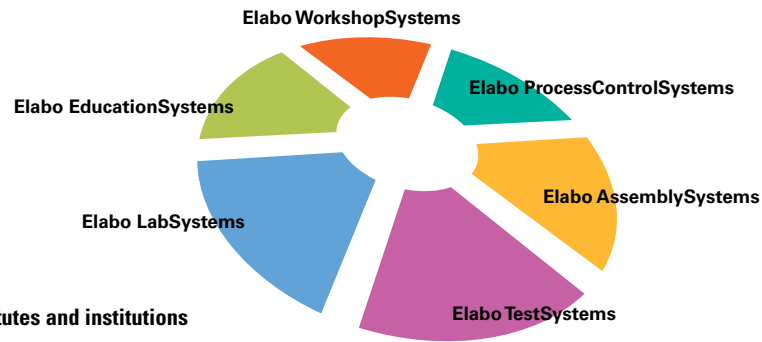


# Systematical Solutions



**Train. Measure. Test. Assemble. Control.**

# Our customers



## Industrial companies

ABB Acer AEG Alfinig Alcatel Airbus Alcan Allied Vision Alstom ASS Atlas Copco Audi Aventis B Braun Baker Hughes Ballard Bayer Bender Berchtold Bertrant BERU Bizerba Blaupunkt BMW Boehringer Borg Warner Bosch Bosch Rex-roth Bosch Siemens Hausgeräte Braun Brauerei Becks Brose Bruker Bühler Bürkert Canon Cegelec Cherry Clarion Convothem Caterpillar Cooper Daimler Dahle Danfoss Degussa DEKRA Deutsche Bahn Deutsche Post DSK Deutsche Steinkohle Diehl Dräger Dürr EADS E.G.O. ebm-papst e.dis Eisenmann Electrolux Emerson Endress + Hauser E.ON EnBW Enercon Epocos E-T-A Eurocopter FAG Kugelfischer Fanuc Federal-Mogul Fein Feller Fiat Iveco Ford Freudenberg Gardena Gedore General Electric Getrag Hansaton Harman Becker HBM Hottinger Baldwin Heidenhain Helios Hekatron Hella Hensoldt hps Hilti Hirschmann Hitachi Heraeus IBM Imperial Intech INA-Schaeffler Infineon Ismet Jenoptik John Deere JUMO Johnson Kabel Deutschland Kärcher Kathrein Kemmler & Riehle Knorr-Bremse Kontron Krauss-Maffei Kronen KUKA Lear Automotive Leoni Leica Lenze Liebherr Linde LG Loewe Opta Lumberg Lufthansa LuK Mahr MAN Mann + Hummel Marconi Marquardt Medion Mennekes Mettler-Toledo Metz Micronas Miele Minimax Mitsubishi Molex MTU Aero Engines Neff Nokia Norgren Opel Olympus OMV Osram Otis Panasonic Peiker Petra Pepperl + Fuchs Philips Phoenix Pierburg Porsche Preh Prettl Procter & Gamble Putzmeister Regiolum Rehau Rheinmetall Rhode & Schwarz Rieter Roche Rohwedder Röhm Saar Ferngas Sagem Samson Sartorius Schaffner Schenck Schering Schott Schrott Schubert Sennheiser Severin SEW-Eurodrive Sick Siemens Sitec Shell Singulus Sirona SKF SMA Somfy Stahl STEAG Steiff Stihl Südzucker Suspa Tchibo Teamtechnik Technisat Teka Teldix Tenovis Texas Instruments ThyssenKrupp TRW Tyco UPS Vacuumschmelze Vaillant Valeo Varta Vattenfall Viessmann Vishay Visteon Vogt Electronic Volvo Vossloh Voith Volkswagen Waldner Waldmann Weishaupt Wieland WIKA WMF Wuekro Würth Yokogawa Zander Zeiss ZF Ziehl-Abegg Zollner

## Public authorities, institutes and institutions

Bundesanstalt für Materialforschung und Prüfung Bundesamt für Wehrtechnik Deutsche Bahn Deutscher Wetterdienst Deutsches Zentrum für Luft- und Raumfahrt Forschungszentren u.a. in Jülich und Karlsruhe Fraunhofer-Institute u.a. in Chemnitz, Darmstadt, Dresden, Erlangen, Freiburg und Pfinztal Gesellschaft für Schwerionenforschung Gesellschaft zur Förderung der angewandten Informatik Krankenhäuser/Kliniken u.a. in Bad Salzig, Bamberg, Cottbus, Coburg, Deggendorf, Dresden, Frankfurt/Oder, Lahr, Ludwigsfelde, München, Quedlinburg, Rathenow, Regensburg, Suhl und Wiesbaden Landeskriminalämter u.a. in Hamburg und Stuttgart Landespolizeidirektionen u.a. in Stuttgart, Freiburg und München Max-Planck-Institute u.a. in Frankfurt, Golm, Heidelberg und Jena Polizeipräsidien u.a. in Augsburg, Bayreuth, Berlin, Frankfurt, Leipzig, München und Nürnberg Regulierungsbehörde für Telekommunikation Rundfunkanstalten u.a. Bayerischer Rundfunk, Deutsche Welle und Westdeutscher Rundfunk Staatliche Hochbauämter u.a. in Ansbach, Ingolstadt und Nürnberg Stadtwerke u.a. in Augsburg, Gießen, Heppenheim, Hürth, Kiel, Lindau, Magdeburg, Schwäbisch Gmünd und Würzburg TÜV Product Service Transferzentrum Mikroelektronik Universitätskliniken u.a. in Dresden, Freiburg, Gießen, Heidelberg, Tübingen und Würzburg VDE Prüf- und Zertifizierungsinstitut Wasser- und Schifffahrtsämter u.a. in Niederfinow, Nürnberg und Wilhelmshaven Verkehrsbetriebe u.a. in Berlin, Esslingen, Hannover, Mainz und Magdeburg



## Educational institutions

Berufsakademien u.a. in Eisenach, Gera und Mannheim Berufsförderungsinstitute u.a. in Berlin, Mühlenbeck und Schömburg Berufsbildungswerke u.a. in Hamburg und Tonna Berufsgenossenschaften u.a. in Köln und Mannheim Berufsschulen/Gewerbliche Schulen u.a. in Aalen, Aschau, Bad Kreuznach, Bayreuth, Deggendorf, Detmold, Eckernförde, Emmendingen, Esslingen, Eutin, Frankfurt, Freising, Göppingen, Hamburg, Heidenheim, Illmenau, Kempen, Köln, Leonberg, Lübbenau, Lübeck, Osterode, München, Ravensburg, Roth, Schwäbisch Gmünd, Traunstein, Wertheim und Wuppertal Fachoberschulen u.a. in Deggendorf und Erlangen Handwerkskammern u.a. in Aachen, Kaiserlautern, Koblenz, Lübeck, Regensburg und Schwerin Heinz-Nixdorf Berufskolleg der Stadt Essen Hochschulen u.a. in Amberg/Weiden, Ansbach, Berlin, Biberach, Elmshorn, Emden, Esslingen, Flensburg, Heide, Heilbronn, Ingolstadt, Karlsruhe, Kiel, Lausitz, Lübeck, Mittweida, Nordhausen, Regensburg, Stralsund, Ulm, Wiesbaden, Wolfenbüttel und Würzburg Technische Hochschulen u.a. in Aachen, Leipzig, Saarbrücken und Wismar Technische Universitäten u.a. in Berlin, Chemnitz, Clausthal-Zellerfeld, Darmstadt, Dresden, Illmenau und München Universitäten u.a. Augsburg, Bremen, Dortmund, Erlangen, Freiburg, Frankfurt, Gießen, Göttingen, Halle, Hamburg, Heidelberg, Karlsruhe, Kassel, Magdeburg, Mainz, Mannheim, Rostock, Stuttgart, Trier, Tübingen und Zwickau

## Worldwide

ABB Indien Aggreko Niederlande AKG Acoustics GmbH Österreich Alcatel Frankreich Airbus China Airbus Dubai Ausbildungszentrum Braunau Österreich AWECO Slowakei Berufsförderungsinstitut Deutschlandsberg Österreich Bombardier Transportation Austria GmbH Österreich Bosch Indien Bosch Ungarn Bosch und Siemens Hausgeräte China Bosch und Siemens Hausgeräte Russland Bosch und Siemens Hausgeräte Spanien Bosch und Siemens Hausgeräte Türkei Danfoss Dänemark DAIKIN Belgien Elbit Systems Israel Electrolux Italien ETO Magnetic Polen Feuerwehrkommando Venedig Italien Gewerbeschule Bozen Italien INAIL Centro Protesi Italien Indra Spanien Infineon Technologies Austria GmbH Österreich Höhere Technische Lehranstalt Mistelbach Österreich KeyMed Großbritannien MAF Frankreich Magneti Marelli Powertrain Italien Niko Belgien NÖ Landesfeuerwehrkommando Österreich Österreichische Bundesbahnen Österreichisches Bundesheer Olympus Tschechische Republik Philips Innovative Applications Belgien Robert Bosch AG Österreich Sagem Frankreich Schaeffler China Schaeffler Rumänien Schaeffler USA Siemens China Società delle Autostrade di Venezia e Padova S.p.a. Italien St. Microelectronics S.p.a. Italien Suez Belgien Tessenderlo Chemie Belgien Thales Frankreich

# Welcome to Elabo

## Advice

Whether we consider the efficient use of space, ergonomics or the storage of data and documentation, modern workplaces fulfil a variety of functions which must all conform with statutory guidelines. Elabo's consultation services allow these to be carefully and individually tailored for each customer.

After working in partnership for many years with industrial companies, educational and research establishments as well as public institutions, it is a matter of course for Elabo to offer services for the goods that we supply. This includes the calibration of our measurement and test equipment and the supply of additional storage elements through to the modernisation of the networking infrastructure for your workplaces.

To ensure that our customers receive optimal support, Elabo has both technically skilled sales staff in your vicinity and technical experts at the production site to answer your questions.



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## Planning

For the networking of multiple workplaces or the configuration of test systems supporting several test functions, over the four decades that Elabo has been in the market, the technical requirements as well as the ergonomic and design-oriented requirements have significantly increased.

Elabo has easily kept pace with this by constantly gathering experience and building up its knowledge. Therefore customers get modern design and planning services along with well-engineered products and solutions.

To give our customers an idea of what we can do, both in advance and during the project, we can offer a variety of simulation options which provide a visual impression.

# „At home“ with Elabo

## Development

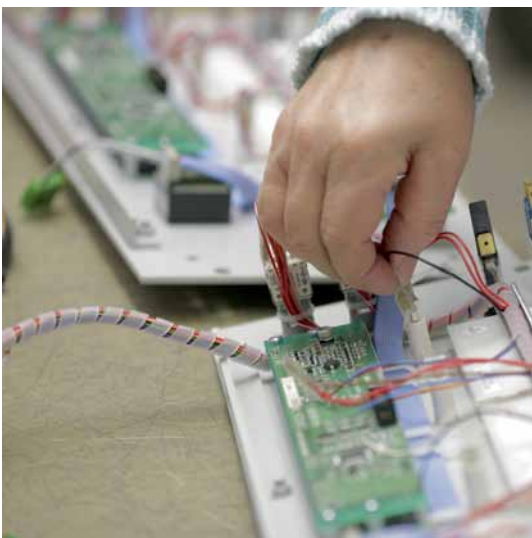


New products and innovations –these words are everywhere today. For Elabo they have been a living reality since 1972. And it's not only trend-setting products such as the InForm profile system or the Elabo leakage current meter, but also many smaller improvements for our customers.

Thirty-five developers in the mechanical engineering, electronics and software divisions take on customer suggestions and specifications to develop new, solution-oriented product lines and applications customized to meet specific needs. Their close cooperation allows us to transfer knowledge and components to other industries or requirements as well.

Occasionally our cooperative partnership with customers also creates a „standard“ in the form of a product that is offered for sale to the general public. This is the case with the I/O module in our electronics product line.

## Manufacture



Elabo still offers products labelling „Made in Germany“. Best quality is assured by our close, long lasting cooperation with local system suppliers and a quality control of all components which we assemble directly at our production site.

Through our closely meshed quality system we can ensure that our products are both safe and ready for use. This particularly applies to our test and measurement products which are individually tested with dedicated test procedures.

The consistent use of specially made components as well as the construction of special-purpose machines are an integral part of our success in providing test systems.

# Directly at the customer site

## Commissioning



On request, we are happy to offer our customers assembly services or even commissioning. To be able to operate across Germany and worldwide, we also have a network of external partners alongside from our own field service employees.

Both employees and partners have successfully worked together with us for years and are regularly trained. For customers who prefer to deal with installation or commissioning themselves, we have a range of printed instructions.

In a multi-stage process, our deliveries are prepared for commissioning. For larger projects and with our highly complex systems, an acceptance test is carried out once assembly on the customer site is complete.

## Support
















We have always placed great emphasis on „engineering“ and „service“, and our engineers and designers always have possible component replacement and modifications at the back of their minds. Thus, we can support our customers just as well when making changes as for new designs.

Every customer has a fixed contact at the head office or amongst the field staff. Other specialists also work for us – for example, in the area of ESD. In our service department we also calibrate customer equipment using equipment which has itself been checked by the DKD (the German association of calibration laboratories).

The long-term use of products has always been one of our objectives. We, thus, also offer a guarantee for the continuing availability of parts, often for small parts such as control knobs.






# Elabo EducationSystems

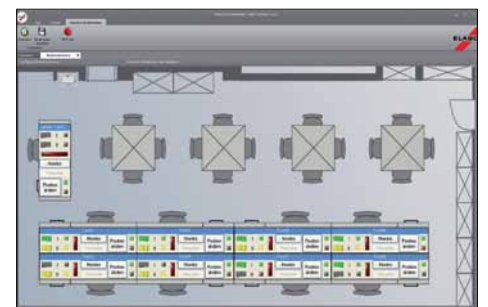
-  Tables
-  Superstructures
-  Inserts/plug-ins
-  Electronic devices
-  Software
-  Experiment mounts
-  Mobile units
-  Teaching aids
-  Storage
-  Network Technology
-  Cable management
-  Furniture
-  Lighting

Based on many years of cooperative exchange with teachers, trainers and tutors, Elabo has developed a comprehensive product range for outfitting universal and special rooms with turnkey solutions both in industrial and institutional vocational training and in technical colleges.














## Elabo advantages:

-  Space planning
-  Curriculum-specific requirement analysis
-  Complete mounting and commissioning of network technology
-  Teaching aids
-  Instructor-training software



# Elabo LabSystems

-  Tables
-  Superstructures
-  Inserts/plug-ins
-  Electronic Devices
-  Network technology
-  Software
-  Mobile units
-  Lighting
-  Accessories
-  Cable management
-  Storage

Elabo offers compact, functional, ergonomic workspaces with intelligent equipment integration in the fields of quality assurance, research, development, experimentation and prototype construction.















## Elabo advantages:

-  Space planning by qualified workspace experts
-  Ergonomics and workspace analysis
-  Quality-certified products
-  Complete mounting



# Elabo TestSystems

-  High-voltage
-  Insulation
-  Earth wire resistance
-  Leakage current
-  Current
-  Performance
-  Short circuit in coil
-  Speed frequency
-  Flow rate
-  Visual control
-  Measurement of test sample
-  Mounting control

For spot checks and routine tests in mass production, or for type testing in the laboratory – Elabo’s test systems and testing devices meet all modern standards. Many years of experience in the cooperative development of highly complex systems combine with the economic advantages of standardization in manufacturing individual components.















## Elabo advantages:

- Individual units, combi-devices, Test systems
- Maintenance, remote diagnostics, calibration
- Integration of handling technology
- Special-purpose machine
- Engineering, planning, construction





# Elabo AssemblySystems

-  Support elements
-  Boards + Floors
-  Gripping systems
-  Instrument handling
-  Contacting
-  Electronic devices
-  Software
-  Network technology
-  Power supply
-  Compressed air
-  Conveying equipment
-  Transport trolleys

Owing to the flexibility of Elabo's systems, both stand-alone work stations and complex, networked assembly environments can be designed and delivered for manual or semi-automated manufacturing. Testing and inspection systems can also be integrated directly, enabling real-time error checking.
















## Elabo advantages:

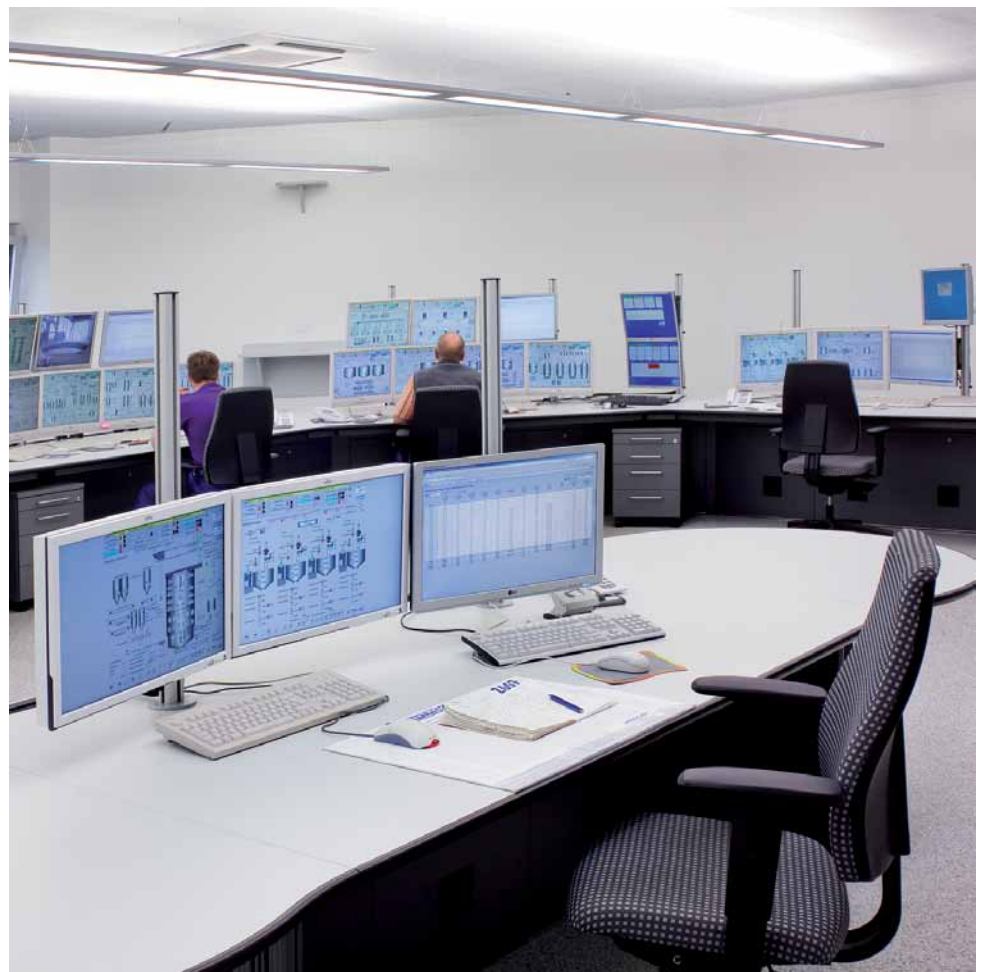
- Development of production flow
- Ergonomics and workspace analysis
- Project planning
- Modular open-space system
- Integrated test systems
- Logistics interfacing



# Elabo ProcessControlSystems

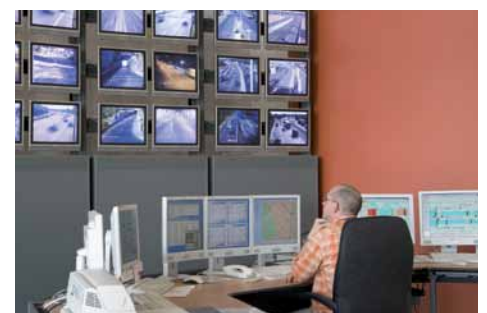
-  Support elements
-  Boards + Floors
-  Control desks
-  Display technology
-  Network technology
-  Fastening systems
-  Cable management
-  Storage
-  Power supply
-  Blinds
-  Sound insulation
-  Control systems
-  Lighting

High-quality technical solutions for communications processes for industry, police and fire departments, universities, or computing centers: We offer administrative workspaces as well as solutions for monitoring critical processes and support ergonomic and safe work practices.



## Elabo advantages:

-  Climate-control analysis
-  Ergonomics analysis
-  Modular open-space system with
-  19" technology
-  Lighting technology
-  Integration of technology



# Elabo WorkshopSystems



Tables



Superstructures



Insert/plug-ins



Electronic devices



Network technology



Software



Mobile units



Lighting



Accessories



Cable management



Storage

Inspection, repair, installation, documentation: with our flexible solutions, all these activities can be easily performed at a single workspace with a focus on electrical systems/electronics - in a few simple steps with everything close at hand. Customers in the industrial, energy and electrical sectors, in schools and hospitals take advantage of this convenient complete package.



## Elabo advantages:

- Space and equipment planning
- Ergonomics and workspace analysis
- Quality-certified products
- Documentation software
- Training software
- Complete mounting and commissioning



# Elabo at work for you

Elabo offers products all from one mould and, as a turnkey provider in the area of technical workplace systems and test systems, is a market leader. We develop complex assembly, programming and test system for various industries.

An overview of our project services:



## Feasibility

By defining target processes our staff works out a concept with functional details with our customer.

The challenge to determine the best possible linkage between differing types of assembly, programming and test is daily work at Elabo. As far as the test scope is concerned, we could test both mechanical and electrical aspects in real time, while simulating an actual load.

## Design

So that the system capacity could match the required production rate, we agree on a requested specification with all associated parameters with our customer. Apart from the large number of product variants our customer emphasised could also receive maximum flexibility in the batch size and in the cycle time.

Working closely together, after fixing the technical details, all of our customers are supplied with an implementation plan, which allows later modifications and additions to be included.

To be able to offer an attractive and cost-effective solution, we maintain a well-tuned system of in-house manufacture of custom systems as well as cooperations with selected system partners.

## Implementation

Once an order has been placed, all members of the project such as the engineers and developers take the design and the cost base, develop a detailed project plan and then start with the first steps in the implementation.

We also take account of the material flow paths to and from the system. For complex systems the design of the entire system as a 3D model in Inventor make this task significantly easier.

The development of a system also includes software engineering. Elabo has an extensive range of existing software modules and these are used to produce a package which is optimised for the application. Apart from test tasks, the control of the conveyor section could be implemented, as well as the integration into the customer's ERP and file system.

Made in Crailsheim. The city, which amongst other things is an international centre for the packing machine industry, is in southern Germany, in the north-east part of the Neckar-Hohenlohe-Schwäbischer Wald region. The excellent transport infrastructure means that „being close to your customers“ is something that can be expressed in short journey times.



## Commissioning

Our test systems are commissioned in several stages. We assemble the system in our factory, individual parts are linked together and the software is installed accordingly. Our staff then completely check over the system before the first test run is started. Before delivering a pre-acceptance normally takes place at Crailsheim.

During the assembly of the whole system at the target site a complete function test is carried out by our staff followed by the final acceptance by the customer himself. Extensive training of the staff who were to use the system rounded off the on-site activities.



## Maintenance

Elabo constructs and plans automated systems, which generally have to be available for several shifts per day, seven days per week. Through the use of forward-looking engineering, decades of valuable experience and the use of high-quality components, we aim to eliminate downtimes as much as is possible.

As specialist for electrical technology, electronics and mechatronics, Elabo is committed to its customers. This is why we offer a comprehensive service and support package for our test systems. Maintenance and service contracts as well as our factory calibration service and rental devices if a repair is needed are part of this package.



# Yesterday, Today, Tomorrow

Even in days gone by, Elabo stood for the future. As one of the pioneers, our company has shaped the creation and development of technical workplace systems since 1972, and continues to do so today.



## Getting technical in the 1970s

Even back then, Elabo could sense the way things were going. Founded as a „garage“ company, Heinrich Decker and Egon Lauton had anticipated the potential in the increasing amount of technology and electrification of the working world.

## Getting automated in the 1980s

Even over 20 years ago, Elabo was venturing into new markets. As the sole provider of technical workplace systems, we supplied the first high-voltage test equipment to customers at the start of the 1980s and built the first test systems.

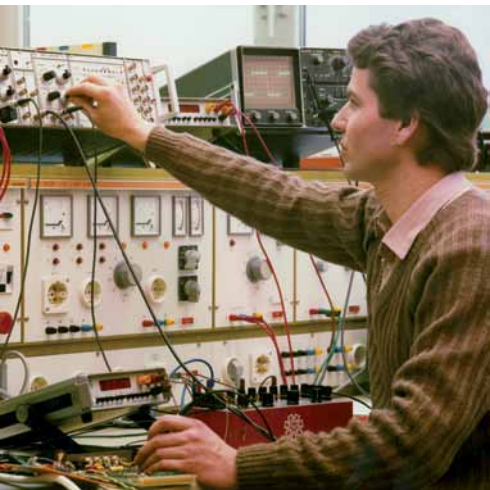


## Computerisation

Even in those days, Elabo got into the new technology. While the first Atari personal computers were slowly making their way into homes, our staff were programming the first applications.

## Getting a profile in the 1990s

It was over 15 years ago that Elabo again decided to not just be content with existing products. In 1992, our „founding fathers“ designed a whole new modular world of work on the basis of profiled components. These days, this is a standard which other manufacturers are happy to use.

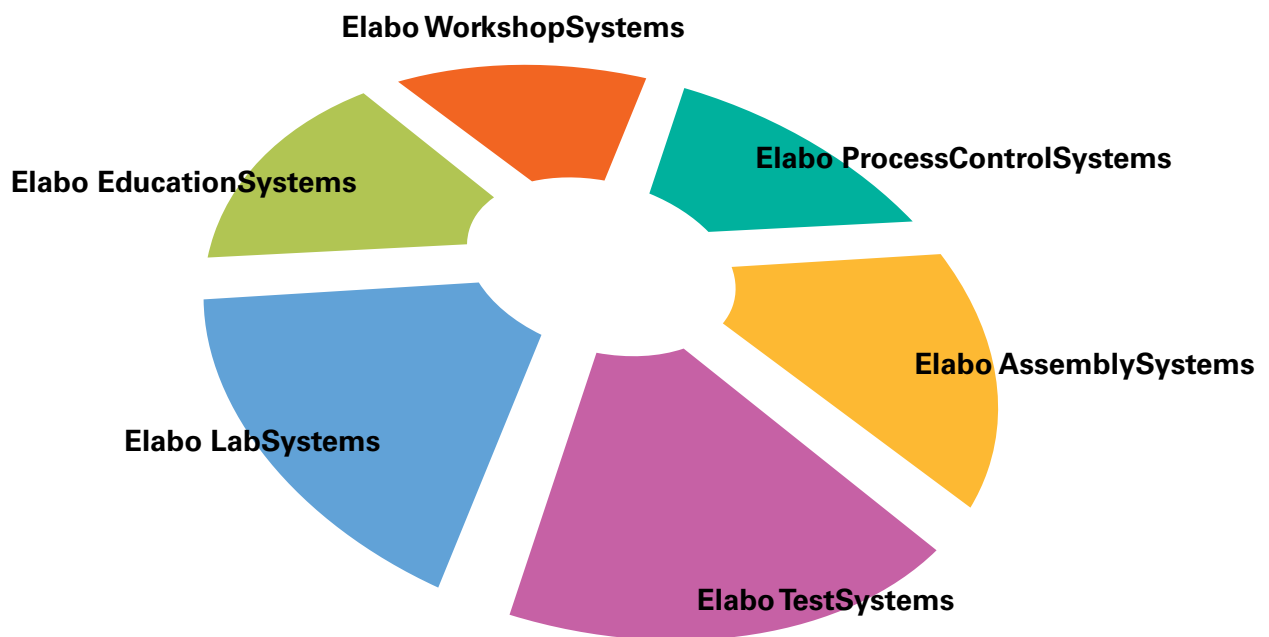


## Capitalisation

Elabo has always looked for a suitable environment for itself and its customers. In the mid-1990s we consolidated by joining the present day euromicron AG, simplifying the processing of our major projects.

# For over 35 years, the name Elabo has stood for experience in electronics and electrical engineering.

Even in days gone by, Elabo stood for the future. Our vision of standardised but highly specialised workplaces has shown the way for many today. We have set and continue to set our own pace. Since 2002, other product ranges have been created on the Crailsheim premises. A product family system which nevertheless has many differing faces is our answer to today's networked world of work.



## Elabo today still embodies the past and the future:

We continue to constantly adapt our goods and services to the growing requirements.

We enter new markets time and again to be able to offer our customers full turnkey solutions.

We develop new solutions representing real added value in everyday professional work, for and with our customers.

**We will be happy to put you through to your personal contact under +49 (0)7951 307 0.**

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www.elabo.de

Advice, manufacturing, commissioning: Since 1972, Elabo's customers have been relying on sophisticated solutions from Crailsheim when it comes to equipping general-purpose and special rooms as well as procuring testing equipment.

Expertise in electrical and mechanical engineering and in many other fields – these are the basics that allow Elabo to custom design and execute functions and applications, as well as mass-produced products can be brought to market at a favorable price/performance ratio.

Quality right from the start: Elabo products are designed for years of use. With services such as test equipment recalibrating we support our customers throughout the entire product life cycle.

### **Elabo EducationSystems**

Elabo offers complete special rooms for electrical engineering, mechatronics, IT and related fields: tables, superstructures with power supply, as well as measuring and test devices, cabinets and chairs.



### **Elabo LabSystems**

Whether it's pneumatic measuring devices, ESD tables, or software for archiving measured results, Elabo products are used in research and development as well as in the construction of prototypes.



### **Elabo AssemblySystems**

Formed systems with extremely robust feet, transverse bars, roller belts: Elabo designs workspaces for manual and semi-automated production. Also supplied with integrated test systems.



### **Elabo ProcessControlSystems**

In data processing centers, security control centers or in power stations, whether it's consoles with operating controls or large-screen display systems, Elabo plans and realizes rooms for process monitoring.



### **Elabo TestSystems**

Measuring. Testing. Automating. Elabo reproduces test situations for its customers down to the last detail in everything from high-voltage test equipment to highly complex test systems with multipurpose adapters.



### **Elabo WorkshopSystems**

From workbenches to documentation test stations: Elabo reproduces modern maintenance tasks, from "simple" tables to software to measurement data storage.

