



Cedar Industrial Capability

Project Experience by Area

Aerospace
Auto
Chemicals
Hand & Power Tools HVAC
Industrial Heat Process

Insulation Machinery
Machine Tools
Metals
Oil & Energy
Packaging

Power
Refrigeration
Textile Equipment
Other

Representative Clients

ABB Environmental Systems
ADCO
ADNOC
Advanced Steel Technology
Al Gabriele
Al Jazeera Tubes Al Moosa
Group Alcan Aluminium Corp.
Alcoa
Allied Signal
Allied Tube & Conduit
Alusuisse Lonza America
American Axle & Mfg.
American Flange
Amoco
Andrew Corporation
Appleton Products
Armstrong
Arvind Mills
Avery Dennison
Barkshaw, Ltd.
Barnes Drill
Bartley R.F. Systems
Batliboi Group
Belding Corticelli
Berwind Corporation
Black & Decker Inc.
Bowater
BP Americas, Inc
Britax Vega Ltd B
robras
Bundy Corporation
Burgess-Norton
Calgor Gas Ltd.
Candle Corporation of America
Canyon Corporation
Cap Snap Company
Carbone Lorraine
Carrier
Casella Far East Cdsya
Ceramiques

Chamberlain
Coastal Energy P. Ltd
Combustion Engineering
Concretos Apasco
Condea Vista
Consolidated Aluminum
Copeland
Corning Inc.
Courtaulds
Cuno Denka DMC
Dollfus
Dominion Textile
Donaldson Company
Dow Chemicals
Dow Corning Corp.
Dow Mining
DPE
Dubai Fuel Supply
Duracell International
Durametall Corp
Dynisco
Eagle Industries Eastman
Kodak Co.
Eaton Corporation
ECL/Pechiney
Ecogen
Emarat
Emerson Electric
Emicool
Eppco
ETA
Europipe
Eveready Battery
Everpure, Inc.
Exxon
Fasson Inc
Ferraz-Shawmut
Ferro Corporation
Filotex

Flexible Foam Market Council
Follett Corp.
Fuel Systems
Textron
Fuqua Ind.
Gates
General Electric Co.
General Signal
Gestetner Group
Gilardini Materials
GOIC
Goodyear Tire & Rubber
Griffin Pipe Products
Hamilton
Sundstrand
Handy & Harman
Electronic Mats.
Hart & Cooley
H-C Industries Inc.
Hobart Corporation
Hoechst Celanese
Honeywell Corporation
Howden Hydro R&D
Ideal Standard
Illinois Tool Works, Inc.
Insituform Technologies
Invista
ITT Industries
Jindo Corporation
Johnson Matthey
Kaiser Aluminum
Kanematsu
Kawasaki Heavy Ind.
Kay Ray Sensall
Kearney National
Kerr Plastics
Kloeckner
Komax Corp.
L 'Unite Hermetique
Lamex Trading Co.



Landis & Gyr
 Landis & Staefa Lanxide
 Larsen & Toubro
 Lawkim Ltd
 Lawson Mardon
 Laxmi Organics
 Lovejoy Industries
 Marconi Aero
 Mead Corporation
 Metal Processing Systems, Inc.
 Mettler-Toledo, Inc.
 Miller Buildings
 Milwaukee Electric Tool
 Mine Safety Appliances
 Minster Machine Co.
 Misumi of the Americas
 Mitsubishi Corporation
 Modine Manufacturing
 Monolithic Sensors Inc.
 Mycogen Corporation
 N N Bearings
 National Fluid Power Assn
 NEC Corporation
 Nextec Applications, Inc.
 Nippon Donaldson
 Nippon Mining
 Nippon Pigment
 Outokumpu
 Owens-Corning Insulation
 Paktank Peerless Pump
 People'S Gas Pittsburgh
 Pfaudler Co
 Pilkington Micronics
 Pkl Verpackungssysteme Gmbh
 Poly-Seal
 PPG Industries, Inc
 Praxair Incorporated
 Primex Inc.

Protexa
 Public Services Co.
 Quality Control Corporation
 Quest International
 Rafael
 Rayovac Corporation
 Recticel
 Reflector Hardware
 Rhodia
 Rhodoa Polyimide Div.
 Rieke Corporation
 Robinair
 Rockwell International
 RWC Inc
 S.C. Johnson
 S.N.P.E.
 Sagco
 Sandvik Steel Company
 Schroeder & Wagner
 Scitex
 Scotsman Industries
 Seiko - Epsam
 Sequentia, Inc
 Sgs Hong Kong, Ltd.
 Showa Denko Showa Shell
 Siebe Climate Controls
 Siemens Corporation
 Signetics Company
 Simco Simtech Sofedit
 Sogo Giken K.K.
 Solo Cup Company
 Stanley Works
 Star Elevators
 Sta-Rite
 Sumitomo Heavy Industries, Ltd
 Sundstrand Fluid Handling Corp.
 Sweco
 Tanaka Scale Works

Tatm, Ltd.
 Tecator Techint
 Technova Imaging Systems
 Textron Inc.
 Thales S.A.
 Thermo King Corp.
 Thermoelectron
 Timex
 Tintas Coral S.A.
 TMB Industries
 Tokyo Keiki
 Toro Company
 Toyo Gosei Kogyo
 Toyo Shutter Co.
 Trane Company
 Triangle Rubber Co.
 Trident Group
 Triumph Industries
 Unidel
 Union Carbide
 Unite Mermetique
 United Technologies
 Urethane Technologies, Inc.
 Vanderlande Ind.
 Ventrex Partners
 Vermont American Tool
 Vision Engineering
 Vitro Vidrio Plano
 Warren Williams International
 Weber Do Brasil
 Weirton Steel Corp
 Welspun
 West Company
 Weyerhaeuser Co.
 White Cap, Inc.
 Woodward Yankee Gas oil
 Yokogawa York
 Zapata oil

Project Experience

- Developed an entry strategy for industrial gas turbines covering multiple geographies
- Analyzed small aircraft engine parts and service requirements for an engine manufacturer
- Assessed the opportunities and risks for entry into the aircraft hydraulic actuator market as part of an acquisition analysis
- Conducted an in-depth analysis of the U.S. aircraft filtration market focusing commercial and military demand trends for new/OEM and aftermarket, fixed wing and helicopter applications
- Evaluated various end-use market segments for non- operating aircraft leases which characterized the current/future marketplace
- Evaluated the market for engine and APU overhaul services in the U.S. and Europe focusing on commercial segments



- Analyzed the market for aircraft turbine test stands and noise control systems
- Evaluated the opportunities for third party airport management, aircraft maintenance and fuel delivery systems
- Evaluated the opportunity for zirconia coating technologies for turbine combustor cans
- Analyzed the market for yaw, pitch and roll rate sensors
- Assessed graded structure technology for turbine blade and rotor repair and replacement
- Determine the opportunity for fiber optic gyroscopes in fixed wing and rotary aircraft and missiles
- Analyzed diamond coating opportunities in aircraft turbine blade refurbishment
- Evaluated emerging technologies in GPS and gyroscopes for military and commercial aircraft
- Completed an evaluation of aircraft and missile electro-and hydro-mechanical servo and actuator systems
- Analyzed superalloy industry opportunities for selected superalloys and refractory materials used in high-performance applications, including turbine engine parts and components/subassemblies.
- Analyzed component markets for airborne and land-based gas turbines, including definition of applications by specific engine design (model) and manufacturer
- Evaluated the global market for aircraft training simulators
- Identified trends in investment casting of turbine components for land-based and aircraft applications
- Assessed the market for aluminum products in commercial and military aircraft applications for plate, extrusion and precision forgings. A subset of this program also analyzed aluminum-lithium, metal matrix composites and titanium
- Developed an entry strategy for industrial gas turbines covering multiple geographies (North and South America and the Mid-East)
- Conducted a diversification strategy study for the aircraft components business for a leading manufacturer, focusing on engine components and systems, and control systems.
- Market assessment of CVD diamond and diamond-like carbon coatings in optical, wear and electronic applications.
- Evaluation of ceramic-based sensors in the automotive industry
- Global analysis and strategic plan for aluminum nitride powder
- Market analysis of machinable glass-ceramics
- Overview of the reticulated ceramics industry
- Specialized optoelectric coatings for electronic substrates (InGaSP, InP)
- Assessment of global TiO₂ markets
- High temperature CVD ceramic coatings
- Analysis of the market for ceramic additives and sintering aids
- Market and channel strategies for entry into the ceramic wear parts industry
- Situation briefing on aluminum nitride opportunities
- Strategic plan for the ceramic microelectronics industry
- Strategic plan for diamond and tungsten carbide coatings
- Evaluation of ceramic packaging sources of supply
- Evaluation of advanced ceramic reinforcements in structural applications (including the aerospace and automotive industries)
- Profiles of key suppliers of advanced composites including FRM, FRC and CCC
- Acquisition analysis of U.S. structural ceramic suppliers
- Evaluation of U.S. and European ceramic diesel R&D programs



- Analysis of the non-cutting tool markets for tungsten carbide, in armor, munitions, wear parts and heat sinks
- Analysis of the opportunities for air-fuel ratio meters using PZT ceramics
- Assessment of value-added PTC sensor applications
- Evaluation of corrosion-resistant linings in the chemical process industry
- Evaluation of advanced electronic ceramic technologies
- Worldwide ceramic powder database
- Analysis of markets and technologies for ceramic-based thin film disk drive components
- Competitive analysis of a major cutting tool and wear parts supplier
- Evaluation of U.S., European and Japanese elastomeric wear and sealing materials technologies
- Assessment of structural ceramic foam opportunities
- Competitive assessment of Japanese ceramic suppliers
- Evaluation of U.S. DOD ceramic packaging suppliers
- Acquisition analysis of a U.S. defense electronics supplier
- Analysis of U.S. automotive ceramic applications
- Strategic analysis of the hard-facing industry
- Competitive analysis of specialized surfactants and foaming agents in the U.S. and Europe
- Analysis of emulsion polymers in Asia and Latin America
- Analyzed the market for specialty lost foam casting release agents
- Chemical logistics and terminal needs in China
- Assessment of Propylene carbonate in Europe
- Organizational consulting in China
- Strategic basic chemical pricing in Asia
- Propylene glycol in Japan
- Specialty chemicals used in the foundry industry
- Analysis of urethane chemicals
- Phenolic resin systems and end users
- Analyzed polycarbonate extrusion and molding compounds
- Markets for plastic compounding
- Analyzed competitor costs in opacifiers in the personal care products market
- Identified opportunities for non-VOC diluents and carriers in ag chemicals, sand casting and wood products
- Evaluated competitor plans in the chemical delivery systems market for semiconductor production
- Herbicides, pesticides and fungicides in many markets (cotton, wheat, soybean, rice, orchids, oranges, tomatoes, etc.)
- New bulk food packaging concepts using pesticide infiltrated liners
- Analysis of timed release pesticides
- End user pesticide handling and disposal techniques and opportunities
- Analyzed the market for CCA alternative chemical additives for OSB and plywood
- Determined PF usage in the OSB and plywood market
- Analyzed the market opportunity for an alternative mold release agent in the OSB and plywood market
- Evaluated new technologies in termite control in commercial structures
- Completed a competitive analysis of a supplier of additives for personal care and paint products
- Evaluated the market for Nylon 6 spinning chips in the U.S.



- Competitive assessment of composite panel concrete forms
- Analyzed the market for PTFE covering automotive applications.
- Evaluated applications for Kalrez and equivalents.
- Assessed the fluoroelastomer market's competitive environment in the U.S. and Japan.
- Analyzed the market for FEP foam plenum cable.
- Assessed the market for aerospace cable and wire focusing on commercial transports in the U.S. and Europe.
- Developed a market entry strategy for a manufacturer of PTFE membranes in the clean room filtration (HEPA filters) market.
- Analyzed fluoropolymer competitor cost and market positions.
- Developed a market entry strategy in the hydrofluoric acid market covering IC etchants and cleaning agents.
- Estimated the global market size of standard magnetic ballasts used in task lighting
- Evaluated trends in lighting technologies including HID, halogen, fluorescent, LED and others
- Quantified the U.S. market potential for solid state electronic ballasts for lighting applications
- Assessed the market for fluorescent lighting including fixtures, starters, ballast and lamps.
- Analysis of power supplies in the telecommunications market
- Evaluation of power supplies used in military aircraft
- Overview of the markets and competitive environment for linear and switched-mode power supplies
- Analysis of end-use markets for complimentary bipolar ICs, focusing on ASICs for signal processing, distribution and other uses, including power supplies.
- Acquisition assessment of a suppliers of uninterruptible power supplies.
- Analysis of the switching power supply magnetic component market
- Acquisition evaluation of a supplier of switching power supplies.
- Development of a market entry plan for a supplier of mold release agents
- Analyzed of lost foam casting and mold release agents for aluminum and iron components
- Investigated new trends in foundry controls and sensors
- Completed a competitive assessment of sand casting equipment manufacturers
- Compared final piece costs of automotive brake, chassis and suspension stampings, forgings and castings
- Developed an economic analysis comparing aluminum casting methodologies. Low pressure, high pressure, die casting and semi-solid casting were evaluated
- Analyzed advanced casting processes in the ferrous foundry industry
- Evaluated foundry opportunities for IR heat treating technologies
- Analyzed the non-ferrous foundry market for electric resistance furnaces
- Completed a technical market assessment of high velocity gas burners
- Identified opportunities and competition for high alloy powder metals in the automotive market
- Evaluated new casting and net-shape forging technologies for the aerospace
- Assessed the market for ultra large-scale investment casting equipment for turbine components
- Analyzed polycarbonate extrusion and molding compounds
- Snap-On Tool vehicle accessories, designs and layouts
- Competitive analysis of hand tool marketing and merchandising strategies
- Pneumatic tools and systems
- Automotive fastening tools and systems
- Automotive aftermarket in Asia
- Automotive crash and light repair equipment in Asia and Europe.



- Distribution analysis of professional wood working tools
- Analysis of Roto-Zip competition
- Analysis of Asian hand tool manufacturers
- Global evaluation of pipe threading and cutting equipment
- Evaluation of power tool batteries and motor technologies and markets
- Analyzed the industrial and retail markets for rivets and tools in the US, Europe and South America
- Quantified the market for self-anchoring screws in the big box and hardware channels
- Identified market opportunities for gas-charged and powder- actuated concrete fasteners
- Evaluated automotive mechanical and adhesive fastening systems
- Assessed complementary products for a client's "big box" channel
- Evaluated new packaging and POP displays for hardware
- Evaluated competitor hardware packaging and bar coding processes for big box customers
- Split A/C systems
- Through-the-wall A/C for hotel/hospital use
- Rotary screw compressors
- High tonnage A/C compressors
- Cooler and refrigeration equipment for supermarkets
- Residential and light commercial A/C
- Commercial/industrial rooftop A/C
- PTACs (packaged terminal A/C)
- HVAC repair services
- Worldwide market for applied A/C systems
- Automotive radiator core and A/C suppliers
- Automotive A/C trends in the U.S., Latin America and Asia
- Truck replacement radiators/oil coolers
- Precision small diameter tubing and fittings markets including automotive, instrumentation, HVAC, controls and others
- Japanese market for room A/C
- A/C pressure and temperature controls and limits
- Demand for HVAC controls and sensors in China
- Subfloor radiant heating markets in the U.S. and Europe
- Aluminum fin-stock for building and auto A/C
- Industrial applications for RF furnaces
- Turbine component manufacturing processes
- Structural aluminum use in the global commercial aircraft industry
- Fiber reinforced ceramic and fiber reinforced metal processing technologies
- Copper-based IC sputtering technologies
- Multichip polyimide packaging technologies
- Ceramic multilayer electronic packaging technologies
- Value-added opportunities for steel service centers
- Coated galvanized metal applications
- SBQ hot-rolled bar processing and costs
- Ceramic wall and floor tile manufacturing technologies
- Assessment of high temperature industrial furnace insulation technologies
- Analyzes of the markets for glass wool, including roof, wall, ceiling, sound attenuation and fireproofing.



- Assessment of high temperature industrial furnace insulation technologies including fiber blocks, water walls brick refractories and other materials.
- Completed a global analysis of OEM and replacement belts used in two-wheel and utility equipment.
- Evaluated the market for vibration control products for heavy machinery.
- Assessed an improved elastomeric “O” ring for plastic sewer and water pipe applications.
- Completed an analysis of elastomeric seals for biomedical applications.
- Evaluated applications for RTC silicones and gels.
- Analyzed the market for material handling equipment in the mining industry.
- Assessed global demand for a manufacturer of moving walkways.
- Conducted a competitive analysis of suppliers of fluoro- elastomers in the U.S., Japan and Europe.
- Calculated the global demand for steel wire and carbon black used in the manufacture of automotive tires.
- Projected the development of trends in automotive tire technology.
- Assessed the use of dry rubber belts vs. metal belts in automotive CVT (continuous variable transmission) applications.
- Estimated the global market for hydraulic hose, tube and fittings.
- Completed a competitive analysis of Lord Corporation.
- Analyzed the market for active and passive vibration control and shock absorbers for industrial applications.
- Analyzed markets for glass wool, including roof, wall, ceiling, sound attenuation and fireproofing.
- Assessment of high temperature industrial furnace insulation technologies including fibre blocks, water walls brick refractories and other materials.
- Evaluation of mineral wool applications and markets.
- Identification of emerging opportunities for glass fibers in automotive applications including headliners, doors, chassis and firewalls.
- Comparison of cost-performance of alternative commercial construction insulation materials including fibreglass, isocyanurate, polystyrene, polyurethane and others.
- Assessment of the process scrap and post-consumer scrap cycle for building and appliance insulation materials.
- Analyzed the North American market for rigid plastic packaging machinery and form fill and seal packaging machinery for a group of Italian machinery OEMs.
- Completed a competitive analysis of stamping press suppliers serving the North American market.
- Analyzed machine tool use and future trends in the North American appliance and A/C markets.
- Evaluated specialized forming machine tools for the appliance and automotive industries in North America.
- Completed an injection molding process improvement program for a manufacturer of plastic packaging.
- Evaluated production capabilities and recommended partners in Western and Eastern Europe for a manufacturer of automotive and truck wheels.
- Evaluated new opportunities for high speed automated vision systems for quality control.
- Analyzed noise and vibration control solutions for high speed presses. Cedar evaluated solutions contributing to closer tolerances and compliance with government regulations of >1000 stroke per minute units.



- Evaluated U.S. and European precision forgings suppliers for the military and commercial aircraft industries. Program required Cedar to compare technologies and understand press equipment performance among these suppliers.
- Comparison of plastic production method costs for automotive markets covering RTM, SMC, RTP and RIM.
- Cost and performance analysis of ceramic can tooling. The study required Cedar to contact key press suppliers, toolmakers and end-users to determine ceramic tooling requirements.
- Analysis of the markets for high speed insert plastic molding machines.
- Assessment of Asian markets for high speed precision stamping presses for electronic terminals, connectors and lead frames.
- Competitive analysis of automotive structural panel materials in the U.S. and Japan. Study covered comparison of cost, cycle time, finish quality for sheet molding compound, thermoplastic composites, aluminum and steel alloys.
- Analysis of drives and motion control systems for metal and plastic forming machinery.
- Identified markets for high speed steel forgings.
- Competitive analysis of automotive stamping suppliers.
- A market analysis and entry study of the special machine and N/C machining center market which identified high potential growth areas, as well as strategic assessment of viable entry alternatives.
- Determination and prioritization of joint venture opportunities for a major company with laser technology capabilities within the machine tool industry.
- Evaluated the U.S. market for CNC controllers within the new machine tool and potential retrofit markets. Study was being undertaken for a non-U.S. client interested in a U.S. joint venture.
- A major acquisition analysis in multiple segments of the machine tool market to identify likely areas for product diversification.
- An evaluation of the U.S. market for large vertical lathes, which examined equipment utilization, market size and growth, competitor activity and trends in product features/functions.
- An analysis of the concept of using flexible machining systems in job shops was made to determine the feasibility of manufacturing medium volume machined parts on semi-automated equipment and supplying parts to end-users who typically produce in-house.
- Conducted an extensive evaluation of the U.S. programmable controller market within ten major industrial and OEM segments, for a leading domestic supplier. Study targeted strategies for the client to improve its position within its served markets, as well as identifying key areas for potential diversification.
- An entry analysis for a major machine tool producer into the European market. Study emphasized product demand, distribution and entry tactics.
- A study of the U.K., French, and German markets for a series of machine tools. The emphasis was placed upon market size, growth, and competitive positioning of major product line participants.
- Conducted an in-depth evaluation of the market for factory automation components and systems including incremental motion control systems (motors and drive electronics) and programmable controllers.
- Analyzed the Brazilian market for factory automation equipment.
- Provided a prospective of the wind energy market and growth, created a professional document for the investment decision in wind energy market, covering products, global supplier market shares and trends.
- Analyzed trends in hydraulic and electro-mechanical motion control products used in mobile material handling equipment.
- Completed a market assessment of the demand for NG forklifts in India



- Completed a market assessment of the demand for NG forklifts in China
- Evaluated the markets for factory automation equipment in the US, including automated material handling equipment and industrial carts
- Assessed the market demand for tubular products used in the material handling industry
- Quantified the market for material handling equipment in the concrete industry
- Completed a due diligence analysis of an engineer & constructor specializing in the design of material handling systems and facilities for the automotive industry
- Assessed the technologies and trends for automated warehousing systems
- Completed an analysis of warehousing technologies and trends in the building materials sector in Europe
- Developed a detailed competitive assessment of SBQ hot rolled bar in the U.S. cost, capacities and strengths and weaknesses of competitors were covered.
- Completed a detailed analysis of markets and competitors for aluminum finstock.
- Analyzed the markets for steel and aluminum building panels.
- Completed a detailed competitive analysis of steel coil and coil processing services in four geographies in the U.S. Paint, galvanizing and other treatments were covered.
- Helped a hot rolled bar producer evaluate the acquisition of a major U.S. facility. As part of this effort, developed “proforma” market projections by key bar applications in order to determine the viability of the project in addition to the competitive analysis and customer image assessment.
- Analyzed the future domestic OEM opportunities for automotive structural castings, forgings and stampings in chassis, suspension and brake applications. Steel, iron and aluminum were evaluated on the basis of part and tooling costs.
- Benchmarked a steel service center against its major competitors in industrial gas turbines, turbochargers for diesel locomotives and motors.
- Conducted a market research program on abrasive wear-resistant materials used for cyclones, ball/pebble mills, crushers and other ore processing equipment. Client targeted new product development areas for expansion.
- Conducted a program that included all mill product forms, end-use industries and high-performance alloys and metals used in the CPI.
- Identification of potential commercial applications for a proprietary alloy developed for use extensively in rotating components. The alloy provided specific strength properties not readily achieved by similar metal alloy systems.
- Completed an acquisition analysis for a major repairer of commercial aircraft engines and components, primarily compressors and turbines.
- Performed a study on trends in investment casting of turbine components for land-based and aircraft applications.
- Conducted a study on the future outlook for high-temperature turbine components.
- Developed a strategic marketing plan for a titanium manufacturer entering a new market. Evaluated plant/joint-venture options, competitive strategies and probable reactions. Assessed client’s current marketing, sales, product quality and distribution efforts. Recommended market entry strategy and forecast financial results.
- Conducted a strategy and assessment of the market demand for the client-proposed expansion program in carbon-based bar market, including matching capacity to demand.
- Analysis of the product specification and selling requirement was developed through in-depth end-user, distributor and competitor interviews.



- Developed strategic plans and recommendations for this foreign-based client wishing to increase its penetration in the
- U.S. plate, forging and casting marketplace. Precise volume estimate, timing and expected market share information was developed.
- Determined the position, strengths/weaknesses, image and future strategic and tactical direction of key suppliers serving forging, die casting, extrusion and injection-molding applications.
- Identified potential applications of an advanced casting process in the ferrous foundry market.
- Investigated the use of coating power particulates to form unique alloying systems for medium and high-performance components in four industries.
- Segmented the ferrous casting industry by part size, end-use application and price range. OEMs, transplant manufacturers, and competitors were profiled. Significant opportunities were positioned for the client.
- Estimated the future potential for steel products moving through major metal service centers by assessing the end-use markets, trends, competitive environment and competitive strengths and weaknesses. Enabled the client to reorient its distribution network to maximize growth.
- Conducted an evaluation of the business position and image of a major chain of steel service centers for a company considering acquiring a chain.
- Conducted a major analysis of ring rollers and forgers. Analyzed the market opportunity for our client, who wanted to forward integrate.
- Analyzed the future domestic OEM opportunities for automotive structural castings, forgings and stampings in chassis, suspension and brake applications. Steel, iron and aluminum were evaluated on the basis of part and tooling costs.
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- Conducted a detailed study on steel plate fabrication market, value chain, competition and technical product segments for the best investment decision.
- Pipe and competitive products of displacement -- Analyzed the market for major pipe products (cast iron, ductile iron, prestressed concrete, PVC, ABS, FRP, clay and steel) used in various applications: municipal waste, potable water, agricultural, drain/waste/vent, building and construction, and other pressure and nonpressure end uses. Market-size data and forecasts were provided, showing detailed displacement and inter-product competition, including detail trends and factors affecting the business.
- Analyzed the technologies, economies and markets for noninvasive pipe repair in sewer, water and gas pipeline segments.



- Completed a detailed analysis of the spool pump in the U.S. petrochemical industry.
- Performed a competitive analysis and positioning analysis (products, end-use markets, applications, geography) of selected centrifugal slurry pump manufacturers.
- Conducted a program to determine the total reciprocating pump market size and breakdown/segmentation of data and forecasts by pump size and end-use markets. Competitors market shares and strengths and weaknesses were determined. Product and market entry recommendations were provided to leverage the client's strength and unique position.
- Developed a new product entry analysis and strategy formulation for a centrifugal pump manufacturer.
- Completed an acquisition analysis of a small, high precision pump supplier as part of the client's diversification efforts.
- Assessed new opportunities for pumps in the marine, process, petroleum and pulp and paper industries.
- Segmented the "explosion proof" market for motors, drives and pumps.
- Evaluated the market for turbomolecular pumps.
- Analyzed noise control technologies in the hydraulic pump market.
- Assessed the market for diesel and gas turbine driven auxiliaries. The study defined product/market applications, distribution strategies and entry mode.
- Analyzed the markets for specialized elastomeric seals in food, beverage, pharmaceutical and chemical pump, valve and process equipment applications. PTFE and other specialized fluoropolymers were the main focus.
- Conducted an extensive study of new seal technology within multiple OEM and replacement markets. Study was completed for a major UK supplier seeking to enter the U.S. market via licensing or acquisition.
- Evaluated the market opportunities for magnetic seals. Gas transmission compressors and other gas handling equipment were analyzed to determine needs, pricing and distribution.
- Assessed special steel-tungsten carbide "graded structures" for mechanical seals. Performance requirements and price targets were established for this new material.
- Analyzed diamond-coated dynamic seals. A new technology using CVD diamond on mechanical seals was evaluated in the marketplace.
- Completed a competitive analysis of U.S. mechanical seal suppliers. Completed an in-depth analysis of suppliers covering OEM vs. replacement sales, marketing and distribution strategies and future developments.
- Quantified the market for tungsten carbide seal faces in both new and replacement applications.
- Assessed the CPI, P&P and petrochemical mechanical seal markets in Canada, Brazil, Mexico and Argentina.
- Analyzed wear products in the petrochem, chem process, oilfield and pulp and paper industries. The program covered usage patterns of mechanical seals in addition to other components.
- Evaluated tank mixer assembly segments in the CPI.
- Assessed ceramic materials use in the mechanical seals market.
- Analyzed alumina ceramic mechanical face seals in the U.S. and Europe.
- Large-diameter ductile iron pipe -- Assessed the U.S. market for pipe (24-54"). Focus was on municipal market and competitive positions.
- Large-diameter piping -- Studied the market for FRP and competitive products in the municipal, highway and mining markets.
- Evaluated the automotive market opportunity for foam headliners.
- Analyzed biomedical applications for special elastomeric seals and gaskets.



- Analyzed polycarbonate opportunities to displace cellulosic thermoplastics.
- Assessed the markets for polycarbonate extrusion and molding compounds.
- Evaluated applications for RTC silicones and silicone gels.
- Developed a market entry plan for a supplier of mold release agents.
- Analyzed suppliers of fluoroelastomers in the U.S., Japan and Europe.
- Assessed the market potential for polyurethane foam in bedding and furniture.
- Analyzed the new technologies used for recycling polyurethane and polystyrene foams.
- Evaluated the automotive OEM market for seating foam and forming technologies.
- Projected future volume and value of resins and reinforcements in the U.S. and European aircraft industries.
- Analyzed the competitive environment for polyurethane systems and thermoplastic polyurethane in Brazil.
- Evaluated the market for resin compounding in Brazil.
- Assessed the future growth and use of steel stampings compared to plastics and aluminum in the automotive industry.
- Determined the U.S. automotive OEM selection criteria and plans for SMC, fiber reinforced thermoplastics, aluminum, and high strength steel for body panels and structural components by platform, by year.
- Identified the technologies, properties and economics of plastics in selected automotive applications.
- Evaluated the automotive market opportunity for foam headliners.
- Analyzed biomedical applications for special elastomeric seals and gaskets.
- Quantified the U.S. market for municipal sanitary sewer pipe for a U.S. company which was contemplating market entry with a plastic pipe product.
- Assessed the market potential for underground fiberglass fuel storage tanks.
- Evaluated the market for plastic pipe for industrial applications (e.g., coal slurries, pulp, etc.)
- Evaluated many individual plastic and FRP applications in the building and construction industry, including:
 - Adhesives, caulks and sealants
 - Tub surrounds/tubs
 - High pressure/low pressure laminates
 - FRP and vinyl laminated building panels
 - FRP window lineals
 - Plastic pipe
 - Electromagnetic buildings
 - Plastic conduit
 - Reflective films
 - Furniture
 - Siding, soffitt, fascia and trim
 - Single-ply roofing
 - Subfloor radiant heating tubing
- Completed numerous programs in plastics for packaging, including:
 - Flexible packaging trends in food service
 - Biaxially oriented blow molded containers
 - Manufacturing costs for package converters
 - Film manufacturing systems
 - Changing attitudes on barrier and shelf life



- Polypropylene films
- High barrier rigid plastic containers
- Identified opportunities for plastics in corrosion, abrasion, and erosion applications in chemical process equipment.
- Analyzed polycarbonate opportunities to displace cellulosic thermoplastics.
- Assessed the markets for polycarbonate extrusion and molding compounds.
- Evaluated applications for RTC silicones and silicone gels.
- Assessed the future for copper polyimide multichip electronic packaging.
- Evaluated various armor materials and market opportunities.
- Developed a market entry plan for a supplier of mold release agents.
- Assessed the use of plastics in semi-conductor processing equipment and systems.
- Analyzed the market for high precision injection/insert molding equipment.
- Evaluated bathroom construction techniques in Japan covering aluminum panels, ceramic tile, and fiber reinforced plastic.
- Completed a detailed evaluation of the use of SMC body panels and structural components in the Japanese auto industry.
- Analyzed suppliers of fluoroelastomers in the U.S., Japan, and Europe.
- Projected future volume and value of resins and reinforcements in the U.S. and European aircraft industries.
- A strategic assessment in Korea of the current and future market for HDPE, PP, LDPE, and LLDPE in terms of demand/supply, competitive positions, and entry mode.
- A multi-country Asian study to assess the market situation for emulsion polymers in order to develop a regional penetration strategy.
- A broad evaluation of plastics opportunities in Korea's automotive industry, considering industry growth, materials evolution, and supply considerations.
- An evaluation of the Korean market for engineering plastic compounding to identify viable opportunity areas for market penetration.
- A multi-country Asian study assessing emerging applications and level of future investments in selective end-use markets for a proprietary engineering plastic alloy.
- Evaluation of the ABS market in Brazil.
- Competitive analysis for polyurethane systems & thermoplastic polyurethane in Brazil.
- Evaluation of the market for resin compounding in Brazil.
- Assessment of the Brazilian market for plastic pipes for gas distribution.
- Analyzed market for polycarbonate photosensitive sunglasses and ophthalmic lenses.
- Analysis of Japanese competitor strategies for the U.S. in ultra-high performance elastomers.
- Case studies on selected Japanese chemical joint ventures with U.S. and European firms.
- Assessment of the Japanese market for OPS sheet usage in selected packaging applications.
- Assessment of Japanese resin suppliers' offshore strategies for North America.
- Identified partners for the production of alkaline batteries in China.
- Quantified the market for consumer dry batteries in Asia.
- Analyzed the market for uninterruptible power supplies in electric service critical industries.
- Evaluated the demand for new chemical compounds used in the production of lithium ion batteries.
- Assessed the demand for energy storage components and systems for electric vehicles.
- Evaluated new technologies for deep cycling military batteries.
- Analyzed the global automotive aftermarket, including replacement batteries.
- Estimated the global market demand for solid state electronic ballasts for lighting applications.



- Completed a study of back-up power supplies used in the telecom industry.
- Developed an acquisition analysis of a supplier of switching power supplies.
- Evaluated the market for power supplies in commercial and military aircraft.
- Completed a detailed assessment of the electric utility transformer market and competition.
- Assessed future competition in the T&D and DSM market on a global basis.
- Evaluated opportunities for the use of advanced electric meters in tying in with DSM programs.
- Evaluated sensor technologies for automated distribution systems.
- Evaluated the markets for electric utility transmission and distribution products.
- Analyzed the U.S. and European markets for polymer-based insulators and arresters.
- Provided an overview of the metal enclosed switchgear and power fuse market.
- Performed a segmentation analysis of the low voltage circuit breaker business.
- Assessed a supplier of uninterruptable power supplies.
- Evaluated the U.S., Asian and European markets for distributed generation using small localized turbo-generator modules.
- Analyzed the global energy market to identify opportunities for power generation. Current costs, subsidies and shortfalls were identified.
- Created a business plan to enter China with a high efficiency, small-scale turbo-generator for power generation in small communities.
- Completed a detailed analysis of DSM opportunities in commercial and light industrial markets. New electro- technologies and applications were explored for an electric utility with four distinct operating companies.
- Benchmarked utility strategies to deal with deregulation. Utility and nonutility businesses were analyzed.
- Analyzed nuclear and nonnuclear utility outsourcing opportunities for a nuclear fuel supplier. Spent fuel storage, disposal, outage management and pump repair were covered.
- Assisted an electric utility seeking to implement a program of electro-conversion among its industrial customers.
- Completed an extensive cogeneration study for three utilities and a gas turbine supplier of the <1MW cogeneration market opportunity for a unique turboalternator concept.
- Analyzed opportunities for market development of “total energy” on-site generating systems for commercial and industrial applications.
- Analyzed cogeneration opportunities for a manufacturer of gas turbine generator sets. This study evaluated the gas turbine’s position relative to steam boilers, diesels/recips and other alternatives.
- A global market characterization and entry strategy study of under 1,500 HP industrial gas turbines and gas turbine generators. An extensive study was completed covering multiple geographies (North and South America and Mid- East).
- Conducted an in-depth review of the U.S. market potential for natural gas fired, alkaline metal thermo-electric converters in the <100 KW range, within residential, commercial and industrial markets. Conducted an extensive study for a major electric/gas utility to determine how to more effectively market to industrial customers. Analyzed various technologies being used by customers within the client’s served market.
- Technological assessment of the potential to apply fuel cell technology to serve electric utility and industrial markets.
- Assessed competitors’ views of the U.S. utility market through 2000 and characterized the strategies of these competitors in various product segments.
- Evaluated best-in-class tool companies serving Home Depot and Sears



- Assessed professional mechanic and industrial maintenance buying behavior of hand tools, power tools and air tools.
- Quantified market & sourcing for power tool motors, batteries & electronics
- Analyzed the brand positioning of multiple lines of power tools and hand tools and industrial storage products in mobile, retail and industrial channels.
- Evaluated a major supplier's sales and marketing cost position in plastic pipe fittings at big box and second tier building products retailers.
- Completed a strategic audit of a multi-line supplier of woodworking power tools, saws and planers within the professional and big box distribution channels.
- Analyzed the market position of a rivet supplier of pneumatic and electric tools within industrial and retail channels.
- Evaluated branding opportunities for a supplier of pipe specialized tools.
- Determined the market opportunity for a supplier of high efficiency industrial compressed air systems for pneumatic tools and paint booths.
- Analyzed the emergence of global big box retailers and their impacts on flooring products marketing in North America, Asia, Europe and South America.
- Conducted a competitive analysis in the key retail channels for a supplier of ceiling panels and grid.
- Completed a comprehensive competitive assessment of supermarket refrigeration equipment suppliers
- Analyzed the market for mobile refrigeration equipment
- Evaluated screw compressor technology for commercial HVAC and refrigeration applications
- Analyzed the market for commercial refrigeration controls
- Identified and evaluated Asian manufacturing sources for HVAC and refrigeration compressors
- Developed a business strategy for a manufacturer of commercial ice machines and refrigeration equipment
- Analyzed the market for specialized metal forming machinery for the HVAC and refrigeration industry
- Evaluated opportunities in cold storage facility equipment and construction
- Identified market opportunities for cryogenic pumps
- Evaluated the markets for tire cord in North America and Europe.
- Analyzed the market for non-woven medical disposables in North America, South America, Asia and Europe.
- Assisted a major US manufacturer of hosiery to enter the China market.
- Completed an in-depth evaluation of flooring products used in South America, including carpet, vinyl, wood and ceramic floor coverings.
- Assessed the global competitive environment in the production of synthetic fibers and feed stocks.
- Analyzed the markets for textile reinforcements for plastic and metal composites.
- Evaluated the Chinese market for textiles covering sleep wear, under garments and hosiery.
- Completed a competitive analysis and benchmarking of the global producers of textile spinning chips.
- Analyzed the global markets for elastic narrows in formal wear, active wear, swim suits, under garments and others.
- A European business venture analysis of the hospital disposables market for a major U.S. chemical company in the UK and Germany, the program included an evaluation of markets for both rigid and flexible disposable products in the hospital market.



- A study of the market of microfiltration in the U.S. pharmaceutical and medical equipment market. This study examined aspects of filtration use, analytical lab practices, GMP criteria, etc.,
- To determine trends in filtration use for sterilization and other critical medical applications.
- Evaluated the Latin American market for anesthetic agents and equipment/accessories, including disposable medical non wovens.
- Assessed the Brazilian disposable diaper market for an Argentine firm looking to export there.
- Analyzed the market for non woven materials in the Brazilian automotive market
- Market assessment of existing business and identified new diversification areas along with formulation of group business strategy for a oil field services company in UAE.
- Developed Business Strategy aligned organization structure, Job Descriptions and Individual Performance Measures for key positions for a date palm cultivation company.
- Formulation of business & IT strategy with implementation of recommendation including IT selection & implementation along with BPR for a major service provider in Abu Dhabi
- Review & development of Organization structure along with key responsibilities and charter of authority for Leading engineering company in India
- Assisted in validation of business strategy & development of Enterprise Performance management system using the Balanced Scorecard for largest construction company in ME
- Assisted through critical HR initiatives including re-alignment of the organization structure and other aligned initiatives for a government investment company
- Developed overall business plan and strategy and formulated Balanced Scorecard for deployment of strategy for a \$ 223 Mn holding company in Dubai.
- Conducted detailed process reengineering study and recommended process realignment resulting in significant cost savings and profit opportunities for iron and largest steel manufacturer.
- Indian market assessment as part of the global market assessment for educational products, services and software for major education service provider in USA.
- Reviewed Indian market for CVT based powertrains for low torque vehicle applications in terms of size, segmentation and opportunity for Gates
- Market Assessment and quantified elastic narrows market segments with customer requirements and properties in India for US based largest fibre company.
- Market assessment for Pyridine and its derivatives in Indian and Global markets, developed business plan to negotiate partnership model with identified partner
- Developed Enterprise Performance Management system & various HR initiatives using the Balanced Scorecard for leading cast iron product manufacturer
- Formulation of group strategy and its implementation and structure recommendations across all group companies for Abu Dhabi based royal family owned company.
- Developed business planning process & strategy at group level defining role of family and developed group/unit organizational structure for major technology company with diverse holding.
- US & Canadian market assessment for steel pipes and assistance in selecting plant location for setting up steel pipe plant in USA for large pipe manufacture from India.
- Assist in a strategic review of organizational structures, key HR processes, and current Balanced Scorecards for biggest terry towel manufacturer in the region.