Removal and Recycling Space Debris

RRSD

The problem is the accumulation of space debris and its safe and above all convenient removal, in various respects, it is difficult to support only debris collection,

a solution to this problem is presented

- More satellites are being launched than ever .
- If space gets too crowded, junk can crash into satellites and create more junk.
- A single crash can make thousands of new debris pieces
- Future space missions and even the Internet and GPS could be at risk.

Why We Must Fix It

- To protect astronauts and the International Space Station.
- To save satellites we use for weather, communication, and navigation.
- To make sure we can keep using space safely in the future.

Who has this problem?

- Space agencies like ESA, NASA
- Satellite companies such as SpaceX, OneWeb, and Amazon Kuiper
- Military and defense groups
- Space insurance companies

How big is the problem?

- There are more than 130 million pieces of space debris larger than 1 mm
- The number of satellites is growing fast — over 5,000 Starlink satellites are already in orbit

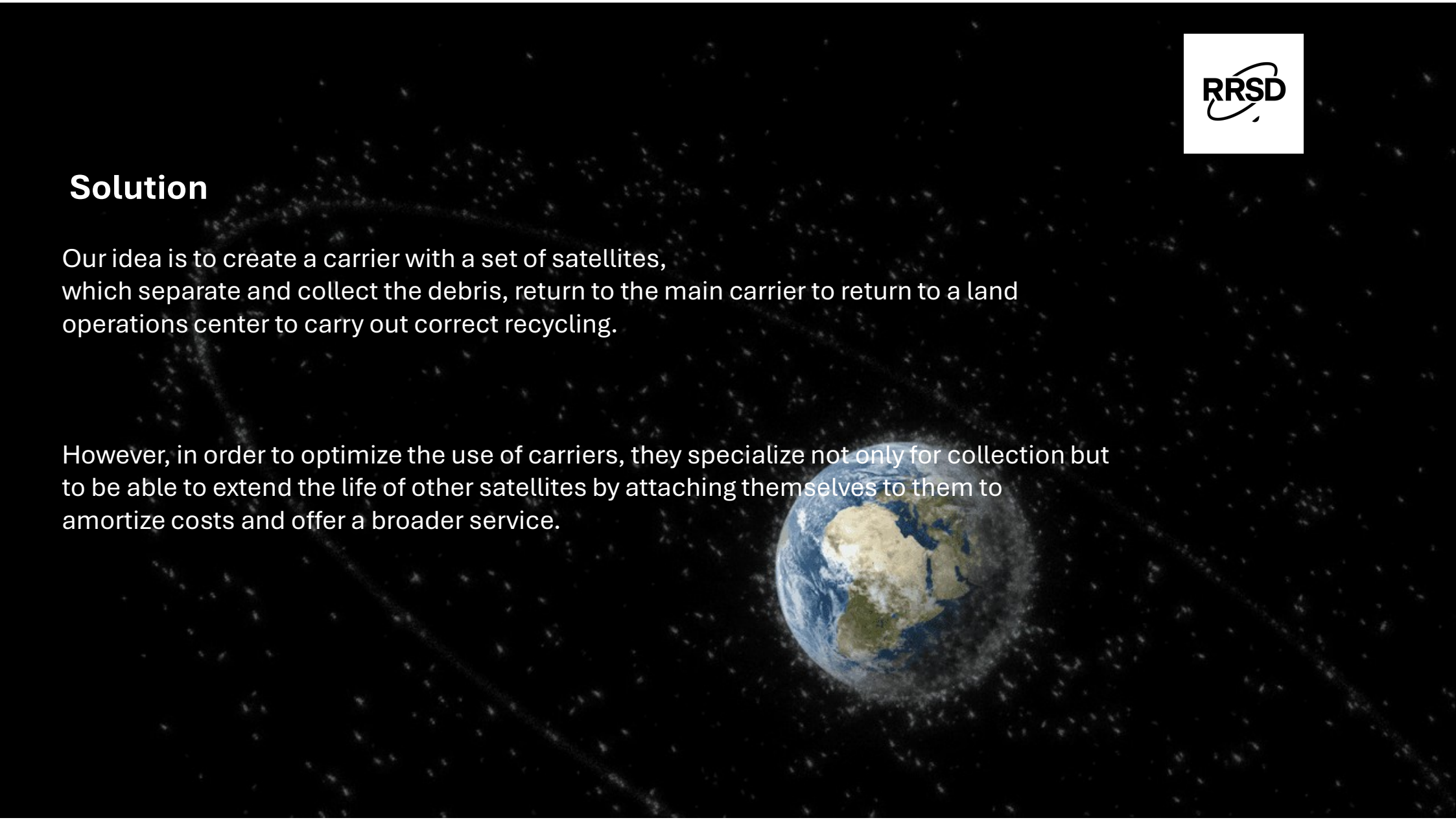
How urgent is it?

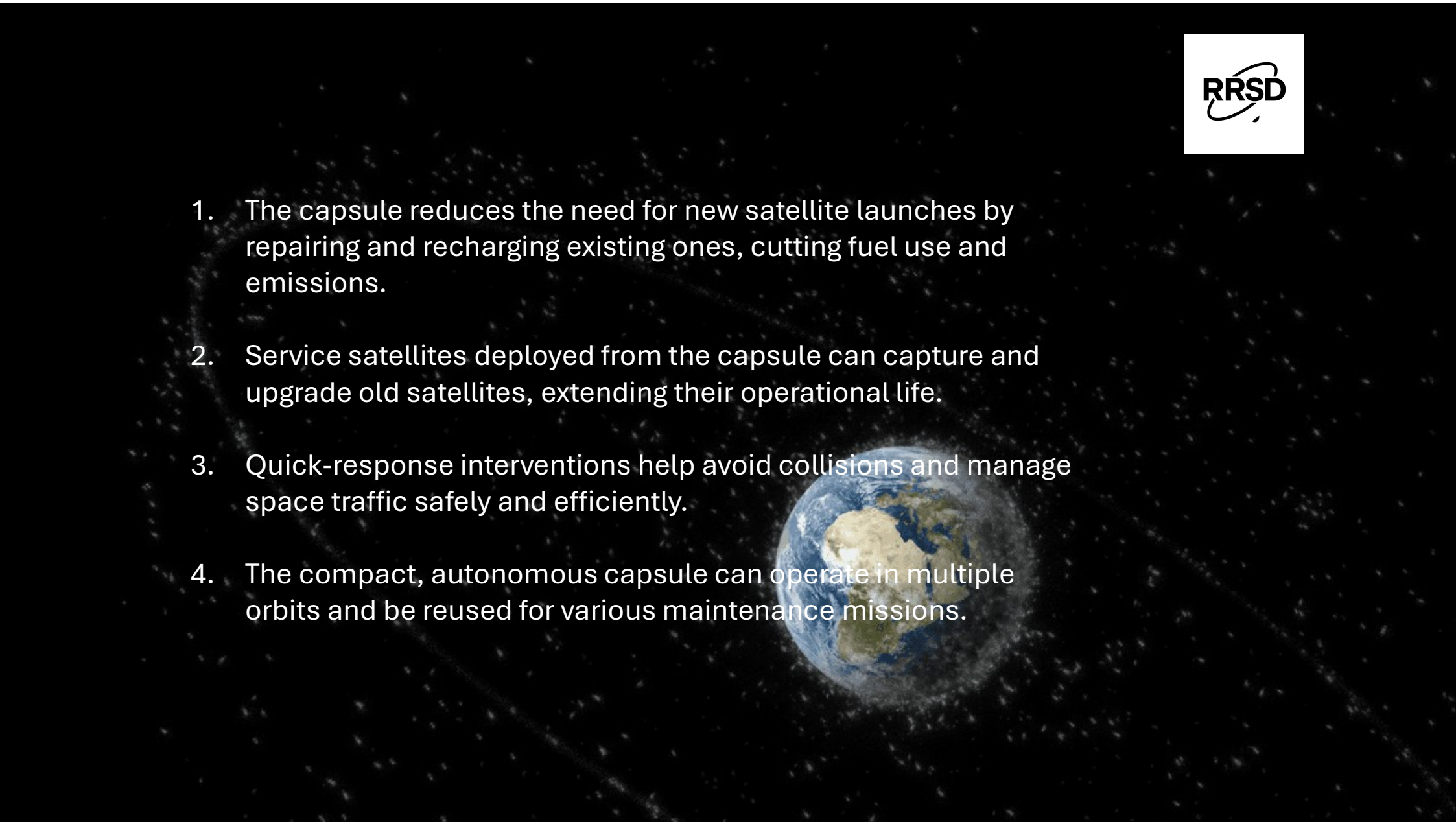
- More launches mean a higher chance of dangerous collisions (known as the Kessler Syndrome)
- We need a permanent and scalable solution soon, before the problem becomes too big to manage

Solution

Our idea is to create a carrier with a set of satellites,
which separate and collect the debris, return to the main carrier to return to a land operations center to carry out correct recycling.

However, in order to optimize the use of carriers, they specialize not only for collection but to be able to extend the life of other satellites by attaching themselves to them to amortize costs and offer a broader service.





1. The capsule reduces the need for new satellite launches by repairing and recharging existing ones, cutting fuel use and emissions.

2. Service satellites deployed from the capsule can capture and upgrade old satellites, extending their operational life.

3. Quick-response interventions help avoid collisions and manage space traffic safely and efficiently.

4. The compact, autonomous capsule can operate in multiple orbits and be reused for various maintenance missions.