EMS by TechniSat

The reliable partner
for your product idea.

TechniSat

From product vision to customised service

With more than 30 years of experience, TechniSat offers in cooperation with the affiliated company TechniForm a complete service from design and material procurement to manufacture and customer service thus generating comprehensive and sustainable customer satisfaction.

We provide you with support along the entire added-value chain, irrespective of whether you require components, modules or complete units. We provide assistance, from the creation of a customer-specific production layout, through the various sampling phases, right up to the end product. We also invite you to benefit from our tried and tested logistics processes and our many years of experience in international material procurement.

If you wish, you can just select areas of our service range, e.g. tool making or the mere mounting of modules. We are happy to advise you and guarantee a competitive pricing structure for your specific requirements.

- Project management
- Development of software, hardware and production layout
- Development of test and inspection strategies
- Materials and supplier management
- Programming of integrated circuits
- SMD and THT, flat module assembly
- Soldering processes, depanelisation
- Test options including 3D paste inspection, in-circuit tests, AOI, and many more
- Module and product mounting
- Metal stamping, sheet metal forming, mechanical components
- Tool design and tool making
- Plastic injection moulding
- Ultrasonic welding
- Robot-assisted module assembly
- Painting, printing, hot stamping
- Storage & logistics
- Comprehensive service

Project management

Customer-specific products are developed, tested and produced at the various TechniSat locations in Germany, Europe and Asia. The overriding aims of the company and the business sector within the individual divisions are managed from the company headquarters in Daun, Vulkaneifel.

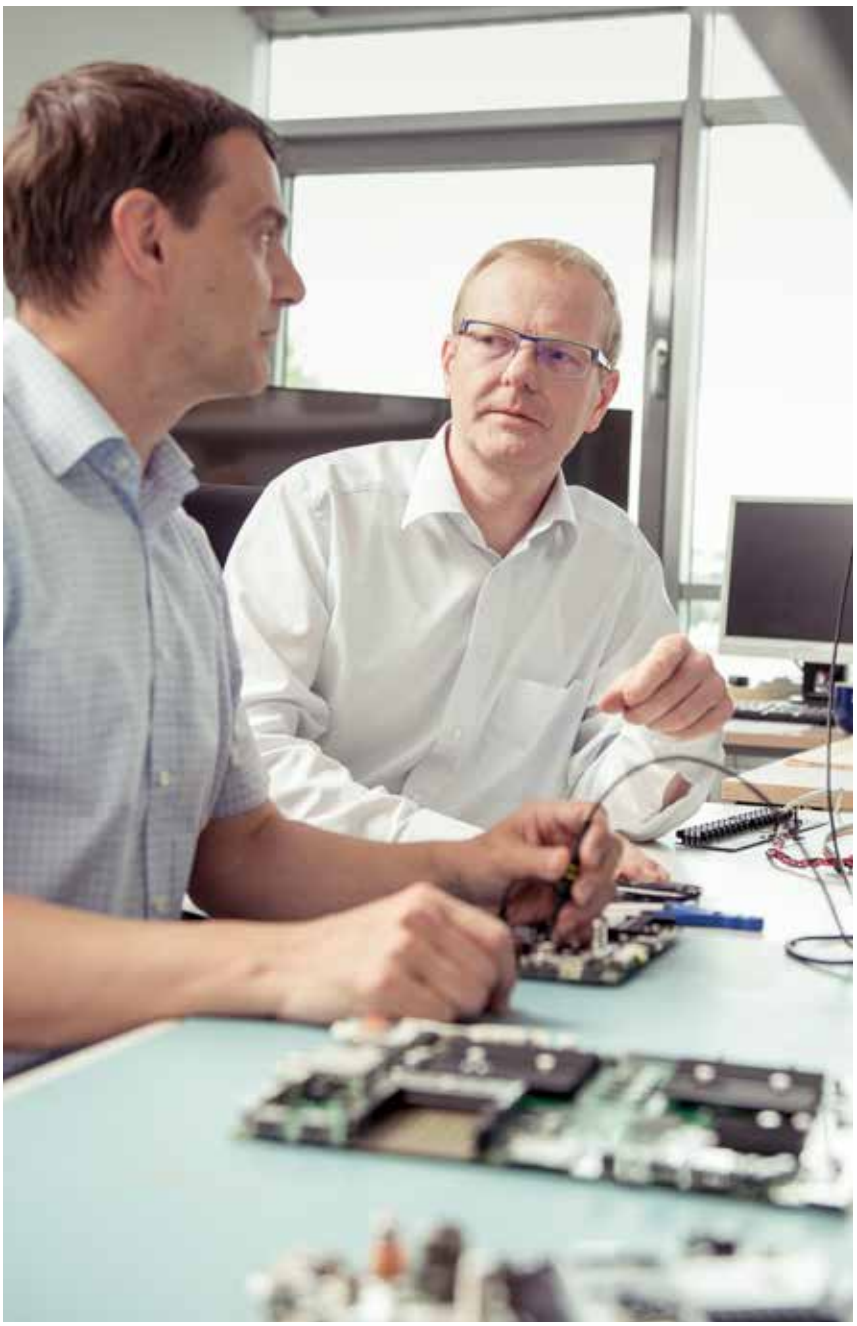
The project office, which manages customer projects across all locations, is located in Düsseldorf.

The team ensures the maximum utilisation of synergies between the different locations. This is achieved through the implementation and continuous optimisation of standardised and flexible processes and production sequences, whilst also complying with customer-relevant requirements.

Development of software, hardware and production layout

Our development engineers‘ expertise is comprehensive. All fields are covered, from the design (layout and mechanical design) to the development of hardware and software. The systems/modules can be tested in-house in our own laboratories. This includes endurance tests, EMC tests and checks with regard to reliability, climate resistance, mechanical strength and optical characteristics.

Another decisive factor in the success and economic feasibility of a product is intense and continuous collaboration between the development and production engineers. When creating the production layout, great emphasis is placed on ensuring that the various development areas are also included in all development phases, with a view to guaranteeing both optimum producibility under technical and economic conditions, and guaranteeing that optimum product and process quality are ensured.



Development of test and inspection strategies

Comprehensive testing and inspection systems are imperative in order to guarantee high product quality. We work alongside you to develop an optimum test and inspection strategy that is adapted to your products and requirements. The test systems available within our production network cover both manual tests and optical, electronic and electric inspection systems.

OPTICAL TEST PROCEDURE
Automatic Optical Inspection (AOI)
3D solder paste inspection
Lighting tests, display tests

ELECTRIC/ELECTRONIC TEST PROCEDURE
In-circuit test
Boundary scan
Functional tests

ADDITIONAL TEST PROCEDURES
Screening, testing under extreme climatic conditions in the „climatic chamber“
Endurance tests
Various functional tests, etc.

Materials and supplier management

We use our central and local procurement offices to search for and qualify reliable suppliers all over the world. Whether hardware and software components or service provision, the requirements we impose on our suppliers are very high, but always entirely fair.

As well as traditional procurement tasks, we continuously observe price developments in all procurement sectors and thus always achieve competitive purchase prices. Contract management for all matters surrounding purchasing, logistics and quality is carried out by our own in-house solicitors.

Our continuous monitoring process uses individually developed and IT-supported processes to evaluate all the necessary supplier key performance indicators and thus guarantees effective supplier control and the early detection of changes in the market. The experience of our personnel in the field of material procurement benefits you, as does our worldwide network of reliable and qualified suppliers, which has been built up over several years. These have been qualified locally over the years by means of an effective supplier development programme and regular auditing. They have also been made aware of our customer-specific requirements so that the procurement processes can continue to be optimised. Sourcing using the online supplier platform, developed to suit our requirements, enables the simple assessment and comparison of various quotations. E-auctions round off the advantages of this electronic marketplace.

In addition to the central purchasing office in Daun, Vulkaneifel, we also have local procurement teams and competence centres in Asia and Europe. This way we guarantee high flexibility for our customers. Several years of faithful collaboration with international manufacturers and suppliers comes to fruition in the quality and availability of the components and results in competitive price management.

Programming of integrated circuits

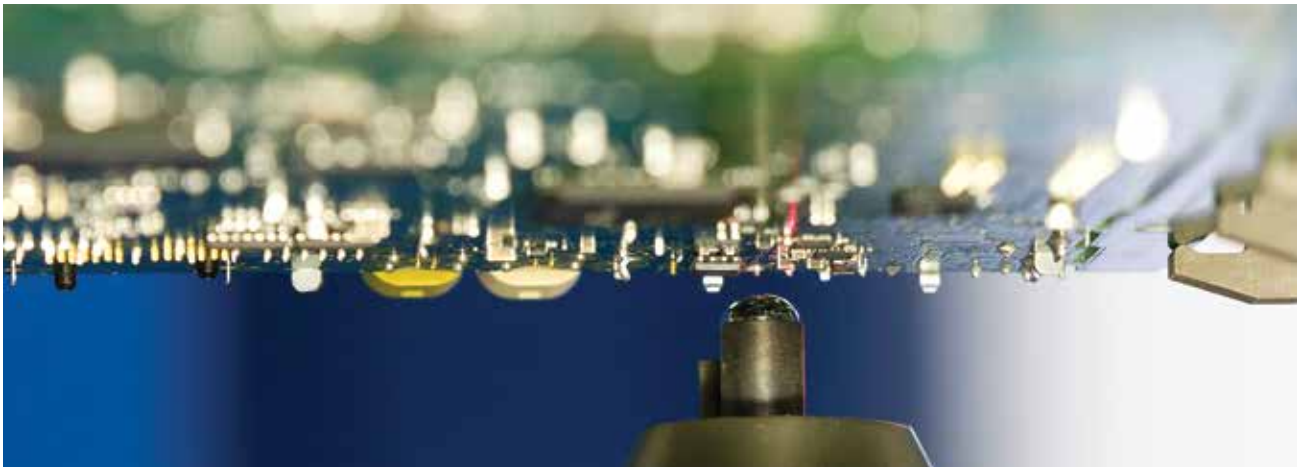
The automated programming of memory modules, SD cards, micro-controllers and logic modules makes an important contribution to quality and productivity increases in production and enhances our flexibility significantly during the production process. The automatic data I/O programmer with modern FlashCore III technology has 3D lead scanning modules, laser marking and variable input/output media.

SMD and THT flat module assembly

Regardless of the requirement you place on your product, we offer you the equipment required for implementation. Not only do we have more than ten highly technically sophisticated in-house assembly lines, but we are also specialised in meeting the specific requirements involved when dealing with different sectors and batch sizes at the various locations.

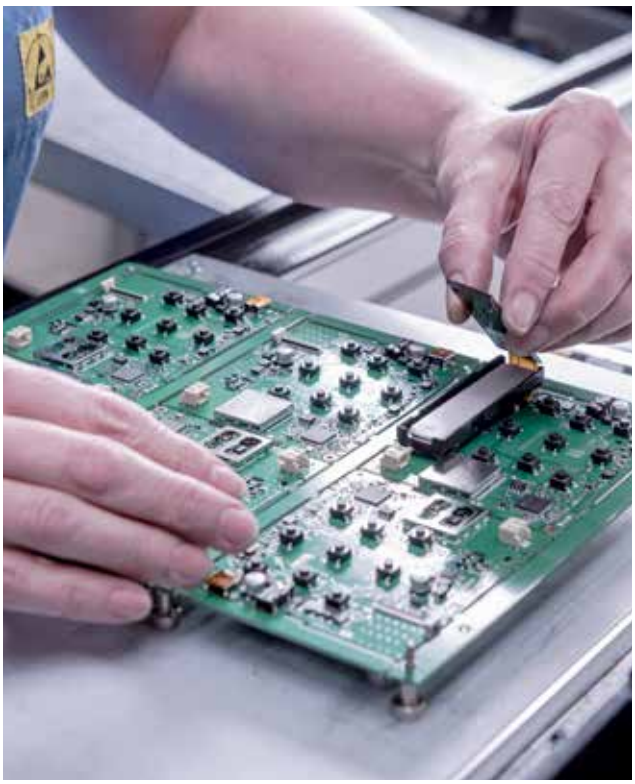
Soldering process

Various soldering techniques form part of the range of services. In addition to wave soldering and reflow soldering, we also use state-of-the-art selective soldering machines. This is supplemented by the option of manual soldering. We do, of course, solder in compliance with EU Directive 2011/65/EC RoHS on the Restriction of the use of certain hazardous substances when soldering electrical and electronic equipment.



Depanelisation

The separation of PCB panels can be performed using milling or disc shears, while exerting as little stress as possible on the circuit boards. The printed circuit board is fixed in such a way that both the printed circuit board and the components mounted on it are not exposed to any stress during the separation process.

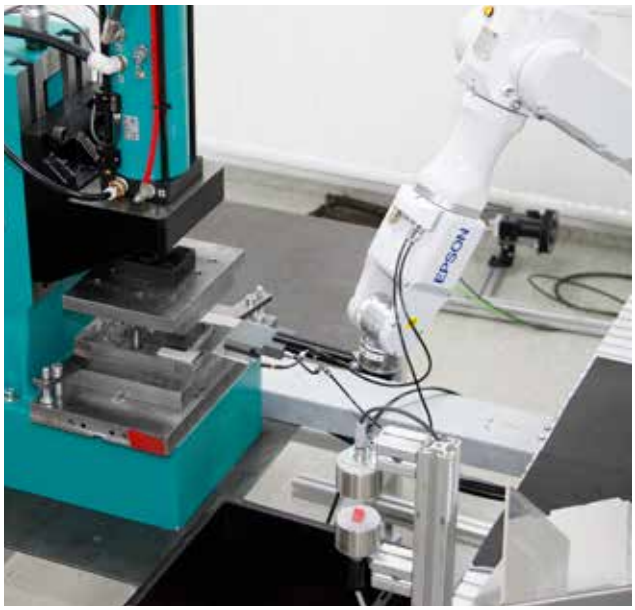


Module and product assembly

We offer both manual and semi-automatic assembly, as well as fully automatic customised assembly solutions.

Metal stamping, sheet metal forming, mechanical components

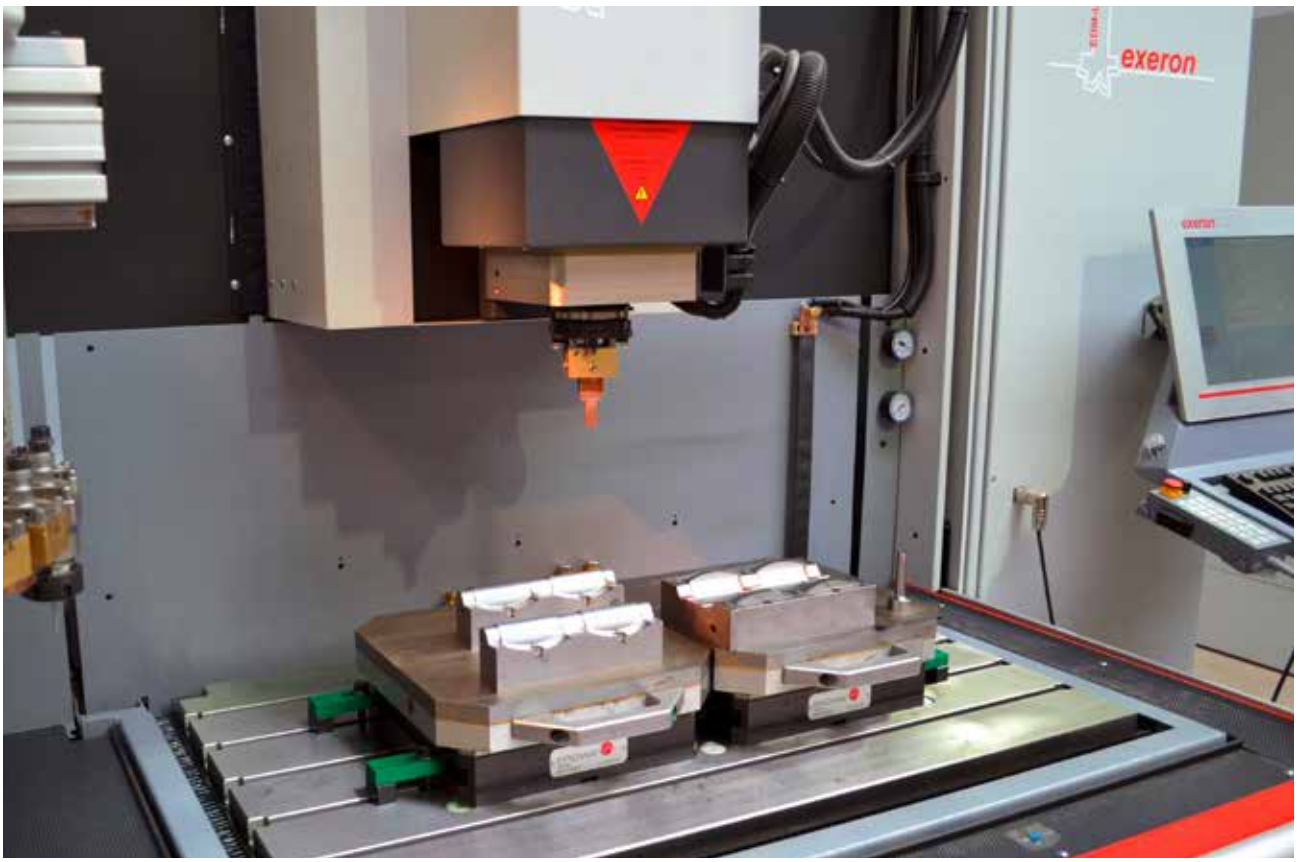
Sheet metal up to a material thickness of 2 mm can be machined in-house. The design and production of the sheet metal parts are carried out using modern stamping and bending techniques. Series parts can be also be produced on hydraulic presses.



Tool design and tool construction

By virtue of the several years of experience in the manufacture of plastic products for the sectors of consumer electronics, furniture, music and health care products, our affiliated company, TechniForm, is perfectly positioned to build extremely complex components and tools. The design team uses professional software, working in close collaboration with the tool making division.

The tool making division is equipped with modern machine tools. For example, this includes Exeron vertical eroding machines, Fanuc wire eroding machines and Hermle 5-axis milling machines. Peripheral machines such as grinding and lathing machines, as well as Zeiss measuring machines, round off the range of machinery.



Plastic injection moulding

The entire production division has, for several years, been specialised in the manufacture of housing parts to meet the strictest of requirements with regard to dimensional accuracy and surface quality.

The modern injection moulding production at TechniForm consists of 15 injection moulding machines with clamping forces between 50 and 750 tonnes. All injection moulding machines are equipped with linear or 6-axis robots to ensure the greatest possible efficiency and process quality. The material is fed automatically via a central drying and conveying system.

Ultrasonic welding

TechniForm uses ultrasonic welding units to assemble the modules. Compared to other processes, ultrasonic welding is particularly well-suited, especially where short processing times with high process reliability are required, or when no other additives or solvents are to be used. Furthermore, ultrasonic welding is noted for quality, strength and the exact reproducibility of the weld seams.

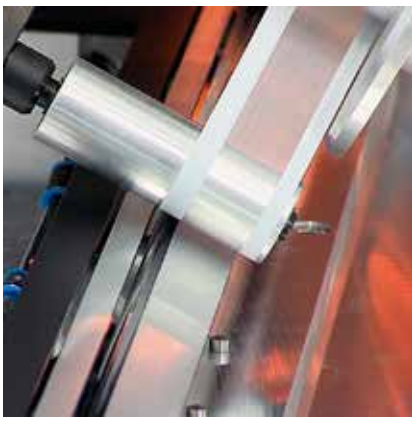
Robot-assisted module assembly

For automated production, a variety of 6-axis and linear robots can be used if required. In so doing, in addition to high production efficiency, reliable quality is also achieved and a high level of repeat accuracy ensured.

Through the use of modern camera technology, relevant quality criteria are already checked during the production process.

Finishing

The marketability of your product is significantly influenced by its appearance. That's why TechniForm places special emphasis on the visual appearance and initial impression that your product makes on the customer.



Painting

With its fully automatic surface painting system, TechniForm is able to paint your components efficiently and in an environmentally-friendly manner, to an excellent quality of finish. Both water-based and solvent-based paints can be used.

Printing

Using modern, digital direct printers, we can apply and perfectly reproduce any digitisable prints on your product, such as motifs, photos, graphics, logos, lettering and the like. Moreover, pad printing is used for precise printed images in large batches.

Hot stamping

TechniForm offers the hot stamping process to give your plastic components a special finish. This involves using pressure and heat to apply a stamping foil, which can feature both metallic (e.g. chrome) and organic (e.g. wood) structures, onto the painted plastic article that is to be decorated. This type of finish offers an excellent alternative to laborious chrome or wood applications.

Storage

TechniSat's central warehouse is located in the customer and logistics centre in Daun, Vulkaneifel. In addition to this, there are many other storage facilities at the various production locations, which have additional storage space for several thousand pallets and are adapted to specific requirements. Consignment and long-term storage is also possible.

Logistics

As an international EMS service provider, we fully cover your logistics requirements and will create an economical and individual logistics strategy with you for your internal and external logistics processes. We have adequate storage capacity in both central and decentralized locations and are pleased to fulfil individual customer requirements.

Comprehensive service

Product and process quality is, of course, structured in such a way that product failures are ruled out as far as possible. However, if complaints are received regarding parts, we also offer an appropriate after-sales service. If you wish, this can include a carefree package, which ranges from the handling of return shipments and the product-specific analysis of customer complaints and guarantee inspections, right up to repairs or the processing of faultless goods to produce new goods by our experienced team of electronics experts.

Environmentally friendly production

The TechniSat Digital Sp.z o.o has been awarded by the AURAEKO Organisation as „environment-friendly company".

Environmental conservation is of ever increasing importance nowadays, with many people interested in making the world a little "greener". As a multinational corporation, we at the TechniGroup are acutely aware of our responsibility to the environment and to society and have made protecting the environment one of the pillars of our corporate philosophy. Because of this we make every effort to realise the whole supply chain from the development to the production as environmentally friendly as possible and to achieve consistent cuts in energy consumption by our devices.

One aspect of environmentally friendly production involves eliminating all lead from the production of devices and using only solvent-free coatings and water-based dyes.

Social commitment

TechniSat is committed to the people in the regions in and around its locations. We support societal, cultural and social institutions and actively incorporate workshops for physically, mentally and psychologically impaired persons into the manufacturing process. The workshops are certified in accordance with DIN EN ISO 9001 and carry out some of the equipment assembly. The people are grateful for the fact that they can participate actively in working and thus social life; their thanks is expressed in their careful and precise work.

These workshops for people with disabilities make an outstanding contribution to society with their work, but they are also sustainable enterprises that need to find the correct balance between economic activity and humanity. The needs of the people in the workshops are unique, so processes need to be structured to be both suitable for the disabled and at the same time technically advanced. Quality tests at the end of assembly indicate that this concept is a great success. Several hundred people work in this way for our group and thus find new perspective in their lives.

Our quality standards

Certified and partly location-wide quality management systems ensure that our high quality requirements are implemented. Quality policy is continuously monitored and, if required, is adapted to the requirements of the market and the customer. In order to ensure the highest possible product quality at all levels we carry out ongoing internal process audits with the aim of continuous process optimisation. In addition, regular process audits are carried out in close collaboration with customers.

Experiences gained from continuous investigations into product and process capability are immediately incorporated into production. Continuous process optimisation and a correspondingly high level of automation have permitted us to achieve extremely high productivity and efficiency.

Our expertise in detail

DESIGN & TOOL MAKING
3D design with SolidWorks Professional
Injection moulding design with the iMold add-on application (for SolidWorks)
CAM with WorkNC for 3-axis and 5-axis milling
Automated erosion with exoprog in combination with Zeiss DuraMax measuring equipment

SMD & THT FLAT MODULE ASSEMBLY
10 mounting lines for sample, small and large series
Pick & place capacity: > 5 billion components p.a.
Component sizes ranging from 01005 to 130 mm x 79 mm
FinePitch-QFP's, µBGA and many more.
Printed circuit boards in sizes from 50 mm x 25 mm (2 × 1") up to 800 mm x 460 mm (31.5 × 18.11")

OPTICAL TEST PROCEDURE
Automatic Optical Inspection (AOI)
3D solder paste inspection
Lighting tests, display tests

ELECTRIC/ELECTRONIC TEST PROCEDURE
In-circuit test
Boundary scan
Functional tests

ADDITIONAL TEST PROCEDURES
Screening and testing under extreme climatic conditions in the "climate cabinet"
Endurance tests
Various functional tests, etc.

Everything from a single source

TechniSat Digital GmbH, Düsseldorf:

In the Autumn of 2016, our representative office was opened in the historical „Dreischeibenhaus“ in the regional capital of Düsseldorf in North Rhine-Westphalia. Düsseldorf is also the base for the EMS project team, which coordinates the acquisition, planning and production of OEM projects.

TechniSat Digital GmbH
Daun/Vulkaneifel

TechniSat Vogtland GmbH,
Schöneck/Vogtland

TechniSat Teledigital GmbH,
Service Center, Staßfurt

Taishangda Electronics Co.,
Ltd. Shenzhen, China

TechniSat Digital Sp.z o.o,
Oborniki, Poland

TechniSat Digital Kft.
Abasàr bei Budapest,
Hungary

TechniForm

TechniForm GmbH is a company within Techniropa Holding, a group of successful companies that also includes TechniSat Digital GmbH. The company, which has its headquarters in Nerdlen (Vulkaneifel) is an innovative plastics company with its own tool making and design department as well as in-house parts manufacturing, finishing and robot-assisted module assembly.

History

01.09.2009
Launch of the production of housing parts using the injection moulding process with three injection moulding machines.

2010
Expansion of production for the Consumer Electronics (CE) sector. By the end of 2010, expansion to five injection moulding machines.

2011
Expansion of the production area (rental of a neighbouring hall) by 800 m2, to 1600 m2. Acquisition of four additional injection moulding machines.

2012
Expansion of the production depth through the relocation of the painting and printing divisions from the sister plant in Oborniki to Kelberg. Acquisition of another injection moulding machine (amounting to a total of ten injection moulding machines with clamping forces ranging from 70 to 300 tonnes).

2013
Start of production for the automotive sector. Production of radio head units.

2014
Planning and setup of our own production halls in Nerdlen. In December, launch of production with the first test runs.

2015
Completion and full commissioning of the new site in Nerdlen.

2016
Expansion of the production capacities with a 400 tonne injection moulding machine, as well as in the areas of pad printing, ultrasonic welding and robot-assisted module assembly. Expansion into the furniture and health care sector.

2017
Expansion of the machine park to include 15 injection moulding machines with a clamping force of between 50 and 750 tonnes, as well as ten 6-axis robots and eight linear robots for automated module assembly. Processing of the first orders for the music industry.

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