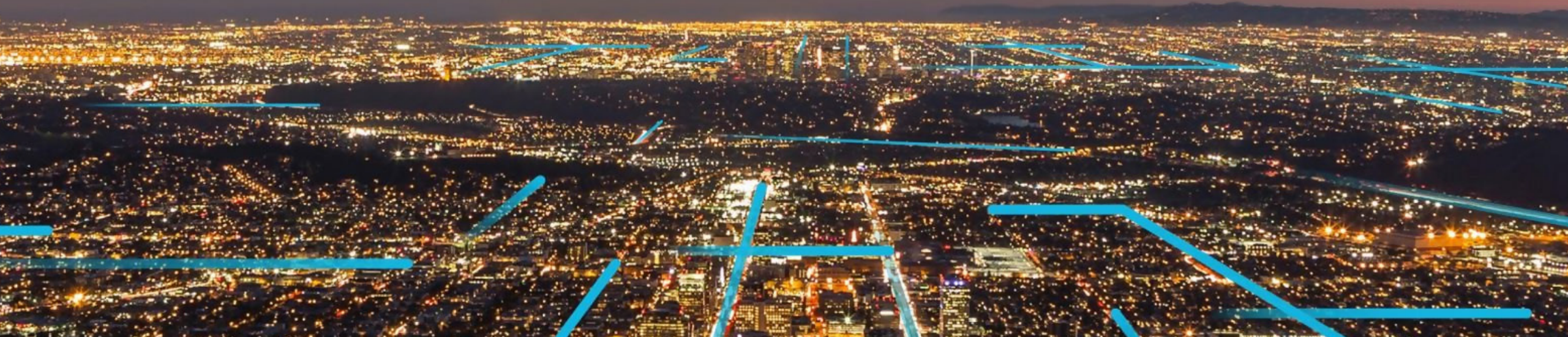




TELECOMMUNICATIONS for POWER UTILITIES

CUSTOMER CASES

The following customer cases highlight the project scope and benefits brought by implementing GE Utilities Communications offering for critical utility services.







DEMOCRATIC REPUBLIC OF CONGO

PROJECT SCOPE

Installation and commissioning of:

- Plesiochronous Digital Hierarchy (PDH), Synchronous Digital Hierarchy (SDH), Teleprotection (TP) and Private Automatic Branch Exchange (PABX) network with 30 telecom panels
- 29 telecom towers
- 7 solar shelters along 1500km of High Voltage Direct Current (HVDC) line
- High Frequency radio network for voice & data communications between two control centers situated 1500km apart
- CCTV system in remote shelter sites

BENEFITS

- Improved management of the electrical grid network
- Remote control of substations from both control centers, with greater protection of electrical lines
- Enhanced communications between operational teams
- Improvement of exchanges with Zambia and communications between Distribution Control Systems (DCS) located in HVDC and High Voltage Alternate Current (HVAC) substations



ITALY

PROJECT SCOPE

- Integration of Gridcom T390 High Voltage Power Line Carrier (HV PLC) with existing Remote Authentication Dial-In User Service (RADIUS)
- User authentication and rights authorization
- A Secure Shell (SSH) channel for communications between HV PLC hardware and remote users
- Increased hardware data processing capacity for RADIUS and SSH, while keeping original service performance

BENEFITS

- RADIUS authentication ensures confidential communication for remote users
- Secure SSH channel guarantees data integrity
- Adapts to customer-defined centralized telecom user management system
- Improvement to existing HV PLC software and hardware platform by introducing enhanced cyber security management features



BRAZIL

PROJECT SCOPE

- Delivery of Dense Wavelength Division Multiplexing (DWDM), Optical Transport Network (OTN) and Synchronous Digital Hierarchy (SDH) devices
- Project documentation and drawings
- Integration of all devices and their systems
- Proof of concept and factory & site acceptance testing of OTN/DWDM, SDH and Network Management (NMS) Systems
- Local installation and supervision of OTN/DWDM, SDH and NMS system in Northwest region of Brazil
- Customer training on the new OTN/DWDM technology
- Trial operation with functional and systemic testing in a real environment
- 3-year system assurance

BENEFITS

- Accelerating telecommunications services by operating on fiber optics at a 10 gigabyte per second laser speed
- Optimization of network management in real-time, aligning operations and ensuring a continuous of energy at all times



INDIA

PROJECT SCOPE

- Design, engineering, FAT, supply, testing, commissioning, SAT and warranty
- Uni directional short haul Plesiochronous Digital Hierarchy (PDH) type 8 Mbps capacity OLTE equipment with primary multiplexer (mux) and Main Distribution Frame (MDF)
- Two directional Managed Synchronous Digital Hierarchy (SDH) type Long Haul, driving up to 180Km in both directions, Synchronous Transport Module-4 (STM) upgradable to STM-16 OLTE with Primary Mux
- Eight directional Managed SDH type Long Haul, driving up to 150Km in both directions, STM-4 upgradable to STM-16 OLTE with Primary Mux
- 57 Directional Protection Couplers and over 26Km of 24F and 48F Approach Cable

BENEFITS

- Stable and reliable communication scheme for new Power Substations Efficient management of substation load monitoring
- Enhanced grid stability through speech, data and protection services



KINGDOM OF SAUDI ARABIA

PROJECT SCOPE

- Communications for Substations and 3 Control Centers
- GE Optical Fiber Transmission and Multiplexing
- Ultra-Long Haul Repeaterless Optical Communications
- GE Teleprotection Signaling
- GE Substation Controllers/RTUs
- Communication device from 3rd party suppliers

BENEFITS

- First fossil-fuel fired power plant to incorporate solar energy production to boost efficiency - known as an integrated solar combined cycle (ISCC) plant
- Power generated from project will contribute in growth and development of this developing region which currently has limited grid connectivity
- With integration of solar power and the introduction of condensate fuel, this project contributes towards Saudi Arabia's Government's vision to promote energy sector efficiency with a focus on renewables



For more information on GE's Utilities Communications portfolio,
And the benefits our solutions bring, please visit [ge.com/digital/customers/digital-energy](https://www.ge.com/digital/customers/digital-energy)

Contact Us
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