

# Team Information

Picture of vehicle:



ALF90 petrol engine  
(RF-Helicopter)



ALF75 electric engine  
(Reconnaissance-Helicopter)

Name of vehicle: ALF, 2 autonomous helicopters with gas / electric engines and flight control

Picture of team leader:



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# Team Information

## Team Description:

The team "Hochschule Offenburg" consists of the Institute for Unmanned Aerial Systems, which is located at a university of applied research with about 3800 students. We have developed a light weight and low power flight control system for model helicopters. At the Elrob 2012 we like to fly with two partly autonomous helicopters in tandem configuration. One of the helicopters is used as an RF-relay for the low flying reconnaissance helicopter equipped with cameras. The helicopters have fuel / electric engines with a dry weight of about 8 kg (fuel) and 6 kg (electric). They are equipped with an AHRS, an INS with GPS-augmentation and a flight control computer. The reconnaissance helicopter will be flown according to the camera images sent from the helicopters to the ground station. In order to hold the RF-connection, the RF-relay helicopter will autonomously fly above the reconnaissance helicopter. In order to hold the RF-link, the RF-relay helicopter has to fly in line-of-sight of the ground station. The flight altitude above ground of the RF-relay helicopter depends on the shape of the area. The ground station uses a tracking antenna with patch/parabola antennas and is equipped with monitors and the control systems.

## Sponsors:

University of Applied Sciences Offenburg

## Selection of scenario:

1. Reconnaissance and surveillance
2. EOR/EOD/IEDD/CIED

## Proof of citizenship: