



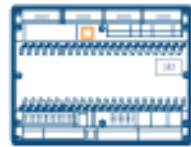
Video's Role in SCADA and
Remote Monitoring

Remote 2010 Conference & Expo
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Dallas, TX

A typical SCADA system is comprised of:



Wellhead



PLCs & RTUs



Communications

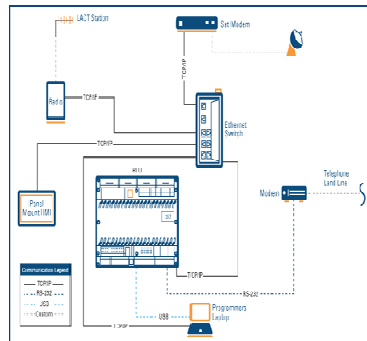


SCADA



Corporate Back Office

Wellhead



Client

**SCADA collects and tracks data, presenting it in tables or graphs
Video can be integrated into the system to provide additional tools for the operator**

What is video's role in a SCADA system?

As with any SCADA application, the first question to ask is:

How do you operate your field?

As a Milk Run



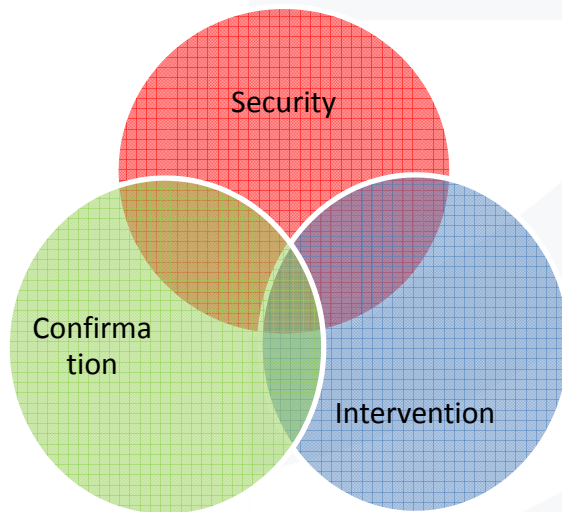
or

in a Dispatch Mode

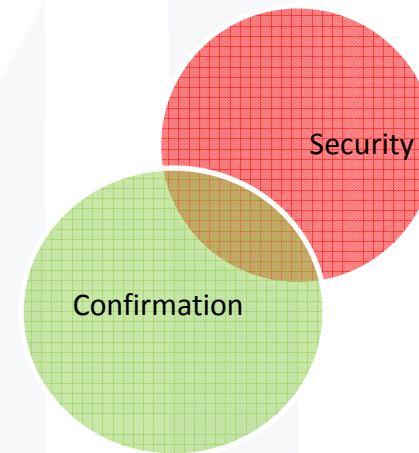


Video supports a dispatch model

The purposes for any site visit can be one or more of these reasons:



Video monitoring can provide:



The Safety Element

The largest category of accidents for a US based field operator is **vehicular**.

The most effective action a field operation can take to reduce accidents is to **reduce the number of miles driven** by field employees- or to reduce the number of dispatched trips to the field.

Video monitoring can reduce trips if used as a tool by the control room dispatcher.

How is video conventionally applied?

- **Manned Control Room Visual Surveillance** – On-going video image recorded & monitored by control room personnel.
- **IP Access On Demand** – As companion to SCADA, the video system becomes an eye on the site that can be called up when an alarm situation warrants it.
- **Operational Confirmation** – Visual verification of operating conditions.

Video's evolving field role

The current technology allows for a more evolved role...

Video Analytics - Video system "intelligence" monitors the target area for "out of norm" conditions and acts as alarm and historian document. Systems can be "learning" systems that grow to determine normal patterns of activity and differentiate events as alarms.

Analytics can be handled at the server level – requiring more bandwidth and more robust network or "at the edge" – out in the field at the point of observation.

Is video right for your operation?

- **What costs can it reduce?**
- **What risks can it reduce?**
- **What operational efficiencies can it generate?**
- **What will it cost (think total cost of ownership, not procurement costs)?**
- **Does the value exceed the cost?**

Key Decision Factors

- **Network Design** – The network design will dictate the capabilities of the video more than the hardware in most cases. Most wireless SCADA LAN are not adequate for full "streaming video".
- **Bandwidth** – The demand on the system will both drive and be limited by bandwidth.

Key Decision Factors

- **Function** -- How will video be used as a tool of the SCADA control room – security, operational verification, historian or assist to intervention?
- **Integration of systems** – an integrated system is the ideal, in reality two parallel systems, SCADA and video, are more typical. How the Control Room HMI is designed can provide a virtual integration.

Converting Data into Actionable Intelligence

The goal of a video component should be the same as for the SCADA system – to deliver information, not just data.



Thank You

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