



# Fire Detection in Cargo Bays

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## Problem: false alarms

Against the background of high costs caused by false alarms of smoke detectors in cargo bays of airplanes, the AIRBUS Industries wants to establish a video-based smoke detection system (Cargo Fire Verification System - CFVS) in their new generation of A340 long-range airplanes.



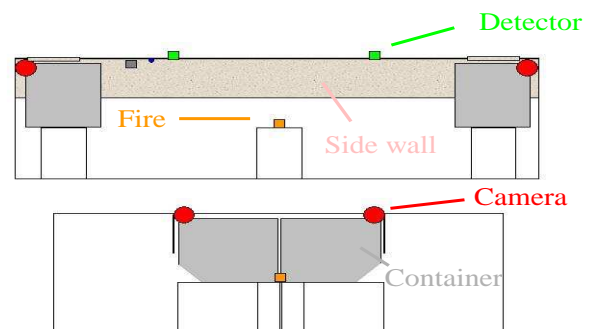
The department NTS is a consulting member of the new founded "CFVS Advisory Board". Its objective is to provide the definition of the most appropriate fire and non-fire events that the CFVS must deal with and suggest suitable test methods for providing adequate performance of the CFVS.

A suite of fire sensitivity tests applicable to vision-based fire detection systems has been developed by Goodrich Corp. and the University Duisburg-Essen.

## Fire and smoke tests

Fire and smoke tests will be performed at the Duisburg Fire Detection Laboratory in two major types of scenarios:

- standard EN-54 test fires
- modified test fires with test cell modifications, including camera obstructions by containers (see below).



Modified test cell with cameras and containers

Collected data will be used for smoke and fire detection algorithm development and refinement of performance standards for the CFVS. In addition to fire tests a lot of dust tests will be performed because dust looks similar to smoke on video and causes a lot of problems with optical smoke detectors in cargo bays.

