



FLYING AS LONG AS THE SUN SHINES



Presentation :

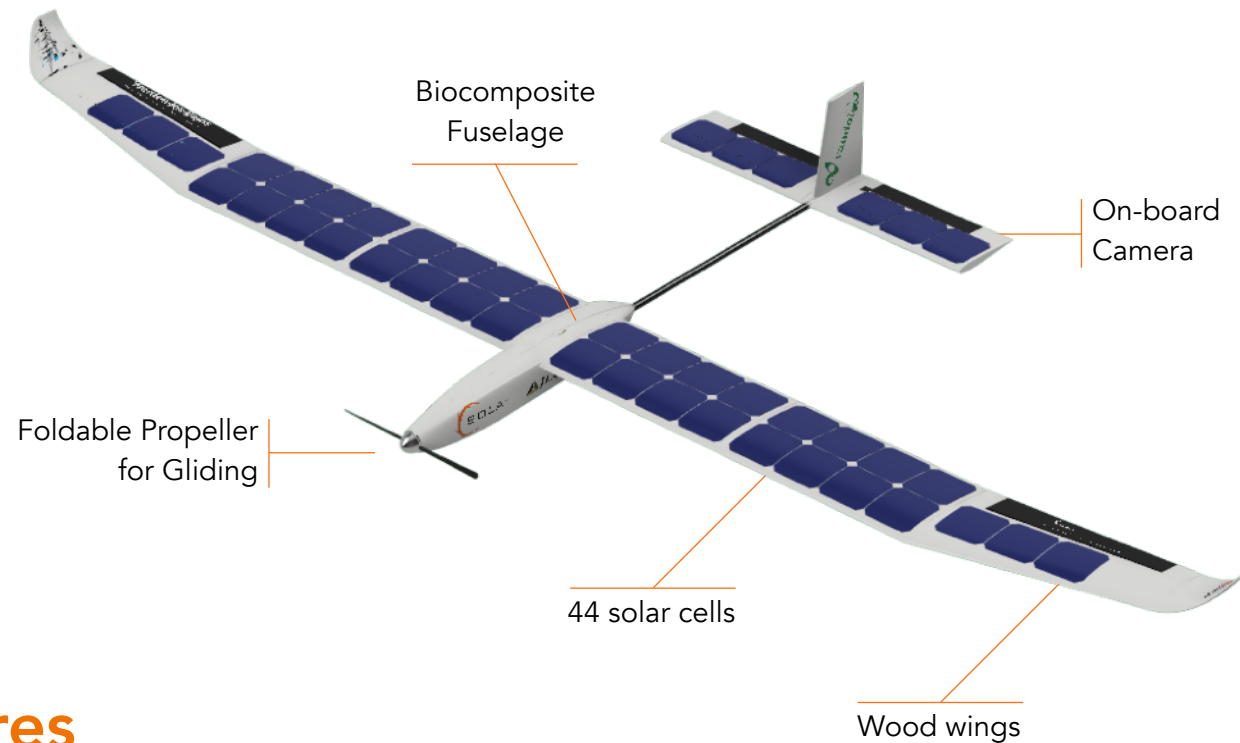
Projet Sola - *Prototype IV*

## Objectives:

With this **fourth prototype**, we aim to achieve a solar-powered flight lasting **8 hours!**

This will be made possible by the **44 photovoltaic cells** covering the wings.

We also aspire to set an example in the design of low-carbon demonstrators through the use of biocomposites. The first flight is scheduled for **summer 2025**.



## Key Features



Time of flight :  
8hours



Weight :  
3kg



Speed :  
60km/h



Flight Range :  
15km radius



Control :  
Autonomous

## About Us :

We are a small team of passionate individuals, consisting of 9 members, all students at the École Polytechnique Fédérale de Lausanne (EPFL). Here are some key figures of the project:

9   
EPFL Students

+4   
Years of Project

4   
Prototypes

+10  
Partners et labs

+10'000  
Hours of Work

**Low CO<sub>2</sub>**  
BioComposite & Woods

**Machine Learning**  
Optimisation CFD

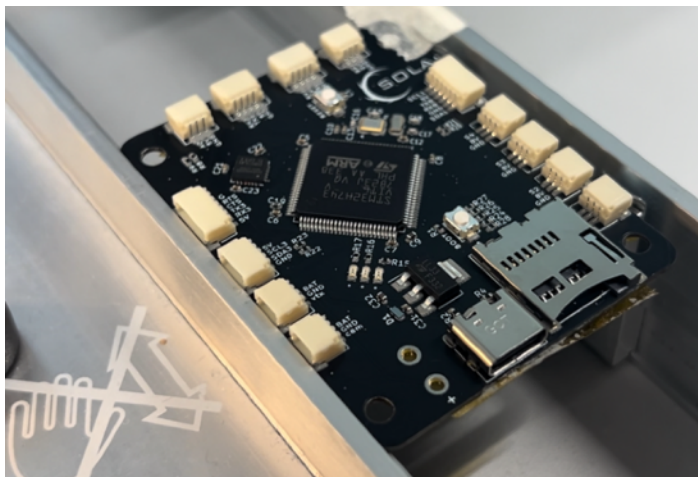
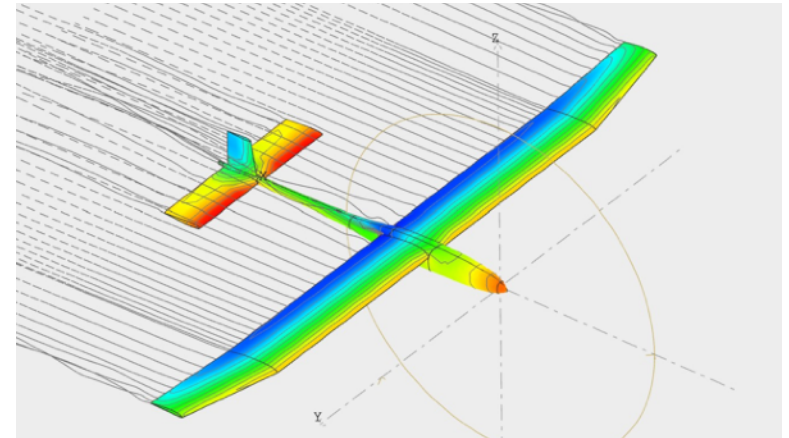
The **Projet Sola** was born 4 years ago when the idea of creating a solar-powered aircraft emerged. After 3 prototypes testing various systems and shaping our development, we are now at the stage of building our new aircraft, which will mark the culmination of our project. A fully autonomous, ultra-light, scalable prototype incorporating groundbreaking innovations in the field of aerospace!

## Our Structure :

The work of our team is divided into 5 main areas. Each team is responsible for a specific function of the project:

### **Aerodynamics :**

An essential part of solar flight, our prototype must be perfectly adapted to the environment in which it operates. To achieve this, we created a digital twin, which we tested and validated through fluid dynamics simulations to achieve the best results.



### **Flight Controller :**

We are developing our own flight computer to meet the specific requirements of the project, a major technical challenge. This microcontroller will host the autopilot system. It will be responsible for receiving and processing all sensor data onboard the aircraft!

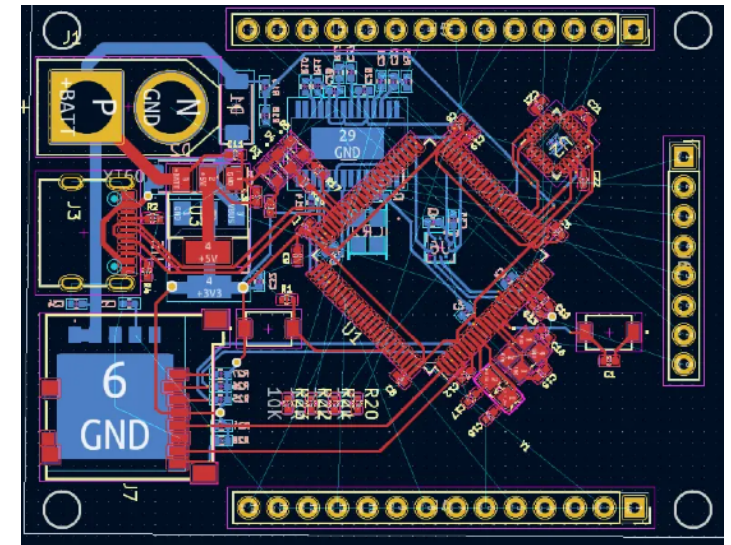
## Power Board :

The MPPT (Maximum Power Point Tracking) is a crucial component of any photovoltaic system. Responsible for maximizing the output of the solar cells, our model will be tailored to meet the challenges of onboard solar power. Lightweight and powerful, it will also serve as a power distribution board, managing the flow of energy between the various flight subsystems.



## Communication :

This project is also an opportunity to share and showcase the challenges encountered during its development through various media.

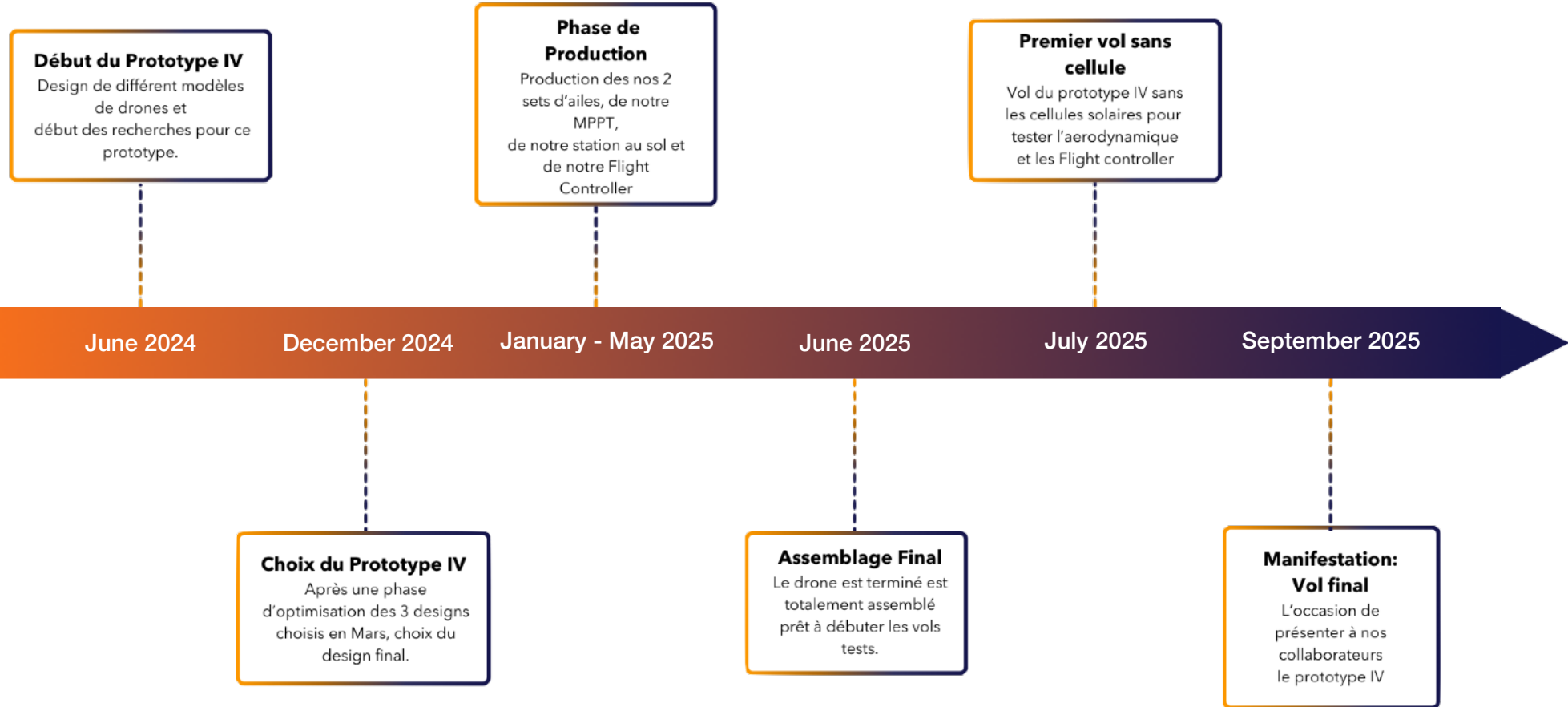


## Ground Station :

A portable radio station responsible for maintaining communication between the aircraft and the control computer. It continuously orients itself towards the prototype to maximise range while adhering to power regulations.

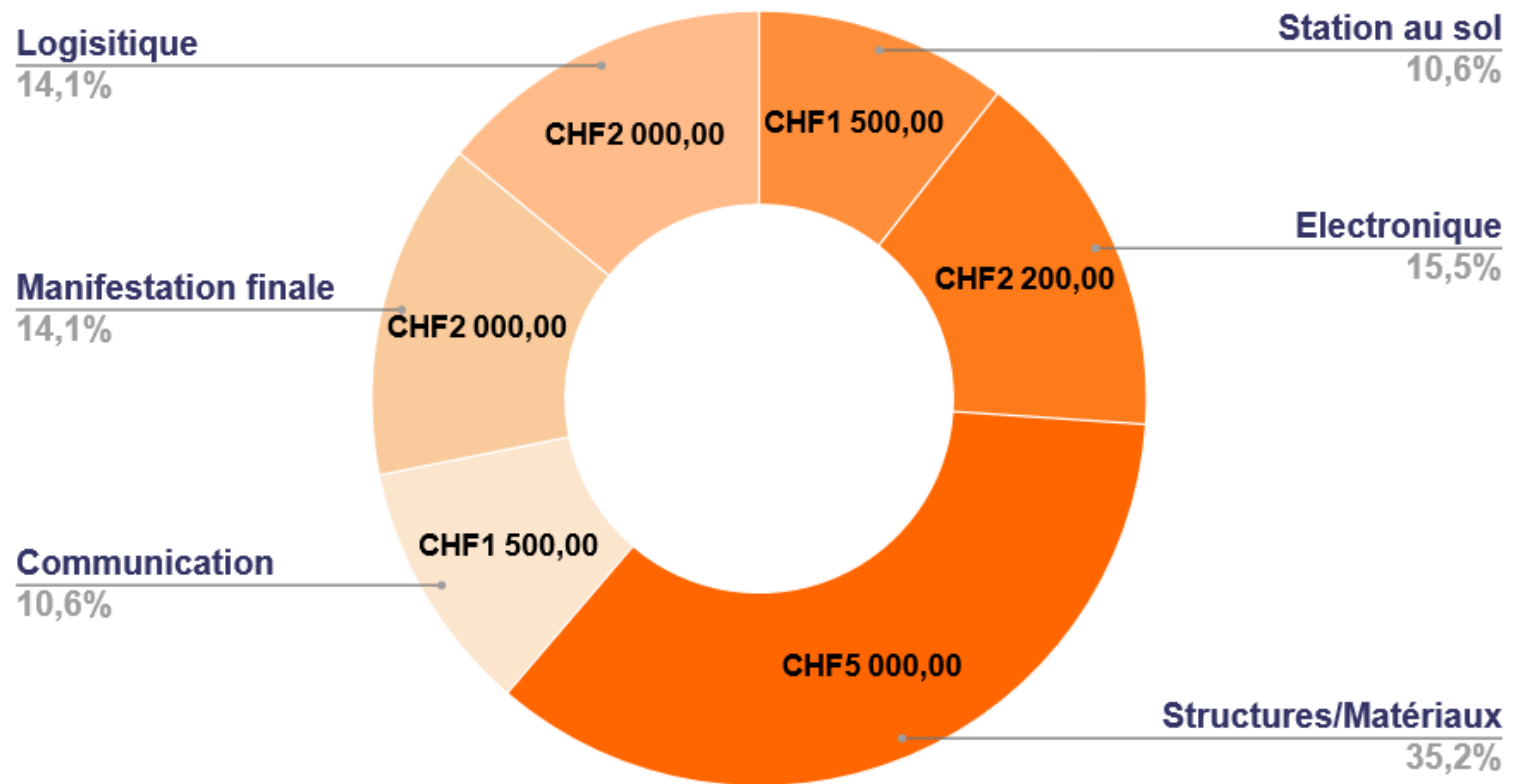


# Timeline :



## Budget & Allocation :

The experience gained through our previous prototypes allows us to accurately assess the funding requirements for the development of our fourth prototype. Each component of the project has been budgeted, with the cost distribution outlined as follows :



## Sponsoring :

To successfully carry out this project, we are seeking partners willing to support us financially.

Supporting the **Projet Sola** means becoming part of a dynamic adventure led by passionate students and joining us in our commitment to innovation, sustainability, and performance. Together, we aim to push the existing boundaries by exploring cutting-edge, environmentally friendly solutions.

We offer several levels of support, each with corresponding rewards that highlight your contribution :

	First	Business	Economy	En route
Amount	> 7'000 CHF	> 4'000 CHF	> 1'000 CHF	> 300 CHF
Website	Yes	Yes	Yes	Yes
Project Image Bank access	Yes	Yes	Yes	-
Logo on transporting case	Big	Medium	Small	-
Logo on the prototype	Big	Small	-	-
Post linkedin	3	2	1	-
T-shirt (Arrière)	Yes	Yes	-	-
Personalised presentation	Yes	-	-	-

## Partenaires :

**RAIFFEISEN**



**Yverdon-les-Bains**  
Énergies

## Technical Partners :



## They have talked about Us:



**MIGROS**  
MAGAZINE



**LA RÉGION**

*A big thank you to all the sponsors who make this project possible, as well as to everyone who collaborates on it!*