



LANXESS

Energizing Chemistry

Beauty of Additives in a nutshell

Meeting the Management

Anno Borkowsky, Member of the Board

Agenda

1 Beauty of Additives in a nutshell

2 Why Polymer Additives are attractive

3 Why Lubricant Additives are amazing

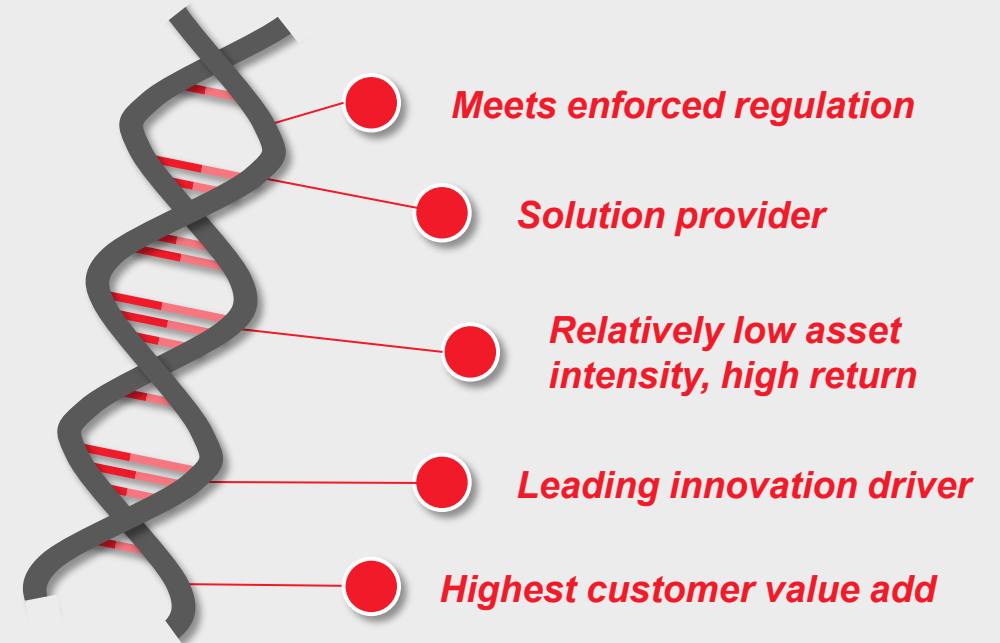
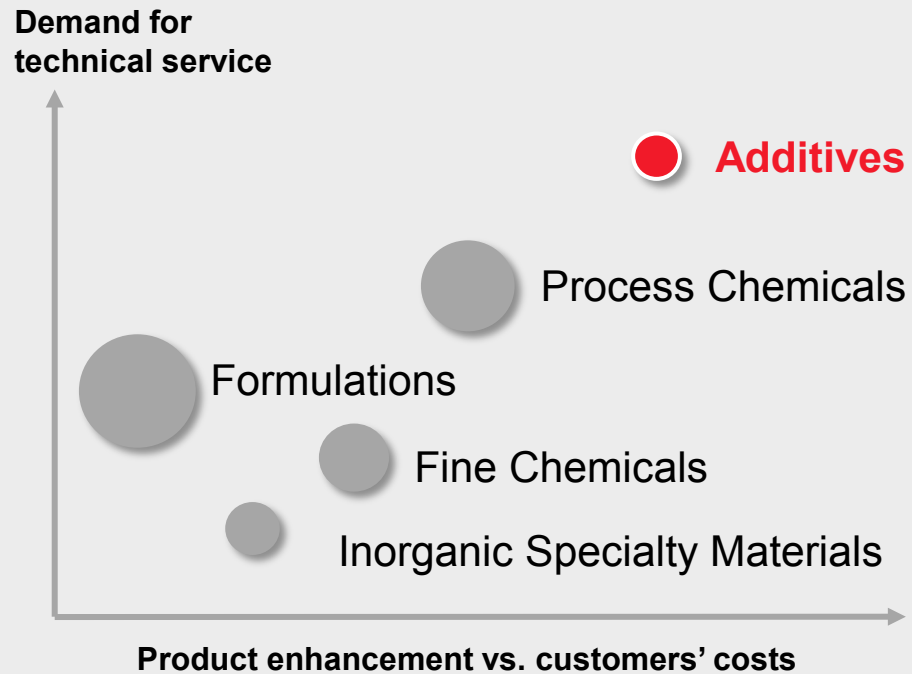




Beauty of Additives in a nutshell

Additives constitute a very attractive product group in the specialty chemical industry

LANXESS Additives “DNA” with very attractive business characteristics



Specialty Additives cater various end markets with a balanced global footprint

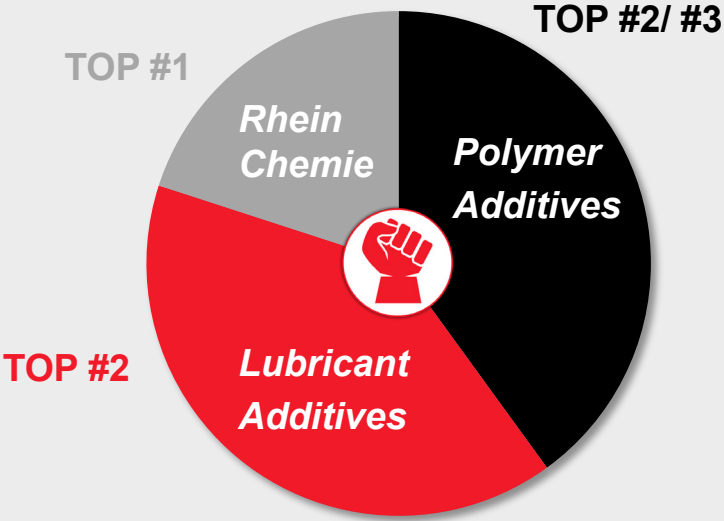


Leading players in diverse and growing end markets

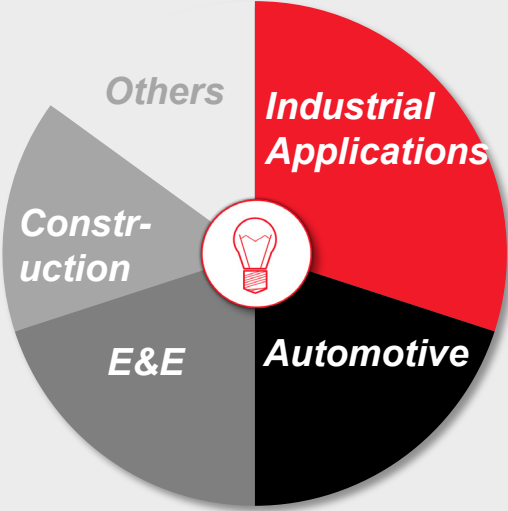
Well balanced end market split

Strong footprint in growth regions

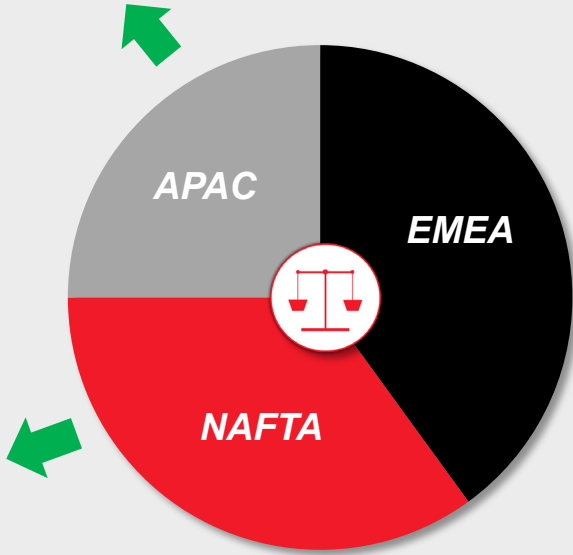
Sales 2018



Build on & expand leadership positions



True focus on specialties & innovations

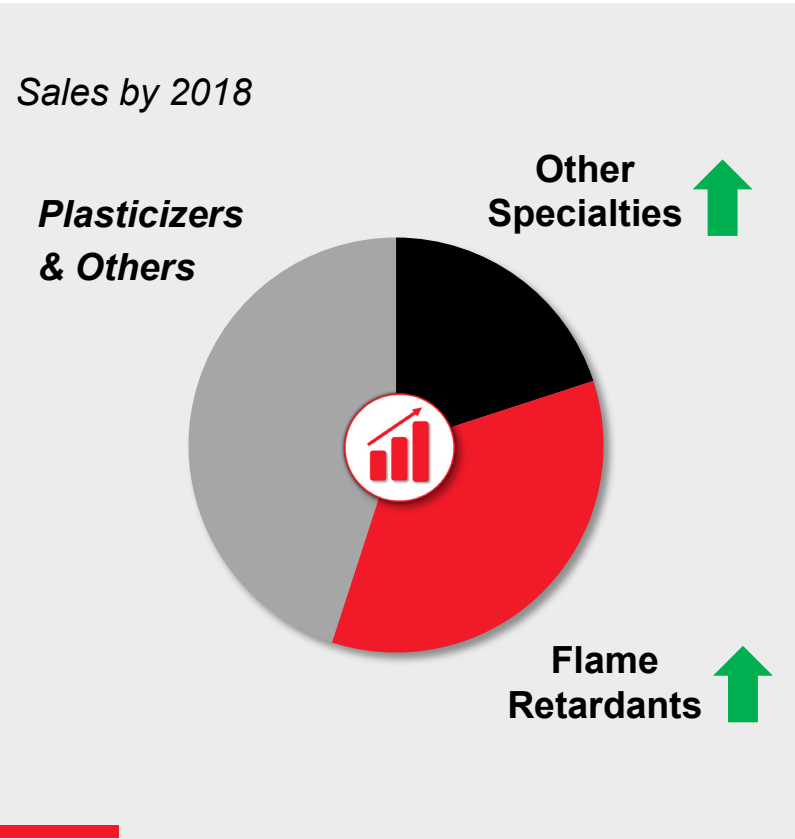


Further strengthening of APAC & NAFTA footprint

Specialty Additives – Successful business set-up with a clear strategic approach

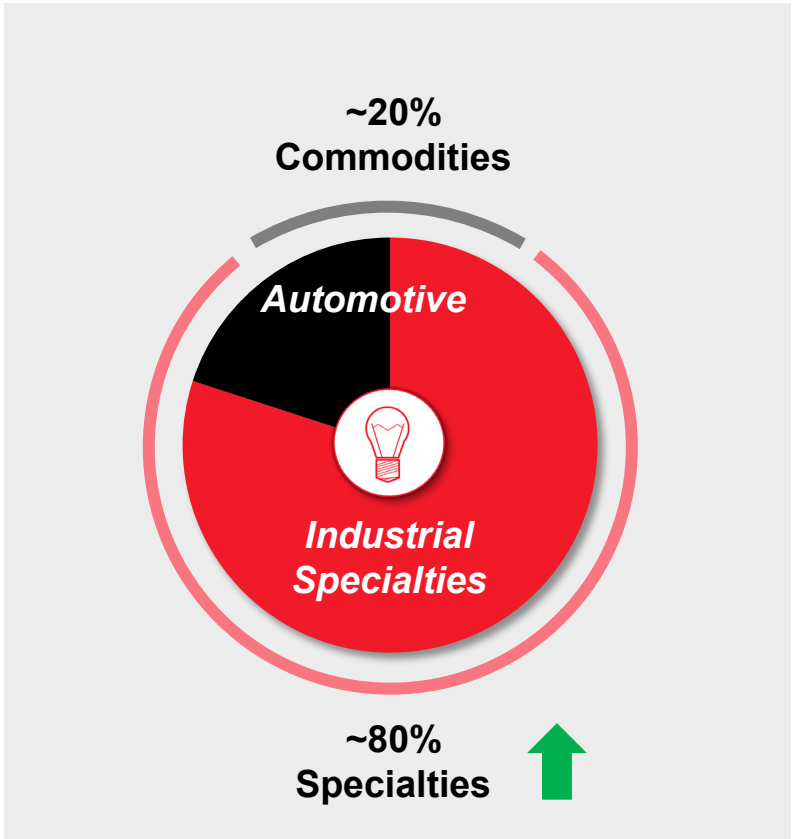
BU Polymer Additives

Leverage growth from higher regulation & batteries



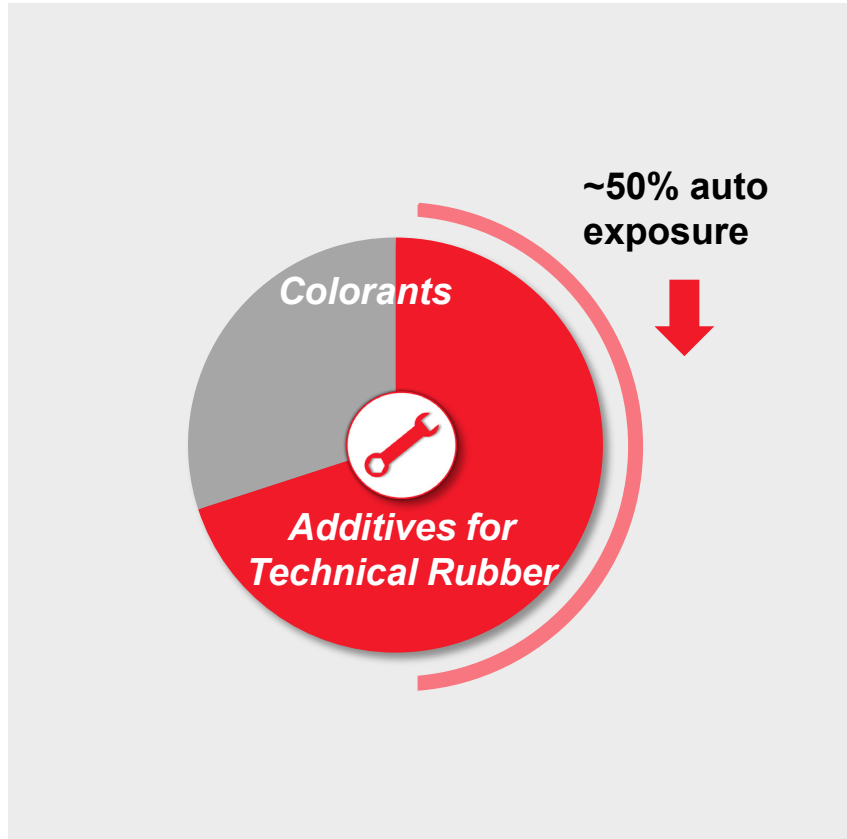
BU Lubricant Additives

Further innovate and specialize the portfolio



BU Rhein Chemie

Reduce auto dependency and further realignment



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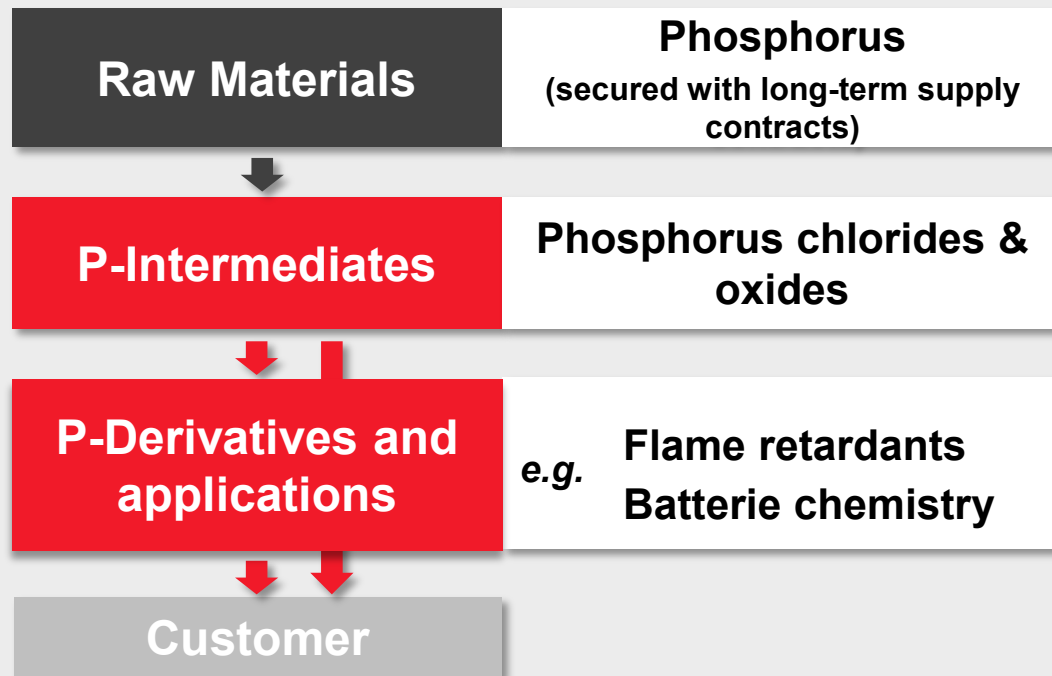
3 Why Lubricant Additives are amazing



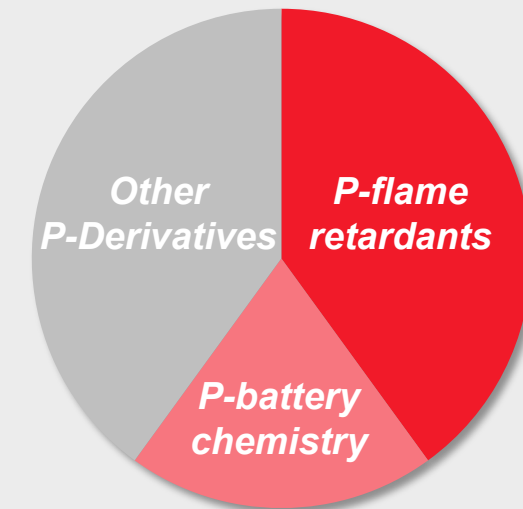
Leading manufacturer of phosphorus derivatives

Comprehensive supply for rising demand in phosphorus flame retardants and batteries

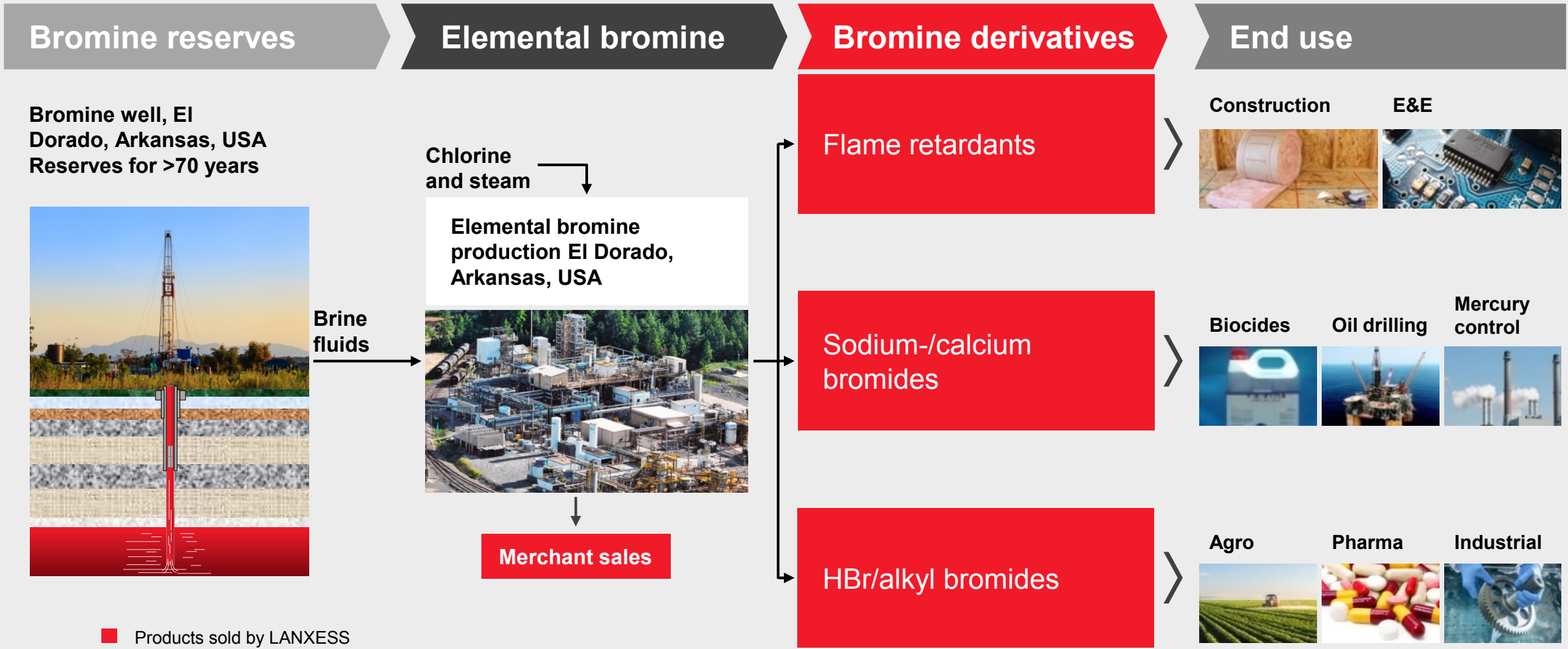
Phosphor value chain



Expectation: Phosphorus portfolio by 2025

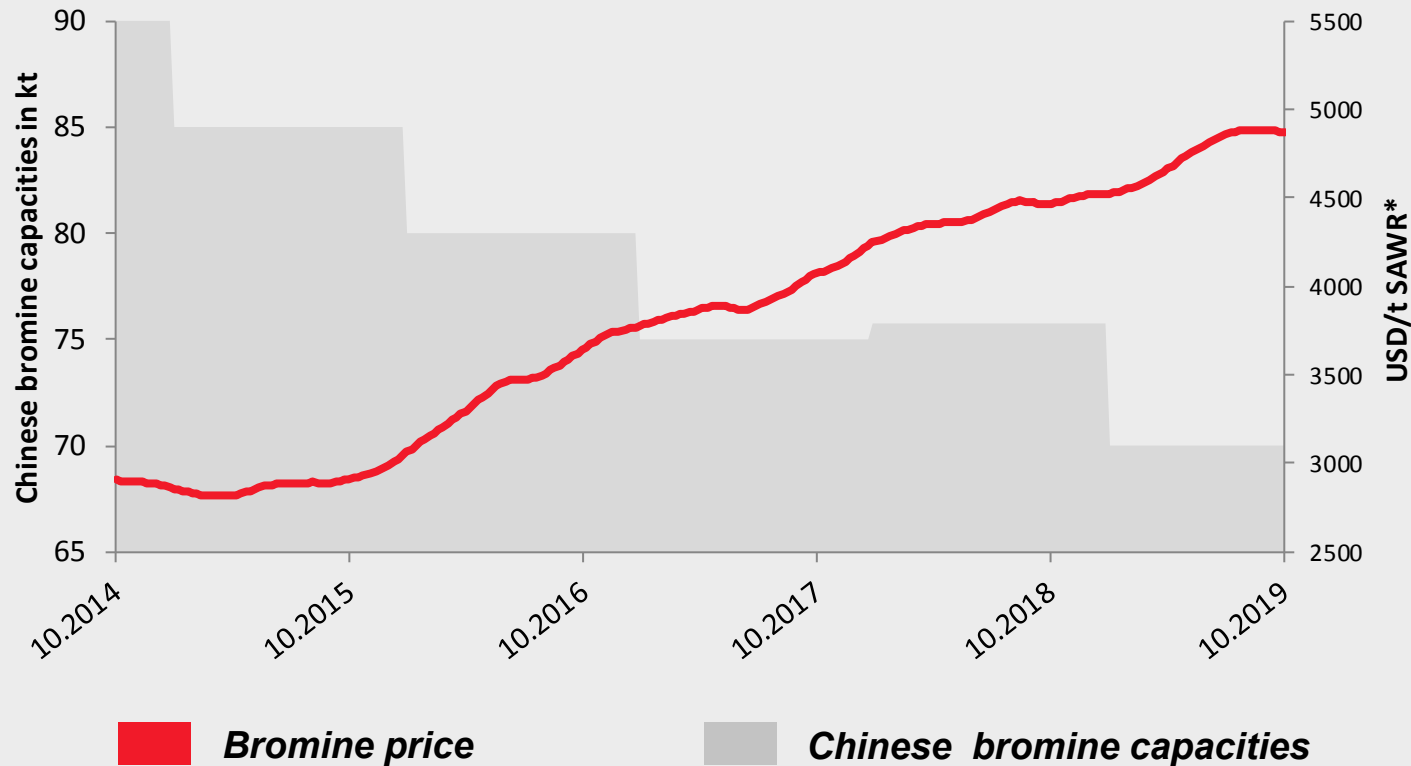


Extracting value by pursuing the whole value chain from one of the most efficient bromine resources



LANXESS benefits from structural changes in the Chinese bromine market

Chinese bromine resources continuously exhaust and face rising regulatory pressure

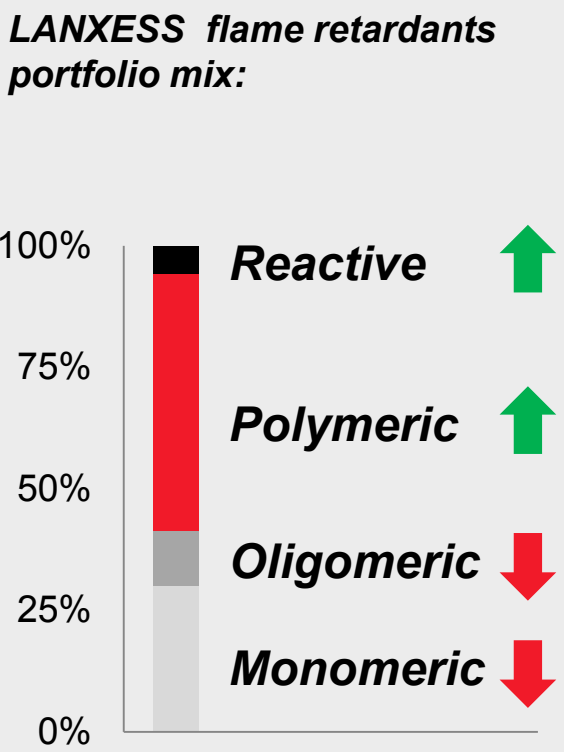
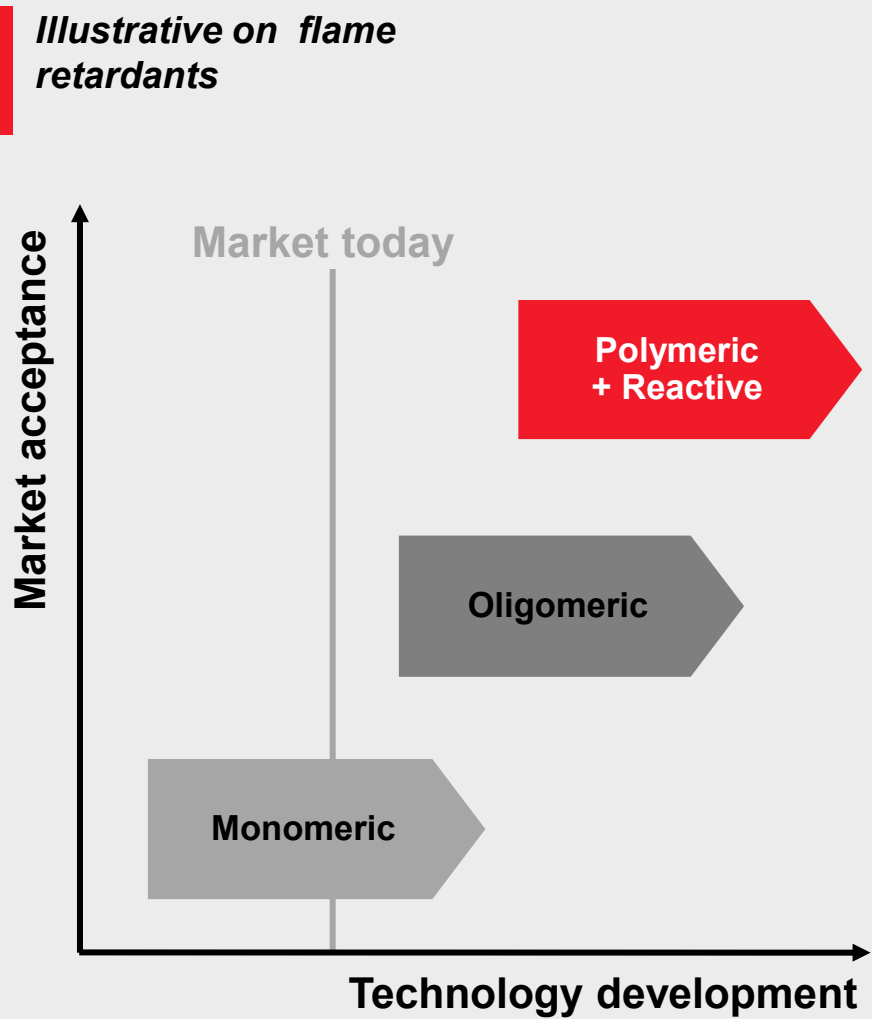


APAC with attractive growth opportunities:

- Chinese bromine demand grows while resources continuously decline
- LANXESS meets rising environmental standards in China
- Huge logistics infrastructure for bromine transportation

Flame retardants well prepared for tightening regulation

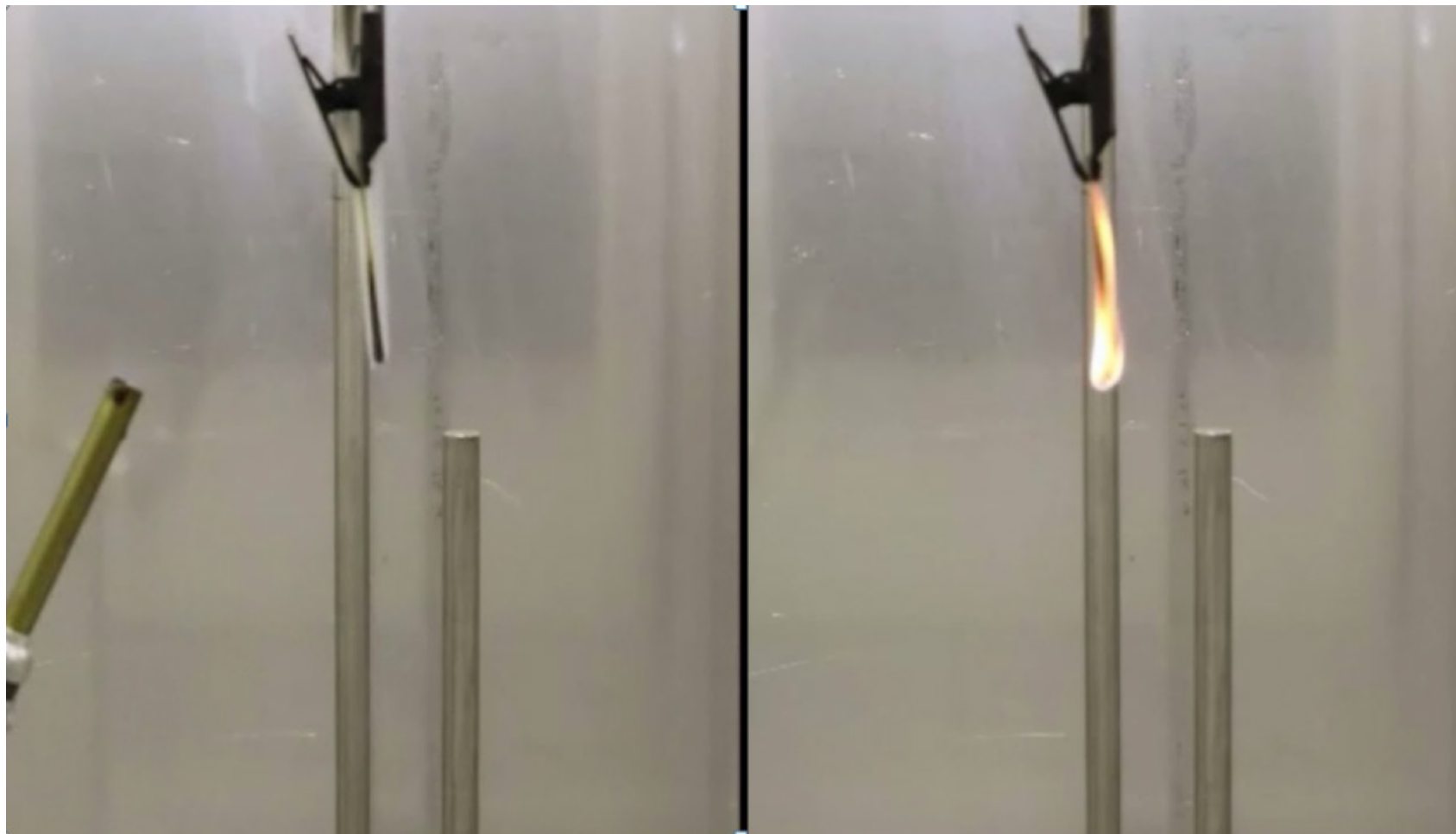
Strategic focus on developing sustainable FR



Focus on polymeric and reactive flame retardants to fight toxicity and leaching risk



There is no alternative to the powerful characteristics of flame retardants



LANXESS provides cutting-edge plasticizers and phosphorus specialties

LANXESS
Energizing Chemistry

Mesamoll™



The only real phthalate free plasticizer in the world!

Stabaxol™



Advanced hydrolysis protection for sport shoes and other applications

Polymer Additives even goes one step further...



**Levagard
2100™**

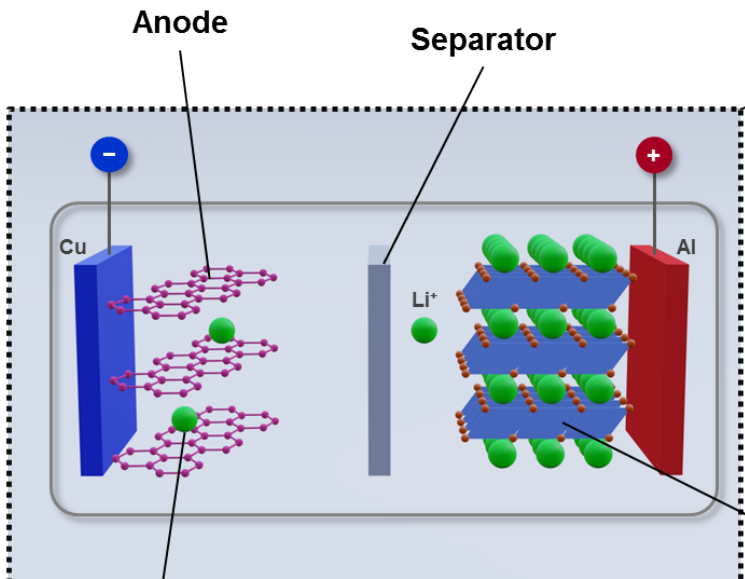
**Emission free reactive
flame retardant**



**Stabaxol
P110™**

***Hydrolysis protection
with best in class
characteristics***

Polymer Additives sees growth opportunities driven by demand for batteries



Anode

Separator

Cu

Li⁺

Al

Battery housing & e-powertrain components

- PA/PBT compounds **HPM**
- Flame retardants **PLA**

Electrolyte (e.g. LiPF₆)

- Key raw materials for LiPF₆ production **PLA** **All**
- Flame Retardants **PLA**

Cathode (e.g. NMC, LFP)

- Li from brine **PLA**
- IX for refining Co, Ni, Li **LPT**
- FEO precursor for LFP cathode material **IPG**



Polymer Additives to strengthen its leadership position in flame retardants and battery solutions

Strategy execution

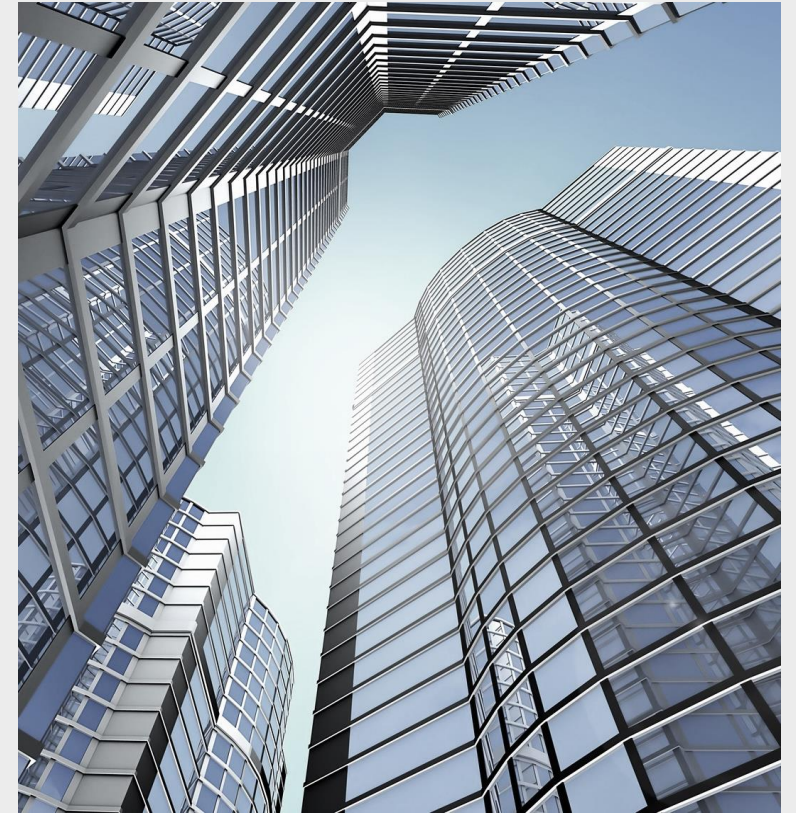
Foster leadership position in flame retardants by leveraging regulatory challenges with innovative solutions

Applied innovation

Leverage on strong R&D pipeline to expand application portfolio and further reduce volatile organic emissions

Growth driver

Focus on future growth areas of bromine and phosphorus chemistry in APAC region



LANXESS saves your life

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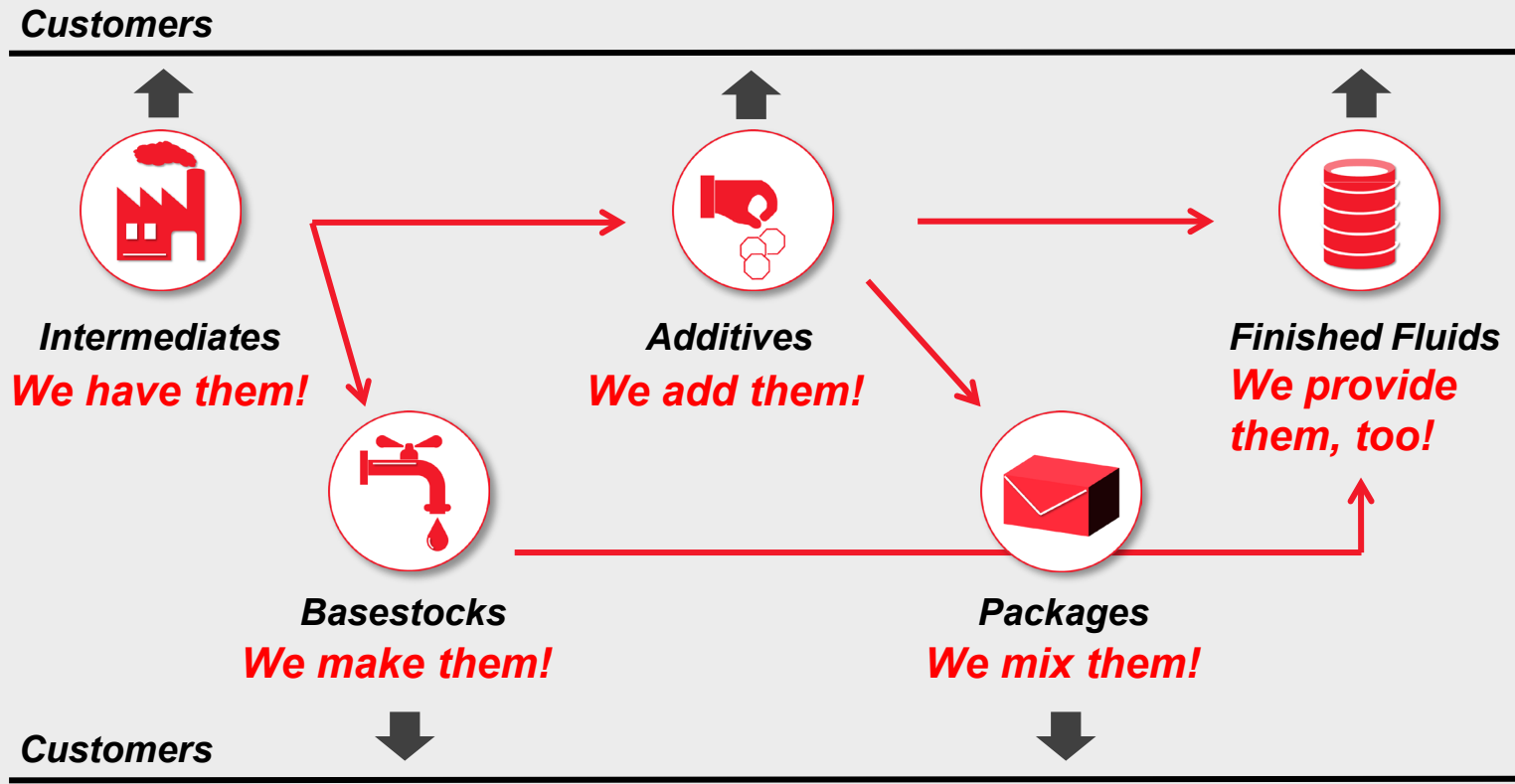
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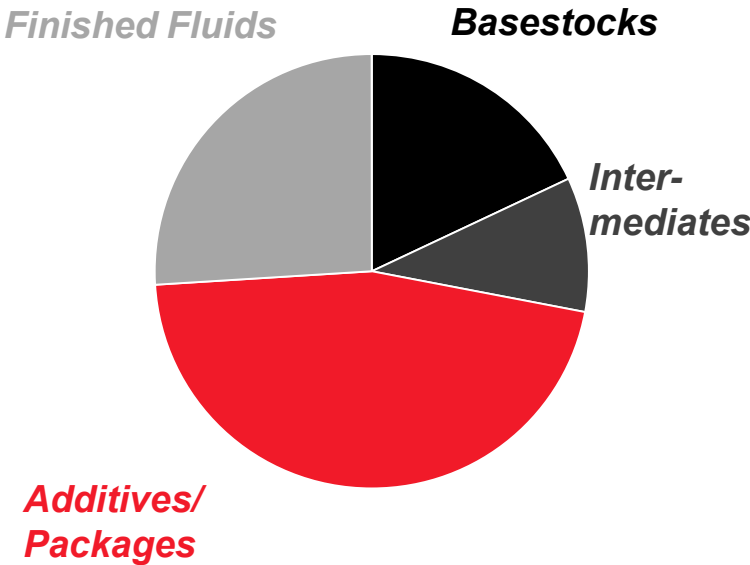
Lubricant Additives benefit from unique integrated value chain and innovation power



Backward integrated one-stop-shop for specialized industrial additive solutions with leading market positions

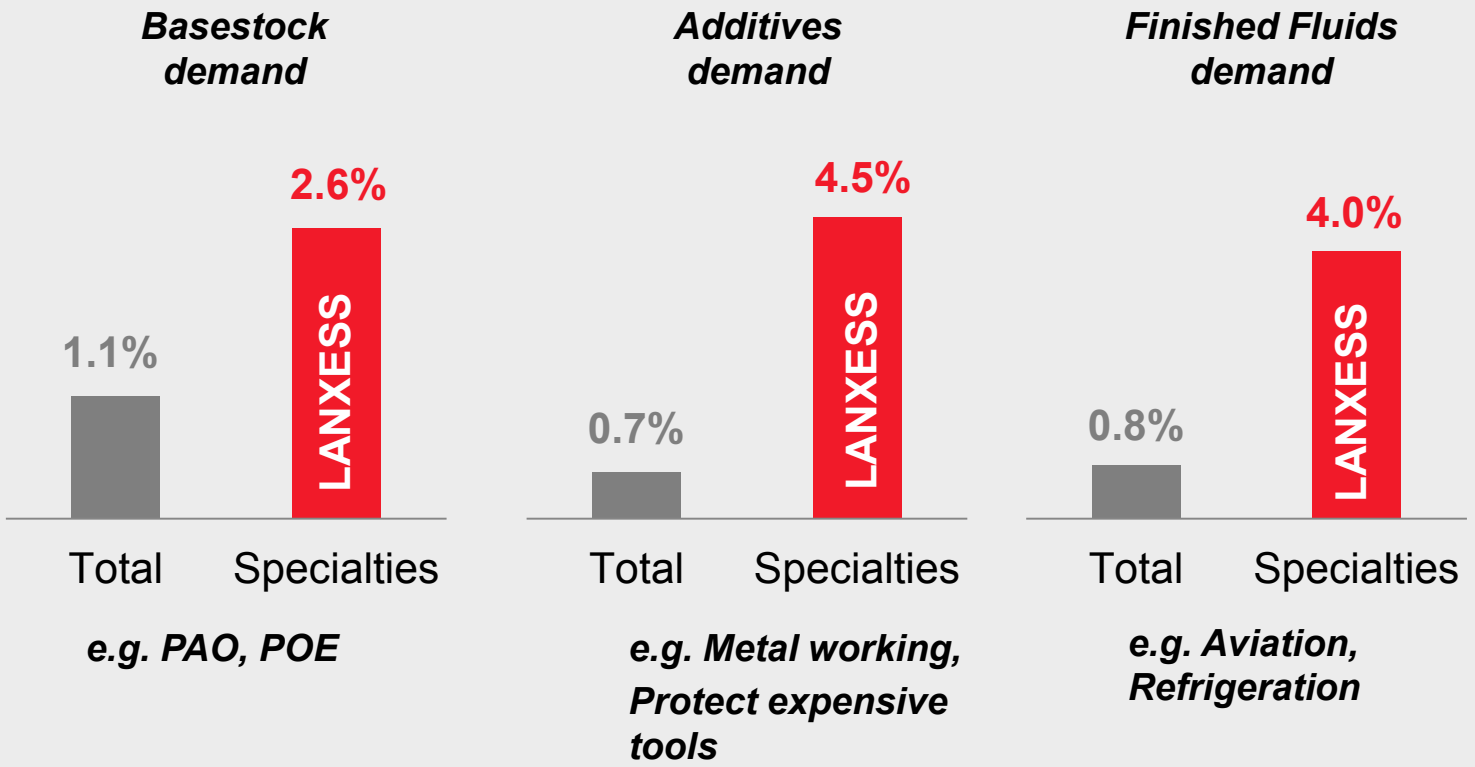


Lubricant Additives Sales 2018



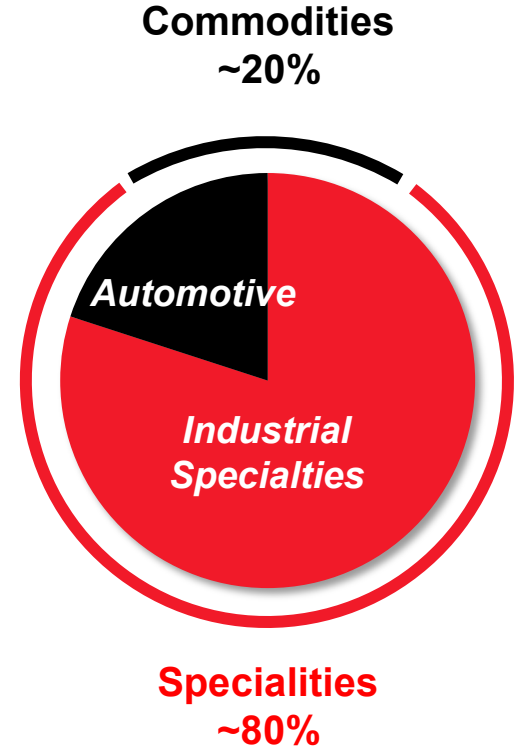
Increasing regulation and higher performance requirements drive growth for specialty lubricants

LANXESS focuses on growing specialty product segments



Market growth CAGR 2017 - 2022

Lubricant Additives Sales 2018



* Source: Kline , LANXESS Research; PAO = Polyalphaolefines, POE= Polyoleesther

General industry applications provide a variety of independent growth sources

Turbines
Highest safety standards

Windmills
Alternative energy drives growth

Gear Boxes
Highest temperatures and abrasion protection

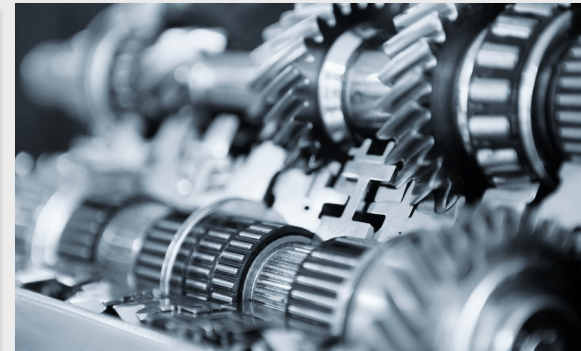
Metal Working
Highest endurance and abrasion protection

Any questions?

One time fill required

Highest abrasion resistance

Less replacement cycles



Innovative lubricant technology leverages growth offering synergistic customers' advantages



Royco™



Leader in synthetic aviation turbine oils

Hybrid Greases



A unique solution attracting key global customers' interests

Lubricant Additives builds on its leading market positions through innovation and strong growth

Strategy execution

Leverage full value chain to grow in key product lines & tech transfer in adjacent markets & expand into Asia

Applied innovation

Succeed on key product launches to fulfill low friction, high temperature and corrosion protection requirements

Growth driver

Harvest growth in APAC region



LANXESS lubricates your world