

1. **Product Name: MOBOTIX Q24 HEMISPHERIC CAMERA**
2. **Company: SPIRALTECH PTE LTD**
3. **Booth Number: D19**
4. **Description of the product potential use and principles of operations:**

Synopsis: A MOBOTIX Hemispheric Technology camera has the capability to enable a 360 degree field of view to be captured in a high detail, enabling users to view the video stored in the camera for unprecedented high detail digital panning and zooming. Despite the capability to navigate around the room like a PTZ camera functionality, no recording will be missed even if the user has panned into another area not seen on the live video. This is made possible because the camera, at all times, is recording the entire scene or area, unlike the traditional PTZ camera in the market. Packed with new analytics capabilities like people counting and barrier alerts, this camera is more powerful and smarter than before. It also has a built-in speaker/microphone that allows audio recording and audio alert features.

Fish-eye vs. Hemispheric

The MOBOTIX Hemispheric camera technology is not another term to be confused with Fish-Eye video technology. Fish-Eye video is created by combining a megapixel network camera with a fish-eye lens for wide angle viewing. This technology usually delivers poor image quality and it is expensive to set up as you require a powerful computer/server to process and de-warp the fish-eye video into a viewable format. In addition, huge amount of bandwidth is consumed over the network since the raw fish eye images have to be transported over the network to a central computer for image correction.

On the contrary, the MOBOTIX Hemispheric technology is designed based on a unique de-centralized platform. The MOBOTIX Hemispheric camera has all the capabilities to handle the image analysis, correction, de-warping, video processing and storage management without the NEED of an external PC.

How Hemispheric Works

Based on the de-centralized platform, the hemispheric camera has all the recording server (DVR) functionality built-in, thus all the image analysis/correction, video processing and storage management is handled by the camera.

DVR-in-the-camera technology is absolutely essential for the hemispheric video technology to work, and the main reason why most manufactures cannot produce a hemispheric security camera. There are two major benefits to this technology:

A. The camera can record and store the RAW and compressed images in-the-camera, or to an attached hard drive, which means zero bandwidth usage whilst recording. If more storage is needed, then recording directly to a NAS (network attached storage) or low cost file sever, is possible – without the need to invest in a central recording server and video management software. This equates to huge savings on the overall system cost.

B) The de-warping of the images occurs in the camera not an external computer.

The challenge for other IP camera manufacturers is that to reproduce the same high quality image results, their cameras would have to transport the raw 3 megapixel image over the network to a PC. With each individual 3-megapixel raw image being around 10 megabytes in size, at 12 frames per second this would equate to a bandwidth requirement of 1 gigabit! Even if you slowed down the frame rate, this is simply not viable even on a Gigabit Ethernet network.

To get around this problem, IP camera devices have to compress, in lower resolution, the fish-eye images at the camera first (using MJPEG or H.264) and then send them to the recording server to be processed again for the image analysis and distortion correction to be performed. Therefore the pan and zoom capability within the fish-eye video produced by these centralized systems has limited image detail and range of zoom, explaining why the video quality is substandard. The centralized platform does not allow user to have access to the raw image, for the purpose of high detail panning and zooming.

Analytics in Camera

The MOBOTIX Q24 will have the capacity to perform in-camera video analytics features without the need of an expensive 3rd party software or hardware. Traditional solutions have always been dependent on an external computing engine with special software. This approach severely limits the scalability and puts such highly sort after benefits out of most end-users. But this is completely changed with MOBOTIX Q24. Analytics processing is done in the camera and has zero back-end loading.

The MOBOTIX Q24, when mounted on the ceiling, will have a 360degree overview of the scene. It will have the capability to do in-camera analytics without the need for expensive, complex server and software setup.

Analytics detection features with full alerting:

- 1) Object Counting
- 2) Speed of Object travelling
- 3) Direction of Object movement
- 4) Stopped Object detection
- 5) Line barrier with Counter
- 6) "Heat" Map

5. How does the Product meet the judging criteria:

Product Innovation

Mobotix products are based on de-centralized platform and as such all cameras are intelligent computers with full processing capabilities. The hemispheric camera Q24 makes use of this “intelligent camera” approach to do in-camera image correction and in-camera analytics.

Design

Mobotix products are designed from a “no-moving parts” concept and as such the Mobotix Q24 which is IP65 certified can withstand wide operating environments while reliability is not compromised. It has also designed to be a very “discreet” surveillance tool and the general public will never associate the Q24 as a “monitoring” device, making deployments in hotels and retail environments much more effective.

Benefits to Consumers

For the first time, end users now have a device with powerful features which was previously possible only in very expensive and complex design. With high reliability built in, consumers can now practically “install and forget” as almost no maintenance is required.

Typically, a single Q24 hemispheric camera will replace up to 4 standard cameras, thus reducing the cost of installation and maintenance. In addition, the Q24 hemispheric camera will provide greater coverage with no blind spot.

User-friendliness of Product

The product is equipped with a quick start guide and can be setup in minutes. Step-by-step wizards are also built in should the end-user requires. The Q24 camera can be access and controlled from a variety of ways like web browser or MxEasy or MxCC control software. It can also be accessed from a host of mobile devices like smartphones and mobile tablets like iPads etc.

Significant of Unique feature

The hemispheric technology allows Q24 to have a 360 deg view (ceiling mounted) or 180 deg view (wall mounted). These viewing angles give the camera unparalleled field of coverage and at the same time allows image correction both in live view and in the recorded footage. Build-in analytics capabilities further enhances the potential deployment making it a truly a de-centralized, intelligent solution all in a device no bigger that the size of your hand.