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Front cover
China, silk's country of origin: Embroidery from Chengdu in the Sichuan province is famous for its brilliant colors.

Photo material
We wish to acknowledge the China National Tourist Office, Boris Palmer, www.dvdream.ch (photo: C. Keckeis) and Manfred Leiter for providing photo material.

Editorial

Remote diagnostics

Dear Readers,

This new edition of our SAMSON magazine deals with diagnostics and also remote diagnostics. But don't worry because we are not going to discuss health matters or even cholesterol levels, but fault prevention and detection in technical systems and thus a topic that will shape the future at SAMSON.
Diagnosis and therapy are closely associated with each other in medicine. The same applies to the field of technology. SAMSON and its after-sales service staff have long since detected and diagnosed faults and errors as well as treated them with the right therapy. So–new wine in old wineskins? Definitely not. The introduction of digital information and communications technologies, which made SAMSON an IT company in an almost unobserved manner, has opened up completely new possibilities. One of them is the above-mentioned approach of "technical diagnostics", including the use of the Internet as a platform to perform remote diagnostics.
This magazine will also inform you about SAMSON's successful activities and expanding presence in the People's Republic of China. Experience has taught us that the biggest problems always seem to occur at the most remote locations. Why should the problems facing SAMSON be an exception to this rule? SAMSON's objective is to solve them fast and efficiently. At this point, the last piece falls into place. Even the best trained service staff are not always able to solve all complex technical problems. And the experts cannot always be on hand all over the world. Certainly, you have already guessed the solution: troubleshooting over the Internet. This method provides the experts in Frankfurt, Germany, for example, with almost the same possibilities as if they were on site in China: they can directly access the software, modify parameters, readjust the positioner from far away, listen to the process, and watch it on a monitor owing to a web cam. As you can see, there are (almost) no limits to progress in research and development.
On the other hand, only a few technically competent and financially sound companies will be able to offer the smart control valves with communications and diagnostics functions demanded by customers in the future. And SAMSON is one of them.

I trust you will enjoy reading this magazine and get new inspiration.

With warm regards,

Prof. Dr.-Ing. Heinfried Hoffmann, Chief Officer
Research and Development, Member of the Board

Digital or analog positioners?

Hybrid technology is even better

Manufacturing cost-effective, top-quality products calls for fast, accurate control of the manufacturing process. In order to achieve a high process control quality, the control valves are required to perform their control tasks accurately, that is to move their plug or disk without delay to a position that corresponds to the reference variable of the process controller.

With pneumatic control valves, the loading pressure of the actuator changes the position of the valve closure member. Unfortunately, the valve cannot adapt the position of its plug or disk directly and proportionally to the loading pressure as it has to overcome various undesired influences and continually changing parameters such as the pressure drop and flow forces acting on the closure member as well as the friction forces exerted on the bushings and the packing system.

This is why the actuator loading pressure can only be used as a reference input variable in exceptional cases where the disturbing forces are expected to be much lower than the actuator force and where the actuator springs are selected to match the standardized pneumatic signal.

In all other cases, a positioner is required to ensure the valve position is accurately adapted in response to the control signal issued by the process controller.

SAMSON's state-of-the-art positioner generation in a compact aluminum housing designed for integral attachment to the actuator.

The analog travel sensor without any gearing operates fast and accurately.

Modern hybrid technology housed in an explosionproof enclosure with separate terminal compartment.

Combining analog control and digital signal processing

Analog and fast – SAMSON's pneumatic and electropneumatic positioners accomplish this task accurately and reliably at a high speed of response. Moreover, they indicate the valve position, issue limit signals, and allow split-range operation and forced fail-safe venting of the actuator.

Digital and versatile – Nevertheless, the market share of the digital positioners is continuously increasing. Owing to their powerful microprocessors, these devices can be commissioned automatically at the press of a button and spare the user repetitive zero and span setting work as well as the time-consuming chore of adapting the positioner to the actuator and friction properties of the valve. They monitor themselves and include diagnostic features for early detection of valve damage or wear. In addition, the positioners can communicate with a PC or a control station over HART protocol, PROFIBUS or FOUNDATION Fieldbus. These smart functions of the digital positioners offer the advantage of performing predictive maintenance, thus ensuring reduced plant downtime.
Apart from these advantages, the commonly used digital positioners, which produce two binary pulse-pause modulated signals to control the supply pressure in the actuator via an exhaust air and a supply air valve, also have some disadvantages. The sampling and computing time required to perform A/D and D/A conversions and to process the control algorithm creates a time lag in the control loop. In addition, no control operation is performed in the dead zone which is necessary to ensure control stability and increase the service life of the exhaust air and supply air valves. As a consequence, control becomes less accurate.

Added advantages – The hybrid technology of SAMSON's new digital positioner generation does not have these disadvantages since it adds the assets of digital signal processing to the benefits of analog controlling. Though all adjustments, conversions, limitations, controls, additional functions, indications, and communications are processed digitally, the actual positioner control loop operates without delay on an analog basis: the electric PD controller continually generates the control signal using an i/p converter equipped with a flapper/nozzle assembly proven a million times over in practice and a conventional pneumatic booster. It determines the system deviation using the actual travel and the digitally processed reference variable. The actual travel is provided most accurately and instantly by a potentiometer developed specifically for this purpose.

It is unlikely that this reliable, well-proven technology will fail one day. But even in the rare case of failure, the positioner is still able to perform at least open loop control. Thanks to its memory, which is based on digital technology, the positioner provides the appropriate signal pressure that matches the reference variable.

Diagnostics on board – Thanks to the hybrid technology, the microprocessor is mostly relieved from undertaking the control tasks. As a consequence, it has sufficient memory and processing capacities to perform extensive online valve diagnostics. Without the help of external software, the positioner generates color-coded diagnostic data, providing perfect asset management.

The hybrid technology from SAMSON sets a milestone in positioner development. The digital technology ensures particularly user-friendly operation and offers a wide variety of functions, while the analog technology provides unparalleled control quality.

In spite of the Great Wall, China had to endure invasions from Mongol tribes over the centuries.

The signs point to a positive future

China, the awakening **dragon**

The ancient Chinese regarded the Great Wall of China as a sleeping dragon spanning almost the whole country. Stretching approximately 6,350 kilometers from China's east to west, it is the longest structure ever built. Numerous legends have been woven around the Great Wall, although the true history is exciting enough in itself. It took China's first emperor, Qin Shi Huangdi, in 221 BC just seven years to construct the Great Wall intended to defend his realm from nomadic tribes coming from the north. It became the very symbol for China, protecting it from the outside world for many years.

Starting in 1977, Deng Xiaoping advocated the policy of opening China. Since then, the Wall is increasingly seen in a different light by the outside world. It is no longer perceived just as the universal symbol of self-imposed global isolation, but instead stands for the immensity of the Chinese market and a growth that can hardly be surpassed.

The new four-story head office of SAMSON CONTROLS (China) Co. Ltd. in the Beijing Economic Technological Development Area (BDA).



The dragon occupies a very important position in Chinese mythology. · The larva of the Bombyx mori, the silk moth, feed exclusively on mulberry leaves. Each cocoon yields a single silk strand of up to 900 meters long used to produce silk fabric.

Unrivaled economic growth

Signs pointing to a positive future in the Middle Kingdom – The national economic growth that is currently being experienced by the People's Republic of China is unequalled the world over. There is no other country that currently attracts as much foreign investment. In particular, the chemical industry, biotechnology and environmental technology along with the associated supplier industries play an important role in this context. But also banks, software providers, and management consultancies have discovered China and established operations there. Increasingly more foreign business activities are based in Chinese cities. Further reforms are planned by the new and exceptionally high-tech friendly Chinese government to make the business environment more transparent.

Growth quota beyond compare – The uninterrupted momentum of the economic rise of the People's Republic is without equal. Its development verging on a miracle has turned it into the driving force of the world economy. Since the 1980s, the average annual growth rate has continuously ranged around nine percent. China's scorching growth has helped it gain considerable competitiveness on the global market, as is proved by the fact that it has become the sixth largest trading power worldwide after the USA, Japan, Germany, France, and the UK. The trend seems to be continuing.
The role that China plays in the Asian region is also developing and gaining increasing importance. The glory of former times passed on in the accounts of the son of a Venetian merchant, Marco Polo, that helped coin the image of China in Europe still shines through. On his extensive travels, Marco Polo was amazed at China's enormous power, great wealth, its progressive trade and business activities as well as complex social structure and highly developed culture.

The importance of silk – China is one of the oldest civilizations in the world and thanks to the silk weaving trade the Chinese economy developed at a very early stage.
Over 5,000 years ago, the Chinese began cultivating mulberry trees to feed the silkworm moths and processed the fiber of their cocoons into silk. The volume of silk traded was such that it even functioned as a currency. Already in the era of the Shang dynasty more than 3,000 years ago, textile workers were able to produce high-quality silk fabric with a hidden pattern for the aristocratic elite. Around 1,800 years ago, the silk industry flourished in various parts of China and silk was traded in places as far away as Rome over the caravan passages of the Silk Route. By the time a pound of silk reached Rome, it sold for a pound of gold.
It was not until the 8th century that silk production started in Europe, initially in southern Spain and Sicily, later on in the Italian towns of Lucca, Venice, and Florence before the French towns of Tours and Lyon followed as well. The manufacture of the valuable raw material brought the towns prosperity.
The lucrative commercial trade and cultural exchange between China, the western parts of Asia, and Europe made possible by the Silk Route diminished after the rise of the Ottoman Empire in the 15th century stopped the transport of Western goods over the Silk Route. Besides this, the emperors of the Ming dynasty in the 14th century decided to restructure the ownership of land, including closing the borders, which also reinforced the situation. China retreated again from the outside world.

Sleeping giant – After the revolution of 1911, joined by thousands of young people who had studied abroad and demanded radical changes, 3,500 years of feudal rule in China ended when the

The Army of Terracotta Warriors has loyally stood guard over the first Chinese Emperor Qin Shi Huangdi's tomb for over 2,000 years.

Chinese monarchy gave up their powers in 1912. At the same time, foreign theories from abroad were being absorbed into the Chinese philosophy and integrated into the traditional Chinese way of thinking. Among the new ideologies figured those of the German political philosopher Karl Marx, whose works were widespread in China around 1920. His ideas revolving around a centrally planned economy were applied as a motivating force during the organization of a new political and administrative system by Mao Zedong and the recovery of the Chinese economy, which had stagnated after years of inner turmoil, conflicts, and civil war. The country had reattracted the economical interest of the Western industrialized nations since the early 19th century. But when Mao proclaimed the People's Republic of China on 1 October 1949, the situation changed again. For quite some time, China ceased being a trade partner due to its enormous size and remoteness, its policies, culture and philosophical ideas.

The turning point – The introduction of market-economy concepts by Mao's successor Deng Xiaoping first marked the transformation of China. He cautiously initiated modernization and opened up China towards the West. Since then, an economical and cultural transition has taken place at such a breath-taking rate that has surely left many dazed. China has become one of the most attractive Asian trade partners for Western industrialized nations and one of the most important locations to pour in investments. The extensive foreign trade with its Asian neighbors has also turned it into the economic driving force of the whole Asian region.

The Yangtze river is China's lifeline and fate. Over 500 million people live in its valley and neighboring provinces. One of the most sensational construction projects ever planned, the Three Gorges Dam, will be completed in 2009.

Plenty of growth potential – To ensure that the upward trend does not cease, the Chinese government has already accomplished a great deal of changes. After joining the World Trade Organization at the end of 2001, for example, the investment climate in China has clearly prospered. A foresighted fiscal and monetary policy as well as a series of major projects to improve infrastructure are planned to support the economy on a medium and long-term basis. The sixteenth National Congress of the Communist Party of China saw a shift in interpretation of major elements of the Marxist-Leninist ideology, playing a vital role in guiding economic strategic planning and affecting further investments in China, no matter whether the investors are domestic or from abroad.

The latest reforms seem to have taken effect. In the first months of 2003, more than 22,000 companies with foreign capital investment have been



Shanghai is a thriving international metropolis with glossy facades, neon signs, and skyscrapers which have made it virtually unrecognizable from its profile less than 10 years ago. · View onto the Pearl River in the province of Guangdong.

approved, amounting to almost 20 percent more than during the same period of the previous year. More than four hundred multinational companies have meanwhile discovered the Chinese market. At the same time, the number of Chinese enterprises doing business beyond their borders is growing, too. In 2003, 7,200 Chinese companies covering a wide variety of fields were founded in over 160 countries. The share of imports is still growing more quickly than the number of goods leaving the country: not surprisingly, as China is still in the process of creating a technical basis for future growth. For example, a large number of imported construction and mining machines are used to carry out large projects such as the construction of the Three Gorges Dam on the upper reaches of the Yangtze intended to generate power to cover the increasing power supply requirements. Another example includes the laying of gas pipelines alongside the Yangtze river from regions rich in natural gas to the major consumer areas.

River lifeline – Progress and prosperity will ensue the upturn experienced by the Chinese economy. Lifelines essential for this development are China's three longest rivers, the Yangtze known as the Big Dragon, the Huang He better known as the Yellow River, and the Zhujiang, the Pearl River. Two of these rivers' deltas in eastern China are also home to the most economically progressive regions: the Shanghai region at the seat of the Yangtze delta and the region around the Pearl River delta, forming the triangle of Guangzhou, Shenzen, and Hong Kong. Apart from Shanghai, the major cities of Chengdu or Nanjing lie directly on the centuries-old shipping route of the stunning and wild Yangtze. In these cities, SAMSON has been running its own engineering and sales offices, similar to Guangzhou and Beijing, where also a new production site was inaugurated recently.

Although many essential facets of Chinese culture such as writing, language, food, and lifestyle have remained true to their origins over many centuries, daily life in the fast-growing cities is currently changing at such a rapid pace that is unrivaled the world over.

Shanghai, an ultramodern metropolis – The bustling, 17-million-strong city of Shanghai is one of the fastest growing cities in Asia. Monumental building projects are continuously shooting out the ground. The inhabitants of Shanghai proclaim that their city is evolving to be the most exciting place in the world, that it will eventually develop into a capital of culture, and become the leading financial center of this century. In 2003, the pilot project involving the world's first commercial magnetic-levitation track was launched to link Shanghai's Pudong Airport, the financial district, and the city center. Another enterprise regarded as the city's greatest opportunity to show off its resurgent glory will be the World Expo in 2010.

Currently, more than a million construction workers are engaged daily on numerous large-scale building sites, raising more gleaming facades, laying the foundation for a skyline without superlative. In September 2004, the city is due to host China's first Formula One car-racing event. This has involved one of the biggest investments of any Formula One venue in the world, spent on a 5.5 km circuit and related facilities on the western outskirts of the city.

Guangzhou, the world's largest center of trade – In Guangzhou, better known as Canton outside of China, bicycles are disappearing as cars, busses, and motorcycles become the favored mode of transportation. A network of urban highways has in the shortest time risen on a grander scale than ex-

The Confucian Family Cemetery is situated outside the northern gate of Qufu, the hometown of Confucius (551-479 BC) and one of the birthplaces of Chinese civilization.

pected only of cities like Los Angeles. Since the sovereignty over Hong Kong and Macau was handed back to the People's Republic of China, the region has experience a real boom. Within two decades, the largest industrial center worldwide located between Guangzhou, Hong Kong, and Macau has emerged with twenty million seasonal workers migrating from the inner country looking for work and a living in the fast growing cities. The probability that consumers outside China purchase a product from this region is fairly high: one third of all ties and shoes as well as 70 percent of all cigarette lighters and photocopiers originate from production sites in the south of China.

Chengdu, the West follows – The old Chinese saying "It's easier to get to heaven than get to Chengdu" no longer applies. The newly built network of highways and airports makes it possible to reach Chengdu within a reasonable time from all over China. The gateway to Tibet and the capital of the southwest province of Sichuan, the largest and most populated province in China, is located in the hinterland of the fertile West Sichuan Plain known as the "Land of Abundance". Mao relocated the nation's research facilities to Chengdu, which has turned to the city's advantage. Chengdu is regarded as a striving metropolis in western China. In particular, the chemical and electronic industries have provided a booming economy.

2003 saw thirty years of environmental conservation in China, one of the countries with the largest number of wildlife species. Over 900 nature reserves have emerged including efforts to protect the Great Pandas.

Despite all the modern, Chengdu has not forgotten its ancient traditions. After undergoing a modernization process, the Dujiangyan irrigation system, one of the largest ancient water construction schemes, still works after more than 2,000 years and ensures a reliable yield at harvest time in the Chengdu basin every year. In addition, the city has always been the center of traditional Chinese medicine as well as playing a leading role in environment protection matters. This is no coindence as the area surrounding Chengdu is home terrain to various rare species of plants and animals. A great deal of energy and devotion has been invested into the preservation of Chengdu's best-known inhabitant, the Great Panda. A formidable task is being undertaken for this animal discovered at the end of the 19th century in the bamboo forests of central China, regarded as a national treasure as well as the symbol for animal species endangered by extinction.

Beijing, the Chinese capital – These days, it would be hard to recognize the city of Beijing without the imperial palace of former emperors, better known as the Forbidden City, at its very center. The traditional north Chinese lion dances during the Spring Festival still take place on the temple markets, although the settings are changing as the traditional one-story

Members of SAMSON's Supervisory Board and Executive Board proudly open the new head office in Beijing. · Mr. Ying Tao Zhang, managing director of the Chinese subsidiary, holds the opening speech.

Building names in the Forbidden City complex such as "Gate of Supreme Harmony" and "Palace of Tranquil Longevity" derive from Confucian philosophy.

houses with inner courtyards are increasingly making way for modern office buildings and shopping complexes.
After joining the WTO, China has experienced a boost in the trade fair business. The capital, home to over half of all trade fairs in China, has blossomed into an international fair location with the goal of expanding the exhibiting area in the near future by almost half a million square meters. Gearing up to be host of the Olympic Games in 2008, the preparations are well under way in Beijing: in the mean time, at least eight international top sports event are to be held in Beijing.

A significant day for SAMSON – Fast progress is also being made at the headquarters of the Chinese SAMSON subsidiary in Beijing. After an average annual sales volume increase of around 54 percent during the past few years, SAMSON CONTROLS (China) Co. Ltd. opened a new four-story headquarters building on 13 October 2003. 2,000-square-meters space houses extensive production, assembly, and test facilities, a modern high-bay warehouse, generously sized training rooms, a welcoming reception area as well as an in-house canteen.
The new building is located in the Beijing Economic Technological Development Area (BDA). Authorized in August 1994 by the Chinese Central Government, the 15-square-kilometer-sized development zone was a project that benefited from top priority at a national level. The excellent infrastructure and ideal location close to the harbors on the Bohai sea as well as the proximity to various airports and railroad stations in the region has attracted investment from over a thousand companies, including many multinational companies. Similar to many regions in this country, Beijing is also growing at a rapid rate.

Blue skies over Beijing

Beijing, where the head office of SAMSON CONTROLS (China) Co. Ltd. is located, has tremendously changed over the past few years. Old streets and houses have disappeared, the number of automobiles commuting on the increasingly modern road network through the capital has risen as well. Modern shopping malls as well as new industrial centers and residential areas are shooting up out of the ground. The Chinese capital is growing at a rapid rate. The city's charm is still molded by the contrast of old and new existing side by side: Beijing has an immense heritage of buildings and complexes worthy of preservation and known throughout the world, the Forbidden City figuring among the most impressive.
The most important countermeasure enacted to preserve the ancient buildings has been to reduce air pollution caused by antiquated, stand-alone heating systems; an undertaking that will also improve the quality of living in the gigantic city.
Beijing is therefore constantly investing in its district heating network. Since 1988, SAMSON has been active in this field in China. Over 500 self-operated flow regulators have been installed in existing transfer stations to improve the hydraulics as well as the network efficiency with it. Until now, various new residential and business areas have been connected to the district heating network with over 1,500 transfer stations supplied by SAMSON China. The compact, fully automated transfer stations are particularly suitable due to their small size and can even replace conventional boilers, thus contributing to the fast acceptance of district heating.
Even the stadiums and the official central buildings being erected for the Olympics to be held in Beijing in 2008 are connected to the district heating network and SAMSON China will supply modern HVAC products to help the idea of the "green games" become a little more real.

Opening at SAMSON: the lion dance is an ancient ritual seen at many formal ceremonies. The lion epitomizes happiness, harmony, and peace.

While, at the time of planning, the new SAMSON building was still located south-east on the outskirts of the city in a green belt located between 5th and 6th ring road, building projects in the surrounding area have been completed and the 7th ring road is currently under construction. The foundation stone for the new building was laid in February 2003 and just eight months later, the opening ceremony took place.

Despite the rapid growth taking place in the whole of China, Mr. Ying Tao Zhang, the managing director of the Chinese SAMSON subsidiary, feels it especially important not to lose sight of the long-term, far-sighted planning of the modernization process. For him, this involves an infrastructure that complies with all modern requirements essential, for example, in the district heating sector.
SAMSON provides him with the right opportunities. The introduction of the company into the Chinese market was carefully planned. Between 1988 and 1998, SAMSON earned a good business reputation with the help of the partner Nan Hang Instruments Cooperation among Chinese customers, and SAMSON CONTROLS (China) Co. Ltd. was finally founded in May 1998.

Uninterrupted momentum – Since its inauguration five years ago, Mr. Ying Tao Zhang has managed the subsidiary which has grown continuously ever since. The list of customers has grown longer, production and sales have expanded, and new branch offices have been opened in Shanghai, Chengdu, Nanjing, and Guangzhou. In the meantime, SAMSON can now count on customers in every Chinese province. Especially as part of large international projects, SAMSON is a valued partner. With regard to their production and service, the Chinese subsidiary can proudly comply with European quality standards, having adapted their manufacturing to the local requirements and established a well-structured after-sales network.

Under the symbol of the lion – Ying Tao Zhang is convinced that the groundwork laid over the past few years will be fruitful for SAMSON China. In general, the perspectives in the Middle Kingdom are promising. The indications are that long-term development and an increase in general prosperity will proliferate from these prospects. As before in the ancient history of China, the old and the new often coexist side by side in a matter-of-fact way for the good of the country. As a result, it is no surprise that many of the ancient traditions have survived: for example, Confucianism, which officially forged the vision of China until the end of imperial China and still continues to do so today, or the Chinese script which has existed almost unchanged for the past 2,000 years.

The good cooperation between the Beijing head office and the headquarters in Frankfurt is considered important for the SAMSON Group.

Rice growing still plays a dominant role in daily life in many regions of southern China, as the scenery along the Li River shows. Its scenery is acclaimed to be "the most beautiful scenery under heaven" and is characterized by bizarre hill formations, rice paddies, and grazing water buffaloes.

Seven thousand years of rice

The Hani people in southwest China named their terraced fields "ladders toward heaven". It is assumed that this ethnic group was the first to build rice terraces over five thousand years ago. The Hani people contributed to the success story of the meadow grass originating from the deltas of the Yangtze river which dates back approximately 7,000 years.

The forests, villages, terraced fields, one below the other, form a unique ecosystem which still serves as the basis of their living even until today. Small-sized terraced fields in odd shapes connect with one another and form larger fields, each covering an area of about 0.6 square kilometers. The astonishingly clever irrigation system allows the Hani people to get enough water up to where the rice can grow. A saying of the Hanis goes that water can reach as high as any mountain. The locations where the Hani have built their villages and opened their terraced fields are cleverly chosen between forests and river valleys. Compared with other terraced fields in the world, they are located on steep slopes, ranging from 15 to 75 degrees in gradient.

Astoundingly, the number of terraces on a single slope may even exceed 3,000. The terraced fields stretch from the southern banks of the Honghe river up the sides of the Ailao mountain range, bridging almost 2,000 meters in altitude, the highest area where rice can grow. In addition, the area enjoys abundant rainfall. Thus, the natural conditions are favorable for terraced fields.

The Hani's irrigation system is clever, yet simple. They build their villages below the tree-covered peaks, but above the rice terraces. Because of the high temperature in the river valleys, water vaporizes and forms clouds and fog. When the clouds and fog rise to the forests on the mountains, they are cooled down and form water droplets on the tree branches and leaves. Numerous droplets come together and become streams, then flow down the mountain. The Hani people draw the stream water to their villages for daily use and then channel water to irrigate their terraced fields.

The Hani use the same principle to get the much-needed fertilizer to their terraces. Every Hani village has public manure ponds for collecting stable dung. In spring, when people begin plowing their terraced fields, farmers dig out the manure ponds and pour manure down a canal to the terraced fields along with the water. To make all the manure flow smoothly, people dressed up in festive clothes for the occasion, line up along the canal and use hoes and rakes to dredge the flow.

The Sun Yat-Sen Mausoleum was build to honor Sun Yat-Sen, China's first president.

Expertise on site

Capital of ten **dynasties**

China's economic development spreads inland from Shanghai along the Yangtze river; thus it is no surprise that the city of Nanjing, located only 300 km upstream of Shanghai, also benefits from the rapid economic growth that China's southeastern regions have been experiencing. Nanjing, home to over six million inhabitants, has always played a major role in this huge country as Chinese emperors used to govern from there.

The boost in Chinese economy began more than 25 years ago when Deng Xiaoping started his policy of reform and opening-up. After years-long negotiations, the People's Republic of China finally joined the World Trade Organization (WTO) in November 2001. Since then, China has attracted a record-breaking amount of foreign investment by large multinationals.

SAMSON has invested as well: in March 2003, a further branch office was opened in Nanjing, providing the reliable local SAMSON service directly on site.

The Kun opera dates back more than 500 years. It is characterized by simple, yet enchanting melodies, brilliant poetry, and exacting acting.

The Nanjing-Hangzhou Canal, part of the famous Grand Canal system, was initially built to ship the harvest from the Yangtze delta to the north.

Nanjing's first bridge across the Yangtze was finished in 1968 without support from abroad.

Nanjing on the leap forward again

Favorable location – The major political and strategic importance of Nanjing, the capital of the fertile and prosperous Jiangsu province, does not come as a surprise when taking a closer look at the city's geographical location. Situated only 300 km inland from the Pacific Ocean on the southern banks of China's longest river, the Yangtze, Nanjing has had direct access to the most important waterway, the Grand Canal, from time immemorial. For 1500 years, the canal has linked the Long River (Yangtze) and the Yellow River (Huang He), thus connecting southern China with the north and later also the capital, Beijing. The imperial fleet traveled on the waterway, which was made navigable for large ships in 1958, as did thousands of merchant ships. Even as air transport gets more and more popular, the waterway is still used extensively.
Right from the beginning, Nanjing has been one of the most important gateways to the less developed interior of the country. As a result, the city soon developed into China's largest inland port.

Internationalization – The city first attracted the interest of international trade in the 19th century when Great Britain forced several Chinese ports to be opened for foreign trade in the Treaty of Nanjing concluded in August 1842. The first economic boost in recent history came in 1968, nearly a decade before Deng's reform policies were introduced, when the city's first bridge spanning the Yangtze was built. The bridge established the first rail and road connection between the two large cities of Beijing and Shanghai. Construction of the second bridge across the river was finished in 2001. Today, as the third bridge is being built, Nanjing is just one example of how Deng Xiaoping's idea of a modern, vibrant, open, and international China has become reality in many places. Nanjing is an important center for the automotive, telecommunications, and above all the international petrochemical industries, which have been investing heavily in the Jiangsu-Zhejiang-Shanghai region, the area also known as the "Yangtze triangle". Nanjing's petrochemical and electronics sectors range among China's top performers when it comes to production capacity. In addition, Nanjing also provides great opportunities for other sectors, both on a domestic and international level, such as food processing as beer and European bakery products are becoming increasingly popular in China. Another success story includes district heating, an important issue in Nanjing as well as in other fast-expanding, densely populated urban areas.

Laying the foundations – The expansion of Nanjing's economy is supported by the Central Government in Beijing. For quite some time now, the Government has placed special emphasis on developing the Yangtze triangle. The economic upturn goes hand in hand with qualified research and science. With the Nanjing and the Dongnan Universities–alongside hundreds of other study centers, academies, and research institutes–, Nanjing possesses some of the best-renowned education facilities in the country. As a result, the city is growing to be a major center in this area as well.

Giving a smile to the world – Nevertheless, it is not only business, research, and education that count: culture still plays a major role in Nanjing as well. Many artistic groups feel at home in the city. The Kun opera, the traditional southern opera that uses simpler means to express the elaborate symbolism and stylized forms than the opera of the north, e.g. the Beijing opera, enjoys great popularity; the city's Kun opera house has staged over one hundred new plays recently. In addition, more and more visitors from

The ancient Yuejiang Tower in Nanjing overlooks the southern banks of the Yangtze.

foreign countries come to admire Nanjing's rich heritage or to visit the traditional Jinling Lantern Festival or the plum blossom festival held in early spring, which earned Nanjing a reputation as China's "Flower City".

Consequent development – SAMSON has been committed to using the opportunities Nanjing has to offer and opened a further branch office there in 2003. A decisive factor in favor of the new site was the close vicinity to large multinational chemical companies. SAMSON was faced with a challenge and responded immediately because what counts in China, as anywhere else in the world, is providing expertise directly where it is needed: at the customer's site. Currently, the new service center employs four highly qualified staff who cooperate closely with the Beijing headquarters. Soon, their number will increase. China offers many opportunities, SAMSON will be there to grasp them.

During the Jinling Lantern Festival, hundreds of colorful lanterns light the cityscape.

Historic city with particular charm – French plane and gingko trees line the streets, Himalayan cedars and tamarisks add lots of green to the scenery, and numerous ponds and parks invite visitors to linger. Nanjing is nestled between three lovely mountain ranges also known as the "Purple and Gold Mountains". The ancient imperial city can look back on a long tradition and history and has always been considered one of China's most beautiful spots.

As a result, Nanjing attracted the interest of the country's rulers at an early stage. Over many centuries, the enormous country was governed from Nanjing, for example, in the early years of the Ming Dynasty under its first emperor Hongwu from 1368 to 1398; a fact that coined the city's name "The Capital of Ten Dynasties". To strengthen the capital, Hongwu had no less than 20,000 influential Chinese families live in Nanjing. The emperor also had the city reconstructed on an area of 130 square kilometers, surrounded by the massive city walls, the largest in the world. He thus laid the foundations for the impressive cityscape that, still today, is characteristic of Nanjing.

Although Hongwu's successors discontinued his Nanjing policy–the third Ming emperor, Yongle, moved the center of political power north to Bejing–, Nanjing remained the second capital, the "southern" capital as the literal translation of the city's name suggests. Hongwu's magnificent Nanjing palace even served as the model according to which Yongle had the Forbidden City constructed, the imperial residence in Beijing. Only the emperor himself and a few selected people were granted access to the elaborate palace compound; ordinary people were forbidden to enter under penalty of death.

In memory of Zheng He – Again, the Ming palace has served as the pattern for the remodeling of the Jinghai Temple and Tianfei Palace complex in Nanjing. The conference and exhibition center will be redesigned to honor the seafarer Zheng He, one of the city's most famous sons. As early as 1405, Zheng He was ordered by Yongle to sail to "the countries beyond the horizon". Overall, Zheng He undertook seven voyages that led him and his Treasure Fleet, at times comprising up to 300 ships, as far away as Africa. China became the most influential seafaring nation of that time. Nevertheless, Zheng He has never really won the fame he deserved: far from it, the explorer fell into oblivion for quite some time.



In contrast to Guangzhou, Nanjing has not tried to cut down the number of bikes in the city. They still dominate the cityscape. · In March 2003, SAMSON opened a further branch office in Nanjing. · Mr. Ke Huang, head of the Nanjing office, checks the tightening torque of a valve seat.

Late glory for a great explorer – It was nothing out of the ordinary at that time that young Zheng He started his career serving as a eunuch at the court of the prince who would later become the emperor Yongle. Although eunuchs were important advisors and military leaders at Ming courts–they even commanded the secret police–, there were simply too many of them, up to 70,000 at times, to give this career path historic importance. When Yongle finally chose 34-year-old Zheng He to sail the seas to display the might of Chinese power, the explorer was well prepared to take the next step.

It was in 1405 that Zheng He first set sail. But although he opened up numerous new trade opportunities in over thirty countries from South East Asia to East Africa, he was not granted lasting fame. And this was mainly due to two facts. First, the Ming emperors were all highly educated scholars and considered the achievements of the foreign nations inferior to their own tradition and heritage. Second, trading with the foreign countries was not worth striving for as, according to their Confucian conviction, making money and profits was considered business only suited for the "small man". As a result, Zheng He's great voyages were of temporary historic importance only. The seafarer is said to have died in 1435, supposedly at sea, and his great explorations were soon forgotten.

Several centuries later as China further opens its doors to the outside world, Nanjing is also exploring a long-forgotten territory by re-examining its own glorious history. And thus, the opening of the new conference and exhibition complex will finally pay tribute to Zheng He as he deserves it. Nevertheless, it is not only Nanjing's historic awareness that is undergoing changes.

"25-hour life" – Up until a few years ago, nightlife even in the big Chinese cities was almost exclusively restricted to having dinner with the family at home, watching some TV, and going to bed early. But things have changed considerably: nightlife–or "25-hour life" as it is now commonly referred to–has become much more varied, exciting, and colorful. Today, people meet in restaurants and bars, attend all kinds of events, surf the Internet or unwind at the fashionable reading bars that are becoming more and more popular. Above all the younger urban generation enjoys the after-hours spent away from office or home, naming them the "25:00 hours". At night, the city's streets are still crowded with vehicles and dwellers eager to enjoy themselves and relax from a tense, fast-paced day. What makes the big difference to the city's daytime face are the street lamps and flashing neon signs setting the streets ablaze with colorful light.

As night falls on Nanjing – Visitors forget about even the hottest and dampest summer nights when they come to see Nanjing's historic Qinhuai district. From the 14th into the early 20th century, tea houses, wine bars, restaurants, antiques' stores, and entertainment venues of all kinds lined the banks of the busy Qinhuai river. Small and large painted boats, decorated by hundreds of brilliant lanterns, quietly glided by on the water, each one adding to the unparalleled atmosphere with its skillful design and colorful splendor. Only recently has the district been restored to its traditional style, bringing back the old beauty and grandeur. Since then, cruising the river at night has become one of the attractions captivating countless visitors from all over the world who wish to indulge in the special charm of the district. Again, this is only one example of the awakening dragon, of the old, new China.

The extended diagnostics integrated into SAMSON positioners help when assessing the technical condition of a plant.

Remote diagnostics

The **experts** always **on site**

A high level of commitment is called for to cover all the requirements placed on SAMSON as part of its business activities on a worldwide scale. In particular, departments responsible for customer support frequently encounter challenges involving the worldwide delivery of products on time, that still comply with all the local regulations and standards. Additionally, matters concerning climatic requirements at the site of installation need to be taken into consideration as well as the necessary approvals have to be provided. Another aspect of after-sales service entails fast, yet competent support with foresighted maintenance routines and, if need be, repairs that can be performed at short notice. A key factor assisting SAMSON to achieving these customer demands is provided by the on-board and remote diagnostic capabilities of SAMSON positioners.

Customer-friendly after-sales service is absolutely essential for success in the global marketplace.

A high standard of support to the customers' complete satisfaction can only be implemented by using modern IT to the maximum.

Well-coordinated customer support

Workhorses of a process – Control valves belong to the components under the greatest strain in a process control loop. Engineered to match the requirements of the application, the valves even control dirty, corrosive or abrasive media within the specified pressure and temperature ranges. Besides being expected to control precisely and reliably, the valves must be able to shut-off tightly as well as perform their fail-safe function reliably whatever happens. When valves fail, the affected section of the plant or, at worst, the whole plant has to be shut down.
Understandably, control valves require maintenance to guarantee their proper functioning in the running process. The issue at hand is to find out how frequently and to which extent scheduled maintenance routines need to be performed.
Maintenance routines and spare parts are expensive, yet unplanned plant downtime costs even more. Responsible plant engineers have to take the right action on the spot according to their experience. The profitability and performance of the plant depends to a high degree on the engineers' judgement.

Diagnostics on-board – This is where the new generation of SAMSON positioners comes into play. Thanks to their hybrid operating principle, the analog part of the positioner positions exceptionally fast and accurately, while the microprocessor has sufficient memory and processing capacities allowing for extensive valve diagnostics.
The diagnostic and status alerts can be read on site over the display or, if required, sent over fieldbus to a control room. The serial interface of the new Series 3730 Positioners even allows communication over the Internet, under the required conditions, and permits future-oriented remote diagnostics and even remote maintenance to a certain extent. SAMSON introduced this diagnostic strategy at the German trade fair INTERKAMA+ and is currently putting it to the test under real conditions, connecting its Frankfurt headquarters and several subsidiaries worldwide, including the new office in Nanjing.

Help from the experts over the network – The after-sales service department at the Frankfurt headquarters has installed the TROVIS-VIEW software, an in-house developed operator interface, on a server. Service staff in the field can establish a connection between the SAMSON positioner on site and the Frankfurt server using a notebook or perhaps even a mobile phone in future.

The profitability and efficiency of a plant heavily relies on the smooth working performance of all components particularly in large-scale plants.

In this way, the after-sales service staff based at the headquarters have access to diagnostic information issued by the positioner installed in a plant somewhere far away. As a result, experts from various specialized fields can confer when complex valve problems arise and, if need be, remotely reconfigure the positioner still installed in the plant.

Color-coded diagnosis messages enable effective, predictive maintenance routines.

The specialists are always in the field quickly, so to speak, yet without needing to take time-consuming and cost-intensive business trips.
However, there are still many limits to future-oriented remote diagnostics on in-service valves since the Internet structure does not yet comply with the security standards that plant operators require for their highly sensitive processes.

Not just a vision – Nevertheless, remote diagnostics have already proven indispensable at the workshops of SAMSON subsidiaries that use them to guarantee high quality and fast service response to even the most difficult valve problems. In most cases, however, remote help is not even necessary. The new positioner generation from SAMSON has an expert on board that never sleeps in the form of a powerful firmware integrated into the device.

Firmware is the key – Without requiring additional sensors, the SAMSON positioners analyze themselves during initialization and indicate system or attachment faults on site over the display and over the fault indication output or other means of communication such as HART, PROFIBUS or FOUNDATION Fieldbus. They report data vital for predictive maintenance, including shifts in the closing point and control quality changes.

The positioners integrate the valve travel and issue an alert when the set limit is exceeded. In addition, data is provided on the number of performed initializations, on zero calibrations, configuration changes, and on duty hours that have passed since the first and last initialization routines. Warnings are issued when the temperature is outside its permissible operating range. Moreover, the positioners record the extreme values and how long the limits were exceeded. Thanks to the fact that the positioners monitor themselves, they can indicate errors, distinguishing between errors they can correct themselves and fatal errors that require the positioner to be reset.
The positioners are rather fault tolerant. For example, they continue operation with restricted accuracy when the unit indicating the valve position fails thanks to an intelligent control system.

The next step – The optionally available firmware EXPERT+ allows for a more detailed fault analysis. It includes a data logger that registers the last 100 signal values permanently or when triggered by an event as well as histograms for the valve position, system deviation, and closing point shifts. The firmware updates a signature diagram that plots the internal control signal as a function of the valve position.

Predictive maintenance can only be implemented by constantly recording and analyzing the relevant data.

Simple commissioning, excellent functionality, and extensive diagnostic capabilities thanks to modern digital technology in SAMSON positioners

By comparing the current values with the values saved during initialization, EXPERT+ recognizes faults and trends. The results are indicated for the user in color-coded from, if desired. An automatic step response test for control valves in safety circuits allows online valve testing while the process is running.

Sensors to detect leakage – A simple sensor for structure-borne sound, firmly attached to the valve yoke and connected to the positioner, allows the detection of increased leakage at the valve seat as well as diagnosing the onset of cavitation. The positioners are able to monitor not just internal leakage, but fugitive emissions at the packing as well. Using a simple pressure switch attached at the leak-off connection located between the bellows and backup packing and connected to the binary input of the positioner, maintenance staff are immediately alerted in the event that a bellows is defective.
Should there still be problems in spite of these diagnostic capabilities, this is where the remote diagnostics from SAMSON take effect.

Coordinated help for the best support. Experts from various specialized fields have direct access to the control valve over the network and can advise field staff on site.

Design study: a mounting platform for attaching the positioner to the NAMUR rib introduced by SAMSON.

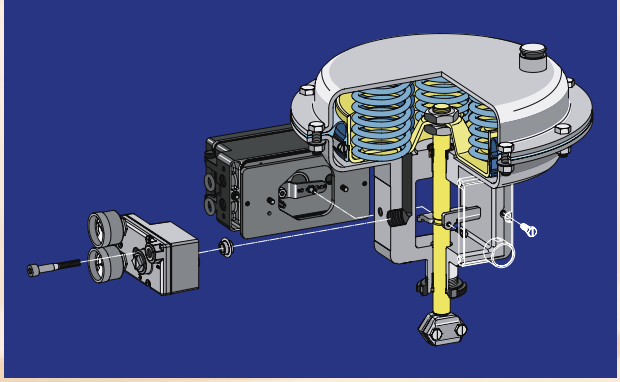
The best choice

Integral positioner **attachment**

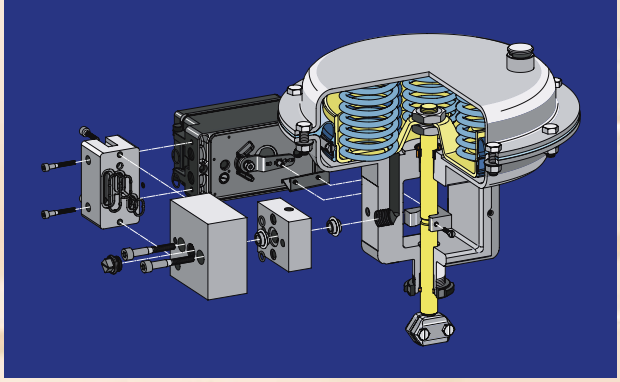
With the introduction of its classic, the Type 3241 Control Valve, SAMSON already defined the basic design principles for modern, economical standard control valves: a compact, modular design featuring a sturdy yoke connecting the actuator to the valve body, evenly arranged actuator springs, a screwed seat, a seat-guided valve plug, and a live-loaded packing system.

Though created back in 1968, the design of SAMSON's valve classic, which has been further developed continuously over the years, is still up to date: this is apparent from the fact that the American valve manufacturer Fisher has engineered its latest valve series mostly following the design principles formulated by SAMSON, and moreover from the fact that the integral positioner attachment design pioneered by SAMSON has been incorporated into international standards via the German VDI/VDE Directive 3847.

SAMSON's modern classic, the Type 3241 Valve, with integral positioner attachment.



Cost-effective integral positioner attachment according to SAMSON standard...



...and complex universal attachment involving more parts according to VDI/VDE 3847.

Optimized to provide excellent benefits

Facing the challenge – Since SAMSON launched the first pneumatic positioner on the market in 1952, the company has been optimizing the positioner attachment—a challenging task since only an accurately fixed mechanical connection to the control valve and a backlash-free transmission of the valve travel allow the positioner to provide maximum performance.

NAMUR rib – In 1962, SAMSON's introduction of a special mounting rib marked the first milestone in the optimization process. Only a few years later, in 1970, NAMUR, the German association of users of process control technology in the chemical and pharmaceutical industries, recommended using this rib for attaching accessories to the control valve. This NAMUR recommendation NE 004 still applies today. And on large actuators, the use of a NAMUR rib is still the best and most feasible solution for mounting the positioner. For this reason, SAMSON has further developed and optimized this mounting method by engineering a mounting platform with a mechanical valve travel linkage system and appropriate piping, which considerably reduces the amount of work and time needed to replace the positioner.

Integral attachment – On small and medium-sized actuators, however, integral positioner attachment is the best choice. It allows plant operators to comply with stringent accident prevention requirements as all moving parts are safely housed to prevent personal injury.
An additional asset of this design is that the sensitive mechanical valve travel linkage cannot be unintentionally misaligned during transportation, assembly work or operation as well as cannot be damaged by adverse weather conditions. What's more, the positioning air is sent through internal ducts in the actuator yoke. This is an outstanding advantage as it eliminates the need for costly, complex external piping to mount the positioner on control valves featuring the commonly desired fail-closed safety design. Even the fail-open versions of SAMSON's smallest pneumatic actuators suitable for integral attachment do not require external piping thanks to a special switchover plate that, depending on its position, supplies either the top or the bottom diaphragm chamber with positioning air via the internal ducts of the yoke.

Easy replacement – In cases where the actuator has to be replaced because the valve is subject to higher pressure drops, for example, the complete positioner/actuator unit can conveniently be assembled, adjusted, and checked in the workshop, which offers the advantage of reduced installation work on site.
Additionally, the purging of the actuator yoke chamber with the dry, clean positioner exhaust air protects the mechanical valve travel linkage from harsh outdoor conditions as well as corrosive atmospheres often found in chemical plants.
Last but not least, SAMSON's integral positioner attachment is more cost-effective, more compact, and sturdier than the standardized positioner attachment specified in the German VDI/VDE 3847 Directive since it does not require any adapters for universal attachment.

Moscow is in the first place: SAMSON's Russian subsidiary achieved a rise in sales of 93 % in the past financial year.

Financial year 2002/2003

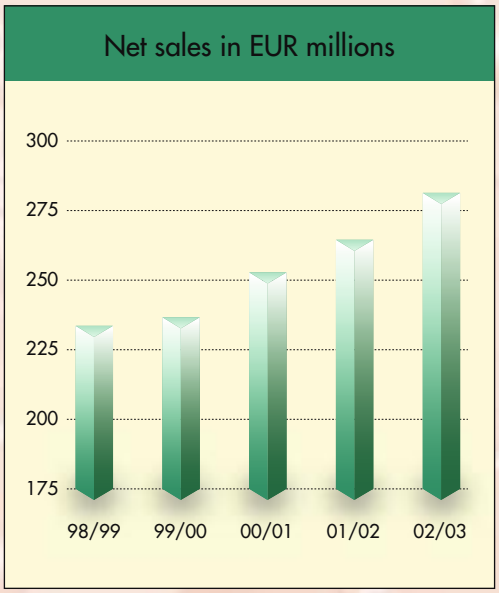
Global commitment

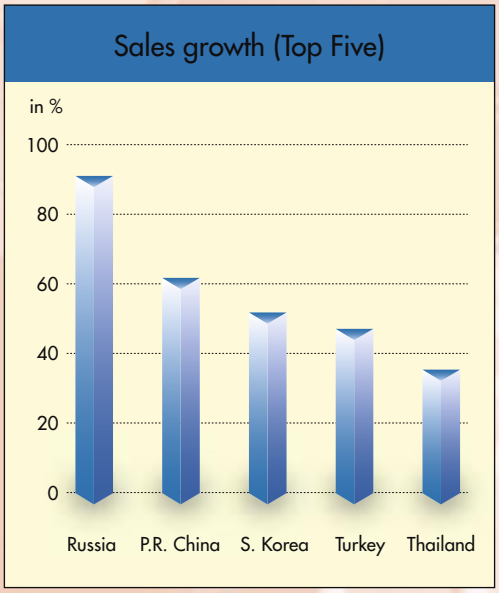
In the past financial year 2002/2003, the SAMSON Group was able to increase its consolidated sales by 6.6 % to 281 million euros, achieving a remarkable result again. This rise in sales proves once more that SAMSON is on the right course pursuing the strategy of global commitment.

While the eurozone saw only slow economic development reflected by a slight increase in the real GDP of less than 1 %, the world economy experienced noticeable growth after more than two years of recession. Hence, the major impetus for the domestic market came almost exclusively from abroad, resulting in a considerable increase in exports.

Especially in Asia, the overall economic growth was still above average. In its largest target market in Asia, the People's Republic of China, SAMSON achieved a sales increase of 63 %.

The SAMSON Group was able to sustain its position in other countries as well. Its subsidiary in Moscow succeeded in almost doubling its turnover, achieving a rise in sales even greater than that of the Chinese subsidiary. In addition, SAMSON continued to expand its global sales network.







Copper mining in Chuquicamata: Chile is one of the world's leading copper producers. The processes involving the reddish metal are important areas of application for SAMSON valves. SAMSON recently opened a new subsidiary in the capital of Santiago de Chile.

Local customer service–help close at hand

Expanding and enhancing customer service – Global thinking and reliable customer service are key values of SAMSON's business philosophy. Therefore, the SAMSON Group, active on an international basis, places a high value on continually improving local customer service and support all over the world. In order to further strengthen its presence worldwide and to get closer to its customers, SAMSON established a new subsidiary in Chile and opened twelve new engineering and sales offices around the globe in the past financial year. Thanks to its dense customer service network, SAMSON is always close at hand to provide excellent service and support on site and to meet customer requirements at short notice.

A new subsidiary close to the Andes – Situated on a fertile plain halfway between the Pacific seashore and the eternally snow-capped Andes Mountains, Santiago, the capital of Chile, is home to approximately five million inhabitants–one third of the entire Chilean population. Thus, Santiago is the cultural, economic, and industrial center of Chile. Most major Chilean companies are headquartered in Santiago and the surrounding area and numerous multinational companies have branch offices there.
In September 2003, SAMSON AG established a new subsidiary, the SAMSON CONTROLS S. A. company, in Chile's cosmopolitan capital, increasing its number of sales subsidiaries to 33 worldwide and further enhancing its customer service network in South America: just recently, in the financial year 2001/2002, the SAMSON Group had already opened a new valve center in Salvador, Brazil.

The Chilean economy – Chile is one of the leading industrial nations in Latin America. It has achieved a relatively high level of integration into the global economy and offers especially attractive economic conditions for foreign investment. In the past years, companies from abroad increasingly invested in copper mining, Chile's most valuable resource, and were involved in public infrastructure projects, contributing to Chile's rapid development progress. Until shortly after the turn of the Millennium, the country's average growth rate amounted to more than 7 %. After two years of stagnation as a result of the worldwide economic decline, Chile is now aiming to reach the former growth rates again by means of enhanced investment. Efforts are being made to optimize the public service, raise the educational level, as well as expand research and development. The mining industry, however, will continue to be the main pillar of the Chilean economy for some more time since Chile is one of the world's leading copper producers.

On the right course – SAMSON opened twelve new engineering and sales offices in Australia, Asia, the Americas, and Europe. The Group's Canadian subsidiary alone, which is continually increasing its sales structure, established three new branch offices.
Even without expanding their sales networks, SAMSON's subsidiaries in Thailand, Turkey, and South Korea performed extremely well. Thailand reached a growth rate of 36 %, Turkey achieved 48 %, and South Korea succeeded in obtaining a rise in growth of as much as 53 %. These figures prove that, even at times of economic decline, SAMSON is on the right course.

SAMSON and LEUSCH

First-class industrial **valves**

After many years of successful co-operation, SAMSON AG acquired shares in LEUSCH GmbH, a renowned German manufacturer of industrial valves, in December 2003. The Neuss-based company in family hands looks back on thirty years of experience and excellence and can present a long reference list including many first-rate customers. LEUSCH has successfully carried out many international large-scale projects together with SAMSON AG. The objective of the investment is to strengthen the fruitful business relationship between the two companies on a long-term basis. Thanks to this union, a further range of control and shut-off butterfly valves, ball valves, and segmented ball valves have been added to SAMSON's already comprehensive product line.
This is a further step to stay ahead of the pace of development on the international market: worldwide presence and control valves designed for all types of application by the very same manufacturer. Just recently, SAMSON's decision to join forces with LEUSCH proved to be right as demonstrated in a project carried out in the Sultanate of Oman.

The control and shut-off butterfly valves from LEUSCH are characterized by special features such as a triple eccentric design for tight shut-off.

Assembly of the LEUSCH butterfly valves in the Sultanate of Oman. · All the products manufactured by LEUSCH have a high technical standard and have been extensively tested at all manufacturing levels. Like SAMSON, LEUSCH is certified according to ISO 9001:2000.

Providing outstanding performance

Successful development – In the past thirty years, the family-owned LEUSCH company has evolved into a leading manufacturer of first-class industrial valves. Founded in 1974, LEUSCH GmbH initially started off as a sales and service company which specialized in selling and repairing control and monitoring systems used in the field of instrumentation and controls. Just after a few years, in 1985, its founder and managing director, Jacob Leusch, had already gained sufficient experience to engineer and manufacture standard as well as high-pressure valves from special materials. Thanks to his development of high-performance ball valves, segmented ball valves as well as control and shut-off butterfly valves made of various materials for temperatures ranging from –196 °C to +1000 °C and pressure ratings of up to PN 420 or ANSI Class 2500, his company succeeded in fully establishing itself on the international market within a few years. Nowadays, LEUSCH valves are used in many branches of industry.
In December 2003, LEUSCH GmbH and SAMSON AG signed a co-operation agreement to strengthen their already fruitful business relationship on a long-term basis. The two companies trust that their closer collaboration will help attract more customers and open up new markets.

From one source – So far, the successful collaboration of the two companies in the implementation of international projects has already borne fruit. Thanks to their alliance, they have been able to offer an enhanced product line from one source and hence to open up many new business segments not only in Germany, but also in Iran, Taiwan, Mexico, Russia, and the United States of America.

Outperforming the competition – In the past financial year, SAMSON and LEUSCH designed and manufactured six triple eccentric 20-inch and 24-inch shut-off butterfly valves with a pressure rating of ANSI Class 900 for PDO (Petroleum Development Oman), a joint venture owned by the Sultanate of Oman and some private investors, including the Royal Dutch/Shell Group. Owing to their better cost-effectiveness, these superior butterfly valves outperformed the in-line valves from the competition.
PDO is the major exploration and production company in the Sultanate of Oman, producing more than 90 % of the country's crude oil and nearly all of its natural gas supply. The production of crude oil and natural gas involves complex, technically demanding processes, such as the removal of mercury from untreated natural gas in the upstream sector. The special valves from LEUSCH provide the desired high performance for this demercurization process, by meeting all leak rate VI requirements. They ensure bubble-tight shut-off even at a pressure drop of 120 bar, handle not just the maximum flow rate, but are even able to provide accurate control of the minimum flow rate thanks to their intelligent design.
The project was carried out by SAMSON's Muscat-based representative, MIDDLE EAST OILFIELD SERVICES L.L.C.

Success continues for SAMSON and LEUSCH – Just very recently, an order for sixteen 60-inch special butterfly valves and five low-noise control butterfly valves has been placed with the two co-operating companies for the Nanhai project, which has made history within the petrochemical sector in China as the largest Sino-foreign joint venture the country has ever seen. Shell Nanhai BV and CNOOC Petrochemicals Investment Limited are currently building and will operate a US$4.3 billion petrochemicals complex in Daya Bay in Southern China's Guandong province.

SAMSON worldwide

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