

Acquisition of PeroxyChem

FUTURIZE PEROXIDE

8 November 2018



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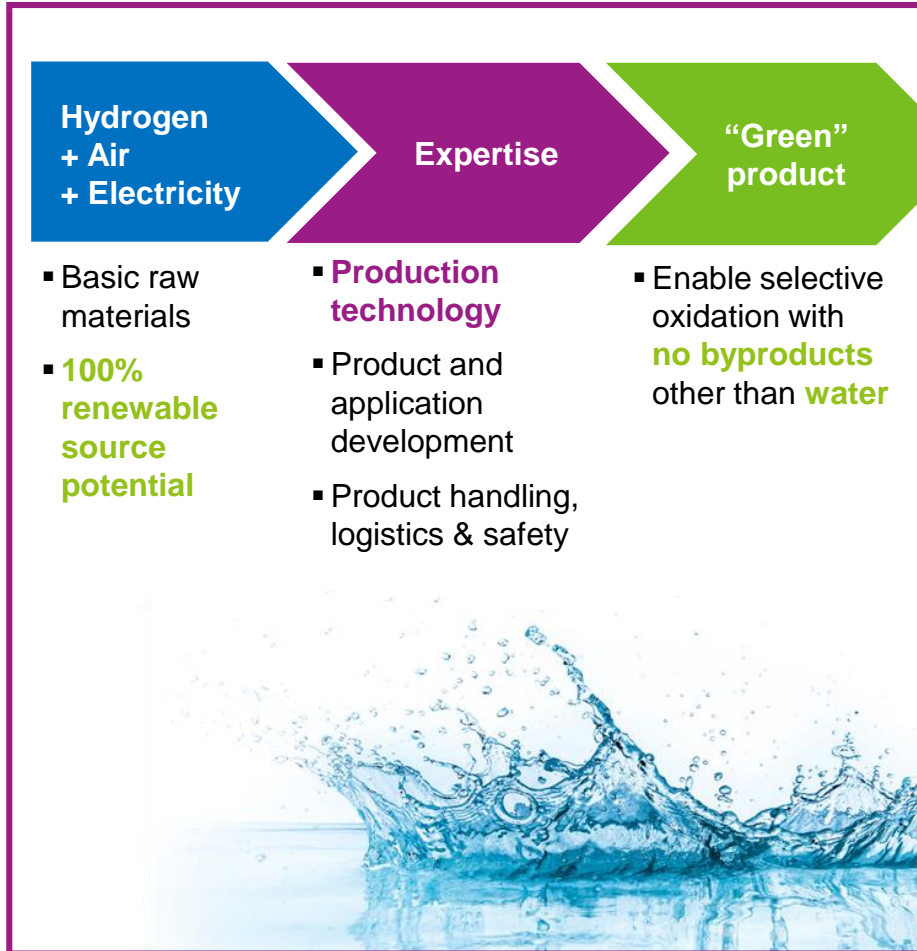
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Acquisition highlights

- ✓ Strengthening of Evonik's growth segment Resource Efficiency
- ✓ Focus on environmentally-friendly specialty applications
- ✓ Attractive end-market growth with low cyclicalty
- ✓ Excellent fit with Evonik's peroxide portfolio – expansion of business in North America
- ✓ EBITDA margin of ~20% above Evonik's average group margin
- ✓ Strong FCF generation with sustainable FCF conversion >60%
- ✓ Fair valuation with EV / adj. EBITDA multiple 7.8x (incl. synergies)

Strengthening growth segment Resource Efficiency

One of the most versatile and sustainable chemicals available



Hydrogen peroxide (H₂O₂) and Peracetic acid (PAA)

- **Diverse applications and high importance of application development:** to commercialize new and enhanced products, technologies and services
- **Sustainability:** stricter environmental regulations as growth driver for environmentally-friendly peroxide applications
- **Highly contract-based business:** longstanding customer relationships with high share of revenue under contracts of >1 year
- **Resilience:** attractive margin profile with minimal raw material volatility or seasonality in demand
- **Asset set-up and logistics:** customer proximity, supply security and logistics as decisive factors

Resilient and attractive business profile

PeroxyChem – Overview

A global manufacturer and supplier of peroxides

PeroxyChem

- PeroxyChem is a global manufacturer and supplier of hydrogen peroxide (H₂O₂), peracetic acid (PAA) and persulfates (PS)
- Headquarter in Philadelphia, Pennsylvania
- Ownership: Private equity (One Equity Partners)
- Founded: 1900s (Foret and Buffalo Electro-chemical Co.)
- Headcount: ~600 globally, thereof ~20% in application development, sales and marketing
- Locations: 8 manufacturing facilities (USA, Canada, Germany, Spain, Thailand), 2 distribution facilities, 5 regional offices, 3 R&D labs



Sales
2018E:

~\$300 m

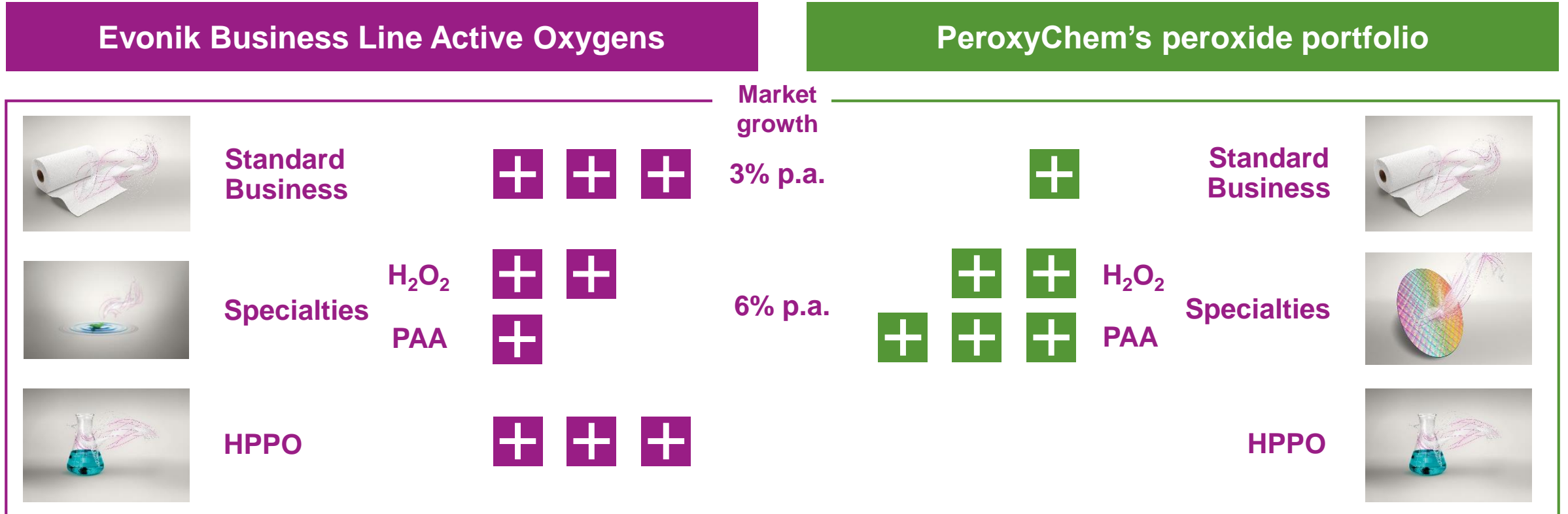
adj. EBITDA
2018E:

~\$60 m

adj. EBITDA margin: ~20%

Acquisition of PeroxyChem

Excellent complementary fit with Evonik's existing peroxide business


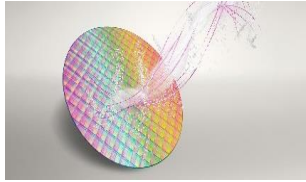





Combined sales¹: > €700 m

1. Sales of Evonik Business Line Active Oxygen and PeroxyChem

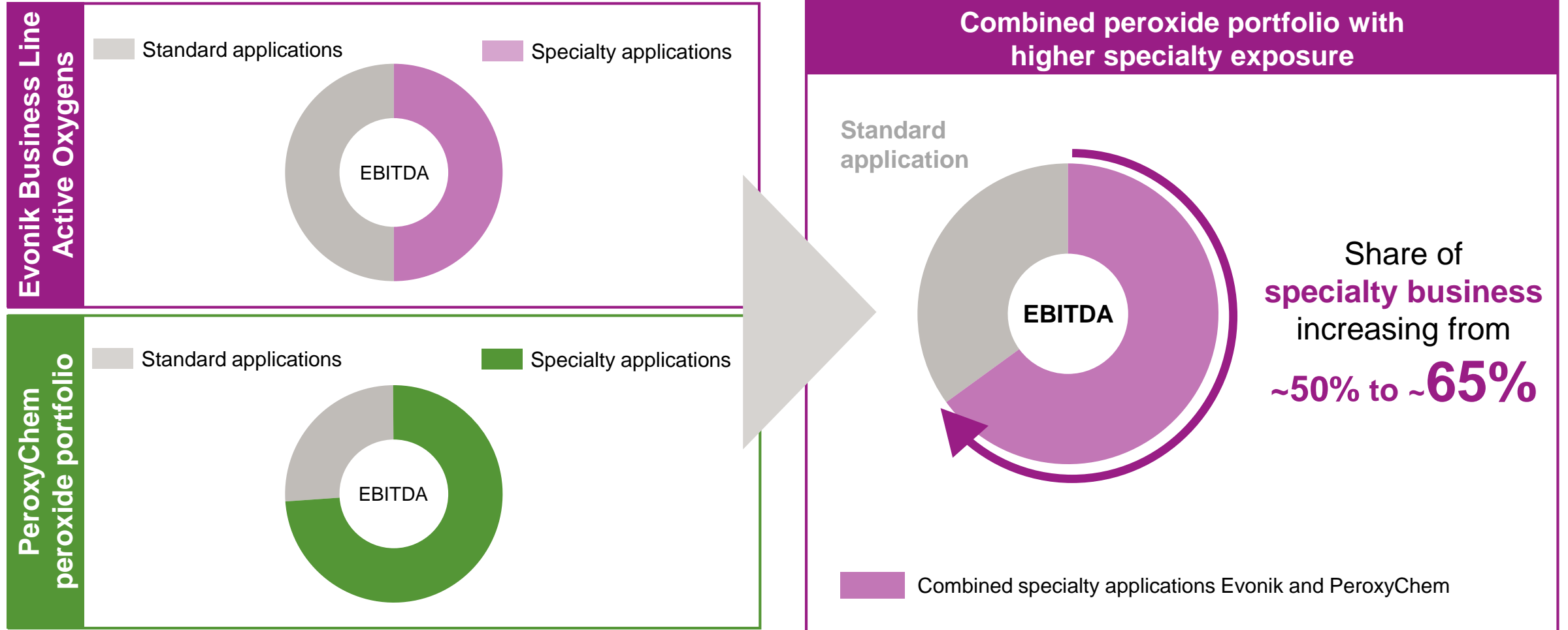
Attractive peroxide applications

Focus on specialty applications with strong secular growth drivers

Specialties					
Industry	Environmental	Electronics	Food & Beverage	Other specialties	Process Chemicals
Application fields	<ul style="list-style-type: none"> Solutions for waste water treatment, soil remediation and groundwater treatment H₂O₂ and PAA as alternative to chlorine 	<ul style="list-style-type: none"> Ultra-pure hydrogen peroxide as cleaning agent in semiconductor Fabs 	<ul style="list-style-type: none"> PAA as disinfectant in poultry & beef processing Aseptic packaging with H₂O₂ and PAA 	<ul style="list-style-type: none"> Medical, consumer and personal care applications such as sterilization of medical equipment and contact lens solutions Energy: Persulfates and PAA in hydraulic fracturing 	<ul style="list-style-type: none"> Hydrogen peroxide for pulp and paper processing H₂O₂ and PAA in chemical synthesis
Growth driver	<ul style="list-style-type: none"> Stricter environmental regulations Redevelopments of former industrial or military sites 	<ul style="list-style-type: none"> Growth of mobile devices Automatization and digitalization 	<ul style="list-style-type: none"> Stronger regulations for food safety Increased demand for convenient packaged food 	<ul style="list-style-type: none"> Increased regulations on cosmetic and care products for high purity grades Rising domestic oil and natural gas production 	<ul style="list-style-type: none"> Customer need for increased high product quality and supply security
Growth	5-6% p.a.	>7% p.a.	4-6% p.a.	3-5% p.a.	3% p.a.

Evonik and PeroxyChem specialty exposure

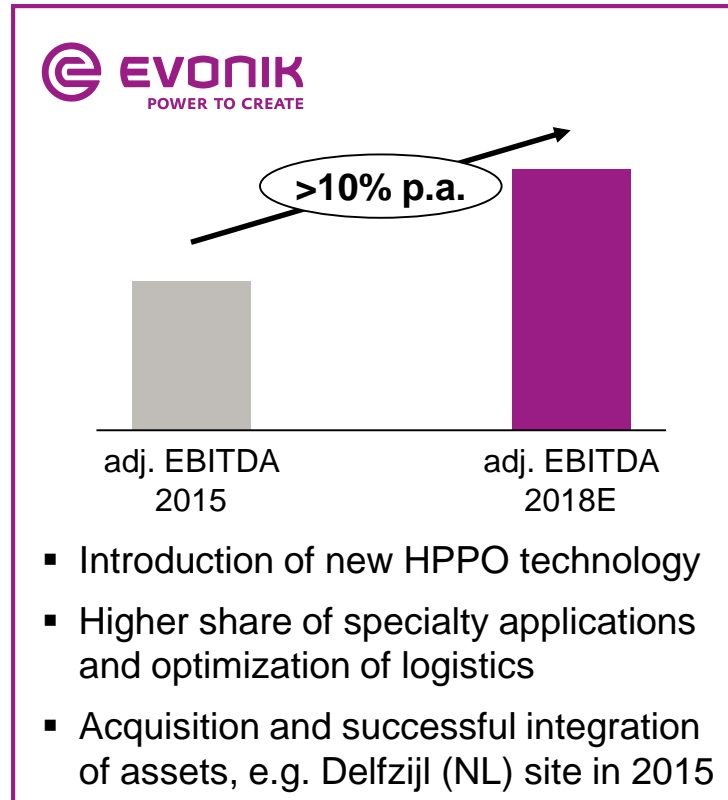
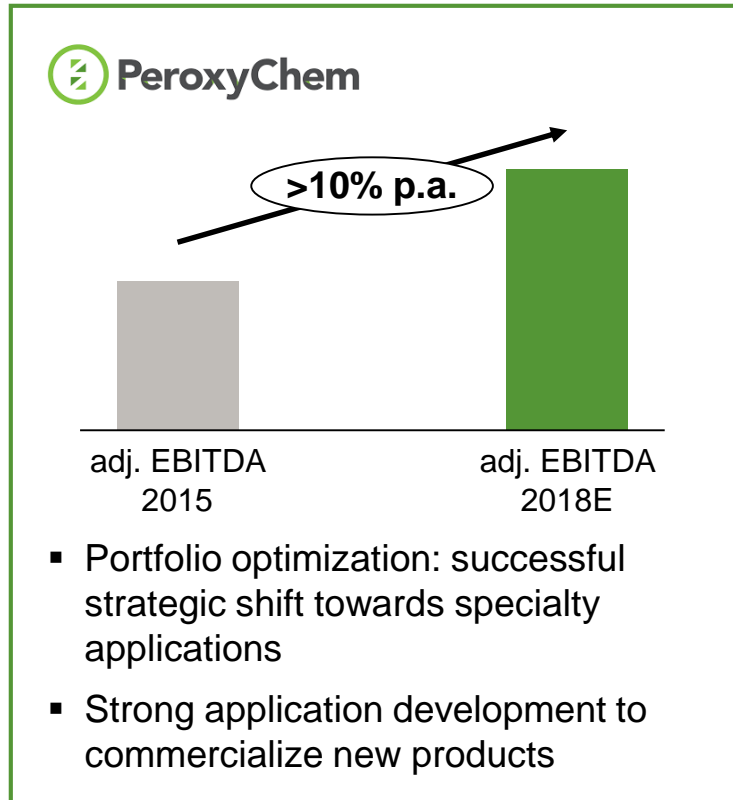
Expansion of high-growth and -margin specialty applications



Impressive growth track record and attractive growth perspective

Earnings growth driven by portfolio shift to specialty business

Resilient and strongly growing business (adj. EBITDA)

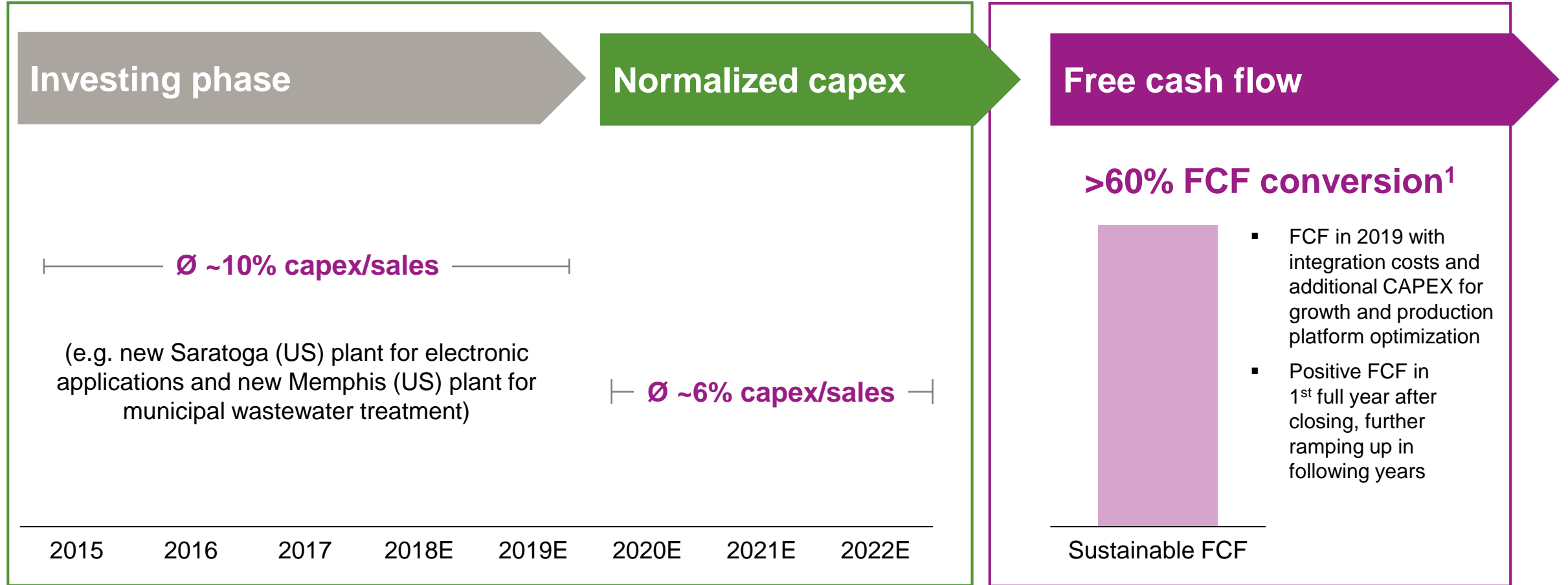


Future growth drivers

- **Sustainability** drives growing demand for environmentally-friendly specialty applications
 - ▶ e.g. **new Memphis plant** with long-term **take-or-pay contract** with City of Memphis for municipal wastewater treatment
- Increased exposure towards **specialty applications**
- **Optimization** in combined **asset set-up** and **logistics**
- Realization of **synergies**

PeroxyChem – capital expenditures and free cash flow

Low capital intensity and attractive FCF conversion



1. FCF conversion: FCF / adj. EBITDA

Synergies and integration costs

Tangible synergies driven by excellent strategic fit; low integration complexity

Synergies

Cost Savings in Production, Logistic

Cross Selling

SG&A

Total synergies:
~\$20 m p.a.
fully realized by 2022

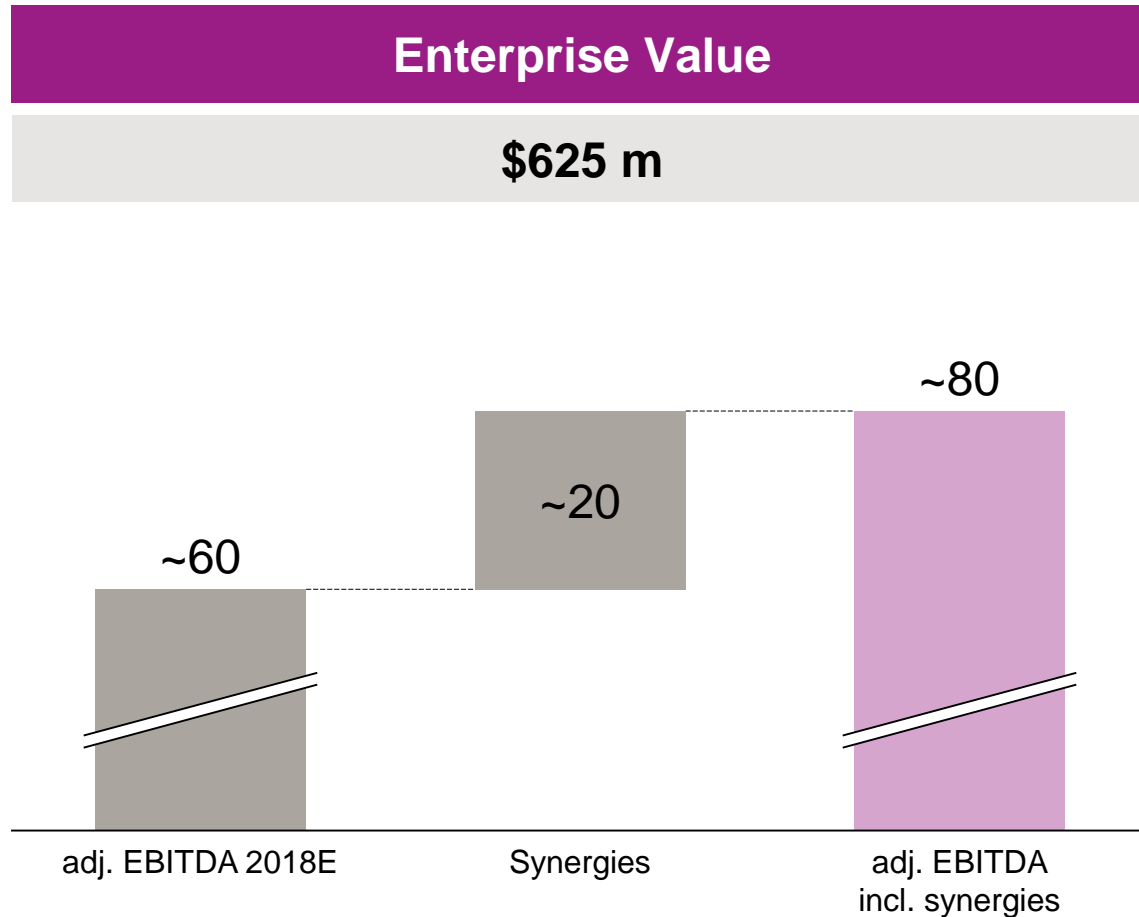
Integration costs

Integration costs
(e.g. IT integration, consultants)

Expected cash-out of
~\$20 m
in first 2 years

Integration costs excluding transaction costs

Attractive valuation



Enterprise Value
\$625 m

EV / adj. EBITDA 2018E
7.8x including synergies

EV / adj. EBITDA 2018E
10.4x excluding synergies

EPS accretive
in 1st full year after closing

Transaction summary

Structure

- 100% acquisition of PeroxyChem
- On a cash- and debt-free basis

Financing

- Financing secured via cash and committed credit facilities

Timing

- Approved by PeroxyChem Board and Evonik's Supervisory Board
- Aiming for closing by mid 2019, subject to approval by responsible authorities

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EVONIK

POWER TO CREATE

Evonik portfolio strategy

Healthy mix of growth & financing businesses

Strengthen leading positions in attractive markets

- Strong growth profile
- Above-average returns
- Focus of capital allocation (capex, R&D, acquisitions)
- **Examples:**
High Performance Polymers, Comfort & Insulation

**Growth
businesses**

**Financing
businesses**

Generating financing power

- Attractive market growth
- Below average capex allocation
- Stable returns and high FCF contribution
- **Examples:**
Perf. Intermediates (C4),
Active Oxygens, Oil Additives

PeroxyChem – Business overview

PeroxyChem Business Overview

Hydrogen Peroxide (H₂O₂)

- Environmentally-friendly oxidizer and disinfectant, replacing chlorine derivatives
- Hydrogen and oxygen as primary raw materials
- H₂O₂ is purified and diluted to various concentrations depending on the end use application
- Purity grades range from standard grade for numerous industrial applications to ultra-high purity grades for electronics and propulsion
- Decomposes to yield only oxygen and water

Applications

Electronics, Food Safety, Environmental, Medical, Energy, Process Chemicals

Peracetic Acid (PAA)

- PAA is an equilibrium mixture of hydrogen peroxide, acetic acid and water that is available in various grades
- Broad-spectrum sanitizer, disinfectant and sterilant, primarily used as an antimicrobial
- Easily dilutes in water and decomposes into non-toxic by-products
- Purified and diluted to various concentrations, ranging from 5% to 35% PAA in equilibrium solution
- Exceptional product stability, ensuring reliability and safety in production, transportation and usage

Applications

Food Safety, Environmental, Medical, Energy, Process Chemicals

Persulfates (PS)

- Oxidizing agents manufactured as solid salts in an electrochemical process
- Ammonium, sodium and potassium persulfates used in a wide number of applications
- Key application for persulfates are in polymer initiation, soil and groundwater remediation and as a viscosity breaker in oil and gas fracking

Applications

Electronics, Environmental, Personal Care, Energy, Process Chemicals

Specialty Application Example (1): Wastewater disinfection

PAA is expected to enjoy robust growth in the near future

Industry Overview and Growth driver

- Chlorine, sodium hypochlorite (NaOCl) or UV are today's most commonly used technologies to disinfect wastewater
- PAA as "green" alternative gaining more and more relevance, with the following advantages:**
 - vs Chlorine: low-capital alternative, eliminating safety risks
 - vs NaOCl: lower operating costs and elimination of by-products
 - vs UV: performance improvement, lower maintenance and capex spending
- PAA introduced in U.S. municipal wastewater market by PeroxyChem in 2013, as of today already approved by 14 U.S. states

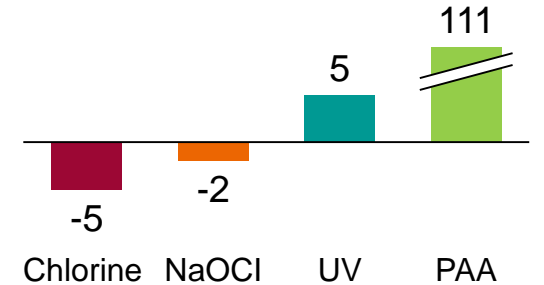
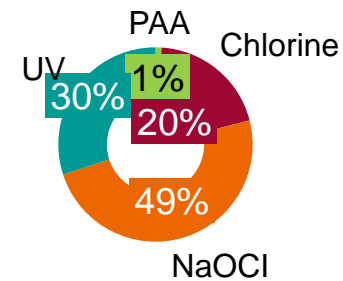
Long-term take-or-pay contract with City of Memphis for municipal wastewater treatment, start of product delivery late 2018

1. Based on PeroxyChem estimates and number of wastewater treatment plants served (2013-2017)

Technologies

Water Treatment Technology

Water Treatment Technology Growth Rate (in %)¹



Wastewater Disinfection Alternatives

	Chlorine	NaOCl	UV Light	PAA
Safe transportation and storage	XX	✓	N/A	✓
Low toxicity to aquatic life	X	X	✓	✓
No harmful disinfection by-products	X	X	✓	✓
Effectiveness in low water quality	✓	✓	X	✓✓
Low complexity of operation	✓		X	✓
Low operating costs	✓	✓	✓	✓
Low capital costs	✓	✓	XX	✓

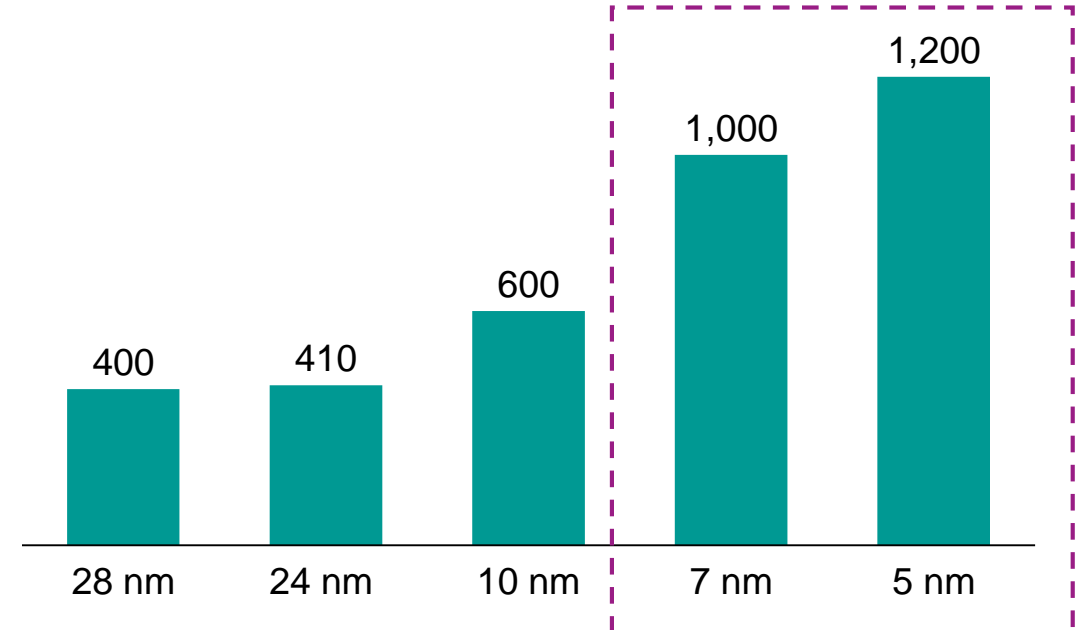
Specialty Application Example (2): Electronics

Ultra-high purity H₂O₂ essential in manufacturing of electronic devices

Industry Overview and Growth driver

- Growing trend towards smaller electronic device geometries results in increasing number of process steps
- This requires ultra-high purity cleaning agents in semiconductor manufacturing - driving more demand for ultra-high purity H₂O₂
- High-purity, electronics-grade H₂O₂ is preferred because of their **low cost, effectiveness and reduced waste disposal**
- Electronic-grade H₂O₂ difficult to transport, as maintaining high quality requires specialized transportation equipment
 - Geographic proximity is key to cost and reliability

Manufacturing Process Steps



PeroxyChem with dedicated electronic-grade H₂O₂ plant in Saratoga Springs close to end customer with long-term supply contract

1. Long-term 2017-2023E growth rate, according to Gartner, Mercury Research and Barclays Research | “nm” represents nanometers

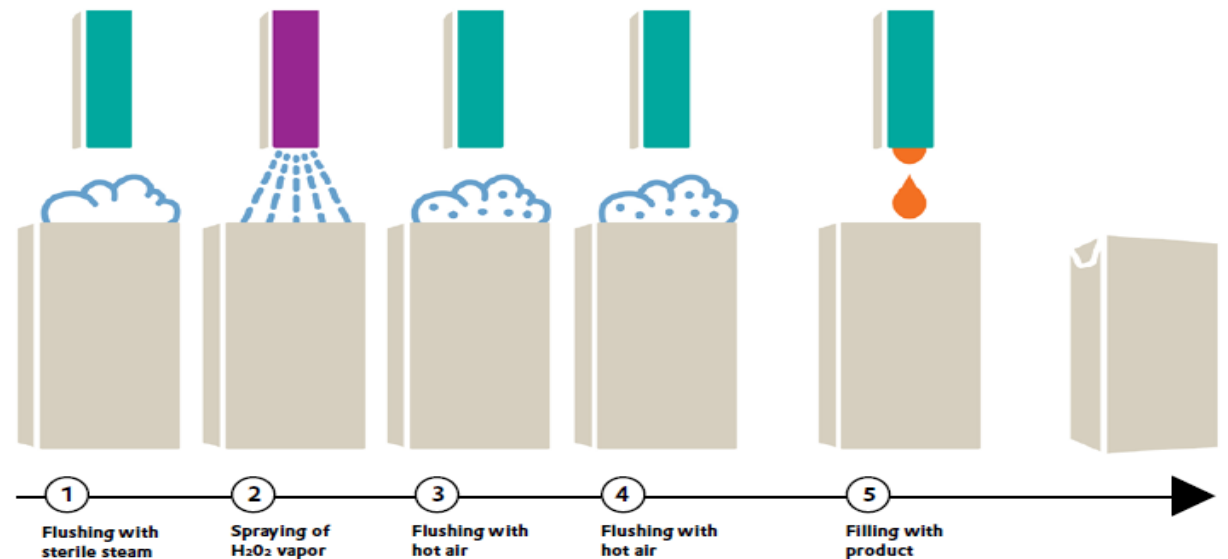
Specialty Application Example (3): Food & Beverage

Stricter regulations in food & beverage processing offer further growth potential

Industry Overview and Growth driver

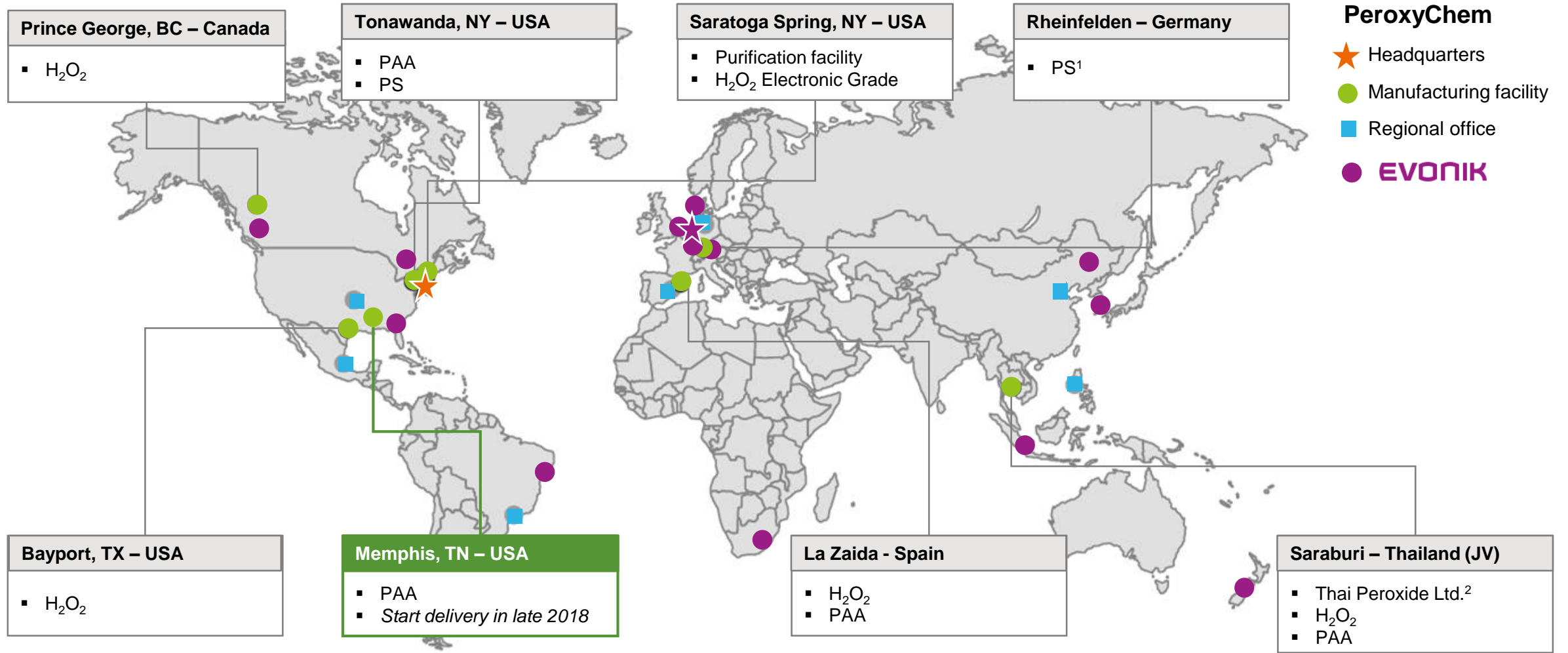
- Increased demand for food safety as well as stricter regulations
- **Poultry and meat processing:**
 - PAA replacing chlorine as primary treatment method for poultry due to superior efficacy
- **Beverage industry:**
 - Rising hygienic requirements for dairy products, juices or nutritional natural drinks
 - Aseptic packaging utilizes H_2O_2 or PAA for the sterilization of packaging material and machines
 - Extends shelf life and preserves flavor and taste
 - Can work with both polyethylene bottles and paperboard containers

Aseptic packaging – Spraying Technology

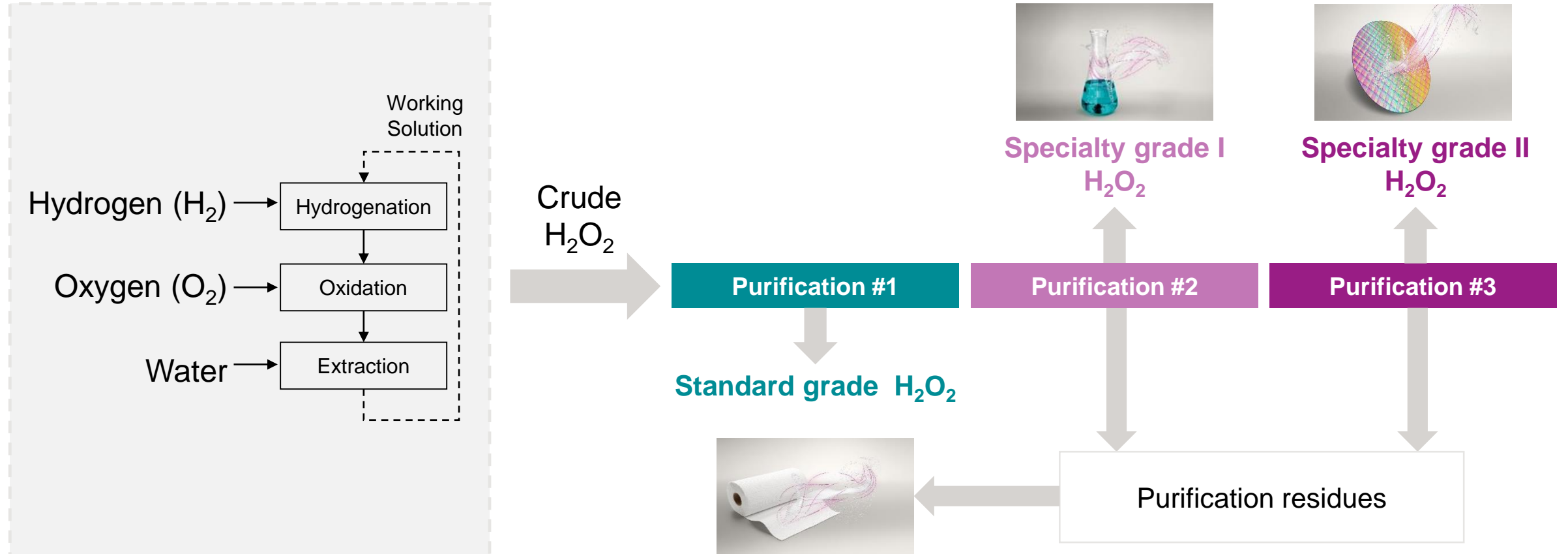


Combined production set-up

Strengthening of global position and stronger footprint in North America and Europe



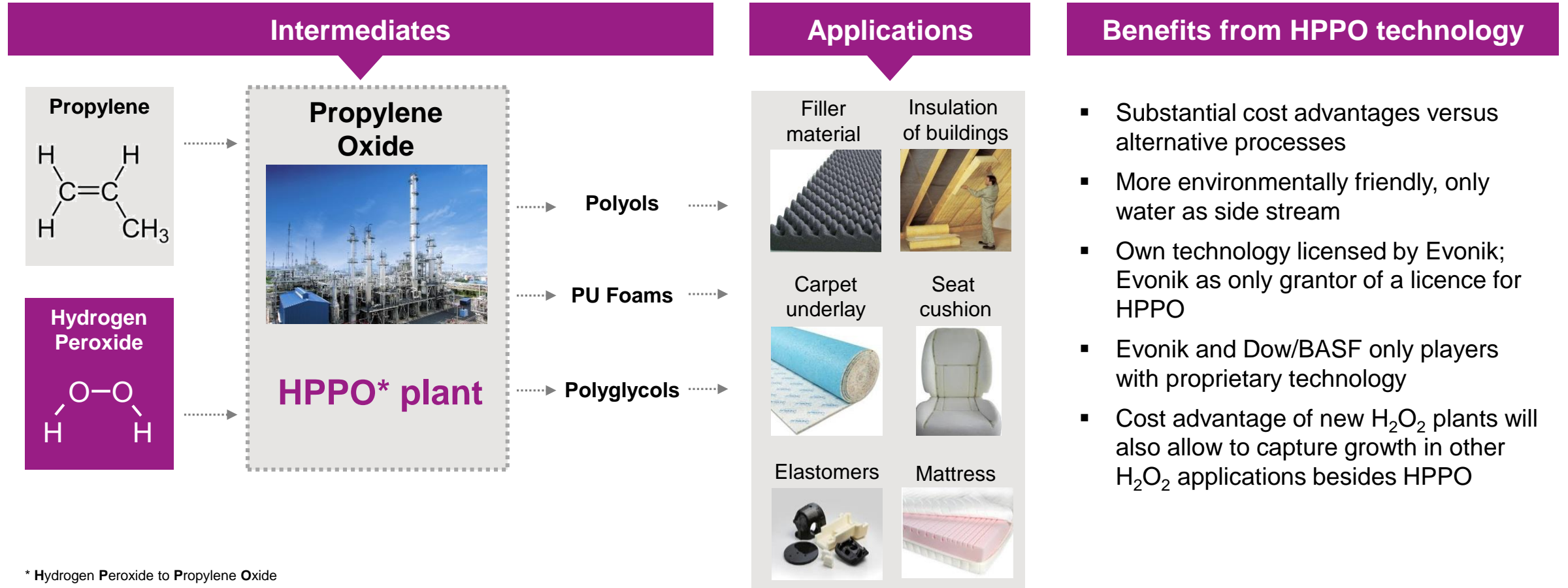
Hydrogen peroxide is purified in a sequential process leading to different specialty grades for various applications



HPPO Technology

HPPO process as more favorable process to produce propylene oxide

HPPO: Technology to manufacture propylene oxide (PO), a polyurethane (PU) precursor, on basis of H₂O₂



* Hydrogen Peroxide to Propylene Oxide