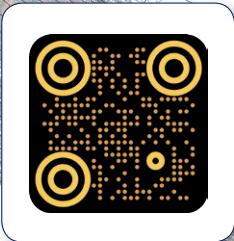
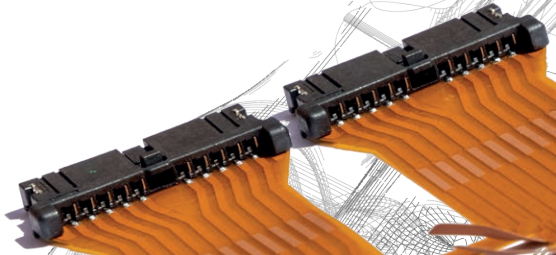




Printed Circuit Boards

e-mobility



**Cisel srl, a Leader Company in design  
and production of rigid and flex PCB  
with innovative technology,  
high quality standards  
& Made in Italy**

**e-mobility**



**HIGH TECHNOLOGY PRINTED CIRCUIT BOARDS PRODUCTION**

 **made in italy**

## THE MOBILITY IS CHANGING

From the first combustion engines, developed at the end of 1800s, we are today into hybrid engines, with the target to be very soon fully electric.

Starting from 2035 carmakers will no longer be able to sell combustion engine cars.

Consequence is, the demand for battery packs is constantly growing and Cisel is already supporting this epochal change.

The request from the market is to have FLEX PCB as big as possible to connect the Bus bar for the interconnections of the battery pack. These products have also the function to check and monitor the temperature, so the SMD components have to be assembled on the FLEX: NTC in particular, but also Fuses, Connectors and Metallic Welding Tabs.

Welding tabs can also be obtained directly from the tracks of PCB. But the real challenge is to produce FLEX PCB whose length exceeds two meters and which has to be assembled with SMD components.

Cisel invested in custom made production machines and SMD assembly lines to make this possible.

At CISEL we also offer cover coating on components with specific resin, Adhesive Tapes, Thermal pads and Stiffeners.



**FLEX PCB consisting of 1 pcb single side with soldered NTC + 1 pcb double side with welding tabs obtained from copper layer and accessible on both sides, both inserted into a housing by crimping contact, length 1500 mm**



**FLEX PCB one layer welding tabs obtained from copper accessible on both side for Bus bar connections NTC components**



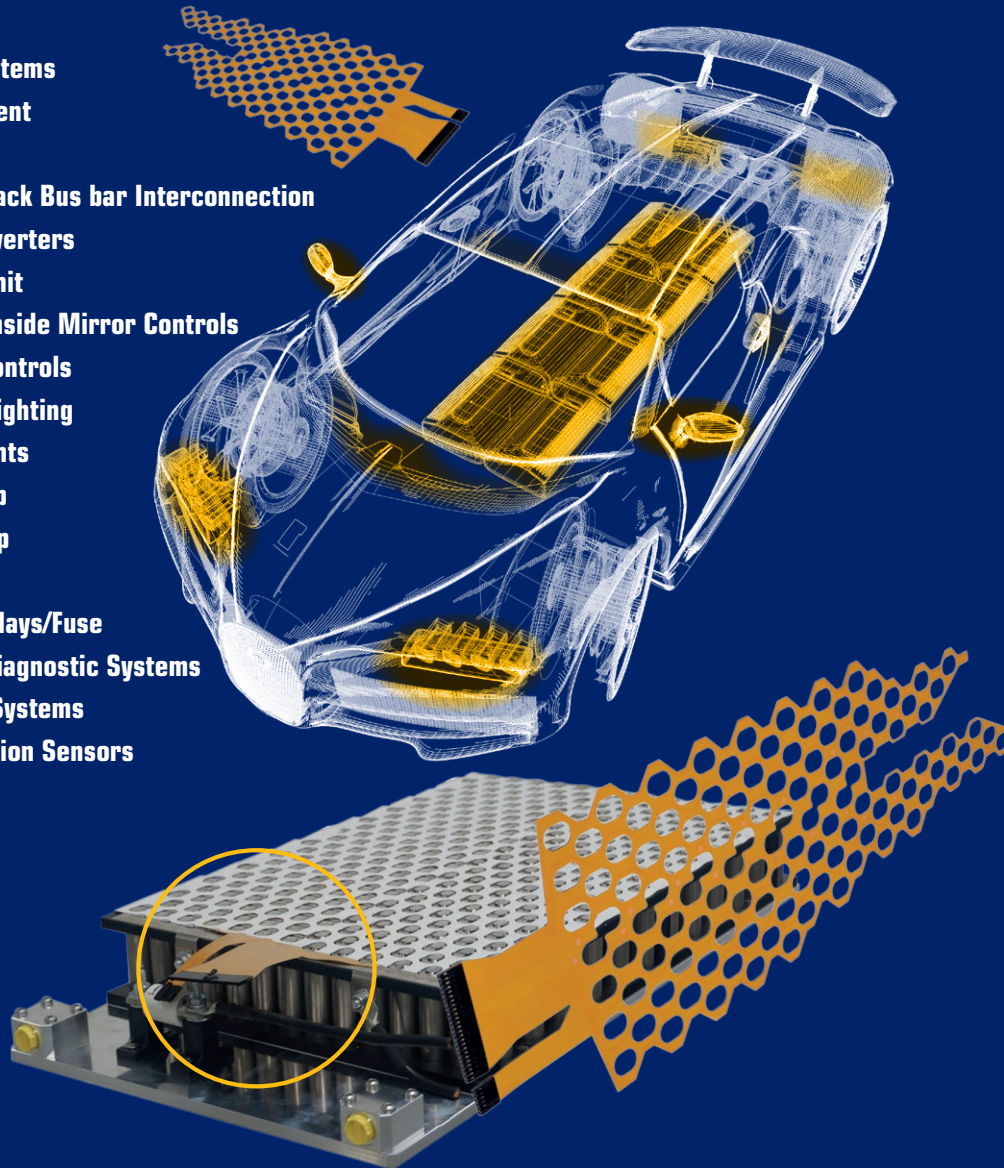
**FLEX PCB Single Side copper accessible for both side, SMD soldered with special connectors and NTC for Battery pack interconnection**

## Automotive Printed Circuit Boards Applications

Printed circuit boards are used in many ways in the automotive industry and have changed the way that people drive.

Examples of Automotive Printed Circuit Board Applications

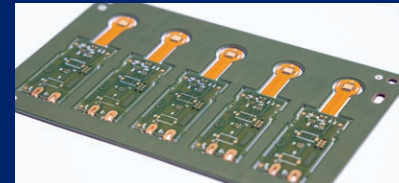
- Airbag
- Brake Systems
- Infotainment
- Antennas
- Battery Pack Bus bar Interconnection
- Power Inverters
- Control Unit
- Outside/Inside Mirror Controls
- Engine Controls
- Interior Lighting
- Brake Lights
- Rear Lamp
- Head Lamp
- DRL Lamp
- Power Relays/Fuse
- Remote Diagnostic Systems
- Security Systems
- Transmission Sensors



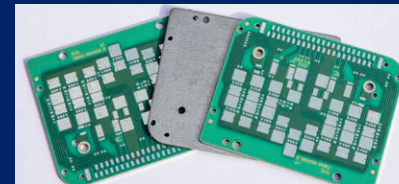
# e-mobility



In addition to the existing products, Cisel has developed a wide range of highly complex pcs, customized according to the Customer needs, using the most advanced materials and production technologies, and where necessary, creating customized machinery for the production in order to achieve the high technological and quality standards required, all made in Italy.



Starflex PCB 2 Layers for E-Bike

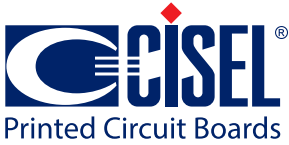


IMS Single Sided PCB for High power dissipation PCB for inverter



FLEX PCB single layer, length 1100 mm. soldered with NTC and Nickel Tabs

HIGH TECHNOLOGY PRINTED CIRCUIT BOARDS PRODUCTION



Cisel, an Italian company, leader in the design and production of quality and high-tech pcb.

Established in 1976, during the years, the company has developed a wide range of skills and know-how.

Thanks to its great experience gained in these years, Cisel is able to produce any type of printed circuits: single and double-sided with plated through holes - multilayer - aluminum (or metal core) - flex - star flex.

Cisel can supply PCBs with assembled components in SMD and THT technology.

Our products are widely used in many sectors, such as Automotive, Lighting, Industrial, Medical, Banking and Appliance.

Cisel installed the first production line for flexible PCB in 1984.

With six reel to reel production lines, Cisel is the European Leader manufacturer in this technology.

Over the last 30 years, the demand of the Flex PCB technology increased a lot. Sectors such as Automotive, Medical, Industrial & Lighting, have introduced these products more and more and Cisel is proud to have been pioneer and an integral part of this growth.

Today Cisel is able to offer the most advanced technology and is the ideal partner for all those customers that want to win the challenge in global markets through quality, competitiveness and innovation.



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