

ENGINEERING ANSWERS



PCB design – for special requirements.  
Reliable, supplier-independent, cost-effective.



PCB DESIGN

LOWEST PRODUCT COSTS  
THANKS TO INTELLIGENT  
DESIGN.

## PCB DESIGN

Do you value a PCB design that provides you with a highly reliable product and can be produced independently of vendors at the lowest possible cost?

**Then you have come to the right place!**

"Design to manufacturing, cost and reliability" are not just buzzwords for us. On the basis of the globally recognized IPC standards (Association Connecting Electronics Industries, formerly the Institute of Printed Circuits), we not only view a PCB design as an overarching goal but also take into account the producibility levels to describe an essential measure of complexity and producibility independently of the manufacturer.

In-house assembly production, which covers the full range of manufacturing quantities and variations, also provides us with enormously important practical insights.



The image features a glowing green circuit board with intricate patterns of traces and components. The board is angled upwards from the bottom left towards the top right. Overlaid on the board is a list of design goals in white, sans-serif text. The background is a dark grey gradient with several bright, white, curved light streaks that create a sense of motion and technology. The overall aesthetic is futuristic and high-tech.

high density package  
high current  
design to cost  
analog, digital, hybrid  
design to reliability  
highspeed  
design for manufacturing  
design for test  
EMC  
design to test  
living Dfx competitive

PCB DESIGN

EXPERIENCE AND  
INNOVATION FOR  
OPTIMUM SOLUTIONS.

## PCB DESIGN

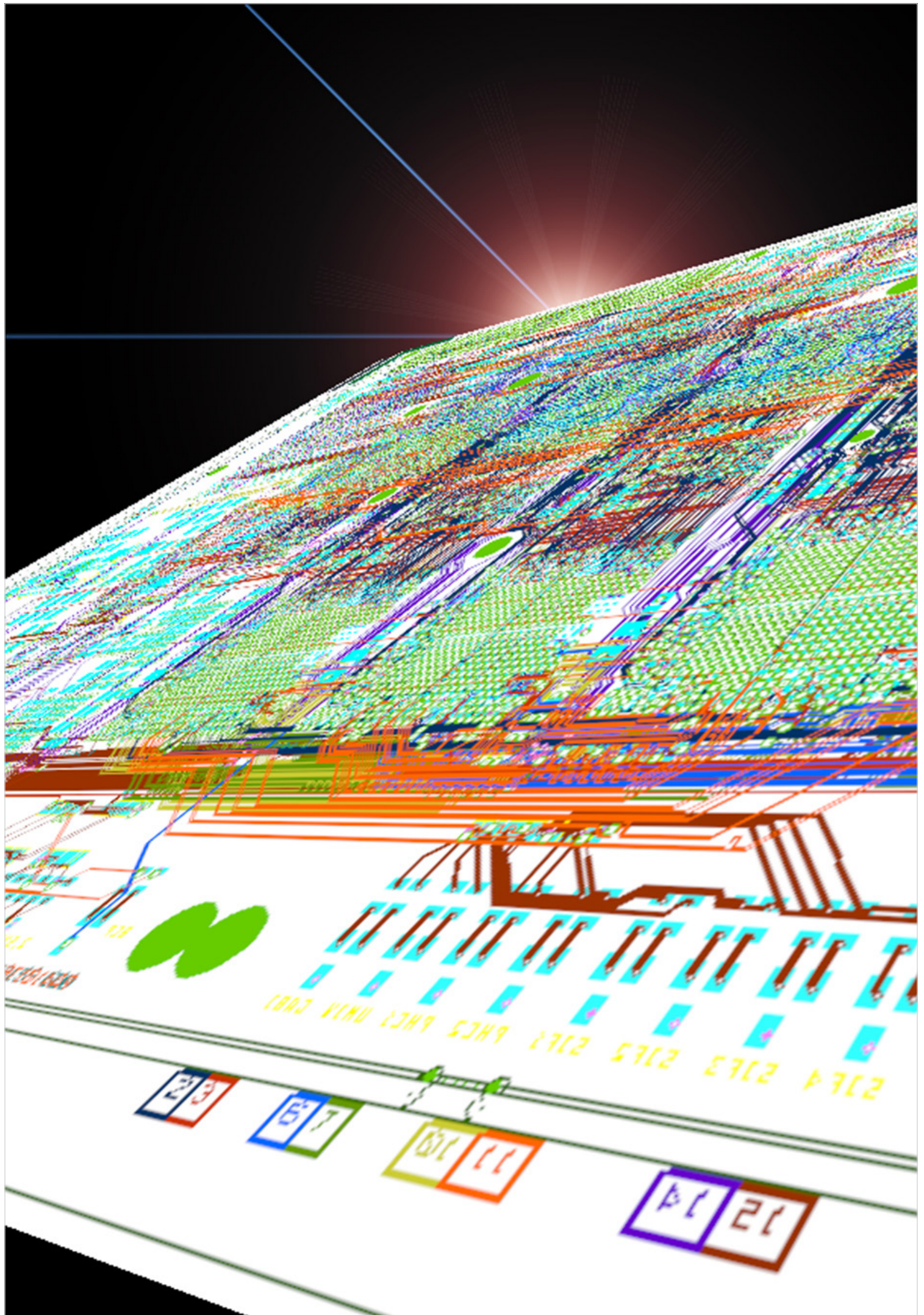
The experience gained from well over 100 new designs per year provides you with innovative ideas for optimum solutions.

Be it miniaturization, for example, or intelligent cost savings on a series product.

With our high-quality design tools from Mentor, we also realize functionally reliable high-speed solutions based on all printed circuit board technologies.

To ensure that your product can also be subjected to EMC and environmental compatibility testing right away, accredited in-house laboratories are available on our premises.





THERMAL ANALYSIS

LONG SERVICE LIFE  
THANKS TO THERMALLY  
OPTIMIZED DESIGN.

## THERMAL ANALYSIS

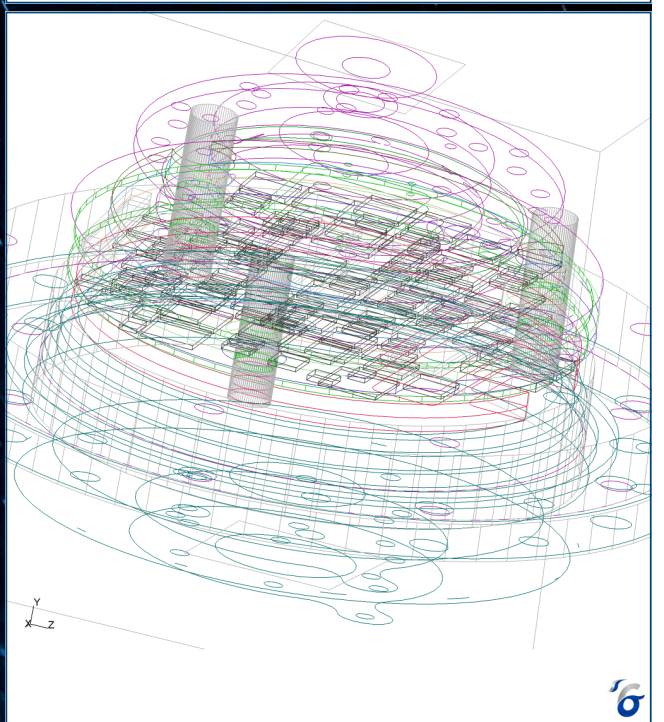
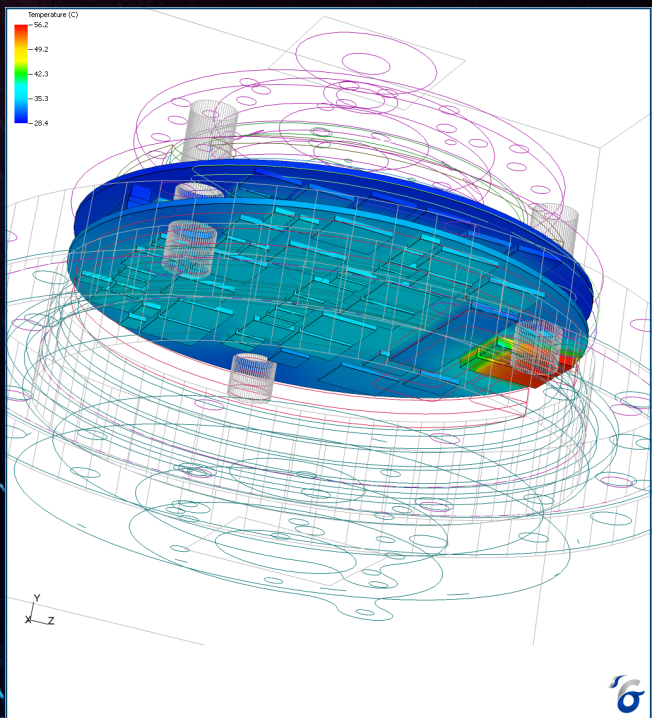
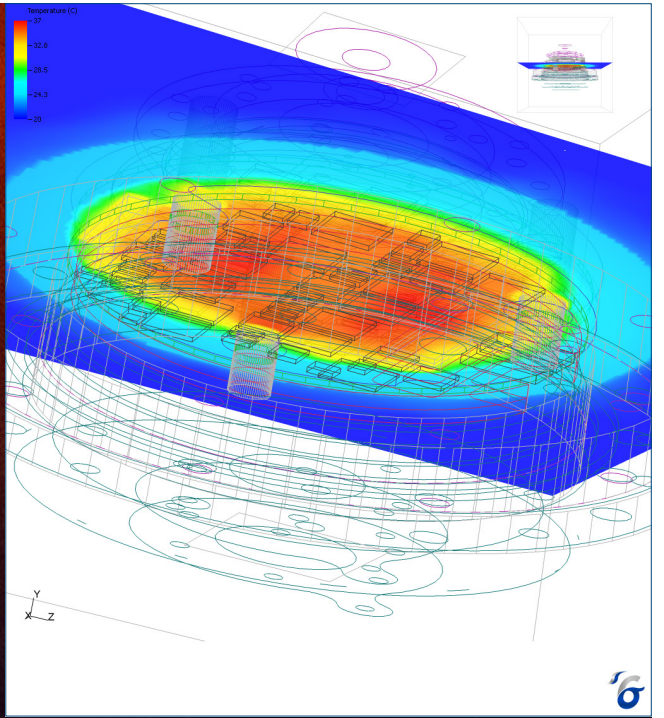
High packing densities and small form factors often provide decisive competitive advantages, but unfortunately also the risk of excessive temperatures.

The ability to have a powerful CFD tool (computational fluid dynamics, 6SigmaET) with an extremely effective interface to mechanical and PCB design data is an essential prerequisite.

Design supported by simulation helps to detect thermal problems at an early stage, and thus sustainably reduces the development times.

The decisive factor for success, however, is the expertise in cooling technology, which makes it possible to find truly “cool” solutions. Small details are crucial here, even if it is sometimes just the right surface of the housing.







3D CAD

CONSISTENT APPLICATION  
OF INSTALLATION  
SIMULATIONS LEADS TO  
DESIGNS WITH A PERFECT  
FIT.

## 3D CAD

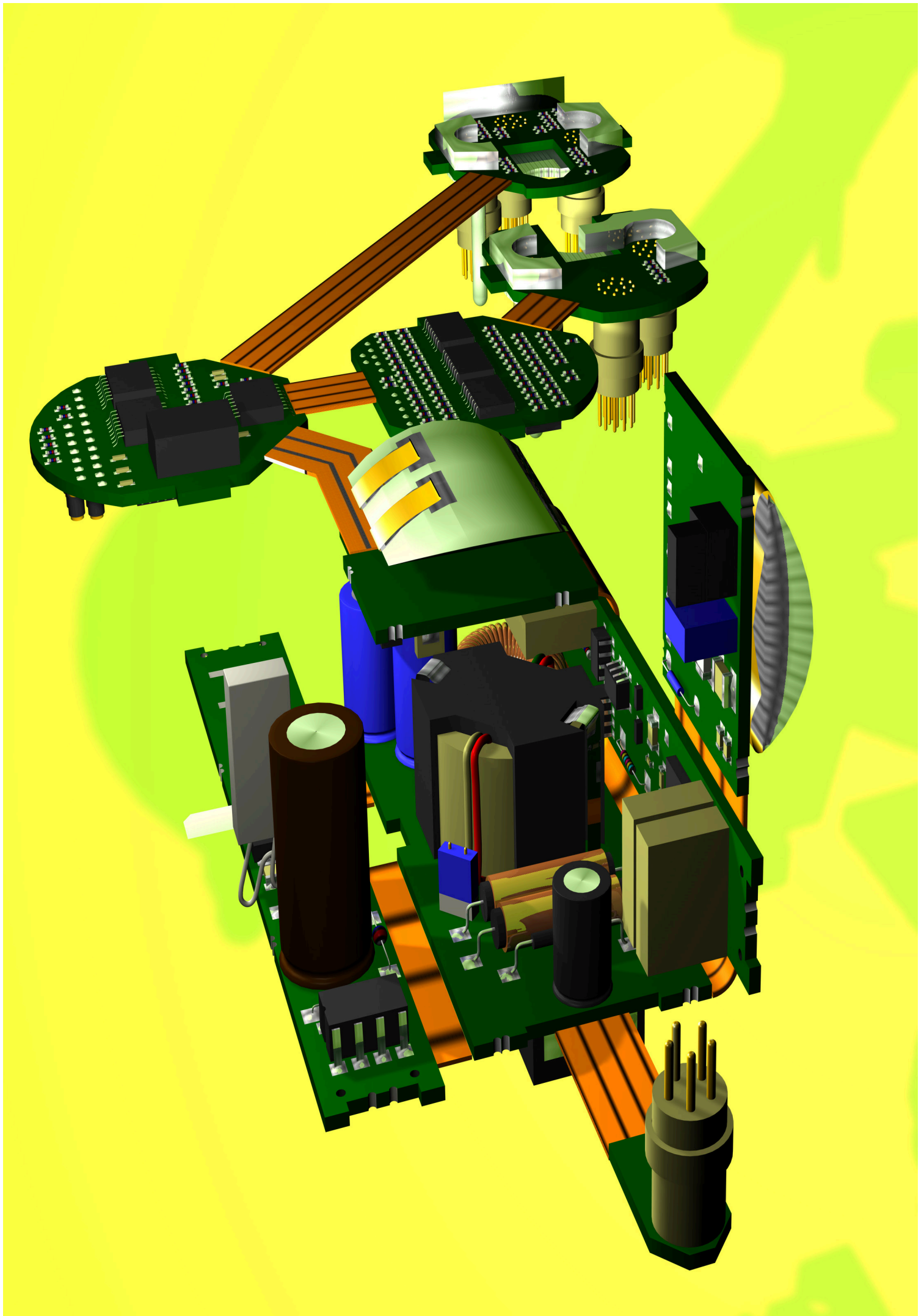
You may also have had the experience that an excellent solution has been found to solve a demanding design task, but unfortunately it did not fit into the housing during prototype assembly. Redoing the design costs time and money.

**That is why we have abandoned this approach.**

3D contour specifications as interfaces (housing data) are imported electronically and the processed designs are made available for the installation simulation as a mechanical 3D CAD model. This not only saves development costs and valuable resources through fewer redesigns, but also makes miniaturized designs with maximum packing density possible with the appropriate expertise.

The intelligent combination of mechanics and electronics guarantees highly integrated assemblies and devices.





ATLAS EMS

## COMPETENCE AND COMMITMENT FOR UNUSUAL SOLUTIONS.

“With difficult problems in particular, our customers expect innovative solutions. The bigger the challenge, the more they value ATLAS EMS as an initiator, pacemaker and reliable partner for the implementation.”

Christian Kramer, Executive Director of ATLAS EMS

Strong competition, a lack of innovative new products, and missing resources all make it difficult to achieve market success over the long term. Getting the know-how and support of a competent specialist is the most effective approach.

ATLAS EMS is a technology leader in the field of electronic engineering and manufacturing services. We work with companies who need solutions that are both innovative and economical and for whom “time to market” is a decisive factor.

Just imagine that you could boost your innovative power in a single step ...

- ◆ with the concentrated competence of more than 1,000 engineers, scientists and technicians for signal processing, sensor technology and ultrasound
- ◆ with access to state-of-the-art manufacturing technologies and testing facilities
- ◆ with systems that have to prove their performance under the most extreme of environmental conditions
- ◆ with a partner who has earned the trust of demanding clients worldwide over many decades

**Looking for unusual solutions to difficult problems?  
Time to talk to ATLAS EMS.**



ATLAS EMS

WELCOME TO A STRONG  
AND DEPENDABLE  
PARTNERSHIP.

ATLAS EMS is ATLAS ELEKTRONIK GmbH's competence centre for development, production and service, with headquarters in Bremen.

ATLAS ELEKTRONIK is a subsidiary of thyssenkrupp.

More than 1,000 specialists from a wide range of technical and scientific disciplines work together in safeguarding the quality and performance of our products – from design through manufacture and up to service – during the entire life cycle.

Our customers confirm that our support has been instrumental to them in reaching many of their goals.

Talk to our experts when you too want to achieve so much more.



## Contact

**ATLAS ELEKTRONIK GmbH**

**ATLAS EMS**

Sebaldsbruecker Heerstrasse 235

28309 Bremen | Germany

Phone +49 421 457-04

Telefax +49 421 457-3099

[info@atlas-ems.de](mailto:info@atlas-ems.de)

[www.atlas-ems.de](http://www.atlas-ems.de)



**ATLAS EMS**

Engineering and Manufacturing Solutions