Satellite Saving

Answering an unasked question featuring the article:

https://web.de/magazine/wissen/weltraum/scheitern-rettung-nasa-satellit-erde-gestuerzt-42913236?utm_source=firefox-newtab-de-de

(German article about a failed satellite rescue mission.)



Innovation idea

1. The solar wings fold up and are pulled into the satellite's body.



2. A scaled, egg-shaped shell surrounds the satellite body, using a mechanism similar to that of a like a collapsible telescope cup.





3. The shell is released before entering the atmosphere. The thermal energy generated by atmospheric friction is collected from the shell and used by the internal cooling system.



4. Once the casing has cooled sufficiently, a parachute and stabilizing fins deploy from the shell.



5. Finally, drones catch the shell before it impacts the ground, using a net system similar to those used on aircraft carriers to catch landing aircraft.



The scales lock together using a bayonet locking mechanism and the scales interlock through dovetail-shaped sliding guides along their edges, creating a stable connection between the individual scales.

There should be no automatic unlocking mechanism, so that no single failure can compromise the entire system. Remote control, an Allen key, or a similar mechanism could be used instead.

When an energy-capturing shell is not required, it is possible to use chitosan or pressed carbonate. Mentioned in the video *Back Not Future* or perhaps *Future Becomes Past*, and in the podcast. The material would still be lightweight. However, for dust-like or liquid materials, use a membrane inside.

The scaled egg shape also provides greater stability against external pressure. An example of a possible application would be protection for underwater divers.



The interlocking scales and the bayonet mechanism also prevent the scales from drifting apart.



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