DIGITAL TWIN TECHNOLOGY FOR RECs

A Project Overview & Guide to the Digital Twin Ecosystem including 3D Reality Capture, IoT Data Integration & AR/VR Visualization

Digital Twin

A digital twin replicates real assets in a visual 3D framework, integrates real-time data gathered from equipment and processes, and creates a safe and secure virtual environment to remotely view, monitor and protect critical systems, automate analysis and compliance, and make informed decisions faster.

Project Overview

Rural Electric Cooperatives (RECs) are faced with large amounts of data which aren't easily accessible, aggregated, secure, or visually optimized for key stakeholders when they need it most. Using **digital twin technology** on a centralized, single-source platform provides a visualization ecosystem for co-ops to aggregate, manage and display data from disparate systems via multiple visualization methods including desktop, virtual reality (VR), and augmented reality (AR). Working together, Jo-Carroll Energy, DMI, and NRECA are streamlining procedures and developing best practices within DMI's proprietary platform, Precision Reality™ to showcase digital twin technology to NRECA members.

Project Leaders

Jo-Carroll Energy provides electricity, natural gas and internet to over 26,500 members in Jo Daviess, Carroll, White-side and Henry counties located in North-west IL

DMI's Precision Reality™ is a digital twin platform to visualize assets & operationalize analytics in real-time leveraging the latest emerging technologies.

DMI, LLC is an Associate Member of NRECA

NRECA Business & Technology Strategies provides resources and insights to support RECs as they operate, optimize and transform their systems and relationships with consumer members.

Reality Capture

The foundation of a digital twin, Reality Capture uses a laser scanner to capture substations in 3D and create digital blueprints of those environments which can be viewed remotely from a computer or with a virtual reality headset.

Data & IoT Integration

Existing data layers are integrated into the digital twin framework while new data collection is automated through IoT (Internet of Things) devices. Precision Reality™ provides one platform to visualize all REC data including SCADA, AMI, GIS, and IoT.

Virtual & Augmented Reality

The digital twin, complete with 3D framework and integrated data can be viewed and experienced in multiple formats including virtual reality for immersive training applications as well as augmented reality for accessing geolocated field information.

Read the full guide on the NRECA website
www.cooperative.com

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