



# GEDLux

ELECTRICAL SYSTEMS AUTOMATION  
SINCE 2008

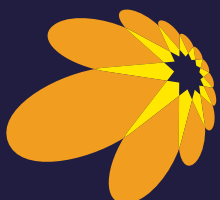
Communications  
& Telecontrol

[www.gedlux.com](http://www.gedlux.com)

# Communications & Telecontrol

## Overview

- The importance of communication cannot be overlooked, regardless of whether the system in question is a compact SCADA setup, a remote control system, an metering solution or a large control office.
- It is, therefore, crucial to prioritise the planning and deployment of the communications network, ensuring our control system operates without disruption and with optimal efficiency and effectiveness.
- At GEDLux, we have the equipment and experience to design and implement industrial communication systems, both within plants and between facilities.
- Our solutions are based on strengthening the three pillars of communication systems in critical environments: versatility, safety and reliability..



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### Versatile Solutions

We provide an optimal combination of different protocols (industrial, redundancy, SDH, MPLS, etc.) and different media (fibre, 4G, radio links).

### Secure Solutions

We supply the necessary security mechanisms for electrical distribution, where a safety problem in communications can have severe economic and human consequences.

### Reliable Solutions

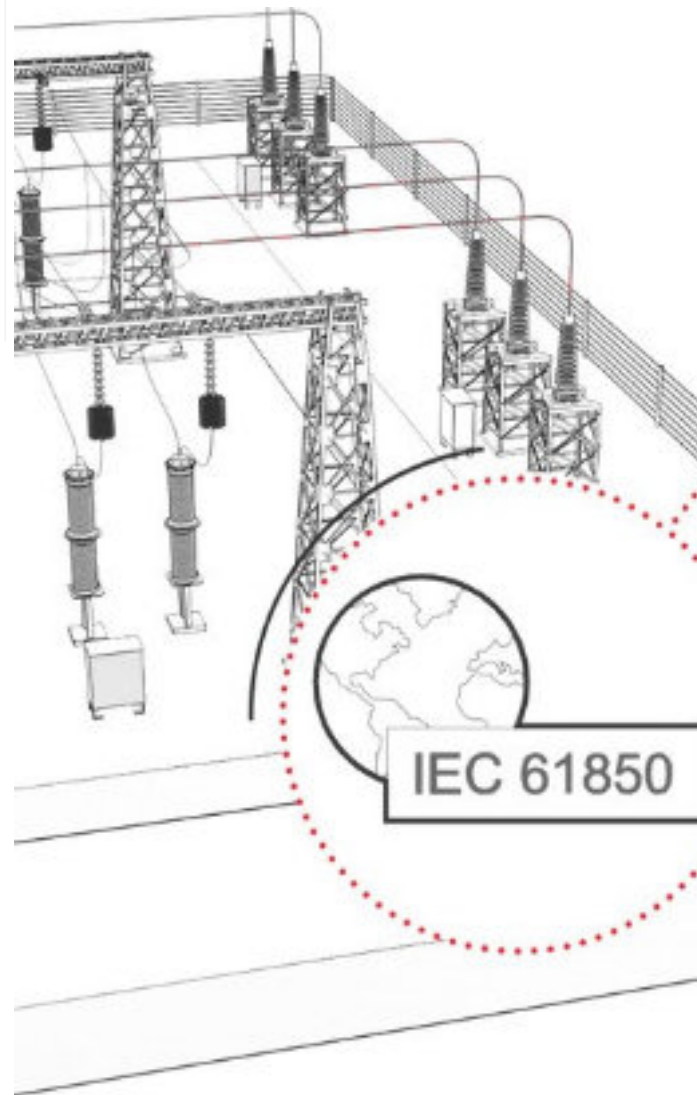
We only use equipment from trusted manufacturers to ensure a long, failure-free equipment lifetime. We utilise redundancy and high availability mechanisms to provide a backup path or equipment in the event of an unexpected failure.

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## Software, Protocols, SNMP, ICCP, OPC, Monitoring

- Our product offers multi-protocol support for any type of communication.
- SNMP monitoring is available.
- ICCP dispatch links.
- OPC gateways.
- Electrical market industrial protocols: IEC61850, IEC104, IEC101, Modbus-RTU, Modbus-TCP, DNP3, DNP3 over TCP, LON, etc.
- Bespoke solutions for multi-protocol integration.
- Network extensions made simple by keeping old and new protocols coexisting in parallel.
- Personalized consultancy.



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## Cellular

- Low implementation cost.
- Monthly charge cost.
- Dependent on third party infrastructure.
- Robust equipment for harsh conditions.
- Requires VPN architectures to provide security.
- M2M architecture solution.

## Radio Links

- High implementation cost.
- No recurring toll costs.
- Dependent on own infrastructure.
- Greater control over network issues.
- Robust equipment for adverse conditions.
- Encryption of data transmitted for cyber security.
- Solutions in free or licensed bands.
- Customized bandwidth and capacity solutions for each case.
- Electromagnetic feasibility studies included.
- Networks for data and/or voice.



 **TELTONIKA**

**ABB**



  
**Cambium  
Networks**

**SATEL**



**GEDLux**



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## Cybersecurity, Firewalls & VPNs

- It is imperative that cybersecurity is embedded in today's communications systems.
- It is of the utmost importance to have robust security measures in place to prevent an attack from leading to an outage in the service provided in critical infrastructures.
- The number of cyber attacks is increasing year on year, as the majority of business operations are now digital.
- A range of solutions to suit different architectural requirements.
- Firewalls, VPNs, antivirus software and data backups.



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ABB



F-Secure.

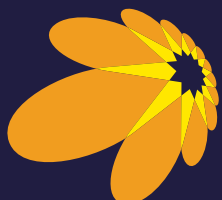


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## Multiplexores, ETL y Teleprotecciones

- It is important to note that **certain applications** require specific communications conditions in order to **function properly**.
- It is possible that **certain parameters**, such as latency, delay, jitter, and packet loss, **may prevent** a system from functioning as expected, even when they are within the **normal range** for a standard communications network.
- Optical **multiplexers** such as the FOX615 are used to **limit the variation** of these communication link parameters and to **optimise link performance**.
- One of the **critical applications** that require **stable** communications is **tele-protection** in substations.
- In some instances, **communication between substations** is only possible via the **high-voltage line** itself (OPLAT, on Power Line Carrier).



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