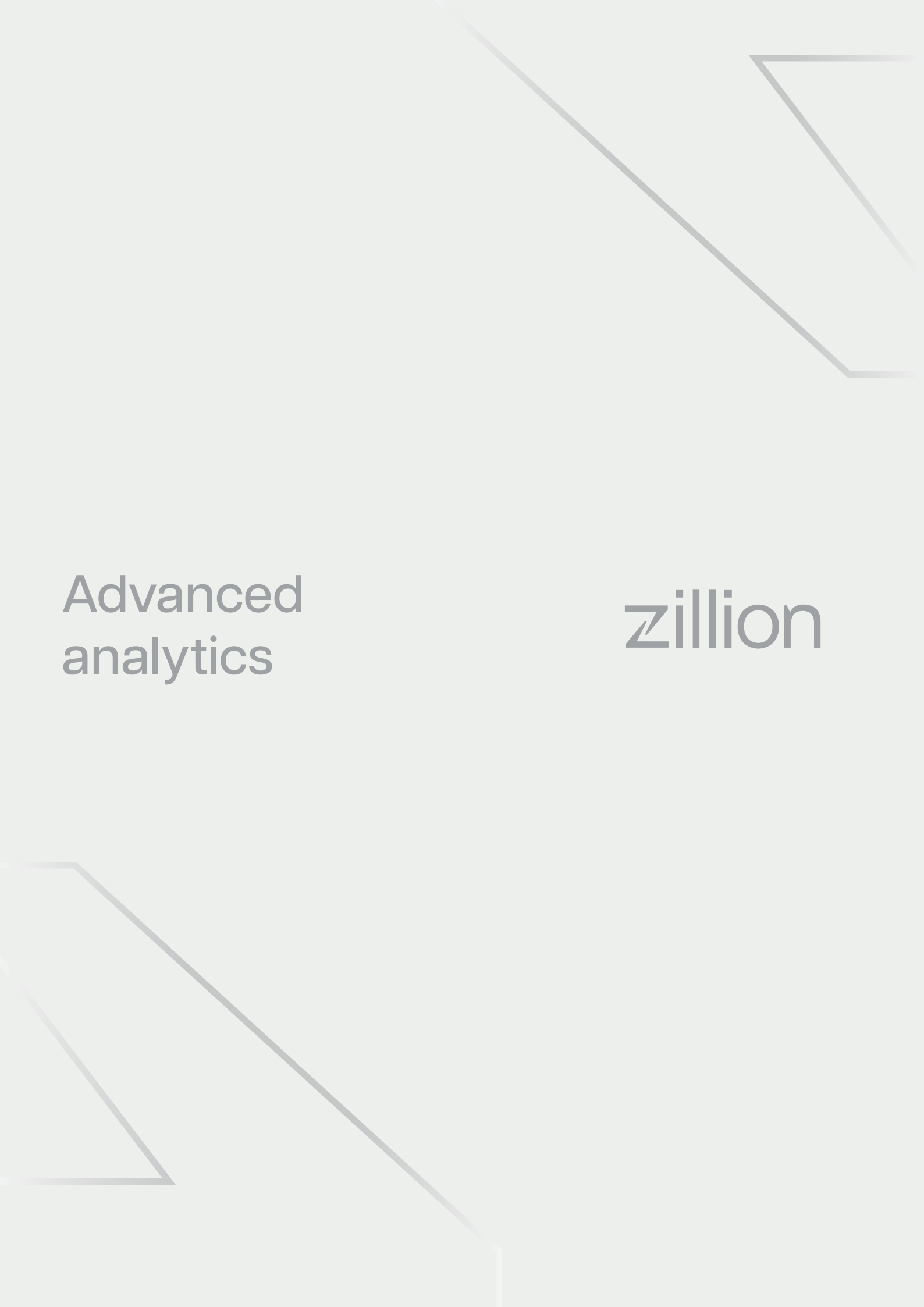




Advanced
analytics

zillion

Integrated advanced analytics

This refers to solutions that combine measurement and analytics capabilities within a single tool, enabling operational insight to be obtained directly from grid data.

It includes Zillion LV DNA, which combines advanced field data capture with the analytical capabilities of Ariadna Smart IoT, enabling electrical information to be transformed immediately into actionable insight.

This solution enables diagnostic campaigns to be carried out, grid behaviour to be analysed and incidents to be detected without the need for permanent deployments or complex additional infrastructure.

Grid intelligence

Integrated analytics makes it possible to understand the grid's actual behaviour and turn data into operational insight. This includes the ability to:

- Analyse load imbalances
- Identify technical and non-technical losses
- Assess quality of supply
- Detect events and anomalies
- Reconstruct the actual grid topology

These capabilities enable the transition from passive monitoring to management based on real, validated information.

Key range functions

- Advanced analysis of the grid's electrical behaviour
- Identification of anomalies, losses and imbalances
- Quality-of-supply analysis
- Grid topology reconstruction
- Historical data and trend management
- Prioritization of incidents and actions
- Support for operational and strategic decision-making

03. Advanced analytics

03.1 Zillion LV DNA – Low voltage distribution network analyser

Zillion LV DNA (Portable Advanced Supervisor) is a portable, self-contained solution designed for advanced analysis of low-voltage grids, enabling their behaviour to be assessed in real time without requiring permanent installation.

It combines a robust IP67-rated device with integrated communications (4G, Bluetooth and GPS) and an advanced analytics platform (Ariadna Smart IoT), transforming field data into actionable information.

Zillion LV DNA supports grid diagnostic, optimization and validation campaigns, providing a comprehensive view of electrical status (load, quality of supply, topology and events) in a flexible and secure way, without adding operational complexity.

FUNCTIONS AND FEATURES

Grid analysis and operation

- Automatic identification of the consumer's feeder and phase (ILF mode).
- Analysis of transformer loading, phase balance and energy distribution.
- Load measurement at transformer and feeder level.

Quality of supply

- Power quality analysis in accordance with IEC standards, including identification of the source of problems.
- Detection of flicker, undervoltage and overvoltage.
- Harmonic measurement.

Real-time monitoring and events

- Grid data capture every 15 seconds for continuous monitoring.
- Detection and logging of events, including overcurrent, short circuits, overloads and blown fuses.
- Oscillography capture for advanced analysis.

Reliability and advanced diagnostics

- Measurement of actual neutral current.
- Detection of low-current or high-impedance faults.

Data integration and utilization

- Integration with DSO control systems.
- Consolidation of communications at a single point to simplify data acquisition.

Electrical capabilities

- Up to eight measurement feeders.
- Calculation of power factor, active and reactive power, and active and reactive energy.
- Power quality in accordance with IEC 61000-4-30 (Class S).

TECHNICAL CHARACTERISTICS

- Five voltage connectors (three phases, neutral and earth).
- Eight current connectors (three phases and neutral).
- Visual information via display and LEDs.
- RJ45 Ethernet, integrated Bluetooth and internal GPS.
- 2G/3G/4G cellular communications module with external GPS/GSM antenna.
- USB port.
- Self-powered from the grid.
- Integrated internal battery for continuity of field operation.
- CAT IV 600/1000 V compliance.
- IP67 protection for indoor and outdoor environments.

MAIN USE CASES

Advanced diagnostics and incident resolution

Enables the source of grid issues, such as overloads, imbalances or power quality incidents, to be identified through the analysis of electrical events and actual field behaviour. It also supports diagnostic campaigns, technical audits, and hypothesis validation without requiring permanent installation, reducing analysis and response times.

Grid optimization and efficiency

Enables energy balance analysis from the transformer to the low-voltage feeders, identifying electrical losses and opportunities to improve load distribution. This contributes to optimizing grid performance and improving overall operational efficiency.

Grid visibility and understanding

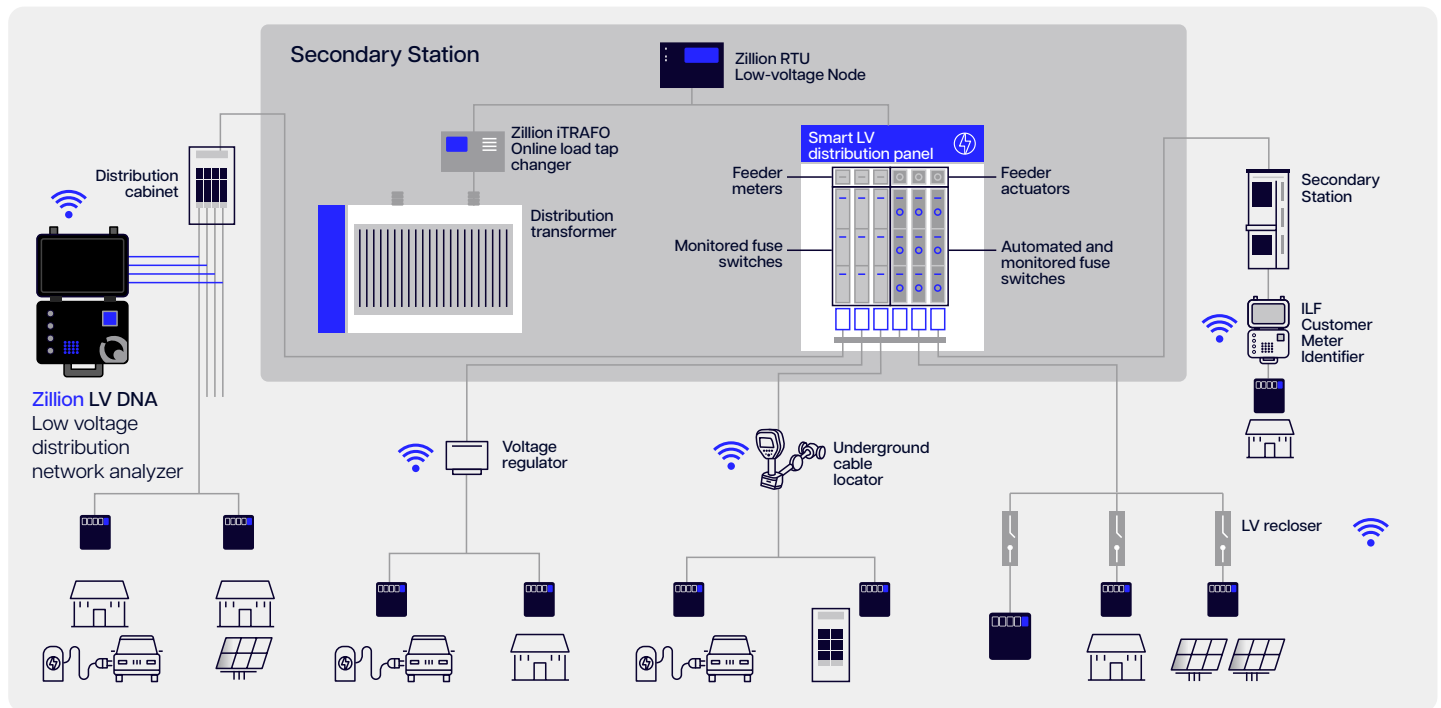
Supports the reconstruction of the actual grid topology at feeder and phase level through automatic identification (ILF), as well as the analysis of power quality and its source. It provides an accurate and up-to-date view that improves both operational and planning decision-making.



Zillion LV DNA
Low voltage distribution network analyser
Protected by Merytronic

03. Advanced analytics

03.1 Zillion LV DNA – Low voltage distribution network analyser



TECHNICAL CHARACTERISTICS

- 5 voltage measurement inputs: F1 + F2 + F3 + T + N.
- 4 current measurement inputs per feeder: F1 + F2 + F3 + N.
- Up to 8 measurement feeders.
- Power factor per feeder and phase.
- ± Active and reactive power per feeder and phase.
- ± Active and reactive energy per feeder and phase.
- Overvoltage and undervoltage events.
- Overcurrent events.
- Oscillography.
- Power quality in accordance with IEC 61000-4-30 (Class S).

Ariadna Smart IoT platform

The Ariadna Smart IoT platform provides the advanced analytics layer, transforming data captured by LV DNA into useful information for grid operation, maintenance and planning. It enables centralized management with a comprehensive view of the low-voltage grid.

FUNCTIONS AND FEATURES

- Unified grid visualisation (360° view).
- Historical data analysis (more than one year).
- Alarm and event management with threshold configuration and tracking.
- Oscillography display.
- Automatic grid topology identification.
- Power quality in accordance with IEC 61000-4-30 / EN 50160.



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ALIVE AND SMART
GRIDS BY GORLAN

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