TRAFAG
THE HIGHTECH SENSOR COMPANY

Innovation | Reliability | Quality

trafag
sensors controls

« Fortune favours the brave. »

It all started with transformers, i.e. with «magnet technology». Later mechanical temperature and pressure regulators were added, followed by gas density monitors, the sensors for pressure, temperature and gas density. Just in time for the anniversary, the magnetic field sensors add themselves as a cutting-edge innovation – as if the circle would close again.

We are looking back with pride. A lot has been achieved and many have contributed to the success: my praise goes to the boldness of the founder and my predecessor, who consistently pursued the growth of the enterprise – even in times of crisis. I would like to thank all employees who have made the company into what it is today - thanks to their great commitment, motivation and loyalty. Likewise, I would like to mention the numerous, long-standing customers and affiliated partner companies that have challenged us with their wishes and ideas to remain constantly innovative, vigilant and flexible.

Thanks to our innovation, we are looking towards the future with confidence and hope to achieve 75 more successful years.

Robert Pfrunder
CEO and President of the Board of
Directors of the Trafag AG

INNOVATION
RELIABILITY
QUALITY

TRAFAG AN EVENTFUL HISTORY OF SUCCESS

From the production of transformers to the internationally active Trafag AG: what is our formula for success? Technological expertise, constant endeavour to innovate and perseverance, along with pronounced service orientation and quality awareness – for the past 75 years. The most important milestones.

1942

On 2 October 1942, Trafag AG was founded in Zurich. Oscar Pfrunder, the owner of an office for technical lighting, wants to sell more of the innovative 24 volt light bulbs. However, there are no transformers available for this. For this reason, he purchases a small transformer factory in La Neuveville.

1944

The transformer company is moved to Männedorf, where there is space for the production in the paternal weaving mill.

1947

Oscar Pfrunder's father, Karl Heinrich Pfrunder (left), gives his son Oscar (right) space for the production of ballasts. Oscar Pfrunder brings back the latest trend from the USA: Ballasts (below) are constructed for fluorescence lamps. (Picture below left: transformer)

1956

Gaston Bloch, the stepson of Oscar Pfrunder, also joins the company. In addition to transformers, thermostats are now also manufactured.

1957

Turnover of the transformer department reaches the 1-million CHF mark for the first time. Gaston Bloch, the second CEO, in the picture on the right.

1962

The demand for thermostat technology, which has become established in the meantime, is so great that a new building can be built and occupied.

1967

Meanwhile, Trafag AG has a workforce of 70 employees. Attention is increasingly focused on developing thermostats adapted to the needs of the market, such as the shipbuilding industry. Two years later, the production of ballasts is completely stopped.

1972

Apart from thermostats, new more accurate pressure switches are required in shipbuilding. These are developed in 1972 and introduced to the market in the following year.

1977

The market demands electronic control units: the first pressure transmitters as well as the first temperature transmitters are developed and integrated and marketed in the tried-and-tested, internally developed housing of the pressure switches (pressostats).

1984

Pressure sensors are introduced in the market.
The current CEO and grandson of Karl Heinrich Pfrunder, Robert Pfrunder, joins the company.

1961

The initial collaboration with Motoco later evolves into the successful subsidiary in Germany.

1970

The 4-million CHF turnover mark is exceeded, and the first Trafag subsidiary is founded in Vienna the following year.

1974

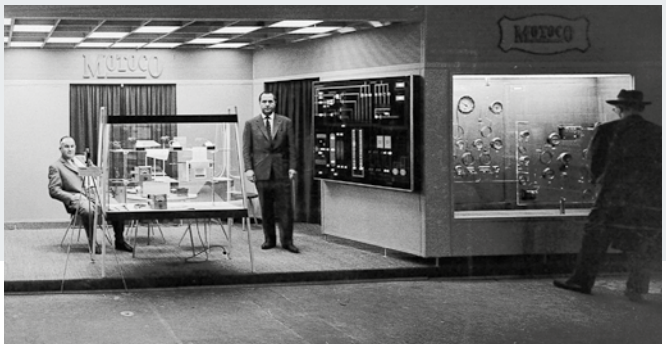
The business strategy focuses increasingly on measurement and control technology. The production of transformers is stopped. However, the «Trafag» company name associated with this remains unchanged.

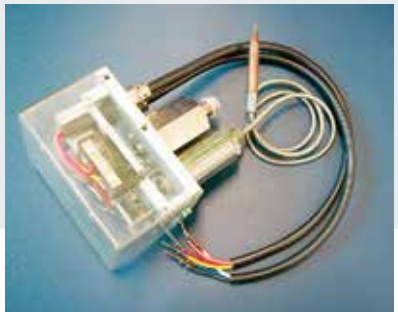
1978

Gaston Bloch takes over the management of the company following the death of Oscar Pfrunder. Pressure switch technology can be used in a completely new area of application: SF_6 gas density monitoring in high-voltage circuit breakers.

1981/82

Important years for Trafag's development are on the horizon: steel sensor membranes are developed and integrated into Trafag pressure transmitters.





1990

Robert Pfrunder is appointed Managing Director.
The Picostat pressure switch range for shipbuilding and the railway industry is newly introduced.

1995-1997

Numerous subsidiaries are founded: after the joint venture in Poland, subsidiaries follow in France, Italy, Great Britain and Germany.

2001

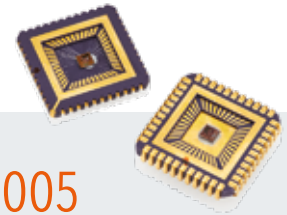
The company, previously scattered at various locations, is merged again at one location in Männedorf: the close proximity between Development, Production and Sales ensures efficient product development.

1987

The development of SF_6 gas density switches heralds a new era: the density monitors now measure by means of the reference chamber principle.

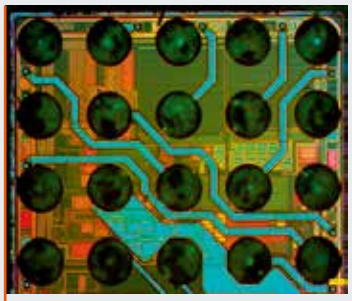
1994

The first gas density sensor with a patented measurement principle using a quartz vibrating fork is launched. Thus, the SF_6 gas density monitoring can take place directly and be evaluated continuously for the first time. Trafag is ISO-9001 certified in the same year.



2005

The first ASIC (Application Specific Integrated Circuit) TR5 microchip optimising accuracy in the pressure transmitters is developed. In 2013, the successor ASIC TX (in the picture below, 2.42 mm wide) is used in pressure transmitters for the first time and marketed.



2001

The subsidiary in the Czech Republic is founded. Just five years later, the established production is successfully certified in accordance with ISO-9001:2001 for the first time. In 2008, the entire thermostat production is relocated to the Czech Republic.

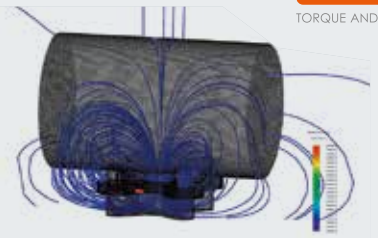
2010-2012

On 14 June the groundbreaking ceremony for the new building is held at Bubikon. It was handed over in time for the 70th anniversary of Trafag.

2017

The first magnetic field-based force sensor is manufactured. The 75th anniversary is duly celebrated in September.

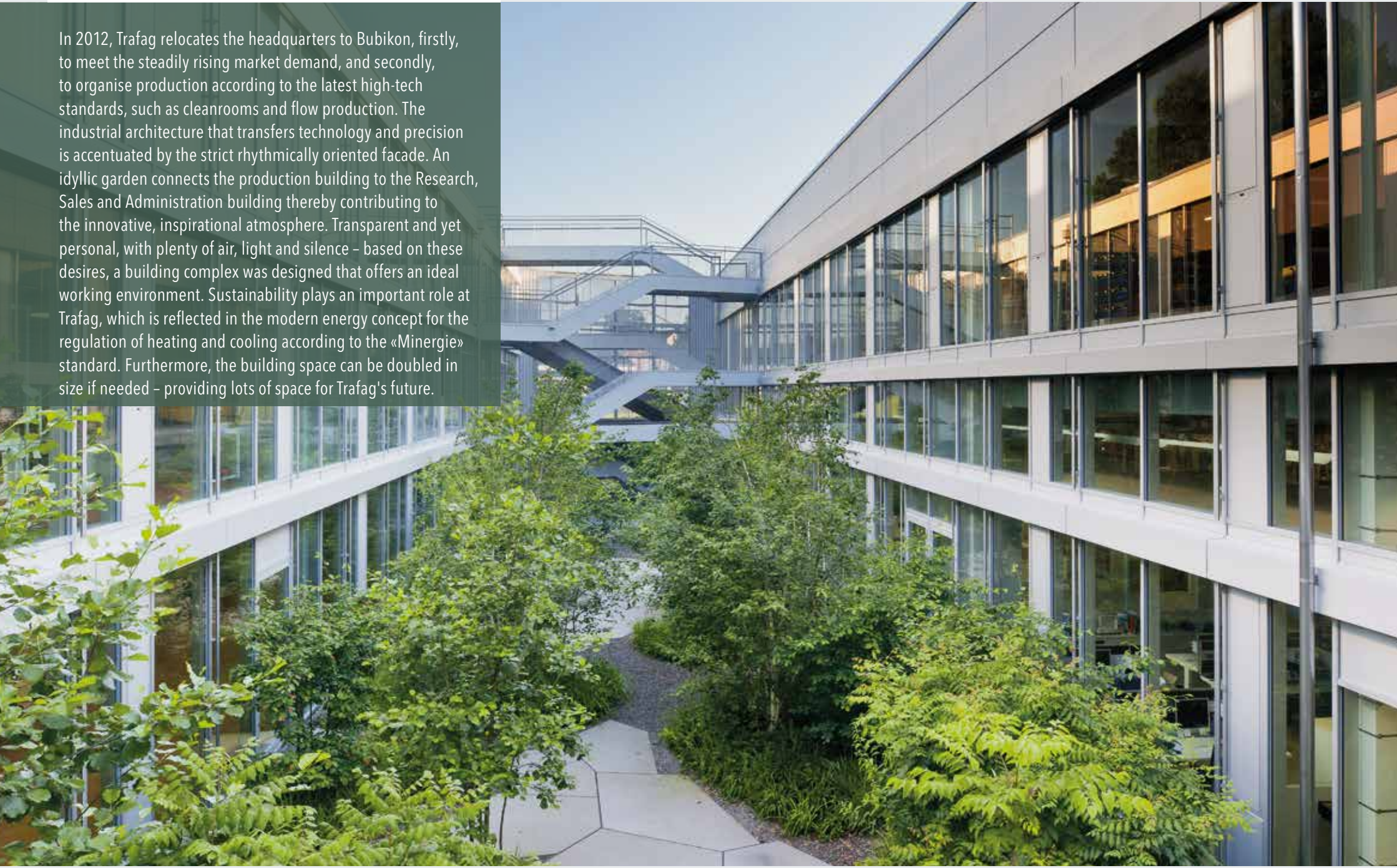
TAM
TORQUE AND MORE



2016

Following the acquisition of TAM Torque and More in Germany, Trafag adds the new magnetic field technology. Furthermore, the first electronic pressure switch with display is developed and launched on the market.

In 2012, Trafag relocates the headquarters to Bubikon, firstly, to meet the steadily rising market demand, and secondly, to organise production according to the latest high-tech standards, such as cleanrooms and flow production. The industrial architecture that transfers technology and precision is accentuated by the strict rhythmically oriented facade. An idyllic garden connects the production building to the Research, Sales and Administration building thereby contributing to the innovative, inspirational atmosphere. Transparent and yet personal, with plenty of air, light and silence – based on these desires, a building complex was designed that offers an ideal working environment. Sustainability plays an important role at Trafag, which is reflected in the modern energy concept for the regulation of heating and cooling according to the «Minergie» standard. Furthermore, the building space can be doubled in size if needed – providing lots of space for Trafag's future.



FROM A LOCAL COMPANY
TO A GLOBAL PLAYER

WORLDWIDE SUCCESS

> «A powerful and innovative SME such as Trafag, which helps customers to solve their metrological problems and can retain its independence at the same time, can not be found so often nowadays.»

Dr. Dieter Zeisel
Chief Operating Officer,
Member of the Executive Committee

Sales become global

More than 60 years ago, Trafag AG, together with the Motoco company in Germany, began penetrating international markets. As the demand for thermostats, pressure switches and electronic pressure transmitters was steadily increasing, they collaborated with independent sales representatives and agents. Later, sales subsidiaries were founded as well.

International production sites

In addition to the establishment of sales and distribution, investments were also made in the production sites. With the GfS Gesellschaft für Sensorik GmbH in Villingen-Schwenningen, Germany, expertise is channelled into Trafag AG: the company specialises in the physical processes of thin-film coating for steel sensor membranes, thick film on ceramic as well as in the production of nickel RTD temperature sensors. For over 30 years, pressure sensors have now been produced by GfS for Trafag AG.

At «Trafag spol. s.r.o.», the Trafag plant in Tachov, Czech Republic, thermostats and mechanical pressure switches as well as components for electronic pressure gauges and gas density controllers have been manufactured since 2008. Here, the steel sensor membranes of the Trafag pressure transmitters are turned precisely on complex geometries to thousandths of a millimetre.

Trafag Controls India Pvt Ltd. in Gurgaon, India, produces thermostats and pressure switches for the Indian market. Before Trafag Controls India was founded in 2006, the former company, Varma Trafag Instruments Ltd., had already been producing Trafag devices under licence for the local market since 1984.

International R&D centers

The centre of the development activities for the entire Trafag Group is based in Bubikon, Switzerland. A diverse team consisting of engineers, technicians and scientists conducts research in core technologies and develops products for temperature, pressure and gas density measurement and monitoring. Even the manufacturing processes and necessary means of production, which are core elements for the unique quality and reliability of Trafag products, are developed here. Customer projects are also supervised from here and the necessary processes for production are defined and developed.

In Starnberg at TAM Torque and More, where the innovative, magnetic field-based principle for force and torque measurement was invented, the basic research of the underlying physical principles and effects is being further advanced and the basis is being established in order to exploit the principle for new applications and products.

At Trafag GmbH in Unterensingen, products based on the magnetic field principle are developed and predominantly used for force and torque measurement. The corresponding customer projects are supervised from here and the necessary processes for production are defined and developed. At the Competence Centre for Embedded Magnetic Sensors (EMS) in Öhringen, a team of specialists is researching and developing function modules, on which the magnetic field-based sensors developed in Unterensingen are based.

Trafag India already starts adapting Trafag products for the local market at an early stage and primarily for the local production and purchase of components from India. The expertise developed over the years results in the first mechanical pressure switch in 2016, which is developed in India and brought onto the market.

Founding of subsidiaries

1942	From a company producing transformers arises the Trafag AG.
1971	Trafag GmbH, Austria
1994	Poltraf Sp.z.o.o., as joint venture, Poland
1995	Trafag S.à r.l., France
1996	Trafag (UK) Ltd., Great Britain Trafag Italia S.p.A., Italy
1997	Trafag GmbH, Germany
2001	Trafag spol.s.r.o., Czech Republic
2008	Trafag Controls India Co. Ltd., India
2014	Trafag Inc., USA
2014	Trafag Japan Co. Ltd., Japan
2015	Trafag España S.L., Spain

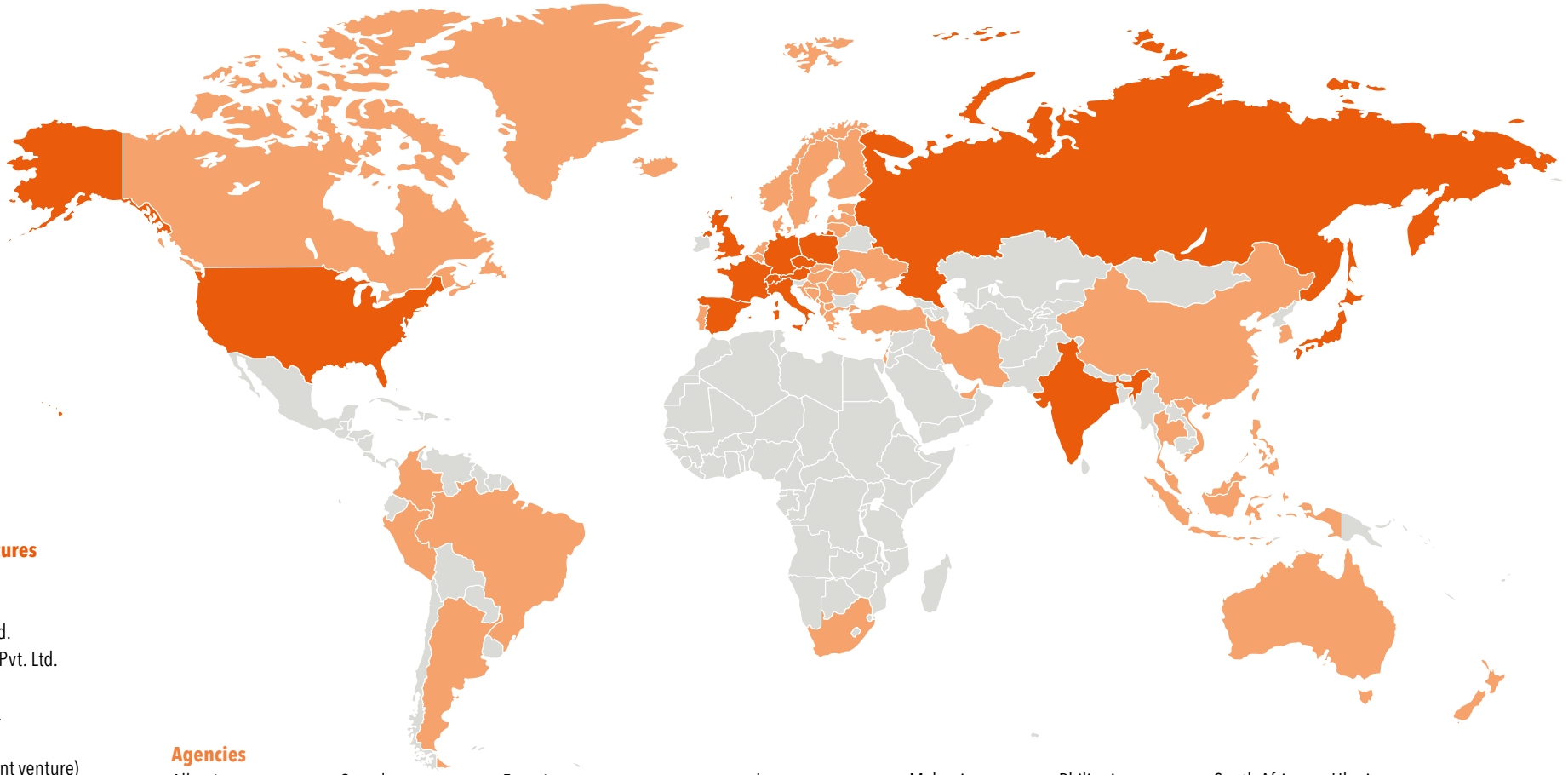
Development and production sites, subsidiaries, joint ventures and agencies – all around the world

Headquarters
Switzerland

Production sites
Germany
India
Switzerland
Czech Republic

Development sites
Germany
India
Switzerland

Subsidiaries / Joint Ventures
Germany, Trafag GmbH
France, Trafag S.à r.l.
Great Britain, Trafag (UK) Ltd.
India, Trafag Controls India Pvt. Ltd.
Italy, Trafag Italia S.R.L.
Japan, Trafag Japan Co. Ltd.
Austria, Trafag GmbH
Poland, Poltraf Sp.z.o.o. (joint venture)
Russia, Poltraf CIS Ltd. (joint venture)
Switzerland, Trafag AG
Spain, Trafag España S.L.
Czech Republic, Trafag, spol.s r.o.
USA, Trafag Inc.



Agencies

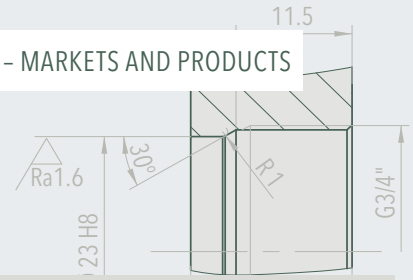
Albania
Argentina
Australia
Belgium
Bosnia
Brazil
Canada
China
Columbia
Croatia
Cyprus
Denmark
Estonia
Finland
Greece
Hungary
Iceland
Indonesia
Iran
Israel
Korea
Latvia
Lithuania
Macedonia
Malaysia
Montenegro
Netherlands
New Zealand
Norway
Peru
Philippines
Portugal
Romania
Serbia
Singapore
Slovakia
South Africa
Sweden
Taiwan
Thailand
Turkey
UAE
Ukraine
Vietnam

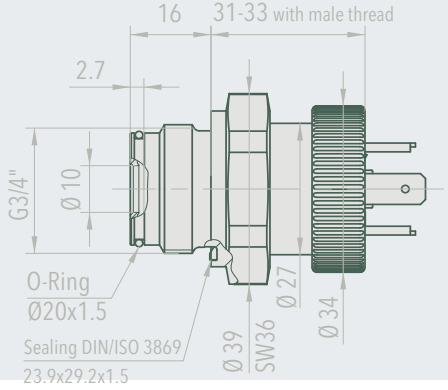
Applications in mobile hydraulics are among the most demanding in terms of robustness and reliability. Trafag pressure transmitters – mainly used on construction machinery, forestry and agricultural vehicles – have stood the test in extremely harsh environments for almost 20 years: from the dusty heat in desert regions to the icy cold of the Scandinavian forests. The long-standing customer relationships are not only based on the stable long-term precision of the products and their high quality but also on the reliability of Trafag as a supplier and partner.

Miniature pressure transmitter: in 1992 Trafag launches the pressure transmitter NA 8891 for industrial applications in the miniature size SW19. The compact size and extremely robust design with fully welded steel housing and thin-film-on-steel sensor will soon become a highly valued solution in mobile hydraulics – from 2012 on meanwhile in its third generation in NAT 8252.
Picture: NA 8891 (top), NAT 8252 (bottom).

Since the 1980s, the fruitful, close collaboration of Trafag and renowned manufacturers of large engines and power units – primarily for shipbuilding – has resulted in innovative products, which help to meet the steadily growing demands for increased efficiency and emission reduction. Thanks to many years of experience in this market, Trafag products are perfectly adapted to the special needs on the high seas and have gained acceptance through their reliability and robustness – even after decades of use.

The successful common-rail pressure transmitter with measuring ranges of up to 2500 bar is certified by the ten largest ship approval companies. Picture: EPNCR 8298.





FROM TRANSFORMERS TO MICROCHIPS

MARKETS AND PRODUCTS

Switzerland and white light

The market success of the bright, white 24-volt light bulbs, distributed by the Pfrunderlicht company, requires suitable transformers. In 1942, Trafag AG commences production of such transformers, which also give the name to the company. From 1947 on, ballasts for fluorescent lamps are manufactured as well, in small quantities of a few dozen at first, and then 20 years later, 10,000 ballasts are manufactured per month. The development of the markets and prices as well as a shortage of space in the factory buildings meant that production of ballasts is stopped in 1969 and production of transformers is stopped in 1974.

Internationalisation with thermostats

In 1957, the first boiler thermostat with metal bellows, capillary tube sensor and liquid filling is developed. The product is successfully sold to boiler manufacturers in Germany as well as throughout Scandinavia and initiates the first phase of entry into international markets. From the end of the 1950s, resale contracts with the first agencies in Germany and Scandinavia can be concluded based on these products, which are then very successful particularly in building technology. The technology forms the basis for hundreds of thousands of Trafag thermostats. From 1958 on, new designs and variants of thermostats come onto the market on a yearly basis, which are, to some extent, still being produced today. Apart from building technology and boiler controls, new applications are developed, including many industrial applications. With the Navistat, the first thermostat approved for ships, the long success story of Trafag in shipbuilding and large engine production begins in 1969. The development range of these mechanical products is completed in 1975 with the Frostat, the first thermostat with a gas-filled instead of

1969: first thermostat with ship approval – the Navistat ISN 471.

liquid-filled capillary tube for frost protection in building technology. As early as 1977, Trafag enters the field of electronic sensor technology with electronic devices for temperature measurement. These temperature transmitters – as well as the electronic thermostat introduced in 1987 – are only able to withstand the increasing competition from Asia to a limited extent. Nevertheless, Trafag dares to take the first important step from being a manufacturer of precision engineering to a company manufacturing sensors.

In the years that follow, the production of the tried-and-tested thermostats is constantly optimised, and from 2008 on, relocated continuously to the new Trafag plant in the Czech Republic. The fully developed production processes and resources are retained. And, of course, the same quality standards as in Switzerland are met from the very beginning.

Shipbuilders and engine manufacturers need pressure switches

With the sale of the Navistat in the shipbuilding and engine construction industry, the step into a market segment was taken, which remains one of two strategic fields of business to this day – apart from SF_6 gas density monitoring in high-voltage switchgears. It enables a surge in growth for the new agencies in the Netherlands and later in Poland. It quickly becomes apparent that this segment is also an important market for mechanical pressure switches and that the core element in the measurement principle of thermostats – the metal bellows – can be adapted for pressure measurement. Thus, in 1972, the first mechanical pressure switch in a robust aluminium housing emerges for the shipbuilding and engine construction sector in Germany and in Switzerland. Besides

« The ability to listen exactly to the customer, the absolute will to keep promises as well as the expertise to always find new solutions, will open new doors to Trafag worldwide even in 75 years! »

Dr. André Nipkow
Sales and Marketing Manager,
Member of the Executive Committee

1972: Trafag's first mechanical pressure switch from the 900 series.

sensors with metal bellows, membrane sensors for low pressures and piston sensors for high pressures are introduced later. Furthermore, the entire product range is modularised. In 1987, the compact, simple pressure switches «987», «988», which are later used in coffee machines and in medium-voltage switchgear or transformers, follow. In 1990, the last new generation of pressure switches follows, the block-shaped Picostat series. This particularly meets the growing need for a compact, robust design for application on large engines. The series is constantly being developed and is today, in its fourth generation, sold to manufacturers of large engines as well as to manufacturers of rail brake systems.

From 2008 on, the production of the mechanical pressure switches is relocated to the Czech Republic. In 2012, the processes are converted from batch production to a highly flexible and streamlined flow production.

From mechanical to electronic products

In 1977, Trafag takes the first step from the mechanical pressure switch to the electronic pressure transmitter. Sensor elements are purchased from a Swiss pioneer of piezoresistive pressure measurement technology and coupled with own electronics in the familiar large aluminium housing of the pressure switches. These products are also initially used on ships engines. Owing to their short service life, no success was achieved, however. By changing to sensor elements in the innovative thin-film-on-steel technology at that time, Trafag realises that mastering sensor technology is the key to success with pressure transmitters.

After intensive development work, the first product with its own thin-film sensor comes onto the market in 1983. The ongoing development of thin-film-on-steel technology finally leads to the purchase of sputtering and process units from GMS in 1996 for the production of thin-film layers on steel. After that, the Gesellschaft für Sensorik (GfS)

Research and development: This is where the pioneering products and technologies are developed with creativity, expertise and lots of experience gained from countless projects.

2016: The latest pressure switch with DPx display is the very first of its type worldwide, which can be configured by means of NFC and a smartphone app.

in Villingen-Schwenningen, Germany, was founded for the purpose of producing thin-film sensors. Already in 1992, the miniaturisation of the transmitter to a cylindrical design with a 19-mm diameter commences and Trafag thereby gains access to new customer groups. The robustness and durability of the sensors are the reasons for the continuing market success of the pressure transmitters. The outstanding quality of the sensors does not go unnoticed by the competitors and enables the sensors to also be sold in large quantities to third-party transmitter manufacturers and thus to continually reduce production costs.

In 1993, an alternative ceramic sensor element is introduced for pressure measurement in corrosive media, on the basis of which the first extremely inexpensive transmitter is developed for a major Chinese customer in 2010 and is produced in large quantities.

Increasing pressure on costs, the demand for miniaturisation and the strategic focus on the growing market for pressure transmitters induces Trafag to develop its own ASIC (Application Specific Integrated Circuit), a microchip specially optimised for the signal processing of the thin-film sensors. From 2005 on, the miniaturisation of the electronic circuitry and capacity of the pressure transmitter is radically increased – while simultaneously reducing costs. The second ASIC generation of Trafag, which comes onto the market in 2013, is based on state-of-the-art technologies that are also used in smartphones. Over 50 times more circuits are integrated on a surface 8 times smaller than on the predecessor. Thus, it is possible to construct even smaller and more powerful transmitters.

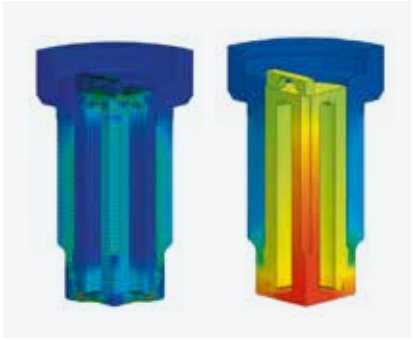
In 2012, the transmitter production is transferred from the open environment in Männedorf to the cleanroom of the new building in Bubikon. Countless process improvements and

State-of-the-art production processes combine automation and fine manual skill.

the conversion from batch production to flexible flow production open the doors for new high-volume customers from the hydraulics sector.

With engine manufacturing customers to Asia

As German and Swiss engine manufacturers start relocating their productions to Asia in the 1980s and 1990s, this results in the first export orders with thermostats, pressure switches and pressure transmitters for major customers in Korea, Japan and China. In the 1990s, the crucial contacts with a young agency in Korea start, which develops business with shipyards and engine manufacturers into the third largest sales market of Trafag until the financial crisis of 2008. In China, an even smaller business in the shipping and engine sector is expanded from 2005 on with a new agency in the industrial sector, which in 2017



Displacements and material stresses as well as thermal and frequency analyses are calculated by means of finite element methods. At the same time, the boundary conditions are considered according to application needs. The pressurisation is applied up to 3000 bar (the online sensor OLS in the picture).
Picture left: material stresses in the sensor, deformed representation, enlarged 20 times with net.
Picture right: temperature profile in the sensor.

To ensure that the large engines used in ships and generators meet the strict environmental requirements and emission standards, precise and long-term stable sensors are needed for monitoring and controlling the injection pressure of over 2000 bar.

The SF_6 gas density controllers are set individually and tested for accuracy.

achieves the leading position worldwide of all sales companies in terms of turnover.

SF_6 gas density controller for energy technology companies

The development of a temperature compensated pressure switch in 1978 marks a new era: the ingenious combination of the pressure switch with thermostat components makes it possible to enter the well-developed density monitoring niche market of the SF_6 insulation gas in high-voltage switchgears. In this rapidly growing market, Trafag collaborates with a Swiss company in 1987 and develops the pioneering gas density controller with a reference gas chamber, a product with unsurpassed accuracy, vibration resistance and durability to this day. Just like in the thermostats and pressure switches, a metal bellows plays the central role in this mechanical product, too. The second strategic business unit, the SF_6 gas density monitoring in high-voltage switchgears, is based on the gas density controller.

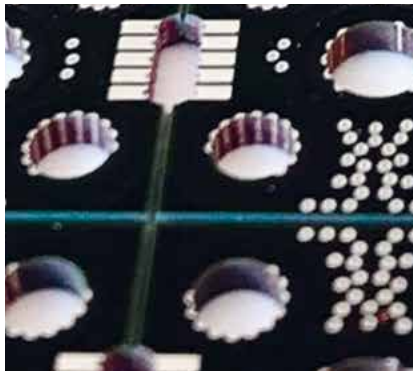
In 1994, based on a patent of the collaborating Swiss company, an electronic sensor is developed for SF_6 gas density measurement. The sensor element consists of oscillating crystals that can measure SF_6 gas density directly by means of a unique electronic system. The sales success of this visionary product only really kicks in after some years, when Trafag integrates the electronically functioning SF_6 sensor into the mechanical SF_6 gas density controller in 2010 and thus creates great customer benefit.

Beginning of a new era: torque and force measurement

In 2016, the research and development company TAM Torque and More, Starnberg, is taken over by Trafag. The non-contact measurement of torque, force, distance and other physical variables using a revolutionary, magnetic field-based sensor technology of TAM, arouses the interest of numerous potential major customers. At Trafag GmbH in Unterensingen, a new team is established that further develops the technology of TAM and advances the industrialisation of products in OEM customer projects. Already in 2017, after just one year, the first force sensors of Trafag based on the magnetic field principle are delivered to customers. This marks the start of a new chapter in the history for Trafag, whereby a new technology will emerge that is waiting to resolve numerous engineering problems at our customers, with Trafag products yet to be developed – in keeping with a long-standing tradition, in outstanding quality, with reliability and market-leading stability.

2010: the hybrid SF_6 gas density controller 878X combines mechanical measurement with electronic sensors.

An important success factor for the streamlined processes are the self-developed, customised production facilities and resources.



Printed circuit boards (PCB) with excitation and receiver coils are used in production for the torque measurement.

Angular gearbox with dynamic torque measurement for controlling auxiliary drives.

Brake systems, pantographs and all types of engines in rail vehicles such as trams, underground railways or high-speed trains, fulfill the highest standards for operational safety and reliability. The manufacturers of units and systems for the railway industry trust in the quality of Trafag products. Their ideas and wishes are always a challenge for Trafag and stimulate the company regularly to develop new, innovative products.

Mechanical as well as electronic pressure switches and pressure transmitters from Trafag meet the strict standards in the railway industry and are the preferred solution for pressure monitoring in brake systems thanks to their long-term stability and robustness.
Picture: Picostat 9B4 (left), EPR 8293 (centre), NAR 8258 (right).

The first SF_6 gas density monitors were developed in the 1970s and 1980s in a cooperative partnership with two customers that are global market leaders in the high-voltage switchgear sector. Based on the reactions of these customers, these gas density monitors were continuously refined. Both, a mechanical reference chamber measurement principle, as well as a patented, electronic measurement principle using an oscillating quartz were developed. The combination of both measurement principles can be found in hybrid density monitors. The most exact measurement of the SF_6 gas density as well as unparalleled shock resistance and durability emphasise our market leadership.

Thanks to the different technologies, the gas density monitors can either be used independent of power sources or for online SF_6 gas density monitoring. The SF_6 hybrid gas density monitors combine both benefits in one product.
Picture: gas density sensor 8775 (left), gas density monitor 878X (centre), gas density monitor 87X7 (right).

AND THIS IS WHAT OUR EMPLOYEES THINK

«What do you particularly like about working at Trafag AG? What is unique about Trafag? What led you to come here?» Our employees at the headquarters in Bubikon answer these questions and thus give an insight into their daily work routine.

Lorena Lapinid
Transmitter manufacturing

« I have been working in the transmitter production department for almost ten years. I appreciate the cooperation in the team and the independent planning and target setting of my work. The flexible working hours allow me to organise my work time efficiently according to the assign-ments and private appointments. »

« I've been working at Trafag for almost eleven years and I've never felt bored. I was able to contribute and implement my own ideas during the many challenges. I always regarded this personally as recognition. I very much appreciate the good cooperation and friendly working atmosphere in the company. This all gives me job satisfaction. »

Remo Halbheer
Team manager of mechanical development

Dragan Radanovic
Head of process technology

« Trafag is the right employer for me, because I can contribute my own creativity and I have a varied range of tasks. Our working atmosphere is pleasant and the cooperation is characterised by mutual appreciation and respect. The stable economic development gives my team and myself a good and secure feeling. »

Philip Steiger
Project manager

« During almost 14 years at Trafag, I have experienced many changes. Most of them for the better, but a few did not bring the success I had hoped for. What has never changed, however, and what motivates me time and again are the many friendly, honest and keen employees. »

Urs Menzi
Production manager

« The wide range of products and the further development of the products and processes make the work at Trafag extremely varied. Apart from perfect quality, short lead times and streamlined, efficient production are paramount. The constant challenge of optimising processes is my motivation. »

« I like the independent and varied work, which gives me lots of responsibility. What particularly attracts me is the introduction of new, innovative products for our demanding customers. Our flexibility in the make-to-order production allows us to quickly respond to the specific requirements of our customers. »

Germelina Lanz
Deputy team manager
of transmitter 2 department

« What I like about my work is the fact that I can fully use my knowledge: to obtain the right amount at the right time for the best possible price is a great challenge every day – and that's what appeals to me. I really appreciate being able to work in a good, supportive team! »

Sandro Moltisanti
Strategic purchasing,
electromechanics

Sanel Nadarevic
Group manager, component production

« It never gets boring. Every day presents new challenges for me, which I can tackle with the support of the team. »

Daniel Hubli
Sales manager, Switzerland

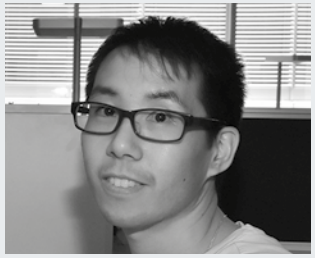
« What I particularly like about working at Trafag is the progressive, cooperative and respectful corporate culture. My work as a sales executive for the Swiss market is very varied and challenging. I am close to everything that is happening and I can actively shape the success of the company. That motivates me every day. »

Anja Meier
Sales administration,
foreign trade specialist

« I came to Trafag purely by accident and I immediately noticed the cooperative interaction of the employees in a very positive way. I like the fact that I can advance myself professionally and contribute my own ideas. I really appreciate the confidence placed in me as a young employee. »

« I like the positive working atmosphere and respect amongst the employees very much: I had already worked for a few years at Trafag as a 20 year-old and after 15 years as a «family manager» I am very happy to have returned. I feel that the flat hierarchy that prevails here is a very positive thing. This means you have more responsibility and your opinion gains more importance. »

Claude-Françoise Kräuchi
Team leader of sales administration



Wintur Mo Yung
Sales coordinator

« I am happy that I can contribute my Chinese language skills here. Furthermore, I like the flexible working hours – so if I start work early in the morning, I can already pursue my hobbies early in the evening. »

THREE CEOs HAVE SHAPED TRAFAG UNTIL TODAY

Robert Pfrunder
CEO and President of the Board of Directors of Trafag AG

VIGILANT CUSTOMER-ORIENTED BOLD

In an interview, Robert Pfrunder, the current CEO and President of the Board of Directors, discloses information about his two predecessors, his challenges and goals for the future.

Oscar Pfrunder was the founder of Trafag and the first CEO. What do you know about him?
I have always regarded him as an excellent salesman and entrepreneur. He was always very fond of travelling and travelled throughout Europe for weeks on end in search of customers. He enjoyed doing this with his Maserati. He loved fast cars (laughs) – I still fondly remember that. He returned with a huge «backpack» full of ideas and projects that had to be converted into products.
He was a strong personality as well as a very strict boss, indeed a patriarch who ran and controlled everything rigorously. Furthermore, he could build good relationships, which certainly helped him very much when searching for customers.

Oscar Pfrunder died in 1978, and Gaston Bloch managed Trafag afterwards as CEO. You knew him well and worked together with him.

Gaston Bloch was the stepson of Oscar Pfrunder. His personality was quite the opposite to his predecessor: very quiet, an engineer and thinker, more introverted. Privately, he maintained an extensive network of contacts. He always tried to settle conflicts by negotiation, sometimes he also avoided these, however.

Oscar Pfrunder (in the picture on the left) and Gaston Bloch (in the picture on the right) during the groundbreaking for the new building in Männedorf.

Quite contrary to my opinion, for example, he considered organisation charts to be a waste of time. It was he who brought me into the company as a consultant and potential successor – at that time, I worked in Germany as a management consultant and I took two years leave. At Trafag I initially took care of Sales and Product Management. I remember him as a good and reliable partner who let me have a lot of freedom and adopted some of my proposals. The collaboration went very well. He was supported by Franz Schenk, who managed the production with tight control and also established the IT department at Trafag. Trafag owes its entry into electronics to Gaston Bloch. He acquired the company EMA in Meilen.

«He returned with a huge backpack full of ideas and projects that had to be converted into products.»

At the University of Zurich, you completed your education as a natural scientist and obtained an MBA from INSEAD. You dive, fly, ski, enjoy travelling, have a family with two children and have been at the helm of Trafag since 1990 as CEO and President of the Board of Directors in the third generation. How do you manage everything?

Yes, (laughs) with little sleep! No, but seriously, I was fortunate to know that I have a strong, generous and tolerant wife at my side, who has always supported me. When looking back, and even now, I can clearly see that I still have little time for my family. But the time we do have available we use intensively – I am not just merely present. Many people call me an «adrenaline junkie» because of my hobbies. Just working is simply not enough – I need compensation. I believe requiring little sleep and focusing intensely on a few things – depending on the situation – helps me to manage everything.

«It's not simply a question of work – compensation is required.»

Looking back, what were the greatest difficulties you had to overcome as CEO?

The year 2001 certainly has to be mentioned here, in which the collapse of the joint venture in India was looming because the managing director at the time and the majority shareholder pursued unrealistic electronic projects. Furthermore, the relocation of Trafag was imminent – at the time of a generally difficult economic situation. That was when the company reached its limit.

Other ruptures in the corporate structure with an uncertain outcome were difficult as well: the first, unsuccessful entry into the development of electronic products, for example. Trafag began setting up an electronics department at a very late stage. Furthermore, the investment made in the previous year, namely the acquisition of the magnet technology company TAM – in the midst of a stagnation phase with some markets showing little optimism – again a risk, of which only the future will decide about its correctness. But only those who move can exist in future. «Fortune favours the brave.»

«Investments are always a risk. Only the future will reveal if they were right, however. But only those who move can exist in the future.»

Which developments of Trafag were the most positive ones?

In 2005, to have achieved the target of generating 50 percent of the turnover with electronic products, made me personally very happy. Furthermore, Trafag with its own technologies – a self-developed ASIC and sensor elements – being on the top compared with others in terms of high tech. The company was always very healthy, with the exception of 2001. We even managed to easily overcome the Swiss franc currency crash in 2015.

On the occasion of the SVC Business Award Ceremony in 2016 for innovative companies the Trafag AG came in third.

Everyone is talking about Industry 4.0. How is Trafag AG adapting to this change?
We are indeed already fully involved (laughs) – whether it be in production or in the products. Industry 4.0 is just another slogan. I encounter this with a certain degree of caution as well as calmness. Digitising everything just to be involved achieves nothing. There must also be a customer benefit! Incidentally, we are already digitised to a great extent in our production.

What, in your opinion, are the next challenges that Trafag AG will have to face?
It is a great challenge to quickly create enough innovations in order to always remain at the top and not to fall behind our competitors. To always be aware of what the market needs – and to have a vision as to what it will need in the future – is paramount for managing an SME in an increasingly internationalised world. To adapt Trafag to the location costs of Switzerland and to survive in this currency environment and be able to continue further on is also quite challenging. I personally hope that Trafag remains independent further on – this continuity is a central concern of mine.

«I personally hope that Trafag remains independent further on – this continuity is a central concern of mine.»

You will soon be handing over the reins of the Trafag AG to the present COO, Dieter Zeisel . What do you wish for him?
Much foresight, coupled with courage and energy – that´s what I would like to wish for him as the future CEO of Trafag.

Which tasks will you then tackle?
I will then focus on the strategic alignment of the company. I would like to keep in touch with individual customers in order to still feel the closeness to the market. I will also play a supporting role in the management of the different national subsidiaries and provide the new CEO advice and support if necessary.

Your son, Andreas, studied mechanical engineering and is currently developing robots. Would you like him to follow in your footsteps?
No, I don´t want to put pressure on him. Certainly there is the hope that he decides to grow into the company. In terms of his education he would certainly be suitable – robotics is an important future field. But he will eventually have to decide on his own which aims to pursue in due time.

And last but not least: what do you wish the celebrant on its anniversary?
I hope that it grows, is successful and always remains the best in its field. 75 years are not yet enough – I wish it a long life!

«Being aware of what the market needs and will need in future is paramount for Trafag.»

Robert Pfrunder
CEO and President of the Board of Directors

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