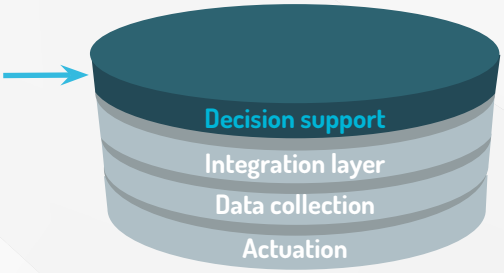
RESOLVD LV DECISION SUPPORT TOOLKIT (LVD-DST)

a RESOLVD key exploitable result

DESCRIPTION

A suite of web services that provides enhanced energy monitoring and scheduling capabilities.



Where the LVD-DST fits in the RESOLVD solution, see model on page 2

DEVELOPER

eXiT Control Engineering and Intelligent Systems

Universitat de Girona

TARGET CUSTOMERS

DSO, energy communities

PROBLEM ADDRESSED

The presence of RES in the grid requires additional LV grid observability and support mechanisms for more efficient management. Traditional methods to overcome these challenges require large investments.

VALUE PROPOSITION

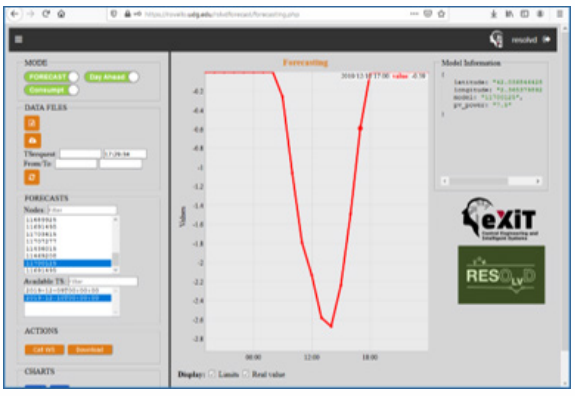
The LVD-DST provides DSOs with the intelligence to convert their LV grid into a Smart LV grid.

UNIQUE SELLING POINT

Solution tailored to the LV distribution grid, focused on exploiting smart meter data.

KEY FUNCTIONALITIES

- **Demand & generation forecasting:** uses smart meter data for day-ahead forecasts and prediction of congestion and voltage problems.
- **Fault detection & isolation:** provides enhanced monitoring of the grid based on multivariate statistics to automatically detect faults and other abnormalities in a statistical sense
- **Optimal grid operation scheduling:** calculates optimal grid operation schedules of active elements (switchgear/storage) in the grid to prevent critical events, reduce energy exchange at substation level and peak shaving.



EXPLOITATION AMBITION

UdG's eXIT research group seeks to license the technology to a commercial entity, either to integrate it in the next generation distribution management systems or as an addition that provides intelligence to legacy distribution management systems.

RESOLVD
Next generation LV grid management

WHY IS THIS RELEVANT TO YOU?

The RESOLVD H2020 project is a 42 month Research & Innovation project that proposes hardware and software technologies that address European DSOs challenges in accommodating an increased presence of renewables in LV grids.

With the project now coming to a close, a consortium of leading institutions and technology developers have developed the next generation solutions to meet tomorrow's challenges and these are being tested in a real-life pilot in Catalonia, Spain.

DSO CHALLENGES

- Fault detection and self-healing
- Low resolution grid observability
- Congestion and voltage compliance
- Uncontrolled islanding
- Continuity of supply after fault
- Power quality issues
- Technical power loses
- Cyber Security
- Technical power loses

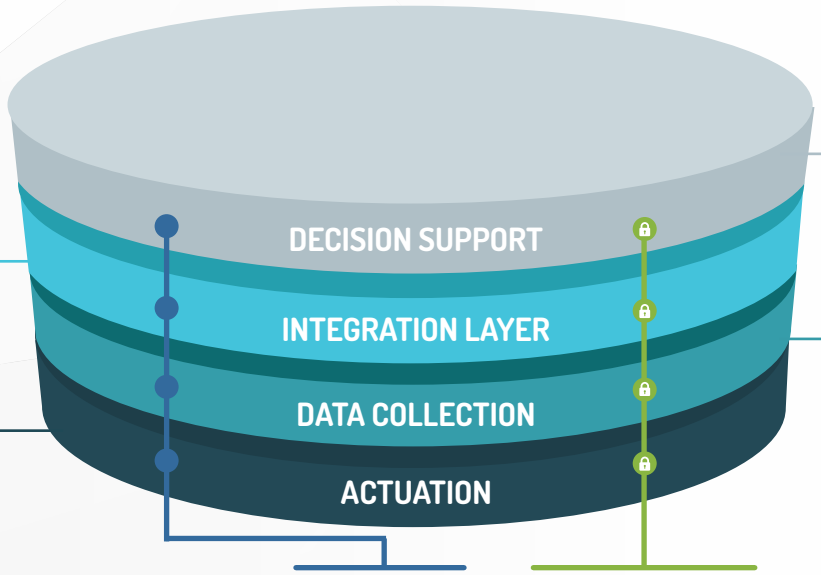
THE RESOLVD SOLUTION

INTEGRATION LAYER

Enterprise Service Bus (ESB) and Data Management Platform - Integration middleware software that facilitates interaction among various software applications and manages data exchange, analytics and visualisation.

ACTUATION

Power electronic device (PED) Integrates multiple battery types and manages their dynamic energy and power flows.



RESOLVD BRINGS INNOVATION AND CYBER SECURITY IN THESE LAYERS

DECISION SUPPORT

Low-Voltage Distribution Decision support toolkit (LVD-DST) - A suite of web services that provides enhanced energy monitoring and scheduling capabilities.

DATA COLLECTION

Phasor measurement unit (PMU) & edge computing - A wide area monitoring solution that provides increased observability of the LV grid & has edge computing capabilities **Smart Gateway** to measure power quality in the buildings or charging areas and communicates to 3rd party.

CONTACT

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