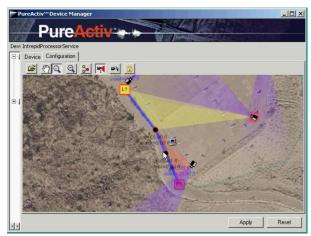# Application Description – PureActiv and Southwest Microwave Intrepid integration

PureTech has developed and deployed a compelling integration of its PureActiv intelligent video system with the Southwest Microwave Intrepid, Intrepid Microtrack and Volumetric microwave products. This integrated perimeter protection solution is deployed and operating at major airports, seaports, and water utilities throughout the United States.

During set-up of PureActiv, the Southwest microwave Intrepid sensor location is modeled in the PureActiv georeferencing map system. This process provides knowledge to the PureActiv system of the actual continuous location of the Intrepid sensor in the real world, including latitudes, longitudes, and elevations. PTZ cameras are then assigned to fence sections where line-of-sight exists between the camera and the fence to respond to intrepid intrusion detections. Camera presets are not required, which dramatically reduces system configuration time. Note that more than one PTZ camera can be assigned to a given fence section, to provide additional visual scrutiny at critical fence sections.
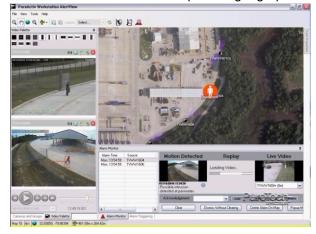

The same configuration process is used to define the physical locations of in-ground Microtrack and Volumetric microwave sensors within the PureActiv georeferencing map.

Upon intrusion detection, PureActiv commands PTZ cameras to point at the precise geographic location of intrusion. Additionally, the precise intrusion location is displayed on the GIS map within the PureActiv client application, which dramatically improves the user's situational awareness. Since Intrepid is able to provide accurate distance information and PureActiv converts the distance information to a precise geographic coordinate, the PTZ camera is able to zoom in much tighter on the target then a standard camera preset methods, which aides in automatic assessment.

When the PTZ camera arrives at the target, the PureActiv video analytics is invoked to further assess the target. PureActiv video analytics can classify the target as human, vehicle or other and command the PTZ camera to automatically follow the target. When the Intrepid sensor and video analytics both report a positive detection, the probability of detection is much greater then a single sensor and the false alarm rate is also dramatically reduced.

Unlike, less capable systems, PureActiv continues to control the PTZ camera to follow the target, even when it moves out of the field of view of fixed cameras. As the target moves, in addition to controlling pan and tilt, PureActiv controls the zoom to keep an optimal view of the target throughout the following process.

Solutions using the combination of these pre-integrated technologies have been successfully deployed to protect the perimeters of city utilities and major seaports and to detect incursions onto airport runways. The solution leverages the strength of both technologies for intrusion detection, automated assessment and target following. For additional information, contact PureTech Systems, Inc. at the contact information below.