

## **The quadrillion economy**

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### **Introduction**

The new millennium started with an inherited long list of challenges from the past century with problems still unresolved that threatens us.

It also started with a wealth of new and promising technologies, concepts and ideas whose positive global implementation will allow us to completely change our current status.

The web and its applications, advanced software, project management techniques, shared knowhow, globalization, universal accessibility, nanotech, advanced biomedicine, robotics and others just to name a few. With such technologies and the right direction we can overcome past challenges, face new ones and create a totally new, advanced and friendly environment for the next generations.

To face past and potential future challenges we need the right instruments, plans, schedules and milestones in order to proceed in an orderly target oriented way with incremental steps.

But before we can proceed towards a new world we must face current challenges in order to reach an optimum state that we define as level S1 of the Sapientia (knowledge) scale.

This is our quest and it will be outlined in the next few pages that synthesize an integrated proposal for the transformation of our current mostly passive role to an active one.

Following such level and reaching the many Singularities whose convergence will allow a superior status. To reach S1 and face such challenges we need a non conventional and holistic approach, not specific emergency measures.

Such approach must be revolutionary, ambitious, global in territory, in activities and business.

These problems must be faced and solved at a global scale, they can't be solved by a single country alone, no matter how big and powerful.

No previous models are valid, new ones must be created and different approaches for each new business must be strategically evaluated.

An all new global ambitious plan, supported by a carefully prepared and integrated roadmap that will not only solve current problems but will

direct us to a better future generating several benefits during its implementation. The Global Master Plan is the key instrument to implement all needed activities to reach the desired goals.

The consequent exponential acceleration of information technology will allow our species to undergo an evolutionary advance by entering space, an all new environment. Still the key issue is to raise the entire population to a new level of dignity, wealth, knowhow and satisfaction like never before in history as a main condition to advance further without creating a two-speed society.

## **1- Where we stand in history**

In the following pages we are going to explore the future.

Before the beginning of our journey we must establish a departure point from where to start from.

To do that we must know where we stand today and where we want to go.

In this new era mankind domain will acquire a new, virtually unlimited, spatial dimension and expand without limitations.

To better define where we stand let's introduce a classification system for societies, the Sapientia (knowledge) scale than unlike others in use is not based in energy consumption or territorial extension but in knowledge level of a society.

Dealing with future possible discoveries of intelligent extraterrestrial life, we need a classification system for the growing technological societies that we may detect by defining three phases of knowledge levels in accordance with their level of development

Sapientia S 1: a society that utilizes the resources of an entire planetary system and whose individuals eliminated disease as a cause of death of a biological vessel

Sapientia S 2: a society that utilizes the resources of an entire galaxy and whose members are energy in the biosphere

Sapientia S3: a society that utilizes the resources of the entire multiverse whose members are energy entities in the noosphere

Reach level 1 in the S scale is the goal of the first phase of this proposal.

To reach such level our society must satisfy the following requirements:

- Total knowledge of our being (body) to obtain disease elimination
- Total knowledge of our world, land and sea including depths
- Total population in well-being situation (housing, food, education, health

care, employment guaranteed)

- Total needed power generated from renewable and non polluting sources
- Elimination of pollution and all its causes without reducing our accelerated progress
- Control of natural events or minimum damage situation (earthquakes, tsunamis, floods , avalanches, hurricanes)
- Ecosystem life preservation including total cloning capability
- Manufacturing by replicating machines with nanolevel technology
- AIs smarter than humans as workforce
- Mind uploading capability
- Affordable Interplanetary travel capability
- Universal knowledge available to entire population

## **2-The challenges**

As mentioned before our current society is facing major challenges that are partly the consequences of our recent technological progress and partly due to our historical legacy and previous general conditions.

We can summarize them as follows:

-Manmade causes and effects such as pollution and environmental damages. Technological progress undoubtedly brought many benefits to our civilization, but at the same time, having being mostly uncontrolled, also many side effects that generated several problems.

Air, water, the seas, the soil are polluted, the ozone hole, acid rains, global warming and the rise of sea levels, the rise of cancer and environmental related diseases some of its effects.

-Uncontrolled population explosion, and the explosion of cities especially in developing countries, lead to several negative effects generating ,unemployment, overcrowding ,urban blight while helping the diffusion of contagious diseases.

Such vicious circle is still running in an unending cause and effect situation that is severely damaging our planet and our general environment. Another environmental side effect is the growth of desertification, spread by the abandoning of agricultural land, the man made destruction of forests to change the crops, the lack of water and other factors.

-Waste of non renewable resources by utilizing unneeded or obsolete technologies, the increase of the wealth gap between the developed and developing countries due to uneven progress between countries are other causes and effects situations.

Growing natural disasters partly due to the alteration of our planet ecosystem is another of the challenges faced by our society. In this category we can name floods, tsunamis, earthquakes, mudslides, fire, volcanic eruptions, asteroid collision threats and man made like gas explosions, acts of terrorism, wars.

Disease, especially in the developing countries, was increased due to the above situation and the spread of new diseases, such as Aids or avian flu, pushed by fast communication means , have challenged the entire global population.

Those described are the past challenges , let's analyze some future ones:

- Allow universal wealth and benefits distribution
- Avoid social disturbances due to new society status
- Promote projects to continue our exponential progress acceleration
- Maintain human, even evolved, superior and in control of machines

### 3-The goals

We can't proceed to our future development and ambitious plans if a bigger part of the population is still in a poverty situation. Progress must be the catalyst for the development of all of us and , while advancing at exponential rate, it must be utilized to raise the general level of the global population to a more acceptable one. For that reason we are naming the main initial goals to reach S1.

! We have not, may defeat the evolution of a minority of individuals to an enhanced life form, since the majority would ultimately resort to violence and crime to stop such trend not being part of it. The elimination of such gap is one of the most pressing present day challenges.

- Face and solve existing challenges as listed above by creating a wealthy economy with universal participation
- Reach full global employment and eliminate all consequences such as disease, poverty, criminality, illiteracy and more
- Create a new aesthetically enhanced territorial environment where natural landscape and artificial, including building and facilities will be integrated in an all new symbiotic relationship for the benefit of all parties
- Universal knowledge accessible to everybody
- Evolve human species to a new advanced state in close relationship with artificial assistants
- Simplify everyday life , redesign all product, systems, services with new

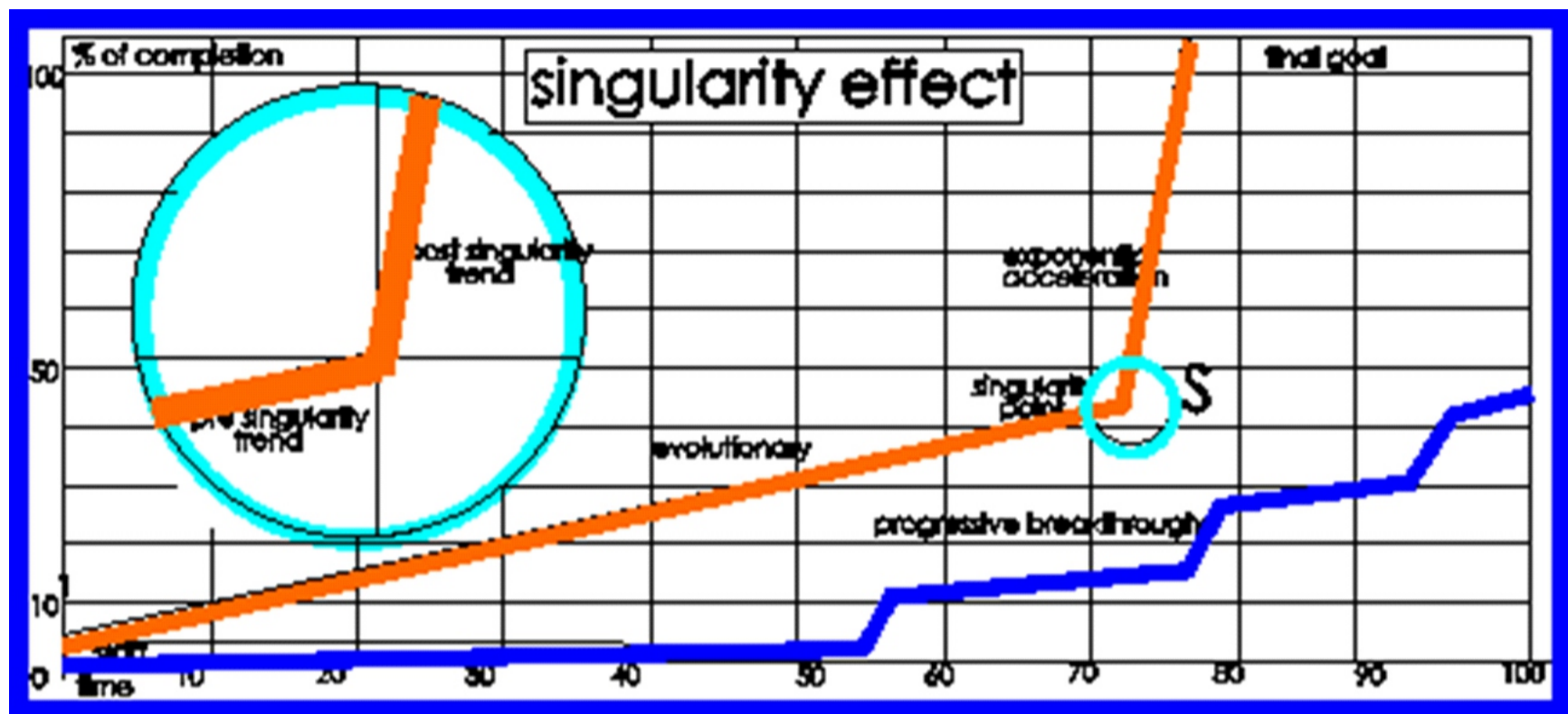


technologies

-Utilize all planetary renewable resources and outer space

-Pursue singularities whose convergence will increase exponential progress acceleration

-Mind uploading capability



*Fig 1- The acceleration of history*

#### **4-The master plan and the Megaprojects**

The best instrument to face the challenges and reach the goals is a global master plan that can define all steps to be taken for each single item considered ,including the definition of milestones that will represent the progress towards the final goals.

Such plan must be approved and implemented , at least by some major players in the global level, nations , multinational corporations and must be activated with the full cooperation and participation of the population. Billions of new jobs will be created , while those eliminated will be taken over by robots multiplying our efficiency.

It is better defined by a series of Megaprojects , each one independent but whose combination can create a series of singularities that can totally change our global status.

The economic goal is a quadrillion economy , growing from the existing GNP of approximately 60 trillion a year by creating new opportunities, business activities and challenges.

Let's describe the Megaprojects that will allow us to reach such goals:

##### 1-Terraforming Planet Earth

This project must improve the territory by changing its landscape, eliminate

most urban growth caused problems , integrate the artificial with the natural ecosystems with mutual benefits.

It is described by two main components.

TerraNet, the creation of a totally energy self sufficient grid physically separated but functionally integrated with the natural ecosystem , to include all man made activities in urban cells in optimized conditions while multiplying the available area in a three dimensional scale.

TransNet The integrated communication system for people , cargo , parcel, utilities that will connect all TerraNet Urban Cells in a single global network, seamlessly accessible from everywhere

2-Symbiosis- transform all manmade artifacts in environmental –friendly structures. This project will support a metabolic approach to construction, integrating in a symbiotic (useful for both) relationship the artificial construction environment and the natural one.

3-Phoenix- Re-greening of planet Earth. This project will address the environment, eliminating all pollution (air, land, water, light, sound ) causes and effects, with a different utilization of resources, recycling all waste considered as an additional resource.

#### 4-Project Poseidon

Deserts will be transformed in agricultural areas by utilizing the additional water , after desalination resulting from global warming while eliminating such threat. The Sahara ocean will be the first new green continent to be followed by several more water grid system that will recuperate all existing desert areas .

5-Project Green All power generation systems ,including all industrial processes will be transformed to non polluting, locally distributed, renewable sources,

6-Project Universal to standardize and improve in the process all global systems , ranging from electrical outlets to a single currency to language including legal, fiscal and governance system. .

7-Project Guardian Angel to ensure security at all levels and locations by utilizing advanced technologies and recuperating al citizens involved.

8- Project Neosystems to redesign and reconsidered all products/systems in accordance with new requirements, technologies and instruments. Adapt them to the new lifestyle in a continuous improvement

9-Project Bot to transform most menial, repetitive and dangerous jobs to robotic activity as well as raising AIs to smarter level than humans and

obtain mind uploading capabilities (singularities)

10-Project Eternity to eliminate disease and create rejuvenation techniques at cell level. Such plan will develop medical research and generate another singularity effect allowing virtual immortality.

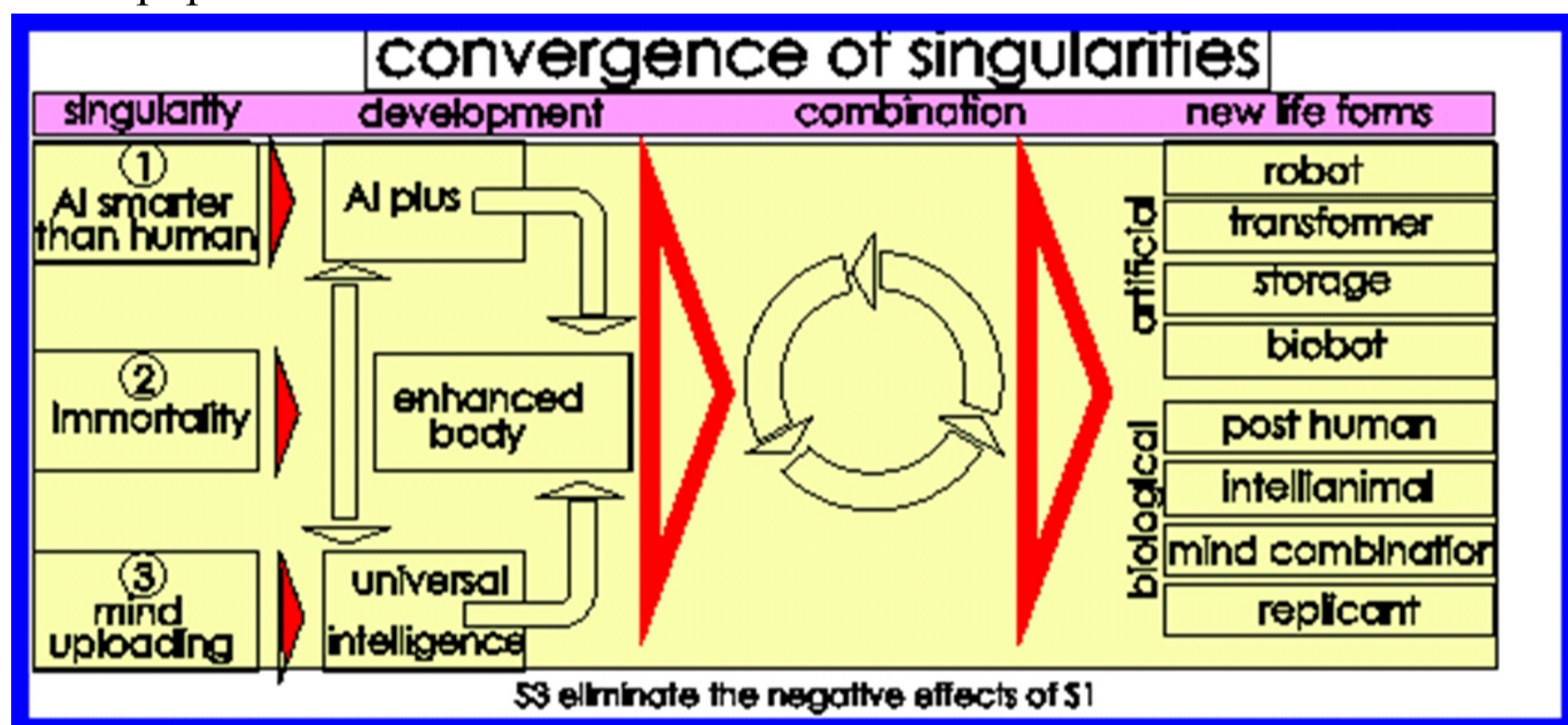
11-Project Starseed This space oriented megaproject has an ambitious and long range goal. It can by itself renew all space activities since all fields are needed to reach interstellar travel capability goal.

12-Project 100 Earths This megaproject goals are to render immediately habitable most celestial bodies of the solar system, creating space based economy by underground Terraforming techniques.

Each megaproject ,as part of the general development Master Plan will have its own dedicated plan and roadmap with all subprojects and milestones included.

### 5-The impact

The proposed Megaprojects to be effective, must produce a constant acceleration in the progress curves of all drivers. As an example the Terraforming project from the economic point of view, by rebuilding the habitable space for all population (say 50sqmt by 7B people at 1500\$/sqmt =525Qt\$) generated for residential purposes only. The money will be generated autonomously from new enterprises with potential wealth for the entire population.



*Fig 2. Convergence of Singularities*



## Conclusion

We are at the crossroads of major decisions that will affect our entire future history and even our own survival. We are at the threshold of reaching level S1 and of the successive epochal transition from Level S1 to S2 in our society opening the doors to an era of multiple civilizations. To achieve such goals is only up to us, to our policy makers, to our professionals, our media, our public opinion since there are no external or internal factors conditioning our decisions.

We have to leave spaceship Earth as virtually immortal beings, our cradle and our original world, develop other new worlds and keep moving because that's the only way that we can sustain our growing expectations and guarantee a future for mankind. Human presence will move from a planetary land based society to an interplanetary and later interstellar based one.

In the past such transition can only be comparable to the passage of life forms from the sea to the earth. Such passage, as shown in evolution's past, will in the long run, modify our species. We can control that with our technology, designing optimum humans to meet our new challenges and environments. For the first time in history mankind can expand out of its planet of origin and create entirely new worlds which can grow independently and by their own achievements.

At present we are not at all at the end of history, as some scholars have been declaring, but at the threshold of a new and greater historical era. Our society can reach a limitless spatial territory and conquer temporal time limitations for mankind. The transition from a single to multiple independent human civilizations system based in different worlds.

Scope of the advanced Megaprojects is the transition from a limited domain to one virtually unlimited.

The future passage to S2 for humanity and the coming of the Gigaprojects to reach such level.

Our society must acknowledge the importance of the present historical moment and take the epochal decisions necessary to develop the instruments needed for the transition to the new era. In case the political establishment can't take the right decisions in the due time how can we react? Shall we be doomed as a civilization?

**The answer is NO.**