

SAMSON

Issue 5

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SAMSON MAGAZINE 2003



Special topic

More than just the sum of its parts

Report

SAMSON's new branch office in Leeds

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Innovations

Guardian angels of a special kind

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Front cover

The front cover shows a bustling street in Amsterdam as well as leisure pursuits in the attractive Dutch countryside. SAMSON has a subsidiary in the Netherlands.

Photo material

We wish to acknowledge the Netherlands Board of Tourism, the company Teijin Twaron BV, the British Tourist Authority (Visit Britain), Leeds City Council, PhotoCase.de (Christian Otte) and Oldendorff Carriers GmbH & Co. KG (Klaus Lindner) for providing photo material.

Quotations from Van Gogh's letters.



Corporate identity

Dear Readers,

Companies have always presented their products on the market, in the ideal case, with the aid of distinctive brands which are unmistakable and instantly recognizable. While markets and the range of products available on them were relatively small, resolute marketing activities and good public relations were sufficient to sell products. In particular, company founders themselves, such as Max Grundig, Werner von Siemens, Gottlieb Daimler, Henry Ford or even Hermann Sandvoss from SAMSON, shaped the identity of their companies to a great extent over a long period of time. The company and employees came to share the same principles and ambitions as their company patriarch. As the workforce in those days often remained employed in one organization for their entire working life, they almost inevitably identified with their company.

It was not until markets started to get more sophisticated in the 1970s that companies began to think beyond the product and its design and made efforts to strategically integrate the design, behavior and communication within their organizations into a unified concept. The significance of corporate identity grew. Ever since, markets have continued to grow and have extended over national boundaries. Yet, the market sectors which companies operate in have become more diverse and complex, and the rate at which market sectors grow has become more rapid. Sub-

sequently, it gets more difficult for consumers to differentiate between products within market segments. For companies, this means greater competition. In fact, it is then not just a matter of keeping the corporate identity consolidated and distinctive, but involves communicating this identity to the outside world. A comprehensive corporate identity strategy is indispensable and is made up of a mixture of measures, including designing a corporate image, coordinating all communication methods and the combined behavior of the workforce and the company.

In the course of SAMSON's worldwide growth, there remains a lot to be accomplished. Last year alone, SAMSON founded twelve new engineering and sales offices throughout the world and additionally opened new subsidiaries. The product range has been extended to meet new demands. You can find out more about corporate identity at SAMSON on pages 18 – 21.

I hope you enjoy reading our magazine.

With warm regards,

A handwritten signature in blue ink, appearing to read 'Theo Dobben', written in a cursive style.

Theo Dobben
Head of Public Relations, Advertising, Training



Right from the beginning, miners have been endangered by firedamp: this is where explosion protection originated.

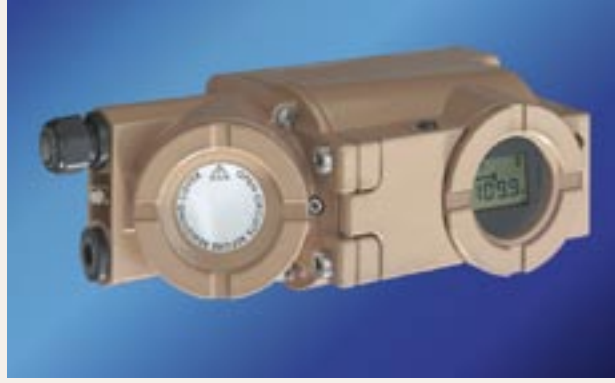
Explosion-protected devices **Guardian angels** of a **special kind**

Firedamp, an explosive mixture of methane gas and air, has always been a threat for miners working underground. To increase their safety, the English chemist Sir Humphry Davy invented the first device with explosion protection already in 1815, a miner's safety lamp with a tightly meshed copper gauze to prevent the flame from igniting gases in the surrounding atmosphere.

With the growing importance of electrical engineering, explosion protection continuously progressed to reach its current high safety level. Nearly all standardizing bodies, including the International Electrotechnical Commission, IEC, the European standardization institutions CENELEC and CEN as well as their German counterparts DKE and DIN, have stipulated almost identical requirements. Certified conformity assessment bodies and authorities monitor whether manufacturers and operators comply with these requirements where increased safety is obligatory.



SAMSON's intrinsically safe positioner with convenient operation using just one rotary pushbutton and a rotating display ...



... as well as the explosion-proof positioner version with separate terminal compartment offer excellent features.

For the safety of human life and the environment

Minimizing risks – The primary objective of explosion protection is to prevent explosive atmospheres from forming at all. Therefore, chemical and petrochemical plants as well as gas stations are usually designed as well-ventilated outdoor sites. In case explosive atmospheres cannot be averted, sources of ignition must be avoided or eliminated.

When electricity is essential – Replacing electricity with compressed air as the auxiliary power source and employing pneumatic devices for instrumentation and control tasks helps avoid sources of ignition. This is one of many reasons why pneumatic actuators are still the first choice in process engineering applications. Today, however, SAMSON's complete, tailored product line of pneumatic measuring and control equipment as well as the logic components developed for fluidics are only used to expand existing plants. Nowadays, electropneumatic field units are considered state of the art. The time and money involved in equipping devices with explosion protection are by far outweighed by their special features: quick signal transmission to bridge any distance, cost-saving connection over bus systems as well as digital signal processing to enable automatic start-up, preventive maintenance and communication amongst field units and with the control station.

No sparks fly – To ensure safe, yet economical explosion protection, the requirements have been classified depending on the operating conditions. Hazardous locations, for example, are zoned depending on the hazardous potential of the prevailing atmosphere. Flammable liquids and dusts are categorized by their flash point temperatures into explosion hazard classes; gases and vapors are assigned to explosion groups and temperature classes.

Explosion-protected equipment can be manufactured according to different types of protection. Regarding their safety, all standardized types of protection are equivalent. Which type of protection is used basically depends on the type and function of the equipment.

Intrinsically safe or explosion proof? – In automated process engineering applications, the types of protection "intrinsically safe" and "explosion proof" are applied. Intrinsically safe devices only contain power circuits whose voltage and current are limited, ensuring that they do not ignite an explosive atmosphere even when a malfunction occurs. Explosion-proof devices are capable of withstanding an internal explosion and thus, prevent the explosion from spreading to the outside atmosphere.

Despite the low power consumption of intrinsically safe automation equipment, a bus segment can, of course, only supply a limited number of devices. A major advantage, however, is that maintenance routines can be performed during operation in an intrinsically safe system.

In an explosion-proof installation, the capacity of the bus and the power consumption of the positioners are virtually unlimited. However, the plant must be shut down when a field unit needs repair.

No matter which type of protection you prefer, the respective SAMSON positioners comply with the most stringent explosion group and temperature class requirements. They share the same mounting base with common connecting dimensions, a largely equal component design and many other benefits. A particularly favorable feature is the devices' analog control, which is superior to the fully digital positioners offered by our competitors not only in terms of speed.

Portrait

In the Kingdom of the Netherlands The flowering of a small country

For a small country with a population of just 16 million, the Netherlands is a prosperous industrial nation. Its era of great commercial growth and of unprecedented cultural flowering began in 1602 with the foundation of the Dutch East India Company, the VOC, which was a milestone in the history of world trade.

The VOC was based at the East India House in Amsterdam and governed by an Executive Board, which was named "The Gentlemen Seventeen" in accordance with the number of members. Thanks to the VOC, Amsterdam, today's constitutional capital of the Netherlands, became the most important trading center as well as home to the oldest stock exchange in the world, and cultural life as well as Baroque art prospered in the 17th century, which is often called the Golden Age.

Even today, the Netherlands is a major economic power with one of the world's highest per-capita incomes and continues to be an important international trading hub. Its central geographical location, its open-minded citizens and highly educated workforce have attracted many international companies to the country, including some of the world's largest chemical groups: providing an ideal location for SAMSON.



Amsterdam Centraal Station: at the time of the VOC, Amsterdam already was a major transport hub.



Frozen Amstel River: back in the 13th century, the Amstel River was dammed and the fishing village that grew around it became known as Amstelledam, later changed to Amsterdam.



After having opened the bridge, the bridge operator's children take pleasure in receiving a tip that they collect in a clog attached to a fishing rod.



For centuries, the members of the cheese porters' guild have been carrying and weighing cheeses at the traditional Alkmaar Cheese Market.

How a trading company came to dominate world trade

The birth of the stock exchange – The Dutch East India Company shaped the world's financial and economic history. In order to raise the necessary capital to fund the ships required for breaking the Portuguese monopoly on the lucrative spice trade in the East Indies, the founders of the VOC decided to issue tradable stocks accessible to a wide cross-section of the population and to accept shareholders as part-owners. With the issue of the first stock at the VOC office in Amsterdam on 27 September 1606, the VOC became the first stock exchange in the world. The overall capital was 6,440,200 guilders, a huge sum at that time. Endowed with this capital, the VOC came to dominate world trade, leaving its impression on Dutch history for almost two centuries.

In the pursuit of pepper – The discovery of the sea route from Europe to India by the Portuguese navigator Vasco da Gama in 1498 established the pre-eminence of the Portuguese power in the Indian Ocean. To share the spice trade, and especially the lucrative pepper trade, the Dutch merchants took part in the trade as chief carriers of eastern products from Lisbon to northern Europe. In 1581, the seven northern, mostly Protestant Dutch provinces of Holland, Zeeland, Utrecht, Gelderland, Overijssel, Friesland and Groningen declared their independence from Spain and from the house of Habsburg and proclaimed the Dutch Republic of the United Provinces in 1587. After Spain had absorbed Portugal in 1580, the Spanish tightened control of the market. When Philip II, King of Spain, excluded the Dutch merchants from the spice trade by blocking all Iberian ports to the Dutch Republic in 1594, the Dutch decided to sail to the East themselves. Although the Portuguese kept the sea routes to the East Indies secret, the Dutch merchants succeeded in sailing to the Indian Ocean and in establishing their own trad-

ing systems there. On those distant seas, the traders fought among themselves as well as with the natives and the Portuguese. To avoid sharp commercial rivalry among the Dutch merchants themselves, the small trading companies merged into a large joint stock corporation known as the Dutch East India Company or the VOC (*Verenigde Oost-Indische Compagnie*) on 20 March 1602. The VOC was granted a charter that gave it a trading monopoly with all countries east of the Cape of Good Hope. The charter also conferred many sovereign powers on the company, including the right to negotiate, to conclude contracts and alliances, to build forts, to appoint governors and to raise its own army.

The Golden Age – In the years that followed, the VOC grew to become the world's richest enterprise of the 17th century: it possessed over 150 merchant ships, 40 warships, had 20,000 sailors, 10,000 soldiers and 50,000 civilians in its service, and ruled over eight foreign governments. In 1720, at the height of speculation, the VOC stock was quoted at as much as 1,200 %. The dividend was on average 18 %. Thanks to the VOC's prosperity and financial support, an era of cultural flowering, known as the Golden Age, began. This blossoming was reflected in the high productivity of the Dutch artists: 70,000 paintings were produced annually and there was one painter in almost every family. The VOC did not only finance renowned painters such as Rembrandt, Johannes Vermeer and Frans Hals, but also supported philosopher Benedictus de Spinoza, jurist Hugo Grotius, considered the founder of the modern theory of natural law, as well as the world's largest and most famous publishing enterprise of the 17th century. Owing to the VOC, Amsterdam prospered and emerged as Europe's primary center for commerce and the major road hub of that time.



De Waag was originally designed as a city gate. It was converted into a weighing house after it had lost its defensive function in 1691.

The VOC's trading routes connected Japan, China, India, the Persian Gulf, Africa and Europe with one another and with Amsterdam. During the heyday of the VOC, splendid mansions were built alongside the canals in Amsterdam, the "Venice of the North", and in other important trading cities of the VOC, such as Delft, Rotterdam, Hoorn and Enkhuizen. The Dutch Republic had the highest rate of urbanization and the lowest illiteracy rate in Europe. Moreover, it was much more democratic than other so-called republics, not to mention the absolutist states.

Vergann Onder Corruptie – There was a huge discrepancy between the philosophical ideas developed in the Golden Age influencing the political attitude of the VOC members at home and their brutal behavior towards the local population of the East Indian archipelago: in order to establish a monopoly on the spice trade and to make high profits, they captured ships. In 1628, for example, the Dutch admiral Piet Hein attacked a rich Spanish treasure fleet and carried off more than 11 million guilders. This plunder ensured the survival of the financially weak Dutch West India Company, the VOC's sister company founded seven years before to trade in the New World and western Africa.

The golden age of the once most significant company in world history began to wane at the end of the 17th century as the revolutionary situation in Europe intensified and competition from the booming English trade increased. With the foundation of the Bank of England in 1694, Amsterdam declined in importance and London became the financial and economic center of the world. The Dutch definitely lost their monopolies to the English during the sea wars in the 18th century. In 1799, almost 200 years after its foundation, the VOC was bankrupt as a result of mismanagement, debts and corruption and was nationalized

by the Dutch Republic. This is why the VOC was also nicknamed *Vergann Onder Corruptie* by the Dutch later on which means 'ruined by corruption.'

The Dutch tradition of open-mindedness and tolerance – The economic boom experienced by the small, densely populated country even at the time of the VOC was mainly due to the federal republican system of government. This system was in sharp conflict with the absolutist views prevailing at that time, and favored democracy as well as individual responsibility. Moreover, Christian humanism established by Erasmus of Rotterdam had a lasting impact on the Dutch history, leading to a relatively open-minded, tolerant political culture. The liberal atmosphere favored the high productivity and creativity of cultural life. But it was also the lack of agricultural products resulting from the high population density that forced the Dutch people to find new ways and that led to the typical Dutch virtues of open-mindedness, mobility and flexibility. The following generations have continued to extoll the virtues of their forefathers in the economy and cultural life.

An attractive country – Even today, the Dutch economic system is widely regarded as a model of consensus, also referred to as the "polder model." Stability is maintained by close, regular contact in the Socio-Economic Council between the trade unions, employers' organizations and independent consultants appointed by the government. The two sides of industry also have permanent contact in the Labor Foundation. The government interferes as little as necessary in industrial relations to ensure economic liberalism. Research and development play a major role in the Netherlands. The Dutch innovative system is considered to be very flexible and adaptable. The tolerant attitude of the Dutch people towards



Amsterdam is a lively, bustling city noted for its adaptability, tolerance and open-mindedness.



Owing to its excellent heat resistance, Twaron® is often used for fire protective clothing.

Twaron® – stronger than steel

Aramid fiber, manufactured by Teijin Twaron under the trade name Twaron®, offers a unique range of properties making it suitable in numerous challenging applications. It can be found in lightweight sails and hulls for high-performance yachts, bullet-proof vests and other protective clothing, brake pads and high-speed tires for automotive racing, reinforcement material for bridges and high-rise buildings in earthquake-prone regions. Its excellent qualities that make it one of the most versatile materials include its extremely high tensile strength and good resistance to high temperatures, moisture, pressure and acids as well as its light weight.

Teijin Twaron is a worldwide leader in the field of para-aramid fibers and manufactures Twaron® at three production sites in the Netherlands to supply the European market: Delfzijl, Emmen and Arnhem. In 2003, the Delfzijl and Emmen sites were expanded to increase the annual production capacity of Twaron® to 18,500 tonnes.

Teijin Twaron chose control valves made by SAMSON for its new production facilities. SAMSON REGELTECHNIEK B.V. supplied custom-engineered valves including accessories as well as tools for mounting and dismantling the valves. The fiber material is processed to create the final product Twaron® at the spinning plant in Emmen where reliable SAMSON control valves operate in secondary processes.

The successful completion of this project once again underlines SAMSON's ability to supply tailor-made valves for special applications at short notice besides high-quality standard control valves.

Portrait



The building of SAMSON REGELTECHNIEK B.V. in Zoetermeer, a city situated close to The Hague, Amsterdam and Rotterdam.

changing processes and structures has laid the foundations for innovations and changes. These characteristics have attracted many multinational companies to the country, as have its geographical position, flexible labor relations and well-educated multilingual workforce.

SAMSON in the Netherlands – In April 1974, SAMSON's Netherlands subsidiary, SAMSON REGELTECHNIEK B.V., was formed from the VAV trading company. Henry J. van Adelberg, the son of the former VAV director, became head of the SAMSON subsidiary. At first, the company was based in one of the old, picturesque mansions built in The Hague in the 17th century at the time of the VOC. The former wine-cellar of the old dwelling served as storage room until, in 1978, SAMSON REGELTECHNIEK B. V. moved to Zoetermeer. This city is located at the heart of South Holland, close to

The Hague, Amsterdam and Rotterdam, all of which are positioned along the A4 motorway. It is also next to Schiphol, Amsterdam's International Airport, and the Port of Rotterdam, the world's largest business port. In 2005, the new high-speed rail line (HSL) between Amsterdam and the Belgian border will open to connect Amsterdam and Rotterdam with Antwerp, Brussels and Paris, making South Holland an ideal location for SAMSON.

As the rate of new orders and the number of staff increased continuously over the years, SAMSON REGELTECHNIEK B. V. decided to move to a larger building located on Signaalrood in Zoetermeer in 1992. Since then, these new headquarters have continuously expanded, too. Today, SAMSON's Netherlands subsidiary has a staff of 47, is certified to ISO 9001: 2000, offers various training courses to customers and is involved in many international projects. In addition, it counts renowned chemical companies, such as AKZO, DSM and Shell, among its customers. With a market share of 80 %, SAMSON REGELTECHNIEK B. V. is the market leader in district heating. In 2002, Rolf W. Dam succeeded Henry J. van Adelberg as director, who took very well-deserved retirement. Thanks to the commitment of its former and new directors, SAMSON REGELTECHNIEK B. V. is well prepared for the future: it has opened up new markets in the field of heating, ventilation and air-conditioning systems and has launched projects in Oman and China. Hence, it is so busy that it lacks the time to enjoy the highlights of Dutch culture ...



Port of Rotterdam – the Dutch gateway to the world. With a throughput of 6.5 million TEU annually, it is the world's largest container port.

Highlights of Dutch culture – Van Gogh, whose work went largely unrecognized during his lifetime, has become one of the best-known figures in the history of art. In 2003, the Netherlands is celebrating the 150th anniversary of this great painter, who reinvented art within only four years between 1886 and



Henry J. van Adelberg (left), who had been head of SAMSON's Dutch subsidiary for many years, handed over his position to Rolf W. Dam (right).



When SAMSON REGELTECHNIEK moved to a larger building located on Signaalrood in Zoetermeer in 1992, the storage facilities were extended.

1890 and helped pave the way for modern arts. As his painting style was too unconventional at that time, he was hardly appreciated during his lifetime and led a troubled life. In Van Gogh's opinion, painters paid a high price for being a link in the artist chain: they sacrificed their health, youth and liberty which never made them happy. He thought that a new world was imminent, that art could be reborn, that painters in his time only served as mediators and that only the following generation would be able to live in peace. Pablo Picasso, who belonged to the following generation, expressed what applies to many painters: "We have all started with Van Gogh." The following generations recognized Van Gogh's artistic achievements, arranging two cooperative exhibitions of his fascinating, expressive collection of paintings, which are unrivaled in their quality, intensity and popular appeal and are worth visiting. Van Gogh's anniversary is being celebrated in the Van

Gogh Museum in Amsterdam. With its 42 museums, 141 galleries, 52 theaters, the Dutch National Ballet, the Dutch Dance Theater, the world famous Concertgebouw Orchestra, the Dutch Opera and an estimated number of 16,000 to 19,000 annual performances, Amsterdam distinguishes itself by variety and world class and figures among the most important centers of European cultural life. Amsterdam's cultural scene is still refreshingly keen to experiment and is very tolerant to newcomers. The city of canals is not only worth visiting because of its famous painters, but also because of its ravishing architecture. The flair of the modern, pulsating liveliness of an economic metropolis is prevailing in the picturesque narrow streets of Amsterdam's charming center, criss-crossed by 165 dreamy canals with almost 1,300 bridges and lined with some 7,000 historic buildings, which have witnessed the Dutch Golden Age.



Amsterdam by night: most of the old town had to be built on wooden and concrete piles because of the underlying marshland. The "Venice of the North" is cut by about 160 canals that are crossed by 1,300 bridges and are home to 2,400 houseboats, many of which are beautifully illuminated at night.



Self-Portrait as an Artist
(January/February 1888)

Vincent van Gogh – a portrait of a troubled life

His first paintings – Vincent Willem van Gogh, born on 30 March 1853 at Zundert in South Holland, had worked for the Paris-based art dealers Goupil & Cie, accepted a position as an assistant schoolteacher in England and worked as a lay minister in an impoverished Belgian coal-mining district before he decided to be a painter in 1880. In the same year, Van Gogh moved to Brussels. He dedicated himself to genre

painting, concentrating on sketches and drawings. He used dark colors, which induced melancholy, to show both the dignity and the hardship of the peasants. These genre paintings reflected his strong social commitment. In 1882, Vincent spent several weeks in The Hague, taking painting lessons from his cousin by marriage, Anton Mauve, who was a prominent figure of the group of artists known as the Hague School. Inspired by Mauve, Van Gogh did his first oil paintings. He studied the old masters, especially Rembrandt and Vermeer, developing his own way of using color and shape. His paintings began to show a tendency towards abstraction. Van Gogh, however, soon disagreed with Mauve's pedantic style of academic instruction. In his opinion, Mauve's style focused too much on standards, rules and a strict ideal of aesthetics and neglected individual expression and the current social problems. After an argument with his cousin, Van Gogh left for Nuenen, in Brabant, to live with his parents.



The Bridge in the Rain (painted after a woodcut by Hiroshige, summer 1887): "I envy the Japanese for the enormous clarity that pervades their work. [...] Their work is as simple as breathing [...]."

Impressed by Impressionism – In 1886, Vincent joined his younger brother Theo in Paris. There Van Gogh came to know Japanese woodcuts whose clearness and simple line-work deeply fascinated him. Theo, who supported Van Gogh financially all his life, was then a successful art dealer at Goupil's and acquainted his brother with the works of the Impressionists. Deeply impressed by the way the Impressionists handled color and light, Van Gogh's dark-hued palette became brighter. Van Gogh was inspired by the magical effects of light created by the Impressionists, but went on to lay greater emphasis on a more individual, emotional reproduction of color and light which had a philosophical dimension to him. In 1888, Vincent left for sunny Provence in the south of France. There he hoped to reinvent art in his lifelong search for purpose and meaning in life and to estab-



The Harvest at la Crau (Arles, June 1888): Van Gogh began to experiment in 1885 during his short stay in Antwerp. When he moved to Arles, color came to the forefront of his painting, asserting itself concisely and expressively in bold luminous brushwork under the burning sun of Provence.

lish an artists' collective – a place where other artists would join him, share expenses and work together.

Productive in the sun-drenched Provence region – He rented the so-called “Yellow House” at Arles and invited Gauguin from Paris to join him. Inspired by the bright colors and strong light of Provence, Van Gogh eventually found his definite painting style while working together with Gauguin. Intense, bright color had become an expressive tool by which Vincent conveyed his secret longings, communicated his individual perception of reality and recorded his impressions of life in his paintings. “Now since I have seen the ocean with my own eyes, I feel completely how important it is for me to stay in the south and to experience the color which must be carried to the uttermost.” After a few weeks, tensions grew between the two painters. Gauguin abruptly left Arles, bringing to an end Van Gogh’s dream of establishing an artists’ cooperative and killing Van Gogh’s initial enthusiasm after Gauguin’s de-

parture, Van Gogh was disillusioned and became obsessed with painting nature. As painting meant everything to him, he completed painting after painting, stopping only during his attacks diagnosed as epilepsy by his doctor. He was convinced that the more he used all his energy, the more he would become a creator in the process of the rebirth of art – a process he had longed for so long – and the more he would become an artist: “I do not intend to spare myself, not to avoid emotions or difficulties. I don’t care much whether I live a longer or shorter time ... the world concerns me only in so far as I feel a certain debt toward it, because I have walked on this earth for thirty years, and out of gratitude I want to leave some souvenir.” In 1890, at the age of 37, Van Gogh gave up the fight against his illness and loneliness and shot himself in the chest. Today, Van Gogh is known and loved throughout the world for his art work. In 1990, the portrait of his doctor, Ferdinand Gachet, fetched 82.5 million US dollars, the highest price ever paid for a picture at an auction.



Sheep on the Yorkshire Moors supplied the wool to the textile mills that transformed Leeds into a major city at the end of the 18th century.

Providing optimal service **SAMSON's new** branch office in **Leeds**

Regarded as the center of industry and commerce in Yorkshire, Leeds is a flourishing cosmopolitan city. Seen from this aspect, the city is entirely European, however, it still has managed to retain its own typically English style regarding its flair, architecture and culture. Similar to other industrial strongholds such as Liverpool, Manchester and Sheffield, Leeds cannot deny its own past as one of the regions that set the pace for worldwide industrialization. Instead, the city has invested its energy into reviving its history which is strongly linked with industrialization as demonstrated, for example, by Armley Mills. Once the world's largest woolen mill, this excellent industrial museum gives an honest impression of what everyday life was like in those times. After the decline of the textile industry, the region around Leeds has reflowered as a center of industry. For example, Morley, a district of Leeds, has taken advantage of its optimal geographical location and now holds an important position in the distribution and servicing industry after all of the 35 woolen mills in the town were shut down. In March 2003, SAMSON opened a new branch office in Morley.



In 1829, the *Rocket* built by George Stephenson won the legendary Rainhill trials held by the Liverpool & Manchester Railway.



The produce from the famous Rhubarb Triangle between Morley, Bradford and Wakefield has undergone a revival in recent years.



Leeds is one of the fastest growing cities in the UK and is home to a diverse range of economic activities.

An invention that changed the world

In the age of steam power – Northern England was home to a series of events in the 18th and 19th centuries that were to change the world. In 1712, Thomas Newcomen invented the first steam engine to be put into operation to pump water out of mine shafts. From 1825 onwards, the first steam train, initially also used for the transportation of goods for the mining and iron industries, traveled between Stockton and Darlington. Just five years later, the dawning era of steam railway arose when the Liverpool & Manchester railway line was opened, and the legendary *Rocket* locomotive was selected to run on the line after winning the Rainhill trials, reaching sensational speeds at that time of up to 50 km/h. In Teesside, the first ship with a steam turbine and one of the first power stations were built.

Setting the pace for industrialization – The development of the steam engine paved the way for industrial mass production in Britain. Energy requirements could be met anywhere that sufficient supplies of coal existed or its transportation was possible. This ended the reliance on local sources of water or wind power. Besides, the new means of transport, made possible by the use of steam power, gave rise to the fast distribution of goods at home and overseas to the colonies. Previously regarded as a mere source of raw materials, these national outposts transformed into potential export markets in the course of time. Consequently, export business boomed as well. The railway itself helped prepare the way for industrial growth. One single kilometer of railway track required 200 tonnes of steel. The construction of the railway network created an enormous demand for resources from the mining, iron and steel industries as well as engineering skills. The progress in engineering technology, in turn, brought forth numerous innovations which increasingly in-

roduced more automation into production processes and contributed to their acceleration.

Ability to adapt – Even Morley, once a small town, with nearly a thousand-year history behind it, located in Yorkshire's industrial heartland and integrated into the metropolitan district of Leeds since 1974, has had to repeatedly adapt itself to new trends and developments over the past few centuries. Owing to the enterprising spirit of its residents, Morley first witnessed the change from agriculture to coalmining, and then to limestone quarrying as well as cloth manufacture. In the 20th century, new business arose from the logistics branch due to the town's unique location.

Perfect location – As the 200-year industrial tradition came to a close with the demise of the textile industry in the 1970s due to the growing popularity of man-made fibers and the increase in international competition, the town of Morley was faced again with the task of reinventing itself. The favorable geographical location as well as the good road and rail connections were the key to its success.

In former times, prior to the railway era, the extensive canal network which, for example, connected Leeds with Liverpool and Manchester, turned this region into one of the major industrial centers in the industrial belt of Northern England. In those days horses working in conjunction with canal barges were found to be the most cost-effective means for transporting coal. They were capable of pulling eighty times more weight on a barge than on a cart dragged over muddy roads, and even 400 times more than a pack-horse. These days, the region benefits from the nearby access to the junctions linking the two major motorways, M1 and M62, making it a convenient location. Increasingly more companies



Judith Elliott, the then Mayoress of Morley, congratulates Jochen Gräff, the manager of the new northern branch office, on its opening.

are moving their warehouses to Morley, turning it into a major distribution and servicing hub of the region.

Ideally located – In search for the ideal location for a new branch office, similar considerations were made at SAMSON, which has been represented on the UK market by its own subsidiary situated in Redhill near London for the past 45 years. The motorway intersections close to Morley, giving quick access to the sales territory which stretches over the whole of the Midlands and North England, make the town the ideal location for the new Valve Competence Center. Especially since the region around Morley is locally regarded as the “Valve Valley” owing to the fact that nearly all national valve manufacturers are located in the vicinity.

Major objectives – The new branch office is primarily intended to provide on-site support. Previously, key customers of SAMSON AG situated in this region had to be supported from the headquarters in Redhill. The local support center is part of SAMSON’s corporate philosophy to give customer requirements priority and provide support regarding all valve matters as effectively as possible. The new center allows the range of training intended for both customers and staff to be extended. In addition, the new center is equipped with a full stock of components for all SAMSON standard valves in DIN and ANSI versions. The final check is performed on assembled valves on the center’s own test rig facilities. This helps shorten delivery times, also where ordering spare parts is concerned. Jochen Gräff, the manager of the new branch office, is pleased that his team has been extended by three new employees who will assist him in the area of customer support after completing intensive training at the headquarters in Frankfurt, Germany.

Focusing on the customer – Major customers in the region include leading companies in the chemical, pharmaceutical and petrochemical industries such as Novartis, Terra (ICI) Group, Rohm & Haas, GlaxoSmithKline, Novartis and BP Chemicals. In the food processing sector, the Swiss giant Nestlé, active on the British market for over 130 years, is among one of the major customers in this region.

The plants at BP Chemicals, located close to Kingston-upon-Hull in East Yorkshire on the east coast, make up the second largest BP chemical production site in the UK. Eight different products are produced at this site, including over 900,000 tonnes of acetic acid, a key chemical used in the manufacture of a wide variety of products ranging from textiles to pharmaceuticals.

Impressive expertise – The cooperation with BP Chemicals began in January 2001 during BP’s search for a solution to cavitation problems in existing valves fitted in their plants. After resolving the matter using AC trims, SAMSON has since then supplied several standard as well as custom-engineered valves to BP.

Glyn Butler, Acetyls Maintenance Coordinator at BP Chemicals, cites the SAMSON-specific control valve design as one major reason in favor of SAMSON: “A key factor for us was that SAMSON has pioneered a modular approach to the manufacture of control valves. This greatly reduces the maintenance spares requirements. Significant stock holding of components at SAMSON allows optimum delivery time for common types of valves.” Mr. Butler continued that quality and service were factors which were extremely important for BP: “SAMSON differs considerably from other competitors in that they have made a conscious decision not to outsource work to third parties, preferring to retain greater



The new branch office: standard valves in ANSI and DIN versions can be delivered to local customers within 24 hours.



Hans Grimm (left) and Glyn Butler (right) at the BP Hull site in front of a newly delivered SAMSON control valve.

control of product manufacture. Furthermore, high-quality castings are exclusively used." BP's decision was additionally influenced by the fact that SAMSON had worked successfully in cooperation with major companies in the chemical industry such as BASF and Bayer over the past thirty years, added Mr. Butler. According to him, SAMSON had extensive field test facilities, far superior to other suppliers, and provided accurate valve selection and sizing.

Yorkshire – "God's own County" – SAMSON's decision in favor of Leeds was the right one as far as Jochen Gräff is concerned. Mr. Gräff is fascinated by what the area has to offer: "Leeds is within easy reach of some of the England's most beautiful countryside including numerous stately homes, green hills and valleys, a coast with cliffs and sand dunes and not forgetting the lonely moors. Yorkshire's past also includes many milestones in history. Captain James Cook set sail to the South Pacific via Cape Horn on the ship *Endeavor* which was built in the historical maritime port of Whitby. Recently, the residents of Whitby experienced a spectacular event on the occasion of the arrival of the *Endeavor* replica, received by crowds of thousands of people awaiting a glimpse and accompanied by numerous boats on the last stage of her journey into the harbor." In the past, the harsh settings of northern England have often served as the background for various well-known stories. James Herriot, for example, wrote his autobiographical stories of everyday life as a country vet, set in the green Yorkshire Dales, while the wild heather-clad moorland was the unforgettable backdrop for *Wuthering Heights* written by Emily Brontë, one of the three gifted sisters from the Brontë family who lived on the edge of the Yorkshire Moors.

Mr. Gräff is also interested in the industrial heritage of the region and the far-reaching consequences of events that took place during the course of industrialization, which, however, did not seem to be broached upon in any of the famous Brontë novels as probably their everyday life in the small, lonely village of Haworth surrounded by merely more than the Yorkshire Moors remained largely untouched by the rapid changes of that era.



Robin Hood probably never visited the smugglers' haven of Robin Hood's Bay, a picturesque old fishing village at the edge of the North Yorkshire Moors.

Special topic



The façade of the new logistics center, built on the grounds of the headquarters in Frankfurt, is designed to match the current corporate design.

Corporate identity at SAMSON More than just the sum of its parts

Modern society requires of us the ability to adapt and make decisions on a daily basis. Each individual, organization or company is constantly changing in various ways, whether deliberately or unintentionally, regarding their inner values or in the way they are perceived externally, as a reaction to an incident or due to the lack of an event.

In an age where the range of activities is ever widening and time spans within which decisions have to be made have become shorter, the ability to manage and understand increasingly complex and dynamic situations properly is absolutely crucial. Companies require a unique, exactly defined and unmistakable profile. The professional approach towards the matter is corporate identity, involving the strategic planning and implementation of a concept to present an enterprise's action and image in its entirety in order to convey its corporate values and goals.

As part of its continuous expansion on the international marketplace, SAMSON has long since recognized the importance of communicating its own position and values.



All SAMSON advertisements are designed in a uniform pattern, focusing on the product itself.



Development of a logo: the company's name is derived from the ancient hero Samson, renowned for his enormous strength. The name was chosen to reflect the energy in the company's self-operated regulators. · Trade fairs are among the key channels for professional corporate communication.

The right image for the global market

Perplexing task of orientation – Advancing globalization and market saturation have given rise to extensive changes for both customers and manufacturers. Individual products and brands differentiate only very slightly from one another. The ever increasing array of technical functions that are added to products makes it difficult to judge the real benefits each product has to offer and whether their additional features are actually worth it. Furthermore, many products lack distinctive features which typically influence the decision-making process. Consequently, the allegiance towards a product or brand is gradually subsiding.

Company mergers and acquisitions have additionally contributed to the complexity and anonymity in the marketplace. It is either difficult to make out the companies behind the products, or brand names well-known for years and associated with certain attributes disappear suddenly and unexpectedly from the market.

Under these circumstances, the consumer is faced with the formidable task of gaining a satisfactory overview of the products available and reaching the right decision. It is therefore easy to appreciate that price often becomes the key factor in judging a product. If no action is taken to stop this trend in a market, it leads to ruinous competition which in turn forces manufacturers to charge for services provided with the product such as tendering and consultation or to restrict repairs carried out in cases of good will in after-sales service.

A change in perspective is required – Companies active in the consumer goods industry recognized years ago that there was a need to create a psychological supplementary benefit associated with their brands for the customer. However, this area of marketing is still often neglected by industrial goods

manufacturers, although the obligation to follow this marketing approach is becoming all the more critical to survive under the prevailing market conditions. Especially when considering the fact that sales practices engaging in self-destructive price wars in this market sector are slowly but surely undermining values such as brand allegiance and customer loyalty. Regaining customer confidence once it has been lost is a virtually unaccomplishable undertaking. To counteract this situation at an early stage, it is essential to focus to a greater extent on the supplementary benefits linked to the product itself. For example, financial values such as means to save time or ongoing maintenance costs as well as the psychological bonuses entailing matters such as experience and trust must be conveyed over the image of a brand or enterprise. Customers only decide to place their long-standing confidence in a company or group after they are fully convinced that both their money and loyalty are being invested wisely.

Trustworthy and open – Manufacturing companies can therefore no longer function just as mere product suppliers. The service-oriented business world obliges the manufacturer to adapt its own product spectrum to customer needs on a worldwide basis and also to communicate their services effectively. Customers must be able to familiarize themselves quickly and easily with the vast array of products on offer, while the product's additional benefit must be directly at hand. A uniform appearance such as on the Internet is an effective means of assisting the customers' decision by providing them with a recognizable message and structure, which indicate an exact target and lead to immediate identification with a company's values. A company that provides this simple and effective means of orientation has established a coherently consistent image of itself, which reinforces positive

Special topic



Customer needs have always been treated with top priority at SAMSON. The demand for training courses is increasing worldwide.



values such as credibility, clarity and a high level of quality awareness. This, in turn, imparts reliability and confidence, not just where business partners are concerned, but among the company's own workforce as well.

An effective strategy – Achieving a uniform corporate and brand development as well as a steadfast product and brand image even while a company is expanding requires an all-embracing strategy. The concept behind it, the corporate identity, presents the organization in its entirety and entails more than just brushing up its visual appearance. The issue of a consistent identity within an organization is nothing new. However, the current concept, originally developed in the 1970s, has unexpectedly regained significance, although not surprisingly when considering the dramatic upheavals that business has undergone in the past few years in the course of globalization. The implementation of a homogenous identity provides many companies with an exceptionally effective marketing tool in times of radical change.

Identity mix involving image, behavior, communication – An effective corporate identity strategy is primarily based on the consent of all the members of an enterprise, starting with the Executive Board,

whose members must actively support the introduction and implementation of the strategy, right down to each individual worker. Success rests on each employee being aware of the corporate strategy and targets as well as on their application. Corporate behavior requires employees to support the communication of these corporate values internally within the company as well as externally to the outside world. This in turn serves to maintain the credibility of the company. Creation of an all-embracing collective perception and feeling of togetherness within an organization is therefore essential. It must be strong, yet flexible enough to allow the workforce to adapt itself to far-reaching changes in the event of company expansion, for example.

Collaborative workforce – In addition to the positive and motivated fundamental attitude of the workforce, visual identity plays a key role. Corporate design manifests itself in many ways, for example, in the company logo, the uniform use of typeface, colors and design, and contributes to a lasting and successful identity. When all visual elements of an organization work together in unity, the investment in its identity is protected and the overall image becomes one of quality and strength. The detailed management of a visual identity is equally important to allow a differentiation of an organization from its competitors, especially useful in the field of public relations, as well as holds potential in raising the community feeling among employees.

A whole range of methods are available to communicate the visual company image, ranging from the furnishing of the sales and training rooms, the uniform presentation of technical and marketing documentation, right up to the portrayal of components relevant to the brand or company image at regional and international trade fairs.



Continuity forms the basis of the SAMSON philosophy: 50 % of apprentices at SAMSON celebrate 25 years in the company. At the annual pensioner party, retired employees meet and reminisce about the good old times at SAMSON.

In end effect, the target of both corporate design and corporate communication is the direct, distinct identification of the company's values and individual characteristics by mere visual means. When applied successfully, very few words are needed to communicate additional distinguishing features and messages.

The organized, consistent implementation and communication of the corporate identity applies to all types of communication within a company. This includes, in addition to everyday in-house communication, advertising, sales literature, public relations and sponsoring activities. Targets and courses of action must be developed according to corporate values and goals, they must be coordinated properly and must be designed within a uniform, instantly recognizable framework. The most important factor is to achieve a corporate image to match the organization's self-perception that will last, yet still holds the capacity to develop with pace of time and changes in taste.

A company with character – SAMSON can proudly look back on over 95 years of tradition in corporate culture and identity. The company started early in its history to create its own basic values and profile, which it has successfully continued to cultivate in the years that followed.

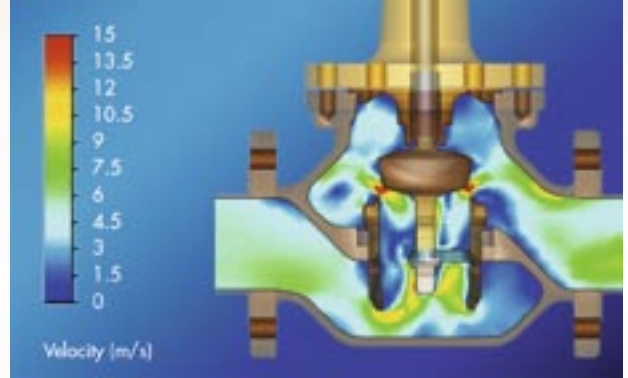
The company is primarily committed to the excellent technical quality of the products, attested in extensive in-house test procedures, the modular design, skillful workmanship, the undiminished large share of valve components manufactured on site and the involvement in constantly improving standardization. Likewise, priority has always been given to customer requirements and the determination to find the right solution for a new challenge, no matter whether the task at hand concerns customer training, manufacturing tailor-made products or concessions regard-

ing repairs. SAMSON founded the Technical Sales department almost fifty years ago, which combined the two fields of sales and technical expertise for the first time to deal with customers' special needs.

So right from the start, technical quality, sales skills as well as effective and reliable service belonged to the mainstays of SAMSON's company philosophy.

Independence is an invaluable asset – Continuous innovativeness and resourcefulness, which have left their mark on the history of the company right from the beginning, still form the basis of SAMSON's company philosophy. Similarly, permanent growth from its own initiative and corporate progression in its entirety is guaranteed, for example, by its committed, rational personnel strategy, which has given rise to employees with a high level of qualification in their specialist field and a highly motivated workforce which identifies with the company over many years. A further decisive factor for SAMSON's successful personnel track record is its continued involvement in vocational training as well as further training. Workforce loyalty is revealed in the length of employment relationship which is above the average. This is an aspect from which SAMSON customers profit as well. A trustworthy long-term business relationship can be built up when the contact persons remain the same and do not change constantly.

Even though SAMSON has expanded over the past few decades and constantly conquered more terrain on international markets, both employees in a long-standing working relationship with the company as well as newcomers are conscious of the long company tradition. Every corporate decision is made based on the core values of the enterprise. All in all, these are the most effective prerequisites for a stable continuation of evolving identity and growth of performance in an ever changing world.

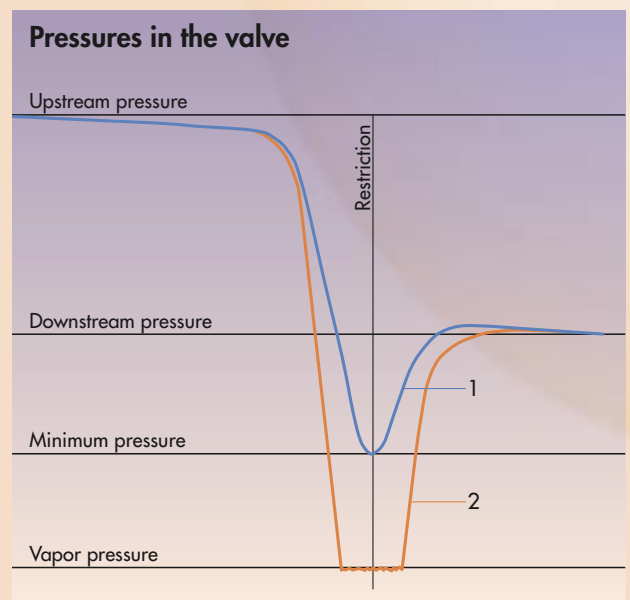


Calculating the flow conditions in advance allows for an economical design.

A liquid is torn apart When cavitation starts ...

The cavitation phenomenon has received widespread attention since 1912 when the British scientist Oswald Silberrad made the discovery that cavitation is partly responsible for the erosion of ship propellers. Since then, intensive research into the cavitation process with all its side effects has almost been successfully completed. The cavitation effect has even proved to be useful for applications such as ultrasonic cleaning equipment used by the opticians to clean glasses. Millions of collapsing bubbles remove dirt more effectively than brushes could ever do. However, it is still potentially harmful, for example, during medical examinations using ultrasound equipment where cavitating bodily fluids can cause tissue damage.

Also in the field of control valves, cavitation is a well-known cause of problems. Every plant engineer is well familiar with the predicament caused when cavitation starts at the point when the pressure in the valve falls below the medium's vapor pressure. However, the critical part is to find out whether exactly this is going to happen at the pressures expected upstream and downstream of the valve.



- 1 Valve with small pressure recovery and a high x_{Fz} value
- 2 Valve with high pressure recovery and a low x_{Fz} value



A valve body eroded by cavitation above the seat. Continuing cavitation erosion causes valve leakage.



The valve-specific x_{Fz} values are determined on test rigs, enabling the prediction of the noise level and erosion behavior.

A SAMSON value is highly valued

Unwanted recovery – In order to control the set point of a measurable variable, such as the pressure, temperature, flow rate, mixing ratio or the pH value, the pressure drop across the control valve must be varied.

The pressure of the process medium is reduced as the medium is forced to flow through the restricted flow area between the valve seat and the valve plug. The restriction causes the medium to be accelerated to a velocity that is inversely proportional to the cross-sectional flow area of the restriction. On being accelerated, the flow loses pressure energy which is converted into kinetic energy.

As the medium moves downstream past the restriction, the cross-sectional area of the valve opens up abruptly, vortices develop and the flow is decelerated to the outlet velocity. The kinetic energy of the medium is converted into heat and unfortunately, some of it is also recovered in the form of pressure. The higher the harmful pressure recovery gets (depending on the valve type), the more the pressure in the valve must be lowered to achieve the appropriate pressure drop across the valve required for the control task.

The minimum pressure matters – If the pressure drops below the vapor pressure of the medium, the liquid is literally torn apart, millions of tiny cavities form and the gases dissolved in the liquid diffuse into the cavities. When the pressure in the medium rises again, the gas bubbles collapse under this pressure. Bubbles close to a solid surface implode aspherically: the side of the bubble pointing towards the solid surface collapses later than the side of the bubble away from the surface. As a consequence, a microjet much finer than a hair develops and moves through the bubble towards the solid surface. It hits a microscopically small area of the surface with a

pressure of several thousand bar, producing minute pitting on the surface. Continual cavitation causes valve erosion and leads to mechanical vibrations as well as excessive noise emission.

Whether cavitation will occur in a valve or not results from a comparison of the operating differential pressure ratio x_F with the valve-specific characteristic pressure ratio x_{Fz} . If x_F is smaller than x_{Fz} , then cavitation, which causes serious structural damage to the valve, will not occur.

The method behind the value – x_F is calculated from the operating data. But how can the valve-specific pressure ratio x_{Fz} be determined? It is very difficult to accurately measure the minimum pressure in the valve. A very simple, yet effective method was introduced by SAMSON in 1973: the minimum pressure in the valve is determined indirectly at the point where the valve begins to cavitate. The abrupt onset of cavitation noise reliably indicates that the minimum pressure corresponds to the vapor pressure. By means of the prevailing upstream and downstream pressures, the valve-specific, stroke-dependent ratio of the internal differential pressure to the external differential pressure can then be determined.

Thanks to SAMSON, this pressure ratio x_{Fz} is now used by international standards and provides a major indication of the quality of a control valve designed for liquid service.



Schematic drawing illustrating the development of a microjet.

Facts and figures

wurde mit 30 Mitarbeitern auf 150 m² die Idee von Hermann Sandress, die Wärmeerzeugung von Flüssigkeiten für die Regelung zu nutzen, umgesetzt und mit der

Herstellung von Kondensat-ableitern und Temperatur-reglern begonnen.

90 Jah



In March 2003, SAMSON opened a further Valve Service Center in Nanjing, China.

1997

... heute ist SA über 40 Länder 32 selbständig-gesellschaftlich 2330 qualifiz. Mitarbeiter so daß der Name auch in Zukunft sicher gilt, als weltweite Kar-

Financial year 2003/04 Successful project business

In March 2003, a further SAMSON Valve Service Center opened its doors in Nanjing, the capital of the Jiangsu province in eastern China. As local customer service becomes increasingly significant, the establishment of the new Valve Service Center was one of the essential prerequisites for SAMSON's involvement in several large-scale projects in China.

Projects are of great value to SAMSON since they reflect the trust that plant engineers and operators place in the SAMSON Group and in its products. Expert project management, which ensures that projects are carried out on time and that planners' requests for changes are granted even at short notice, is instrumental to handle day-to-day operations in future and to enhance continuous growth. Thanks to its many years of successful business relationships and project management experience, SAMSON's project business is prospering.



Experience, expertise, efficient manufacturing and the new logistics center are SAMSON's key to successful project business.



SAMSON's Frankfurt-based project department staff with their head of department, Hans Dieter Simon.



Flexibility is needed in the project business to meet customers' special requirements, e.g. for the red coloring of the valves.

Global player

A promising start – With almost 3,000 valves sold for projects of four major customers in the chemical and petrochemical industries alone, SAMSON succeeded in paving the way for continued growth in the first half of the 2003/04 financial year. As a global player, it is involved in important projects in China, Hungary, Germany, Great Britain, Switzerland and Qatar.

The largest Sino-German chemical joint venture Nanjing on the Yangtze River is home to a steam cracker which is scheduled to come on stream in 2005. Using state-of-the-art technology, the steam cracker will produce an annual capacity of 600,000 tonnes of ethylene and supply nine world-scale downstream plants. This integrated petrochemical production site will be built and operated by BASF-YPC Company Limited, a joint venture company established by BASF AG, Germany, and its partner, China Petroleum & Chemical Corporation (Sinopec), China. BASF was the first foreign chemical company to receive approval for establishing a world-scale petrochemical production site in China. This site will constitute BASF's largest investment in Asia. BASF expects to obtain a significant proportion of sales in China from domestic production by 2010. Sinopec is interested in greatly improving the supply-demand situation for China's domestic chemical industry in the coming years. For these reasons, the plants are scheduled to produce 1.7 million tonnes of high quality chemicals per year to cater for China's domestic market. SAMSON has already won orders to equip five of the downstream plants with valves.

A 160-million-Euro contract – The ethylene plant of Hungary's largest petrochemical company, Tiszai Vegyi Kombinát Rt. (TVK), is scheduled to start production at Tiszaújváros in the northeast of Hungary

in the 4th quarter of 2004. The new plant engineered by Linde AG, Germany, is part of an extensive petrochemical development project by TVK to supply petrochemical base materials for Central Europe. Linde's contract value alone amounted to 160 million Euros. Together with its associated companies, VETEC, Pfeiffer and Welland & Tuxhorn, SAMSON will supply the control valves for the plant.

Valves for the world's largest PBT plant – In cooperation with DuPont, Bayer Polymers, a world leader in polymers, is currently building the world's largest polyester (PBT) production plant at Hamm-Uentrop, Germany. This world-scale plant is scheduled to produce 80,000 tonnes per year. IAB Ingenieur- und Anlagenbau GmbH, the Leipzig-based plant engineering company in charge of this project, has ordered the required valves from SAMSON AG, too.

Committed to improving health and well-being Recently, Novartis' leading drug already indicated for first-line treatment of hypertension has also received approval for the treatment of heart failure, a fast growing cardiovascular disease worldwide. Hence, Novartis is to expand its production sites in Grimsby, Great Britain, and Basle, Switzerland. SAMSON, of course, will provide the valves.

SAMSON valves in the oil sheikdom of Qatar – In 2002, the Qatar Fertilizer Company (QAFCO) placed an order with Uhde, one of the leading companies in the design and construction of large-scale fertilizer plants, to modernize and extend its plants at Mesaieed, a city located 40 km south of Doha, Qatar's capital. With the completion of this project, QAFCO will emerge as the world's largest single producer of urea and ammonia. It goes without saying that SAMSON has joined in this project, too.

Research in the Antarctic Rescue from an icy grave

Each year during the Antarctic summer months from November to March, the Argentine icebreaker *Almirante Irizar* fights her way through the mist and ice floes of Antarctica. The vessel supplies the research stations around the South Pole with equipment and food and transports personnel, mainly geologists, meteorologists and marine biologists. Many of these researchers spend over a year in perennial ice conducting their studies for a better understanding of Antarctica and the Earth. But Nature behaves according to her own laws. Despite the ability to displace almost 15,000 tonnes, the *Almirante Irizar*, Argentina's Antarctic flagship, ran into severe difficulties at the end of July 2002 while trying to assist the *Magdalena Oldendorff*. The German supply ship had got stranded in heavy pack ice which, at temperatures around -32° Celsius, had been growing thicker at such speed that soon both vessels were trapped. The last hope resided in satellite radar images provided by the European environment satellite *Envisat*.



Magdalena Oldendorff, navigating the oceans in the name of science and research. As far back as 1959, the Antarctic Treaty stipulated the preservation and conservation of living resources in Antarctica.



When the Antarctic summer permits the passage, the *Irizar* transports cargo and personnel to the six permanent Argentine stations and several summer camps in three stages. Argentina has been active in the exploration of the Antarctic since 1903.

Joint international efforts

SAMSON always on board – For over 100 years, Argentina has been pioneering research in the Antarctic. It has become one of the leading nations in the fields of Antarctic meteorology, geophysics, geology and marine biology. The Argentine research institute “Dirección Nacional del Antártico” ensures that the national camps and stations, which make up one fifth of all international research bases in Antarctica, are kept supplied with the much-needed cargo. In addition, the institute organizes the regular exchange of the huge number of scientists, navy officers and civilian personnel who dedicate their time and efforts to the exploration of the icy desert. Both Argentine and international researchers focus their joint efforts on environmental protection, climate research and on composing reliable navigational charts.

The entire logistics of the Argentine Antarctic operations depend on *Almirante Irizar*, the only large icebreaker in the southern hemisphere. And SAMSON is always on board: the heating system of the icebreaker includes SAMSON Type 4 Temperature Regulators supplied to the Argentine navy by VALTROL-SAMSON S.A, SAMSON AG’s subsidiary in Argentina.

Nature’s paths are winding – On 11 June 2002, the *Magdalena Oldendorff* stranded off the Antarctic ice shelf on her late return from the Russian research base Novolasarevskaya on Queen Maud Land, Antarctica. Her route back to Cape Town, South Africa, was blocked by a huge ice field drifting in Muskegbukta Bay. Due to the high ice pressure, pack ice can quickly turn into a death trap. As a result, the team of 79 scientists from the base and non-essential crew of the *Magdalena Oldendorff* had been airlifted by helicopter to the South African ship *Agulhas*. On 19 July, the *Almirante Irizar* finally arrived

alongside the trapped German vessel to rescue the remaining crew. But at $-32\text{ }^{\circ}\text{C}$, the icebreaker’s attempts to carve a navigable channel into the thick, quickly closing ice belt failed. Nevertheless, the *Irizar* managed to lead the iced-in vessel back to the relative safety of Muskegbukta Bay, but soon got into distress herself.

Working extra shifts in the control center – The European Space Agency (ESA) was quick to assist in the rescue mission. Its environment satellite *Envisat* supplied radar images displaying the ice conditions in the area surrounding the two ships. With the aid of these images, an escape route through the 1,100-kilometer-wide ice belt was traced from ESA’s mission control center in Darmstadt south of Frankfurt/Main, Germany. Staff were buzzing and computers ran hot as the location of both vessels was not covered by *Envisat*’s radar system. Complex programming was required before the eagerly awaited images could be taken and forwarded to the Argentine navy.

Having transferred fuel, supplies and a physician to the *Magdalena Oldendorff*, the *Almirante Irizar* returned to her home port of Buenos Aires, Argentina, on her own for reasons of safety. The German vessel, however, was forced to overwinter in Muskegbukta Bay. After more than 200 days trapped in Antarctic ice and darkness, the crew finally sailed back into Cape Town safe and well on 20 December, bringing a risky rescue operation to a happy ending.

This year, both vessels will return to fight their way through the icy waters of the Antarctic Ocean in the name of science and research. Definitely on board the *Almirante Irizar* will be fuel, supplies, a number of scientists and – SAMSON.



SAMSON worldwide



SAMSON

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