



„My customer said:  
'1 cable for everything!'  
That's when I called  
Elektrosil.“

Payment by card places the highest security and resilience requirements of the technology used. Elektrosil developed a complex cable solution for reliably connecting.

### THE CHALLENGE

The client wanted to develop a single cable for all connections between the payment terminal and the point-of-sale system which represented the technological state of the art. As a heavy-duty application, it had to be robust as well as flexible: Integrated printed circuit board with COM, DC, USB, and LAN ports, one cable for all interface connections, high tensile loading capability and compliant with the food standards. It followed that standard products had to be modified and combined into a completely new, innovative product - with printed circuit board and dimensions as the only specific reference points.

### THE SOLUTION

The specialists initially concentrated on the dimensioning: They slimmed-down the individual cables, used smaller conductors and ensured thinner cable sheaths. The performance was maintained, even for gigabit transmission connections. Concerned about Resilience, the team designed a spiral cable for effective strain relief.

The cable experts decided to use polyurethane (PUR) as a superior material for the cable sheath. Due to the food standard, Halogen-free cables were required, and the use of PVC and plasticisers were prohibited. The engineers inserted the sensitive printed circuit board of the later expansion stage into a stabilising housing to protect it against the severe stress of insert moulding with PUR. The almost daily exchange enabled a targeted development, so that a new innovative product was created in more than 50 work steps.

### OUR STRENGTHS

- Interdisciplinary expertise in cable assembly, printed circuit board development and moulding of plastics
- Excellent long-term supplier relationships
- One-stop shop: From consulting to development and simulation to production and delivery

**Are you also looking for a custom-fit solution for your system and a competent partner? Then give us a call: +49 40 840001-0.**

**E** elektrosil



### Project information

- Client: A German financial service provider
- Project size: > 10,300 units per year, duration > 7 years
- Sector: POI/POS
- Product area: Connection Technology
- Services: Printed circuit board development, cable development, tool making for moulding, application consulting, assembly production

### Elektrosil's services

- Application consultation, development assistance, design-in support
- Quality assurance
- Engineering and production
- Completely customised applications

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