

A PLAN FOR THE MERCANTILE ASTRONAUTICS

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GOALS OF THE POLITICAL PROGRAMME

- **Creation of a Terrestrial Space Found**
- **Development of New Credit Tools**, to manage Long Term Investments.
- **Creation of the Terrestrial Space Bank**
- **8x1000 of the Taxis Income to the TSF**
- **Fiscal Evolution**, toward **Thematic Taxes** and then **Investment Systems**
- **Development of the Orbital Transportation System for Passengers and Goods, Travel Services and Orbital Accommodations**
- **Development of Reusable Low Cost Launchers**
- **Lowering of the costs of the Space Technologies**
- **Introduction of the Astronautics and of the Astronomy in the programs of all the Schools**, of any order and grade
- **Institution of the Greater Earth University**, in all the Countries of the Planet Earth
- **Full enhancement of the value of all the human resources of the Planet Earth**
- **Institution of a new Terrestrial Political Leadership**, for the implementation of a strategic plan of real development
- **Development of the Mercantile Astronautics**



1. INTRODUCTION

1.1 Scope and purpose of the document

The present document is aimed to provide a first contribution for a political programme, able to lead to the development of the Mercantile Astronautics, and to the establishment of a new Terrestrial Political Leadership, functional to the above strategic task.

1.2 About the author and the received contributions

Adriano Autino is:

- A small entrepreneur, born and resident in the Northern Italy, supplier of software, Simulation and Hard Real Time Systems, system integration and automation integration activities, in the aerospace market.
- President of a small Internet magazine, Technologies of the Frontier <http://www.tdf.it/>, promoting the human activities on the frontiers of our world, first of all the space frontier.
- Co-founder of the Greater Earth Initiative <http://www.greaterearth.org/>
- Member of the Committee "Space Activities & Society" of the International Astronautical Academy.

The contents of this document are, in part, also the result of the e-mail discussion with many colleagues, among them some pioneers of the Mercantile Astronautics, namely Patrick Collins, Marco Bernasconi, Michael Martin-Smith, Dale Gray and others, participating and not to the forum of the Greater Earth Initiative. Due to time constraints, extremely short, it was not possible to agree on a collective document, but the author wish to say thanks to all the colleagues.

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2. THESIS FOR A NEW TERRESTRIAL LEADERSHIP

2.1 Concepts for an analysis of the social-economic world situation at the edge of the new millennium

2.1.1 The current World Political Leadership is not equal to its tasks

The current world political leadership showed several times not to be equal to the challenges that Humanity must face:

- a] Faced to the environmental and resources crisis, due to the growth of the human species vs. the limits of our cradle-planet, they were only able to devise the suicide plan of the sustainability in a closed ecological niche. While such niche is near to the exhaustion, like an egg when the chick is near to be born. According to the "sustainable" philosophy, the chick should now avoid to break the egg, avoid to born, to go back small, and wait/hope for the egg will re-create feeding substances.
- b] The current development strategies of the globalized world economy -- telecommunications, ecology, entertainment -- are just palliatives, targeted to collapse on themselves, if constrained in a Closed World frame, though globalized.
- c] The planetary economy is leaded by few lobbies, which rule the so-called free market as if it was their own thing, as a fortress to be militarily defended against the outcasts, pressing to enter the market.
- d] Such govern of the economy weights like a burden of gloom and suffocates any new entrepreneurial initiative on real development lines, caging since years the scientific and technologic research into cramped and "sustainable" tracks (i.e. not dangerous for the few hundreds of families, owners of the market).
- e] To the growing demand of emancipation of the underprivileged people, the world leadership answers with the closure and the military power.
- f] As a proof of the authoritarian strategy chosen by the current leadership, we attend to a remarkable increase of the military expenses. All the more disappointing after that the end of the cold war let us hope in a progressive disarmament, and a consequent diversifying of the saved funds to pacific development activities.

2.1.2 The death of the ideologies which led the human development since 500 years to date

- g] Both the liberal ideology and the collectivist one -- born after the discovery of the American continent, when new ecological niche became available -- were based on the paradigm of the development

on infinite resources. Reaching a numerical mass of six billions human beings decreed the end of such ideologies. To continue its growth, Humanity needs new ideological motors, and new resources.

- h] From the bankrupt of the real socialism the western society wasn't yet able to learn anything: our society conserves inside, and it is dominated by, bureaucracies and parasitical lobbies, both public and private, not less oppressive for the free initiative than the ones recently fallen at east.
- i] The western society keeps furthermore models of government based on power and fear, no more bearable at the edge of the third millennium. No authoritarian solution will allow to enhance the enormous human heritage: 6 billions intelligence's. The authoritarianism suffocates the development of the human dignity, without the conquest of a new dignity the Terrestrials could not help in any way the birth of the Space Civilisation.
- j] The political currents, still set-up to the old ideologies, aren't able to catch the real relevance of the current social phenomena, nor the subtended enormous possibilities.
- k] The right wings, both liberal and authoritarian, don't understand that the persons are resources, and not problems, thus they see some billions of people only as "mouths to feed", a weight for the society.
- l] The left wings see the problem of the migration flows and of the underdevelopment only in terms of welfarism and solidarity, as the underdeveloped people were anyway unable to understand, will, learn and negotiate.
- m] Both the approaches are racist, because deny, to some billions people, the dignity of thinking human beings. Both approaches don't see the great richness, the big potential of work represented by 6 billions human intelligence's.
- n] What can transform the persons from a weight to precious resources is a strategic investment, for a long period, in education and a development plan, powerful and well articulated.
- o] The dialectic between right and left is nowadays, itself, lacking of any propulsive character for the human development. It is timely that the Terrestrials aim decidedly to the Up, leaving at their shoulders obsolete and inconclusive dialectics.
- p] To the demand of emancipation and dignity coming from the underprivileged people, we must answer with serious proposals of work and development, and not with intimidation, arrogance and lagers, anyway masked.
- q] From the most evolved ranks comes a demand of individual emancipation, which develops itself notwithstanding the death of the ideologies that foresaw and theorised it. A series of prophets of the euthanasia, new-age gurus, suppliers of technologic toys, weak thinkers and minimalists give interested answers to such demand.



- r] Such cultural spur of the most evolved ranks often results in volunteer's actions, to mitigate the pains of the less lucky people.
- s] The new leadership must be able to fully receive this great social aim, to present concrete proposals, to help the initiative, the enterprise and the association, targeted to a big strategic plan; where the skills and the energies of the cultural terrestrial vanguard can be finally completely turned into account.
- t] **The new development ideology will be fully humanist, or it will not be.** It will put Man at the centre, its cultural and social development, through the astronautical evolution into a wider ecological niche, nowadays affordable to our technology: the Terrestrial Gravitational Sphere (Greater Earth) and then the Solar System.

2.1.3 The Space Agencies are fully subordinate to the dominant lobbies

- u] The Space Agencies, set-up by the military culture during the cold war period, not only have difficulty in stepping over the militarist culture, closed and inaccessible to the society, but are strongly under the control of the military lobbies.
- v] Such backward culture results in communicating only with governments and military hierarchies. This while the entry of private investors is invoked. The private investors, in fact, are requested to invest money without security, without any warrant about a Return of Investment.
- w] By the way we observe, in the culture of the Space Agencies, items useful for a space policy, which shouldn't be submerged by the nowadays market-majority options. We speak about systematic nature, to the safety and availability of the systems, to the high quality standards: a deterministic culture (different from the one of the stochastic entertainment systems) to be taken into account in a context where man will totally depend from his technology.
- x] The above contradictions are some of the main obstacles to really open the Space to Society, but not the only ones.

2.1.4 The Space Community: a privileged caste, closed to the Society

The concept of the Space as an arena only for the Scientific Research doesn't oppose the above-criticised logics, in fact:

- y] The yearly global space expense amounts to 25 US\$, and is totally supported only by public money, without that to the "investors" (the taxpayers) was warranted the minimum payback.
- z] Such process helped the constitution of a privileged caste, extremely conservative, of people convinced, even in good faith, that they are working for the future; while in the reality they contribute to stop the development of the Space Civilisation.
- aa] While they draw expensive, futuristic and fascinating, Mars's explorations, the world's economy risk collapsing for the lack of real

development guiding lines. Or: we keep on not realising the affordable steps, able to start a real new economy, while we keep on using only public money to deal with no return projects.

- bb] The times are nowadays ripe for the birth of the Mercantile Astronautics. We appeal to all the scientists, the technicians, the entrepreneurs, the lobbyists, all who understand this need: it is the moment to risk, to invest our know-how, our works and our money, for the destiny of our children.

2.1.5 The social bases for a new political-economic leadership

- cc] A modern and open leadership, able to indicate a strategic path for the pacific development on the Frontiers of our world -- first of all the Space -- must replace the current leadership, backward and authoritarian, though "dressed" of Politically Correct and progressive proclamations.
- dd] The new leadership must be able to acknowledge and give general application to the lessons coming from the so-called Third World. It should promote tools like the micro-credit (i.e. the Grameen Bank of Muhammad Yunus) and help in the best ways the access to the market and to the education of the excluded ones (according to the teaching of the Nobel Amartya Sen).
- ee] The new leadership must, very soon, to help the creation of new credit tools, suitable to manage long term investment, needed for the funding of the Space Enterprise.
- ff] Studies must be started on methodologies to transform part of the fiscal systems in investment systems, by popular shareholding, targeted to fund long duration projects.
- gg] The guiding principle of the new economic development will be the one to create, in peace and harmony, new economy, instead of ferociously share/compete for the existent.
- hh] The competition in a growing richness environment will be no more a death or life war, but a friendly social game. Even the greediest should then understand that the growth of the welfare in underdeveloped regions means greater opportunities of work and welfare for everybody, and thus they will anymore take care of crushing the new competitors as their birth.
- ii] All the market barriers and protectionism's will then drop out, and this event will help a much more open and generous use of the big previously accumulated capitals, really globalized. Such capitals will then be finally re-put in the cycle, re-invested to fund the new space economy.
- jj] The new economic and social development will have in the Mercantile Astronautics its strategic axis, strong and able to generate work and richness for centuries in the future.
- kk] The best teachers, the best scientists and the best entrepreneurs must lead Earth, not generals and bureaucrats.
- ll] The enormous growth of the small enterprises during the last 20 years, in the post-industrial



world, expresses a big demand of a really free market, without borders and without limits, functional to the growth and the emancipation of all the Terrestrials.

- mm] The social ranks emerged by the electronic revolution, the small and micro-entrepreneurs with low capital threshold, don't express a data of social involution and fragmentation, as the trade-unionist, statist and monopolistic bureaucracies seem to believe.
- nn] Such social ranks express, instead, an irrepressible demand of emancipation and liberation from the subordinated and alienated work, toward dimensions of creativity and self-realisation that would never be granted by the taylorist mode of production.
- oo] **Such social ranks are the potential vanguard of the new revolution**, the only that can lead the Civilisation to continue its development beyond the limits of our cradle planet.

2.2 The needed and urgent strategic set-up

2.2.1 To open the Space Frontier to the Society

The problem is urgent.

- pp] Humanity reached the critic mass needed to try the jump toward the stars, and substantially own the technologies needed to win the gravitational well and to create artificial life-sustaining ecosystems.
- qq] The demographic pressure, on one side take us dangerously near the exhaustion of the planetary resources *before* to have acceded to other resources. On the other side it keeps high the "steam" that can lead the Terrestrial Civilisation to give birth to the first Solar Civilisation of our history.
- rr] At the same time, our big and increasing number gives us the abundance of manpower and intelligence's we need to try the jump to the stars, the spurs for increasing markets and economies.
- ss] While the conferences of Rio, Cairo and Kyoto gave instructions to shut down the demographic pressure, it is of vital importance to control such pressure, but it would be criminal to shut it down. If the family increases, we should enlarge the home, not to kill the sons.
- tt] We need thus to open as soon as possible a valve, which allow the baby-solar-society to start inhabiting the space around our planet and the Moon, working in such space and start to exploit the enormous resources.
- uu] If we will not succeed in opening the system, and start acting in the context of a cosmic sustainability, or at least a solar system one, we will go toward tremendous authoritarian involutions; social upsetting and barbarianism, with consequent vertical drop of the technologic culture and of the possibilities of scientific research, with a total collapse of the economy.

The ones speaking of a new middle age will then be, probably, still optimist.

- vv] The space option, the opening of the space to the society, is thus not at all an option, but an imperative.

2.2.2 To help the private investments

To help the entry of an increasing number of private investors and small savers in the space enterprise, we need a strategic set-up far to come, in the policy of the leader governments and of the space agencies.

- ww] The activities to be promoted as priorities are the "transitory" ones, i.e. able, by itself, to lead to a payback of the investments in reasonable times, even if not very short: the Mercantile Astronautics, the Space Tourism, the Solar Power from Space, the Low Cost Reusable Launchers, the Orbit and Lunar Hotels, Orbit Hospitals, etc...
- xx] The focus of the legislators should be moved to the definition of property rules and rights in the extraterrestrial space.
- yy] Furthermore, it is needed a verification and re-clarification of the human rights and fundamental freedoms, in the new context of the space frontier.
- zz] It is also needed to set-up some tools for the democratic management of the activities on the new frontier, which allow all the Terrestrials to take part in such activities, minimising the risks.
- aaa] We should also set-up new credit tools, suitable to handle long term investments, a Terrestrial Space Bank, some Investment Funds targeted to finance the space enterprise.

2.2.3 A long term Education Program

- bbb] The space should become integral part of our life and our culture, starting from the school programs of every orders and grades, in which the teaching of Astronomy and Astronautics must be inserted.
- ccc] We must create schools and Space Universities, or Universities of the Open World, or of the Greater Earth, in all the countries of Earth.
- ddd] The long term education plan, if seen in the correct light of the investment for the future, will lead to enormous returns, in terms of growth of economy and richness.
- eee] The true richness, in fact, is not money -- that can be burnt billions in few days by a stock crisis -- but the potential of work and the technology: both will exponentially grow up by means of education investments.
- fff] Also the education program -- as well as the development plan of the Mercantile Astronautics to which it is inspired -- needs new credit tools, to handle long term investments, to help the entry of private investors and small savers in the project.



3. ITEMS FOR A 30 YEARS DEVELOPMENT PROGRAMME

3.1 To populate the Greater Earth

3.1.1 Programme items and goals

- To build up the space infrastructures,
- To pay back the space investments,
- To help the opening of the frontier to society, giving priority to industrial themes, able to carry a return of investment in reasonable time

3.1.2 Transitory themes

- **Passenger and Goods Orbital Transportation and Travel Services** (including: Earth to Orbit, Earth to Earth, Orbit to Orbit, Orbit to Earth)
- **Orbital Accommodations** (also re-using waste orbiting materials, like the shuttle's big fuel tanks)
- **Reusable and Low Cost Launch Vehicles**
- **Lower Cost of Space Technologies in general terms**

3.1.3 Promotion items

Anyone can go to orbit, there's no need for special selection or training!

The cost of developing a passenger transport industry need be no more than 1 year of NASA's budget or less!

Such an industry will grow into the largest space activity, and is the only activity currently foreseen that will repay the governments' investment in space to date!

3.2 The Resources of the Greater Earth

3.2.1 The resources

- **Solar Power**, the real key of any development plan (to be collected in space by means of satellite photovoltaic plants, and redirected to both Earthly and Orbiting Customers by means of microwave beams)
- **Earth geologic Monitoring, Environmental Monitoring, Human Defence against Natural Cosmic Events** (like asteroid and comet impacts)
- **Use of Asteroids and Near Earth objects** (which are precious reserves of raw materials, to get construction materials, oxygen, water, ground for agriculture, metals and many useful substances)

- **Several "NO mass" products** (position [Remote sensing, GPS, telecommunications]; Bandwidth [GPS, telecommunications]; vacuum, radiation [energy source for Remote Sensing, GPS, telecommunications])
- **Solid goods**, as Cheap Access to Space improves (ultra light weight materials, aerogel, medical templates for viruses and material science)
- **Naturally concentrated orbital materials** (the equivalent of a mine developing a vein of gold)
- **The Moon** (both as resources reserve and as solid ground on which to build solar plants, industries and farms)
- **The advantages, in general terms, offered by a weightless and frictionless environment** (once out of the Earth gravitational well, the transportation costs are not comparable not only with Earth to orbit, but also with the earth surface, for instance; and the navigation conditions are the same near Earth and in all the Earth-Moon space, for instance)

3.2.2 Programme items and Goals

- To publicise the space resources, eases and opportunities
- To power on the space frontier.
- Solar Power from Space is a fully renewable energy source, constant, clean, abundant and can replace all the current pollutant terrestrial fuels! It was flowing in the space for billions years, and it will for other billions years! It will not make any difference whether we profit or not of it!
- Raw materials of asteroids, comets and moon: a fully new richness, nothing to be extracted from our exhaust planet!
- Incoming asteroids and comets: transform a potential danger into richness!
- Out of the earth gravitational well there's an easy world, where the transport of people and goods is very much cheaper than on the earth surface!

3.2.3 Customers

Since the above analysis and goals are not enclosed, actually, in any outreach programs, we call for a big worldwide campaign to be organised on such information frame.

We ask the Space Community (organisations and individuals around IAF, IAA, Space Agencies, and all the pro-space organisations and information organs) to carry on the above toward all the media and information channels of the planet Earth.

We ask the Media Operators to learn the basic about the space resources, and to inform all the Terrestrial



about the abundance of resources which are waiting just outside home.

We ask the Private Companies to exercise their marketing functions and to draw business plans on the exploitation of the Space Resources.

We ask the Mercantile and Passengers Navigation and Air Companies, skilled on the difficulties and opportunities of the earthly and marine navigation, to reflect on the opportunities of the space navigation, and to prepare plans to extend their activities there.

We ask the Oil Supplier Corporate, to consider the opportunity to become energy suppliers, to extend their plans and activities to the space.

We ask to all the Private Industry, to develop the necessary project departments and know-how, in order to profit as soon as possible of the opportunities given by the space frontier.

3.3 The Educational Plan

3.3.1 Programme items and Goals

- Introduction of Astronautics and Astronomy in the programs of the schools of every orders and grades.
- Institution of the Greater Earth University, in all the countries of the Planet.
- To form a new, world-wide, generation of teachers
- To form a new generation of space technicians and entrepreneurs
- To turn into account the whole human heritage in the space enterprise
- To build a new, higher, cultural and ethic platform for the next millennium

3.3.2 Customers

We address, first of all, the Space Community (organisations and individuals around IAF, IAA, and Space Agencies) that a big effort is required by them. Only if they will go through the people, explaining why Humanity needs a very higher cultural degree in space disciplines, we will have some hope to succeed.

We ask the Terrestrial Teachers, all over the planet, to assume this task as their own task, for the sake of the mission they dedicated their whole life: the follow up of the human culture.

We ask the Governments of all the terrestrial nations, to put this education programme at the higher priority in their agenda.

We ask to United Nations, to UNICEF, and to all the humanitarian, governmental and non-governmental, organisations, to assume this task as the most priority in absolute, because Humanity will not survive if it will not be fulfilled.

We ask all the Communication Operators to embrace a new vision, in which Science, Technologies and Space are anymore only folk and entertainment, but essential information.

3.4 The Financial plan

3.4.1 Programme items and Goals

- To create a **Terrestrial Space Fund**
- To develop **New Credit Tools**, suitable to manage **Long Term Investments**
- To target the **8x1000 Of The Taxis to the Terrestrial Space Fund**
- To start a **Fiscal Evolution**, from generic taxis system to **Investment System**

3.4.2 Customers

We address, first of all, the Space Community (organisations and individuals around IAF, IAA, Space Agencies, and all the pro-space organisations and information organs) that a big effort is required by them. It is incomparable the work they can do, explaining to the people why Humanity needs to invest in its own future.

We ask the Economists and Financial Operators, all over the planet, to assume this task as their own task, to help us designing and developing the new financial and credit tools.

We ask all the Banks, the Insurance's, the Financial Holdings and Companies, to decidedly put the Space in their immediate plans! To encourage people to subscribe Space Funds, to collect these investments and feed the space projects all over the Earth surface.

We ask the Governments of all the terrestrial nations, to put this education programme at the higher priority in their agenda.

We ask to United Nations, to UNICEF, and to all the humanitarian, governmental and non-governmental, organisations, to assume these tasks as the most priority in absolute, because Humanity will not survive if it will not be fulfilled.

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