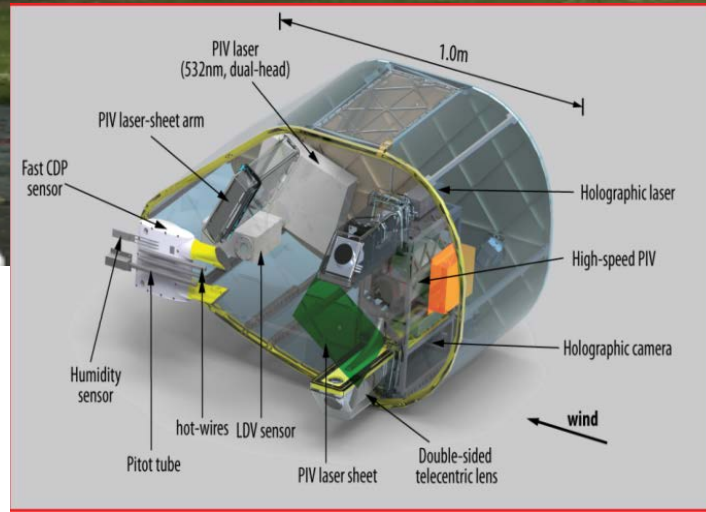
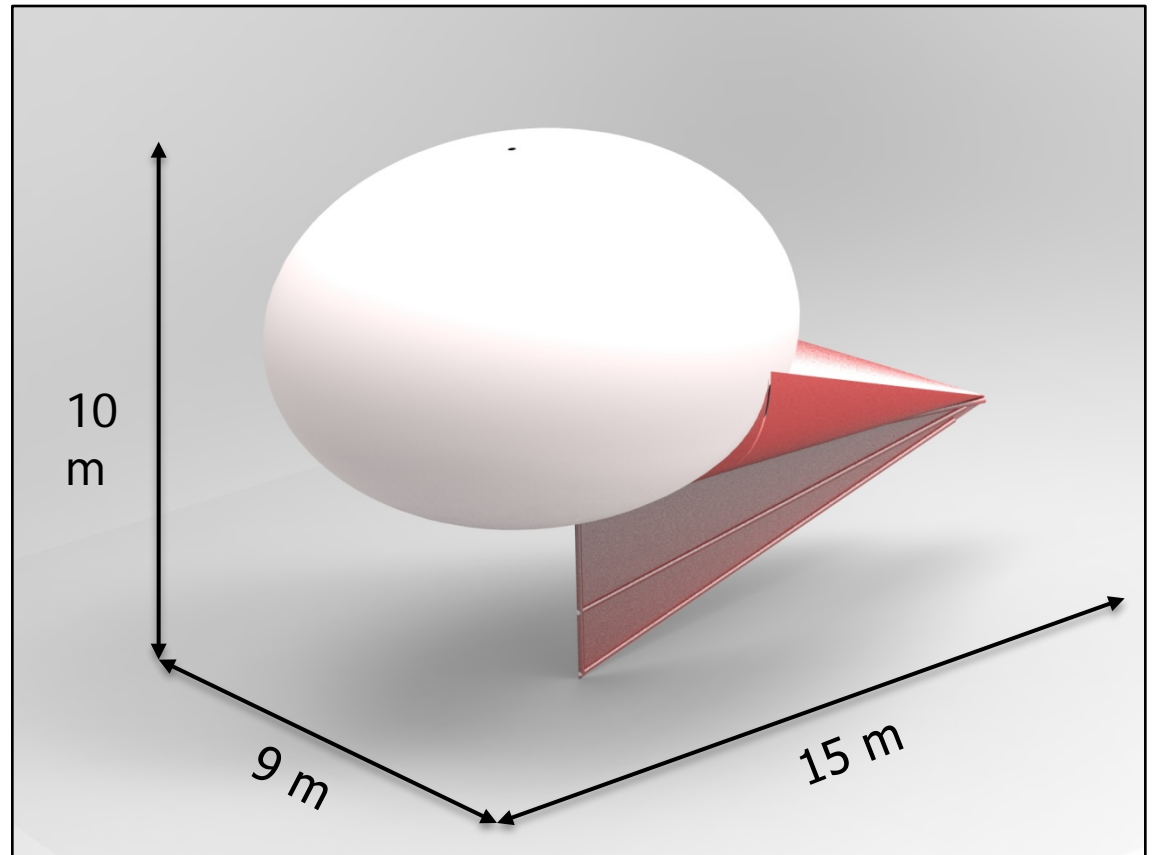


cloud-kite

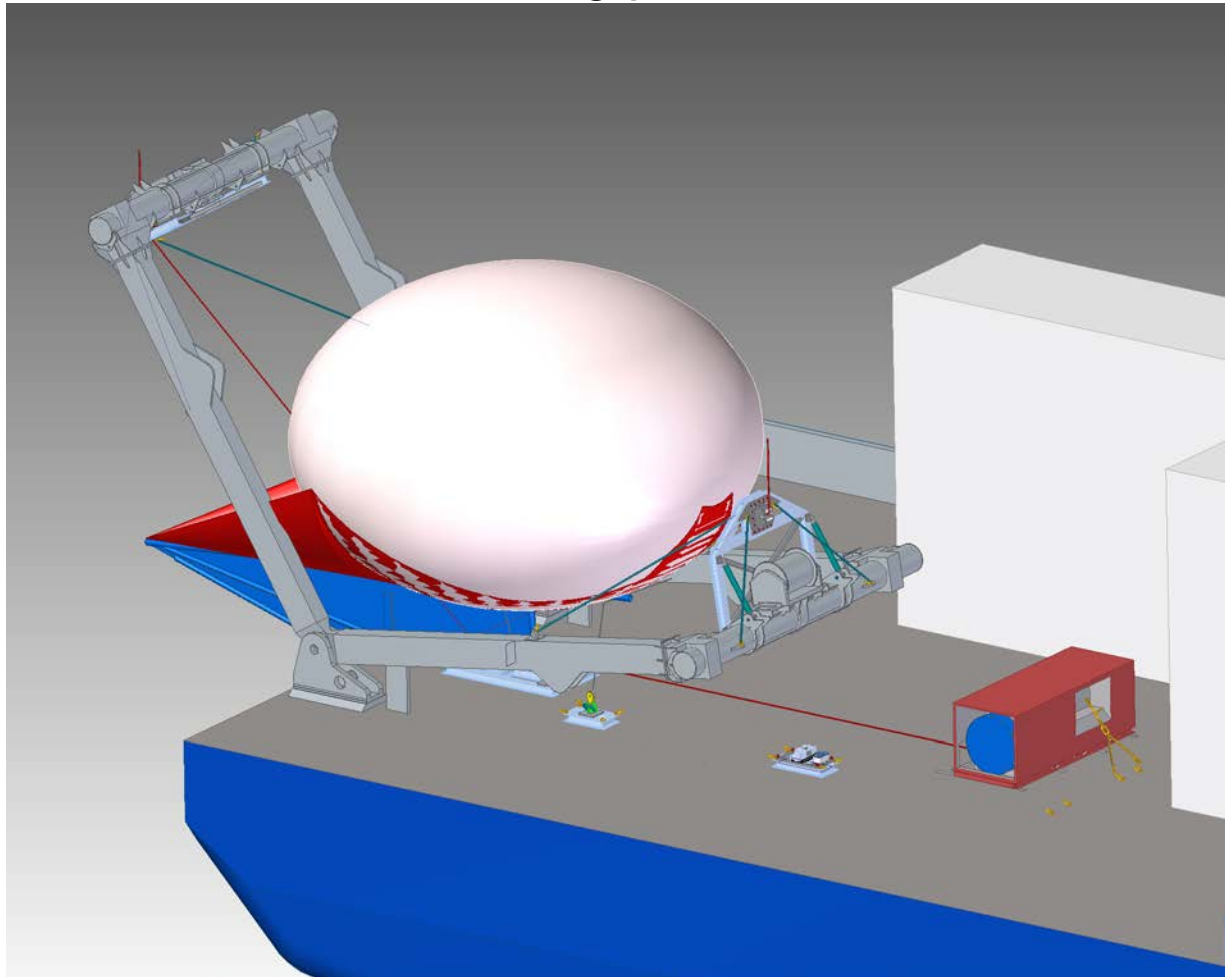


MPIDS Cloudkite



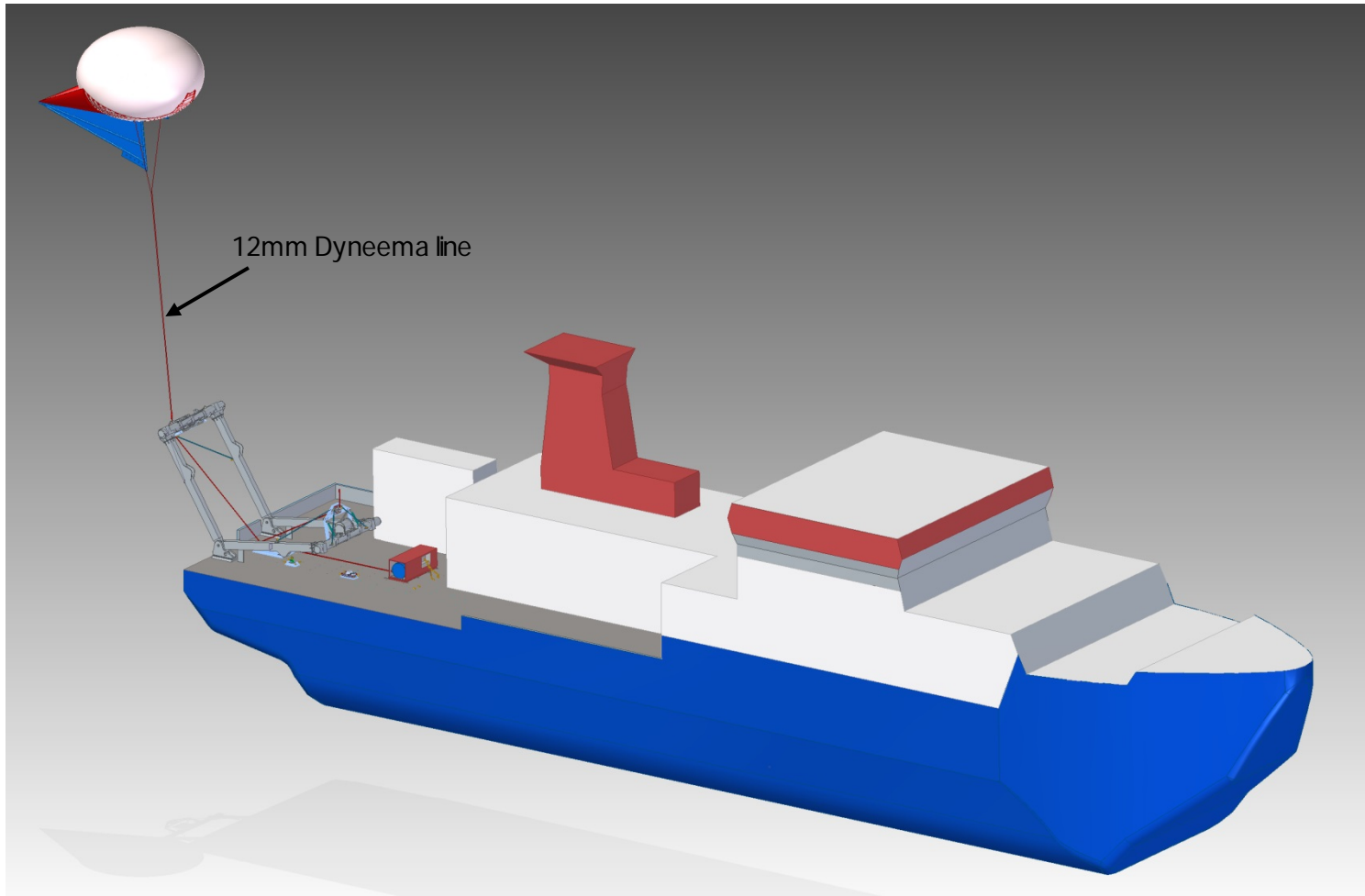
The Cloudkite on Maria S. Merian

Parking position



The Cloudkite on Maria S. Merian

In Operation



cloudkite: useful information (1)

- **operation in day time / in good weather conditions**
- **can operate independent of the ship navigation direction as long as the air speed is <60kt** (e.g. if the ship is sailing 10 kt, then the wind speed limit is 50 kt if sailing against the wind and 70 kt if sailing with the wind).
- **launch and retract: each <20min**
- **maximum flight height <1.3km**
- **maximum line tension at 60kt: <6t (most likely <4t),**
Line tension is measured at all times
- **the winch can hold 12t (drum lock) and pull 2t with a v8 petrol engine**
- **line breaking strain: 12t**
- **guiding structure is designed by a certified engineering construction company**

cloudkite: useful information (2)

- **balloon is equipped with manual and automatic barometric cut-down device** (hopefully have an ADS-B transponder to make it visible to aircraft).
- **operating with battery power for at least 3hr** (emergency GPS and communication system can work up to 24hr)
- **main battery: 14kg IP66 LiFePo with 4mm thick ABS shell and safety bag**
- **total data collected during each launch: ~5TB**
- **laser beams are eye-safe at distances >15m away**
- **battery needs to be changed before each flight** (data will be download through an optical fiber link ~1hr)
- **weather assessments and other checks before launch**
- **safest places for the Cloudkite: in bad weather tied down on the ship deck / in sky with at least 50-100 m of rope.**