
TU WIEN SPACE TEAM

a students' initiative with emphasis on
aerospace engineering
COPUOS 2018



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[/tuspaceteam](https://www.facebook.com/tuspaceteam)

TU WIEN SPACE TEAM 2017



PROJECTS



-
- EXPERIMENTAL ROCKETS
 - LUNAR LANDING MODULE
 - PROJECT DAEDALUS
 - CUBE SAT – PEGASUS

SPACE TEAM ROCKET EVOLUTION



2011



2012



2013



2014



2015



2016



2017

C'SPACE 2017

VIENNA UNIVERSITY OF TECHNOLOGY
SPACE TEAM

STR-07 FLORENT

Tarbes (FR), Juli 2017

Apogee: 2917 m

Max. Beschleunigung: 11g

Max. Geschwindigkeit: 265 m/s

Länge: 1940 mm

Durchmesser: 102 mm

Startgewicht (inkl. Motor): 9147 g



WWW.SPACETEAM.AT

2017

OUR PATH TO 42 KM

GOAL:

„We want to reach an altitude of more than 42 km with an amateur rocket!“



THE HOUND

OVERALL:

- Mass: 30 kg
- Length: 400 cm

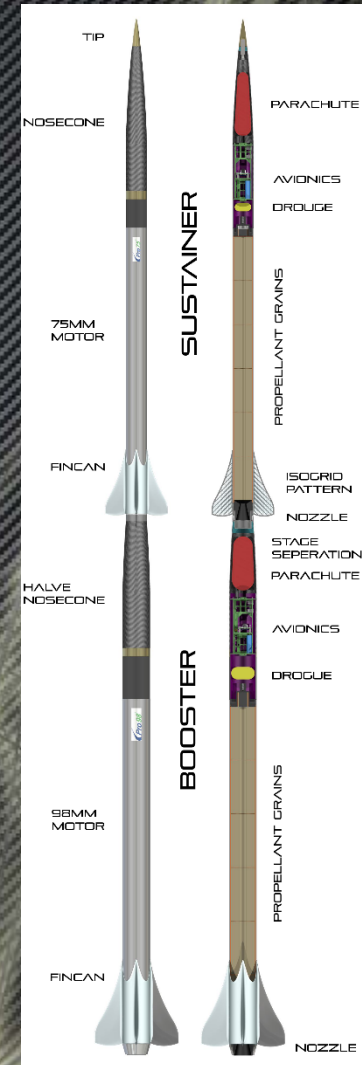
SUSTAINER:

- Mass: 10 kg
- Length: 200 cm
- Diameter: 7.7 cm

BOOSTER:

- Mass: 20 kg
- Length: 200 cm
- Diameter: 10 cm

(approximate values)



CHALLENGES

ORGANISATIONAL:

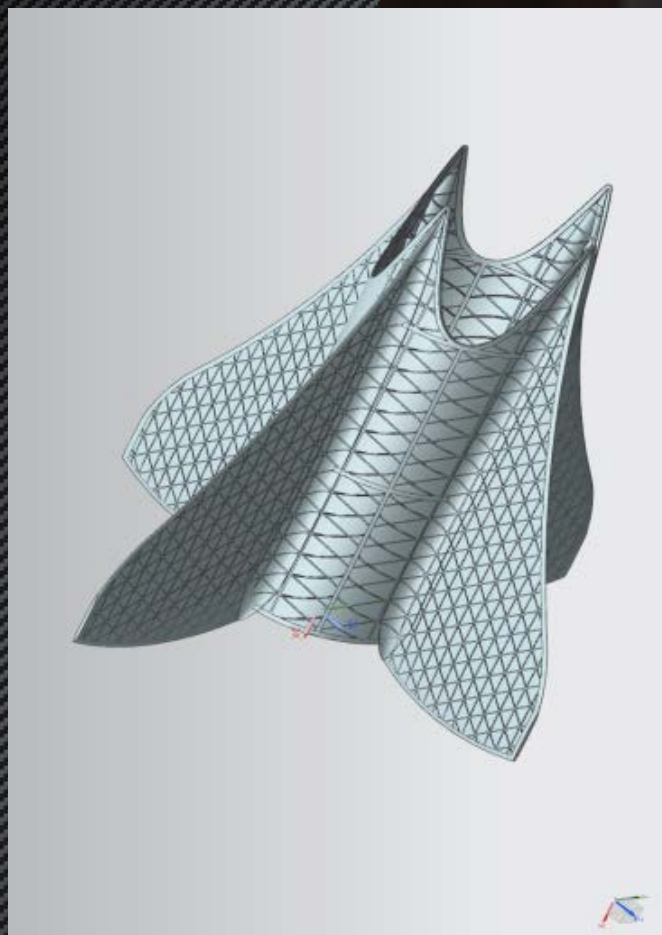
- Launch-Possibilities
 - Europe
 - South-Africa
 - USA
- Funding

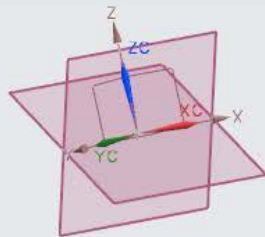
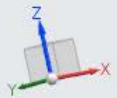
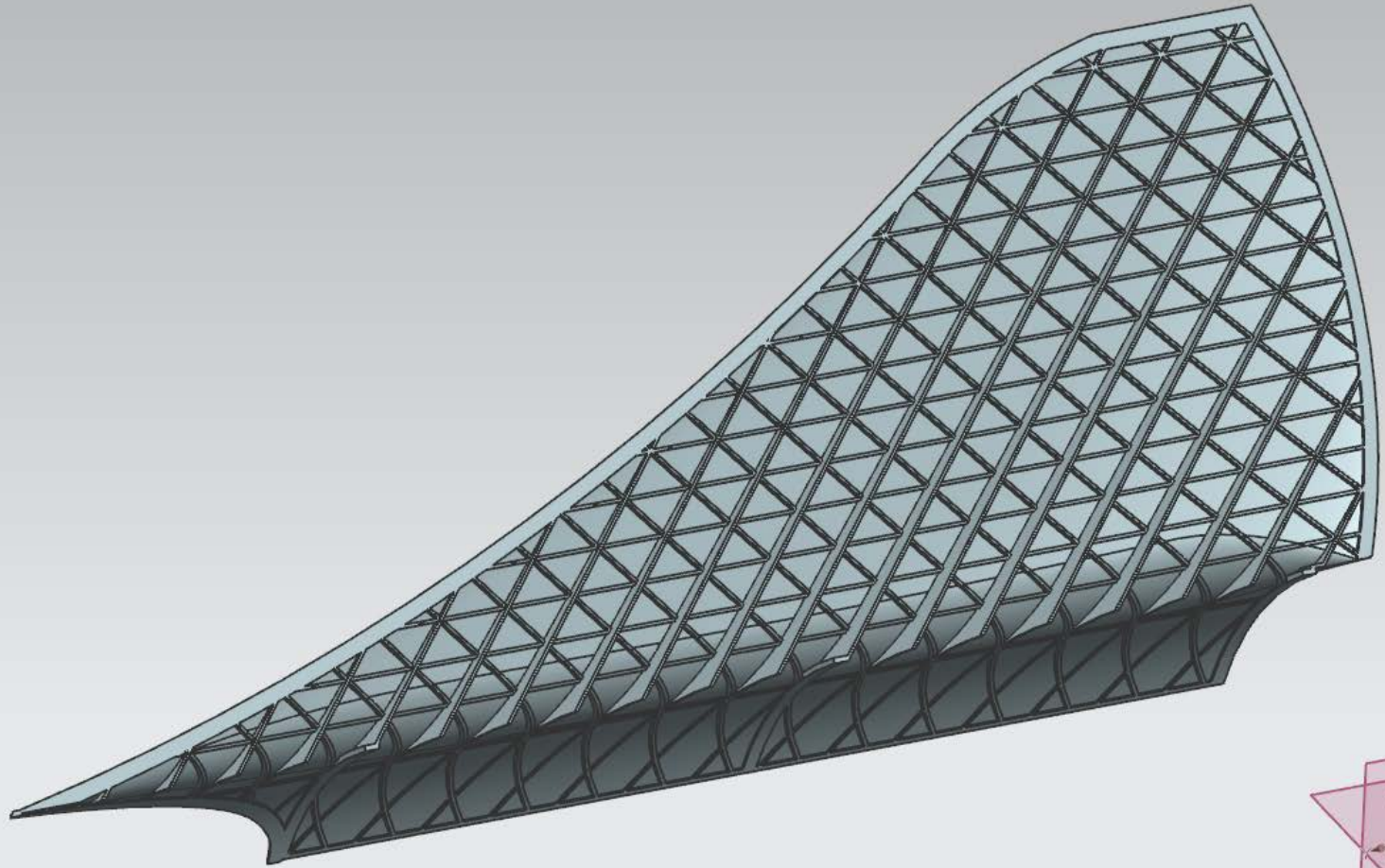
TECHNICAL:

- Mechanical Strains
- Thermal impact
- Parachute and Recovery
- Telemetry and GPS



DMLS - FINCAN







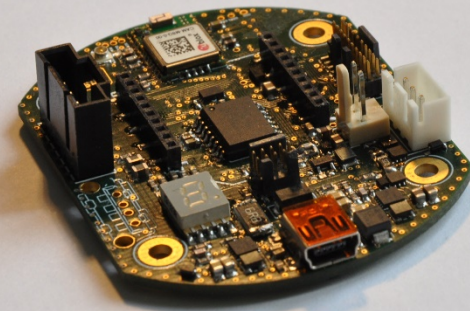
FMS 3.2 -ELECTRONICS

TASKS:

- Telemetry
- Attitude Monitoring
- Sustainer-Ignition
- Recovery
- Measurements

PARAMETERS:

- 5 x 6 cm
- 3-Axis:
 - Gyroscope
 - Magnetometer
 - Accelerometer
- Pressure-Sensor
- Temperature-Sensor
- GPS



CANSAT COMPETITION



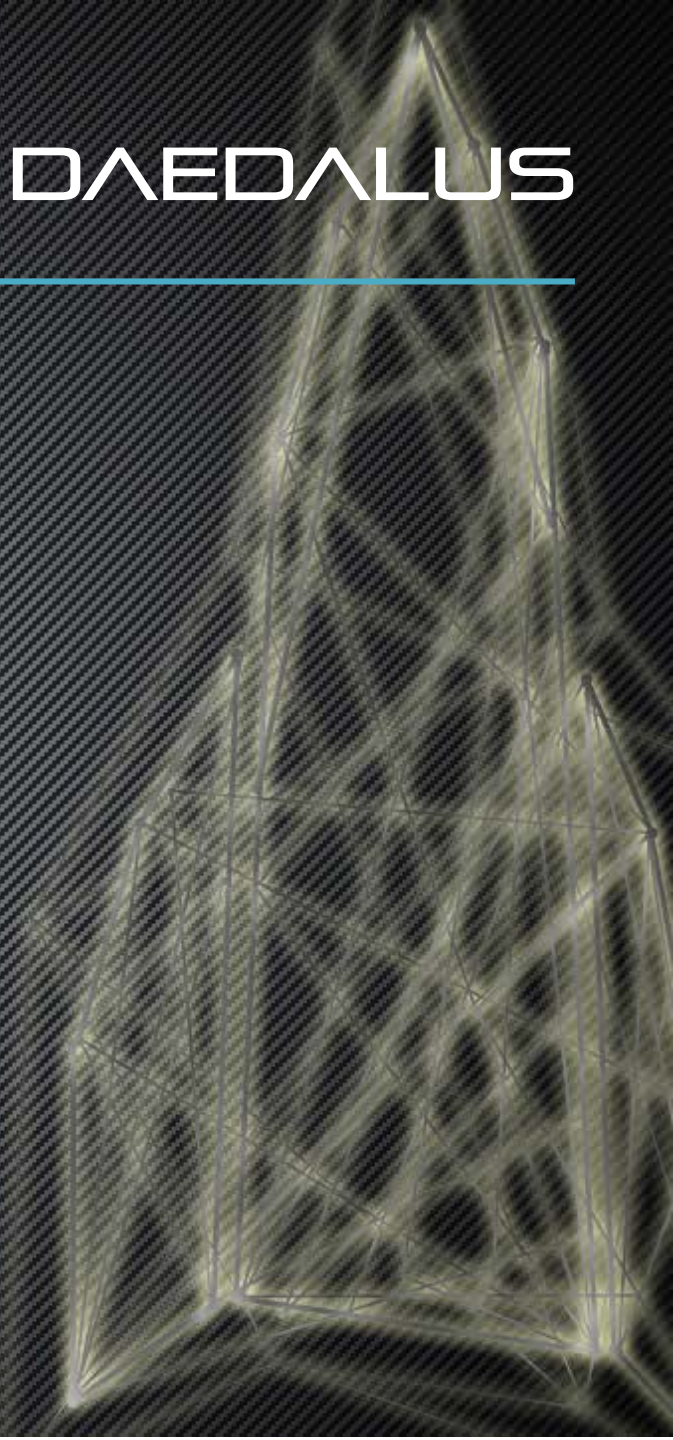
cansat



REXUS/BEXUS 23: DAEDALUS



CC BY-SA
<https://commons.wikimedia.org/wiki/File:Maple-seed.jpg>



REXUS/BEXUS 23: DAEDALUS

SPACE SEEDS

- Novel recovery system
- Reentry and safe recovery by means of rotation like "maple seeds"

REXUS 23/24

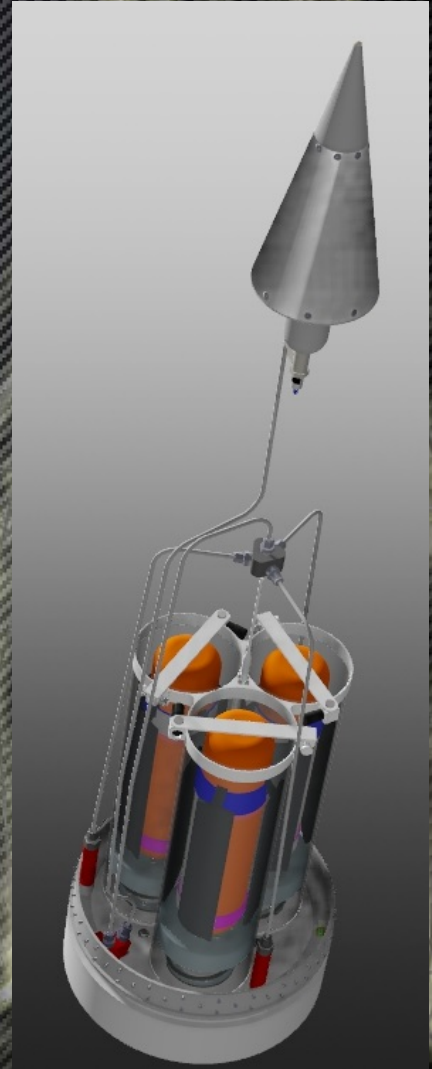
- Rocket Experiments for University Students
- by ESA/DLR/SNSB
- Launch in Kiruna/Sweden in March



DAEDALUS: EJECTION MECHANISM

CONTRIBUTION OF TU WIEN SPACE TEAM

- Ejection mechanism
- On-Board electronics



MISSION TO THE MOON



LUNAR LANDING MODULE





44
4

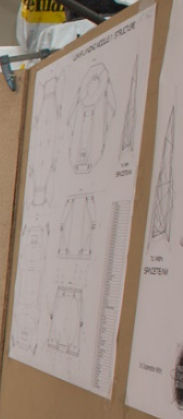
TU Wien
Austria

PIT 39
CAR 41

TU Wien
Austria

FORMULA
STUDENT
HUNGARY

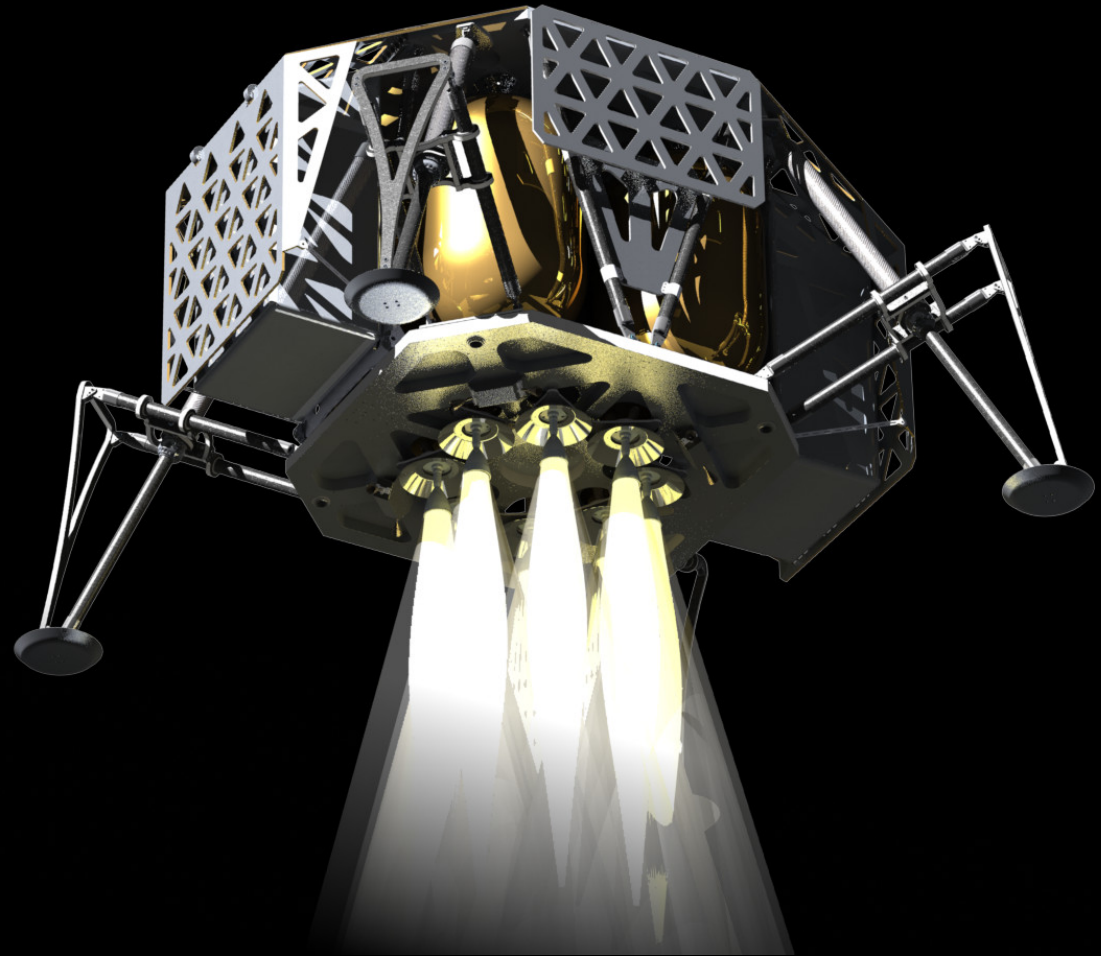
EVENT CONTROL
/ DRIVER REGISTRATION





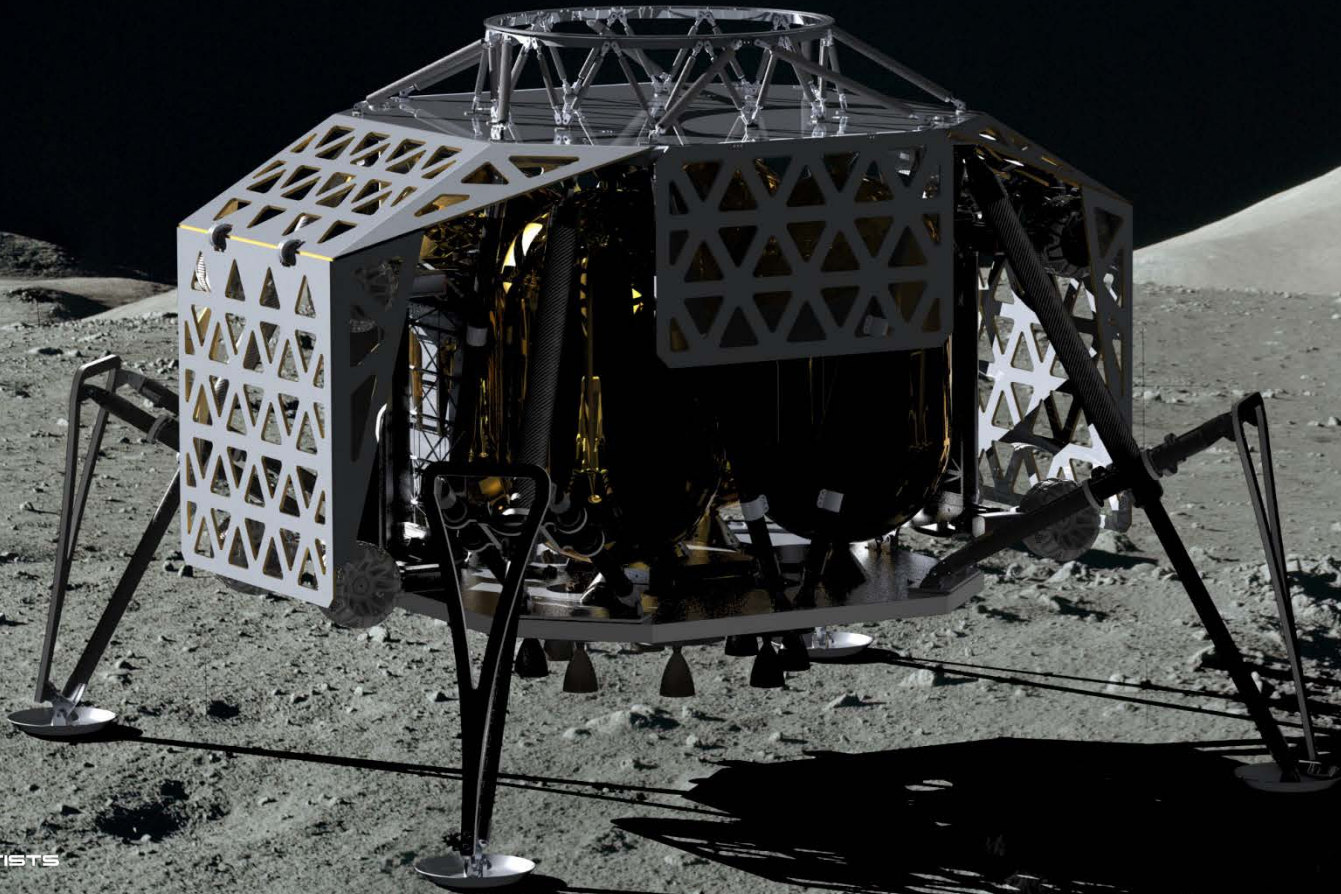
MISSION
TO THE
MOON

ALINA
AUTONOMOUS
LANDING AND
NAVIGATION
MODULE



ALINA

DELIVERS UP TO 100kg TO THE LUNAR SURFACE



PT SCIENTISTS

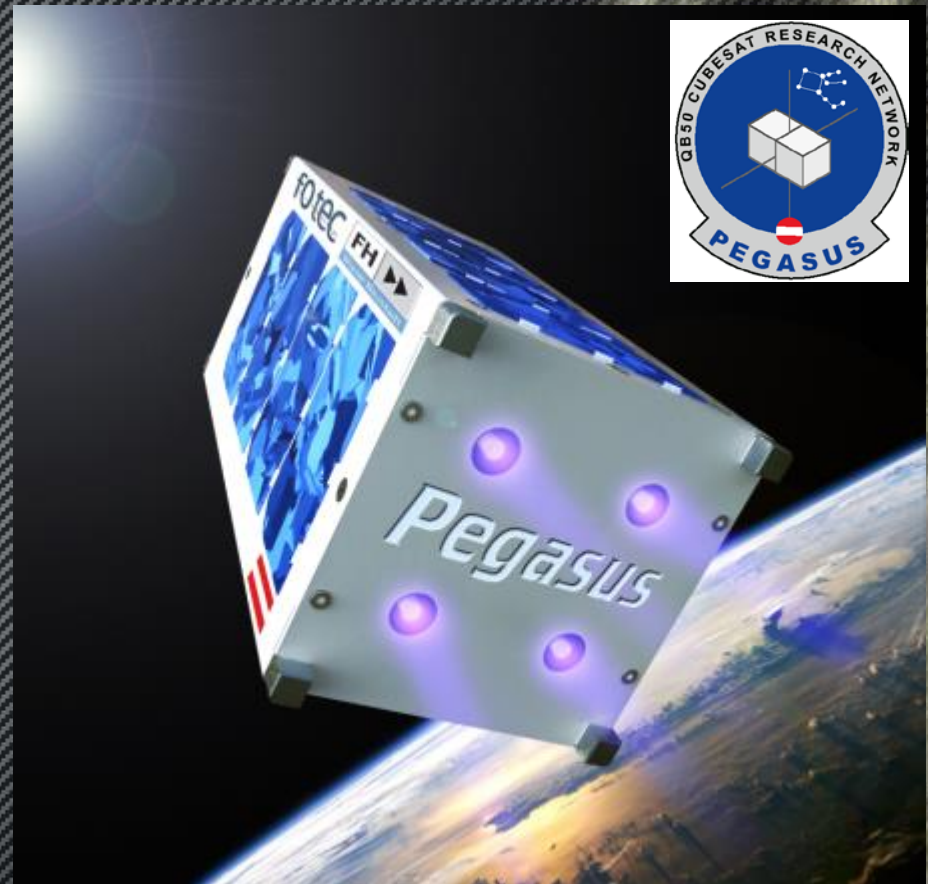
MISSION
TO THE
MOON



PROJECT PEGASUS – QB50

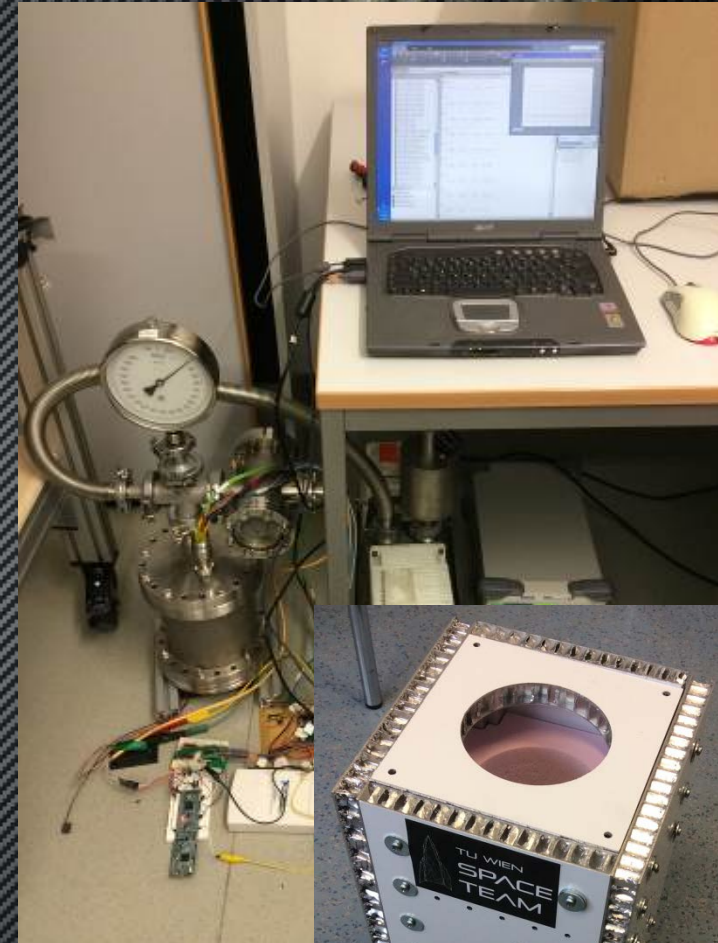
or

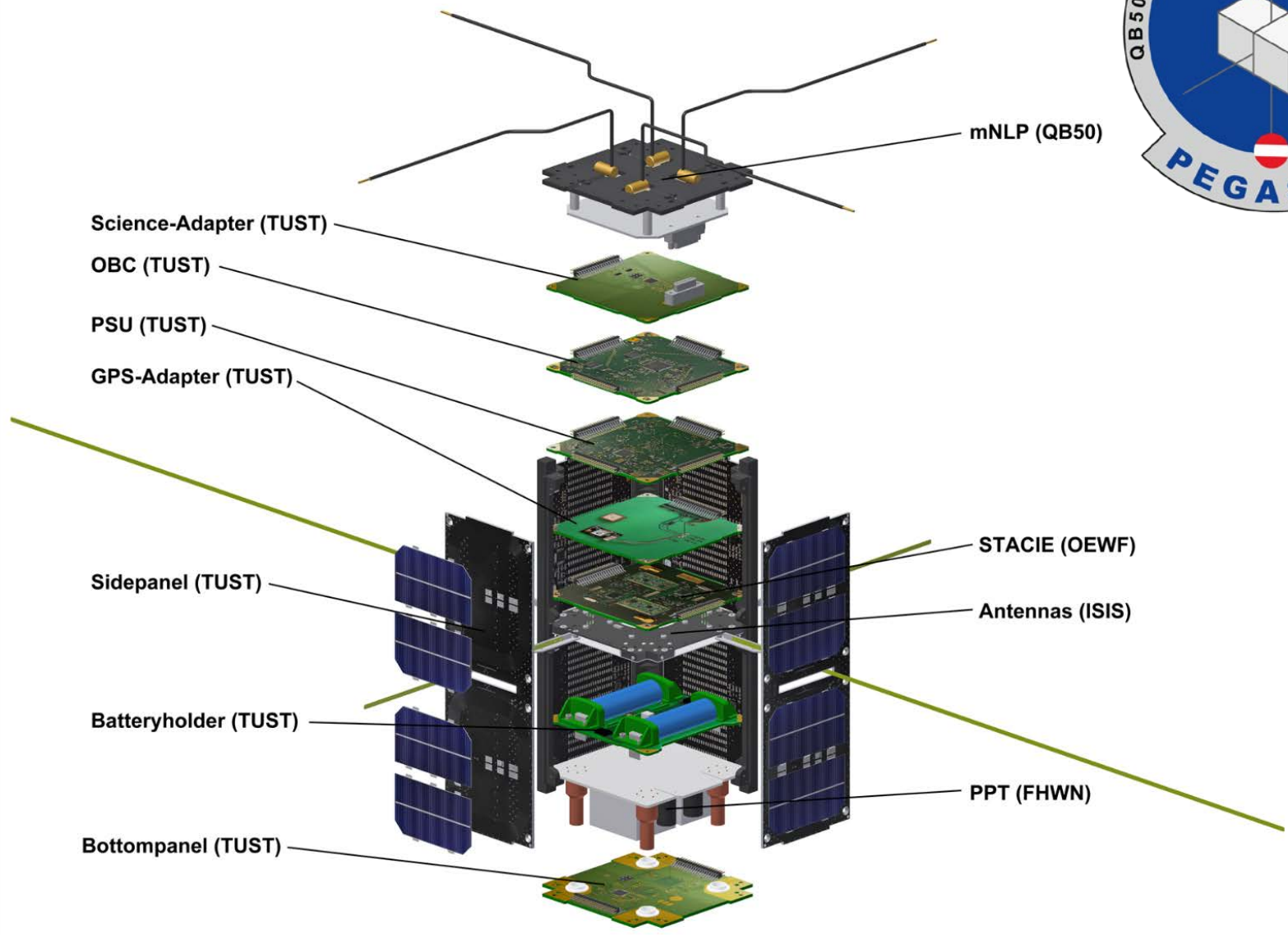
...how can
students build
their own
Cube Sat!

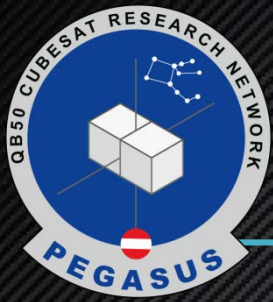


CHALLENGES

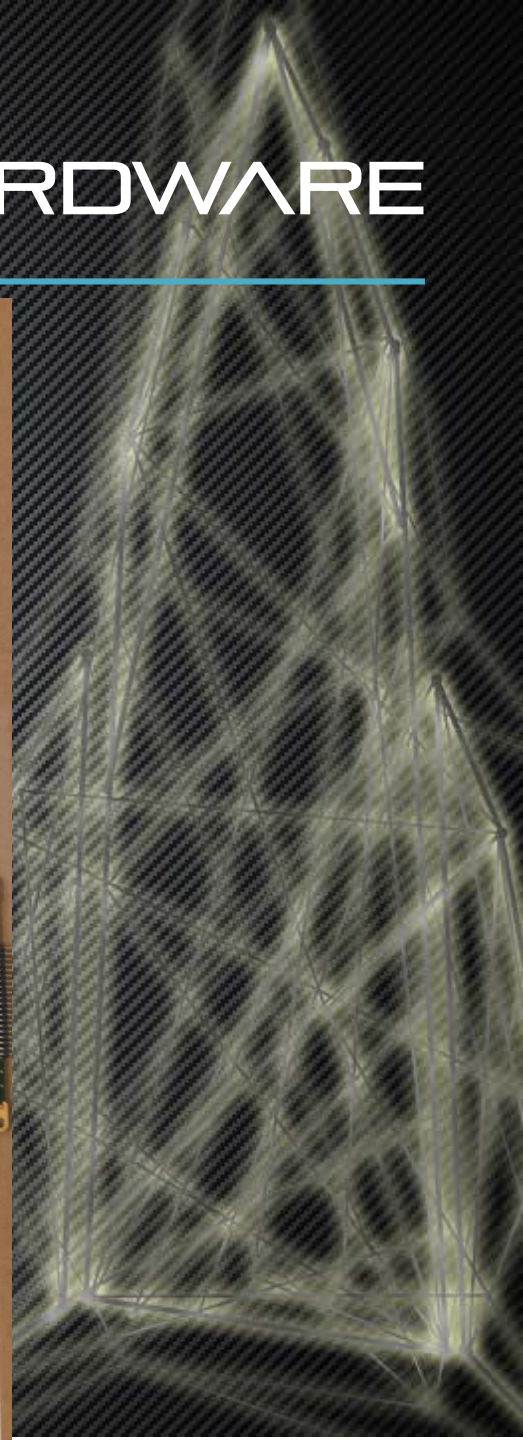
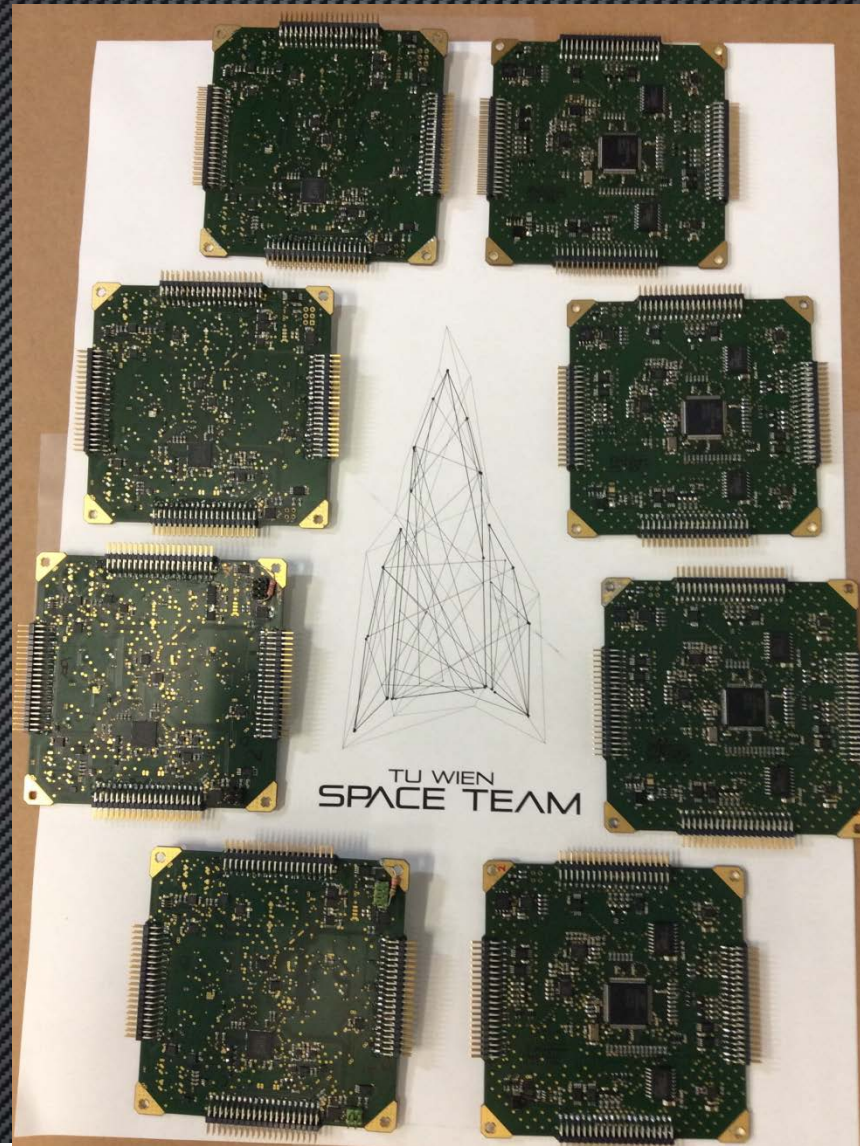
- Shock and Vibration
- Long-term Vacuum
- Temperature Management
- Communication
- Power Budget/Efficiency







CURRENT HARDWARE



23. Juni 2017



PEGASUS - Mission Control Center

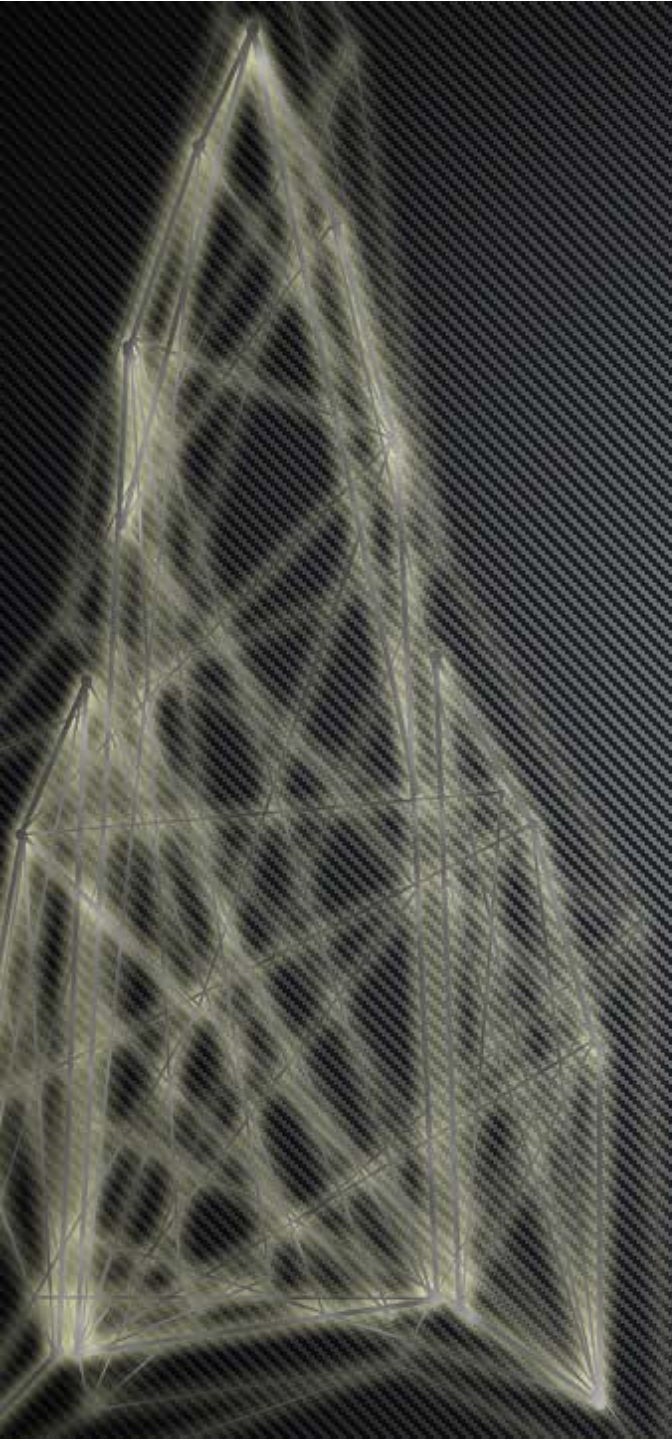


[Home](#) [Beacon](#) [HDK WOD](#) [Antenna](#) [Command](#) [Admin](#)

Pegasus: The last 30 Beacons:

2017-06-23 10:41:48	GSLALE	-107.5db	49°	436.662MHz	083 53 4F 4E 30	?	O1-Beacon	999	ON03AT	: 13
2017-06-23 10:41:18	GSLALE	-106.0db	49°	436.664MHz	086 56 4F 4E 30	?	O2-Beacon	999	ON03AT	: 12
2017-06-23 10:40:48	GSLALE	-103.0db	49°	436.670MHz	083 53 4F 4E 30	?	O1-Beacon	999	ON03AT	: 11
2017-06-23 10:39:48	GSTABS	-087.5db	43°	436.670MHz	083 534f4e303341	?	O1-Beacon	999	ON03AT	: 10
2017-06-23 10:39:48	GSFHWN	-096.0db	45°	436.670MHz	083 53 4F 4E 30	?	O1-Beacon	999	ON03AT	: 9
2017-06-23 10:39:19	GSTABS	-087.5db	43°	436.673MHz	192 c04f4e303341	C	St-Beacon	000	ON03AT	: 8
2017-06-23 10:39:19	GSLALE	-103.5db	49°	436.673MHz	192 C0 4F 4E 30	C	St-Beacon	000	ON03AT	: 6
2017-06-23 10:39:18	GSTABS	-088.5db	43°	436.674MHz	086 564f4e303341	?	O2-Beacon	999	ON03AT	: 7
2017-06-23 10:39:18	GSLALE	-104.0db	49°	436.670MHz	086 56 4F 4E 30	?	O2-Beacon	999	ON03AT	: 5
2017-06-23 10:38:48	GSLALE	-104.5db	49°	436.670MHz	083 53 4F 4E 30	?	O1-Beacon	999	ON03AT	: 4
2017-06-23 10:37:18	GSFHWN	-093.5db	45°	436.670MHz	086 56 4F 4E 30	?	O2-Beacon	999	ON03AT	: 3
2017-06-23 09:06:09	GSLALE	-109.0db	50°	436.670MHz	086 564f4e303341	?	O2-Beacon	999	ON03AT	: 2





CONTACT

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