Financial Report ODIN

Description of the funding provided by KTH Space Center for the rocket project ODIN.

Project ODIN

Project ODIN is a small hybrid rocket that was developed by members of AESIR. It lasted for 2 years and involved around 40 students at KTH. The project resulted in a successful launch from FMV Älvdalens Skjutfält the 2018-10-31, but an unsuccessful recovery due to loss of both visual and radio signal. An extensive search was carried out but the rocket is still lost in the woods. The rocket was simulated to reach around 2.5 km altitude. The project also included development of test-rig, launch tower, fueling system and ground station equipment. ODIN rocket parameters are seen below.

Rocket Parameters

Length	247 cm
Total mass	8250 g
Fuel mass	2800 g
Fuel	HTBP
Oxidizer	NO2
Burntime	2,7 s
Mass Flow	1 kg/s
Exhaust velocity	0,9 km/s
Max thrust	1365 N
Average thrust	899 N
Max acceleration	17 g
ΔV	0,4 km/s
Isp	140 s

Funding agreement

As the “Application for space project start-up aid”, written by Erik Weilow in early spring 2017, describes the purpose of the application for funding and the expected expenses. The project title was “Test fire of hybrid rocket motor and rocket launch” and it was primarily planned to be used for purchases of equipment to perform motor testing as well as to be used during the actual launch. It should also cover travel costs. AESIR applied for 47750 kr and was granted 47750 kr.

Project ODIN expenses

After receiving the granted amount the 2017-03-05, the funding came in handy for the development of the motor testing as well as the launch site equipement. The expenses of the ODIN project can be seen below in SEK.

Expenses Per Year

2017	**2018**	**2019**
48295	24470	25336
Total	**98101**	

Expenses Per Category

Rocket Body	**Static Test**	**Launch Tower**	**Propulsion**	**Electronics**	**Travels**
5551,615	1179,3	6854,94	28877,645	17058,14	38579,36
Total	**98101**				

Expenses Per Sponsor

KTH Space Center	**KTH Opportunities Fund**	**Internal**
47750	44100	6251

KTH Space Center Funding Details

Marketing	0
Transportation	23 000
Rocket body	3 000
Parachute system	0
Electronics	6500
Ground support equipment	1500
Fueling system	2750

Fuel and ignition consumables	11000
Total	**47750**