



glassfiber connection made easy.

HIGH-TECH SYSTEMS



CORE COMPETENCIES

1. Close cooperation with the customer
2. Many technologies integrated
3. Compact design
4. Robust tool
5. Easy to operate

Precision tool

Lightning-fast internet via glass fiber - that's what everyone wants. But one tricky point in roll-out is the manual connection of two fiber ends. That demands accuracy, takes time and requires skills. TE Connectivity developed a

connector that lends itself to automatic processing by a so-called Light Plug Tool. The development of this precision tool is a Demcon specialty. The project result is a robust, one-hand-operated Light Plug Tool.

Highly integrated, robust device

We love challenges like these. How do you integrate cutting, stripping, cleaning, cleaving, plasma treatment, inspection and connector placement into a handheld, one-hand-operated tool? Moreover, the tool had to be universally compatible with a variety of fiber-optic cable vendors. On top of that, the tool had to be very robust and easy to use. Close cooperation with TE Connectivity led to the desired robust design, resulting in high process yield, thanks to the use of the six sigma technique.

We built a test setup that allowed TE to validate all concepts and design proposals. The processes had to be robust without built-in checkpoints, as the tool lacked the space for that. Next phase: miniaturisation and simplification. Several prototypes were manufactured in-house, which TE Connectivity deployed for demonstration with customers. Last but not least, Demcon supported TE Connectivity subsequently with cost price optimization for series production.

Handheld factory

The number of different functions we integrated into such a small system was unprecedented. It resulted in a 'factory in a box'. Through this project, we gained a lot of experience with hand-held mechatronic devices. The same goes for the accuracy in fiber positioning. We control the tip's position at all times without (camera) vision technology. This might prove useful in medical applications, for instance with needle steering.

The analysis of suitable manufacturing techniques in close collaboration with TE Connectivity is a delivery from the European VECTOR (Versatile Easy installable Connector implementing new Technologies for accelerated fiber Optic network Roll-outs) project.

“an entirely new tool with many technologies integrated into it.”

