


# SOLUÇÕES FORA DE SÉRIE **Diamond**




Precision from Above 

# OBJETIVO



**CONHECER O CONCEITO DA PLATAFORMA DE MULTIPLOS PROPOSITOS A FIM DE IDENTIFICAR SUA APLICAÇÃO NAS RESPETIVAS MISSÕES.**



Precision from Above 

- **AERONAVE**
- **SENSORES**
- **PRINCIPAIS APLICAÇÕES**

# History

## **Diamond Aircraft Industries GmbH**

- ◆ Founded in 1981
- ◆ Composite Aircraft Manufacturer
- ◆ Offices in Europe, Asia and Canada
- ◆ 1800 Employees Worldwide
- ◆ > 3500 Aircraft Produced

## **Diamond Airborne Sensing GmbH**

- ◆ Founded in January 2006
- ◆ 100% Subsidiary of Diamond Aircraft Industries
- ◆ Conceptualized the Multi-Purpose Platform

### **AUSTRIA**



### **CANADA**



### **CHINA**

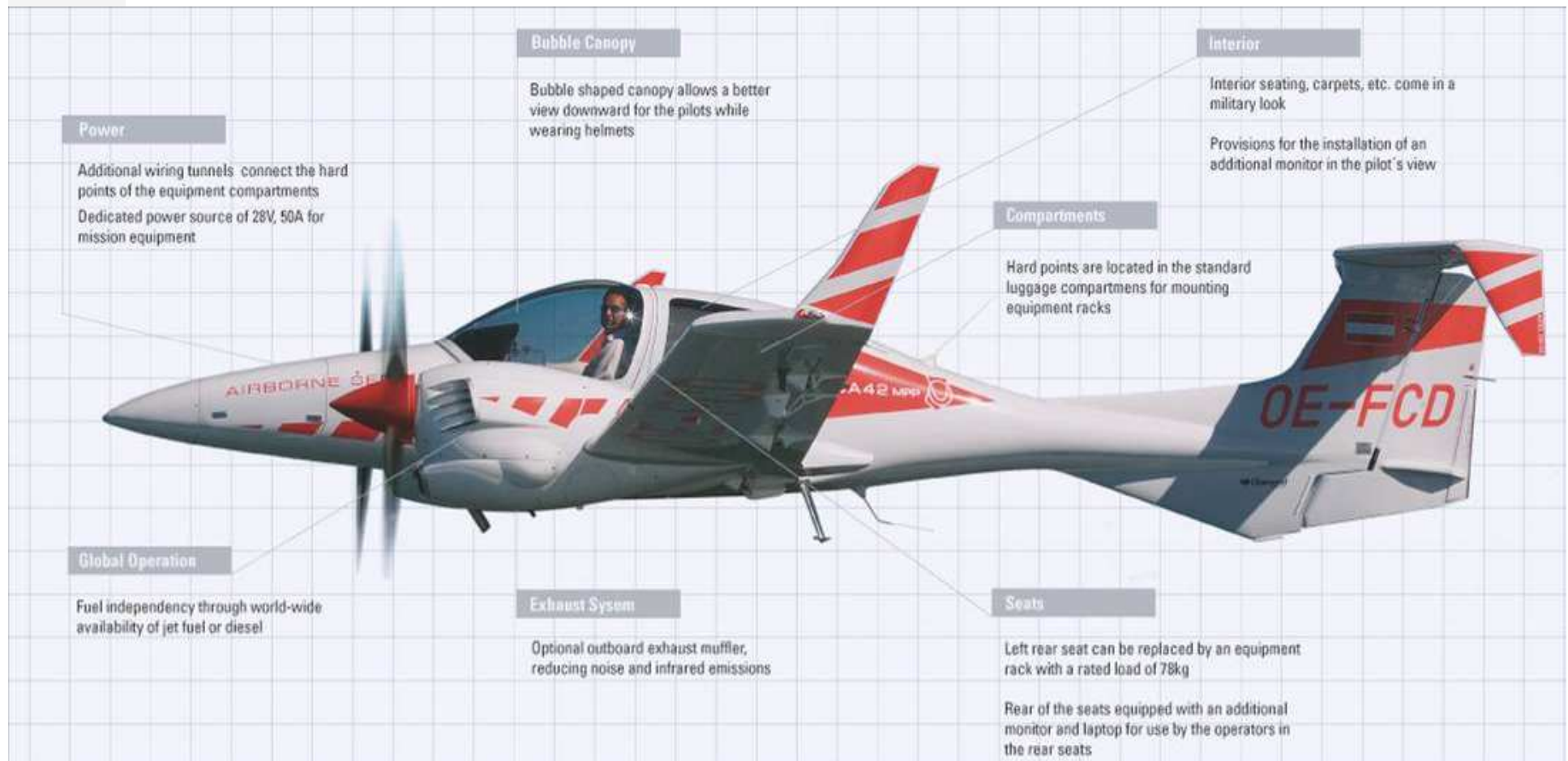


# THE MULTI-PURPOSE PLATFORM CONCEPT

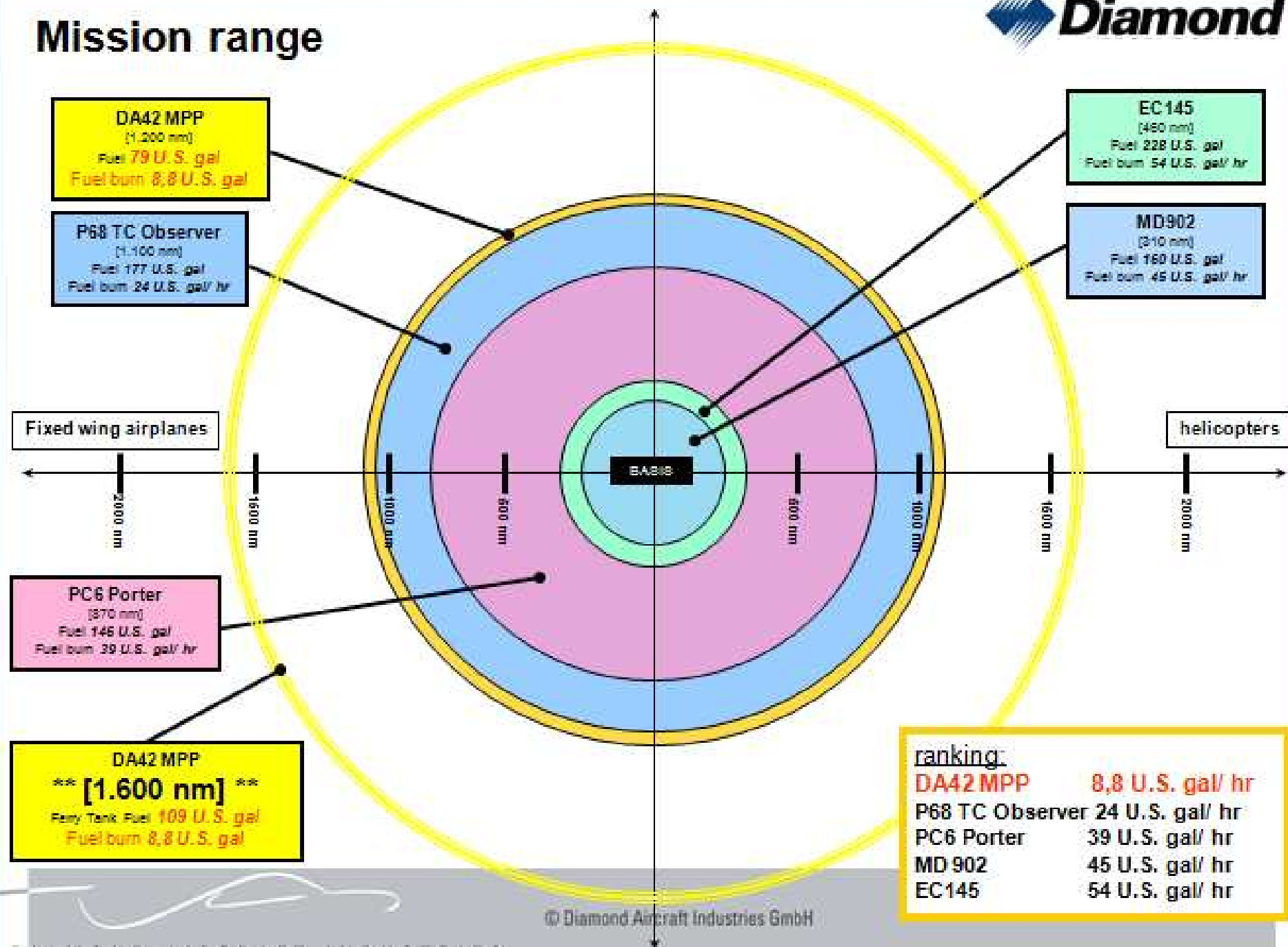




# **Diamond** Multi-Purpose, Multi-Feature



# Mission range



# DA42 MPP New Generation

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## Technical Specifications

<u>Low</u> Fuel Consumption	10,4 US gal. (39 lt.)/hour <u>total</u> @ 60%
Fuel Independency	runs on jet fuel (JetA1)
Service Ceiling	18,000 ft. (5,486 m.)
Max. Cruising Speed	TAS 175 kts @ FL120
Min. Operations Speed	IAS 76kts.
Endurance	13,5 hrs
Full IFR	





# SENSORES



# COMPLETE SYSTEMS

# SENSORES



**Laserscanning**



**HD TV Video**

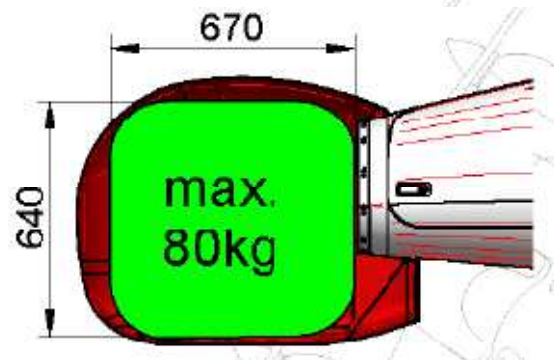
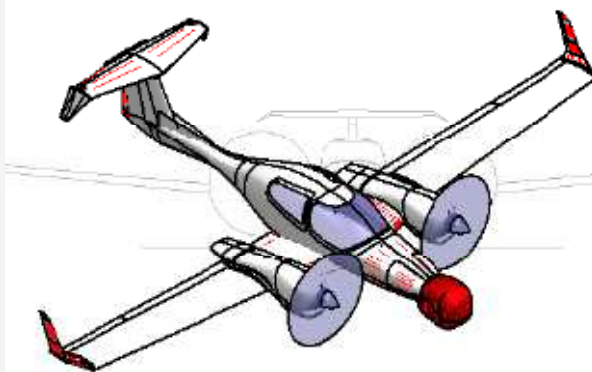


**Photogrammetrie**



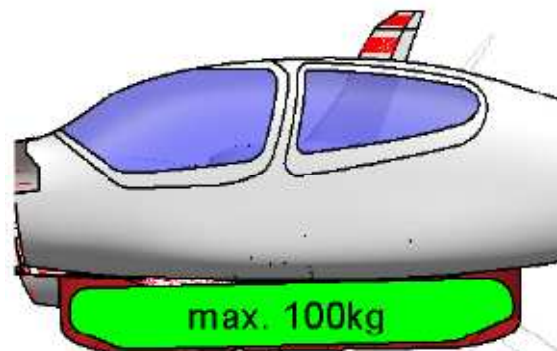
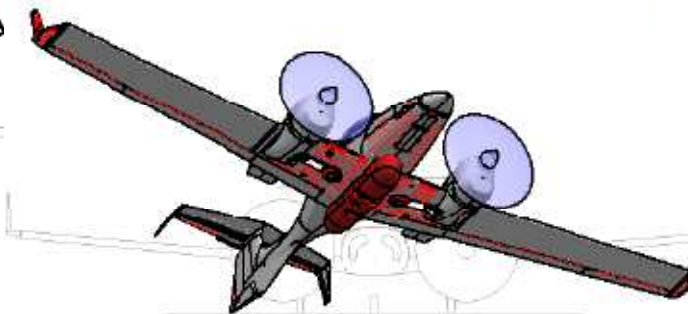
# DA42 MPP Guardian

## Nose Pod



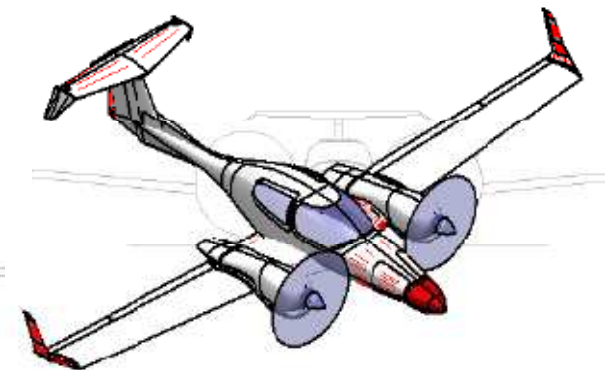
**177 lbs.**

## Belly Pod



**220 lbs.**

## Universal Nose



**177 lbs.**

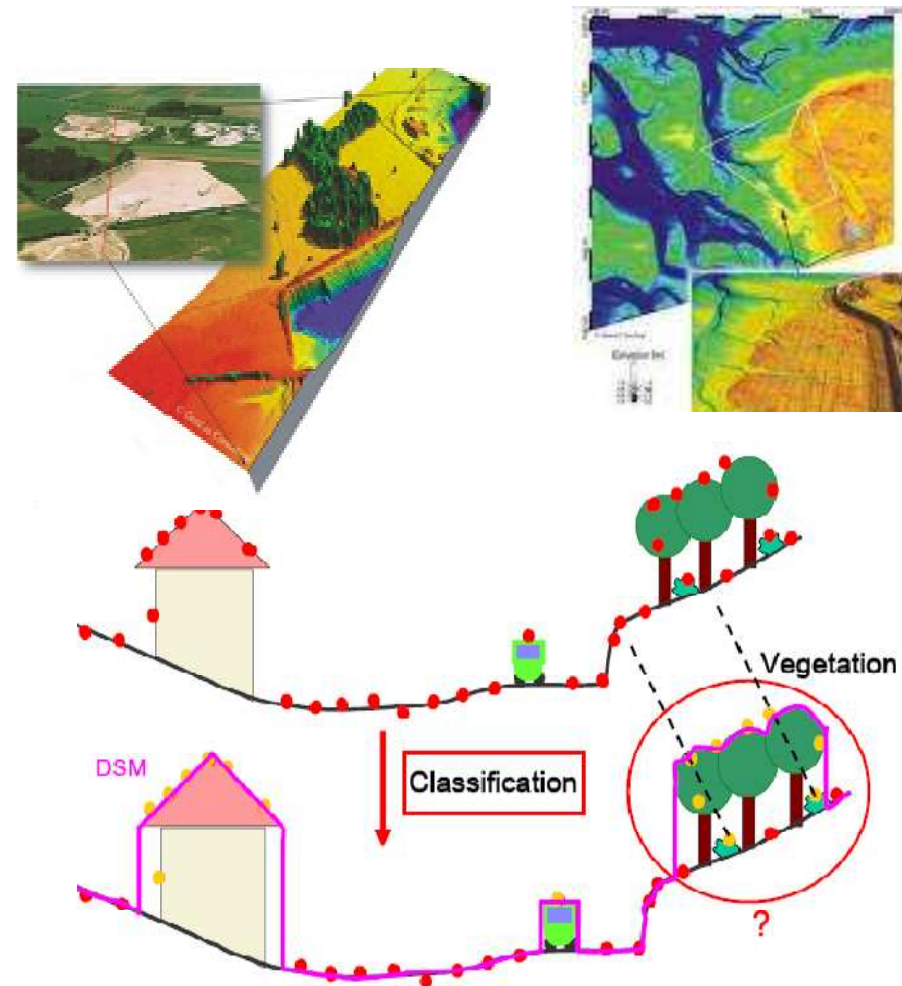
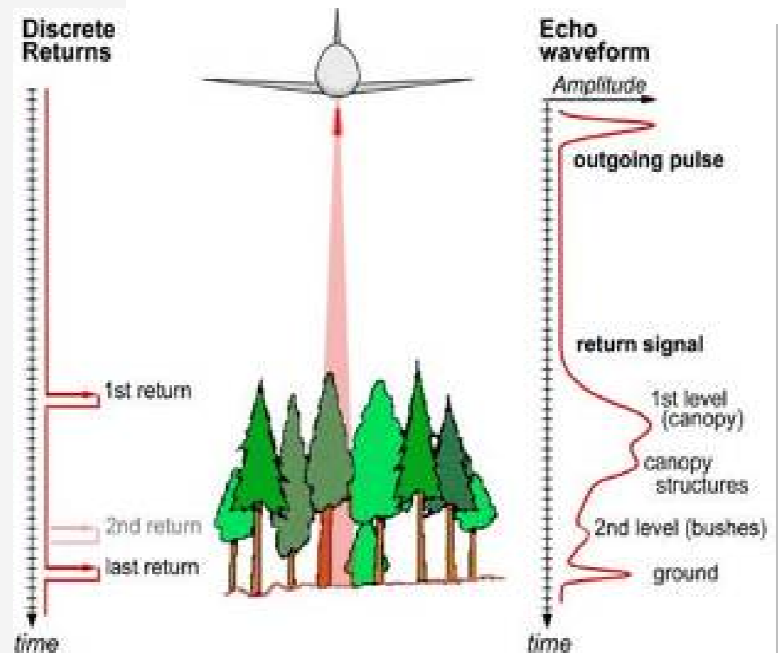
# DA42 MPP    Belly Pod

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# Laser Scanning





# Photogrammetry – Nose Pod Basis

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# DA42 MPP (Fotogrametry)

In cooperation with **Microsoft®**

## **Performance data:**

- ◆ 196 megapixels
- ◆ collection rate of 2.5 Gbits per second
- ◆ Pixel size on the ground (GSD) up to 1.8 cm
- ◆ Post-processing on board
- ◆ urban maps with minimal occlusions
- ◆ Digital Elevation Models (DEMs) with no spikes or holes
- ◆ high-quality large-scale ortho-photos

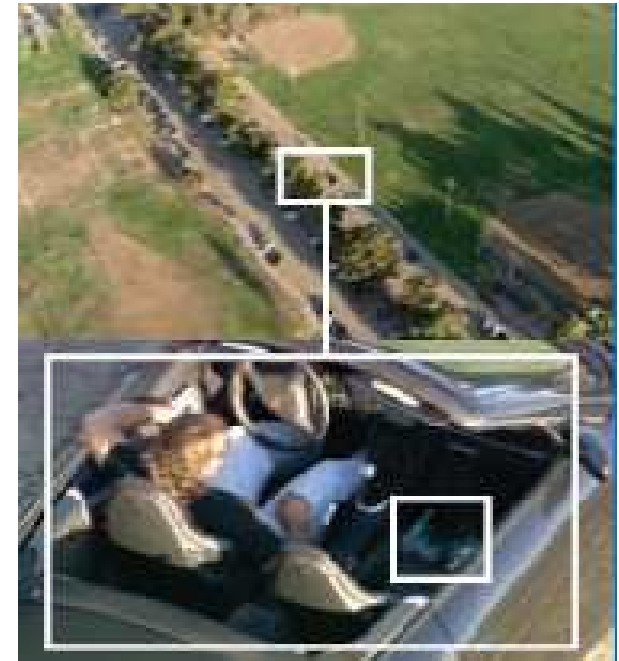


# Multimedia High-Definition

## Camera System

### “Function Multimedia Gimbal”

- ◆ Highest level of detail in day/night scenarios
- ◆ Fully optical high-magnification lenses with motorized 2x extenders (84x optical zoom)
- ◆ Longest HD zoom capability available
- ◆ Five-axis gyro-stabilized HD gimbals
- ◆ Infrared capability
- ◆ WFOV – wide-angle view in a separate window
- ◆ Encrypted HiDef Microwave Downlink



# DA42 MPP GUARDIAN

## *Universal Nose E/O and EO/IR applications*

### **Multimedia**

FLIR Ultra Media

Polytech Pixel 275

Cineflex V14 HD

Cineflex V14MS II

### **Law Enforcement**

Carl Zeiss Goshawk 350

Polytech Ultra Force 350

FLIR Star Safire III

Carl Zeiss Argos 410-Z

L3 Wescam MX-10

Carl Zeiss Leo-III-HD

FLIR Talon

### **Specialized Applications**

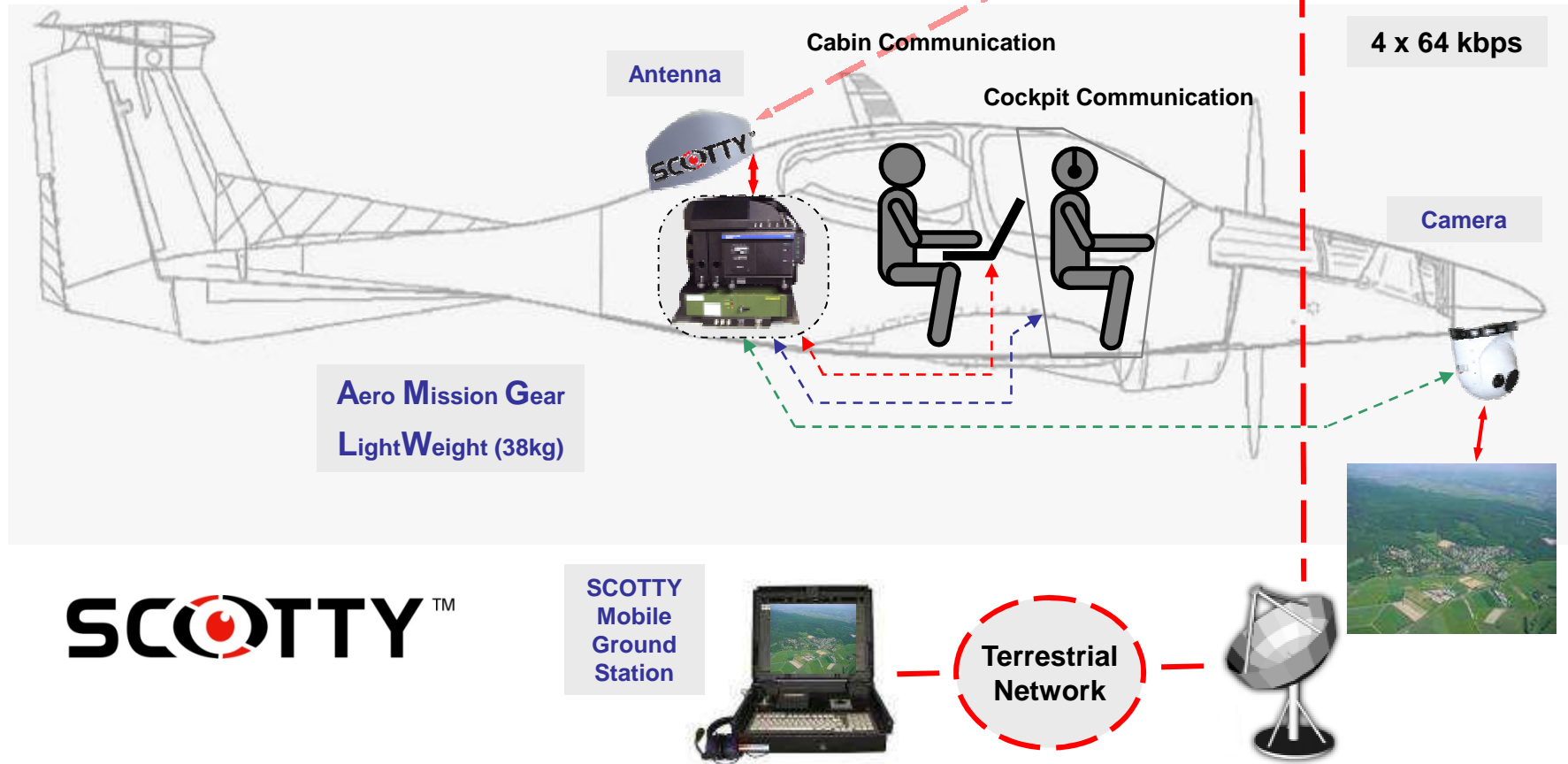
Polytech Kelvin 275

Polytech Corona 350

FLIR Star Safire HD

L3 Wescam MX-15i True H

# DA42 MPP Satellite Up-/Downlink





# Beyond – line – of – sight

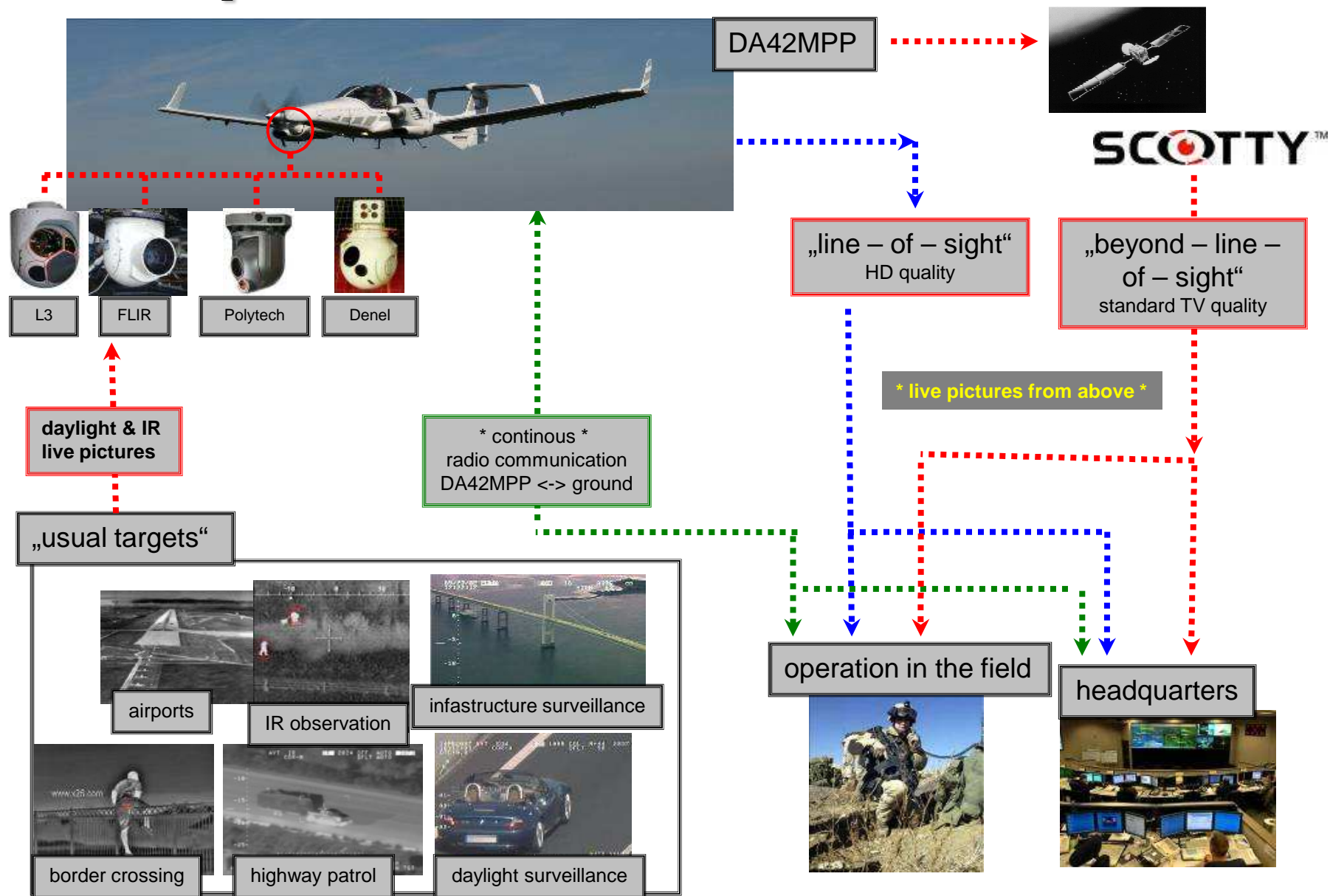


## SATCOM

- ◆ 4 channels at 64 kbps each
- ◆ Simultaneous:  
Voice, Data, Video and Internet  
transmission from air to ground  
and vice versa
- ◆ Real time video or data  
transmission with a throughput  
of up to 256 kbps via the  
Inmarsat network
- ◆ Prepaid option available
- ◆ Bandwidth is available in 64kb/s increments
- ◆ Very small monthly maintenance fee about USD 25,00
- ◆ Usage fees charges about USD10,00 per minutes / 64kp/s of bandwidth



# Principles of Data Transmission



# APLICAÇÕES



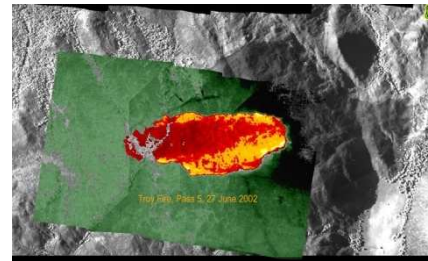
## **Spirit and Purpose of Airborne Sensing**



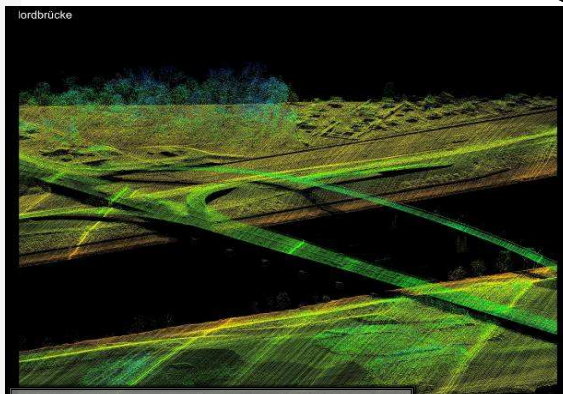
# customers need ground data...



power line monitoring



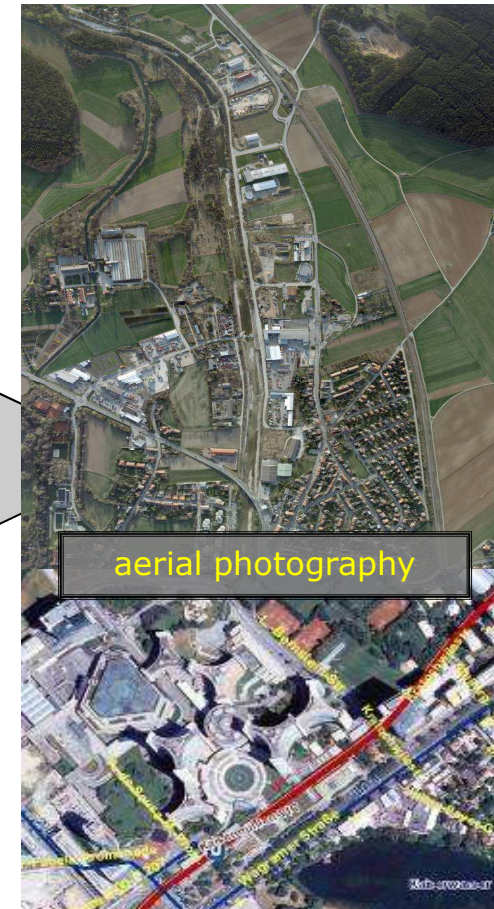
fire fighting



infrastructure  
planning



geo-hazard  
management



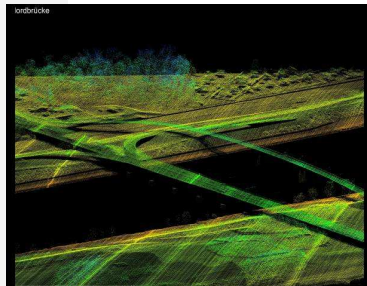
aerial photography

and mapping

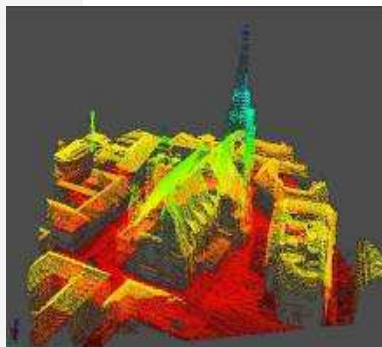


# and we are providing these data...

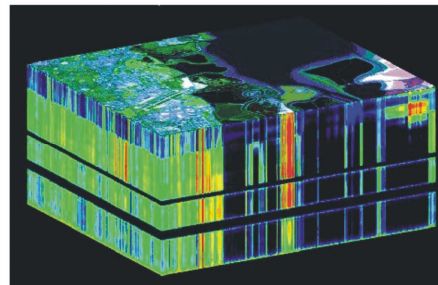
laser scanner data



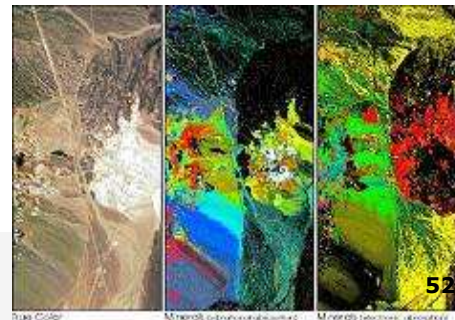
- infrastructure planning
- power line monitoring
- forest canopy mapping
- snow depth measurement
- flood prevention
- mass movements detection
- geo-hazard management



hyperspectral/ multispectral data



- Mining (delineation of ore bodies)
- Water supply – vulnerability mapping of karst areas
- Vegetation analysis
- Forest and landuse mapping
- Security applications (e.g location of vehicles/tanks covered by camouflage).



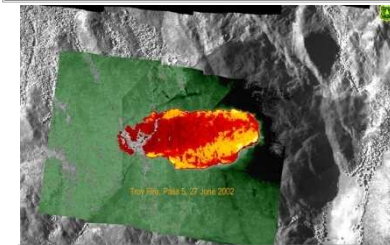
photogrammetric data



- 3D maps
- ecological disasters
- urban mapping



environmental/  
infrastructure monitoring



- oil spill detection
- fire fighting
- pipeline leak detection
- power line monitoring
- border control
- law enforcement
- airborne surveillance
- fishery
- maritime/ coastal patrol
- TV broadcast





# WE DELIVER COMPLETE SOLUTION SYSTEMS

we do it most...

- cost efficient
- fuel independent


and...

- at lowest noise level
- with longest endurance
- platform worldwide available and
- operable
- **AND** a fully certified complete system (FAA, EASA , ANAC)



.....with our **DA42MPP**

Multi Purpose Platform

Precision from Above 

## SOLUÇÕES INTEGRADAS



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