

# CASE STUDY



## NFE gateway software enhances PT PLN's distribution grid

Syntek Energy uses mobile router with Netcontrol's NFE gateway SW to enable communication with various substation IEDs

1 Single point information M\_SP\_NA\_1  
2 Single point information with time tag M\_SP\_TA\_1  
3 Double point information M\_DP\_NA\_1  
4 Double point information with time tag M\_DP\_TA\_1  
5 Step position information M\_ST\_NA\_1  
6 Step position information with time tag M\_ST\_TA\_1  
7 Bit string of 32 bit M\_BS\_1  
8 Bit string of 32 bit with time tag M\_BS\_TA\_1  
9 Measured value, normalized M\_ME\_NA\_1



### MEET PT PLN PERSERO

PT PLN Persero is an Indonesian government-owned corporation generating most of the electrical power in Indonesia and managing the country's electric power distribution network. The network measures over 1 million kilometers and serves about 83 million customers throughout the archipelago.

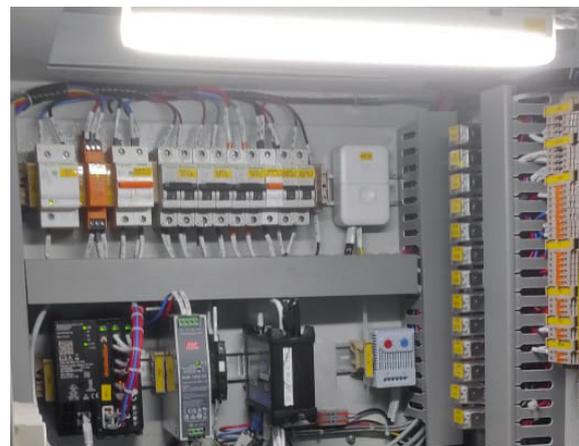
In keeping with its strategic goals of being green, innovative, customer focused and lean, PT PLN Persero requires the highest quality and reliability of its distribution network.

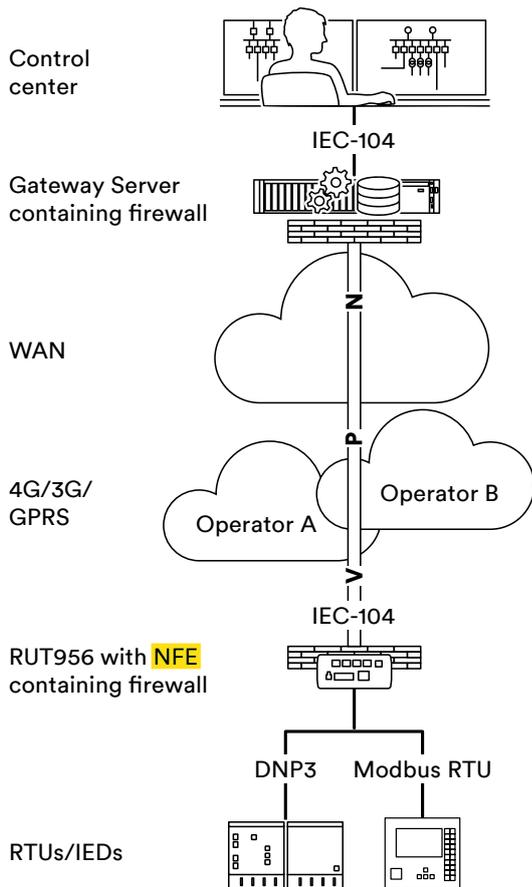
### DISTRIBUTION GRID IMPROVEMENTS IN JAWA BARAT AND JAKARTA

In the Jawa Barat area and in the capital, Jakarta, the engineering company Syntek Energy & Control has helped PT PLN Persero Distribution enhance the reliability and quality of the distribution grid. It has installed state-of-the-art communication solutions for the remote monitoring and control of reclosers and load break switches and for the management of 20 kV medium voltage transformer substations.

### Connecting devices with different protocols

In these projects, Teltonika's RUT956 4G router with NFE was the preferred communication solution. The master station and the substations communicate with each other by means of the IEC 60870-5-104 protocol, and the communication with various manufacturers' protection relays (IEDs), reclosers and load break switches at the substations is in DNP3.0 or Modbus over RS-232/RS-485. To implement the remote monitoring and control, an RUT956 version provided by Netcontrol with integrated Netcon NFE protocol gateway conversion software was the perfect choice.





### RUT956 with NFE gateway SW can do it all

The RUT956 router uses a version of the Linux operating system developed for embedded devices, which enables it to run Netcontrol's NFE gateway software. Based on a real-time database, NFE supports conversions among a wide variety of legacy and industrial protocols. The router can thus connect to RTUs/IEDs using various protocols, its NFE software transferring the data up to the master system in the protocol used by the master.

The router has built-in security with firewalls and VPN as well as dual SIM slots for network redundancy. It has a robust, compact design, with a metallic chassis and a DIN rail mounting clip. The router can also handle a wide range of temperatures.

Netcontrol's time-tested NFE software is used globally in the automation of transmission and distribution networks. It supports dozens of protocols, both IP-based and legacy serial ones.

### Satisfied customer

Syntek Energy & Control has been able to supply PT PLN Persero Distribution with a robust and cybersecure communication solution that supports all the media and protocols needed to connect various devices with the master station. Both Syntek Energy & Control and PT PLN Persero have been very satisfied with the implementation.

#### PT PLN PERSERO

Jalan Trunojoyo Blok M No 135,  
Kebayoran Baru,  
Jakarta 12160,  
Indonesia  
Telephone +337 21 7251234,  
+337 21 7261122  
<https://www.pln.co.id>

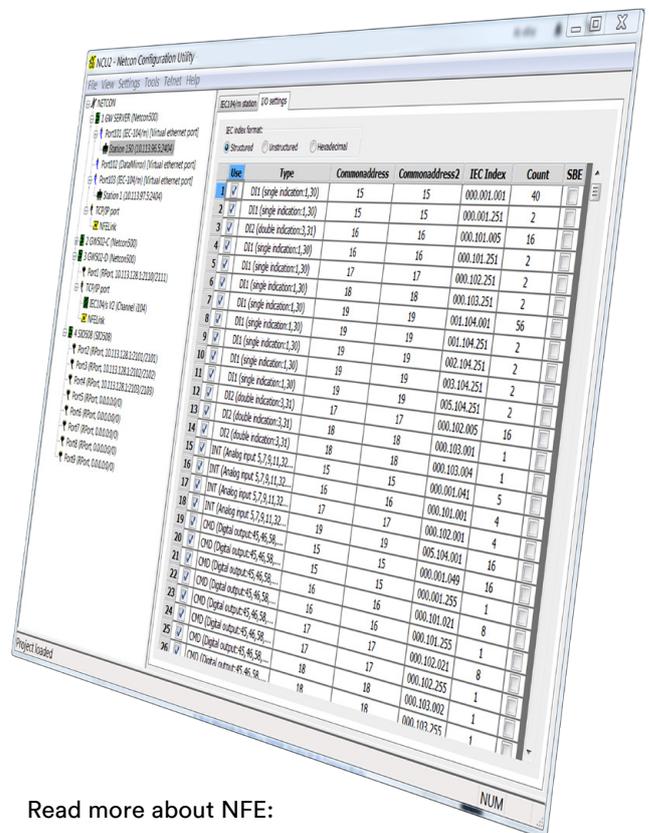


#### SYNTEK ENERGY & CONTROL

Jl. Mampang Prpt. Raya No. 17,  
Blok G-H Lt.2,  
Jakarta Selatan 12790,  
Indonesia  
<https://syntek.co.id/>

#### NETCONTROL UK LTD

Unit 4E Bramhall Moor  
Technology Park,  
Pepper Road, Hazel Grove  
Cheshire, SK7 5BW  
UK  
Telephone +44 161 484 260  
<https://www.netcontrol.com/>



Read more about NFE:

[Netcon-NFE-brochure.pdf](#)

