Corona Virus 2020 Impacts on Space Exploration

An international Press Compress (Status: April 2020)

The Covid-19 virus pandemic outbreak became known to the public at the beginning of 2020. It is suspected to have started at the Chinese city of Wuhan to travel to unexpected places causing violent eruptions around the world.

On February 11, 2020 several media sources in the USA still indicated that under the FY2021 budget proposal, the Trump administration will propose a nearly $3 billion increase for NASA, with most of the extra money going to building commercially operated lunar landers. By so doing, Trump has decided to go all in for landing the "first woman and the next man" on the moon by 2024. He is also going to directly challenge some in Congress who have expressed reservations about that goal. [1]

In March 2020 reports tickled in with speculations and official statements on the impacts this pandemic would have also on global space exploration plans and its associated industries.

Starting in April 2020, I collected various articles from the Internet to get a snapshot of the current assessments – with the plan to compare those predictions at the end of the Year 2020 with the actual situation.

A general assessment assumed space industries should fare better against coronavirus than other industries. [2]: Government customers in defense and emergency response have robust needs for satellite connectivity and geospatial data in times of crisis, and commercial demand for connectivity remains strong. [2].
NASA and ESA are currently supporting mission-essential and public services operations for all spacecraft with skeleton teams at the control centers supported by telework and "home - office" work with limited exceptions for on-site work helps to maintain critical planning and operations activities.

Ames, Michoud, Stennis Kennedy Space Center (KSC) and ESA Kourou-CSG launch complexes are at a stage with reduced personnel on-site to protect life and critical infrastructure. [3] [4]

Of course the results at the end of the "lock-down" are influenced also by "natural" delays and shifts by other causes – however I hope the impact is not as severe as feared if the crisis last longer than a year as some virologists predict, and space (funds) will still be there to continue exploring its secrets and expand our horizon.

The following list is far from being complete, it merely reflects status of mayor projects using the available official information and other reports available at the time:

	Status April/March 2020	Status End of 2020
USA	**AEHF-6** AEHF-6 satellite launch took place as scheduled on March 26, 2020[2] **Dragon Demo-2** NASA announced that the SpaceX Dragon crew Demo-2 launch has been set to May 27, 2020 as the target launch date for sending two astronauts to the ISS from Kennedy Space Center in Florida, aboard a rocket built by the commercial service provider SpaceX. [5, April 17, 2020] – This would be the first crewed launch from American soil since the retirement of the Shuttle in 2011.	

	SLS and Orion SLS and Orion work has been stopped. [3] [4] **James-Webb-Telescope** Also a shift of the James-Webb-Telescope planned for 2012) has to be expected. [3] [4] **Event Horizon Telescope (EHT**) EHT, an international consortium of about 200 scientists using a global array of telescopes who last year revealed the first-ever direct images of a black hole, had to cancel its 2020 observing campaign. [9] **Mars Rover** The same is true for the Mars Rover "Perseverance" and Mars Helicopter planned for summer 2020. [3][4] **Gateway** Most development work on the Gateway program continues, any onsite activity beyond securing hardware is temporarily suspended [3]. The first launch, the Power and Propulsion Element (PPE) was planned for Qutr 4, 2022). [10] **ISS** All work supporting ISS operations continues. Current planning dates for "End-of Life" (EOL, currently 2028) are ranging between 2024-2030. [10]	
ESA	**Kourou CGS/Arianespace** Launches from Kourou are suspended and Roskosmos, using Kourou-CGS for Soyuz-2 rocket launches, retracted the majority of their launch personnel. [4] Arianespace paused missions from Europe's South American spaceport following the French government's call for limiting non-essential activities. [2] **Galileo** OHB, responsible for the completion and maintenance of the European Galileo navigation system expects delays but sees no crises introduced by the virus. Contrary, new applications for the Galileo navigation system might be developed	

	(e.g., “tracking App” for virus infected persons). [7] **ExoMars Rover** The planned launch of the life-hunting ExoMars Rover planned for July 2020 has been delayed to 2022 due to failed ground tests. [4]	
China	**Mars Mission** Despite the coronavirus pandemic, China is still working towards its upcoming mission to Mars— and still expects to launch in July 2020 as planned. [1] **Launchers** Expace, a launch vehicle manufacturer, operates out of Wuhan, the pandemic’s epicenter, which currently is under lockdown. However, with Expace “taking hits”, China still expects to launch more than 40 rockets this year. [1]	
Russia	**Soyuz Launch System/ISS** Baikonour operates according to schedule under international quarantine procedures. The ISS MS-16 crew was launched successfully as planned on April 9, 2020 observing a strict quarantine regime. [6]	
Japan	JAXXA space and science operations largely remain unaffected. However all visitors to their numerous field centers have been suspended until April 30. [10]	

References:

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[10] Wikipedia: https://en.wikipedia.org/wiki/Impact_of_the_2019%E2%80%9320_coronavirus_pandemic_on_science_and_technology