RED ENTRY SYSTEM

ON-DEMAND RE-ENTRY CAPSULE

SpaceWorks' line of re-entry devices (RED) are on-demand payload return capsules that enable low-cost, autonomous re-entry from Earth orbit. The RED product line provides high-frequency and precise downmass capabilities to support novel material development, microgravity experimentation, and on-orbit sample collection. The sphere cone devices utilize a SpaceWorks' proprietary thermal protection system, called Nova-F, which allows them to withstand the high temperatures associated with re-entry. The RED systems can return up to 50 kg of payload from space to anywhere within the contiguous United States in under 24 hours.

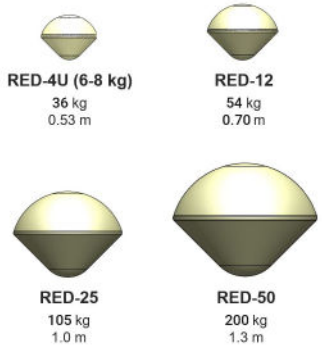
FEATURES

- Guided Parafoil Precision Landing
- On-orbit Loading
- Precision Final Mile Delivery
- Reconfigurable Payload Bay

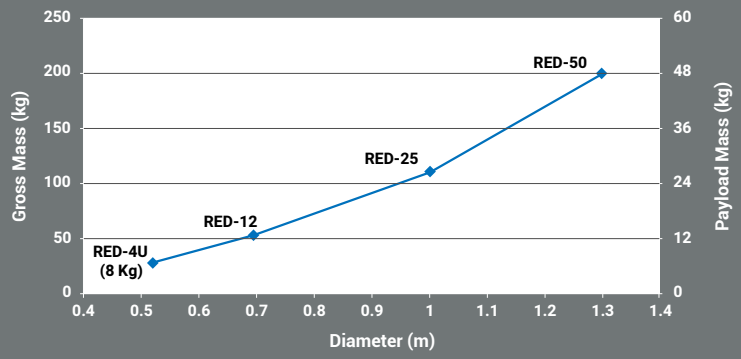
APPLICATIONS

- In Space Manufacturing
- Sample Return
- Zero Gravity Experiments
- On-Demand Cargo Return
- Rapid Payload Delivery

SIZE COMPARISON



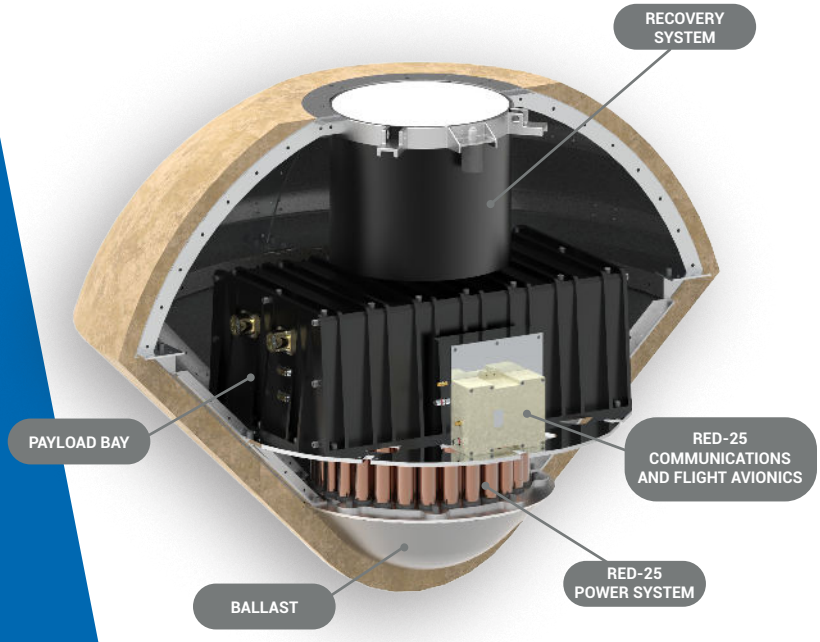
GROSS & PAYLOAD vs VEHICLE DIAMETER



RED-25 CONOPS

The fully-equipped payload bay will be packaged and sealed within the SpaceWorks RED-25 prelaunch. The RED-25 can support telemetry for the payload bay, provide pass-thru power, and maintain a desired internal environment for the payload bay. The backshell of the RED-25 will be equipped with a standard interface. After the completion of the mission, the RED-25 will de-orbit from elliptical orbit to a pre-specified location. The payload will be recovered in under 24 hours.

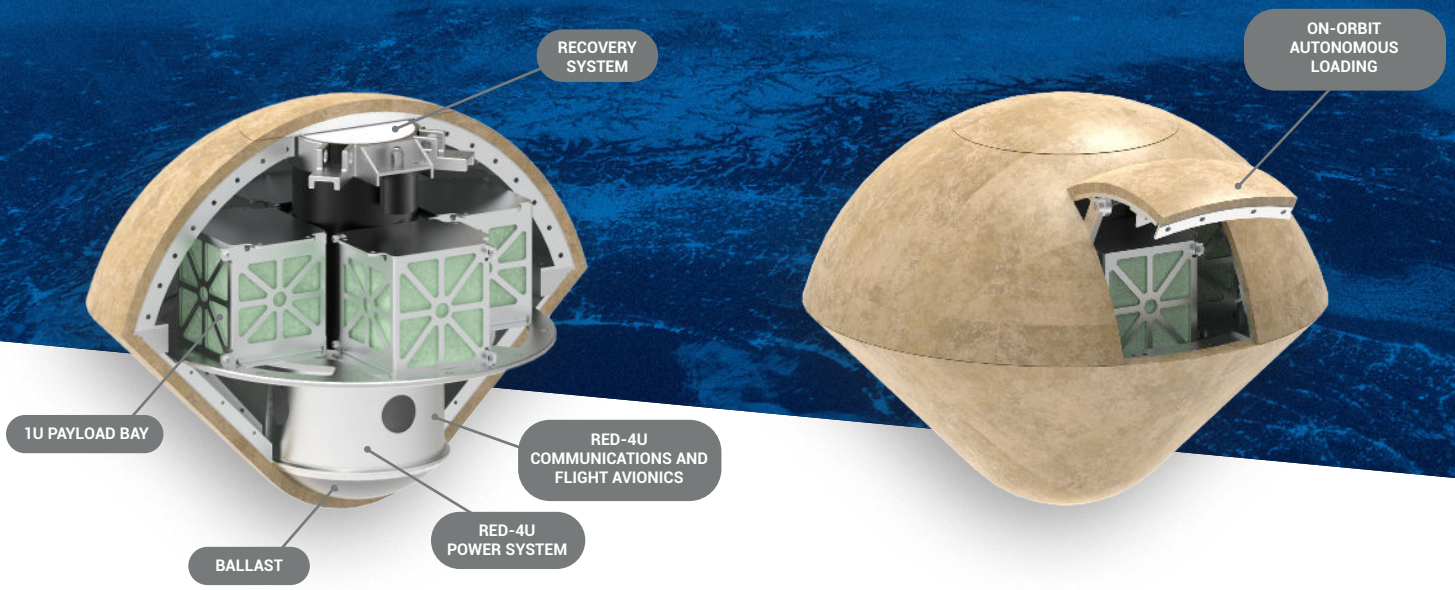
CHARACTERISTICS	VALUE
Mass	105 kg (231.5 lb)
Payload Mass	25 kg (55.1 lb)
Payload Volume	24U (40x30x20 cm)
Maximum Entry Gs	<15
Mission Duration	Up to 6 months
Communications	Iridium & ADS-B



RED-4U CONOPS

The Autonomous Loading RED-4U can rendezvous on-orbit with a space factory or space station where the RED-4U can be utilized for re-supply and payload return. The backshell of the RED-4U will be equipped with a standard interface. The RED-4U will collect on-orbit samples in quantities of 2 kgs and store them within the 1U payload bays. After collecting a total of 8 kg of samples, the RED-4U will de-orbit from elliptical orbit to a pre-specified location. The samples will be recovered in under 24 hours. Many components of the Autonomous Loading RED-4U are recoverable and reusable.

CHARACTERISTICS	VALUE
Mass	36 kg (79.3 lb)
Payload Mass	8 kg (17.6 lb)
Payload Volume	4U (4, 10x10x10 cm)
Maximum Entry Gs	<15
Mission Duration	Up to 6 months
Communications	Iridium & ADS-B



VISIT SPACEWORKS.AERO/FLIGHT/RED-25 TO VIEW

PROGRAM MANAGER | **TYLER KUNSA**
tyler.kunsa@spaceworks.aero | 404-991-2207