



**UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH**

**Escola Superior d'Enginyeries Industrial,
Aeroespacial i Audiovisual de Terrassa**

Aerospace Technologies Engineering

Bachelor Thesis

**STUDY OF THE DEVELOPMENT OF AUTOMATIC
CONTROL SYSTEMS FOR AUTONOMOUS
EXPLORATION ROBOTS**

BUDGET

BALADO ORDAX, Ramiro

THESIS DIRECTOR: NEJJARI AKHI-ELARAB, Fatiha

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Item	Units	Cost per unit	Total cost
Electronic Components			
Raspberry Pi 3	1	30.00 €	30.00 €
Arduino UNO	2	9.00 €	18.00 €
Arduino MEGA	1	30.00 €	30.00 €
Arduino MEGA Proto Shield	1	15.00 €	15.00 €
LIDAR Lite v3	1	150.00 €	150.00 €
GY-521 MPU-6050 gyro+accelerometer	1	8.00 €	8.00 €
Jumper wires	2	7.00 €	14.00 €
USB A to B	4	5.00 €	20.00 €
RB-Wtc-20 Electric Motors	4	50.00 €	200.00 €
Mini Breadboard	5	2.00 €	10.00 €
LDX-218 Servo	2	20.00 €	40.00 €
Hardware Costs			
Laptop	1	750.00 €	750.00 €
Software Costs			
Linux	1	0.00 €	0.00 €
MATLAB Student	1	35.00 €	35.00 €
Latex	1	0.00 €	0.00 €
Personnel			
Engineer	360	18.00 €	6,480.00 €
Total			7,800.00 €

Table 1: *Project Budget*