

Displacement of the International Space Station

I. YEAR 2034, SOMEWHERE ABOVE EARTH'S SURFACE, *5 minutes until docking of carrier rocket!*

With the docking of the last carrier rocket, the International Space Station is finally ready. It is ready to leave its current position to start its multi-staged travel to the moon. Everything started with the decision in 2014 to abandon the ISS program in 2024. But the know-how and the resources were too much of a waste to just abandon the station and let it crash back to earth. Therefore, we were looking for new opportunities for years until a good one came along. As the idea of a Moon Village manifested itself, an actual plan for retrofitting the ISS and move it to earth's moon was made. The ISS wasn't made to do such a big travel. Therefore a lot of different parties had to participate to implement such a sophisticated project.

Years before, such intentions would have been immediately turned down, if there wouldn't have been that much progress in space sciences in recent times. Especially the rise of private entities in space industry made it possible, to have a lot of available resources for implementation. It was far easier for Space Agencies to outsource the development and implementations of technologies than doing everything on their own.

4 minutes until docking of carrier rocket!

As in 2017, LunarX's mission was successfully launched, humanity proofed that it is still viable of traveling to the moon. We also executed a couple of experiments, including the melting of lunar sand and stone, for creating the raw material for 3D-printers. This way autonomous robots were capable of creating structures on the moon, without transporting tons of raw material from earth. Since 2021 many rovers and orbiters were sent to the moon and a blueprint of the moon village began to materialize. As there were many disagreements with politics and law, the first robot mining and processing raw material for 3D-printers wasn't 2026 but 2030. We still tried to make progress by doing proof-by-principle missions and developing best-practice solutions. But at the end of 2030, the rover started to make its first kilogram of building material. In the follow-up year, 6 additional mining and 4 constructing robots landed. With each of the mining robots producing about a kilogram of material per day, almost 6 tons of building material has been produced by now and basic structures for extending the soon to be arriving space station has been built.

3 minutes until docking of carrier rocket

The moon village is now the biggest project humanity has ever made. Guided by international space agencies, the ISS shall be capable of leaving its earth orbit and move with multiple stages to the moon and archive a relatively smooth landing.

As launching rockets were commercialized, the price of space accessibility dropped dramatically. More or less overnight, many new players appeared in developing hardware for space applications. This way, the life-cycle of satellite development decreased significantly. It then was much faster to develop and deploy a satellite, therefore much cheaper and many new jobs were created. Slowly more hardware systems were standardized and less were custom-made. This cut the prize furthermore and fed the upward spiral.

2 minutes until docking of carrier rocket

But for missions on a scale of moving the ISS to the moon, much more effort was needed. Landing vehicles from space became a technology showcase for space companies. The company with the most hilarious way of a successful landing method got the most publicity until the next one came along. As there were many failures, best practices gave us the opportunity to decrease the risk of repeating an error like the landing of Schiaparelli in 2016. Try-and-error is still the best possible method humanity has ever created, to find an almost perfect system. This created an unbelievable zero failure rate for moon landings since 2026 and will remain for the ISS itself hopefully.

1 minute until docking of carrier rocket!

Usually, it wouldn't be possible to move the ISS out of its orbit, move it to the moon and land it. But the laser ignition system of the Ariane 6 proofed to be successful for re-igniting its system and therefore implement a multi-staged travel much easier. Also, the installations of the ISS were almost completely dismantled and moved to another carrier to prevent faults during the landing process. The ISS was designed for microgravity. Hence people do not have a sense of direction while in space and therefore installations were made in every direction. But on the moon, gravity prevents people from reaching certain points. So dismantling most of the installations were necessary anyway. Once the ISS landed, it will extend the already 3D-printed structure and equip it with the most expensive gear humanity has to offer.

Carrier rocket successfully docked with the ISS. Have a safe trip!