Project on the design of an inertial measurement unit to be used in aerospace vehicles

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A thesis submitted for the degree of

Grau en Enginyeria de Vehicles Aeroespacials

Terrassa, June 2015

This document contains : Budget

1 Budget and economic viability

1.1 Board

In order to evaluate the initial requirement for the cost of the board, a budget in Table 1.1 is shown. Despite the unit cost of each components being the indicated, sometimes is not possible to buy just one unit of some of them ,which means that for assembling just one board one could spend more than the indicated. It also depends on the shipping method that is chosen the price can vary. Because the price is not an exact amount, it has been considered to be approximately 25,00€.

Table 1.1: Budget for one board

Concept	Qt.	Unit Cost	Total
GY87 IMU Board	1	8,99	8,99
SD Card	1	3,58	3,58
SD Reader	1	1,78	1,78
Arduino Nano	1	3,27	3,27
PCB	1	2,13	2,13
3.3V Regulator	1	0,60	0,60
10 uF Capacitor	4	0,10	0,40
3 mm LED	3	0,08	0,24
220Ω Resistor	3	0,08	0,24
Push button	1	0,20	0,20
ALL PRICES IN EUR			21,43

1.2 Total budget

In order to complete the project, considering the pending tasks that are indicated in the conclusions, an amount of money is required. It has been considered which would be the total cost of developing the project, so that at the end of the it the board and the software could be commercialized. Next steps in the project are explained in the conclusions section. To sum up, the total budget for the project would be 23.650€. The cost for this project, which is detailed in Table 1.2, includes

- Engineering cost

- Software licenses for one year. MATLAB licenses cost can be checked from its website.

- Production of 20 test units.

- Production of 20 boards.

- Testing costs. It included both the materials in necessary to proceed with the tests, engines, igniters and rockets. It has also been considered to cost 100€ per hour in the static test facilities, taking into account that there is need for an engineer to operate it.

Table 1.2: Budget of the project

Concept	Qt.	Unit cost	Total
Engineering [hours]	600	25	15.000
MATLAB License	1	2.000	2.000
MATLAB Aerospace Toolbox	1	1.000	1.000
MATLAB DSP System Toolbox	1	1.250	1.250
MATLAB Signal Processing Toolbox	1	1.000	1.000
Testing and Manufacturing	20	25	500
Production	20	25	500
Test engines	50	7	350
Igniters	100	1	100
RTF Rocket	10	35	350
Static test facilities [hours]	16	100	1.600
ALL PRICES IN EUR			23.650