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## MAUVE with OWL

MAUVE (**M**ission to **A**nalyse the **U**ltra**V**iolet univers**E**) is a satellite equipped with a 13-cm telescope and a UV-Visible spectrometer with an operative wavelength range of 200-700 nm to measure stellar magnetic activity and variability of active stars.

The Mauve science data is to be collected, packaged and sold to the astronomy community as subscription [service](#) by BSSL Ltd.

MAUVE was launched on 28 November 2025 by the SpaceX Falcon 9 [Transporter-15](#) mission at 1844 UTC.

International Designator      2025-276 CU  
NORAD Catalog Number      66756

[BSSL MAUVE Project](#)

MAUVE [paper](#)

MAUVE [Website](#)

MAUVE [Media kit](#)

MAUVE [Specifications](#)

### Platform

[C3S](#)    Cubesat Structure, 226 x 226 x 454 mm, 16U.

[EPS](#)    Electronic Power Supply

4 4-cell batteries pack 50 WHr

4 Solar Panels - 2 body fixed, a 12-[cell](#) and a 20-cell, 2 deployable, each with 20 cells.

OBC    On Board Computer

[COM](#)    UHF Communication Transceiver

[ANT](#)    UHF deployable antenna

[ADCS](#)    ISISPACE high accuracy pointing system

[OWL](#)    Orbital Whereabout Locator

### Telecommunications

UHF    401.260 MHz    TM and TC 4800 Baud GMSK on only over Hungarian C3S ground station  
401.750 MHz    TBC

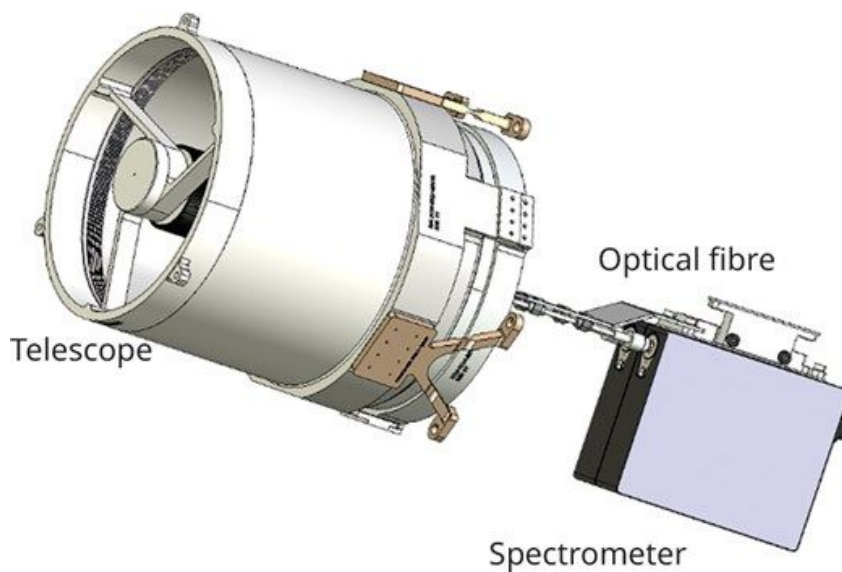
OWL    137.975 MHz    LoRa with Spreading Factor: 10, Coding Rate: 5, Bandwidth: 125 kHz

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**Payload**

UV-Vis Spectrometer

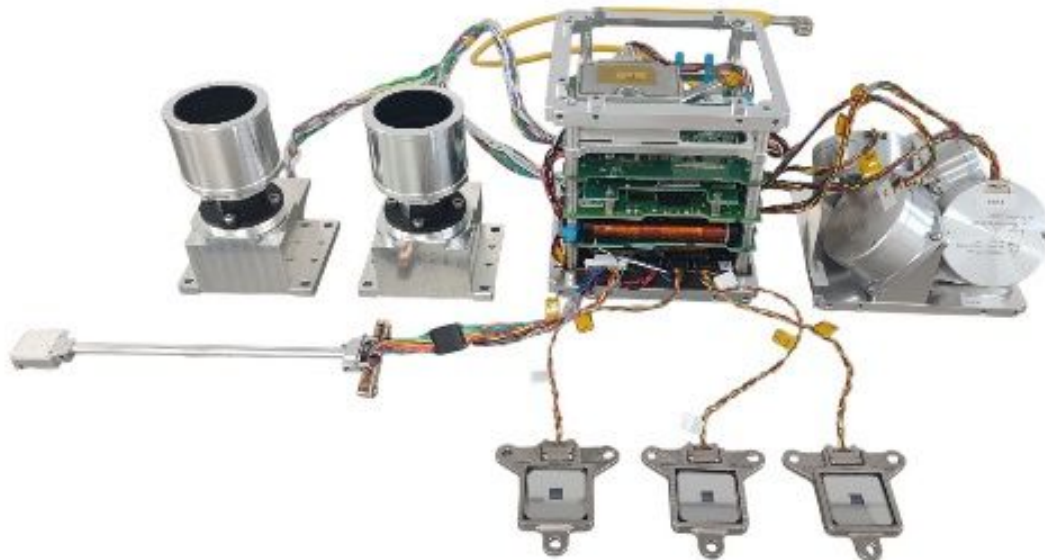
130 mm [Media Lario](#) primary mirror  
200 – 700 nm range, 10 nm spectral resolution spectrometer  
Redundant [Avantes AvaSpec-Mini](#) OEM Spectrometers with  
[Hamamatsu S11639](#) CCD sensor  
Field of Regard is  $-46.4^{\circ}$  to  $+31.8^{\circ}$  Ecliptic plane [ICRS](#)  
Optic Fibre [Cables](#)



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[ISISPACE](#) high accuracy pointing Attitude Determination Control System consisting of:

- 2 [Soderm](#) Auriga-CP Star Trackers
- 3 [Lens R&D](#) MAUS Sun sensors
- 1 ISIS Deployable 3-axis magnetometer
- 1 [Safran](#) 9- DOF IMU
- 4 [Astrofein](#) RW25 Reaction Wheels
- 1 [ISIS](#) 3-axis iMTQ Magnetorquer in ADCS stack with computer board, sensor/actuator interface board and power board



IMU on top of stack

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MAUVE OWL packet received on 137.925 MHz, 28 November 2025 23:49:32 UTC

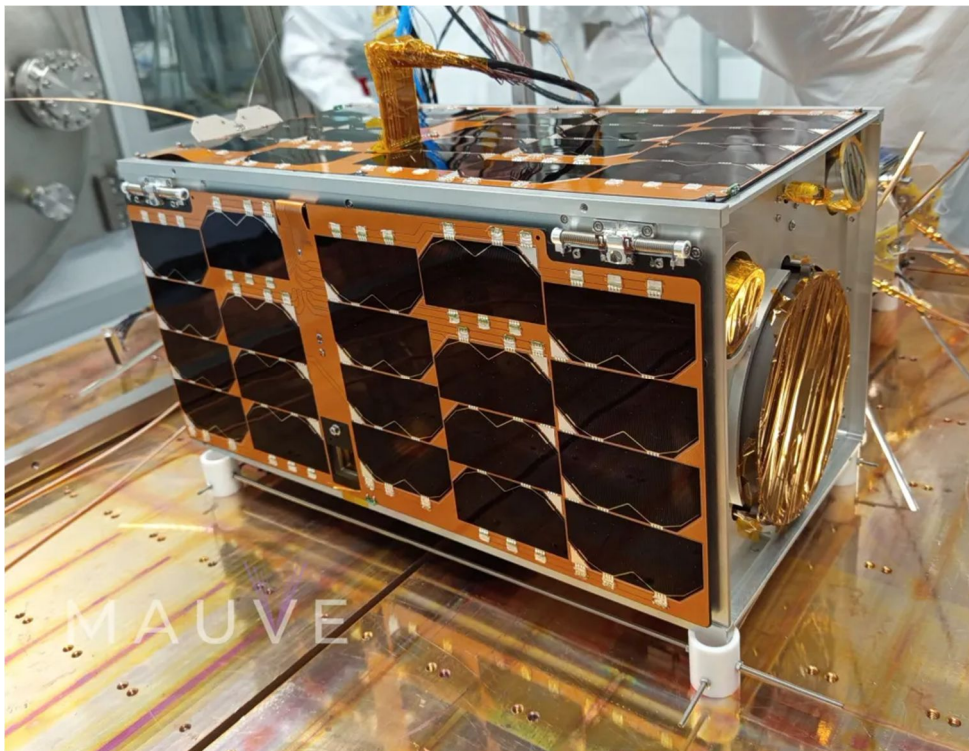
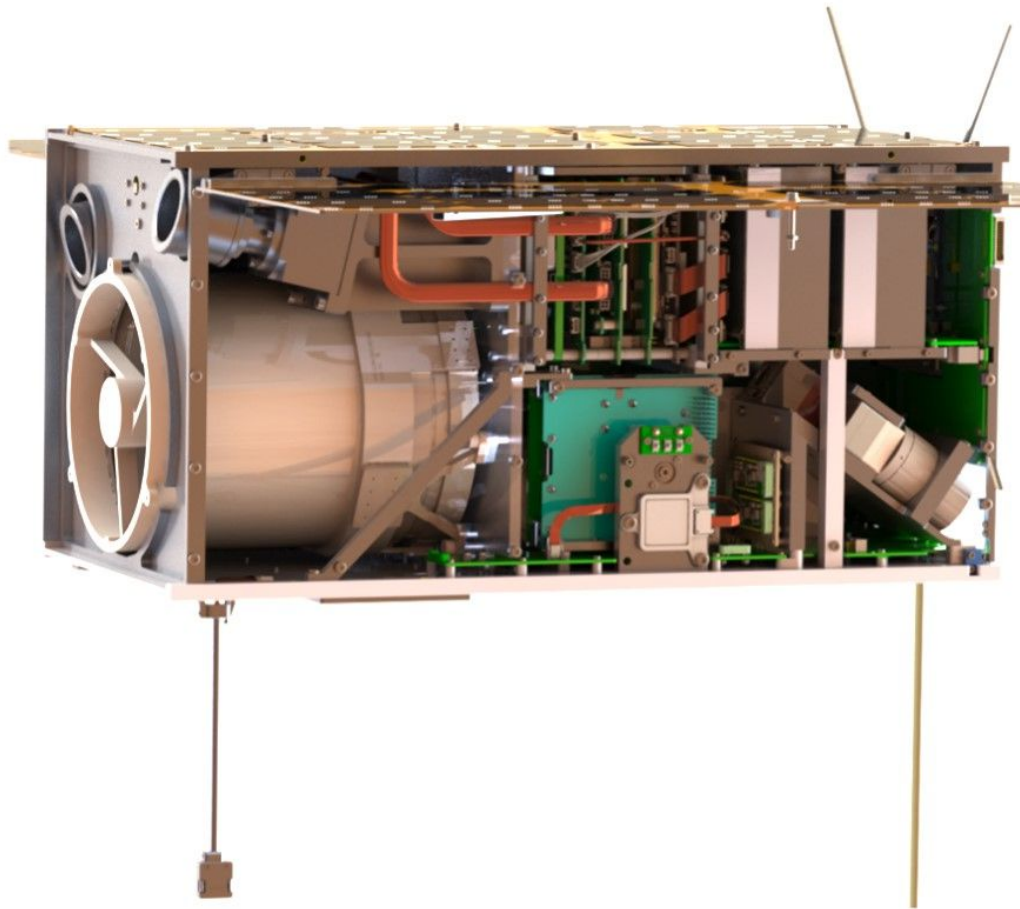
04000001593900010707057701001800beff707000045a09e01403032002bb013c01  
35013c01ea1980e50d9319ec49d83e18d81ff9ffdafcfdff68b0f6ff42d100000000  
00000000001f0000002b0000003000f90c00b650

MAUVE OWL Format – 88-byte packet				
Parameter	Byte	LE Data	Value	
SCID	1 - 3	040000	4	OWL ID #4
Fixed	4	01		
Packets	5 - 7	593900	14681	Packet Counter
Fixed	8	01	1	
Data Zone 1	9 - 22	0707 0577 0100 1800 beff 7070 0004	1799 30469 1 24 -66 28784 1024	
Data Zone 2	23-64	5a09 e0140303 2002 bb01 3c01 3501 3c01 ea19 80e5 0d93 19ec 49d8 3e18 d81f f9ff dafc fdff 68b0 f6ff 42d1	2394 50533600 544 443 316 309 316 6634 -6784 -27891 -5095 -10167 6206 8152 -7 -806 -3 -20376 -10 53570	GPS Week Number GPS CentoSeconds of Week
Data Zone 3	65-86	0000 0000 0000 0000 001f 0000 002b 0000 0030 00f9 0c00	0 0 0 0 7636 0 11008 0 12280 -1792 12	
FCS	87-88	b650		CRC-16-CCITT FALSE

GPS Date Time (Week Number + Seconds Of Week) is 25 November 2025 20:21:58.FCS is Frame Check Sequence over Bytes 1 to 86

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Assuming that the OWL telemetry packets are produced internally at the rate one per second, Packet Num is the packet number since injection into orbit at T0+1:00:27



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## **Background**

The Mauve satellite is being developed in close collaboration with consortium partners in the UK and Europe.

[Blue Skies Space](#) Ltd. and Blue Skies Space Italia S.R.L. are responsible for the overall project delivery and payload provision, [C3S Elektronikai Fejlesztő KFT](#) for the satellite platform, with support from [ISIS – Innovative Solutions in Space BV](#) for high-performance AOCS.

The [University of Kent](#) and the [Europlanet](#) network will help liaise with the scientific community to help maximise the scientific return of Mauve.

This project has received funding from the European Union’s Horizon Europe research and innovation programme under [grant agreement No. 101082738](#).

### [ISIS ADCS](#)

C3S MAUVE [video](#)

MAUVE build [video](#) on UK Gov [site](#)

MAUVE [‘First Light’](#)