

20 Years of Cooperation in Space: Realizing Humanity’s Noblest Dreams

by Kesha Rogers

I believe that the true goal of Man’s space capability is not destination Moon or Mars or any other point in the space-time continuum of the universe. The goal is destination mankind—the realization of its noblest dreams and aspirations. In dedication to this goal we will go anywhere, consistent with the laws of nature. Without this dedication, we will go nowhere.

—Krafft Ehrlicke, “Space Stations, Tools of New Growth in an Open World”

Oct. 18—Space exploration is having an impact on humanity in ways you wouldn’t believe. This week, on the 71st anniversary of the founding of the International Astronautical Federation (IAF)—it was founded in 1951 to bring together space agencies and industries around the world—the IAF hosted its annual International Astronautical Congress (IAC), covering a wide array of scientific and technological advances that nations around the world are pursuing through space exploration.

Over the years, many great space visionaries and pioneers have addressed the IAC. On its 25th anniversary in 1974, Krafft Ehrlicke gave the fifth invited lecture of the IAC. His speech was on the topic, “Space Stations, Tools of New Growth in an Open World.” There he developed what he declared to be the true goal of humanity’s space capabilities, and developed three points relating to the role of space stations and international cooperation in space. He stressed first, that the goal of space exploration is

“destination mankind” and the realization of its noblest dreams and aspirations. The second point was that we couldn’t pursue the goal of destination mankind without new industrial and scientific growth. Third, he discussed the goal of new growth—the Open World—meaning the joint expansion of our productivity base to

meet our present and future needs through the free cooperation of the nations of the world.

On November 2, 2020, nations will have cooperated in microgravity on the International Space

Addressing the International Astronautical Congress in 1974, space visionary Krafft Ehrlicke said that the goal of space exploration is “destination mankind.”



IAC



San Diego Air and Space Museum



NASA

NASA's Atlantis was the first U.S. space shuttle to dock with the Russian Mir space station, June 29, 1995. Shown: Russian cosmonauts welcoming NASA astronauts aboard.

Station (ISS) for 20 years. Humanity has certainly extended its reach beyond the confines of Earth, and is developing the understanding of what is required to live and work on other worlds.

International Astronautical Congress 2020

In the opening plenary session of this year's IAC, NASA Administrator James Bridenstine responded to a question on the importance of international space collaboration to NASA as it embarks on the Artemis program, stating, "We can all do more when we work together." Bridenstine went on to outline areas of cooperation among nations in space, referencing the partnerships on the ISS. "If you think about cooperation in space and how important it is to the future of space exploration, I would say it's more important now than ever before, and I think that's perfectly exemplified in the International Space Station."

In referencing the 15

countries cooperating on the International Space Station for 20 years, Bridenstine named key contributions, such as the European Space Agency's (ESA) Columbus module; Russia's space agency's (Roscosmos) ability to launch astronauts and cargo to the ISS, and the entire Russian segment of the spacecraft; Canada's (CSA) contributions in robotics for the space shuttle, the ISS, and eventually the Gateway for sustainable access to the Moon with reusable human landers; and the Japanese Aerospace Exploration Agency's (JAXA) KIBO module on the ISS, with all of its research and life support capabilities. Bridenstine concluded by repeating, "We can all do so much more when we work together. The International Space Station is a perfect example of that," and stressing that when we return to the Moon and go on

to Mars, we will build on that cooperative framework. We can have more cooperation than ever before, with new space agencies from new countries that want to participate in that great adventure.

Russia's Plans

The head of Roscosmos, Dmitry Rogozin, then described Russia's plans for future space exploration beyond the ISS. Russia is discussing options with partners on the ISS for keeping it operational until 2028 or even 2030, instead of allowing it to be decommissioned and destroyed. Rogozin said, "Roscosmos is determined to maintain cosmonauts at low Earth orbit no matter which decision is finally taken regarding the ISS."

Rogozin reported that in 2021, Russia plans to launch a multipurpose laboratory module for running scientific experiments in key research areas such as biotech, microelectronics, optical electronics, and lasers, as well as



NASA/Bill Ingalls

Jim Bridenstine, NASA Administrator, at the International Astronautical Congress in Washington: "We can all do more when we work together."

other fields of study. Six months after this multipurpose laboratory is launched, Russia plans to integrate a multi-docking hub into the mission segment of the ISS.

During his remarks to the plenary session, Rogozin expressed concern over cooperation on the Lunar Gateway. He stated, “Our American partners are actually promoting it,” and Russia believes that “Lunar Gateway in its current form is too U.S.-centric. Russia is likely to refrain from participating in it on a large scale.” He also stressed that Russia is interested in making sure that the design of the Gateway’s docking module will enable its next generation of crewed spacecraft, called Orel (“Eagle”) to dock with it.

In an interview with TASS that followed, NASA Administrator Bridenstine responded to Rogozin’s concerns, saying,

We would welcome the opportunity to receive what Russia might be willing to contribute to the program, and certainly invite them to share with us what their thoughts are, because we do value them as a partner, and we hope they value us as a partner, as has been perfectly exemplified now for 20 years on the International Space Station.

He also said the United States was working to design the Deep Space Gateway docking hatches to be compatible with Russia’s Orel spacecraft.

Rogozin concluded his remarks during the open plenary session by discussing further cooperation with international partners in all areas and the need to share research data during exploration of the Moon. Finally, he praised the open and friendly relations with China and its National Space Administration (CNSA). He said, “We believe there is more to come in these relations.”



Dmitry Rogozin, Director General of Russia’s Roscosmos State Corporation for Space Activities.

RBC

China’s Plans

During his comments, Kejian Zhang, Administrator of China’s CNSA, commented that the IAF is connecting all spacefaring nations, and suggested, “If the whole world can unite together in the space endeavor, we can achieve greater success.” After summarizing how China has cooperated with Russia, ESA, France, Italy, Brazil, and other countries and organizations, Zhang offered,

I invite my colleagues to think about how to make our world a better place, how space technology can actually contribute to a harmonious world. ... We would also like to use the platform of the IAF to actually develop the cooperation with our peers from other countries including the U.S., Russia, and Europe.

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Kejian Zhang, Administrator of China’s National Space Administration.

IAEA

He called for building the outer space community with a “shared destiny for mankind” in mind.

Some key components of China’s space plans were later elaborated. China is looking at how space technology can tackle the COVID-19 pandemic with the use of mass spectrometers and laser spectrometers to detect viruses. Zhang outlined the success of China’s Long March 5 rocket launches this year, and discussed plans to enter Mars orbit in February 2021 with its Tianwen-1 Mars mission. China won’t be the only

nation preparing to enter Mars orbit at that time. NASA’s Perseverance Mission, and the joint mission of the United Arab Emirates and Japan (named “Hope”) will be doing the same.

Japan, India, and Europe

Japan highlighted its space initiatives as well. JAXA is building the Smart Lunar Lander (to be launched in 2022), to demonstrate pinpoint landing. Japan will also

participate in the Lunar Gateway in developing habitat functions. JAXA will join the Indian Space Research Organisation (ISRO) in lunar polar exploration missions, to be followed by the development of manned, pressurized rovers, which will contribute to full-scale lunar exploration.

India's space program is currently cooperating with Russia on human spaceflight; ISRO astronauts are undergoing training in Russia. India is also cooperating with NASA, sharing space transportation and satellite data, and in many other areas. The ISRO and ESA are working together on deep space propulsion systems. India stated its commitment to supporting space-aspiring nations in capacity building, report-

anic and Atmospheric Administration) to develop a better understanding of space weather. ESA will continue the development of space launch systems and its Digital Twin Earth program.

The Artemis Program

During this year's IAF conference there was great interest in, and numerous panels held on the bold vision the United States has outlined with its Artemis program. NASA, working with international partners and commercial industry, has been commissioned to develop the capabilities needed to meet the goals of returning American astronauts to the Moon in 2024 with the first woman and next man, for learning to live, work, and develop resources on the lunar surface in preparation for going forward to Mars.

The introduction to NASA's recently released Artemis Plan [outline](#) begins,

America has entered a new era of exploration. NASA's Artemis program will lead humanity forward to the Moon and prepare us for the next giant leap, the exploration of Mars. It has been almost 50 years since astronauts last walked on the lunar surface during the Apollo program, and since then the robotic exploration of deep space has seen decades of

technological advancement and scientific discoveries. For the last 20 years, humans have continuously lived and worked aboard the International Space Station 250 miles above Earth, preparing for the day we move farther into the solar system.

The LaRouche Political Action Committee recently released a [video](#), "Apollo to Artemis: The Fight for the Future," which demonstrates the amazing possibilities that the Artemis mission and cooperation among nations in space represent for unleashing astonishingly great achievements and optimism for all of humanity.



ESA/ATG

ESA, in partnership with Japan's JAXA, launched the BepiColombo mission to study the magnetosphere, outer atmosphere, and poles of Mercury, and to conduct a test of Einstein's general relativity theory. Shown is an artist's impression of the spacecraft flying past Earth.

ing how last year, ISRO held two months of hands-on training for 30 countries, on how to build nanosatellites.

The ESA, in partnership with JAXA, launched the BepiColombo mission, which is on its way to Mercury. It is expected to arrive in 2025, where Europe's first mission to Mercury will make several flybys before entering orbit to study its magnetosphere, outer atmosphere, its poles, and conduct a test of Albert Einstein's general relativity theory. ESA is also currently working on gravity well measurements, space debris removal, and artificial intelligence to avoid future collisions of spacecraft. ESA is going to L-5 (Lagrange Point 5) to work with NASA and NOAA (the U.S. National Oce-