



# Upstream, midstream, and downstream solutions

Delivering superior service and chemical application expertise to maximize asset value for our customers





# MAXIMIZE ASSET VALUE WITH EXCELLENCE

Oil and gas, and heavy industrial operators face difficult demands — maximizing production, complying with regulations, controlling costs, and minimizing non-productive time.

Our people, proven processes, chemistries, expertise, and digitally enabled workflows deliver solutions and service to help you achieve performance excellence.

# SAFETY EXCELLENCE

Halliburton brings more than 100 years of knowledge and experience serving operators in the oil and gas industry.

## Halliburton Values and Mainstays

Our Halliburton values of safety, integrity, collaboration, creativity, reliability, and respect drive the foundation for our customer-serving mainstays.



**Listen and Respond**  
How we collaborate.



**Continuous Improvement**  
How we remove waste from our processes.



**Service Quality Minimums**  
How we do the work.

## Why Halliburton Multi-Chem?

Multi-Chem builds off a rich legacy with unmatched service quality. We support customers in the global upstream, midstream, and downstream markets with specialty chemicals, customized solutions, and application expertise.

We deliver superior service and application expertise to maximize asset value. We execute with Service Excellence Matters, a framework that delivers:



**Nothing is more important than keeping people safe** and protecting the environment in which they work. That is why we have a full-time, senior-level team charged with improving and enhancing our programs focused on health, safety, and environment (HSE) and service quality (SQ).

Our company wide HSE and SQ initiatives encompass personnel safety in addition to process assurance and execution. We at Multi-Chem prioritize HSE and SQ in the process design, execution, training, and competency standards of the people performing the work.

MULTI-CHEM PERSONNEL ARE TRAINED TO TAKE LEADING ACTIONS — SUCH AS JOB SAFETY ANALYSES AND OTHER ASSESSMENTS — TO REDUCE SAFETY AND HEALTH RISKS.

## FULL STREAM SOLUTIONS



### Upstream

Proven chemical management programs that emphasize service quality to maximize the value of assets.



### Midstream

OQ-qualified experts and personnel who assess your risks and customize chemical management programs that are compliant and increase flow.



### Downstream

Specialty programs that protect assets, improve reliability, provide flexibility, control costs, and deliver value.



# UPSTREAM EXCELLENCE

Production operators across the globe face increasing operational, financial, and regulatory pressures to produce more oil and gas without compromising safe and sustainable operations.

## Custom Solutions

Our solutions address traditional and unique oilfield challenges with chemistry and applications expertise driven by experienced personnel, leading industry test equipment, and trusted data.

## Our Approach

We start with a comprehensive evaluation of the production system to fully understand your operation. This allows us to develop, implement, monitor, and optimize the best possible chemical treatment program.

## Program Management

Our Service Excellence Matters commitment ensures we consistently deliver superior service and application expertise.

Key areas include:

- » Understanding objectives
- » Training
- » Service reporting
- » Inventory management
- » Business review
- » Value delivery

## Asset Integrity

- » Biocides
- » Corrosion inhibitors
- » H<sub>2</sub>S and O<sub>2</sub> scavengers
- » Iron sulfide dissolvers

## Flow Assurance

- » Drag reducing agents
- » Halite inhibitors
- » Hydrate inhibitors
- » Iron sulfide dissolvers
- » Paraffin/asphaltene inhibitors
- » Scale inhibitors
- » Solids control

## Phase Separation

- » Defoamers
- » Emulsion breakers
- » Foamers
- » Water clarifiers

## Services

- » Field trials
- » Lab screening
- » Sampling and monitoring
- » System modeling
- » System reviews
- » Technical audits

# MIDSTREAM EXCELLENCE

Heightened regulatory compliance requirements, aging assets, and unique technical problems are challenging an already difficult operating environment for midstream companies.

## Understanding Goals and Risks

We understand the midstream market from the wellhead to the gathering, processing, storage and/or refinery gates. We know how critical it is that operators maintain compliance to ensure profitable operations. Multi-Chem collaborates with midstream operators to understand specific business drivers and risks and apply solutions — chemical, monitoring, equipment, and expertise.

## Maintaining Compliance

Whether it is PHMSA requirements in the U.S., or international laws, Multi-Chem delivers midstream regulatory expertise that goes beyond the chemical pump. We know the importance of regular reporting and how integrity management planning is critical to maintaining your operations.

## Delivering Qualified Support

We support operators with regulatory qualified field personnel, technical specialists, recognized midstream experts, and R&D personnel who deliver custom solutions to our customers’ unique needs.

## Products

Multi-Chem delivers the same product category programs to midstream operators as production operators. Many of these products are formulated for midstream applications.

## Asset Integrity

- » Corrosion monitoring and analysis
- » Bacteria: ATP, serial dilution, SRB
- » Gas testing/monitoring
- » Hydrostatic testing
- » InnerVue™ pipeline monitoring
- » Iron/manganese (ratios)
- » Pig run advisement and analysis
- » Water analysis

## Non-Intrusive Diagnostics

InnerVue pipeline monitoring is an example of how Multi-Chem collaborates with all of Halliburton to support our customers. This non-intrusive technology from our Pipeline and Process Services team provides a comprehensive diagnostic solution for quickly and accurately identifying deposit build-up, live pig location, blockages, and leaks.



## DOWNSTREAM EXCELLENCE

Downstream operators face dynamic challenges to increase operational efficiencies, source long-term feed stocks, manage difficult crude slates, maximize productivity, and produce refined products at lower costs.

### Custom Solutions

Multi-Chem provides industrial water and process treatment solutions to refinery, petrochemical, ammonia, and other heavy industrial operations.

### Our Approach

Through on-site technical service and engineering support, Multi-Chem helps customers with their business goals, including improving reliability, increasing throughput, and enhancing the efficiency and flexibility of operating units.

### Wide-Ranging Crude Slates

No matter where on the spectrum the crude falls, we have experience treating it — everything from diluted bitumen, conventional crude, tight oil crude, and heavy oil blends, including some of the world’s most challenging opportunity crudes from Venezuela, Canada, and elsewhere.

## WATER TREATMENT

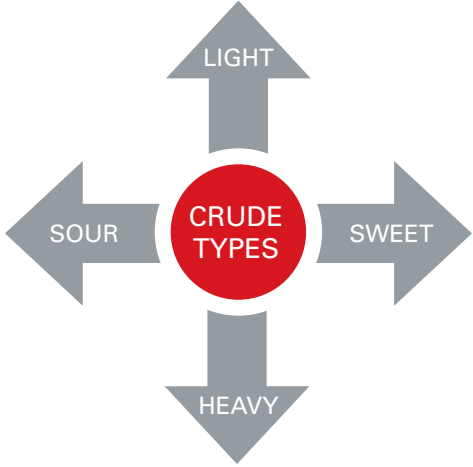
Effective water treating is imperative to successful plant operations. Large amounts of high pressure steam and high purity water are required in the production process. The following are Multi-Chem’s key areas of expertise.

- » Influent water clarification and filtration
- » Boiler water treatment
- » Steam/condensate treatment
- » Cooling water treatment
- » Waste water treatment
- » Equipment failure analysis
- » Detailed wet chemistry analysis
- » Equipment performance and reliability monitoring
- » Energy conservations and efficiency
- » Process leak detection monitoring

## PROCESS TREATMENT

Multi-Chem has a strong history of delivering process treatment solutions to refineries and petrochemical plants of all sizes. Whether it is in the U.S. or around the world, we help ensure equipment reliability, improve throughput, advance plant optimization, and maximize asset value with mechanical, operational and chemical solutions.

- » Advanced crude overhead computer modeling
- » Crude and hydrodesulfurization (HDS) preheat exchanger antifoulants
- » Crude character, compatibility, and fouling studies
- » Crude and coker furnace treatment/monitoring
- » Desalter and crude tankage emulsion breakers
- » Desalter salt balance and hydrolysis calculations
- » Heat exchanger monitoring and optimization
- » High-temperature naphthenic acid management
- » Industry benchmarking and system analysis
- » Low salt deposition, custom neutralizing amines
- » Real-time corrosion monitoring and data collection
- » Slop treatment and solids management
- » Low pH crude overhead filming amine technology



CRUDE EXPERTISE TREATMENT INCLUDES ALL TYPES — HEAVY, OPPORTUNITY, VENEZUELAN, CANADIAN, CONVENTIONAL, TIGHT OIL, AND MORE.



## FUEL ADDITIVES

Halliburton offers refiners a broad selection of additives, supporting equipment, and services to help ensure timely and successful results. Our solutions meet specifications, transporting requirements, and comply with HSE regulations.

- » Antioxidants
- » Cetane improvers
- » Cold flow inhibitors
- » Conductivity improvers
- » Corrosion inhibitors
- » Deactivators
- » Dehazers
- » Depressants metal
- » Detergents
- » EN590 treatments
- » H<sub>2</sub>S scavengers
- » Lubricity improvers
- » Fuel stabilizers
- » Pour/cloud point depressants



### WE DEFINE VALUE AS CREATING HARD DOLLAR BENEFITS FOR YOU.

When we save you money or help you make more, we are delivering value. A value improvement project must have a quantifiable dollar savings or gain associated with it. Where it is generated from can be from several areas around your operations, including optimizing the current process and water chemical treatment programs.



# SERVICE EXCELLENCE MATTERS

Multi-Chem delivers on our service promise by investing heavily in training, account management standards, value creation, and APX™ digital solution.

## Training and Competency

Your operation deserves application expertise. It is critical to maximizing asset value. Multi-Chem invests heavily in training and annual competency programs to deliver superior service.

## Account Management Standards

To ensure we consistently deliver high-quality service, our account management standards drive design of service, communication, and collaboration. Documented processes enhance consistent execution across all assets.

## Value Creation

Value means exceeding your investment — financial, operations, or technical. Value creation is a pillar of our service excellence. Our proven approach delivers significant value to our customers.

# MAXIMIZE VALUE WITH APX™ DIGITAL SOLUTION

Limited access to quality data increases operating expenses and results in missed opportunities and value creation.

The Analyze Performance Execution (APX™) digital solution delivers predictability and value creation. Connect financial, operational, analytical, and supply chain data with your assets to understand risks, and predict and prevent problems before they occur.



MULTI-CHEM RANKS AS A LEADER IN “RESPONSIVENESS TO CUSTOMER NEEDS” ACROSS U.S. LAND, ACCORDING TO KEY INDUSTRY SURVEY.

— “2022 Production Chemicals Supplier Performance Survey” from Kimberlite Oilfield Research



# ANALYTICAL EXCELLENCE

Speed to solutions is critical in the oilfield. Accurate and timely data drives decisions and can mean the difference between success and failure.

### Custom Solutions

Providing engineered chemical solutions to maximize oilfield production is the operating directive for Multi-Chem laboratories worldwide.

We collaborate with our customers to understand their challenges. We then apply our command of oilfield chemistry to resolve issues in a scientific and cost-effective manner.

### Advanced Testing

Our regional and global laboratories are outfitted with the latest analytical equipment to deliver differentiated insights and recommendations. Results are typically ready in five days or less.



### Lab Capabilities

- » Asset integrity
- » Scale control
- » Phase separation
- » Flow assurance
- » Deepwater certification
- » Analytical
- » Synthesis

### General Analytical Services

- » Crude oil analysis
- » Quantitative solids analysis
- » Complete water analysis
- » Corrosion coupon analysis
- » Advanced corrosion analysis
- » Bacteria: Serial dilution and ATP
- » Scale testing
- » Scale prediction modeling
- » Residual testing

# SUPPLY EXCELLENCE

Operators across the globe rely on chemical management programs to protect their investments. Running out of chemical is not an option.

### Our Approach

Our manufacturing and supply chain programs are developed, maintained, and optimized to withstand all kinds of challenges, including ones driven by depressed markets, natural disasters, health crises, and geopolitical issues.

### Remote Monitoring

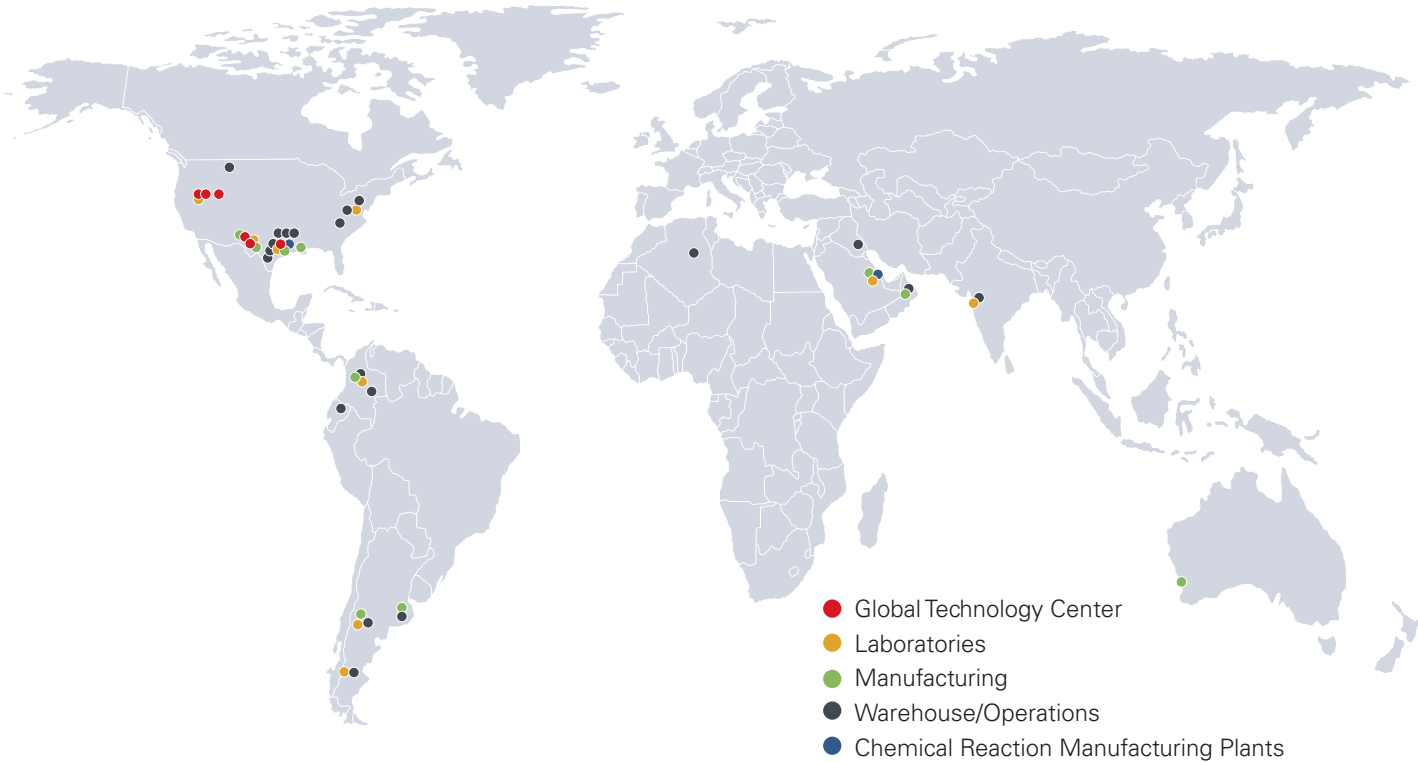
Multi-Chem deploys tank level monitoring and route optimization technologies that allow us to remotely manage our supply networks. These technologies help ensure we are protecting your investments.

### Steps to Safeguarding Supply

- » Constant communication with our global network of suppliers
- » Sourcing contingency plans
- » Regular evaluation of transportation channels
- » Site- specific and network emergency response plans (ERP) for manufacturing facilities

### Global Presence

Multi-Chem has regional laboratories, warehouses, manufacturing facilities and people embedded across every major oil and gas basin.







# SERVICE EXCELLENCE MATTERS

Global energy producers and refiners face more operational, environmental, financial, and commercial risks than ever. We are here to help. Multi-Chem has structured our business to deliver our promise to **maximize our customers' asset value**.



## Account Management Standards

Our Service Quality (SQ) function drives consistent standards, design of service, and execution for our customers.

**Benefit:** Consistent high-end customer experience no matter where you operate.



## Commitment to Value Creation

We have expansive systems in place to capture, track, and communicate the value we deliver back to our customers.

**Benefit:** Full accounting of how Multi-Chem is returning dollars to your investment in the chemical management program.



## Training and Competency Checks

We have rigorous and highly funded training and competency program for our employees.

**Benefit:** Highest level of account and technical management excellence; OQ-qualified personnel for midstream.



## APX™ Digital Solution

A unified platform that drives transparency and action to predict and prevent failures and other critical risks.

**Benefit:** Unfettered access to a secure, cloud-based decision platform that helps drive transparency and identify risks.

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

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