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RESEARCH

CORPORATE PORTRAITS

Innovation and expertise

Engineering brilliance

iSi Gruppe AG is a distinguished Austrian multinational corporation utilising engineering expertise to create beautiful and sophisticated manufactured goods. The long heritage of innovation and development surrounding pressurised energy allows the corporation to excel in three diverse sectors. The culinary division produces instruments used in celebrated luxury hotels and renowned restaurants. The components division creates gas cylinders for the military, aviation industry and oilrigs. Airbags are created for the automotive sector using its acclaimed intellectual capital. iSi management established subsidiaries in more than 80 countries. International expansion began in the 1920s to generate corporate growth and profit.

The corporation has a rich heritage of technological innovation. Carl Pochtler established Carl Pochtler AG in Vienna in 1865. It produced surgical syringes, mechanical instruments and siphons. The corporation received numerous awards at world exhibitions and trade events recognising the expertise and brilliance involved in creating products. Pochtler applied for his first patent (pfropfenhahn) in 1878. Rosa Fischer-Pochtler assumed ownership of the company after the death of Carl Pochtler in 1887. Carl Fischer, the husband of Rosa Fischer-Pochtler assumed leadership in the family owned and managed enterprise in 1906. The corporation managed more than eighty employees in 1916.

International markets have been an important aspect of corporate strategy since the 1920s. Between 1923 and 1930 the corporation established subsidiaries in Czechoslovakia, Romania and Yugoslavia. Significant international expansion began in the 1960s. Heimsiphon Karl Hinz and Co GmbH was established in 1959. Karl Fischer Pochtler GmbH purchased the entire company in 1964. The genesis of iSi began after the acquisition. The corporate name changed to iSi Metallwarenfabrik GmbH. The iSi corporate ethos and identity was established. The first iSi disposable chargers for preparing soda water and whipped cream were introduced to the Austrian market in 1966. The products were introduced to European countries in the late 1960s. Christian C. Pochtler established iSi Siphon of America Inc. in 1978. The subsidiary is now known as iSi North America Inc. The corporation can be found in more than 80 countries throughout the world.

CORPORATE PORTRAITS - Innovation and Expertise

The culinary division is celebrated for the sophisticated and technologically advanced whippers and siphons. Products are manufactured for households and professionals. The whippers and siphons are used in the kitchens of luxury hotels and awarded restaurants throughout the world. Nitrous oxide dissolves much better in fat than water. Liquids containing a higher fat content create foam in a siphon compared to liquids containing a much lower fat content. Foam can be created using liquids without fat. A binding agent is used to create the foam. An iSi whipper releases a soluble gas into the liquid with the assistance of pressure to create foam. Pressure within the siphon releases the liquid through the tip. It causes the dissolved gas to expand and the liquid to foam. Premium stainless steel is used to create the whipper bottles and heads. The whippers are appropriate for the creation of soups, desserts, whipped cream, cold and warm sauces. Ferran Adrià, the former executive chef of elBulli, a renowned Spanish restaurant used iSi whippers to perfect the espuma culinary technique.

Heat protection is an important factor in fine gourmet kitchens. Silicone sleeves protect the hands when a professional uses an iSi stainless steel bottle to prepare warm food. An iSi whipper with the heat protection sleeve can be used in a water bath or bain-marie until the maximum temperature reaches 75 degrees Celsius or 165 degrees Fahrenheit. The heat protection sleeves are available for half a litre and one litre gourmet whips.

Impeccable design and sophisticated technology combine to create sparkling soda water. Stainless steel siphons are manufactured from the finest stainless steel. A measuring tube prevents overfilling. A pressure control valve provides comfort and safety. It contains an ergonomic charger with a silicone grip. The siphons are ideal for preparing pure soda water, sparkling water, cocktails and sparkling refreshments. Soda chargers are manufactured using the finest recyclable steel. Every charger contains 8 grams of pure carbon dioxide. iSi soda chargers are painted in gold.

Innovation and technical expertise are important factors in the components division. The division manufactures premium disposable gas cylinders. Four gases are used in the manufacturing of disposable gas cylinders. The gas cylinders contain carbon dioxide, nitrogen, nitrous oxide and argon. A fifth option allows clients to select a gas for a cylinder. The gas cylinders are used in medical technology for surgery, cryotherapy and minimally invasive medical devices. The gas cylinders are used daily when inflatable aviation lifejackets are deployed. Oil rigs, cruise ships, yachts, fishing boats and tankers rely on the gas cylinders. The military uses the technology in military life jackets and islands, sonar buoys and submarine evacuation equipment. The technology is applicable to photosynthesis analysis, wine preservation and tele – anesthesia.

The automotive division is dedicated to innovative development for vehicle safety. The division was created in 1995 with the objective of manufacturing the best airbag system using colder gases. The corporation examines the technology with its crash test laboratory for vehicle and horizontal sled impact testing. Vehicles and vehicle subsystems can be tested in the laboratory. The static testing laboratories allow engineers to conduct inflation, linear

impact, pendulum, drop tower, out-of-position, and alternating load tests to guarantee energy absorption and durability of the airbags. The tests can be performed in temperature chambers. The temperature chambers allow a range of -50 degrees Celsius to 120 degrees Celsius.

Simulation is an important part of product development. Computational simulation is used to examine durability and energy absorption. Components and modules are evaluated to determine the rigidity, gas flow and unfolding behaviour of the airbag systems. Computational simulation allows engineers to refine and improve products. Environment simulation is necessary to guarantee optimal performance of occupant protection systems. The corporation possesses the expertise to conduct sun simulation, dust, moisture, climactic change and salt-spray to replicate the environment. The extensive examination of the airbag systems is necessary to ensure the manufacturing process is perfect.

The airbag systems use colder gases. The cool inflator technology developed by iSi Automotive provides the foundation for the success enjoyed by the corporation. Inert gas stored under high pressure released during operation does not generate heat. The benefits of the colder gas affect the design of gas distribution ducts and fabrics used in the module. The cool inflator technology provides greater flexibility, reduced the weight of modular components. The technology is applied to side, head, passenger, knee and pedestrian airbags.

The corporation pursued a policy of expansion and consolidation between 2009 and 2012. iSi Automotive acquired Delphi's European airbag business in September 2009. The automotive division assumed delivery of airbags to Audi, Daimler-Benz and Seat. Production and complete assembly of airbag modules will continue at the Viennese headquarters. The automotive division acquired a design, test and engineering facility in Berlin, Germany from Delphi. The Berlin facility complement's the Viennese research and development facility. iSi Automotive Hungary kft expanded into textiles and iSi Automotive Thailand began manufacturing airbags.

iSi Gruppe AG is a diverse multinational Austrian corporation manufacturing sophisticated technological products. Engineering excellence is at the core of the family managed corporation. The corporation consists of three diverse divisions. The culinary division provides sophisticated whippers and siphons for distinguished luxury hotels and renowned restaurants throughout the world. The components division creates premium gas cylinders for industry. The automotive division provides superb airbags using the corporation's cool inflator technology to provide the best airbags for international automobile manufacturers.