FireWatch
Automatic forest fire detection system

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Considerable annual damages by forest fires

- Worldwide: ~200000 km² burning area (2007)
- Europe: in average 5000 km²
- Germany: more than 1000 forest fires (95% caused by humans)
TET-1 and BIROS – a tandem system for the future

Satellite: 100 kg class, Cold gas propulsion system for orbit control (BIROS)
Sensor: CCD/CdHgTe
Channels: 2 IR channels at 3.8 and 8.9 µm, 3 channels in the optical range
Ground res.: 45 m/360 m (VIS/IR)
Orbit: 560 km, sun synchronous
Swath width: 211 km/178 km (VIS/IR)
Detection limit: a couple of m²
Launch: 2011/2013
What is FireWatch

FireWatch is a technology transfer project developed by DLR and commercialized by IQ Wireless GmbH.

FireWatch is composed of two parts:

1. A spectrally filtered low noise high performance camera system based on scientific instruments developed for space mission.

2. A highly advanced image processing system that automatically will detect a smoke column in a digital image.

Range up to 10-15 km.
Example output of AWFS NG pipeline
Brandenburg, Germany:
- area: 30000 km²
  (5% of Alberta)
- 36% forests
- 109 FW-systems operational

~6000000 ha monitored
IQ wireless GmbH

For two decades the system specialist IQ wireless GmbH is an excellent reference for advanced radio and optical sensor solutions. IQ wireless is internationally active in the field of satellite communication technology (IQ spacecom) and monitoring systems for environmental protection (IQ FireWatch).

- Technology leadership in early wildfire detection
- More than 300 optical sensors protect 6 million ha forest globally
- U.S. Space Technology Hall of Fame member
- Efficient broadband data communication links for small satellites
- On-board processing platform (OBP) for research payload of H2SAT

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