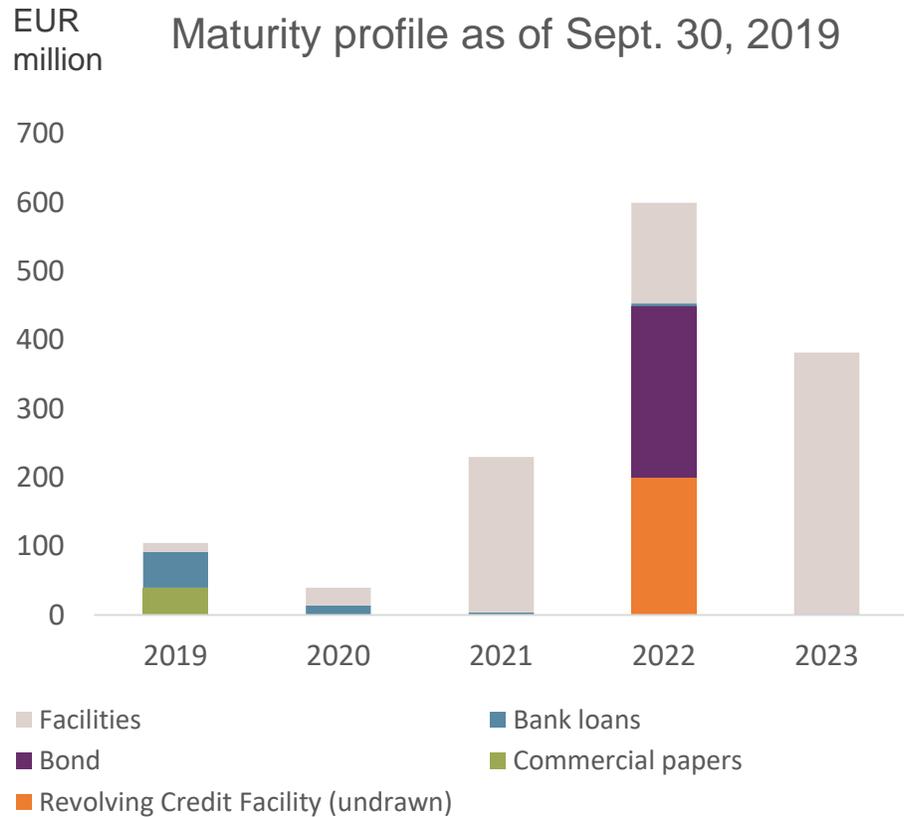


\* The implementation of the new IFRS 16 standard, which is excluded from debt covenant calculations, increased net debt by EUR 57 million and EBITDA by EUR 12 million in 1-9/19

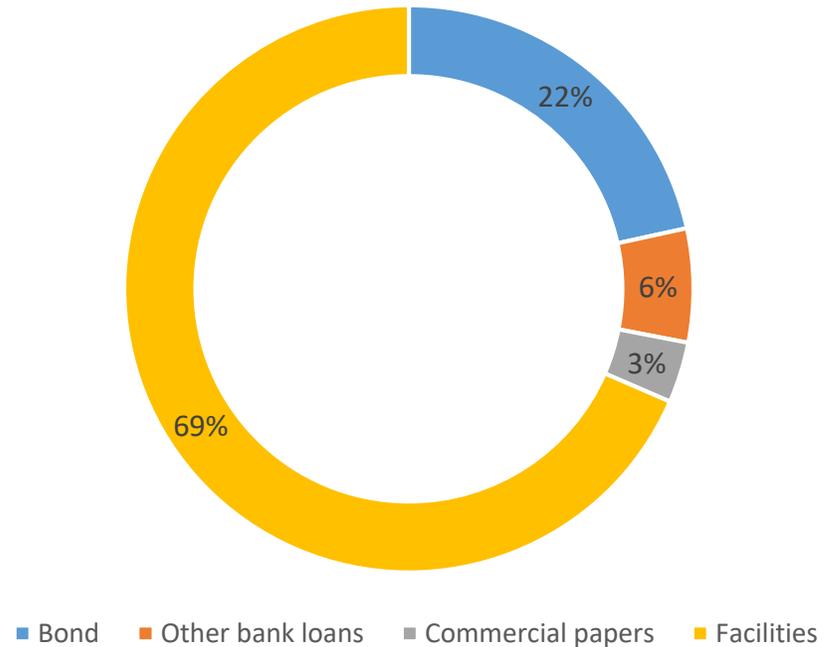
\* Illustrative



# Maturity profile and debt structure



Interest-bearing liabilities EUR 1.209 billion as of Sept. 30, 2019



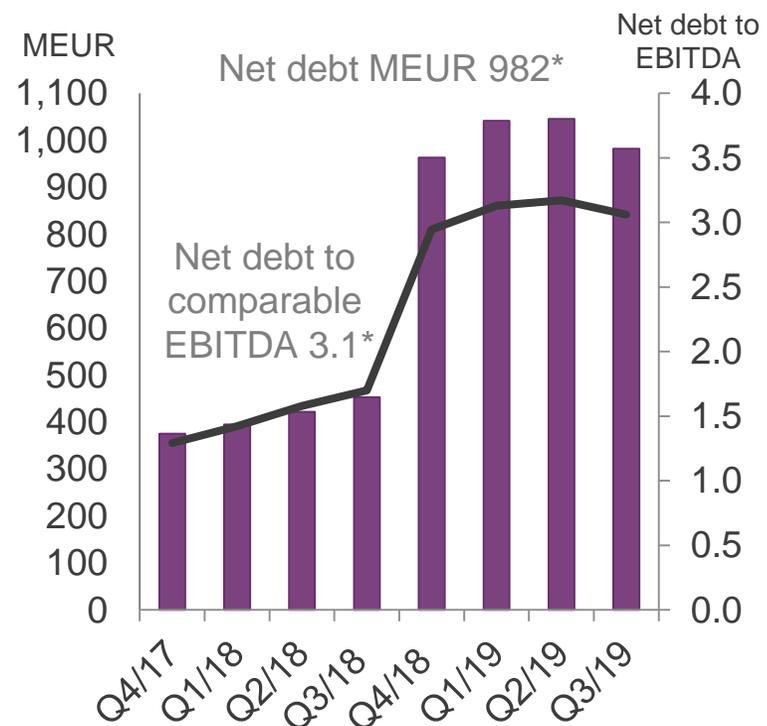
- Cash position EUR 228 million
- Available undrawn committed facilities EUR 214 million
- Available undrawn uncommitted facilities EUR 372 million

- Weighted average interest rate 3.1%
- Net interest expense EUR 36 million in 1-9/2019

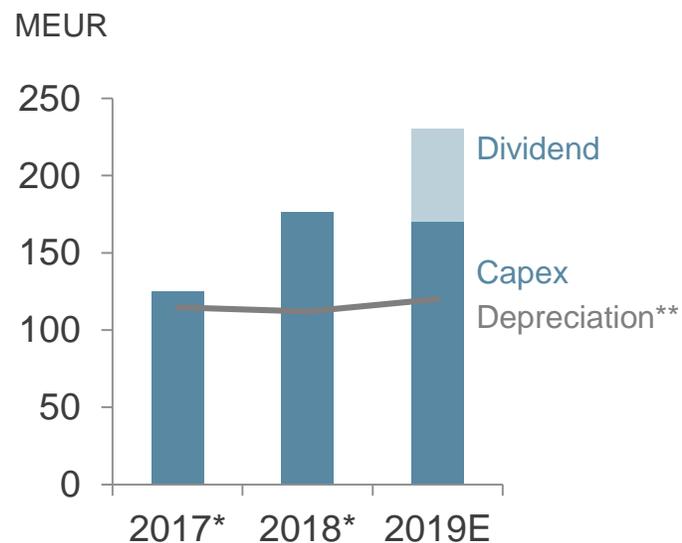


# Capital generation and allocation

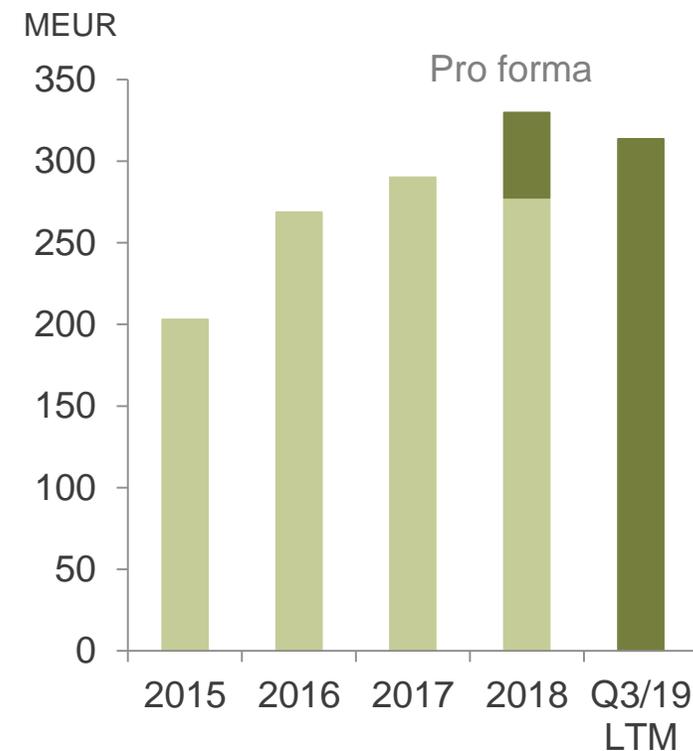
## Net debt



## Capital allocation



## Comparable EBITDA\*\*



\* The implementation of the new IFRS 16 standard, which is excluded from debt covenant calculations, increased net debt by EUR 57 million and EBITDA by EUR 12 million in 1-9/19

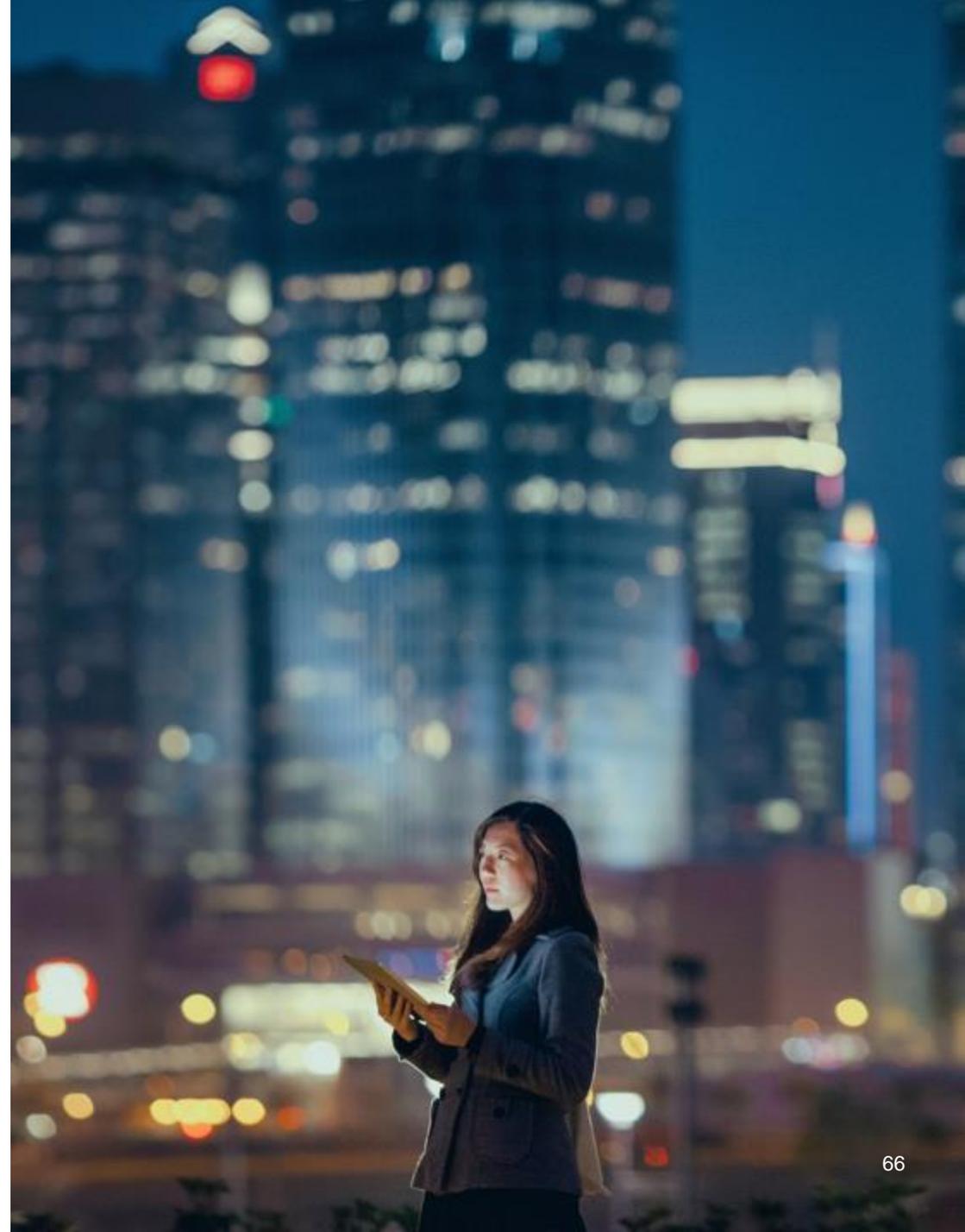
\*Pro forma  
\*\* Excluding PPA

\*\*Years 2015-2017 Ahlstrom-Munksjö excluding NASS and Caieiras



# Key takeaways

- Weaker market environment
- Successful management of selling prices
- Record gross margin for product
- Focus on deleveraging



# Summary of Capital Markets Day

- Leading position in chosen growth segments
- Balanced geographical exposure to a broad range of end-uses
- Designed sustainable and innovative solutions for customers
- Actions ongoing to improve competitiveness and drive growth

**Smart solutions out of fibers**

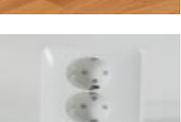


# Appendix



# Completed investments driving strategic progress

## Production ramp-up ongoing

		Efficiency and agility	Customer value	Profitable growth		
<b>Abrasive backings, Arches</b> Paper machine rebuild, Q1/18-	EUR 14m	✓	✓	✓		<i>Back of sandpaper</i>
<b>Filtration, Turin</b> Capacity debottlenecking, H1/18-	EUR 3m			✓		<i>Filtration material</i>
<b>Filtration, Madisonville</b> Product offering, H2/18-	EUR 23m	✓	✓	✓		<i>Filtration material</i>
<b>Foodpack, Saint Severin</b> New line installation, Q3/18-	EUR 7m		✓	✓		<i>Baking paper</i>
<b>NASS</b> Coater expansion, Q3/17-	EUR 13m		✓	✓		<i>Fiber composite release liners</i>
<b>Decor, Dettingen</b> Production line upgrade, Q1/19	EUR 5m		✓	✓		<i>Pre-impregnated decor paper</i>
<b>Insulation, Aspa</b> Bailing line modernization, Q2/19-	EUR 4m	✓	✓			<i>Specialty pulp</i>



# Completed and announced investments driving strategic progress

## Production ramp-up ongoing

**Coated Specialties, Jacarei**  
Coating line upgrade, Q3/19-  
EUR 21m

Efficiency and agility



Customer value



Profitable growth



Coated specialty paper

**Insulation, Billingsfors**  
Boiler and pulp line rebuild, Q3/19-  
EUR 23m



Electrotechnical paper

## Announced investment decisions

**Medical, Pont Audemer**  
Converting line rebuild, Q4/19-  
EUR 4m



Sterilization wrap

**Filtration, Release Liner**  
New co-generation in Turin plant, H1/20-  
EUR 15m



Turin plant

**Filtration, Turin**  
Capacity expansion, H2/20-  
EUR 28m



Industrial filter material

**Beverage & Casing, Chirside**  
New production line, H2/20  
EUR 28m



Coffee, tea, and casing material



# Balance sheet

MEUR

3500

3000

2500

2000

1500

1000

500

0



Assets

- Depreciation and amortization EUR 129m of which purchase price allocation (PPA) EUR 39m 1-9/2019
- Purchase price allocation total EUR 665m, mainly in tangible and intangible liabilities

- Capital employed EUR 2,374m
- LTM ROCE 6.2%
- Target of 14% EBITDA margin implies ROCE of approx. 10%

MEUR

3500

3000

2500

2000

1500

1000

500

0



Equity and liabilities



## Filtration & Performance Solutions

# Filtration

### Demand drivers

- Mileage driven, growing truck and passenger car fleets
- Transportation: more stringent emission regulation, new filter applications in electrical mobility
- Industrial: higher air quality standards

### Strengths

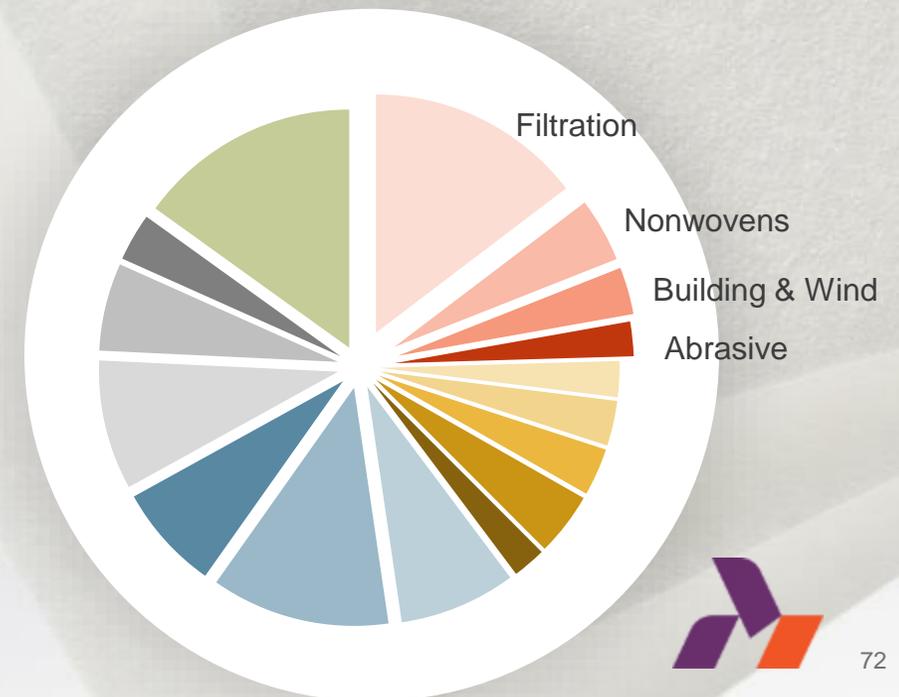
- Global leadership engine filtration
- Growing position in industrial air filtration
- Unique know-how enabling tailor-made developments for engine filtration customers
- Wide and unique technology platform and strong R&D capabilities in industrial filtration

### Going forward

- Filtration seeks to further reinforce its global leadership in engine filtration and grow in China and elsewhere
- The industrial filtration will be expanded, and new filtration applications developed to capitalize from the electrification of mobility

The **Filtration business** develops and produces high-performance filtration materials for engine oils, fuels and air, as well as industrial air, used in vehicles or for industrial purposes. The Filtration business also has applications and is further developing filtration solutions for hybrid and fully electric vehicles. In transportation applications, sales come primarily from the aftermarket. The business operates globally.

- **Market position #1-2**
- **Average market growth 2-5% p.a.**



# Nonwovens

## Demand drivers

- Construction and need for energy efficient materials
- Shift from paper to nonwoven wallcoverings, increased use of personalized design in high-end wallcoverings
- Consumer spending

## Strengths

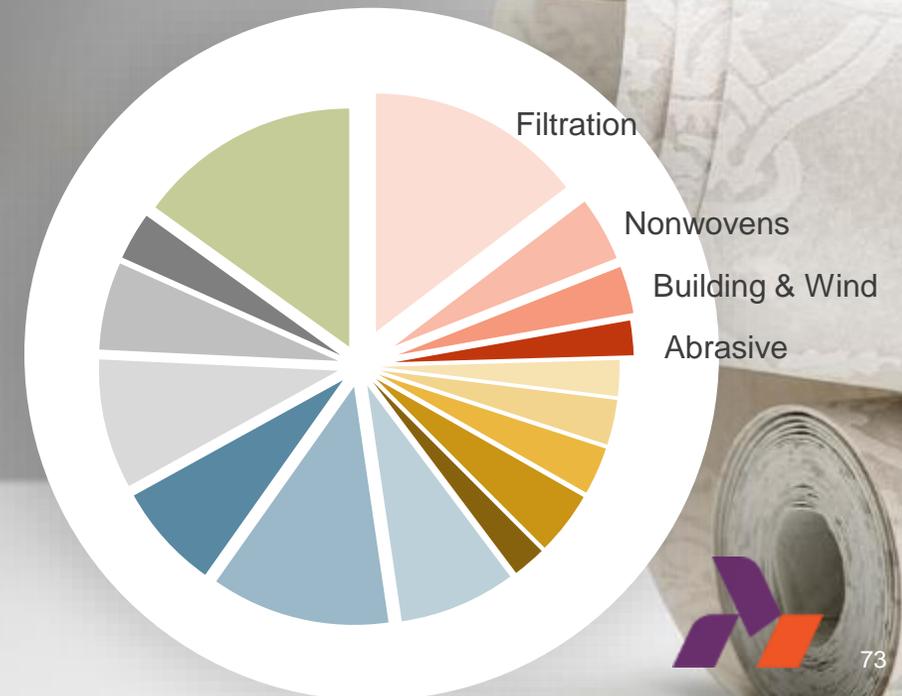
- Leading position in in the high-end wallcoverings market in Europe and Asia
- Differentiated offering for growing plasterboard applications
- Ability to tailor-make products to meet specific customer needs

## Going forward

- Grow significantly in the plasterboard segment and explore new niches in for example furniture laminates
- To further strengthen the position in high-end and digital wallcoverings materials

The **Nonwoven** business produces a wide range of materials for various applications including high-end wallcoverings, automotive interiors, plasterboard and flushable wipes. Key markets are Europe and Asia.

- **Market position #1** in high-end wallcoverings
- **Average market growth 2-3% p.a.**



## Filtration & Performance Solutions

# Building & Wind

### Demand drivers

- Construction and renovation activity
- Growing popularity of luxury vinyl tile (LVT) flooring solutions, especially in North America
- Substitution from other flooring reinforcements such as mineral felt, especially in North America
- New and upgrade investments in wind turbines

### Strengths

- Unique glass fiber tissue production technology
- Agile customer service and close customer relationships

### Weak position in Fabrics

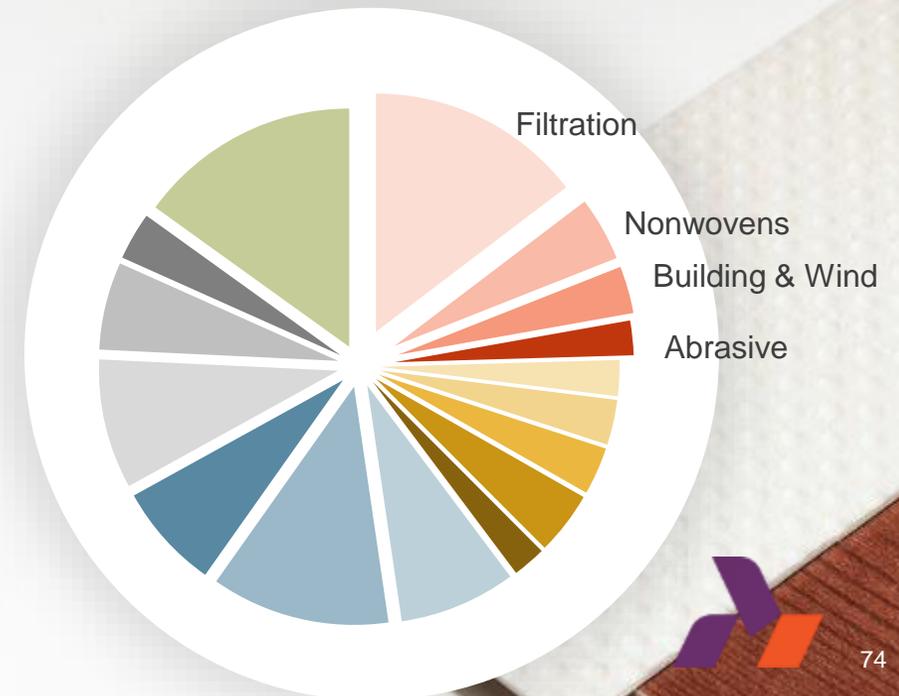
- Focus on quality and delivery flexibility

### Going forward

- Defend global leadership in glass fiber tissue for flooring applications and expand portfolio of applications for glass fiber tissue. In fabrics, seek product differentiation, e.g. through new product launches and increased customization.

The **Composites** business produces glass fiber tissue, mainly for flooring applications, and a range of building and transportation related end-uses. It also manufactures reinforcement fabrics to the wind turbine, boat hull and vehicle industries. In flooring applications Ahlstrom-Munksjö targets global markets.

- **Market position #1** in flooring
- **Average market growth 3-8% p.a.**



# Abrasive

## Demand drivers

- Demand is driven by automotive, wood, furniture and construction industries

## Strengths

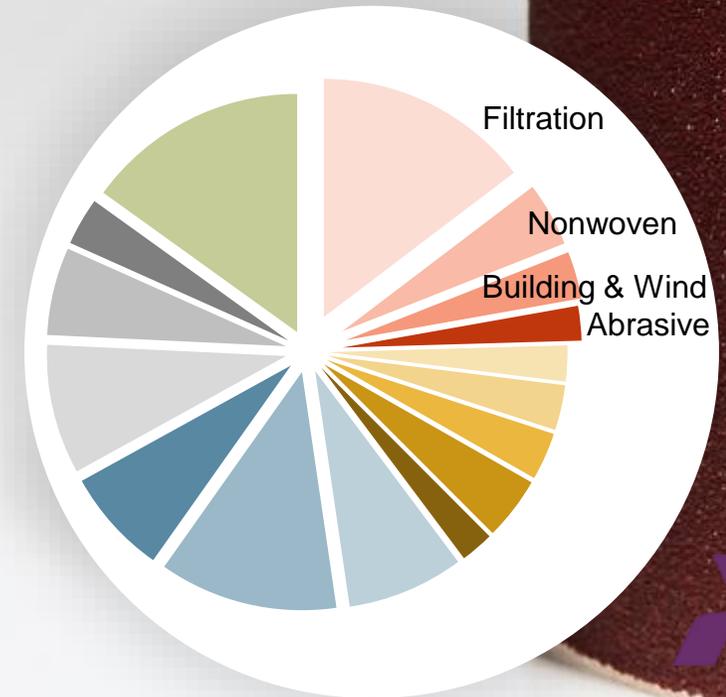
- Only supplier offering full range of paper and composite backings for the production of abrasive shapes in do-it-yourself or industrial channels
- 100% formaldehyde free offering
- Innovative paper backings in Light Weight latex paper segment and in Heavy Weight paper segment

## Going forward

- Profitable growth through innovative product differentiation and mix improvement as well as continuous improvement in production and value based pricing

The **Abrasive** business produces specialty papers used as backings for abrasive products used in industrial and do-it-yourself sanding applications. In the Abrasive business Ahlstrom-Munksjö targets global markets. The Abrasive business also includes fine art papers under the brand name Arches™ and printed decor papers.

- **Market position #1-2**
- **Average market growth 2-3% p.a.**



# Liquid Technologies

## Demand drivers

- Increase in testing for environmental and health monitoring.
- Patient-friendly procedures, performed at home
- Quick, cost-effective solutions for healthcare
- Safer drinking water, rising quality standards for food and liquids

## Strengths

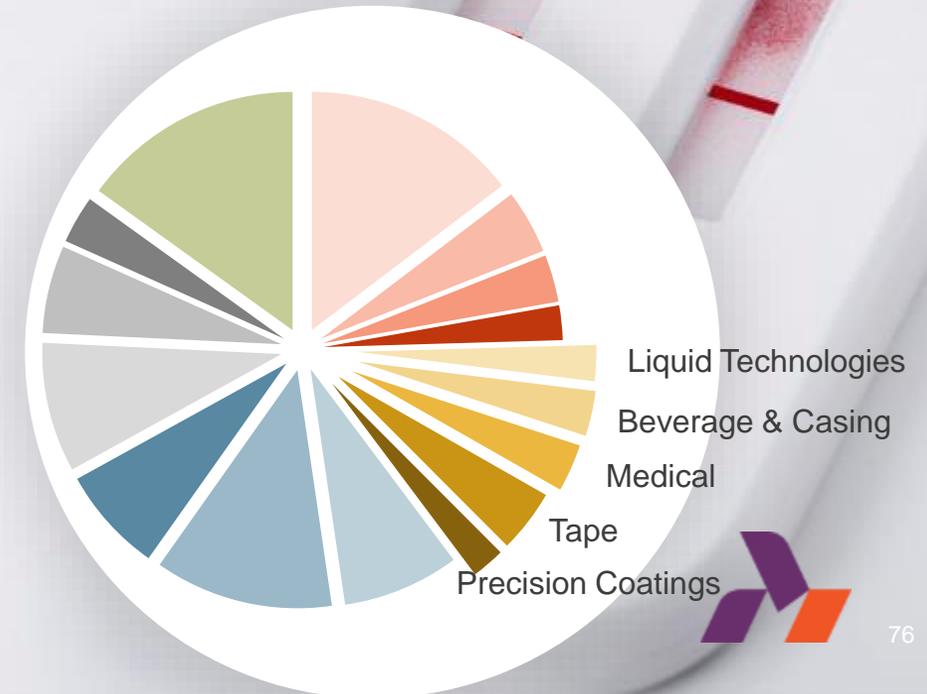
- Disruptor proprietary technology in water purification
- Alternative solution to liquid sampling by avoiding cold chain and special transport of specimen to be used for i.e. diagnosis of genetic diseases and DNA screening. New components for rapid test kits that extend this technology into pregnancy tests, infectious diseases and drug monitoring.
- Full range service for laboratory filters; cost-effective solution to increase hot cooking oil quality

## Going forward

- Market position in life science and laboratory segment will be strengthened through further product development and partnerships with e.g. kit assemblers. In liquid purification, the business will continue to penetrate the water purification market through more end-use applications.

The **Liquid Technologies** business produces high-quality filters for laboratory sample preparation and life science diagnostics materials, used by laboratories and manufacturers of rapid test kits, in addition to high-performance media for water purification devices.

- **Market position #2**
- **Average market growth 1-10% p.a.**



## Beverage & Casing

### Demand drivers

- Consumers increasingly seek sustainable alternatives
- Stricter food safety and chemical regulations
- More demanding packaging functionality and barrier properties

### Strengths

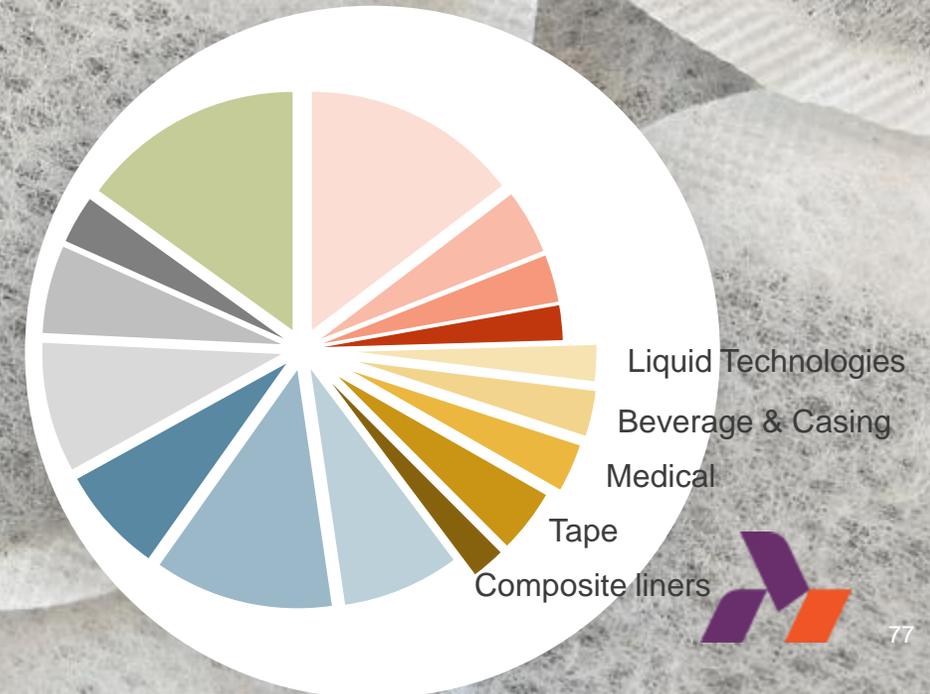
- Unique plastic-free biodegradable and compostable offering
- Forerunner in plastic-free coffee materials
- Unique viscose technology in casing materials

### Going forward

- To continue to differentiate with an unique plastic-free, biodegradable and compostable tea bag materials and single-serve coffee solutions offering
- To further develop and grow in the fibrous casing material segment
- Invest to improve manufacturing capability and efficiency in tea and coffee filter materials as well as in increased capacity

The **Beverage & Casing** business makes material for tea bags and coffee pods and casings with a focus on sustainability. Key markets are in Europe and North America, while the business is global.

- **Market position #1-2**
- **Average market growth 2-8% p.a.**



## Medical

### Demand drivers

- High-risk surgeries increasing
- Liabilities around infections and contamination
- Rigorous regulatory requirements
- Increasing use of single-use protection

### Strengths

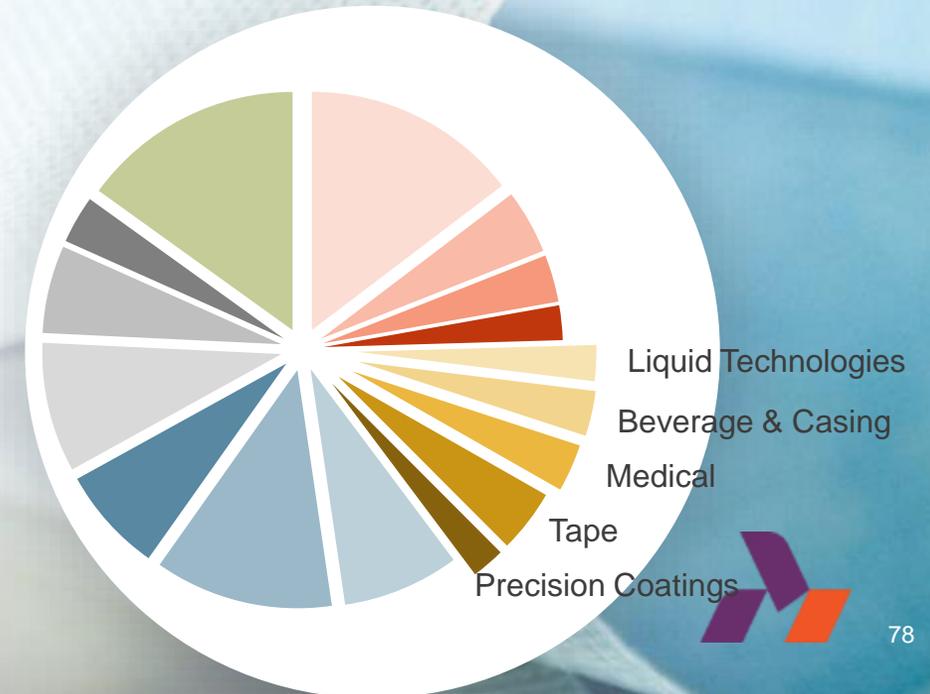
- Leading in high protective fabrics for high risk surgeries
- Leading position in sterilization wrap market in Europe
- Experienced team and strong product development capabilities
- Multi-technology platform approach

### Going forward

- Continue to expand with personal protective apparel fabrics as well as increasing market share in surgical drapes and gowns.
- Strengthen leading position in Europe in sterile wraps and grow as a solutions provider through an enhanced service offering
- Grow in Asia through improved customer service and local converting footprint

The **Medical** business makes medical fabrics used in sterile barrier systems, drapes, gowns, facemasks and sterilization wraps, all used primarily in surgery but also in cleanrooms and laboratories. Ahlstrom-Munksjö targets global markets.

- **Market position #1-3**
- **Average market growth 3% p.a.**



# Tape

## Demand drivers

- Home construction and renovation activity
- Growth in automotive and electronics industries
- Growth in e-commerce

## Strengths

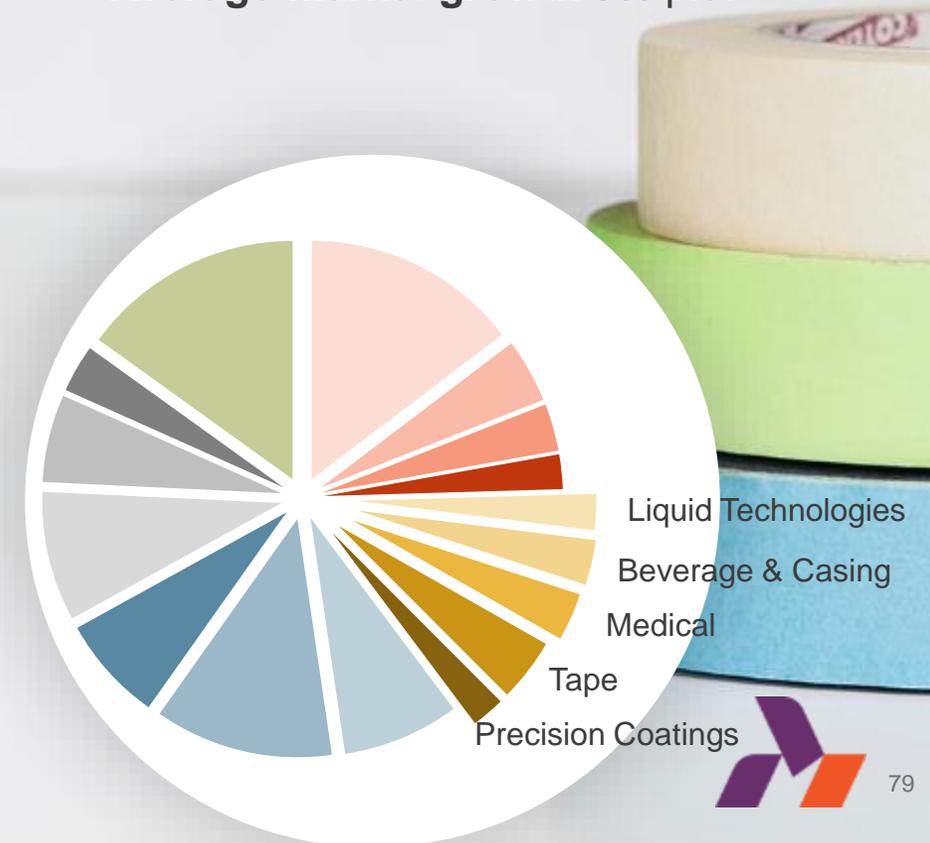
- Close customer relationships
- High and consistent quality in products and services
- Strong brand and comprehensive product range
- Cost competitive

## Going forward

- Consolidate product portfolio and optimize expanded global manufacturing footprint after Expera and Caieiras integration
- Growth in packaging tape segment by developing sustainable alternatives to replace plastics
- Leverage the competitive manufacturing in China in general purpose masking tape segment in Asia
- Continue product mix improvement with existing customers through a comprehensive offering in both general purpose and specialty masking tape

The **Tape** business offers tape backings to masking and packaging tape manufacturers used in the construction and automotive industries, packaging applications for e-commerce and for specialty purposes. Ahlstrom-Munksjö targets global markets.

- **Market position #1**
- **Average market growth 5% p.a.**



# Precision Coatings

## Demand drivers

- Increasing use of composite materials in the aerospace industry
- Increased use of self-adhesive fasteners in industrial and home applications
- E-commerce drives demand for packaging tapes and labels

## Strengths

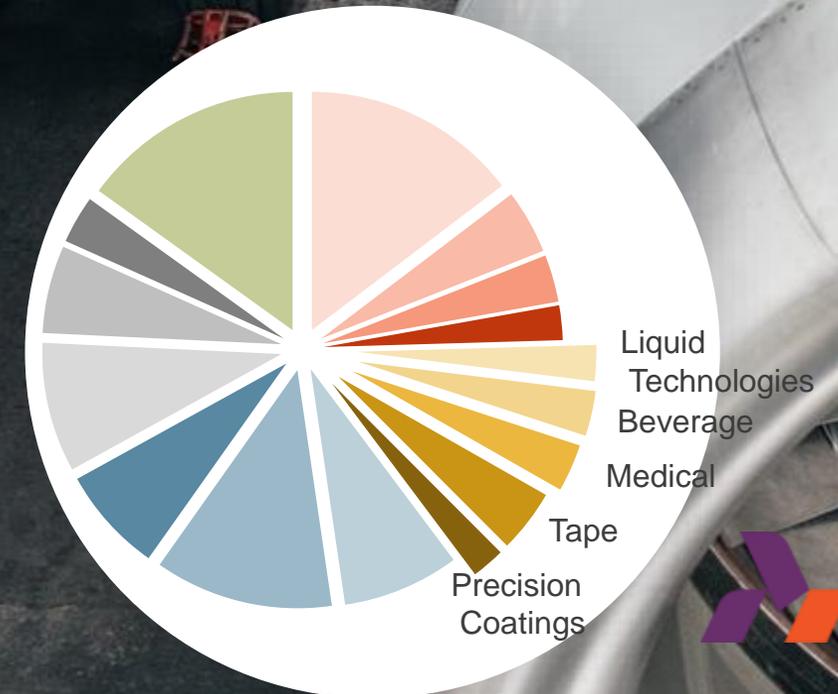
- Leading North American market position
- High degree of technical complexity and customization
- Strong innovation and product development capabilities

## Going forward

- Work proactively with customers, focus on brand owner and end-user collaborative innovation

The **Precision Coatings** business offers a variety of pressure-sensitive liners for fiber composites. The business especially targets highly technical products that require specialized coating machines and experts to meet qualification and certification needs. Key markets are in North America.

- **One of the leading suppliers** in the relevant product segments
- **Average market growth 3-8% p.a.**



# Insulation

## - Electrotechnical

### Demand drivers

- Extension and upgrade of power distribution networks
- Decentralization of power generation and power grids
- Urbanization and construction activity drives power equipment investments

### Strengths

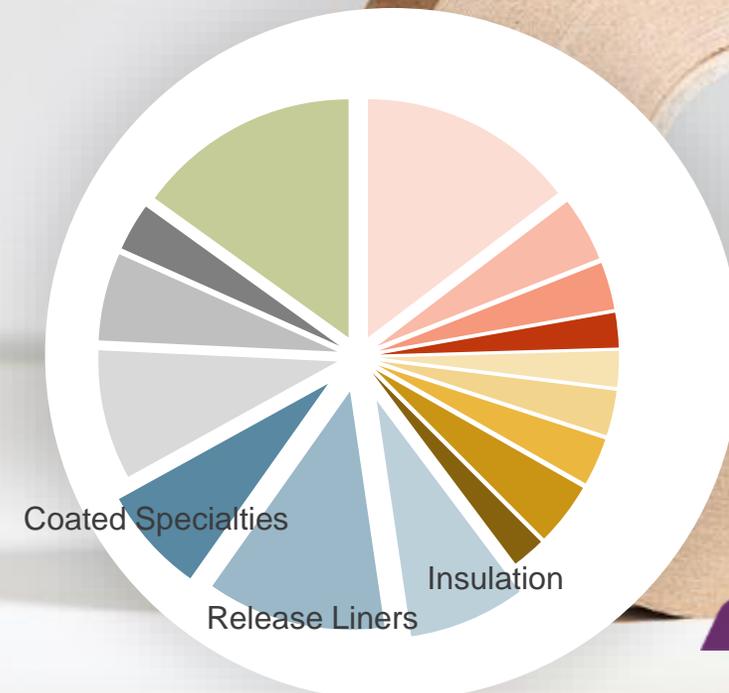
- Broad portfolio of electrotechnical papers
- Internally sourced high quality, pure and clean pulp
- Technical knowledge of power equipment end-uses

### Going forward

- In electrotechnical insulation papers, converting capability and overall capacity will be expanded to drive profitable growth. In addition, continuous improvement for operational efficiency and value-based price management is pursued.

The **Insulation** business supplies electrotechnical insulation papers to manufacturers of transformers and high voltage cables globally. It also produces thin papers used as interleaves and specialty long fiber cellulose pulp.

- **Market position #1-2** in electrotechnical papers
- **Average market growth 2-3% p.a.**



## Release Liners

### Demand drivers

- Economic growth, growing middle class
- E-commerce drives logistics and need for labels in tracking and identification
- In industrial segments growth is driven by tapes, medical and composites

### Strengths

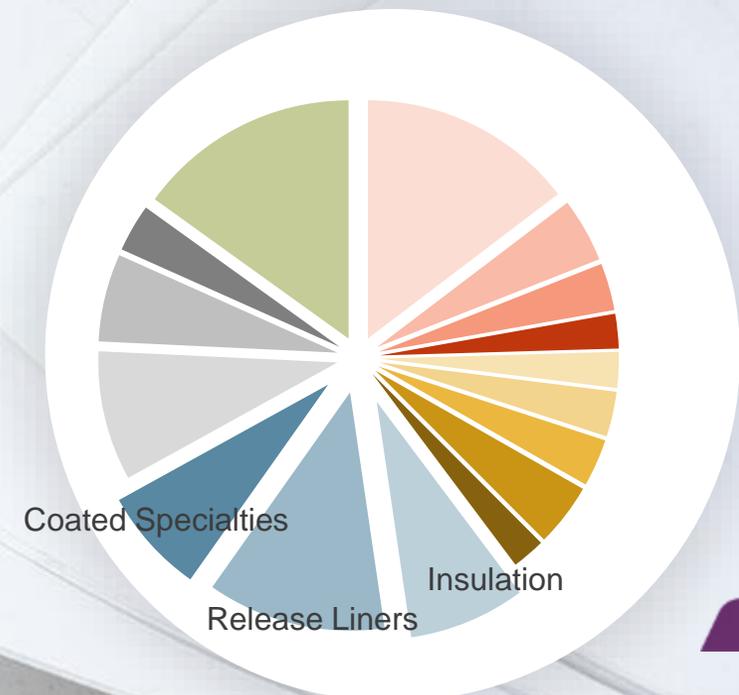
- Superior customer relationships
- Quality and service
- Sustainable products

### Going forward

- Focus is on operational excellence and continuous improvement in performance
- Build on Ahlstrom-Munksjö's strong global platform, particularly in technical release liners for specialty industrial applications, to seize attractive opportunities
- Expand geographically outside of Europe

The **Release Liners** business produces papers that after coating can be used to carry self-adhesive labels or for manufacturing and assembling adhesive components in industrial processes. Key markets are Europe and selected export regions.

- **Market position #2**
- **Average market growth 4% p.a.**



## Coated Specialties

### Demand drivers

- Increasing need of packaging, tracking and identification in supply chains
- Packaging functionality
- Private consumption, sustainable alternatives replacing plastics
- Demographic and purchasing power development in Brazil and South America

### Strengths

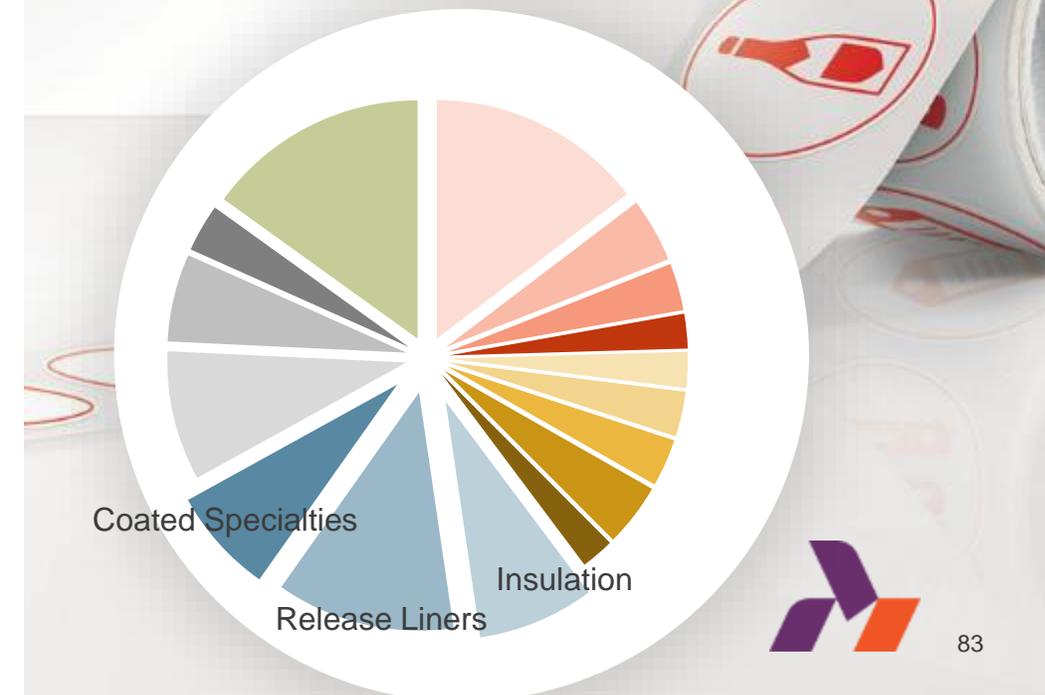
- Customer relations with both regional and global players
- Strong local platform in the South American market
- Product range and development

### Going forward

- Further increase efficiency by continuous improvement and key investments supporting product mix strategy, capturing a larger part of the high-value coated specialties segment
- To secure benefits from Caieiras integration in terms of market, operations, and competence sharing

The **Coated Specialties** business manufactures coated label papers, flexible packaging papers for fast-moving consumables and processed foods, as well as office, printing and writing papers. Key markets are Europe, South America and Asia.

- **Market position** #2-4 in coated specialty papers
- **Average market growth** 2-4% p.a.



# Food Packaging

## Demand drivers

- Sustainability, recyclability, alternatives to plastics
- Stricter food safety and chemical regulations
- Packaging functionality
- Move toward unbleached papers

## Strengths

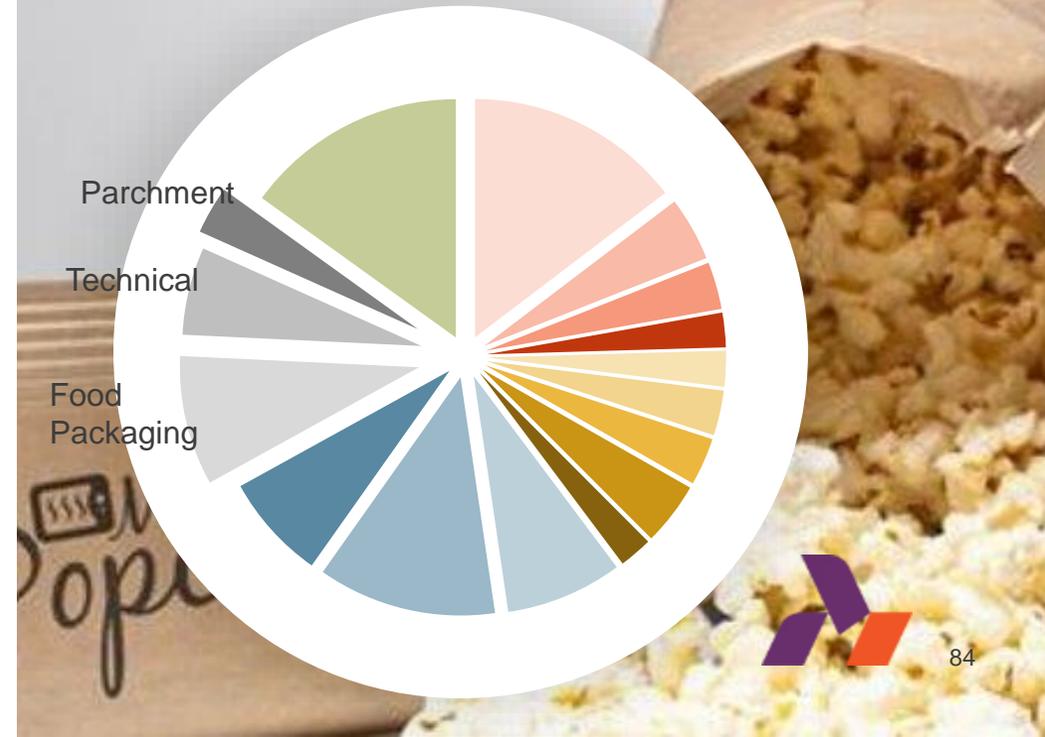
- Strong innovation and product development capabilities
- Broad range of products and capabilities
- Leading North American market position with integrated pulp production

## Going forward

- Work proactively with customers, focus on brand owner and end-user collaborative innovation
- Utilize asset base optimization

The **Food Packaging** business offers a broad range of specialty papers and unique capabilities for quick service restaurant, food processing, cooking and baking, and flexible packaging markets. Key markets are in North America and Europe.

- **One of the leading suppliers** in the relevant product segments
- **Average market growth 1-3% p.a.**



## Technical

### Demand drivers

- U.S. construction and infrastructure activity, particularly homebuilding
- Trends in residential and commercial building segments, and changing building codes
- Increased use of LCD/other displays and continuing need for higher quality materials
- Sustainability in packaging
- Trends and changes in textile production and printing

### Strengths

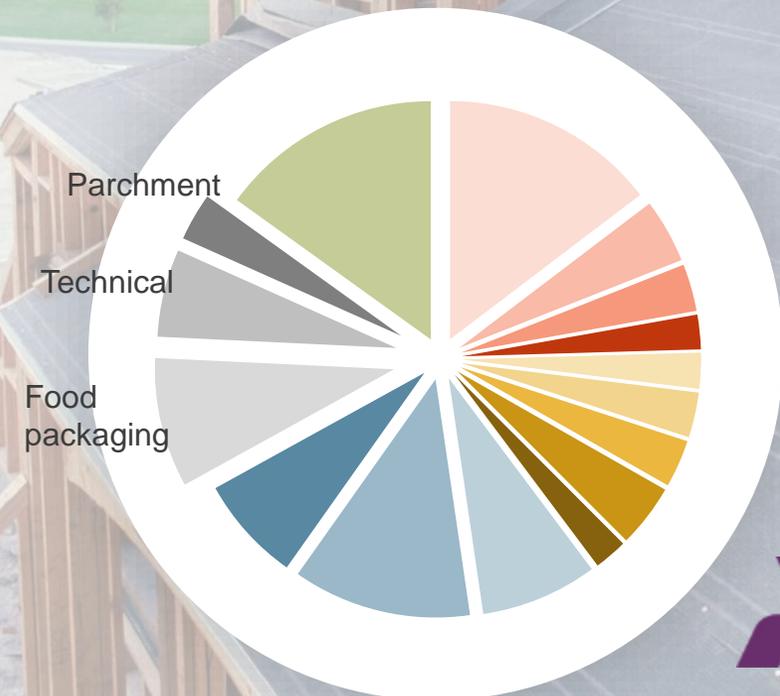
- Leading North American market position
- High degree of technical complexity and customization
- Strong innovation and product development capabilities

### Going forward

- Leverage R&D, Product Development, and capability strengths to address changing needs
- Utilize asset base optimization

The **Technical** business produces specialty products used for a wide variety of industrial and construction applications. The product portfolio includes glass interleave papers, saturating bases, laminating bases, dye sublimation papers, and other industrial packaging fiber-based solutions. Key markets are in North America, in addition to selected export regions.

- **Leading supplier position** in the several product segments and niche applications
- **Average market growth 1-3% p.a.**



# Parchment

## Demand drivers

- Private consumption, push towards sustainable alternatives
- Brand-owners seeking cellulosic solutions with intrinsic barrier properties to replace plastics
- Stricter food safety and chemical regulations

## Strengths

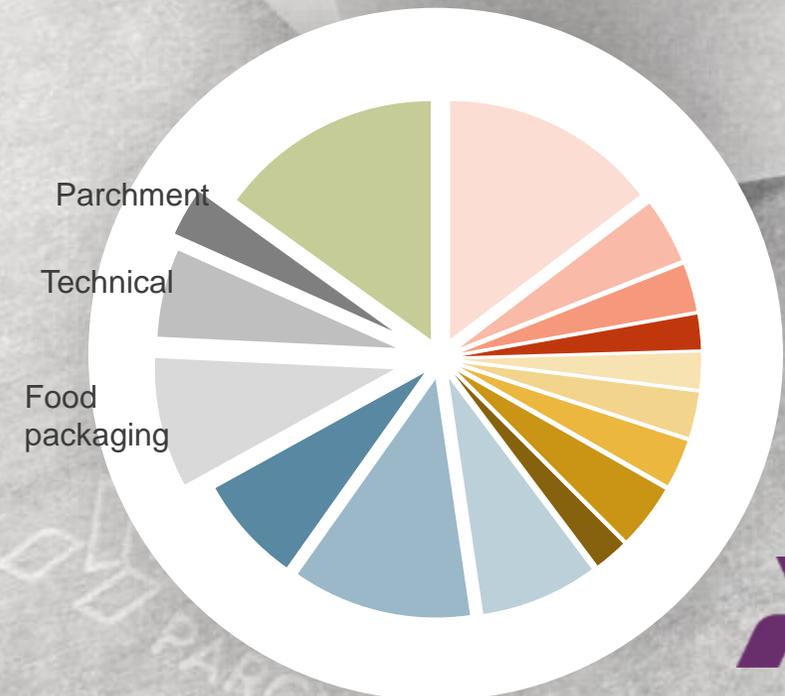
- Capabilities helping customers to differentiate
- Leading brand
- Unique technical characteristics of parchment paper

## Going forward

- To leverage on the technical characteristics of parchment paper and consolidate and expand leadership in baking and cooking
- Expand the use of parchment paper to non-food adjacencies

The **Parchment** business produces a broad portfolio of sustainable vegetable parchment solutions for food and industrial applications. The product portfolio includes cooking and baking papers, pan liners, trays and molds. Key markets are in Europe and North America.

- **Market position #1** in baking and cooking
- **Average market growth 2-3% p.a.**



## Decor

### Demand drivers

- GDP growth, impacting residential home starts, commercial building projects and renovation
- Rapidly growing middle class in developing markets driving construction and furniture demand
- Interior design trends
- Substitution from solid wood, veneer and plastic foils

### Strengths

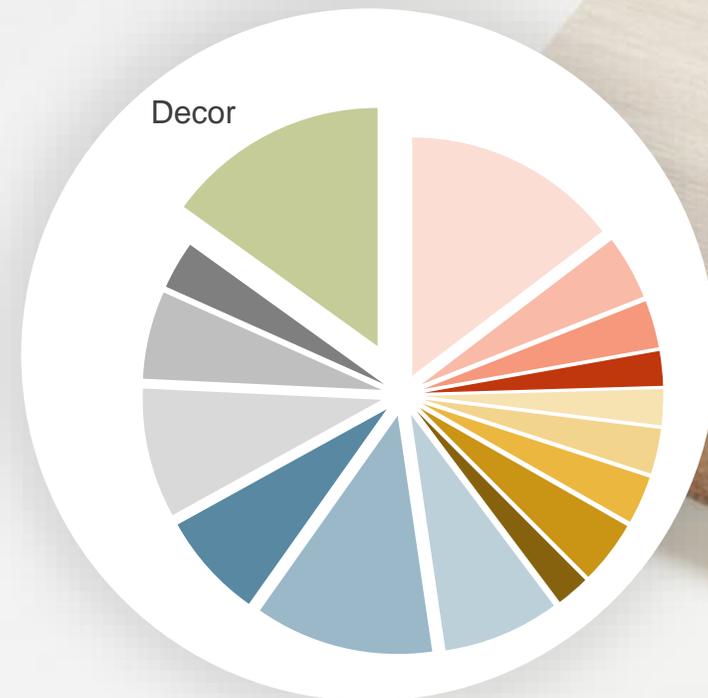
- Industry leading brand, based on capabilities, service and quality
- Strong positions in Europe, North and South America
- Diverse, high-quality product and service offering
- Global leader in solid colors and pre-impregnated papers

### The way forward

- Grow and strengthen leading positions in Europe and North America
- Establish a strong growth platform in South America
- Enter China market

The **Decor** business produces paper in a wide range of colors, grades and grammages for decorative applications mainly used in laminated furniture, flooring and interior applications both for technical and esthetical purposes. Key market is Europe and selected export markets.

- **Market position #2-4**
- **Average market growth 3% p.a.**



An aerial photograph of a dense forest, likely a coniferous forest, with a road winding through it. The trees are a mix of dark green and lighter green, suggesting different species or stages of growth. The road is a dark, straight line that curves slightly to the right in the lower right quadrant of the image.

**Global leader in sustainable  
and innovative fiber-based  
solutions**