INEOS Olefins & Polymer Europe North

Rob Ingram, CEO

Investor Day 2021

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Agenda

- Business overview
- Sustainability Plan
- Major Projects
- 2020 performance
- Impact of Covid-19
- Market outlook

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INEOS Olefins & Polymers North Introduction

- Producer of 5.5 million tonnes pa. of Olefins & Aromatics and 3 million tonnes of Polyolefins
- Divided for management purposes into 3 divisions:
  - O&P Europe North, *O&P Europe South, **O&P Europe UK
- O&P EU North Production:
  - Koeln, Germany
  - Rafnes / Bamble, Norway
  - Lillo and Geel, Belgium
- 2800 personnel
- Head office in Rolle, Switzerland
- 2020 Turnover of O&P Europe North €3.5 billion

*O&P EU South sites include Lavera & Sarralbe (France) & Rosignano (Italy)
**O&P UK site is Grangemouth (Scotland)

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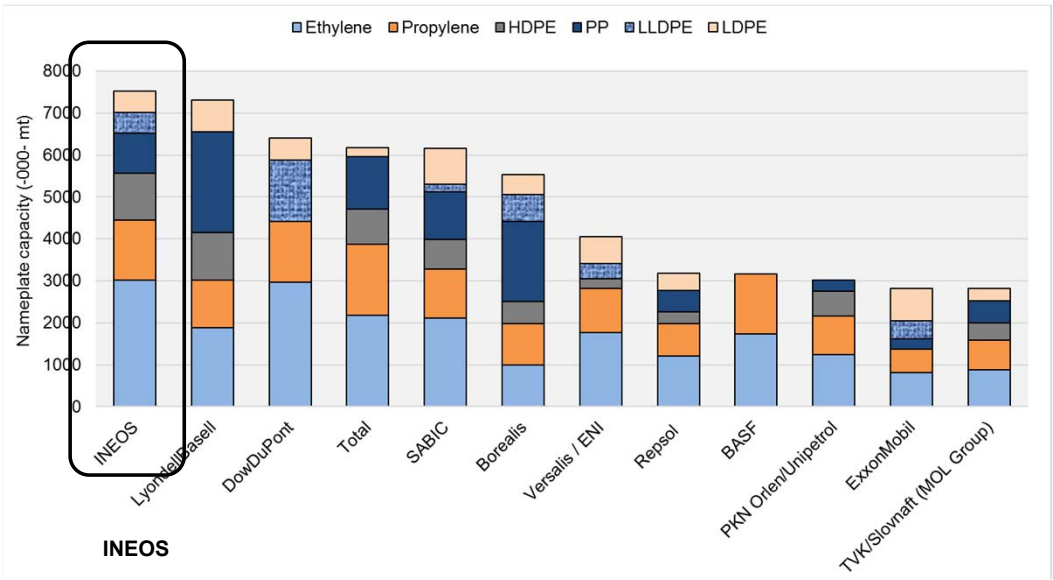
Olefins & Polymers: #1 in Europe



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Olefins & Polymers EU incl. South & UK divisions

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INEOS Olefins & Polymers Europe

Product Flow

Manufacturing Process				Markets	
Raw Materials	Cracker			Derivatives	INEOS Integration
Ethane		Ethylene	→	Polyethylene	✓
			→	Ehthylene oxide	✓
			→	Ethyl acetate	✓
			→	Alpha-olefins	✓
Propane		Propylene	→	Polypropylene	✓
			→	Propylene oxide	✓
			→	Acrylonitrile	✓
Butane		Butadiene	→	Isopropanol	✓
			→	N-butanol	✓
			→	PIB	✓
Naphtha		Aromatics	→	Ethyl Benzene	✓
			→	Styrene	✓
			→	Polystyrene	✓

☐ O&P activity

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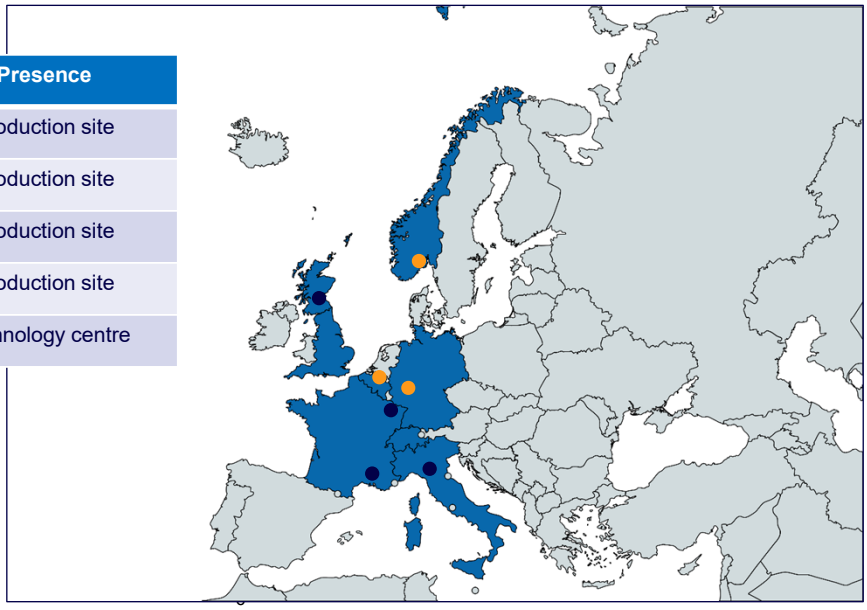
INEOS Olefins & Polymers European Presence

O&P North Locations	Presence
Koeln, Germany	Production site
Rafnes/Bamble, Norway	Production site
Lillo, Belgium	Production site
Geel, Belgium	Production site
NOH, Belgium	Technology centre

O&P **North** manufacturing sites ●
O&P **South & UK** sites ●



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Production Site: Cologne, Germany

Naphtha Cracker		Polymer Units
Olefins		Polyolefins
Ethylene & Propylene	Butadiene & Benzene	LDPE & LLDPE
1,920 kt	530 kt	580 kt

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Production Site: Rafnes, Norway

Gas Cracker		Polymer Units
Olefins		Polyolefins
Ethylene & Propylene	Butadiene & Benzene	LDPE
680 kt	80 kt	150 kt

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Production Sites: Lillo & Geel, Belgium

Polymer Units	Polyolefins	Capacity
Lillo	HDPE	440 kt
Lillo	PP	90 kt
Geel	PP	290 kt

Lillo

Geel

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Polyolefin Applications

- Focus on differentiated grades which support sustainable, value-added applications, reflecting the needs of the Circular Economy

Medical

Pipe

Artificial Grass

Heat seal film

Car Fuel Tanks

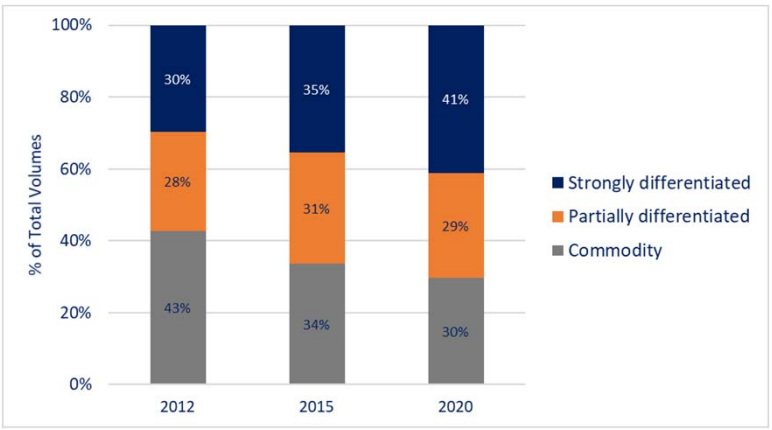
Wire & Cable

Textile & Fibre

Injection Moulding

Product Differentiation

- Focus on differentiated grades which support sustainable, value-added applications, reflecting the needs of the Circular Economy
- Supported by in-house polymer technology centre, pilot plants, and catalyst development.



Sustainability Plan

- **CO2 emissions reduction**
  - Plans being developed for each site to meet 2030 & 2050 targets
- **Hydrogen**
  - Options being explored for future use of Hydrogen as raw materials & to replace Natural Gas as fuel
- **Renewable power**
  - Long-term commitments for renewable power to reduce our GHG footprint
- **Renewable feedstocks**
  - Use of wood based bio-naphtha to make renewable monomers for use by our derivative businesses
- **Mechanical recycling**
  - Growth of **Recyl-IN** polymer grades containing >50% recycled waste plastic
- **Chemical recycling**
  - Assessing various developing technologies, and testing compatibility with our crackers
- **Plastic waste in the environment**
  - Design-4-Recyclability - packaging material & design solutions
  - Prevention of pellet losses from sites & logistics activities. Involvement in local clean-up initiatives

Sustainability Plan: Delivering Results

Renewable power:

- Power Purchase Agreements for 140MW of off-shore wind power in Belgium. Further options under evaluation.

Renewable feedstocks:

- Polymers from bio-attributed materials, including sales to flooring and food storage applications.
  - Sales will reach 3kt in 2021

Mechanical Recycling:

- **Recyl-IN:** 20+ grades commercially available, across all polyolefin families (HD/LL/LD/PP)
  - Used in detergent and shampoo bottles, caps & closures, and logistics films. Other applications being developed.
  - Sales will reach 6kt in 2021 and exceed 20kt by end 2022
- Off-take commitments with 4 recyclers for high quality PCR (total of 70kt) – and more in development

Chemical Recycling:

- Successful pilot with Lactalis turning waste plastics into 140,000 recycled HDPE milk bottles

Certification:

- Circular and Renewable polymers with robust sustainability claims certified by RSB / ISCC+

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Major Projects

- Cologne Butane-Plus Project
  - Completed in April 2021 and fully operational at 750ktpa.
- Cologne CoGen Unit
  - Mechanical completion at end of 2021. Start-up early 2022.
- Project ONE
  - Focus on Ethane Cracker (+ C3 Splitter)
    - 1450ktpa Ethylene capacity
  - Project ONE to be integrated with Cologne
    - Cologne CGP upgraded to PGP in Project ONE for use in O&PN Polyolefin assets
    - Project ONE Crude C4 & Pygas processed in to Butadiene & Benzene at Cologne
  - Full permit application in July 2021
  - FID in Q1 2022
  - Start-up in 2026

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Project ONE

- We are building a zero-emission hydrogen cracker
- We will achieve zero emissions once we have sufficient hydrogen. In the meantime, our emissions will be half of the next best cracker
- Using ethylene from Project ONE will reduce the CO2 footprint of our downstream products by more than 2 million tonnes per year compared to today.
- We are creating 500 highly skilled 'green' jobs and supporting over 5000
- The product from Project ONE will support the production of valuable materials that are essential to society.
- We are utilizing renewable power for all of this investment.
- We are receptive to all zero emission technologies, including electric furnaces, but will prioritise hydrogen as the technology is ready now

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2020 Performance

- Excellent SHE record
  - OSHA recordable injury rate 0.11 in 2020 and average 0.17 across last 6 years
- Highly reliable assets
  - Olefins assets > 99.5% reliability every year since 2018
  - Polymers assets > 94% reliability every year since 2018
- Successful Cracker TAR in Cologne during Q2 (despite the pandemic)
- However, EBITDA performance impacted by the pandemic

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Impact of Covid-19

- Good start to 2020 (Jan-Feb)
- Demand collapsed when pandemic struck (Apr)
- Dramatic fall in oil price caused significant inventory losses (Apr)
- Medical / Hygiene applications quickly became high priority (Apr-Dec)
- Demand for PE in to food packaging recovered quickly – lock-down effect (May-Dec)
- Demand for durable products disappeared – especially linked to automotive (May-Sep)
- Slow recovery of demand through Q3 & Q4 2020

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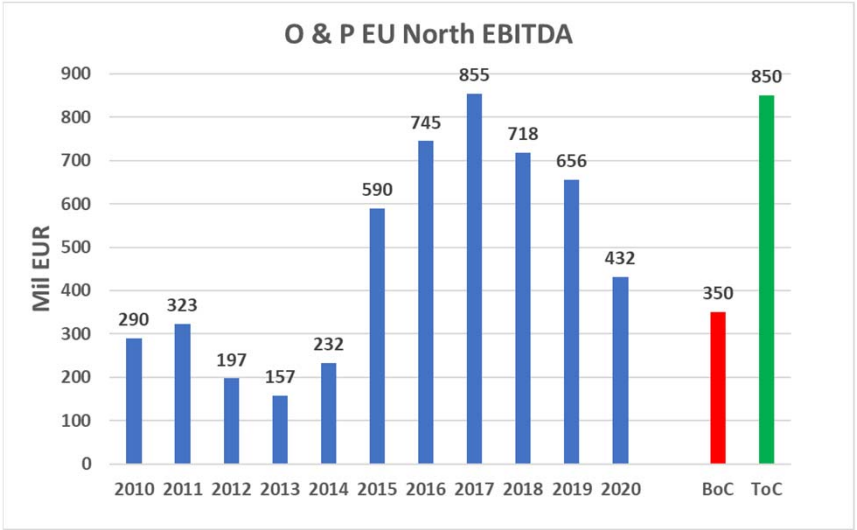
2020 Performance



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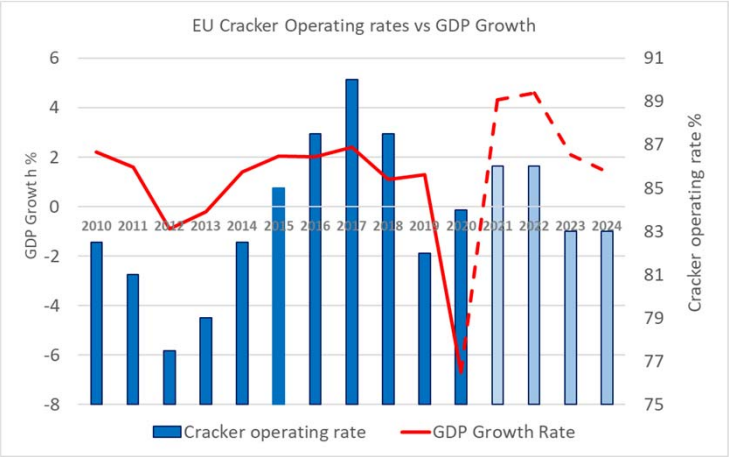
Market Outlook: Olefins



- Historically, cracker operating rates have trended with European GDP growth rates

Market Outlook: Polymers

	2020 NWE Market Size	Average Annual NWE Market growth until 2025
HDPE	5.2 million tonnes	70,700 mt
LLDPE	3.25 million tonnes	43,600 mt
LDPE	3.75 million tonnes	42,700 mt
PP	8.3 million tonnes	159,400 mt
Total	**20.5 million tonnes**	**316,400 mt**

- Large European polyolefins market typically growing with GDP at about 1.5% per year: ca. +300,000 mt/year.
- Imports account for approx. 20% market share: Europe needs imports to meet demand.
- INEOS polyolefins forecasts allow for increased use of recycled polymer.

Market environment (2021 YTD)

- Very strong first half of the year.
- Demand re-bounded in all sectors as lock-downs were eased.
- Durable demand returned, especially in infrastructure and automotive.
- Global supply limited by planned TARs and un-planned issues.
- Significant and lasting supply shock caused by severe winter storm in US.
- Inventories low throughout the supply-chain.
- On-going constraints of global logistics.
- Raw material prices increasing. Recovering inventory losses of last year.
- Underlying fundamentals point to normalising of market environment.