

**Project of monitoring the wind tunnel of the  
ETSEIAT's Aerospace Engineering laboratory  
(Software)**

Budget

**Author**

Oriol Villanueva Pujol

**Director**

David González Díez

**Bachelor's Degree in Aerospace Technologies Engineering Thesis**



**UNIVERSITAT POLITÈCNICA DE CATALUNYA  
BARCELONATECH**

**Escola Tècnica Superior d'Enginyeries  
Industrial i Aeronàutica de Terrassa**

**Universitat Politècnica de Catalunya  
Terrassa School of Industrial and Aeronautical Engineering**

**June 2015**

## Contents

1	Budget .....	1
---	--------------	---

## Table's list

Table 1.1. Software's part estimated budget .....	1
Table 1.2.Total cost of the project .....	1

## 1 Budget

The budget of the project is going to be presented in two differentiated parts. First of all the Software part which is the object of this thesis and then the Hardware part that has been developed concurrently will be added up.

Several softwares have been used, which include: Microsoft Office package, Matlab, Arduino IDE . Cool term, Web browser. The software used is mainly freeware except Matlab and Office.

The hardware used to develop the project was a laptop whose cost will be included as an amortization charge, with an assumed lifetime of 4 years.

And finally the working hours of the author are going to be included.

Without taking into account directors' altruistic collaboration nor university facilities that have been used, the disaggregated cost is presented in Table 1.1.

Concept	Units	Unit price (€ )	Cost(€)
Microsoft Office	1	80	80
Matlab (Academic version)	1	500	500
Laptop amortization	4 months	710	60
Others (i.g Energy)	-	-	50
Personnel	325h	25	16250
<b>TOTAL</b>			<b>16940€</b>

Table 1.1. Software's part estimated budget

If now the Hardware part is added up, the total cost of the project is:

Concept	Units	Unit price (€ )	Cost(€)
Microsoft Office	1	80	80
Matlab (Academic version)	1	500	500
Laptop amortization	4 months	710	60
Others(i.g. Energy)	-	-	100
Personnel	625 hours	25	31250
Arduino Uno R3	1	22	22
PR21S-80549.3	1	320	320
DS 1-010	1	270	270
PCB	1	17	17
PCB elements	-	26	26
Power source	2	46.6	46.6
Wire	10m	10	10
Electronic components	-	4.2	4.2
<b>TOTAL</b>			<b>32706€</b>

Table 1.2. Total cost of the project