

Peace: The Final Frontier

By Kim Peart



Space has often been referred to as the final frontier, but to survive in space, we will need peace on Earth, which makes peace the final frontier, if we wish to go into space.

With global fanfare at a press conference in Paris on October 12, Dr Igor Ashurbeyli proposed founding a new nation, one that would be in space, called Asgardia.

Over half a million curious possible citizens were attracted to Asgardia in a couple of weeks, which by itself reveals a very high level of interest on Earth in a future beyond Earth.

For Asgardia to proceed as an independent nation, current laws would need to change, as the 1967 Outer Space Treaty does not permit nations to set up in space, and states: “outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means” and “the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all [hu]mankind.”¹

¹ United Nations Office for Outer Space Affairs, “The Outer Space Treaty” (New York: United Nations, 1967), www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html.

Considering the spirit of the Outer Space Treaty, rather than launching a new nation, could a city be built in space as a United Nations trust territory, which would be open to citizens of all nations?

The first celestial city could be called Celestia, in honour of the first space nation launched by James Mangano in 1948, before the Outer Space Treaty existed, which he called the Nation of Celestial Space, or Celestia.²

The shape of the new city would be an orbital space settlement, like the space habitat illustrated by Bryan Versteeg, which would be powered by the Sun, offer protection from solar and cosmic radiation, and provide an Earth-like gravity via rotation.³

To found Celestia as a UN trust territory, the support of all nations will be sought.

To turn the idea of Celestia into a city in space, citizens from all nations are invited to collaborate in building the celestial dream.

If ten million citizens on Earth supported the creation of Celestia and national governments approved of Celestia, what on Earth could stop the first celestial city from being built?

Through creating Celestia, the gates to space will be opened for all the citizens of Earth.

Creating Celestia

To build Celestia will require energy to do the work, and in space, there is no shortage of power radiating from the Sun, which has so much fuel in reserve that our star will burn fiercely over the next five billion years, until expanding to the orbit of the Earth as a red giant.

With the power of the Sun, resources from the Moon and asteroids can be gathered to build Celestia, along with the first factories in space, able to make any product for Earth and space markets.

Products made in space are easily transported to Earth, as no fuel is required for a space shuttle flying into the Earth's gravity well.

The power of the Sun and the factories of space would become the foundation of a stellar economy in the Solar System, where there is no limit to growth beyond Earth, and where unlimited wealth can be created.

² Wikipedia, "Nation of Celestial Space," en.wikipedia.org/wiki/Nation_of_Celestial_Space.

³ Jesus Diaz, "What a Space City Would Actually Look Like in Real Life," Sploid, November 6, 2014, sploid.gizmodo.com/what-a-space-settlement-would-actually-look-like-in-rea-1589315268; Bryan Versteeg, "Kalpana One: Interior View," www.bryanversteeg.com/portfolio_page/kalpana-one-interior-video/; Bryan Versteeg, "Kalpana One: Exterior View," www.bryanversteeg.com/portfolio_page/kalpana-one-exterior-video/.

Once a sustainable industrial presence is secured beyond Earth, there will be no further cost to Earth, with an infinite return on the investment, from across the Solar System and among the stars.

There is no shortage of raw materials available beyond Earth, from asteroids, moons, and planets, with trillions of objects flying around in the outer Solar System, where comets originate.

All the readily available resources on Earth came from space.

The early Earth was a molten orb, sizzling away any water, with heavy elements, like iron, sinking to the centre of the planet.

It was in the later bombardment by asteroids and comets that iron and water were delivered to the surface of the Earth.

All those resources are still out there, waiting to be found, gathered, and put to work.

Benefits for Earth

By designing and launching a stellar economy, based on the power of the Sun, it will be possible, for the first time in human history, to look to a future where poverty can be sent into history.

Sending poverty into history will be a powerful contributor to peace on Earth.

By creating land in space in orbital settlements, old conflicts over territory can diminish and make way for peace.

Land can be built in orbital space settlements many times greater than the land area of Earth, using resources gathered in space.

With industry in space, it will be possible to build home planet defences against asteroids and comets, which can destroy cities and, if large enough, terminate human civilization on Earth.

Offending asteroids or comets could be nudged into new orbits, or mined into oblivion.

If a monster asteroid or comet is too large to deal with, arks can be built in space to preserve life and to provide sanctuary for all the people of Earth.

When the planet is safe again, life can return to Earth.

Once a sustainable industrial presence is secured beyond Earth, there will be no further cost to Earth for development in space, where any dream can be created, and any need met.

Having an amazing creative outlet in space will be a great boon for the youth of Earth, who are always hungry for a new adventure.

By gaining direct access to the power of the Sun in space, it will be possible to beam the energy to Earth to extract excess carbon from the air, and to process extracted carbon into a useful resource for Earth and space industries.⁴

Carbon can be extracted from the air, but a huge volume of energy is required to do this work.⁵

By being able to access the power of the Sun beyond Earth, space development can be put to work to win back a safe Earth from dangerous degrees of global warming, climate change, impacts on plant biology, and ocean acidification, which is threatening to undermine the global food chain.

With a sustainable industrial presence in space, it will be possible to build a sunshade in space to help cool the Earth and to win back a safe Earth, with no cost to Earth.

With the Sun getting hotter over time, life on Earth only has around a billion years to run, but with a sunshade in space, the tenure of life on Earth can be extended by billions of years.

With the celestial gates open for stellar exploration, new hope will bloom in the hearts of the citizens of Earth, seeing poverty sent into history, seeing peace being built on Earth and seeing the way open to win back a safe Earth, people will be inspired to solve all the problems on Earth.

Using the factories of space, robots can be made that will clean up the massive volume of trash in the oceans, even down to the micro plastic particles that now fill the sea.

We Must Clean Up Space

The world is on notice that there is so much space junk above Earth that a couple of satellites crashing into each other can now cause a cascade of space debris that could destroy all satellites and space stations, leaving a maelstrom of high-velocity debris that will make it impossible to send anything into space for hundreds of years.⁶

If this happens, the skies of Earth at night will be brilliant with falling stars, as space debris burns up in the air.

Incoming space debris may also pose a threat to aircraft and, if too many planes are destroyed, air travel will be deemed too dangerous.

⁴ National Space Society, "Space-Based Power," www.nss.org/settlement/ssp/; Wikipedia, "Space-Based Solar Power," en.wikipedia.org/wiki/Space-based_solar_power.

⁵ James E. Miller, "Why Not Split Harmful Carbon Dioxide into Harmless Carbon and Oxygen?" *Scientific American*, July 9, 2009, www.scientificamerican.com/article.cfm?id=splitting-carbon-dioxide.

⁶ Kim Peart, "What Happens when the Sky Starts to Fall?" *Tasmanian Times*, June 25, 2016, tasmaniantimes.com/index.php?weblog/article/what-happens-when-the-sky-starts-to-fall/; The 2013 movie, *Gravity*, depicts events including a space junk cascade: www.youtube.com/watch?v=OiTiKOy59o4; Another haunting short film, a spin-off of this movie, but set after the event, is at www.youtube.com/watch?v=jLR1yCvu498.

A space junk cascade could happen at any time.

With civil war in Syria, conflict spluttering away in Ukraine, and tensions simmering to the boil in the South China Sea, if a global conflict broke out, some of the first targets to be hit would be military satellites, to blind the enemy.

The moment satellites are lost may also be the moment when nuclear weapons are unleashed, which, if used in number, could end all life on Earth.

The first star war could spell the end of all human dreams, if it causes a space junk maelstrom to lock us down on Earth.

We need to find ways to move swiftly on building the first celestial city as the best way to build peace on Earth.

If humankind continues to cling to the third rock, we may have no future in this universe.

When Nations Act

Nations who decide that Celestia is a good initiative can support its creation and help to open the way to space.

With the vision that the bounty of the Solar System will benefit all the people of Earth, there will be a direct incentive.

With unlimited wealth potential in space, securing a sustainable industrial presence beyond Earth will open the way to create any dream in space.

By ensuring space development is designed to send poverty into history, peace can be built on Earth, which will improve security in space.

All Earth's institutions will be able to enjoy space in Celestia for education and research.

With a view from space, which all Earth's citizens will in time be able to access, the needs of the Earth will be seen clearly.

From space, it may be seen that the cornerstone of education needs to be the proper management of the life-support systems of our Earth.

By understanding the life-support systems of the Earth, there will be a better appreciation of maintaining the life-support systems needed in space.

By learning to manage the life-support systems of celestial cities, the citizens of Earth will better understand what must happen to keep the home planet safe.

When Citizens Respond

Participation with Celestia is open to citizens of all nations.

Citizens can meet to explore the project and discuss how to help make it happen.

Interested citizens can receive regular e-mails and newsletters, connecting all to the action of building Celestia.

Earth citizens can support research and development of all aspects of the project, and those with ability can find work creating Celestia.

Anyone who can access the virtual worlds, like Second Life, can join a crew, set up displays, hold global meetings, and build models of our future in space, including Celestia, which can be used, tested, and improved via avatars.

The virtual world model of Celestia will be an excellent way to build the community that plans to live in space.

Using the virtual world, citizens can connect globally to plan local action toward building a celestial future.

A Mini Robot Space Program

Pressed by the need for swift progress to a sustainable industrial presence beyond Earth, located beyond the space junk zone, a mini robot space program can be pursued.

Mini robots would cost less to send into space, and once access to solar power and resources was gained, mini robots would be able to build factories in space, larger robots, and human scale structures, which could be occupied when safe for life.

Space factories can build the shuttlecraft that fly to Earth to bring citizens to Celestia.

One way of sending mini robots and raw materials from Earth into space, can be with a mass driver, an electromagnetic propulsion system powered by the Sun.⁷

Many private space companies exist now, so there are many transport options available.

How small could mini robots be that are used in orchestration and would deliver a sustainable industrial presence beyond Earth?

The answer will rattle out of research and development.

With so much to gain, and so much more to lose by not acting, there is a clear incentive for individuals and nations to be interested in Celestia.

Mini robots could be automated and managed by an AI, and accessed from Earth using remote control systems, using VR headsets like the Oculus Rift.

Human workers in space could be in a safe environment, and use remote control systems to work with robots of all sizes in space.

⁷ Wikipedia, "Mass Driver," en.wikipedia.org/wiki/Mass_driver; for the use of a mass driver on Earth to send cargo into space, see www.youtube.com/watch?v=k0cLczpAXAc.

The training for this way of working can begin now using the virtual worlds, where robots can be used and remote-control systems tested.

Managing an avatar in a virtual world can be like the remote control of a robot.

When Celestia is built, made radiation safe and with an Earth gravity, then human occupants can set up house, universities can set up labs, and artists can record the experience of life among the stars.

Living this experience can begin now, with virtual world environments.

Before Celestia is finished, work can begin on the second celestial city, as there will be no limits on development in space, with robots building robots to do the work.

Tourists Will Be Welcome

Celestia will be open to visitors from Earth, paying tourists who will come to enjoy the city in space.

The space factories will be producing a unique range of products, using techniques in zero gravity that are not available on Earth.

Celestia will offer the best shopping beyond Earth for visitors, and they can take plenty back with them, as no fuel is needed for a shuttle craft to glide back down to Earth.

Unique sports and recreations can be developed in space, such as zero-g tennis, or a pool in the axis of Celestia, where there is air in the centre of a cylinder of water.

Located in a zero-g environment, this would be the most amazing swimming pool in the Solar System.

What Can Happen Now?

Individuals can take an interest and connect with the vision for Celestia, and the action that must happen to open the way.

Two or more people can meet in any nation to discuss what can happen with Celestia, and how soon the way will be opened.

Anyone interested can participate in the virtual world activity, join in global meetings, set up displays in virtual galleries, and look at occupying an apartment in the virtual world model of Celestia.

Interested citizens can obtain a VR headset, like the Oculus Rift, and look toward working with robots, both in the virtual world and in real life, where remote control systems will open new ways to work in space.

Space centres can be set up to show what can happen in space, show what Celestia will be like, and show how we must care for the Earth.

A stepping-stone project can be to use mini robots in space, which could be in a mini space station, where citizens on Earth will be able to see through the eyes of the robot in space using a VR headset, and with remote control systems, move the robot around and see the Earth from space, along with the stars and the Moon.

In time, every interested citizen on Earth will be able to have an experience of space, without leaving Earth.

Youth Activity

The global momentum to create Celestia will be a golden opportunity to launch a unique activity for young space pioneers, who are keen to look to a future in space, or simply like the activity.

In addition to the full range of space-related activities, space pioneers can work with robots, pursue rocketry, and practice astronomy.

Space pioneers can also learn survival skills, as pioneers have on the frontier in earlier days, with bush skills and crafts.

Learning to survive in the natural environment on Earth will be great preparation for learning to survive in space.

Space pioneers can gain an understanding of Earth's life-support systems, and how to keep the Earth safe.

Meditation can be practiced, to calm the mind and to help travellers to remain sane in deep space.

Meditation will also help people to find peaceful ways to deal with problems on Earth.

Celestial Values

With a view to setting the best example for youth, celestial values will need to be identified and put to work.

As with science, honesty can be held up as a primary celestial value.

Trust is built through honesty, and in space, trust in others is critical for survival.

Compassion can also be viewed as primal for survival in space, as by showing compassion toward all citizens on Earth, peace will be built on Earth, which will translate into security in space.

Human habitats beyond Earth are fragile bubbles in a vacuum, all too easily burst from within or without by conflict and or terrorism.

The best way to deliver security in space is to build peace on Earth.

Compassion is therefore a primary celestial value.

Seeking Peace on Earth

To build peace on Earth and help protect Celestia in space, citizens in all nations can start the ball rolling now, by beginning to send poverty into history.

Using space techniques for growing food and providing clean water, nutritious food can be provided for all Earth's citizens.

This may be achieved through assistance and self-help projects, but the bottom line must be that no member of our human family will be allowed to go hungry.

Ways can be identified for real work with real pay to be available for all citizens, which will be the most direct and sustainable way to bring people out of poverty and homelessness.

Creating a stellar economy must include providing work and homes for all citizens, on Earth and in space, to build peace on Earth for security in space.

Understanding how the present economic system works on Earth will help us to design better ways to live on Earth and in space.

Add universal compassion to capitalism, and there will be cooperation toward allowing life-opportunities for all citizens.

Compassion is therefore the key to creating a stellar economy that benefits all citizens, and opens the way to infinite wealth in space.

By focusing on creating Celestia, there will be a global project for the citizens of all nations to help to open the way to a better future for the human family.

The old political ways have left us with a planet bristling with nuclear weapons, with starvation and homelessness, with wars and millions of refugees, and with a carbon crisis that is becoming a threat to the future health of life on Earth and is taking away happiness from people.

If global warming runs out of control, a runaway greenhouse effect will be inevitable, sending Earth toward becoming a second Venus, where there is no water and the rocks glow in the heat.

It would be far better to look toward Venus being transformed into a second Earth than to allow the Earth to become a second Venus.

Avoiding Star Wars

By raising the vision of creating Celestia, a city of peace in space for all the citizens of Earth, it may be possible to avoid another global conflict on this planet, which would hold all the potential of sliding swiftly into nuclear madness.

Another problem that the Asgardia space nation proposal may face is fear on Earth of weapons being sent from space.

A rock dropped from space could destroy a city, which nearly happened to the Russian city of Chelyabinsk in 2013, when a meteor exploded in the air, and if that rock had been a little closer to the ground, there would have been far more damage and many deaths.⁸

Another form of weapon that can be sent from space is a simple metal rod, which would be cheap to produce in space, and be easier to send to a target on Earth than a rock.⁹

A metal rod is a kinetic weapon, that gains its explosive power through the speed it gains when falling to Earth, which unleashes its explosive force on impact.

The prospect of an independent Mars may also be viewed with suspicion, as if there was a real war of the worlds, a rain of kinetic weapons sent from around Mars would gain speed as they accelerated toward the Sun, and then to the Earth.

By running with a vision for Celestia that builds peace on Earth, and with the participation of all nations, any potential threat from space will be replaced with goodwill.

We need to build a future where conflict is sent into history.

Seeking Peace in Space

By building a celestial vision for peace in space, in which the citizens of all nations can take part, we can begin the work of building peace on Earth and a bright new future for all Earth's children.

We will also be able to look toward the exploration of the Solar System, the stars of the Milky Way, and, in time, other galaxies.

Rather than living in fear of a nuclear winter on Earth, we will be creating glittering cities among the stars.

By winning peace on Earth to survive in space, if or when we encounter other intelligent life, even a Mediaeval or Roman Empire-level society on another planet, we will be able to show caution and kindness, unlike the treatment meted out by colonial invaders on Earth.

We may discover that peace in space is the standard way for advanced spacefaring alien societies, who will only speak with us if we have discovered the high frontier of peace in space.

We may have been lulled into a false sense of desperation, with movies like Star Wars to tingle our excitement.

To survive in the cosmos, we may simply have to learn how to climb the high frontier of peace.

⁸ Kim Peart, "Defending Earth from Space" (includes YouTube video), *Tasmanian Times*, April 1, 2013, tasmaniantimes.com/index.php?/article/defending-earth-from-space/.

⁹ Wikipedia, "Kinetic Bombardment," en.wikipedia.org/wiki/Kinetic_bombardment.

To paraphrase John Lennon, “All I am saying is give” space a chance.

Swift Action Needed

If we are going to build Celestia and to secure a sustainable industrial presence beyond Earth, this needs to happen swiftly.

This is work that could have been happening in the 1970s, when it became possible following the Apollo Moon landings.

The delay has seen multiple problems building on Earth, which are steadily limiting our options.

The nations of Earth, and the citizens of Earth, need to invest in a cosmic survival insurance policy.

Just as we take out insurance on our car and house, we need to invest in cosmic survival insurance for our home planet.

This can be achieved, and this can happen swiftly, if the citizens and nations of Earth decide to act.

Gerard K. O’Neill put the matter quite simply, when he said, “Almost anything can be done in a ten-year period, when we set our minds to it.”¹⁰

The only question is, are we ready to set our minds to the challenge, in numbers that will deliver a celestial city?

This challenge will unite the citizens of Earth in a stellar vision, where we will solve all our problems.

We can secure a happy future on Earth, if we will reach to the stars.

Suggested Reading

O’Neill, Gerard K. *The High Frontier*. New York: William Morrow & Company, 1977.

O’Neill, Gerard K. “The High Frontier, 1/5.” www.youtube.com/watch?v=EfkEV5Sq0pk.

Peart, Kim. “Creating a Solar Civilization.” *Space Pioneers*, 2006; revised in 2012. spacepioneers.com.au/articles/casc.html.

Copyright © 2017, Kim Peart. All rights reserved.

About the Author: Kim Peart is an observer of the Earth and beyond. Living in Ross in Tasmania’s Midlands, in the island state of Australia, he began a lifelong journey to find ways to live in harmony with the Earth in 1975, and added exploration of the space option

¹⁰ O’Neill, Gerard K. “The High Frontier 5/5,” www.youtube.com/watch?v=Kyt5W812hCQ.

in 1976. For many years, Kim could not reconcile Earth issues with the space option, until he examined the problem of human survival in the context of the Solar System as a whole in his 2006 document, "Creating a Solar Civilization," which offers a plan for cosmic survival and for saving the Earth from human folly. Kim now seeks ways to inspire others to participate in building a future that includes a space future and a safe Earth. Kim is the director of Space Pioneers, and he can be contacted at SpacePioneers@iinet.net.au.



Editors' Notes: Kim Peart is one of the global Space community's "Downunder leaders." He is the founder and Director of Space Pioneers located in Ross, Australia and Tasmania. Kim and his wife, Jennifer, host global meetings with space advocates in Second Life, a virtual world, where people can connect globally and plan local action toward creating a celestial future, and winning back a safe Earth. In 1976 Kim wrote an essay, "Creating a Solar Civilization," exploring how we can only achieve a sustainable human presence on Earth, by building a sustainable industrial presence beyond Earth.

In this article, Kim hypothesizes Celestia, a city of peace in space for all the citizens of Earth. Its purpose would be to avoid another global conflict on Earth, which would hold the potential of sliding swiftly into nuclear madness. Two of his beliefs in the article are:

By building a celestial vision for peace in space, which the citizens of all nations can be part of, we can begin the work of building peace on Earth, and a bright new future for all.

To survive in the cosmos, we may simply have to learn how to climb the high frontier of peace.

Bob Krone and Gordon Arthur.