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## OUR SERVICES

**EVERYTHING YOU NEED FOR  
YOUR OPTIMAL SOLUTION**



### **CONSULTATION**

Looking ahead and deciding



### **DEVELOPMENT**

Well-designed at every step



### **QUALITY MANAGEMENT**

Quality through structure



### **VALIDATION**

Making products fit for use



### **IMPLEMENTATION**

From the idea to production



### **LOGISTICS**

The right place at the right time

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# ELEKTROSIL

## THREE PERSPECTIVES, ONE FOCUS: EVERYTHING UNDER A SINGLE ROOF

**Elektrosil is ready to be your partner for all aspects related to the development and production of custom built electronic and electromechanical applications, components and systems.**

Our services allow us to offer you three intriguing perspectives in this area from a single source:

We develop and produce components in every product area related to the company. We are more than familiar with the needs of a wide variety of industries. Finally, our range of services makes us ideally suited to deliver a product that meets your requirements.

### **A One-stop Company**

This wide spectrum enables us to assist you throughout the entirety of your project. Our experts will guide you through each stage from the first idea to production and logistics.

In short, when it comes to project execution, you'll find all our services under the same roof and tailored to your individual needs.



PRODUCTS

SERVICES

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# CONSULTATION

## THE RIGHT PLANNING FROM THE START

**Your ideas are in good company with us. No matter what project you have in mind, Elektrosil can quickly demonstrate the feasibility of making your idea a reality. Our team of experts is well acquainted with each phase of the product development process. Planning, development, implementation, quality management, validation and logistics: we provide all around consultation.**

### Expert Consultation

Our specialised product managers can advise you on the following product areas:

- Drive Technology
- Displays Touch
- Embedded Systems
- Keypads
- Cooling Solutions
- Thermal Printers
- Power Supplies
- Connection Technology

### Advice on Choosing Manufacturers and Design

Every project offers several options when it comes to executing the design and the choice of manufacturer. Keeping this in mind, we advise our clients on matters of quality and profitability, and how they relate to the client's own preferences.



### HOME APPLIANCES

#### Precise Temperature Measurements for the Perfect Roast

A precise meat thermometer provides the information necessary to guarantee the perfect roast every time. Working for a premium line of ovens, Elektrosil developed an innovative add-on for efficient temperature measurement.

Find out more about this project at:  
[www.elektrosil.com/en/thermometer](http://www.elektrosil.com/en/thermometer)

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## DEVELOPMENT

# ENGINEERING PARTNER FOR PRODUCTS AND APPLICATIONS

**Our developer teams provide interdisciplinary expertise and a commitment to innovation and smart solutions. That is how we manage to translate our combined know how into highly integrated components, applications and systems.**

**As a development partner, we guide our client through every project phase with a short time to market. You'll be able to count on assistance in the following development areas:**

### Software

We develop software that matches the hardware as closely as possible. Our priority areas are control regulation, interfaces, engine control and embedded systems. Our experts are proficient in current requirements, such as Automotive SPICE.

### Hardware

We create electronic and electromechanical hardware components for all of our product areas. Examples include PCB layouts, circuitry and EMC shielding.





### **Simulation**

From strength levels to currents, from circuitry to entire factory processes: we use simulations to predict and test certain relationships at an early stage of development.

### **Tool Construction**

If necessary, we develop new manufacturing tools, because implementing some product ideas is not possible, or only partially possible, with existing standards.



### **Construction**

We prepare drafting, as well as 2D and 3D processes, for mechanical construction using AutoCAD and CATIA V5 software.

### **Prototype Construction**

Our engineers create prototypes in mechanical and electronic workshops, and can carry out all relevant tests.



## **AUTOMOTIVE** **The Perfect Car Seat** **Temperature**

The hot summer sun makes drivers dream of proactive seat temperature control. Elektrosil developed high performance ventilation modules for Volkswagen car seats.

Find out more about this project at:  
[www.elektrosil.com/seat-climate](http://www.elektrosil.com/seat-climate)

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# QUALITY MANAGEMENT

## WELL-DEFINED PROCESSES FOR EACH PROJECT

**Getting results is what makes us tick. That is why our top priority is the quality of our services, products and processes.**

**For you, this means traceability at every step, manufacturing in accordance with current standards and quality management following ISO 9001:2015 at our European locations. In Asia, we work closely with our providers as a Supplier Auditor under VDA 6.3 and IATF 16949.**

### **Reliable Structure: Well-planned Development**

We carry out a requirements analysis based on systems engineering for the development of complex products. This allows for proactive and cost effective planning. We use this analysis to form an expert team that works with you towards a well designed, verified solution. Once the prototypes are accepted, series production can begin.





### **Resilient Preliminary Planning: the Requirements Analysis**

We take preliminary planning seriously: we analyse all the factors that affect product manufacturing, which can be interrelated and are extremely heterogeneous. There are internal factors that result from the product's desired attributes, and external factors such as technical requirements, ethical guidelines or standards. As long as all parameters are incorporated in a manner that suits the task, the iterative analytical process leads to the definition of the system requirements.

### **Transparent Implementation: Requirements Management**

With the system requirements laid out in the product brief and specifications sheet, the project can begin. Our requirements management seeks to ensure a process that transparently tracks any changes. This is a safeguard for you and for us, and forms the basis of lean development.

### **CONSTRUCTION MACHINERY INDUSTRY**

#### **Precise Control Despite Dirt and Work Gloves**

Industrial controllers perform under the toughest conditions: Elektrosil's keypads control machines on the construction site or offshore while protecting the electronics from oil, chemicals or water.

Find out more about this project at:  
[www.elektrosil.com/](http://www.elektrosil.com/)  
**industry-keypads**

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# VALIDATION

## PROFESSIONAL PRODUCT TESTING AND APPROVAL

**Avoid unexpected delays, prevent added costs, ensure workability and build trust in your brand: expert validation offers you a wide array of benefits. That is why we offer all the necessary validation processes for your development quick, convenient and under one roof.**

### Product Inspection Tests

- Noise measurements acc. to DIN 70713
- Electromagnetic compatibility (EMC) assessment:
  - Product EMC and electrostatic discharge using the latest standards, including the factory standards of leading European car manufacturers
  - Testing acc. to ECE R10
  - Emitted interference acc. to CISPR 25
  - Interference immunity acc. to ISO 11452
  - Pulses acc. to ISO 7637
- Optical 3D measurement
- Service life and endurance life testing: low and high temperature operation, continuous load and mechanical shock trials
- Electrical testing acc. to LV124, DIN VDE and UL
- Air performance measurement using electrical, mechanical and fluid mechanical analyses





### Validation Equipment

Proactive testing goes hand in hand with proactive development. Our in house experts provide the tools for both of these:

They measure and test product functions in private laboratories with nearly all the devices needed to test individual parameters using specially developed testing strategies. Meanwhile, our specialists in software, hardware and prototypes work with various advanced layout, evaluation and compiler tools.

### Product Certification

Components and assemblies are subject to country specific and international requirements: we can manage certification processes, including those of VDE, TÜV, UL, CSA and many other bodies.

### SMART HOME INDUSTRY Current for Home Intercom Systems

Good power supply units for bell systems offer high performance and secure operation. Ready to install and developed for minimum space requirements, Elektrosil developed the core element for these systems, including international approvals.

Find out more about this project at:  
[www.elektrosil.com/intercom](http://www.elektrosil.com/intercom)

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# IMPLEMENTATION

## YOUR FIRST CHOICE FOR EVERY STAGE OF PRODUCTION

**At our virtual factory, we produce applications quickly using a holistic, manufacturer independent approach, while practical best cost approaches allow us to achieve profitable implementations with solid partners in different geographies. Furthermore, we coordinate every process as requested, from sample construction to approval and just in time manufacturing.**

### Construction of Samples and Prototypes

During development, we can provide you with fast and functional product samples. This phase ends with the construction of a prototype.

### Series Production

We offer series production with individual quantities and, on request, ensure the proper certification of your product during the validation process.

### Assembly

As an option, we can assemble components and devices in SMD or wired technology. Furthermore, we also implement automated final assemblies, including testing.

### Supply Chain Management

The best possible distributor will be at your service for perfect delivery logistics. We ensure this through regular distributor visits, comprehensive monitoring and clear controls.

### AVIATION

**Secure intercoms at 10,000 meters**

No lift off without reliable communications technology: speech devices on aircraft cannot fail. An intelligent keypad solution from Elektrosil makes on board telephone systems more reliable.

Find out more about this project at:  
[www.elektrosil.com/flight-intercom](http://www.elektrosil.com/flight-intercom)



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# LOGISTICS

## JUST IN TIME DELIVERY AND RELIABLE SUPPLY

**Our logistics approach is based on two focal areas: Just in time delivery and reliable supply of products. Everything should be done quickly and cost effectively, supporting the product supply chain as effectively as possible.**

Kanban resource planning makes manufacturing more efficient. Using Ship to Line, we get products directly to where they are needed. Our consignment warehouses guarantee maximum security of supply, organised according to the Min/Max inventory method.

Additional services include enhanced incoming goods inspections and optimised packaging that ranges from EST to bar codes and personalised kitting. Our clients have the option of billing services using self invoicing procedures.



### **SECURITY INDUSTRY** **Embedded Know How for** **Hand Vein Scanners**

At high security facilities, biometric systems that use hand vein samples for identification help ensure the highest degree of reliability for access control. Elektrosil's comprehensive consulting and logistics guaranteed optimal hardware connections for these devices.

Find out more about this project at:  
[www.elektrosil.com/hand-scanner](http://www.elektrosil.com/hand-scanner)



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## CONTACT

# WE LOOK FORWARD TO HEARING FROM YOU

**Under the umbrella of the Elektrosil Group of Companies, we produce electronic and electromechanical solutions for a wide variety of product areas and industries. We are able to do this thanks to our extensive service offer, which always seeks to make things convenient for our clients:**

**Everything under one roof, ready to install on delivery, short time to market. Do get in touch with us.**

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