



Seize the moment...

the North American industrial
lubricants business

ICIS 3rd NORTH AMERICAN INDUSTRIAL LUBRICANTS
CONFERENCE
CHICAGO

SEPTEMBER 2018

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**How will the forces of change
re-shape the profit potential available to
industrial lubricants players?**

Key Financial Metrics:

Gross Margin = Net Realization (less delivered Raw Materials Cost + Manufacturing Cost)

EBITDA = Gross Margin less Operating Costs (Marketing, Technology, SG&A)



Global business value chain

Raw Materials		Manufacturing: Formulation, blending & packaging of Finished Products	Marketing & Distribution		Trade		Services	
Chemical Additives	Base Oil		Direct to Customers	Indirect to Distributors	Retail (B2C)	Commercial & Industrial (B2B)	Application Solutions	Chemical Management

Players (representative):



The market is consolidating, with a number of players integrating along the value chain

Powerful industry trends... and market disrupters

Government activity targeting restriction of chemicals in-plant...

Are chlorinated paraffins resolved in US?

Biocides & airborne pollutants

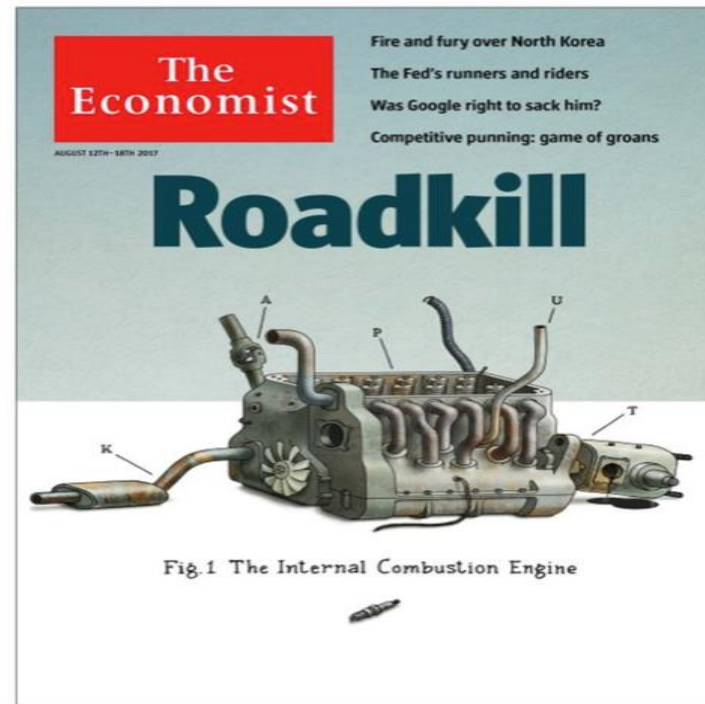
Conformance to
Global Harmonized Standard (GHS);
REACH directive challenges
EU & Asia Pacific marketers

**Industrial sector performance levels
& OEM specs...**

Automation & machining advances
driving synthetics growth & new technologies

**Regional expansion of OEM
manufacturing base...**

Driving procurement of
global formulations



**“Connected & Autonomous Vehicles”...
The ultimate DIFM customer**

Taking decision-making away from the driver...

Creating adjacent digital opportunities...
and needs for new products & services

“B2B consolidation & Genuine Oils”

Consolidation means more competition...

OEMs moving to exclusive
genuine oil brands

**Persistent base oil surplus &
flat product demand**

Forces of margin compression &
competitive restructuring

**RESULT: Opportunities to capture new sources of value... and mitigate forces
of margin compression, product commoditization, downward volume pressure**



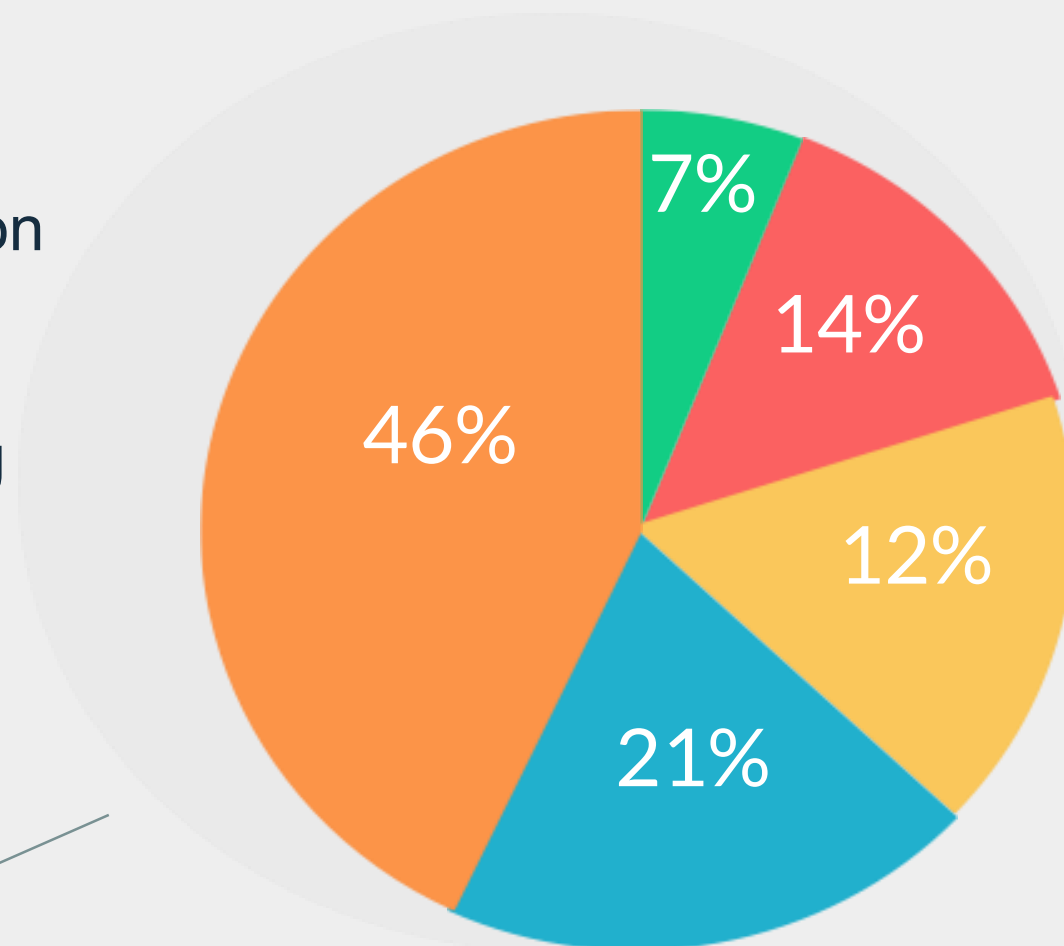
The margin pool for an integrated portfolio



Who is winning today?

2017 SHARE OF GLOBAL INTEGRATED GROSS MARGIN POOL

- Additives
- Distribution
- Base oil
- Trade
- Marketing



Total GM Pool

**\$69
billion**

**38 billion liters
worldwide finished
lubricant volume**

MARKET-WIDE GAINS SINCE 2000

Global Lubes Volume

+4%

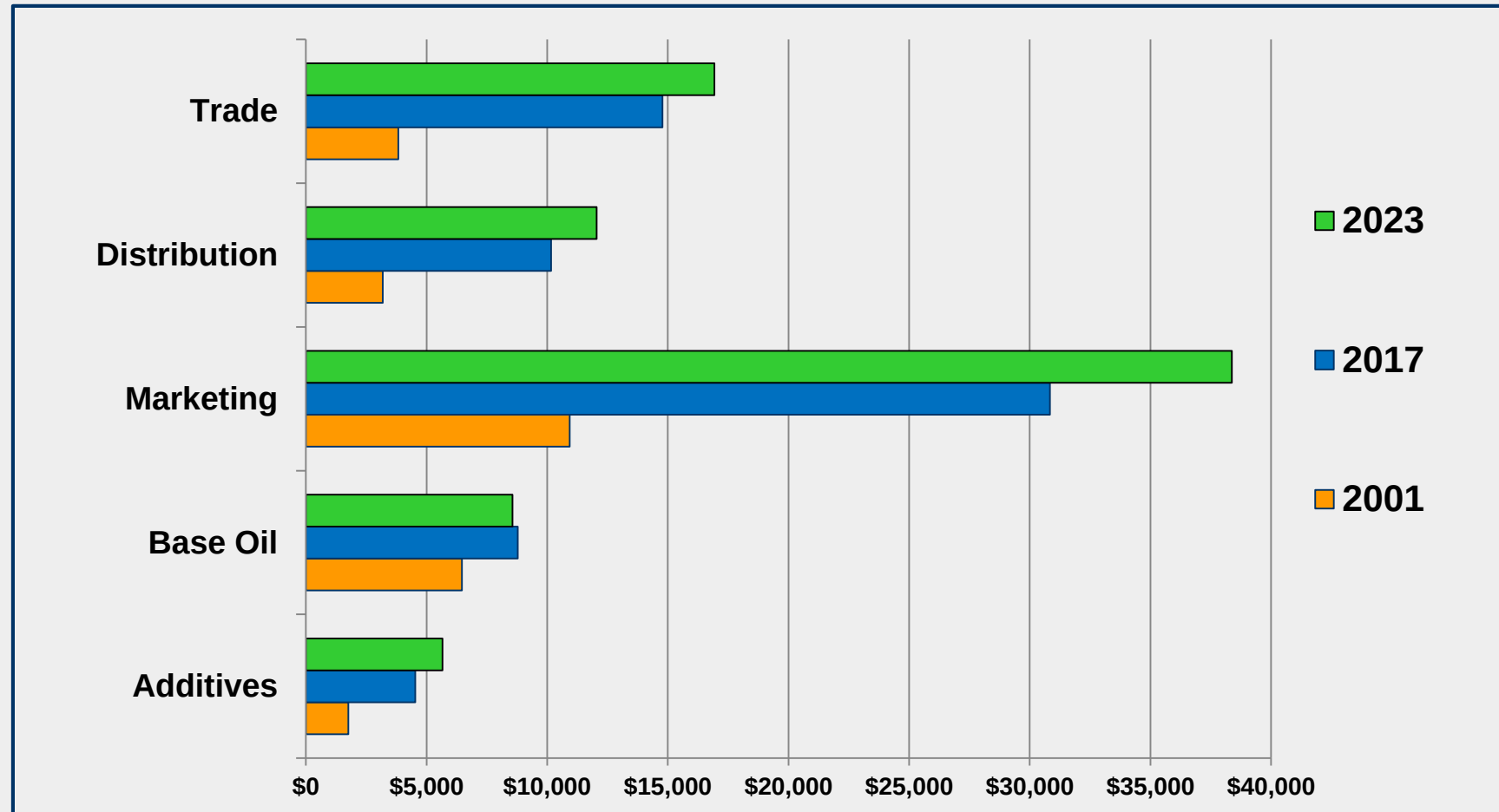
GM Pool Growth

×2.5



Most growth driven by up-trading & route-to-market

Global GM Pool, \$ million



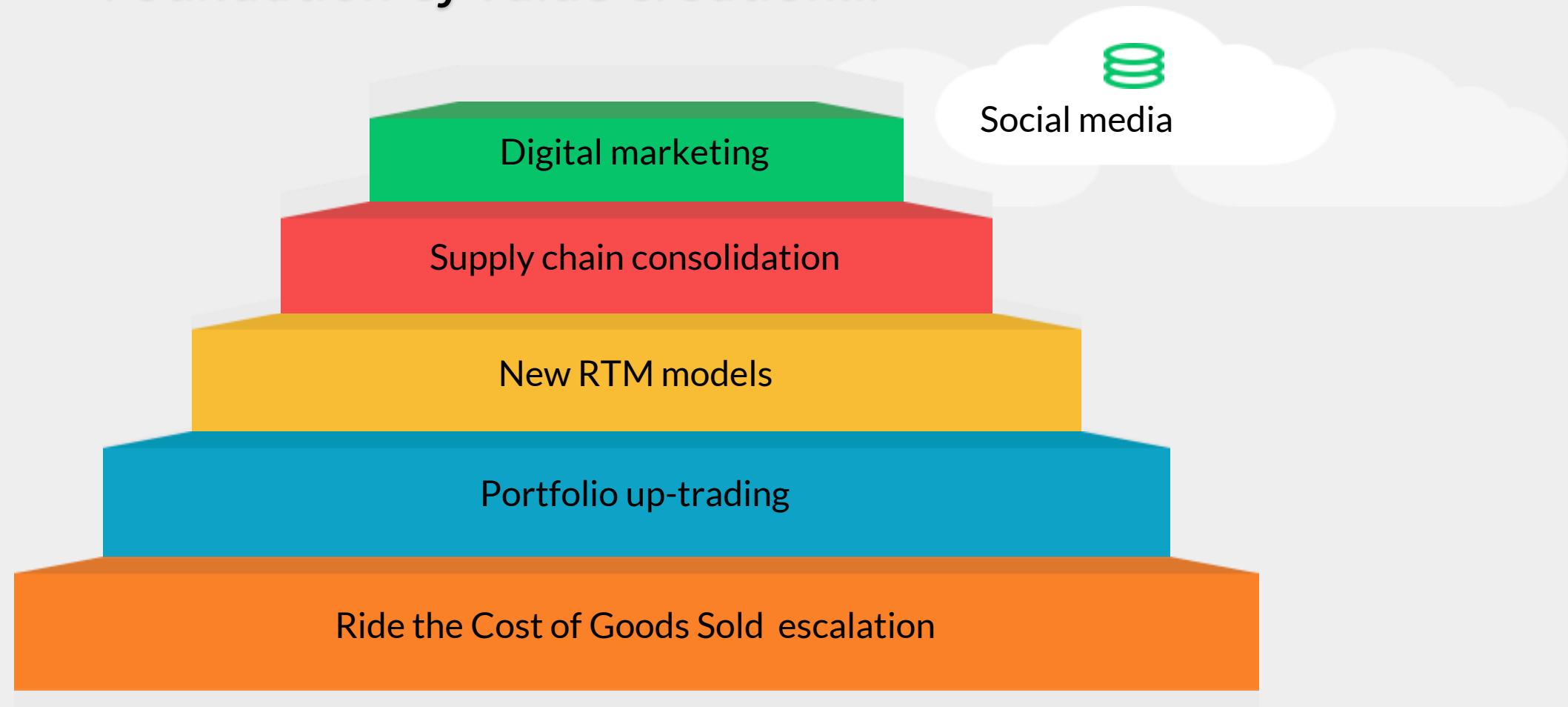
Total Integrated GM Pool

2023	\$82 billion	\$2.07 / liter
2017	\$69 billion	\$1.80 / liter
2001	\$26 billion	\$0.71/ liter

Marketing & Trade outpace driven by portfolio up-trading...
Distribution impacted by volume up-lift as marketers shift route-to-market...
Base Oil lacks volume growth... margins constrained by surplus

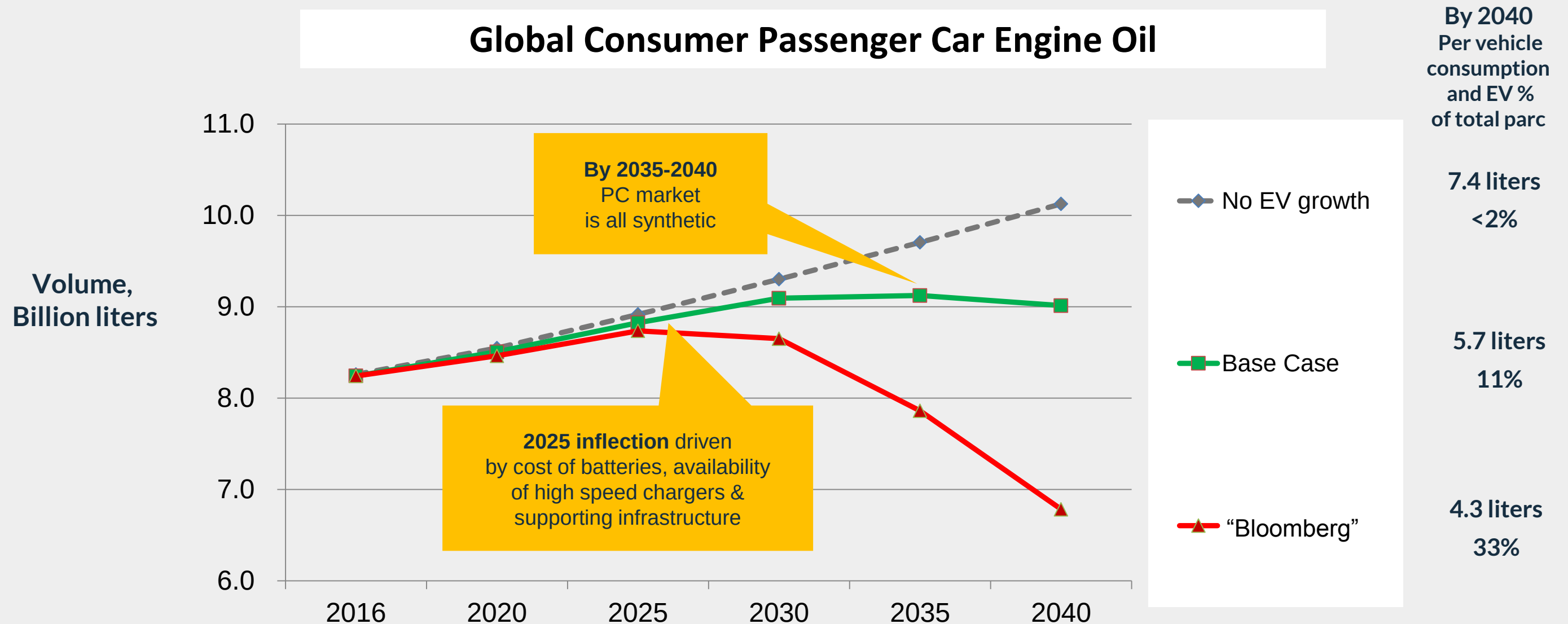
A lens on lubricants marketing

Foundation of value creation...



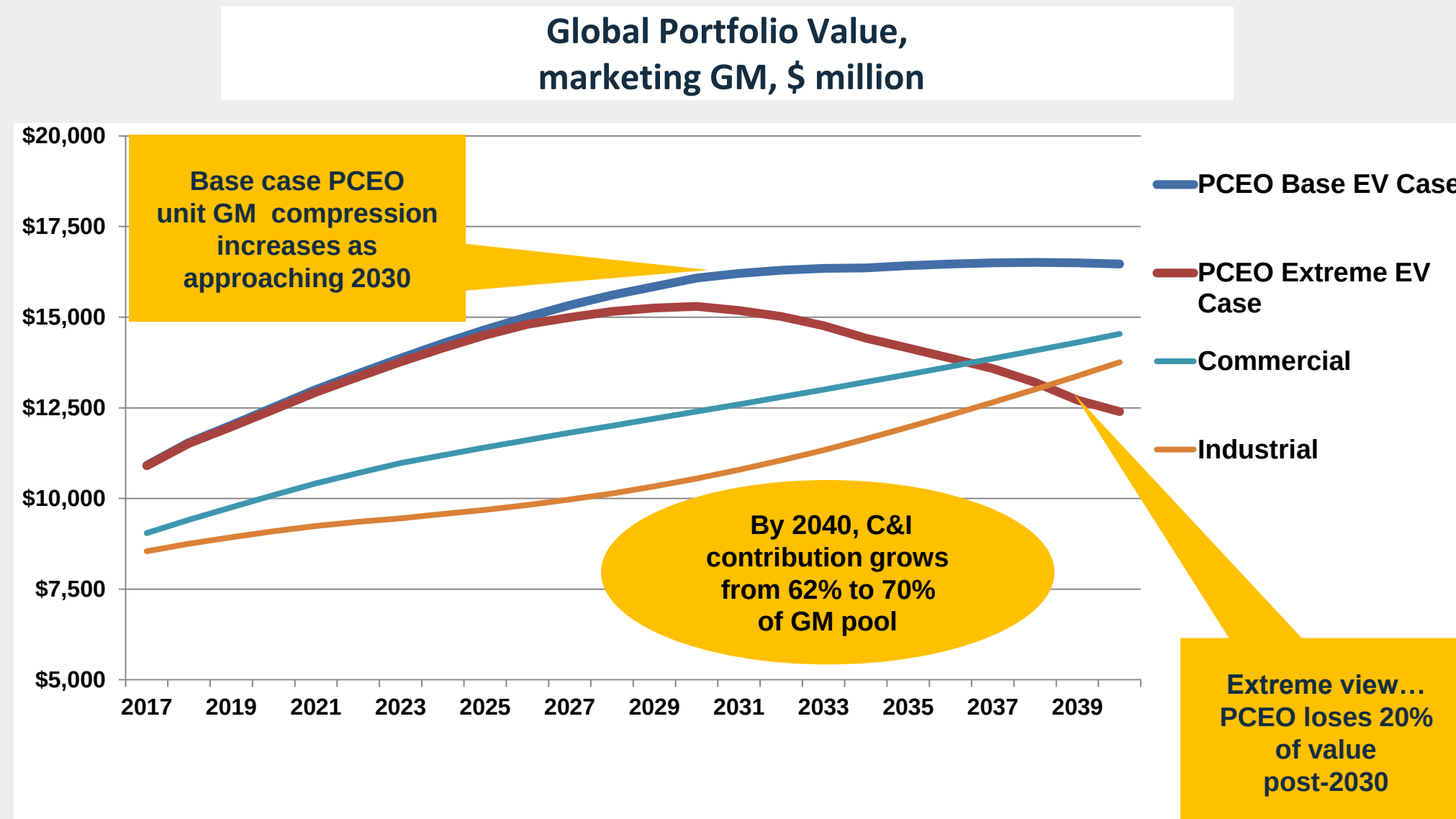
Marketing has demonstrated reliable earnings

Zooming in... Electric Vehicle impact



For EV base case... PCEO volume peaks at about 2035...
For extreme case... volume declines begin at 2025 and drop ~25%

EV growth leading to portfolio re-balancing



Global C&I margin pool collectively grows 23%, driven by up-trading in aerospace, automotive manufacturing, mining, transport & power

Goalposts for success are moving...

**“Skate to where the puck is going to be, not where it has been”
Wayne Gretzky**

In North America, EV growth lags global average;

US West Coast & Northeast metro markets are exceptions

Consensus view US & Canada EV penetration ~3-5% by 2040

**B2B customers are seeking new products
and digital-centered solutions...**

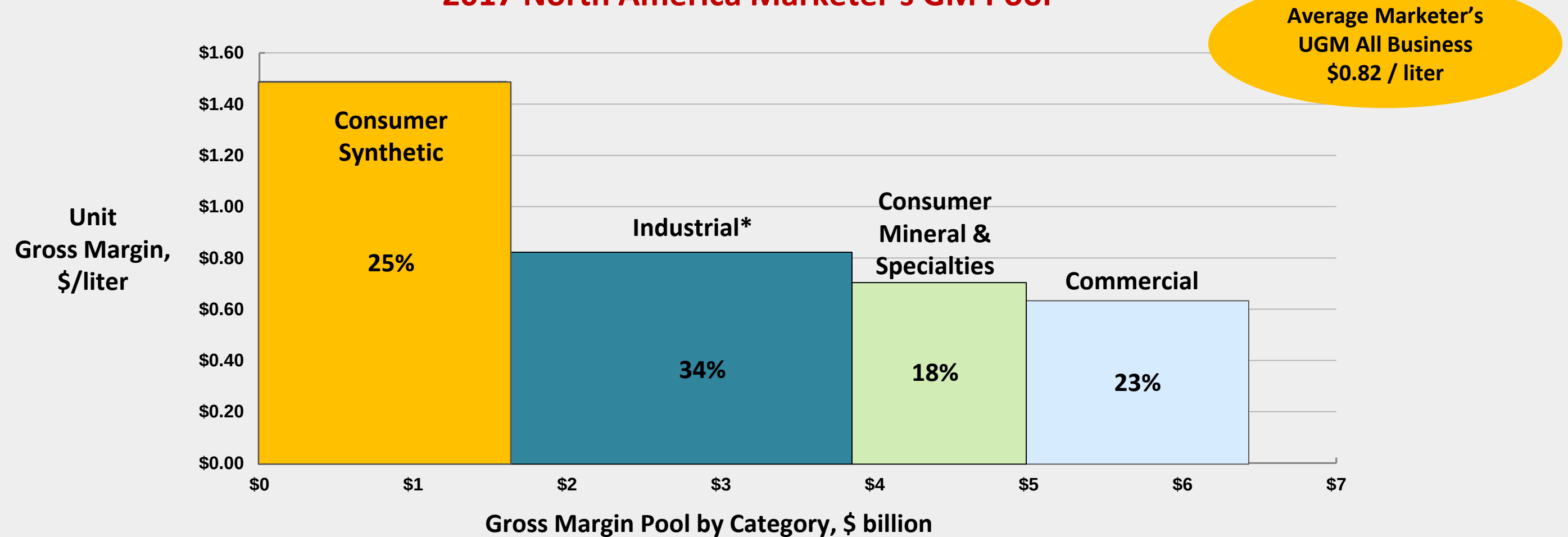
To build connectivity across the value chain

to drive down operating costs

What strategies and portfolios will deliver leading value in North America industrial?

North America... today's marketing value curve

2017 North America Marketer's GM Pool



* Industrial excludes process oils

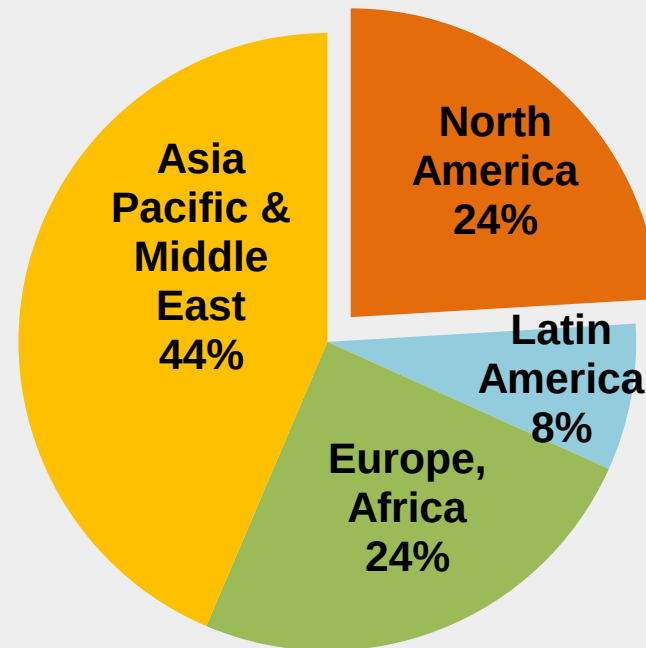
North America industrial lubricants GM pool is \$2.2 billion

Competitive headwinds limit organic growth opportunities

Multinational and National Oils delivering
12-18% EBITDA...

Other Players
5-20% EBITDA depending
on portfolio mix and
route-to-market

2017 Industrial Lubes Revenue



Global \$30 billion
excluding process oils

Industrial Competitors & Enablers

Multinational & National Oil companies

- Broad product line commanding higher volume segments
- Leveraging brand & scale
- Largely integrated with base oil production

Independent industrial specialty producers & marketers

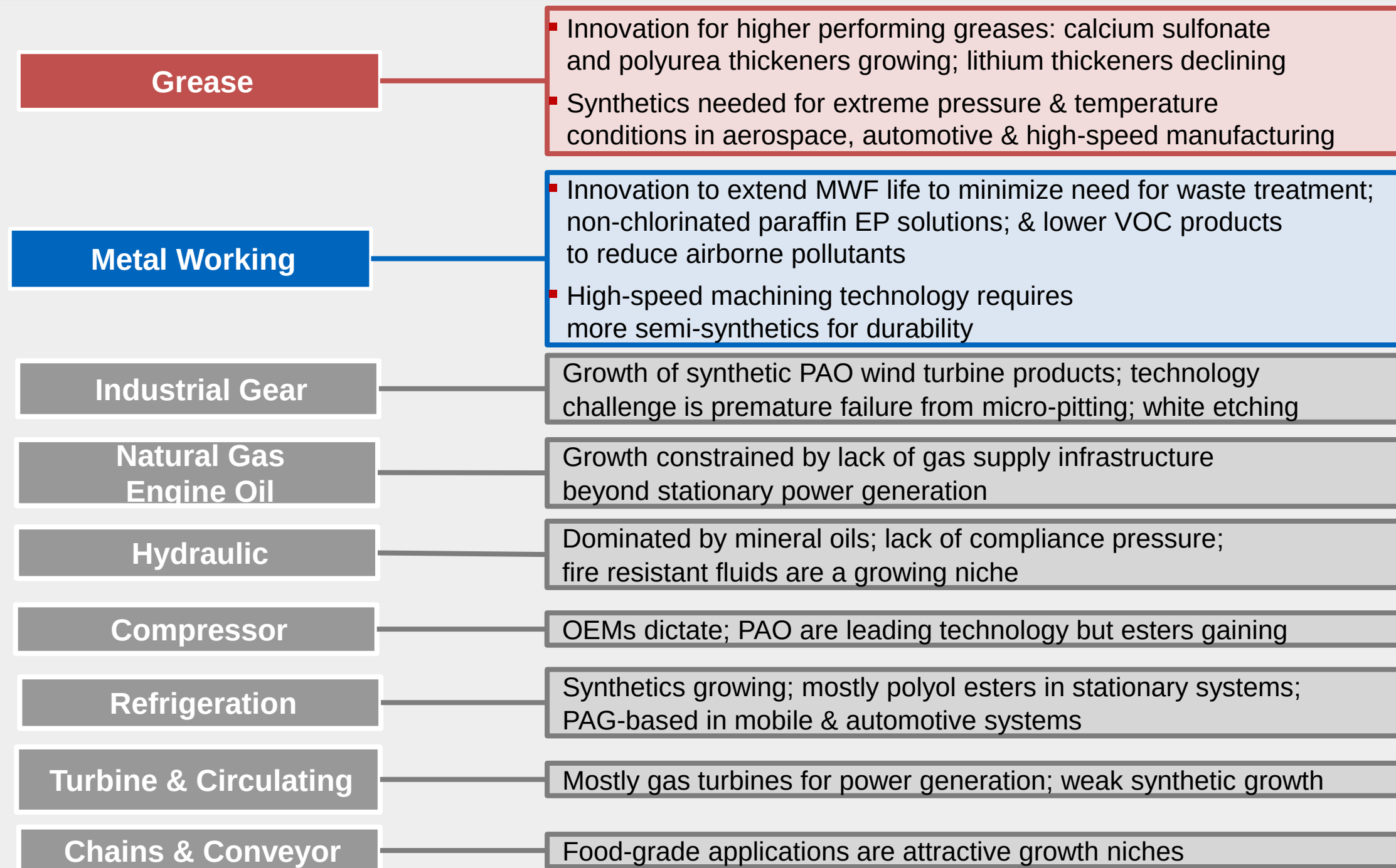
- Dominating grease & MWF with in-house proprietary formulations
- Leveraging strong R&D
- Customer intimacy
- Serves OEMs & end-customers

Specialty chemical & additive companies

- Integrating forward
- Conflict issues limit scope

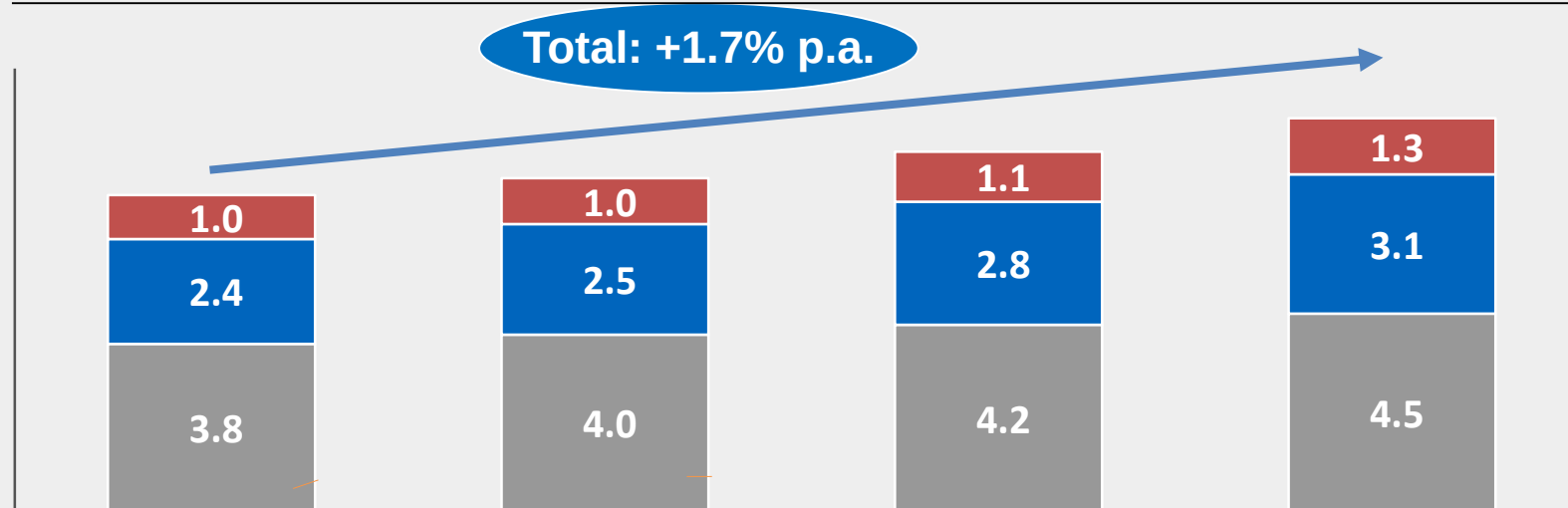


Where are the best paths forward?

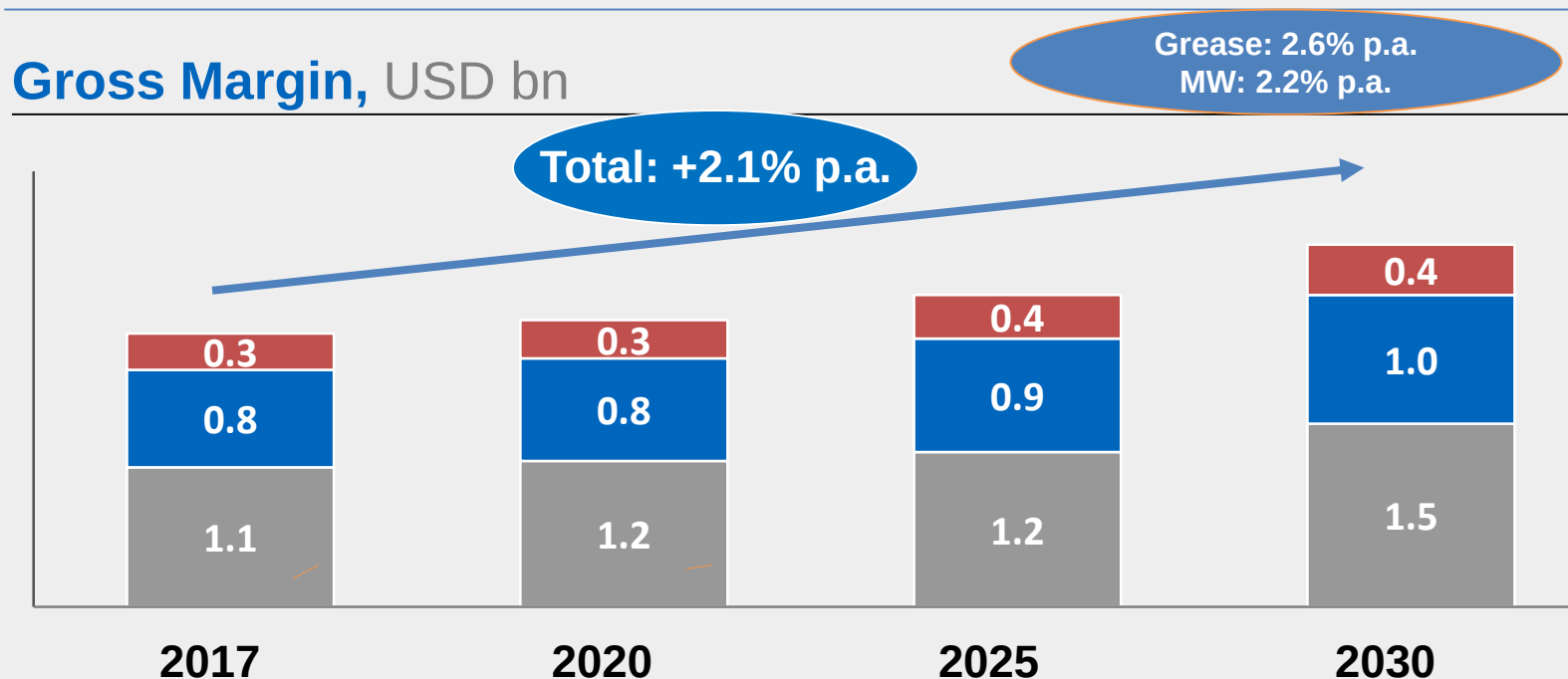


Strategic investment in Metal Working and Grease

Revenue, USD bn ■ Grease ■ MW ■ Other Industrial lubes



Gross Margin, USD bn



Key Value Drivers

North America industrial

~\$7.2 billion Revenue & \$2.2 billion GM

MWF & Grease outpaces

and contributes ~50% of GM growth

Volume growth slowing with increased synthetics; move to new technologies & HSE regulatory impacts

North American unit revenues

20-70% above global average reflecting a premium product-mix market

Digital investments developing connected platforms



... **Shell LubeChat, the first artificial intelligence (AI)-powered chatbot for B2B lubricants customers & distributors**, offering performance monitoring & maintenance support across general manufacturing, construction, agriculture, power & fleet



... **Fluid Vision Technologies LLC providing industrial fluid automated monitoring self-optimizing technology** that supports the smart factory revolution and reduces cost of ownership



... **Yoshi Inc., a startup company offering subscription-based on-demand fuel delivery and mobile vehicle car care**, to service B2B and B2C customers in 25 US cities

New digital builds upon legacy process controls, predictive marketing models and distribution networks that optimize inventory costs & guarantee on-time deliveries

Reaching for aspirations

Seize the moment...

“those that procrastinate will find no fresh fruit to harvest”

- 1 Consolidation plays...** marketing & distribution enabled by digital technology to take down costs, expand reach & drive service support



- 2 Re-balancing of portfolios** favoring C&I products & services in sectors undergoing automation & technology transformation

The big multinationals... Shell, ExxonMobil, Total, BP

- 3 Adjacency strategies** leverage core strengths into trade channels (e.g., quick lube, workshops, auto parts distribution, service centers)



... OR backward integration into refining, chemicals & specialties

... OR step into “the Blue Oceans” with a digital technology





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