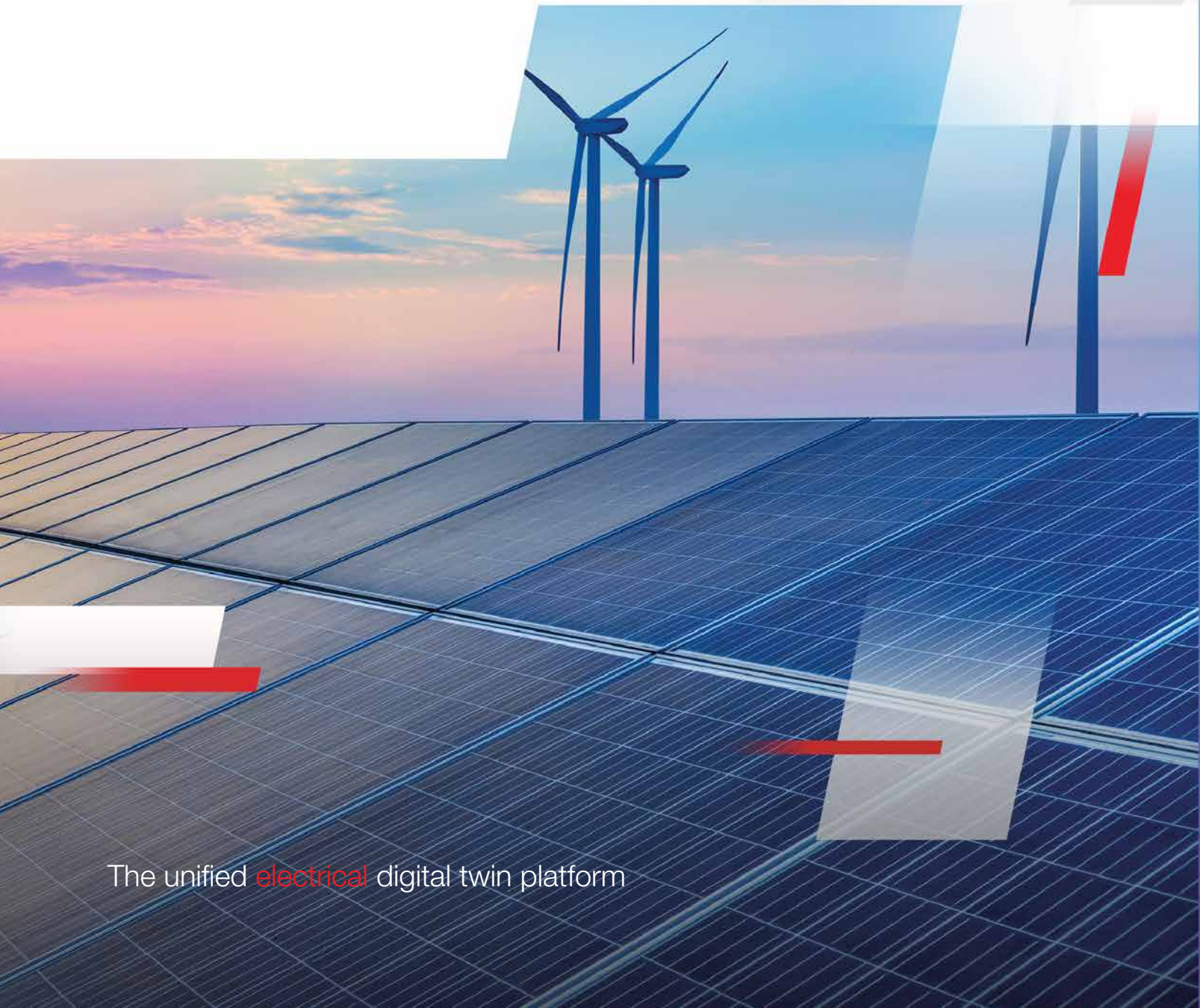# etap®

Renewable Energy

Maximize Output & Improve Efficiency

ETAP's Renewable Energy offering enables designers and engineers to conceptualize the collector systems, determine wind & PV solar penetration and perform grid interconnection studies.

The unified electrical digital twin platform

Renewable Energy

Renewable power source modeling and analysis for accurate simulation, equipment sizing, grid interconnection studies and field verification of wind and solar farms.

Wind Turbine Generator

Model and simulate wind farms & parks under steady-state and dynamic conditions and study their impact on the power grid.

- Element modeling included in core module
- Simulate transient wind disturbance; ramp & gust
- WECC wind turbine dynamic models & types
- Dynamic models based on IEC 61400-27-1-ed1
- Turbine manufacturer & model library
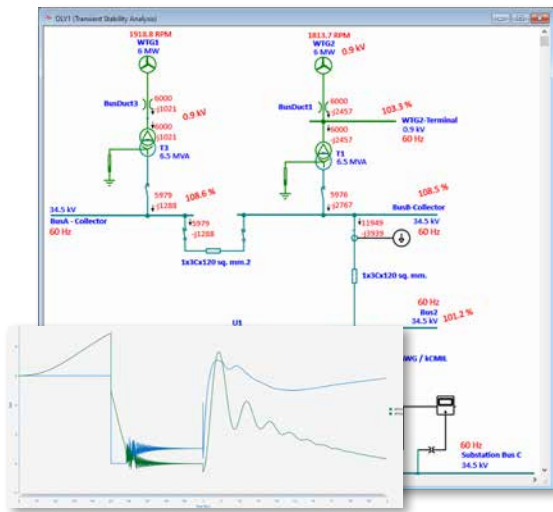
Photovoltaic Array

Design, size, and simulate PV arrays and analyze the impact of solar farms on the distribution grid as DER.
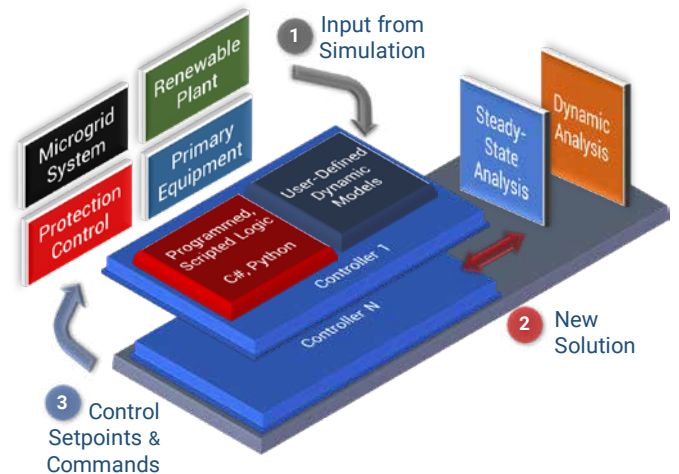
- Detailed solar panel & farm modeling
- Solar irradiance based on location & time
- Inverter current limit modeling & operation modes
- Equivalent PV modeling for grid interconnection studies
- Manufacturer nameplate library data; P-V & I-V curves
- Solar PV Parameter Estimation
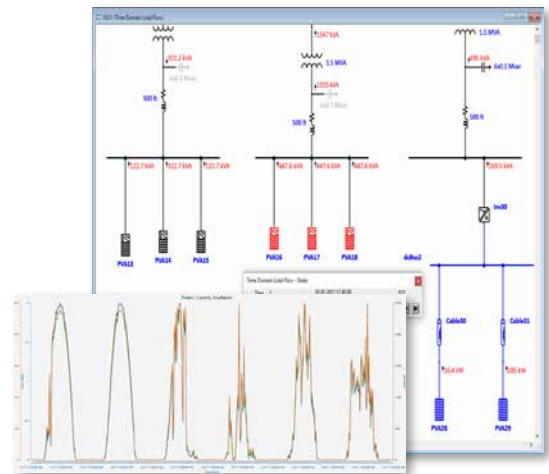
Controller

Design, optimize, and test the performance and response of the microgrid controls for various generation contingencies and loading variations to allow for faster and validated field deployment.

- Modeling & simulation of Distributed Energy Resources
- Graphical & scripting tools to develop & test logics
- Built-in logics for dispatch, islanding & load forecasting
- Validate controller logic with ETAP Software-in-the-Loop
- Automated predictive simulation
- Controller network parameter inputs to UDM
- Integrated with SCADA, ADMS & DERMS

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