OXEA in brief

Launch: March 1, 2007
Owner: Oman Oil Company (OOC)
Employees: approx 1,400
Sales: approx €1.2 billion
Products: Oxo-Intermediates and Oxo-Derivatives, such as Aldehydes, Alcohols, Esters, Carboxylic Acids, Specialty Esters, Polyols, Amines
A young company with a long history
Our values are the core of our success!

- No compromises in **safety**, health and protecting our environment – safety remains our top priority!

- We manage by **trust** – we empower employees and reward good decisions! We encourage new ideas and independent thinking of every OXEA employee!

- **Communication** is not a one-way-street. We exchange information and knowledge actively within the company!

- We treat each other with the same high **respect** and honesty. We value diversity as an enrichment for us!
Global Presence

Production Sites

- Bishop: approx. 35
- Bay City: approx. 180
- Amsterdam: approx. 25
- Oberhausen: approx. 900
- Marl: approx. 70
- Nanjing: approx. 50

- Houston
- Bay City
- Bishop
- Mexico City
- Amsterdam
- Marl
- Oberhausen
- Monheim
- Tokyo
- Nanjing
- Singapore
Since December 2013 OXEA is owned by Oman Oil Company

- Oman Oil Company S.A.O.C. (OOC) is a commercial company wholly owned by the Government of the Sultanate of Oman.
- Incorporated in 1996 to pursue investment opportunities in the energy sector both inside and outside Oman.
- OOC established to play a pivotal role in the country’s efforts to diversify the economy and to promote Omani and foreign private sector investments.
- OOC investment portfolio is well balanced by sector and geography.
- OOC has steadily grown its portfolio to cover 50+ investments spanning 15+ countries, and diversified across the hydrocarbon value chain and energy related sectors.
Strategic Approach of OOC

- Consolidate the investments, prioritize and focus on core business.
- Streamline operations by leveraging the scale of the group of companies.
- Develop projects in Oman through partnerships with industry leaders.
- Develop and invest in profitable businesses to increase financial returns, and transfer knowledge & technology to Oman.
- Evolve and integrate portfolio across the hydrocarbon value chain.
Value Chain

Raw materials
- Ethylene
- Propylene
- Butene
- Higher Olefines
- Natural Gas

Oxo-Intermediates
- Aldehydes
- Alcohols
- Esters

Oxo-Derivatives
- Polyols
- Higher Aldehydes & Derivatives
- Acids
- Specialty Esters
- Amines

Syngas

OXEA products find many applications in everyday life
Diversified product portfolio for a wide range of end-uses

<table>
<thead>
<tr>
<th>Oxo-Intermediates</th>
<th>Oxo-Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aldehydes</strong></td>
<td><strong>Higher Aldehydes</strong></td>
</tr>
<tr>
<td><strong>Applications:</strong> Lacquers, Polymer Additives, Flotation Chemicals, Flavors &amp; Fragrances</td>
<td><strong>Applications:</strong> Chemical Intermediates, Flavors &amp; Fragrances</td>
</tr>
<tr>
<td><strong>Alcohols</strong></td>
<td><strong>Carboxylic Acids</strong></td>
</tr>
<tr>
<td><strong>Applications:</strong> Surface Coatings, Lacquers &amp; Paints, Polymer Additives, Lubricants, Solvents, Disinfectants</td>
<td><strong>Applications:</strong> Lubricants, Siccative, Flavors &amp; Fragrances, Polymer Stabilizers, Feed Additives, Corrosion Inhibitors</td>
</tr>
<tr>
<td><strong>Esters</strong></td>
<td><strong>Specialty Esters</strong></td>
</tr>
<tr>
<td><strong>Applications:</strong> Chemical Intermediates, Cosmetics, Paints &amp; Coatings, Printing Inks, Pharmaceuticals, Pharmaceuticals, Solvents</td>
<td><strong>Applications:</strong> Plasticizers, Lubricants, Coalescing Agents</td>
</tr>
<tr>
<td><strong>Polyols</strong></td>
<td><strong>Amines</strong></td>
</tr>
<tr>
<td><strong>Applications:</strong> High Solids Coatings, Powder Coatings, Cosmetics, Lubricants, Polymer Additives</td>
<td><strong>Applications:</strong> Agrochemicals, Rubber Chemicals, Polymer Additives, Pharmaceuticals, Surfactants, Dye Intermediates, Specialty Chemicals, Corrosion Inhibitors</td>
</tr>
<tr>
<td><strong>Higher Alcohols</strong></td>
<td><strong>Specialty Esters</strong></td>
</tr>
<tr>
<td><strong>Applications:</strong> Surface Coatings, Lacquers &amp; Paints, Polymer Additives, Lubricants, Solvents, Disinfectants</td>
<td><strong>Applications:</strong> Plasticizers, Lubricants, Flavors &amp; Fragrances, Surfactants</td>
</tr>
</tbody>
</table>

Company Presentation
OXEA’s strategy for growth

- Developing New Value Chains
- Adding on Downstream in the Value Chain
- Entering New Markets and New Regions.

A BROAD APPLICATION BASE

A MULTIPLE STEP VALUE CHAIN

RAW MATERIALS

Natural Gas / Oils

INTER-MEDIATES

Propion- aldehydes
Butyraldehydes

INTER-MEDIATES

Propanol
Butanols
2-Ethyl-hexanol

DERIVATIVES

Valeric/ Heptanoic/ Pelargonic/ Butyric/ Isononanic/ 2-2-EH Acids

TMP / NPG

DERIVATIVES

Isononanal / 2-2-EH Acids

TCD / 1,3 BG

C12/ C15 / Aldimydes 2-Methyl-Pentanal

Isobornanal 2-Methyl-Decanal

Undecanal / 2-2-Valeraldehyde TCD alcohol M

Specialty Esters/Specialty Plastizers

Company Presentation
Strategic Highlights

- **2012**: Start up of new Speciality Esters unit 2 in Oberhausen
- **2013**: Start up of new Carboxylic Acid unit 3 in Oberhausen
- **2014**: Alcohol expansions in Bay City, USA
- **2014**: Start up of new Speciality Derivatives plant in Nanjing, China
- **2017**: Start of the 1,3 BG capacity increase project in Bishop, USA
- **2017**: Revamp of the acid unit #2 to support growth strategy in animal feed business in Oberhausen
- **2018**: Implementation of the TCD-Diol Debottlenecking project in Oberhausen
- **2018**: Start up of new Propanol 2 in Bay City, USA
- **2019**: Acid Debottleneck
- **2022**: New TCD train
- **2022**: New Acid train
- **2025**: Duqm
Diversified product portfolio for a wide range of end-uses

### OXEA Products

#### Key Applications
- Lacquers & Paints
- Lubricants
- Printing Inks
- Flavours & Fragrances

#### End Markets
- Automotive & Transportation
- Industrial Goods
- Construction & Real Estate
- Consumer & Retail
- Pharmaceuticals
- Cosmetics
- Print Media

### Oxo-Intermediates

<table>
<thead>
<tr>
<th>Aldehydes / Alcohols / Esters</th>
<th>Carboxylic Acids</th>
<th>Polyols</th>
<th>Amines</th>
<th>Higher Aldehydes</th>
<th>Higher Alcohols</th>
<th>Specialty Esters</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Propionaldehyde</td>
<td>• Propionic acid (AF)</td>
<td>• 1,3 Butylene Glycol</td>
<td>• Propylamines</td>
<td>• n-Undecanal</td>
<td>• 2-Methylbutanol</td>
<td>• OXSOFT DOA</td>
</tr>
<tr>
<td>• n-Butyraldehyde</td>
<td>• n-Butyric acid (AF)</td>
<td>• TCD Alcohol DM</td>
<td>• Butylamines</td>
<td>• n-Nonanal</td>
<td>• 3-Methylbutanol</td>
<td>• OXSOFT 3ST</td>
</tr>
<tr>
<td>• Isobutyraldehyde</td>
<td>• Isobutyric acid</td>
<td>• Neopentyl Glycol</td>
<td>• 2-Ethylhexylamines</td>
<td>• n-Heptanal</td>
<td>• OXSOFT DUO 1</td>
<td>• OXSOFT DUO 1</td>
</tr>
<tr>
<td>• n-Butanol</td>
<td>• Valeric acid (HP)</td>
<td>• TMP</td>
<td>• n-Octylamine</td>
<td>• C13/C15 Aldehyde</td>
<td>• OXSOFT DUO 2</td>
<td>• OXSOFT DUO 2</td>
</tr>
<tr>
<td>• Isobutanol</td>
<td>• 2-Methylbutyric acid</td>
<td></td>
<td>• 3-Methylbutyline</td>
<td>• Isovaleraldehyde</td>
<td>• OXSOFT TOTM</td>
<td>• OXSOFT TOTM ST</td>
</tr>
<tr>
<td>• n-Propanol</td>
<td>• 3-Methylbutyric acid</td>
<td></td>
<td>• Dimethylbutylamine</td>
<td>• Isononanal</td>
<td>• OXSOFT L9TM</td>
<td>• OXSOFT L9TM</td>
</tr>
<tr>
<td>• n-Propyl acetate</td>
<td>• Heptanoic acid (HP)</td>
<td></td>
<td></td>
<td>• Propionaldehyde</td>
<td>• OXSOFT 3G8</td>
<td>• OXSOFT 3G8</td>
</tr>
<tr>
<td>• n-Butyl acetate</td>
<td>• 2-Ethylhexanoic acid</td>
<td></td>
<td></td>
<td></td>
<td>• OXSOFT DUO 1</td>
<td>• OXSOFT DUO 1</td>
</tr>
<tr>
<td>• 2-Ethylhexanol</td>
<td>• Propionaldehyde</td>
<td></td>
<td></td>
<td></td>
<td>• OXSOFT DUO 2</td>
<td></td>
</tr>
</tbody>
</table>

### Company Presentation
OXEA’s integrated production platform

**Precursors**
- Ethylene ($\text{C}_2$)
- Propylene ($\text{C}_3$)
- Syngas
- Butene ($\text{C}_4$)
- Higher Olefins ($\text{C}_8$)
- Other Precursors

**Intermediates**
- Propionaldehyde
- n-Butyaldehyde
- Isobutyraldehyde
- n-Valeraldehyde
- 2-Methylbutyaldehyde
- 3-Methylbutyaldehyde
- Higher Aldehydes

**Alcohols**
- n-Propanol
- n-Butanol
- Isobutanol
- n-Heptanol
- n-Nonanol
- Isononanol

**Polysols**
- 1,3 Butylene Glycol
- TCD Alkohol DM
- NPG

**Acids**
- Propionic Acid (AF)
- 2-Methylpentanoic Acid
- n-Butyric Acid (AF)
- Isobutyric Acid (AF)
- 2-Methylbutyric Acid
- 3-Methylbutyric Acid
- Heptanoic Acid (HP)
- Pelargonic Acid (HP)
- Isononanoic Acid (M)

**Esters**
- n-Propyl Acetat
- OXSOFT TOTM (ST)
- OXSOFT DOA
- OXSOFT 3G8
- OXFILM 351
- n-/Isobutyl Acetate
- Butylamines
- OXSOFT L9-TMP
- OXSOFT L9TM

**Amines**
- Propylamines
- 2-EH-Amines
- 3-Methylbutylamine
- Other Amines
A world leader in Oxo and #1 in the merchant market

• We are #1 or #2 globally in products like Propanol, 2-Ethylhexanol, Butanol, Butyl Acetate and 1,3 Butylene Glycol.

• We have the broadest product portfolio and the largest capacity in Carboxylic Acids.

• We have strong market positions in both, Europe and the US.

• We increase capacities to strengthen our market position and to support our customers’ growth.

• More than 1,000 customers in different Industries guarantee business stability and robustness.
Leadership Team

Dr. Oliver Borgmeier
Chief Operating Officer (COO)
Executive Vice President Global Operations

Stefan Schmidt
Chief Financial Officer
Executive Vice President Finance & IT

Hans-Peter Imkamp
Executive Vice President Legal, Insurance, Trademarks

Cristobal Ascencio
Executive Vice President Strategy & Innovation

Markus Hoschke
Executive Vice President Global Marketing & Sales

Ashraf Al Mamari
Executive Vice President Global Human Resources & Communications

Jan Hille
Executive Vice President Global Supply Chain
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.00 am</td>
<td>Having a shower</td>
</tr>
<tr>
<td>7.00 am</td>
<td>Watching a movie</td>
</tr>
<tr>
<td>8.00 am</td>
<td>Having a shower</td>
</tr>
<tr>
<td>9.00 am</td>
<td>Bringing the car to a workshop</td>
</tr>
<tr>
<td>10.00 am</td>
<td>Shopping: Plastic bags, thermal paper (parking ticket), food packages</td>
</tr>
<tr>
<td>11.00 am</td>
<td>Housekeeping: Detergent, polishes and cleaning agents</td>
</tr>
<tr>
<td>12.00 pm</td>
<td>Lunchtime: Refrigerator, food packaging</td>
</tr>
<tr>
<td>1.00 pm</td>
<td>Manicure: Nail polish</td>
</tr>
<tr>
<td>2.00 pm</td>
<td>Return home: Lubricants for aircraft turbine</td>
</tr>
<tr>
<td>3.00 pm</td>
<td>Kids playing outside: Football, sole of a sports shoe, sun protection cream</td>
</tr>
<tr>
<td>4.00 pm</td>
<td>Home project: Wall paint</td>
</tr>
<tr>
<td>5.00 pm</td>
<td>Break: Hand cream</td>
</tr>
<tr>
<td>6.00 pm</td>
<td>Yard work: Weeds-Ex, extension cable for lawnmower</td>
</tr>
<tr>
<td>12.00 pm</td>
<td>Lunchtime: Refrigerator, food packaging</td>
</tr>
</tbody>
</table>
### OXEA in our daily lives: example automotive vehicles

#### Outside
- Butyraldehyde, Oxsoft 3G8: PVB safety glass liner
- Butyl Acetate: Automotive top-coat systems
- Trimethylol Propane: UV car coatings
- Neopentyl Glycol: Aluminum rims powder-coatings
- 2-Ethylhexanoic Acid, Di-n-Butylamine: Vulcanized rubber, adhesion promoters in tires
- Butanol: Acrylic water-based coatings

#### Inside of vehicle interior
- TCD Alcohol DM: Touchscreen displays
- DOTP, DOA: Upholstery, seats, mats
- 2-Ethylhexanoic Acid: PU foam for dashboards & seats

#### Motor compartment
- Isononanoic, 2-Ethylhexanoic Acids: Synthetic lubricants
- 2-Ethylhexanoic Acid: Coolants
- 2-Ethylhexanol: Cetane improver in Diesel fuel

There are ~7.5 kg of Oxea chemicals on average in a car.
OXEA in our daily lives: modern living

**Household**

1. 3G8 & Valeric, Heptanoic, Isononanoic Acids: *Refrigeration system lubricants*

2. Oxsoft DOA: *Kitchen items*

3. Neopentyl Glycol: *Appliance coatings*

4. Pelargonic Acid: *Detergents*

5. 2-Ethylhexanoic, Isononanoic Acids: *PU flexible foams*

6. 2-Ethylhexylamine: *Home pest control*

7. Oxsoft DOA, Oxsoft TOTM: *Cables*

8. TCD Alcohol DM: *Glass fiber, Blu-ray, Pelargonic Acid: Auxiliary in food production*

**Human**

10. 2-Ethylhexanoic, Isononanoic Acids: *Sun care products*

11. 1,3-Butylene Glycol: *Skin cream*

12. Propionaldehyde, Isovaleraldehyde, Heptanol, Isononanol, Undecanal: *Perfume & fragrances*

**Building**

13. n-Butanol: *Exterior architectural paints*

14. 2-Ethylhexanoic Acid: *Interior architectural paints*

15. 2-Ethylhexanoic, Isononanoic Acids: *PVC window frames*

**Outdoors**

16. Pelargonic Acid: *Garden Herbicides*

17. Isobutyraldehyde: *Garden fertilizers*

18. Valeric, Isononanoic, Heptanoic Acids: *Jet turbine lubricants*
Any Questions?

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