



# Ashland

—  
innovation day: the future in focus

May 29, 2025



# welcome & opening remarks

William Whitaker | Interim CFO

# forward-looking statements

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The information presented herein regarding certain unaudited adjusted results does not conform to generally accepted accounting principles in the United States (U.S. GAAP) and should not be construed as an alternative to the reported results determined in accordance with U.S. GAAP. Ashland has included this non-GAAP information to assist in understanding the operating performance of the company and its reportable segments. The non-GAAP information provided may not be consistent with the methodologies used by other companies. All non-GAAP information has been reconciled with reported U.S. GAAP results under Appendix B: Non-GAAP Reconciliation of this presentation.

# today's agenda

9:00 am

## welcome and opening remarks

**William Whitaker** | Interim CFO

9:05 am

## Ashland overview

**Guillermo Novo** | Chair & CEO

9:15 am

## innovation overview

**Osama Musa** | SVP & CTO

9:25 am

## life sciences

**Alessandra Faccin** | SVP & GM

**Sean McMahon** | Director Injectables

**Kapish Karan** | R&D OSD leader

9:50 am

## personal care

**Jim Minicucci** | SVP & GM

**Galder Cristobal** | Senior Director R&D

10:15 am

## specialty additives

**Dago Caceres** | SVP & GM

**Ling Li** | Senior Director R&D

10:40 am

## closing remarks

**Guillermo Novo** | Chair & CEO

11:00 am

## Q&A session

11:30 am

## lab tour & lunch

# today's presenters

## enterprise



**Guillermo Novo**  
Chair & CEO  
2019



**Dr. Osama Musa**  
SVP & CTO  
2011

## life sciences



**Alessandra Faccin**  
SVP & GM  
2024



**Sean McMahon**  
Director Injectables  
2018



**Kapish Karin**  
R&D OSD Leader  
2014

## personal care



**Jim Minicucci**  
SVP & GM  
2023



**Galder Cristobal**  
Senior Director R&D  
2024

## specialty additives



**Dago Caceres**  
SVP & GM  
2024



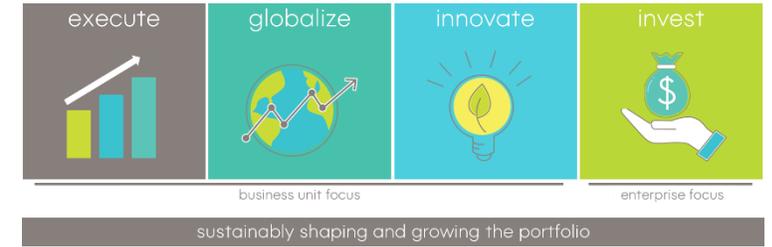
**Ling Li**  
Senior Director R&D  
2024

Ashland's revamped team: blend of deep experience & fresh perspectives

# Ashland overview

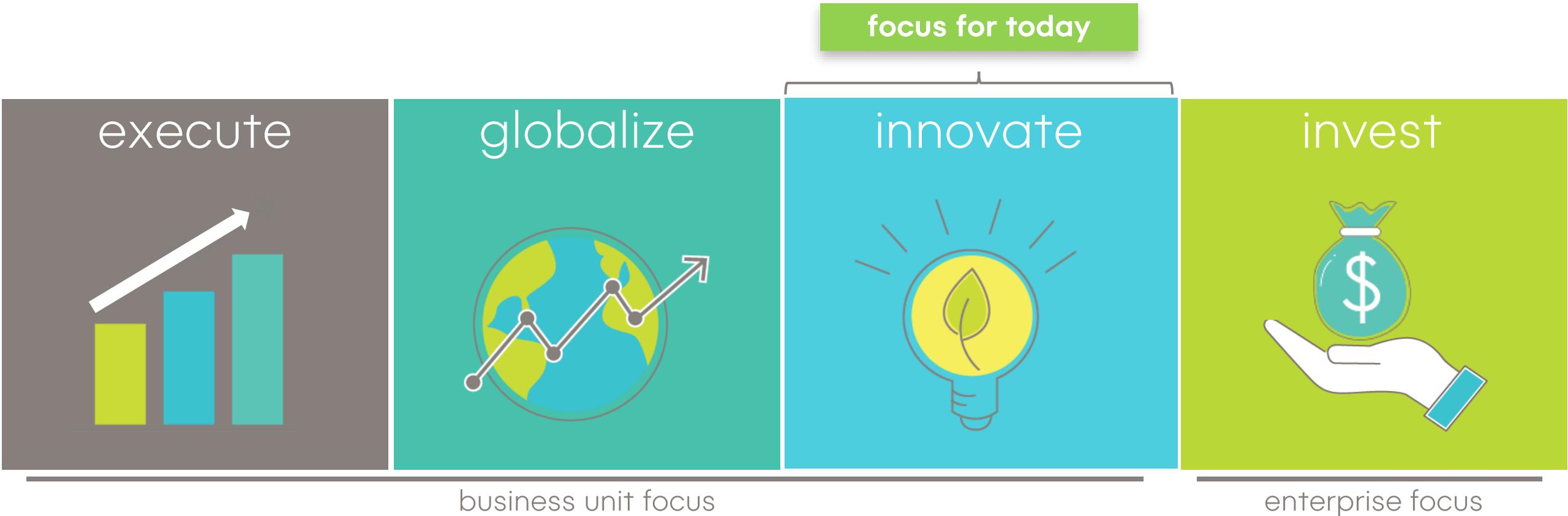
Guillermo Novo | Chair & CEO

# advancing our strategic priorities



- 1 portfolio optimization completed:** with sale of Avoca business and implemented \$30M restructuring cost savings
- 2 significant manufacturing optimization progress:** \$60M network optimization well advanced; identifying further productivity opportunities above target
- 3 globalization:** investing to accelerate growth for several high-quality businesses
- 4 innovation driven growth:** enriching our technology portfolio and innovation capabilities; initiating asset repurpose strategy to efficiently scale innovation
- 5 disciplined capital allocation:** executing to maintain a strong and flexible balance sheet, optimize the portfolio, and deliver value to shareholders

# our strategic priorities innovation at the forefront



sustainably shaping and growing the portfolio

# welcome to our 2025 innovation day

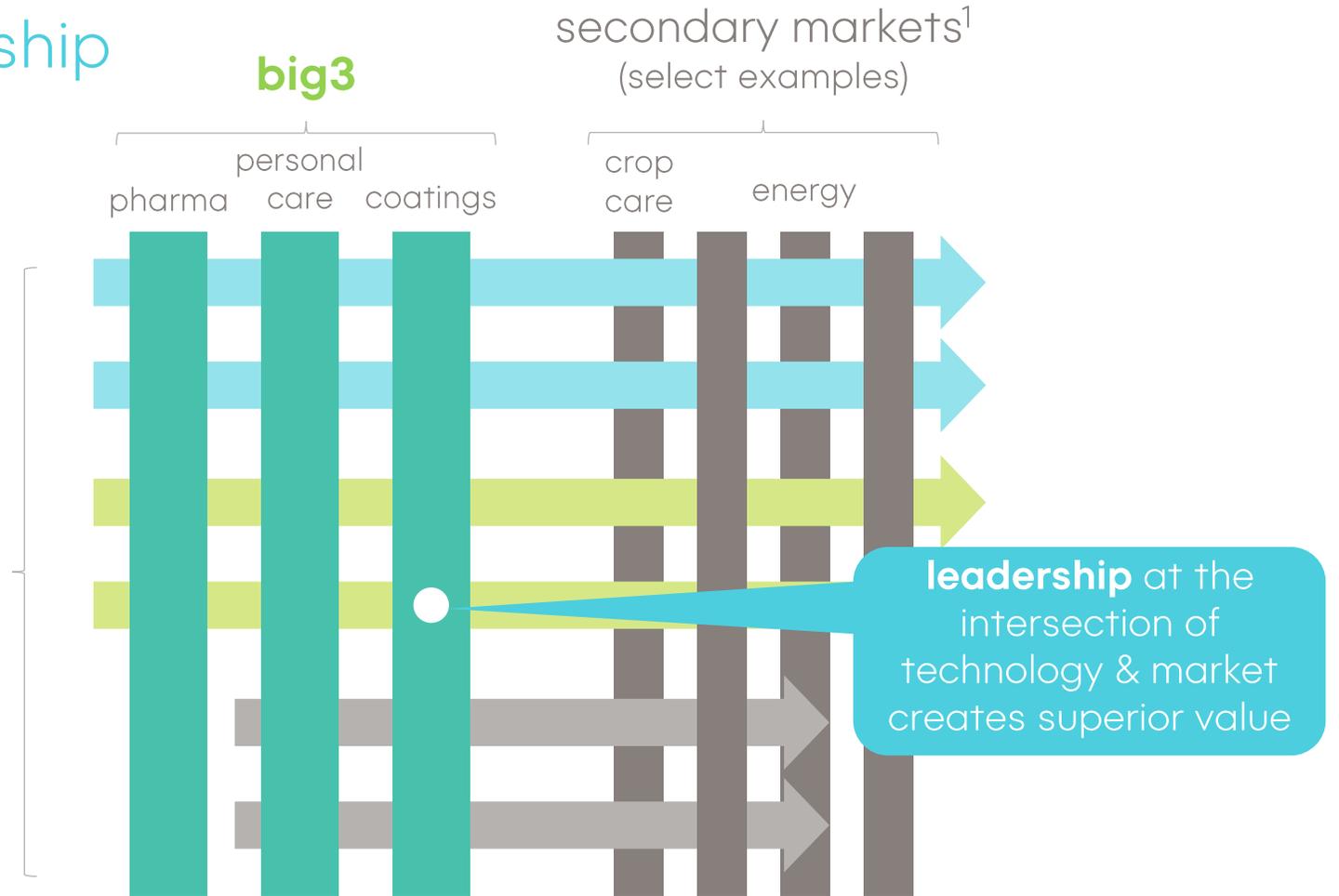
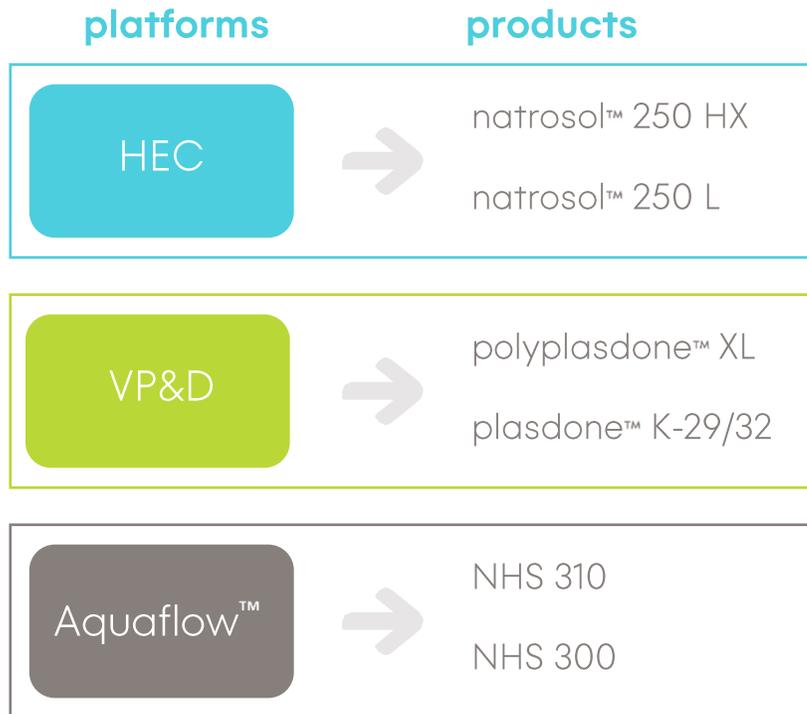
unlocking growth with innovation and our high-performing team

- 1 accelerating innovation** Ashland's expanding technology advantage
- 2 tangible platforms** proof of revolutionizing innovation
- 3 sustainable growth** large markets, transformative portfolio
- 4 delivering innovation** our energized team's commitment

# quick recap of our business model

## strategic coherence & leadership

existing technology platforms<sup>1</sup>  
(select examples)



# platform technology strategy



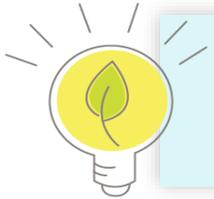
## strengthen big 3 leadership

pharma, personal care & coatings



## extend in and beyond big 3

injectables, bioprocessing, crop care, home care, industrial coatings, adhesives, metal working fluids



## building sustainable differentiation

expanding intellectual property positions, targeting six FY25 new platform product launches



## portfolio diversification & resilience

balance portfolio, multiple platforms, lower risk, smaller manufacturing investment requirements



discover compelling, large-scale market opportunities for our platforms today, highlighting considerable financial potential and a diversified portfolio

# key innovation progress

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## technology advancement

- **successfully validated** “platform” profile of the new technologies
- **significantly expanded** applications & markets by developing technology variants



## capability building

- **strengthened** our technical and commercial capabilities
- **empowered** business units with ownership and accountability



## commercialization & engagement

- **successfully launched** initial products leveraging existing assets
- **advanced** our regulatory strategy
- **cultivated** strong customer engagement

advancing technology, capabilities and commercialization

# supporting near-term innovation growth goals

accelerating development, launching products & building pipeline in support of FY27 goals

## select recent core innovation

- **life sciences** augmented cellulosic pharma portfolio
- **personal care** expanded biofunctionals cutting-edge portfolio
- **specialty additives** launched beyond rheology additives

## recent launches from new platforms

- **TVO** toothpaste, hand/body wash, sun care
- **super wetters** coatings; crop care
- **bioresorbable polymers** long acting injectables
- **liquid cellulose+** coatings

### existing<sup>1</sup> FY27 innovation financial targets

**+\$100M**

innovation sales

**+150 bps**

sales CAGR from innovation

**>25%**

adj. EBITDA

**>50%**

FCF conversion<sup>2</sup>



# innovation overview

Osama Musa | SVP & CTO

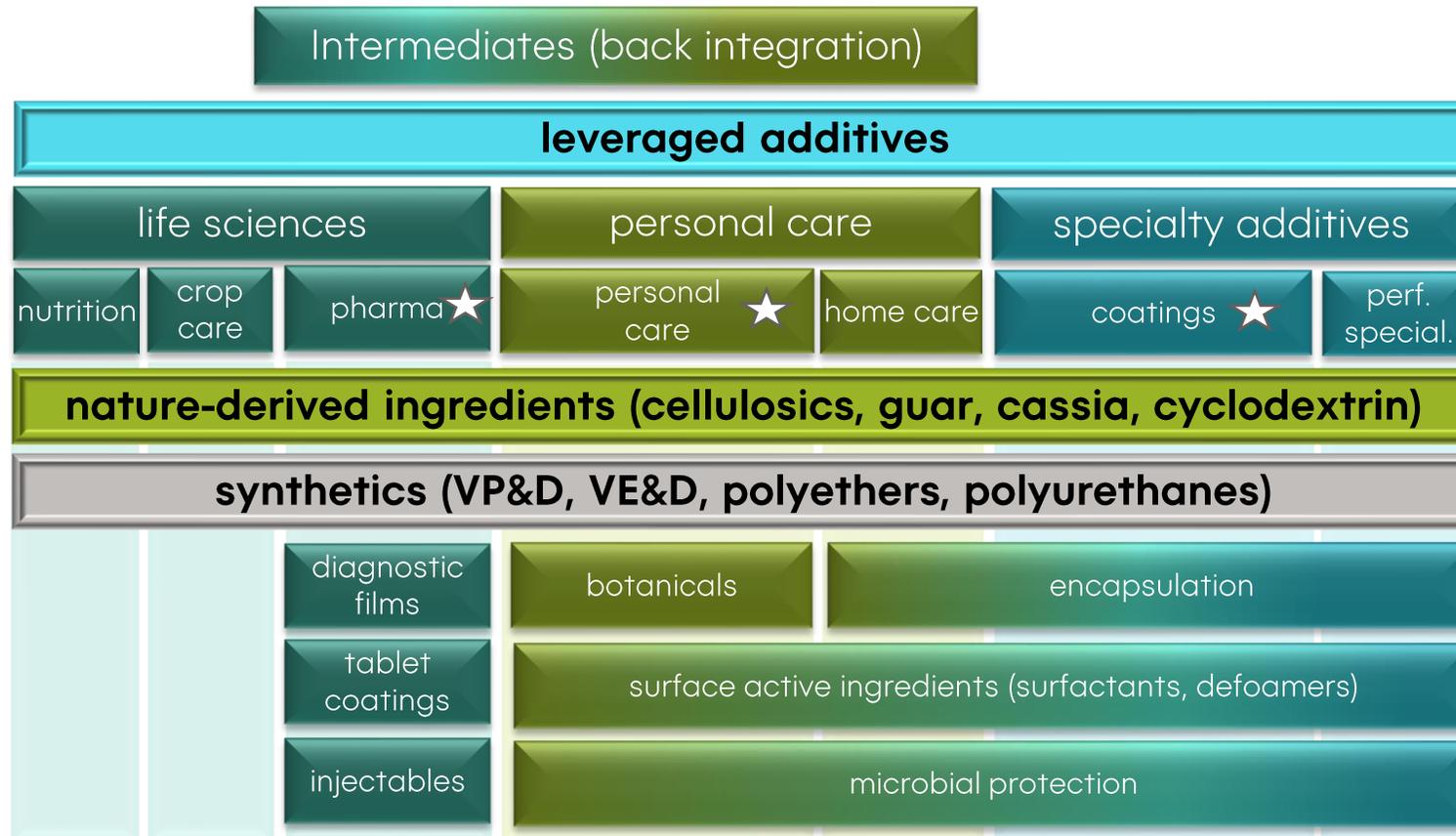
# journey toward high-value innovation portfolio

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- 1 driving innovation impact by **scaling our superior, new technology platforms** across diverse end markets
- 2 **accelerating platform performance** through strategic resource reallocation, delivering tunable and scalable technology
- 3 **delivering platform launches** informed by strong customer engagement (beta testing, visits, joint development) to capture unmet market opportunities

real, superior technologies that are transforming Ashland's innovation portfolio

# highly integrated, scalable core technologies



leverage **sustainability** to expand our toolbox



★ core franchise business (big 3)

proven track record of scaling integrated additive technologies to capture opportunities across diverse and growing end-markets

# expanding our integrated portfolio

core portfolio expanded with new technology platforms

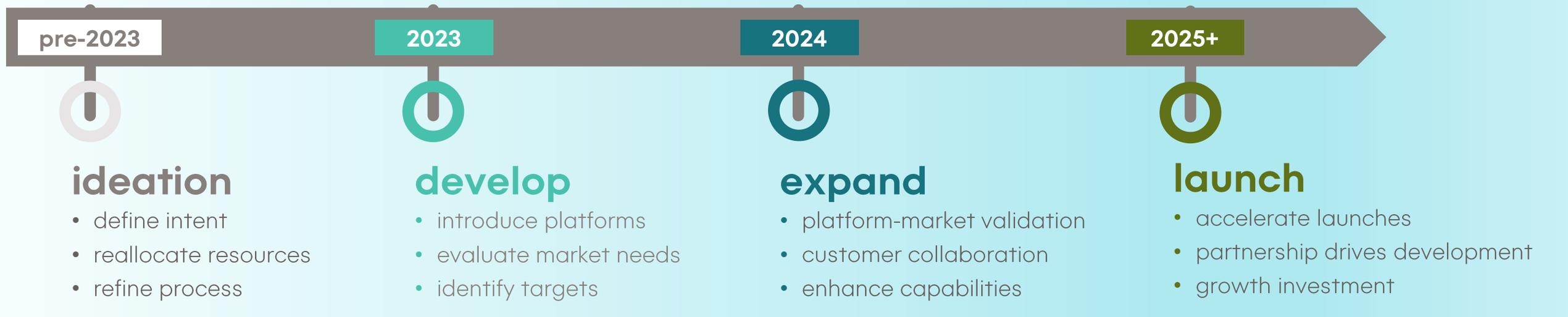
53 patent inventions since 2023

- sustainability driven
- tunable & patented
- scalable solutions
- superior performance
- significant value creation

## new technology platforms

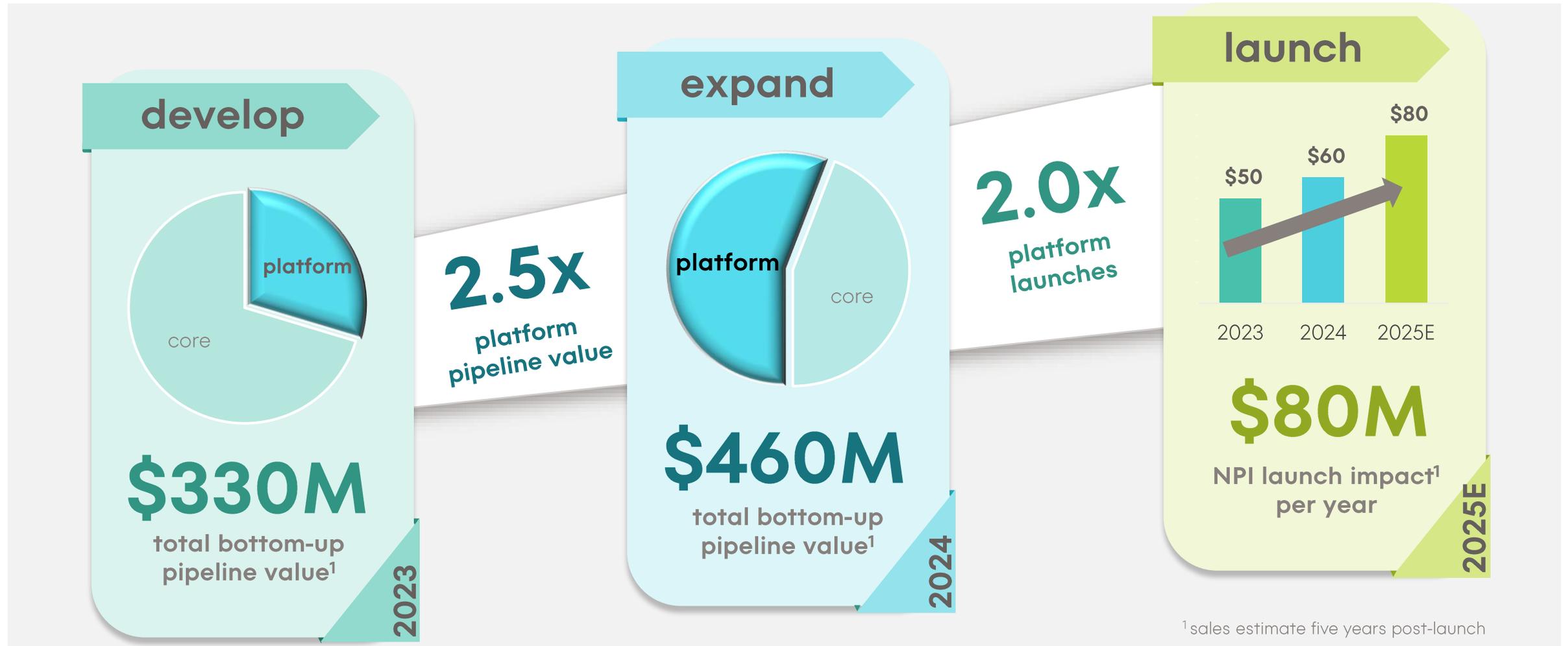
		big 3			secondary markets		
		pharma	personal care	coatings	crop care	inks / printing	other
transformed vegetable oils		✓	✓	✓	✓	✓	✓
novel cellulosics		✓	✓	✓		✓	✓
super wetting agents		✓	✓	✓	✓	✓	✓
pH neutralizer		✓	✓	✓		✓	✓
bioresorbable polymers		✓	✓				
liquid cellulose+				✓			
multifunctional starch			✓				

# new technology platforms: ideation to launch



focused execution to achieve our goals with speed and conviction

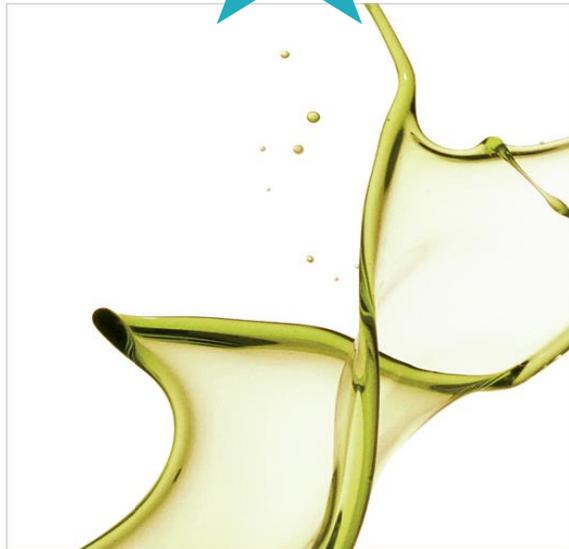
# transforming pipeline with high-impact innovation



platform focused pipeline delivering innovation impact

# 11 superior and impactful platform launches to-date

3



transformed vegetable oils

5



super wetting agents

2



liquid cellulose+

1

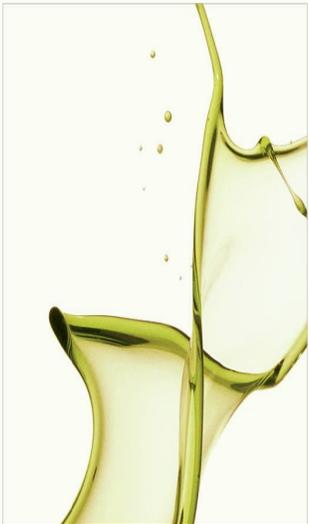


bioresorbable polymers

**six expected FY25 platform launches:** targeting pH neutralizer, super wetting agents, transformed vegetable oil & bioresorbable polymers

# spotlight on new technology platforms

today's examples



transformed vegetable oils



super wetting agents



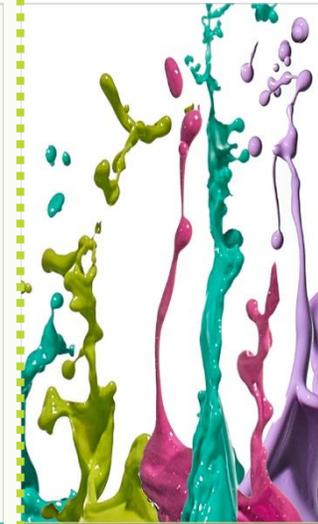
bioresorbable polymers



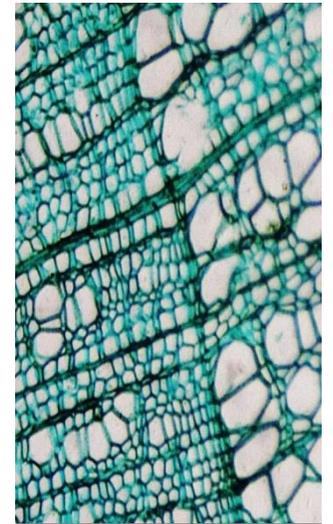
multi-functional starch



pH neutralizer



liquid cellulose+



novel cellulosics

new, scalable technologies that expand our toolbox & growth opportunities

# innovative new technology platforms

- sustainability
- patented
- core expertise

	<b>transformed vegetable oil</b>	nature-derived with tunable water solubility	✓
	<b>super wetting agent</b>	high-performing silicone-PFAS-free, sustainable wetting agents	✓
	<b>bioresorbable polymers</b>	safely enabling drug delivery systems & medical devices	✓
	<b>multifunctional starch</b>	nature-derived suspending agent and rheology modifier	✓
	<b>pH neutralizer</b>	high-efficiency pH neutralizer/buffer for high-value markets	✓

novel chemistry for a sustainable future: addressing sizable & critical needs

# today's game-changing examples

## featured applications for today

life sciences	<ul style="list-style-type: none"><li>• <b>tablet coatings:</b> TVO</li><li>• <b>injectables:</b> bioresorbable polymers</li><li>• <b>biopharma processing:</b> pH neutralizer, super wetting agent</li></ul>
personal care	<ul style="list-style-type: none"><li>• <b>hair fixatives:</b> TVO</li><li>• <b>hair conditioning:</b> TVO</li><li>• <b>leave-on skin:</b> multifunctional starch</li></ul>
specialty additives	<ul style="list-style-type: none"><li>• <b>industrial coatings:</b> super wetting agent</li><li>• <b>reactive oligomers:</b> TVO</li><li>• <b>metal working fluids:</b> TVO, pH neutralizer, super wetting agent</li></ul>



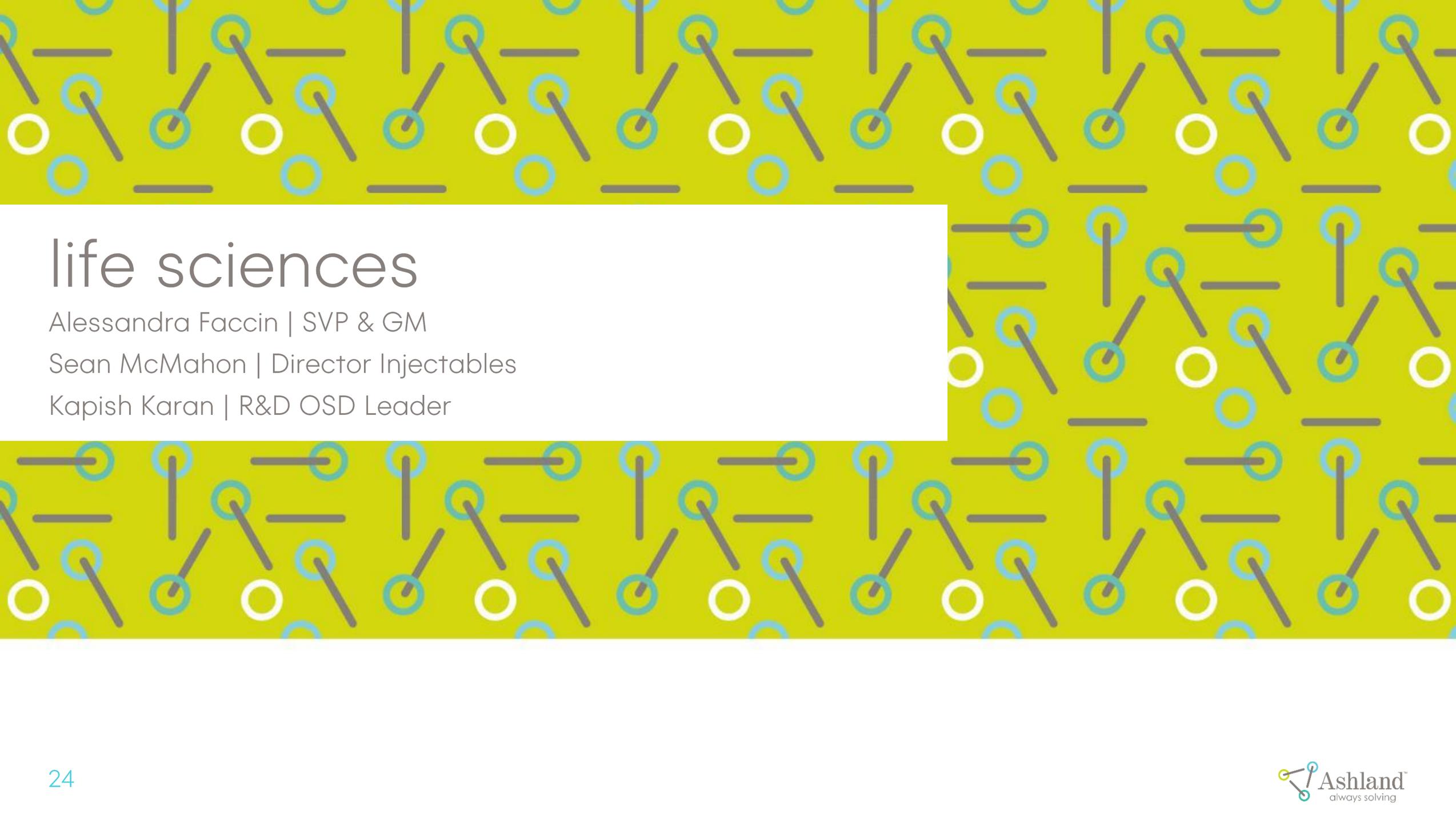
## transformational growth from today's examples

total addressable market      share target



■ life sciences    ■ personal care    ■ specialty additives

**\$4.4B TAM & 15-30% share target**



# life sciences

Alessandra Faccin | SVP & GM

Sean McMahon | Director Injectables

Kapish Karan | R&D OSD Leader

# life sciences profile

## FY 24 reset financial highlights<sup>1</sup>

FY 24 reported financial highlights<sup>(2)(3)</sup>

revenue  
**\$680M**  
\$810M

EBITDA  
**\$206M**  
\$230M

EBITDA margin  
**30.3%**  
28.4%

### applications

#### pharma:

- oral-solid dosage excipients
- injectable excipients
- bioprocessing chemicals

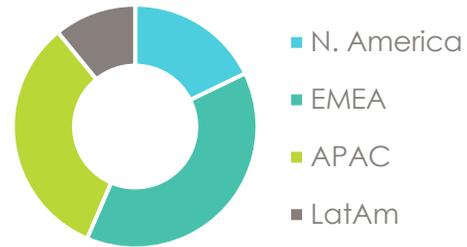
#### crop care:

- adjuvants & inerts

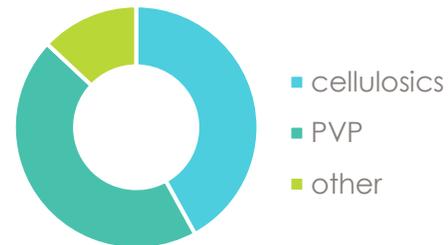
#### nutrition:

- select food & beverage

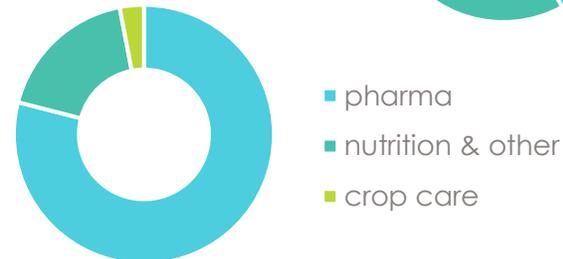
### geographic mix<sup>1</sup>



### product mix<sup>1</sup>



### end market mix<sup>1</sup>



## end markets focus



leading  
pharma position



growth opportunity  
in crop care



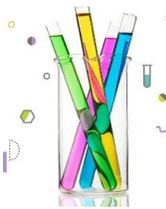
optimizing  
nutrition

broad portfolio with global reach and expanding innovation platforms

# life sciences strategic overview

## strategic pillars

- 1 maintain & extend our leadership in oral solid dose (OSD)
- 2 accelerate growth in tablet coatings & injectables
- 3 leverage platforms to unlock new opportunities in biopharma, tablet coatings & crop care
- 4 advance M&A to tap into high growth adjacencies

	select platform applications	market & share target
	tablet coatings	\$360M 15-25%
	injectables	\$750M 15-20%
	bioprocessing	\$335M 10-30%

build on OSD strength by strategically expanding into new high-potential areas

# tablet coatings: a thin layer with big impact

pharmaceutical tablet coating is the application of a thin layer to pills to **modify drug release, enhance stability, improve aesthetics, and optimize manufacturing**



## expanding therapeutic applications

- **controlled release** enables targeted and prolonged drug action
- **enhanced stability** extends product shelf life and efficacy
- **moisture protection** crucial for sensitive drug formulations
- **masks taste & eases swallowing** increases patient adherence

## optimizing manufacturing efficiency

- **streamlines production** processes with **faster coating times**
- **increases throughput** and reduces manufacturing costs

## enhancing product differentiation & branding

- creates visually appealing and **recognizable tablets**
- **supports brand identity** and product recognition

# high throughput **tablet coatings** opportunity

opportunity to disrupt large market with innovation

existing solutions from Ashland

- Aquarius™ offers a foundational, diverse portfolio of high-performance tablet coatings with a clear opportunity for next-gen performance enhancement

## market needs

**production efficiency:** faster output; no new capital required

**cost reduction:** lower energy and manufacturing expenses

**product enhancement:** increased stability and improved aesthetics

## market landscape

**tablet dominance:** small-molecule tablets: >50% pharma pipeline

**concentrated market:** 1 player: ~65%

**secondary source needed:** demand for a reliable, globally compliant alternative

## total tablet coatings market

**\$360M** obtainable market **growing 3%**

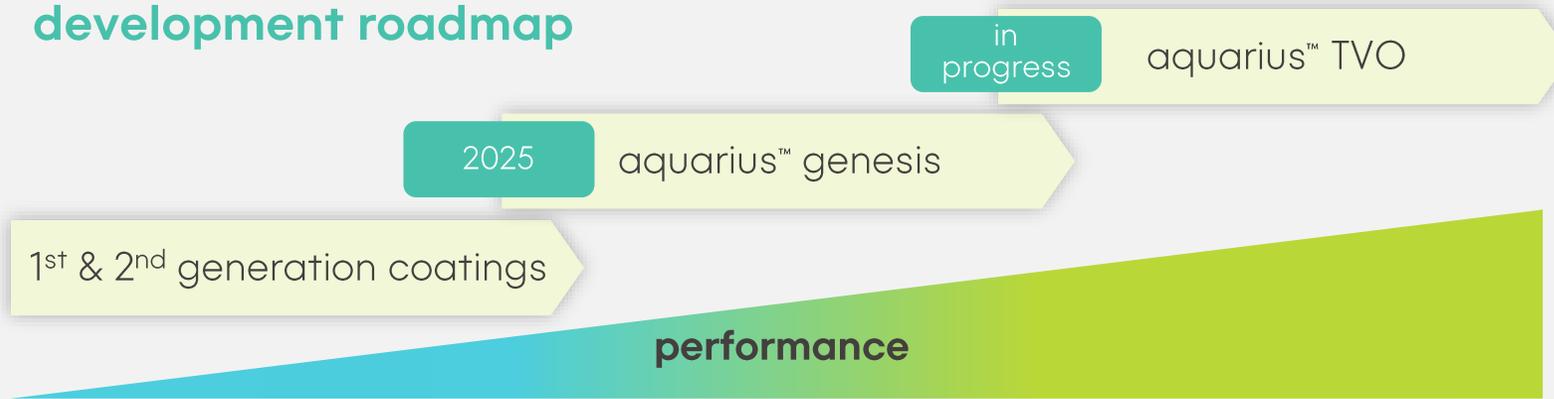


**share target: 15-25%**

unlock next-gen advantage: secure market share through disruptive performance

# next-gen **tablet coatings** roadmap

## development roadmap



## transformative processing metrics & impact

**speed** 80% faster processing

**energy** 70% savings

**solids** industry's highest solids content

**investment** defers large growth capex

**environmental** enhances ESG agenda

**yield** increased production throughput

## why we win

- 1 global network of world class technical service centers
- 2 localized manufacturing for rapid customer service
- 3 vertically integrated polymer production & design; quality & control
- 4 innovative platforms, enabling significant performance benefits

Genesis & TVO: revolutionizing tablet coatings with speed, productivity and sustainability

# tablet coatings path forward



voice of customer-backed concept: building towards commercialization

# TVO: tablet coatings in action

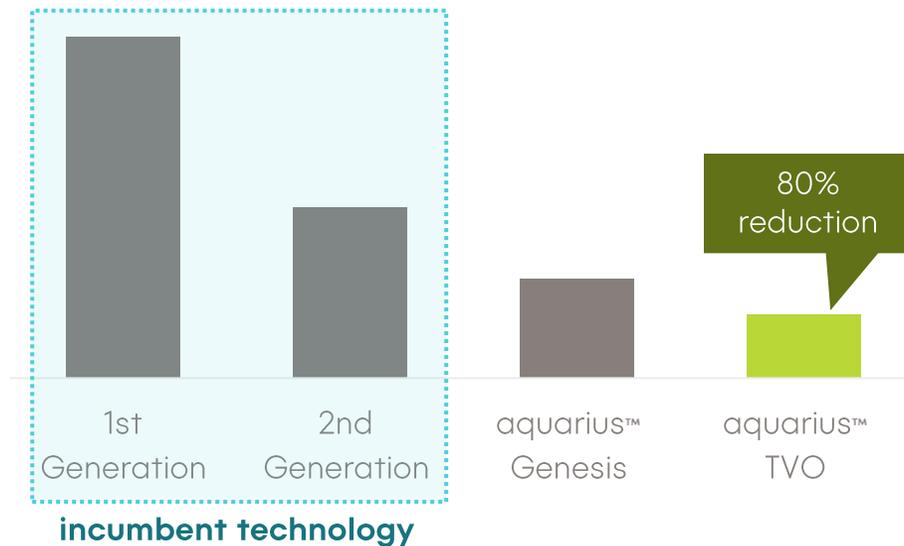
## customer-driven solutions

- **sustainable & renewable:** bio-based polymer from vegetable oil
- **increased productivity:** higher solids coatings boost output & reduce costs
- **optimized capital:** productivity gains defer major capital investments
- **cost-efficient formulation:** "All-in-one" pigment system simplifies production

## efficiency and total cost savings

- avg. annual tablets for 1 SKU: **2 billion**
- avg. customer net saving: **\$2.5M**
- **up to 70%** lower energy consumption
- **up to 80%** lower CO<sub>2</sub>e
- **up to 75%** reduction in water usage
- avg. aquarius™ sale for 1 SKU: **\$1.0M**

## commercial coating time

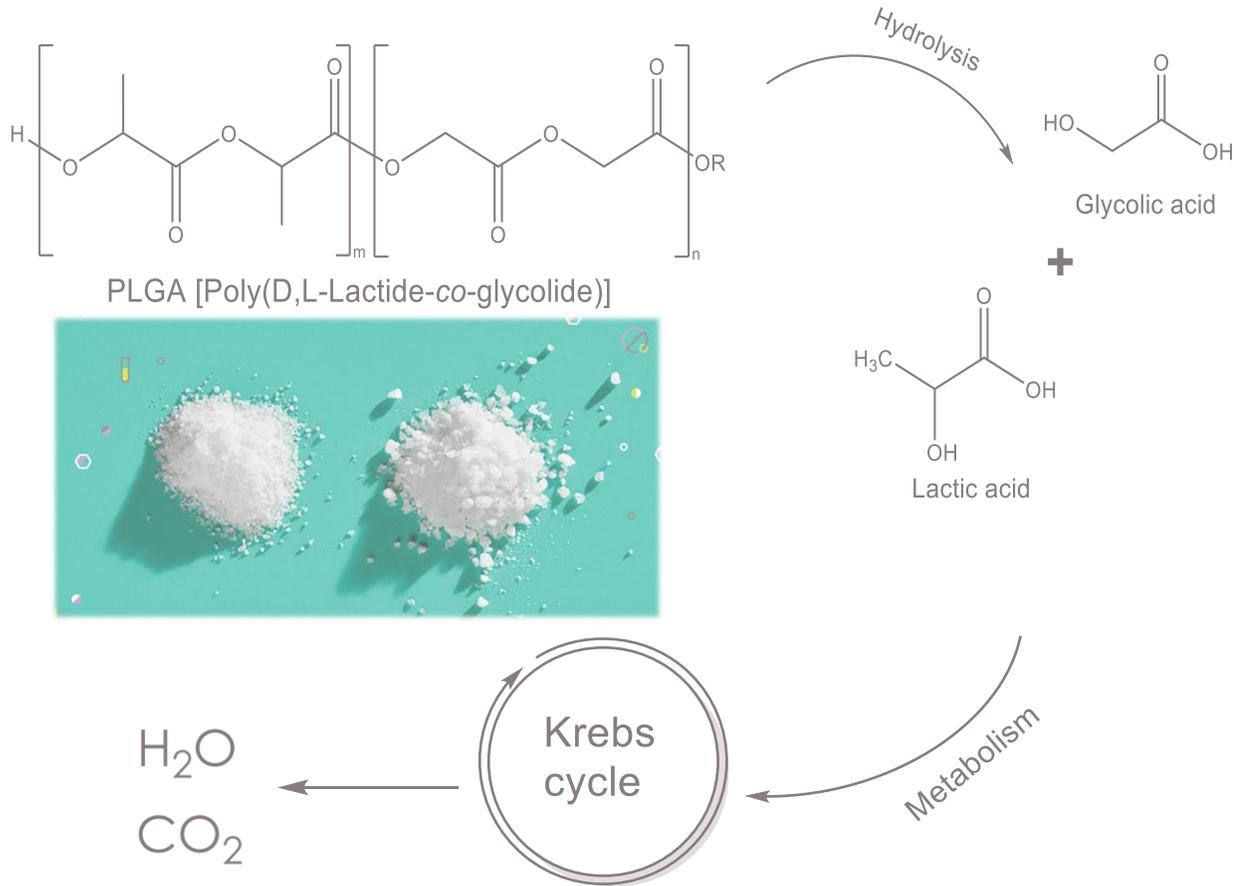


## select customer feedback

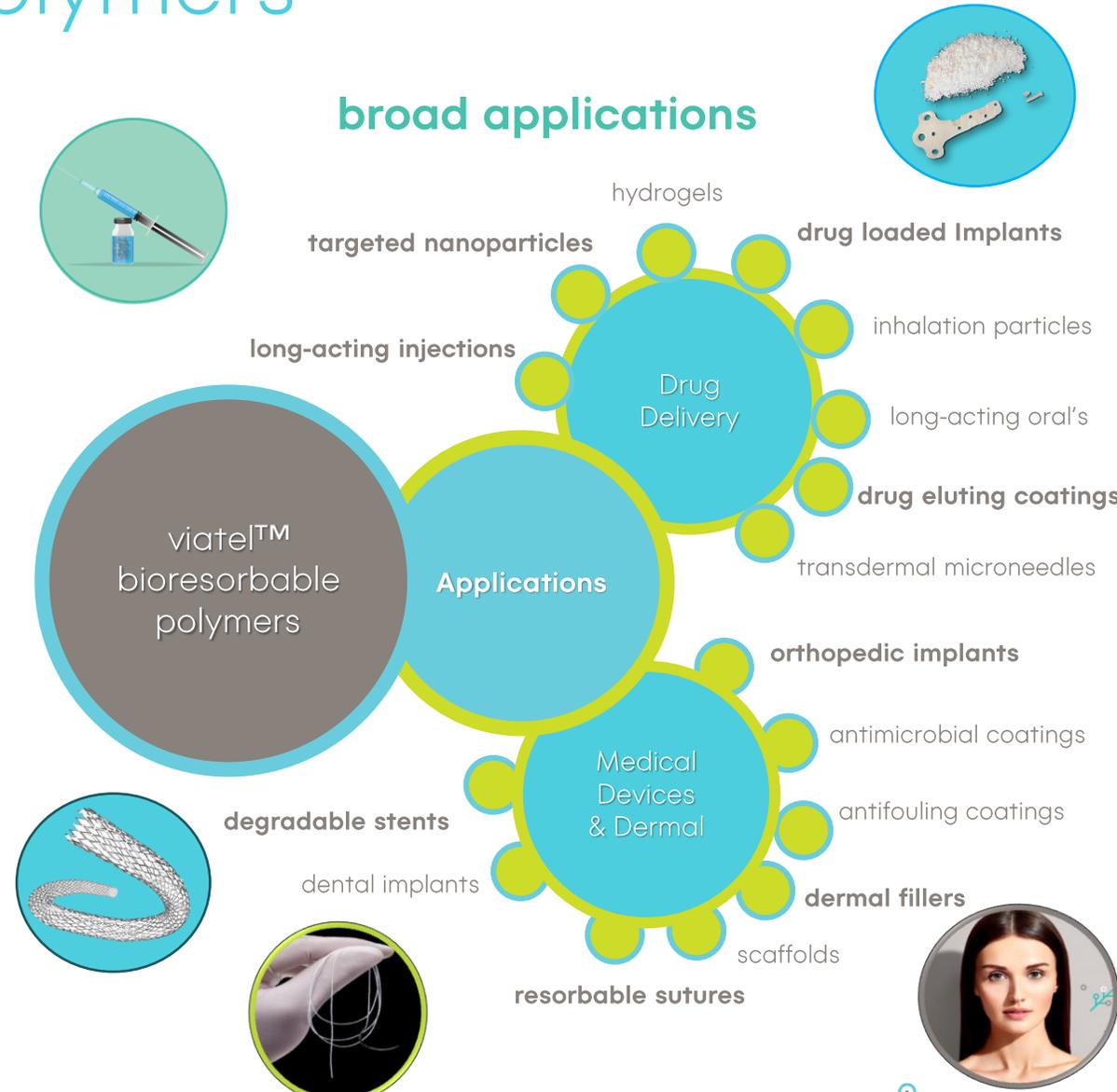
1. "...currently facing capacity constraints in coating operations....this represents a huge opportunity"
2. "...increased efficiency & sustainability are highly desirable...debottleneck our coating plant.... 4x capacity ....would like to test"

# injectables: bioresorbable polymers

## tunable degradable materials



## broad applications



**Bold = advanced customer programs**

# bioresorbable polymers: advanced materials for medicine



viatel™ ultrapure launched  
2023

## long-acting injectable excipient

**controlled release matrix:** superior performance with best-in class purity & customization

**long-acting injectable advantage:** reduced injections / clinic visits

**tunable release:** targeted, sustained drug delivery

**safety:** reduced side-effects, local delivery

**improved outcomes:** compliance & effectiveness

**status:** \$M's in sales; pipeline ~200 programs



launch Q3  
2025

## advanced degradable medical devices & dermal fillers

- **dermal:** fills wrinkles & stimulates collagen
- **resorbable devices:** removes need for device removal, reduced clinic visits, procedures and complications. e.g. sutures, screws

**enhanced performance:** longer-lasting, safety & reduced complications

**customizable treatments:** tunable resorption

**status:** pre-launch sales; pipeline of ~30 programs



launch est.  
2027

## next-gen in nucleic acid delivery

**superior mRNA delivery:** customized polymers for vaccines & gene therapies (lipid alternative)

**optimized efficacy:** improved stability, active targeting for greater efficacy

**customizable composition:** optimized to drug

**streamlined production:** fewer components

**status:** in-development with customer engagement

enabling patient-centric, effective & advanced injectable therapies

# bioresorbable polymers: injectables market

share target: 15-20%

injectables



■ Bioresorbable Polymers ■ Other injectables

**market: \$750M**  
**growing 7%**

## market opportunity

**emerging therapeutics:** modern-age innovative drug molecules delivered via injection: biologics, RNA, antibodies, cell therapies

**growth in injectable delivery:** injectable innovator approvals surpassed orals in 2021; 8/10 top drugs are injectables in 2024

**rising chronic disease & aging:** 2030 population over 60 projected to increase 40% to 1.4B; chronic disease costs to \$47T

**patient-centricity & compliance:** reduced dosing frequency, enhanced usability, improve treatment adherence

**expanding aesthetics market:** significant growth in dermal fillers, driven by aging population, reduced taboo & increased income

bioresorbable polymer platform is poised to disrupt multiple high-growth markets

# bioresorbable polymers: injectables strategy

## value proposition



### differentiated broad portfolio

differentiated & comprehensive long-acting excipient portfolio: only company with three key excipients



### innovation & support

best-in-class purity, custom polymer solutions, and comprehensive technical support



### agile operational excellence

agile operations, strategic focus, and optimal-sized for superior service and responsiveness

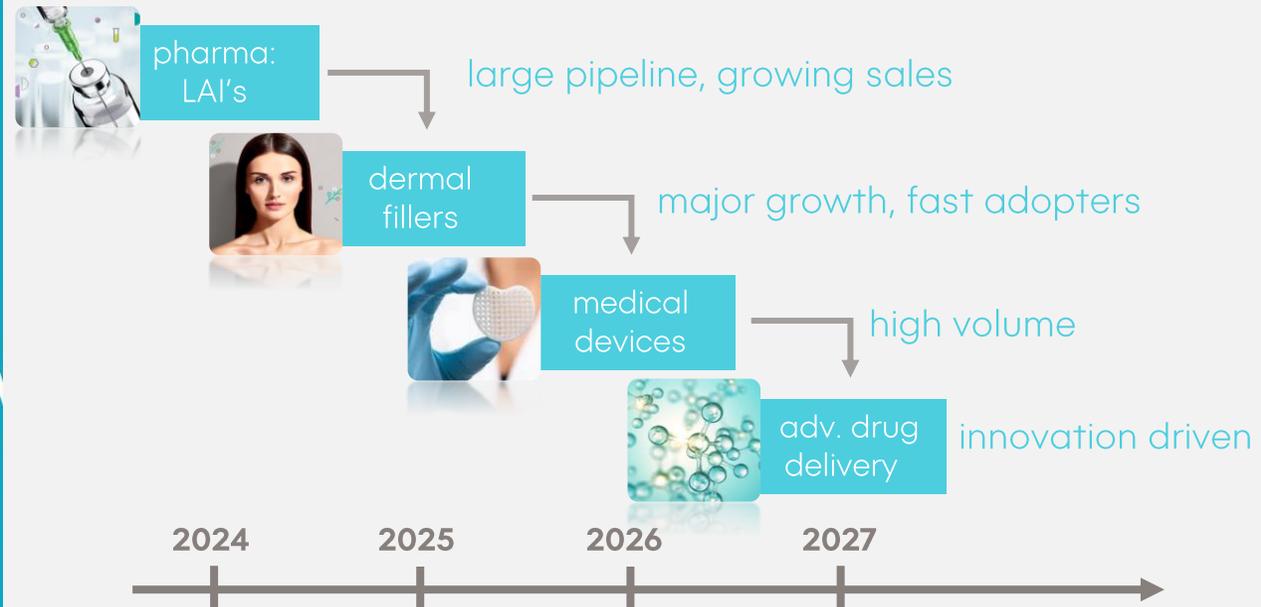


### customer partnership & focus

prioritizes customers & long-acting partner to both end users & contract developers (non-competitive)

## market entry strategy

lead the long-acting injectables market & drive the future of advanced drug delivery through innovative polymer technology across diverse therapeutics



delivering comprehensive solutions for bioresorbable polymers

# bioresorbable polymers: scaling & path forward

where we were



2022-24

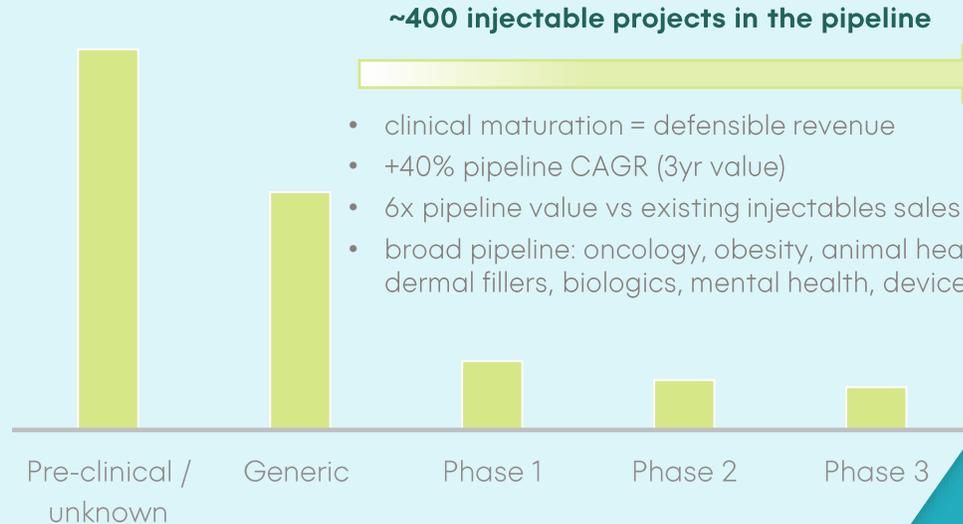
2.5x

headcount  
increase

4.5x

footprint  
increase

where we are



where we're going

## milestones

- **convert pipeline to scale business:** +revenue & ++profitability
- **expand in adjacent dermal & medical device markets (Q3FY25 launch)**
- **pioneer novel polymer platforms** for advanced drug delivery (gene therapy)

strategic investments support our rapidly expanding sales pipeline

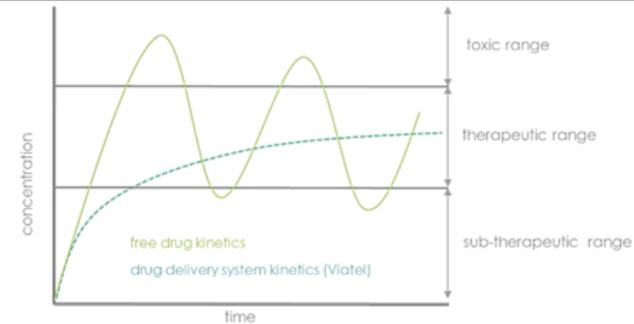
# bioresorbable polymers: long-acting in action

**customer need:** long-acting injectable (LAI) formulation

- goal:** translate a daily oral drug for leukemia / blood cancer into a once / month injection
- optimized profile:** minimized initial burst followed by gradual release



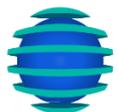
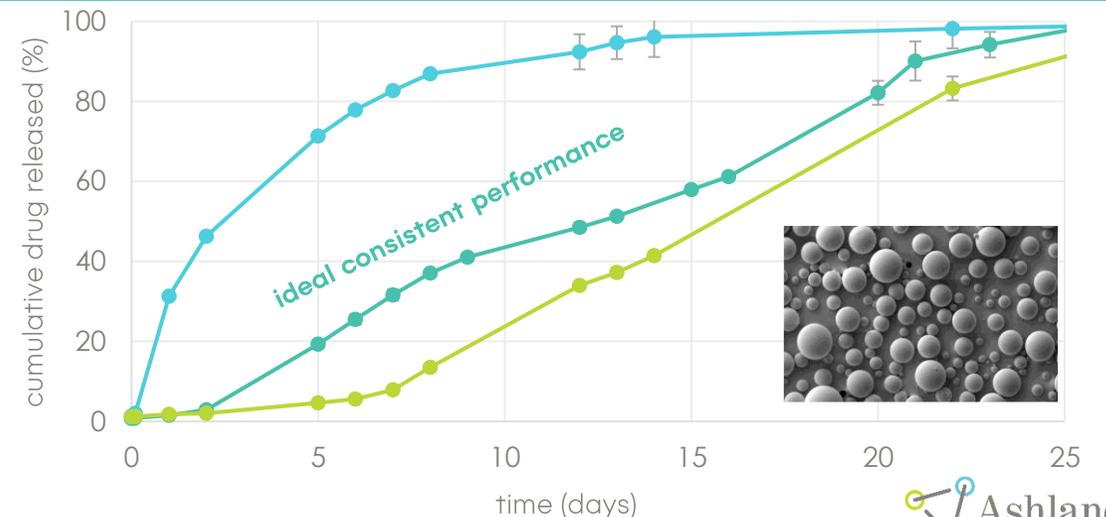
**solution:** custom polymer for optimal performance



## key commercial metrics

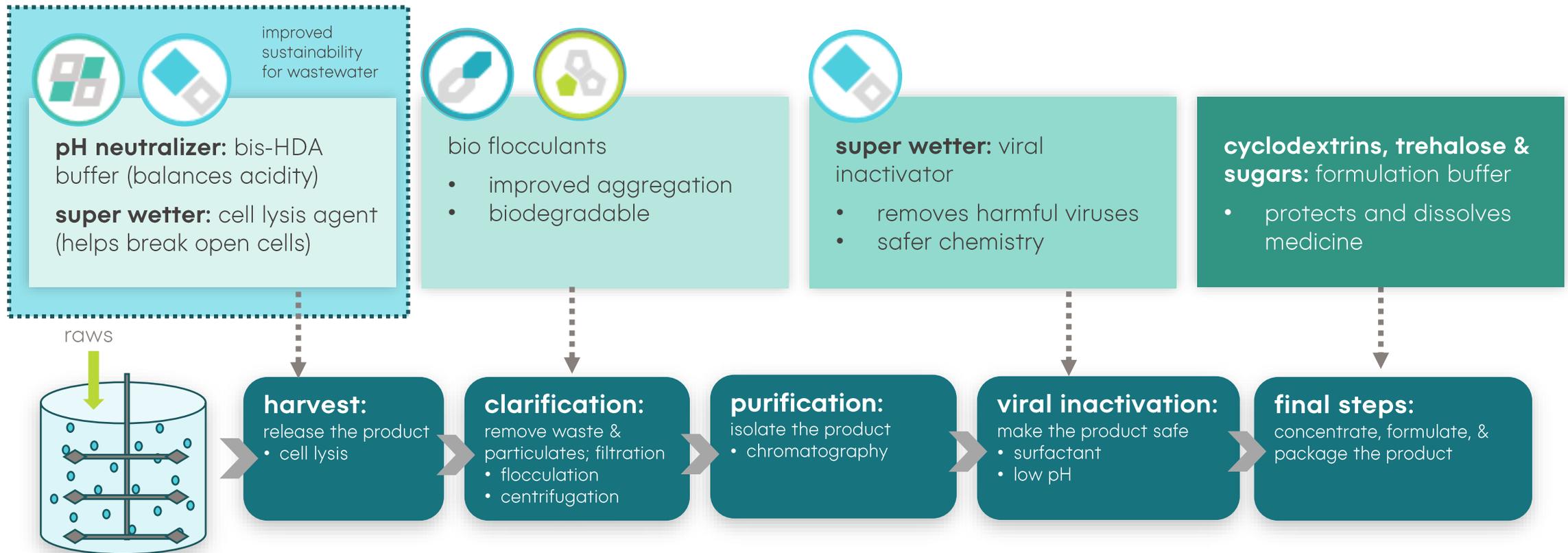
- avg. commercial usage:** \$0.5M / year; profitable & sticky
- pipeline:** ~200 LAI programs (developed over 7+ years)
- pipeline profile:** includes 5 of 10 top pharma companies
- game-changers:** 10+ with \$2.5 - \$20M potential / program

**viatel™:** drug-loaded microspheres & **blanose™ CMC:** injection diluent



# making medicine: **biopharma processing** chemicals

bioprocessing uses living organisms, cells, to create proteins, peptides or antibodies used in medicine

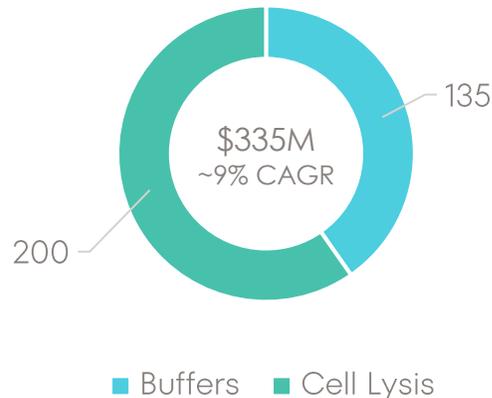


developing Ashland's biopharmaceutical manufacturing solutions

# biopharma processing chemicals & excipients

**\$5B market**

TAM for current programs\*



\*3 additional early-stage programs

**share target: 10-30%**

## opportunity & landscape

biologics boom fuels demand for critical processing agents

regulations and consumers power the rise of biodegradable alternatives

reducing complexity & cost with improved process efficiency

opportunity for rapid adoption

biologics boom, regulatory shifts & efficiency needs drive the opportunity

# pH neutralizers: biopharma buffer technology

## customer need

- market leader: primary amine containing buffer
- biocompatible & biodegradable pH modifiers
- buffers that promote high yields
- reduced degradation & improve protein stability

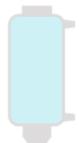
## Ashland's solution

- increase stability of therapeutic proteins
- lower cytotoxicity = higher cell counts = higher production rates
- modular chemistry allows for future systematic expansion into other legacy buffers

upstream cell expansion and production



filtration and viral clearance



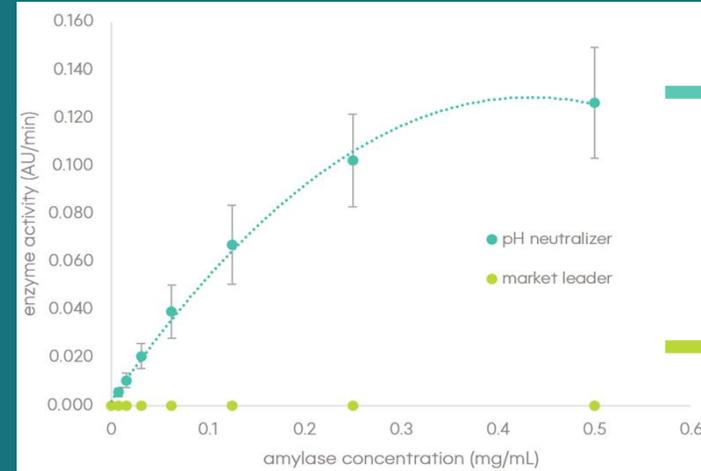
chromatography / polishing



concentration and formulation



40



pH neutralizer

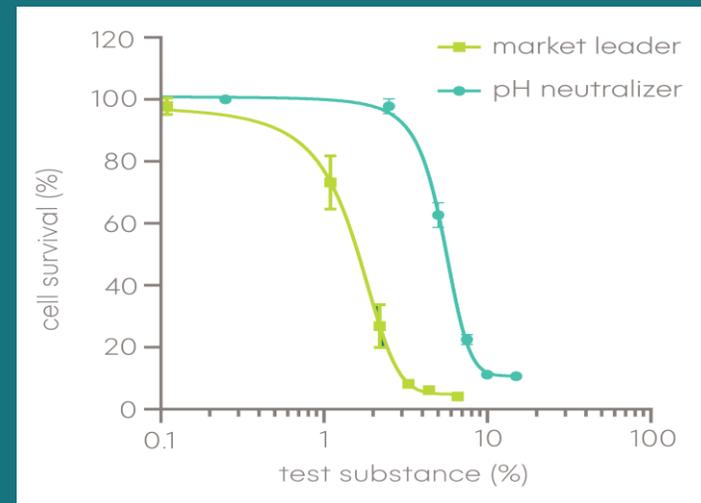


functional protein

market leader



inactive protein



increased survival

\* equivalent cell survival at 10X pH neutralizer vs market leader

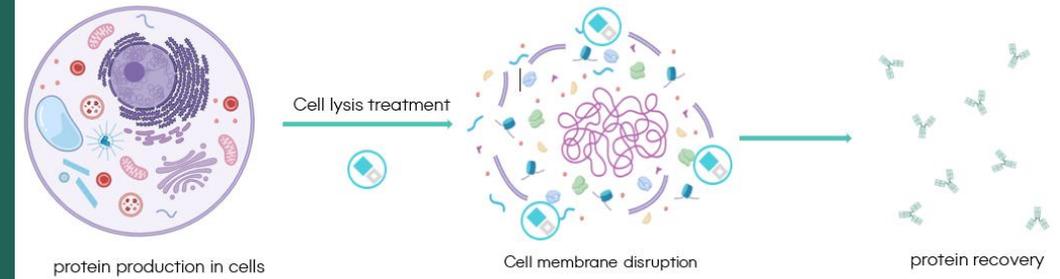
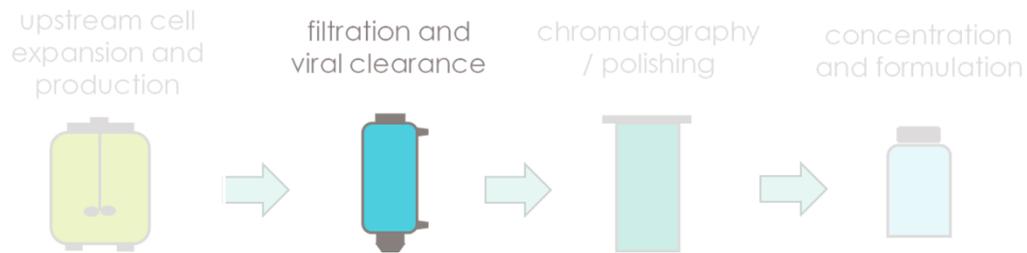
# super wetter: biopharma cell lysis agent

## customer need

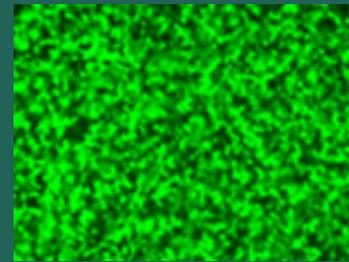
- market leader: non-ionic surfactant
- banned in EU due to harmful degradants
- need: biodegradable with superior performance

## Ashland solution

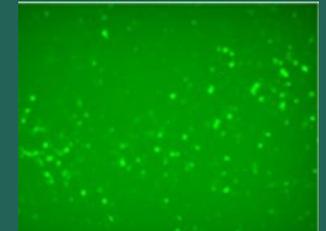
- safe and inherently biodegradable
- effective lysis agent; preserve protein function
- novel, tunable, gemini surfactant
- higher yields with lower levels of addition



pre-treatment



market leader



incomplete cell rupture

super wetter



complete cell rupture

**\*15% lysis efficiency improvement**  
at comparable concentrations (0.1%) & cell lines

# biopharma processing path forward

where we were

## historical milestones

- existing platforms & synergies
- exceeded performance vs. leading incumbents
- early studies show improvement in sustainability and cytotoxicity compared to traditional methods
- voice of customer confirms interest from biopharmaceutical players

where we are

## current state

- beta testing with customers
- evaluating toxicology & manufacturing roadmap
- expanding biodegradability data
- evaluating impact of degradation products
- advancing our regulatory filing strategy

where we're going

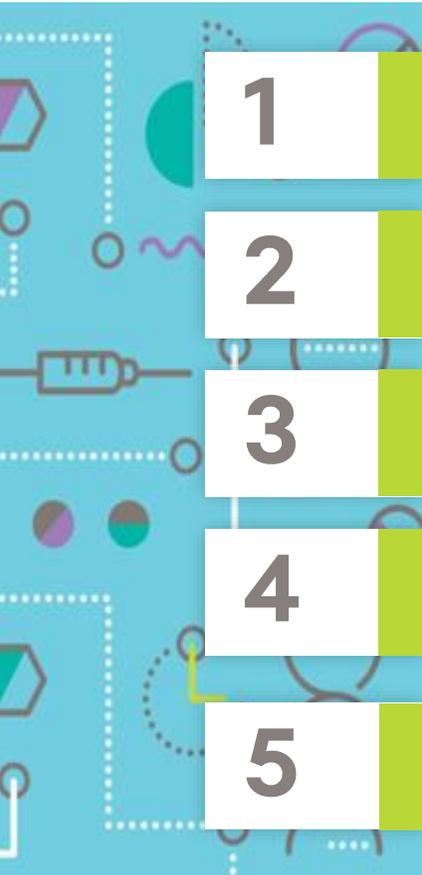
## future milestones

- investing to accelerate: more programs & faster
- presented 2 bioprocessing cases, +3 additional programs
- fully proven products on application performance and biodegradability targets
- cGMP manufacturing processes
- position & leverage Ashland sales channel to biopharmaceutical market

platform chemistries as biopharma process chemicals provides faster & meaningful entry to market

# key takeaways

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1

**strategic alignment for growth:** targeting complementary, high-growth segments driven by demographic trends to unlock significant profitability and improve product mix

---

2

**OSD leadership and innovation:** enhancing our oral solid dose leadership with disruptive tablet coating technologies and advancing towards future breakthroughs in oral biologics delivery

---

3

**building a robust injectables business:** strategically growing across pharma, medical devices, and aesthetics, catalyzed by a strong pipeline and innovative offerings such as bioresorbable polymers

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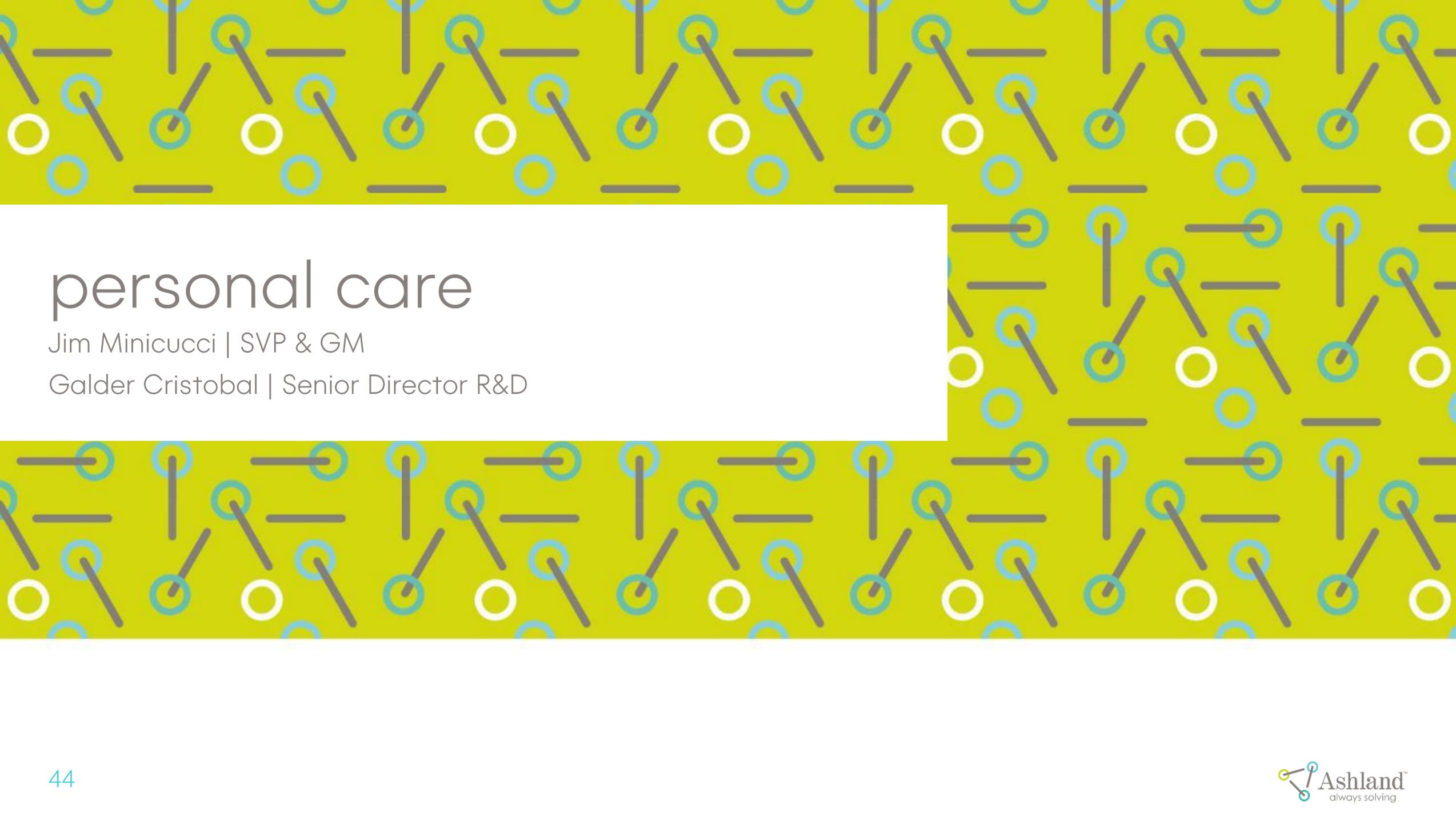
4

**entering biopharma with high-performance, sustainable solutions:** leveraging our super wetter and pH neutralizer platforms to strategically enter the attractive biopharma market

---

5

**accelerating expansion with M&A:** actively pursuing in high-growth adjacencies within injectables, bioprocessing, and biologics delivery to rapidly expand our reach and capabilities



# personal care

Jim Minicucci | SVP & GM

Galder Cristobal | Senior Director R&D

# personal care profile

## FY 24 reset financial highlights<sup>1</sup>

FY 24 reported financial highlights<sup>(2)(3)</sup>

revenue  
**\$569M**  
\$634M

EBITDA  
**\$147M**  
\$164M

EBITDA margin  
**25.8%**  
25.9%

### applications

#### skin care

- lotions, creams & cleansers

#### hair care

- styling, cleaning, conditioning

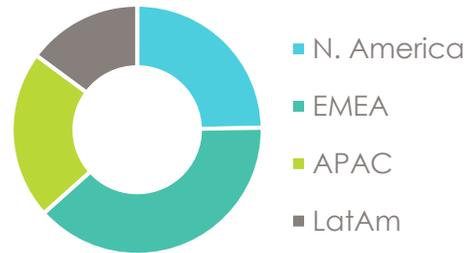
#### oral care

- cleaning, whitening, adhesion

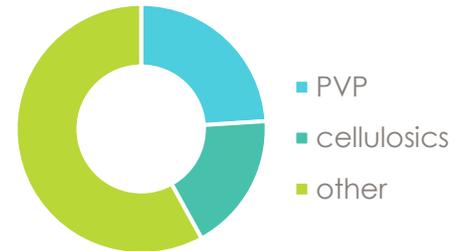
#### home care

- disinfection, cleansers

### geographic mix<sup>1</sup>



### product mix<sup>1</sup>



### end market mix<sup>1</sup>



## end markets focus



**skin:** diversified growth



**hair:** extend leadership



**oral:** expand offering



**home:** purposeful growth

broad and diverse portfolio creating value across all end markets

# personal care strategic overview

## strategic pillars

- 1 accelerate care ingredients growth and strengthen competitiveness
- 2 innovate to create next generation of superior care ingredients
- 3 globalize Microbial Protection  
(expand geographic position and capabilities)
- 4 globalize Biofunctional Actives  
(expand customer base and capabilities)

	select platform applications	market & share target
hair	TVO hairspray fixative	\$80M 50-60%
	TVO conditioning	\$800M 20-30%
skin	multifunctional starch rheology / thickener	\$300M 20-30%

innovating at intersection of technology performance & market need

# driving forces: transforming the personal care industry

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**naturality,  
sustainability**

**wellness,  
clean beauty**

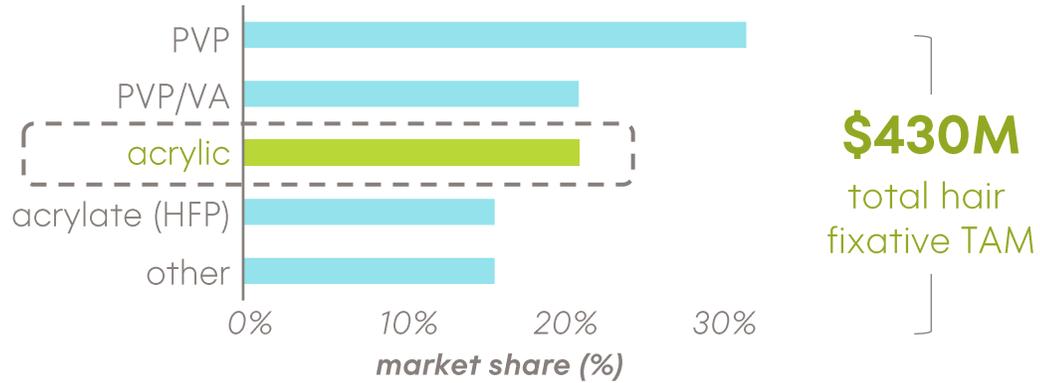
**superior  
performance**

strategic focus: capitalizing on industry transformation

# TVO market landscape & opportunity

## TVO: hair fixative (hairspray)

### hair fixative market



### share target

**~\$80M**  
TAM

market  
expansion

**50 - 60%**  
share target

hairspray

top 5 companies  
**50 - 60% share**

**800 million** units  
sold annually

## TVO: hair conditioning (shampoo / conditioner)

### silicone (personal care) market

	hair	skin / other	
amodimethicone	<b>\$335M</b>	-	<b>\$2.2B</b> total silicone TAM
dimethicone	<b>\$455M</b>	\$315M	
cyclomethicone	\$155M	\$460M	
other	\$170M	\$315M	

### share target

**~\$800M**  
TAM

market  
expansion

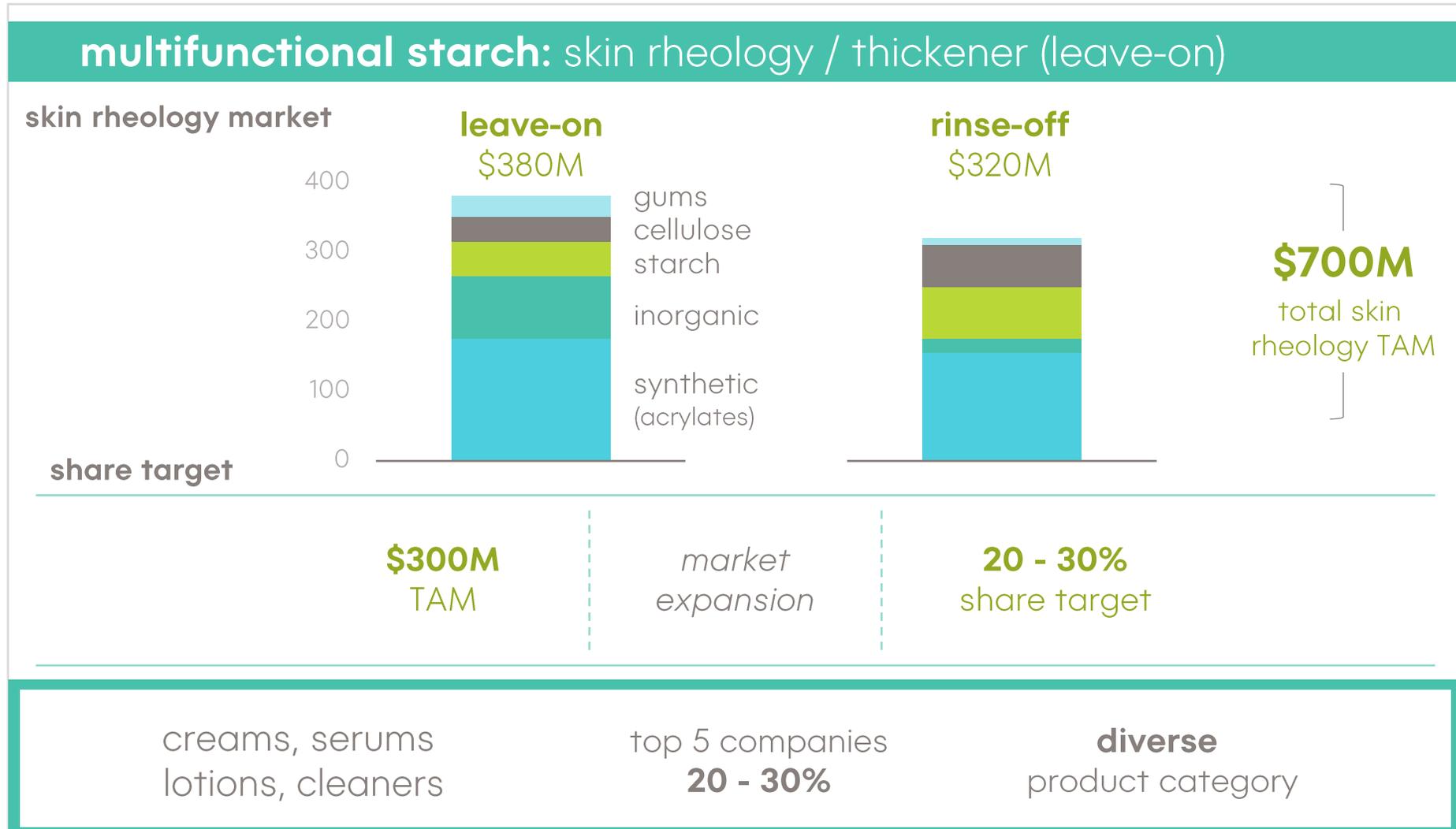
**20 - 30%**  
share target

shampoo /  
conditioner

top 5 companies  
**50 - 60% share**

**5 billion** liters  
sold annually

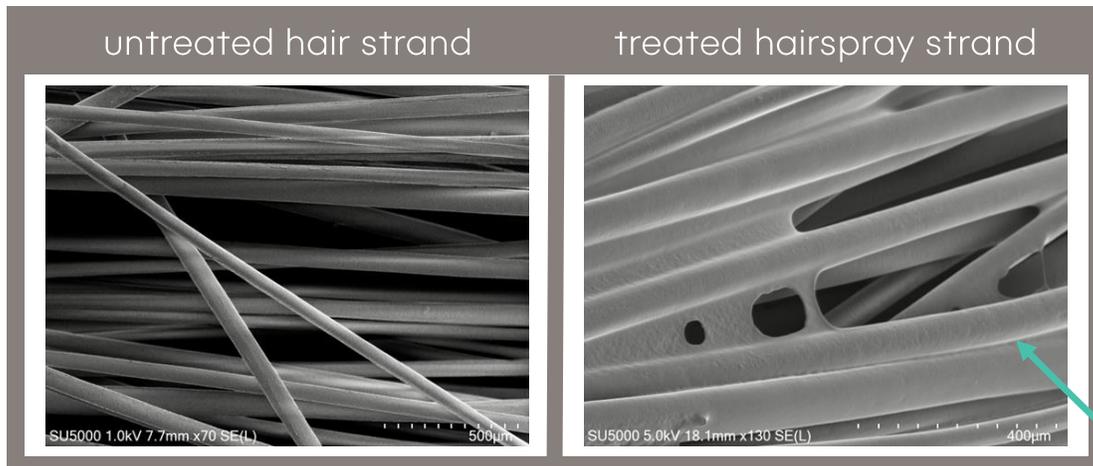
# multifunctional starch market landscape & opportunity



# the foundation of hair styling: film forming polymers

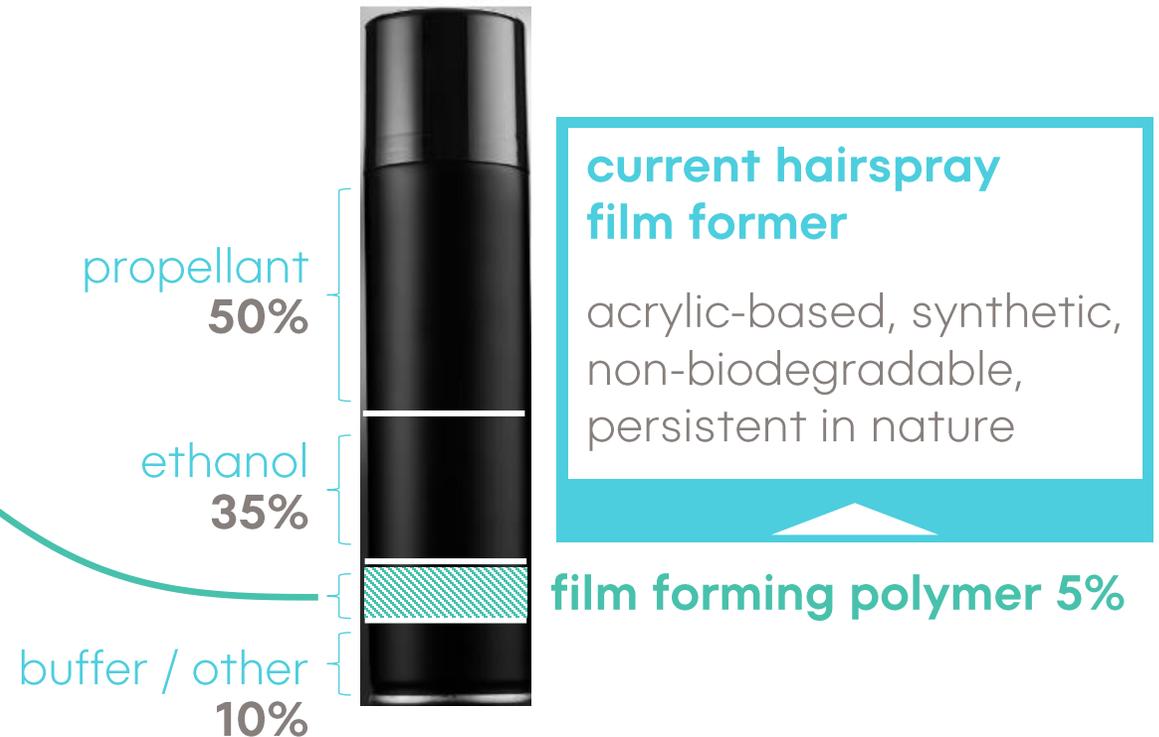
film formers create invisible thin films on the hair surface that enhance hair manageability ...

... found in hair sprays, gels, mousses, creams



## key features

- long-lasting hold to maintain desired hairstyle
- performance to retain polymer structure
- look & feel to impart a healthy, natural finish
- humidity resistance to prevent frizz & style collapse



# hair fixatives: TVO in-action, a styling film former

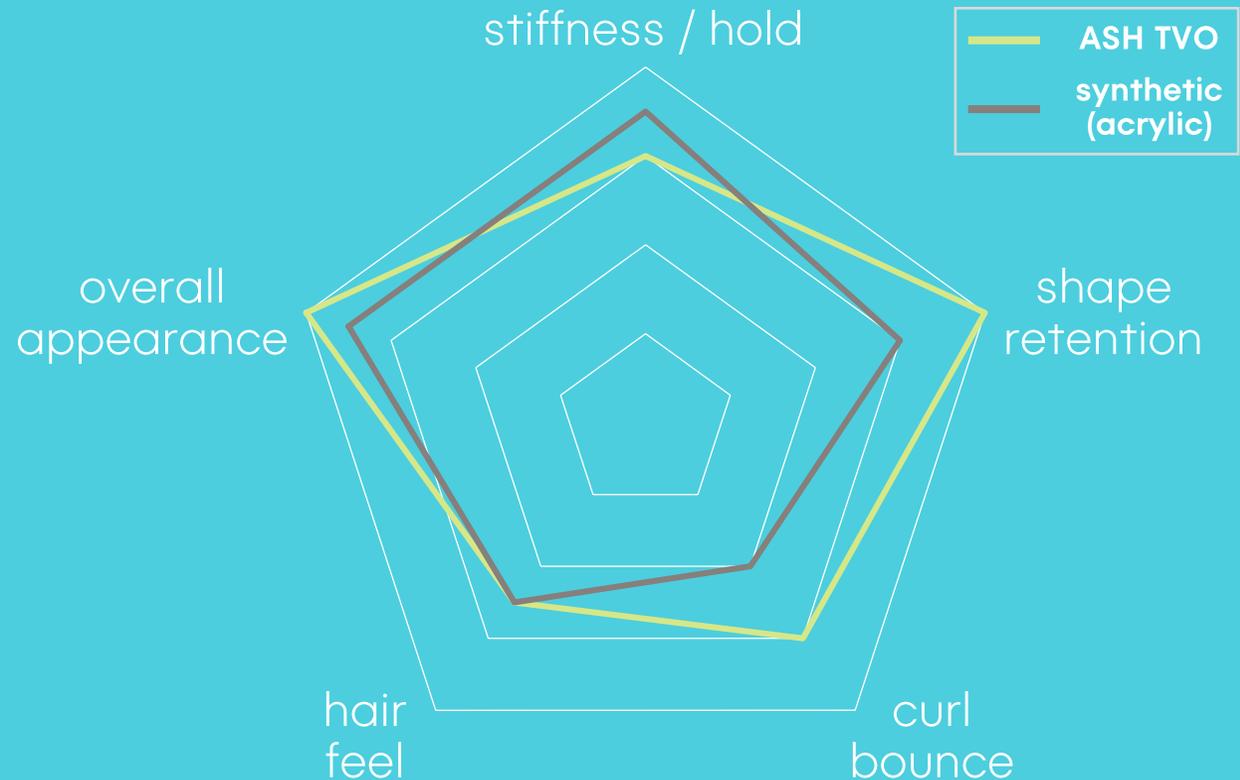
## customer need

- **alternative to acrylate film former** with a superior performance and sustainability profile
- **deliver 'hold' with desired sensorial**, no residue & premium look / shine, shift to more 'natural' look
- **system compatibility**: elimination of current pH neutralizer (amino-based) is a plus

*Ashland is actively developing TVO film formers in collaboration with the leading global hairspray brands*



## Ashland TVO, hairspray styling polymer



# hair fixatives: TVO compared with synthetic (acrylate)

system compatibility



completely soluble in alcohol (ethanol)

propellant compatibility



compatible with propellants (e.g., DME)

particle size



TVO = 30  $\mu\text{m}$  vs. synthetic = 46  $\mu\text{m}$  (good spray)

sustainability (biodeg)



inherently biodegradable (nature-derived)

performance  
mechanical      aesthetics



lower hold, better shape



better look, feel, comb, bounce

curl bounce

compressed curl

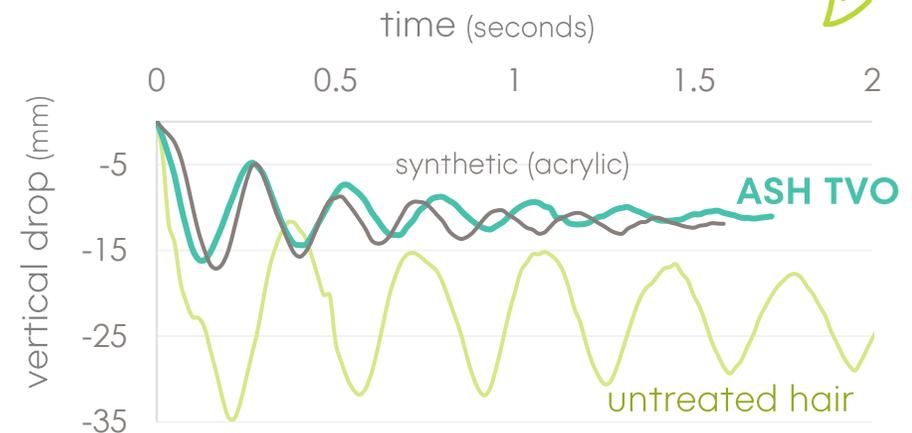
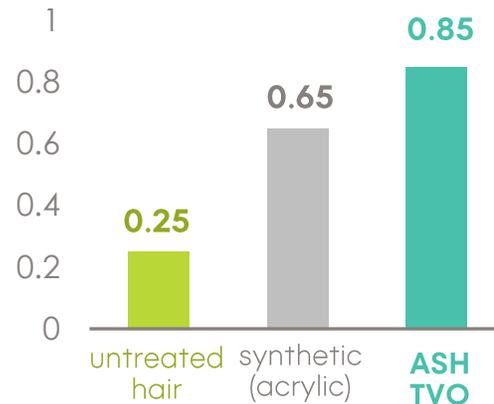


relaxed curl



vertical drop (mm)

spring modulus (N/m)



# TVO hair fixative path forward

where we were

## discovery phase

- **evaluated** hair fixative **applications** and defined **performance needs** (hold, stiffness, shape, combability)
- **confirmed market desire** for alternative technology (superior performance & sustainability)



where we are

## performance validation

- **advanced TVO development** to achieve hold & shape retention (formulation-compatible technology with superior aesthetics)
- **strategic collaborations underway:** active sampling program with industry leaders



where we're going

## expansion

- **customer adoption and commercialization**, aligned with customer (brand) launch plan; targeting 2027
- **go beyond hairspray** into other styling formats (mousses, oils) and **beyond styling** (conditioning)

driving a new paradigm in hair styling technology through innovation

# beyond fixatives: conditioning agent

shampoo

conditioner



silicones are the primary conditioning agent in conditioners and shampoos today

**conditioning agent:** silicones deposit thin layers on hair

**function:** condition, reduce hair friction, increase hair softness and aid to detangle hair

**performance features:** hair shine, care for damaged hair / frizz, humidity control, color preservation

**types:** two (2) silicone types primarily used in hair

- amodimethicone & dimethicone

# conditioning: TVO in-action, a conditioning agent

## customer need

- industry trend and shift to “free-of” claims (e.g., free of sulfates, silicones, microplastics, etc.)
- silicones are synthetic, non-biodegradable and energy intensive to produce
- alternative needed with superior performance & biodegradability profile
- compatible in shampoo / conditioner formulations

**deep customer development**

**projects advancing well**



## Ashland TVO, conditioning polymer (dry-hair evaluation)



# conditioning: TVO compared with silicone (shampoo)

## Ashland TVO superior performance

**hair combing / friction test:** ASH TVO performed in-line with silicone on dry and better on wet-hair

**sustainability:** readily biodegradable and nature-derived

**formulation stability:** ASH TVO is formulation stable with attractive clarity profile (shown below)

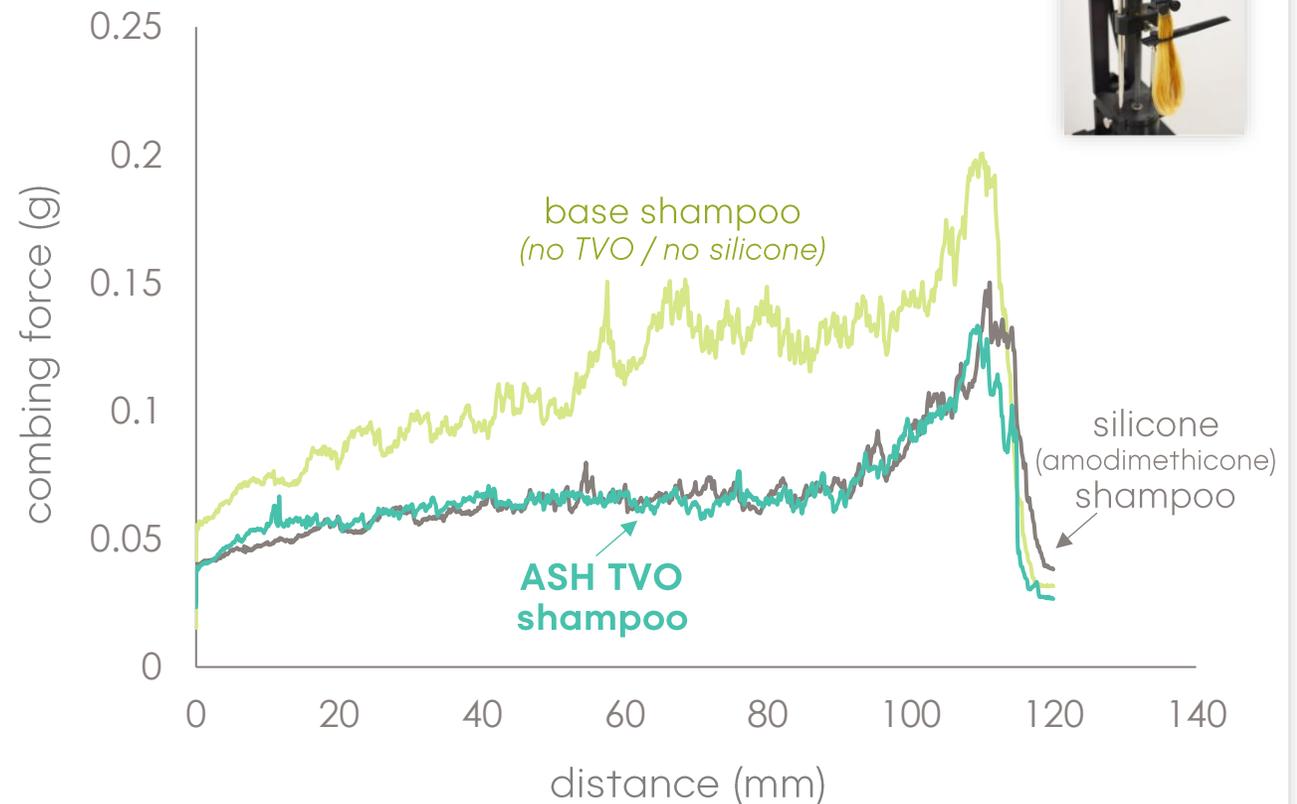
ASH TVO shampoo



silicone (amodimethicone) shampoo

**"first of its kind with such results"**  
**- strategic partner**

## dry (friction) combing measurement



# TVO hair conditioning path forward

where we were

## prototype validation

- **proven prototype efficacy:** stable prototypes deliver in-house performance results
- **validated safety & sustainability:** product testing confirms safety, toxicity & biodegradability



where we are

## customer collaboration

- **strategic beta partnerships:** joint development programs with key industry leaders.
- **positive customer feedback:** successful performance tests lead to continued project evaluation & launch planning



where we're going

## launch & scale-up

- **continue to advance** and expand customer development programs
- **broaden technology** into other market segments (skin, color, home)

redefining the conditioning agent segment through breakthrough technology

# modify the flow of skincare: thickeners

emulsion, cream, lotion

leave-on skin formulation



water	<b>60 - 70%</b>
emollient	<b>10 - 35%</b>
humectant	<b>1 - 5%</b>
emulsifiers	<b>0.1 - 6%</b>
<b>thickeners</b>	<b>0.2 - 5%</b>
other	<b>2 - 3%</b>

## thickeners & rheology in skin

- emulsions are formulation of oil & water with ingredients to make them compatible
- thickeners are the key ingredient designed to control flow, texture and stability
- several types of thickeners include, acrylic-based, urethane-based and natural gums
- acrylic-based, synthetic thickeners comprise majority of the market

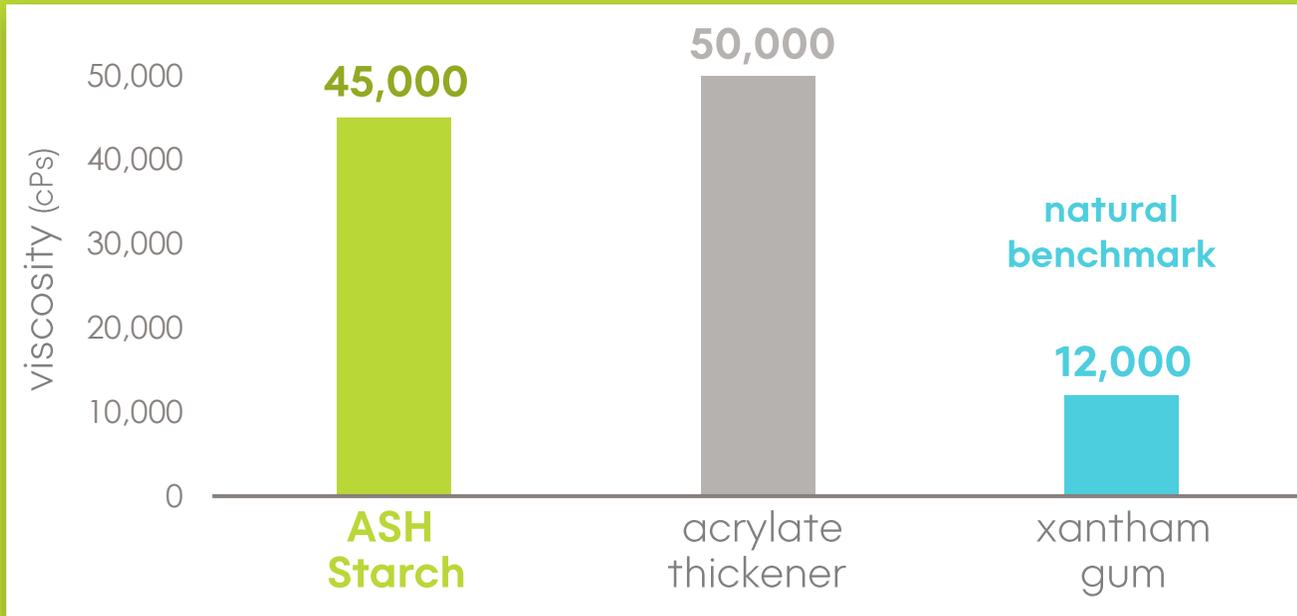
# rheology: multifunctional starch in-action

## customer need

- desire to replace synthetic (acrylate) thickeners with sustainable alternatives
- #1 priority is to ensure formulation stability
- need to deliver same or improved sensory feel, aesthetics, & competitive usage levels

**>40 customer beta tests to-date;**  
**vast majority positive feedback**

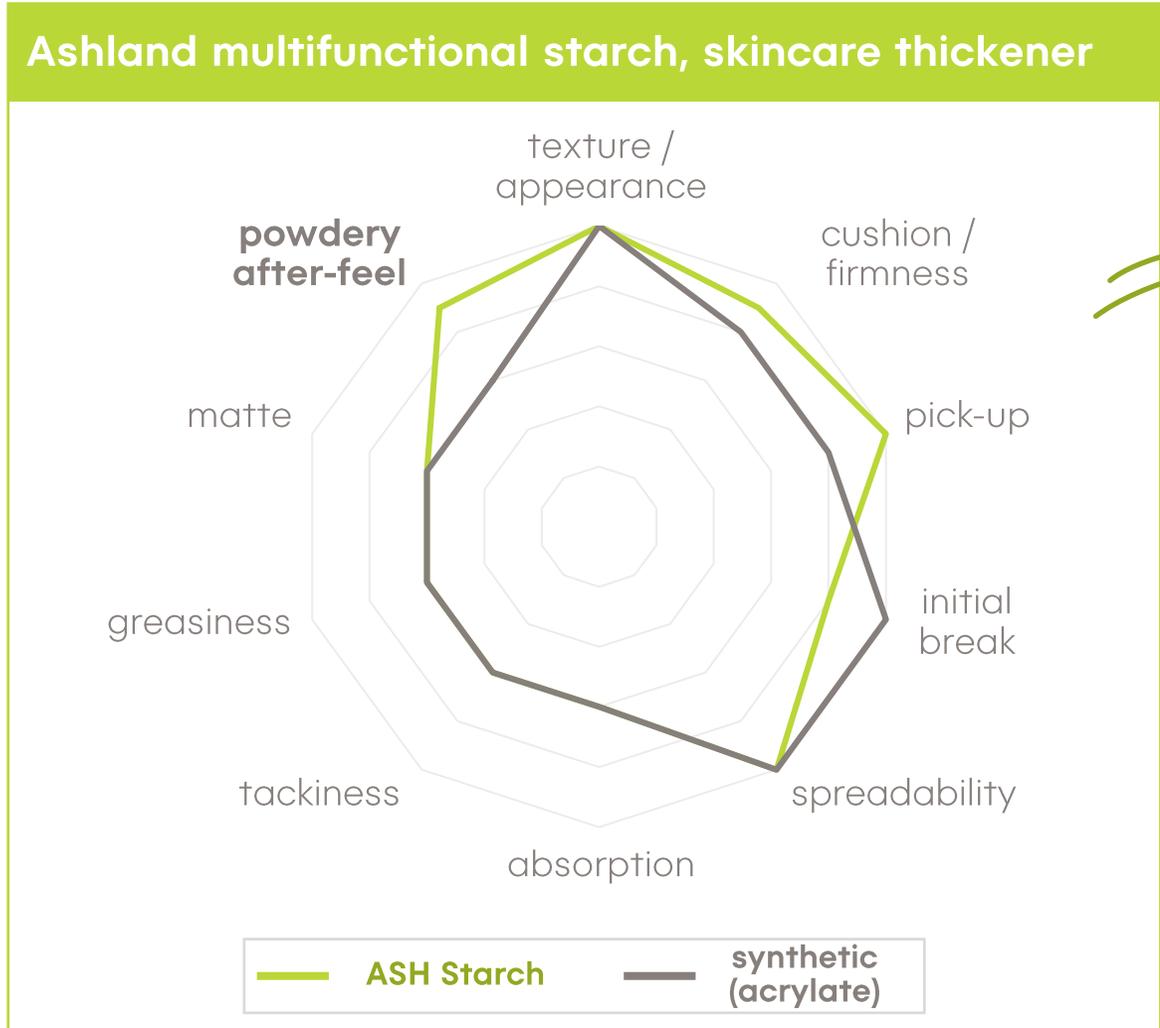
## Ashland multifunctional starch (skin emulsion viscosity)



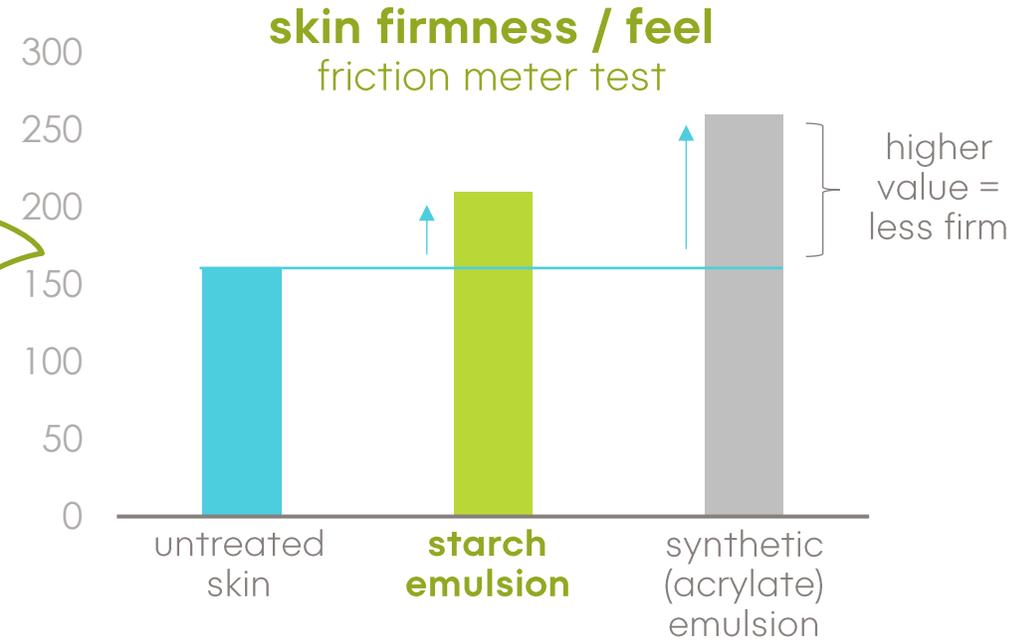
'texture'



# rheology: multifunctional starch compared to acrylate



powdery after-feel



- superior after-use feel
- equivalent level of care
- delivers enhanced skin firmness

# multifunctional starch skin rheology path forward

where we were

## prototype validation

- building on our history and experience in **rheology**
- **created prototypes** that demonstrated potential to expand market (skin leave-on) & technology (starch) position



where we are

## customer collaboration

- **formulated novel starch chemistry** that delivers superior performance
- **broad industry evaluation** at MNC & regional customers (>40 beta customers) with **vast majority positive feedback**



where we're going

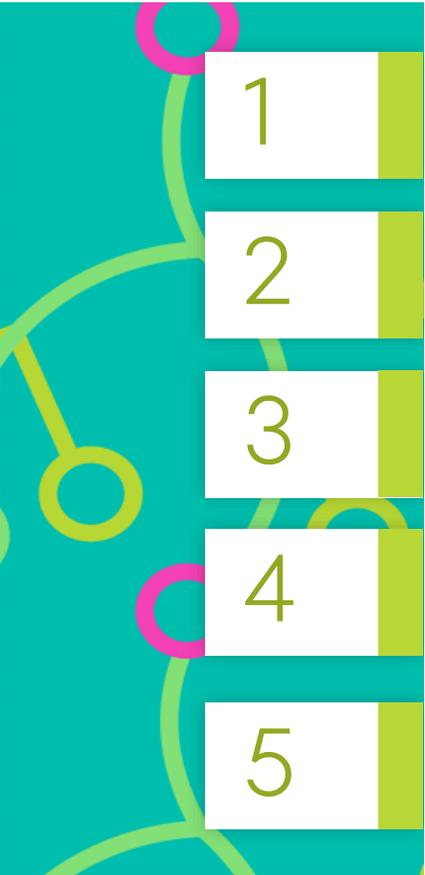
## launch & scale-up

- **advance commercialization** with product development, supply & launch (customer adoption + product supply)
- **expand market offerings** into hair leave-on and rinse-off applications (both skin & hair)

**game-changing technology in the natural rheology / thickener market**

# key takeaways

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1

creating the next-generation of superior, care ingredients

---

2

innovation projects aligned to customer needs and brand product roadmaps

---

3

customer feedback and engagement is validating & advancing tech platforms

---

4

expanding market potential by accessing new applications & product formats

---

5

many more projects in our pipeline and ideation funnel

# specialty additives

Dago Caceres | SVP & GM

Ling Li | Senior Director R&D

# specialty additives profile

## FY 24 reset financial highlights<sup>1</sup>

FY 24 reported financial highlights<sup>(2)(3)</sup>

revenue  
**\$548M**

\$572M

EBITDA  
**\$95M**

\$99M

EBITDA margin  
**17.3%**

17.3%

### applications

#### coatings

- water-based architectural and industrial paints

#### performance specialties

- lithium-ion batteries, CASE, ceramics, inks and printing, electronics

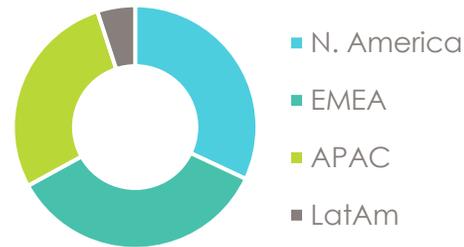
#### construction

- non-structural grouts, mortar

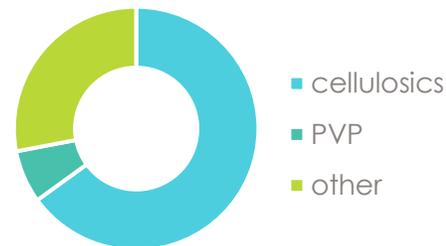
#### energy

- cementing & drilling

### geographic mix<sup>1</sup>



### product mix<sup>1</sup>



### end market mix<sup>1</sup>



## end markets focus



coatings

GROW



performance specialties

AGGRESSIVELY GROW



construction

OPTIMIZE



energy

OPPORTUNISTICALLY PARTICIPATE

capitalizing on growth opportunities in coatings and performance specialties

<sup>1</sup> Financials adjusted for portfolio reset. Portfolio reset items: nutraceuticals, CMC, MC portfolio optimization actions. See appendix A for additional detail

<sup>2</sup> All figures are presented on an adjusted basis except sales. See appendix A for additional detail

<sup>3</sup> FY 2024 as reported on an adjusted basis except revenue

# specialty additives strategic overview

## strategic pillars

1

### protect rheology

- maintain leadership in rheology modifiers
- performance & differentiation

2

### beyond rheology

- expand into additives space
- innovation-driven

3

### beyond the can

- industrial coatings portfolio development
- beyond additives

4

### transformational

- new attractive spaces with existing technology
- disrupt known markets

### select platform applications

**super wetting agent:** coatings

market & share target

**\$280M**  
**10-15%**

**TVO:** oligomers

**\$1,070M**  
**10-30%**

**TVO:** metal processing fluids

**\$400M**  
**10-30%**

from rheology leadership to market transformation: innovation as our growth engine

# beyond rheology super wetting agents



**beyond rheology** expansion into additives to strengthen coatings participation

# super wetting agent harnessing surface contact

## how well a liquid maintains contact with a solid surface

determined by

**adhere + spread**

### main wetting products

- silicone-based
- fluorocarbon-based
- other synthetics



## example



wetting agents improve adherence while extending the contact area over the surface



controlling surface tension is essential for waterborne coatings

# super wetting agent market-driven opportunity

## market opportunity

- **regulation driving market growth:** shift to waterborne
- **sustainable, non-toxic trend:** market shifting away from silicone & PFAS-based incumbents
- **demand for defect-free, durable finish**

## existing landscape

- silicone facing increasing regulatory pressure
- stagnant innovation open to next-gen technology
- eco-friendly performance gap

market size  
**\$280M**

market growth  
**3-4%**

target share  
today      maturity:  
**0%**      **10-15%**

## key applications



wood coatings



metal coatings



automotive



general industrial

solving the eco-friendly performance gap in wetting agents for industrial coatings

# super wetting agent strong value proposition

drive market adoption by leveraging performance superiority, sustainable profile, and tunability



## performance advantage at cost parity

- eliminates surface defects
- optimized wetting & adhesion
- improved foam control



## superior sustainability

- bio-degradable formulation
- low VOC content
- displacing silicone / PFAS-incumbents

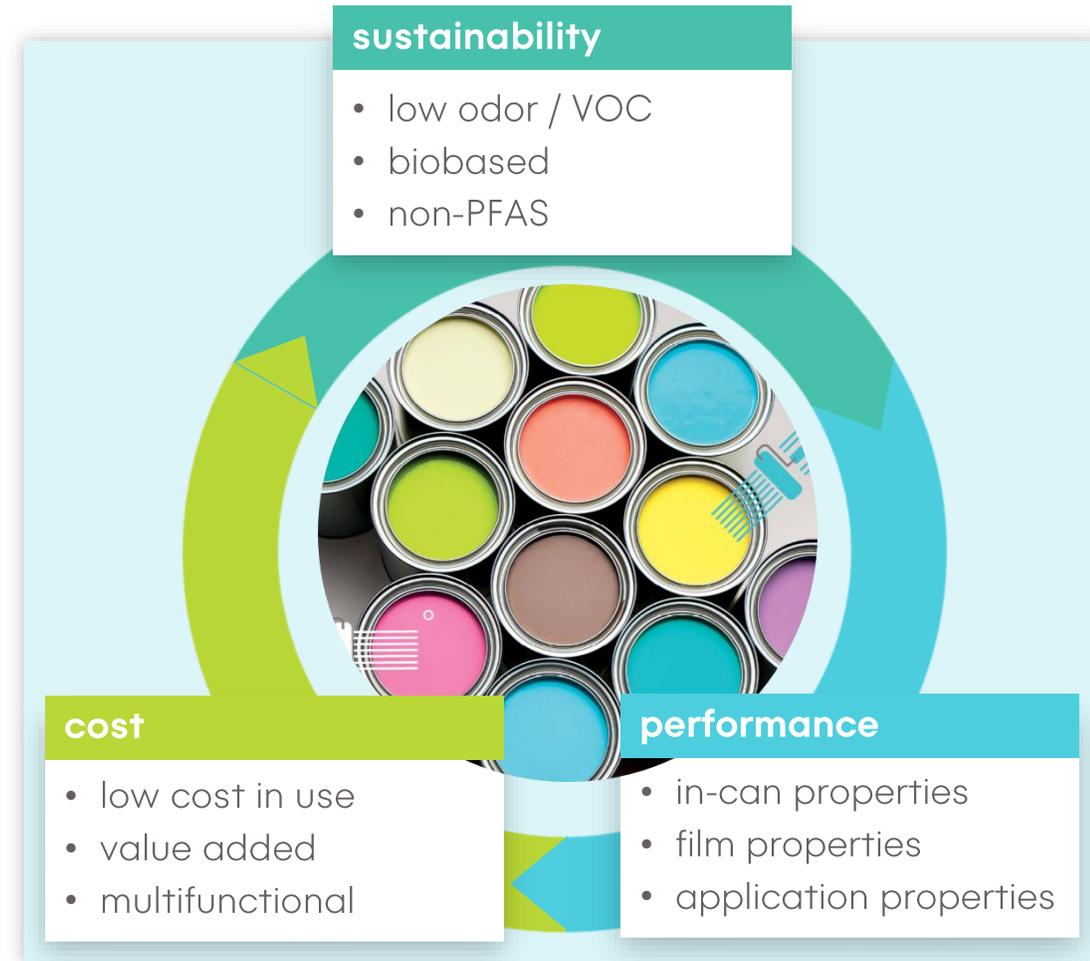


## tunable chemistry for different applications

- flexible to meet diverse coating requirements



## building on core chemistry

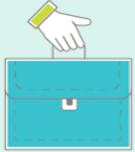


# super wetting agent coatings in action



### customer profile

- leading global industrial coating producer
- seeking superior sustainability profile for EU



### opportunity

- reduce/ eliminate use of silicones & PFAS
- eliminate surface-defects & optimize wetting



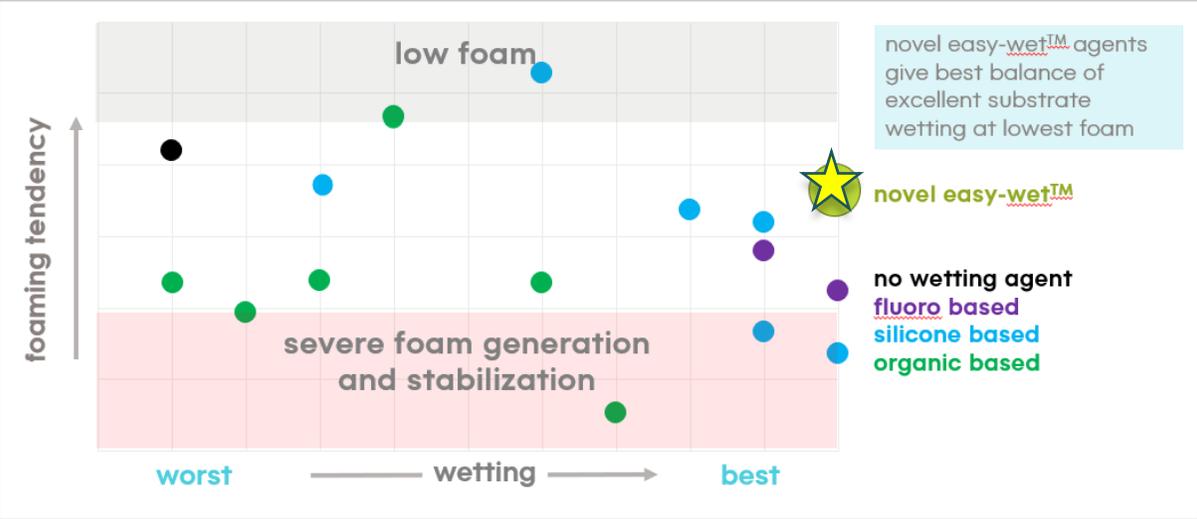
### solution

- easy-wet™: low VOC & bio-degradable formulations
- proven wetting performance and foam neutrality



### long-term impact

- market pull: expansion into multiple substrates
- broad market availability: 1,000+ samples since launch



**lead customer testimonial:**

*“Overall, the results were positive for all tint pastes as there was no big impact on viscosity by easy wet. There was also no impact on film adhesion (no delamination), no impact on color, and no cratering in the final coating”.*

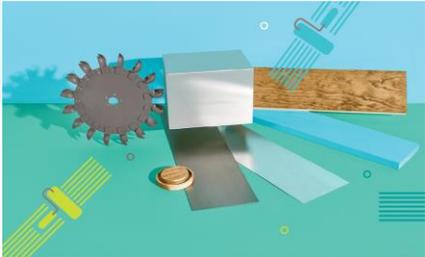
collaborating for enhanced coating solutions

# super wetting agent: coatings path forward

## where we were

### initial launch

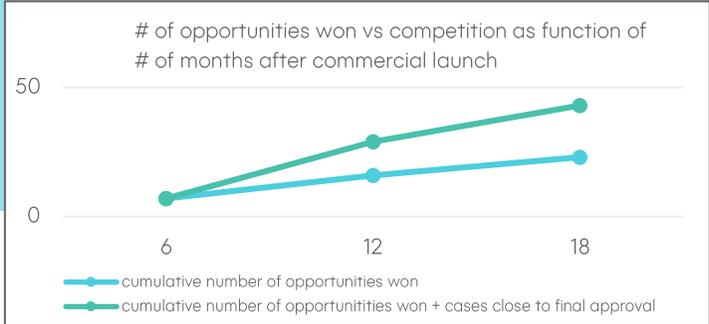
- first product launch: Q4 2023
- IP-protected
- target segments: wood & metal coatings
- strong market interest & proven value proposition
- regulatory filing



## where we are

### pipeline development

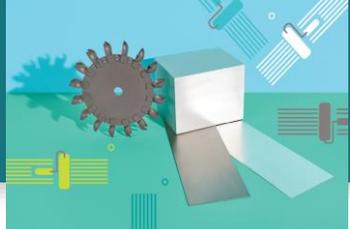
- portfolio evolution and expansion: 5 grades based on customer feedback
- secured first commercial sales in 2024
- accelerating regulatory path



## where we're going

### increasing portfolio breadth

- expanding into printing & metal processing fluids
- favorable regulatory environment: silicone to be labeled as very persistent in the environment (EU)
- tailor technology beyond coatings: increasing interest in adhesives segment



tunable technology: the foundation to unlock new markets and accelerate adoption

# beyond the can **reactive oligomers**



oligomers (~40%)

monomers (~40%)

pigments (~10%)

photo initiators (~10%)

additives (~1%)

oligomer  
market  
~\$3B

## oligomers

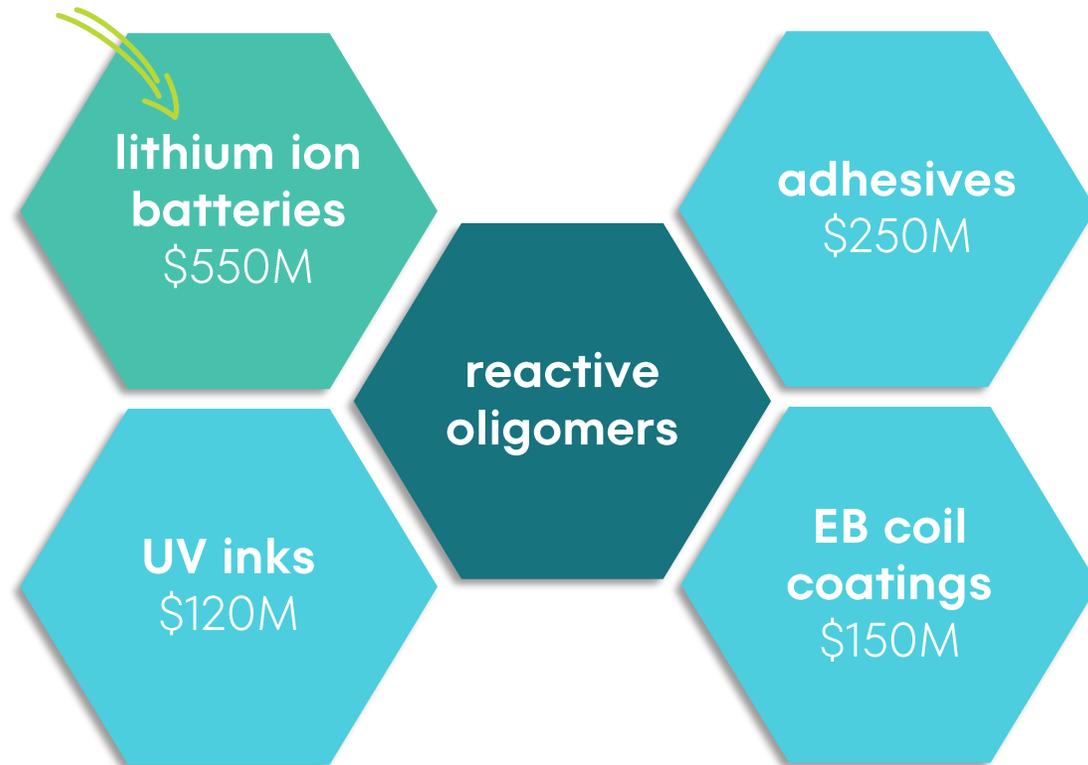
- essential building blocks for high-performance resins
- enhance longevity & durability
- boost coatings, inks, & adhesives quality
- designed for demanding industrial usage
- critical for performance optimization

**beyond the can** new specialized coating applications with access & technology

# TVO reactive oligomers: building better coatings

reactive oligomers drive coatings performance across diverse applications

today's example



## sustainability



- 100% solids
- radiation curable
- solvent free

## durability



- enhance durability
- reduce maintenance
- longevity

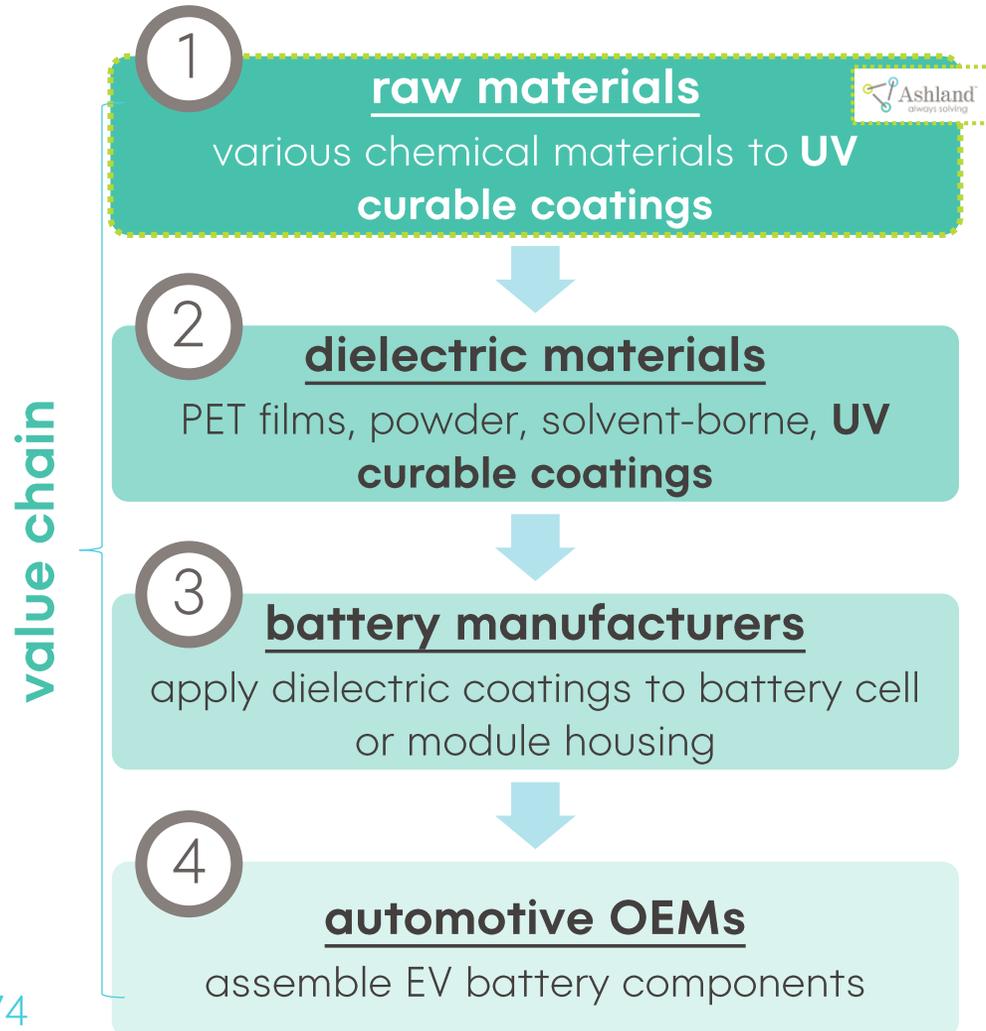
## cost effective



- cost vs. performance
- local / regional supply

# TVO reactive oligomers spotlight: EV batteries

reactive oligomers drive coating performance: mechanical, curing & dielectrics



## EV battery module



# TVO reactive oligomers: battery opportunity

## market opportunity

- **EV market demands advanced batteries:** next-gen with faster charging, higher efficiency & performance
- **high-performance materials essential:** advanced batteries require dielectrics with exceptional electrical properties and thermal stability for performance & safety

## existing landscape

- **PET film:** incumbent with automation, bonding, & voltage limitations, opening emerging UV coatings opportunities
- **transition underway:** leading EV companies begin to actively transitioning from PET film to UV curable coatings
- **fragmented market, ripe for disruption:** market lacks a clear next-gen leader, ideal for a disruptive solution

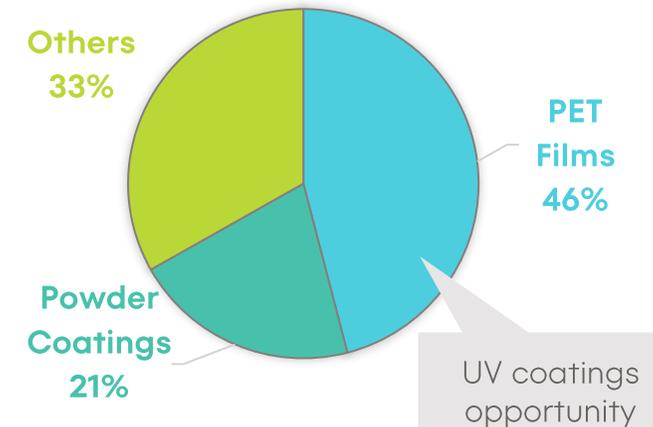
market size  
**\$550M**

market growth  
**~9%**

target share  
today maturity  
**0% 10-30%**

## key applications

EV battery dielectric coatings market value  
% share by technology (2023E)



driving the future of EV batteries with next-gen UV curable dielectric materials

# TVO reactive oligomers: how we win

**enhanced EV coatings:** flexible, strong bonding, durable, reliable dielectric & fast cure

## Ashland's proven deep expertise in UV reactive chemistry drives competitive edge

- anchored by widely recognized v-CAP™ & v-Pyrol™

## performance advantage enabled by TVO

- delivers superior flexibility & robust metal adhesion
- ensures reliable dielectric properties & electrolyte tolerance, critical for high-performance applications
- bio-based materials with high curing speed

## enhances production productivity & efficiency

- increased manufacturing throughput
- reduced operational costs & energy consumption
- simplified application process
- minimized pre-treatment & clean-up needs

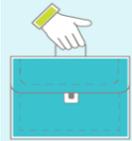


# TVO reactive oligomers: in action



## customer profile

- leading UV curable specialty coatings producer
- openness to test differentiated technologies



## opportunity

- replace incumbent inefficient PET films
- improve current limited dielectric coatings



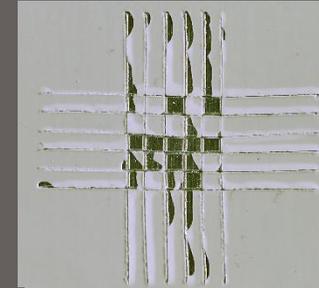
## solution

- UV curable coatings with superior adhesion & flexibility
- reliable dielectric properties

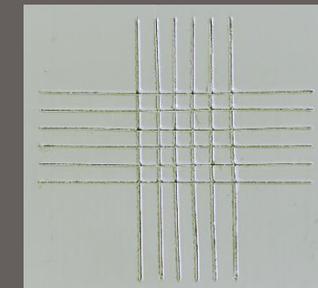


## long-term impact

- customer expansion plans in Asia, EU, Americas
- progressing prototype under collaboration agreement



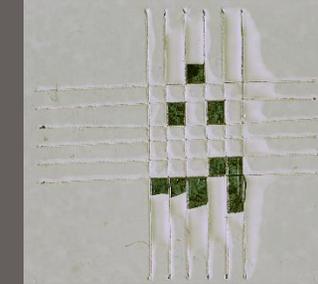
aluminum panel competitor bio-based



aluminum panel ASH bio-based TVO



curable coil coating competitor



galvanized steel ASH bio based

## customer feedback

- ✓ adhesion requirements
- ✓ flexibility requirement
- ✓ preliminary electrolyte test

developing novel UV curable solution with proven performance improvement

# TVO reactive oligomers: path forward

## where we were

### foundation



- broad TVO IP filing
- in-house capabilities in lithium-Ion batteries space
- R&D expertise in coatings & battery

## where we are

### validation



- pilot prototypes designed
- application testing ongoing (positive initial results)
- critical to quality (CTQ) delivered
- initial positive customer engagement
- technology & resource plan defined

## where we're going

### market entry



- strategic partners (industrial coatings formulators) identified; secure beta customers this year
- actively incorporate customer feedback into technology development
- manufacturing plan; cost in use details
- toxicology clearance & regulatory compliance

charting the course for reactive oligomer advancements - early promise, big future

# metal working fluids: enhancing machinery longevity

**metal working fluids:** lubricants & coolants that protect and extend tool or part lifespan

highly attractive portfolio of MWF additives

additives in metal working fluids: ~\$5B

Ashland portfolio

-  **pH neutralizer:** amine
-  **TVO:** corrosion inhibitor & lubrication
-  **super wetter:** dispersing agent
- core chemistries:** lubrication
- other chemistries:** de-foam & emulsifier

today's example

component	purpose	weight
<b>oil</b>	<b>lubrication/cooling</b>	<b>53-81.5%</b>
dispersing agent	limit limescale buildup	1-2%
corrosion inhibitor	prevent rust	5-15%
lubrication	reduce friction	2-5%
amine	pH control	1-3%
emulsifier	stabilize oil-water	5-15%
cosolvent	stabilize emulsion	3-5%
anti/de-foam	reduce foaming	0.5 - 1%
other	various incl. biocides	1%



metal working: milling, cutting, drilling, grinding, etc.

oil-based concentrates with complex package of functional additives

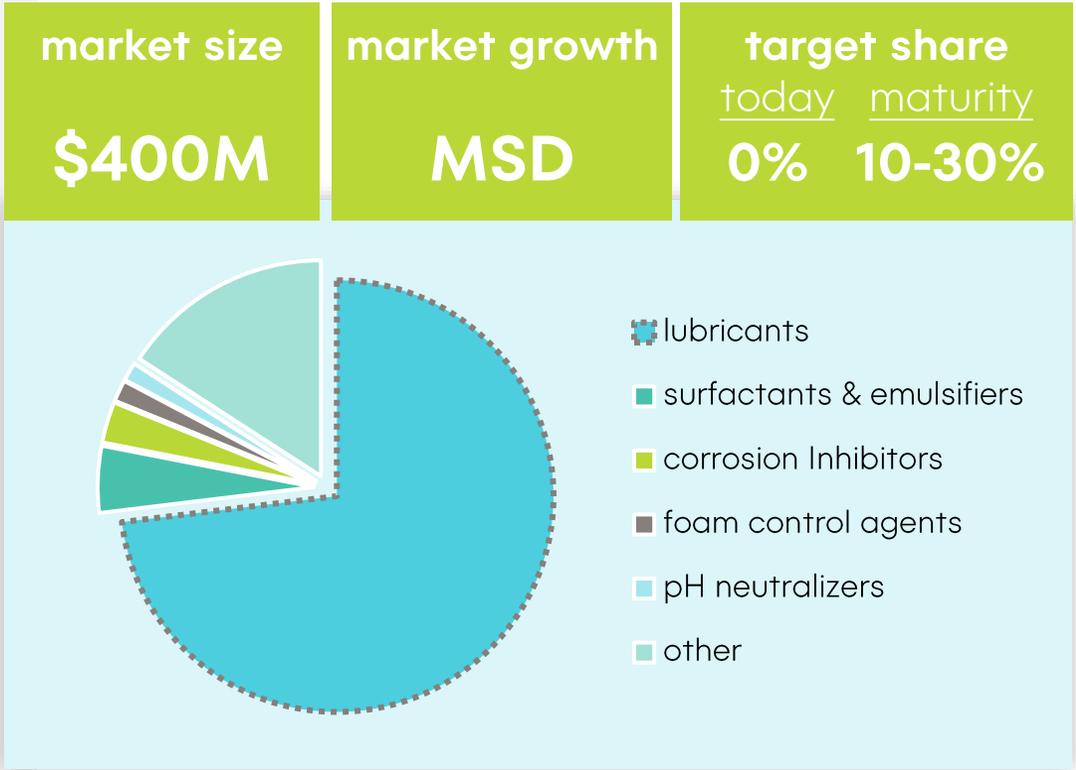
# TVO: metal working fluids market

## market opportunity

- **market shift:** increased additive use, decreased straight oils due to regulatory and VOC concerns
- **need of enhanced performance:** higher line speeds and increased machine/tool longevity
- **sustainable demand:** reduce dependency on mineral oil by increasing content of bio-based additives
- **multifunctional:** replace multiple additives; reduce complexity

## existing landscape

- **current additives:** limited functionality, environmental concerns
- **non-renewable resources:** incumbent additives



growing demand for sustainable, multifunctional additives in MWFs

# TVO & beyond: metal working fluids strategy

simplifying MWF with sustainable, multifunctional additives for superior lubricity & corrosion



## performance advantage enabled by TVO

- enhanced lubricity
- superior corrosion controls
- sustainable bio-derived materials
- reduced metal staining



## production productivity & efficiency

- reduced number of formulation components
- faster production
- less raw materials SKUs



## leverage broad, differentiated MWF offerings

- TVO is key to establishing our position
- additional opportunities with pH neutralizers, foam control, emulsifiers & wetting agents



# TVO metal working fluids: in action



### customer profile

- leading global MWF producer
- innovative player searching for differentiation



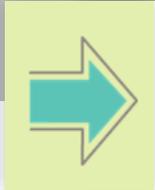
### opportunity

- enhanced lubricity & corrosion protection
- increase bio-derived materials



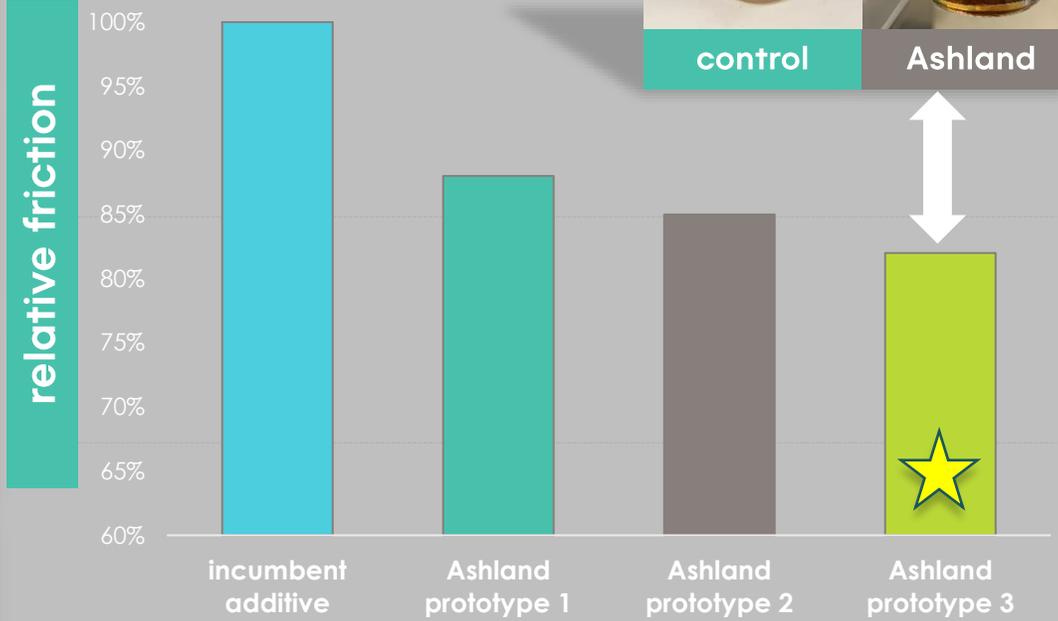
### solution

- improved lubricity vs. incumbent
- intrinsically bio-based solution



### long-term impact

- replace conventional mineral oil-based lubricant in performance-driven applications
- collaboration to scale and commercialize



**lower is better:** improved lubricity and reduced friction

advancing TVO platform for MWF through efficient customer collaboration

# TVO & beyond: metal working fluids path forward

## where we were

### discovery

- leveraging leading position in metal quenching fluids (PVP)
- discovery process for high-value applications from TVO and pH neutralizer platform technologies

## where we are

### feasibility & scouting

- pilot TVO prototype designed
- TVO prototype application testing / sample feedback
- verifying technical fit for super wetter & pH neutralizer platform technologies
- determining viability of existing Ashland foam control chemistries

## where we're going

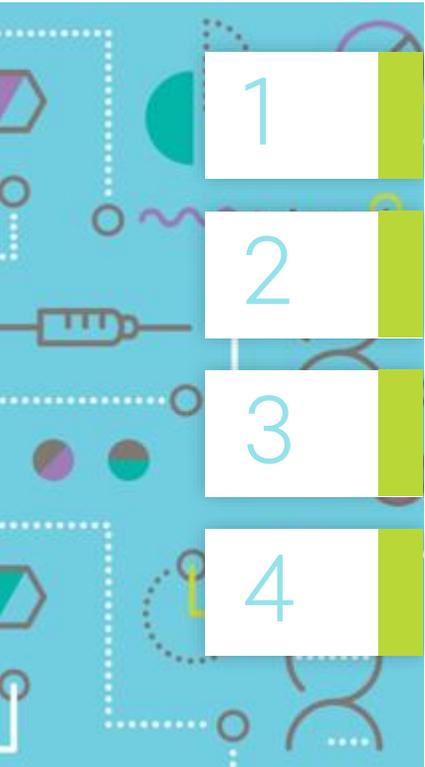
### scale-up & further scouting

- secure TVO beta customers & finalize cost in use
- product launch (TVO based additives)
- pH neutralizer prototype application testing & sample feedback
- new product development projects related to surfactants and foam control agents

strong industry validation underway with key partners

# key takeaways

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1

we continue to expand our additives portfolio with differentiated technologies

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2

new additives are enabling us to enter new markets and applications

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3

platforms offer multi-market potential, expanding our addressable space

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4

we are leveraging existing capabilities to lower risk and accelerate adoption

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innovation scope: far broader than today's examples, supporting every strategic pillar

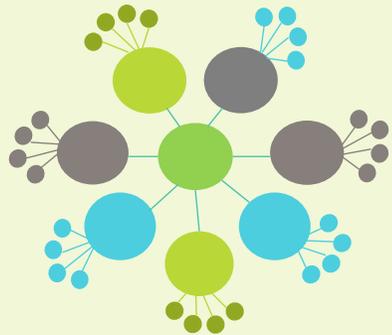


# enterprise summary

Guillermo Novo | Chair & CEO

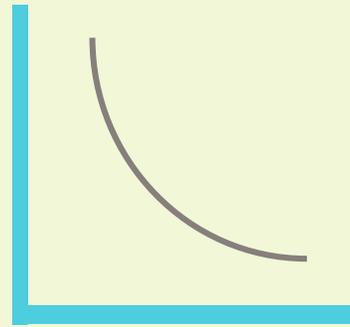
# innovate: roadmap to sustainable material transition

## performance



technology performance  
& breadth

## cost



economies  
of scale

## sustainability



sustainability profile  
& relevance

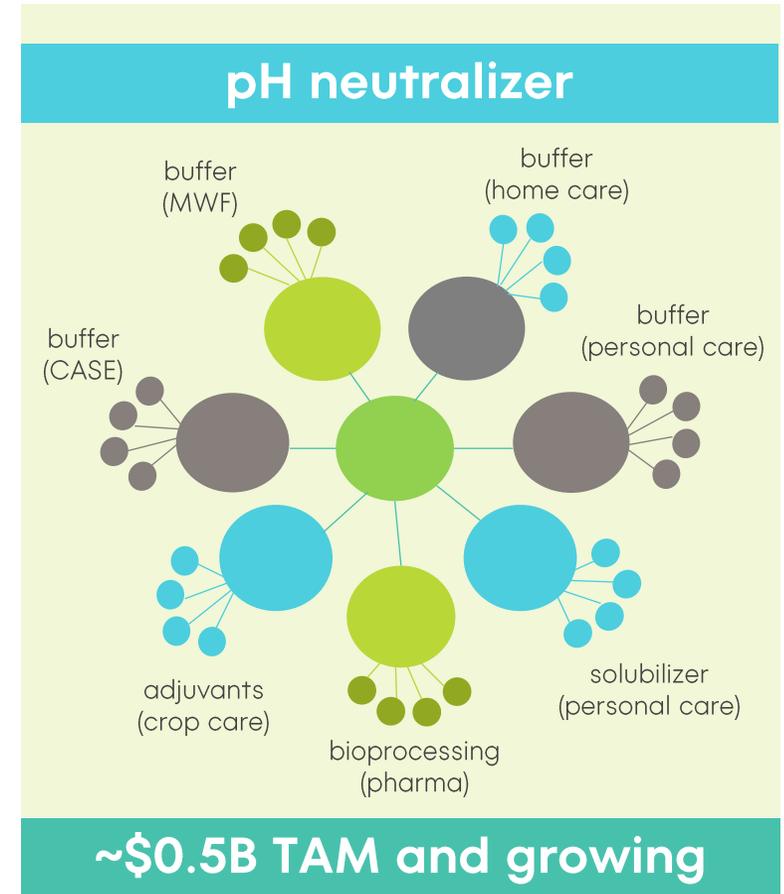
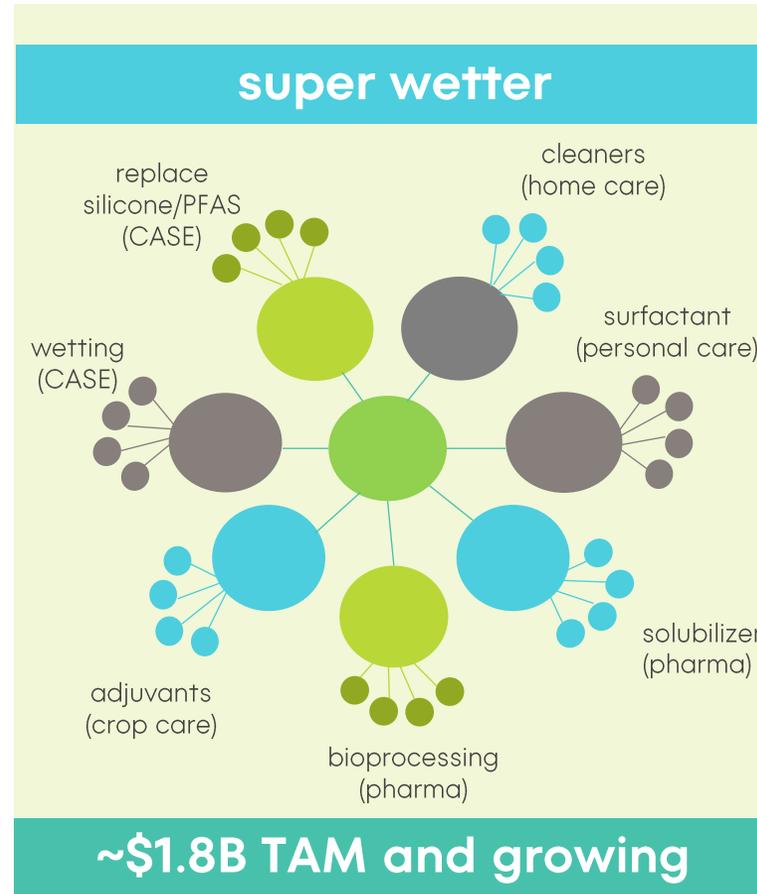
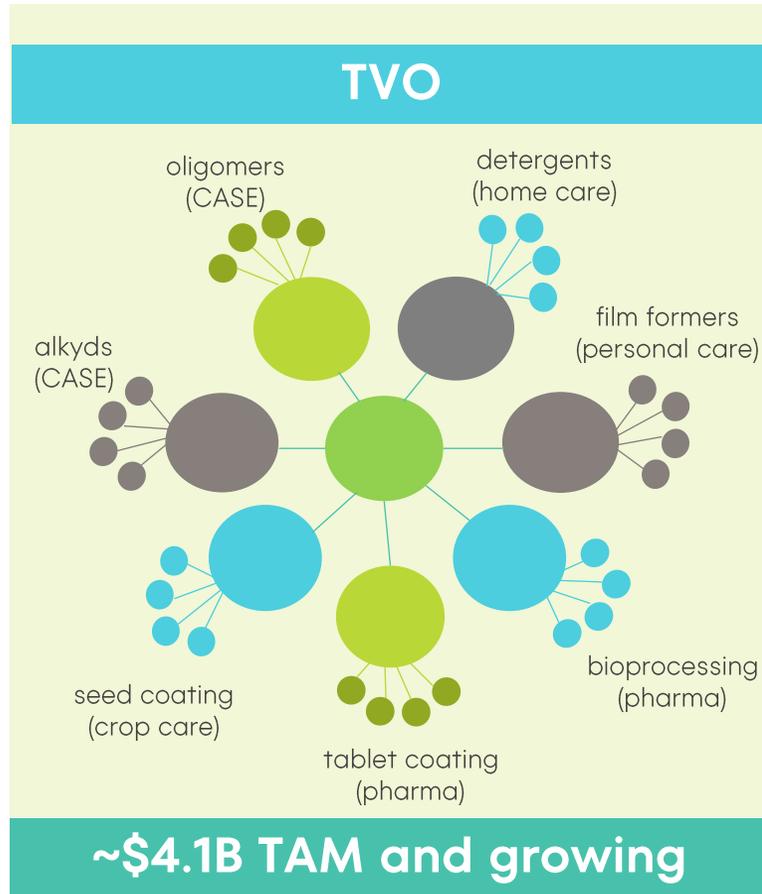
## collaboration



partnership to drive  
development & investment

scaling new sustainable technology platforms

# technology performance & breadth



enable growth by expanding our market potential

# performance driven and cost competitive

de-risking innovation growth

similar cost to incumbent

- 1 validated performance & value proposition
- 2 cost-effective raw materials with reliable availability
- 3 efficient manufacturing with regional supply chain
- 4 repurposing assets to accelerate growth & lower risk

TVO = acrylates



achieving **cost parity** in established markets

competitive cost structure fuels market penetration & growth

# efficient growth through asset repurposing

current



## TVO

- **cost-efficient production ready:** leverage existing network; **~\$0M repurposing capital**
- **capacity secured:** ample capacity for current mid-term product lines

future

- **low-cost expansion potential:** repurposing existing reactors unlocks significant capacity with **minimal new capital (<\$1M)**
- **high-volume opportunities:** continuous production: ~30% opex savings, 5x capacity for large-scale applications & **<\$10M capital**
- **optimizing regional footprint for growth**



## super wetter

- **super wetter operationally ready & producing:** ample existing super wetter capacity for mid-term demand with **minimal capital (<\$1M)**
- **pH neutralizer progressing:** advancing through later-stage trials and initial launch batches this year; minimal capital for **trial launch (~\$0M)**
- **strategic asset repurposing:** significantly reducing costs and accelerating time to market by leveraging Calvert City footprint; competitive cost profile



## pH Neutralizer

- **super wetter global reach:** leverage strategic global partnerships in China & Europe for efficient blending & finishing at scale
- **phased approach to super wetter & pH Neutralizer expansion:** focused on productivity, efficiency gains, minimizing capital



capital-efficient global expansion: optimizing assets for tailored regional growth

# validating partnership strategy: key milestones

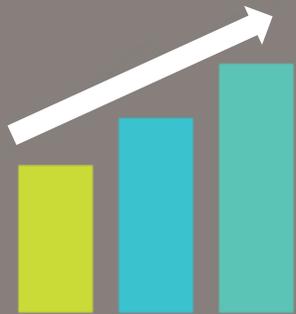


positioned for partnership expansion, driven by high customer engagement

# executing our strategy to drive shareholder value

global trade 

execute



globalize



innovate



invest



business unit focus

enterprise focus

sustainably shaping and growing the portfolio

# strategic framework driving long-term value creation



execute



globalize



innovate



invest

- drive growth in base business
- achieve cost savings and strengthen core
- enhance commercial capabilities
- upgrade systems and processes

- expand high-margin businesses
- grow target products and verticals
- strengthen go-to-market capabilities
- targeted high-value investments

- promote sustainable, profitable growth
- transform and monetize technology platform portfolio
- pursue strategic, low-risk, high-potential opportunities
- drive core innovation

- drive step-out growth
- address strategic gaps with bolt-on M&A
- accelerate innovation through M&A and partnerships

long-term financial targets

~5%

sales CAGR

>25%

adj. EBITDA

>50%

FCF conversion<sup>1</sup>

MSD growth

L-MSD growth

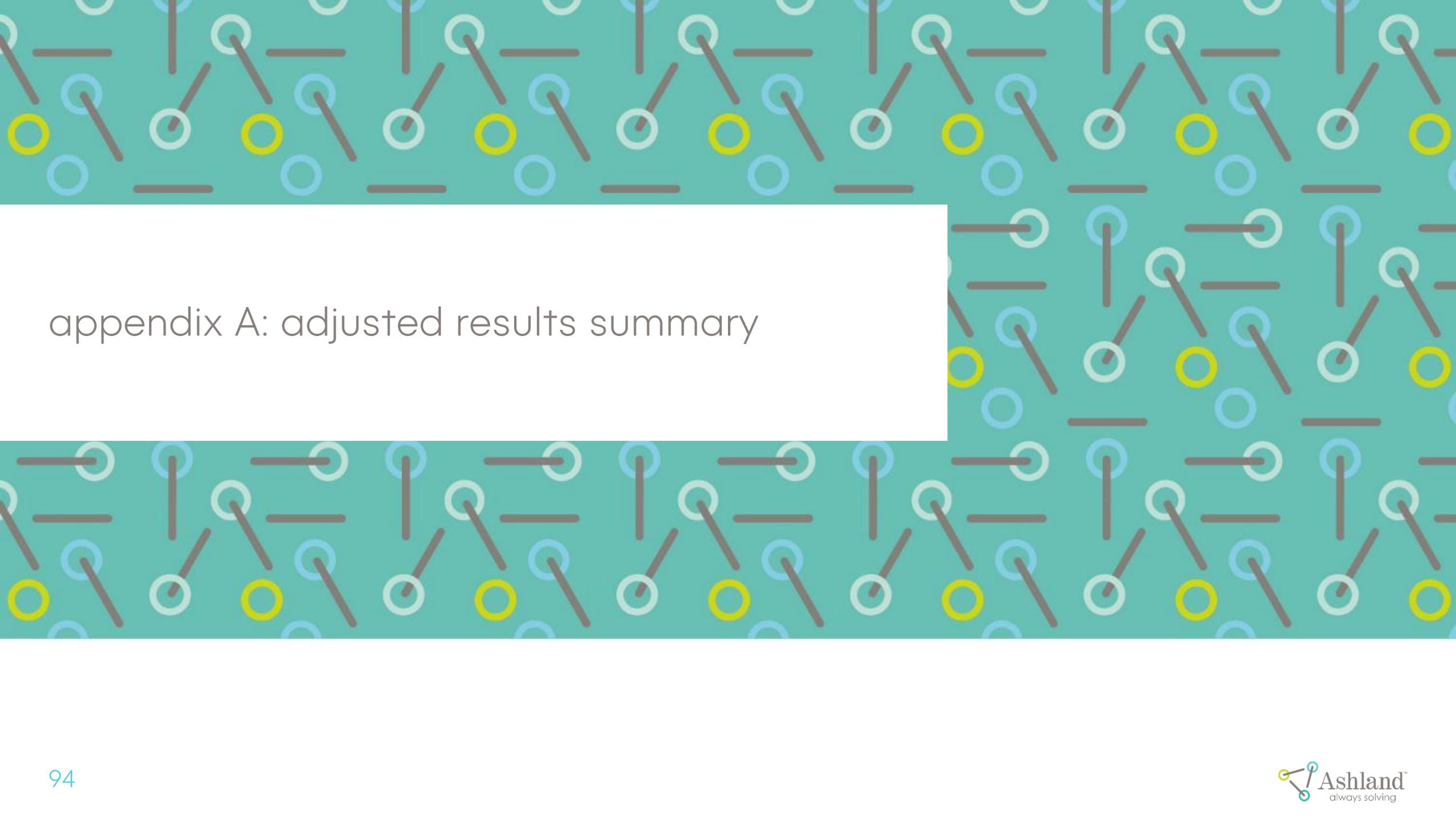
# closing remarks

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unlocking growth with innovation and our high-performing team

- 1 accelerating innovation** Ashland's expanding technology advantage
- 2 tangible platforms** proof of revolutionizing innovation
- 3 sustainable growth** large markets, transformative portfolio
- 4 delivering innovation** our energized team's commitment



appendix A: adjusted results summary

# Ashland Inc. and Consolidated Subsidiaries

## Reconciliation of Non-GAAP Data

### for the 12 Months Ended September 30, 2024

(\$ millions, except percentages)

<b>Sales<sup>1</sup></b>	<b>Q4 24</b>	<b>Q3 24</b>	<b>Q2 24</b>	<b>Q1 24</b>	<b>Total</b>	<b>Q4 23</b>
Life Sciences	192	195	222	200	810	\$ 203
Personal Care	162	175	169	129	634	146
Specialty Additives	144	150	157	122	572	144
Intermediates	36	36	40	33	144	37
Less: Intercompany Eliminations	(12)	(12)	(13)	(11)	(47)	(12)
<b>Total</b>	<b>\$ 522</b>	<b>\$ 544</b>	<b>\$ 575</b>	<b>\$ 473</b>	<b>\$ 2,113</b>	<b>\$ 518</b>

<b>Adjusted EBITDA<sup>1</sup></b>	<b>Q4 24</b>	<b>Q3 24</b>	<b>Q2 24</b>	<b>Q1 24</b>	<b>Total</b>	<b>Adjusted EBITDA Margin</b>	<b>Q4 23</b>
Life Sciences	\$ 56	\$ 59	\$ 66	\$ 48	\$ 230	28.4%	\$ 48
Personal Care	47	51	45	22	164	25.9%	36
Specialty Additives	29	38	27	6	99	17.3%	8
Intermediates	10	9	12	10	42	29.2%	3
Unallocated	(18)	(18)	(24)	(16)	(76)		(21)
<b>Total</b>	<b>\$ 124</b>	<b>\$ 139</b>	<b>\$ 126</b>	<b>\$ 70</b>	<b>\$ 459</b>	<b>21.7%</b>	<b>\$ 74</b>

<sup>1</sup> Quarterly totals may not add to annual amounts due to rounding. Calculation of adjusted EBITDA for each period presented have been reconciled within certain financial filings with the SEC and posted on Ashland's website for each reportable segment.

# sales reset detail

sales (\$US in millions)	life sciences	personal care	specialty additives	intermediates	total
<b>FY 2024 reported</b>	<b>\$810</b>	<b>\$634</b>	<b>\$572</b>	<b>\$97</b>	<b>\$2,113</b>
portfolio reset impact <sup>1</sup>	(130)	(10)	(24)	--	(164)
<b>FY 2024 portfolio reset</b>	<b>680</b>	<b>624</b>	<b>548</b>	<b>97</b>	<b>1,949</b>
avoca exit	--	(55)	--	--	(55)
<b>FY 2024 portfolio reset with avoca</b>	<b>\$680</b>	<b>\$569</b>	<b>\$548</b>	<b>\$97</b>	<b>\$1,894</b>

<b>FY 25 portfolio optimization impact (\$US in millions)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>total</b>
life sciences	\$(41)	\$(42)	\$(32)	\$(15)	\$(130)
personal care	(2)	(5)	(1)	(2)	(10)
specialty additives	(7)	(10)	(3)	(4)	(24)
<b>quarterly portfolio reset impact<sup>1</sup></b>	<b>(50)</b>	<b>(57)</b>	<b>(36)</b>	<b>(21)</b>	<b>(164)</b>
avoca exit	--	(10)	(17)	(17)	(44)
<b>quarterly portfolio reset with avoca</b>	<b>\$(50)</b>	<b>\$(67)</b>	<b>\$(53)</b>	<b>\$(38)</b>	<b>\$(208)</b>

1. Portfolio reset items: nutraceuticals, CMC, MC portfolio optimization actions

# adjusted EBITDA reset detail

adj. EBITDA (\$US in millions)	life sciences	personal care	specialty additives	Intermediates	unallocated	total
<b>FY 2024 reported</b>	<b>\$230</b>	<b>\$164</b>	<b>\$99</b>	<b>\$42</b>	<b>\$(76)</b>	<b>\$459</b>
portfolio reset impact <sup>1</sup>	(24)	(2)	(4)	--	--	(30)
<b>FY 2024 portfolio reset</b>	<b>206</b>	<b>162</b>	<b>95</b>	<b>42</b>	<b>(76)</b>	<b>429</b>
avoca exit	--	(15)	--	--	--	(15)
<b>FY 2024 portfolio reset with avoca</b>	<b>\$206</b>	<b>\$147</b>	<b>\$95</b>	<b>\$42</b>	<b>\$(76)</b>	<b>\$414</b>

FY 25 portfolio optimization impact (\$US in millions)	Q1	Q2	Q3	Q4	total
life sciences	\$(8)	\$(8)	\$(5)	\$(3)	\$(24)
personal care	--	(1)	--	(1)	(2)
specialty additives	--	(2)	(1)	(1)	(4)
<b>quarterly portfolio reset impact<sup>1</sup></b>	<b>(8)</b>	<b>(11)</b>	<b>(6)</b>	<b>(5)</b>	<b>(30)</b>
avoca exit	--	(2)	(7)	(6)	(15)
<b>quarterly portfolio reset with avoca</b>	<b>\$(8)</b>	<b>\$(13)</b>	<b>\$(13)</b>	<b>\$(11)</b>	<b>\$(45)</b>

1. Portfolio reset items: nutraceuticals, CMC, MC portfolio optimization actions
2. Calculation of adjusted EBITDA for each period presented have been reconciled within certain financial filings with the SEC and posted on Ashland's website for each reportable segment.