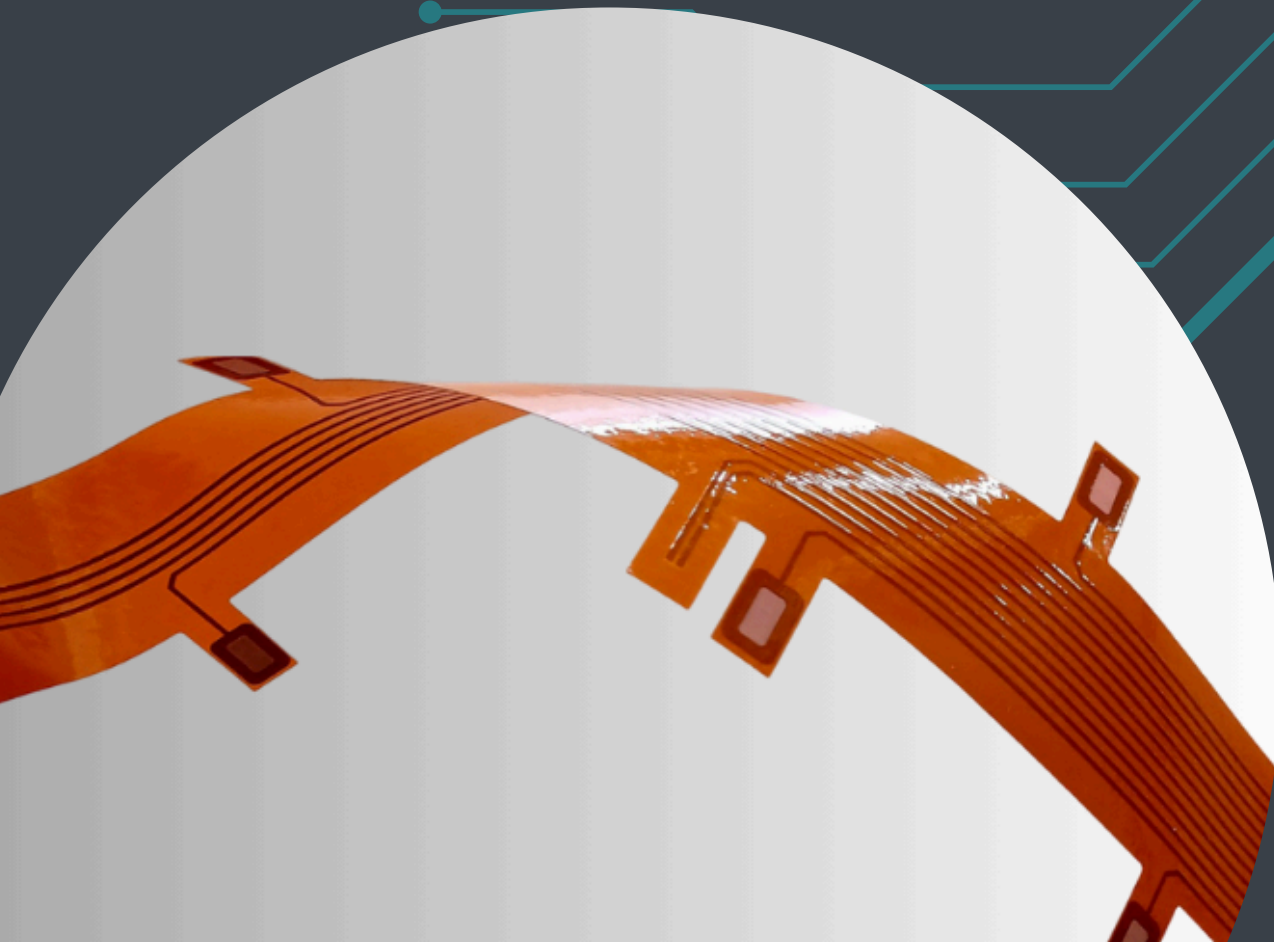


# Silga custom solutions for batteries

## Gigaflex

FPC for sensorized battery connection



# Flexible Printed Circuits for batteries

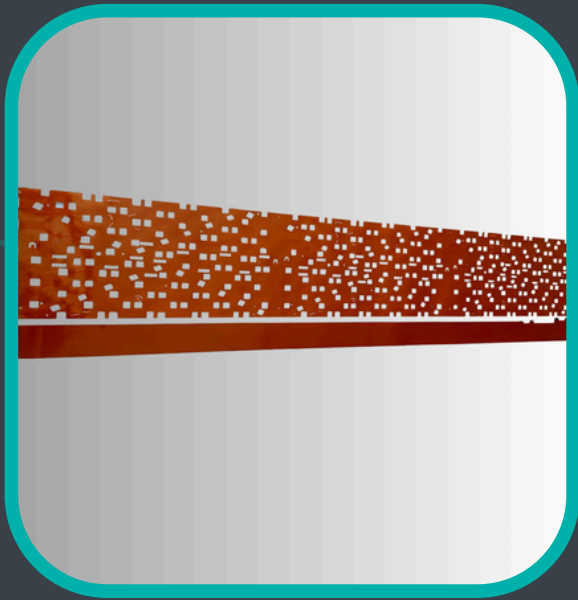
Smart solutions for the sensorized connection of battery modules to the BMS in e-vehicles.

This solution allows the drastic reduction in the dimensions of the connecting systems for batteries, removing any form of bulky wires.

In this way, FPC for batteries becomes the perfect mix between **connectivity, performance** and **lightness**.



# Capabilities & Special features



Silga can realize Gigaflex long:

- over 1000 mm
- over 2000 mm



Gigaflex can present special features such as:

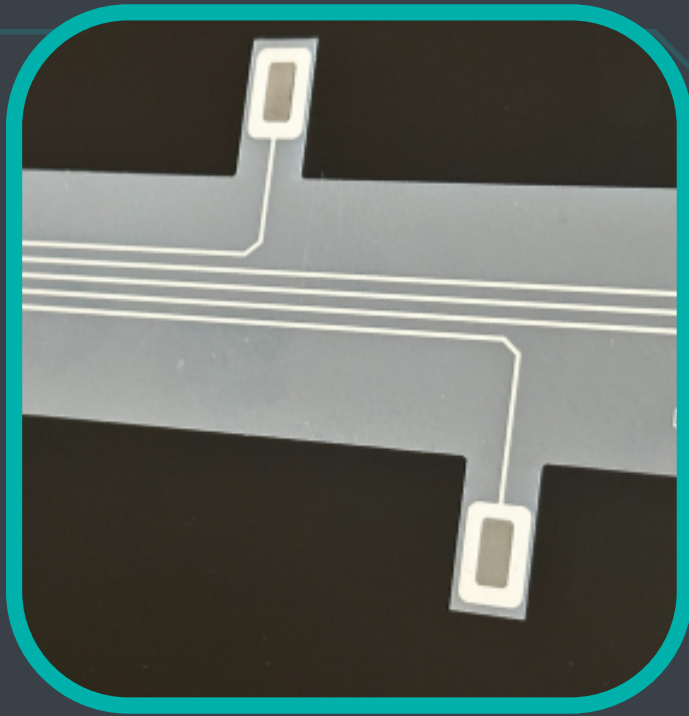
- Dual access copper (no nickel tabs needed)
- Potting & conformal coating
- RA copper
- Integration between busbar and FPC

# Custom R&D projects

Silga's Gigaflex customization includes **IMS** for the **thermal management system**, solutions for the connection **among FPCs** and modular integration among the **busbar and the FPCs**.

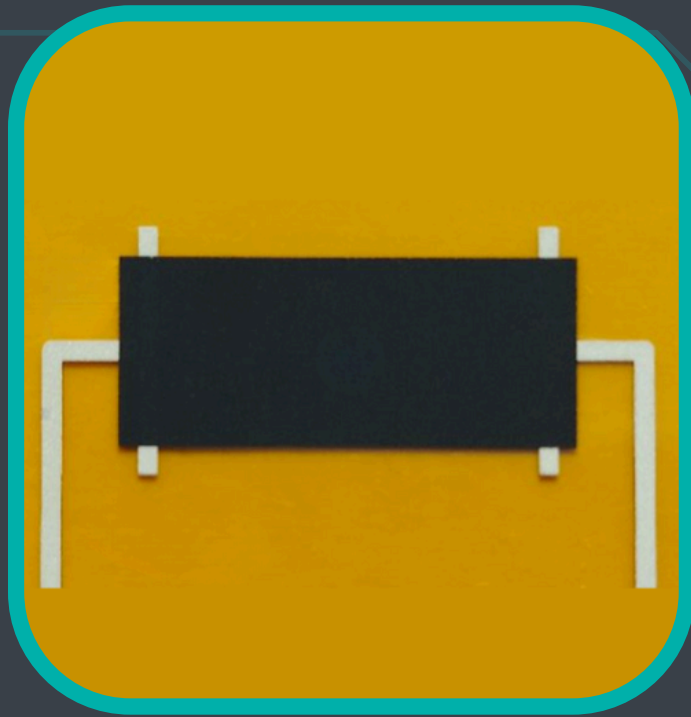


# Surface treatment on Aluminum



**100% Made in Silga** surface treatment on Aluminum to enhance its **connectivity** and allow the **welding** of Aluminum Gigaflex.

# Printed sensors integration



Gigaflex can include printed sensors for the efficient measurement of :

- Pressure
- Humidity
- Temperature
- Stress forces

# Base materials

	<b>POLYIMIDE</b>	<b>POLYESTER (PET-PEN)</b>
<b>THICKNESS (copper)</b>	17, 35, 70, 105 $\mu\text{m}$	17, 35, 70, 105 $\mu\text{m}$
<b>THICKNESS (substrate polymer)</b>	25, 50, 75, 125 $\mu\text{m}$	25, 50, 75, 125 $\mu\text{m}$
<b>MAX. OPERATING TEMPERATURE</b>	Standard: 125°-130°C Special 1: 130°-150°C Special 2: over 150°C	PET: 105°C PEN: 110°-115°C

# Processes

## PROTECTIVE OVERCOAT

- Liquid solder-mask
- Film coverlay

## SURFACE FINISHINGS

- OSP
- Electrolytic NiAu
- Immersion tin
- Electrolytic tin
- ENIG (only on Polymide)

## WELDING

- Laser
- Ultrasonic
- Infrasonic
- Electrodes

## ASSEMBLY OF COMPONENTS

- NTCs
- Connectors
- Fuses
- Stiffeners



# SILGA

Connect technology

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