



## BUSINESS MODEL, BUSINESSES & STRATEGY

April 2020

# Important notice

---

This presentation is being made only to, and is only directed at, persons to whom such presentation may lawfully be communicated ('relevant persons'). Any person who is not a relevant person should not act or rely on this presentation or any of its contents.

This presentation does not constitute an offering of securities or otherwise constitute an invitation or inducement to any person to underwrite, subscribe for or otherwise acquire securities in any company within the Borregaard Group. The release, publication or distribution of this presentation in certain jurisdictions may be restricted by law, and therefore persons in such jurisdictions into which this presentation is released, published or distributed should inform themselves about, and observe, such restrictions.

This presentation includes and is based, inter alia, on forward-looking information and contains statements regarding the future in connection with the Borregaard Group's growth initiatives, profit figures, outlook, strategies and objectives. All forward-looking information and statements in this presentation are based on current expectations, estimates and projections about global economic conditions, the economic conditions of the regions and industries that are major markets for the Borregaard Group and its lines of business. These expectations, estimates and projections are generally identifiable by statements containing words such as "expects", "believes", "estimates" or similar expressions.

Important factors may lead to actual profits, results and developments deviating substantially from what has been expressed or implied in such statements. Although Borregaard believes that its expectations and the presentation are based upon reasonable assumptions, it can give no assurance that those expectations will be achieved or that the actual results will be as set out in the presentation.

Borregaard is making no representation or warranty, expressed or implied, as to the accuracy, reliability or completeness of the presentation, and neither Borregaard nor any of its directors, officers or employees will have any liability to you or any other persons resulting from your use.

Information contained herein will not be updated. The slides should also be read and considered in connection with the information given orally during the presentation.

This presentation is subject to Norwegian law, and any dispute arising in respect of this presentation is subject to the exclusive jurisdiction of Norwegian courts.

# Borregaard is a global leader in biochemicals

*High value added through full raw materials utilisation  
Borregaard's biochemicals are sustainable and environmentally  
friendly substitutes for petrochemicals*

SPECIALITY  
CELLULOSE  
& CELLULOSE  
FIBRILS

▲ 45% FIBRES



BIOPOLYMERS  
& BIOVANILLIN

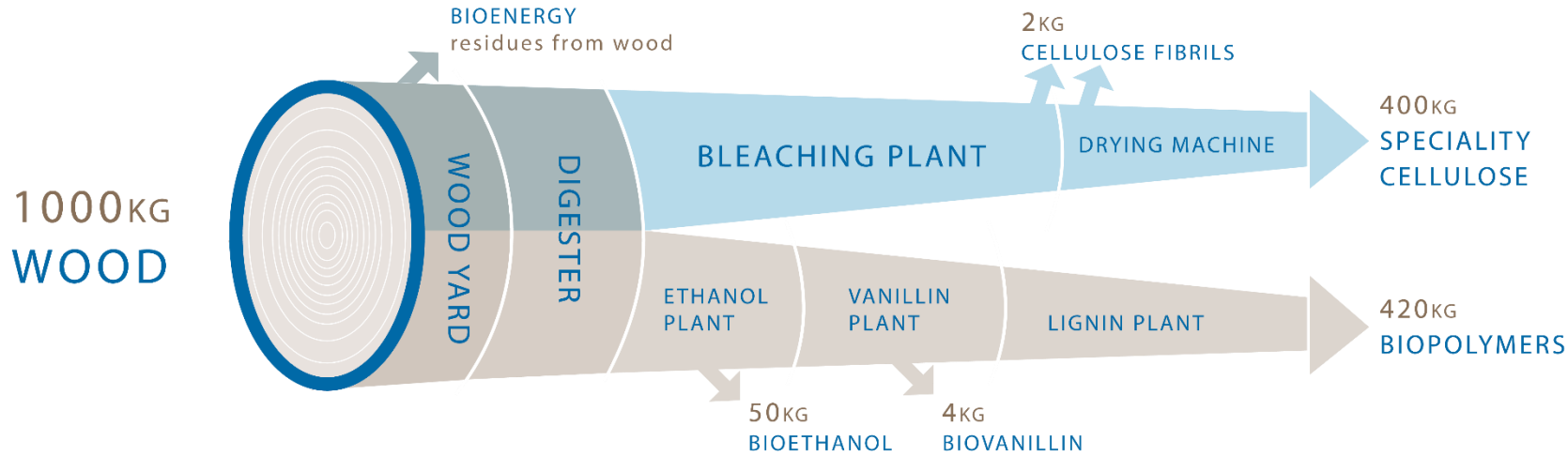
▲ 30% LIGNIN  
(BINDING MATERIAL)

BIOETHANOL

▲ 25% SUGARS

# Operates the world's most advanced biorefinery

Integrated production system serving diverse markets



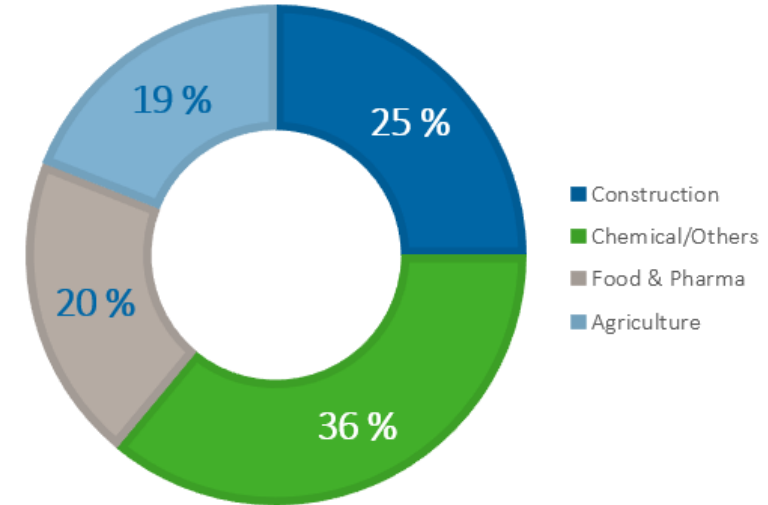
Integration models:

Own integrated

Partner integrated

Independent

End markets 2019



## SPECIALITY CELLULOSE

- Construction materials
- Filters
- Inks and coatings
- Casings
- Food/pharma/personal care
- Textiles

## CELLULOSE FIBRILS

- Adhesives
- Coatings
- Agricultural chemicals
- Personal care
- Home care
- Construction

## BIOPOLYMERS

- Concrete additives
- Animal feed
- Agrochemicals
- Batteries
- Briquetting
- Soil conditioning

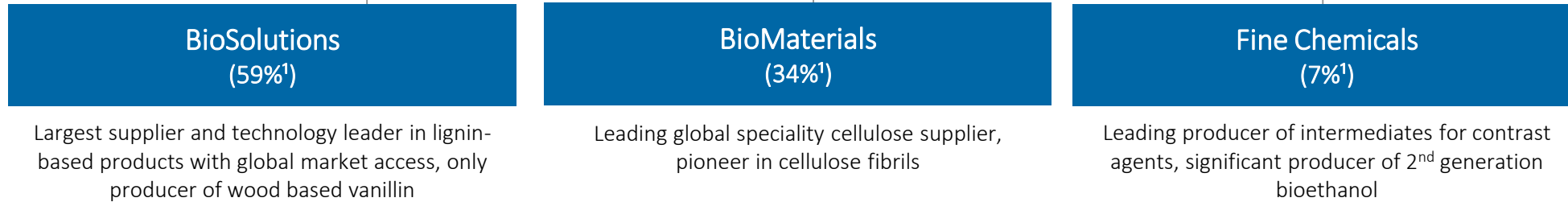
## BIOVANILLIN

- Food and beverages
- Perfumes
- Pharmaceuticals

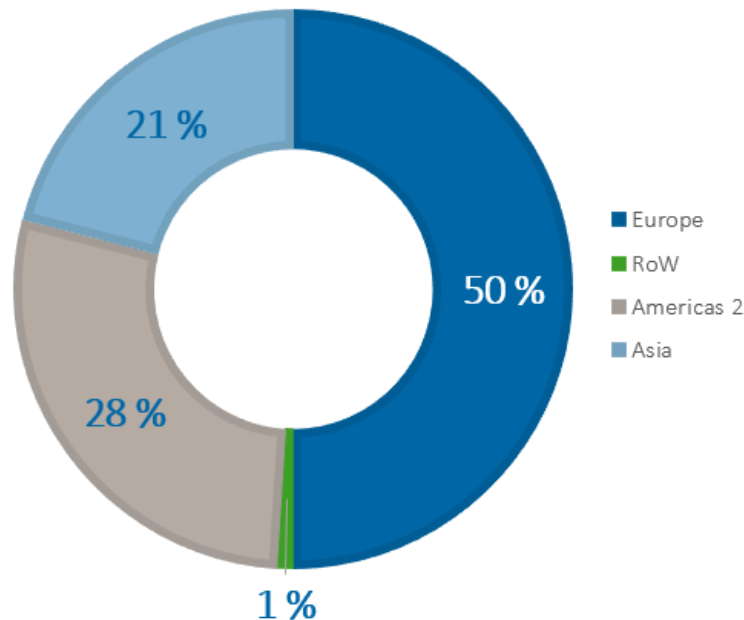
## BIOETHANOL

- Biofuel
- Pharmaceutical industry
- Paint/varnish
- Car care

# Global niche player with a market driven organisation



Sales Distribution (2019)



## Market driven organisation

- ~110 FTEs strong sales/technical service organisation
- Dedicated sales force for each business unit
- ~90% of sales handled through own organisation

1) Segment revenue as a % of total revenue 2019

2) USA/Canada: 23%, rest of Americas 5%



# The specialisation strategy

- **Specialisation in global niches**
  - Markets with high barriers to entry
  - Leading market positions through application knowledge and proximity to markets
  - Diversified market strategy and global market positions secure maximum flexibility
- **Strong innovation efforts and continuous improvement**
  - Business driven innovation model that involves the entire organisation
  - Continuous productivity improvement through more efficient organisation, competence development and smart use of technology
- **Competence is the main competitive advantage**
  - Competence differentiates Borregaard from the competitors
  - Combination of competences in sales & marketing, R&D and production

# Borregaard portfolio - strategic priorities

- **Specialisation, diversification and growth** within BioSolutions
  - Increase sales of high-value products
  - Drive product portfolio diversification
  - Leverage expanded biopolymers capacity
- **Develop** the unique biorefinery assets in Sarpsborg
  - Leverage high-value raw material base in biopolymers
  - Expand capacity for wood based vanillin
  - Continue specialisation of speciality cellulose, bioethanol and biovanillin
  - Strong focus on innovation and productivity efforts
- **Establish** Cellulose fibrils as a new business area
  - Based on core competence within wood chemistry and fine chemistry
  - Increased specialisation through high value added

# Completed and ongoing strategic projects



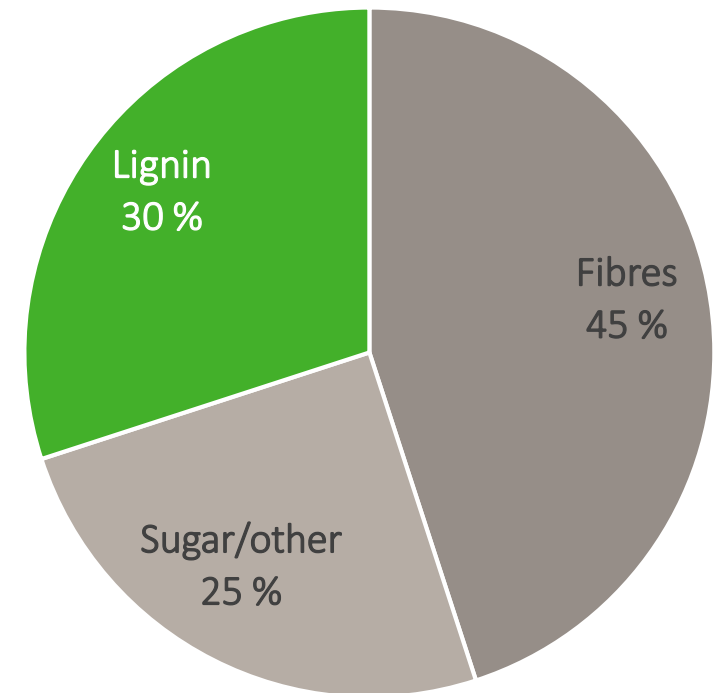
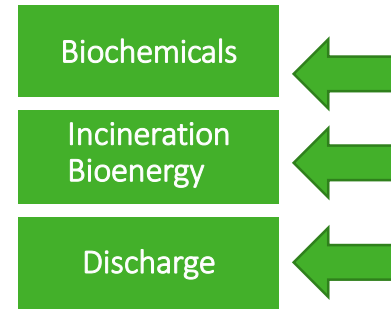
- Specialisation, diversification and growth within BioSolutions
  - Florida plant (1<sup>st</sup> phase) started up mid 2018
  - Upgrade and increased specialisation in Sarpsborg (2019)
  - Extension of joint venture agreement in South Africa to 2032
- Develop the unique biorefinery asset in Sarpsborg
  - High-end bioethanol expansion started up in Q1-18
  - Ice Bear capacity expansion completed end 2018
  - Lignin upgrade/specialisation in operation from July 2019
  - Wood based vanillin capacity expansion, completion 1H-21
- Establish cellulose fibrils as a new business area
  - Commercial-scale production facility completed in Q4-16
  - Exilva market introduction ongoing



# Biopolymers: Lignin – a sustainable and flexible raw material

Product performance depends on the pulping process and the raw material

- **Sulphite pulping process**
  - Versatile lignin used in a variety of products/applications
  - Quality depends on the chemicals base
  - Water soluble
  - Limited number of sulphite mills
- **Softwood (pine/spruce) vs hardwood and straw**
  - Softwood lignin has superior modification potential
- **Kraft (sulfate) pulping process**
  - Lignin is normally incinerated to recover energy and chemicals
  - Not in water soluble form from the pulp mill
  - Pulp producers are exploring potential for industrial use of kraft lignin



# BioPolymers

## Market position

- Largest supplier of lignin
- Only supplier of wood based vanillin
- Unique technical and application expertise

## Production

- Norway, USA, South Africa, Germany, Spain\*, Czech Republic, UK

## Applications

- Concrete admixtures
- Gypsum board
- Ceramics
- Animal feed
- Agro chemicals
- Soil conditioner
- Oil field chemicals
- Batteries
- Flavours & fragrances
- Personal care and pharmaceuticals

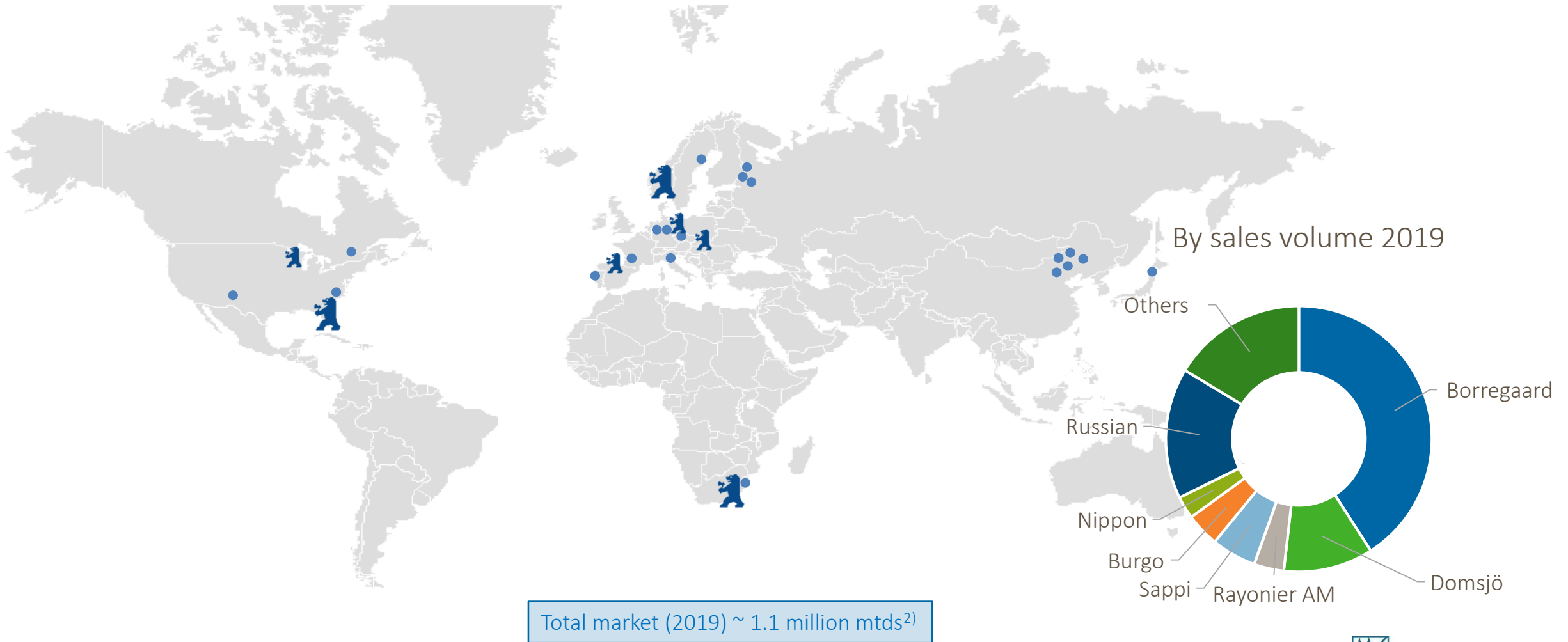
## Key attractions

- A sustainable and broad product portfolio
- Large and diverse customer base
- High barriers to entry



\*<sup>1</sup>) LignoTech Ibérica is currently not in operation

# Lignin – the supply side



 Borregaard manufacturing facilities

 Others

Source: Borregaard estimates

<sup>2)</sup> Metric tonne dry solid

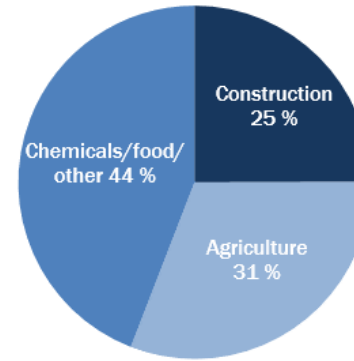
# 650 products to around 3,000 customers (2019)

## BioSolutions properties

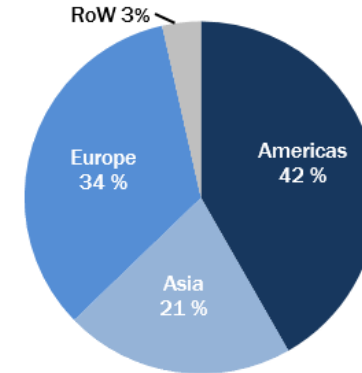
Properties	Applications
Binding agent	<ul style="list-style-type: none"> <li>• Feed binder</li> <li>• Granulation aid</li> <li>• Ceramic tiles</li> <li>• Dust binder</li> </ul>
Dispersing agent/ Rheology control	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Agrochemicals</li> <li>• Dyestuffs</li> <li>• Metals and minerals</li> <li>• Carbon black and pigments</li> <li>• Micronutrients</li> </ul>
Crystal growth control	<ul style="list-style-type: none"> <li>• Battery expander</li> <li>• Retardation of cement hydration</li> <li>• Oil-well cementing</li> </ul>
Functional additive	<ul style="list-style-type: none"> <li>• Phenol replacement</li> <li>• UV-protection</li> <li>• Antioxidant</li> <li>• SoftAcid</li> <li>• Soil-conditioner</li> <li>• Complexing agent</li> </ul>
Flavours and Fragrances	<ul style="list-style-type: none"> <li>• Food and beverages</li> <li>• Fragrances</li> <li>• Personal care</li> <li>• Pharmaceuticals</li> </ul>

## Revenues by end market and region<sup>1)</sup>

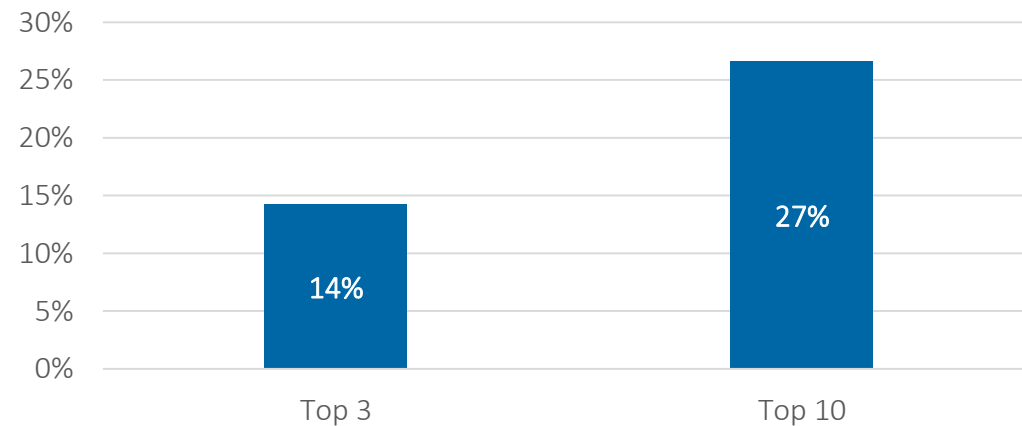
Revenue by end-market (2019)



Sales distribution (2019)








## Top 10 and top 3 customers in % of revenues



1) Includes LignoTech South Africa sales

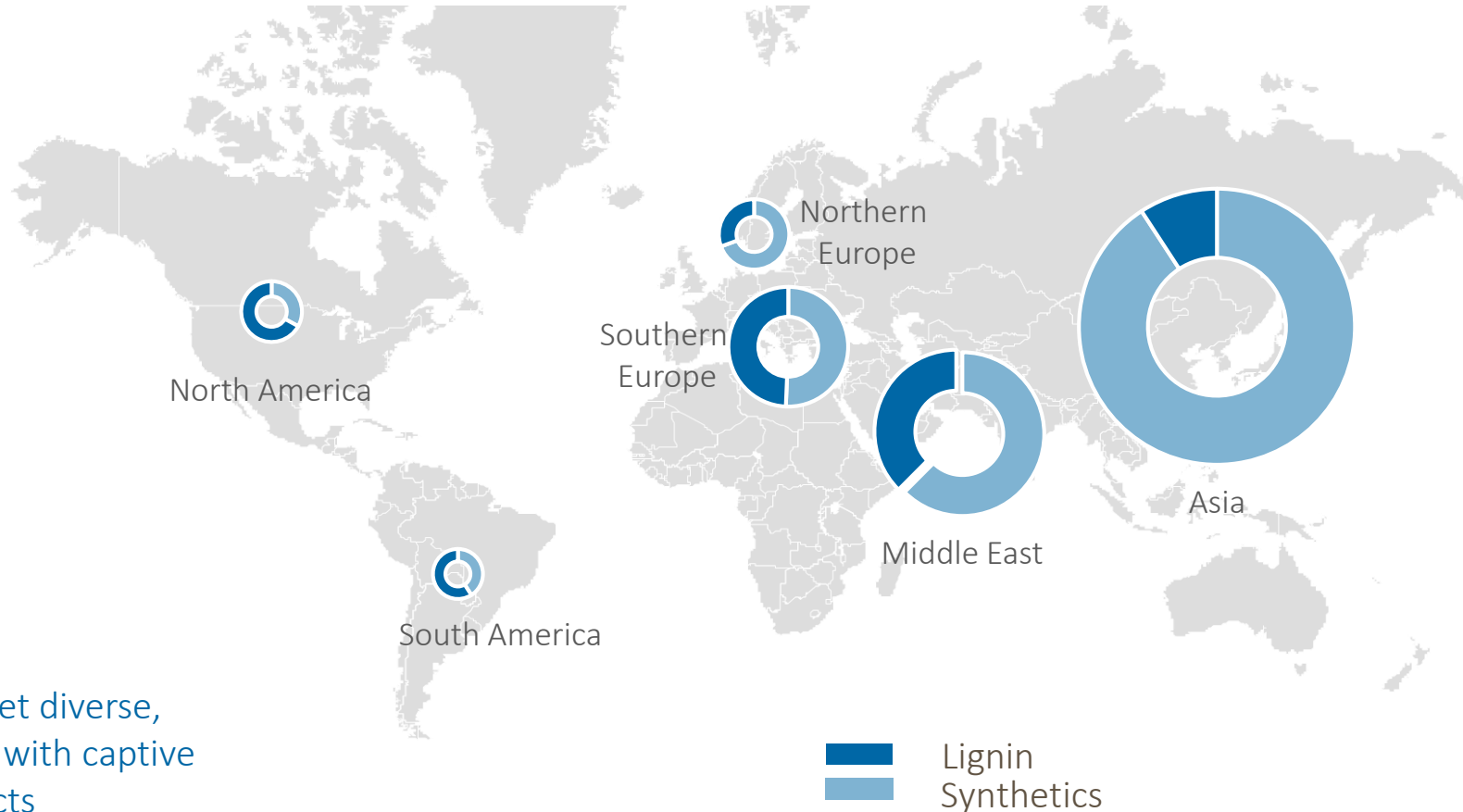
# Lignin end markets growth forecast

	Construction	Industrial		Specialities	
					
	Construction	Feed	Industry	Agro /agchem	Automotive
EMEA	1 to 2%	0 to 2%	0 to 2%	2 to 4%	1 to 2%
Americas	1 to 3%	2 to 4%	2 to 4%	3 to 4%	0 to 1%
Asia/Pacific	1 to 3%	-2 to -5% <sup>1)</sup>	3 to 5%	2 to 3%	3 to 6%

*Indicative annual rates to 2022  
based on 2.5% annual GDP growth rate*

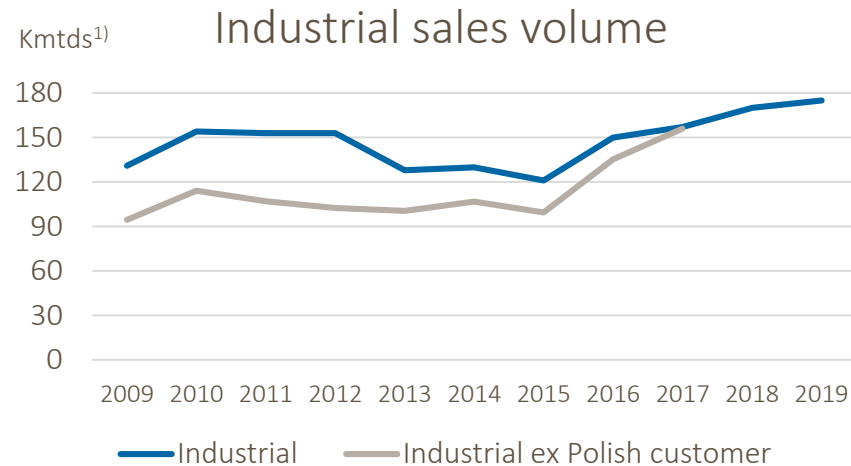
<sup>1)</sup> Outbreak of African Swine Fever in China causes reduction of swine numbers by 30 - 40%. Feed market development is uncertain since recovery pattern is difficult to predict.

# Concrete admixture formulation preferences



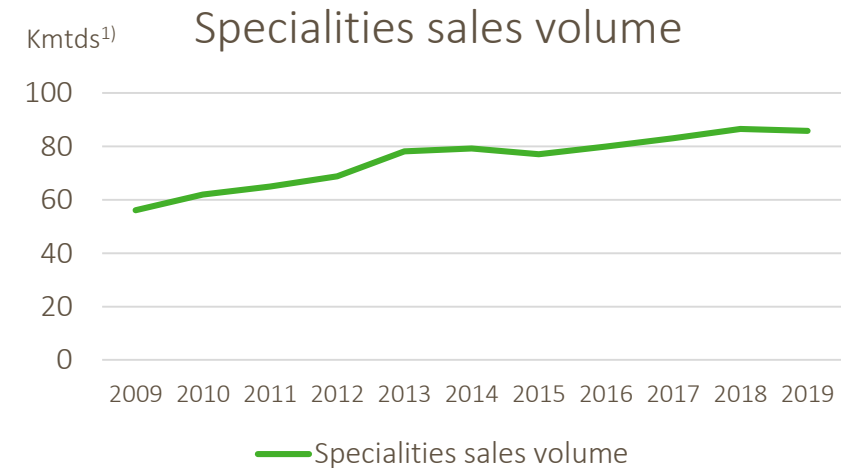
- Admixture market diverse, lignin competes with captive synthetic products
- Regional and local formulation preferences
- Climate influences formulation

# Industrial and Specialities



## Industrial

- Significant global volume growth since 2015 across a wide range of applications
- Demonstrates capabilities in innovation, market development and sales
- Robust and growing customer and application base

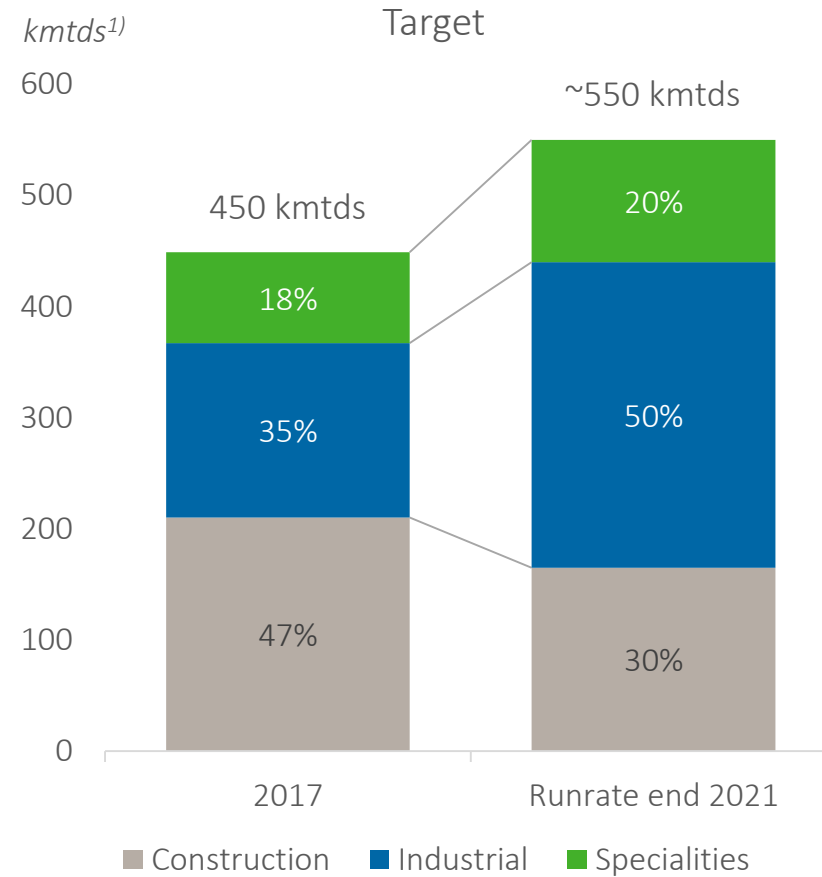
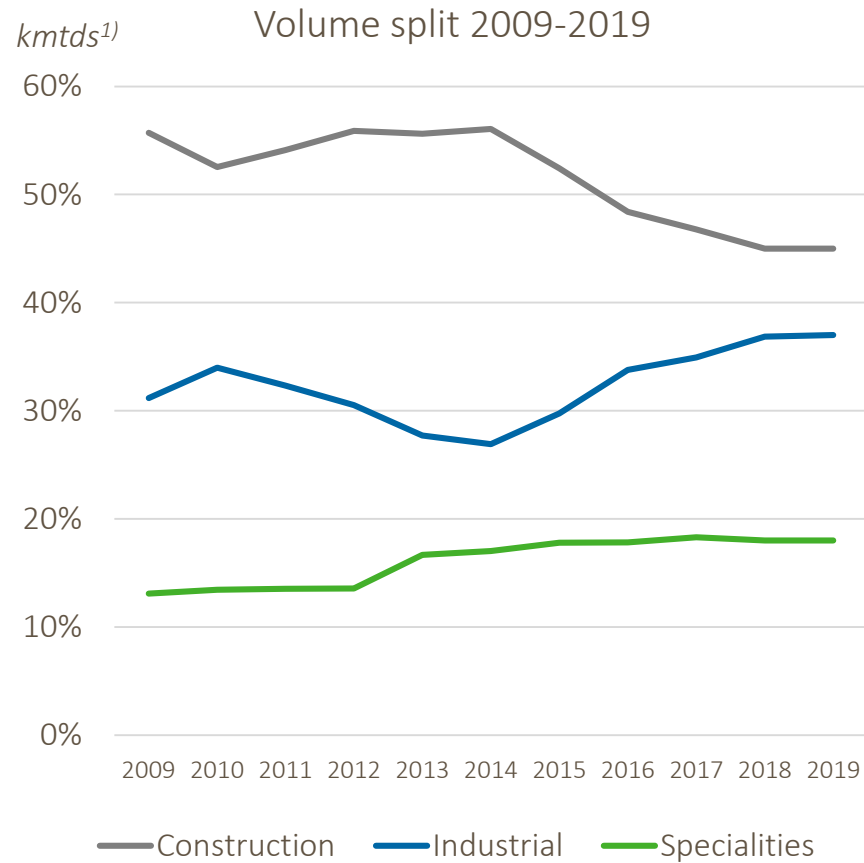


## Specialities

- Growth based on capabilities in innovation, application development and sales
- Lead acid batteries for automotive and industrial applications on steady growth path
- Increasing use of green alternatives in agrochemical applications, flavours and fragrances

# Driving specialisation and diversification







Industrial and Specialities targeted to represent 70% of total sales volume by end 2021










¹) Metric tonne dry solid (thousand)



# Lignin applications, functionality and substitutes









	Application	Functionality	Competing technologies	Value proposition:	
				Green alternative	Cost/Value vs. synthetics
	Batteries	Crystal growth control	Few	✓	✓
	Crop protection	Dispersant	Synthetic surfactants	✓	✓
	Metals and minerals	Dispersants and binder	Synthetic and organic surfactants	✓	✓
	Crop nutrition	Soil conditioner / complexing agent	Humic acid, ethylenediaminetetraacetic acid (EDTA)	✓	✓
	Concrete admixtures	Plasticiser	Superplasticizers: naphthalene, melamine sulfonates and polycarboxylic acids	✓	✓
	Animal feed pellets	Binder	Starch residues, bentonite and mechanical compacting	✓	

# Lignin in agriculture

Crop nutrition ( Agro )			Crop protection ( Agchem )	
				
Micro-nutrients ( Zn, Fe, Cu, Mn)	Soil conditioners (+ source of C&Ca)	Macro-nutrients (N, P, K, S)	Pesticides/fungicides (used as dispersing agent)	
Formulation/ complexing agent	Enhancers/ bio-stimulants	Basic nutrients	Water based	Solvent based
✓	✓	✗	✓	✗
	Granulation aid/binders for pesticides, fungicides, fertilisers, limestone, feed & gypsum			

# Lignin in batteries

Automotive:




			
Start battery	Start/stop battery	Hybrid	Electric vehicle
			
Lead acid	Absorbant Glass Mat (AGM)	AGM as start battery	For hotel <sup>1)</sup> function
Fuel for motion	Fuel for motion	Fuel/NiMH/lithium ion for motion	Lithium ion for motion

Other:



<sup>1)</sup> Heating, ventilation, air conditioning, lighting, radio, gauges, etc.

# Positive trend for Borregaard's wood based vanillin

	Vanilla beans	Plant based vanillin				Oil based vanillin & ethyl vanillin	
							
Raw material	Beans	Ferulic acid from bran/straw	Eugenol from clove	Lignin from wood	Guaiacol from creosote/tar	Guaiacol	Guethol
Key selling points	Natural/ flavour profile	Plant based/natural raw material/sustainability /flavour profile				Price	
Sales volume (MT) <sup>1)</sup>	≈2400 <sup>2)</sup>	≈2000				≈15 000	≈5 000
Indicative price level USD/kg <sup>1)</sup>	≈350	≈400	25 - 100			10 - 15	
# of manufacturers <sup>1)</sup>	1000+	5	4	1	3	3 - 5	5
Growth <sup>1)</sup>		≈10%				≈1%	

1) Company estimates

2) Cured vanilla pods contain around 1-2% vanillin, corresponding to around 25 – 50 MT on pure vanillin basis

# Capacity increase for wood based vanillin



- Capacity increase at least 250 tonnes
  - Part of the increase will be gradually realised during construction phase
- Construction started 2H 2019, completion 1H 2021
- Debottlenecking of existing facility
- Capex NOK 130 million

# LignoTech Florida



- The venture
  - Located at Rayonier Advanced Materials' (RYAM) Fernandina Beach softwood sulphite pulp mill
  - Borregaard (55%) and RYAM (45%) ownership
  - Borregaard's know-how and technology
- Expansion project in two phases
  - Phase one (2018) represents 100,000 mtds capacity, investment USD 110 mill.
  - Phase two will give additional 50,000 mtds, investment USD 25 mill.
- New plant officially opened 26 June 2018
  - Investment completed on time and cost
  - Production commenced in June
- Commercialisation
  - Diversified product and application portfolio established
  - Sales volume developing according to plan

# Update on Sarpsborg lignin investment programme



- 500 mNOK capex, 70% expansion/30% replacement
  - Additional dryer with packaging capacity
  - Tanks for storage of liquid materials
  - Improved solutions for logistics, infrastructure and energy
  - In operation from July 2019
  - Capex ≈10% below budget
- Several benefits
  - Further specialisation on a unique raw material base
  - Reduced exposure to cyclical market segments
  - Optimisation of production campaigns, internal and outbound logistics
  - Substantial environmental and safety benefits
- Annual cost savings >40 mNOK expected
  - Gradual realisation through 2020
  - Full impact from 2021

# New lignin warehouse at the Port of Borg

- New, modern warehouse for dried lignin
  - 19,000 square metres/43,000 pallet positions
  - Will replace several rented warehouses
  - Located inside the port area at Øra, Fredrikstad
  - Built, owned and operated by the Port of Borg
  - Will be treated in accordance with IFRS 16
- Several benefits
  - Optimise product flow and improve logistics
  - Reduce CO<sub>2</sub> emissions from road transport
  - Reduce local heavy transport
- In operation from June 2019





# Speciality cellulose

## Market position

- Strong positions in Europe and Asia within high-end niches

## Production

- Sarpsborg, Norway with capacity of 160,000 mt

## Focused applications

- Ethers
- Acetate
- Nitrocellulose
- Other cellulose specialities

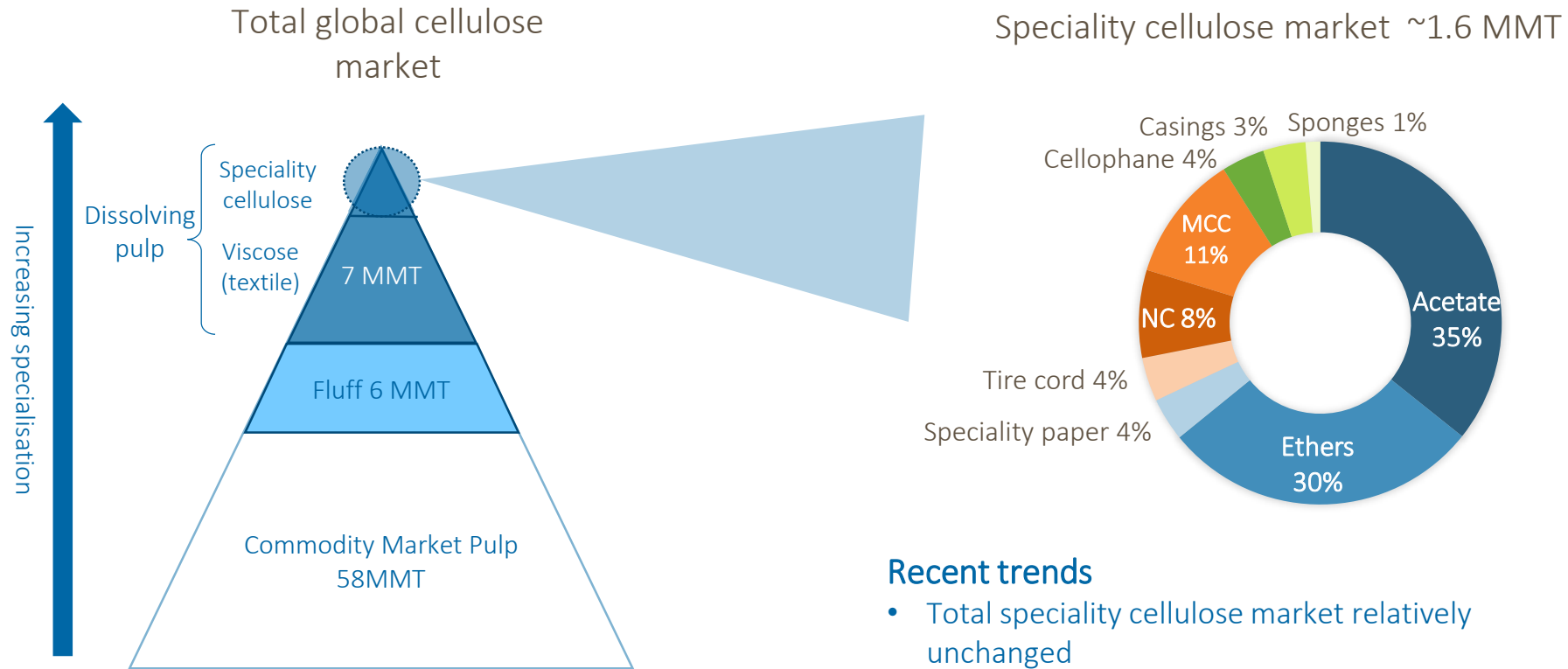
## Long term market growth<sup>1)</sup>

- Ethers: 3-4%
- Acetate: -2-0%
- Nitrocellulose: 0%



1) Source: Celco market reports and Borregaard estimates

# The speciality cellulose market

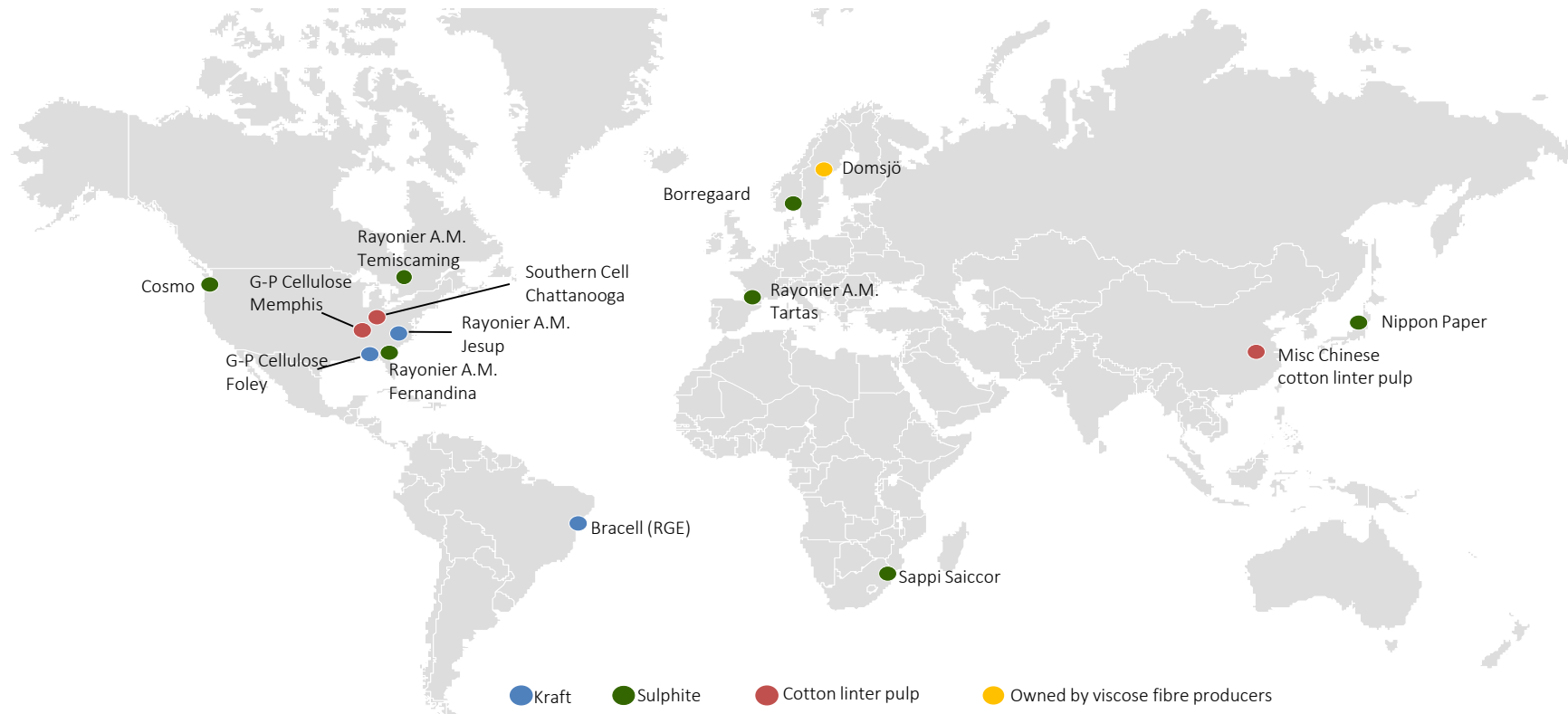


### Recent trends

- Total speciality cellulose market relatively unchanged
- Viscose (textile) market growth 8.4% annually last 5 years
- Industry restructuring

# Speciality cellulose suppliers

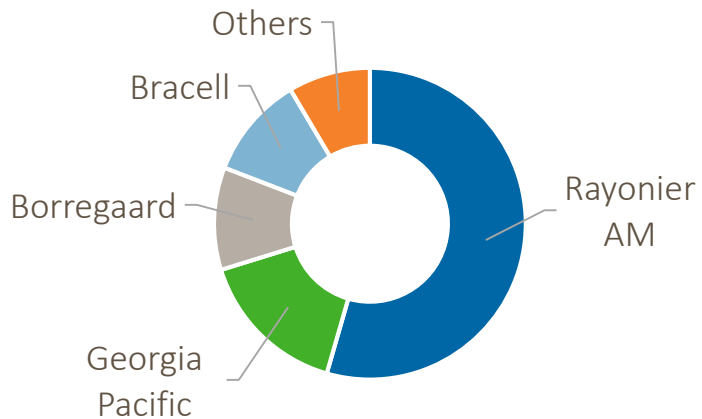
- 12 players supplying 1.6 million mt speciality cellulose
- Top 4 players (Rayonier Advanced Materials, G-P Cellulose, Bracell and Borregaard) have 90%<sup>1)</sup> market share
- Top 4 players use textile and fluff markets as capacity filler
- Limited volumes from viscose pulp producers into speciality segments due to barriers to entry



1) Source: Celco market report, [www.celco.ch](http://www.celco.ch)

# Speciality cellulose industry

Speciality cellulose sales volume by producer



Top 4 speciality cellulose producers by wood species and pulping process

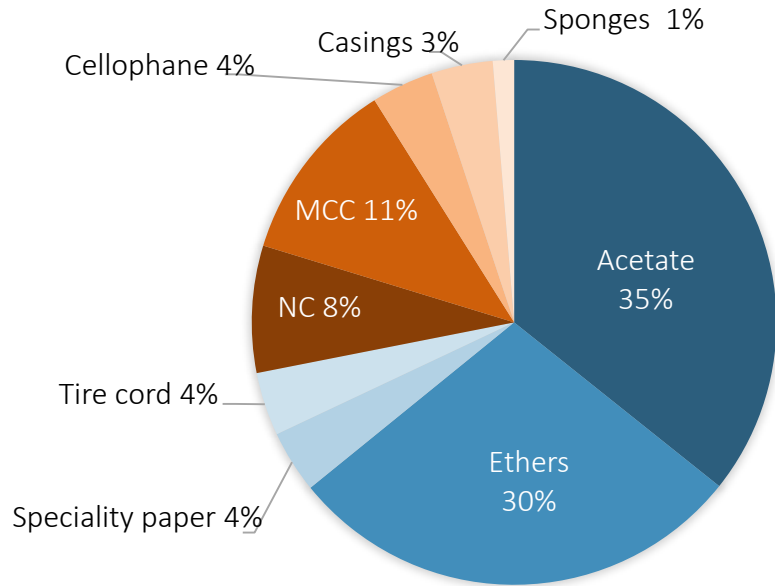
	Hardwood/kraft	Softwood/kraft	Hardwood/sulphite	Softwood/sulphite
Rayonier AM	✓	✓		✓
Georgia-Pacific		✓		
Bracell	✓			
Borregaard				✓

- Speciality cellulose market is approximately 1.6 million mt
- Top 4 speciality cellulose producers have 90% market share and use hardwood and softwood as raw material
- In addition, there are a few cotton linter pulp producers supplying this market
- Main end-uses for speciality cellulose include acetate and ether, accounting for more than 60% of the market

Source: Borregaard estimates, [www.celco.ch](http://www.celco.ch)

# Speciality cellulose market

Speciality cellulose demand 2018 (1.6 million mt<sup>1)</sup>)



	Segments	Applications	Market size '000 mt (2018)	Annual growth 2019-2022
<b>Highly specialised</b>	Acetate	Cigarette filters, plastics, LCD, yarn	550	-2-0%
	Ethers <sup>2)</sup>	Construction, coatings, food, pharma, personal care	475	3-4%
	Speciality paper	Automotive filtration, bank notes	60	1-2%
	Tire cord	High-performance tire cords	60	3-4%
<b>Other specialities</b>	Nitrocellulose (NC)	Coatings, printing inks, nail varnish, energetic grades	125	0%
	Microcrystalline cellulose (MCC)	Food, pharma	180	3-4%
	Cellophane	Food packaging	55	0-1%
	Casings	Sausage casings	55	3-4%
	Sponges	Sponge cloths	20	1-2%

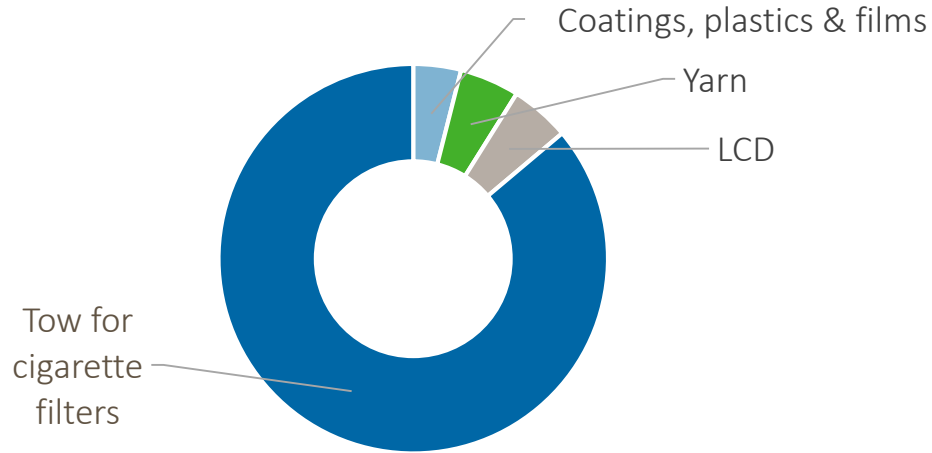
Source: Celco market reports, RISI and Borregaard estimates

1) Metric tonne

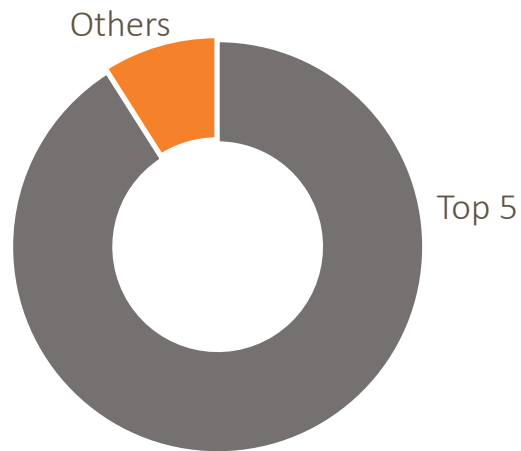
2) Cellulose ether capacity excl. technical grade CMC

# Cellulose acetate industry status and outlook

Cellulose acetate sales by end-use



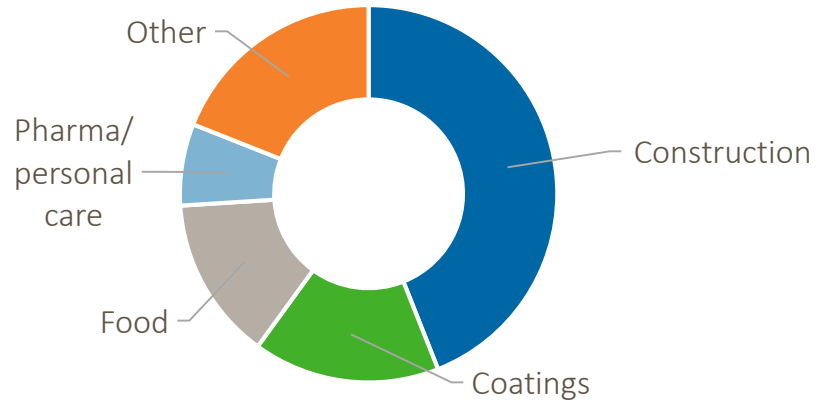
Cellulose acetate tow industry structure



- In 2015-19, demand for acetate pulp declined -2% annually, expected at -2-0% going forward
  - Cigarette filter sales ~85% of total sales
  - Global cigarette consumption declining, China is the key market
  - ‘Heat-not-burn’ cigarettes (e.g. PMI IQOS) becoming popular, still small share
  - Low capacity utilisation in acetate tow
- Top 5 acetate tow producers represent >90% of global capacity
- Some acetate applications growing, e.g. acetate yarn and plastics.
- Ice Bear strategically important
  - Ability to offer higher purity products important to defend existing and compete for new/additional filter tow business
  - Potential for growth in other acetate segments

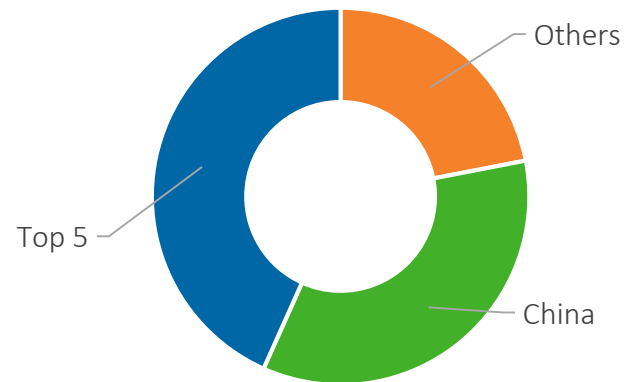
# Cellulose ether industry status and outlook

Cellulose ether sales by end-use



- In 2015-19, demand for ether pulp grew > 4% annually, expected at 3-4% going forward
  - Strong growth in food, pharma and personal care
  - Solid growth in construction
- Top 5 cellulose ether producers represent ~43% of global capacity
  - 1/3 of global capacity is in China
- New cellulose ether capacity under construction
- Potential for further growth and specialisation

Cellulose ether industry structure



# Ice Bear status

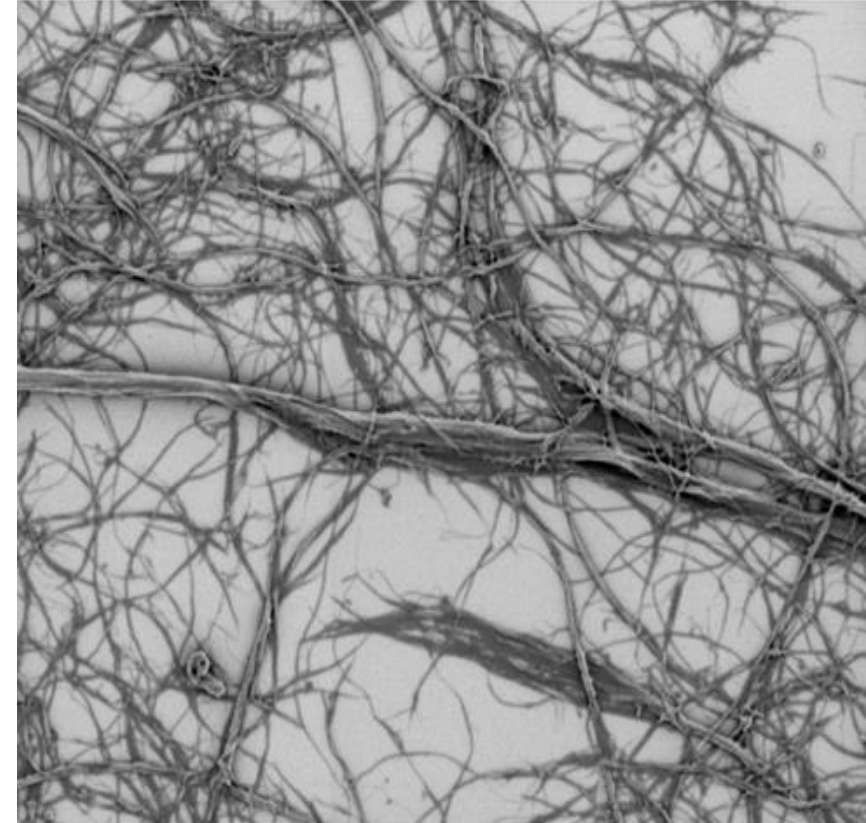
- Strategic initiative enabling further specialisation and flexibility
  - Higher purity products important to defend existing and compete for new/additional filter tow business
  - Increasing interest from other speciality segments – “niches within the niches”
- Capacity expansion completed on time and cost in Q4-18
  - 115 mNOK investment
  - 60,000 mt total capacity
- Ramp-up based on market demand





# Cellulose fibrils – Exilva

- Microfibrillar cellulose (MFC) is cellulose fibers defibrillated into millions of tiny fibrils (100,000 times thinner than hair)
- Exilva is Borregaard's brand name for microfibrillar cellulose used in industrial applications
- Exilva is a sustainable biobased material with multifunctional properties
  - Improves flow, stability, flexibility and strength in industrial formulations and materials
  - Enables customers to develop new and improved products



# Nanocellulose landscape

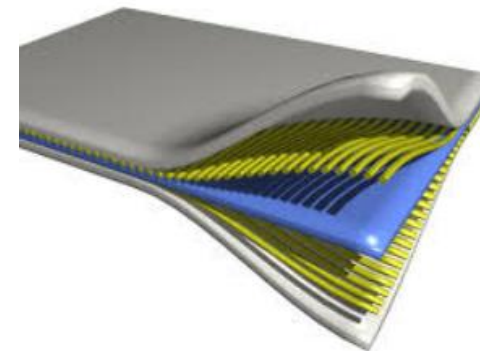
- Three main product categories
  - NCC/CNC - nano cellulose crystals
  - NFC/MFC - nano/microfibrillated cellulose
  - CNF - ionic cellulose nano fibrils
  - Significant variations within each product group
  - Few standards exist
- Typically more complementary than competing in use, some overlaps
- Crystals and ionic fibrils classified as nano by EU and USA (EPA), while NFC/MFC are not as they form micro clusters
- One commercial size plant exists in each category
  - NCC/CNC - Celluforce, Canada
  - NFC/MFC - Exilva, Norway
    - Several full-scale captive plants in pulp and paper
  - CNF - Nippon Paper, Japan
  - Many pilot plants with 5-30 mt capacity



NCC/CNC – strength focus



NFC/MFC – rheology focus



CNF – composites focus

# Nanocellulose market still embryonic

- Market analysts estimate that the nanocellulose market could grow to 700-1,000 mUSD by 2024<sup>1)</sup>
  - NFC/MFC estimated to be 50%
  - Awareness a possible limitation
- NFC/MFC market today
  - Largest volumes in paper and packaging (captive)
- The rheology modifiers market is large (5 bnUSD), but complex and fragmented
  - Highest interest from Exilva prospects

Global Market Insights  
Insights to innovation.

HOME > PRESS RELEASE > NANOCELLULOSE MARKET WORTH OVER \$1BN BY 2024

**Nanocellulose Market worth over \$1bn by 2024**

Published Date: March 5, 2018 Author: Global Market Insights, Inc.

1) Markets Insider, Global Market Insight, Transparency Market Research

# Horizon 2020 support for commercialisation of Exilva<sup>1)</sup>

- Covers 60% of total costs, including depreciation
- Support period is four years (1 May 2016 - 30 April 2020)
- Granted amount is 25 mEUR
- Not covering costs outside EEA



# Cellulose fibrils – Exilva status

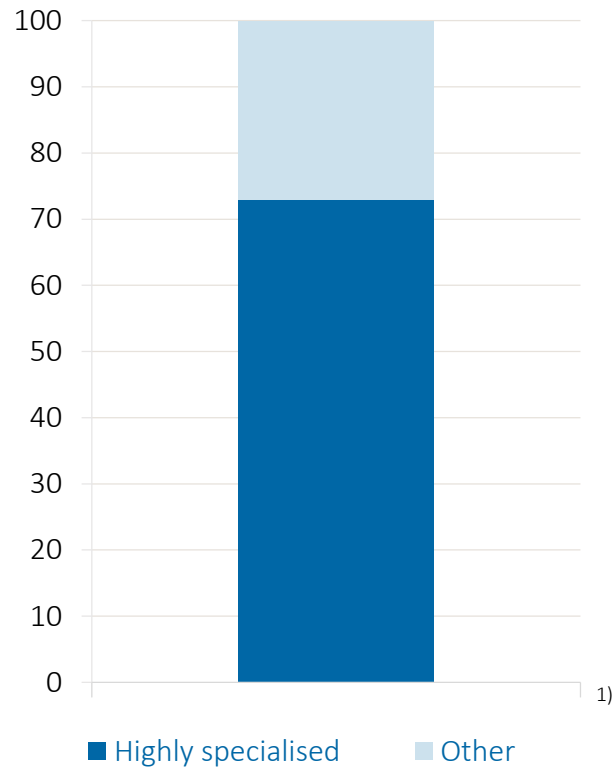


- Additive for industrial applications
  - Improves flow, stability, flexibility and strength in industrial formulations and materials
- Market introduction ongoing
  - ≈ 50 regular customers
  - Volumes still relatively small
- Strong pipeline growth
  - >1800 prospective customers received samples and/or in lab/trial phase
  - More than 500 new prospects last six months
  - Long lead times
- Horizon 2020 grant ends in April 2020

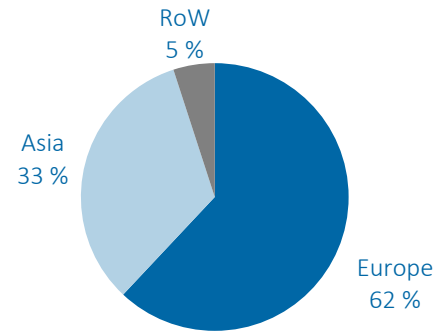
# Sales distribution 2019

Borregaard is positioned in high-end segments in Europe and Asia, with strong and long lasting customer relationships

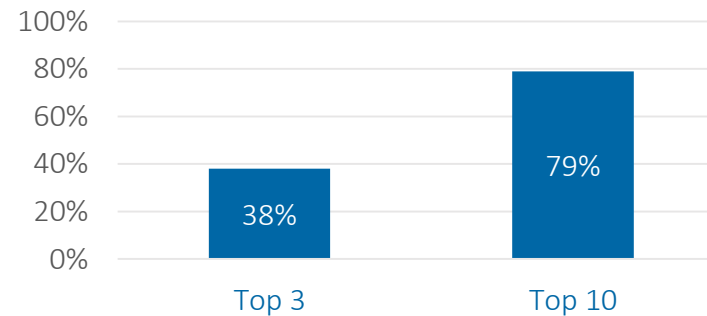
Volume split %



Geographical split (sales revenues)



Customer base and concentration (sales revenues)



Source: Borregaard

1) Acetate, ether and tire cord grades

# Fine Chemicals

## Pharma intermediates

### Market position

- Leading producer of intermediates for contrast agents

### Production

- Sarpsborg, Norway

### Products

- C3 aminodiols
- Intermediates for pharmaceutical products

### Applications

- Contrast agents for medical imaging
- Medicines

### Market growth1)

- 5-7%



## Bioethanol

### Market position

- Leading producer of second generation bioethanol

### Production

- Sarpsborg, Norway

### Products

- Pure and denatured bioethanol

### Applications

- Biofuel, car care products, household chemicals, solvents, personal care, pharma, disinfectant, coating

### Capacity

- 20 million liters

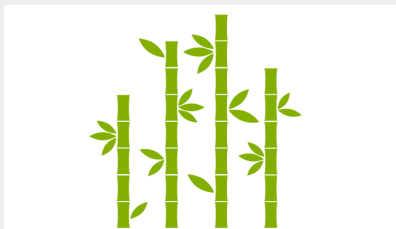
# Research & development

- Innovation Management Teams
- ~100 employees in R&D – of which 72 at the research centre in Sarpsborg – 33 have a PhD
- R&D and innovation spending ~4.3% of revenues<sup>3)</sup>
- IP strategies for each BU and major innovation projects

*~13%<sup>1)</sup> of Borregaard's revenues come from new products<sup>2)</sup>*



Cellulose Fibrils: Exilva microfibrillar cellulose



«BALI»: Utilisation of various biomasses for lignin products



Continuous specialisation and improved products

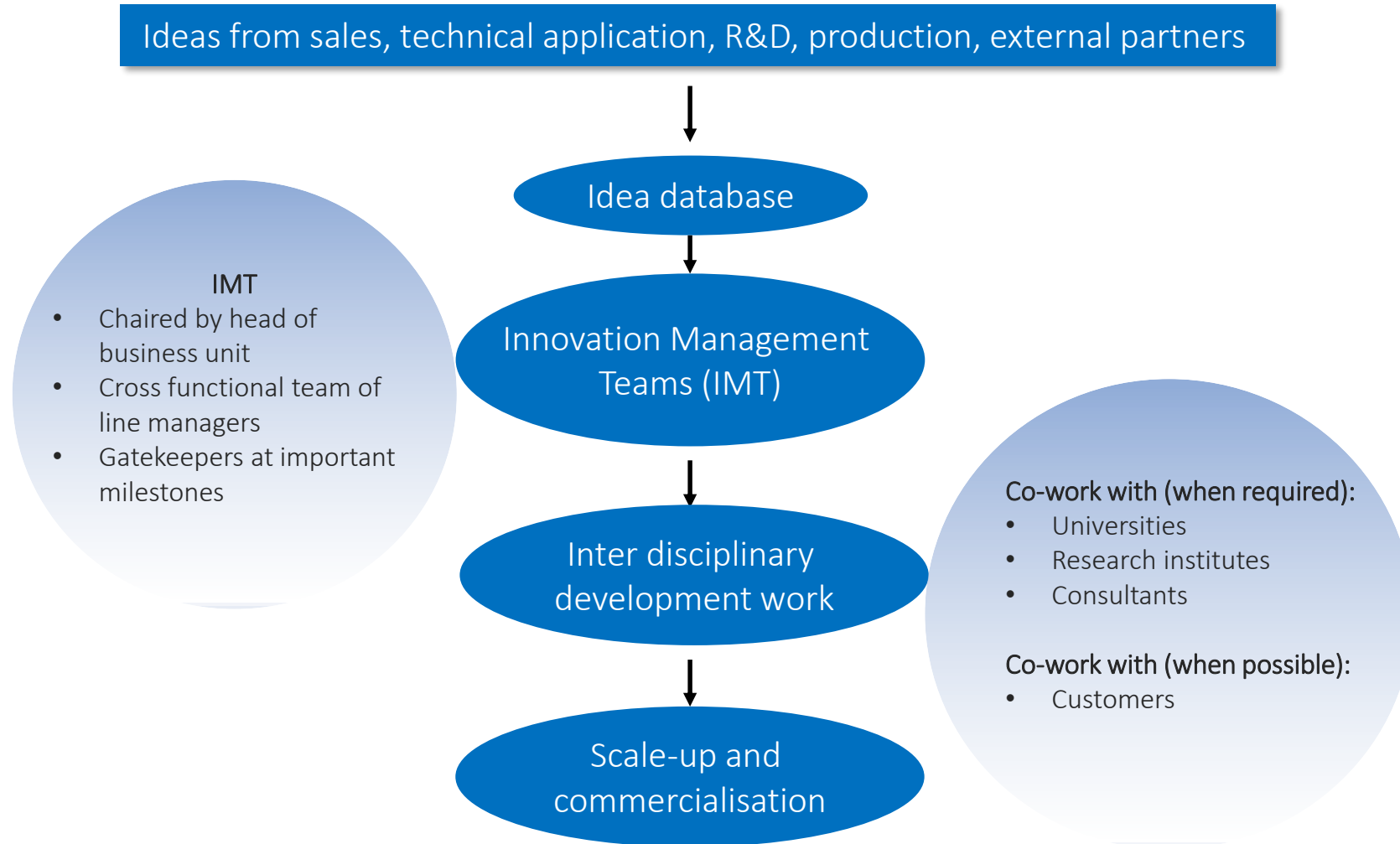
1) Average last 5 years. 15% in 2018

2) Launched the last 5 years

3) Includes R&D centres, operation of BALI/Exilva pilots and market/application innovations



# Business driven innovation model



# Sustainability

## Key element of business mission

Borregaard shall provide **sustainable** solutions based on renewable raw materials and unique competence

# One of three core values



- Sustainability
  - Green chemicals that substitute petrochemicals
  - Sustainability demonstrated through life-cycle analysis
  - Focus on EHS across the organisation
  - Profitability is key to sustainability
- Long-term perspective
  - Consistent strategy over time
  - Long-term perspective on innovation, market development and investments
  - Competence development through training programmes, organisational development and use of technology
- Integrity
  - High credibility through transparency, honesty and predictability
  - Act responsibly in relation to stakeholders and exercise corporate responsibility
  - Demonstrate respect for individuals and different cultures while maintaining integrity and adhering to the company's code of conduct

# Integral part of market offering

## RAW MATERIALS



Natural, renewable,  
sustainable raw materials

## PROCESSES



Efficient and sustainable  
production and value chain

## PRODUCTS



Sustainable  
biochemicals

### Sustainable and certified wood

- Documentation
- PEFC<sup>1)</sup> and FSC<sup>1)</sup> standards
- Lignin raw materials from certified forests

### Reduced emissions improve LCA<sup>2)</sup>

- Target based CO<sub>2</sub>-reductions
  - Energy conservations
  - New/Green energy sources
- Reduced emissions to water and air
- “Greener” logistical solutions

### Products add sustainable value to customers

- **Climate:** LCA<sup>2)</sup> shows favourable GHG footprint
- **Biobased:** Natural raw materials preferred
- **EHS<sup>3)</sup>:** Non-toxic, harmless products

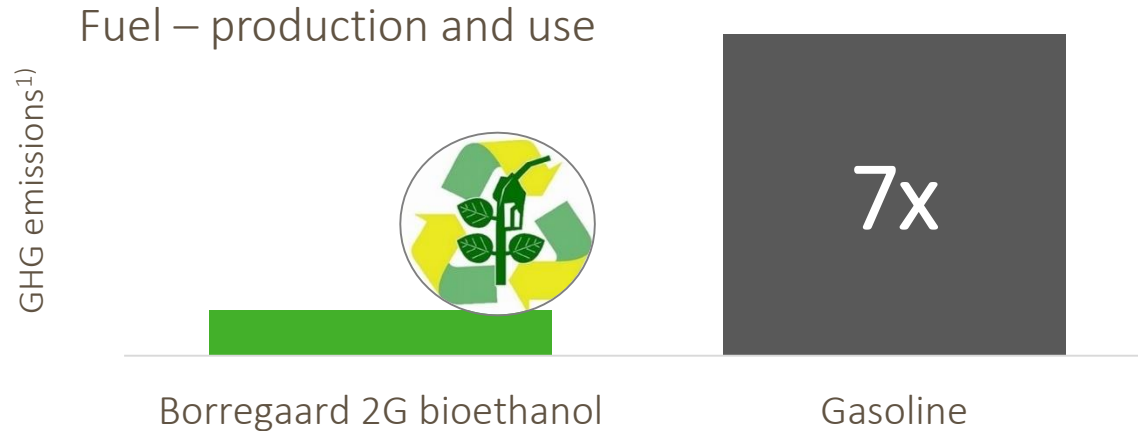
1) PEFC: Programme for the Endorsement of Forest Certification, FSC: Forest Stewardship Council

2) Life Cycle Analysis

3) Environment, Health and Safety

# Sustainability

## Favourable climate footprint



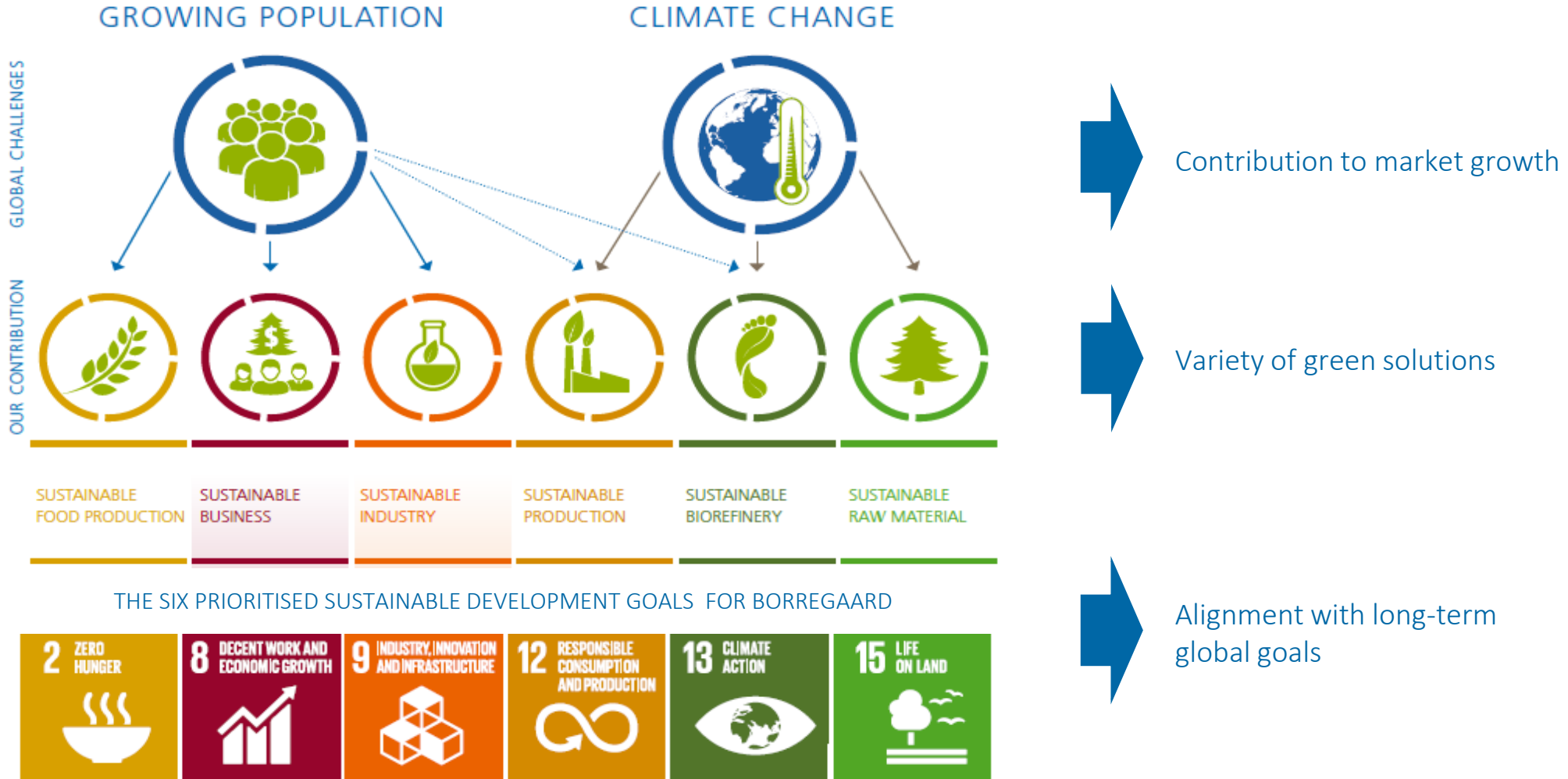
- 2<sup>nd</sup> generation bioethanol vs petroleum-based fuel
  - Increased demand in different countries due to incentives
- Most of Borregaard’s products have favourable GHG footprint compared with alternatives

## Positive EHS impact in crop protection



- Lignin products in crop protection have a favourable environmental impact
  - Water-based solutions as an alternative to solvent-based formulations
  - Good safety and health performance as binders (less dust) in crop protection granules

# Alignment with UN's Sustainable Development Goals



# Sustainability



## Science Based Targets for GHG emissions approved by CDP<sup>1</sup>

- Targeted reductions in greenhouse gas emissions:
  - 53% by 2030
  - 100% by 2050
  - Base year = 2009
- Targets are in line with the ambitions in the Paris Agreement and the Norwegian Climate Law



## Borregaard maintained a CDP 'A' rating in 2019

- Highlighted as a global leader in corporate climate action
- Achieved a place on the CDP Climate Change 'A List'
  - 8,400 companies reported to CDP in 2019
  - 179 (2.1%) were awarded an 'A' rating

# Financial objectives and dividend policy



## Financial objectives

- ROCE >15% pre-tax over a business cycle
- IRR >15% pre-tax for expansion capex
- Average net working capital at 20% of operating revenues
- Replacement capex at depreciation level
- Maintain key financial ratios corresponding to an investment grade rated company
  - Leverage ratio<sup>1)</sup> targeted between 1.0 and 2.25 over time



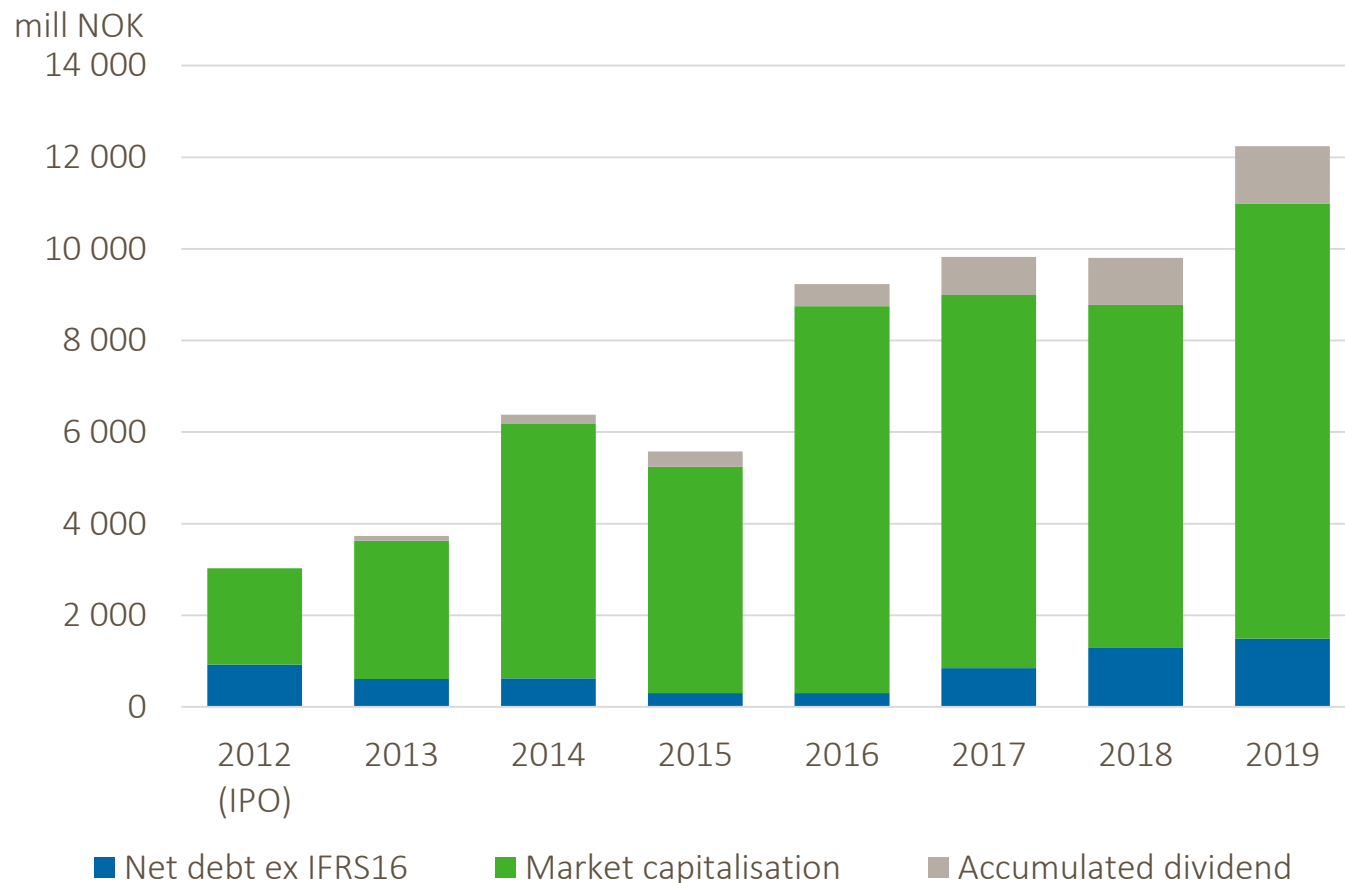
## Borregaard's dividend policy

- To pay regular and progressive dividends reflecting Borregaard's expected long term earnings, free cash flows and expansion capex
- Annual dividend is targeted between 30% and 50% of net profit for the preceding fiscal year

1) Net interest-bearing debt divided by last twelve months' EBITDA adj.

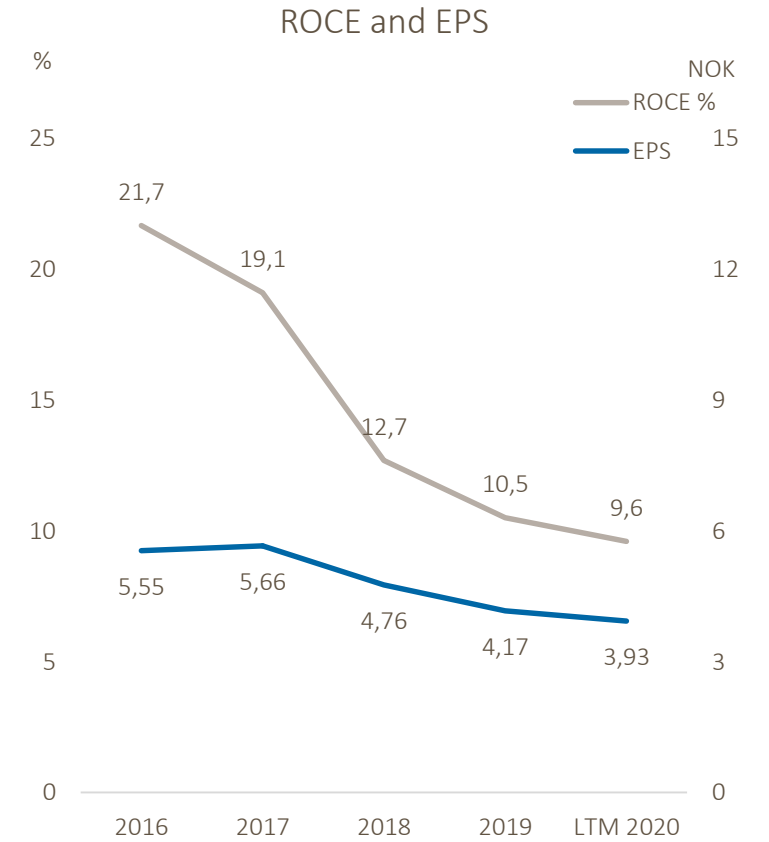
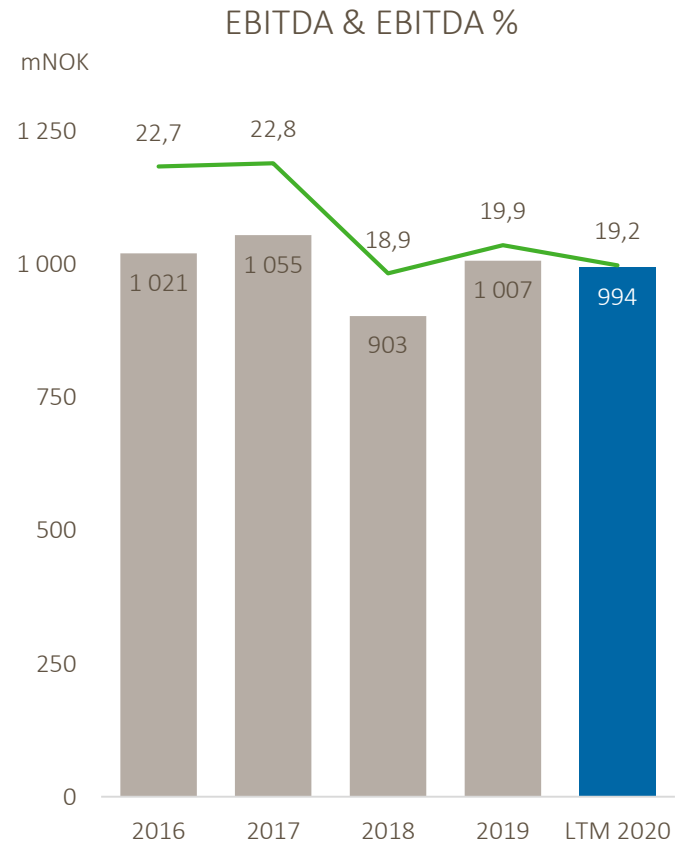
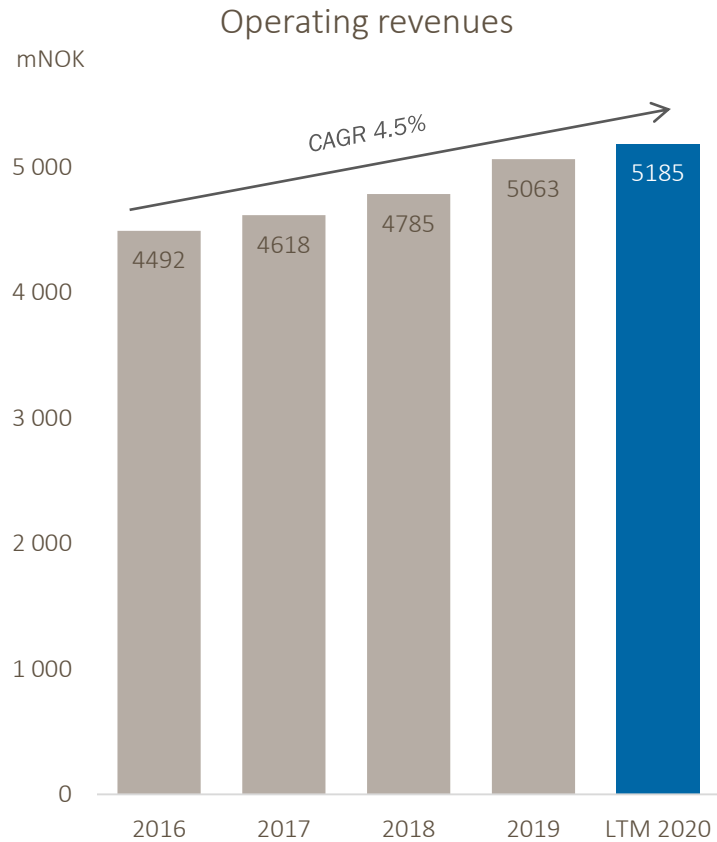


# Value creation since IPO



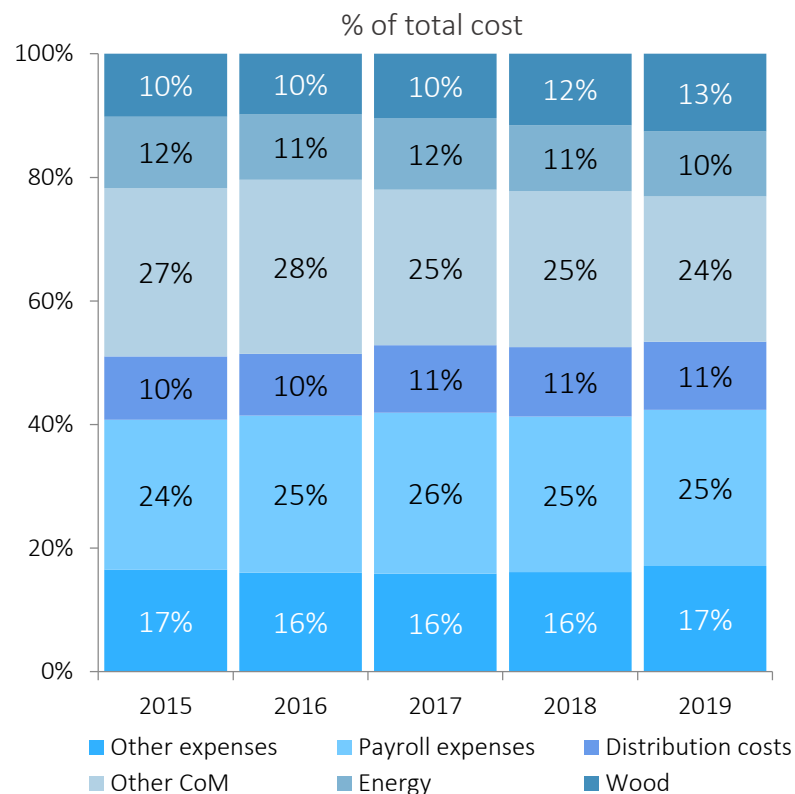
	CAGR
Share price, including reinvestment of dividend	27.2%
Enterprise value = market cap + net debt	19.6%

# Key figures 2016 – 2020 (LTM)<sup>1)</sup>



1) Last twelve months as per March 2020

# Key cost items 2015-2019

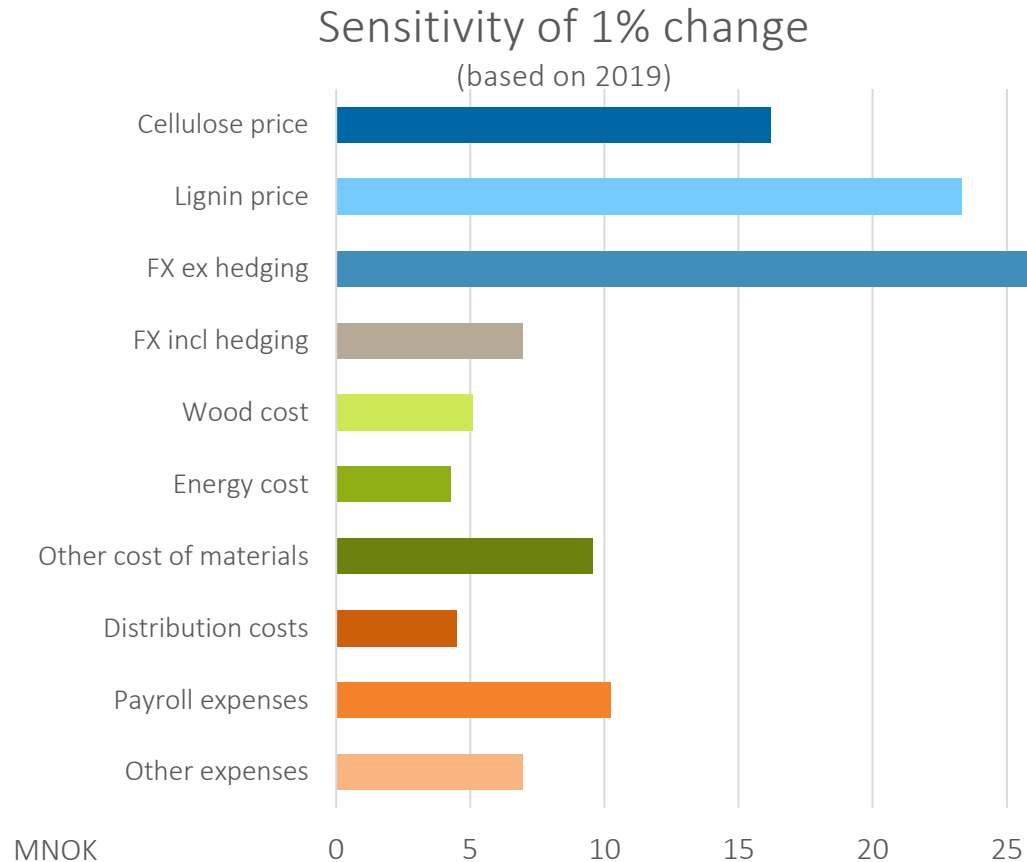


- Total costs in 2019 close to 4.1 billion NOK
- 5.0% CAGR from 2015 to 2019
- Main cost components' share of total costs relatively stable over time

Wood	<ul style="list-style-type: none"> <li>• 75%-85% sourced from Norway, the rest mainly from Sweden</li> <li>• Annual price and volume contracts, mid-year adjustments occur</li> <li>• Includes inbound logistics, ~30% of wood cost</li> </ul>
Energy	<ul style="list-style-type: none"> <li>• Energy consumption: Heat energy 2/3, electricity 1/3</li> <li>• Heat energy: Base load mainly covered by renewable energy sources, peak-load mainly covered by LNG and spot electricity</li> <li>• Electricity: Long term contract to 2029 for substantial part of needed volume</li> </ul>
Other CoM	<ul style="list-style-type: none"> <li>• Chemicals<sup>1)</sup> and other raw materials like lignin raw material</li> <li>• Internal production of caustic soda</li> <li>• Contract manufacturing of petrochemical-based vanillin</li> <li>• Change in inventories</li> </ul>
Distribution costs	<ul style="list-style-type: none"> <li>• Most products sold delivered customer</li> <li>• Logistical optimisation important, especially for Performance Chemicals</li> </ul>
Payroll expenses	<ul style="list-style-type: none"> <li>• Continuous productivity improvement, including de-manning and cost reduction activities</li> </ul>
Other expenses	<ul style="list-style-type: none"> <li>• Repair and maintenance, external services, rental/leasing and other operating expenses</li> </ul>

1) Main chemicals are caustic soda, salt, sulphur, epichlorohydrine and guethol

# Sensitivity on EBITDA<sup>1)</sup>



- Global presence, diversified product portfolio and GDP-driven demand reduce market risk
- Oil price affects demand and competition in certain markets, but main effect historically has been on NOK FX rate
- Significant FX exposure, softened by FX hedging<sup>2)</sup> in the medium term
- No major single component in other cost of materials
- Distribution costs: Most products sold “delivered customer”
- Other expenses are repair and maintenance, external services, rental/leasing etc.

1) Non-GAAP measure – see appendix

2) Hedging based on expected net cash flow (EBITDA)

- **Base hedge** - 75%/50% on a rolling basis for 6/9 months for major currencies

- **Extended hedge** - 75%/50% of the next 24/36 months if USD and EUR are above predefined levels

# FX impact and policy

## Currency hedging strategy

Purpose is to delay effects of currency fluctuations and secure competitiveness

- Hedging based on expected net cash flow (EBITDA)<sup>1)</sup>
  - **Base hedge** - 75%/50% on a rolling basis for 6/9 months for major currencies
  - **Extended hedge** - 75%/50% of the next 24/36 months if USD and EUR are above defined levels
    - \* EUR; effective rate above 8.50
    - \* USD; gradually at effective rates between 7.50 and 8.50
  - **Contracts**<sup>2)</sup> - 100% hedged
- Balance sheet exposure hedged 100%
- Net investments in subsidiaries hedged up to 90% of book value in major currencies

## FX exposure

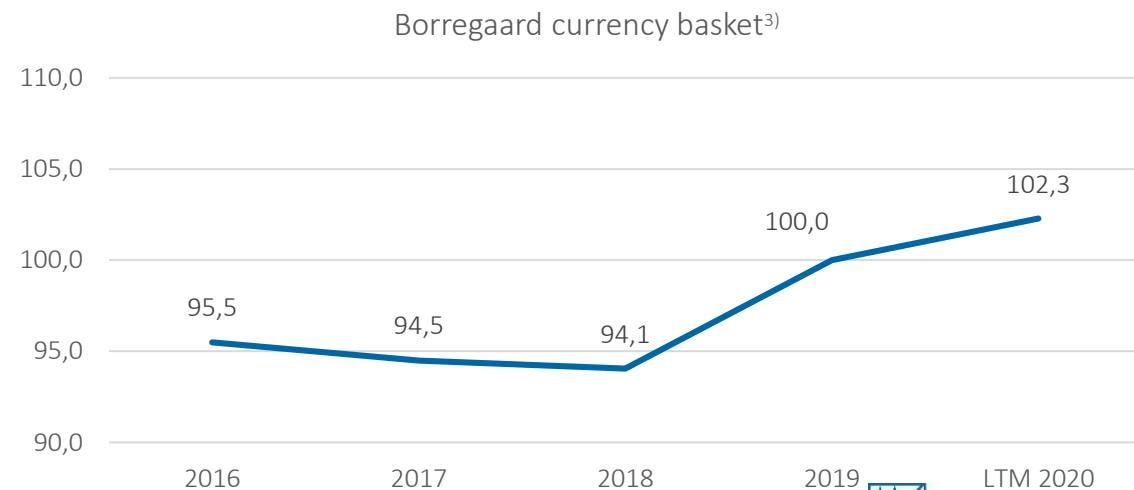
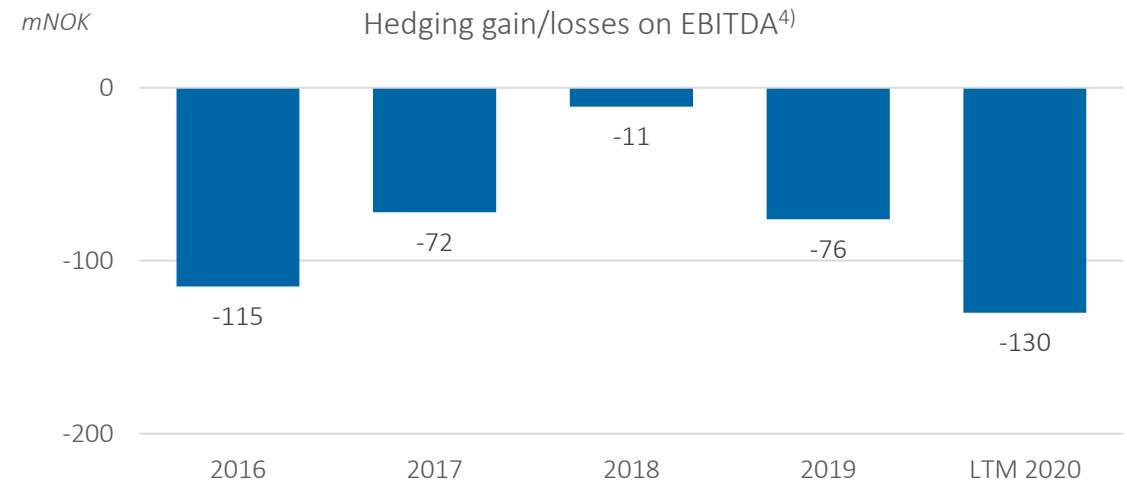
- Borregaard's revenues are primarily in USD or EUR, while costs are primarily in NOK
- Net FX exposure in 2019 **USD**: 65% (approximately 203 mUSD)
  - **EUR**: 35% (approximately 98 mEUR)
  - **Other**: 0% (GBP, BRL, JPY, SEK, ZAR)

1) Net cash flow hedging mainly in the Norwegian company

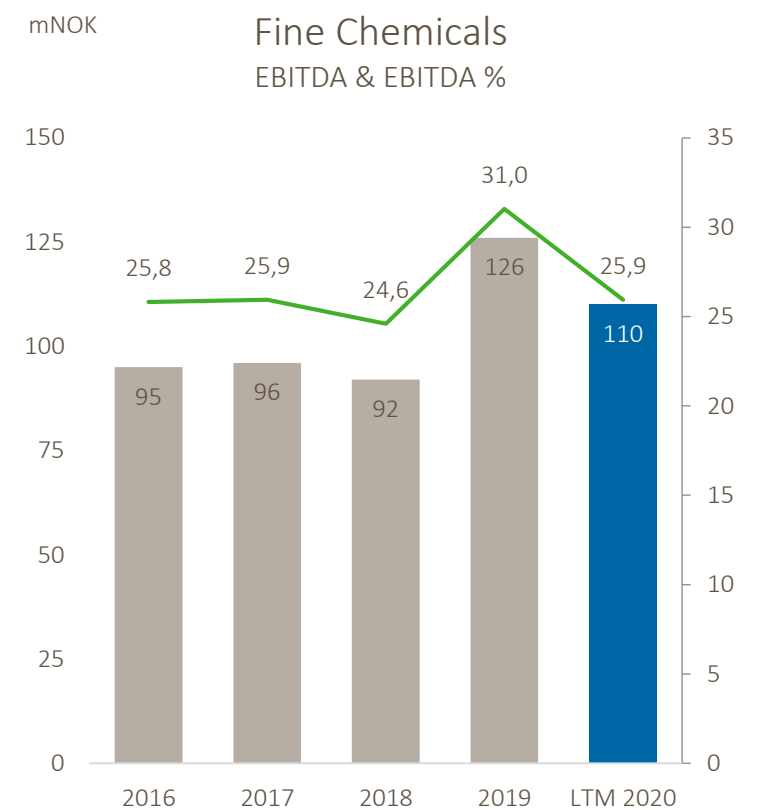
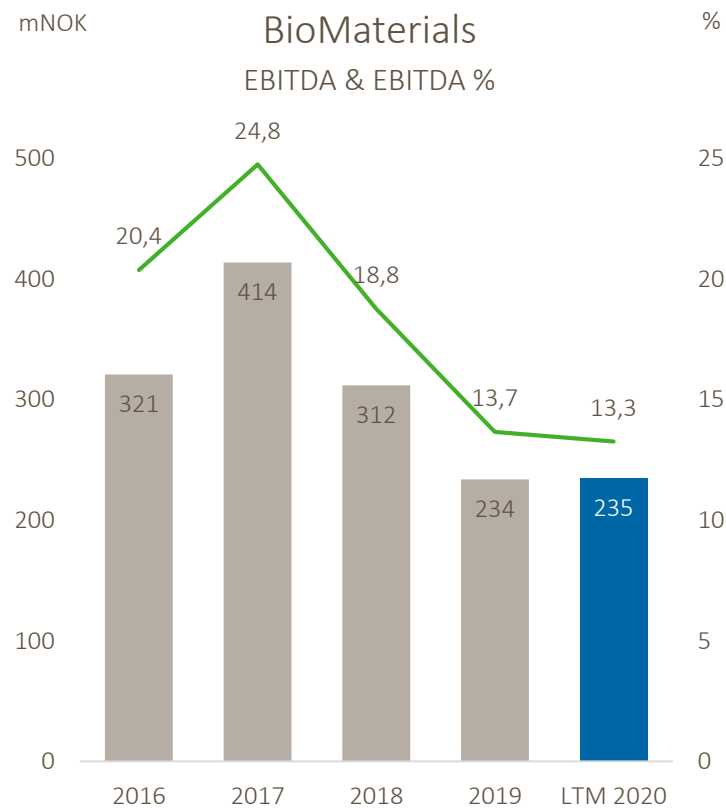
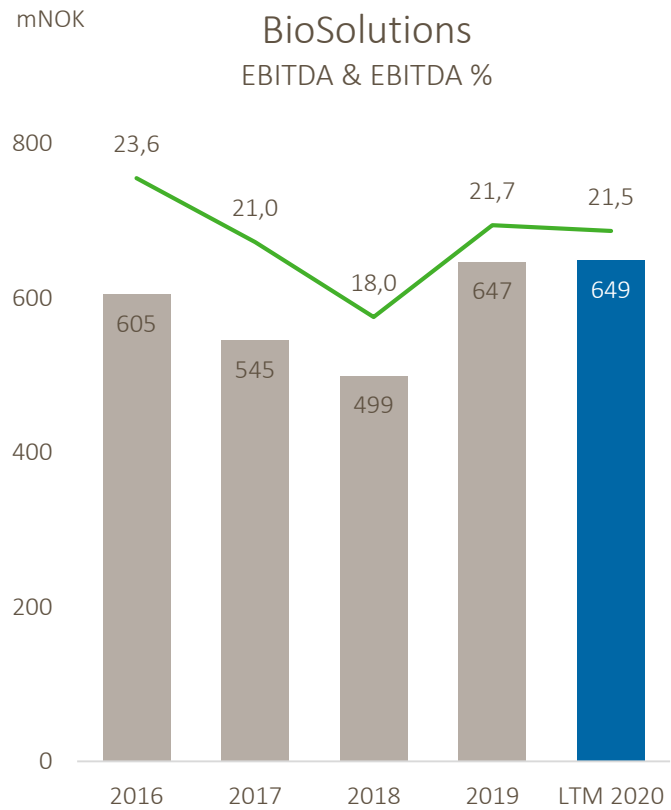
2) Strict definitions for contracts applied for 100% hedging (mutually binding agreement in which price, currency, volume and time are defined)

3) Currency basket based on Borregaard's net exposure in 2019 (=100)

4) Last twelve months as per March 2020

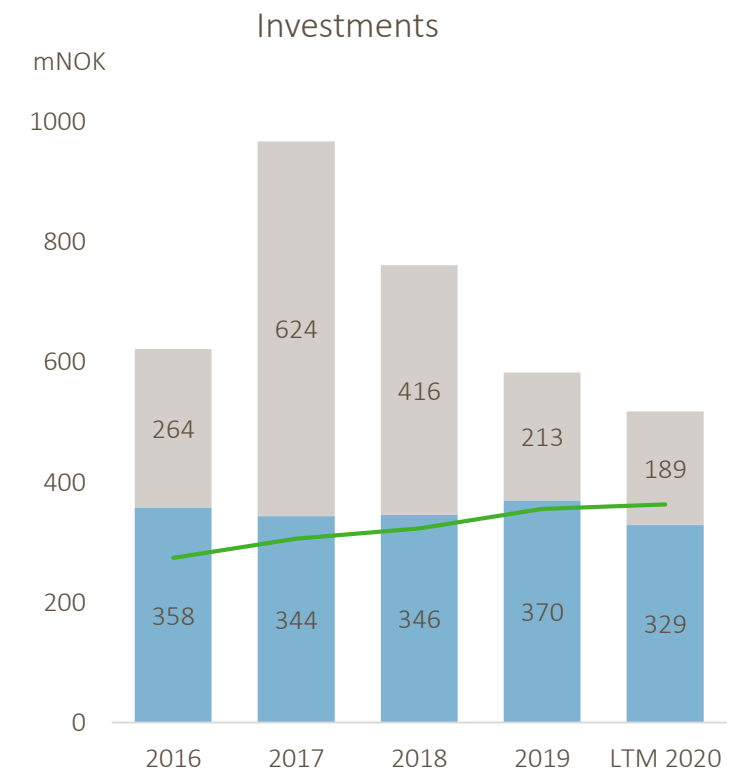
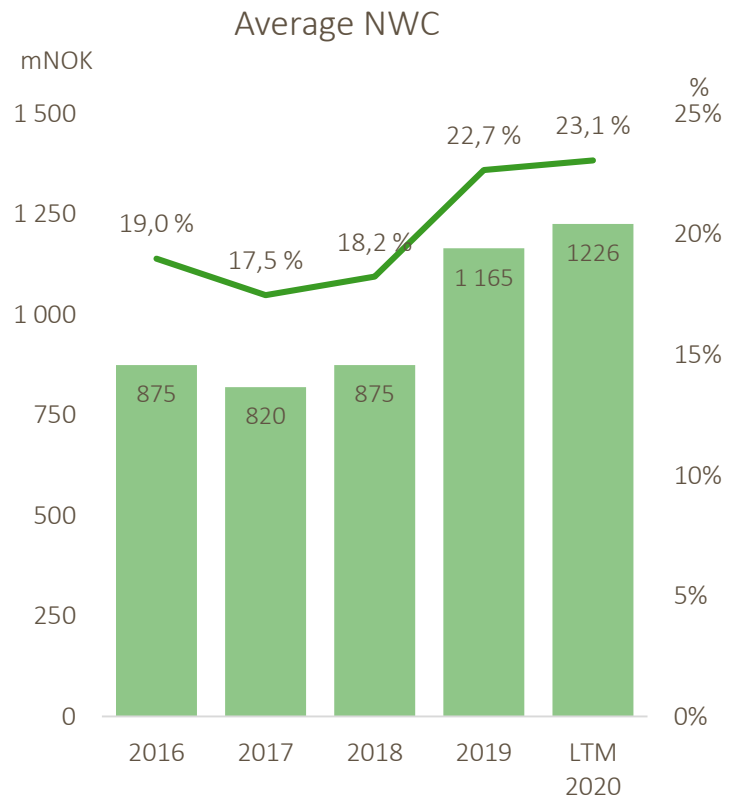
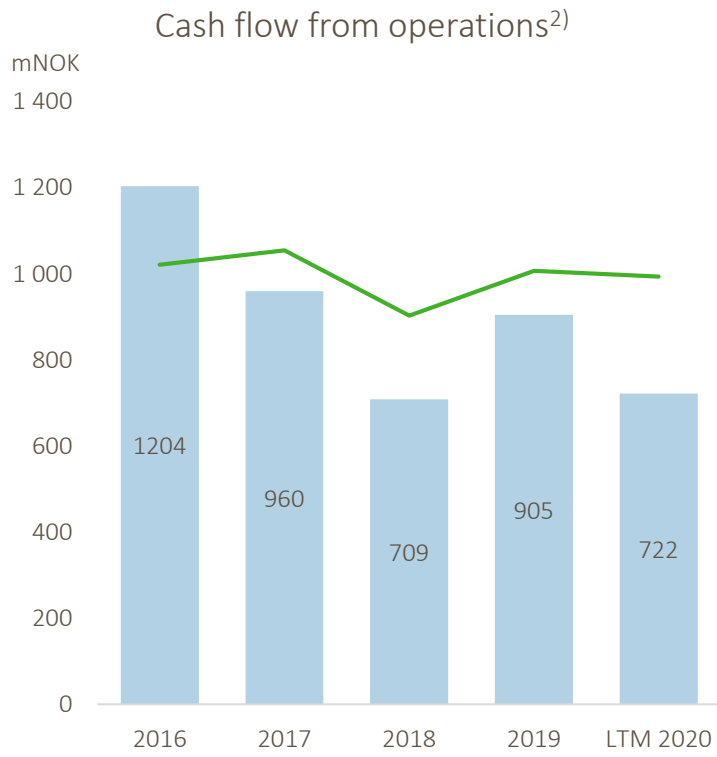


# Key figures 2016 – 2020 (LTM)<sup>1)</sup>



1) Last twelve months as per March 2020

# Cash flow, NWC and investments 2016 – 2020 (LTM)<sup>1)</sup>



Cash flow from operations

EBITDA

Average NWC

% of OpRev ex hedging

Replacement

Expansion

Depr. ex IFRS16

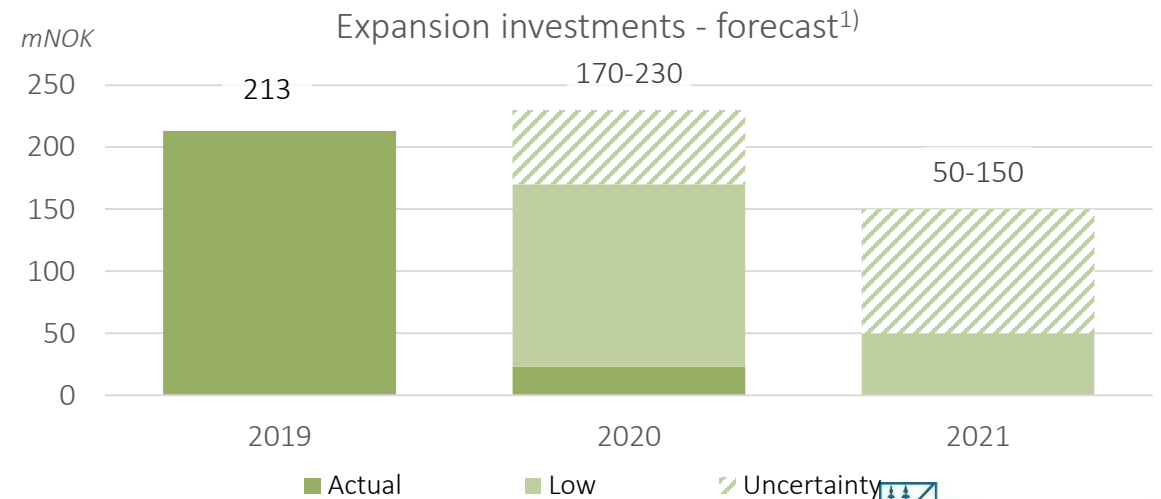
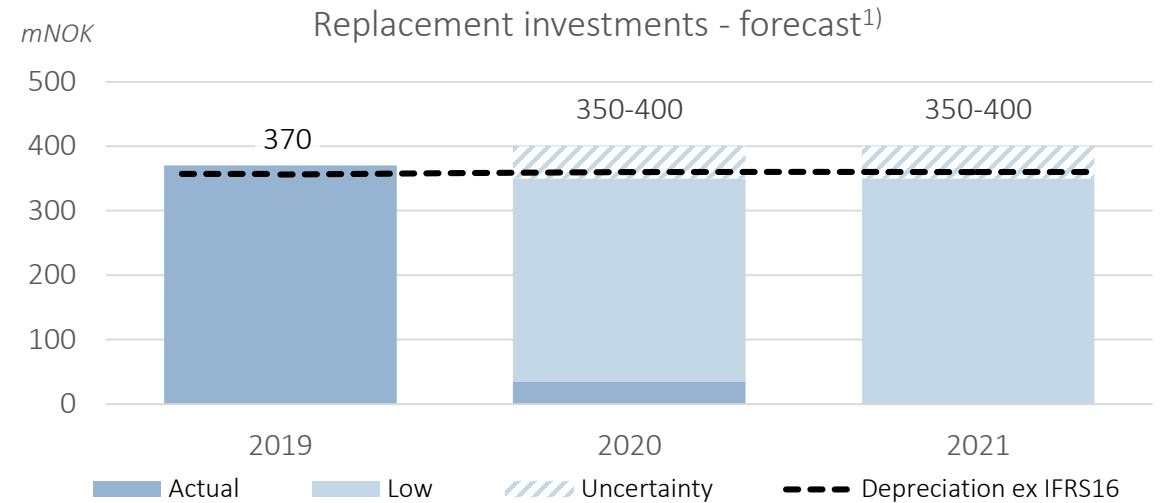


1) Last twelve months as per March 2020

2) Cash flow from operating activities (IFRS) + tax paid +/- net financial items +/- dividend (share of profit) from JV

# Updated investment forecast 2020-2021

- **Replacement investments**
  - Targeted at depreciation level
  - Upgrade of caustic soda production facility cannot be handled within target
- **Expansion investments**
  - Capacity expansion for wood based vanillin the main project (130 mNOK, H2-19 to mid 2021)
  - A few smaller expansion projects are ongoing or planned
- **New projects may lead to additional investments**

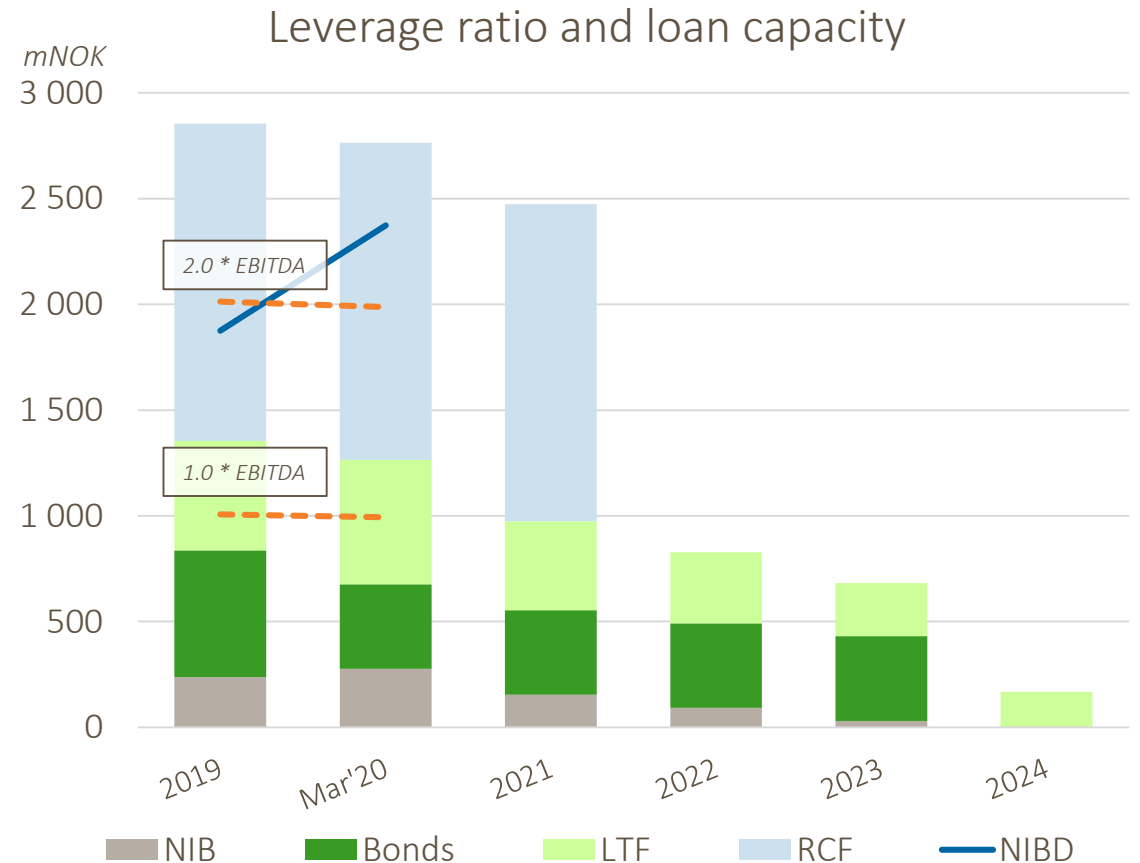


<sup>1)</sup> Uncertainty is related to final investment decisions, timing of investment payments, execution time and risk and unexpected events e.g.



# Capital structure

- Target for capital structure
  - Maintain key financial ratios corresponding to an investment grade rated company
  - Leverage ratio<sup>1)</sup> targeted between 1.0 and 2.25 over time
- Solid capital structure as per 31.3.20
  - Leverage ratio 2.39 (covenant <3.25)
  - Equity ratio<sup>1)</sup> 38.3% (covenant >25%)
- Long term credit facilities
  - Revolving credit facilities (RCF), 1,500 mNOK, maturity 2021
  - 60mUSD term loan for LignoTech Florida (LTF), tenor 8.5 years from completion of project phase 1
  - Bond issues, 400 mNOK, maturity June 2023
  - Nordic Investment Bank (NIB) loan, 40 mEUR, maturity 2024
- Short term credit facilities
  - 225 mNOK overdraft facilities
  - 15 mUSD overdraft facility in Lignotech Florida
  - 200 mNOK commercial paper



# Highly experienced and proven management team



CEO

Per A. Sørli

- CEO since 1999
- Member of management team since 1990
- **30 years** with Borregaard



Per Bjarne Lyngstad

- CFO
- 22 years in current position
- **32 years** with Borregaard



Tuva Barnholt

- SVP Strategic Sourcing
- 14 years in current position
- **22 years** with Borregaard



Tom Erik Foss-Jacobsen

- EVP BioSolutions
- In current position from May 2019
- **21 years** with Borregaard



Kristin Misund

- SVP R&D and Business development
- In current position from May 2019
- **27 years** with Borregaard



Gisle Løhre Johansen

- EVP Speciality Cellulose and Fine Chemicals
- In current position from May 2019
- **29 years** with Borregaard



Dag Arthur Aasbø

- SVP Organisation and Public Affairs
- 12 years in current position
- **27 years** with Borregaard



Ole Gunnar Jakobsen

- Plant Director - Sarpsborg Site
- 12 years in current position
- **25 years** with Borregaard



Sveinung Heggen

- General Counsel
- 7 years in current position
- **7 years** with Borregaard

# Appendix - Non-GAAP measures

In the discussion of the reported operating results, financial position and cash flows, Borregaard refers to certain measures which are not defined by generally accepted accounting principles (GAAP) such as IFRS. Borregaard management makes regular use of these non-GAAP measures and is of the opinion that this information, along with comparable GAAP measures, is useful to investors who wish to evaluate the company's operating performance, ability to repay debt and capability to pursue new business opportunities. Such non-GAAP measures should not be viewed in isolation or as an alternative to the equivalent GAAP measure.

- **Cash flow from operations:** Cash flow from operating activities (IFRS) + tax paid +/- net financial items +/- dividend (share of profit) from JV.
- **EBITDA:** Operating profit before depreciation, amortisation and other income and expenses.
- **EBITDA margin:** EBITDA divided by operating revenues.
- **Equity ratio:** Equity (including non-controlling interests) divided by equity and liabilities.
- **Expansion investments:** Investments made in order to expand production capacity, produce new products or to improve the performance of existing products. Such investments include business acquisitions, pilot plants, capitalised R&D costs and new distribution set-ups.
- **Other income and expenses:** Non-recurring items or items related to other periods or to a discontinued business or activity. These items are not viewed as reliable indicators of future earnings based on the business areas' normal operations. These items will be included in the Group's operating profit.
- **Leverage ratio:** Net interest-bearing debt divided by last twelve months' (LTM) EBITDA.
- **Net interest-bearing debt (NIBD):** Interest-bearing liabilities minus interest-bearing assets
- **Return on capital employed (ROCE):** Last twelve months' (LTM) operating profit before amortisation and other income and expenses, divided by average capital employed based on the ending balance of the last five quarters. Capital employed is defined by Borregaard as the total of net working capital, intangible assets, property, plant and equipment, right-of-use assets and investment in joint venture minus net pension liabilities.