



# 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”



# 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 up different configurations depending on the requirements of the projects while adapting to achieve the technical requirements to carry out the whole 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 while in charge of the flight management and storing of all acquired data throughout the flight. Everything is possible thanks to AeMission, an application developed by AEROLA-SER SYSTEM.



We can adapt AeSystem to your project's requirements or specifications. The system is able to set up with up to 4 RGB or NIR PhaseOne cameras (each one with 100 megapixel), 2 thermal cameras and 2 high definition video cameras (depending on the configuration). This allows us to deliver results of unbeatable quality and to develop projects of great scope and complexity.



Despite the amount of equipment that the Aesystem houses and its dimensions, it has a great advantage of being light and compact. 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.



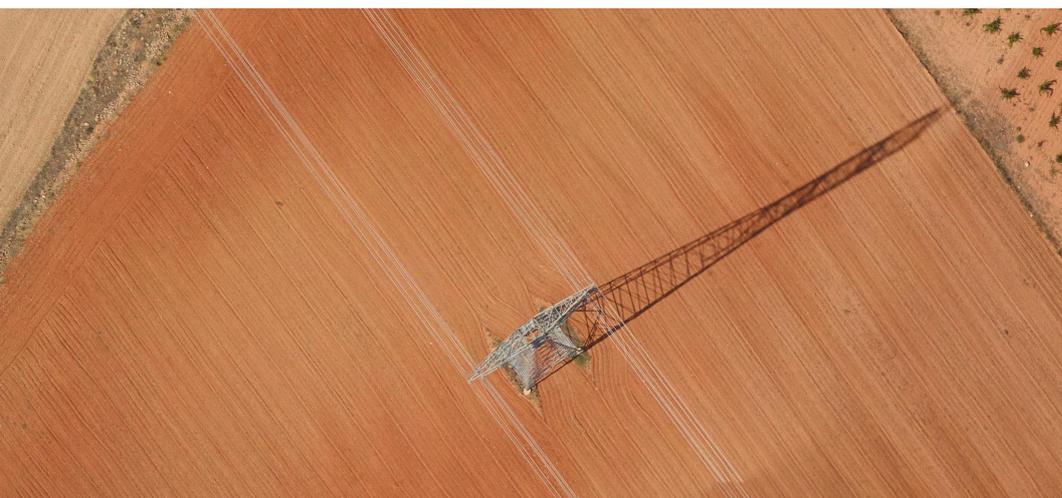
The manufacture materials of the system are of high quality, among which for example, we can highlight the aluminum alloy 7075 or the carbon fiber, which give robustness and lightness to the equipment's support and structure.

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.



AeSystem has been specially designed for corridors as power lines, railways, oil pipelines, roads, obtaining excellent results and giving an added value with the use of RGB, NIR or thermal cameras.



Power lines corridors



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

AePC is in charge of the voltage consumption of each system's sensor. It takes the power from the aircraft auxiliary output, which can be between 16 volts and 50 volts, and the whole system becomes operational.

AePC does not need any additional power supply or converters and if necessary, we could transform to other input voltage.



300w

16v-50v

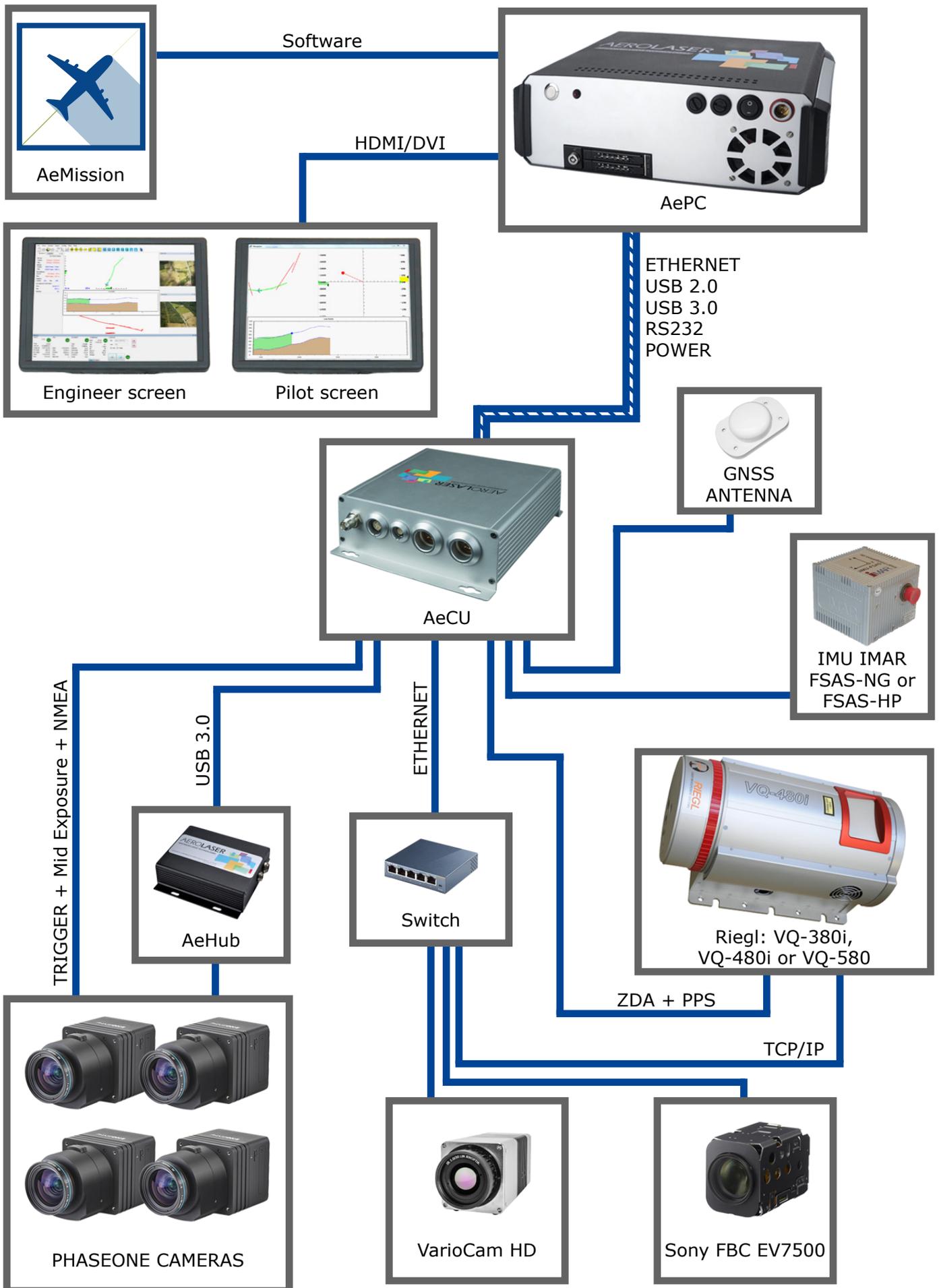
The power consumption of the system is another highlight point. If the configuration of the equipment which consumes the most or utilizes the majority of possible sensors, the power consumption will not surpass more than 300 watts.



AePC includes Windows 10 and AeMission licence.



# AeSystem general configuration



# Technical data

## EQUIPMENT

## BRAND AND MODEL

Aerial laser scanner	Riegl VUX-1LR Riegl VQ-380i Riegl VQ-480i Riegl VQ-580
IMU (Inertial Measurement Unit)	IMAR IMU-FSAS-NG IMAR IMU-FSAS-HP
Digital cameras RGB / NIR	PhaseOne IXU-RS 1000 PhaseOne IXU 1000 Prosilica GT 4905C Hasselblad A6D
Lenses	Rodenstock Schneider
Thermal camera	VarioCam HD Head 800
GNSS	Javad TR-G3T
GNSS Antenna	ANTCOM
Synchronization and power unit	AeCU 2.2
PC	AePC
Software	AeMission
Peripheral devices	Sunlight readable screens
Equipment container (Box)	AePod





# 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.

AeMission helps the user throughout the flight. First step is to load the flight plan of the area to study and the software will present the necessary data to assist the pilot with navigation and the parameters needed for the flight engineer.

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 disks. The data is well organized in a single project folder, and stored by session, sensor type, flight axis, date and time. In this way, everything is stored through a solid and clean structure, which speeds up the following processes or file searchings. The disks are solid state disks and interchangeable, so they can simply be removed from the computer and carried to the office.



## AeMission

- 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.



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