Storing Asteroid Rocks

INTEGRITY ISR

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The Final Frontier Flash

- 25 October 2020: Russia launches its 3rd Urugan-K Glonass satellite. The Urugan-K is the third generation of Glonass satellites. (see VIDEO of Urugan-K construction)
- GLONASS is Russia's global satellite navigation system, and is for military and civilian use. GLONASS was begun in the 1970s, with the first satellite reaching orbit in 1982.
- GLONASS is the abbreviation of Globalnaya Navigatsionnaya Sputnikovaya Sistema – or Global Navigation Satellite System – while individual satellites are named Uragan, meaning Hurricane.
- Each satellite in the GLONASS constellation broadcasts in the L band, with L1, L2, and L3 signals—the exact frequency varies by satellite.
- GLONASS' L1 & L2 signals are divided into open civilian signals and more precise encrypted military variants. L3 only has a civilian version.

The two previous GLONASS-K satellites were launched in 2011 and 2015, a half-a-decade break had followed due to lack of components for the new-generation spacecraft. The shortage stemmed from the Western sanctions which banned selling dual-use avionics to Russia after the Kremlin's invasion of Ukraine. GLONASS contains 21 satellites in 3 orbital planes, with 3 on-orbit spares. GLONASS provides 100 meters accuracy with its degraded C/A signals and 10-20 meter accuracy with its P (military) signals.

19 October 2020: Chinese large state-owned enterprise China Aerospace Science and Industry Corp (CASIC) released its commercial space plans for the next five years.
- Plans included developing launch services, satellite constellations and a reusable spaceplane.
- Goal is to double the number of KZ (solid fueled rocket) launches by 2023 and lead the world in solid rocket technology by 2025.
- Test a two-stage-to-orbit reusable spaceplane system by 2025. This is in addition to the Tengyun space plane believed tested in August.
- Finish construction of the Xingyun project, an 80-satellite LEO narrowband Internet of Things constellation, by 2025. The group aims to launch 12 Xingyun 2-series satellites in 2021.

"In the next five years CASIC will improve the capability of the commercial aerospace system, shorten the preparation time for and enhance the frequency of commercial rocket launches, and conduct further research into the reuse of launch vehicles to lower costs"—Fu Zhimin, a chief technologist at CASIC.

13 October 2020: NASA announces that the US and 7 other nations signed the Artemis Accords. The Artemis Accords are a draft set of rules for exploring the Moon.
- The Accords include standards for things like lunar mining and how to handle conflicts on the Moon's surface.

Per NASA Administrator Jim Bridenstine, "what we're trying to do is establish norms of behavior that every nation can agree to." The other signatories are Australia, Canada, Japan, Luxembourg, Italy, the United Kingdom, and the United Arab Emirates.