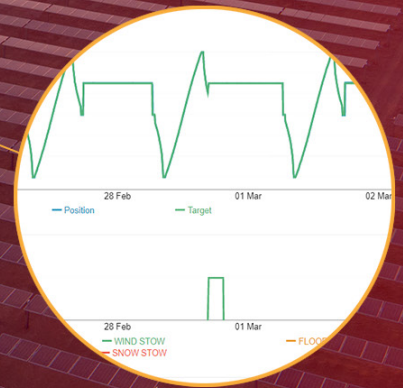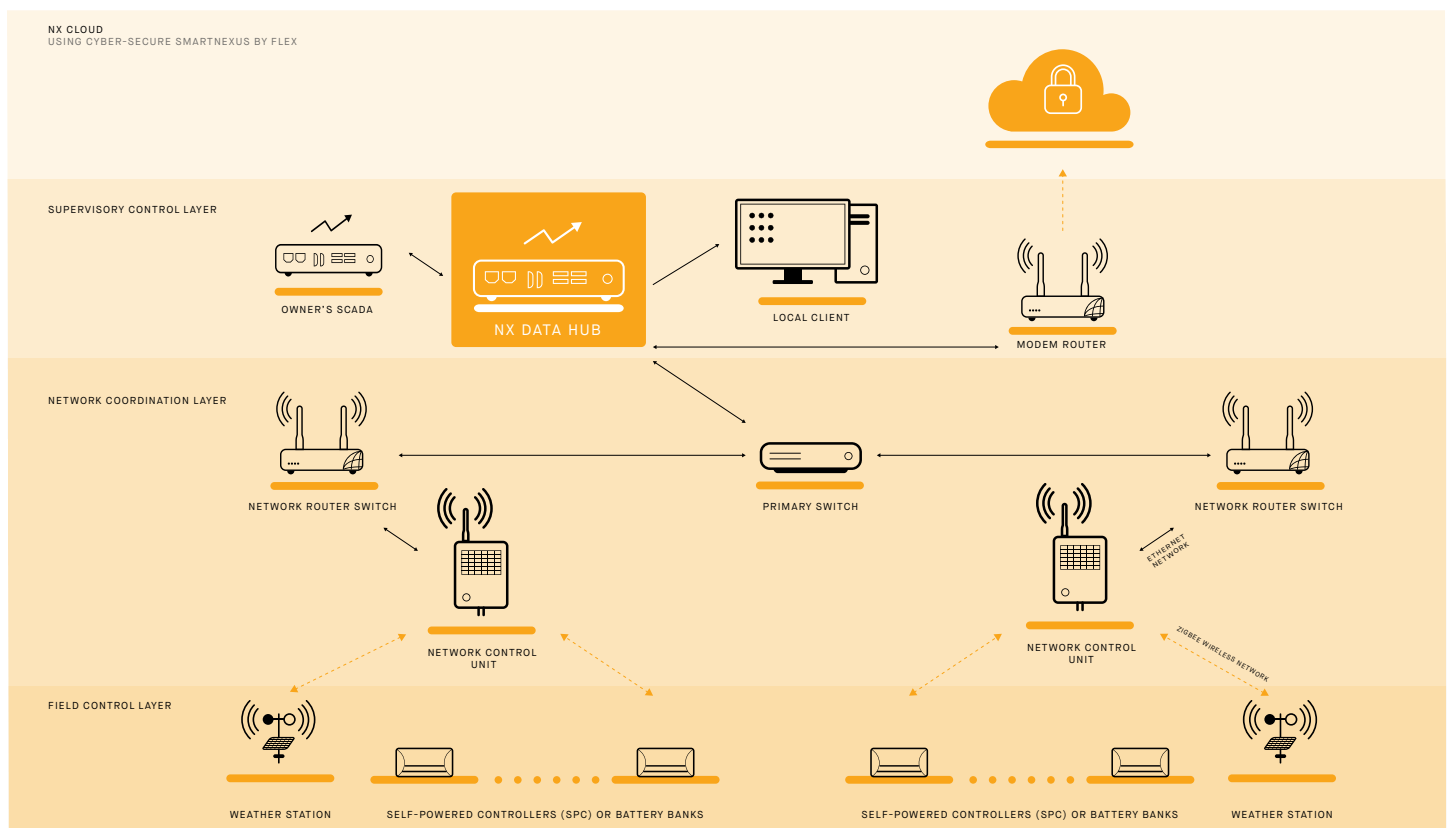# NEXTracker™
A Flex Company

NX Data Hub

For optimal energy performance in a secure environment

Purpose-Built for Advanced Data Analytics

The NX Data Hub allows customers to collect the data from NX Horizon™ solar trackers and bring it together in one central place, making the job of integrating all that data into their own plant SCADA much simpler. Our data hub incorporates a suite of advanced data- and software-driven digital services for both tracker and energy storage systems that can dramatically improve asset management efficiency and lower operating costs. Through machine learning, predictive modeling and other technologies, our purpose-built, utility-grade data management platform continuously monitors the health and performance of the individual tracker components and overall system operations via our secure communications network.

NX Data Hub Architecture

NX CLOUD
USING CYBER-SECURE SMARTNEXUS BY FLEX

SUPERVISORY CONTROL LAYER

OWNER'S SCADA

NX DATA HUB

LOCAL CLIENT

MODEM ROUTER

NETWORK COORDINATION LAYER

NETWORK ROUTER SWITCH

PRIMARY SWITCH

NETWORK ROUTER SWITCH

ETHERNET NETWORK

NETWORK CONTROL UNIT

NETWORK CONTROL UNIT

ZIGBEE WIRELESS NETWORK

FIELD CONTROL LAYER

WEATHER STATION

SELF-POWERED CONTROLLERS (SPC) OR BATTERY BANKS

SELF-POWERED CONTROLLERS (SPC) OR BATTERY BANKS

WEATHER STATION

Remote Monitoring and Control

The NX Data Hub provides sitewide data visualization with an intuitive graphical user interface, collects and visualizes weather station and tracker-row-level data for up to six months, and brings together the aggregated tracker operational metrics from across the solar PV power plant. The platform can dispatch aggregated commands to the site, block or individual trackers.

Secure Platform for Digital O&M

The NX Data Hub collects a wealth of granular data from the arrays and uses advanced diagnostic capabilities such as the Digital O&M™ software service to turn that information into meaningful action. The cybersecure NERC-CIP compatible data platform learns from each data point and helps asset owners save on O&M costs by better managing scheduled and unscheduled maintenance, identifying installation issues with pattern recognition technology and enhancing warranty support.

NX Data Hub Technical Specifications

Communication Protocols:

NX Talk over TCP/IP with NCU
NX Talk over ZigBee with trackers
OPC-UA with client SCADA
No MODBUS register mapping needed

Physical:

Ports: 2 HDMI, 4 USB, 2 Gb LAN, 1 DC jack
Mounts: DIN-mount, VESA-mount, wall-mount
Dimensions: 196 mm x 36.75 mm x 141 mm

Electrical:

Input voltage 110V or 240V

General:

Connects with up to 120 MW
Operating temp 0°C to 45°C
Fanless system for indoor use only

Compliance:

CE standards applied (EN 55022/EN 55024/EN 60950)
Assembled using FCC-certified components
RoHS

Firmware:

Proprietary NX firmware v1.0 or later

Case Study

Once completed, Villanueva Solar will be the largest PV power plant in the Americas. It will also be the smartest, thanks to NEXTracker's NX Data Hub. Built on Flex's cybersecure SmartNexus™ connected intelligence platform, the system will provide advanced data analytics, management and services capabilities, enhancing operational control of NEXTracker components.

Project Name:
Villanueva Solar

Developer:
Enel Green Power

EPC:
NEXTracker

Location:
Coahuila, Mexico

Project Size:
754 MW

754 MW