
Ian Nimmo
ASM Program Director; Industrial Automation & Control
Honeywell, Inc.
Phoenix, AZ  85053

ABSTRACT

Each day, at refineries around the world, process operations personnel are putting on protective clothing and stepping out into a world consisting of the biggest chemistry set an individual could imagine. The role of operating personnel varies from plant to plant, company to company, but they all have one thing in common; they are all human and all suffer from fatigue, vigilance deprivation and human error. Their role can be related to that of infantry soldier. Both monitor communication networks and instrumentation, interact with complex computer technology, and must participate in or coordinate multi-disciplinary forces under harsh and dangerous, often life-threatening conditions.

The US armed forces are revolutionizing their fighting forces and the way they fight wars with the application of advanced communication, information processing, sensor, and display technologies. The Force XXI soldier (21st Century Land Warrior) will carry a fully integrated fighting system that includes a body worn computer, multi-band-spread-spectrum-secure radio, multi-spectral sensors, and both head-mounted and hand held displays. The objective of this technology revolution is to integrate the soldier into the digital battlefield information network and effect a quantum leap in soldier effectiveness and survivability as well as battle unit command and control.

These same technologies and communication architecture's are immediately applicable to improving refinery operations in both abnormal and routine situations. Field operators can have both their effectiveness and safety enhanced, particularly during abnormal situations, through the use of improved communication networks, Portable Information Processing Systems (PIPS), and portable hands free sensors and displays. This paper will discuss how these developing technologies are applicable to both routine and abnormal situation management (ASM) and how personal systems can be fielded and integrated to create a new paradigm for refinery operation and process control. The paper will also discuss the impact of the evolving control room and the breakdown in communications currently occurring as control rooms are moving greater distances for the plant and casual communications becomes non-existent.