

Telepresence at work

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Holcim (US) Hagerstown plant, Hagerstown, Maryland, USA is the first cement plant to evaluate the use of a secure plant-wide broadband wireless network to provide 'Telepresence' capabilities. Telepresence refers to a set of technologies which allow a person to feel as if they were present at a given location even though they reside at a different location.

Recently, the Hagerstown plant participated in an initial test of Telepresence with its existing secure mobile ad hoc wireless network called 'Wave Relay™'. This was accomplished utilising a new TANDBERG FieldView™ Wireless SIP camera. The camera provides ability for plant personnel to roam anywhere on the property, stream video and voice, to the notebook or desktop computer connected to the plant network utilising SIP (Session Initiation Protocol) to make real-time decisions. SIP is commonly used for digital PBX phone services but also can provide IP video over the plant LAN, WAN, or WLAN or connect to the Internet and simply dial anywhere in the world.

This capability can allow field personnel to send a video or still image to a plant engineer in real-time.

FieldView™
– The expert needs to see this in real-time



If the system is connected to the Internet through a VCS (Video Communications System), the video can be



Holcim (US)
Hagerstown cement plant, MD

shared with others to get assistance by putting an eye on the problem immediately

Notebook/desktop
– The input by experts allows faster decisions



rather than having to verbally describe the problem and consequently saving travel cost and lost time in waiting for an expert to arrive at the plant. The FieldView camera can store the video, voice, and still or stored images on a notebook or desktop computer connected to the network.

The initial tests of FieldView consisted of communications to the Wave Relay wireless mesh network with its built-in 802.11b/g wireless radio with WPA2 (128-bit) encryption. Wave Relay provides a digital wireless backhaul for the Hagerstown plant for emergency VoIP phones system in the silo elevators, power monitoring, Asset Management for HART transmitters, and remote maintenance. The Wave Relay backhaul link is 802.11a (5GHz) which is secured with 256-bit AES



Wave Relay™
– Sharing video via the wireless mesh network

encryption with a hardware accelerator. The Wave Relay Quad Radio Wireless Routers can be used with a Wave Relay Man Portable Unit (MPU). The MPU will ensure maximum wireless coverage. The MPU can be worn on a belt, weighs 1.2lb and is battery powered for many hours of continuous operation. The MPU is a single radio unit that connects via Ethernet to the camera for full mobility.

The Wave Relay and FieldView advantage effectively puts problems in visual context. The solution allows a remote colleague to see a process in action providing far more extensive

understanding in a fraction of the time of a verbal description. It can extend the reach of your workers, perform quality audits remotely on construction sites and during new installations, support field maintenance personnel, extends customer support for a supplier, and integrate key experts at a moments notice. FieldView expands video to new applications for real-time collaboration between experts in the office and personnel at the scene. It can be easily taken to the plant floor or work site to share live video with a remote expert. It is a hand-held battery powered device that provides flexibility to immediately share details that are typically more difficult to share verbally. The result is to reach immediate decisions and solve problems quickly. There are numerous situations in the plant that require expert assistance. This can translate to substantial cost savings by making the right decisions. In



Man portable unit (MPU)



Quad radio wireless router

these challenging times, the combination of Wave Relay and FieldView Telepresence solution can reduce response time with real-time decision support.

All this wireless technology...




...in such a small box!

**MANUFACTURING - PROCESS CONTROL - SCADA - MOBILE WORKFORCE - ASSET MGMT/RFID
WIRELESS NETWORK - SECURE - HIGH PERFORMANCE - MESH NETWORK - MOBILITY - FAULT TOLERANCE**



WAVE RELAY



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