



## The UAS-System for multiple missions in the field of Surveillance and Reconnaissance

- ✓ Wild & Forest Fires
- ✓ Oil- & Gas-Pipelines
- ✓ Electrical Power-Lines
- ✓ Sensitive Facilities
- ✓ Homeland Security
- ✓ Fishing Grounds

## UAV-SYSTEM

# UNIVERSAL



The UAS-System UNIVERSAL is designed for multiple missions in the field of Surveillance and Reconnaissance and especially to detect and monitor Fires. It incorporates newest data link technology and the air traffic control radar PHOENIX of the German Air Traffic Control organisation DFS.

The UAS system consists of a high performance Unmanned Aircraft Vehicle (UAV) built from carbon fibre composites and a mobile Ground Station, from where the missions are planned, controlled and evaluated.

The UAV carries customer specific sensorics and Infrared & Daylight Camera systems like the gimbal camera L3/WESCAM MX-10, which is able to detect Fires even in the presence of extreme smoke.

### SURVEILLANCE AND RECONNAISSANCE MISSIONS (EXAMPLES)



**WILD & FOREST FIRES**



**OIL- & GAS-PIPELINES**



**ELECTRICAL POWER-LINES**

### SYSTEM SPECIFICATION

## UAV

Performance	
Endurance:	> 10 hours
Cruise speed:	130 kts
Max. Altitude:	> 20.000 ft
Range:	160 nm (data link) 1.200 nm (Iridium)

Features
Carbon Fibre Composites
Retractable Gear
Twin-engine
E/O Daylight/Infrared camera
Automatic Take-off&-Landing
Data Multiplexing&compression
Anti-icing (optional)

Technical Data	
Span:	5 m
Length:	3 m
Max. TOW:	150-200 kg



Take Offs and Landings are executed automatically and can be performed from prepared roads, provisional landing strips and runways. The UAV flight route is programmable such that the complete flight may be autonomous, but manual steering by the UAV pilot during a mission is supported as well. A special software permanently evaluates the necessary Line of Sight between Ground Station and UAV and initiates flight manoeuvres to avoid a loss of radio connection.

The Data Link System transmits all video and flight data to the Ground Station in real time using innovative data compression methods.

In the Ground Station all camera and flight data are stored on a server and displayed on different monitors as moving map scenario so that the UAV operator can interpret and process the real time and stored data. Due to the use of the PHOENIX radar system along with a permanent radio communication between Ground Station and Air Traffic Control flight in controlled airspace is possible.



For additional information,  
please fasten your  
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[www.universal-uav.com](http://www.universal-uav.com)



## SYSTEM SPECIFICATION GROUND STATION

### Features

Multi-screen console for 1 pilot and 1 operator
DFS PHOENIX air traffic control radar
ATC radio communication
Data demultiplexing
Video acquisition & Distribution

### Features

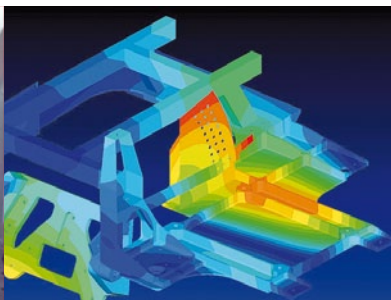
Alarm-handling software
Map Overlays/Scenarios
Streaming Server Management
Archive



## ABOUT SI

SI-Schweitzer Ingenieurgesellschaft mbH was founded in 1993 by Dr. Eng. Bert Schweitzer, former Chief Engineer of DASA subsidiary Rhein-Flugzeugbau GmbH. Originally focused on FEA optimisation of parts and structures for the automotive and aerospace industries, SI has evolved into an engineering partner in the aerospace industry, offering complete development and optimisation of systems, parts, and structures, in both the conventional and innovative areas of technical developments.

As certified Design Organisation (DOA EASA.21J.311) and Production Organisation SI covers all tasks from the first brainstormings and concepts over the detailed design to manufacturing and supplementary type certification (STC).



- ✓ Special Mission Aircrafts
- ✓ Unmanned Aerial Vehicles
- ✓ Cabin Interiors
- ✓ Avionics / In-Flight Entertainment
- ✓ Cabin Interiors

- ✓ Engineering
- ✓ Concept & Design
- ✓ CAE-Simulations
- ✓ Multi-Body Simulations
- ✓ Prototyping / Small Series

[WWW.UNIVERSAL-UAV.COM](http://WWW.UNIVERSAL-UAV.COM)



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