

# CRADLE TECHNOLOGIES



Intelligent Networked Video Surveillance

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# History of Video Surveillance Systems

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- Started as CCTV (Close Circuit TV)
- VCR based systems and Matrix of Video Channels
- DVR – Digital Video Recorders
- NVR –Network Video Recorders
- Networked IP infrastructure based distributed multi-location system.

# Social Acceptance of Video Surveillance

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## Issues of Safety and Security vs. Privacy

- Terrorist attack and serious security challenge has led to acceptance of Video surveillance at the expense of privacy of individuals
- Dropping price cost leads to wider deployment – London leads the way
- Affordability leads to deployment at businesses and homes

# Nature of Use – Going Beyond Security Expanding Scope

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## Video Surveillance not just for the guards

- General Manager construction sites to stay on top of schedule
- Remote viewing of multiple factories for safety and process improvement
- Use to meet regulatory compliance such as in Hospitals and Kitchens of restaurants
- Child cared and keeping eye on the baby sitter or nanny
- Elderly care at home or assisted facilities

# Changing Architecture of the System

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## Going beyond security

- Remote access using Internet and Cellular network
- Remote central monitoring and integration with emergency systems
- Machine base video analytics
- Multi-location and wide area systems such as city wide surveillance systems

# Technology Underlying the System

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- IP cameras – computer and cellular network for transporting of video
- Newer encoding standards H.264
- Computer servers running software based video servers
- Network attached Storage systems
- Simultaneous remote achieving
- Integration with fire and safety system
- Backbone all communication wired and wireless communications networks

# Where are the systems headed

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- Integration with other systems in building
- Intelligent systems with ubiquitous access and delivery of actionable alerts and alarms
- Robust and resilient systems
- Merging of security systems with energy management systems

# Challenges that lie ahead

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## Many Challenges lie ahead

- Making IP based systems easy to install – making them plug and play easy
- Making full use of mobile phone devices
- Reducing incidence of false alarms and at the same time improving detection
- Advancing the capability of video analytics systems to match the expectation that has been created
- Design of very large systems of cameras and sensors
- Interchange standards for exchange of information between different systems
- Design of a system that leverages storage and computing in the cloud taking full advantage of advances in wireless and communication technologies