

Space Renaissance International 3rd World Congress 2021

“The Civilian Space Development”

Call for papers Symposium 4 on Congress Theses

Thesis 1 – Status of Civilization and perspective of expansion into outer space

“Space Renaissance, a people centered transformation.”

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Abstract

This paper compares the social conditions of today with the ones of other historical Renaissance ages. The global risks and opportunities scaled proportionally to the growth of human population and its culture. The best answer, to mitigate risks and achieve the great opportunities, is to expand civilization into space, as soon as possible: the Civilian Space Development. Civilians, and not governmental military powers, are the champions on this path. Elon Musk is the first, with his restless action to achieve Low-Cost Low Earth Orbit access.

The paper also refocuses the humanist goals of Space Renaissance International. Comparing the historic earthly frontiers, learning from their main social mistakes, some basic humanist requirements are discussed, for the civilization expansion into space to be fully inclusive, for all humans. A strong statement is also enunciated, in favor of individual ingenuity and ability to work together in a peaceful manner, in the whole planet and beyond.

The importance of a progressive steps strategy is particularly stressed: each step will allow us to understand how to approach the next step. Living and developing business ventures in space, even as close as Low Earth Orbit, will teach us how to safely and economically go beyond and gather the resources humanity needs, and allow for the development of new technologies that can not only help us survive in outer space.

We, the members of SRI and its national chapters will then morph into an organization that accompanies humanity in this new adventure: the process of civilian space development, which will easily exceed any and all expectations we might have. This SRI Congress is a giant step in the right direction, and I propose that each and every one of us remember that to achieve our goals we need to create the opportunity for civilians to be the ones that lead humanity into this new future.

We of SRI need to ensure that the errors of the past are not repeated as humanity reaches for the stars.

Paper

To start this document, let me recognize that the global transformation that is taking place is the result of many individual efforts and initiatives, public and private, known and unknown. They cover all aspects of human life, and include surprising new concepts such as social, economic, health, criminal, and other types of justice. This transformation is definitely pitting governments, established agencies and aerospace industries against innovative individuals. In addition, just as in the Renaissance Period hundreds of years ago, it is the work of more than one generation, more than the efforts of a single community, and is definitely not planned or set up by any one person or group. Let me venture that many of the elements that transformed Western Civilization at that time were the result of both people seeking new truths or personal benefits, as well as elites looking for new ways to wage war or defend themselves (as a very broad generalization of the many inventions and proposals that came about during that historical period).

From my perspective, at this time in true democratic, non-authoritarian, countries we are doing things very differently. This is mainly due to technology that allows us to communicate globally in real time, with whomever we wish, and establish virtual spaces in which to be creative and inventive, raise funds, create teams and more. Space Renaissance International (SRI) makes use of this technology and - in my humble opinion - we are all about proposing and creating the possibility of a new way of living and thriving for humanity: that of expanding into the Solar System and beyond. Why, may you ask? My answer is that we have to ensure our survival if or when this planet is no longer hospitable life as we know it. Of course, this mindset is not shared by most of humanity, which I associate with four basic reasons:

- a) ignorance of dangers and risks.
- b) a focus on short term political or economic goals.
- c) religious or cultural beliefs.
- d) personal apathy.

Of course, in modern society those that do recognize the perils humanity faces often decide on different possible solutions and strategies for addressing each peril, including activists for environmental issues, for eliminating poverty, for universal health, and many other specific solutions. We in SRI include some of these activists among our members and add both our humanist and space development proposals to create a unique vision for the future of humanity. One common thread to our proposals in SRI, of course is Civilian Space development, and the participation of all interested parties in this effort. Governmental and military space projects are recognized as necessary, though we share the elements of the 1967 Outer Space Treaty, also referred to as "peaceful uses of outer space" treaty because it prohibits having weapons of mass destruction and war outside of Earth. As many of you might know, some nations have promoted space initiatives that could result in a violation of the treaty, but that perception could also be a result of distrust towards military leaders of these nations.

Trust is a major element of our shared values because as humanists we believe that humans will build a better future once we overcome the many restrictions and resources scarcity that characterize life on the planetary surface, within the gravity well. Competition for resources, in fact, is one of the many conditions that many of our proposals, including asteroid mining and orbital solar power, will solve. Of course, established elites and their employees regularly insist

that humanity should solve Earth's problems on Earth before going out into space, which history demonstrates does not work. As an example, the American continent was colonized by European powers who simply tried to replicate their existing customs and controls on the colonies. As I see it, they took precious metals, jewels and foodstuffs back to the continent but did not use them to improve conditions for their common people, and even caused later problems such as the potato famine and various economic crashes, not to mention revolutions throughout their colonies. In Space Renaissance International discussions, we have emphasized that our objectives must include an improvement of life conditions for all humans, and we include better education, civil rights, and democratic participation in our discussions. This is part of the humanist philosophy and ideal.

But this trust has been broken many times in our history. Returning to the accounts of colonial and post-colonial North, Central and South America, the genocide and human disaster of the "Conquistadors", European Governors and other colonizing forces that destroyed indigenous cultures and killed and enslaving much of their populations, these crimes are still seen in some present-day locations. Human trafficking, all types of abuse and criminal actions against the weaker members of communities, institutionalized injustice, poverty and war (neither of which is necessary) are all breaches of trust that are used as excuses to defend the status quo and future militarization of space. In my humble opinion, the same elites and subcultures that broke the trust are the ones that promote militarization and the status quo of global power structures... yet how can we overcome this without violent confrontation? How can we trust humanity to do the right thing for ourselves without being controlled by police or military powers? The answer is not easy as the ancient Latin saying "Quis custodiet ipsos custodes?", or "who will guard the guards themselves" reminds us. Bullies of all sorts are often supported by institutions, though New York City efforts to control bullying in school (which I saw as a classroom teacher) have been effective. This experience has probably been replicated in other places, as well as a reduction of violence against women and children, though a resurgence of authoritarian leaders has also been seen worldwide during the last 2 decades. In SRI we are sure that these issues will be resolved once there is no need to compete for resources to survive. The global Covid-19 pandemic is an example of how humanity can adapt and work together to overcome this danger.

Coincidentally, we have learned skills that would seem necessary for space travel: living in a closed isolated environment, using protective equipment when leaving our residence, working, learning, getting medical advice and treatment, and more via wireless networks, using handheld and larger computers to manage our interactions with others. This pandemic has been a challenge and as mentioned before, there are still places that refuse to protect their peoples and wage war or defy international efforts to help, but the pandemic has certainly affected them seriously. Is our global response part of the transformation we call "Space Renaissance"? It would seem so, but time will tell because of the economic effects it could have on innovators.

There is no easy answer or solution to establish trust in humanity nor do we have the ability to guarantee the results we wish, yet in SRI we insist that space development by civilians is the best answer. Manipulative marketing and propaganda have taught individuals not to trust governments nor so-called experts. Yet individuals do get excited about those persons that do what no one thought possible, those that are willing to break new ground against government and expert pressure. As all of you know, in the USA a civilian has transformed space exploration

and threatens the established aerospace industrial complex by developing more efficient and economical reusable spacecraft and developing other key technologies that facilitate space development. Elon Musk, a remarkable human being who faced (and still faces) much criticism and attacks, lowered the cost of taking people and cargo up to Earth orbit, and even televised one of his Tesla electric cars on its way to Mars. Why a car? It was a non-traditional way to “sell” the idea of safe and economical space travel and as a demonstration of the feasibility of sending humans to that planet. Since then, civilian businesses and small countries have also developed low-cost orbital solutions for small satellites that compete with major national and regional space agencies. Thanks to these civilian efforts humanity now has a huge network of orbital satellites that facilitate communications, research, education, Internet and more. And there is much more to be done as SRI members and other space entrepreneurs demonstrate in their proposals, research initiatives and business ventures. Our recent SRI Webinar on the "Greening of Space" is but an example: we know what we want to test, yet we need an easily accessible mechanism for testing their ideas outside of our atmosphere and the gravity well.

Low-Cost Low Earth Orbit access is a priority. Space development is not for robots: it is for humans in space. In 2016 a joint Space Renaissance USA (SR USA) and Lifeboat Foundation team, proposed using a grant from the McArthur Foundation to achieve low-cost Lower Earth Orbital Access by investing in initiatives that NASA and other agencies had put aside due to budget constraints and competing technologies. I am sorry to say that our proposal and project was considered unrealistic by "expert judges" who considered our goals to be unfeasible within the 6 years of the grant. The experts were wrong: Elon Musk proved them wrong a few years later. Now, in spite of Elon Musk's achievements these experts continue pushing for expensive traditional rockets, and we still face a shortage of safe low-cost reusable launch solutions for civilians. If we are to truly offer access to outer space, SRI USA and the Lifeboat Foundation argued and still believe, that for space tourism, settlements, interplanetary travel and more to be viable, a critical pre-requisite to say the least, is the ability to easily, safely and economically move out of Earth's gravity well. Low-cost safe orbital access will allow for necessary civilian research and trials of new technology and equipment which will facilitate our expansion beyond our atmosphere. Of course, all the governments, agencies, and military organizations will continue insisting that they can do the research and testing better than civilians using public funds, but we have been waiting on them for over half a century now, with little progress to show for it. As President of SRI USA and a member of the USA Alliance for Space Development I strongly support individual ingenuity and our ability to work together in a peaceful manner, and I bring this humanist focus to our whole organization and planet. It is surprising how few people remember that we humans always find a way to address our needs, to eliminate barriers to their survival, and that the moment we allow individuals to start living and developing their own initiatives in outer space, inventions - including new technology and scientific discoveries - will address the needs and dangers of living outside of our planet's protections. Robotics and Artificial Intelligence will probably be key elements of future developments, but as the military says, even the best plans do not survive contact with reality (or the enemies of radiation, microgravity, and lack of a breathable atmosphere, to mention just 3 of them).

Living and developing business ventures in space, even as close as Low Earth Orbit, will teach us how to safely and economically go beyond and gather the resources humanity needs, and allow

for the development of new technologies that can not only help us survive in outer space, but also to help those who stay on Earth. Our dream is that of living peacefully as resource scarcity and population density is reduced, and other threats to our planet and life here are reduced. We, the members of SRI and its national chapters will then morph into an organization that accompanies humanity in this new adventure: the process of civilian space development, which will easily exceed any and all expectations we might have.

This SRI Congress is a giant step in the right direction, and I propose that each and every one of us remember that to achieve our goals we need to create the opportunity for civilians to be the ones that lead humanity into this new future. We must prepare not only business ventures but metropolitan creative hubs for new technology to be developed, as Elon Musk and Tesla Industries, Peter Diamandis and Singularity University, and many others are doing across the globe in multiple areas of human and technological innovation. Of course, we will need places with conditions and legislation that support civilian space initiatives, too. Financial strategies and an economic system for interplanetary commerce will also be needed, probably based on Cryptocurrency and the Blockchain to allow for communications lag, and commercial strategies should exist to prevent the destruction of national economies as cheap resources from outer space disrupt traditional supply chains and manufacturing processes. In addition, we must ensure that the plethora of resources from space are made available to those countries and peoples who are normally excluded from the benefits of innovation and economic benefits. As you probably can tell, we of SRI need to ensure that the errors of the past are not repeated as humanity reaches for the stars.

To achieve this humanist goal, we must participate in testing and evolving the many changes, innovations, risks and benefits that civilian space development will bring, considering how best to use them (3D printing, vertical and aquatic farms, nanotechnology, artificial intelligence, among others), And the invitation is that finally, each of us move to the forefront of the effort to get out of the gravity well and our atmosphere, doing what we each do best. Once we achieve this, the rest can be taken care of by civilians in space. My personal dream in this respect is to become a NYC legislator that allows this great metropolis to become the main hub and center for space efforts, possibly even with an associated space port... Am I crazy? I think it is crazy not to try because I want to step on the Moon before my life is done. Will you join me there? We can have a celebration! With civilian space development this should not be too many years away. The alternative, that of continuing with military and government control of aerospace initiatives certainly only promises severe restrictions on who will be able to leave the planetary surface and how they can do it. As an SRI member I know we can do better than that, and I reiterate my dream and invitation that we all celebrate a future Congress on the Moon, with me there. Some of you might join me in the political path necessary to limit governmental roadblocks. Other will invest and finance commercial ventures. Yet others will design and promote those ventures and projects. And others will teach new generations about the innovations and technologies that have yet to be discovered. I could continue on and on with what each of us can do but won't: you have the idea.

Together we at SRI can join with all civilians wishing to create a future in space to make it a reality. The invitation to celebrate on the Moon, Mars, space stations, and more is also a challenge. Please join me!

Thank you.

Ad Astra, Manny Perez, SRI Vice President, SRI-US President