AeSystem

High resolution

AeSystem is a high performance LiDAR and photogrammetric equipment.

Light and compact

Only weights 30 kilos and it is easy to transport.

Power consumption

The whole system has a low power consumption.

Set up

It has an easy way to set it up in different aircrafts.

Centralized control

AeMission allows full control during the data acquisition through a unique software.

Storage

Well organized storage in SSD disks.

"We adapt our system AeSystem to your requirements or projects"

AEROLASER
ADVANCED LIDAR TECHNOLOGIES

AeSystem

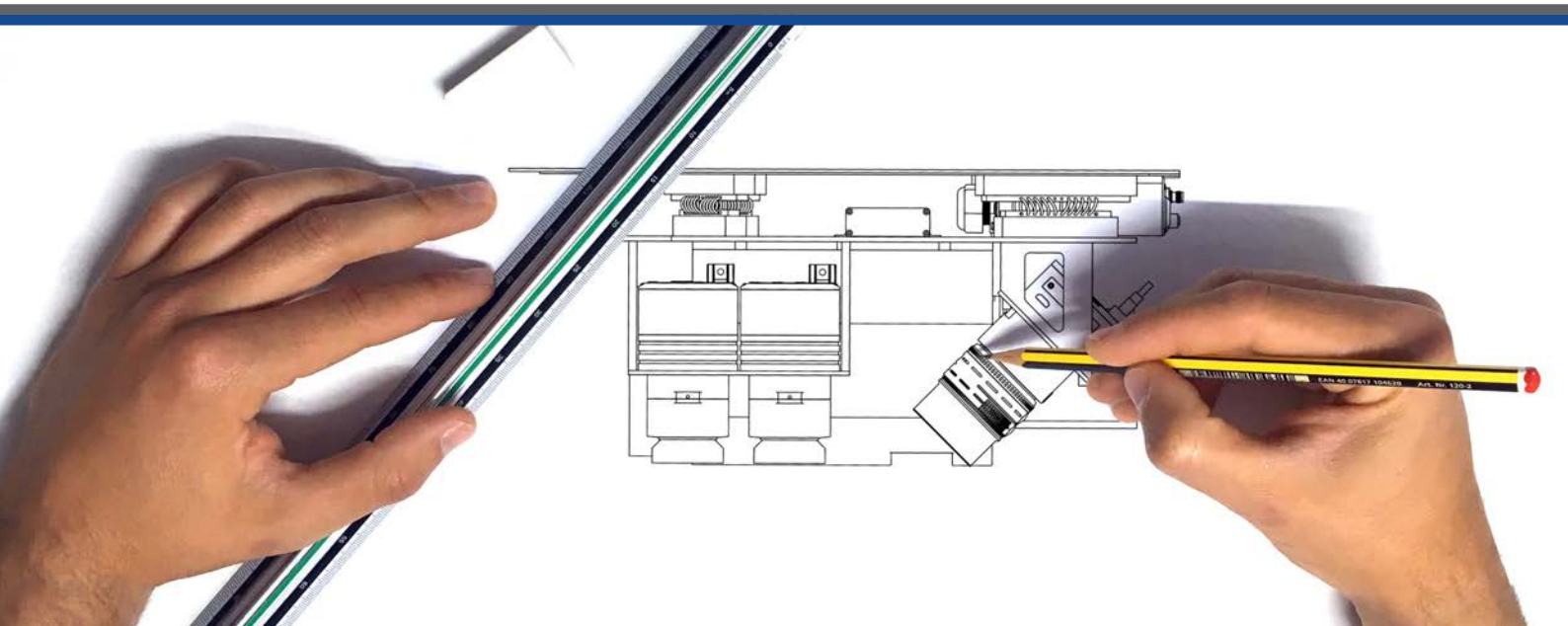
AeSystem is a high performance LiDAR and photogrammetric equipment, that allows us to carry out geospatial services worldwide, obtaining excellent results.

Thanks to the versatility of the developments, AeSystem lets us set it up in different configurations, depending on the requirements of the projects. We adapt our system to achieve all the technical requirements of the project.

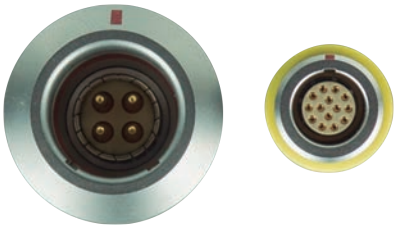
The system is configured by a laser scanner, a set of photo, thermal and video cameras, one inertial control unit AeCU formed by a GNSS and IMU. It also has one AePC.
AePC controls the whole system in an easy and efficient way. It use AeMission, an application developed by Aerolaser System, which was designed to control, manage and parameterize all sensors during the data acquisition. AePC also store all acquired data from the sensors.

We can adapt AeSystem to your project's requirements or specifications. The system allows to set up with up to 6 cameras. The selection of cameras could be chosen from RGB or NIR PhaseOne or Hasselblad cameras (100 and 150 megapixel), thermal cameras and high definition video cameras. All the combinations allows us to achieve excellent results and to fulfill projects of great scope and complexity.

New Riegl sensors are already integrated in our systems.

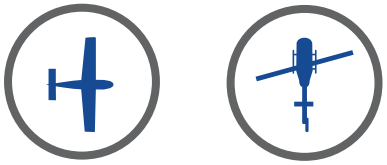


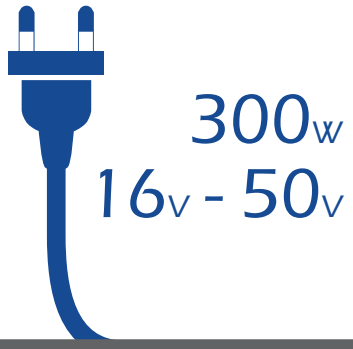
Although the AeSystem system can be configured with a wide variety and quantity of sensors, it has the great advantage of being compact and lightweight. It only weights 30 kilos and it is easy to transport. Its design has been studied, specially to carry out projects worldwide.
It is important to highlight that the system does not need any specific license, as each piece of equipment meets all the necessary requirements to be able to enter and be used in any country on the globe.
The total transfer of equipment can be done by hand in two or three suitcases.



The materials to built the system are of high quality, among which for example, we can highlight the aluminum alloy 7075 or the carbon fiber, which give robustness and lightness to the equipment's support and structure.
Lemo connectors allow secure connections between all equipment in the system.

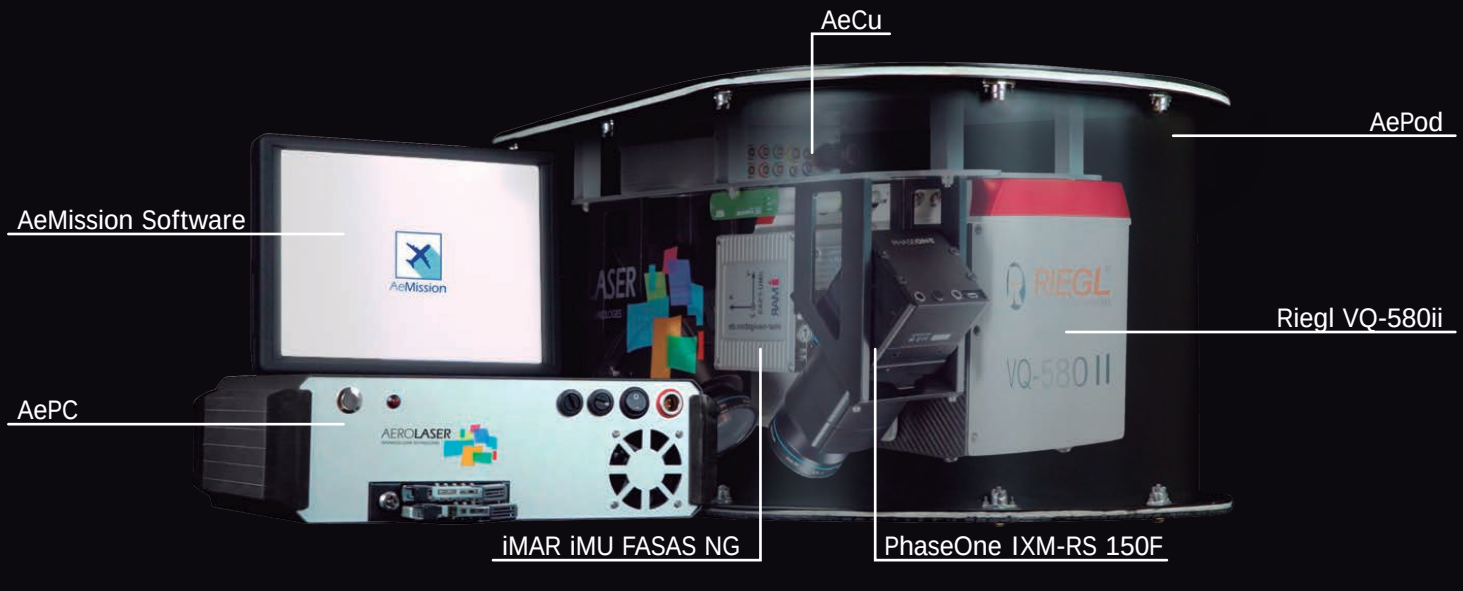
Another advantage of the system is the easy way to set it up in different aircrafts.





The system is powered by the auxiliary power supply of the aircraft, connected directly to the AePC that distributes the energy through an umbilical cable to all the sensors.

The system becomes operational between 16V and 50V. If necessary, we could transform the system input voltage to another value instead of the mentioned range.



AePc

- AePC distributes the power through an umbilical cable to all sensors.
- It manages all acquired data and controls all the sensors.
- It uses SSD disks to store acquired data from sensors.
- AePC is controlled by AeMission, a development software by Aerolaser.

AeHub

- AeHub expands your computer's USB for data transmission.
- It is able to mantain the USB 3.0 transfer rate due to the safe connection of Lemo connectors.
- USB 3.0 ports that can transfer data up to 5 GPS.
- It is suitable to use in harsh environments.

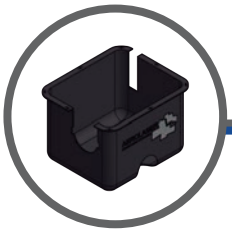
AeMission

- Flight Management System.
- Full control and parameterization of all sensors during data acquisition.
- All sensors data are visualized in real time.
- A well organized and effective structure for data storage.

AeCU

- It is responsible for the synchronization of inertial data in mobile environments.
- It obtains the position and orientation to georeference remote sensors.
- Internal clock with nanoseconds accuracy.
- All sensors are directly connected to the unit using Lemo connectors.

AePod

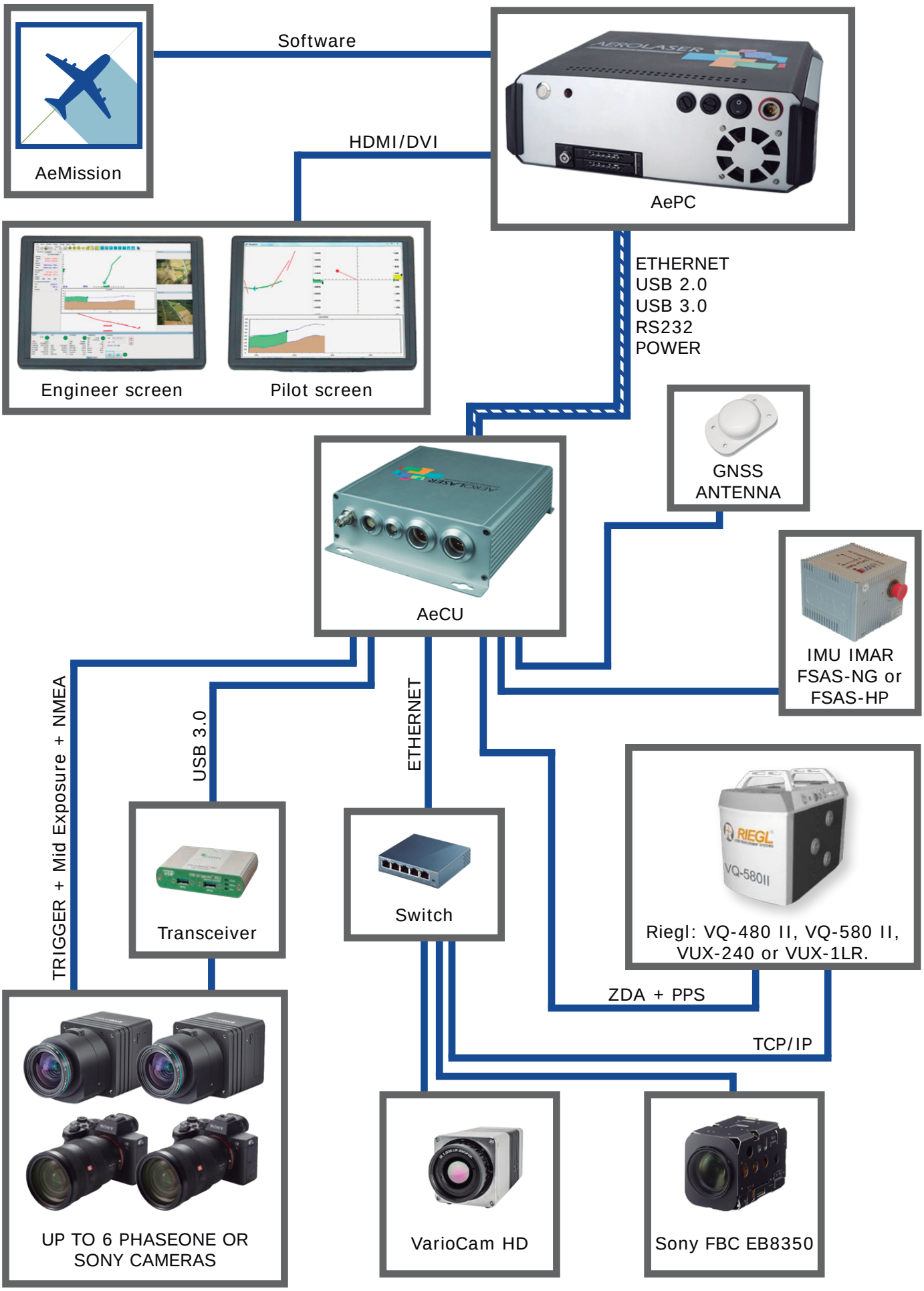


- It is the equipment's case and it provides anchoring support to the different sensors and to the electronics used by the equipment.
- Thanks to the excellent quality of AePod materials, due to its lightness and robustness, while prepared to support harsh environments at the same time.
- Variety of design. We have three AePod models. I addition we design new models at the request of our customers.

AePC includes Windows 10 and AeMission license.

Windows 10

AeSystem general configuration



Technical data

EQUIPMENT	BRAND AND MODEL
Aerial laser scanner	Riegl VUX-1LR Riegl VUX-240 Riegl VQ-480 II Riegl VQ-580 II
IMU (Inertial Measurement Unit)	IMAR IMU-FSAS-NG IMAR IMU-FSAS-HP KVH 1725 KVH 1750 KVH 1775 KVH CG-5100 SENSONOR STIM300
Digital cameras RGB / NIR	PhaseOne IXM-RS 150F PhaseOne IXM-RS 100F PhaseOne IXM 100 Sony alpha 7R mark IV
Lenses	Rodenstock, E-mount
Video	Sony FBC-ER8350 camera block
Thermal camera	VarioCam HD Head 800
GNSS	Javad TR-3N Trimble BD940
GNSS Antenna	ANTCOM
Synchronization and power unit	AeCU 2.3
PC	AePC
Software	AeMission
Peripheral devices	Sunlight readable screens
Equipment container (Box)	AePod

MULTIPLE CONFIGURATIONS TO FULFILL ALL KINDS OF SERVICES

All SENSORS ARE CONTROLLED WITH AN UNIQUE APPLICATION

AeMission

AeMission is an app developed by AEROLASER SYSTEM. It is a Flight Management System, it helps the flight engineer to control the entire system during the data acquisition. AeMission allows the user to configure, parameterize, control and collect the data of each sensor in the system. No third-party software is required.

During the flight, the acquired data is displayed on screen in real time. Moreover, it graphically presents the laser profile and the pictures of the cameras in use. All the data is geo-referenced in the exact same place where they were acquired. This is possible thanks to our AeCU control unit.

Another important factor is the way AeMission saves all the data on the AePC SSD and interchangeable disks. The data is well organized in a single project folder, and stored by session, sensor type, flight lines, date and time. In this way, everything is stored through a solid and clean structure, which speeds up following processes or file searchings.

- App developed by AEROLASER SYSTEM.
- Flight Management System (FMS).
- It allows full control of the whole system.
- All sensors data are visualized in real time.
- A well organized and effective structure to store data.
- AePC uses SSD disks and they are interchangeable.

AEROLASER

ADVANCED LIDAR TECHNOLOGIES

AEROLASER SYSTEM S.L.
comercial@aerolaser.es
www.aerolaser.es