

Strategic Analysis



Helping Clients Achieve Strategic Objectives



**TECHNOLOGY
CATALYSTS**

Strategic Analysis

The Strategic Analysis Department of Technology Catalysts International (TCI) is responsible for high-value, in-depth studies that help a company in developing business plans and establishing competitive strategies for their business units. Typically, these are global studies requiring intensive interviewing as an information sourcing strategy, with detailed analysis and recommendations based on interpretation of results to assist the client's strategic planning.

The department consists of the most senior people within TCI. All are trained as engineers, hold MBAs, and have well-developed, broad capabilities. These individuals have combined professional experience of more than 100 years, and as a result have developed an extensive network of senior executives in the fields in which they consult. Consulting fields include:

- Chemical Processes, Refining, and Petrochemicals
- Polymers, Plastics, and Advanced Materials
- Specialty and Fine Chemicals
- Nanoparticles
- Electronic Chemicals
- Fuel Cells, Energy, and Storage Batteries
- Recycling Technologies
- Pharmaceuticals and Diagnostics

The following are examples of the projects actually completed by the department over the last several years.

Market Assessment

The Strategic Analysis department at TCI has handled a variety of market assessment studies. These include:

- Business Research
- Assessment of Market Potential
- Market Entry Strategies
- Value Enhancement
- Distribution and Marketing

Plastic Additives

On behalf of a European producer of specialty additives, TCI investigated opportunities for technically advanced dispersing agents for fillers and pigments in thermoplastic resins. Unmet needs and market potential were determined. Based on over 50 interviews and visits to thermoplastic resin processors, compounders, masterbatchers, and pigment producers, we identified clear unmet needs for superior dispersing agents. TCI advised its client as to which markets to focus on and suggested market entry strategies. Our client is proceeding along suggested lines.

Specialty Chemicals

For a Japanese client, TCI assessed the glutaric acid business in the U.S. Suppliers and major customers were identified. Glutaric acid is unique and has many possible applications. However, due to limited availability and high cost, most applications are either "potential" or are quite small in volume.

Pressure Sensitive Adhesives

For a client considering broadened participation in advanced PSAs, TCI was commissioned to develop a global data and information base concerning the use of PSAs in the medical and wound healing businesses. Based on the study findings and our conclusions, TCI recommended several proactive steps to enable more effective marketing of the client's line of products, changes to the client's organization, and strategies to capitalize on identified opportunities to serve the medical and wound healing PSA businesses.

Optical Media Markets

TCI conducted a global study of the Optical Media markets (DVDs, CDs, laser focusing lenses), medical packaging and the specialty plastics used in these markets. TCI recommended that the client target "back light film" for CRT monitors, investigate certain medical packaging applications, and conduct market development in certain specialty lens areas.

Neonatal Hepatitis Diagnostic Test

TCI determined the potential for a non-invasive neonatal diagnostic test for jaundice on behalf of the Japanese technology developer. After a careful review of medical diagnostic practices, we identified opportunities for this diagnostic test in neonatal hepatitis and also for diagnosing adult hepatitis, liver function disorders associated with cholesterol-reducing drugs, and work force-related exposure to chemicals.

Flat Panel Display

Strategic Analysis studied the flat panel display (FPD) screen business for a client who has developed an anti-reflective film using plasma technology at ambient temperatures. Global revenue growth for FPDs used in TVs and computer monitors was forecast. The leading companies making anti-reflective films were identified. In general, our interviews indicated that there is an increasing demand for anti-reflective film, primarily because of a very high growth in the FPD, CRT, LED/LCD instrumentation, and specialty TV markets. Market entry strategies were outlined.



Opportunity Assessment/Strategic Alliances

The department is frequently commissioned to assist clients in opportunity assessment and to identify potential strategic alliances:

- Business development opportunities
- Identify contract-manufacturing opportunities
- Investigate new markets
- Outsourcing services
- R&D and commercialization opportunities
- Strategic alliance and licensing opportunities

Nanoparticle Technologies

Strategic Analysis performed an in-depth study of the nanoparticle field with a particular emphasis on inorganic and ceramic particles. The processes evaluated include: the sol-gel process, hydrothermal synthesis, flame hydrolysis, plasma synthesis, and the emulsion technique. While the U.S. Government is a clear driving force in nanotechnology development, there are a very large number of organizations now engaged in R&D on nanoparticles. The business models being used by the technology developers were studied and “Factors for Ensuring Success” were developed.

Fuel Cells

For a North America Tier 1 auto industry supplier, TCI identified enabling technologies in the fuel cells business. Commercialization potential within a two-to-five year horizon was the focus. The findings of this effort were obtained through 35-40 direct in-depth interviews in the U.S., Europe, and Japan. Key challenges and the solutions to meet them were identified. The fuel cell types considered were: Proton Exchange Membrane, Solid Oxide, Alkaline, and Molten Carbonate. Market sectors investigated were: automotive (power, APUs), residential/stationary, and portable (electronics, military, other). TCI identified and evaluated all of the companies in the fuel cell business that either have commercial products or are close to being commercial and developed a prioritized listing of nine potential strategic partners.

Nanofibers

For a U.S. company with unique, extremely fine-fiber technology, TCI investigated several alternative potential applications and estimated the value of these new business opportunities. In this research effort, TCI focused on household and personal care products, certain air and liquid filtration systems, and catalyst carrier applications. TCI suggested a development prioritization and prepared a detailed market entry strategy based on the client’s technical and commercial strengths; recommendations included strategic alliances with key market participants.

Thermoplastic Elastomers

TCI investigated market opportunities, competitive movements, and threats relating to new technology developments (e.g., metallocene catalysts) used in thermoplastic elastomers. Other developing technologies, such as fuel cells, were investigated to determine impact on demand for thermoplastic elastomers in automobiles.

Paint Rework and Reuse

A leading architectural paint company retained TCI to identify possible uses for returned and waste paint. Through fifty plus interviews TCI identified several novel applications that avoided disposal via land filling. The focus of the study was to identify uses other than recycled paint.

Magnetorheological Fluids

For Delphi Technologies, TCI successfully identified marketing, strategic alliance, and licensing opportunities for magnetorheological (MR) fluids. Delphi and General Motors have commercially introduced MR fluids in intelligent suspension systems. Delphi owns intellectual property in this field and wanted to investigate new business opportunities.

Contract Manufacturing Services

Strategic Analysis investigated the contract manufacturing market for a client seeking to expand the scope of its activity in the field by leveraging their considerable process and manufacturing skills. We provided an estimate of the size of the current business, a forecast of growth trends, and an itemization of the key business drivers.

For several international companies, TCI has assisted in the identification of customers requiring outsourcing and toll manufacturing services. Typically, TCI first develops a sound understanding of the client’s chemistry strengths and manufacturing capabilities, and then conducts a customized search based on personal interviews to identify potential customers.

Zinc-Air Battery

Zinc-air cells provide one of highest energy densities and energy storage capacities compared with other electrolytic materials such as lithium-ion, nickel-metal hydride, and nickel-cadmium. TCI completed a study identifying research firms and laboratories available for a strategic alliance on zinc-air technology. Opportunities for technology licensing or company acquisition were highlighted.

Competitive Intelligence

TCI's Competitive Intelligence services are almost exclusively managed by members of the Strategic Analysis department. These programs typically run for multi-year periods and are exclusive to the client.

Automobile Plastics Development

For a major European plastics company, Strategic Analysis monitored and reported on technical and commercial developments in automobile manufacture in the U.S. over a 12-year period. Results were reported on a quarterly basis with AWACS Alerts as required and annual visits to the client. As a result of this effort, the client:

- Gained a solid and continuing knowledge of what its main customers and competitors were doing.
- Entered into several technical cooperation and strategic alliances with U.S. firms
- Focused its own technical development efforts

Information Technology Enclosures

TCI studied the dynamics of the ITE business to assist a client seeking to broaden its participation in this marketplace. The primary objectives of this project were to develop: an overall industry profile, a business profile of each of 13 targeted competitors, and an outline of the methodology used to serve this business. A market entry strategy was prepared (including certain acquisition targets); the client is proceeding along the lines suggested.

Unique Coating Systems

A major U.S. paint manufacturer commissioned TCI to identify coating systems (ambient temperature cure and ultraviolet light-cure) that demonstrate good adhesion to metal substrates. TCI was also asked to locate "centers of innovation" that could be a potential base for development of new technology through sponsored or contract research projects. TCI made over 100 contacts on a global basis; these led to more than 20 good leads for the client.

Propylene Oxide

Strategic Analysis monitored and reported on technical developments in the field of propylene oxide prepared via direct oxidation techniques. TCI continuously monitored the DO/PO field for its client for more than five years.



In- and Out-Licensing/IP Valuation

In- and Out-Licensing/IP Valuation

Strategic Analysis frequently handles technology assessment, valuation, and transfer projects including:

- Patent Intellectual Property Valuation
- Patent Licensing and Negotiation
- Technology Sourcing

Paint and Coating Technologies

One of the world's leading coatings companies regularly uses TCI to out-license technologies. TCI has successfully identified licensing and strategic alliance opportunities for technologies ranging from alkyd-acrylic to polyurethane dispersions.

Selective Alcohol Oxidation Technology

TCI's client developed unique alcohol to aldehyde and/or ketone oxidation technology. It features essentially no by-product, offers high yield, is environmentally clean, and has no effect on double bonds or sulfur. Based on our experience, direct interviews with potential users, and in comparison to technologies at a similar stage of development, we identified several opportunities to out-license the technology in the fine chemicals field.

Gene Manipulation Technology

TCI's client developed and patented technology to manipulate genes in a DNA strand. The technology permits gene splicing in cells of complex organisms by use of a bacteriophage. TCI was commissioned to place a value on this technology. Estimates of license fees and royalties for the technology plus an estimate value of the technology in the case of an outright sale were developed.

DVD Technologies

For a leading worldwide producer of optical components, TCI identified patent acquisition opportunities and helped the client negotiate an assignment price.

Lubricants and Additives

For a leading lubricant producer, TCI identified in-licensing opportunities for pour-point depressants and rheology control modifiers.

Merger, Acquisition, and Divestiture Support Services

Strategic Analysis provides a full range of merger, acquisition, and divestiture services, including:

- Acquisition Due Diligence
- Acquisition Study
- Plant Divestiture

Thermochromic Inks

Strategic Analysis conducted due diligence for a proposed acquisition by an international client. The target company manufactures and sells thermochromic pigments. We reported on the target's technology-base, competing offerings, and market potential. Finally, TCI developed an overall valuation of the technology and offered a recommendation regarding this opportunity.

Biopharmaceutical Facility Sale

Strategic Analysis assisted Glaxo Wellcome Biofarma in the sale of its biopharmaceutical facility in Porriño, Spain. Although the primary objective was to safeguard jobs and secure the site as a biotech manufacturing facility, GWB received a very attractive purchase offer for the property, which also met the primary objectives and was close to the valuation placed on the plant by TCI.

Electroplating Additives

A European client was approached with a possible opportunity to enter the electroplating additives business via acquisition of several small market participants. To correctly consider these opportunities, they needed a better understanding of the electroplating additives business. The primary finding of TCI's research was that, while the potential acquisitions and participation in the electroplating additives business met some of their strategic objectives, it failed to satisfy at least two key criteria. TCI suggested that the client consider acquisition of a much larger target as an approach most likely to provide it with a leadership role in the business.



Metal Coated PTFE Film

TCI assisted the developer of a unique technology (to apply a magnesium coat over PTFE film) in identifying alternate applications and in selling its technology and associated plant. This project involved technology valuation, development of an information package, and contact with prospective licensees/buyers. The technology and associated plant were sold to an unrelated buyer.

Biocides and Cosmetic Ingredients

TCI's client manufactures a line of specialty biocides and cosmetic ingredients in North America. To meet their strategic objective to double sales in these specialty chemical product lines over the next two years, they commissioned TCI to assist them in an acquisition effort restricted to Europe and Asia. From an initial list of over 100 candidates, ten target companies - four in Asia and six in Europe - were identified as meeting the client's strategic objectives.



The Company

Since 1979, TCI has provided consulting services to the pharmaceutical and chemical industries. The firm offers technology transfer and technical assessment for emerging technologies. It also provides competitive intelligence, market research, merger and acquisition, and other strategic alliance services to clients in the ethical and over-the-counter pharmaceutical, drug delivery, chiral compounds, functional foods, polymers, fine chemicals, and advanced materials businesses. TCI has headquarters in Falls Church, VA in the U.S. The firm has offices and associates in Canada, Germany, Italy, Israel, the U.K., the Czech Republic, Argentina, Brazil, India, China, Korea, and Japan.