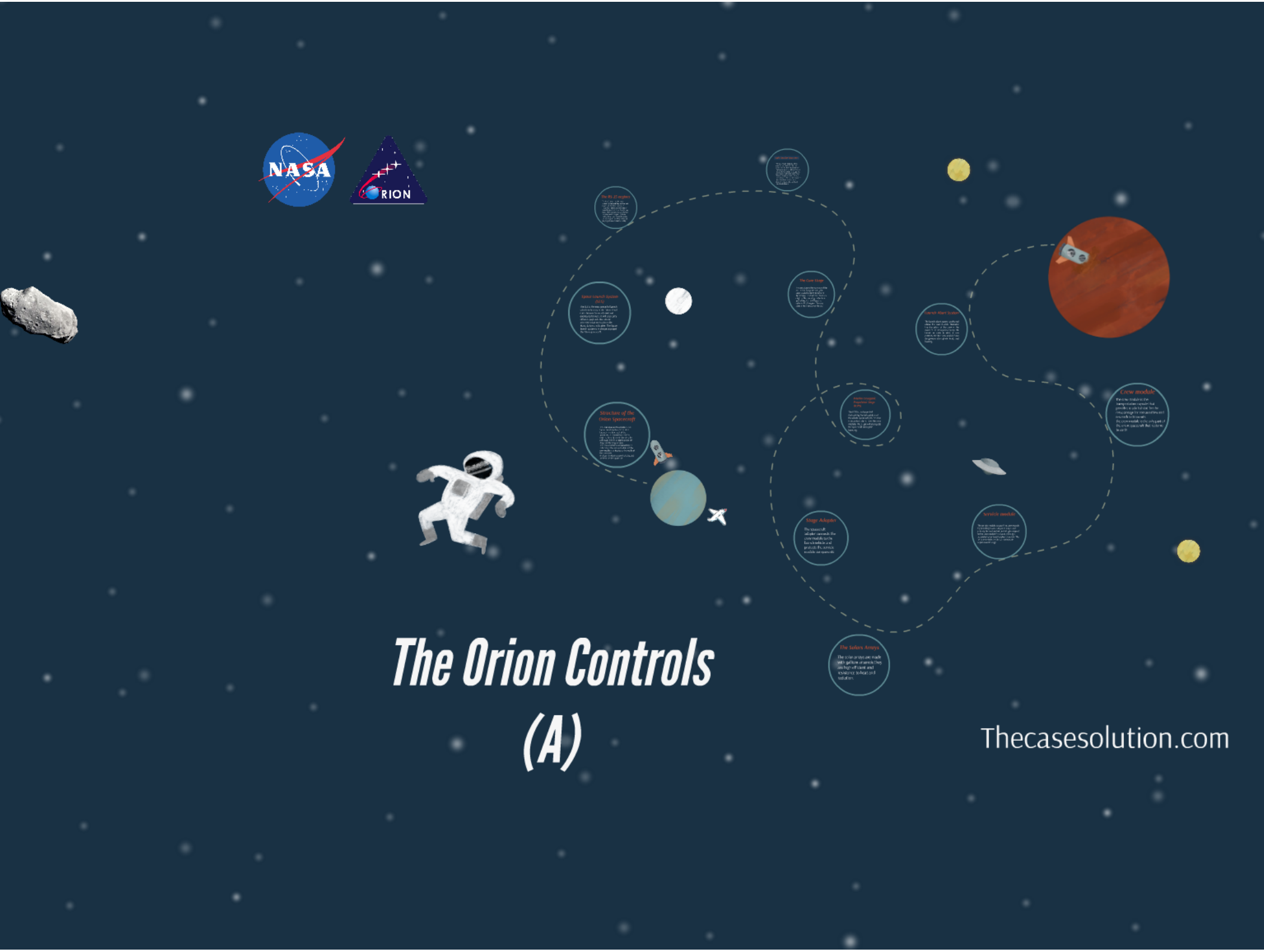

The Orion Controls (A)

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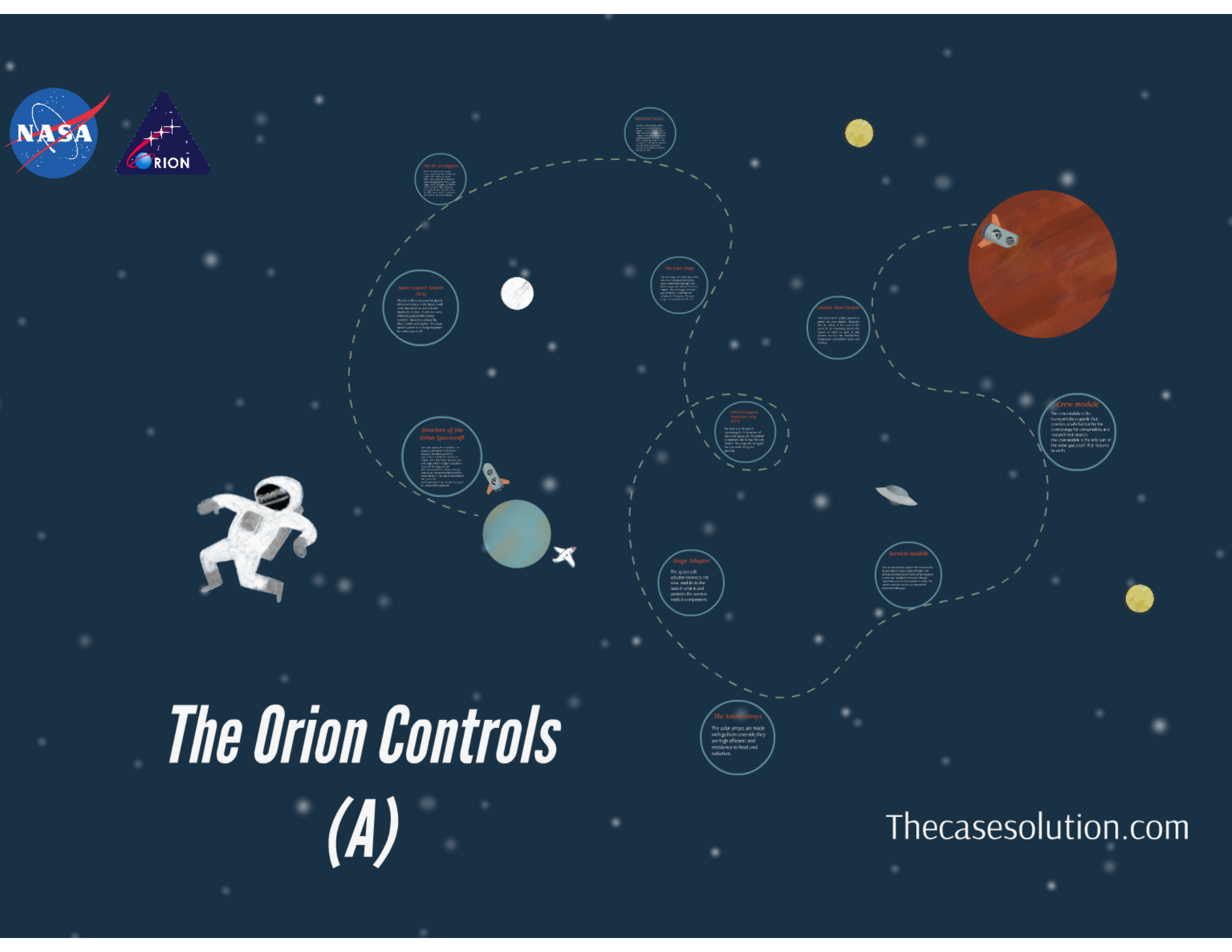

The Orion Controls (A)

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Structure of the Orion Spacecraft

The Orion spacecraft is divided in the Space Launch System (SLS) that is located in the lower part of the spacecraft, it is formed by the RS-25 engines, the solid rockets boosters, the core stage, interim cryogenic propulsion stage and the stage adapter.
The Crew area that is composed by the solar arrays, the service module and the crew module, it is located at the middle of the spacecraft.
And Launch Abort System that is located at the top of the spacecraft

Space Launch System (SLS)

The SLS is the most powerful launch vehicle in history, in the future it will carry humans to an asteroid and eventually to Mars. It will also carry different payloads like robotic scientific missions to places like Mars, Saturn and Jupiter. The Space launch system is in charge to propel the Orion spacecraft.

The RS-25 engines

The RS-25 are part of the space Launch System and they are the main engines of the Orion spacecraft. These four rockets are in charge of providing propulsion for the SLS core stage. The RS-25 engines are the first reusable rockets engine in history. During the 30-year run of the Space Shuttle Program, the RS-25 achieved very high demonstrated reliability.

Solid Rocket Boosters

The Solid Rocket Boosters (SRBs) operate in parallel with the main engines for the first two minutes of flight to provide the additional thrust needed for the Orbiter to escape the gravitational pull of the Earth. At an altitude of approximately 45 km (24 nautical miles), the boosters separate from the orbiter/external tank, descend on parachutes, and land in the Atlantic Ocean.

The Core Stage

The core stage is the main part of the SLS. It is in charge of storing the super-cooled liquid hydrogen and liquid oxygen that will fuel the RS-25 engines. The core stage is the main part of the SLS. It will feed the vehicle's RS-25 engines. The core stage is the main part of the SLS.

Interim Cryogenic Propulsion Stage (ICPS)

The ICPS is in charged of manteining the temperature of the whole spacecraft, his position is important, due is near the crew module. This stage will also guide the spacecraft during the launchig.