

SWINE FLU (H1N1): WHAT TO EXPECT AND HOW GOVERNMENTS AND CORPORATIONS CAN PREPARE FOR IT

Countries from around the world are stepping up safety measures against swine flu as the number of confirmed and suspected cases continues to climb.

In the battle to keep the swine flu virus at bay, one of the most significant measures being employed by companies and public area operators including airports, train terminuses, sea ports, libraries, schools, hotels and cinemas, is the use of infrared surveillance technology to scan for signs of high temperature, a common symptom of human viral infections such as the swine influenza.

During the recent SARS and avian flu outbreaks, infrared thermography proved a reliable and highly effective method for detecting those in public areas whose elevated body temperatures could be an indicator of infection.

With calls for the adoption of more preventative measures to combat swine flu, the deployment of infrared cameras and sensors is thus not only providing a discreet, non-invasive method to monitor and screen body temperature differences. More importantly, thermal technology is also serving as a frontline of defense by helping to contain the spread of viral infections and diseases, ultimately saving lives.

DETECTING POTENTIAL PATIENTS

Given that one of the prominent signs of swine flu is fever, the ability of thermal cameras like those offered by FLIR Systems to generate thermograms as well as measure intrinsic temperature differences in the surface of the skin understandably makes them an efficient and effective method for detecting elevated temperatures which can help curb the spread of viral diseases.

Medical research has unveiled the use of infrared technology as a particularly effective diagnostic tool for detecting thermal radiation and 'hot spots' through its ability to measure temperature variances and provide visual maps of skin temperatures in real time.

PROTECTING PUBLIC HEALTH

With just a few hours of training, the FLIR T360 and FLIR A320 can be easily operated by non-medically trained persons to scan large numbers of people quickly and accurately for symptoms of infection. As one user commented at the height of the SARS crisis, "This is such a small investment to protect public health worldwide."

It is for this reason that governments and corporations worldwide are readily deploying FLIR Systems technology at airports and public places alike, as they step up the screening of passing crowds for elevated skin temperatures that might suggest a person has swine influenza.

At the end of the day, the adoption of thermal cameras and sensors such as those offered by FLIR Systems are one small, but vital measure, to combat the spread of swine flu. It is a fight that carries serious consequences, and one that we cannot afford to lose.

DISTINCT FEATURES OF FLIR SYSTEMS CAMERAS

• Very sensitive

FLIR infrared cameras tend to be very sensitive devices. As an example, thermal cameras such as FLIR T360 & FLIR A320 are able to measure temperature differences as small as 0.06 and 0.07 degrees Celsius in respectively.

• Measurement in Real-Time

FLIR's real-time thermal imaging camera systems are capable of evaluating hundreds of people per minute with little interference to traffic flow. FLIR T360 and FLIR A320 cameras produce images in real-time, the total evaluation process takes less than a second aiding easy identification of feverish persons who can then be filtered out for further medical examinations as appropriate.

• Accuracy for optimized usage

FLIR thermal cameras T360 and FLIR A320 have an accuracy of ± 2 degrees Celsius. This means if we measure body temperature in the corner of the eye at 36 degrees Celsius, the real temperature would be somewhere between 34 and 36 degrees Celsius.

Typically, a feverish person has a body temperature that is approximately one degree Celsius higher compared to a healthy person. With this in mind, a trigger can be set to generate an alarm whenever the temperature reaches the average plus one degree Celsius.

• Alarm function

With their proven track record for detecting those with elevated body temperatures, FLIR T360 and FLIR A320 features built-in function such as colour and sound alarms that can be set to alert authorities when a temperature matches or exceeds a particular threshold.

• Automatic Temperature Compensation

A feature unique to FLIR T360 and FLIR A320 infrared camera is its Automatic Temperature Compensation (ATC) which has been designed to prevent the generation of false alarm.

FLIR T360
(Portable Infrared Camera)



FLIR A320
(Measures 24/7)



FLIR Systems offers both stationary and portable Infrared Cameras with distinct features for screening body temperature differences. Infrared technology serves as a frontline of defense to both public and private sectors.

Taiwan Public Health Authorities Apply Infrared Thermography to Help Detect viral Diseases

The Center of Disease Control (CDC), which is the Taiwan public health authority, is scanning travelers for swine flu at the country's main airports of Taipei and Kaohsiung.

Prior to the installation of thermal camera systems, airport authorities requested incoming country visitors to complete a 'Communicable Disease Survey Form' on a voluntary basis.

FLIR's ThermaCAM infrared cameras have been in place at the country's airports since the SARS outbreak in 2003 when the technology was installed to help detect elevated body temperatures of incoming travelers, which is a symptom of communicable diseases such as SARS, avian flu and dengue fever.

To date, the consistent monitoring of the body temperatures of travelers using thermal technology has proved successful in detecting influenza cases at an early stage.

In fact, the CDC reports that before the cameras were installed approximately 15 cases were detected each year via its Survey Form, in comparison to 60 cases which were detected alone between April and December 2003 (36 of which were malaria related and 18 dengue fever).

Between January and October 2004, 93 cases were detected by the thermal imaging cameras of which 48 were attributed to dengue fever, 41 to dysentery and 3 to malaria. This compares to a single case of dengue fever which was reported through the traditional Survey Form.

In response, the public health authority in Taiwan decided eventually to scrap its Communicable Disease Survey Forms as of December 1, 2004 and today relies solely on infrared thermography to screen incoming travelers.

Statistics from Taiwan government 2004

Organisations that have FLIR infrared fever screening systems in place:

- Australian Department of Health and Aging
- Breeze Development
- Chinese Petroleum Company
- Chunghwa Picture Tubes
- Chunghwa Telecom
- Chang Gung Memorial Hospital
- Compal Electronics
- Core Pacific City
- CPL Alexandra Point
- Eastern Television Broadcasting
- French Ministry of Health
- Formosa Plastic Group
- Hansin Department Stores
- Hong Kong Airport Authority
- Hong Kong Baptist University
- Hong Kong Department of Health
- Hong Kong Office of the Ombudsman
- Kong Meng San Phor Kark See Monastery
- Korea Centre for Disease Control & Prevention
- Mactan Cebu International Airport Authority
- Mass Transit Railway
- Mediocore
- National Quarantine Station (Korea)
- NPRO
- Petrochemical Corporation
- PCCW
- Philippines Department of Health
- Rock Production
- Singapore Immigration & Checkpoints Authority
- Singapore Ministry of Home Affairs
- Singapore National Arts Council
- Star Cruises
- UMCI
- Taipower Clinic
- Taiwan Centre for Disease Control
- Tan Tock Seng Hospital
- The Far Eastern Group
- Vishay General Semiconductor
- Wong's
- Yuan's General Hospital
- ZuLin Teaching School