Borealis at a glance

Mark Tonkens
Chief Financial Officer

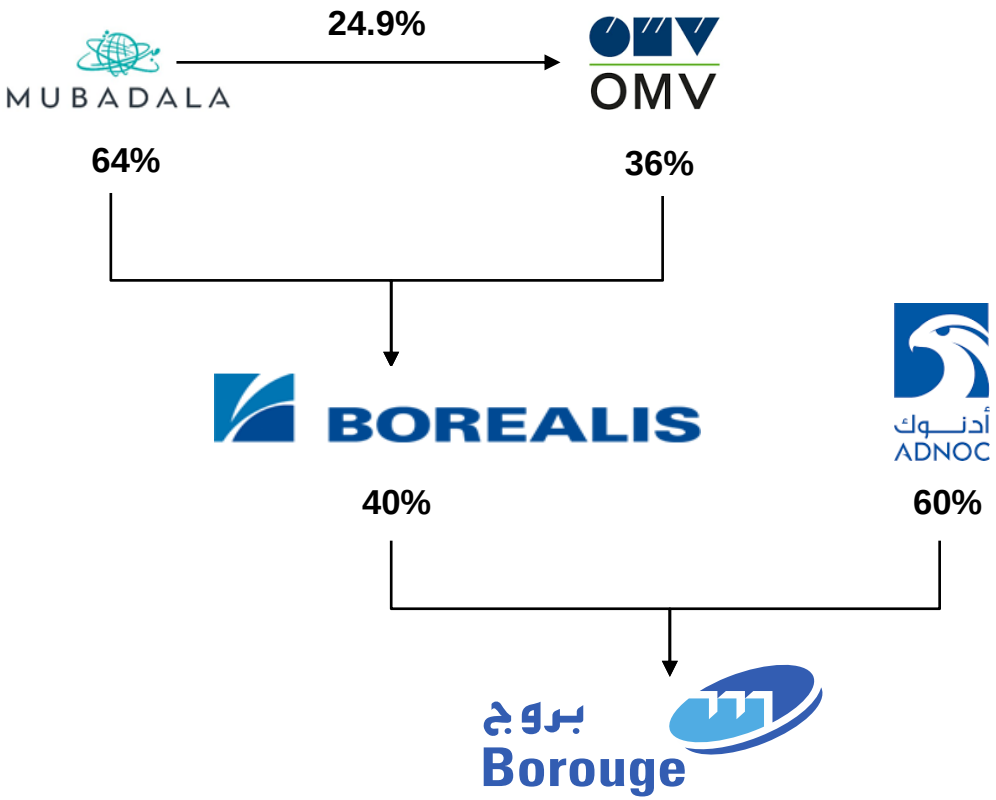
Vienna, October 10, 2019

Borealis Catalyst Plant & Innovation Headquarter (background), Linz

Borealis at a glance

- Produces and markets **polyolefins**, **base chemicals** and **fertilizers**
- Production plants in Europe, Brazil and USA with **world class safety standards**
- Proprietary **Borstar®** and **Borlink™** technologies
- **+6,800** employees
- **2nd** largest polyolefin producer **and 3rd** largest fertilizer producer in **Europe**
- Strong presence in the Middle East and Asia through Borouge JV - **world's largest integrated polyolefin site**
- **Bayport Polymers JV** in USA
- Two **polyolefin recycling operations** in Europe
- **Focused on innovation:** 6,400 granted patents and 2,800 pending patents as of 2018

Shareholder structure



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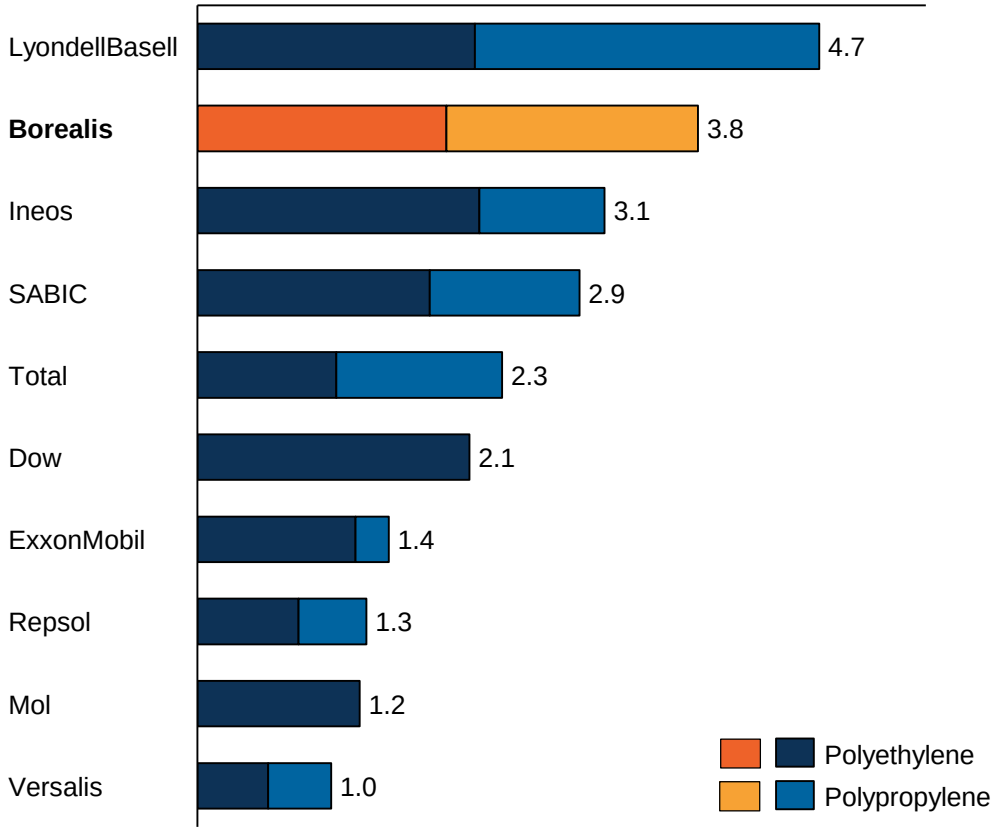
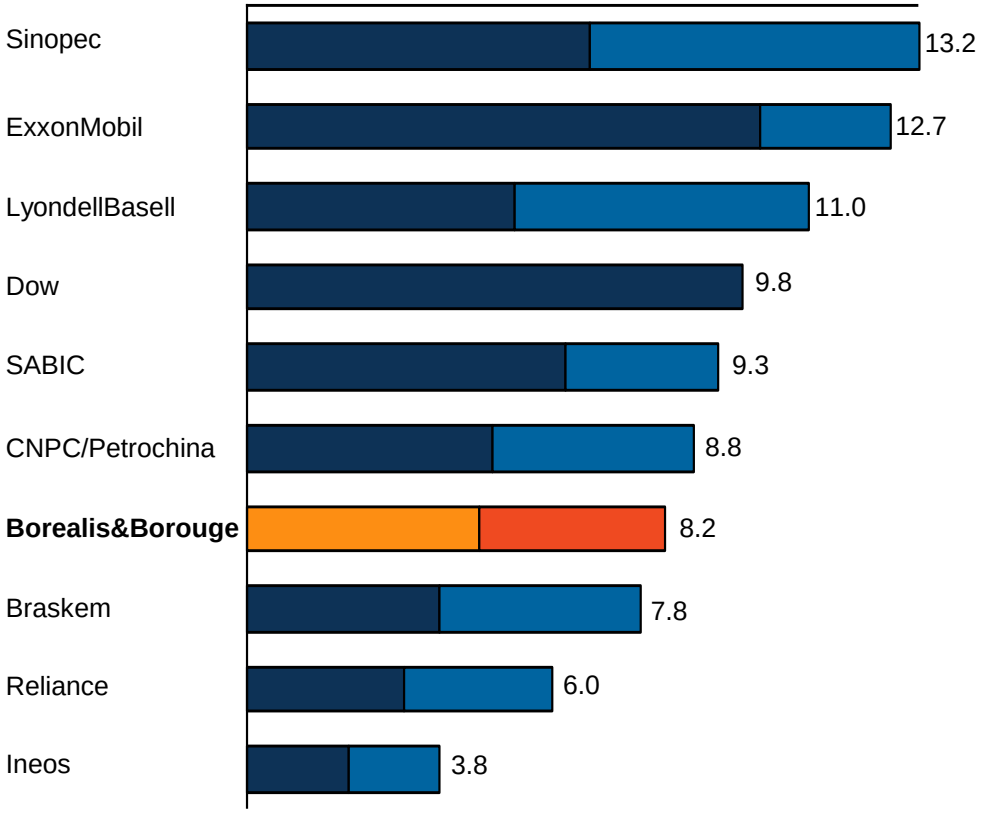
Borealis and Borouge command top positions in polyolefin production capacities

Europe

Capacities end 2018 in mn tons, based on ownership share



World



Source: Borealis & IHS

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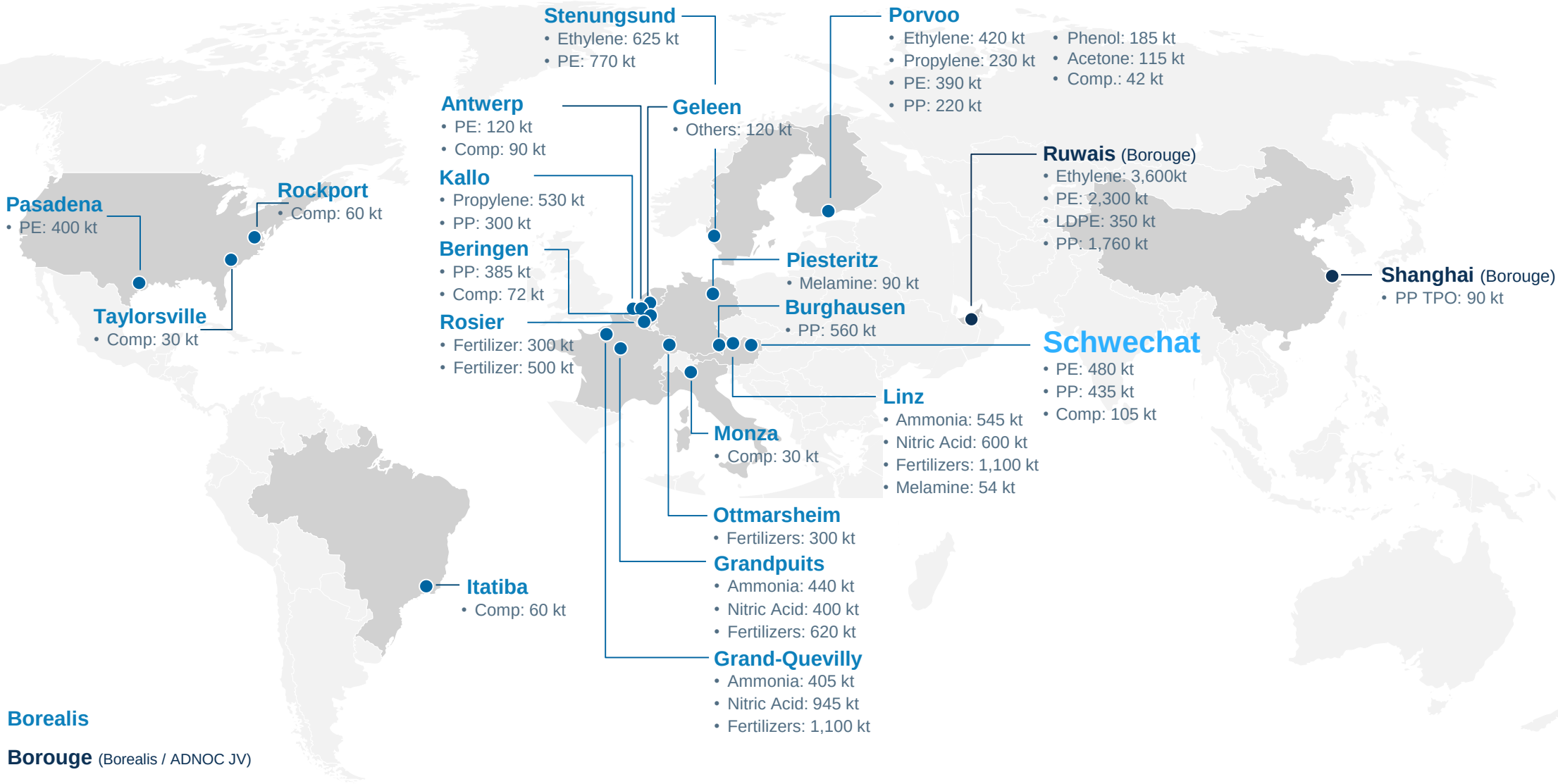
Global footprint



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Borealis product range

Base Chemicals

Feedstocks, Olefins & Co-products

- Ethylene
- Proplyene (Polymer, Chemical and Refinery grades)
- Butadiene, Butylenes, Raff-1, Pyrolysis Gasoline (Benzene), ETBE

Phenol & Acetone

Energy

- Sourcing of Natural Gas & Power
- Steam & Boiler Feed Water
- Nitrogen & Hydrogen

Polyolefins

Pipe and fittings

- Water & Gas
- Sewerage & industrial
- Plumbing & heating
- Oil & gas

Energy

- AC/DC extra high, high, medium & low voltage
- Fiber optic & data network cable
- Automotive, building, photovoltaic, & industrial cables

Automotive

- Bumpers & body panels,
- Exterior & interior trims,
- Dashboards & central console
- Door cladding
- Under body shielding
- Cooling systems & battery tray

Consumer products

- Flexible packaging
- Rigid packaging
- Fibers
- Appliances (washing machines, dish washers, fridges/freezers, vacuum cleaners, coffee makers, microwave oven etc..)

Healthcare

- Medical pouches
- Syringes
- Sachets
- Medical devices
- Bottles

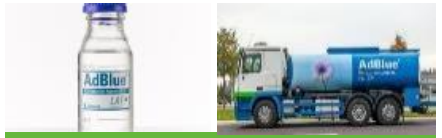
Circular Economy Solutions

PolymerSolutions

Fertilizers

Nitrogen Fertilizer

Specialties



Technical N Products

Melamine

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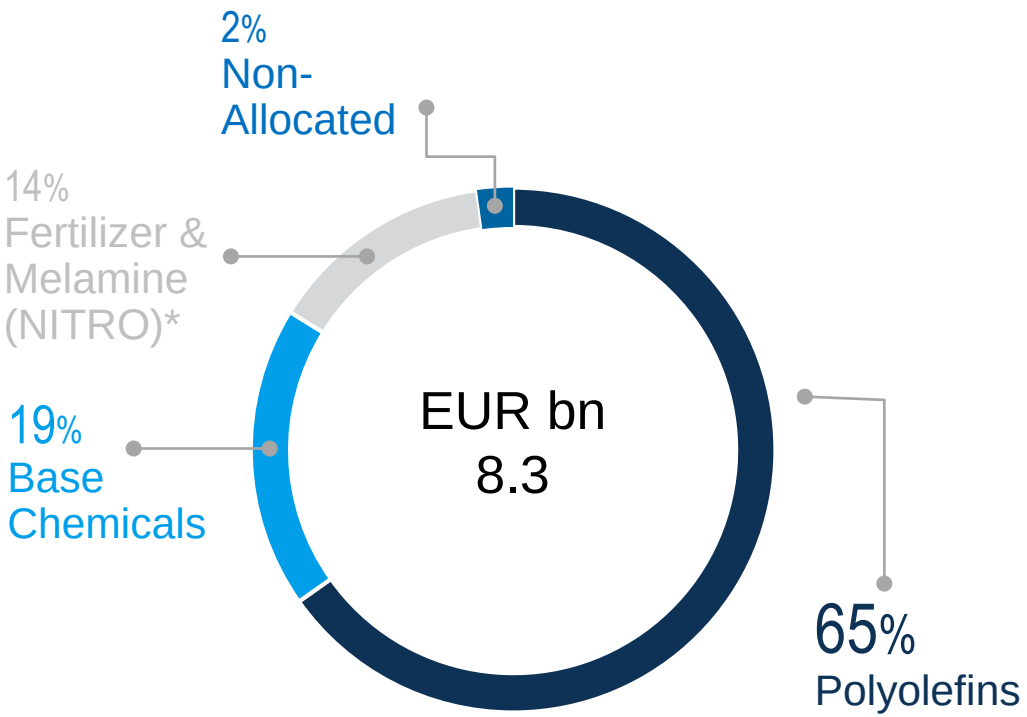
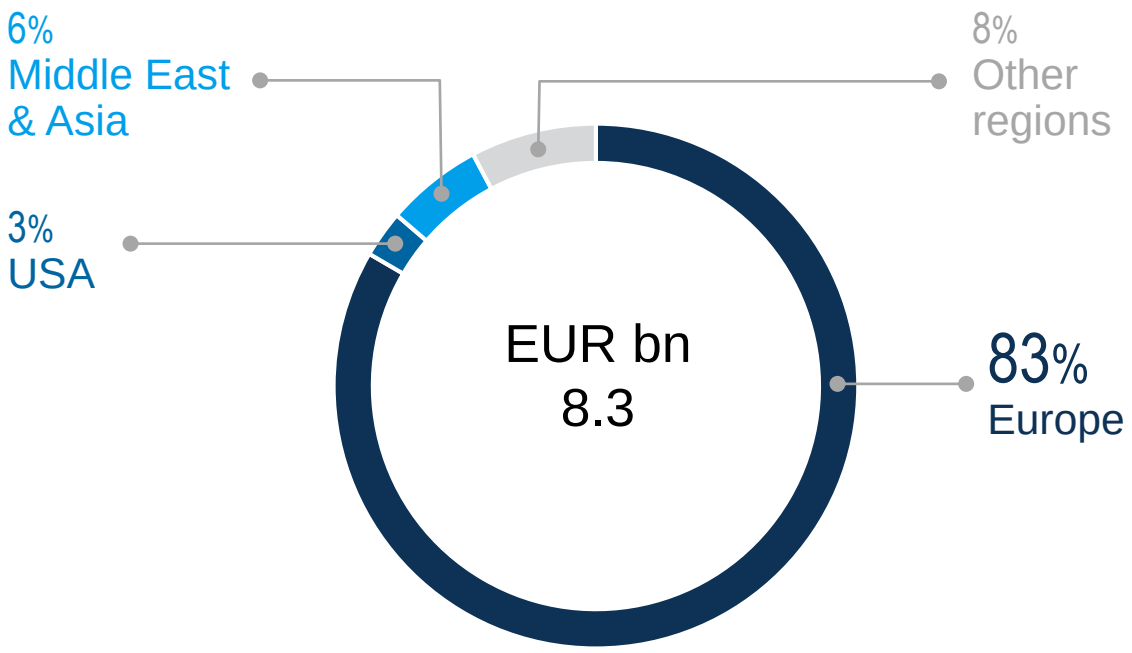
Sales split product group and geography

Total Sales by segment, 2018



Total Sales by region, 2018



*NITRO = Segment Reporting amendment as of January 1, 2019 for Fertilizers & Melamine

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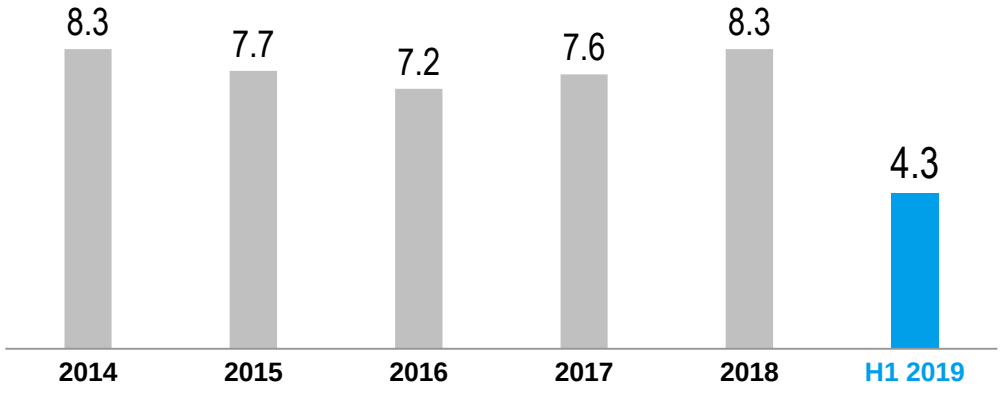
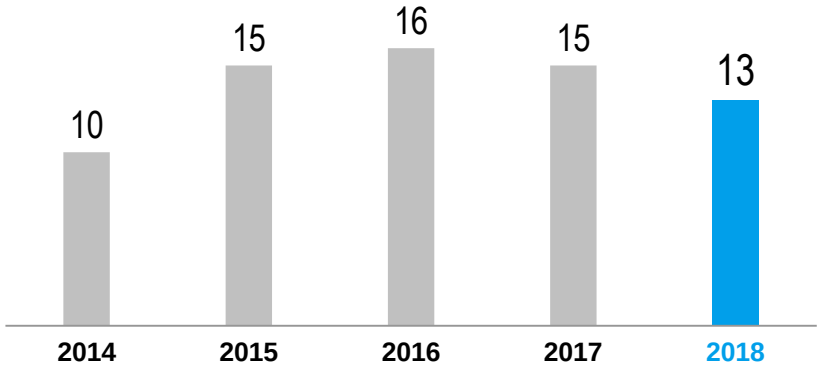
Financials

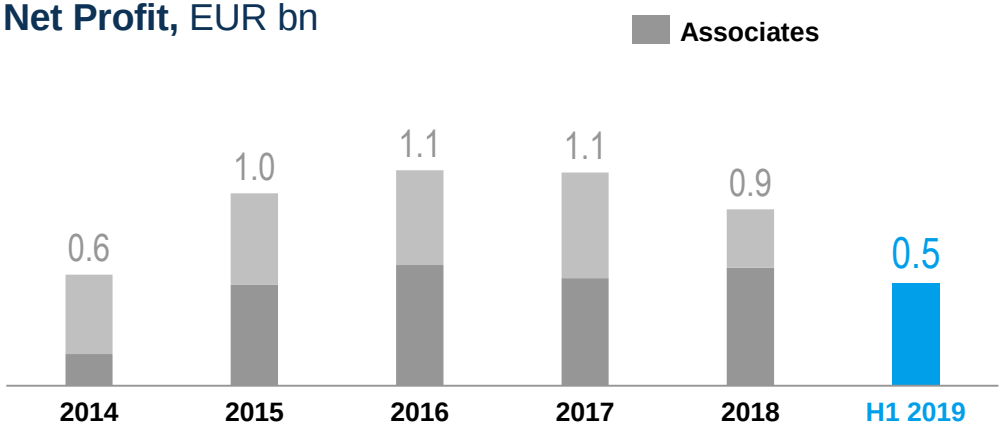
Total Sales, EUR bn



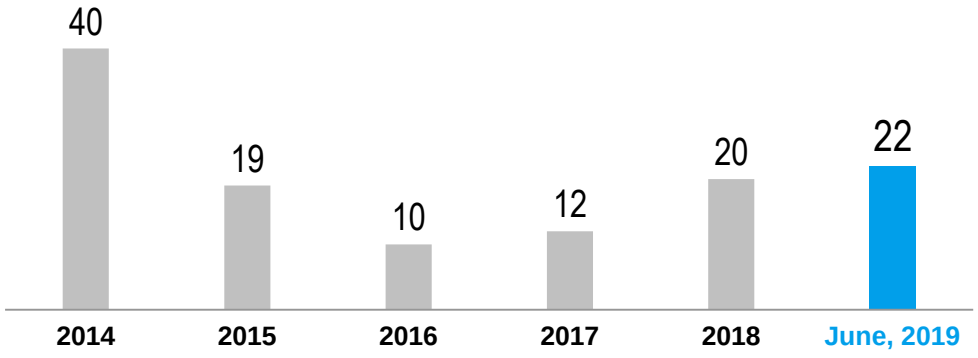
ROCE, %



Net Profit, EUR bn



Gearing, %



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Borealis innovation addresses global challenges

Circular Economy

Design for plastic packaging recycling

- Design for recycling (DFR) is an important aspect of eco-efficient design
- DFR means designing a product so it can be collected, sorted, and recycled, by making appropriate material choices and intelligent design decisions

Energy & Climate

AdBlue® helps reduce NO_x emissions

- AdBlue is a high-purity aqueous urea solution that reduces NO_x emissions to help meet European emission limits
- It is used in diesel vehicles with a selective catalytic reduction system (SCR), which transforms nitrous oxides into harmless nitrogen and water vapour

Efficient and reliable energy transmission

- Security of electricity supply is crucial for the grid development plans around the globe
- **Borlink™** energy cable insulation material reduces the environmental impact by efficiently and reliably connecting renewable energy sources to grids

Health & Safety

Value adding healthcare solutions

- Increased need for safer, more accessible and convenient medical applications
- With its **Bormed™** healthcare product range Borealis offers reliable medical and pharma-ceutical applications that add value to healthcare

BOREALIS

Automotive industry is embracing the circular economy and increased PP use is part of the solution

- Volvo Cars' aims that **at least 25% of all plastics in cars** launched after 2025 will be made from recycled material
- **Volvo SUV demonstrator vehicle** showcased at the "Ocean Summit" event in Gothenburg, Sweden in 2018
- **Two Borealis Daplen PCR grades** containing post-consumer recycled (PCR) content were **used in five parts for the Volvo demonstrator**

Volvo XC60 T8 plug-in hybrid

Interior parts containing recycled content

- Growth and diversification of parts made in PP
  - Low density
  - Light-weight
  - Performance/cost balance
  - Recyclability
- Increasing requests for PP compounds containing recycled content from post-industrial/post-consumer sources

- Average mid-size SUV has ~300 kg of plastics
- **Decreasing** the **vehicle weight by 1 kg** means **0.1 g/km of CO_2 emissions less**
- Car looks almost identical to the existing model, but over 60 kilos **(~20%)** of its plastic parts or **170 parts** were **replaced with those made of recycled materials**.

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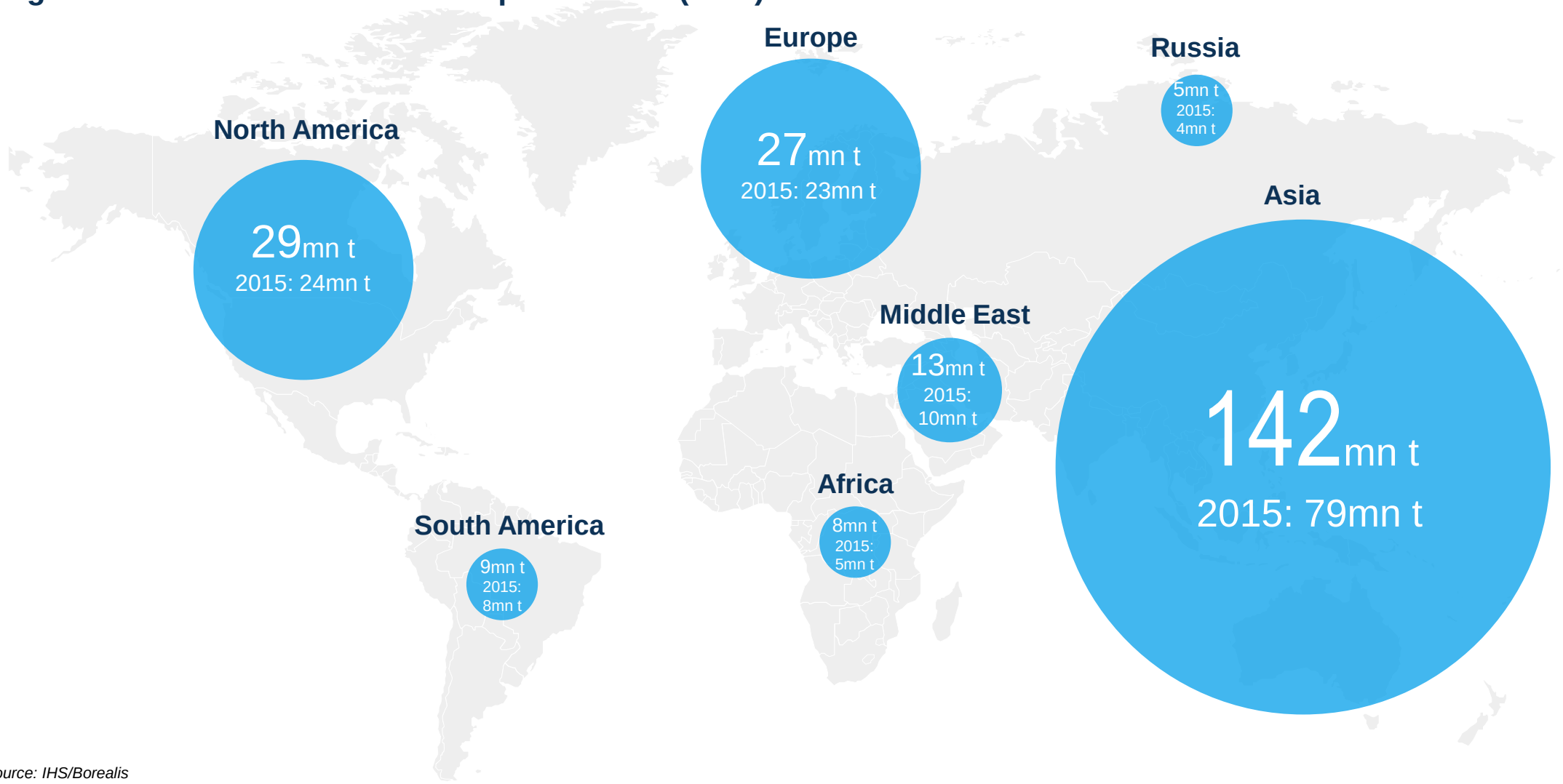
Growth in polyolefin demand 2015 – 2025

Regional PE and PP market development 2025 (mn t)



Source: IHS/Borealis

BOREALIS

Key strategic drivers

1 Polyolefins

- Grow polyolefin business with a focus on **advanced applications and differentiated products**
- Strengthen the European base

2 Base Chemicals & Fertilizers

- Maximize the value of Base Chemicals
- Strengthen the cracker asset base with increased feedstock flexibility
- Focus on turning around Fertilizers

3 Borouge

- Pursue operational excellence in Borouge, including leveraging into Europe
- **Further grow** in UAE: Borouge 4 & PP5

4 Innovation & Circular economy

- Achieve a step change in **innovation**
- Build on opportunities from **sustainability** megatrends and circular economy
- New Circular Economy Solution unit set up to find new growth opportunities in mechanical **recycling** and design for recyclability
- Increased focus on **CO2 reduction & carbon footprint** improvement

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Our foundation for sustainable growth

Our key criteria

- Access to market
- Access to advantaged feedstock
- Right technology
- Ability to fund
- Fit to Borealis businesses

Our unique strengths

- Running complex chemical assets safely
- Borstar® technology
- Ability to build large complex projects
- Application focus
- Access to ME & Asia + strong brand name

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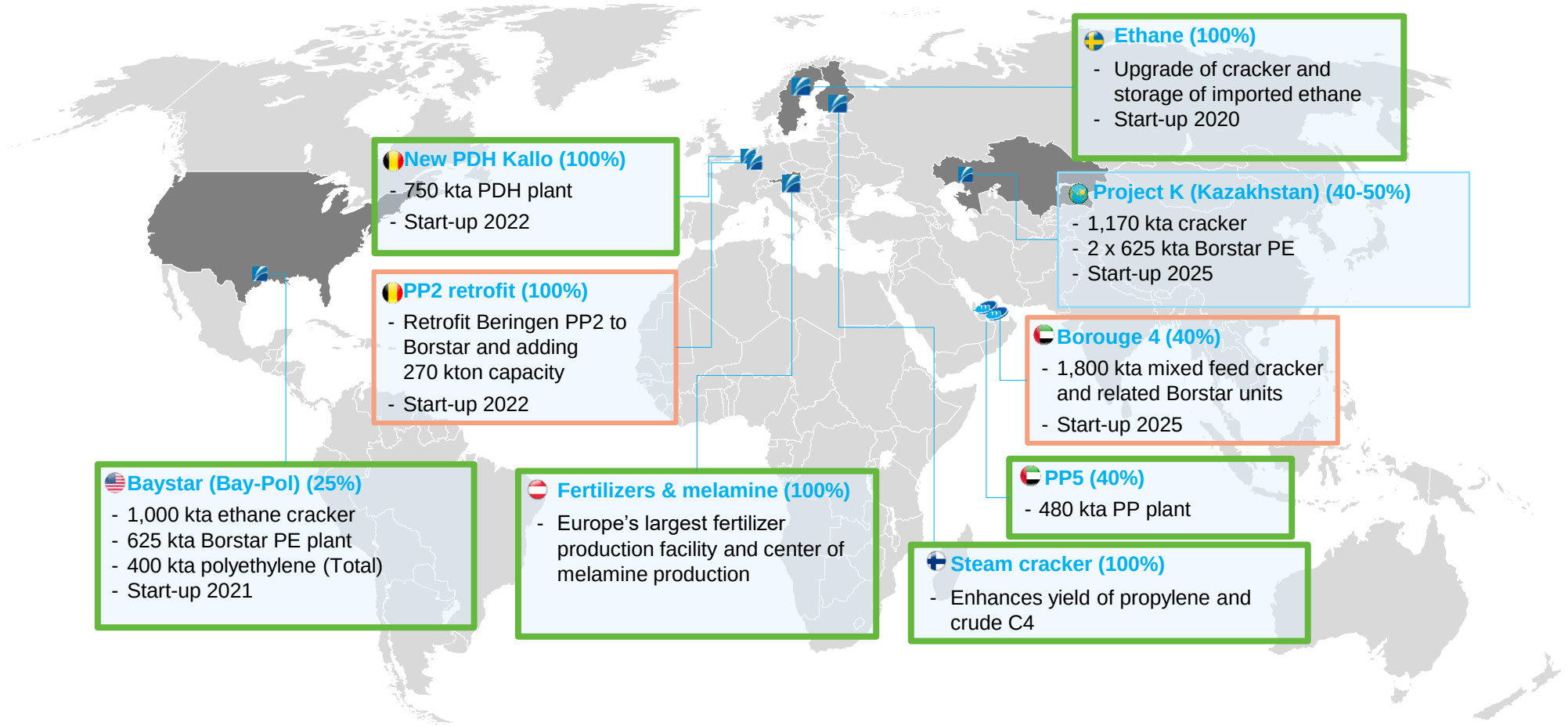
Organic growth portfolio



Ethane (100%)
- Upgrade of cracker and storage of imported ethane
- Start-up 2020

New PDH Kallo (100%)
- 750 kta PDH plant
- Start-up 2022

Project K (Kazakhstan) (40-50%)
- 1,170 kta cracker
- 2 x 625 kta Borstar PE
- Start-up 2025

PP2 retrofit (100%)
- Retrofit Beringen PP2 to Borstar and adding 270 kton capacity
- Start-up 2022

Borouge 4 (40%)
- 1,800 kta mixed feed cracker and related Borstar units
- Start-up 2025

PP5 (40%)
- 480 kta PP plant

Baystar (Bay-Pol) (25%)
- 1,000 kta ethane cracker
- 625 kta Borstar PE plant
- 400 kta polyethylene (Total)
- Start-up 2021

Fertilizers & melamine (100%)
- Europe's largest fertilizer production facility and center of melamine production

Steam cracker (100%)
- Enhances yield of propylene and crude C4

Borealis

Borouge (Borealis /ADNOC JV)

% in brackets represent Borealis' stakes

Feasibility | FEED | Execution

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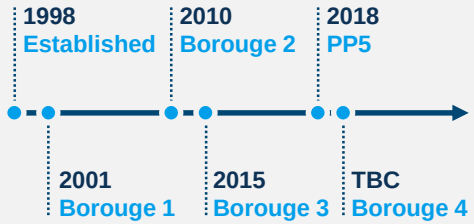
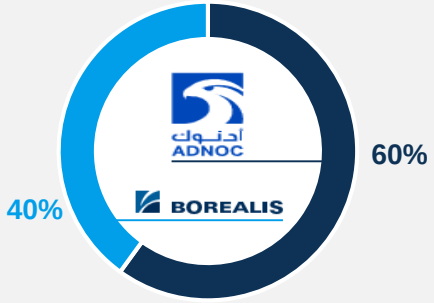
Borouge – a very successful joint venture

Evolution

Abu Dhabi, United Arab Emirates



Ownership



Employees

+3,500 employees

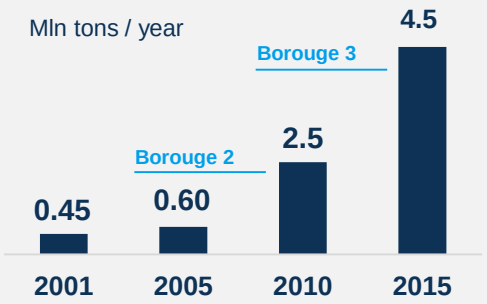
170 secondees in Abu Dhabi, Singapore, & Shanghai

Facilities

Biggest integrated ethylene complex (3,600 kt per year)

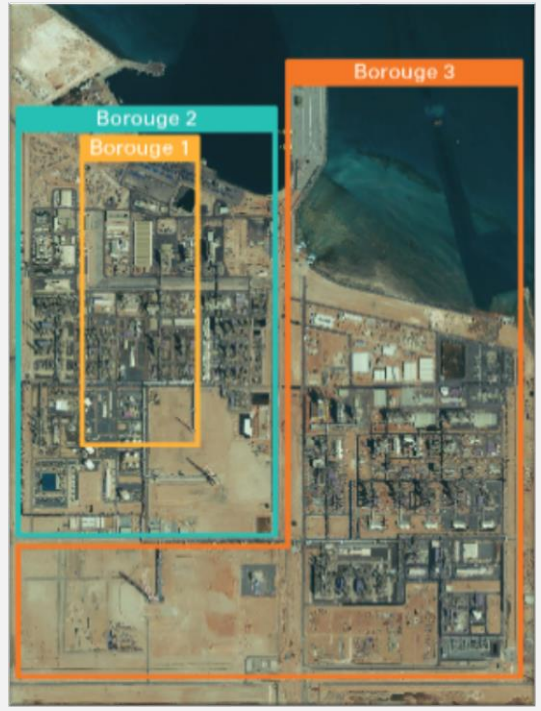
Largest polyolefin site (19 operating units, 13 shift supervisors, & 180 operators per shift)

Polyolefins production



Net Profit (2018)

Record net profit after tax of **USD 1,793 million**



Evaluating the Borouge 4 opportunity to open the next chapter in the Borouge success story

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Expanding to USA – JV with Total and Nova in Texas

TOTAL	BOREALIS	NOVA Chemicals
50%	25%	25%
Total brings the award-winning **Bayport facility** and its employees who operate and produce safely and efficiently.	Borealis brings its proprietary **Borstar® technology** for the first time to North America and the Bayport site for unique polyethylene (PE) grades for the most demanding applications.	NOVA Chemicals brings a deep **customer and technical expertise** in PE that will allow the partnership to offer a broad range of products to help meet the growing global demand for plastic products.

JV Scope

- **Construction of 1 Mt p.a. ethane steam cracker** in Port Arthur, Texas
- Total's **existing polyethylene 400 kt p.a. facility** in Bayport, Texas
- Construction of a new **625 kt p.a. Borstar® polyethylene unit**

BOREALIS

Recycling – key element of our strategy

- 2016: Acquired **100% of mtm plastics**
  - German technology leader in mechanical recycling of mixed post-consumer waste
  - One of the world's largest producers of recycled polyolefin pellets
  - Two renown brands Dipolen® and Purpolen®
- 2018: Acquired **100% of Ecoplast**
  - Austrian high quality post consumer LDPE and HDPE recycler
- Signed MOU with OMV to explore synergies in chemical recycling

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Contribution to marine litter prevention: Project STOP

WWW.STOPOCEANPLASTICS.COM

- Launched in 2017. First city partnership was in Muncar, East Java, Indonesia in early 2018
- The project helps a city to introduce a dependable, low-cost management system of plastics collection
- Targets wider impact through government policy and industry practices and supports organizations and communities working on the topic
- Aims to prevent +10,000 t of plastics from leaking into ocean over the next 5 years

Indonesia is one of the 5 Asian countries that account for more than 55% of the plastics waste in the ocean

Strategic partners

BOREALIS Keep Discovering

Nestlé Good Food, Good Life

NOVA Chemicals

Norwegian Embassy

SYSTEMIQ

Supporting and technical partners

VEOLIA

SW

Borouge

BOREALIS