
Plan of approach

Prepared for: Group T
Prepared by: Team Esté
Date: 13/02/2013
Team: Sarah van der Want, Tim Theunissen, Thomas Craessaerts, Thijs Kestens, Thomas Dewit, Stijn van Damme



1. Introduction

This plan of approach is created for GroupT. They want our team – team Esté-, to make an SSV (also known as Small Solar Vehicle). We are expected to make a profound study of the whole case on several different and relevant domains. The goal of this plan is to synchronize our efforts with the expectations of GroupT. It will be used to make sure there is a good understanding between employer and employee.

To achieve this goal, the plan of approach will be send to our coach, Tan Ye, on February 15th 2013 so we can get feedback and make corrections or changes if necessary.

If problems arise after the final version, we can still make adjustments but not without having discussed the case with the whole team. During weekly meetings, team Esté, checks and discusses whether adjustments are needed.

2. Project description

2.1. Client

The client of our project is of course GroupT. Group T is an international college located in Leuven. It offers studies in industrial sciences and teacher education.

Our mentor for this project is Tan Ye. We will evaluate and discuss the progress of our SSV with him. He will give us advice and feedback where needed.

2.2. Contractor

We, team Esté, are the contractors of this project. Our team consists of 6 students from the 2nd bachelor industrial sciences (electromechanics).

The teammembers are:

- Tim Theunissen - Tim.Theunissen@student.groept.be - projectleader
- Thijs Kestens - Thijs.Kestens@student.groept.be - member
- Thomas De Wit - Thomas.De.Wit@student.groept.be - member
- Thomas Craessaerts - Thomas.Craessaerts@student.groept.be - member
- Stijn van Damme - Stijn.van.Damme@student.groept.be - member
- Sarah van der Want - Sarah.van.der.Want@student.groept.be - member

2.3. Background

GroupT has given us this project to examine whether we possess the right capacities to be an electromechanical engineer. We have to learn how to plan, respect deadlines, communicate, design, ... This project is linked with our electricity, mechanics, electronics, management, ... lessons

2.4. Goals

Our client, GroupT, has given us the challenge to make a small solar vehicle and compete with other students in a race. Our main goal with this car is to ride 14 meters in a straight line, 4 of which are on a slight hill. The car has to get its energy from the solar cells we are given by GroupT.

2.5. Expected result

a) ENGINEERING

1. Studying solar panel
2. Calculate the optimal gear ratio and minimize losses
3. Simulate the vehicle in Simulink and make Sankey diagram for the energy flow

b) ENTERPRISING

1. We have to make sure we stay within the budget for our vehicle
2. Build a website to promote our car
3. Make sure our team logo is visible on our car; we will do this in Fablab

c) EDUCATING

1. All reports are uploaded on the Wikiversity page
2. Calculations, schedules, solutions, question and such will be made clear in a report and made public

2.6. Constraints

We have to use the given solar panel and motor for our SSV. So we will have geometric and technical constraints for our car. Also, the weather in Belgium can cause problems for our small solar vehicle on rainy and cloudy days. The budget at our proposal is also limited so we will have to find the most cost efficient solutions for possible problems.

3. Management aspects

3.1. Time Management

Communication will be the key to make sure all tasks are finished at the right deadline. Eleven weeks are at our disposal to make sure this project is finished in time. To help us with the planning we can always use the Gantt chart where everybody can check his or her tasks and timings.

3.2. Quality management

In our pursuit to make a high quality product, the SSV, we made sure all decisions are adequately formulated. We appointed Stijn van Damme as our quality manager. He will make all the final checks and is our guarantee that we'll have a good product.

3.3. Budget

We have to take into account how much everything will cost such as materials, mechanics and electronics. Every design must be evaluated whether it's worth the cost.