THE APEC SUMMIT IN CHINA IN 2026
THE NEW REFERENCE STANDARD OF UNIVERSAL TIME

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Overcoming the physical gravity of the earth in the 21st century turned out to be easier than overcoming the "gravity" of political, colonial and medieval traditions and world wars.

THE PROLOGUE

84 years ago, on **November 19, 1942**, the operation to encircle German troops **near Stalingrad**, known as Operation Uranus, began. *may9.ru; iz.ru; vounb.ru*.

83 years ago. *November 28 1943*. Tehran. The Soviet embassy. There were three people at the table, on whom the fate of the world depended.

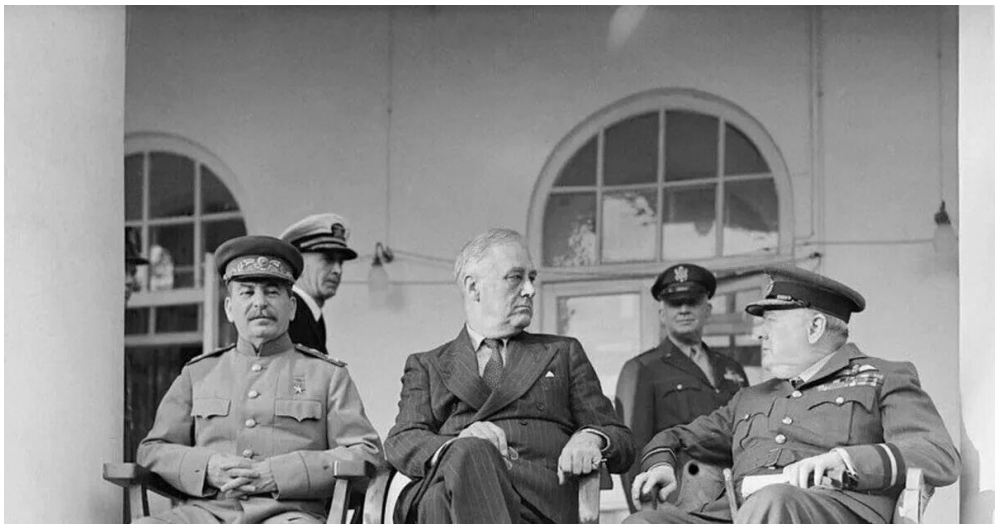
The main issue in Tehran was the date and place of the opening of the Second Front. Stalin demanded a landing in France – Operation Overlord. *Roosevelt supported Stalin*. [16]

The Tehran Conference ended on *December 1, 1943*. *The Allied leaders signed the Declaration* in which they pledged to act together in harmony during and after the war. The main issue was resolved: the landing in France, in Normandy, of the allied forces of the United States and Great Britain was to take place in the spring of 1944. It was the Declaration of the opening of the *Second Front in Europe*. De facto, it was the "**Second Entente**."



Negotiations between Roosevelt, Churchill and Stalin in Tehran. 1943.

The negotiations in China on November 19, 2026, may go down in history as the conditional «Tehran-2» summit?



The Tehran Conference: Stalin, Roosevelt and Churchill 1943

Following the results of the trilateral summit in Shenzhen on November 19, 2026, Russian President Vladimir Putin, President of the People's Republic of China Xi Jinping and U.S. Leader Donald Trump signed a document entitled "***Declaration of the Heads of State of Russia, China and the United States on Peace***." TASS provides the full text of this declaration.



The leaders of the world 2026 are Russian President Vladimir Putin, Chinese Chairman Xi Jinping and US President Donald Trump.

"President of the Russian Federation Vladimir Putin, Chairman of the People's Republic of China Xi Jinping and President of the United States of America Donald Trump held a meeting in Shenzhen on ***November 19, 2026***.

The Heads of State of Russia and the United States expressed gratitude to China for organizing and hosting this historic trilateral summit.

The three Heads of State exchanged views in detail on the current international situation and expressed their commitment *to maintaining strategic stability and international security.*

As permanent members of the UN Security Council, Russia, China and the United States have expressed their commitment *to reforming the UN* so that the UN can respond more effectively to global challenges and meet its fundamental mission in the field of international peace and security.

The three countries plan to *increase the production and supply of refined petroleum products* for the benefit of all countries. They confirmed the importance of stable energy supplies.

The three Heads of State note that the principle of consent [*the principle of the "entente"*] of States and respect for *the immunities of State officials* are of fundamental importance, and agree that the International Criminal Court and other similar structures should not abuse their powers.

The three heads of State confirmed their agreement that there can be ***no winners in a nuclear war and it should never be unleashed.*** The three countries will continue their dialogue on reducing nuclear risks and preventing the proliferation of nuclear weapons. "

Neither the United States, Russia, nor China want to wage the global nuclear war. This is their "agreement" ("entente").

APEC Summit; Xi Jinping; Trump, Donald; Putin, Vladimir Vladimirovich; USA; Russia; China.



November 19, 2026 is the date of the signing of the Declaration of Peace by the Heads of State of Russia, China and the United States.

The United States, Russia and China have signed a Declaration of Peace. In other words, it is a Declaration on the creation of the "entente" in the structure of

Vernadsky's noosphere. This is not a coincidence. The United States plans to colonize the Moon on the «Artemis IV» spacecraft.

To colonize the Moon, three conditions must be met: 1) have the consent ["entente"] of the world powers among themselves; 2) a reference standard for lunar time and 3) a special lunar calendar compatible with the calendar on Earth.

This will be the transition of civilization to the reference standard of "atomic digital clocks on *May 20, 2027*."

The Cesium atomic universal Lunar Coordinated Time [LTC-standard] will absolutely unite all space humanity and become the reference standard of a new stage in the development of civilization of the XXI century. This will be, figuratively speaking, the material core of the "three gendarmes" of the new UN system.

The new time reference standard was committed to be implemented worldwide by ***May 20, 2027 by decision of the October 16, 2026*** *General Conference on Weights and Measures, the highest body of the International Bureau of Weights and Measures (BIPM), an intergovernmental organization established in 1875, in accordance with the terms of the Metric Convention.*

Abstract. The new reference standard of world time. The General Conference on Weights and Measures is the highest body of the International Bureau of Weights and Measures (BIPM), an intergovernmental organization established in 1875, in accordance with the terms of the Metric Convention. The abolition of leap seconds from May 20, 2027.

Introduction of the leap hour. Separation of the computer time of day based on the atomic Cesium second [UTC] with the astronomical time [UT1] of the Earth's daily rotation rate around its axis.

The new Worldwide Universal Space Transport Timetable for all four habitats of modern Civilization: 1) space; 2) atmosphere; 3) Earth's surface; and 4) sea/water area. The 25th lunar time zone.

Vernadsky's noosphere. Flight to the Moon under the Artemis IV program. The "communism" of robots by Elon Musk. LTC is the standard for absolute linear uniform lunar time, tied to universal atomic coordinated time (UTC).

The replacement of the terrestrial "iron curtain" with the hegemony of the United States in the creation of an antimeteorite lunar and space "golden dome". The Declaration of the heads of state of Russia, China and the United States on peace is the principle of "convergence of consent" or "entente".

The idea of Zhirinovsky, who predicted in 2018 that the leaders of Russia, the United States and China would gather to discuss the future of humanity and a new paradigm of world order.

He figuratively called this discussion "Yalta-2" [it is more correct to call the summit "Tehran-2"]. The era when Brussels and Washington could unilaterally isolate undesirable countries or dictate terms to Beijing and Moscow is over.

In this new world, key decisions are made in the Moscow—Beijing—Washington triangle, where only real sovereignty, economic power, and strong will are respected.

Keywords. Leap second. Leap hour. A new Worldwide Universal Space Transport Timetable for all four habitats of modern Civilization:
1) space; 2) atmosphere; 3) Earth's surface; and 4) sea/water area. The 25th lunar time zone. Vernadsky's noosphere. The "communism" of robots by Elon Musk.

Declaration of the Heads of State of Russia, China and the United States on Peace. Convergence of interests. Zhirinovsky and his idea of “Yalta-2”. "Tehran-2". APEC Summit; Xi Jinping; Trump, Donald; Putin, Vladimir Vladimirovich; USA; Russia; China.

I. HISTORICAL BACKGROUND OF THE RAPPROCHEMENT BETWEEN THE UNITED STATES, RUSSIA AND CHINA

The populations of the capitalist countries: the United States and Russia; and the socialist communist China, despite the differences in political structure and economic potentials, have one historical feature in common: they lived and continue to live de facto in huge empires. This historical imperial potential allows these peoples to quickly find a common language.

Their total GDP amounted to $52.83 trillion in 2026, which in turn amounted to 41.27% of global GDP [$128].

The rest of the world is trying to solve its problems at the expense of these three countries. The USSR literally went broke on its "friends". He had to write off a huge amount of loans. The United States suffers from the same thing, from the "friendly embrace" of its own satellites from the EU and NATO countries.

The USSR went bankrupt and collapsed like an empire in 1991, "in the arms of "friends" who simply abandoned it.

Today, the United States is also in the "arms of the EU and NATO" and is desperately trying to avoid bankruptcy. They are trying to balance their economic performance, forcing their allies to pay for the loans they had previously issued. But the "tail" stubbornly tries to steer the "dog".

China has taken into account the sad experience of both the USSR and the USA and conducts its policy very carefully and in a balanced manner.

The development of Vernadsky's "noosphere" objectively helps to quickly get rid of historical illusions. All three of these countries understand that they no longer need freeloaders. It is much more correct for them to find a common language among themselves and try to become a new "collective world gendarme".

The three empires will be «friends» with each other for their collective interests. They will solve the issues of their well-being and their economic development, their military and political level *first of all*.

They first met in this line-up on November 19, 2026. The common tasks of resource conservation, historical survival and Exodus into space make them loyal to each other. They can quite manage the rest of the world, competently solving global problems, based primarily on the main planetary strategic interests. The unequal "reverse" colonial exchange at the expense of the great empires for the benefit of the colonies and to the detriment of the former metropolises has come to an end. Empires have their own interests in all fields of activity.

Empires need world peace. They will be able to stabilize the rest of the world and make it respect their interests. This is the essence of the Declaration of Accord and Peace between the United States, Russia and China, signed on November 19, 2026.

The theory of the global class struggle of the International of the Proletariat has gone down in history of the past. The proletariat is being actively replaced and displaced by robots, which will soon outnumber humans.

Therefore, the "slave-owning" relations of human exploitation are gradually losing relevance. The group interests of highly developed technological empires are coming to the fore today. It will be the space "communism of the information society" of robots?

II. THE PRIMARY TASK OF THE VERNADSKY NOOSPHERE

In the United States, on September 28, 2026, the mass use of reusable superheavy Starship-type rockets began. This is a new space rocket transport in history, which needs to be organically integrated into the general earth transport schedule. This will be the New Worldwide Universal Space Transport Schedule on the Earth-Moon binary planet, taking into account the 25th lunar time zone in the Vernadsky Noosphere system.

This will be the New Worldwide Universal Space Transport Schedule for all four habitats of modern civilization.:

1) space; 2) atmosphere; 3) Earth's surface; and 4) sea/water area.

The General Conference on Weights and Measures, the highest body of the International Bureau of Weights and Measures (BIPM), an intergovernmental organization established in 1875, decided on May 20, 2027, in accordance with the terms of the Metric Convention, to reform the world time reference standard.

May 20, 2027 is the date of the official beginning of the exploration of near—solar outer space by civilization.

This will be the application of the LTC-standard of absolute lunar atomic linear uniform time, tied to UTC, in space navigation.

To do this, it is proposed to divide two times between themselves: computer time based on the atomic Cesium second [UTC], and the observed instrument astronomical time [UT1] of the Earth's daily rotation speed around its axis.

They suggested replacing the leap second with a leap hour. The UTC system will be adjusted only when the difference in its readings with the UT1 system reaches 3600 seconds [i.e. 1 hour].

It is known that the launch of the world's largest hydroelectric power plant "Three Gorges" in China has affected the speed of rotation of the Earth and the position of the planet's axis. *theweather.com; kuban.rbc.ru; ntv.ru*. Vernadsky's noosphere is a fact that affects the parameters of the Earth's rotation. In this regard, the United Nations should make a decision for all countries of the Earth on the application of this new world time standard.

Then the UN decision must be ratified by the parliaments of all countries of the world. Industrial railways gave rise to the introduction of 24 meridian time zones.

In 1918, U.S. President Woodrow Wilson introduced the "Standard Time Act." Today, it is necessary to supplement this law with a new law on the 25th lunar time zone - Standard Time Act No. 2.

This is due to the emergence of mass-scale industrial rocket vehicles. Change in global strategy: there is land-based "iron curtain" being replaced by US hegemony in the creation of the lunar and space "golden dome"?

III. IT IS PROPOSED TO USE THE UNIFIED 13-MONTH KEPLER-MOROZOV MATHEMATICAL MATRIX IN THE SAME WAY FOR ALL NATIONAL CALENDARS OF THE WORLD.

III-1. LIST OF THE MAIN UN HOLIDAYS ACCORDING TO THE GREGORIAN CALENDAR 2026

UNITED NATIONS

1). **New Year**,
Thursday, January 1
[*1 Aquarius; Sunday*]

2). **Eid al-Fitr ***
Friday, March 20,
[*Aries 23; Monday* - March 20, every non-leap year in the Grigorian calendar [GC]; and March 19, every leap year in the GC]

3). **Good Friday**,
Friday, April 3,
[*Taurus 9; Monday* – April 3 every non-leap year according to GC; and April 2 every leap year according to GC]

4). **Easter Monday**,
April 6, Monday,
[*12 Taurus; Thursday* – April 6, every non-leap year according to the GC; and April 5, every leap year according to the GC]

5). **May Day**,
May 1, Friday,
[*9 Gemini; Monday* – May 1, every non-leap year according to the GC; and April 30, every leap year according to the GC]

6). **Eid al-Adha***
Wednesday, May 27,
[*Cancer 7; Saturday* - May 27, every non-leap year in the GC; and May 26, every leap year in the GC]

7). **National Day of Austria**
October 26, Monday, ,
[*19 Ophiuchus; Thursday* - October 26, every non-leap year according to the GC; and October 25, every leap year according to the GC]

8). **Catholic Christmas**,
December 25, Friday,
[*Capricorn 23; Monday* - December 25, every non-leap year according to the GC; and December 24, every leap year according to the GC]

9). **New Year's Eve**, **2027**
Thursday, December 31,
[*29 "Capricorn 1"; Sunday* - December 31, every non-leap year according to the GC; "*30 Capricorn 1"*; Monday - December 31, every leap year according to the GC]

* The holidays of **Eid al-Fitr** and **Eid al-Adha** will be celebrated at UNOV/UNODC on the dates indicated, although the actual holiday may fall on another day.

Eid al-Fitr (the feast of Thanksgiving) is an Islamic holiday that is celebrated in honor of the end of fasting in the month of Ramadan.

The tradition of celebration dates back to the time of the *Prophet Muhammad, since 624.* On the day of the holiday, it is customary to perform a solemn ritual prayer (Eid-namaz), wear the best clothes, and cook traditional dishes. As a mandatory act of charity, money or food (zakayt) is paid to the poor and needy.

Eid al-Adha is a holiday of sacrifice in Islam. The name translates from Arabic as "feast of sacrifice." The date is celebrated on the tenth day of the month of Dhul Hajjah according to the Islamic calendar, *70 days after Eid al—Adha*, the day of the end of fasting in the holy month of Ramadan. Duration: the celebration usually lasts three days, but in some Islamic countries, such as Saudi Arabia, it can last up to two weeks.

III-2. LIST OF THE MAIN HOLIDAYS OF RUSSIA ACCORDING TO THE GREGORIAN CALENDAR [GC] 2026



COAT OF ARMS OF RUSSIA

The New Year holidays;

1-7). 1, 2, 3, 4, 5, 6 and January 8
8). **New Year**,
Thursday, January 1,
[*1 Aquarius; Sunday*]
9). **Orthodox Christmas**;
January 7,
[*7 Aquarius; Saturday*]
10). **Defender of the Fatherland Day**;
February 23
[*Pisces 26; Thursday*]

11). **International Women's Day**;
March 8 is
[*Aries 11; Wednesday* is March 8 every non—leap year according to the GC; and March 7 every leap year according to the GC]
12). **The Holiday of Spring and Labor**;
May 1 is
[*9 Gemini; Monday* is May 1 every non—leap year according to the GC; and April 30 every leap year according to the GC]
13). **Victory Day**;
May 9 is
[*Gemini 17; Tuesday* is May 9 every non—leap year according to the GC; and May 8 every leap year according to the GC]
14). **Russia Day**;
June 12 is
[*Cancer 23; Monday* is June 12 every non—leap year according to the GC; and June 11 every leap year according to the GC]
15). **National Unity Day**.
November 4 is
[*28 Ophiuchus; Saturday* - November 4th every non-leap year according to GC; and November 3rd every leap year according to GC]

Production calendar https://www.consultant.ru/law/ref/calendar/proizvodstvennye/2026/ © КонсультантПлюс, 1992-2025

III-3. LIST OF THE MAIN HOLIDAYS OF CHINA ACCORDING TO THE GREGORIAN CALENDAR [GC] 2026



COAT OF ARMS OF CHINA [PRC]

Seven major Chinese holidays
Chinese people celebrate the following seven major public holidays each year.

1). **New Year's Day**

New Year's Day is one of the public holidays in China and people usually have *3 days off*. Although it's not a traditional festival in China, most malls are decorated during this holiday and the shops launch sales promotions.
[*1 Aquarius (1-3); Sunday*], weekend — from January 1st to January 3rd.

2). **The Spring Festival (Chinese New Year)**

The Spring Festival is China's most important festival and holiday. People enjoy the week's holiday [7 days] for family reunions, and many traditions and activities are pursued during that time. Chinese New Year 2026 will fall on Saturday, February 17, starting a year of the Horse. In terms of travel, Chinese New Year is one of the low seasons for tourism, yet it's one of the best times for experiencing Chinese culture.

[*20 Pisces (16-23); Friday*]

3). **The Qingming Festival**

In China, the Qingming Festival is also called Tomb-Sweeping Day. Chinese people enjoy *3 days off*. It's a time for worshipping ancestors and starting to enjoy the greenery of spring.

[*11 Taurus (10-12); Wednesday*; every non-leap year according to GC; and April 4, every leap year according to GC]

4). **Labor Day (May Day)**

Chinese people have a 5-day holiday in Labor Day. This is one of the peak times for travel during the year.

[*Gemini 9 (9-13); Monday* – May 1, each non-leap year according to the GC; and April 30, each leap year according to the GC]

5). **The Dragon Boat Festival**

The Dragon Boat Festival, also known as the Duanwu Festival, is a traditional cultural festival in China. There are 3 days off for Chinese people. Some of the most traditional customs include dragon boat racing, eating sticky rice dumplings (zongzi), hanging Chinese mugwort and calumus, drinking realgar wine, and wearing perfume pouches.

[*Lev 2 (2-4); Friday* – June 19, every non-leap year according to the GC; and June 18, every leap year according to the GC]

6). **The Mid-Autumn Festival**

The Mid-Autumn Festival is the second most important festival in China. People usually have *3 days off*.

It's also known as the Moon Festival or the Mooncake Festival. Some of the most traditional customs include family gatherings, admiring the full Moon, eating mooncakes, and lantern lighting.

[*16 Scorpio (16-18); Monday* – September 25, every non-leap year according to the GC; and September 24, every leap year according to the GC]

7). **National Day (Golden Week)**

Chinese people have a week off in early October each year for the China National Day. This is also a peak period for tourism since many people use this holiday to travel with their families.

[*22 Scorpio (22-28); Sunday* – October 1, every non-leap year according to the GC; and September 30, every leap year according to the GC]

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III-4. LIST OF MAJOR U.S. HOLIDAYS ACCORDING TO THE GREGORIAN CALENDAR [GC] 2026



COAT OF ARMS OF THE USA

US Federal Holidays in 2026:

1). **New Year's Day**
January 01 2026, Thursday
[*1 Aquarius; Sunday*]

2). **Birthday of Martin Luther King, Jr.**
January 19 2026, Monday
[*19 Aquarius; Thursday*]

3). **Washington's Birthday [Presidential Day]**
February 16 2026, Monday
[*19 Pisces; Thursday*]
4). **Memorial Day**
May 25 2026, Monday
[*Cancer 5; Thursday* – May 25, every non-leap year according to the GC; and May 24, every leap year according to the GC]
5). **Juneteenth National Independence Day**
June 19 2026, Friday
[*Lev 2; Monday* – June 19, every non-leap year according to the GC; and June 18, every leap year according to the GC]
6). **Independence Day**
July 04 2026, Saturday
[*17 Lev; Tuesday* – July 4, every non-leap year according to the GC; and July 3, every leap year according to the GC]
7). **Labor Day**
September 07 2026, Monday
[*Libra 26; Thursday* – September 7, every non-leap year according to the GC; and September 6, every leap year according to the GC]
8). **Columbus Day**
October 12 2026, Monday [*Ophiuchus 5; Thursday* – October 12, every non-leap year according to the GC; and October 11, every leap year according to the GC]
9). **Veterans Day**
November 11 2026, Wednesday
[*7 Sagittarius; Saturday* – November 11, every non-leap year according to GC; and November 10, every leap year according to GC]
10). **Thanksgiving Day**
November 26 2026, Thursday
[*22 Sagittarius; Sunday* – November 26, every non-leap year according to the GC; and November 25, every leap year according to the GC]
11). **Christmas Day**
December 25 2026, Friday
[*Capricorn 23rd; Monday* - December 25th every non-leap year according to GC; and December 24th every leap year according to GC]

IV. SCOPE OF USE OF THE PROPOSED UNIFIED INTERNATIONAL KEPLER-MOROZOV CALENDAR

Accounting

This 13-month calendar based on the unified matrix of the Morozov calendar constant will find wide application for the purposes of uniform worldwide accounting, planning and business management.

This 13-month fixed calendar was used by **Kodak** throughout its time existence. Today, it is used by **Boeing** in the field of international repair, prevention and control of its aircraft engines around the world.

The **Asgardia Space State** uses a fixed 13-month calendar with the Morozov`s calendar constant [Kepler-Morozov calendar] from the date of its foundation for 10 years [2016-2026] in accordance with Decree No. 38 of December 18, 2019.

The year 2016 is taken as the starting point of the chronology, as the year of the proclamation of the space state of "Asgardia", and not *the Christian chronological point of Gauss* [Gauss calculated mathematically this point of the first anniversary of the Christian Easter in 1800].

Why is this calendar so convenient for business? It has an easily comparable length of periods: Each month consists of **exactly 28 days (or 4 weeks)**. This means that each month has exactly 4 weeks and it starts on the same day of the week. Extremely simple comparability of the length of periods: Each month consists of exactly 28 days (or 4 weeks).

This allows you to perfectly compare the results of different months: sales, productivity, expenses.

Precise quarterly planning: the year is easily divided into 4 equal quarters of 91 days (13 weeks) each:

Quarter 1: months 1-2-3.

Quarter 2: months 4-5-6.

Quarter 3: months 7-8-9.

Quarter 4: months 10-11-12.

The special "Month 13" is a separate, short "bonus" period used to close the year. Simplify payroll calculations: if employees work by the hour or by the week, calculations become perfectly uniform.

Planning and budgeting: It is much easier to plan budgets and goals by having the same length periods.

The principle of calendar equivalence applied by the author makes such a calendar invaluable for analysis and planning, as well as **for financial and managerial** accounting purposes.

Sales analysis: you can immediately see real growth or decline, rather than anomalies caused by a different number of days or weekends.

Budgeting: The allocation of budgets for a month becomes universal.

Reporting: Quarterly reports always cover the same period.

Operational planning and logistics of all exchange operations.

Production: It is easier to plan capacity utilization and output, especially in complex industries with multiple suppliers.

Inventory: Inventory management and government reserves are becoming more accurate.

Salary: calculations are significantly simplified for employees with hourly pay.

Statistics and analytics:

All key performance indicators (KPIs) can be compared without errors.

Medicine. This calendar is widely used in medicine as a specific "women's calendar". *It is recommended by all obstetric and gynecological clinics* because of the convenience of a fixed 28-day monthly calendar cycle. Many methods of treatment and medication in gynecology have a 28-day cycle.

Clerical advantages. This calendar is uniquely convenient for serving almost all existing religious cults today.

Global astronautics and the planning of a unified global transport timetable in all four environments: 1) air, 2) land, 3) water and 4) space - has a unique means of avoiding navigation errors by applying this calendar at all four levels of space and at all levels of pre-space speeds.

This calendar is indispensable in the world of cosmonautics and in the global management of air, land, sea and space traffic and transport. It has a zero annual average error. In particular, all space expeditions for colonization of the Moon and Mars will rely on it.

V. SCOPE OF USE OF THE PROPOSED INTERNATIONAL ELECTRONIC SCREEN "PRESIDENT"

The international electronic screen of universal atomic (cesium) lunar time in the "**President**" format is designed, by definition, for an absolutely accurate estimate with zero average time error in the era of Vernadsky's Noosphere and total industrialization of space, in particular, for [10,11]:

1). The establishment of a permanent time bridge for the purpose of specifically regular communication between the Moon and the Earth.

2). Time synchronization on all objects in our part of the universe.

3). Managing projects and meetings simultaneously in any of the 25 available time zone zones on Earth and on the Moon [in the future, anywhere in the space of our part of the universe]. Servicing of all types of international forums.

4). Creation of a New Universal Worldwide Space Transport Schedule for all four habitats of modern civilization: 1) space; 2) atmosphere; 3) Earth's surface; and 4) sea/water area.

5). Process management in the situation rooms of the White House in the USA; in the Kremlin; in the General Staffs of the whole world; in the Global Unified Railway System; in the Global Aviation international and domestic space;

6). Synchronization of the work of the Parliaments of the whole world, as a whole, under the general management of the United Nations.

7). A unified service system for the global cemetery space, including the Moon and all available outer space.

8). The schedule on the Earth-Moon binary planet, taking into account the 25th lunar time zone based on the LTC standard of absolute linear uniform lunar time, tied to the universal coordinated time - UTC.

May 20, 2027 is the date of the beginning of the worldwide exploration of near—solar outer space by civilization.

9). Creation of unified Navigation programs for all the world's Space Flight Control Centers, both manned and drone.

10). To synchronize all the programs of artificial intelligence [AI] and the programs of all robots in our part of the Universe.

11). Economic use of robots. "Communism" by Elon Musk. Introduction of basic payments, allowances and income.

Musk believes that a humanoid robot is five times more efficient than a human. A total of 30 million such robots will be able to replace the entire US population in terms of productivity.

"If you have a humanoid robot that is incredibly efficient and can work 7 days a week, 24 hours a day, that means it works 168 hours a week. The humanoid Tesla robot. He doesn't go on vacation, he doesn't go to the bathroom, he doesn't have lunch. The head of Tesla is himself a manufacturer of Optimus robots.

Musk estimated how many robots it would take to match the total volume of production of goods and services with the US economy.

According to his calculations, 20-30 million cars will be enough for this. This will allow a significant part of the US population to study or retire in peace. [8] **This will be the time of Elon Musk's "Communism"?**

12). The use of robots and Starship rockets gives the United States an almost absolute means of delivery that no one else has? There is a change in global strategy.

There is a replacement of the terrestrial "iron curtain" with the hegemony of the United States in the creation of the lunar and space "golden dome"?

Will the creation of such an almost absolute protection system give the United States the opportunity to dictate its terms to the whole world?

Countries that do not have their own reusable rocket systems automatically become "**strategic losers**" in the Palantir system.

13). *"A couple of years ago, many space industry experts did not believe in the landing of Americans on the Moon in 2028.*

Today, after the first successful return of the second stage of a rocket in history, this date no longer seems impossible even to the most persistent critics of Mask. The Starship for landing on the Moon will be in some ways more complicated (landing legs, life support system), and in some ways simpler (minus thermal protection) than the one that gently landed on November 15, 2026.

But this is one design: such a high degree of its refinement, which allowed it to land on Earth, means that it can handle the Moon."[9]

In early 2029, a flight window to Mars will be opened, in which Musk plans to send five unmanned Starships to it to try to land on the Red Planet.

This is not an action for the sake of action: if everything goes well, SpaceX wants to send people their next window. And no one doubts the reality of this event anymore.

SpaceX has launched 26 two—ton Starlink Version 3 satellites into orbit. Due to the very large size of Starship, which is unrealistic on any other Earthling rocket, these satellites have a record terabyte data transmission capacity, many times higher than any other spacecraft in history.

The Russian equivalent of the Rassvet satellite of project 1440 is practically impossible to compare with Starlink Version 3 by any parameters.

14). Their rated power is **50 kilowatts**, which is a multiple of that of the entire Russian segment of the ISS, the Mir, or anything else that we have ever put into orbit, including Soviet satellites with nuclear reactors on board.

Even the nuclear reactor for the lunar station, which Russia is currently designing for the mid-2030s, will be at least **five times weaker** in terms of electrical power than one such satellite today.

The total solar cell capacity of the 26 satellites launched in the 15th Starship test flight is **1300 kilowatts**.

For comparison: This is more than the solar panels of all Soviet and Russian orbital stations and spacecraft in our entire space history. And this is just one SpaceX launch, and there was another in September and there will be another in December.

Already today, the company has a total capacity of **190 megawatts** of solar panels in orbit. This is significantly more than 95 percent of the total electrical power of all Earth vehicles in space.

Musk plans to put hundreds of megawatts of electrical power into orbit every year this decade. And then gigawatts.

As long as we are talking about communication satellites, this may be disturbing, but no more.

But let us remind you: in the USA, this century, an **anti-asteroid protection scheme** has already been proposed, based on a multitude of satellites deployed in space, jointly operating on space objects with "folded" laser beams based on the principle of an active *phased array antenna*.

15). It is very doubtful that sooner or later the US military will not want to "protect the Earth" with a **gigawatt power group**.

Especially when you consider that **lasers** from such an **anti-asteroid protection system** can be deployed not only **upwards**, but also **downwards**. Where are states such as Iran and a double-digit number of other countries that the United States has been vigorously bombarding already in the 21st century?

16). From this it can be seen that the possibilities of Starship are already more than just a demonstration of a new technology of full reusability.

The huge dimensions of the cargo compartment already allow it to provide the capabilities of an actively used satellite constellation better than any other carrier.

But the most important thing about it is not the absolute size, but the same reusability, plus the possibility of mass — very mass —production. Today, SpaceX's facilities allow for the construction of one Starship in three weeks.

The ultimate goal is one in three days. Given its full reusability, Musk's company wants to reach a **three-digit number** of launches per year as early as the 2020s. And in the early 2030s - by **four figures**.

This means that humanity will enter a completely different era in terms of space capabilities. An era in which Musk's plans to deploy hundreds of thousands of large satellites in space will no longer be laughable. And in some countries, for reasons of a military-technical nature, they can cause a slight panic.

17). Why is this not just a major historical event, but also extremely important for earthly affairs? Contrary to the long-standing stories in the Russian media that the return of rocket stages from space is questionable from an economic point of view, in reality, the opposite is true. Even on the Falcon 9, where only the first stage is returned, the launch cost for SpaceX is only $ 28 million, that is, $ 1,600 per kilogram of payload.

For comparison: Russian rockets put a kilogram of payload into low orbit for **500 thousand rubles [$5 000 – $6 000**], that is, from **2.5 to 4 times more expensive**.

At the same time, the cost of launching into low-Earth orbit in Roscosmos should decrease from the current **500 thousand rubles per 1 kg** of payload to 350 thousand rubles [≈ $ 3,500] by 2030 and up to 200 thousand rubles. [≈$2,000] by 2036. But this amount is still more than the American value of $1,600. [19]

SpaceX's efficiency: In 2026, the company set a new record by launching two rockets from the same site at the Vanderberg military spaceport with an interval of only 32 hours.

The Falcon 9 rocket launched from the Launch Complex-4E site at the Vandenberg Space Force Base on Sunday, November 22, as part of the NROL-136 mission for the US National Directorate of Military Intelligence (NRO). It was the second launch from this site in **just over 32 hours**, following the USSF-317 mission for the **US Space Force**.

And such a quick preparation has gone down in history. The team broke the previous record **of 45 hours** from site 40. The specialists met the deadline with a few hours to spare. The next **goal is a 24—hour interval**," [Kiko Donchev, SpaceX vice president of launches.

The launch was another step in NRO's efforts to expand its intelligence gathering capabilities through an expanded network of spacecraft designed to provide more frequent and timely monitoring of facilities around the world.

About two minutes after launch, the Falcon 9's first stage separated from the upper stage, which continued to launch the classified payload into orbit.

The stage *then turned around and returned to Vandenberg, landing at Landing Zone 4 about seven and a half minutes after launch*.

This is exactly what is behind Roscosmos' belated decision to build the former Amur-LNG (now Soyuz-7) after the Falcon 9 with the first stage returning from space.

18). Today's event dramatically changes the global military balance. A system with both returnable stages will launch cargo into space — even at the first stage, at the very end of the 2020s - **several times cheaper** than all other systems are launching today.

19). More than **11,000 Starlink** satellites are already actively involved in combat operations. Russia, many years late from SpaceX, is deploying a similar satellite constellation, "**Rassvet".**

This means that right now, a **poorer country, Russia**, is trying to create a satellite constellation of comparable capabilities to that of a richer country, while bringing this constellation into space at a higher cost than a richer one. And, thanks to Starship, it will soon be many times more expensive to do this.

But the mass of the Rassvet satellites is nothing compared to the mass of the Starlink satellites. Russia simply has nothing with which to launch such large satellites – *Russia does not have a single reusable rocket yet*.

Back in 2019, one of the previous heads of Roscosmos publicly claimed that vertical landing of rocket stages "makes no sense at all in Russian conditions." Launches into orbits with an inclination range **from 51° to 110**° are possible in principle from the Vostochny cosmodrome.

However, there are only a few fixed basic launch azimuths for it, providing launch into inclined orbits: **51,8°; 63°; 72°; 83° and 98°.** This is due to the need to alienate new territories for the fall areas of spent rocket stages. *forbes.ru*.

Rafail Murtazin, Head of the Ballistics Department of the Energia Rocket and Space Corporation, Doctor of Technical Sciences, publicly states in the open press that not a single inclination even at the Vostochny cosmodrome allows launching reusable rockets. **None of Russia's 6 spaceports is designed to launch reusable rockets.**

This is a one-time strategic dead end for Russia. [18] Therefore, Russia should build its 21st-century spaceport in the **Kuril Islands, Sakhalin Island and the entire Sea of Okhotsk.**

Three launch desks are successfully operating in this zone: two in Japan and one in the USA (in Alaska).

20). It is necessary today to introduce in the USA, Russia and China an "International electronic screen of universal atomic (cesium) lunar time in the "**President**" format. It came out perfect in its accuracy, with zero average error. [11,12,13,14]

21) It is proposed to place the national calendars of all UN member states on a unified Kepler-Morozov calendar matrix.

The mathematical matrix of all proposed calendars will be the same for all. Only the national holidays will be different.

22). In order to implement the space lunar LTC reference standard system, it is necessary to have a public-private partnership structure and a timely allocated grant from the Russian Direct Investment Fund.

The specific deadline of May 20, 2027, is just around the corner, set by the General Conference on Weights and Measures, the highest body of the International Bureau of Weights and Measures (BIPM), an intergovernmental organization established in 1875, in accordance with the terms of the Metric Convention. Mendeleev D.I. did not manage to realize this idea of creating a reference time standard in the period 1899-1907. And it has not been solved yet.

Space rocket high-speed transport, as well as the coming age of robots, will not leave this task unsolved. More than **12 billion rubles of damage** was caused by only one emergency. when, for example, «**Luna-25» crashed on August 19, 2023** due to navigation problems.

At the same time, Roscosmos, represented by **its then head, personally** misled the country's leadership, estimating the probability of luck at "80%", although it was exactly the opposite of the probability of 80% failure.

23). In the USA, on ***September 28 and November 13, 2026***, two full-fledged launches of Starship Flight 14 and Flight 15 were carried out, respectively. The launch pad of the **Starship Flight 15&Flight 14 mission** is Pad 2 (officially named Orbital Launch Mount B) at the SpaceX Starbase in Boca Chica, Texas. *hi-tech.mail.ru; vk.ru.tvgram.ru.*

The inclination of the orbit reached by the S41 spacecraft as part of the Starship Flight 14 test flight was 30.5°. starship-spacex.fandom.com. The next Starship Flight 15 had **the same inclination**.

The flight, Starship Flight 14, which took place on **September 28, 2026**, was the first full-fledged orbital launch of the Starship system.

The S41 spacecraft successfully launched 26 Starlink V3 satellites into orbit. The orbit parameters were as follows: Perigee — 262 km; Apogee — 275 km.

This is the latest successful launch in the United States of the fully reusable superheavy Starship Flight-14 on September 28 [at **05:049 LTC** –universal lunar time, which is absolutely the same for all 24 Earth time zones].

The launch of the second Starship Flight-15 took place period ***November 13-14, 2026*** [launch at **09:071 LTC** (in chronos) on November 13, 2026]. Starship Flight-15 landed on November 14 at **08:124 LTC** (in chronos – that is, in the universal lunar navigation clock].

These launches show that **Russia should build its 21st-century** spaceport in the **Kuril Islands and Sakhalin Islands, using the waters of the inner Sea of Okhotsk.** Until now, Russia continues to underestimate the importance of **superheavy reusable rocket** systems. The successful long-term experience of the three operating spaceports in ***Japan and the United States located in this region proves this.***

The United States understands the strategic importance of reusable space systems and is building them. both the new ones and the modernization of the old ones - **35 launch sites in Louisiana and Florida** at once – for their launches. The program of this construction is designed in the USA for 50 years ahead. [17]

Today, Russia does not have such a program for the modernization of spaceports for the launch of reusable rocket systems.

Russia is literally stuck in the last XX century. Today, Russia *does not have an "International electronic screen of universal atomic (cesium) lunar time in the "**President**" format,* which is proposed by the author of this article to ensure the colonization of the Moon and the universe as a whole.

The political agreement of the three Empires on peace based on the principles of the conditional "Tehran-2" dated November 19, 2026 is the final chord of the victory of civilization over the medieval "ship of fools".

Humanity will transfer from the medieval "ship of fools" to reusable ships such as Elon Musk's Starship, and from May 20, 2027, it will acquire the absolute reference standard of space time.

Overcoming the physical gravity of the earth in the 21st century turned out to be easier than overcoming the "gravity" of political, colonial medieval traditions and world wars.

24). Musk promised every child in the United States **two shares** of his aerospace company SpaceX. According to him, he personally will provide one share, and his company will provide the second.

The US Federal Communications Commission (FCC) has allowed Elon Musk's company SpaceX to launch a group of 1 million satellites into orbit to create space data centers, the Reuters news agency reports. The agency approved the deployment of a network called Starmind to meet the demand for computing power for AI.

According to the terms of the license, the company is required to launch the devices no later than November 2033, withdraw 10% of the declared number by November 2035 and half by November 2038.

SpaceX expects that using almost continuous solar energy in orbit will make computing much cheaper and more environmentally friendly compared to ground-based servers.

The implementation of the project largely depends on reducing the cost of launches using the heavy reusable Starship rocket. *There are currently about 17,000 active sattelites in space.*

Musk was allowed to put 1 million satellites into orbit for data centers
Electronic resource
URL:https://news.ru/usa/masku-razreshili-vyvesti-na-orbitu-million-sputnikov-dlya-data-centrov?ysclid=mwxwb6mr7247148304
Date of application: November 26, 2026

25). All three leaders of the United States, Russia and China have confirmed their special personal responsibility for the fate of the world. In his second inaugural address,

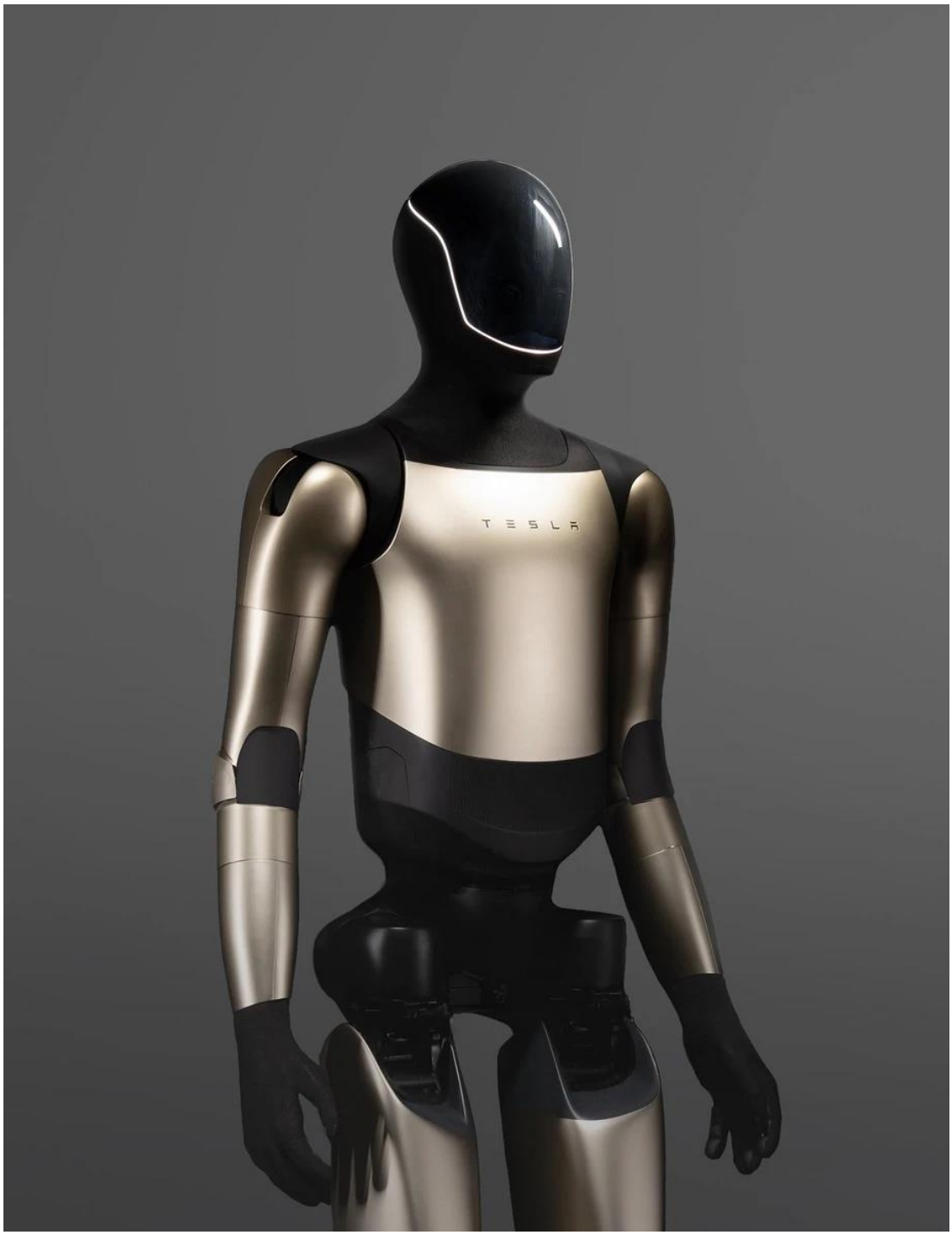
Donald Trump said: "***The legacy that I will be most proud of is that of a peacemaker and a unifier."***

President Putin stressed: "*this format does not set any super-tasks," except for one: "the search for mutually acceptable solutions for the three of us, primarily in the field of security."*

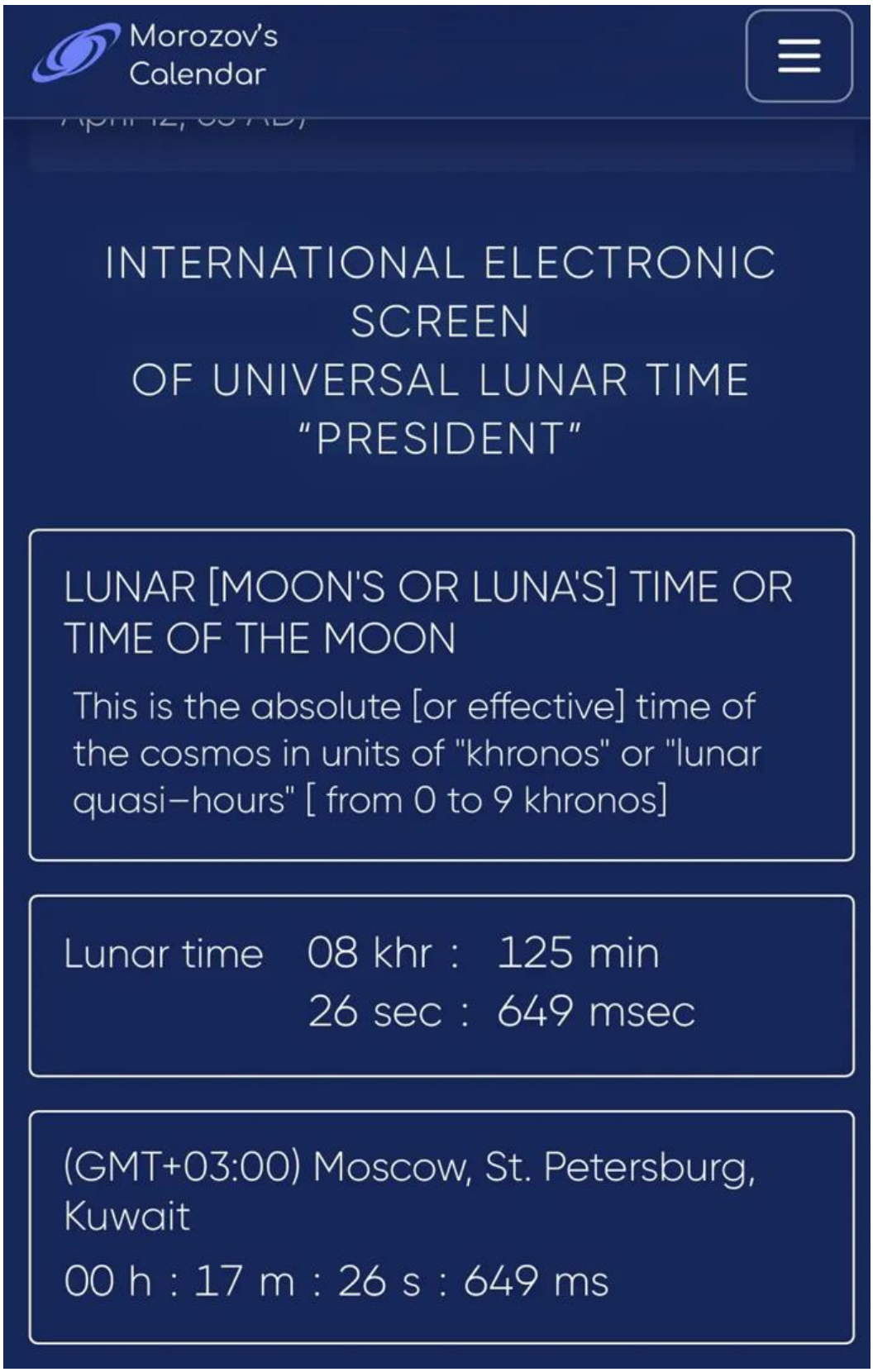
Chairman Xi Jinping says the same thing: *"History teaches us that when great powers live in peace, the world is safe. When great powers come into conflict, the world plunges into chaos."*

US President Donald Trump spoke in the most detailed terms about the main goal of the negotiations.:

"We have a special responsibility to maintain an open, respectful and productive dialogue on issues affecting not only our peoples, but the entire planet. The previous approach of refusing to discuss problems has never helped to solve them." [15]



Робот-гуманоид Tesla. [8]



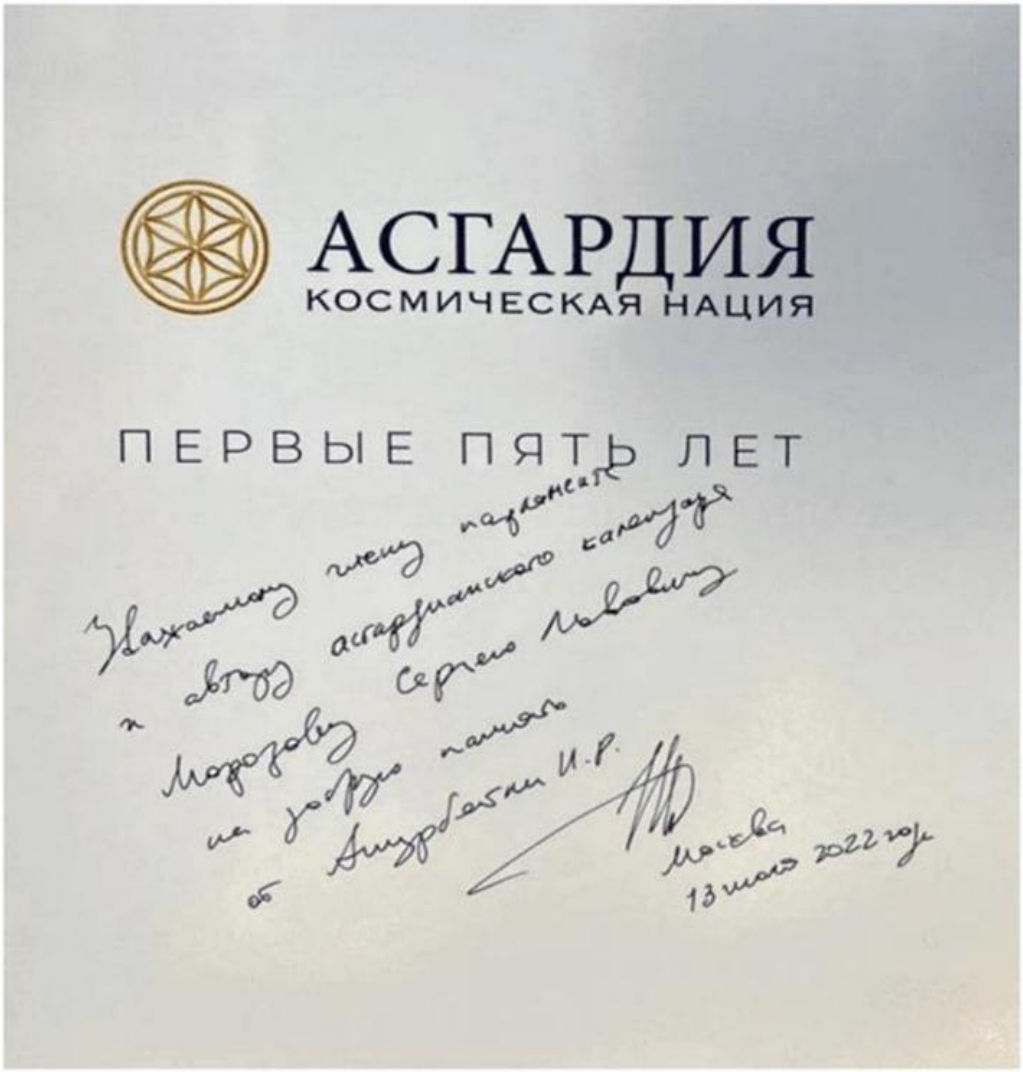
Международный электронный экран "Президент" универсального лунного времени Вселенной, которое предлагается ввести с 20 мая 2027 года.

The international electronic screen "President" of the universal lunar time of the Universe, which is proposed to be adopted from May 20, 2027.



Международный электронный экран «Президент» универсального лунного времени Вселенной, которое предложено принять с 20 мая 2027 года.

The international electronic screen "President" of the universal lunar time of the Universe, which is proposed to be adopted from May 20, 2027.



Уважаемому члену Парламента и автору асгардианского календаря. Морозову Сергею Львовичу на добрую память от Ашурбейли И.Р.

Москва, 13 июля 2022 года.

13 июля 2022. Дата документа

13 июля 2022. Посвящение Главы государства Игоря Ашурбейли доктору Морозову Сергею Львовичу, автору календаря Асгардии, в день 5 годовщины образования государства Асгардии.

July 13, 2022. Dedication of the Head of State Igor Ashurbeyli to Dr. Sergey Lvovich Morozov, the author of the Asgardia calendar, on the day of the 5th anniversary of the formation of the state of Asgardia.



РОССИЙСКАЯ АКАДЕМИЯ НАУК

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Федеральное государственное бюджетное учреждение науки
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От 17.01.13 № 14310/6215

Отзыв

на научную работу С. Л. Морозова
"Единый универсальный календарь для человечества",
представляющую собой детальный материал для возможного включения в повестку работы заседания Группы G-20.

Как известно, в мире действует около десятка различных календарей, возникших исторически на основании политических, религиозных и иных соображений.

В работе Морозова впервые в истории разработан универсальный календарь из чисто научных соображений, который все имеющиеся в мире календари объединяет и не содержит известных недостатков в этих календарях. Объединяет в том смысле, что новый календарь является идеальным инструментом для согласования действующих календарей, что становится всё более актуальным в связи с глобализацией, космическими полетами и пр.

Разработка Морозова удовлетворяет современным научным критериям и вполне может быть представлена не только научному сообществу, но и на высоких политических мероприятиях.

У меня актуальность вынесения вопроса об универсальном календаре на мировой уровень для обсуждения не вызывает сомнения. Мировое пространство уже столь загружено разными объектами, что без единой системы согласования действий в этой области управление становится невозможным.

Директор ЦЭМИ РАН
Академик РАН
Макаров Валерий Леонидович

17 января 2013. Дата документа

Отзыв директора ЦЭМИ РАН, академика РАН, Макарова Валерия Леонидовича на научную работу Морозова Сергея Львовича «Единый универсальный календарь для человечества» для возможного включения в повестку работы заседания Группы G-20 от 17 января 2013 года.

Review of Valery Leonidovich Makarov, Director of the Central Research Institute of the Russian Academy of Sciences, Academician of the Russian Academy of Sciences, on Sergey Lvovich Morozov's scientific work "The Unified Universal Calendar for Humanity" for possible inclusion in the agenda of the G-20 Group meeting on January 17, 2013.



ASGARDIA

HEAD OF NATION

DECREE No. 38

16 Capricorn 0003 (18 December 2019)

On giving effect to the Calendar of Asgardia

As per Decree No. 2 on the temporary calendar and the decision of the Parliament of Asgardia (VI sitting dated 11-13 Virgo 0003 / 26-28 July 2019), and pursuant to Section 18 of the Act on Acts, I hereby put the new Calendar of Asgardia into effect.

See the conversion table of the Asgardian and the Gregorian calendars on the National website of Asgardia at: https://asgardia.space/en/calendar.

As of the date of the publication of this Decree, all the events, documents, National and business correspondence shall be dated as per the new Calendar of Asgardia.

Head of Nation **Igor Ashurbeyli**

УКАЗ № 38 О введении в действие календаря Асгардии от 16 Capricornus 0003 (18 декабря 2019 года).

Указ № 38 О введении в действие государственного календаря Асгардии от 16 Capricornus 0003 [2016+0003=2019] (18 декабря 2019)

Decree No. 38 On the Implementation of the State calendar of Asgardia dated 16 Capricornus 0003 [2016+0003=2019] (18 December 2019)



ASGARDIA

HEAD OF NATION

DECREE No. 38

16 Capricornus 0003 (18 December 2019)

О вводе в действие календаря Асгардии

В соответствии с Указом №2 о временном календаре и решения Парламента Асгардии (VI сессия от 11-13 Virgo 0003 / 26-28 июля 2019), в соответствии с разделом 18 Закона Законов, настоящим указом ввожу в действие новый асгардианский календарь.

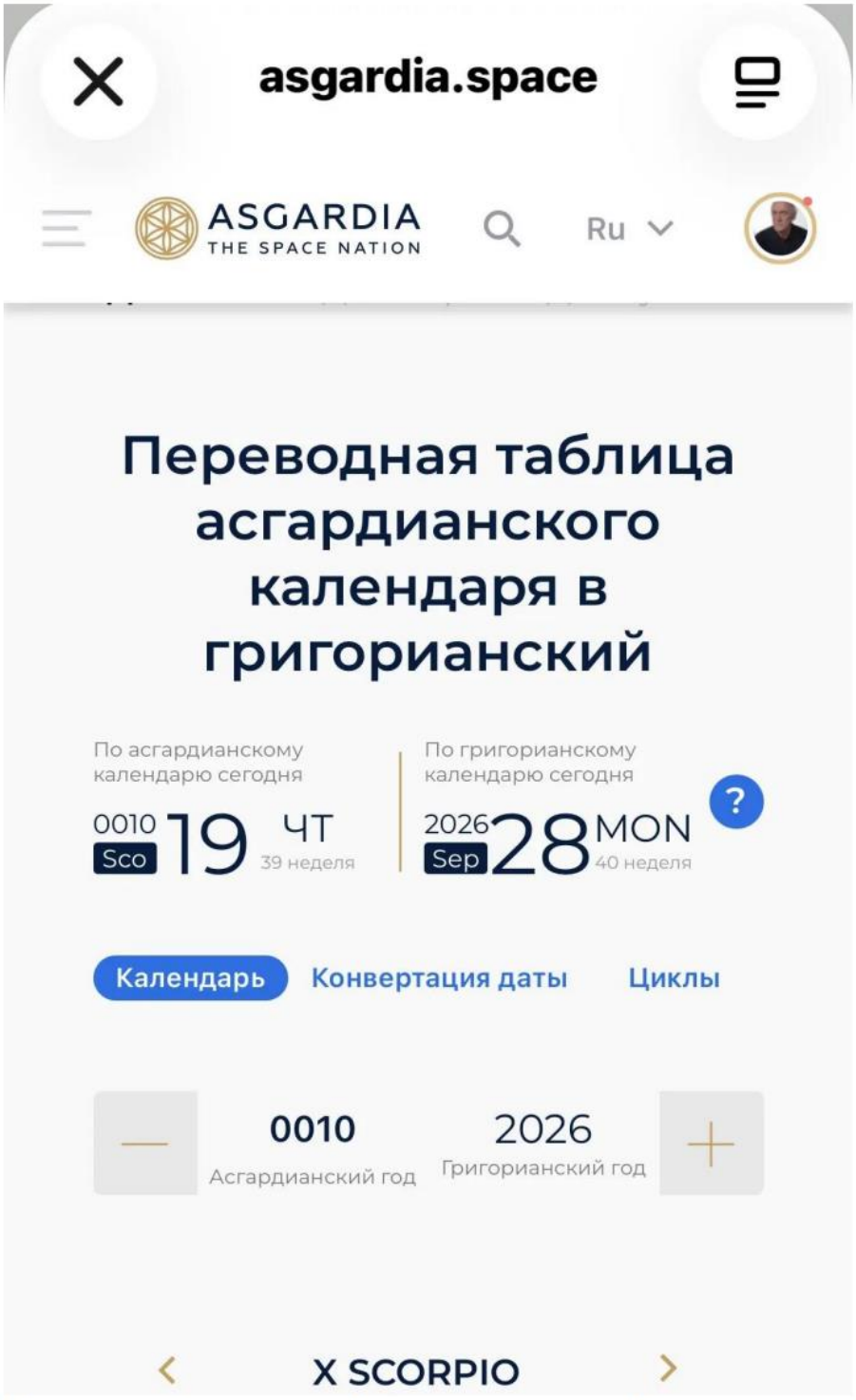
Таблица соответствия дат асгардианского и григорианского календарей приведена на государственном сайте Асгардии по адресу: https://asgardia.space/en/calendar.

Начиная с даты публикации Указа, все события, документы, государственная и деловая переписка Асгардии должна вестись с указанием дат нового асгардианского календаря.

Head of Nation **Igor Ashurbeyli**

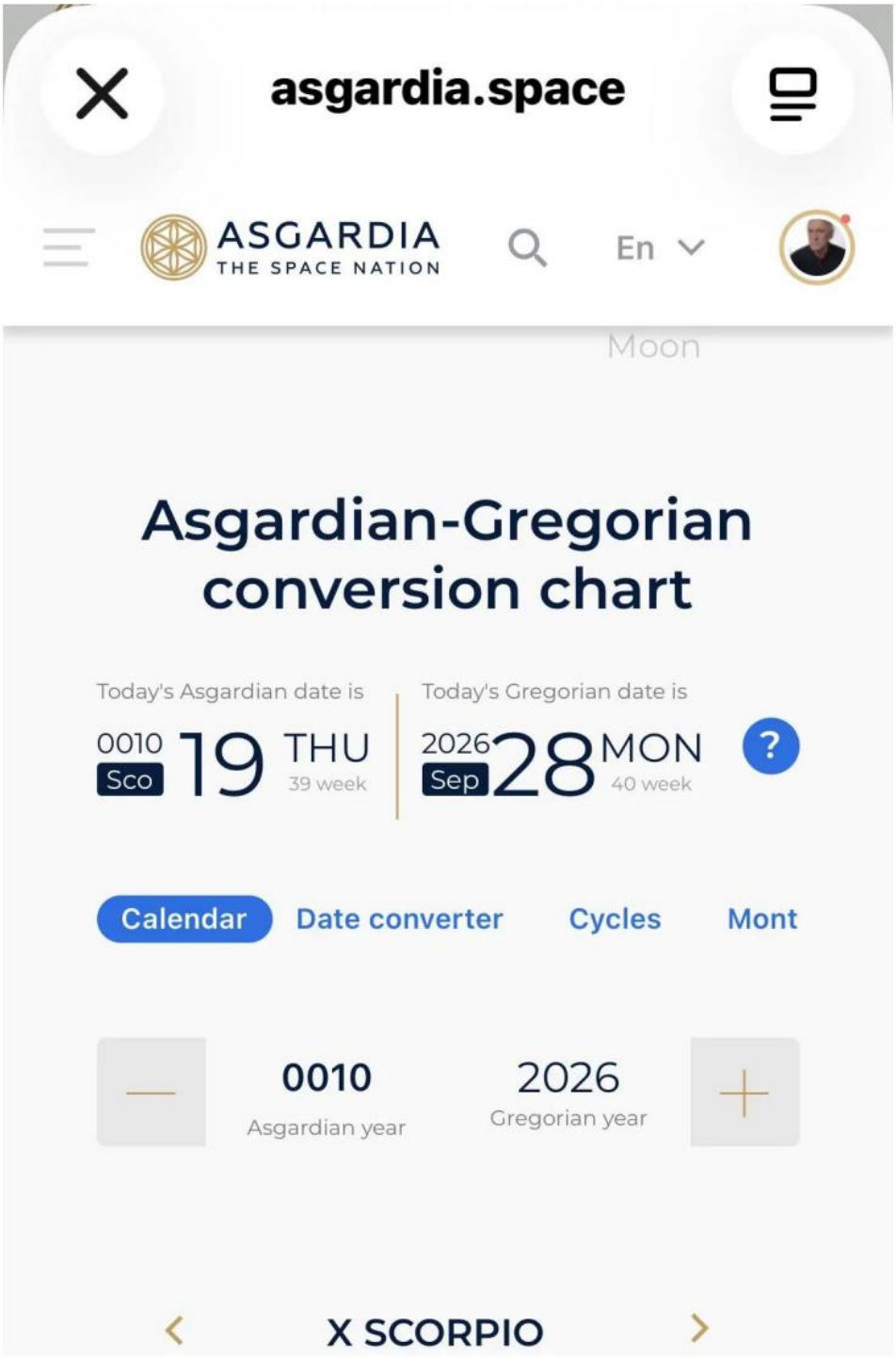
Указ № 38 О введении в действие государственного календаря Асгардии от 16 Capricornus 0003 [2016+0003=2019] (18 декабря 2019)

Decree No. 38 On the Implementation of the State calendar of Asgardia dated 16 Capricornus 0003 [2016+0003=2019] (18 December 2019)



Космический календарь Асгардии в мировом Интернете с датой старта Starship 14. Скрин с телефона.

Asgardia space calendar on the world Internet with the launch date of September 28, 2026 - Starship 14. Screen from your phone.



Космический календарь Асгардии в мировом Интернете с датой старта Starship 14. Скрин с телефона.

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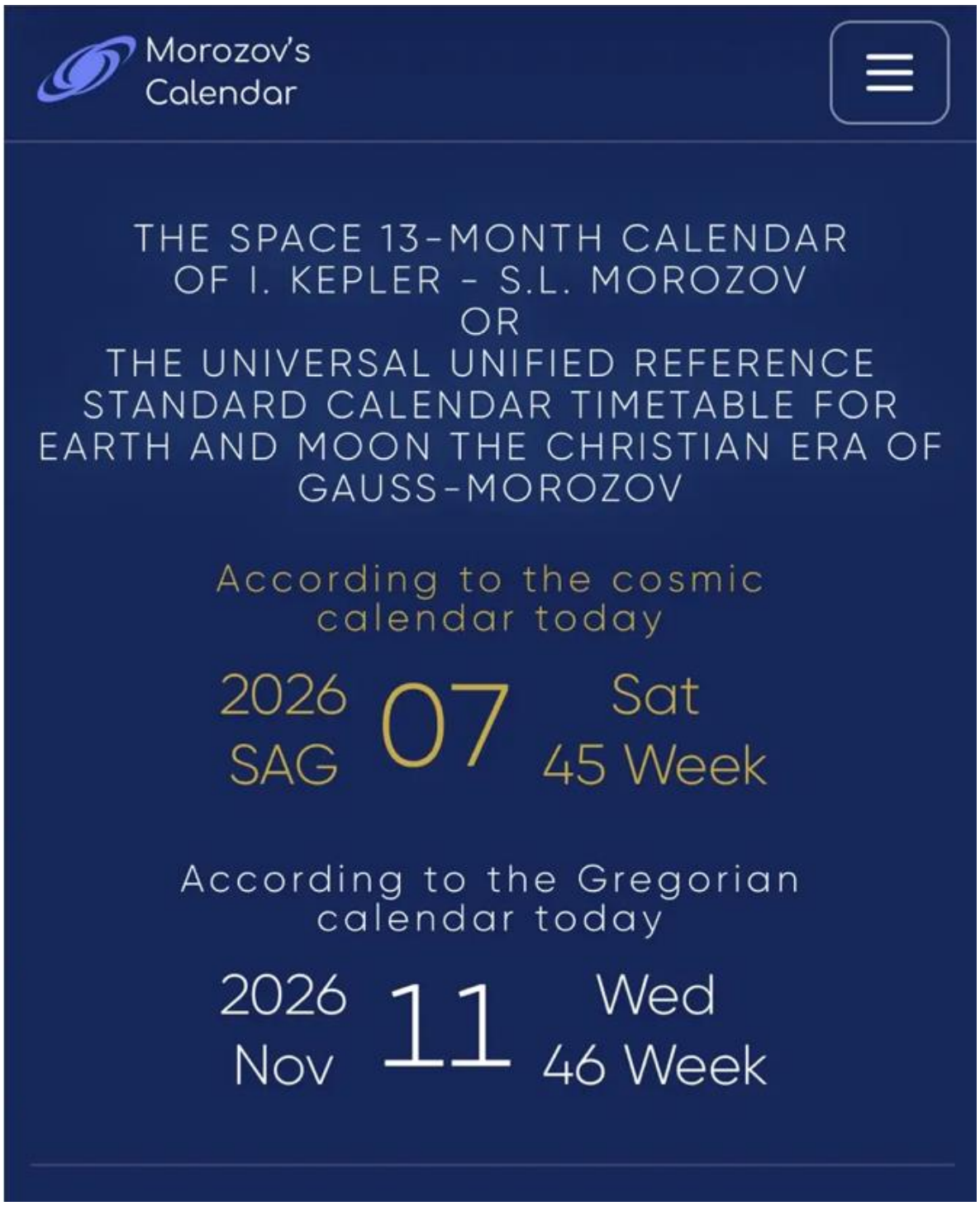

Универсальный космический календарь, основанный на координированном атомном времени UTC, который может быть принят 20 мая 2027 года. Он находится в открытом доступе в Интернете вместе с календарем космического государства Асгардия с 2016 года. Скриншот с вашего телефона.

The Universal space calendar based on coordinated atomic time UTC, which may be adopted on May 20, 2027. It has been publicly available on the Internet along with the calendar of the space state of Asgardia since 2016. Screenshot from your phone.



Универсальный Космический календарь на базе координированного атомного времени UTC, который предложено принять 20 мая 2027 года. Он представлен в интернете в открытом доступе вместе с календарем космического государства Асгардии с 2016 года. Скрин с телефона.

The Universal space calendar based on coordinated atomic time UTC, which may be adopted on May 20, 2027. It has been publicly available on the Internet along with the calendar of the space state of Asgardia since 2016. Screenshot from your phone.



XLIX АКАДЕМИЧЕСКИЕ ЧТЕНИЯ ПО КОСМОНАВТИКЕ
(Королёвские чтения – 2025)

В период с 28 по 31 января 2025 года в Московском государственном техническом университете имени Н.Э. Баумана прошли XLIX Академические чтения по космонавтике, посвященные памяти академика С.П. Королёва и других выдающихся отечественных ученых – пионеров освоения космического пространства («Королёвские чтения – 2025»).

Институт истории естествознания и техники им. С.И. Вавилова РАН (ИИЕТ РАН) принял активное участие в Чтениях. Главный научный сотрудник Отдела истории техники и технических наук, доктор философских наук, кандидат технических наук, профессор С.В. Кричевский сделал доклад на тему: «Безопасность пилотируемых космических полетов: краткая история XX–XXI вв.».

Ассоциированный сотрудник ИИЕТ РАН, кандидат медицинских наук С.Л. Морозов представил доклад: «***Линейное лунное время цивилизации - основа астронавигации во Вселенной***».



XLIX АКАДЕМИЧЕСКИЕ ЧТЕНИЯ ПО КОСМОНАВТИКЕ
(Королёвские чтения – 2025)

From January 28 to January 31, 2025, the XLIX Academic Readings on Cosmonautics were held at the Bauman Moscow State Technical University, dedicated to the memory of Academician S. P. Korolev and other outstanding Russian scientists, pioneers of space exploration ("Korolev`s Readings – 2025").

S. Vavilov Institute for the History of Science and Technology, RAS. took an active part in the Readings. The chief researcher of the Department of History of Engineering and Technical Sciences, Doctor of Philosophy, Candidate of Technical Sciences, Professor S.V. Krichevsky made a presentation on the topic: "Safety of manned space flights: a brief history of the XX–XXI centuries."

S.L. Morozov, Associate Researcher at S. Vavilov Institute for the History of Science and Technology, RAS., Candidate of Medical Sciences, presented a report: ***"The linear lunar time of civilization is the basis of astronavigation in the Universe."***

Literature

1. S.L. Morozov. Candidate of Medical Sciences [MD]; Full Member of the Academy of Economics, Finance and Law
elbimru@gmail.com © Morozov S.L.
October 20, 2026
"*Replacing a leap second with a leap hour. Transition to a continuous universal coordinated time scale - UTC. LTC is the standard of absolute lunar time, tied to UTC."*
An electronic resource.
URL:https://calendar-morozov.space/files/REPLACING-RUS.pdf
Date of application: October 20, 2026

2. S.L. Morozov. Candidate of Medical Sciences [MD]; Full Member of the Academy of Economics, Finance and Law elbimru@gmail.com © Morozov S.L.
October 01, 2026
"The road to the Moon is open today, or for what reason should civilization replace the medieval Earth's "Ship of Fools" with a multi-planet reusable spaceship like a "starship" of Elon Mask?"
Electronic resource.
URL: https://calendar-morozov.space/files/ROAD_TO_MOON_OPEN-RUS.pdf
Date of request: October 01, 2026

3 Brent D. Griffiths. «*Palantir's summary of CEO Alexander Karp's manifesto is generating buzz. Read the 22 bullet points*. »
Electronic resource.
URL: https://businessinsider.com; hi-tech.mail. ruinteraffairs.ru
Date of request: October 01, 2026

4. Techno-nationalism in the age of AI: What does the new Palantir manifesto say?
An electronic resource.
URL: https:// neironark.ru
Date of request: 07/03/2026

5. Extraordinary fascism: in a 22-point manifesto, Palantir declared a new era - AI instead of nuclear weapons, total mobilization instead of volunteers
An electronic resource.
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18. Rafail Murtazin in MK" (dated June 29, 2025).
The Eastern stumbling block: there are "pitfalls" on the way to implementing space projects. The idea of reusable space rocket stages may not work in Russian conditions.
URL:https://https://www.mk.ru/science/2025/06/29/vostochnyy-kamen-pretknoveniya-na-puti-realizacii-kosmicheskikh-proektov-est-podvodnye-kamni.html
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19. Rafail Murtazin: "Flight to the moon is possible without a heavyweight" (05/22/2025)
Rafail Murtazin, a ballistics specialist at RSC Energia, spoke about the most profitable way to fly to the Moon.
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Представляем гостя

Рафаил Муртазин родился 19 августа 1956 года в городе Караганда Казахской ССР. В 1979 году окончил Московское высшее техническое училище (МВТУ) им. Н.Э.Баумана, машиностроительный факультет по специальности «динамика полета и управления». С 1979 года работает в НПО «Энергия» (ныне РКК «Энергия») в отделе баллистики. Автор более 100 публикаций в отечественных и зарубежных журналах и 28 патентов на изобретения, включая различные быстрые схемы для стыковки российских транспортных кораблей с МКС.



Head of the Ballistics Department of the Rocket and Space Corporation Energia, Doctor of Technical Sciences Rafail Murtazin. It is the team of Raphael Farvazovich that plots routes for spacecraft.

More detailed:https://kazved.ru/news/rafail-murtazin-ballistik-professiya-stucnaya-5879995

"Our rockets, when launched from this cosmodrome, fly over mountains and gorges at almost all inclinations. And where there are no mountains, there is a frozen, uninhabited tundra. In the case of disposable rockets, it doesn't matter what kind of terrain is underneath. Since there was no program to create reusable launch vehicles at that time, no one took this into account. Even if there was such a program, there would be no other place for the cosmodrome anyway.

It turns out that the operation of reusable rockets in our country will be fraught with great difficulties. After all, it is very difficult and expensive to prepare more than one landing site along the launch routes."

And Roscosmos planned to take out the stage after landing on the world's largest Mi-26 helicopter. And there are no guarantees that such an operation will take place without damage to the stage or helicopter. In short, in our conditions, you may not get an economic effect.

But there is a way out. It is not so unrealistic to participate in the construction of a cosmodrome in some other, more "flat" country with the subsequent operation of a reusable rocket there.

Or, perhaps even better, to return to launches from an offshore platform (at one time, Russia and Ukraine implemented "the Sea Launch project").

Such a project may be cheaper than *building landing pads along the routes from Vostochny and delivering the steps to the start*….

Article by ***Rafail Murtazin*** in MK" (dated June 29, 2025). It says that the geographical location of the Russian Vostochny cosmodrome creates serious obstacles to the implementation of some space projects. mk.ru;

What is the problem?

There are two key aspects that make the location of the Vostochny cosmodrome (in the Amur region) a "stumbling block".

1. *Difficulties with reusable rocket stages.*

The idea of reusable rocket stages suggests that after landing, the stage can be used repeatedly, which should reduce the cost of launches. However, in the Russian context, this concept faces serious difficulties. mk.ru .

The main problem is geography. To put the payload into orbit with an acceptable inclination, the flight path from the East runs over the Pacific Ocean, and in some cases over the territories of the United States or Canada.

This creates safety risks: in the event of an accident, a lander with a crew may end up in international waters, which requires the deployment of a large number of rescue ships right during launch.

2. In addition, the landing of the step itself in such conditions is associated with increased risks of damage during return, which calls into question the economic feasibility. *mk.ru*

In May 2025, the head of the ballistics department of RSC Energia, Rafail Murtazin, publicly mentioned restrictions for manned flights from Vostochny in an interview with MK.

He said: "By the way, a ramp with an inclination of **97 degrees** will be more profitable for us when launching from our Vostochny cosmodrome, where it is planned to transfer all launches after information from the ISS orbit.

If we launch from the Vostochny cosmodrome into an orbit with a lower inclination, the route will pass through the Pacific Ocean or the territories of the United States or Canada. To insure astronauts, 12-13 rescue ships will have to be on duty in the marine zone during each launch (this is in case of an emergency, the probability of which is no more than 1 percent).

But if we launch into orbit from the same Vostochny *with an inclination of 97 degrees*, the first two stages will fall over our territory, over land, for which we will have no claims from other states. And it will be much more convenient to insure our astronauts."

That is, the possibility of manned flights from the East only at an inclination of 97 degrees. - an objective fact. And, it would seem, why invent advantages for manned space exploration resulting from this inconvenience?

But Rafail Murtazin says that an orbital inclination of **more than 90 degrees** will be a significant step forward for us. If now the inclination with which the ISS flies (**51.6 degrees**) allows us to observe only **10-15% of the Russian territory** from space, then from the polar orbit we will see it all.

"I propose to look beyond the horizon of about **one billion years**, when our planet with inhabited or uninhabited territories, according to astrophysicists, inevitably awaits death.

By the way, the Apocalypse may come much earlier, because during this period the Earth will be "bombarded" by many large cosmic bodies carrying catastrophic danger, and therefore it is necessary to be on constant alert.

And what will our descendants say later, how will they "thank" us if we sit back and do not try to find a way to save civilization, to transport it to another "earth"? Manned astronautics and manned stations are simply necessary for us to maintain competence and knowledge about space travel."