



# American Chemical Solutions

*Capabilities Presentation*



**AMERICAN  
CHEMICAL  
SOLUTIONS**

Be a best-in-class, chemical toll manufacturer through safe and reliable operations while meeting our partner's Technical, Supply Chain, Quality, and EH&S needs.

ACS also embraces a culture that is based on our following Guiding Principles:

Safe  
Environment

100%  
Customer  
Satisfaction

Continuous  
Improvement

Corporate  
Citizenship

Sustainability

# ACS: Past, Present & Future

## 2017-2020

- Facility shuttered in August 2017, acquired in April 2019
- Brownfield asset restart & greenfield organizational development
- Integrated production begins March 2020
- Investment in second manufacturing line in mid-2020

## 2021

- Ramp up and optimize ODB-2 production
- Develop vision for tolling operation
- Assess facility for tolling capabilities

## 2022

- Expand engineering capabilities to support vision (Reliability, Process Safety)
- Engage EPC to upgrade and commission idle reactors for tolling (~\$3MM investment)
- Identify key partners for future long-term growth

## 2023

- Further Expand engineering capabilities (Reliability, Process Safety, Operations)
- Commence toll manufacturing
- Build organization to support tolling
- Expand in-house lab capabilities

## 2024 & Beyond

- Continue to build organization to support tolling
- Continue to invest and expand tolling capabilities, material handling, utilities, and packaging
- Continue to focus on implementation of customer trials
- Select key partners for long-term success

## Journey to Success



- Purchased mothballed facility April 2019
- Invested \$25 Million
- Conducted full PHA for all operating equipment
- Mechanical integrity verification (pressure vessels, piping, instruments, rotating equipment, tanks, electrical and civil infrastructure, etc.)
- Replaced and repair missing/damaged equipment
- Replaced all pressure safety devices
- Upgraded lighting
- Replaced DCS
- Initiated painting of facility
- Careful RTO (Return to Operations) of facility
- Integrated production began March 2020



Muskegon, Michigan



Providing Security to Your Supply Chain



### Member of the Atlas Holdings Family

- Diversified group of 25 platform companies with 40,000 associates
- 250 facilities worldwide generating +\$10 billion in revenue
- Significant available investment capital
  - \$3.1 billion close for fourth private equity fund Q1 2021
- Presently manages +\$6 billion of institutional private capital
- Special situations investment orientation focused on industrial startups, restarts, carve outs, and transitional situations
  - Strong investment and operations team; long track record of success



## Attractive Market Opportunities

- ***NA Supply chains over-reliant on Asia and India***
  - Need geographic diversity to be sustainable
  - Near and medium term socio-economic, political and regulatory uncertainty, logistics challenges, COVID-19 disruption exacerbate situation
- ***NA market ready for new toller with additional capacity***
  - 100% dedicated to toll manufacturing
  - Customers looking to defer capital expenditures
  - Customers seeking quality service, accelerated lead times and reliable / flexible alternative supply models

# ACS – Business Units

## Custom & Toll Manufacturing

Various Types of  
Chemistries and Reactions



Stainless Steel,  
Glass-Lined and Alloy 20



Bulk Storage



Drying, Filtering, and  
Packaging

## Color Former

Thermal Paper  
Industry



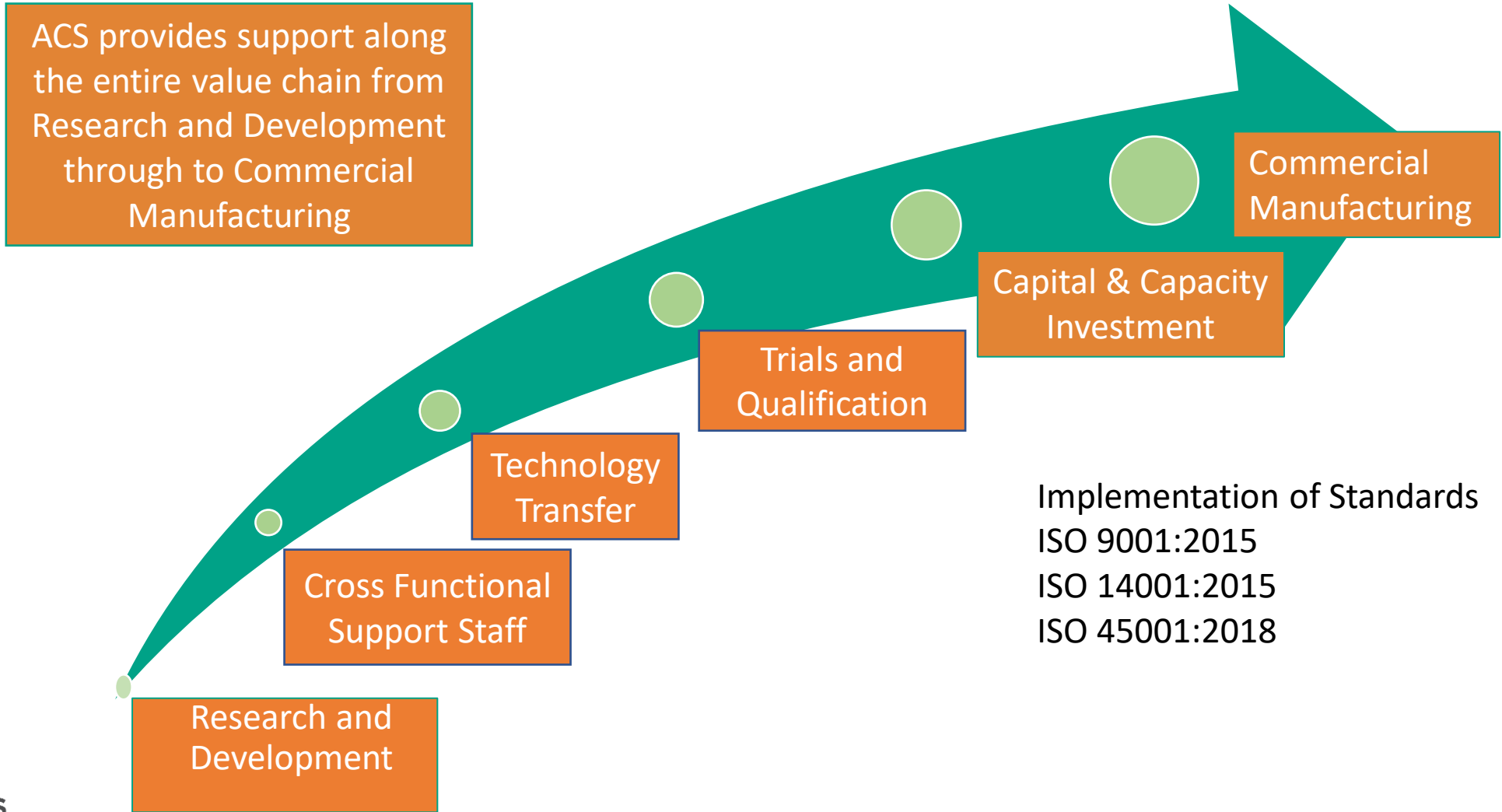
Receipts &  
Labels



NA  
Manufacturer &  
Supplier



# Commitment to Custom & Toll Manufacturing



# Process Development Growth

## ACS Acquired BoroPharm, Inc. – Summer 2022

Contract Chemical Manufacturing  
New Product Development  
Custom Chemical Synthesis  
Process Development  
Pilot Plant Scale-Up

## Upgrading Process Development Lab in Muskegon

Upgrade In-House Lab Capabilities

- Pilot Plant Scale-Up
- Tech Pkg. Vetting
- Process Optimization
- In-Process Analytical Testing
- Round Robin Testing

Hire Additional Lab Personnel

- Lab Manager
- Sr. Lab/Process Chemists

## New Engineering Hires – 2023

Process Engineer  
Process Safety Engineer  
Reliability Engineer  
Operations Engineer  
Environmental Engineer  
Operations Manager  
Project Engineer

# Core Areas – Toll Manufacturing



## 18 Stainless Steel Reactors

- Ranging in size from 2,000 to 7,000 gal
- Pressure rated up to 100 PSI and full vacuum up to 300°C
- Utility temperature range from -15 to 165°C
- Distillation capabilities

## 10 Glass-Lined Reactors

- Ranging in size from 500 to 4,000 gal
- Pressure rated up to 100 PSI and full vacuum up to 150°C
- Distillation capabilities

## 1 Alloy 20 Reactor

- 2,500 gal
- Pressure rated up to 100 PSI and full vacuum up to 171C



# Custom & Toll Manufacturing - Utilities



- High Pressure Steam
- Cooling Tower Water
- Syltherm Oil
- Chilled Brine and Methanol
- 4 Carrier Chillers
- On-site Wastewater Treatment Facility
- Compressed Air
- Agitated feed tanks/receivers/ancillary support equipment to handle both liquid and solids
- On-site Generator of Nitrogen
- Liquid nitrogen and chilled methanol systems
- Supporting cryogenic temperatures down to -150 C



## Custom & Toll Manufacturing – Blend & Storage Tanks



### Blend & Bulk Storage Tanks

- 30 In-process and blending tanks
- 6 CS tanks ranging in size from 9,700 to 15,000 gal
- 2 ea 8,500-gal cross linked polyethylene tanks insulated, and heat traced
- 3 SS tanks ranging in size from 8,500 to 11,500 gal
- Over 40,000 gal of capacity

# Custom & Toll Manufacturing - Equipment

## Drying, Filtering and Packaging Capabilities

- 3x4' bottom drop centrifuges (Hastelloy & SS)
- 2 ea 800-gal SS conical Nauta vacuum dryers
- 1 ea 1,600-gal SS conical Nauta vacuum dryer
- 320 ft<sup>3</sup> agitated filter
- 86 ft<sup>2</sup> SS Rosenmund filter dryer
- 49 ft<sup>2</sup> belt filter
- 2 ea vibrating counter-weight Shaking Sifters
- 2 ea Pin Mills
- 2 ea Kason flow through sifters
- Ability to package in Drums, Totes, Tank Wagons, 50 lb bags up 2,200 lb FIBC sacks

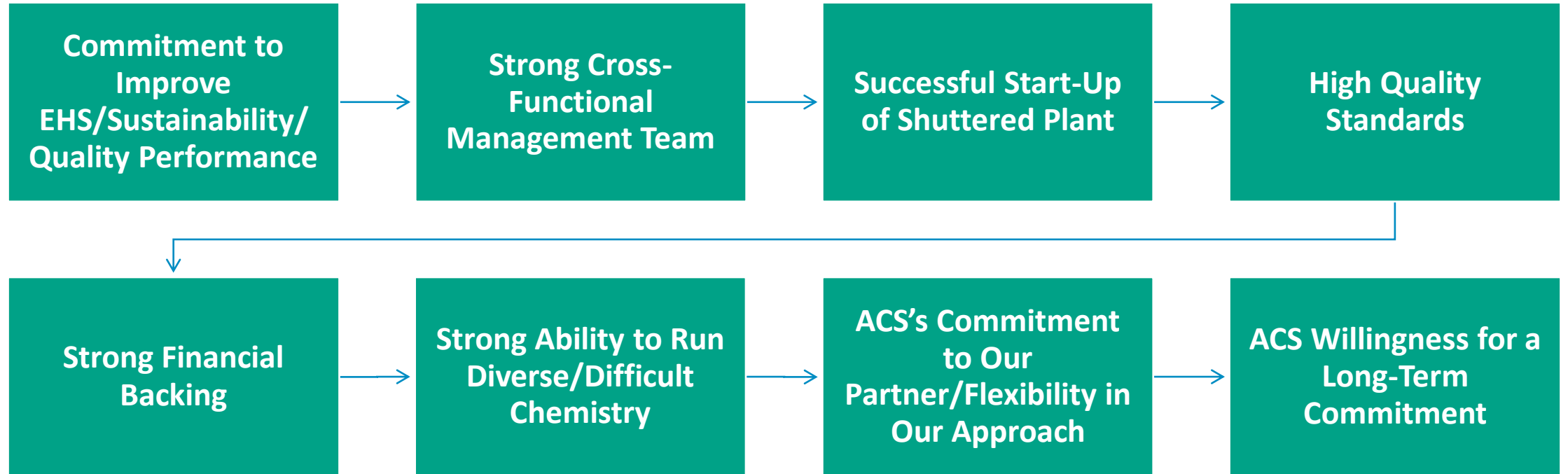


## Capital Improvements

- Commissioning of Idle Reactor's
  - To meet our core areas of competency
- Upgrading of Ancillary Equipment
  - Hot oil
  - Vacuum system
  - Distillation column
  - Enclosed drum/tote filling station
  - Hot/Cold box
  - Raw material/finished goods storage
    - Upgrade of warehouse to flammable
- Deployment of Capital in Partnership for:
  - Expansion
  - New technologies
  - New equipment
  - New capacity



# Why ACS as a Tolling Partner





No matter the industry, our strength is our ability to partner with you to meet and exceed your company's needs.



# American Chemical Solutions

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Providing Security to Your Supply Chain