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WISDOM-A with OWL #5 and WISDOM-B with OWL #6

WISDOM (Wise Integration of Satellites PNT tracking Data using OWL for collision avoidance Management) with mission goals of in-orbit technology demonstration and advanced collision-avoidance trials. Funded by [ESA NAVISP Project 183](#). The [WISDOM](#) satellites, built and operated by [C3S](#), features 4 Aurora thrusters on one spacecraft and an Aurora Plasma Brake on the other. Each spacecraft has its own OWL device. The two 3U CubeSats were joined for launch but will [separate](#) in March 2026.

WISDOM-A+B were launched on 28 October 2025 at 1845 UTC from Vandenberg Space Force Base, SLC-4E on the SpaceX Falcon 9 [Transporter-15](#) Mission.

WISDOM-A International Designator: 2025-276 Y NORAD Catalog Number: 66688
WISDOM-B International Designator: TBC NORAD Catalog Number: TBC

Platforms

[C3S](#) 2 Cubesat 3U Structures, each spacecraft with:
[EPS](#) Electronic Power Supply and 4-cell batteries pack
7 Solar Panels – 3 body fixed and 2 deployable double-sided.
[OBC](#) On Board Computer
[COM](#) UHF Communication Transceiver
[ANT](#) UHF deployable antenna
[ADCS](#) Attitude Determination Control System
1 Fine Sun sensor, 1 Earth Horizon sensor
1 Deployable Magnetometer, 1 3-axis Magnetotorquer
[IPC](#) Integrated Payload Controller
[HDRM](#) Hold Down and Release Mechanism (half each spacecraft)
[OWL](#) [Orbital Wherabout Location](#) GNSS unit [datasheet](#)

Telecommunications

WISDOM-A UHF 401.XXX MHz TM and TC 4800 Baud GMSK TBC
WISDOM-B UHF 401.YYY MHz TM and TC 4800 Baud GMSK TBC
TM and TC only over European C3S ground stations

WISDOM-A OWL 137.100 MHz LoRa
WISDOM-B OWL 137.975 MHz LoRa TBC

LoRa Spreading Factor: 10, Coding Rate: 5, Bandwidth: 125 kHz

Payloads

WISDOM-A 4 Aurora [Thrusters](#)
WISDOM-B 1 Aurora Plasma [Brake](#)

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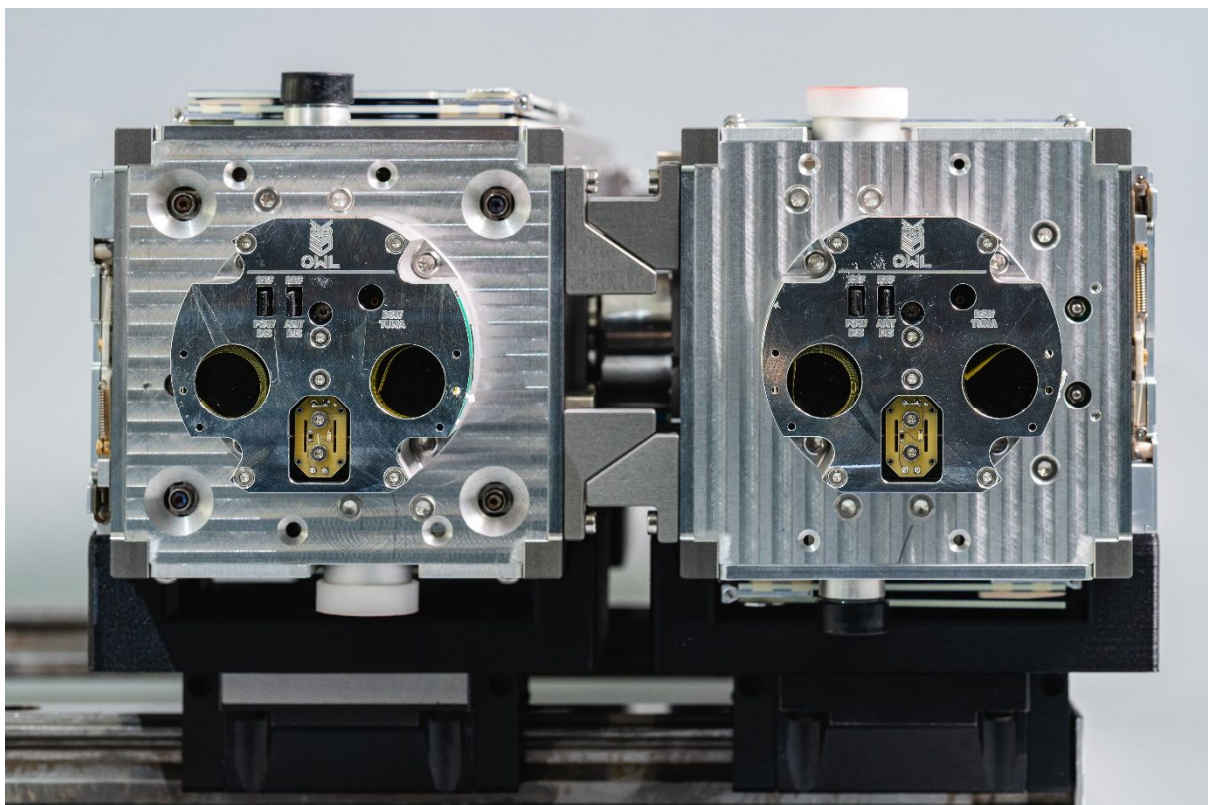
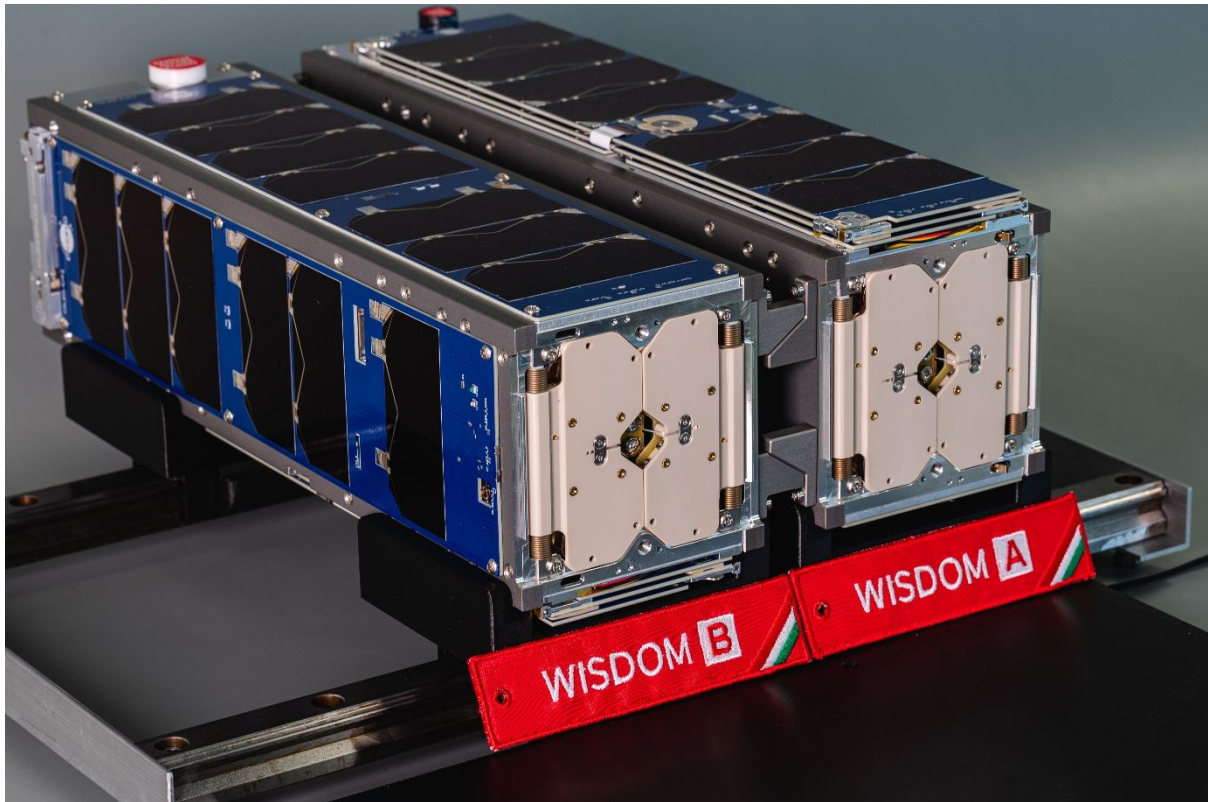
WISDOM-A OWL packet received on 137.100 MHz, 28 November 2025 21:30:36 UTC

05000001461900021b1b2077060010000200707000055a09b7e00503250389025502
fd00dd01632803f7b3d4c6015ba4e5d745580a0049010500e2e6fdff02cf00000000
0000000000283c070000000000f900f70c006537

| WISDOM-A OWL Format – 88-byte packet | | | | |
|--------------------------------------|--------|--|-------------------|--|
| Parameter | Byte | LE Data | Value | |
| Fixed | 1 - 4 | 05 00 00 01 | | OWL ID #5 |
| Packets | 5 - 7 | 461900 | 9792 | Packet Counter |
| Fixed | 8 | 02 | 2 | |
| Data Zone 1 | 9-22 | 1b1b 2077 0600 1000 0200 7070 0005 | | |
| Data Zone 2 | 9 - 64 | 5a09 b7e00503 2503 8902 5502 fd00 dd01 6328 03f7 b3d4 c601 5ba4 e5d7 4558 0a00 4901 0500 e2e6 fdff | 2394 507168.55 | GPS Week Number GPS Seconds of Week |
| Data Zone 3 | 65-86 | 02cf 0000 0000 0000 0000 0028 3c07 0000 0000 00f9 00f7 0c00 | | |
| CRC-16 | 87-88 | 6537 | | |

GPS Date Time (Week Number + Seconds Of Week) is 28/11/2025 20:52:30

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Left: WISDOM-A with 4 thrusters. Right: WISDOM-B

6/04/2026

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Left: WIDOM-A

Right: WIDOM-B



6/04/2026