

Shaping the future
since 1967





Preface

**Ladies and Gentlemen,
our valued customers, business partners, suppliers,
employees, and friends,**



In celebration of Polytec's 50th anniversary, it is our pleasure to present to you a series of milestones from our company's history, chronicling how Polytec has developed from its beginnings to the present day.

When the company was established in 1967, Mr. and Mrs. Lossau saw signs of a developing market for high-tech products. They were witnessing the development of lasers in the US and were firmly convinced that lasers, these new light sources, would soon be making their way to Germany. With their vision, Heinz and Liselotte Lossau had sensed a change was in the air and recognized what was behind it.

But on your own, as Mr. Lossau once told me, there is little you can get done. He was able to get together a team of motivated and committed employees who brought many new ideas of their own and put them into practice and who took time to consider the best and most effective solution to any problems that occurred, and more importantly felt a strong partnership with our customers. This feeling of everyone working toward a shared goal with absolute determination forged a strong bond between the team members. **Put simply, we all felt that we were part of a large family.**

We are certain that this close connection, this shared commitment to exceptional solutions, and our good relations with research institutes and customers have always been the foundation of Polytec's success. On the following pages we will show you how Polytec started out as a distribution company and went on to become a company with international operations and its own high-tech products of international importance. To allow you to understand the events in their historical context, we start each decade with a description of what was going on in the world at the time.

We would like to take this opportunity to sincerely thank our employees, our partners from research and education, our customers, our suppliers, and our friends who have helped us along the way and contributed to our success. Without them, Polytec would not be what it is today.

I am certain that the expertise and customer focus that have made us a "hidden champion" will steadily guide our company toward success in the future.

Enjoy reading and "exploring,"

Dr. Helmut Selbach

On behalf of the Polytec shareholders

Decade 1

The founding years

1967
-
1976



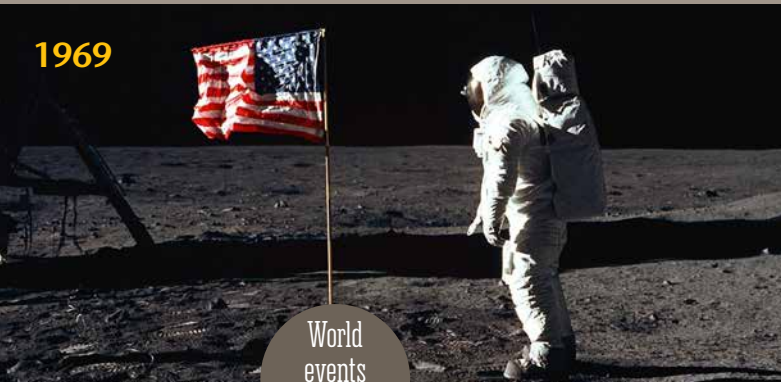
 **Polytec**



The first man on the moon

The US space agency NASA begins the space mission Apollo 11, the first manned flight to the moon, with the aim of landing on the moon and then returning safely to earth. On July 20, 1969, the time had come. With over 600 million people watching on television sets all over the world, Commander Neil Armstrong steps out of the lunar module Eagle and onto the surface of the moon. His famous words as he stepped to the surface were: "one small step for man, one giant leap for mankind."

1969

World
events

82197525 picture alliance / Photoshot

1972

The birth of video games

In the year it was founded, the US company Atari releases Pong, the first video game to achieve worldwide popularity. It initially runs on coin-operated machines in amusement arcades. The principle is similar to table tennis (ping pong), with a dot representing a ball being hit back and forth by two bars that represent tennis bats (paddles). Other simple video games were quick to follow, and a few years later people can play these games at home on specially designed stationary games consoles.



1973

The oil crisis results
in car-free Sundays

6665244 picture alliance / dpa

1976

The development of personnel computers

On April 1, Apple is founded by Steve Jobs, Steve Wozniak, and Ron Wayne (who left the company shortly afterwards), quickly becoming one of the first manufacturers of personal computers with their development of the Apple II. This "electronic brain" is similar to a typewriter and only becomes a "real" computer once an external monitor and two disk drives are connected. What makes it special is its modular, upgradeable structure, which makes it suitable not only for video games and software for private users but also for use in the office turning it into a successful mass product.

The first 10 years

1967

Founding Polytec in Grünwettersbach

The late sixties are a time of strikes, student revolutions, and a recession. However, there are many pioneering developments which excite the young physicians and engineers. In the midst of these turbulent times, the physicist Heinz G. Lossau and his wife, Liselotte Lossau (who had studied business economics) decide to establish Polytec as a company for analysis, measurement, and control technology in the fall of 1967. **This decision marks the beginning of a model success story for Polytec**, a company that in its early days quickly makes its mark on physics and chemistry departments in universities and corporate research facilities.

1969

Polytec imports laser systems to Germany

Polytec begins by supplying and selling small helium-neon lasers. These lasers with a red beam were used for optical test setups and training sessions. Heinz G. Lossau is fascinated by the first argon-ion lasers produced by Coherent Radiation with an intense blue-green laser beam, successfully importing and distributing them across the whole of Germany.

Also, Polytec is busy exploring optical adhesives, sowing the technical seeds for the future Polytec Polymer Technologies (PT) division, and optical positioning systems leading to the establishment of Physik Instrumente (PI) soon thereafter.

1970

First presentation at theACHEMA trade fair

Polytec presents itself for the first time to a larger circle of industry professionals at the exhibition for chemical equipment, ACHEMA, in Frankfurt. At the modestly-sized exhibit stand, there is great interest in the first lasers in Germany and their potential applications, including applications in chemistry.

Prof. Dr. Arpad Bardocz, founder of Physik Instrumente GmbH, also introduces his developments as a guest at the Polytec exhibit stand.

1971

Polytec begins in-house manufacturing and development

Polytec begins an effort to develop and produce an FIR spectrometer, broadening the business beyond being a distributor. Workshops for electronics and precision mechanics and rooms for development and administration are set up in Karlsruhe for this purpose.

1967
–
1976



The founding couple, Mr. and Mrs. Lossau



Left: New building in Waldbronn

Below: Interior assembly and manufacturing rooms



1972

Polytec constructs its first facility

Just five years after its inception, the company needs more space for in-house production and further growth. Therefore, in February, Polytec acquires a plot of land in Reichenbach, a health resort that later became a district of Waldbronn, and begins construction of a custom office and manufacturing facility. As the building is progressing, Mr. Lossau is busy in Minsk, Belarus. There, at a trade fair, the company founder displays a Fourier spectrometer made by Polytec and sells it to a research institute. In December 📅 1972 the company's 20 employees move in to their new offices and workshops.





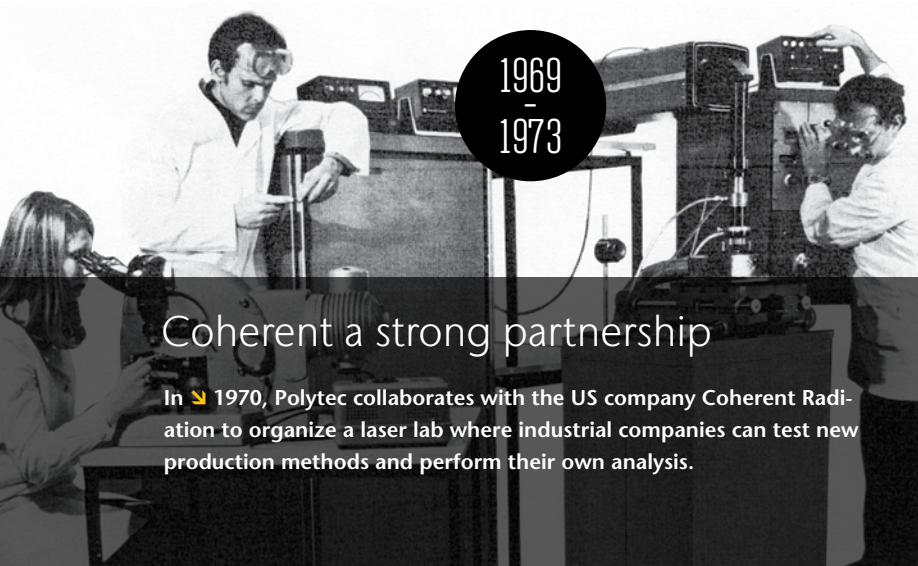
Founder, pioneer and “bridge-builder”

Once he has completed his physics studies in Berlin and Münster, Heinz G. Lossau spends many years working in instrument sales for research and development. His excellence in physics and his flair for establishing personal and successful business relationships are to become the foundation for the success of his own business.

In ↗ 1967, the time has come: Together with his wife, Liselotte Lossau, (a business economics major), Heinz G. Lossau, a physicist at heart, founds Polytec in a residential building in Grünwettersbach near Karlsruhe. Because of his excellent contacts within large chemical companies and major research institutes, researchers show interest in innovative techniques for analyzing and developing novel chemicals and chemistry products. To meet this demand, Polytec begins by supporting the scientific instrument sector of physical chemistry.

At the first laser exhibition and conference in the US trade center the following year, Heinz G. Lossau establishes contacts with many young entrepreneurs who have founded companies in Silicon Valley. He concludes distribution agreements with Coherent Radiation Laboratories and nine other manufacturers.

It is in ↗ 1969 that the major breakthrough comes: Many scientists and engineers develop a keen interest in potential applications for lasers. They request funding to allow them to use lasers as a special, highly promising light source for their research work. They are particularly interested in the high power argon ion lasers. Polytec quickly delivers 25 of these systems. They are shipped in large boxes by air directly from California and are installed with water cooling and a connection to high-power current.



Coherent a strong partnership

In ↗ 1970, Polytec collaborates with the US company Coherent Radiation to organize a laser lab where industrial companies can test new production methods and perform their own analysis.

The laser lab is to use a high-power CO₂ laser with extensive accessories at Stuttgart University’s Institute of Plasma Research. Laser specialists assist with the application R&D performing thorough sample analysis with extensive experimental log books. After purchasing CO₂ lasers, many companies report great success in using these lasers in the production process.

In ↗ 1971, Polytec offers the first Coherent lasers for eye surgery in Germany. When the new clinic building in Lübeck is officially opened, retina treatments are performed. These eye lasers are able to help with many eye problems, and in particular, photocoagulation and retinal detachment treatments for diabetic retinopathy.

Business grows rapidly and Polytec delivers 10 Coherent laser photocoagulators for eye clinics in Germany. By ↗ 1973, Polytec has delivered more than 100 high-power Coherent laser systems in Germany, along with providing expert customer service. Following Polytec's success, Coherent takes over direct sales in Europe with its own branch offices.

Typical applications for lasers:

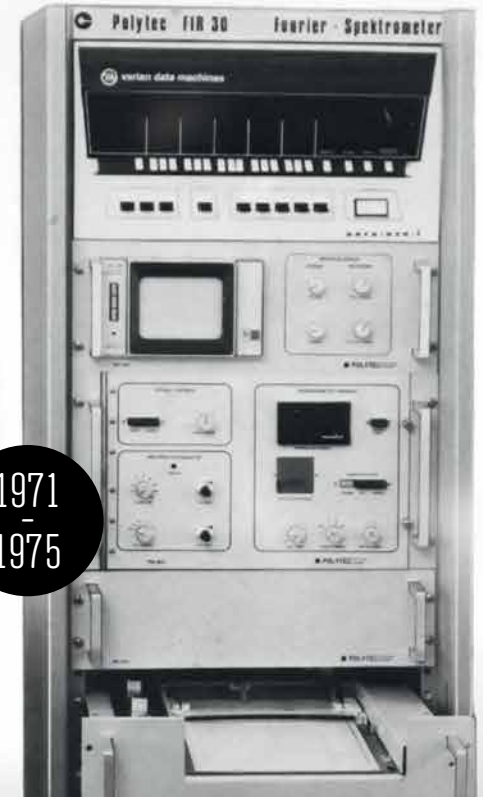
In research	In medicine	In materials processing	General applications
<ul style="list-style-type: none">■ Light scattering■ Physical chemistry■ Spectroscopy■ Analytics■ Biology ...	<ul style="list-style-type: none">■ for eye surgery■ for skin problems■ for kidney stones■ for wound healing ...	<ul style="list-style-type: none">■ Cutting, welding■ Ceramic scribing, drilling■ Trimming resistors■ Writing on metal/plastic ...	<ul style="list-style-type: none">■ Distance measurement & leveling■ Message transmission■ Flow measurement■ Vibration measurement■ Laser printers ...

Spectrometry brings incredible success

Just three years after the inception of the company, the share-holders decide to expand the company's business due to the tremendous success of its initial product offerings. Instead of operating purely as a distributor, Polytec should develop, manufacture, and supply its own products. To achieve this, in 📅 1971, Heinz G. Lossau assembles a team of physicists, electrical engineers, and production specialists while also purchasing machinery and production equipment to manufacture the new optical products.



1971
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1975



FIR-30 the company's first in-house product

Polytec's far-infrared Fourier spectrometer becomes the first FIR spectrometer on the world market. For many years, it is the only one of its kind available. The device equipped with a vacuum sample chamber and a built-in small computer represents a real step forward compared with conventional infrared spectrometers. It's no surprise that this complex and elaborate research device is soon in high demand with installations around the world and on every continent.

An in-house application lab is opened

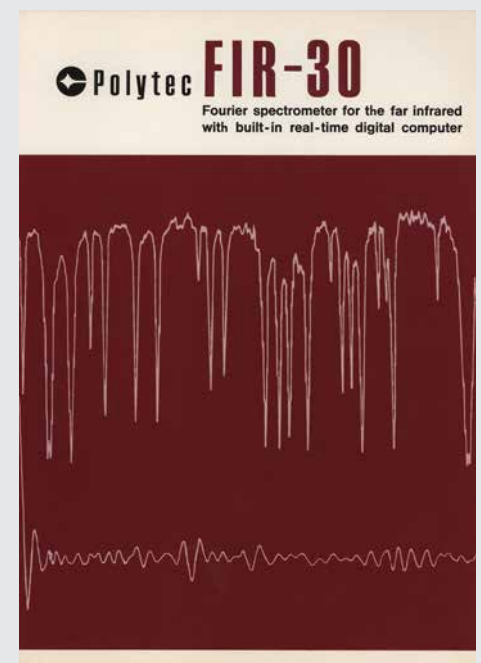
To support the growing business, Polytec opens a special application lab for Fourier spectroscopy in the new building in 📅 1973. Here prospective buyers are allowed to have their own material samples analyzed to discover the benefits of using the FIR spectrometry. Many application notes are generated concerning analysis and measurement on many kinds of materials.

Progress starts to speed up

In 📅 1974 the FIR-30 is developed into a quick-scan spectrometer with a process computer. In this year, devices are supplied to Brazil, Belgium, and France and others are installed in Germany.

Success in numbers

During the period from 📅 1971 to 1975, Polytec manufactures 28 Fourier spectrometers and installs them for customers worldwide: 15 in Germany, three in the US, two in Belgium, two in France, two in India, and one each in Australia, Brazil, Spain, and Belarus.



Decade 2

Times of upheaval

1977
-
1986





1978

The first US subsidiary is launched

In the late seventies, Polytec expands sales into the United States, the country from which it originally exported its first laser products. In April, **1978**, Polytec Optronics, Inc., (POI) is established on the west coast of California near San Francisco. This is a major step in the company's ongoing development. The US subsidiary strengthens relationships with the American distribution partners, establishes important new contacts, and significantly helps to launch Polytec's own products into the US market.

1977
–
1986

Time of
expansion



1981

Crucial development for laser 2 focus velocimeter

In Cologne, Polytec presents the L2F for measuring flow speeds in liquids and gases, developed in collaboration with the DLR (German Aerospace Association). It is suitable for a speed range from 1 m/s to over 2000 m/s and is mainly used for optimizing jet aircraft, turbochargers, and gas and water turbines. The L2F-4000 makes it possible to measure flow parameters within close proximity to solid surfaces and to analyze slot flows in the edge zones of a duct. The significant advancement brought by the laser 2 focus velocimeter is particularly valuable to research institutes studying fluid mechanics and aircraft engine manufacturers since it enables them to increase efficiency and power density.

On a major "US tour"

In the United States, Mr. Lossau keeps finding new ways to establish and maintain personal contacts. As a result, the company founder starts a "US tour" with Dr. Helmut Selbach, head of development, to make these innovative velocimeters known to potential customers. The tour is a great success, with manufacturers of large aircraft turbines convinced of the benefits of Polytec's L2F velocimeter. Even Rocketdyne, an aerospace industry pioneer, becomes a customer to support the Space Shuttle engine development team, looking for a suitable measurement system to optimize the engines performance.

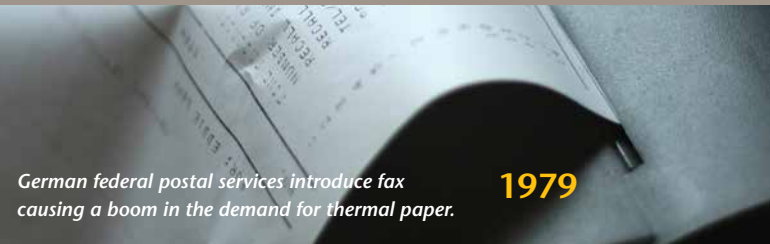




1977

A fall of terror in Germany

In September and October, 1977, Germany experiences one of its most severe domestic crises. Conflict between the government and the terror organization Red Army Faction (RAF) results in a tense national political atmosphere. This crisis, referred to as the "German Autumn," reaches its tragic climax with the kidnapping and murder of the President of the Association of German Employers, Hanns-Martin Schleyer, and the hijacking of the Lufthansa plane "Landshut," which ended with the passengers being rescued by a GSG 9 counter-terrorism squad. This leads to incarcerated members of the Red Army Faction committing suicide in Stammheim Prison.



German federal postal services introduce fax causing a boom in the demand for thermal paper.

1979



1984

The first e-mail in Germany

This greeting, translated "we are pleased to have you on board," launches the age of e-mail in Germany on August 3, 1984. This first piece of "electronic mail" is sent from Massachusetts Institute of Technology in Boston, Massachusetts to Karlsruhe University in southwest Germany. As the first international partner of US universities, the Karlsruhe computer scientists aim to make their Internet access a success as quickly as possible. This is exactly what they achieve, after overcoming the administrative hurdles of the postal services.

1983

Polytec continues to grow time for building B

More space is desperately needed to accommodate Polytec and Physik Instrumente growth. This leads to a significant expansion of the facilities. "Building B" is constructed with space for exhibitions, the service department, order processing, and a canteen. Now there is enough space for further development, at least for the time being...

1983

15 years of Polytec this calls for a celebration

In March, 🏆 **1983**, Polytec celebrates its 15-year anniversary – it has now been 10 years since Polytec moved into its own facilities. At the official ceremony in the hotel by the town hall square in the district of Baden, the mayor gives Heinz G. Lossau, the company founder, a special award for his accomplishments: the "Waldbronner Taler" trophy.

1986

Building B reaches new heights

In addition to increasing staff and rising sales figures, the expansion of the company building is evidence of just how rapidly Polytec is growing. Just three years after Building B was constructed, another expansion is taking place: Building B is to become three stories taller.



1986

The Chernobyl disaster

On April 26, 1986, the Chernobyl nuclear power plant in the Ukraine experiences the largest reactor explosion in the world's history, becoming the defining example of a catastrophic nuclear reactor failure. The wind sweeps a radioactive cloud across Europe. The rain from this cloud contains radioactive particles, fallout, that contaminate the soil in many parts of Europe, including Germany.

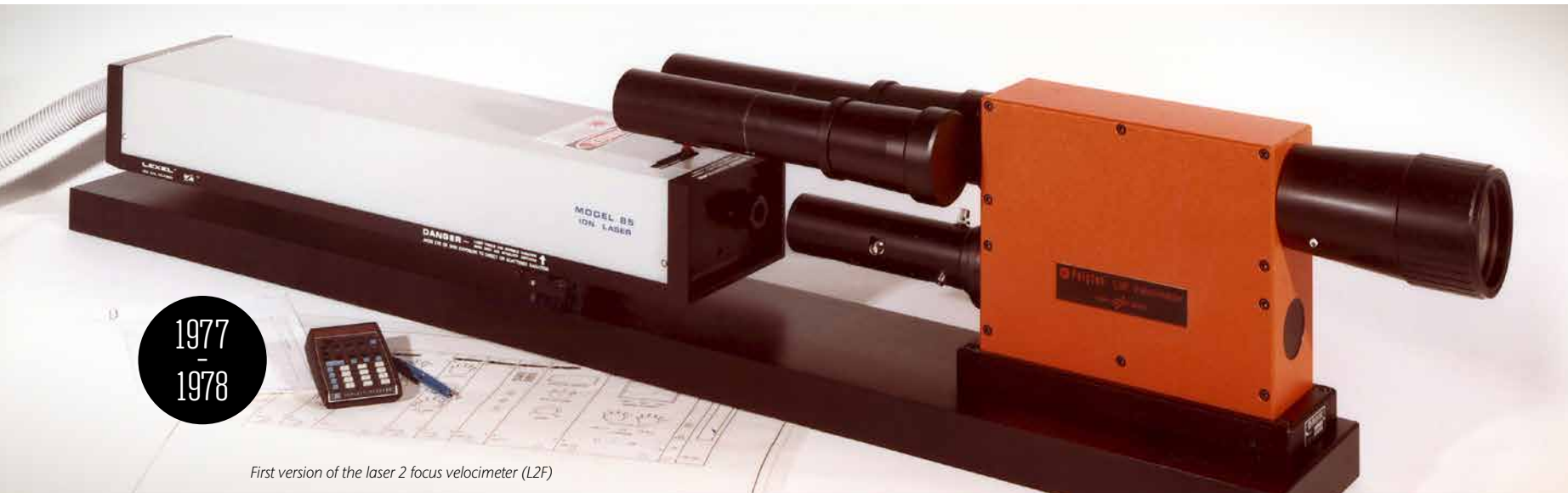
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1986

The East opens up: glasnost and perestroika

In early 1986, the General Secretary of the Central Committee of the Communist Party of the Soviet Union, Mikhail Gorbachev, introduces extensive reforms in response to the state's economic and social problems. Other communist Eastern European states follow the Soviet Union's example, with the exception of the GDR. These reforms, referred to as "glasnost" (openness) and "perestroika" (restructuring), are a defining moment in the communist era.

A “new wind” sweeps through Polytec



In the years 🏹 1977 and 1978, Polytec faces its first major internal upheaval. The early pioneering years mostly involved announcing the arrival of lasers, which were at that time still a largely exotic technology in Germany, and performing sales activities for US laser products. Polytec continues to invest in reliable customer service and provides application training to help customers operate the complex systems. New high-tech products are continuously added to the product portfolio. Close collaboration with customers, research institutes, and universities gives rise to new opportunities for in-house products. During this time, Polytec develops instruments for flow analysis, including the laser Doppler velocimeter and later on the Laser 2 Focus velocimeter (L2F).

Distributed products dominate sales efforts at 80% of revenue; however, management is planning for a 50:50 weighting in the foreseeable future, a healthy balance of the two activities. Market acceptance of in-house products would take longer and it would be at least a decade before this target would be met.



70s

Does it pay to recycle carpets?

Polytec addresses this issue in **1977: The industry commissions a research project to investigate if the materials in carpets can be recycled.** The tests are concluded successfully. However, the systems fail to achieve the desired market breakthrough. Despite the setback, Polytec proves that it is a pioneer when it comes to recycling, a topic that will not become the subject of general and political interest until years later.

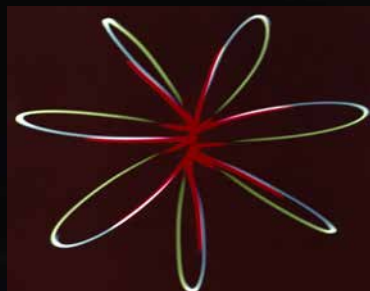
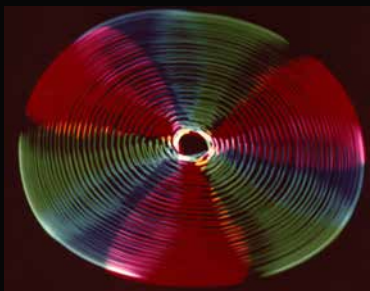
Size matters at LASER

Every two years, Munich hosts the world's leading trade fair for photonic components, systems, and applications: **LASER**. Polytec takes this opportunity to display its entire portfolio to relevant industry professionals and what a display it is! To present the multitude of new developments, products, and innovations in the most striking way possible, the trade fair booth cannot be too big. The stand covers the entire narrow side of the trade fair hall.



Lasers dance on stages and in shows

Nowadays, it is hard to imagine stage shows or the club scene without lasers. But this wasn't always the case. During the 1970's, laser technology as a show element was still in its infancy. Polytec, as a laser pioneer in Germany, then dares to take the first step in the entertainment industry long before special event companies start to specialize in the use of laser technology. Polytec delivers special stage lasers to Siemens back in **1979**, which make their first grand appearance in Mozart's opera "The Magic Flute." During the following year, Polytec develops and delivers the first "laser lightshow" systems that can provide "spacey" effects in time with the beat to several German discos.

1969
-
1973

Digital and analog scanner control units

Decade 3

The decade of development

1987
-
1996





1987

The census divides Germany

May 25, 1987, is the date for the first nationwide census since 1970. Personal data is collected so that up-to-date statistics can be compiled on the German population. Many critics and citizens' initiatives call for a boycott, claiming that the census will expose all the details of the population for political purposes. The politicians react with uncompromising toughness. In the end, although many questionnaires are not filled out, the response is large enough to provide usable results.

World
events

1989

84067659 picture alliance / akg images / Pansegrau

The fall of the Berlin Wall and German reunification

On the evening of November 9, 1989, Günter Schabowski, spokesperson of the East German government, mistakenly announces that GDR citizens can now travel to the West with no restrictions. This results in thousands of people attempting to cross over into West Berlin. Late in the evening, the border crossings are eventually opened. A few weeks later, calls for German unification keep getting louder. After long negotiations and the approval of the Allied Powers of World War II, on October 3, 1990, the time has come: Germany is reunified. In front of the Reichstag building and all across Germany, people celebrate the Day of German Unity.

1993

Europe unites

With the confrontation between East and West over and Germany reunified, Europe also desires to become a union. The Maastricht Treaty establishing the European Union (EU) is signed on February 7, 1992 and comes into force on November 1, 1993. The establishment of an economic and monetary union between the 15 member states is thus signed and sealed. In the following years, the EU treaty is revised repeatedly to keep pace with developments.

1993

The first graphical browser, Mosaic, gives the web the needed breakthrough to make it user friendly.

1996

**The DVD is launched**

The digital versatile disk (aka digital video disk) may look like a CD-ROM, but it can store at least eight times more data! Perfect for films, as there is now plenty of space for an entire full-length film to be stored. At the same time, DVD players are launched that you can use to watch a film up to 133 minutes in length with multi-channel audio, without turning the DVD over or changing it. The DVD is initially launched for recording video and rapidly achieves wide market penetration.

A new generation

1987

More helium-neon lasers in the product range

In collaboration with one of the most highly respected manufacturer companies, Polytec expands its range of helium-neon lasers. This means that the company now supplies a range of high-quality HeNe lasers made in Germany with high precision and very short delivery times. These special laser systems solve many measurement problems and are in high demand. The automotive industry, for example, uses the HeNe lasers to measure ultra-precise vehicle axles so that potential misalignments can be detected reliably and corrected.

1987
-
1996

1990

Senior employees become shareholders

On April 1, 1990, Polytec undergoes restructuring. In addition to the Lossau family, there are now five other shareholders. Three directors are appointed: Dr. Karl Spanner as commercial director, Dr. Helmut Selbach for Research & Development, and Dr. Jürgen Weber for Marketing and Sales.

1992

25-year anniversary

In September 📅 **1992** Polytec celebrates its 25th anniversary. Many guests of honor come to the ceremony at the spa building in Waldbronn, including guests who have come all the way from England, Japan, and the US. The mayor Martin Altenbach hands over the new “Polytecplatz” street sign to company founder Heinz G. Lossau. On the company premises, Polytec welcomes many well-wishers in a large marquee and holds a large employee-family celebration.



Holography exhibition to mark anniversary

1996

Polytec adds Buildings C and D

To accommodate the ongoing expansion of Polytec and its affiliated company Physik Instrumente (PI), the company's facilities are expanded to meet the needs of the continued sales growth. This results in two more new buildings: Building C and Building D.

Once move-in is complete, the two new buildings are home to busy manufacturing facilities and offices. There is also a large roof-top seminar room with a terrace, a shipping and receiving area, and demonstration and service rooms for Polytec and its affiliate PI.



An impressive show at the CLEO

In late May, **1990** Polytec attends the Conference on Lasers and Electro Optics (CLEO) to display its newest products and receives the prestigious Photonics Circle of Excellence Award for developing one of the 25 most technically innovative new products of the year.

1990



Successful collaboration with universities and industry

Polytec's close collaboration with universities and commercial companies is a significant factor in its success. The company is repeatedly involved in joint research projects and collaborations with universities in Darmstadt, Stuttgart, Munich, Constance, and Ancona (Italy).

90s

Polytec opens its first office in "the East"

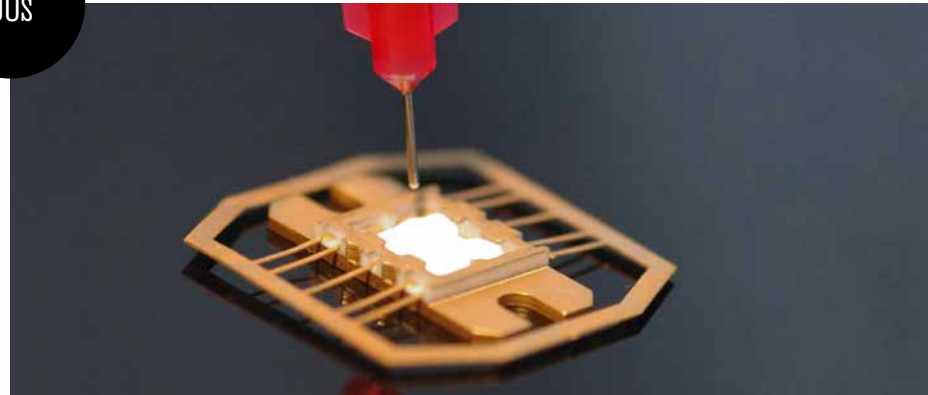
Shortly after the fall of the Berlin Wall, senior Polytec staff scout the eastern part of Berlin for a suitable sales office. They find what they are looking for in the former research center in Adlershof, where they rent some rooms. Polytec is one of the first companies from "the West" to have an office in the former East Berlin, which it uses for business to this day.

To present its developments in East Germany, Polytec holds its first exhibition in early **1990**. Exhibition rooms are hard to come by, so the company uses a trade fair booth in the Hungarian Embassy of the former GDR. A first step has been taken and Polytec soon becomes well-known in the eastern part of Germany.



Polytec is an early provider of adhesives for IC production

In the 1990s, integrated circuits (ICs) are not nearly as complex as they are today. Nevertheless, adhesives play a critical role in mounting ICs and connecting them with other active and passive microelectronic components in extremely tight spaces. This is no surprise to packaging engineers since electrically and/or thermally conductive adhesives can connect parts at a micro level and are significantly better at compensating for vibration and thermal stress than solder. In addition, adhesives function at much lower temperatures than solder. However, even with these advantages, many years will pass before the industry fully accepts this revolutionary technology. Polytec, on the other hand, recognizes the groundbreaking usefulness of adhesives early on, becoming one of the pioneers of this technology in German-speaking regions.



Polytec pushes vibrometer development

Company founder Heinz G. Lossau decides that fiber-based and free-space laser vibration sensors can be useful for the company's development.

To find out more about remote laser sensing, Mr. Lossau and Dr. Selbach take a course at Kent University in England. They are very enthusiastic about the commercial possibilities of this technology and decide to manufacture corresponding devices that are suitable for the non-contact optical measurement of mechanical movements or vibrations: laser vibrometers.

To gain expertise quickly, Polytec looks for an expert to help. Andrew C. Lewin, the speaker from Kent, is chosen. To convince the English academic to come to a company situated in the Black Forest, Liselotte and Heinz G. Lossau invite him and his wife to pay them a visit in Waldbronn. The plan is a success: Dr. Lewin agrees to work for Polytec.

The first vibrometer model developed is offered to the German automotive industry; however, the market is not yet ready for this innovative measurement technology. To find suitable applications, and thus the right customers, the product is presented to many research institutes and companies worldwide and possible application fields are discussed with experts.

The piece of information that made all the difference comes from a professor at San Diego University, California. A vibrometer is just what people are desperately looking for in magnetic hard disk drive development. The strategic course that needs to be taken for the vibrometer is now clear and vibrometry goes on to play a major role in Polytec's successful development.

90s



Decade 4

The decade
of expansion

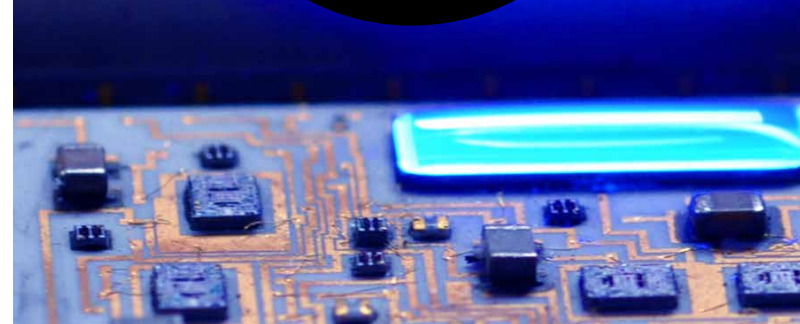
1997
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2006





Off to new markets

1997
–
2006



1997

The HLV-1000 helps deaf people to hear again

In the late 90s Polytec launches a laser vibrometer that is specifically designed for research in medicine and biology. The HLV-1000 can measure the vibration of the ear drum and the ossicular chain – important diagnostics needed for surgeons to restore hearing and to develop cochlear implants.

2001

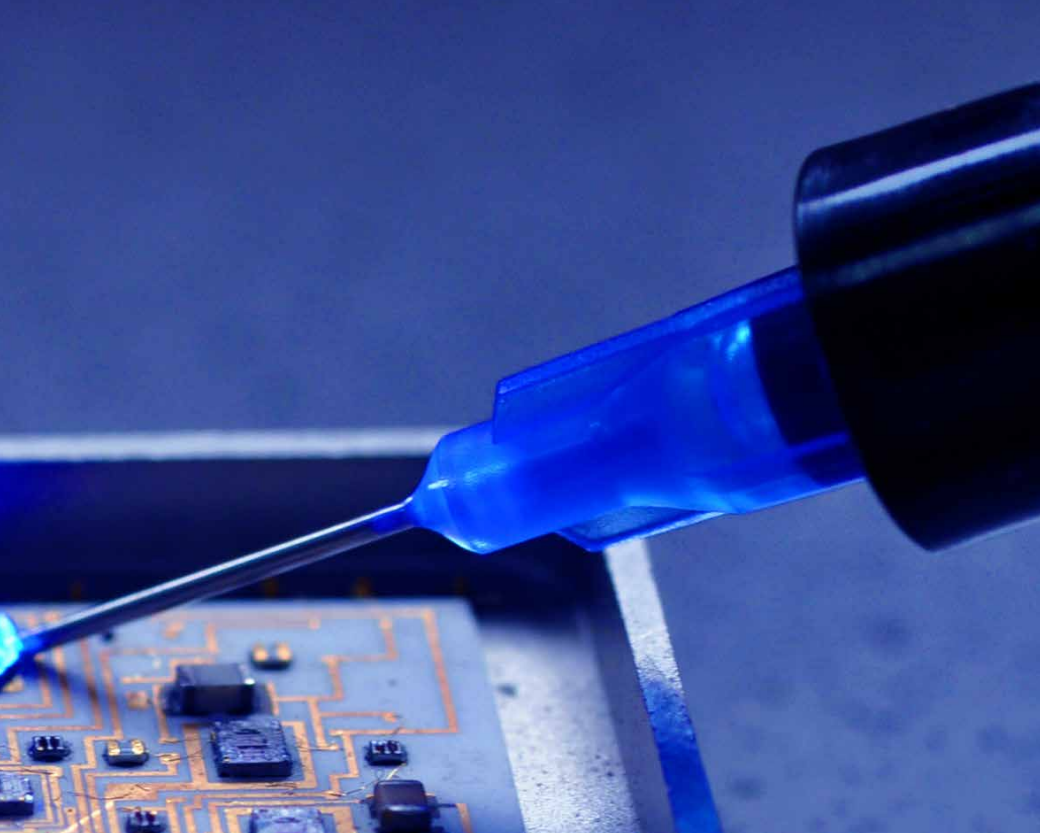
"Laser OPTO" interviews Dr. Weber

The June edition of "LASER OPTO," the prestigious trade journal for optical technologies, features an interview with Dr. Jürgen Weber on the topic of "optical information and communication technology as a key technology of the future." Dr. Weber emphasizes that optical technologies represent the driving force for managing the flood of information and forecasts a growth rate of 30% per year. He also says that he expects the LASER 2001 trade fair in Munich, where a lot of space is devoted to these technologies and their applications, to give a boost to the German market, and thus also to Polytec.

2002

Death of Dr. Jürgen Weber leaves a void

A terrible car accident causes the unexpected death of Polytec Sales Director, Dr. Jürgen Weber. It is a great loss that is felt both professionally and personally throughout the company. Polytec lost not only a cherished friend and colleague who was always available for a constructive discussion, but also a superb sales professional with outstanding powers of persuasion and excellent international contacts. Director Dr. Helmut Selbach must fill the void and the responsibility for both sales and technical management, giving him a dual role within the company.



2004

Inception of Polytec PT

Innovative materials are constantly being added to the technical adhesives business and, over the years, it has developed into a real business opportunity for microelectronics. Not surprisingly, it makes sense to transfer the adhesive business, which had existed since 1969, to its own separate company. This step is taken in late 📅 **2004** with the establishment of the company Polytec PT (Polymer Technologies). Operating as a standalone company provides greater focus and increases sales growth.

2005

Polytec mourns the loss of Heinz G. Lossau

On December 12, 📅 **2005**, company founder Heinz G. Lossau dies at the age of 82. Polytec loses one of the pioneers of laser technology who played an essential role in advancing this technology not only in Germany but worldwide. As director, he successfully built and steered the company group for many years with great personal commitment and creativity. Later as a member of the advisory board, he continued to secure the group's long-term success with his vision of the future and wealth of experience. His wife and the directors, along with the company group's 350 employees worldwide, will carry forward his strong desire for innovative technologies and products.

1998

Text messaging is increasingly popular

With more and more people owning cell phones, one of the latest cell-phone features experiences a boom: text messaging, or SMS ("Short Message Service"). Texting is particularly popular with young people, who send short written messages, up to 160 characters in length, in enormous numbers. This new form of communication has a major effect on social interaction and language. To fit more content into the short messages, texters use abbreviations (such as "OMG" and "lol") and emoticons to express their moods and feelings.

1999

The German federal government moves to Berlin

Bonn was the capital of the Federal Republic of Germany for more than 40 years. After reunification, Germany's federal parliament resolves to relocate the seat of parliament and government to Berlin to finalize the unification of Germany, with the move taking place in the summer of 1999. This move is an enormous and expensive step that is met with much criticism from the opposition and the German population. The total expenditures including the construction and modification of buildings total 20bn D-mark (equivalent to €10.2bn).



2001

The 9/11 terror attacks

On September 11, 2001, suicide bombers belonging to the Islamic extremist terrorist group Al-Qaeda fly two passenger aircraft into the World Trade Center. The tremendous impact of the aircraft causes the two towers to collapse. A third plane is flown into the Pentagon in Washington, D.C. and the fourth hijacked plane is forced to crash. Roughly 3000 people are killed by these terror attacks that leave the world stunned, angry and full of boundless grief. On September 20, US President George W. Bush declares a "War on Terror." This leads to war within Afghanistan, with the aim of destroying Al-Qaeda there, killing their leader Osama bin Laden, and deposing the Taliban regime.

42352705 picture alliance / AP Photo

2002

A new currency, the euro

On January 1, 2002, the euro is introduced as the official currency for most of the European Union, initially for 12 states and later for 19. The aim of using a single European currency is to make trade easier between the member states of the European Economic Community. The upcoming monetary changeover is announced with posters and advertising campaigns and with price displays showing two currencies. On New Year's Day in 2002, 320 million people across Europe all have the same type of coins in their wallets. In Germany you can still pay with D-marks and convert your money into euros until February 28.

2004

The social network facebook is launched!



1998

Vibrometers can “hear” better than people

Polytec vibrometers are often the central element in **acoustic quality control**. These laser vibration measurement systems make it possible to test large quantities of products quickly, reliably, and without interference from ambient sound. The vibrometers are used to test any object that produces a sound, from electric motors and ball bearings to refrigerators.

And they have another major advantage: Objects that could previously only be measured with ultra-sensitive microphones in rooms free from all sound and echo can now be measured accurately with high levels of background noise, for example in the production line directly, without any distorted results. More and more applications are discovered making vibrometers an essential part of acoustic quality control providing accurate results at a much lower price.

Single-point vibrometers impress metrologists

National metrology institutes such as the PTB in Germany and the NIST in the US operate standards labs for precision measurement of physical quantities such as distance, speed and acceleration. Laser interferometers have always been a crucial part of these facilities, as the measurement units are very precisely derived from the wavelength of the laser light, which is known to a high degree of accuracy. The optical measurement heads of Polytec vibrometers are also based on this physical principle. Traditionally, metrology institutes have constructed their own laser interferometers at great expense. In the early 1990s the PTB lab for acceleration thoroughly tests Polytec OFV series vibrometers. The lab is so impressed by their quality and precision that vibrometer measurement heads mass-produced by Polytec are immediately made a permanent element of PTB's standard measurement facilities. Metrology institutes from all over the world follow this example, saving them a lot of time and money while reaffirming Polytec vibrometers as reputable, high-precision instruments for calibrated vibration measurements.



Polytec continues to grow

Polytec increases its product and sales success while its workforce is getting significantly larger. More space is desperately needed, and to make it available immediately, an interim solution is chosen: In 📅 **1999**, several containers are set up on the company's premises. As a highly popular reality show is currently being broadcast on TV that features people living in a container, a nickname is easily found for the “Polytec container village”: **“Big Brother.”** The employees working there see the funny side. The employees of the affiliate company PI also move to the temporary building during the construction phase of their own new building project. When PI moves out in 📅 **2001**, Polytec takes over the vacant premises. The “container village” is removed.

Polytec's measuring systems for MEMS receive an award

In its fourth decade, Polytec becomes involved with micro-electro-mechanical systems (MEMS) and develops measurement equipment specifically for them. MEMS are mechanical microsystems (miniaturized devices, assemblies, or parts) with components that are millionths of a meter in size and that work together as a system. As the MEMS market develops with rotation transducers and accelerometers deployed in many common products such as electronic stability systems (ESPs), handhelds, and medical devices adequate measurement technology is needed to test their properties in development and production in a non-reactive way. Polytec develops the MSV-300 as the first scanning measurement system for MEMS device characterization. One of the successor products, the MMA-300, is even awarded the Photonics Circle of Excellence Award in 📅 **2001**. This is not an isolated award: In 📅 **2005** the MSA-400 is awarded the AMA Sensor Innovation Prize.

The **PSV-3D** helps brakes to stop squeaking

In 📅 2000, a large German industrial company gives Polytec the challenge of manufacturing a PSV (Polytec scanning vibrometer) with three measurement heads to characterize the three orthogonal directions of motion. After an in-depth development phase, the vibrometer is ready for mass production in 📅 2003. The Polytec PSV-3D is a pleasant surprise for the American colleagues – they had originally asked for a 3D holography device for measuring brakes since there was no instrument such as a scanning vibrometer with three measurement heads.

This collaboration with the contracting company is the initial spark that makes the PSV-3D the industrial standard for brake measurement worldwide. All leading automotive manufacturers and suppliers now use the PSV-3D to locate and eliminate squeaking noises in brakes. The PSV-3D has also become well-established in numerous other applications.





2001

A 60m crane
overcomes every hurdle

Polytec continues to expand. In the years 📅 1996, 1997, and 2001, three triple-axis machining centers are added to the Polytec manufacturing center. The heavy machines are lifted over the company building with large cranes. Because of their large size, the machines can only be moved into the company building through the large gate located at the rear of the building.

It was an event for all Polytec employees to see.



The analytics area
is expanded

Polytec sees a potential market in the area of process analytics and presses ahead with the development of spectrometer systems. As part of this development, the company IKS is acquired and integrated into the company group.

2000
-
2001

A successful
future is structured

In 📅 2000, an external consulting firm is commissioned to restructure Polytec for successful further development.

Intensifying international business gives Polytec a growth spurt that causes the workforce to be significantly expanded. The consulting firm provides new incentives for implementing structures and processes to accelerate this growth. The company's visions are expanded and anchored.

TopMap: from development project to marketable system

2000



The current TopMap family

In 2000 and in partnership with the state funding project FESMET, Polytec is given the research assignment of developing a topography measurement system. Instruments based on white-light interferometry are developed that prove to be perfect for non-contact measurement of surface characteristics: the TopMap system.

One of the first topography measurement systems developed is delivered to a European state printing office. The devices are used to check the new euro notes for security features. This involves checking the exact height of impressions to ensure that production is both ultra-precise and reliable. The printing office is so impressed with the measurements taken by the Polytec devices that it recommends them to other countries that use the euro. Unfortunately, these countries prefer to use their own solutions.

Nevertheless, Polytec's topography measurement system finds another way to forge ahead. A major manufacturer of hard drive motors uses TopMap and hundreds of vibrometers for quality assurance. This large investment in testing equipment very quickly pays off for the manufacturer. The Polytec products measure whether errors occur in hard drive motors, which prevents damage from occurring to the hard drives themselves, which are many times more expensive.

This application lays the foundation for the expansion of the TopMap systems, which go on to become a family of five products for diverse surface measurement technology requirements.

Decade 5

The evolution years

2007
–
2016





2007

Apple reinvents the cell phone

On January 9, 2007, Apple's Steve Jobs presents the first iPhone to a stunned public. This smart-phone fundamentally alters how and why we use a cell phone. The iPhone only has one button: It is operated entirely by the touch screen being tapped by the user's fingertip and with capacitive sensors, rather than conventional buttons. Tapping on "apps" allows you to start up application programs, such as calendars, games, chat programs, and much more. The launch of the iPhone also marks the abrupt start of mobile Internet usage, which goes on to change our day-to-day lives in the years that follow.

2009

The first black US president

On January 20, 2009, Barack Obama is inaugurated as the 44th President of the United States of America. The Democrat candidate beat his rival, the Republican John McCain, to become the first African American to move into the White House. During his election campaign, Obama promised his supporters "Change yes we can." Many Americans are confident that a vote for Obama will mean a more socialized system in the US and overcoming big problems such as the financial crisis, the ailing economy, the war on terror, and the war in Iraq and Afghanistan. Black Americans in particular have high hopes that a black president will strongly stand up for their rights.

2010

Television turns three-dimensional the 3D TVs are coming

2013

The "Internet of Things"

When food in the fridge has run out, the fridge orders replacements. The dog's collar registers when the dog needs to go to the veterinarian and compares the calendars of the dog owner and the veterinarian to schedule an appointment. The car transmits a signal to the workshop when it needs to be repaired. The aim is to allow all things that previously had to be controlled by their human owners to communicate via the Internet by means of sensors and chips. Advocates believe the new services provided by networked devices will improve quality of life and provide more convenience, security, and fun for private users. And companies are promising that these services will bring increased efficiency, cost reductions, and better use of resources. Critics fear that users will have too little control over the services and will lose autonomy. We will see how the story continues...

2014

Finally soccer world champions once again!

"Here's to us, to this life, to the moment that will stay forever" Andreas Bourani's song that accompanied the World Cup captures the mood perfectly. While Germany failed to win the World Cup eight years previously on its home turf, Germany wins the final in Brazil's venerable Maracana stadium on July 13, 2014. With Mario Götze's goal seven minutes before the end of extra time, the "golden generation" win 1:0 against their final opponents Argentina. This makes the DFB eleven the first European team to win the World Cup on South American soil.

Future-proof alignment

2007

Even greater concentration on in-house products

In its fifth decade, Polytec shifts the focus of its business operations. The increasing sales performance of Polytec in-house products is becoming increasingly noticeable, even in revenue. In-house products have become more popular than distributed products, representing a ratio of 3:1. This clearly indicates that Polytec should promote its own developments even more.



2008

First RoboVib® test center

After an intensive development phase with the Fraunhofer Institute for Manufacturing Engineering and Automation and KUKA, in 2008 Polytec builds the RoboVib® test center the world's first fully automated measurement station for vibration analysis in all spatial directions. It combines a 3D scanning vibrometer with an industrial robot. For the first time, it is possible to measure components as complex as car bodies overnight.

2008

Record earnings for Polytec

2008 is an absolutely record-breaking year for Polytec the company achieves its highest ever figures for earnings and revenue. This quickly causes the company to reach the limits of its capacity. Plans are hurriedly made to further extend the building as quickly as possible. Unfortunately, these plans are thwarted by the 2009 financial crisis.



2012

Further expansion with new building E

Polytec's workforce keeps growing. As the company enters the second decade of the new millennium, more than 300 people are employed at the Waldbronn site, and much more space is needed. A ground-breaking ceremony and the laying of the foundation stone signal the beginning of the new construction project in late October, 🏗️ **2011**. With a construction budget of roughly €10m, this forward-thinking project at the Waldbronn site is to create 200 new jobs over the coming five to ten years. In the fall of 🏗️ **2012**, everything is ready: the new building E is officially opened, more than doubling the usable floor space from 6,000 to 14,000 m² in an instant.



2014

A milestone for the analytics business

Polytec was founded as a company for measurement and analysis technology for which it has achieved major successes. In 🏗️ **2014**, Polytec also achieves a breakthrough in process analytics. A leading system integrator commissions a major assignment. The remarkable thing is that Polytec was awarded the contract despite being up against big players that have been leaders in the analytic market for years. This fact is confirmation of the extraordinarily high quality of Polytec products: a major success in a market segment with high future potential!



RoboVib® becomes the largest assignment in company history

Polytec receives inquiries from German and Japanese automotive manufacturers that lead it to start developing automated 3D vibration measurement technology on the basis of robots.

Once the fundamentals are worked out in a feasibility study at the Fraunhofer Institute for Manufacturing Engineering and Automation in Stuttgart in early 📅 **2007**, Polytec begins with the product development. KUKA is chosen as the robot platform.

All of a sudden, things speed up: A major Japanese automotive manufacturer desperately needs a RoboVib® to save time and money in the development process! One condition applies: Polytec must be able to demonstrate a functioning product. With perfect luck, it just so happens that KUKA is currently opening an office in Japan.

The perfect opportunity to fling the doors open wide in unison! KUKA provides a factory building and a robot in Augsburg, and after a little preparation the fully automated measurement functions correctly.

RoboVib® makes an impact: The automotive manufacturer is instantly “in love” with the new RoboVib® structural test station and orders the first device in October, which is installed in Japan four months later. The sales volume is so high that the assignment is the biggest in Polytec’s entire history.

Pursuing this topic doggedly from the outset proved to be the right thing to do.

2007



The gigahertz limit is surpassed!

The **ultra high frequency vibrometer (UHF)** has made it possible to break the 1-gigahertz limit in a commercially available mass-produced product. What worked in the lab has now been made possible in an easy-to-use standard system. This system has proved its worth as the perfect tool for developers of high-frequency filters and resonators many times over. A remarkable success for Polytec, which impressively demonstrates how in-house developments can bring progress to an entire market.

Measuring buildings and bridges from a safe distance

In 🏹 **2010**, Polytec launches the RSV-150 remote sensing vibrometer, a special measurement system for condition monitoring and for checking the dynamics of building structures. It makes building and bridge vibration measurement significantly easier and faster.

Its highly sophisticated interferometric laser technology saves a lot of time, as it eliminates the need to install oscillation sensors in hard-to-reach places. The simple “point & shoot” operation makes the RSV-150 perfect for when rapid characterization is needed.



2008

Solid performance despite worldwide crisis

In 2008 Polytec achieves the best earnings in its entire company history.

A short time later, in 🏹 **2009**, the world is shaken by a global financial crisis on an unprecedented scale, which thwarts Polytec's expansion plans. Polytec is affected in other ways too: For the first time in its history, the company has to temporarily introduce reduced working hours. A necessary and important step that means that Polytec can continue operations without dismissing a single one of its workers. After the economic downturn, sales begin to pick up significantly in 2010. The planned expansion can therefore be built and officially opened after all, albeit three years later than hoped. “Building E” is the name of the latest stage in Polytec's expansion in Waldbronn. The number of employees increases rapidly, reaching almost 300 in Waldbronn, and over 400 worldwide. The workflows are also adjusted to suit the new requirements, with optics and electronics restructured in the manufacturing area.

What does the future look like for Polytec? In terms of expansion, the conditions couldn't be better! The adjacent plot of land was purchased in 2016. Whatever the future brings, the proactive and positive approach to life is Polytec's way of showing our customers and employees that the company is on its way up.

2008

Young talent matters more and more

A company is only as good as in loyal to the company begins with promoting young talent.



Accordingly, Polytec decides to greatly increase its training endeavors. New trainees are recruited not only in administration but also in production. Polytec also employs young talent as part of a co-operative higher education/work program. The students support our employees in research and development, anchoring the technology in their minds for their subsequent career. This is diffusing technology and advocating for young talent in one program.

Overall, the number of students, trainees, and interns has significantly increased in the last 10 years. Polytec has earned a reputation as a respected training company that is highly popular with people starting their career.

2009

German Industry Innovation Award for RoboVib®

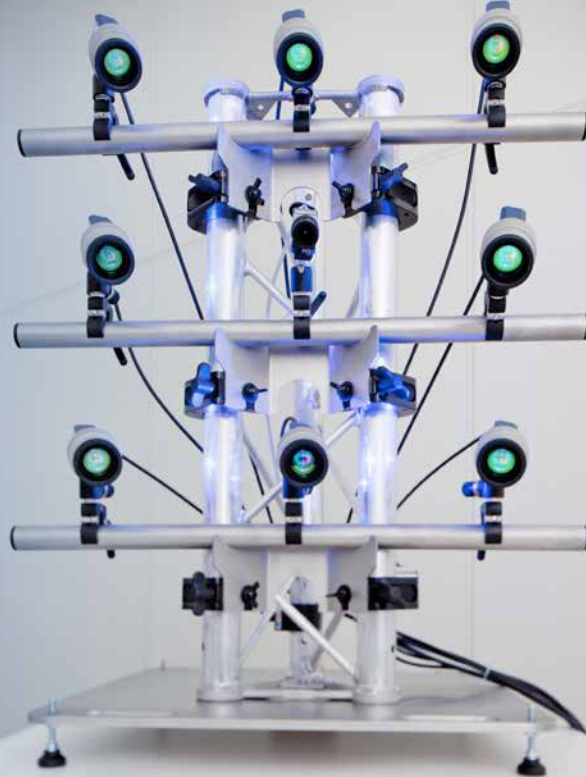
Lost in a flurry of camera flashes, microphones pointed at you from all angles this sounds just like a red carpet event, and for the industry sector it is no less important: This is the German Industry Innovation Award which is given every year at a major gala in 🇩🇪 2009 at the Frankfurt Opera.

Organized by the Wirtschaftsclub Rhein-Main e.V. and the business magazine "Wirtschaftswoche" and with a distinguished jury from the worlds of industry, science, and politics, the award ceremony involves winners being chosen from roughly 300 submitted applications. There are five finalists from each group. Polytec has made it through to the final with its development of the RoboVib® structural test station.

In his speech, former Federal Chancellor Gerhard Schröder praises the finalists and award-winners and highlights the value that these innovations have for the German economy and how they help to solidify Germany's reputation as a high-tech nation.



2016



MPV-800 multipoint vibrometer



PSV-500 Xtra

Polytec on a path to a successful future

Two more instruments illustrate how Polytec's development programs enable the company to future-proof its products.

First, the **PSV-500 Xtra scanning vibrometer** further improves optical vibration analysis. Upgrading to Xtra gives the well-established Polytec vibrometers PSV-500 and PSV-500-3D significantly higher optical sensitivity. Thanks to new technology, the signal level can be increased to such a high degree that measurements can be taken from practically any object without any surface preparation at all. As a result, measurements, particularly on difficult surfaces, are even more reliable and the data revealed is even more significant. Furthermore, more measurements can be performed per day. All in all, with the Xtra's greater optical sensitivity, complex product developments can now be realized more efficiently than ever before.

Second, the **MPV-800 multipoint vibrometer** has made it possible for the first time to measure multiple points precisely and simultaneously, rather than one after the other as was previously necessary. The optical multi-sensor system with up to 48 fiber-optic sensors that can be configured individually provides complete coverage of transient events with no contact, even for sensitive objects and under difficult conditions, such as complex-shaped objects.

More space for Polytec PT

2016
–
2017

Adhesion technology is essential for today's complex microelectronic devices. Also, the special adhesives that integrate medical and fiber optic devices are important products. With the rise of the solar cell industry, electrically conductive adhesives are also supplied for establishing contact with the conductor tracks.

Furthermore, electric vehicles are also opening up new areas of application. As a result, Polytec PT needs more space. In mid-2017, the company site is relocating to larger premises nearby. The company is thus prepared for future growth. Technical adhesives will continue to play a major role in advanced technologies of the future, even though the products are almost always concealed.



Polytec Worldwide

Our customers now procure products and services from our offices in England, France, China, Japan, Singapore, and the US and from a worldwide distributor network.



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Epilog

**Ladies and Gentlemen,
valued business partners and customers,**

Following our review of the past five successful decades of our company's history, I would now like to give you some insight regarding Polytec's future – not for the next five decades, but for the coming five to ten years, which will be just as promising as the past.

Polytec is in a good position today both internationally and in Germany. We owe this position to the achievements of our entire workforce, who with their deep know-how, untiring dedication, and extensive skills have been a major help in enabling our company to grow organically.

We will continue to rely on this most precious asset in the future along with our willingness to identify trends early on, develop innovations from them, and transform these innovations into marketable solutions. While we cannot know what the world of tomorrow will look like, one thing is certain today: Polytec will always invest in future technologies and will promote them continuously.

We see potential for exciting projects in all product areas. Accordingly, we are involved in new mega-trends such as electric vehicles, drone flights, and Industry 4.0 and in classic topics such as medical technology and infrastructure. Our customers are globally active. This means that we have to be represented wherever people need us.

The standards that we constantly aim for are defined by the high demands of our customers both present and future. It is only by constantly striving to create perfect solutions for industry and science that we are motivated to do our absolute best and to demand a little bit more from ourselves every day.

At the same time, we always remain grounded in our past. This anchoring is illustrated by our connection to the Waldbronn site at the foothills of the Black Forest. This place, where our history began 50 years ago, will provide the “fertile soil” that will be needed over the coming decades to help to grow new Polytec innovations and developments, which we will certainly be reporting on from time to time.

Accompany us on this journey. Thank you!

Dr. Dietmar Gnaß,
Managing Director, Polytec



