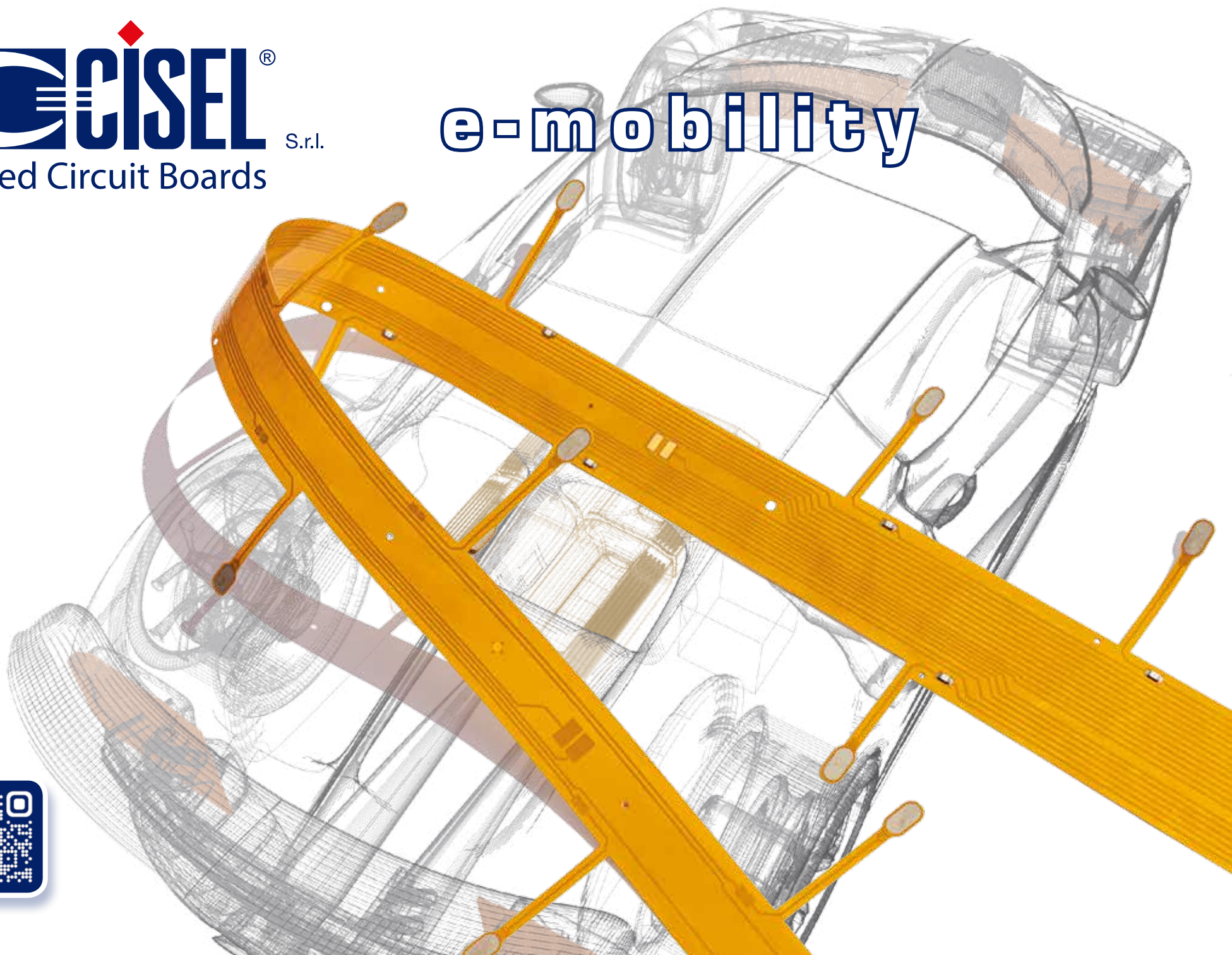


e-mobility



### ELECTRIC REVOLUTION

We are at the beginning of the “electric revolution” of the automotive industry.

The European Union has set itself ambitious goals to respond to the challenges posed by climate change and environmental impact.

As a result, manufacturers have brought forward innovative solutions in areas such as batteries, making electric vehicles a truly viable alternative for the first time.

There will be many challenges in the near future, and Cisel is ready to support this epochal change.

Thanks to years of experience and high technological know-how Cisel is able to assume a leading role in the “electric revolution” in progress.

The current market demand is increasingly large FLEX PCB for the interconnections for the battery pack.

These flex pcb have also the function of the temperature monitoring inside battery pack.

Hence the need to assemble SMD components on the FLEX, such as the NTC, fuses, connectors and metal contacts tabs, also with specific resins, adhesive tapes, thermal pads and reinforcements.

In particular, the metal contacts tabs can also be obtained directly from the copper traces of the PCB.

This solution has been developed by Cisel since several years and is already adopted by many customers.

Cisel has invested in customized production machines and SMD assembly lines; we can currently accommodate requests up to 1.8 metres.

Next challenge is to produce FLEX PCBs longer than two meters assembled with SMD components.



**FLEX PCB Double Side copper, with soldered Nickel Tabs and NTC integrated, length 2,3 meter**



**FLEX PCB Double Side copper, with soldered NTC, tabs obtained by copper open top and bottom side, THT connectors**

## Pcb Technology

FLEX PTH-IMS MLB RIGID FLEX SINGLE SIDE



**HIGH TECHNOLOGY PRINTED CIRCUIT BOARDS PRODUCTION**

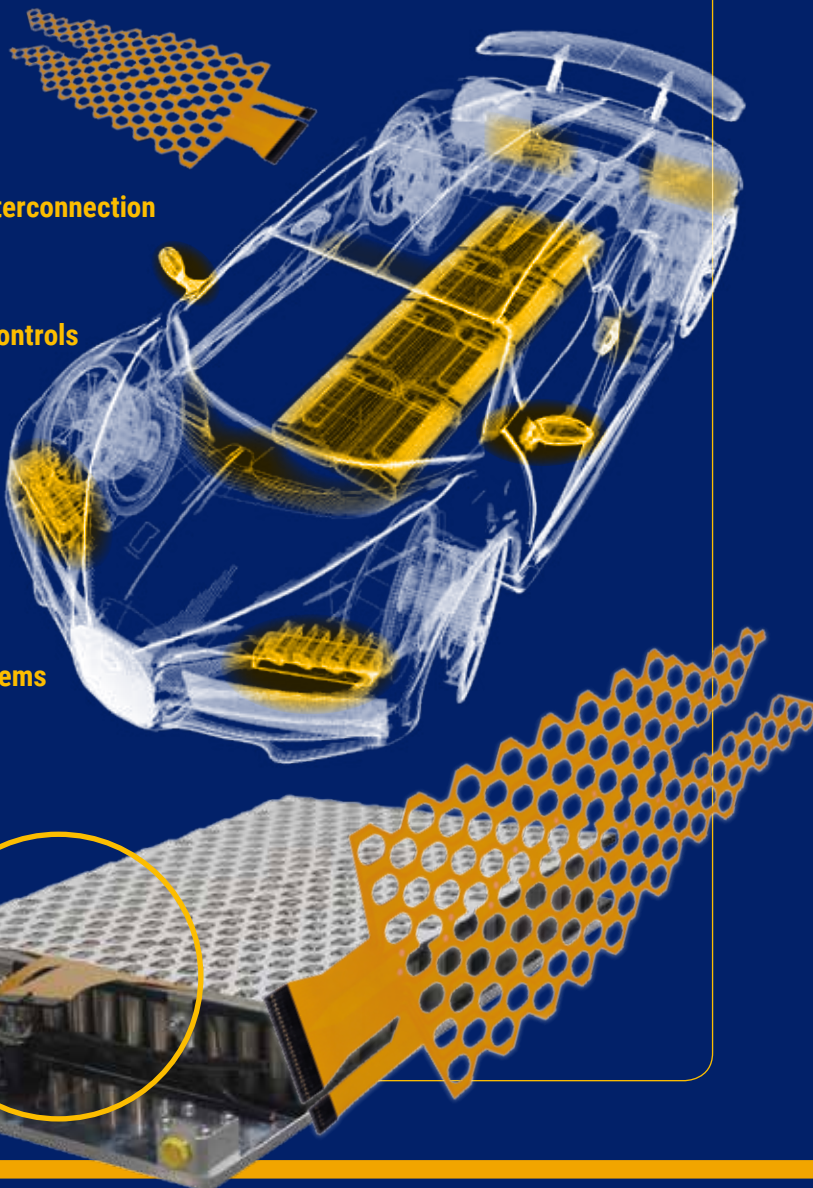


# Automotive Printed Circuit Boards

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

## 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 pcbs, 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.



**FLEX PCBA** one side layer welding tabs obtained by copper, accessible from both side Connector and NTC SMD soldered



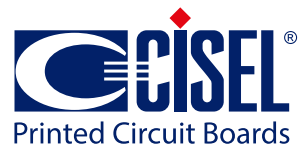
**FLEX PCB** single layer, length 1100 mm soldered with NTC and Nickel Tabs



**Heater** Single side with soldered NTC for battery pack thermal management

**HIGH TECHNOLOGY PRINTED CIRCUIT BOARDS PRODUCTION**

 made in italy



Cisel, an Italian company, is a leader in the design and production of high-quality, high-tech PCBs. Established in 1976, over the years, the company has developed a wide range of skills and know-how.

Thanks to its extensive experience gained over the years, Cisel is capable of producing various types of printed circuits: single and double-sided with plated through holes, multilayer, aluminum (or metal core), flex, and star flex. Additionally, Cisel can supply PCBs with assembled components in SMD and THT technology.

Our products find applications in diverse sectors including Automotive, Lighting, Industrial, Medical, Banking, and Appliances.

Cisel installed the first production line for flexible PCBs in 1984. With six reel-to-reel production lines, Cisel is the leading European manufacturer in this technology.

Over the past 30 years, there has been a significant increase in demand for Flex PCB technology. Sectors such as Automotive, Medical, Industrial, and Lighting have increasingly adopted these products, and Cisel is proud to have been a pioneer and integral part of this growth. Today, Cisel offers the most advanced technology and is the ideal partner for customers aiming to excel in global markets through quality, competitiveness, and innovation.



**CISEL S.r.l.** Via della Stazione, 50 – 60022 Castelfidardo, Ancona – ITALY  
e-mail: [sales@cisel.it](mailto:sales@cisel.it) – phone: +39 071 781393 – Fax +39 071 781853

**[www.cisel.it](http://www.cisel.it)**