

# Plan of approach

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## Introduction

Umicore Solar Team is a project of Group T engaged in the development of a solar car. Every two years a group of master students create a car to drive a solar race in Australia. In their quest for additional budget, they want us to create a small solar vehicle they can sell.

## Goals

The goal of this project is building a Small Solar Vehicle that meets the expectations of the Umicore Solar Team and our coach Hu Yunhao. The challenge of this project is to design a solar vehicle which is able to drive straight ahead as fast as possible, both on the flat and on a slope, only using the sun as a source of energy. Since the racing track is surrounded by barriers, the vehicle must be able to use them instead of crashing against them.

## How

To integrate these conditions into the Small Solar Vehicle, we are going to predict and simulate the operation of the vehicle by means of Simulink and technical drawing. To optimize the vehicle, the simulation is followed by an analysis of the aerodynamics, the dynamics, the strength of the materials, the energy, material science and the mathematics of the vehicle.

After the analysis and the optimization, the vehicle is produced using Fablab Leuven.

During the development of the Small Solar Vehicle, smooth communication is important. Therefore, we will have a meeting every week and use dropbox to manage the documents of the project.

## When

The team has a meeting every Tuesday at 1.00 pm. In this meeting, we will discuss the progress of the project, the problems and set new deadlines. After this meeting we will continue the analysis and the optimization of the Small Solar Vehicle. During the rest of the week, it is expected that each team member works on the tasks under its responsibility and imposed on him.