

Power-by-Light Systems

Compared to conventional power transmission via copper cables, both fiber-optic transmission (known as power-over-fiber) and free-space wireless optical power transmission offer significant advantages for specific applications or even make them possible in the first place.

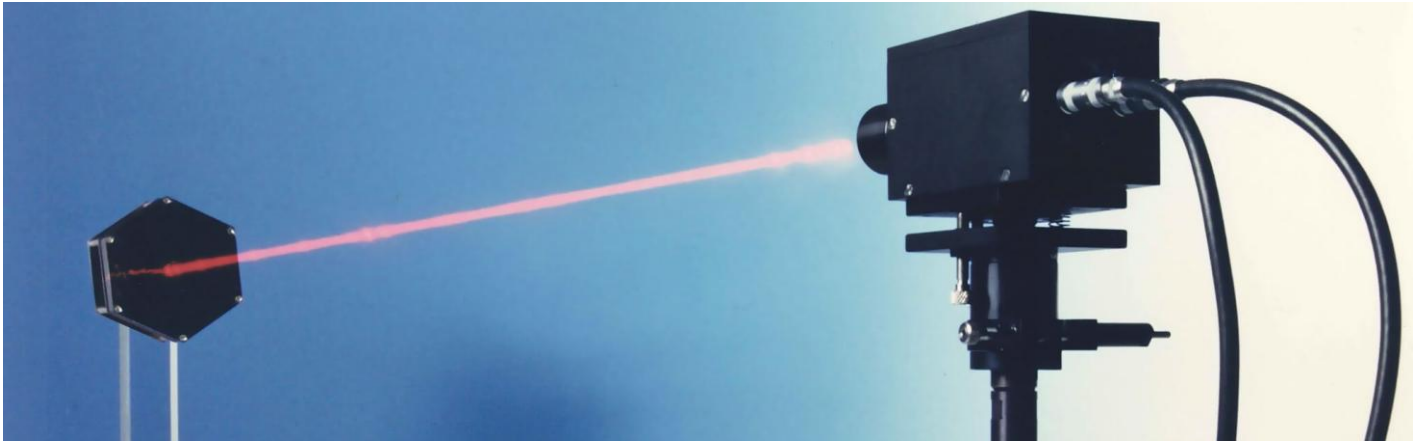


Image: Light for Power and Data Transmission

An all-optical connection is immune to electromagnetic interference. It also eliminates the risk of electrical breakdown or sparking in the event of a fault, thus increasing safety. By using optical fibers instead of copper wires, the space required and, in particular, the weight of the lines can be significantly reduced. In addition, the transmission of electrical energy via glass fibers is immune to corrosion and thus offers a longer service life. Another advantage of power-over-fiber technology is that it can use existing fiber-optic networks for power supply. Finally, a completely wireless free-space connection enables energy transmission without any coupling medium and thus without a physical connection between the application and supply stations. Valuable synergies arise in particular in applications in communication technology, where [both energy transmission and data transmission](#) can take place via a purely optical interface, thus enabling a higher level of integration.

In the research area of optical power transmission, we support our customers in the development, interpretation and design of technical implementations for optical power transmission in a wide range of applications.

Our R&D Services on the Topic »Power by Light Systems« Include:

- [Photonic and Electronic Power Devices](#)
- System development and design
- Simultaneous optical communication and power transfer
- Design and selection of components for optical power transmission
- Design of new applications for optical power transmission

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Thanks and Regards,

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