

2024-2025

## CONTENTS

- About Us
- Our Vision and Mission
- Our Team
- Goals
- Projects
- Competitions We Will Participate In
- Sponsorship Packages
- Contact



## **ABOUT US**

As the Halaskar UAV Team, our name is inspired by Mustafa Kemal Ataturk's title "Halaskargazi." The term "Halaskar" means "savior," and "gazi" is a title given to those who show exceptional success in battle. Together, these words formed the title "Halaskargazi" as an homage to Ataturk. As a team, we aim to reflect Ataturk's innovative and saving spirit in our UAV projects. We symbolize our mission to advance Turkey with innovative and original defense industry and R&D; projects through this name. The name Halaskar represents both the inspiration we draw from the past and our hopes for the future



#### **Our Vision**

To produce innovative projects in the defense industry and train engineers who create and contribute. Our goal is to ensure the safety of military personnel and enhance their operational efficiency with our projects.

#### **Our Mission**

To develop and implement innovative and original defense industry and R&D; projects, offering applied learning opportunities and contributing to Turkey's progress. We aim to encourage university students' participation in research and development, fostering their creative thinking and problem-solving skills.



## CREWS



## AIRCRAFT DESIGN TEAM

Aircraft Design Team prepares detailed drawings and models using CAD(Computer Aided Drawing) software to optimize the aerodynamic structure. They ensure that components such as the fuselage, wings, and landing gear are designed for maximum efficiency and durability. Additionally, they develop and integrate autonomous flight and control systems. These processes ensure that the UAV(Unmanned Air Vehicles) can operate safely and effectively during missions.



Emircan Demir - Aircraft Team Leader - Team Captain Istanbul Gelisim Universty | Aeronautical Engineering



Pinar Ece Opan
Istanbul Technical University | Aeronautical Engineering



Burak Taş Istanbul Gelisim Universty | Aeronautical Engineering



Mert Özyılmaz Istanbul Technical University | Aeronautical Engineering



Ömer Faruk Cömert
Istanbul Technical University | Aeronautical Engineering





## **AVIONICS TEAM**

Avionics Team is responsible for all hardware in the electronic and communication systems required for projects. They design and test circuit boards and systems during this process. The team conducts R&D and analysis for systems such as the flight control unit, communication systems, autopilot, safety, and security. These systems play a crucial role in ensuring the aircraft is safe, stable, and, most importantly, functions as an unmanned aerial vehicle.



Mert Gürlek - Avionics Team Leader

Yıldız Technical University | Electronics and Communication Engineering



Hakan Hamza Uğur

Boğaziçi Universty | Electrical and Electronics Engineering



Amirarshia Najari

Istanbul Yeni Yüzyıl Universty | Electrical and Electronics Engineering



Ali Özkurt

Istanbul Technical University | Electronics and Communication Engineering



Salih Çağrı Çalışkan

Istanbul Technical University | Electronics and Communication Engineering



## MECHANICAL TEAM

Mechanical Team is responsible for designing and analyzing all mechanical systems required for the project. They create 3D models using CAD(Computer Aided Drawing) software and evaluate the durability of structures. The team produces prototypes of the designs, completes the assembly and integration stages, and is ultimately responsible for testing and validating the performance of the systems.



Aydıner Dikme - Mechanical Team Leader
Istanbul Technical University | Mechanical Engineering



Kamil Pınar Istanbul Technical University | Mechanical Engineering



Berke Can Cırık
Istanbul Technical University | Mechanical Engineering



Yusuf Kaan İkinci Istanbul Technical University | Mechanical Engineering



Yiğit Demircan
Istanbul Technical University | Chemical Engineering



Selim Mutlu
Istanbul Technical University | Metallurgy and Materials Engineering



Etem Enes Külköylüoğlu Istanbul Technical University | Mechanical Engineering



## SOFTWARE TEAM

Software Team meticulously plans all stages of the software development processes. Their responsibilities include developing flight control algorithms, integrating sensors, and performing data analysis. Additionally, they aim to deliver high-standard products by conducting quality and performance tests at every stage of the project. With a commitment to interdisciplinary collaboration and continuous learning, the team aspires to lead and innovate in pioneering projects within the industry.



Yiğit Özdemir - Software Team Leader
Yıldız Technical University | Electronics and Communication
Engineering



**Açelya Oktay**Yıldız Technical University | Control and Automation Engineering



Yağmur Sert
Yıldız Technical University | Industrial Engineering



Yusuf Samet Özal Kocaeli Universty | Computer Engineering



Berk Erdoğan Yıldız Technical University | Computer Engineering



Alp Eren Suekinci
Yıldız Technical University | Control and Automation Engineering



## EMBEDDED SYSTEMS

Embedded Systems Team plays a critical role in our project by integrating software and hardware components. Their responsibilities include designing flight control systems, processing sensor data, and optimizing systems. The team aims to deliver reliable and efficient solutions by conducting comprehensive tests to meet real-time performance requirements.



Sevval Rabia Aygün-Embeed Systems Team Leader Istanbul Technical University | Control and Automation Engineering



Eylül SafiyeVaryemez
Istanbul Technical University | Electronics and
Communication Engineering



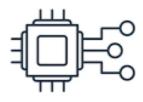
Alperen Aydın
Kadir Has Universty | Engineering



Efdal Demirtuğ
Istanbul Technical University | Electronics and
Communication Engineering



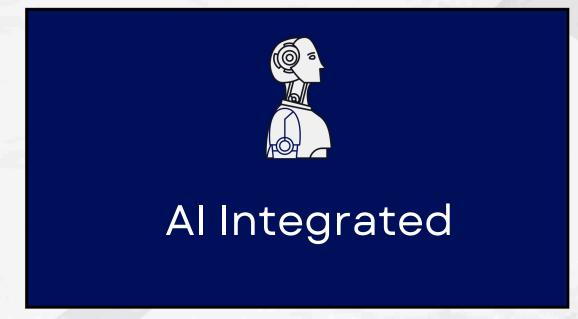
Sami Emre Mutlu
Yıldız Technical University | Control and Automation
Engineering

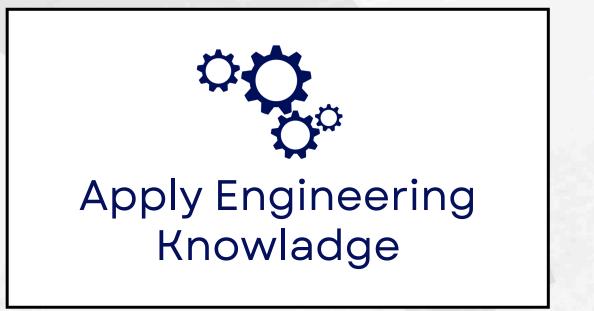


## GOALS











# OUR PROJECTS: HALASKAR CARGO UAV (UNMANNED AERIAL VEHICLE)

The Halaskar Cargo UAV is a conceptual design being developed to address the resupply challenges faced by the Turkish Armed Forces (TAF) in rugged mountainous terrains. Designed as a hybrid UAV, it stands out with its ability to perform vertical take-offs and landings, as well as achieving high speeds in emergency situations. Equipped with a high cargo capacity to meet urgent needs and autonomous take-off, landing, and flight capabilities, Halaskar is poised to make a significant contribution to solving the logistical challenges encountered by the TAF while operating in harsh and challenging geographical areas.



## HALASKAR CARGO UAV - KEY FEATURES

#### Hybrid Design:

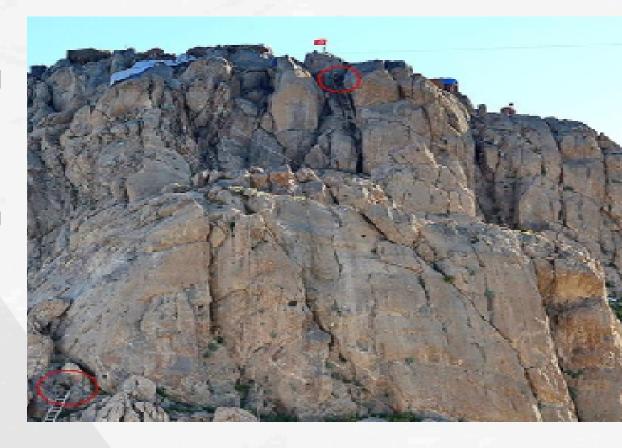
- Capable of vertical take-off and landing (VTOL) for operations in confined or rugged terrains.
- High-speed capability for emergency situations.

#### High Cargo Capacity:

 Designed to efficiently transport essential supplies and equipment, addressing urgent resupply needs.

#### **Autonomous Operation:**

- Equipped with advanced systems for fully autonomous take-off, landing, and flight.
- Minimizes the need for operator intervention.



The terrain image where resupply is expected to be facilitated with the help of the Halaskar Cargo UAV



### **OUR PROJECTS: VTOL ELECTRONIC WARFARE UAV**

#### Kamikaze Drones in Modern Warfare

In recent years, kamikaze UAVs (Unmanned Aerial Vehicles) have entered the warfare lexicon, revolutionizing traditional military doctrines. Their use and development have evolved remarkably, particularly during the Russia-Ukraine War. A simple \$300 drone can destroy multimillion-dollar weapons and systems, posing a significant risk to conventional armies.

#### System Advantages

- Cost-Effective: Development and production costs are low.
- Sustainable: Electronic jamming equipment is reusable and easily transportable.
- Portable: Can be effortlessly deployed by mobile units.
- Tactical: Easy to operate, with preventive and destructive capabilities.



### ELECTRONIC JAMMER WORKING PRINCIPLE

Electronic Warfare (EW) systems use various antennas and electronic systems to detect and disrupt enemy signals. Depending on the type and strength of the detected signals, EW can employ different jamming techniques. These techniques include:

Noise Addition

Frequency Blocking

• False Signal Transmission

Electronic Warfare (EW) systems are also designed to protect friendly forces' RF communication while disrupting enemy signals. They achieve this by detecting the frequency range and power of friendly signals and adjusting their jamming techniques accordingly. EW systems can also be used to gather information about the electronic environment on the battlefield. This information can help friendly forces plan and execute electronic warfare operations.

- Advantages of EW Systems:
- They are effective in neutralizing enemy UAVs and other RF-operated systems.
- They help protect friendly forces' RF communication.
- They can collect information about the electronic environment on the battlefield.
- They are relatively inexpensive.
- They are easy to use.



### **VTOL ELECTRONIC WARFARE UAV**





HALASKAR VTOL ELECTRONIC WARFARE UAV



## **SNAPSHOTS OF PROGRESS**





## SNAPSHOTS FROM OUR MEETINGS





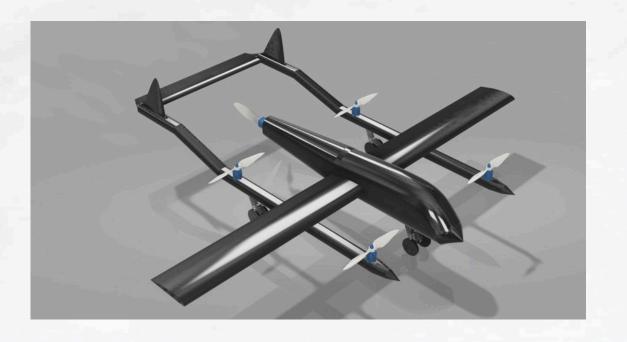


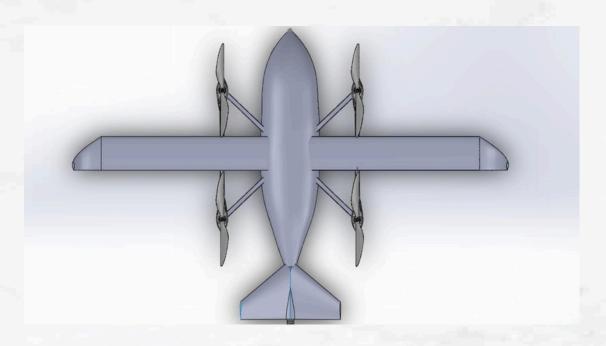




## **CONCEPTUAL DESIGNS**



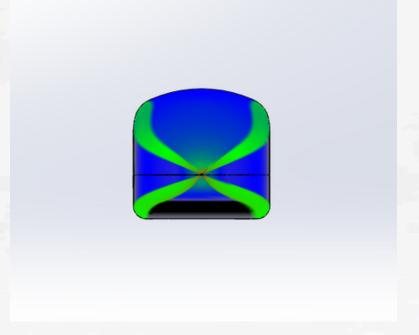


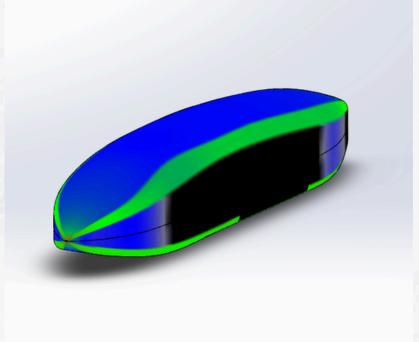


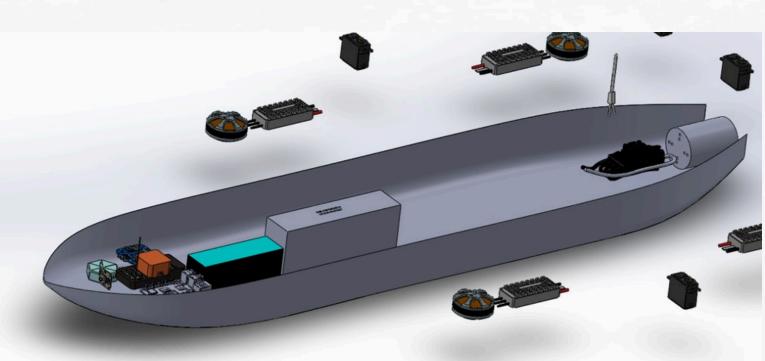


## **CONCEPTUAL DESIGNS**

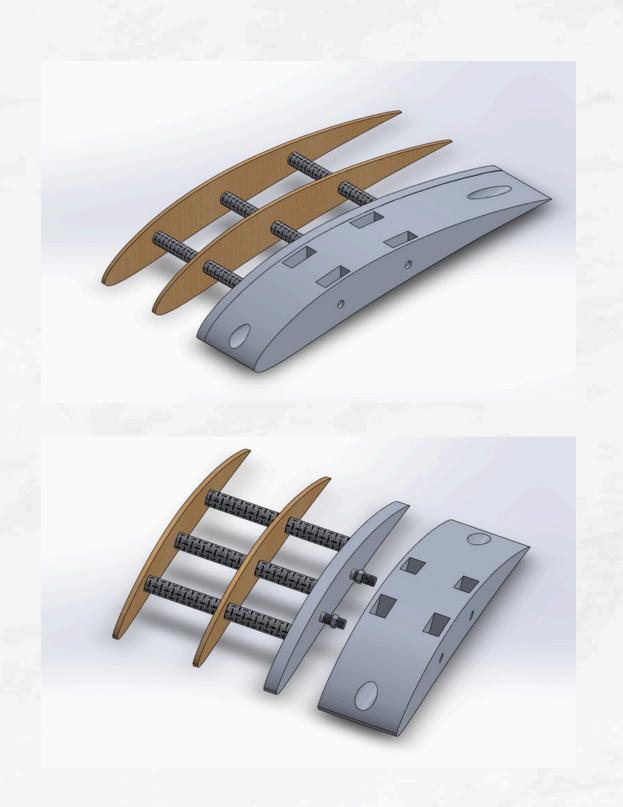


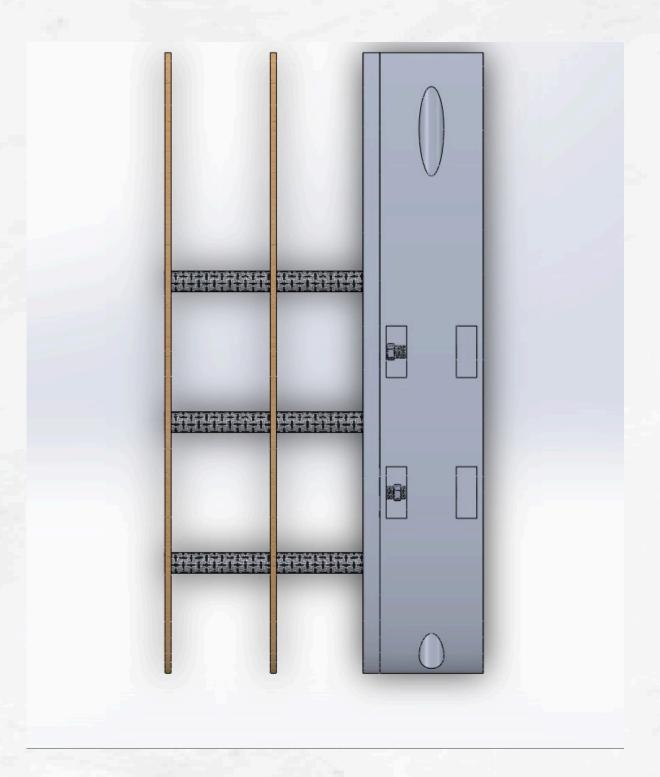


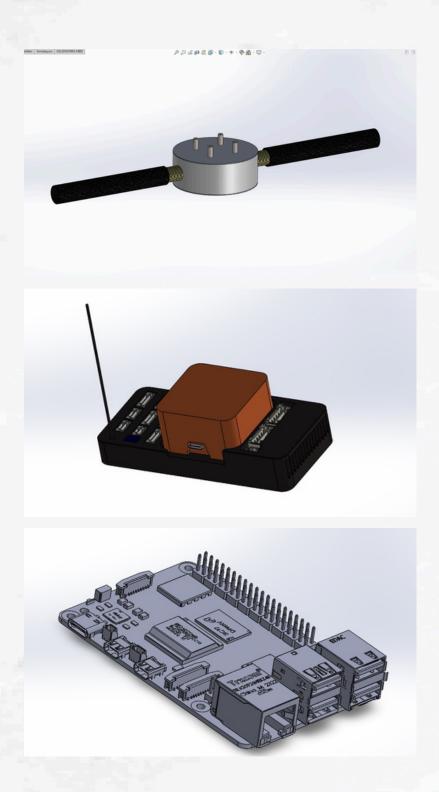




## **CONCEPTUAL DESIGNS**







## OUR SPONSORS & OUR PARTNERS



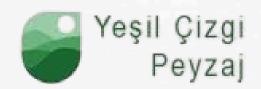
### **OUR SPONSORS**

# aselsan









### **OUR PARTNERS**

Businessman Mr.Atabey Değirmenci

Lawyer Mr.Yusuf Demir



## SPONSORSHIP PACKAGES



SPONSORSHIP PACKETS	BRONZE 1000\$	SILVER 2500\$	GOLD 5000\$	PLATINUM 7500\$	TITANIUM 10000\$	DIAMOND 15000\$
SOCIAL MEDIA						
T-SHIRT LOGO						
WEB SITE						
PENNANT						
PLAQUE						
LOGO ON-VEHICLE						
JOINT EVENT WITH THE COMPANY						
MODEL VEHICLE KIT						
COMPANY PROMOTION						
VEHICLE AESTHETICS						
VEHICLE NAMING						

<sup>\*</sup>The size of the logo on the vehicle will change in proportion to the amount of support given.

# CONTACTINFO

@ituhalaskar | ihahalaskar@gmail.com | www.teamhalaskar.com

Team Captain: Emircan Demir | +90 546 535 9254

Collaboration Representative: Mert Gürlek | +90 536 982 5063

