



# V-BUS CUBESAT PLATFORMS



V-BUS is a highly modular, multi-purpose platform containing flight-proven subsystems compatible with CubeSat standards. The Spacecraft is capable of supporting a wide range of requirements and is designed to maximize its lifetime. Precise pointing, energy efficiency, and high payload volume make this spacecraft ideal for earth observation, IoT and communication services, and educational and science experiment missions.

The bus is delivered mechanically, electrically, and functionally tested, and ready for payload integration. Integration services can be provided by Serenum, including qualification and acceptance of the payload.

V-BUS CubeSat platforms are based on flight heritage of VZLUSAT-1 and VZLUSAT-2. The first spacecraft of

the series, VZLUSAT-1, was launched in 2017 as a multi-payload 2U CubeSat with in-orbit deployment mechanism expanding it to 3U size. After more than 4 years, VZLUSAT-1 is still in operation. VZLUSAT-2 is expected to launch in 2021 as a 3U-sized CubeSat containing a wide range of payloads, including two optical systems for Earth observation, coupled with ADCS developed by VZLU.

# PROPERTIES

Class	1U	2U	3U
Available payload volume	0,5 U	1U	1,75U
Payload mass	500 g	1,2 kg	2,0 kg
Pointing accuracy	±5 arcdegree 1 sigma	±3 arcmin 1 sigma	±3 arcmin 1 sigma
Pointing knowledge	±1 arcdegree 1 sigma	±30 arcsec 1 sigma	±30 arcsec 1 sigma
Pointing stability	10 arcmin over 1 sec	3 arc-sec over 1 sec	3 arc-sec over 1 sec
Orbit knowledge	± 10km, from SGP4 TLE	± 10km, from SGP4 TLE	±1km GPS
Payload data interface	UART, I2C, CAN, SPI	UART, I2C, CAN, SPI	UART, I2C, CAN, SPI
Onboard storage	64MB	64MB	64MB
Payload available power-continuous	0,8W	1,4W	1,5W
Payload available power-peak	10W	10W	10W
Power	3V3, 5V	3V3, 5V	3V3, 5V
Uplink	UHF	UHF	UHF
Downlink	UHF	UHF	UHF, S-band
Minimum lifetime	2 years	2 years	2 years

