One year after the first SRI congress, the global crisis is worse, and SRI's task is clearer.

Resolution of the SRI Executive

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Author: Adriano V. Autino

Editing and contributes: Julio Gonzales-Saenz, Gail B. Leatherwood, Patrick Q. Collins, Alberto Cavallo, Jesus Raygoza, Susan Singer, Kim Peart, Sergio Lebid

1 Civilization status – an upgrade

1.1 Our analysis keeps entirely its validity

In our ISSUE I document – "our philosophical understanding of the status of civilization and the SRI political program 2011 – 2015", we summarized the status of the civilization, as follows (The Metaphysics of Astronautics).

From 1950 to 1970 humanity made its first steps in orbit, flying some tens of pioneers, and reaching the Moon in 1969 with the historic enterprise of Collins, Armstrong and Aldrin. Twenty percent of the world was industrialized, human population was 3.7 billion. The space ocean was still clean and pristine, nothing but meteorites crossed the interface between Earth and the cosmos.

From 1970 to 2000, Earth's orbit was filled by iron boxes for telecommunication and earth observation. The moon was forgotten, and industrialization kept on growing up only on the surface of our mother planet. Earth human population in year 2000 reached 6 billion. The space ocean near Earth was filled with garbage. The strategy and focus of human space activities was Earth & Business. The estimated total mass of space debris was about 5,500 tons. Current (2012) extimation of orbiting debris (NASA): More than 21,000 orbital debris larger than 10 cm, approximately 500,000 particles between 1 and 10 cm in diameter, more than 100 million particles smaller than 1 cm[1]. From 2000 to nowadays Earth's orbit kept on being filled by thousands of satellites for TV, Earth observation, and scientific payloads. Nothing was done to claim the orbit and clean/reuse the garbage, i.e. begin to inhabit the orbit. The main space agencies are in deep crisis. India, China and Brazil have begun their industrialization, and rapidly aim to the first places as economic powers. Earth human population passed 7 billion. Fertility is sadly declining in all the world areas, and Earth is closed in a cage of iron garbage. The strategy and focus of the human space activities is caged by the interest of greedy lobbies: oil, weapons, and bankers. Civilization is in the middle of a process we could call *"Metaphysical warming"*, a mix of: true or perceived lack of resources and energy, people's rights demand, environmental decay, resource wars, growing population, global industrialization, fear of the future, waiting for a huge holocaust, or Armageddon.

The growing complexity in a closed environment leads to an unsustainable increase of pressure, as testified by all social, economic, environmental, and political indicators. The signs of what Stephen Hawking called

[1] http://orbitaldebris.jsc.nasa.gov/faqs.html

"implosion of the civilization" are already visible, on a path of failures and disasters, both natural and those caused by the human risk assessment immaturity. The Chernobyl disaster represented the ideological bankruptcy of the Stalinist Soviet regime and its ideology. A low-quality ideology produces low-quality science. If this was and still remains true for the old-fashioned Soviet nuclear power plants, kept working in defiance of every principle of security of the population, it is certainly true for the Gulf of Mexico in 2010 and for Fukushima in 2011. Such two disasters represent the failure of liberal ideology. A key problem of the advanced world economy today is the lack of new industries which are needed to replace the old industries shipped out to China, India and elsewhere. The popular demand for new industries will grow to large scale. The new economic powers, China, India, and Brazil, are experiencing a season of growth, and the people there are aimed by a strong hope of development and progress to achieve the same wealth level of the postindustrial countries. But such aims already knew a serious standstill with the global crisis beginning in 2008 and not yet terminated. It appears obvious to anyone willing to see the reality, that the resources, energy sources and environmental capabilities of Earth are not enough to sustain the civil development of a civilization of seven billion people, and the limit will be reached even earlier, given the limits of today's political systems.

One year after writing the above concepts, nobody can anymore deny them, the situation has worsened, and governments are desperately seeking means to avoid a global economic bankruptcy. Maybe the European Union will find enough courage to become a Federal Union, like the United States (nobody ever even suggested to kick Louisiana or other poor states out of the USA, so why Greece, Spain or Ireland and others should be kicked out of the USE?). Or maybe not. The fundamentals of the global crisis will not change. The crisis was triggered by fraudulent US financial products, but is reaching its deeper effect in Europe, where the strategy was more oriented to degrowth and have a so-called "soft landing". Now the political leaders have discovered that growth is a necessity, and are frantically looking for a growth policy. But all they are able to think of is to target some money for infrastructure and public works. That might help, of course, but, considering the depth of this crisis, could it be enough?

Definitely not. The claimed growth strategies are that poor because they are still supported by a degrowth, closed world, philosophy.

This **global crisis** is more and more revealing itself as *the crisis of the closed world philosophy*, whatever the immediate catalyst this time, and the only solution can come from bootstrap the space economy, based on a development of civilian astronautics. The crisis has already lasted, worsening, for four years, and many commentators say it will last 10 years, at least. Nicolai Kondratiev[2], a Russian economist who died in a Stalinist gulag, analyzed the history of economy since 1800 and found a cycle of 60 years. Each crisis lasts 20 years, more or less. But the current crisis, considering its global character and deep combined causes and effects – impending shortage of resources, lack of jobs, immature competition for resources and energy, environmental decay – could be the last one, and directly lead to civilization's implosion.

All of the symptoms we analyzed one year ago have worsened, reinforcing our analysis.

The SRI task we identified – to accelerate the space renaissance through the rapid development of the civilian astronautic industry and economy – is becoming more and more urgent, and it could be easier, in the current environment of a long lasting and worsening crisis, to explain our alternative to the general public. In fact, the main concern of the general public, about *where their next meal will come from*, is more and more in line with the concern *for the survival of civilization*.

[2] http://en.wikipedia.org/wiki/Kondratiev_wave

1.2 A necessary actualization about energy and raw materials

Shale gas, methane and natural gas in general are likely a real alternative to oil. Should we look at current reality only from the quantitative point of view, we could conclude that the world is *not* running out of energy, at least in the short term. Americans' electricity bills are falling (and America's CO2 output is even falling) as electricity companies switch from dirty coal to clean gas (essentially methane - which isn't even poisonous). America is about to become a net energy exporter. Britain, Germany, Poland have all found huge shale gas deposits which promise to reduce Europe's dependence on Russian energy supplies . On top of this, conventional gas supplies continue to increase: a Japanese-American consortium has just found the largest ever gas-field off Mozambique.

First consideration, SBSP is not an immediate necessity, to feed Earthling further development, provided that this would be a worth task. It is also to be remarked, however, that *methane is a real greenhouse gas*, ten times more than CO2, though CO2 was indicated as the worst *greenhouse devil*, during the last decades. One of the possible causes of the big saurians extinction (alternative to the famous meteorite), is a giant green-house effect, caused by the huge methane output by these big animals, basically eating woody branches.

On another layer of the discourse, if the price of energy will decrease, this could be a breath for the world economy. But, does this new abundance of Earth energy sources mitigate or delay the general risk of civilization implosion? If yes, what could be the amount of time achieved? What is the environmental cost of extraction of the shale gas? The impact could be even worse than extracting oil muds, since the shale gas extraction requires to crush the rock. And, most important of all, does this concept ("*we are NOT (yet) running our of energy"*) change the sign of our strategic address? (*"mother planet is not enough for seven billion people"*).

In our congress discussion, we wrote that civilization entered a thread of "metaphysical warming", in which the pressure in a closed environment is growing higher and higher. Such analysis remains correct, and the discover of new Earthling energy sources doesn't decrease the pressure, but contribute to raise it however.

The matter is not where we take energy, on Earth or in space. The true point is how and where we will use the energy:

a) to further develop Earth industry ***OR***
b) to develop exo-planetary infrastructure and industry.

Scenario a) will further increase the pressure, worsening the risk of civilization implosion. While the scenario b) will reduce the pressure on Earth, **and** disclose an incalculable economic and cultural development.

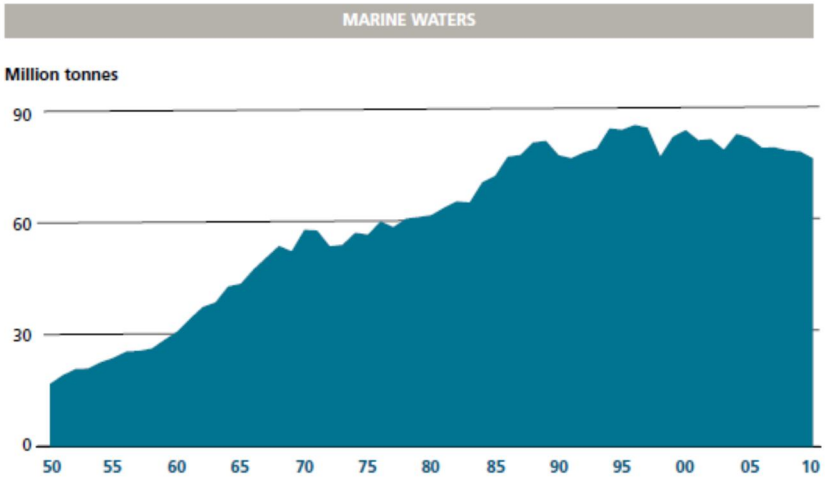
Of course the civilian astronautic industry shall be developed on Earth, for several decades to come at least, therefore we need a) however. We shouldn't be scared at all about a further pressure increase, if it is targeted to open the system. **What we should strongly oppose is a pressure increase driven by immature leaders, once again convinced that everything can go on on this planet like it went during the last two centuries, and we can afford lying on the bottom of the Earth's gravitational well, avoiding any expansion outside.** Therefore we should plause the new energy source, since it could provide a breath from the global crisis, and allow to develop the civilian astronautic industry.

But we shall be even more determined, indicating the absolute imperative of the expansion beyond the Earth boundaries.

As to the food resources and metal raw materials, our analysis should not change: if we (seven billion) are not running out right now we (7,5 - 8 billion) will, in few years. The markets already perceive it, and this is a

strong factor of the current crisis. Always we should recall, when talking about humanity size, that the huge number and counting is by no means a disaster. For astronautic humanists 7 billion humans and more are the indispensable platform of intelligences needed to try the step to the stars.

The WorldFish Center and the International Food Policy Research Institute estimate that fish production would have to double in the next 25 years to keep up with population growth. They say this is virtually impossible, and warn the shortfall could have disastrous consequences for more than a billion people in developing countries[3]. From the FAO report on fisheries and aquaculture, we learn that the global fishery in marine waters reached its maximum production in 1995, and is progressively declining.



"The State of World - Fisheries and Aquaculture 2012" FAO Fisheries and Aquaculture Department[4]. The aquaculture and sea-farming is growing, that's true.

In general, we can observe that, the longer the delay in moving our development to space, the more the wild life will disappear from planet Earth, not only on ground, but in the sea too. Whatever our personal feeling toward environmental issues and cares, we know that eliminating any wild sea area would be a quite critical milestone in human history on this planet, of which we are unable to calculate the consequences.

1.3 Human impact on biosphere and the risk of civilization implosion

What we should however observe is that the quantity of (Earthling) available energy resources is not the only variable, in the civilization implosion equation. A worsening of environmental conditions could be a catalyst of the definitive crisis, combined with the other agents we already analyzed several times. And methane is maybe more dangerous than oil, from the environmental point of view, being a true green-house gas. At this purpose Prof. Carlo Rubbia maybe 25 years ago proposed this concept: "there is not such thing like a clean and not polluting energy source". Any source, if applied at mass level, requires a price, in terms of pollution and environmental decay, including Earthling solar cells, that would cover huge ground superfices with black panels, making the ground unfertile. Neither SBSP to feed Earth would be an exception, since it would require hundreds of unmanned satellites again, further polluting orbits, and concentrating on Earth a huge amount of energy (increase of pressure).

What all analyzers never consider is that, for feeding seven billion people' basic needs and development needs, and the highest Maslov needs (since we are humanist, and consider all humans have equal right to happiness and self realization) whatever energy source should be exploited at mass level. And this planet,

[3] http://news.bbc.co.uk/2/hi/science/nature/2381559.stm
[4] http://www.fao.org/docrep/016/i2727e/i2727e00.htm

as observed by Hawking, Lovelock and many others, will not support it. That is the fundamental rationale for moving our development outside Earth atmosphere: release the pressure on Earth, give hope to the people, move our great number in a bigger ecologic niche.

This concept was already proposed by Dr. Marco C. Bernasconi in his 1997 paper "Why Implementing the Space Option Is Necessary for Society"[5]. From the abstract of that paper: *"On a planet soon to host a ten-billion population that will impact the biosphere's workings as never before, at a time when many governments and organizations see the virtue in the management of scarcity, musing on the origins of life and of the Solar System can hardly be expected to be invested with high priority. The Space Option arose from the analysis of the issues confronting humanity. In reviewing the material needs of the human population in the near future, the analysis finds that the impact on the biosphere will perforce be much larger than it usually seems to be acceptable to assume."*

So, the problem is not the availability of energy sources, but ***our impact on the biosphere***. Considering the concept of biosphere and our impact on it, we are not just talking about nature, we are talking about the fusion of Earth nature and human culture, including everything: natural environment, economy, industry, technologies, development, crisis, arts, feelings, psicological mass tendencies, movements, fashions, energy, food, agriculture, jobs, hope, desperation, money, environment, raw sources, etc... The collapse of Biosphere can be initiated by any of the above listed variables and conditions, quickly involving other variables and conditions, in a kind of nuclear reaction.

Should the Earthling biosphere collapse, it would be a terrible catastrophe.

Should the Earthling biosphere collapse before civilization had assured its survival elsewhere, that would be an unrecoverable catastrophe: end of humankind.

Our bet is to ignite the space renaissance in time to avoid both such catastrophes. To do that we could choose to politically "ride" some of the popular bogeymen of these years, like the ones advertised by Mr. Al Gore.But our duty, as a philosophical association, is to be scientifically rigorous, and our agnosticism about the theory of the global warming remains the most correct position, since we never want to contribute to deceive the people.

Will the space revolution create million jobs? During this century, only a part of these jobs will be *phisically* in space. They will be mainly on Earth, if civilian astronautic will gain momentum. As already mentioned, a further Earthling industrial development will increase the pressure, and what we called "metaphysical warming" will worsen, for sure. But this is a risk we cannot avoid, if civilization wants to have a chance to go ahead. A risk, connected to a project, can be managed. The big risk of remaining confined to the ground, missing any project, would be thousand folds bigger and worse.

1.4 However, a kind of space race is under way

The current situation is characterized not only by bad conditions, that is, the worsening of the global crisis. Some quite positive events are also occurring.

In our theses we analyzed a new social subject: the influence of excellent entrepreneurs, born of the electronic revolution and mass information systems, with a sharp vision of the future, is growing more and more important. Some of the key themes we identified are taking place in the real world: visionary and passionate entrepreneurs like Burt Rutan, Richard Branson, Elon Musk, Robert Bigelow, are making a

[5] http://www.spacefuture.com/archive/why_implementing_the_space_option_is_necessary_for_society.shtml

difference. SpaceX cheap access to orbit and asteroid mining being explored Planetary Resources, to name just two.

The region where SRI decided to create our physical headquarter, Boulder Colorado, is an area where the new space industry is growing up, with hundreds of old and new companies.

On May 31 2012, SpaceX successfully completed the historic mission that made Dragon the first commercial spacecraft in history to visit the International Space Station. Previously only four governments — the United States, Russia, Japan and the European Space Agency — had achieved this challenging technical feat.

Average cost of a Dragon/Falcon 9 mission: 133 million. Compared to the shuttle cost (500 million), and the European ATV cost (600 million), it is a reduction of the cost to orbit around 4 times[6]. And the goal announced by Elon Musk is less than 3000 USD / Kg.

China just flown the first woman to the Chinese Space Station, and plans to orbit a bigger manned space station within 2020. More important, Chinese expenditure i n space is double its military expenditure. China clearly considers expansion into space as part of the social development process, something that the western governments seem to be light years away from. We should not be happy, since the Chinese government is the same that is destroying Tibetan culture, but its space policy should be taken as a sample by the western governments.

On another layer the X-37B-OTV-2 (NASA's unmanned Orbital Test Vehicle), reentered few days ago after 469 days in orbit, and landed automatically. The military seem to keep clear in mind the strategic relevance of space, and the high importance, in the future, of orbital vehicles capable of manouvring very much better than the current machines.

However, civilization in general is demonstrating its quite primitive status of awareness of the seriousity of the current situation, and the huge risk of an unrecoverable shift back in history.

Though nobody gives to it the proper relevance (except the small patrol of the astronautic humanists), a kind of space race is ongoing, and nobody – at least in the western world – is concentrating the proper amount of public and private money in it.

The themes of space tourism and commercial space flight are now discussed very much more, in a number of places where they were taboo only a few years ago. For example, I remember in 2006 I was participating in a presentation of a UAV experiment at CIRA (a branch of Italian Space Agency). I made a quick intervention talking about SpaceShipOne and the low cost access to orbit, and it was a kind of scandal! Nowadays they are inviting us to hold speeches about space tourism at their events.

Our strategy, sketched in our Issue I paper, and coming from our perception of the world, can be largely confirmed. Our perceived world is the Solar System, and it extends to the surrounding Oort Cloud, made of trillions of comets, providing water and basic components of life in the whole Solar System, while Asteroids contain almost pure metals and other minerals. Exo-water means exo-oxygen, and everything needed to support human life and other Earthling forms of life that will accompany us in our expansion.

Our strategy, in the current critical age, must be focused to ignite the human exo-development:

- sharply reduce the cost of reaching orbit (key to everything following)

[6] http://en.wikipedia.org/wiki/Comparison_of_orbital_launch_systems

- focus on Civilian Astronautics
- protect and develop Earth's orbits, which are our interfaces to Cosmos
- master the orbital environment, that will be our greater home, for much of this century
- progressively use exo-resources, from Moon and NEA, to develop the Earth-Moon infrastructure
- use part of the orbiting Space Debris to build the Orbital Infrastructure
- develop SBSP research and demonstrators to feed space customers, in closed sinergy with Civilian Astronautics (SBSP should boost astronautics, and not to create some new thousands tonns of space debris)
- move more public money from military to civilian space activities
- support the shift of investments into the new space industry.

Our four years political agenda (now three years), for bootstrapping a true exo-development maintain its entire validity:

a) cutting the cost to orbit, suborbital and orbital space tourism, industrial development of the Moon and the Near Earth Asteroids; space based solar power
b) stimulate the growth of a new mass space industry - choosing a few suppliers was the old (agencies') method; we must now stimulate the growth of a new mass space industry, oriented to the market (no longer to agencies)
c) International Space Investment Funds
d) tax discounts and friendly financing for the emerging space industry
e) wide international cooperation, for a peaceful space development.

2 One year after the first SRI congress, a due balance of our action

If our analysis was confirmed, and there is even more evidence that the solution we proposed is the sole solution, we cannot be so proud about what we have achieved – or we could better say what we haven't achieved – in the past year.

Btw, June 2012 was a milestone, foreseen by our four years agenda[7], for checking the status of the SRI Projects. Our 2011 – 2015 agenda was the following one:

- July 2011 - SRI Projects kick-off, 2011 registration campaign kick-off
- January 2012 - Media advertising campaign, Incorporating the SRI US chapter
- June 2012 - SRI Projects check, 2012 registration campaign kick-off
- January 2013 - Media advertising campaign, with first data issued by the SRI Projects
- June 2013 - SRI Projects results evaluation, dissemination and decision about follow ups
- January 2014 - SRI Projects issues dissemination, development of children's projects
- June 2014 - "Medici Space Foundation" building first steps
- January 2015 - "Medici Space Foundation" project check
- June 2015 - SRI second congress, "Medici Space Foundation" incorporation

We have to acknowledge that the main goals of the passed year were not achieved.

The registration campaign never started. The media advertising campaign never taked off either. We just started few weeks ago to re-take the path of the SRI US Chapter incorporation.

[7] http://www.spacerenaissance.org/SRIC/SRIC_ISSUE_I_the_SRI_program_2011_2015.pdf

We completely failed the public action about some key themes, e.g.: "space debris, human life and health protection against hard radiation in space and low/zero gravity, astrobiology in general, exo-agricolture and exo-farming, Near Earth Asteroids capture and mining"[8]

More in general, we were rather absent from the public scene, and we largely failed, so far, to fight the misinformation and the false metaphysics in the real society. Our political initiative was near zero.

3 Our tasks, revised

We identify the main problem of the globalized society to be the huge lack of awareness about the risk of implosion of the civilization and about the only possible solution, expansion outside our mother planet.

The main guidelines of the SRI action, during the three years remaining before the 2nd congress, are therefore the following ones:

a) To increase awareness of the need for a space renaissance in society
b) To help the development of the civilian astronautic industry and markets
c) To raise the hope of the people, in the huge possibility to exit the crisis, and retake a path of social growth.

It is our duty to translate the above guidelines in concrete programs and agendas.

In our 2011-2015 program we considered the "Medici Space Foundation" as the last step, to be initiated after SRI had achieved a good public visibility and reputation.

Our three projects (CRAM, BSID and VOSS) were intended as means, to reach the needed visibility.

One year after those decisions, the situation sees two never started projects, and the VOSS project initiated, but:

(i) its propriety is claimed by another entity, thus we cannot consider it a SRI project
(ii) its methodology and goals are not the ones decided by the SRI Congress.

Time is of major importance, and we can no longer consider a two-steps-strategy -- first get visibility, then do concrete work – though the three projects decided by the SRI Congress were however, and still are, worth developing.

We shall start immediately to make the real work, to help the development of the civilian astronautic industry and market.

Our political setup, to unify effort, both public and private, keeps on being the best possible strategy: channeling private and public investment on the *baby* new space industry.

Considering our still few volunteer resources, and the extreme urgency of our tasks, we propose the following essential agenda.

[8] http://www.spacerenaissance.org/SRIC/SRIC_Final_Resolution.pdf

1) **Policy**
    a. create a team of economist and financial experts, with the goal to design the Space Investment Fund
    b. draft a proposal to all the new space entrepreneurs and commercial dealers, to associate in a consortium and subscribe letters of intent, like the following: *"when the fund will be created, with proper trusted warranties, I will subscribe xxx USD to contribute to the seed capital"*
    c. define few essential key and easy concepts, to support the campaign (some were proposed by Patrick some months ago):
        i. *Safe, low-cost space travel is necessary for a peaceful and prosperous future.*
        ii. *The western way of life can be preserved only expanding into space.*
        iii. *Safe, low-cost space travel is necessary also to provide unlimited opportunities for employment, while preserving Earth's natural environment.*
        iv. *Humans are using more and more the resources of planet Earth, it was calculated that our civilization would need 1,5 planet Earth or more*[9]*: so we must soon start to use the unlimited resources of our Solar System, or the damage to Earth's environment, and fighting over Earth's resources, will destroy civilization.*
        v. *In order to use space resources we need safe, low-cost space travel.*
    d. move the proposal to all the potentially interested partners (part of the campaign to launch the new SRI US Chapter)

2) **Campaign.** Concentrate our efforts on the following goals:
    a. create the SRI US Chapter
    b. a SRI US Chapter **launch event**, within 2012, in Boulder Colorado
    c. create the new SRI website, with a blog
    d. run the 2012 membership registration campaign
    e. create a Space Renaissance International voice on Wikipedia (Gail is already working on this).
3) **Projects.** Development of SRI projects and/or participation to other projects shall be carefully traded-off, and decided only in case we have the needed minimal resources, i.e. a project manager and a minimal team (2 or 3 persons).
    a. **CRAM -** Provided that the above conditions exist, priority will be given to the CRAM (Civilization Risk Assessment and Management), with the following setup:
        i. **Alliances**: Lifeboat Foundation (having a huge discussion in their forum about threats to civilization), and maybe KSU, who could hold also an academic interest in it; also note that KSU is launching a Space Philosophy discussion forum, something that could somehow merge with the SRI philosophic chapter, and maybe constitue the seed of the Space Renaissance Academy (see the SR Manifesto).

[9] http://www.footprintnetwork.org/en/index.php/gfn/page/world_footprint/

ii. **Methodology**: requirements of the project shall be captured, and a draft statement of works to be done; such a document will be proposed to universities and research entities, to build a working team for the development of the project; money will be collected among sponsors, in order to give birth to prizes for university students

iii. **SRI goals**: create a scientific evaluation of the global civilization risk, especially if we remain confined within the planetary limits; expand SRI's philosophy and influence in the academic world; get meaningful and prestigious support in the academic world.

b. **VOSS –** See the dedicated resolution about the SRI participation to the VOSS (Virtual Orbital Space Settlement) project.