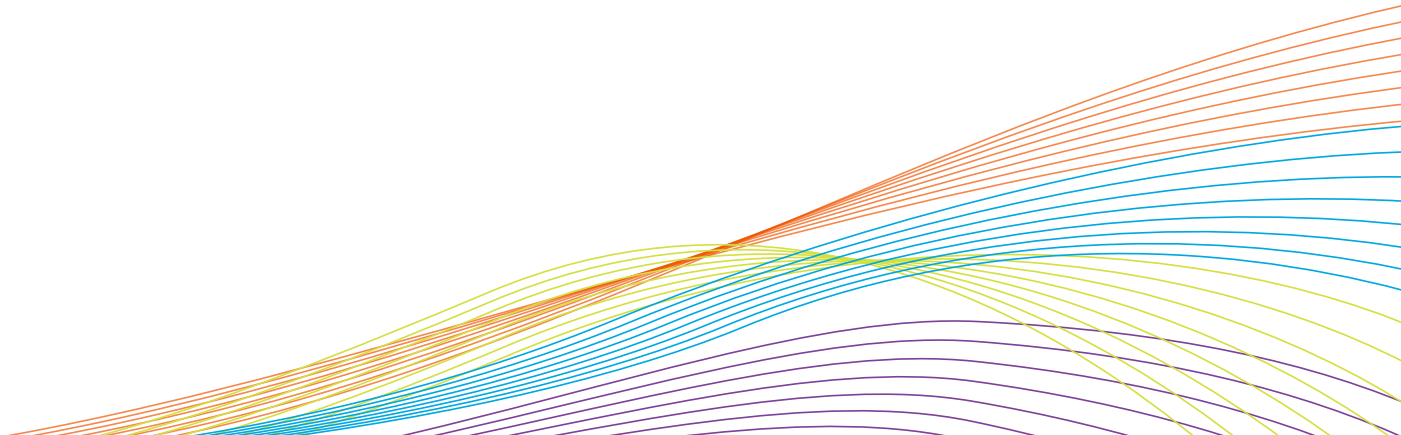


Todd Elliott

SENIOR VICE PRESIDENT, ACETYL CHAIN



Acetyl Chain storyline 2020



...➤ Improving fundamentals and structural reform in China



...➤ Margins enhanced by Acetyl Chain's (AC) repeatable model



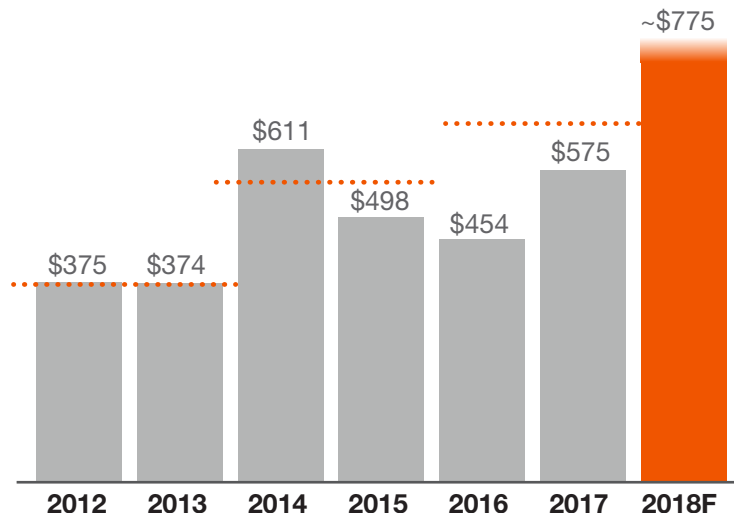
...➤ Network positions with greatest flexibility



...➤ Multiple growth opportunities will lift volume and revenue

Progressive lift in earnings profile

STEP CHANGES IN ADJUSTED EBIT (in millions)



MEETING OUR COMMITMENTS

→ Grow adjusted EBIT at 10% CAGR ✓

→ Consistently generate EBIT margins of 12-16% ✓

→ Invest in advantaged positions ✓

Targeting additional growth through 2020

Demand growth is outpacing supply

3-4% DEMAND GROWTH¹

STRUCTURAL IMPROVEMENTS

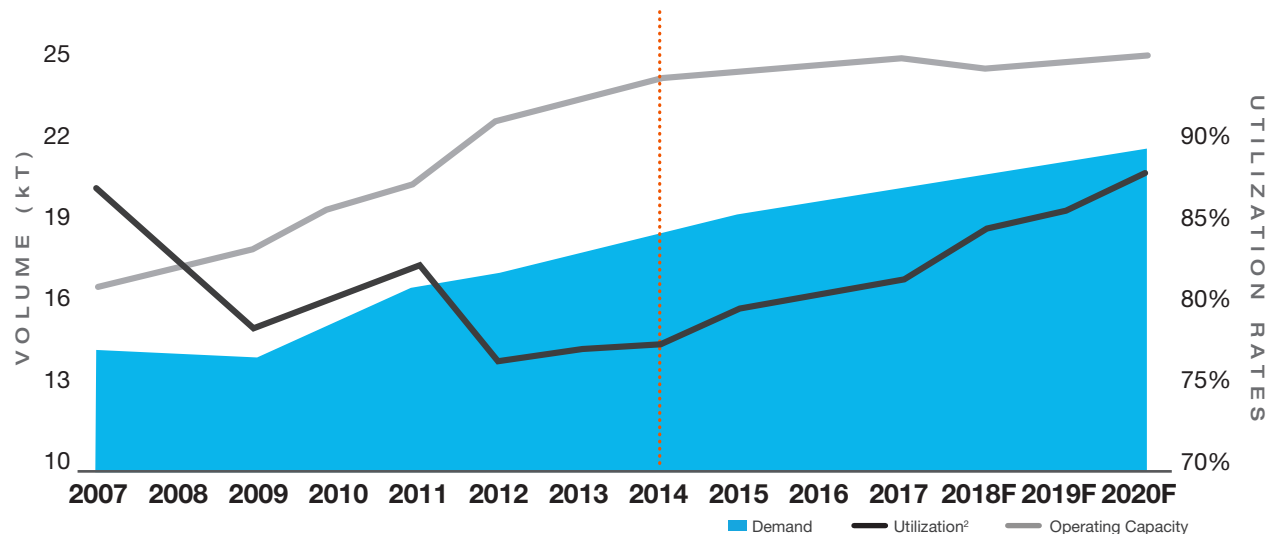
(Acetic Acid + VAM)

END USES

Esters	2-3%
Anhydride	
PTA	5-7%
PVOH	4-6%
EVOH	
Emulsions	2-3%
EVA	6-8%
Emulsion Powders	

CAPACITY ADDITIONS (MAINLY CHINA)

UTILIZATION RATE MANAGEMENT



Improving utilization rates

¹ Demand growth for 2017-2020

² Operating utilization is based on estimated actual production capacity accounting for regular maintenance outages and other estimated physical limitations

China reforms impacting acetyls landscape

INCREASE IN ENVIRONMENTAL REFORM IMPLEMENTATION



- Environmental concerns have been a focus
- New local policies reinforcing central government policies
- Requirement to improve economic returns

Already seeing industry impact from reforms

China acetyls capacity impacted

SHANDONG PROVINCE POLICY

Regulates new and existing industry parks

2+26 PLAN

Aims to reduce emission and control pollution in Beijing-Tianjin-Hebei regions

ENVIRONMENTAL LAW

Protects cities along the Yangtze River and provides strong legal foundation for pollution measures

JIANGSU 263 PLAN

Aims to reduce outdated chemical capacity, move chemical plants to industrial parks, control pollutants, and close plants with safety issues



Industry response will vary

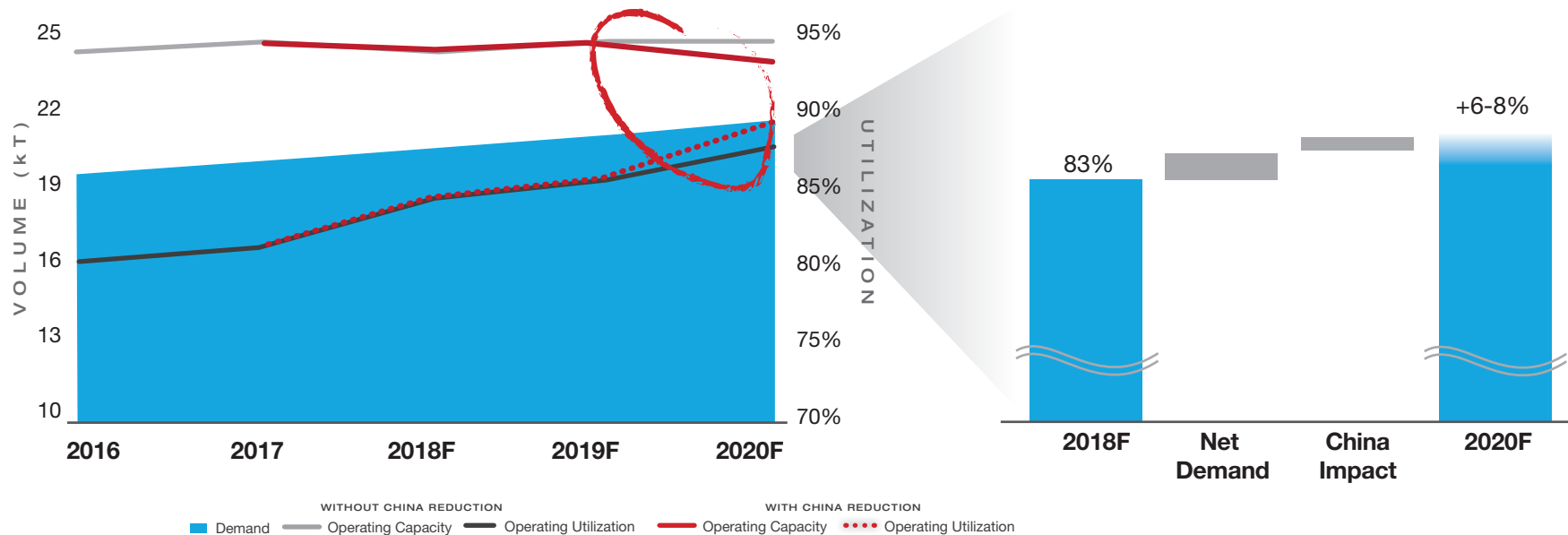
- Shut down
- Relocate
- Upgrade
- Restructure

Expect older and more polluting technology capacity to decline

Note: Approximate locations of plants shown

Changes in China affect utilization

**GLOBAL ACETIC ACID & VAM
SUPPLY & DEMAND WITH FORECASTED REGULATORY IMPACT**



Though variation will continue, expect a structurally better industry

Most integrated and global acetyls player

	METHANOL	ACID	VAM	EMULSIONS
Celanese Positioning	N/A <i>captive only</i>	#1	#1	#2 VAE
Celanese	✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
LyondellBasell	✓	✓	✓	
Wacker			✓	✓✓✓✓
Sipchem	✓	✓	✓	
Dairen				✓✓
BP	✓	✓		✓
BP JVs		✓✓✓		
Eastman		✓		

✓ AMERICAS

✓ EMEA

✓ CHINA

✓ AOC

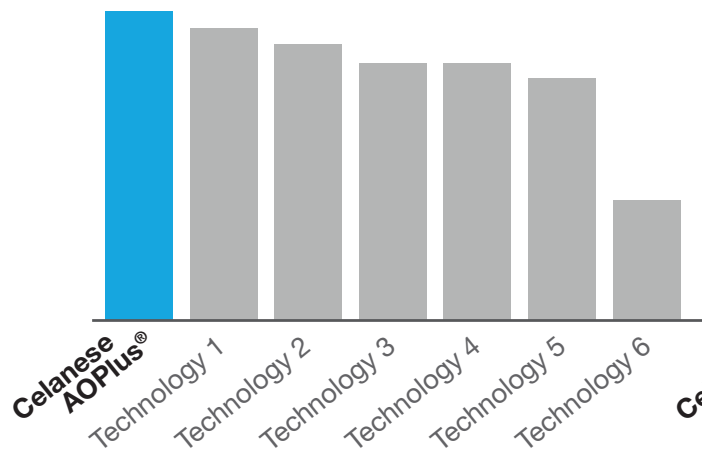
Leadership position supports unequalled market knowledge and optionality

Source: CE estimates

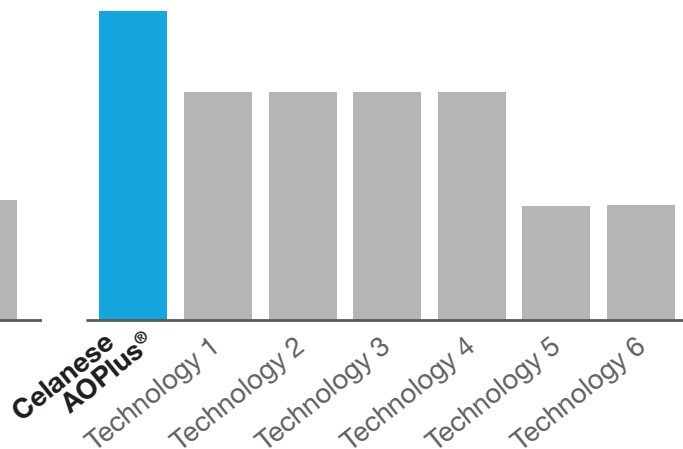
Leading technology position

TECHNOLOGY-LED RAW MATERIALS AND CAPITAL EFFICIENCY

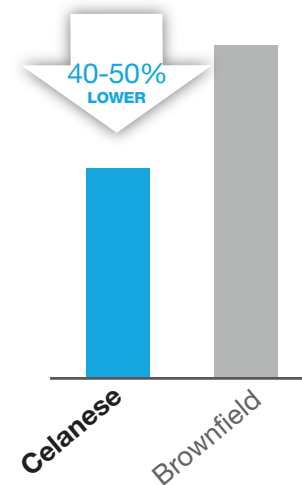
CARBON MONOXIDE EFFICIENCY¹



METHANOL EFFICIENCY¹



CAPITAL EFFICIENCY

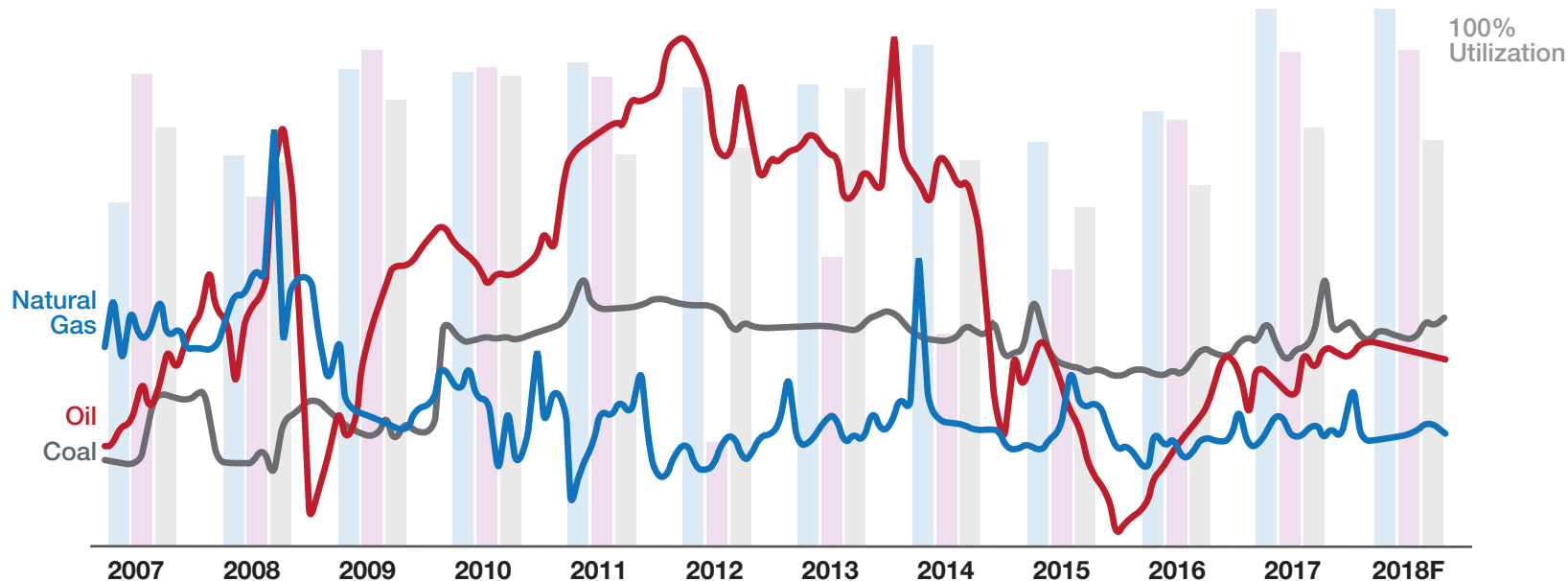


Continuous advancements in process technology and operational excellence

¹ Per ton of acetic acid based on average usage for all competitors by technology type

Feedstock optionality

CARBON MONOXIDE VARIABLE COST BY FEEDSTOCK (\$/MT)

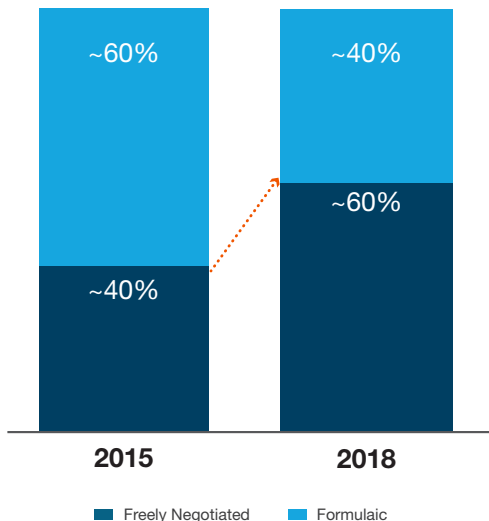


Unique optionality spanning across oil, gas and coal

Commercial flexibility creates value

COMMERCIAL FLEXIBILITY

FREELY NEGOTIATED CONTRACT MIX



RAW MATERIAL FLEXIBILITY

METHANOL

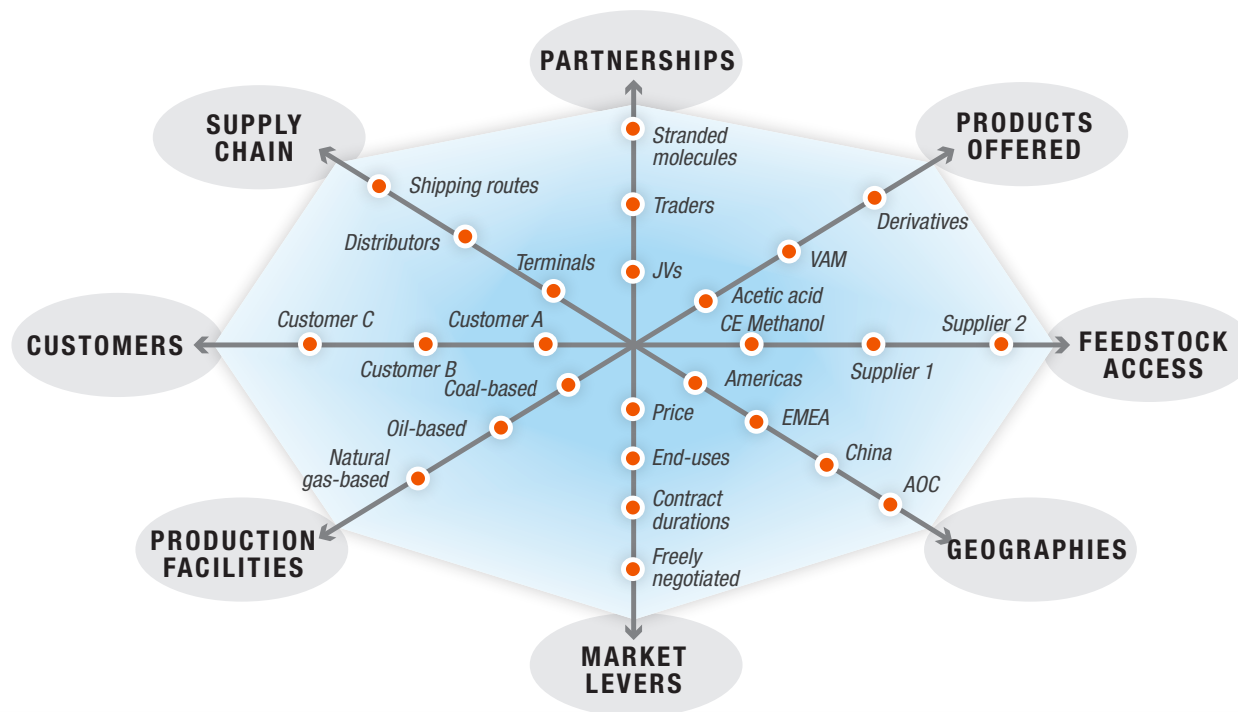
- Constructed world-scale plant
- From international to local suppliers based on in-region dynamics
- Doubled number of suppliers

ETHYLENE

- Multi-sourcing with overlapping contracts allow increased optionality
- 100% cryogenic to >60% pipeline supply in China
- From 1 to 3 suppliers in China

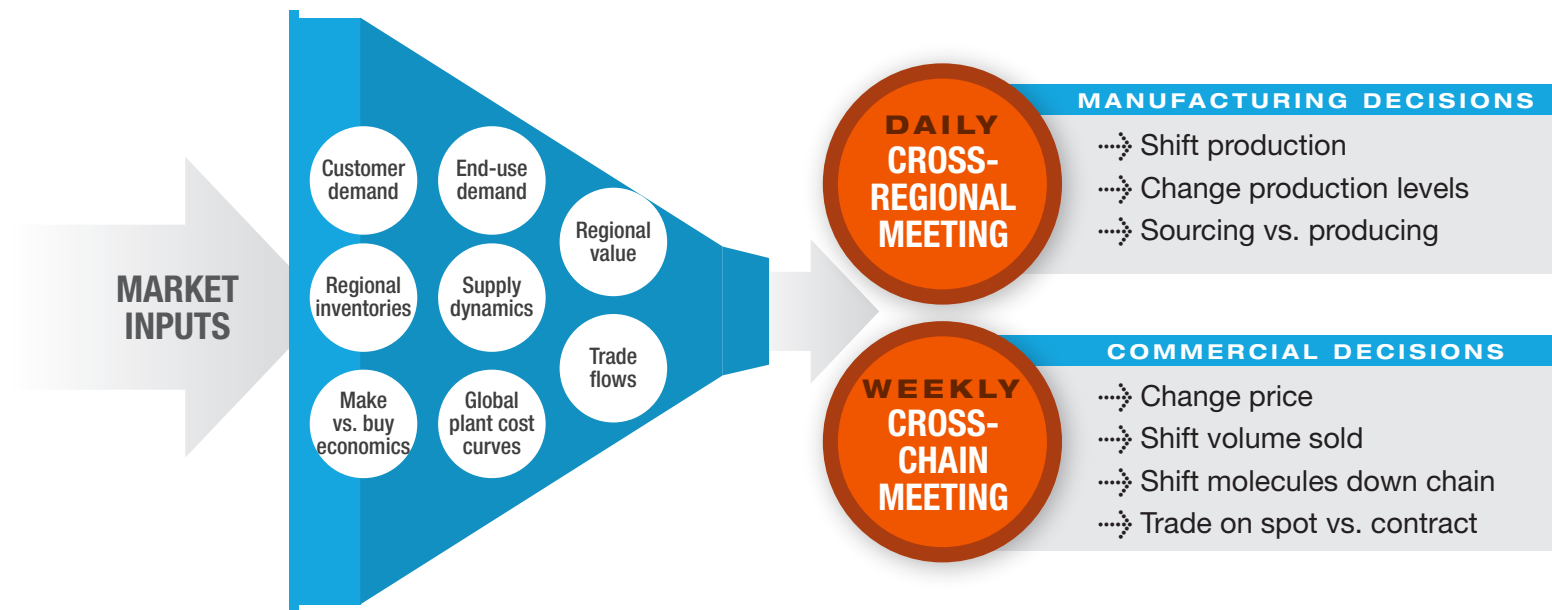
...and supports margin improvement

Leading positions enable flexibility



Expansive reach and multiple nodes add degrees of freedom

High market access and connectivity



Enable network activations and expand degrees of freedom

Increasing network activations

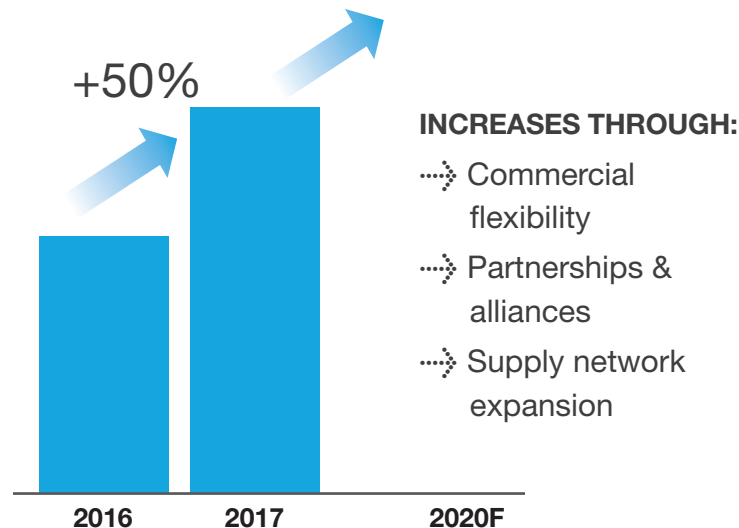
NETWORK ACTIVATIONS

- Insights captured from new data
- A decision made based on insights
 - More than one option to choose

EXAMPLES

- Change production rates in different geographies
- Add terminals

50% INCREASE YEAR-OVER-YEAR



...to leverage Celanese degrees of freedom and optionality

Model strength reflected in margin

VALUE PRESERVATION

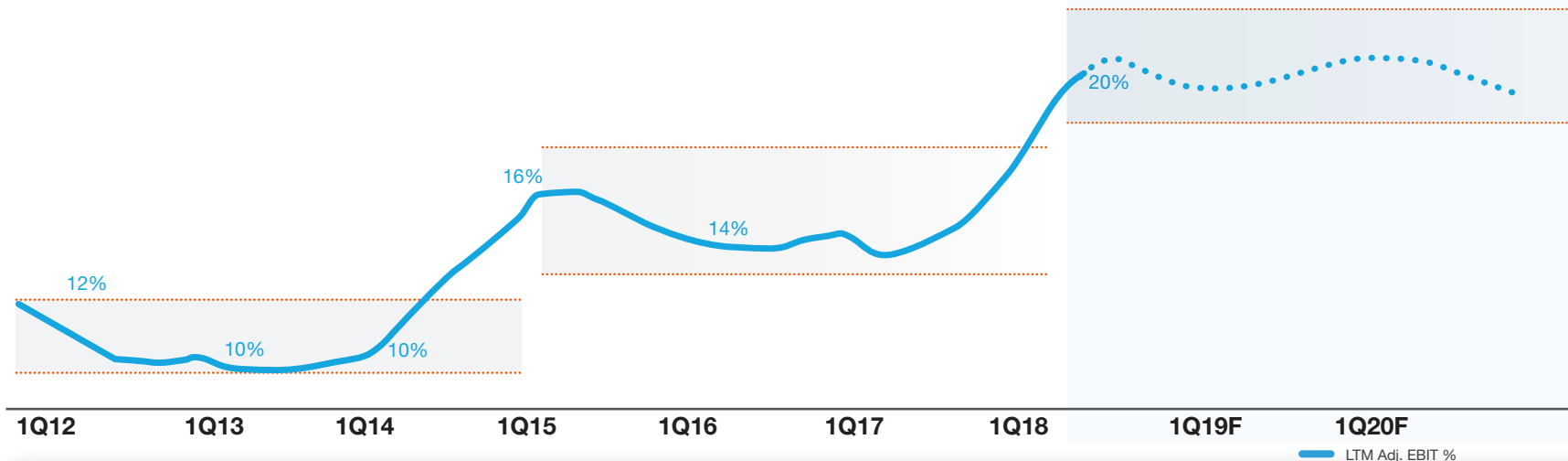
→ Shut down non-competitive sites

ENHANCED FLEXIBILITY

→ Restructured contracts
→ Expanded supply chain reach
→ Real time operating model

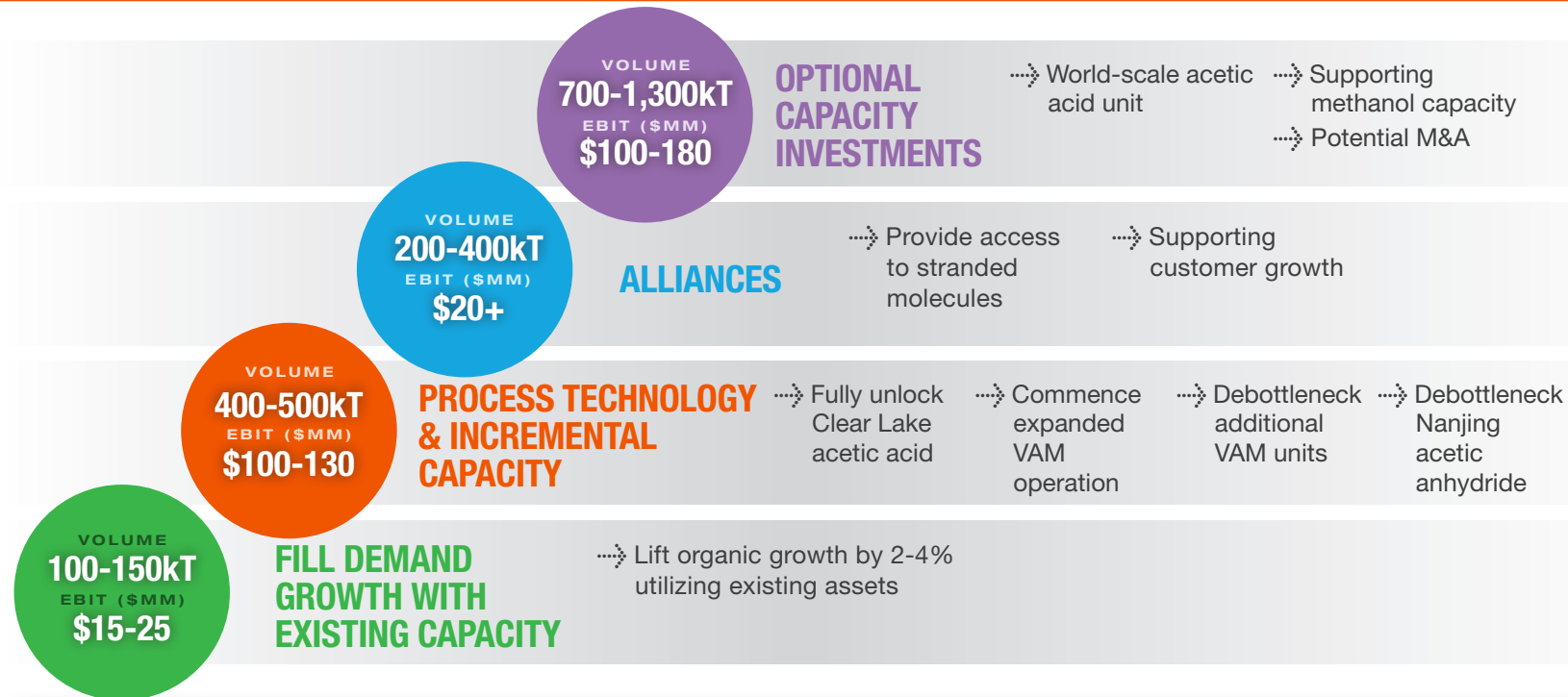
GROWTH

→ Expanding industry relationships
→ Network activations
→ Capacity additions



In a position to increase volume and growth

Positioned to grow volume

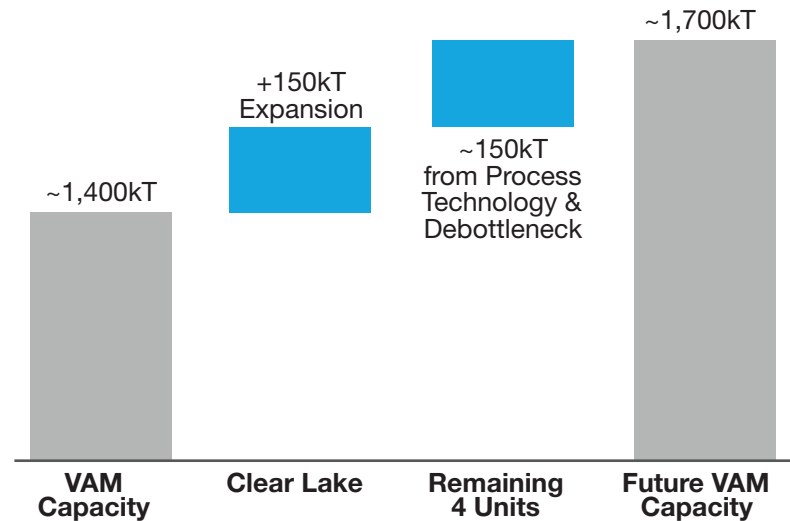


Strong investment opportunities through this decade and beyond

Additional VAM capacity



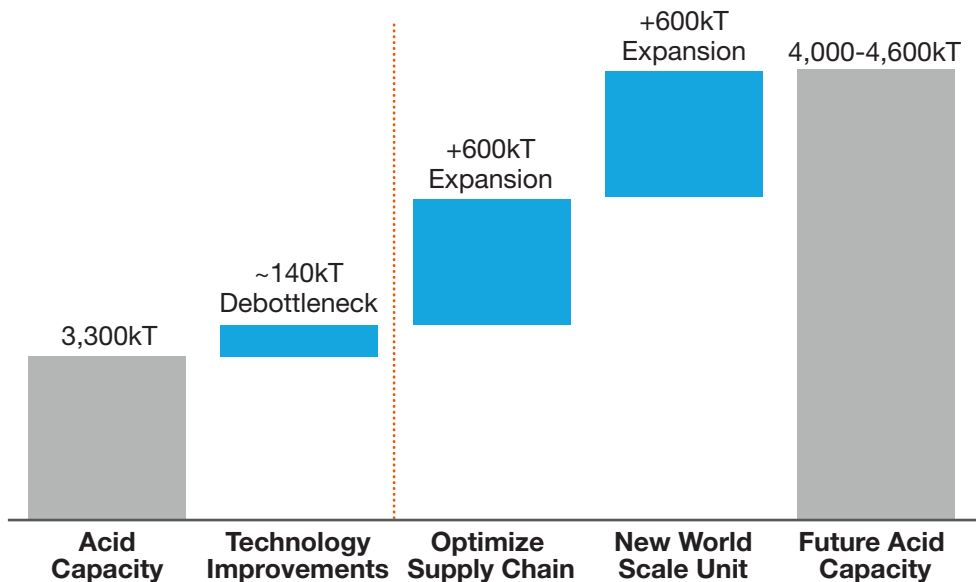
- Committed to Western Hemisphere with capacity to support growth
- Leveraging breakthrough conversion technology to increase yields
- AC expansion 25% cost advantaged to Brownfield



Executing on 300kT of capacity additions

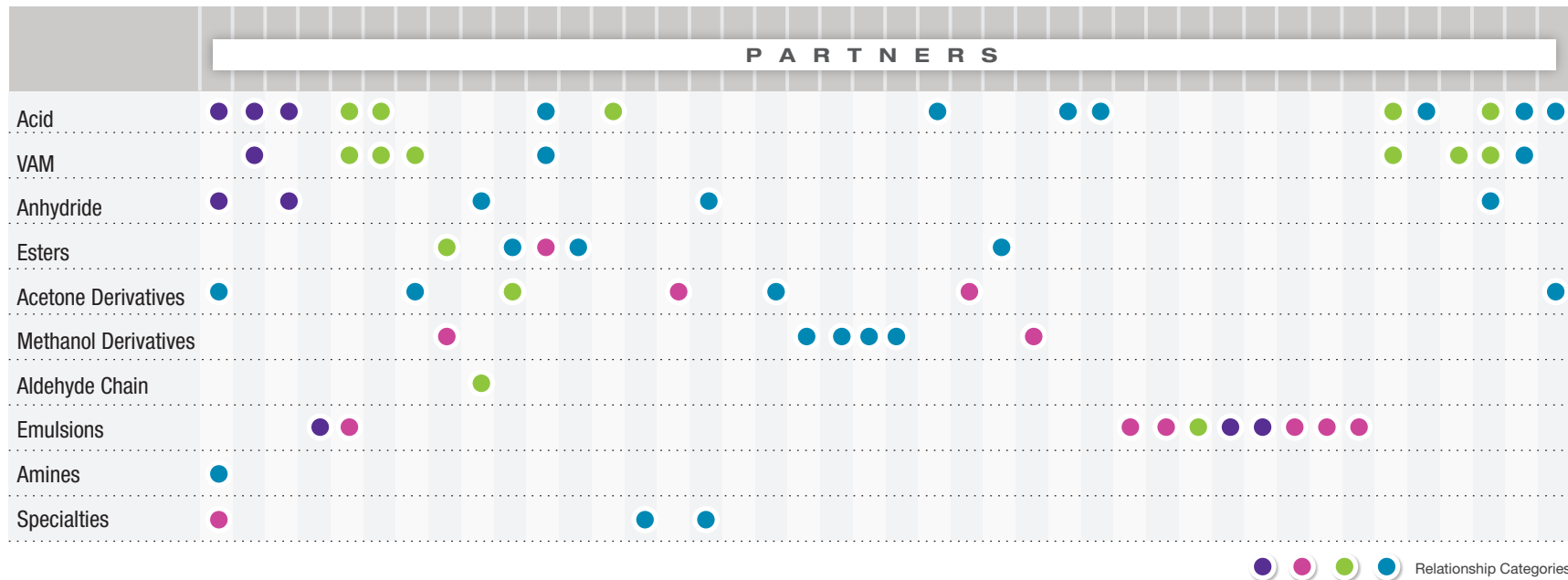
Next steps for acetic acid expansion

- Additional acetic acid investment required in Americas and EMEA to support demand growth
- Executing on Clear Lake technology improvements
- Evaluating multiple options for a world-scale unit



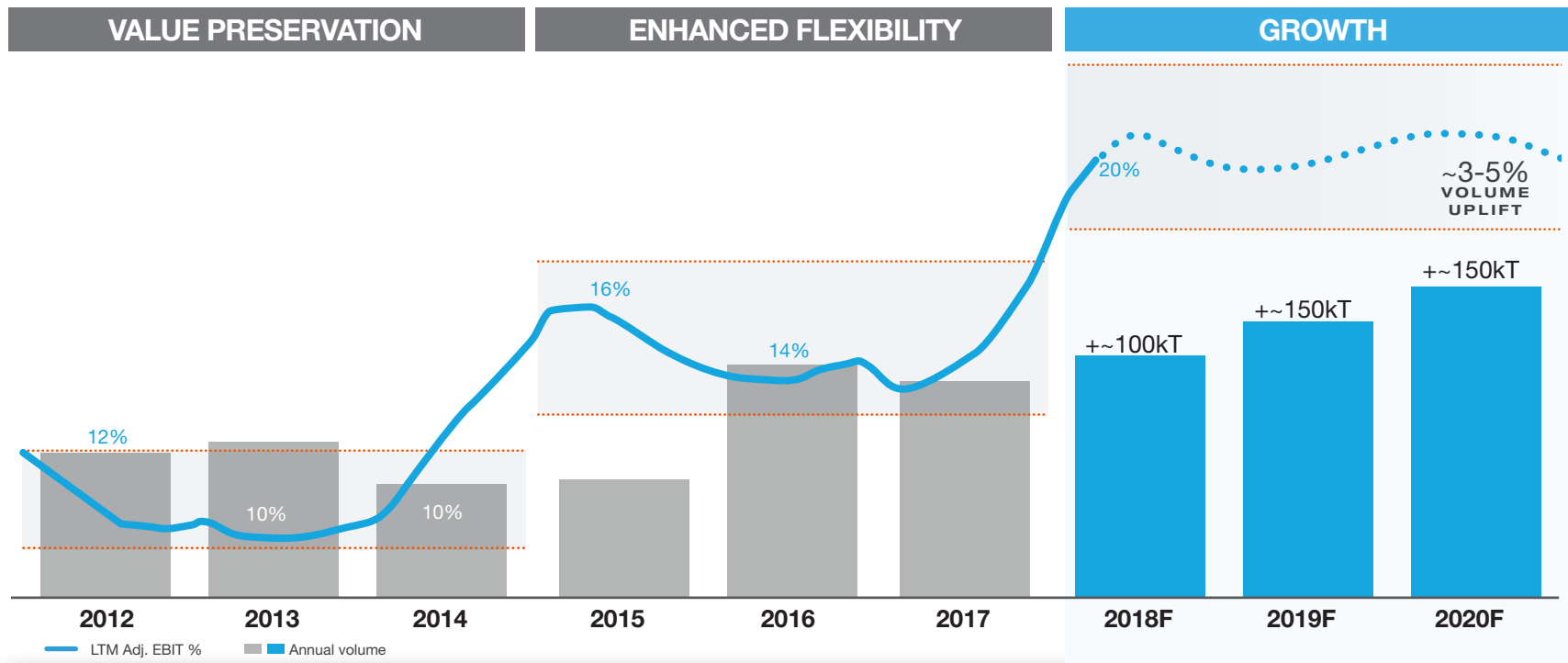
Capacity addition required to meet demand – Celanese uniquely positioned

Partnering to connect molecules



Working to add molecules to AC's global network

Volume and margin driving growth



Significant step-up in earnings

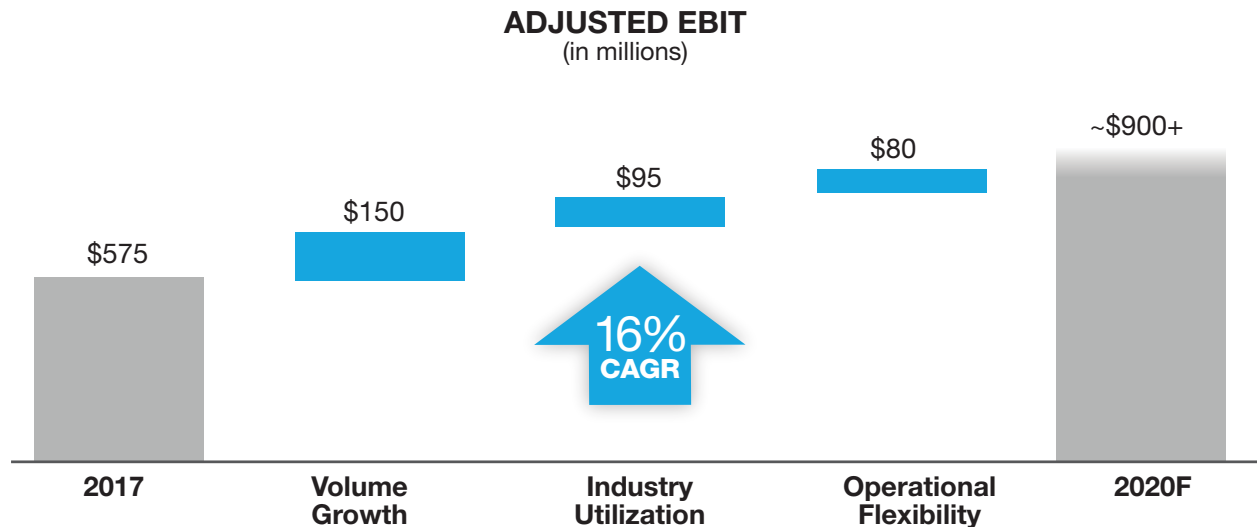
Power of the Acetyl Chain

Structural
industry changes

Expanding
network and
degrees of
freedom

Repeatable
model

Ready-now
growth steps



ADJUSTED EBIT MARGIN

~20% **AVERAGE**
2018-2020

VOLUME GROWTH

3-5% **AVERAGE**
2018-2020

INVESTMENTS

~25% *returns*

OPTIONALITY

PARTNERSHIPS

Next Up: Celanese Innovation Showcase



Tangible examples of the Celanese value creation model