Israel Electric

Zone™

Digital Twin for emulating, simulating, and validating operational events and cyber scenarios in a near-real-time, safe environment

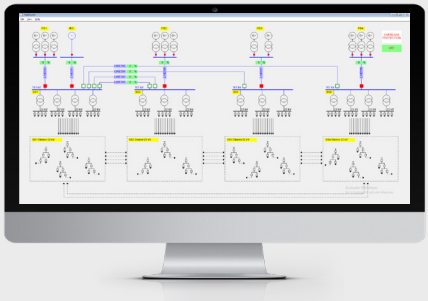
The Challenge

In our rapidly evolving world, the electricity industry is shifting towards digitalization, decarbonization and decentralization. The introduction of new actors and technologies to the grid, along with constant updates, upgrades, and redesigns can pose significant risks. Implementing these changes can introduce faults and disruptions or complete operational halts, which can result in substantial losses.

Our Solution

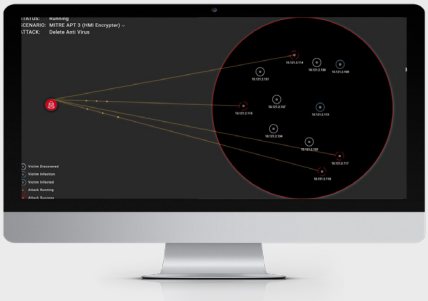
IEC has developed a digital twin for emulating, simulating, and validating updates and operational events for ICS/OT/SCADA systems, in a near-real-time safe environment. With Zone™ power utilities can navigate the dynamic energy landscape by facilitating updates, upgrades and redesigns to the infrustucture and integrating renewable energy sources into the grid, through advanced digital modeling.

Zone™'s Uniqueness



Digital Twin

Zone™ replicates an identical digital model of any critical infrastructure



Cyber Sturdiness

Run cyber attacks on the digital model to validate the system's cyber sturdiness

Field-Proven

Developed by IEC engineers, built on stakeholder insights, and field-proven solutions

Advanced Electricity World Solutions

Examining the behavior of the network to seamlessly integrate new elements, including renewable energy technologies, PV panels, energy storage, smart meters, and more

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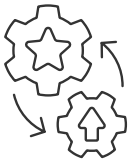
Features and Capabilities

Black Swan Events

Capability to simulate and analyze the impact of unforeseen, rare and unpredictable extreme events and outlier anomalies (Black Swan events) on the electrical grid network

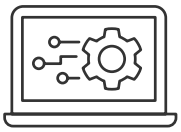


Dynamic Modeling

Dynamically modeling events, allowing for the continuous change of network configuration and parameters

Predictive Analysis

Ability to predict the activity of new elements and assess their impact on the quality of electricity in the network

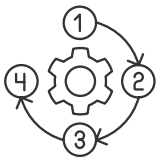


Continuous Vulnerability Scanning and SIEM

Implementation of continuous vulnerability scanning and Security Information and Event Management (SIEM) for robust cybersecurity measures

Simulation Capabilities

Ability to simulate all components of the electrical grid network, including production, transmission, heating, distribution, and low voltage



Automated User Data Transformation

Mostly automated transformation of users' data within the power grid and ICS models, streamlining the integration process for enhanced efficiency

Continuous Reporting and Mitigation Recommendations

Ongoing generation of reports and recommendations for the mitigation of potential damages, ensuring a proactive approach to power grid security

Comprehensive Power Grid and ICS Model Integration

Integration of power grid and ICS models, covering generation, transmission, substations, distribution, renewables, as well as digital and physical PLC models, communication infrastructure, data networks, user interfaces, and control center models

Game Changer Award

POWER and Chemical Engineering magazines awarded Zone™ the prestigious Game Changer award for digital solution, ingenuity and scale of project, 2023