

G3-PLC / G3-Hybrid: The Optimal Choice for Connected Lighting and Smart Buildings

Discover G3-PLC and G3-Hybrid for smart connectivity in lighting and buildings. Deployed by Vattenfall's "dynamic grid control system" in Sweden, these technologies turn lighting poles into smart systems. With over 80 million devices installed in 30 countries, they enable smarter grids.

G3-PLC offers cost-effective, robust communication over existing powerline cables and independence from telecom operators, ideal for connected lighting and HVAC. G3-Hybrid combines RF and PLC communication for versatile connected applications, even supporting RF-only and battery-powered devices.

Key Features of G3-PLC:

- **OFDM-based PHY:** Ensures efficient spectrum utilization with BPSK, QPSK, and 8PSK modulation.
- **Mesh Routing Protocol:** Improves network coverage by finding the best route between distant nodes.
- **Robust Mode:** Operates at -1 dB SNR, improving communication in noisy channel conditions.
- **IPv6 Support:** Enables seamless integration of IPv6 applications.
- **Open Standard:** Published by ITU, ensuring global acceptance and interoperability.

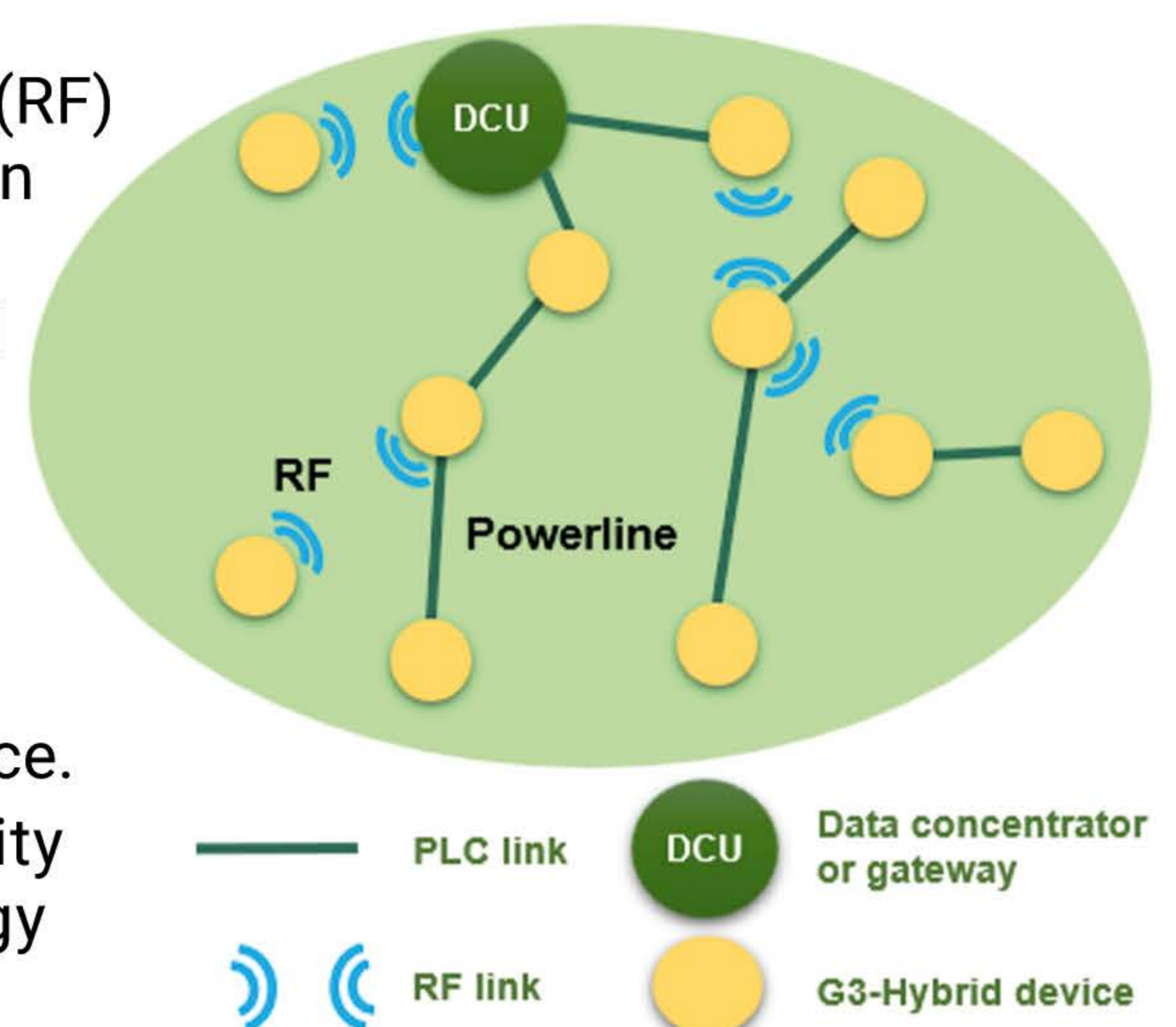
Optional RF Integration: G3-Hybrid

G3-Hybrid represents a groundbreaking integration of wireless (RF) and wired (PLC) technologies within the G3-PLC standard. As an optional feature, G3-Hybrid sets a new standard by maximizing coverage and connectivity while minimizing the complexity and costs associated with network installation and management.

Advantages of G3-Hybrid:

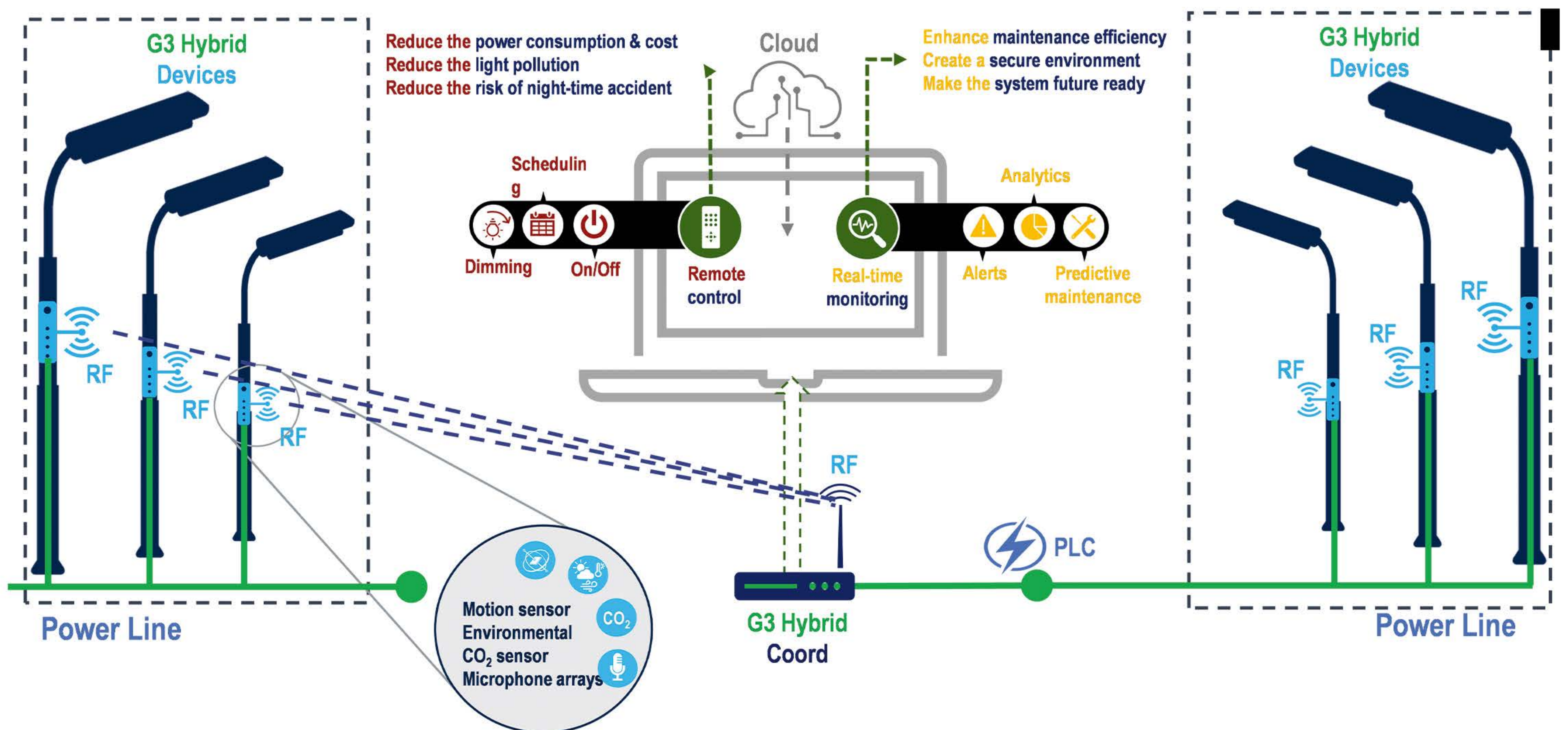
- **Adaptive Networking:** Dynamically selects RF or PLC based on real-time field conditions, optimizing network performance.
- **Enhanced Coverage and Connectivity:** Aims for connectivity levels greater than 99%, overcoming individual technology limitations.
- **Cost-Effectiveness:** Drastically reduces complexity and costs associated with network installation and management.
- **Expanded Connectivity:** Extends connectivity to RF-only and low-power operation devices, enabling communication with various devices such as In-Home Displays, keypads for prepaid solutions, sensors, lighting controllers, and water & gas meters.

Hybrid PLC+RF Mesh Network



G3-Hybrid

Hybrid PLC + RF Smart Street Lighting



Advantages over Wireless-Only Systems

G3-PLC and G3-Hybrid provide clear advantages over pure wireless solutions:

- Communication maintained underground, through walls, and around corners.
- No line-of-sight limitations and unaffected by weather conditions.
- No new wires as it uses existing mains cabling
- PLC's capability to detect line breaks and approximate locations.

Proven Technology:

G3 is a mature technology with over 80 million products operational in more than 30 countries worldwide. Notable success stories include over 35 million G3-PLC meters installed by Enedis (France) in rural as well as urban areas, achieving >98% connectivity, and Vattenfall's connected lighting system in Sweden with over 1300 connected poles with response times as low as 0.1 seconds. G3-Hybrid technology is now being deployed in Asia, Middle East, Latin America and Africa in large numbers.

G3-Alliance

The G3-Alliance, a not-for-profit organization, standardizes and promotes G3 communication technology globally. With 100 international key stakeholders, the alliance continues to drive innovation in smart grids and cities.

For more information, contact our members or visit our website:
www.g3-alliance.com

G3-Alliance
Enabling the smartest grid...together

