



Delta-Chem Technologies

Delivering Value Through Technological Innovation

About Delta-Chem



Delta-Chem is a leading independent provider of:

- **Technology, product innovation, engineering solutions, and strategic consulting**
- **Expertise in Surface Pretreatment, Process Cleaning, Metal Working Fluids, and Water & Wastewater Treatment**

Our approach combines:

- **Business, product, and process strategy**
- **Fundamental technical research**
- **Implementation of new product development programs**

Capabilities include:

- **Process re-engineering**
- **Clean product design**
- **Development, engineering, testing, and full systems integration**



Who Are We

- **Delta-Chem Technologies** is a multi-disciplinary team of engineers, scientists, and consultants
- Extensive experience across a **broad spectrum of industries**
- Delivering a **broad range of products and services** to clients worldwide
- Connecting **chemistry and innovation** with the principles of **sustainability**



Our Mission & Vision

Mission

- Lead the industry in **creating value for our clients**
- Deliver **differentiated services and technologies** that:
 - Save **water and energy**
 - Enhance **production**
 - Improve **air quality**
 - Reduce **total costs of operation**

Vision

- **Earn customers for life**
- Be recognized as the **partner of choice** across all our markets



R&D Driven



- **Delta-Chem** is a research and development driven company, which is committed to delivering the highest level of service in the industry.
- Through its full-service R&D group, **Delta-Chem** is consistently pushing the boundaries of modern science to develop revolutionary products.

Technologies



Delta-Chem introduces world-class technologies, which are made possible through extensive R&D, in-plant studies and validation procedures. Delta-Chem brings out "robust" chemical formulations with the following objectives in mind:

- Increased performance (e.g. improve tool life)
- Eliminating or bringing to minimum the negative environmental impact (e.g. reduce effluents)
- Delivering high value eco-friendly solutions
- Creating special formulations for increasing process mechanical efficiency
- Ensuring Process Robustness—both against in-process parameter changes, and entire process change.



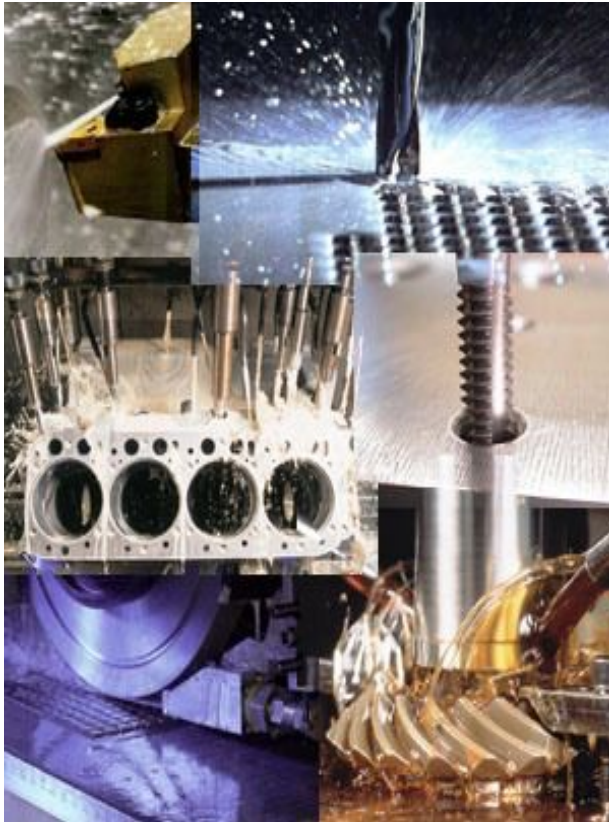
Total Solutions

- Whether you are **fabricating, machining, cleaning, coating, or treating**, **Delta-Chem** has the technology to meet your most **challenging manufacturing processes**
- **Delta-Chem** offers **advanced solutions** built on **innovative products** and backed by **customized services**



Core Competencies

Metalworking Fluids



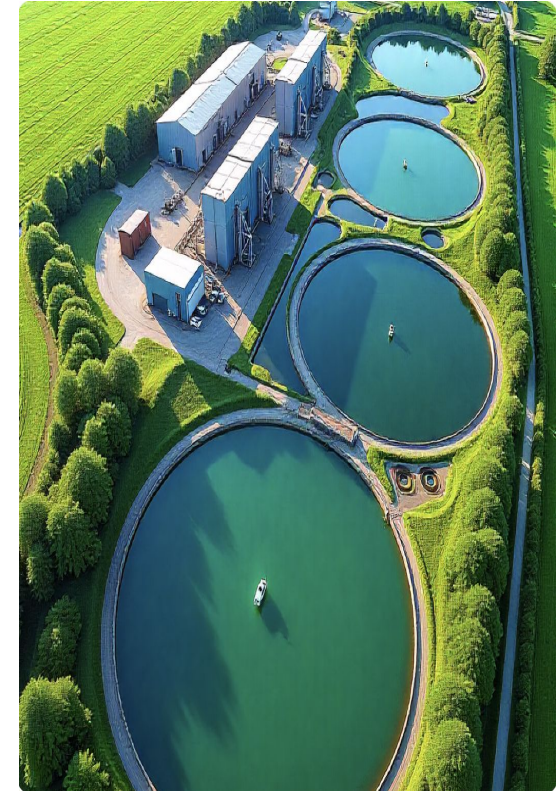
Surface Pretreatment



Process & In Process Cleaning



Water & Wastewater Treatment



Metalworking



- **Delta-Chem** offers a complete management program for metal-working fluids, designed to **enhance machining productivity** and **improve tool life**, while reducing total operational cost through the **systematic control of a variety of operational parameters**.
- For example, **Delta-Chem** offers a **premium line of coolants** such as **DeltaKool**, which features the following:
 - **Micro-emulsion technologies** to extend tool life and improve surface finish due to high lubricity
 - **A natural bio-stable fluid**
 - **Excellent corrosion protection**
 - **Extended sump life**
 - **Environmentally designed**
 - **Superior chip carrying capabilities**
 - **Operator friendly** (no phenols, nitrates, or chlorates)



Surface Pretreatment



- **Delta-Chem** pioneered new technologies that deliver **best-in-class corrosion protection and paint adhesion**
- Example: **Delta EnviroKote** – a proven, proprietary, environmentally friendly formulation that uses **uni-bonding techniques** to provide corrosion protection and paint adhesion **without the need for heat, rinses, or sealers**
- **Delta EnviroKote** technology offers an optimal solution for today's manufacturing needs
- With **ever-changing environmental regulations and directives**, **Delta-Chem** ensures compliance while **maintaining performance targets**



Process & In Process Cleaning

Delta-Chem pre-treatment cleaners remove the toughest soils

- Applied by **direct immersion** or **spray**

Benefits include:

- **Extension of bath life**
- Operation at **low or ambient temperatures**
- **Ease of rinse**
- Direct savings on **energy and water consumption**

Delta-Chem in-process cleaners:

- **Biodegradable**
- Free of **amines, nitrates, silicates, and caustic**
- Provide **superior detergency**
- Leave a **polymeric film** for maximum corrosion protection



Water & Wastewater Treatment

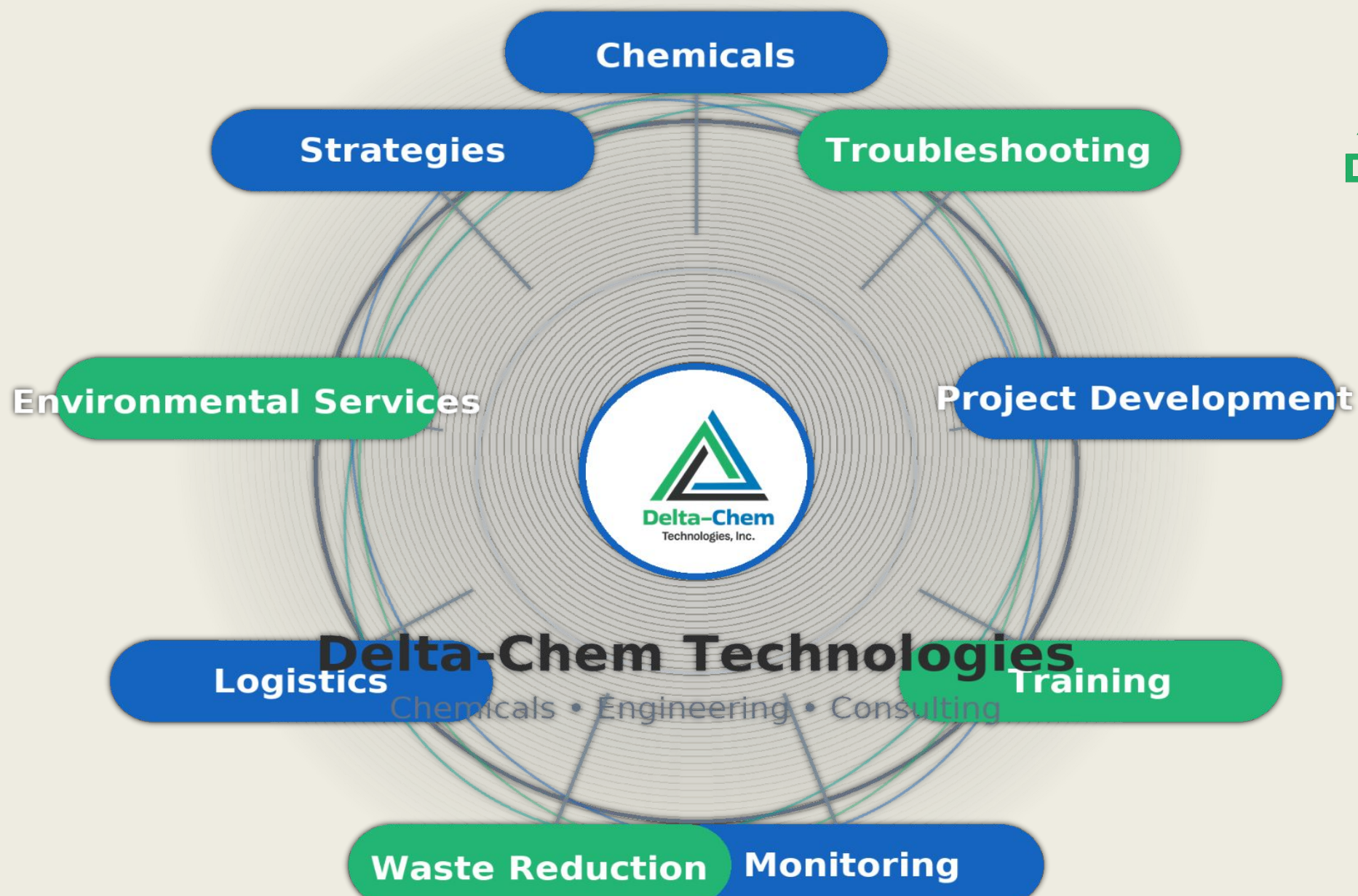
- **Delta-Chem Technologies** offers a **variety of solutions** tailored to different wastewater conditions across all industries
- Clients benefit by:
 - **Minimizing sludge formation**
 - **Reducing man-hour requirements**
 - **Improving effluent quality**
 - **Achieving greater consistency**
 - **Enhancing water-recycling capabilities**
 - **Reducing cost while meeting plant discharge limitations**



Services

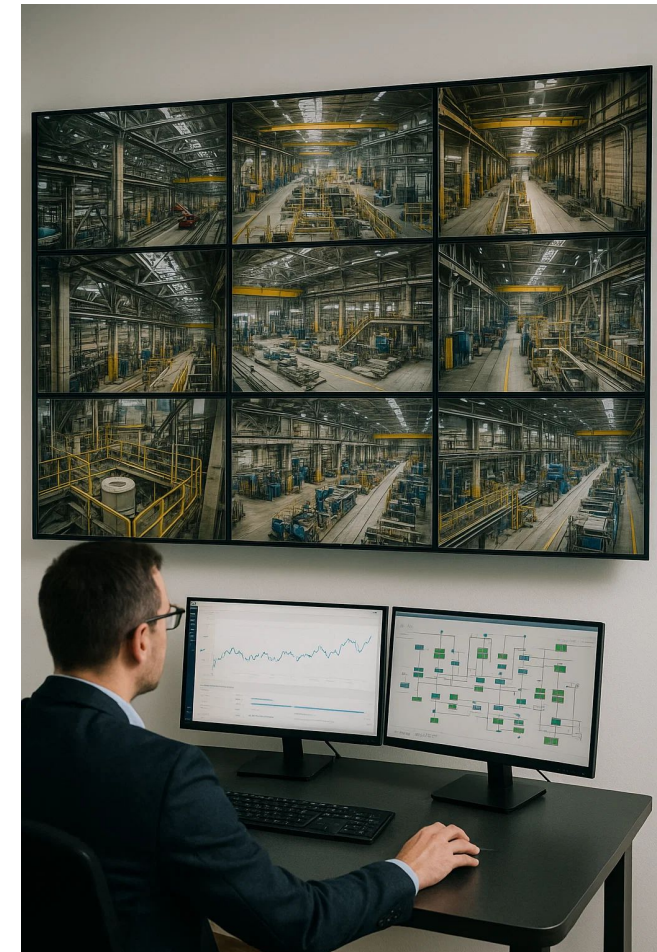


- **Complete R&D services**
- **Complete multi-disciplinary engineering services**
- **Consulting services**
- **Analytical testing with results in 24–48 hours**
- **Total chemical management**



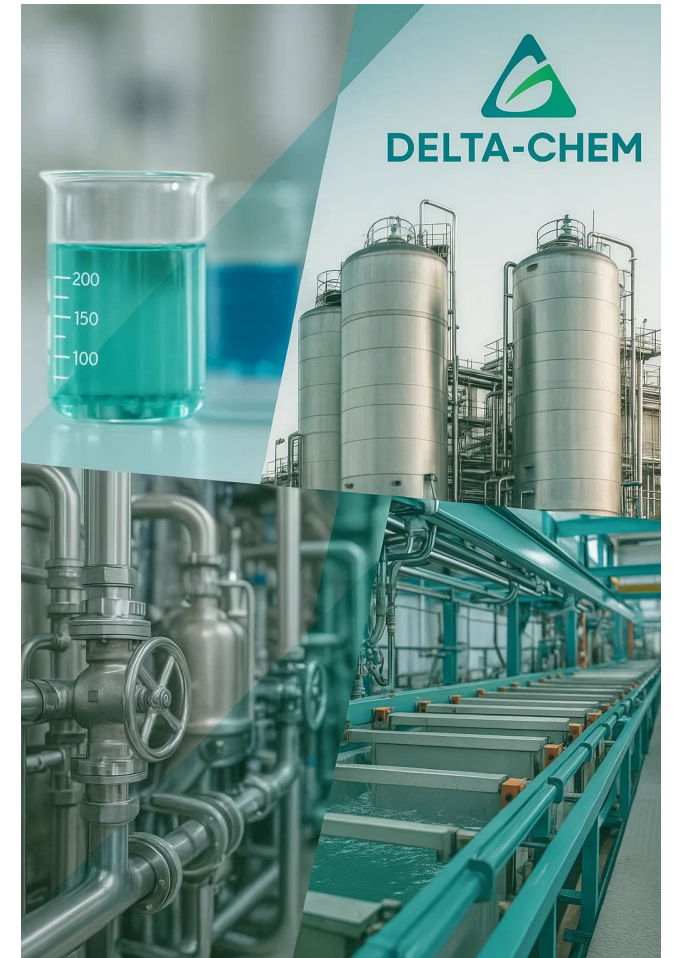
Project Development

- **Delta-Guard:** Remote, 24-hour surveillance capability
- **Collaboration:** Work with all tiers and Delta-Chem Advanced Technology Center
- **Focus Areas:**
 - Technologically advanced products
 - Best product tailored for the process



Chemicals

- Non-chromate conversion coatings
- Industrial cleaning products
- Paint strippers
- Industrial chemical
- Phosphatizing & metal pretreatment & coatings
- Cold forming solutions
- Coil coating technologies
- Metalworking lubricants & coolants
- Adhesives & primers
- Industrial & in-process cleaners
- Corrosion inhibitors
- Metal finishing solutions
- Phosphate coating systems
- Chemical process equipment
- Petroleum & oil field products



Chemicals (Metal Coatings)

Delta-Chem Products (Continued)

- Metal finishing solutions
- Castings & anodizing products
- Metal pretreatment coatings
- Zinc and iron phosphate systems
- Paint strippers
- Paint booth coatings
- Paint de-tack technologies



Chemicals (Petroleum Industry)

Full Line Of Production Chemicals

- Liquid foaming agents
- H₂S scavengers
- Corrosion control & inhibitors
- Scale control products
- Surfactants
- Paraffin products
- Emulsion breakers
- Defoamers
- Biocides
- Cleaners & inhibitors
- Cleaning & wetting agents
- Wastewater treatment solutions
- Specialty products



Chemicals (Manufacturing)

Complete Line of Products for Manufacturing

- Metalworking solutions
- Machining & grinding products
- Cleaners & corrosion inhibitors
- Rust preventatives
- Stamping & forming compounds
- Forging agents
- Quenching media
- Heat treating solutions
- Ferrous & non-ferrous rolling oils



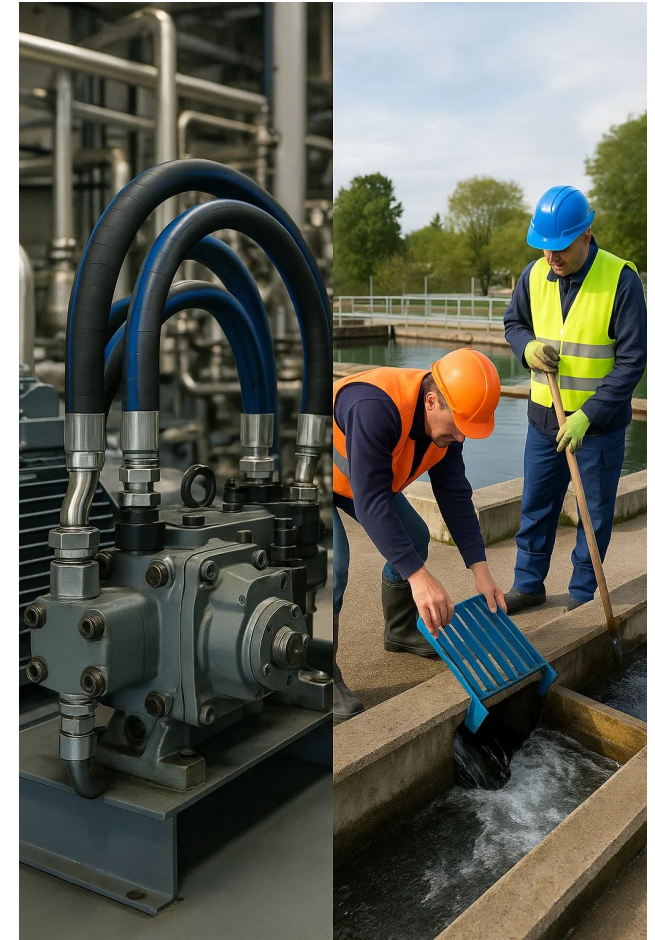
Chemicals

Delta-Chem Products (Continued)

- Hydraulic fluids
- Fire-resistant hydraulic fluids
- Hydraulic oils
- High water base fluids (HWBF) & additives for water systems

Total Support Solutions

- Total water management
- Total waste treatment set-up
- General maintenance – complete product line



Delta-Chem Laboratory Support



Capabilities

Analytical Laboratory Analysis Equipment

- AAS (Atomic Absorption Spectroscopy)
- GC (Gas Chromatography)
- HPLC (High Performance Liquid Chromatography)
- AC (Anionic Chromatography)
- IR (Infrared Spectroscopy)
- UV-VIS (Ultraviolet Visible Spectroscopy)
- X-ray fluorescence

Additional Capabilities

- Coating characteristics analysis equipment
- Accelerated testing
- Metallurgical testing
- Complete water & fluid analysis
- EDAX/SEM, microprobe analysis
- Spray/dip system duplication
- Paint characteristics testing
- Paint adhesion testing



Training

On-Site Training Programs

Training for All Personnel

- Chemical management
- System maintenance
- Health & safety
- Hazmat / Hazcom – safe handling
- Principles of cost savings

Continuous Training

- Ongoing education and certification of **Delta-Chem** personnel to ensure industry-leading expertise



Waste Reduction

Sustainability & System Optimization

- **Recycle** – driving efficiency through resource recovery
- Improved monitoring of larger systems with **Delta-Guard**
- More effective maintenance of fluids to extend performance life
- Utilization of **Delta-Chem Waste Treatment** – full management program & equipment



Environmental Services

- **International protocols** compliance
- **Usage tracking** and reporting
- **Inventory maintenance** – keep levels below reportable quantities
- **MSDS management** for full regulatory alignment
- **Labeling of all equipment** for safety and compliance
- **Training seminars** to ensure awareness and safe practice

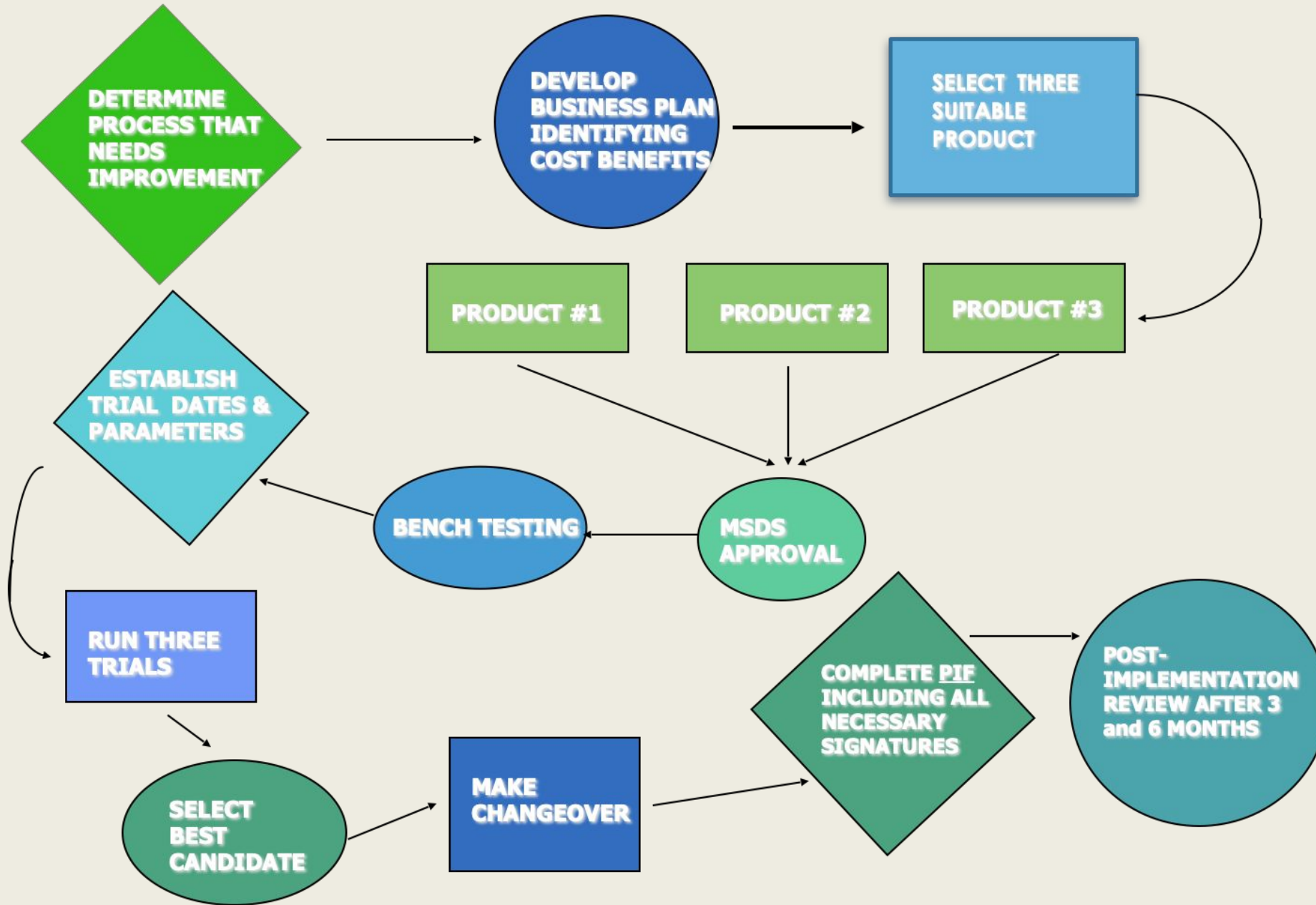


Logistics

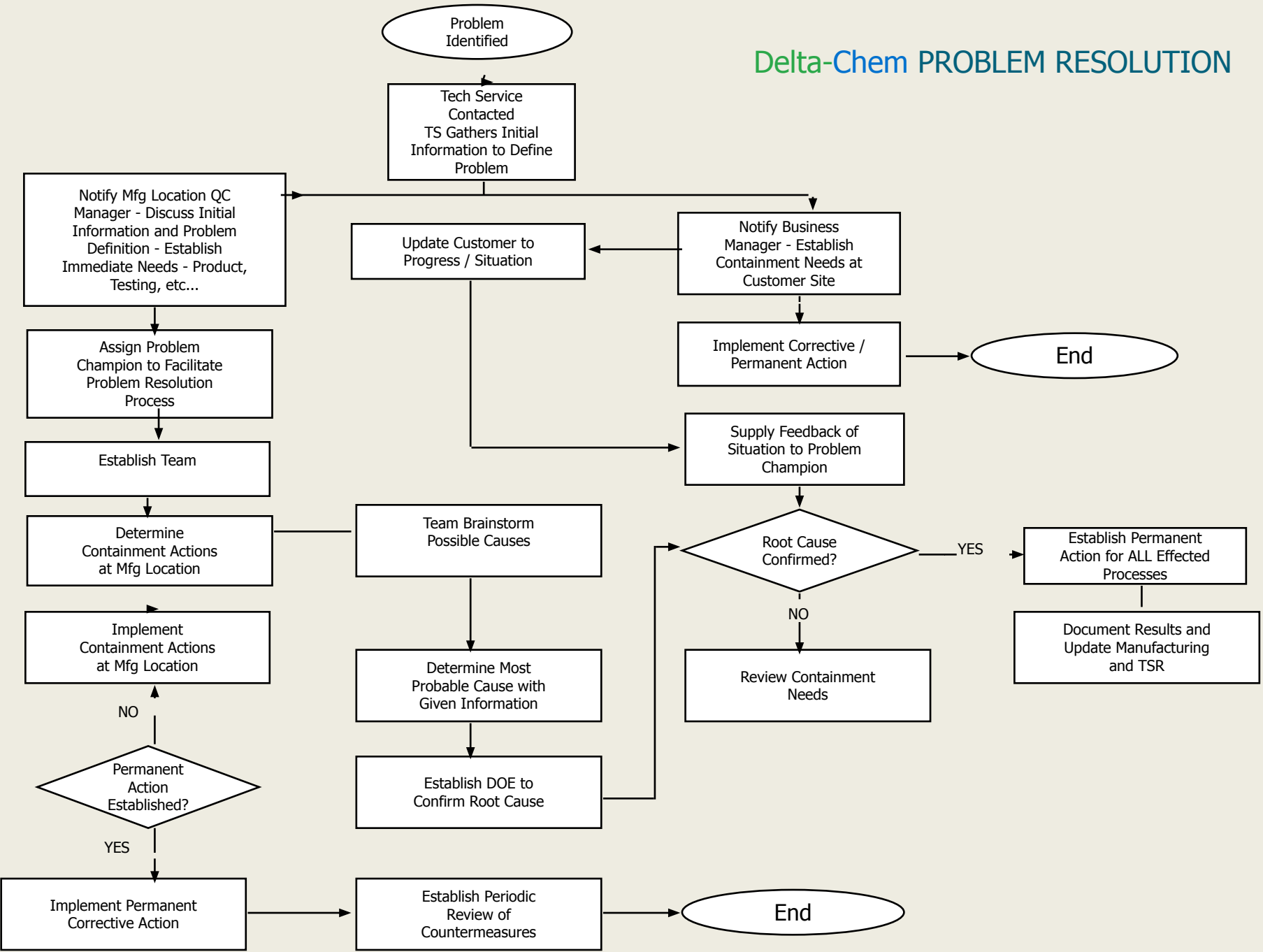
- **Bar coding** and **online database** for real-time tracking
- **Off-site warehousing** to support customer demand
- **Strategically located manufacturing plants** positioned globally for efficiency and responsiveness



12 STEP PROCESS IMPLEMENTATION PLAN



Delta-Chem PROBLEM RESOLUTION



Customer References

Global & Domestic Leaders Served by Delta-Chem

- **Boeing Company**
- **Kuwait Petroleum Company**
- **Chrysler Corporation**
- **Mitsubishi Motor Company**
- **Carcass, Venezuela** – Pretreatment, corrosion inhibitors, cleaners & total chemical management
- **Pfizer Pharmaceutical** – Ann Arbor, MI
- **Ford Motor Company** – Oakville, Ontario, Canada (wastewater treatment)
- **General Electric (GE)** – Louisville, KY (appliance plant)
- **Le Sueur Corporation** – Manufactures engine blocks for Boeing and others
- **Cenex Harvest States** – Mankato, MN (soy oil production)
- **PMX Industries** – Cedar Rapids, Iowa (largest copper, brass & tin coated metal sheets in the world)
- **Anomatic Corporation** – Newark, Ohio (aluminum for cosmetic uses)
- **Donaldson Company** – Largest filter producer in the world
 - Plants: Cresco (IA), Dixon (IL), Frankfort (IN), Greeneville (TN)

Delta-Chem provides and manages a full range of product lines, including:

- Rolling oils, hydraulic fluids, cutting oils
- Cleaners, wastewater treatment, fluxes, tarnish inhibitors



“Delta-Chem cut our reject rate by 40% and reduced water use by 30% within 60 days.”

— PMX Industries



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