

COPEL

Paraná, Brazil

Case Study



THE CUSTOMER

Companhia Paranaense de Energia (COPEL) is the largest company in the State of Paraná and it was the first Brazilian company in the electricity sector to be listed on the New York Stock Exchange. The state-owned utility is responsible for the provision of uninterrupted power service to over 3.8 million consumers in 393 municipalities across the state.

SITUATION

Paulo Freitas, Electrical Engineer COPEL, describes the company’s situation: “With 3.8 million people depending on our infrastructure and services we must use cutting-edge radio communications technology to minimize the risk of network failures on all levels. Across the state, we operated a VHF analog network which was out-of-date and unreliable...To maximize our investment, we had to consider the fast-approaching digital modulation and narrowband regulations set by Brazil’s telecommunications governing body ANATEL. Ultimately, we need to replace our entire network with a cutting-edge digital technology solution that will:

- ▶ deliver mission-critical P25 equipment for the safety of our workforce
- ▶ provide digital and analog operation
- ▶ re-use existing Zetron console network
- ▶ deliver interoperability assurance and genuine open standards; choice of equipment from different vendors.”

“We selected P25 because it allows us to migrate to a complete P25 state-wide network at our own pace. With dual mode, we can operate our new Tait equipment in the city of Curitiba along with our analog equipment used throughout the rest of the state.”

“Tait and SGM were the only solutions provider that re-utilized our existing console system in their network design. We were pleased with the expertise of Tait engineers and cost-effective solution.”

Paulo Freitas - Electrical Engineer
COPEL



RESPONSE

Terry McCartin, Tait Senior Solutions Engineer, illustrates the scale of the project, “COPEL operates a state-wide legacy network comprising 3,000 terminals, 500 fixed repeaters and five dispatch centers. To protect and maximize their original investment we are able to provide them a phased migration solution from analog to P25 technology.”

The first phase of the P25 network roll-out comprises four sites that operate in the 148-174 MHz frequency band.

Terry McCartin discusses the relationship with local Brazilian partner SGM Telecom: “Our partnership with SGM Telecom is significant; together we are able to offer COPEL the latest digital infrastructure and seamlessly integrate it with their existing console system.”

Paulo Freitas adds, “We required a solutions provider that would integrate our existing and new console equipment. We were pleased with the expertise of the Tait and SGM engineers and the network design they produced. The design met all our radio and console network requirements.”

OUTCOME

COPEL chose a TaitNet P25 conventional VHF network to cover the city of Curitiba, the state capital. Paulo Freitas comments on the installation of the TaitNet P25 Conventional Network: “There were no interruptions to our daily operations and services; the new P25 network was installed in parallel to the existing network. In addition, with dual mode we can operate our new Tait equipment in the city of Curitiba with our analog equipment used throughout the rest of the state.”

COPEL’s linesmen can clearly communicate with dispatchers and other remote field crews with the superior audio quality of Tait TP9135 portables, Paulo Freitas explains: “Users have noticed a huge increase in coverage across the city with the new digital network. We are also experiencing coverage in some metropolitan areas outside of the city which has exceeded our expectations.”

On the robustness of the Tait P25 terminals, Paulo Frietas comments: “Our users are impressed with the robustness of the Tait P25 terminals and strength against mechanical shock, dust and moisture. Users also reported that their new radios are easy-to-use and operate.”

COPEL is well prepared for ANATEL’s deadlines in 2012. With the TaitNet P25 Conventional Network and 12.5 kHz channels, they comply with ANATEL’s digital modulation and narrowband mandates.

MORE INFORMATION

For news, product specifications, comprehensive technical information and contact details of your nearest Tait service facility, please visit www.taitradio.com

Tait is a global leader in designing, delivering and managing innovative communication solutions that help utilities and public safety organizations to keep the lights on and communities safe.

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CUSTOMER PROFILE

With 9,000 employees the company operates:

- ▶ 17 hydroelectric plants and one thermoelectric plant with a total installed capacity of 4,550 megawatts
- ▶ transmission system that includes 1,188 miles of lines and 31 automated substations totalling 10,344 megavolts-amps of transformation power
- ▶ automated distribution system with 351 substations and 113,710 miles of lines and network of up to 230 kilovolts
- ▶ telecommunications system; that reaches 264 cities and 797 corporate customers.

BUSINESS BENEFITS

- ▶ Mission-critical P25 digital communications
- ▶ Improved city-wide coverage
- ▶ Re-use existing console system
- ▶ Digital and analog operation
- ▶ Compliant with digital modulation and narrowband mandates

PRODUCTS USED

- ▶ P25 TP9135 portables and TM9135 mobiles
- ▶ P25 TB9100 base station
- ▶ Tait P25 Console Gateway for connection to COPEL’s existing Zetron console system