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How interoperability protects your grid investments

Smart grid projects such as smart meter deployments are long-term infrastructure investments. Therefore, a key question arises: what happens in 10–15 years if the entire communication network depends on a single supplier?

Once millions of smart metering devices are deployed, maintaining a communication network based on proprietary technology can become complex, costly and operationally risky.

Will your supplier still be there to replace old meters ten years from now? What happens if your supplier cannot deliver during a massive roll-out due to logistical problems? Will firmware updates still be available ten years after deployment, for example to address security requirements?

Interoperability and more importantly, product interchangeability addresses these risks. It allows utilities to replace devices from one vendor with devices from another vendor within the same network. This avoids vendor lock-in, protects long-term supply, and provides the flexibility required for long-term grid investments.

The G3-Hybrid technology was developed exactly on this principle. It combines PLC and RF

communication in a single, adaptive mesh network where each device dynamically selects the best available communication medium depending on real-time field conditions. The technology also provides backward compatibility with existing G3-PLC deployments, allowing utilities to extend networks without replacing installed infrastructure.

The G3-Alliance manages a rigorous certification programme encompassing hundreds of conformance, interoperability and performance tests. Since 2014, more than 750 devices from 19 different chipset manufacturers and 50 different product manufacturers have been certified.

Thanks to the strong G3 certification process, utilities can deploy meters, concentrators, and communication modules from multiple vendors while maintaining consistent network performance and reliability. This enables true product interchangeability and allows utilities

to avoid dependence on a single supplier while maintaining a high level of quality across the entire communication infrastructure.

More than 100 million G3 devices operate worldwide across more than 40 countries, including some of the largest smart meter rollouts in Europe such as France and Austria.

In Africa, both G3-PLC and G3-Hybrid operate in very challenging network environments while delivering consistently strong results. Deployments in countries such as South Africa, Tunisia, Côte d'Ivoire and Egypt demonstrate strong daily and on-demand performance at scale.

For utilities, performance and cost are important criteria when making investment decisions. However, long-term resilience depends on open standards, certified interoperable solutions, and a strong multi-manufacturer ecosystem that guarantees technology continuity. **ESI**

