

Virtualizing High-Voltage Training and Certification

How a national utility enabled remote supervision, faster certification, and full traceability through Telepresenz® Smart Ops™



100%

Travel cost savings — international trainers no longer required onsite



60%

Faster certification cycles — from 2–3 weeks to less than 1 week



100%

Safety and compliance visibility — every task traceable through live video

Client: Confidential National Power Distribution Utility

Industry: Energy / Power Distribution

Scale: Six simultaneous trainees per session; one remote expert trainer

Worker Environment: Field-based training in high-voltage substations under controlled, safety-critical conditions

IT Environment: Secure public cloud deployment optimized for low-bandwidth rural connectivity

Devices: RealWear HMT-1 for trainees; desktops for remote tutors

High-voltage (HV) cable jointing is one of the most specialized and safety-critical tasks in power distribution. In this country, only a limited number of certified HV jointers exist — and every year, they must undergo recertification as materials and technologies evolve. Historically, this process required authorized trainers located overseas to travel for each session — costing up to \$50,000 per cycle and stretching recertification to several weeks.

Without real-time supervision, the risk of improper jointing increased significantly. Even minor errors in the process could result in catastrophic equipment failures, explosions, and extended outages. Meanwhile, limited connectivity in rural substations made remote verification difficult with conventional video tools.

“The quality of a cable joint directly affects system integrity. A single mistake can cause catastrophic damage — we needed precision oversight without the travel.”

Power Distribution Utility

Solution: Telepresenz® Smart Ops™ for Digital Inventory Management and Remote Inspections

To modernize the certification process, the utility deployed Telepresenz® Smart Ops™, enabling live, remote expert supervision and full audit traceability for every trainee.

Each trainee used a RealWear HMT-1 headset to stream hands-free HD video directly from their field of view to the authorized trainers overseas. Trainers could see exactly what the jointer was doing in real time — guiding, annotating, and sharing visual references through the Smart Ops™ interface.

All training materials and evaluation criteria were shared with each participant ahead of the sessions through the platform. During the exercises, Smart Ops™'s adaptive video compression ensured a stable feed even in low-bandwidth rural areas. Each session was silently recorded and archived in the cloud, creating a verifiable record of performance for certification and compliance audits.

“Telepresenz gave us the confidence to run certification remotely while maintaining the same standards of safety and precision expected onsite.”

The remote certification initiative transformed how the utility conducted its annual training cycles. International trainers could now certify six jointers simultaneously, tripling throughput without compromising on quality. Certification cycles that once lasted 2–3 weeks were completed in under a week, with 100% travel and administrative cost savings. Archived video records provided verifiable proof for internal and regulatory audits, ensuring transparent compliance.

The new model not only increased operational efficiency but also made the certification process safer, more sustainable, and resilient to travel restrictions or future disruptions.

Key Outcomes:

- 100% elimination of international travel and related costs
- 60% reduction in certification cycle time
- 3× improvement in trainee throughput
- Enhanced compliance with recorded audit trails
- Improved safety and oversight through real-time remote supervision

“We’re achieving faster, safer, and fully documented certification — without anyone getting on a plane.”



About Telepresenz®

Telepresenz® — AI-Powered. Frontline-Focused. Future-Ready. Telepresenz connects inspectors, engineers, and administrators through real-time collaboration and AI-powered operational workflows. With Smart Ops™, aerospace teams gain digital control over inspections, inventory, and compliance — turning complex maintenance programs into seamless, transparent, and efficient operations