The Space Renaissance International 1st Congress

2011 June 25th, 26th, July 9th, 10th

Rev. 7, June 23th, 2011

ISSUE I – our philosophical understanding of the status of civilization and the SRI political program 2011 – 2015

""Assuring survival, employment and a future for all of our children by bootstrapping the Solar Civilization."

1. History of the Space Renaissance International

The Space Renaissance was conceived in June 2008 at the Convention titled *"Colonizing the Moon and the Near Earth Asteroids for a New Renaissance"*, held in Italy at Belgirate, lago Maggiore, by Technologies of the Frontier and Space Future.

The Space Renaissance Initiative was created online in late 2008 and developed during 2009. We issued several texts including a letter to G20 in London, 30 March 2009.

In 2010 the Space Renaissance Initiative incorporated the Space Renaissance International as an international association registered in Torino, Italy. The main goal decided by the assembly of the former SR Initiative was therefore achieved.

In 2011 we intended to hold a big congress in the US, but our organizational and financial powers were not enough. We therefore decided to hold an online congress, and to refocus our priorities from the huge program described in the book *"Three Theses for the Space Renaissance"* to a couple of projects, to be approved and kicked off during this congress.

Such projects will be the first step of our world-wide campaign targeted to gain a higher visibility and establish the Space Renaissance International in all the countries of Earth.

2. Strategy for space industrialization

2.1. Downsizing the cost to orbit is primary key

With reference to the great address given by Jeff Greason to ISDC 2011, a brief point on strategy is necessary.

For many years, even before the founding of SRI, the strategies of the main space agencies appeared to be:

- ESA strategy = mainly oriented to Earth (Earth observation, telecommunication, science); ESA never developed a space human transportation vehicle (the Hermes space shuttle was cancelled in 1993)
- NASA strategy = science and exploration (one step ahead with respect to ESA, but not enough); after landing to the Moon, void of a long term vision and goals

We reaffirm our strategy as space industrialization. It doesn't mean to stop science and exploration. It means that priority shall be given – not just by the new space community and the space movement at large -- but by the whole space community (including agencies and traditional space industry) to space industrialization, starting from the Geo-Lunar space. The very first step on such a road-map is downsizing the cost to orbit. This could appear a tactical goal, but it is a very strategic one. If we do not state it clearly, any misleading concept could be still pursued, diverting public money and private investments from the very important goal: downsize the cost to orbit. Summarizing the SRI (near term) strategy:

- downsizing the cost to orbit (very preliminary urgent step)

- space industrialization (settling first in the Geo-Lunar system, begin living and working over there)
- conveying public support and private investments on the new space industry
- urging governments to develop Space Based Solar Power
- developing a space policy harmonizing the interests of the people of the Post-Industrial, New-Industrial, and Pre-Industrial countries

If we don't state point one, we could be viewed as supporters of the old space agencies policy.

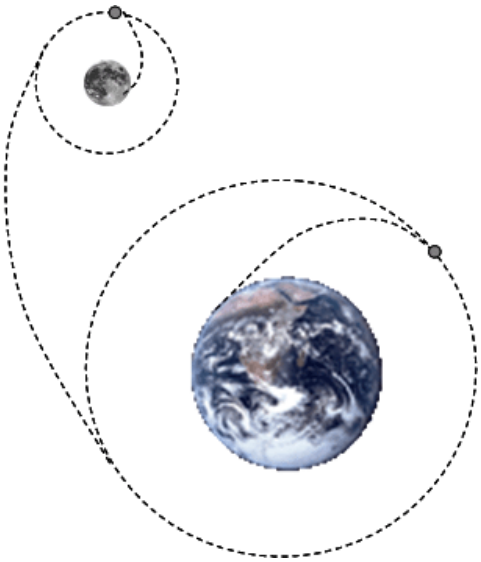
If we don't state point two clearly, we could be viewed as just utopian and inconsequential space advocates.

If we don't state point three clearly, we will not really help the development of the space renaissance strategy.

Developing a strategy shared by all of the Earth's people: if we don't commit to point four, we may appear to focus on the needs and concerns of only a few of Earth's societies and ignore others.

2.2. Refocusing our commitment to astronautics, i.e. human space flight

2.2.1. The Methaphysics of Astronautics: 1950 – 1970

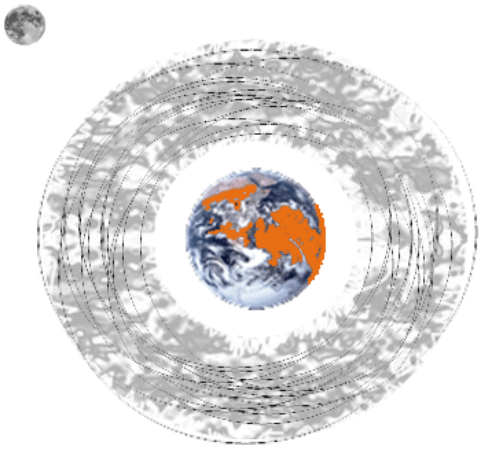


All of these Earthling Humans flew in space between 1950 and 1970: Yuri Gagarin, Alan Shepard, Gherman Titov, John Glenn, Andrian Nikolayev, Pavel Popovich, Valentina Tereshkova, Joe Walker, Vladimir Komarov, Konstantin Feoktistov, Boris Yegorov, Alexey Leonov, Gus Grissom, John W. Young, Gordon Cooper, Pete Conrad, Frank Borman, Jim Lovell, Walter Schirra, Thomas Stafford, Neil Armstrong, David Scott, John W. Young, Michael Collins, Vladimir Komarov, Bill Anders, Yevgeny Khrunov, Neil Armstrong, Buzz Aldrin.

Just 20% of the world was industrialized, and the Earth human population in 1970 was around 3.7 billions.

The Space Ocean was still clean and pristine, nothing else that meteorites crossed the intrerface between Earth and Cosmos. The strategy and focus of the human space activities was Astronautics, though the main rationales were the cold war between the two main powers.

2.2.2. The Methaphysics of Astronautics: 1970 – 2000



During 30 years, from 1970 to 2000, Earth's orbit was "populated" by iron boxes, for Telecommunication and Earth Observation. The Moon was forgotten, and industrializion kept on growing up on only on the surface of our mother planet.

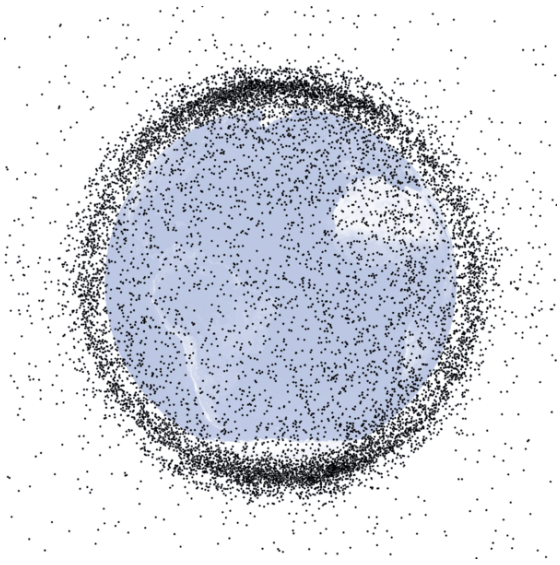
Earth human population in year 2000 reached 6 billions. A "cathedral in the desert" was deployed, the International Space Station: expensive, orbiting on an orbit useless to be used as an intermediate station, doing less more wrt what the MIR previous station already did.

The Space Ocean near Earth was filled of garbage. We threated it not differently than the Earth Ocean: it is so big, we can throw all of our wastes overthere.

The strategy and focus of human space activities was: Earth &

Business.

The estimated total mass of space debris is about 5,500 tons. A realistic view o the LEO space debris in the following picture (from Wikipedia).



2.2.3. The Methaphysics of Astronautics: 2000 – nowadays

During the last 10 years, Earth's orbit kept on being filled, by thousands of satellites for TV, Earth observation, scientific payloads.

Though many papers were written about space debris, none initiative was taken to begin a reclamation of the Earth's orbit.

The main space agencies are in deep crisis, and we don't know what to do with the Moon: many think to "populate" it with robots...

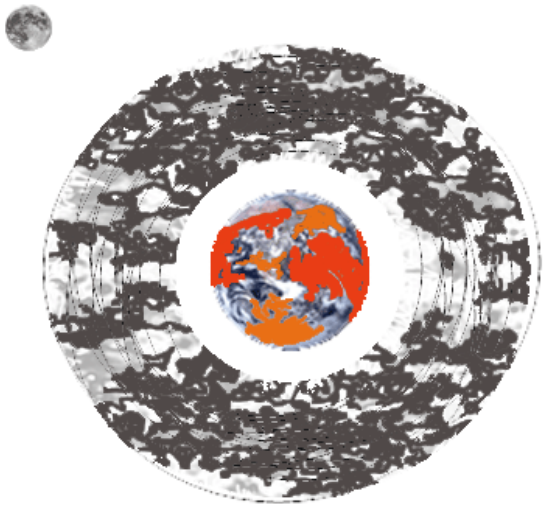
India, China and Brazil begun their industrialization, and rapidly aim to the first places, as economic powers.

Earth human population will pass 7 billions before the end of 2011, and the rate between births and deaths is 2,34. Fertlity 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, banksters.

The Civilization is in the middle of a process we could call *"Methaphysical warming"*, a mix of:

- lack of resources and energy,
- people's rights demand,
- environmental decay,
- resource wars,
- growing population,
- global industrialization,
- fear of the future (waiting for the huge holocaust, or *armageddon*)



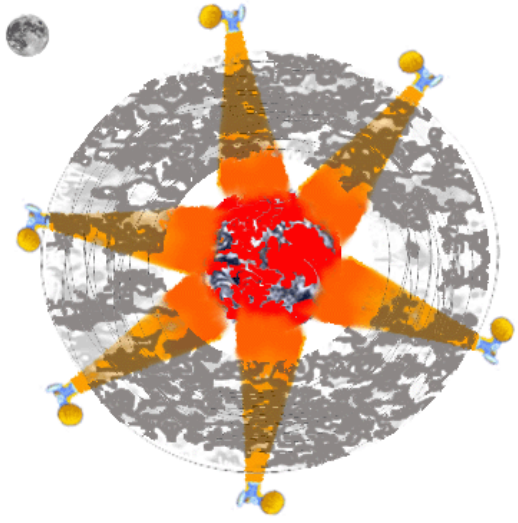
2.2.4. The Methaphysics of Astronautics: what do we need?

Do we need more energy and resources in order to continue our development (only) on Earth?

That would just accelerate the implosion of the civilization, and not to continue its development.

What we really need is to begin moving our development outside Earth, begin to use exo-resources for the space infrastructure building.

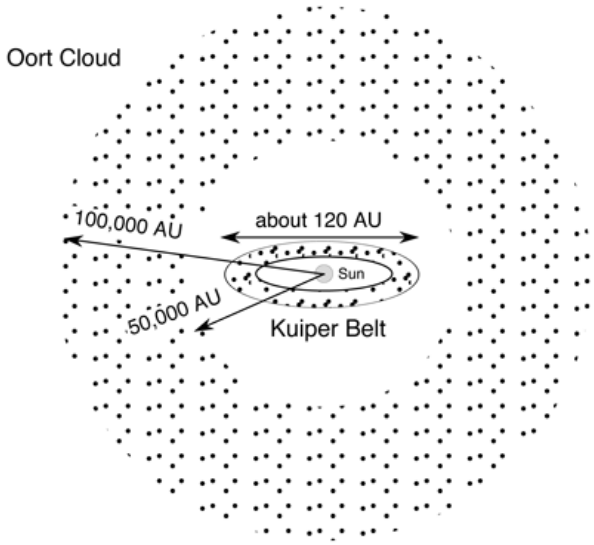
What we need is to finally ***bootsrapping an exo-development***!



2.2.5. The Strategy of Astronautics

Our strategy comes from our methaphysics (i.e. perception of the world).

Our perceived world is the Solar System, and it extends to the surrounding Oort Cloud, made of trillions cometes, providing water and basic components of life in the whole Solar System (last info says that water was detected even on Mercury!), while Asteroids contain almost pure metals. Exo-water means exo-oxygen, and everything needed to support human life and other Earthling forms of life that will accompaign us in our expansion.

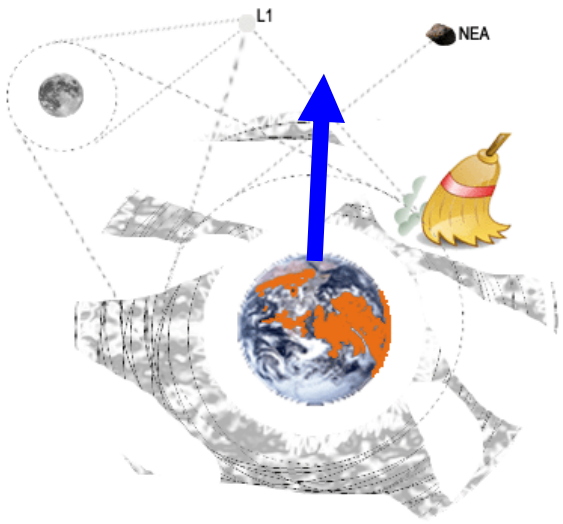


The Oort Cloud and Kuiper Belt (not to scale!). Extent of the two comet reservoirs are indicated. The nearest star is almost three times farther out than the Oort Cloud.

When we talk about environment we are not bounded to the environment of this planet: we can and shall take care of, and earn life supporting resources, from an environment 200,000 Astronomical Units diameter large!

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

- downsize the cost to orbit (key to everything following)
- focus on Civilian Astronautics
- take care of the Earth's orbit, our interface to Cosmos
- master the orbit environment, that will be our greather home, in this century
- progressively use exo-resources, from Moon and NEA, to develop the Earth-Moon infrastructure
- use part of the Space Debris to build the Orbital Infrastructure
- develop SBSP firstly to feed space customers
- develop SBSP *following* Civilian Astronautics, *not before*, and *not instead* of Civilian Astronautics
- move more public money from military to civilian space activities
- support convey of investments into the new space industry



3. The status of civilization

As we wrote in our theses, the growing complexity in a closed environment leads to an unsustainable increase of pressure, as testified by all the social, economic, environmental, political indicators:.

As we wrote in some recent newsletters, the signs of what Stephen Hawking called "implosion of the civilization" are already visible, on a path of failures and disasters, both natural and caused by the human risk assessment immaturity.

The Chernobyl disaster represented the ideological bankruptcy of the Stalinist Soviet regime and its ideology. We are in total agreement with that interpretation. 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 the liberalist ideology.

The social movements triggered by the North African revolutions express a double awareness. First, people around the world ask for more democracy and an economic system allowing the reduction of inequality, while the current financial leadership is increasing inequality everywhere. Second, the so-called "Web 2.0" is revealing the social power of the *social* networks. That confirms the excellent intuition stated by Amartya Sen (Nobel prize for economics in 1998) that the spread of information is very much more effective than guns in spreading democracy in countries still subject to tyrannies.

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, 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 post-industrial countries. But such aims already knew a serious standstill with the global crisis initiated 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 seven billion civilization.

Nothing can solve the above problem except developing space travel and opening the space frontier. To date, however, both the governments and the world finance have refused to invest in this new frontier — to the amazing extent that, having walked on the Moon in 1969, Americans won't even be able to get to space later this year! The people of both the post-industrial and the new industrial countries have a strong interest to unify their efforts, in order to set the civilization on the right path: upward!

Summarizing, what our civilization desperately needs are the following items:

- more safety, to keep on developing the global economy
- new industries, to quickly replace the jobs lost in the global crisis, to avoid losing know-how and progress capabilities
- new resources, to allow the whole humanity to reach a better living condition, a full inclusive society and an enhanced ethics, without causing a collapse in a finite environment
- a true general cultural renaissance, that can be ignited only by the opening of the space frontier and the beginning of the human expansion into space

Such a process will be long and nothing is guaranteed, but of one thing we are quite sure: failing the opening of the space frontier there will be no future, and our civilization is condemned.

Failing any substantial improvement of the above conditions during the next 10 years, the scenario sketched by Stephen Hawking and James Lovelock -- human population falling to one billion or less during this century – will be very likely.

We perfectly know that one only true *lifeboat* exists, in this age: downsizing the cost to orbit, and launching the space economy revolution.

Having clearly presented all of the strategic middle and long term goals in our Philosophical Manifesto, the SRI indicates the following themes, as priority for the next four years: (i) space tourism – both suborbital and orbital; (ii) space based solar power; and (iii) Geo-Lunar region industrialization, as the three main leverages suitable to begin building the space industry, market and economy.

The new space industry and its business figure had an exciting growth, after the victory of X-Prize by Scaled Composites in 2004, from around 20 up to 100 companies and growing. But that could be still too weak to reverse the crisis and re-launch the economy in time to avoid a general bankruptcy. That's where the governments and public money keep having a key role, not only promoting space science and exploration, but

also supporting the private industries in their dramatically decisive task of opening the Earth orbit to private enterprise!

The task of the SRI and of the whole space movement for the next 4 years is then clear and simple: we must quickly elevate the public awareness of the absolute urgency to open the space frontier.

4. The main general needs

The main general needs of the civilization can be summarized as follows.

4.1.1. Philosophy

a) all of the existing ideological wings are a residual of the past century, and there are no signs of new ideological concepts, compared to the challenges of this age

b) neither *utopian socialism* nor *utopian liberalism* exist in the real life; in real life we experience pitiful caricatures of utopias -- *real* socialism and *real* liberalism -- ideologies of such low quality that one wonders how we can repeatedly be so stupid and keep on voting for Utopia, then accepting what a quite insufficient political personnel is dispensing to us in reality

c) the right wings – in different measures, due to different regional cultures, religious and ideological climates – are irresponsible, unscrupulous business oriented, Mafia like, and often blatantly immoral

d) the left wings – with due differences as seen above – are generally hegemonized by greenish nihilist ideologies, orphan of socialism, and often still aimed by obsolete class hatred

e) the best intellectual clubs – sadly including so far the Space Renaissance! – appear unable to escape endless discussions in which far distant science fiction items are mixed with feasible steps in the good direction

f) we, as SRI, could make the difference, and begin to finally make available a new ideological pole, oriented to the future, bearer of strong humanist values, only if we will be able to agree on a minimal shared agenda, and seriously start to move it into the society.

4.1.2. Energy

a) oil, coal and nuclear power, if developed at the scale needed by our seven billion civilization, pose a too high environmental risk, as demonstrated by recent and old events

b) the so called 'renewable' earthly energy sources, such as photovoltaic, wind, and other popular alternatives, are not economically competitive with the traditional sources; however they will not be quantitatively enough to support the industrial development needed by our seven billion humans civilization

c) some promising new energy sources have recently appeared, such as shale gas; that will be a low cost competitor of the renewable energies, but on the long distance it doesn't represent a true alternative, since it still keeps the whole thermal burden inside Earth atmosphere

d) the sole true alternative, on a long distance, is Space Based Solar Power, but we shall be realistic about SBSP

e) before SBSP can be economically interesting and competitive with other sources, the Earth-Moon infrastructure must be built and operative

f) we should be aware that the main market of SBSP will be space customers; only when that market is developed, will SBSP be competitive also on Earth

g) given the above situation, SBSP is currently an item for governmental initiatives, more than for small and medium private investors

h) we praise the Japanese government, the only country who is making a true effort on SBSP, planning to fly a demonstrator in 2020, and a production plant in 2030

i) we believe that the recent disaster of Fukushima should encourage Japan to an even bigger effort on that road

j) we solicit governments – and possibly consortia of energy industries which accumulated high profits with traditional energy sources -- to follow the Japanese example, and open orbiting yards to build space power plants.

4.1.3. Safe industrial and civil development

a) the global economy is starving new industries, to quickly replace the jobs lost in the global crisis, and avoid losing know-how and progress capabilities

b) several nihilist ideologies, dominant during the last 30 years, suggest that humans are a cancer, that people are useless, just 'mouths to feed', and that any technological effort will make the planet's situation worse

c) in such a philosophical decay, youths are left to their own, without jobs and without future, prey of mafia, superstition and anti-science irrational beliefs

d) the above represents an intolerable *cultural risk*, that is properly assessed only by a very few, numerically insufficient, people on Earth

e) given the intolerable risks of a continued industrial development on one only planet, and the desperate need of new industrial development, our civilization must begin to expand into the solar system, as soon as possible. We are already paying an incredible delay of 50 years

f) the global economic development is blocked by the dominant closed world pre-copernican philosophy, and is so far caged by the most backward lobbies and bankers, still ruling among financial, oil and weapons sectors most of all

g) we state that the only new industry able to reverse the global crisis, and to create millions of jobs in a short time, is the new space industry that will develop the Geo-Lunar space industrialization, if duly financed and supported

h) we also state that people are resources, not problems, that the big number of humans is our true richness, and this will be proved when we expand into the solar system

4.1.4. A political agenda for next four years

a. the SRI will give priority, and call the whole space movement to give priority to, the following strategic development topics:
    i. downsizing the cost to orbit, using existing or near to existing technologies, concentrating investments and government support on the companies already working for such goal
    ii. suborbital and orbital space tourism
    iii. industrial development of the Moon and the Near Earth Asteroids
    iv. space based solar power

b. stimulate the growth of a new mass space industry - choosing a few suppliers was the old method; today we need to stimulate the growth of a *new mass space industry*, oriented to the market (no longer to agencies), many small and medium enterprises, enthusiastic space entrepreneurs, not just old industries who were used to depending on the *captive market* of agencies.

c. international space investment funds - encourage the creation of *International Space Investment Funds*, where all citizens can invest their own money for the sole truly worthy industrial enterprise: space colonization. Encourage the creation of all possible facilities to

allow the growth of the space funds, such as: 1% on credit cards, a small percentage on sport tickets, luxury goods, or anything can let people know what they are doing: donating small amounts of money for the future of our children!

d. tax discounts and friendly financing - such an emerging space industry should also be supported by public funds, to validate the new technologies for low cost and safe access to Earth's Orbit (remembering what Scaled Composites was able to accomplish in 2004 with just 30 million), giving tax discounts and financial help to all the small and medium enterprises that are developing technologies, systems and methodologies for astronautics.

e. a wide international cooperation, for a peaceful space development - all the world leaders both of already space faring Nations and Nations which aim to develop space activities, should run wide-scope international collaborations & initiatives for support and fostering a space based commerce & trade marketplace through joint projects and mutual support. In order to achieve such a goal, they should create and update an International Space-peace Treaty, for the peaceful development of space, and for banning of all weaponry development in outer space. For the US and other nations, to remove the political hurtles designed for preventing international collaboration and sharing of human collective intelligence in space exploration and development, such as the ITAR and similar rules.

f. sustainable space exploration and industrialization - in short, should we be courageous enough to implement the above outlined program, we will have a truly sustainable space exploration and space (industry & economic) development, and we will see millions of high-tech jobs (the jobs that are sustainable and have never before seen) to be created.

5. The program to ignite the Space Renaissance

5.1. The main SRI Projects

If the goals are clear, the means to achieve them are not as clear.

In our theses, we drafted a program based on seven steps:

Figure 1. The SRI Seven Steps Stragety

Though in our current condition it could appear a bit too ambitious, we should keep it in mind, since things could begin to run at a quite faster pace, if we would be able to move the right initial steps.

The registration campaign didn't give the hoped results, at least so far.

Therefore we shall anticipate step 2, work to enlarge our audience, and focus on the project as a leverage to get some grants by foundations which could estimate our initiative worth and useful, and some imporrant donations.

Having a budget, we will have the possibility to dedicate an amount of paid hours to develop the project.

The proposed projects – as will be detailed in Motion II – will be the following three:

a) the Civilization Risk Assessment and Management (CRAM) Project
b) identifying and defining the Best Strategic Space Business Development to ignite the Space Renaissance (BSSBD)
c) Feasibility study and design of a virtual O'Neill habitat, to be settled at an earth-Moon Lagrange Libration Point

5.2. The SRI agenda from 2011 to 2015

In the same time, the 2011 registration campaign shall start vigorously and reach the objective of 10.000,00 €,

With this money, we will finally have the ability to purchase some newspaper advertising, and make our message exceed the boundaries of the space community, to reach the real society, and begin recruiting sincere humanists there.

Our agenda for the next 4 years is the following one:

Date	Development
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	New 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

5.3. A growth setup for Space Renaissance International

The growth of SRI, during the next four years, cannot be continued in a casual and random style, as it has been so far.

5.3.1. Assets

We shall establish few but sure assets:

a) a better management of our web facilities, and possibly the creation of a blog

b) election of a general secretary, who will coordinate our efforts at international layer

c) organized initiatives toward some selected organizations, foundations, or communities that could be our allies and share some of our goals

d) take care of the 90 organizations joined to the SRI, running active collaborations

e) a systematic action targeted to group together the many supporters of the SRI in all the countries, allowing the creation of chapters everywhere

f) a systematic action targeted to join the whole space movement in the Space Renaissance International, in order the space movement can speak with one only voice on some shared goals.

5.3.2. Alliances

Talking about possible alliances, we point out the following:

a) foundations, owner of humanist principles in their mission statement should be our 'targets', trying to establish joint projects or, as minimum, to get grants to support our projects

b) scientific foundations, available to support our projects

c) universities, the help of which we should solicit for our projects; in universities we could also get interns, to volunteer in our projects

d) sectors of opinion movements, such as some environmentalist tendencies, as can be found e,g, in the US, when they are not against the human development nor science and technology

When talking with environmentalist movements, we should always keep in mind that we are asking them to share some of our goals (we don't claim they will 'marry' the whole of our program, of course, though we will welcome all individuals who will subscribe to the SRI).

We always have to point out the philosophical differences, before trying to agree on some shared points.

Signing the main philosophical differences will make some of them to reflect and maybe acknowledge the anti-human characteristic of many green pre-copernican concepts, based on the closed world philosophy.

Never being sectarians, we shall bear in mind that this is our mission, to spread a post copernican vision of the world.