



In 1903, K.E. Tsiolkovsky's article «*The Exploration of Cosmic Space by Means of Reaction Devices*». was published. Professor D.I. Mendeleev, who had previously corresponded with Tsiolkovsky for many years, sent this article to the press. With this publication, the era of the Exodus of civilization into outer space began. Tsiolkovsky K.E. «*The Exploration of Cosmic Space by Means of Reaction Devices*». // *Scientific Review*, May, No. 5, 1903. pp. 45-75.

The first attempt to colonize the Moon was the *Apollo* program. It was the era of **disposable** rockets. During the period of disposable rockets - for 57 years [1953-2010] - the United States spent \$486 billion on manned space flights, that is, an average of \$8.3 billion per year. (All figures are shown in terms of the dollar exchange rate in 2010.)

The program was conceived in the early 1960s under the administration of *Dwight D. Eisenhower* as a continuation of the American *Mercury* space program. The name of the program was chosen by NASA administrator *Abraham Silverstein* in honor of the Greek god of light and archery, ***Apollo***. [ru.wikipedia.org\\*](#); [ru.ruwiki.ru](#).

The *Apollo* space flight program of the American NASA agency was officially adopted in 1961 with the aim of carrying out the first manned landing on the Moon. The *Apollo* program was completed in 1975. [ru.wikipedia.org \\*](#); [ru.ruwiki.ru](#)

In total, 6 successful astronauts landed on the Moon as part of the *Apollo* program (the last one was in 1972).

These six flights are currently the only cases in history when people landed on another astronomical object. A total of 24 *US astronauts* were taken to the Moon, 12 of them walked on its surface. [ru.wikipedia.org\\*](#); [ru.ruwiki.ru](#); [britannica.com](#); [rbc.ru](#).

*Apollo 8* is the first manned spacecraft to orbit another astronomical object. [ru.wikipedia.org \\*](#); [ru.ruwiki.ru](#)

*Apollo 11* was the first human landing on the Moon. [ru.wikipedia.org \\*](#); [science.mail.ru](#); [science.mail.ru](#)

*Apollo 15* is the first mission using the lunar vehicle. [science.mail.ru](#); [nasa.gov](#).

*Apollo 17* is the last manned moon landing to date [in 1972]. [ru.wikipedia.org\\*](#); [science.mail.ru](#); [ru.ruwiki.ru](#).

It was not possible to colonize the Moon with disposable rockets due to their high cost. Today, the second American lunar project ***Artemis*** is being implemented on the basis of **reusable** rockets. It began with President *Trump's Decree No. 1*, issued in 2017.

This happened 100 years after the Great October Socialist Revolution in Russia [1917]. In 1920, Lenin himself became interested in the space project. Tsiolkovsky was given a scientific pension. His works were recognized.

*Dzerzhinsky*, the head of the Cheka, was appointed the first curator of the space program in Soviet Russia by order of Lenin.

Later, Marshal of the Soviet Union M. Tukhachevsky played the most active role in the development of space programs.

Through his efforts, **on September 21, 1933**, the Jet Research Institute (RNII) was established in Moscow by merging the Leningrad *Gasodynamic Laboratory* (GDL) of *Langemak and Glushko*; and the Moscow Group for the Study of Jet Propulsion (GIRD), which he led after his death. *Tsander's* student is *Sergey Korolev*. *prokosmos.ru; dzen.ru*

The initiator of this association was Marshal Mikhail Tukhachevsky, who foresaw the enormous potential of rocket technology for the country's defense and future space exploration. *prokosmos.ru*.

The Institute has developed technologies that formed the basis of space technology: the first domestic liquid rocket engines by *Valentin Glushko*, as well as experimental ballistic and cruise missiles. *prokosmos.ru*.

Langemak created the world's first Katyusha multiple rocket launcher artillery system, for which the institute received the Order of the Red Star. *rg.ru*. Development of the RP-318 rocket plane with ORM-65 rocket engine, on which V. P. Fedrov flew for the first time in the USSR in 1940. *rgantd.ru*.

Development of equipment for the «*Venera-8*», «*Venera-9*» and «*Venera-10*» interplanetary stations, as well as for the «*Energia-Buran*» program. *prokosmos.ru*.

In 1944, in accordance with the decree of the GKO of the USSR, the RNII was liquidated.

The Institute's legal successor is the *Keldysh Research Center*, which develops rocket engines and space energy systems. *rgantd.ru; prokosmos.ru*.

The *Artemis* project is based on **reusable** mass-produced missile systems, which are many times cheaper than disposable missile systems.

**Human settlements will appear first on the Moon.** Today's projects are the foundation for future great discoveries. The «*Artemis*» project consists of the following stages.

I. First, a special vehicle puts the lunar lander into low Earth orbit. Private companies SpaceX or Blue Origin plan to supply the modules.

II. After launching into orbit, the most crucial stage begins — refueling the module with fuel.

To do this, you will have to make dozens of additional launches, dock vehicles in orbit and pump fuel right there. One can imagine this as a huge "space gas station."

III. Then the flight of the lander itself to the Moon will begin, where it will remain waiting for the arrival of astronauts.

IV. At the same time, the famous SLS rocket will launch with the «*Orion*» spacecraft, which will take a crew of four astronauts to the Earth's satellite.

V. After docking with the lunar module, two team members will descend to the surface of our natural satellite [Moon], spend a whole week there, performing scientific experiments and collecting soil samples.

VI. The return home will have to take place as follows: the lunar module takes off back, docks with «Orion», leaves the satellite and returns to Earth. Summing up, it becomes clear: this is not just about a short-term visit to the Moon, but about preparing the conditions for *the permanent human stay* on our nearest space neighbor.

**The is Moon at risk of becoming a space junk dump already within the lifetime of one Earth generation? On the legislative and permissive functions of the UN Committee on the Peaceful Uses of Outer Space (COPUOS).**

Waiting for the spent stage of the Falcon 9 launch vehicle to fall to the Moon on August 5, 2026, which brought the Asgardia probe to the Moon, which then successfully landed on the lunar surface on March 2, 2025 as part of the Blue Ghost module, *leads to several conclusions:*

1). The spent stage of the Falcon 9 rocket was not placed in a safe "burial" orbit in space. She flew in orbit between the Earth and the Moon, initially posing no danger.

But this orbit has gradually shifted. Now the rocket can fall to both the Earth or the Moon. And this endangers both the lunar ecology and the ecology of the Earth; it endangers those who will permanently reside on the Moon, on the one hand, and those who live on Earth— on the other.

In general, this can be called an "artificial meteorite hazard." And this may become a big problem for the Moon very soon. Due to the atmosphere, the Earth gradually "cleans" itself of space debris on LEO.

But the Moon does not have such a natural atmospheric self-purification mechanism. Therefore, the Moon's ecology is very fragile and irreplaceable. The moon therefore needs the most extreme methods to protect its ecology from the very beginning.

**2). Should the UN Committee on the Peaceful Uses of Outer Space (COPUOS) be endowed with permissive and legislative functions for all space flights of artificial vehicles into the zone of the Moon's gravity?**

3). The Moon must be reliably protected by law from artificial "space debris". All space objects must receive permission and approval from the UN Space Committee before launching towards the moon.

4). Rockets that do not have the ability to be placed in burial orbits after performing their functions should not be allowed to launch to the Moon.

5). Thus, the number of those who will be certified to fly to the Moon will be clearly limited by law. This is how limited the means of transportation on Earth are. These are all flights of airplanes, locomotives, ships, submarines and cars.

6). Lunar navigation should be based on the lunar time standard. The foundations of such a standard are laid in my article:

**Sergei L Morozov. A time zone for the Moon // ROOM, Issue # №36, 2025, pp. 86-89. <https://calendar-morozov.space/files/lunartime.pdf>**

7). It is quite obvious that the lunar problems are already being brought to the forefront of the activity of the entire human civilization, *starting in 2026*.

Therefore, the **Declaration on the safety of Civilization's activities on the Moon** should be developed.

*The United States and NASA are undoubtedly the leaders in the development of space technologies today.*

At this crucial stage of global space industrialization, a special report by the UN Space Committee is needed at the upcoming 77th International Astronautical Congress (IAC-2026), which will be held from October 5 to 9, 2026 in Antalya (Turkey).

This is the first-ever congress in Turkey. The organizer is the Turkish Space Agency (TUA), the co—organizer is the SAHA Istanbul Aerospace Cluster.

The role of the 45/47 President of the United States, Donald Trump, in the issue of human settlement of the Universe can hardly be overestimated.

**Since 2017, Trump has been using the full power of the US government to implement Decree No. 1 on the colonization of the Moon and the total industrialization of space.**

**In this role, Donald Trump becomes de facto the global leader of modern space civilization?**

US President Donald Trump is building de facto *the new socio-economic formation: the space society of K.E. Tsiolkovsky?*