

A photograph of two men in a grassy field. One man on the left is wearing a white shirt and glasses, leaning over a white and red UAV. The other man on the right is wearing a striped shirt and glasses, sitting on the grass. The UAV has a propeller and a camera mounted on it. The background is a green lawn.

# **ANALISIS CITRA RESOLUSI TINGGI**

**dengan menggunakan**

**Unmanned Aerial Vehicle  
(UAV)**

## MANFAAT :

- Menghasilkan informasi yang sesuai dengan kebutuhan pengguna.
- Menghasilkan peta tematik yang diproses dari data citra resolusi tinggi.



**UAV**

**AirFrame**

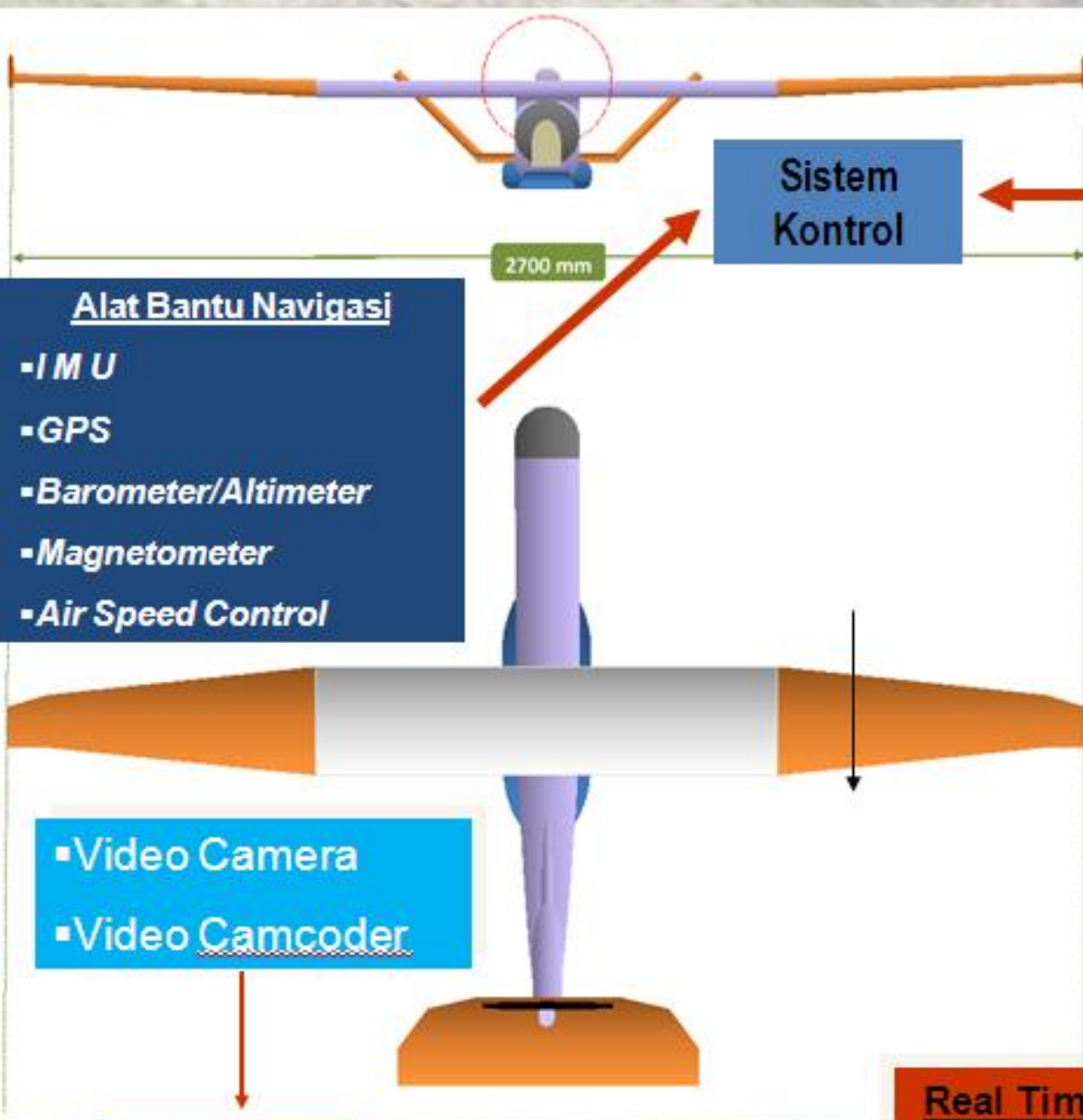
- Sistem Navigasi
- Sistem Video

**Ground Control Station**

- Display Sistem Navigasi
- Telemetri Data Terbang

**Real Time Video**

- Display/Monitor
- Receiver Video



MODEM

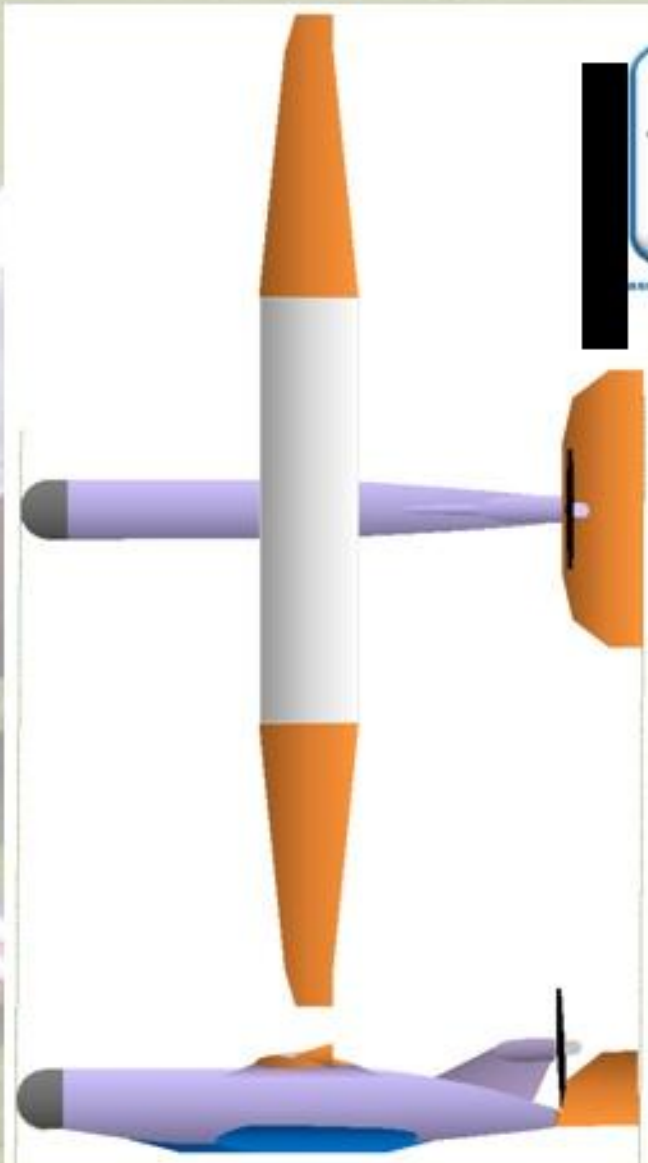
MODEM

GCS

**Real Time Video**  
 ▪Display/Monitor  
 ▪Receiver Video

Video Transmitter

## Electric (E) & Gasoline (G)



- ▣ Wing span : 2.7 m
- ▣ Length : 1.6 m
- ▣ MTOW : 5 - 7Kg
- ▣ Endurance : 1.5 h (E) ; 3.5h (G)
- ▣ Power Plant: 1300 Watt Motor (E);  
20 cc 2 stroke Gasoline (G)
- ▣ Telemetry Radius: 15 Km



# Metode Kerja Pesawat Tanpa Awak

**Pesawat Terbang Tanpa Awak (PTTA)**  
**Unmanned Aerial System (UAS)**



# Persiapan Material dan Peralatan



GPS

Kamera



Pesawat



# Mobilisasi Dan Demobilisasi Tim dan Peralatan



# GROUND CONTROL STATION

111111 R [Play] [Pause] [Stop] [Home] Folder [Folder] OFF ON

COM PORT ANTENNA PWM\_OUT SENSORS JOYSTICK

COM\_PORT: COM5  GPS\_PROTOCOL: UBX

BAUD\_RATE: 57600

STATUS:

PLATFORM: BACKPACK GPS\_MESSAGE: BP\_GPS

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WP: HOME 25 50 75 100 125 DIST\_WP: 475.0m

MODE km/h HDG meter <<TARGET\_ALT>>

THR ASP SPD ALT

98.0 N/A TURN COORDINATES L R RESET

SETTINGS INSTRUMENTS PLANNER COMMAND BEACON PARAMETER

SATELLITES: 0 HDOP: 0 DATA\_POI: 951 LATITUDE: 0.775626

GPS\_STAT: NOT\_LO RUN\_TIME: 1 min, 7 secs LONGITUDE: 117.789765

\* GPS\_Time: 3/28/2011 9:19:19 PM \*

Image © 2011 TerraMetrics  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image © 2011 DigitalGlobe

Imagery Date: 6/16/2009 0:48:34.78° N 117:45:59.60° E elev 0 m Eye alt 4.24 km

SET HOME TOP VIEW FRONT VIEW CHASE VIEW BEARING LOCK CLEAR TRACK EXIT

# SURVEI PENDAHULUAN



# GPS DAN PRE-MARK

The image displays a screenshot of the ArcMap software interface. The main window shows a map of a watershed area with various streams and sub-watersheds labeled, including D. Sukakarya, D. Sukamanah, D. Sukagalih, D. Sukaresmi, D. Cibedug, D. Cisarua, D. Batulayang, D. Kupa, D. Cibeureum, and Jambu Luwuk. A red triangle marker is placed on the map with the ID 115-815716. The interface includes a menu bar (File, Edit, View, Bookmarks, Insert, Selection, Tools, Window, Help), a toolbar with navigation and editing tools, and a Layers panel on the left. An inset photograph in the lower-left corner shows a field site with a white tarp, a laptop, and a red cross marker. The Windows taskbar at the bottom shows the Start button, open folders (D:\Driver, F:\AOI\_PU), and several open applications, including a browser and the ArcMap window. The system clock shows 23:38.

# GPS Control -PRE-MARK



## AKUISISI DATA

- Sekali Misi Penerbangan sekitar 3 Km, dengan sapuan 2/3 h
- Tinggi terbang berkisar antara 100 sd 200 meter di atas permukaan tanah.
- Kamera digital dengan resolusi tekstur sekitar 12 MegaPixel
- Resolusi spasial yang bisa dicapai bisa berkisar di bawah 10 cm (rata-rata sekitar 5 cm).



The infographic is set against a light orange background. On the left, a white and blue UAV is shown suspended by four black lines. Below it is a small inset photo of a person operating a UAV. In the center, a person is shown from the side, holding a blue and white RC airplane and a remote control. To the right of the person are two electronic devices: a black GPS data logger and a smartphone. Below these elements are two text boxes with black borders.

**UAV & RC AERIAL SYSTEMS**  
These aircraft allow for lower altitude missions, are capable of delivering ultra-high resolution, and the system is highly transportable.

**GPS DATA**  
Spatial data is obtained by an independent GPS data logger, with Bluetooth GPS interaction, or with GPS radio downlink.

## Hasil Mozaik Hulu Sungai Ciliwung



## Hasil Mozaik Hulu Sungai Citarum

