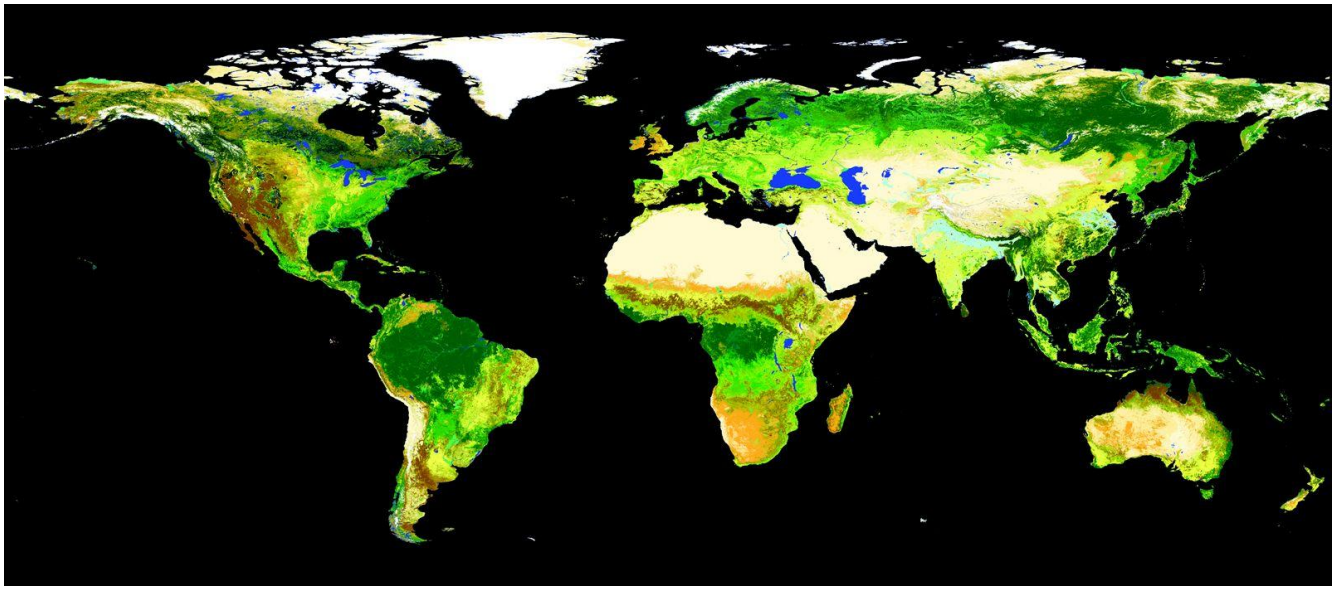
# World Resources Simulation Center

## Business Proposal



***"How do we make the world work for 100% of humanity in the shortest possible time through spontaneous cooperation without ecological damage or disadvantage to anyone?"***
**-World Game™ mission statement R. Buckminster Fuller**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For more information visit www.wrsc.org

# Table of Contents

# 1.0 Executive Summary

The World Resources Simulation Center (WRSC or the Center) is a nonprofit visualization and simulation facility. It will be a place where business leaders and policy-makers can visualize the past trends and future projections on critical issues, explore options and take sustainable actions more quickly. This venue provides experts, academics, policy makers and businesses a resource for cooperation and collaboration on any issue: such as energy, health care, transportation, population demographics, access to clean and poverty.

Vast amounts of data are turned into accessible information that is layered as 4-D map projections. These striking visual displays are projected on the walls of the Center. Guests can then experiment with gaming and simulation software to run a range of scenarios to determine the best solutions.

The WRSC helps users creatively design answers to problems, build consensus and accelerate action. They can literally "see" relationships between global issues and their consequences allowing participants to form solutions on business opportunities, plans, policies and strategies.

## *1.1 Mission*

**To accelerate sustainable development in a manner that benefits all of humanity in the shortest amount of time.**

## *1.2 Objective*

The WRSC will provide an immersive environment for users to conduct comprehensive planning to design solutions for the world's challenges to benefit all humanity. The use of the WRSC will accelerate environmentally sustainable development. This infrastructure provides in-depth access to networked, globally distributed data on world resources, cultures, markets, global trends and conditions. Comparing successful trends and projections will enable users to make informed decisions, policies, and investments that elevate the quality of life.

## *1.3 Keys to success*

**The unique and powerful benefits of the WRSC are the large-scale visualization and scenario simulations, the in-person-interactive discussions, the group discovery process and the face-to-face research.** Insights are gained and new levels of understanding are available when bright minds have access to new ways of *experiencing* complex data. Solutions are found when users are creatively guided through vision, strategy and problem solving discussions in the context of environmental sustainability.

The WRSC is a project of the Global Energy Network International (GENI). The immediate goal is to launch an On-Going Demonstration Facility. Over a two-year period the cost will be $447,000. Our plan is to demonstrate the viability of the WRSC and then develop a full-scale permanent Center at an anticipated cost of $8 million.

# 2.0 WRSC Summary

## *2.1 History*

The World Resources Simulation Center is the brainchild of Richard Buckminster "Bucky" Fuller (July 12, 1895 – July 1, 1983), an American visionary, designer, architect, and inventor, working in conjunction with Tom Turner, Fuller's Executive Director at Southern Illinois University. It is based on Comprehensive Anticipatory Design Science for finding solutions to complex global problems. [1]

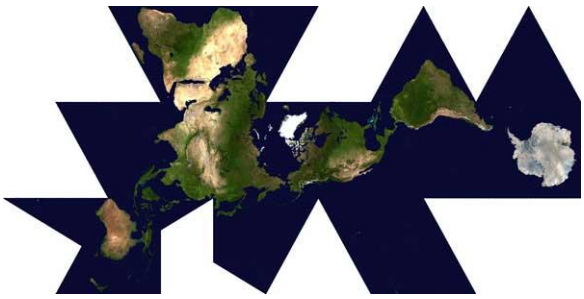
**Comprehensive Anticipatory Design Science** requires us to look at the interconnectedness of all issues, anticipate the trends and future needs of society, and then, using our best scientific knowledge, engineer the optimal solutions for humanity.

**The World Game™**

Out of his early participation in war games at the U.S. Navy War College, Fuller eventually developed The World Game™. Shifting 180° it was intended as a tool to foster "you and me" thinking and be used by people around the world to understand and develop solutions for issues facing humanity: hunger, illiteracy, lack of health care and environmental degradation.

His designed and built the giant geodesic dome as the U.S. Pavilion for the 1967 Montreal World's Fair. The Information Agency rejected his World Game™ exhibit as too revolutionary.

In 1969, Bucky further expanded on his vision for the WRSC with the following quotes: *"I propose that on this stretched-out, reliable, accurate world map of our Spaceship Earth a great world logistics game be played by introducing into the computers all the known inventory and whereabouts of the various metaphysical and physical resources on the Earth.*



Dymaxion Map © – Buckminster Fuller Institute

*We would then enter into the computer all the inventory of human trends, known needs, and fundamental behavioral characteristics.*

*I propose that individuals and teams would undertake to play The World Game™ with those resources, behaviors, trends, vital needs, development desirables, and regenerative inspirations. The players as individuals or teams would each develop their own theory of how to make the total world work successfully for all humanity. Each individual or team would play a theory through to the end of a pre-declared program.*

***We will invite participating teams of key scientists, corporate and government executives and other leaders from all around the world – to confront the problems and list their theories on how to solve them for all mankind."***

The WRSC has its origins with Buckminster Fuller and his SIU Executive Director, Tom Turner. Turner compiled the original source document but passed away before its realization. In the early 90's, Tom shared this document with Peter Meisen, Founder of Global Energy Network Institute (GENI). GENI is focused on the global energy grid strategy proposed by Bucky, which he identified as the highest priority strategy of the early World Game™ simulations. GENI's goal is to demonstrate visually that linking renewables between nations will mollify conflicts, grow economies, reduce pollution and increase the quality of life and health for all.

## *2.2 Company Leadership*

**Peter Meisen, President, Global Energy Network Institute, Principal Researcher, WRSC**
Peter Meisen is a graduate (1976) of the University of California, San Diego with an Applied Mechanics and Engineering Sciences degree. Meisen founded GENI in 1989, to conduct research and educate world leaders to the strategy of linking renewable energy resources around the world. He is an internationally recognized speaker on the global issues of renewable energy, transmission and distribution of electricity, quality of life and its relationship to electricity, the environment and sustainable development. Peter is a member of the following professional associations: IEEE Power Engineering Society, World Affairs Council of San Diego, Union of Concerned Scientists, United Nations Association, and is an Honorary member of the Rancho Bernardo Sunrise Rotary Club. In 1983, he co-founded SHARE (Self Help and Resource Exchange), which became North America's largest private food distribution program. Currently there are nine active members on the Board of Directors (see www.wrsc.org for information).

In December 2005, Peter shared the WRSC proposal with 6 colleagues in a 2-day working group to put flesh on the WRSC proposal: defining its mission, function, clientele and partnerships. Individually, each had expressed a desire and commitment to bringing the WRSC into reality. Those people and their affiliations are as follows:

**Advisory Team:**
Josh Arnow, past President of the Buckminster Fuller Institute (BFI)
Michael Ben-Eli, President of Cybertec Consulting Group
Kirk Bergstrom, President of World Link Productions and BFI Board member
Bonnie Devarco, online education consultant, past Executive Director of BFI
Ashley Gardner, Producer of the Bucky Centennial and GENI CD-ROM
Joe Sterling, President of Sterling Insights, a strategic consulting organization

**Current Management Team:**
Paul-Michael Dekker, IT Systems
Glen Shewchuck, Web and GIS Systems
Patricia Stevens, Office Manager
Diane Adcock, Marketing Development

### *2.3 Location*

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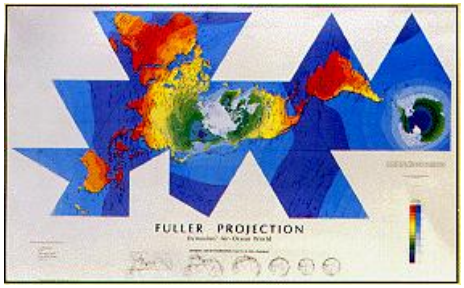
## 3.0 Products and Services

### *3.1 Design of the World Resources Simulation Center*

The WRSC will be housed in a wide-open facility that can accommodate up to 200 guests per day. There will be a second level where participants can go to have a bird's eye view of the visual images that are displayed throughout the Center.

A room-sized digital world map will be placed on the floor and interconnected with the world's digital knowledge archives. The WRSC will use multiple projections, especially the Dymaxion map, as it is the most accurate display of the planet without visible distortion of relative shapes and sizes of the land and sea. Resource trends are displayed on theses maps for long range analysis on critical issues.




Dymaxion Map © – Buckminster Fuller Institute

*"Walking around on the Dymaxion 'Big Map' of Buckminster Fuller is the best experience of the Earth I have had since returning from the moon."*

**Buzz Aldrin**, 2nd astronaut to walk the moon

Participants have the ability to layer information on multiple issues. This allows them to see and understand causal relationships between seemingly unconnected conditions until viewed together. The WRSC will be utilizing high bandwidth technologies, Internet mapping software, and database content with advanced capabilities to link GIS tools and applications. Information can also be stored and transmitted simultaneously to universities and others centers for critical review utilizing the WRSC's online resources.

Dozens of networked computer terminals and interactive visual displays on large-scale digital screens are linked to a variety of work and meeting areas. The impression is a "command-and-control" environment. In our case, it is used for peaceful and sustainable purposes. Using gaming technologies as well as forecasting and scenario modeling tools, participants collaborate on strategies to find new insights and optimal solutions for a sustainable future from a perspective of global and regional solutions.

The location for the WRSC must utilize or have the ability to be retrofitted to LEED-EB (Leadership in Energy and Environmental Design Green Building Rating System- Existing Building Standards). A Center devoted to the sustainable usage of resources must utilize such green practices as water conservation, efficient heating and cooling, and attain some of its power requirements form alternative energy sources. In a partnership scenario, a university or business campus facility location would be utilized. These variables may alter the start-up expenses related to facility and expenditures.

**The preferred needs of the Center include:**

- 6,000 – 12,000 square foot building
- High ceilings from 14 – 20 feet
- Mezzanine walkway and offices (2,000 square feet)
- High speed bandwidth of 1 GB/second
- Few windows or skylights (black box is optimal)
- Air Conditioning for the large group space
- Numerous power plugs
- Free parking
- Conveniently located on bus or trolley line
- Ideal locations: downtown San Diego, Sorrento Valley or Mesa corridor
- Possible Corporate campus i.e. Qualcomm, SAIC, Pfizer, etc.
- Zoning for group events up to 200 people
- Discounted rent and/or move in concessions
- Kitchen for catering
- Outside area for relaxing or green space

## *3.2 Methods and Technologies*

Working with resource inventories, trends, strategies and scenarios, the WRSC becomes a hub for partnering with other like-minded people, as well as antagonists, who require a neutral space, an environment to explore workable solutions jointly and peacefully**. In this WRSC environment; politics, prejudice, war and ignorance are not options when proposing strategies and solutions.**

Strategies based on cooperation, and tested through simulation, find a path to action and implementation…thus **creating a future by intentional design.**

*We have an unparalleled opportunity to turn a flood of raw data into understandable information about our society and our planet. This data will include not only high-resolution*

*satellite imagery of the planet, digital maps, and economic, social, and demographic information. It will have broad societal and commercial benefits in areas such as education, decision-making for a sustainable future, land-use planning, agricultural, and crisis management.* - From "The Digital Earth" speech by Al Gore, 1998

Compiling data from multiple sources the WRSC will create:

1. ***Resource Inventories*** by accessing datasets from the United Nations, World Bank, World Resource Institute, universities and other multi-lateral organizations
2. ***Resource Trends*** through time that are plotted using compilation, simulation and visualization of data
3. ***Resource Strategies*** that are explored for the future taking trends, technology development and synergies into account
4. ***Resource Scenarios*** are then proposed taking into account the synergy amongst inventories, trends, desired outcomes and researchers experience

In the fields of science and technology, rapidly occurring advances will be implemented in real time at the Center. As appropriate, these technologies will be incorporated to facilitate the vision of a sustainable future. Some examples include:

- Integrated strategic geodesign technologies
- Advanced knowledge based search algorithms for data mining, policy formation and analysis
- Catalog and glossary of emerging technologies
- Risk analyses, risk assessments and integrated simulation technologies
- Seamless language interoperability, as used at the United Nations for translation
- Wireless and fiber optic high-speed internet access for data, audio, and video teleconferencing and broadcasting

After visiting, users can also collaborate remotely through Internet based tools. They can access the output of their experience at the WRSC to continue the work and to show others. This online virtual resource of the WRSC allows users to continue to address complex questions, seek optimal solutions on an on-going basis, and revisit the source of their new vision for support.

# 4.0 Market Analysis

## *4.1 Target Markets*

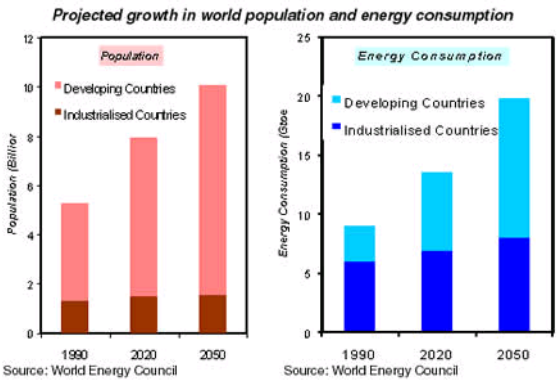
The WRSC is dedicated to finding solutions to our global challenges that work for everyone while minimizing our environmental impact on global systems. New levels of understanding are available when bright minds have access to new ways of *experiencing* complex data. When participants are facilitated through vision, strategy and problem-solving discussions, multiple

choices can be simulated and explored in the moment. "What ifs" can be examined until the optimal solution is reached. **Our goal is to see quicker action on the optimal solutions**.

The following groups will find value in the immersive visual experience at the WRSC. An example of the type of issues and data that they might be analyzed at the Center is included or each target group:

1. **Experts** such as scientists, planners and designers that are conducting research or training on major world issues and exploring the relationships between issues with global consequences.

*Example: How do we provide sufficient electricity for everyone in an ecologically sustainable way? Convene experts in the energy field to show how renewable resources in remote sites could be transmitted via high-voltage transmission lines connecting regions and continents-- thus increasing trade, cooperation and peace; reducing pollution and toxic waste; reducing hunger and poverty; and stabilizing population. The WRSC could simulate these options and outcomes visually so our leaders can see the costs and benefits.*




2. **Policy-makers** and their advisers who plan regional infrastructure development.

*Example: Capabilities of GIS has enabled government leaders to see clearly where forests need restoration. Wangari Maathai, Nobel Peace Prize winner from Kenya, has said that much of the country's water supply and electricity is derived from the rivers emanating from mountain forests. The Green Belt Movement (GBM) is seeking to protect and rehabilitate these forests. GIS technology shows the effects of deforestation over time defining areas in need of planting*.

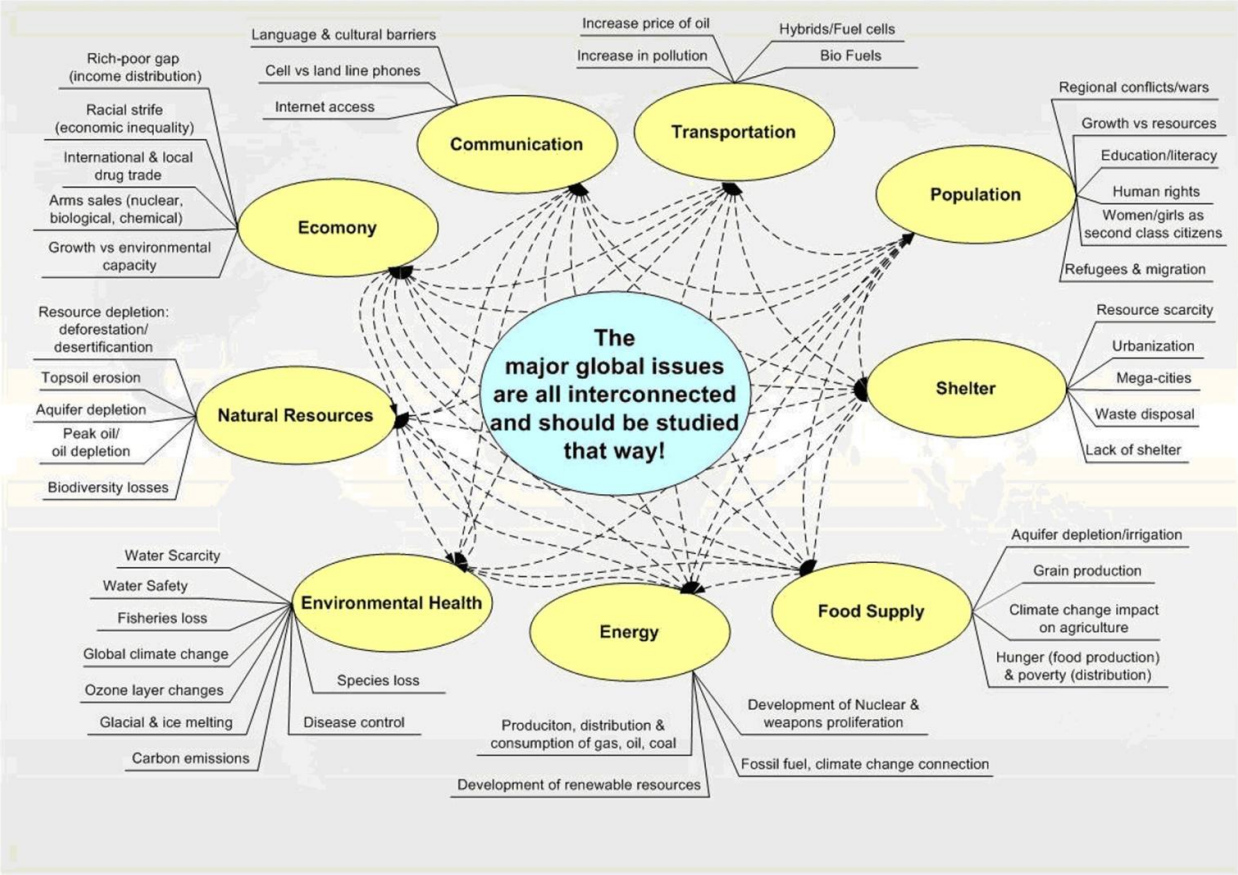
3. **Businesses** who want to visualize potential markets and technology penetration.

Some users may find business opportunities in observing an ever changing world market and evolving economies of scale. Participants may individually or collaboratively develop new products and prototypes for profitable sustainable market use. The WRSC can be used to predict conditions and project applications for business users. Identifying profitable trends can move business leaders toward environmental sustainability.

*Example: A cell phone manufacturer wants to expand into a new international market. The WRSC could visualize the existing wireless service in that market and show the numbers of potential customers needing service. By mapping demand, installed cell towers, and domestic economic factors, a company could make more informed decisions on expanding into that marketplace and better understand the consequences of their approach.*

4. **Academics and Students** engaged in global/national/regional studies and doing research on sustainability.

*Example: A class studying global conflicts and cooperation could get a visual overview of current global conflicts. They could drill in (as with Google Earth technology) to see specific details of lives affected, refugees and military strengths. History and key players could be visualized and better understood. The WRSC could help students see all the stakeholders and come up with plans to mollify existing civil wars and mitigate problems before they arise.*




5. **Collaborative Events** for business groups, trade associations, NGOs, companies or common interest stakeholders to hold small sessions, events, focus groups or receptions at the Center.

*Examples:*

- *UNEP – United Nations Environment Program – deforestation or aquifer depletion*
- *US Conference of Mayors - Climate Protection Summit*
- *ACORE – American Council on Renewable Energy – renewable energy potential in North America*
- *CERES – California Environmental Resources*

*Evaluation System – investment needed for sustainable water and environmental systems*

- *Chambers of Commerce – population demographics and trends*
- *SANDAG (San Diego Association of Governments) – regional transportation planning*

## *4.2 Competitive Comparison*

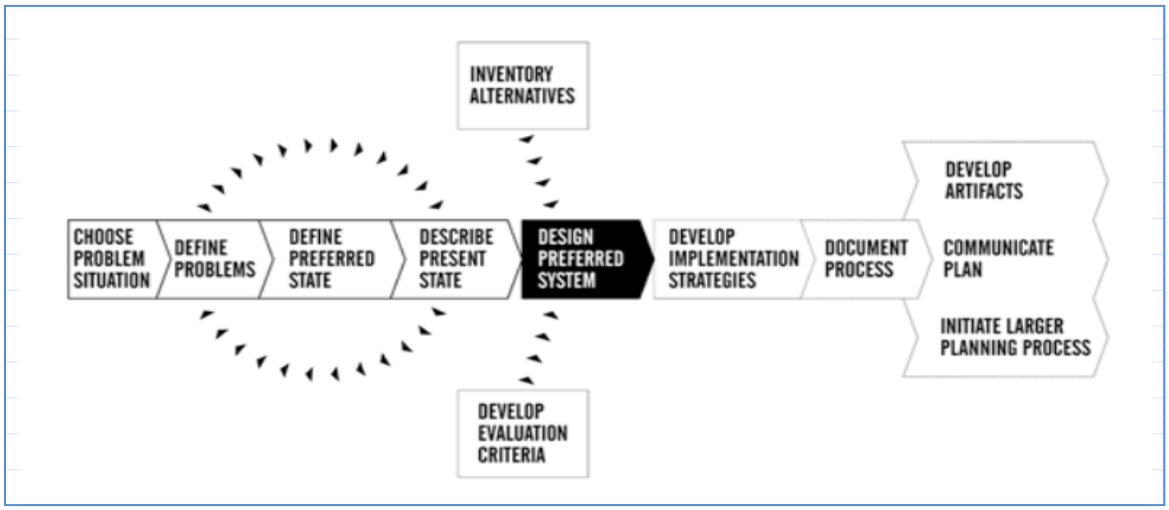
The following organizations provide essential components, as well as market competition, for the WRSC. They also focus on topics of special interest, while the WRSC will be available for any industry or issue. These groups will provide data that the Center will utilize and visually display:

**World Resource Institute (WRI) and Worldwatch Institute** are world class think tanks and research centers which publish studies and reports on world resources, problems, conditions and environmental sustainability, but neither does simulation or visualization. (2)

**The Environmental Systems Research Institute (ESRI)** designs and develops the world's leading geographic information system (GIS) technology and GIS mapping software. This technology will be an essential component of the WRSC. (3)

**The o.s. Earth Global Simulation**, founded by Howard Brown and Medard Gabel, is a direct descendent of Fuller's World Game™ enhanced with state-of-the-art multimedia, inclusion of relevant current issues, and dynamic game play. The game simulates the next 30 years of global economic development. Players represent geopolitical regions, multinational conglomerates and global organizations dedicated to issues (health, education, human rights and environment). (4)

**The Design Science Lab**, presented by Medard Gabel, President of BigPictureSmallWorld (5) and the Buckminster Fuller Institute, offer an opportunity for students to develop solutions to global and local problems. Using the **comprehensive anticipatory design science** model below, students utilize hands-on training to solve complex problems.




**The Federal Geographic Data Committee (FGDC**) is an interagency committee that coordinates development, use, sharing, and dissemination of geospatial data. This data publishing effort is known as the National Spatial Data Infrastructure (NSDI). The NSDI is a

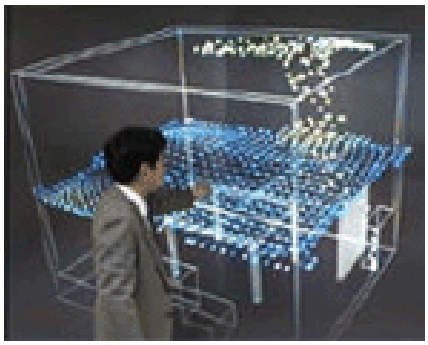
physical, organizational, and virtual network designed to develop the sharing of the nation's digital geographic information resources. The United State Geological Survey (USGS) also oversees The National Map and the Geospatial One-Stop activity. [6]

**International Society for Digital Earth (ISDE)** is a nonprofit international organization founded by the Chinese Academy of Sciences. It is not affiliated with any governmental agency or political group. ISDE promotes international cooperation in the **Digital Earth*** vision. This enables the technology to influence economic and social sustainable development, environmental protection, disaster mitigation, resources conservation and improvement of living standards. [7]

> ***Digital Earth** is a label given to a visionary concept, made popular in 1998 by former U.S. Vice President Al Gore. It describes a virtual representation of the Earth on the Internet that is spatially referenced and interconnected with the world's digital knowledge archives. The Digital Earth community has dedicated itself to building a global commons promoting down-to-Earth solutions based on cooperative use of standards, databases and tools.*

**National Oceanographic and Atmospheric Agency (NOAA)** is a U.S. federal agency focused on the condition of the atmosphere and the ocean. It plays several roles within the Department of Commerce by supplying weather warnings and forecasts through the **National Weather Service**. NOAA conducts Applied Scientific Research in four areas: Ecosystems, Climate, Weather & Water and Commerce & Transportation. [8]

**Earth Simulator** is a supercomputer located in Japan. It has a singular weather focus intended to calculate long-term patterns in the interaction of atmospheric pressure, air temperatures, ocean currents and sea temperatures. Results help establish predictable routes for typhoons and identify areas that are recurring targets for heavy rains, abundant snow, high waves, heavy winds, scorching heat and crop-threatening droughts. [9]



**California Institute for Telecommunications and Information Technology (Calit2)** focuses on prototype infrastructure for testing solutions in a real-world context. Calit2 builds links between departments to foster multidisciplinary studies. It creates worldwide research teams connected by the Internet. Involvement by faculty, students, industry, government, and community partners, enables prototyping in Calit2 living laboratories. A bridge is built between technical professionals, academia and industry. [10]

**Gapminder's Trendalyzer** (owned by Google) unveils the beauty of statistics by converting numbers into interactive animations. The goal is to promote a fact-based worldview by bringing statistical storytelling to new levels. [11]

**TerraSpark Geosciences, L.P.,** conducts research and development, provides consulting services, and licenses new technology products to clients in the energy and mining industries. [12]

**BP Center for Visualization, University of Colorado at Boulder** is the most advanced large-scale visualization facility for exploration and tracking in the oil and gas industry.

**Arizona State University's Decision Theater** focusing on society's most significant challenges. User-friendly tools are created through simulation, immersive visualization, and collaborative decision making for policy makers and practitioners. Decision Theater's project portfolio addresses issues such as water management, land use, public health and education. [13]

**San Diego State University Center for Information Technology and Infrastructure (CITI)** takes advantage of emerging tools in optical networking, wireless communication and human-computer interactions through visualization. CITI pursues four major themes that provide a framework and a pathway for diverse projects:

- Homeland Security
- Natural disaster mitigation and response
- Global sharing of information and collaborative visualizations
- Remote sensing and environmental monitoring [14]

**The State of the USA (SUSA),** a nonprofit, nonpartisan institution, helps citizens assess the progress of the USA. SUSA collaborates with the federal scientific and statistical communities and individual subject-matter experts to track key national measures on dozens of topic areas. [15]

## *4.3 Reasons why the WRSC is needed*

Newspaper headlines around the world bombard us daily with problems: increasing storms, melting glaciers, crop devastation, blackouts, regional conflicts, refugees, water shortages, and the list goes on. Most often these are treated as isolated events. Around the globe, prestigious, well funded, sophisticated, cutting-edge organizations and institutes are studying these issues, gathering and publishing data, and solving problems.

**The complexity of these inter-relationships demands that we deal with multiple issues simultaneously. This is the function of the WRSC.**

"**Synergy**: the behavior of whole systems unpredicted by behaviors of any of the components . . . taken separately from the whole."

Currently, we are far from providing for the well being of 100% of humanity. Immediate attention is required to solve interrelated problems such as:

- Of the 6.2 billion people in today's world, 1.2 billion live on less than $1 per day. [16]

- Each day in the developing world, more than 30,000 children die from mostly preventable and treatable causes such as diarrhea, acute respiratory infections, measles or malaria. [16]
- About 820 million people lack access to enough food to lead healthy and productive lives, and about 160 million children are seriously underweight for their age. [16]
- Globally, eight out of 10 people who are still without access to an improved drinking water source live in rural areas. [17]
- In 2008, 48% of the population in developing regions was without basic sanitation. [17]

## *4.4 SWOT Analysis*

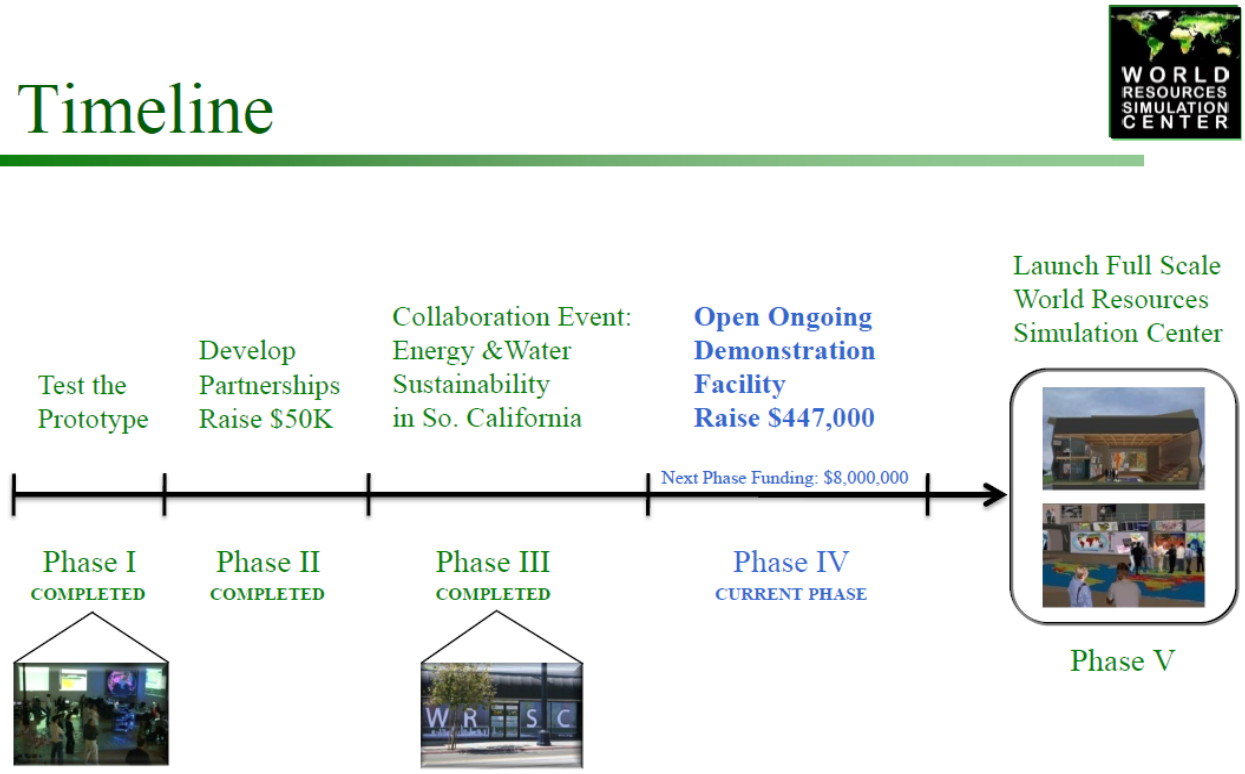
1. Strengths
    a. R. Buckminster Fuller's idea from the early 1970's
    b. Project of GENI which is a nonprofit with 20 years of experience
    c. Management knowledge
    d. Location in convention city with international airport
    e. Creative IT team, student researchers and volunteer staff
    f. Two demonstration events completed with feedback
    g. Quick setup process for temporary facility
    h. Facilitation for groups during the collaboration process
    i. Non-political venue with environmental sustainability focus

2. Weaknesses
    a. WRSC has been conceptualized but not realized in a permanent venue
    b. Funding needs to be raised to create the Center
    c. Implementation of multiple dimensional layering of technologies
    d. Additional full time staff required to run the facility
    e. Costs and implementation of new technologies

3. Opportunities
    a. Partnerships with universities & corporations
    b. Can work with any issue or industry
    c. Event space that can be utilized by any group
    d. GENI based on donor model, WRSC based on business income model
    e. Business model can be duplicated for Affiliates or franchise expansion
    f. Open-space, open-source environment and shared information

4. Threats
    a. All data can be found on internet
    b. Inaccurate business projections
    c. Business model could be duplicated by competitors
    d. Business ideas that are not in alignment with sustainability

## 5.0 Development and Implementation Stages




**Phase I – Test the Prototype & Develop Individual Partnerships (Completed)**

- Engaged key strategic partners, comprehensive thinkers and IT experts
- Hosted "Designing the WRSC Prototype" utilizing visualization technology and eliciting feedback

**Phase II: Develop Institutional Partnerships & Raise Funds (Completed)**

- Developed and received support from institutional partners, foundation grants and corporate partners
- Conducted feasibility study and explored new entity set-up
- Obtained funding of $50,000 to host a month-long demonstration

**Phase III – September Collaborative Event: Energy & Water Sustainability (Completed)**

- Hosted an in-depth event in September 2010 to test the process and outcomes
- Developed WRSC website for ongoing expert participation on global issues
- Built partnerships and experience

**Phase IV – Open Ongoing Demonstration Facility (Current Phase)**

- Obtain funding of $447,000 for temporary demonstration facility
- Open and staff a small scale version of the Center using off-the-shelf technology of projectors and computers for a two year trial period

**Phase V – Launch Full Scale WRSC**

- Secure full funding of $8 million for permanent, full scale Center
- Facility preparation and hardware testing
- Staffing and personnel recruitment
- IT requirements

## *5.1 Overview of Completed Events*

**June 2009 - WRSC Prototype Design Event**

In early June 2009, 46 leaders in GIS mapping and comprehensive thinking came together to test out the WRSC concept and process of collaborative decision making on global issues in an immersive visual environment.

For this prototype design event, projectors and laminated maps were set-up to imitate the digitized, high tech interior of the WRSC. The following issues were discussed and simulated: population and demographics, energy and climate, water and sanitation, and oceans and fisheries. These issues were discussed on global, national and regional levels, pushing our experts to find and present the best visual data and analysis on these topics. Surrounded by this data on large screens served at first to overwhelm the senses, and then to awe, as the magnitude of the crises we face became proportional to their images onscreen.

**Presently the data exists within silos of narrow specialties.** It was learned that vast amounts of research and data are needed to visualize the trends and issues of our current condition. This facility surrounded the user so to better assess the best solutions going forward. **Seeing first hand that the world is facing a multitude of impending crises that are not being adequately addressed underscored the urgent need for the WRSC.**

Friendships were forged across fields of specialty. Entrepreneurs interacted with geographers and each brought new insights and ideas into the solution process. Many of the participants at the design event are now partners in the process of bringing the WRSC into reality. Most importantly, they experienced the importance of face-to-face interaction in the processes of collaboration and cooperation.

**September 2010 - Energy & Water Sustainability**

In September 2010, a demonstration of the WRSC was hosted with the focus on "Energy and Water Sustainability in Southern California." The experts in the San Diego area worked on a real world condition to test the collaborative process. The group studied the global, regional and national trends and present conditions. Experts from universities, business and non-profit institutions presented to the group, and working teams formed to delve deeper into specific

issues. The data was shown on 12 surround screens allowing the participants to integrate issues and see cause-and-effect relationships.

The outcomes from this event produced a growing volume of findings and recommendations. One fact was clear: there is no lack of information in our world today. What is needed is the ability to prioritize and visualize the important information. Tools to weight and highlight options were designed. The goal was to accelerate the understanding of the critical issues and help decision-makers to literally "see" trends, options, cost/benefit comparisons so they can make more sustainable choices quickly. This event helped to test the model for the WRSC to prove that it is valid and necessary to create sustainable decisions for the benefit of all humanity.

# 6.0 WRSC Revenue Model

The WRSC revenue model utilizes five different revenue streams that are represented on the **WRSC Phase IV Budget (7.0)** based on a two-year plan (included in the next section):

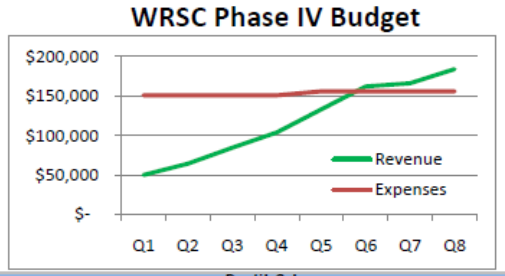
1. Donation of current non-profit income from GENI of $200,000 which comes from a combination of donations, product sales and a partnership with the MSCI Global Index
2. Regional and trade association event revenue for educational, trade and institutional users will bring in $3,000 per event (2 year total of $72,000)
3. Events and receptions will be charged $500 for rental of the space (2 yr. total of $22,000)
4. Corporate strategy and planning meetings for $10,000 each (2 yr. total of $300,000)
5. Public event revenue such as the hosting of the World Game™, extension classes from a university and demonstration events at $6,000 each (2 year total of $54,000)

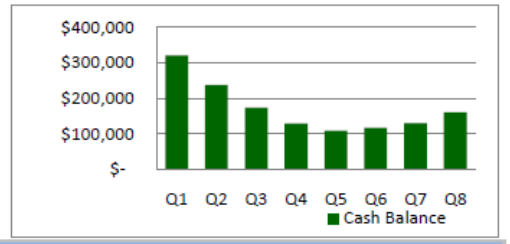
**Revenue not included in the budget - Research Projects**

Utilizing the Center's technological assets, and expertise of the personnel, the WRSC will also be available for research projects and other independent studies by interested NGO's, businesses and other groups. Projects may last from a few hours to long-term projects spanning months or years. Costs for research projects will be determined individually and as needed.

# 7.0 WRSC Phase IV Budget

| Start up Expenses & Equipment | |
|---|---|
| Equipment Installation - Phone & IT | $ 6,000 |
| Moving Fees | 3,000 |
| Miscellaneous | 6,500 |
| Computers | 8,400 |
| Computer Monitors | 4,000 |
| Furniture | 10,000 |
| IT Server & Setup | 9,000 |
| Total Start up Expenses | 46,900 |
| Additional Opering Funds Needed | 399,217 |
| **Total Investment Needed** | **$ 446,117** |




**Profit & Loss**

| | | | | Q1 | Q2 | Q3 | Q4 | Year 1 | Year 2 |
|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | |
| Donation Income (Current GENI Income) | | | | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 200,000 | $ 300,000 |
| Regional & Trade Assoc. Events | Y1: 6 Events | Y2: 18 Events | @ $ 3,000 | - | 3,000 | 6,000 | 9,000 | 18,000 | 54,000 |
| Event Venue / Receptions | Y1: 14 Events | Y2: 30 Events | @ $ 500 | - | 1,500 | 2,500 | 3,000 | 7,000 | 15,000 |
| Corporate Strategy & Planning | Y1: 6 Events | Y2: 24 Events | @ $ 10,000 | - | 10,000 | 20,000 | 30,000 | 60,000 | 240,000 |
| Public Events | Y1: 3 Events | Y2: 6 Events | @ $ 6,000 | - | - | 6,000 | 12,000 | 18,000 | 36,000 |
| Total Revenue | | | | $ 50,000 | $ 64,500 | $ 84,500 | $ 104,000 | $ 303,000 | $ 645,000 |
| Total Cost of Revenue | | | | $ - | $ - | $ - | $ - | $ - | $ - |
| **Operating Expenses** | Current GENI Expenses | Add. Operating Funds Needed | | | | | | | |
| Marketing, Fundraising & Develop. | $ 19,000 | $ 20,000 | | $ 9,750 | $ 9,750 | $ 9,750 | $ 9,750 | $ 39,000 | $ 39,780 |
| Rent | 17,000 | 79,000 | | 24,000 | 24,000 | 24,000 | 24,000 | 96,000 | 96,000 |
| Utilities | Included | 12,000 | | 3,000 | 3,000 | 3,000 | 3,000 | 12,000 | 12,240 |
| Software Licensing | - | 20,000 | | 5,000 | 5,000 | 5,000 | 5,000 | 20,000 | 20,400 |
| Computer Hardware | 1,200 | - | | 300 | 300 | 300 | 300 | 1,200 | 1,224 |
| Supplies | 12,500 | - | | 3,125 | 3,125 | 3,125 | 3,125 | 12,500 | 12,750 |
| Telephone & Fax | 3,500 | 3,500 | | 1,750 | 1,750 | 1,750 | 1,750 | 7,000 | 7,140 |
| Insurance | 2,700 | 12,050 | | 3,688 | 3,688 | 3,688 | 3,688 | 14,750 | 15,045 |
| Equipment Rental & Maint. | - | 2,000 | | 500 | 500 | 500 | 500 | 2,000 | 2,040 |
| Printing & Publication | 2,700 | 5,000 | | 1,925 | 1,925 | 1,925 | 1,925 | 7,700 | 7,854 |
| Travel | 2,500 | 3,500 | | 1,500 | 1,500 | 1,500 | 1,500 | 6,000 | 6,120 |
| Payroll Processing | 1,300 | 3,700 | | 1,250 | 1,250 | 1,250 | 1,250 | 5,000 | 5,100 |
| Internet Connection | - | 12,000 | | 3,000 | 3,000 | 3,000 | 3,000 | 12,000 | 12,240 |
| Conferences and Meetings | 1,600 | - | | 400 | 400 | 400 | 400 | 1,600 | 1,632 |
| Other | 5,600 | 5,000 | | 2,650 | 2,650 | 2,650 | 2,650 | 10,600 | 10,812 |
| Depreciation | 1,400 | 9,067 | | 2,617 | 2,617 | 2,617 | 2,617 | 10,467 | 10,467 |
| Total Personnel | 133,600 | 212,400 | | 86,500 | 86,500 | 86,500 | 86,500 | 346,000 | 363,300 |
| Total Expenses | 204,600 | 399,217 | | 150,954 | 150,954 | 150,954 | 150,954 | 603,817 | 624,144 |
| **Net Income** | | | | $ (100,954) | $ (86,454) | $ (66,454) | $ (46,954) | $ (300,817) | $ 20,856 |

**Cash Flow**

| | Q1 | Q2 | Q3 | Q4 | Year 1 | Year 2 |
|---|---|---|---|---|---|---|
| Cash Spent | $ 128,412 | $ 148,338 | $ 148,338 | $ 148,338 | $ 573,425 | $ 613,433 |
| Net Cash Flow | $ (78,412) | $ (83,838) | $ (63,838) | $ (44,338) | $ (270,425) | $ 31,567 |
| Cash Balance | $ 320,805 | $ 236,967 | $ 173,130 | $ 128,792 | $ 128,792 | $ 160,359 |

# 8.0 Marketing Strategy

## *8.1 Brand Identity*

Create a WRSC Brand Identity as a "thought leader" and "expert" for SROI in environmental sustainability.

Marketing Materials will include testimonials, media blurbs and sound bytes.
Brochure and Press Kit
Video – walk through demonstration of WRSC including floor plan, pictures and testimonials
Website

- Organize the website so potential donors can easily navigate through the business plan, see the demonstration video and end with a call to action by contributing their expertise, time or money.

## *8.2 Fundraising activities*

Traditional nonprofit grant development program will be launched to gain financial support from private individuals, corporations and grant funders.

Phase IV in the WRSC development plan includes raising $447,000 to create a temporary Center for a two year period. The following list explains the fundraising activities:

1. Grant proposals to aligned institutions
    a. GIS grants – work with SDSU, ESRI
    b. Federal grants
    c. San Diego Foundation – Better Giving Portrait & Social Ventures
        i. Common grant application
        ii. Social Venture Network
2. Board members – "give or get" donations and referrals to personal contacts
3. Meetings with potential donors – lunches, coffee, at GENI with projector

## *8.3 Market Analysis*

### *Target Markets*

1. **Experts** such as scientists, planners and designers that are conducting research or training on major world issues and exploring the relationships between issues with global consequences.
2. **Policy-makers** and their advisers who plan regional infrastructure development.
3. **Businesses** who want to visualize potential markets and technology penetration.
4. **Academics and Students** engaged in global/national/regional studies and doing research on sustainability.
5. **Collaborative Events** for business groups, trade associations, NGOs, companies or common interest stakeholders to hold small sessions, events, focus groups or receptions at the Center.

## *8.4 Organizational Partnership Opportunities*

World Resource Institute (WRI) and Worldwatch Institute
The Environmental Systems Research Institute (ESRI)
The o.s. Earth Global Simulation
The Design Science Lab
The Federal Geographic Data Committee (FGDC)
International Society for Digital Earth (ISDE)
National Oceanographic and Atmospheric Agency (NOAA)
Earth Simulator
California Institute for Telecommunications and Information Technology (Calit2)
Gapminder's Trendalyzer (owned by Google)
TerraSpark Geosciences, L.P.
BP Center for Visualization, University of Colorado at Boulder
Arizona State University's Decision Theater San Diego State University Center for Information Technology and Infrastructure (CITI)
The State of the USA (SUSA)

## *8.5 Marketing projects by revenue stream*

1. Donation of current non-profit income from GENI of $200,000 which comes from a combination of donations, product sales and a partnership with the MSCI Global Index
2. Regional and trade association event revenue for educational, trade and institutional users will bring in $3,000 per event (2 year total of $72,000)
3. Events and receptions will be charged $500 for rental of the space (2 yr. total of $22,000)
4. Corporate strategy and planning meetings for $10,000 each (2 yr. total of $300,000)
5. Public event revenue such as the hosting of the World Game™, extension classes from a university and demonstration events at $6,000 each (2 year total of $54,000)
    i.e. WRSC sponsored World Game™ - $60 per person with 100 attendees

**Revenue not included in the budget - Research Projects**
Utilizing the Center's technological assets, and expertise of the personnel, the WRSC will also be available for research projects and other independent studies by interested NGO's, businesses and other groups. Projects may last from a few hours to long-term projects spanning months or years. Costs for research projects will be determined individually and as needed.

## *8.6 Marketing Plan*

The marketing plan for the WRSC will first focus on locally interested groups and companies to utilize the Center thus gaining credibility and leadership within the community. Additionally, local conventions and conferences will be invited to host side events at the WRSC. With feedback and experience from these smaller group events, the WRSC will broaden its marketing scope to elicit use by national corporations, trade associations, government organizations and academic institutions. The following list explains a few of the business development strategies that will be employed:

- Showcase the high caliber research projects and demonstrations that student interns have created that are accredited by local universities.
- Offer field trips to academia studying environmental sciences to demonstrate the Center's potential applications.
- The Center will allow permanent exhibits for businesses to showcase their work in the environmental field creating additional revenue.

GENI currently has a database of over 26,000 contacts that include energy experts, world leaders, Buckminster Fuller fans and the general public. They also have affiliations with corporations, institutions, trade associations, convention groups and educational partners that will be engaged for the following marketing activities:

1. Advertising:
    a. Personal networking with Board of Directors, volunteers and staff
    b. Internet connections - Social networking (Facebook, LinkedIn, MeetUp & Twitter), blogs, RSS, e-newsletters and e-blasts

2. Promotions:
    a. Collateral materials
    b. Grand opening
    c. Special events
    d. Practical demonstrations of the facility
    e. Attending trade shows
    f. Receptions

3. Publicity and public relations:
    a. Networking with environmental community
    b. Developing relationships with key news media
    c. Press kits
    d. Radio and TV interviews
    e. Public service activities
    f. Speaking engagements and public seminars

***"You never change things by fighting the existing reality.***
***To change something, build a new model that makes the existing mode obsolete."***
R. Buckminster Fuller

# Appendix

Citations for Data Presented


1. www.bfi.org
2. www.wri.org
3. www.esri.com
4. www.osearth.com
5. www.bigpicturesmallworld.com/colleges/designlap.shtml
6. www.fgdc.gov
7. www.digitalearth-isde.org
8. www.noaa.gov
9. www.jamstec.go.jp/esc/index.en.html
10. www.calit2.net
11. www.gapminder.org
12. www.terraspark.com
13. dt.asu.edu
14. citi.sdsu.edu
15. www.stateoftheusa.org
16. http://www.usccb.org/sdwp/placeatthetable/worldpoverty.shtml
17. http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf#page=60


Current Institutional Partners of the WRSC: http://www.wrsc.org/content/become-partner

LEGAL

This Proposal contains forward-looking statements. These projections contain statements about expected future events and/or financial results that are estimates by nature and subject to unknown risks and uncertainties. Such forward-looking statements by definition involve risks, uncertainties and other factors which may cause the actual results, performance or achievements of the organization to be materially different from the future results, performance or achievements expressed or implied by these projections.

As the WRSC is expected to be a non-profit 501(c)(3) research entity, this Proposal does not constitute an offer to sell or a solicitation of an offer to buy any securities. All financial and/or in-kind support will be tax-deductible to the fullest extent by the donor.