

## Fire detection in Pirin National Park in Bulgaria

For the project "Sustainable forest management and environmental protection by building a forest fire detection system and an information center in the national park Pirin, Bulgaria", funded by the Foundation European Economic Area (EEA Grants), a fire detection system PYROVIEW/PYROSOFT FDS was delivered and installed by the company DIAS Infrared GmbH.

The system consists of three infrared cameras in weatherproof housings, each paired with a visual camera (Image 01). The weatherproof housings are mounted on pan-tilt heads. The system is equipped with the appropriate control hardware and software.



Image 01:  
Weatherproof housings with integrated infrared and visual cameras

The units were mounted on 20 m high towers that were specially built for this purpose (Image 02). The park area of "Vihren" on an area about 9000 ha is followed by the units at day and night without interruption.



Image 02:  
The fire detection system is mounted on 20 m high towers

If the IR cameras measure an elevated temperature that exceeds a predetermined value, then a message is sent to the control room in the administration of national park Pirin, Bansko. The signal is analyzed there and if so the origin of fire will be located. Together with the data of weather stations, which are also mounted on the towers, and the vegetation on site will determine the risk level for the spread of fire. First test measurements were completed successfully (Image 03).



Image 03:  
Inspection image of the infrared cameras.  
A potentially danger spot is marked red.

The system was successfully put into operation.  
The pilot phase of the overall strategy for sustainable forest management and environmental protection in the area of Pirin national park was initiated with the project. The strategy includes the expansion of the fire detection system to other areas of the park.