Draper Richards Kaplan Foundation - Open Source Ecology

1. Overview of Need

Our work is designed to address the following social problems:

The way society innovates - the copyright system limits people's ability to improve upon or even use vital human innovation to solve very serious human problems such as hunger and disease.

Planned obsolescence - products are designed to have limited lifespans in order to improve profit margins for companies by creating conditions where people have to continue to spend money. Entire product service industries develop around this issue to profit off of people's dependency.

Chronic unemployment and poverty - the United States has lost over 29% of its manufacturing sector jobs since its peak in 1978 due to the globalization of the labor market. Some developing nations have seen an increased ability to attract investments that lead to job creation, but we need to ask ourselves if these are the kinds of jobs we want for ourselves. Aside from a life of poverty or working for unaccountable institutions, the third option, the route of the entrepreneur, has been prohibitively expensive, and the risks are very high.

Enterprise development barriers are unnecessarily high - the cost of acquisition for industrial capital is prohibitively expensive. When businesses depend on capital for survival, and it breaks down, service costs can drive companies out of business.

Video Explanation:

- Distributive Enterprise Video - (Problem Statement - 0:00 - 0:36)

- Practical Post Scarcity Video - (Problem Statement - 0:00 - 0:40)

Climate change and the destruction of natural ecosystems - the global system has taken risks to improve profitability and to concentrate power, and now the infrastructure that supports billions of lives is unacceptably instable due to a lack of political will in the face of climate change and the accelerated destruction of natural ecosystems. We need to rapidly deploy decentralized systems of agriculture, manufacturing, and clean energy production in order to reduce carbon emissions and develop social infrastructure that is resilient in the face of change and uncertainty.

2. Vision

Imagine a world where everyone has the capacity to produce material abundance and the free time to chase their dreams with the most advanced means of creation known to humanity. We envision a society made up of communities that can produce goods, construct housing, generate clean energy, provide transportation options, and grow food locally. We envision a world where innovation is shared openly for everyone's benefit, and where solutions to global problems are generated from the ground up at the grassroots level.

Imagine growing up in a world without the shadow of a global war or ecological crisis. Imagine a generation of children coming of age feeling confident enough to build their own home, manufacture a clean-energy vehicle, tend to a hydroponic greenhouse system, and build and program a personal computer instead of being plunged into a world of anxiety about finding a job and starting a family always carrying the fear of poverty with them in the back of their minds.

We aspire to promote a society of generalists; people who desire many things, are curious, and who have the free time to pursue a life of passion. By redesigning the fundamental machinery and methods that serve as the foundation of high living standards in many parts of the world so that they are built to last a lifetime, cost as little as possible, integrate with natural ecological limits, and are free for everyone in the world to build and use themselves without restriction, we hope to rapidly nurture this latent potential and see it become our children's future.

3. Mission

The mission of Open Source Ecology is to accelerate the growth of the next economy, the open source economy, one that optimizes both production and distribution, while promoting environmental regeneration and social justice. We are building the Global Village Construction Set (GVCS): a high performance, modular, do-it-yourself, low cost platform that allows for the easy fabrication of the 50 industrial machines that it takes to build a small, sustainable civilization with modern comforts. We redesign the conventional technological underpinnings of society so that they are affordable to make at the local level, user serviceable, designed to last a lifetime, and available for everyone to build and use without restriction anywhere in the world. The platform will enable more people to produce clean energy, manufacture goods, construct buildings, and grow food locally using machinery that is, on average, 69% cheaper than commercial models when built by the end user.

Openly licensing allows others to replicate, reuse, adapt, improve, adopt, bring to scale, write about, talk about, remix, translate, digitize, redistribute and build upon what we have done. Our mission is to develop global innovation-sharing networks that constantly refine technology and methods that reduce poverty, save lives, and regenerate the environment. We hope to attract support for the completion of the GVCS and to encourage other people to share their innovations with the whole world through the open source license. We hope to spark a trend of open sharing, especially where people's lives and livelihood are at stake.

Core Values:
(some of the links aren't complete yet)

- **Open Source** - all of our IP is dedicated to the Public Domain for the benefit of everybody. There are no licensing fees for any of our information, though people are free to contract with us for our services. We pay dearly for information and give it away mi free - the digital Robin Hoods of the open source economy. All of our blueprints for products and enterprises are published freely to accelerate innovation. We like Open Content, Open Data, Open Educational Resources, Open Source Technology, Open Source Software, and Open Everything. We publish early and often to foster collaboration and unprecedented development velocity.
- Distributive Enterprise - We publish all enterprise models that we generate freely, help Distributive Enterprise start-ups with training and capitalization assistance, and generally believe that others making money from our open content is a great idea. We are not afraid to share. The only enterprise propositions endorsed officially by OSE are Distributive Enterprises, and this point is non-negotiable. We do not promote closed-source solutions of any kind, and we publish our enterprise models early and often.
- OSE as a Learning Community - The transition to the next economy requires that we learn new skills and become more capable and powerful than ever before in history - via rapid learning, augmented reality assist, and lifelong learning - towards becoming Integrated Humans.
- Radical Transparency - as a lean organization, we intend to publish results, progress, financials, and all supporting data to promote easy accounting and responsibility.
- Responsibility - we promote responsibility for the world around us, the key route to this being productivity - as a means to creating autonomous communities more free from global geopolitical conflict than at any time in human history.
- Regenerative Development - we are interested in leaving human and natural systems in a better condition than we found them
- Social Justice - we are concerned deeply about solving pressing world issues
- Evolving to Freedom - One is not born free, but must evolve to it. Freedom is a state of mind brought about by responsibility. our platform is intended to promote freedom, not curtail it.

4. Theory of Change

If we lead by example, we can inspire other people to grant their innovations to the public domain for everyone's benefit. By creating open source technology that is affordable, made to last a lifetime, and easy to build and repair, we can create permanent solutions to chronic unemployment and poverty. The problem is not "how do we grow food, produce clean energy, or build affordable housing". The problem is, "how do we lower costs and expand access to the information people need to manufacture their own goods, construct their own housing, produce

their own energy, and grow their own food", because if we put it out there, people everywhere will join a global, intergenerational dialogue to solve these issues together.

Open Source Ecology - Logic Model - December, 2011

5. Leader Overview

Marcin came to the U.S. from Poland as a child. He graduated with honors from Princeton and earned his PhD in fusion physics from the University of Wisconsin. Frustrated with the lack of relevance to pressing world issues in his education, he founded Open Source Ecology in 2003 in order to make closed-loop manufacturing a reality. He began development on the Global Village Construction Set (GVCS) (see http://www.ted.com/talks/lang/en/marcin_jakubowski.html), an open source DIY tool set of 50 different industrial machines necessary to create modern civilization. His main interest is evolving to freedom by eliminating resource scarcity as the main force behind geopolitical relations - with the wise use of modern technology adapted for human service.

"I am a boundary-crossing iconoclast who believes that material well-being should not be a privilege that only the few can enjoy. I believe that the necessity 'to make a living' should not be an underlying force in civilization that prevents people from pursuing their true passions. I am convinced that by injecting a little wisdom into our technology, we can tame technology for true human service. I believe that open society and open source economic development is a route to abundance and prosperity for all. I am convinced that until we learn to share, there will not be enough for everybody. Sharing means engaging in open source economic development. Open source economic development is an economic paradigm where everybody has access to best practices, optimized product designs, and access to local production. I believe that one day, open access to the means of economic production may become a favored option over monopoly money - and stimulate much higher levels of innovation that are currently possible. I am also convinced that economies based on artificial scarcity are coming to the end of their useful life. Abundance is not an airy ideal - but a state of mind and a rigorous condition where people have not only the access to knowledge and tools of production - but also to free time in which to cultivate their wisdom, honor, and happiness. I am dedicating my life to live by these principles, and to make this a practical option for anyone who chooses to do so.

In practical terms, I am looking for collaborators who are interested in developing a world-class center for open source product development - with the stated goals of eradicating poverty as we know it; increasing meaning in peoples' lives; and evolving to freedom beyond material scarcity - while living regeneratively with balance in our life support systems. I am looking for people who endorse open source culture - to the point of understanding that open, collaborative development - if carried out effectively - has the potential to produce results far beyond and fear-based development path. To date, nobody has figured out how to truly leverage open economic development for disruptive social change. There are many hints that this is happening, but to date, open economic development has been grossly under-utilized. Our Big, Hairy, Audacious Goal is to develop and propel the open source economic development methodology into the mainstream."

- Marcin Jakubowski

Marcin has been working on this project since at lease 2003, and he has a huge amount of experience working on prototyping, agriculture, leading workshops, documenting the process

and living the culture of the organization. He has developed a rich history of experiences that put him in a unique position to lead the work that we're doing.

6. Landscape

OSE has the following unique assets:

Social capital - we are ambitious enough to be ahead of the pack, but people have independently sensed the need and possibilities of a post-scarcity society for a long time, which has magnetized them to our mission. Marcin has positioned us on the world stage with his TED Talk (825,300+ views), and our commitment to transparency has allowed people to see what is happening on a daily basis, sense that they are a part of our work no matter where on the planet they are, and take action to collaborate in many different ways.

Collaborative infrastructure - because people feel strongly about collaborating with OSE and are inspired to take action, we are fed a steady stream of opportunities and information about new tools and methods for collaboration that are in-development throughout the world. We have set up the following tools for collaborative development:

- Extreme Manufacturing Project Pages - these pages act as a centerpoint for team collaboration as they design, prototype, field test, and document a specific GVCS machine. The teams use project management methods taken from Agile/ Scrum and Extreme Programming techniques.
- Wiki - 11,137 total pages, 3,685 content pages, 1,571 registered users, 133 active users
- Forum
- Blog
- YouTube - 1,582 subscribers, 856,483 views, 993 videos
- Others - Skype, Google Docs, Scrumy, Google+, Facebook, Email, etc.

Track record - (*see Question 8*)

Team & Partnerships - people dedicate their lives to the mission and work for it whether they get paid or not. Literally thousands of people have contributed in some way or another, and our reach spans from many countries in Europe and North America to Guatemala, Africa, and the Philippines.

We are also attracting professional, experienced support from Team Wikispeed, the TED network, and the Shuttleworth Foundation network, with future partnerships proposed with the Draper Richards Kaplan Foundation and the Ashoka network..

Factor e Farm - low-overhead research and development facility, in the form of dedicated project visits, other onsite development events,

7. Programs

We offer four main programs:

1. **Extreme Manufacturing** - we are creating an innovation development pipeline for the rapid translation of technologies into the open source domain for everyone's benefit. We are developing a model for teams to collaborate globally for the development of solutions beyond the GVCS so that we can create an entire economy of open source technology and best practices.
2. **Hands-On Trainings** - we are developing comprehensive training programs that teach people to build and repair their own industrial capital for use in enterprise. Since the GVCS platform covers multiple industry sectors, the subject matter is required to be both broad as well as in-depth.
3. **Distance-Education** - we develop comprehensive training materials to facilitate independent replication of the machinery: (1) design rationale; (2) 3D CAD files; (3) 2D fabrication drawings; (4) CAE analyses; (5) CAM files (where applicable); (6) exploded parts diagrams; (7) bills of materials and sourcing information; (8) scaling calculations; (9) A-Z instructionals; and (10) cost and performance comparisons to industry standards. All documentation is openly available on our website, along with high-quality video tutorials showing how to fabricate the machinery.
4. **Enterprise Development** - we are developing an online archive of open source business models, and we support individuals and communities in the development of their own enterprises. The adoption of our open business models is a key source of information that will be targeted by our evaluations programs.

8. Results to Date

- The Civilization Starter Kit v.0.01 - full documentation of the following machines:
    - tractor
    - modular, hydraulic power unit
    - soil pulverizer
    - compressed earth brick press
- Independent Replication
    - Tractor - Pasadena, California
    - Compressed Earth Brick Press/Power Unit - Guatemala
    - Tractor - Baltimore, Maryland
    - Tractor/Compressed Earth Brick Press/Power Unit - Austin, Texas
    - Power Unit - Dallas, Texas
    - Compressed Earth Brick Press - Kenya
    - Compressed Earth Brick Press - Tulsa, Oklahoma
    - OSE Production Shop - The Philippines (photos near the bottom)
- $500k of funding as of March 1, 2012
- $100,000 construction grant
- 600+ True Fans donate 10$/month
- Built prototypes - videos and blog posts
    1. CNC Circuit Mill
    2. CNC Torch Table
    3. Dimensional Sawmill
    4. Cement Mixer
    5. Ironworker

6. Microtractor
7. Heat Exchanger
8. Solar Concentrator
9. Modern Steam Engine
10. CNC Multimachine
11. Drill Press
12. String Trimmer
13. Honey Extractor
14. Fruit Tree Auger
15. Hay Mulcher
16. Rototiller
17. Toothbar Bucket

- Infrastructure - constructed using GVCS equipment:
  - **HabLab** - 10 living units
    - Latest Update
  - **FabLab** - 4,000 sf fabrication and training facilities
    - Latest Update
  - **OSE Microhouse** - design version 0.05 complete
    - The design made it to the final round of the Living Labs Global Award for the city of Lagos contest to develop mass, smart, and low-cost housing units. The winners haven't been announced as of 4/23/12.
    - Our goal is to get to the point where we can do a one week construction project for a cost of $5,000 to complete a single OSE Microhouse as a model for housing replication. Effective on-demand construction to be able to scale our facilities from 10 people to as many as needed.
- Fellowships: TED Senior Fellow, Shuttleworth Fellow
- Kickstarter Success - $63,000 campaign

9. Scaling Strategy: Impact

Our approach is the creation of an open source learning organization - a tactical combination of non-profit and for-profit organizational ecology. To reach the scalable, open product development platform, we are developing the Extreme Manufacturing agile development methodology. We are applying this agile methodology to the development of the Global Village Construction Set as a test case intended to pave the way for a generalized open economic development platform. Cost reduction, lifetime design, and radical hyper-modularity, are some of our keys to maximizing platform scalability towards (1), an OSE Campus - or 24 staff and 200 students on site at near-zero external cost (autonomous operation) - and (2), large-scale replication - an OSE Campus built for every 100,000 population in the developed world by 2019.

Our goal for the collaborative product development platform is to raise $5M by year-end 2012 via the nonprofit sector and to build up to a team of 24 full time developers (entrepreneurs, organizers, fabricators, engineers, disruptors) towards developing the GVCS by year-end 2013. Based on the GVCS as an economic base, we aim to develop the OSE Microfactory by year-end 2014 to demonstrate $80k earnings per month in a 4000 square foot fabrication facility with 4 people - with the first OSE Campus built by year-end 2015, and 12 students trained by year-

end 2016, 100 by year-end 2017, 1000 by year-end 2018, and 10,000 by year-end 2019. We expect a full open economic option (collaborative development for any goods and services) to be unleashed by 2018.

We are testing each of the following elements now in preparation the scaling of our impact:

1. Extreme Manufacturing - we are developing a system for the rapid development of technology that is vital to addressing pressing world issues. The Extreme Manufacturing platform is a set of tools that make distributed collaboration networks possible using Agile/Scrum project management techniques, video logs, status logs, wikis, email, skype, social networking, cloud software, etc.

We are developing technology according to the OSE Specification:

- open source
- low cost
- modular
- user-serviceable
- do-it-yourself
- closed loop manufacturing - “cradle to cradle”
- high performance
- flexible fabrication
- distributive economics
- industrial efficiency

The Extreme Manufacturing product development pipeline is being refined and tested within the context of the development of the Global Village Construction Set, and our goal is to scale our impact by creating a flexible system for the collaborative development of solutions beyond the GVCS that make an entire economy of open source technology and practices available to everyone on the planet.

Although some technologies will need to be tailored specifically for conditions in the developing world, our goal is to create a sufficiently robust technology platform so that the entire GVCS, and, in turn an entire economy, can be generated from local resources, such as timber and scrap metal, and a handful of machines delivered in a shipping container. If we can deliver on this goal, our solutions will have applicability anywhere in the world.

2. Hands-On Trainings - Currently, we are accepting people for Dedicated Project Visits (DPV) and other roles. As a learning organization, we are providing crash courses for new people. Each DPV will be guided by one of our staff in fabrication, technical documentation, agriculture, construction, or organizational duties. We are currently developing online training and exam materials. We expect all candidates to study our materials for a preliminary exam during a final interview. Recruiting typically involves an initial application with video (self-made and published to marcin_ose YouTube), an initial

screening interview discussing the work plan (recorded), and a final interview including a subject matter test and discussion of outstanding issues. This is followed by the signing of a participation contract. When on site, Saturdays are reserved for cross training (pairing) or group work as determined by the Factor e Farm Director. Our production manager will also host production runs or other productive endeavors where participants have a chance to bootstrap fund their stay - as determined on an ongoing basis. Our crash courses for on-site participants and cross trainings run every Saturday from Noon to 6 PM.

- **Fabrication Track** - in welding, torching, drilling, basic precision machining (lathe and microlathe operations).
- **Technical Documentation Track** - basic course in video editing, soundtrack addition, Google Draw, FreeMind, Sketchup, QCAD, FreeCAD, STL embedding, CAD repository creation, CNX.org, modeling, image manipulation, and GIMP, Skype conference call recording on Linux, 3D scanning, Bill of Materials creation; Exploded Part Diagrams; 3D diagramming; mechanical drafting; basic CAE analysis; video repository creation; wiki culture and editing; data visualization; documentation management; documentation repository creation.
- **Construction Track** - using and building with the CEB press; Tractor operation; Sawmill operation; foundations; materials sourcing; wiring and electrical; plumbing; shallow well digging; roof water catchment system; hybrid straw-CEB construction; table saw operation and other power tools; concrete mixing. Construction will involve week-long construction runs of OSE Microhouses - or 350 square foot, 2 person studios with kitchenette and bath.
- **Agriculture Track** - gardening (summer and late/early season); field crop produciton; hay baling; land surveying and ground-truthing; mowing; pond digging; raising chickens; orchard maintenance; mulching; microtractor operation; chicken incubation; chainsaw operation (upon demonstrated competency)
- **Community Relations** - Flash Mob organization (review, design, CAD, calculations, video editing); community OSE Hackathons (CAD, design, video editing, prototyping), advisory board recruiting; blogging; group conference calls; social media management (twitter, YouTube, Vimeo, facebook); interviewing; main discussion Forum moderation (management thereof)
- **Organizational Track** - XM Platform usage; vlogging; resource development; in-kind donation solicitation; job posting; business plan writing; strategic development.

Our goal is to scale our hands-on training programs into the OSE Campus model. The OSE Campus is intended to be a Distributive Enterprise training facility (Open Source University) that combines a lifestyle of lifelong learning and work. It includes entrepreneurship training, education, production, product dog-fooding, and open source start-up incubation in one.

The OSE Campus is essentially an open source, learning and enterprise community. The organizational ecology involves a university-like campus, where in addition to entrepreneurship training, the participants engage in the use and testing of the products and services that are developed. Since the products are related to the creation of living and working infrastructures of communities based on local resources - the OSE Campus is effectively an autonomous, high-tech village. The OSE Campus operational model involves a community that produces a modern standard of living from local resources.

This notion is typically socially unacceptable - but this critique may no longer be relevant if it can be shown that such a task takes 2 hours per day to achieve by the community. The social model involves a village designed to disrupt the economic paradigm of artificial scarcity, towards one based on pursuit of higher purpose.

The unique funding model includes:

- Strong emphasis on unleashing human abilities, life-long learning, and breaking the habit of being oneself.
- OSE Microfactory and related productive operations - robust production is the backbone of economic prosperity and sustainability, operated in the for-profit sector
- Students pay tuition, with financial assistance available from microloans.
- Immersion education program - 1 year beginner's course, 2nd year advanced course.
- Students have an option to repay their tuition via apprenticeships where they generate value from production runs under the guidance of production mentors.
- Faculty and staff participate for 10 hours per week in productive activity to bootstrap fund their own salaries at $50k/household/year.
- Local production allows for zero overhead costs for the built environment, utilities, and other critical infrastructure
- A farm manager produces all the necessary food with assistance from apprentices or volunteers
- Intensive week-long, augmented reality short courses provide another revenue stream for the community - where state-of-art production techniques are converted into real startups
- Publication sales add funding to nonprofit branch
- 50% of profits from OSE Microfactory and other productive enterprises goes back into open source product research and development, development and growth of the community, and capitalization assistance to OSE Campus replications.
- No employees - only entrepreneurs, partners, and volunteers.
- Deep culture of responsibility as a means to addressing pressing world issues.
- Full autonomy is present in community as complete import substitution occurs for all essential items, but is optional for luxuries. That is - food, energy, and fuel are produced on site.

Once we test the soundness of the OSE Campus model at Factor e Farm in Missouri, we will be in a position to fund the replication of the hands-on training environment throughout the world, including developing nations.

3. Distance Education - we plan to release the full Civilization Starter Kit DVD, with documentation for each of the 50 GVCS machines, by the end of 2013. In the meantime, we will add new technologies to the schedule, and all of our organizational development and progress in general will be documented as a model for replication throughout the world.

4. Enterprise Development - we intend to build an online archive of open source business models available for use by anyone and everyone to coincide with our hands-on business development trainings.

Our goal is to have fully tested the OSE Microfactory business model by the end of 2014. This enterprise allows a minimum of people and machinery to produce a highly versatile manufacturing hub within their local communities for on-demand production using digital fabrication and online ordering systems. Based on the GVCS as an economic base, we aim to develop the OSE Microfactory by year-end 2014 to demonstrate $80k earnings per month in a 4000 square foot fabrication facility with 4 people.

10. Scaling Strategy: Organization

Staff is required to undergo augmented reality practical training and to produce physical products for 20% of their time. This is intended to bootstrap fund the effort. If you're getting paid, then you create material outputs for the organization that produce tangible, material wealth and results - thereby providing 'salaries.'

We aim to become the first organization in the world which focuses on the lifestyle investment model where the people managing operations have to be involved in the essence of the organization's work by actually living that lifestyle. In order to eliminate any possibility of corruption from the initial intent of the organization, we will require that our staff become evolved to self-funding via actual participation in productive activities that yield economic value including fabrication runs, building infrastructure, helping start other campuses and train others. One idea is that our staff takes a vacation and goes away and starts another OSE Campus in a developing nation.

- Executive Director - $128,250
    - Executive Assistant - $40,000
- Chief Technical Officer - $125,995
- Chief Development Officer - $102,700
- Director of Global Partner Operations - $105,000
- Regional Development Officers - $90,000
- Human Resources Manager - $64,000
- Volunteer Program Manager - $60,000
- Software Engineer- $111,000
- General Counsel - $121,940
- Web Developer - $70,000
- Finance Director - $115,000
- Marketing & Communication - $70,000
- Translation Coordinators - $50,000
- Replication Specialist - $80,000

Total: **$1,333,885**

Board of Directors - Development Plan

Criteria for selection:

- Open Culture + Personal Rapport
- Entrepreneurial Spirit - track record of enterprise savvy
- Thought Leadership - cultural creator of internet-scale phenomena
- Connectedness - access to leaders in multidisciplinary areas
- Access to funding sources - for accelerating the development of OSE. $10M+ net worth preferred.

11. Scaling Strategy: Budget

Our anticipated costs for the complete development and documentation of the GVCS is **$2.2 million**. See Global Village Construction Set - Production Costs Estimate.

Our estimated minimum staffing costs within three years are **$1,333,885**.

We are scaling our distributed enterprise as we scale the organization - we are walking the talk and testing it all ourselves to make a self-sustaining organization.

- First Steps: workshops teaching how to fabricate existing machinery (tractor, soil pulverizer, power unit, compressed earth brick press) and make $x,000/workshop covering fabrication, agriculture, and construction practices. The goal is to teach people to build real things.
- Full workshops would result in full fabrication of machinery, producing genetic stock of seeds and livestock.
- Prerequisite is the perfection of our current processes.
- Immersion enterprise incubation - distributive enterprise incubator
- people pay big bucks for significant training to get their own enterprise

12. Income/Fundraising Strategy

- The Civilization Starter Kit DVD - contains all fabrication documentation and training materials for the Global Village Construction Set. The DVD is available for free download on our website, and it can be shipped anywhere in the world for a suggested donation of $50. (Version 0.01 - available - 05/01/12)
- **Suggested 5% Donation for Distributed Enterprises** - we plan to ask that businesses that are established using the Civilization Starter Kit and our open business models grant 5% of their profits for 5 years to OSE. We are raising our bar to a higher level by delivering a quality product and expecting people to invest in us as well. We are committing to doing the best that we can, and we feel that the 5% cut of profits will come because people value what we have worked to do to add value to their lives.

- **Workshops** - people pay to learn how to produce machinery and construct housing with our hands-on training.
- **Suggested 1% Donation from each OSE Campus**
- **Grants** - current Grants Plan
- **Fee-for-Service Programs** - Economic Development Trainings covering machine/ tool fabrication, operation, maintenance, construction, agriculture, as well as enterprise development.
- **True Fans** - supporters who donate $10/month for 24 months - currently 600+
- **Individual Contributions**
- **In-Kind Donations**
- **Corporate Giving**
- **For-Profit Hybrid** - profits donated back into the non-profit organization.

13 Metrics

Over 3 years.

- Raise $2.2 million for the completion of the GVCS.
- Number of independent replications of GVCS machines: 1000
- Number of Distributive Enterprise Incubator program graduates: 12
- Number of Distributive Enterprise Incubator program attendees: 100
- Number of successful Distributive Enterprise startups, from Incubator: 12
- Number of successful Distributive Enterprise startups, independent: 12
- Number of GVCS machines sold: 1000
- Number of sustainable farms using our agriculture tools: 100
- Number of OSE 100 mpg cars on the road: 100
- Number of GVCS prototypes built: 150
- Value of GVCS machines built: $20M
- Number of GVCS machines developed and fully documented: 50
- Number of independent replications in developing countries: 100
- Number of independent enterprises developed: 50
- Number of independent enterprises developed in developing countries: 10
- Number of OSE MIcrofactories built: 5
- Number of OSE Microfactories built in developing countries: 1
- How many people voluntarily open source their formerly copyrighted innovation? 100
- How do people's attitudes change after completing our training programs?
- How well are people acquiring skills during our training programs?
- How well are businesses doing using our business models?

14 Milestones 3 yr

- Successful implementation of the Extreme Manufacturing platform (complete development to a tested Distributive Enterprise Model for the production of a single GVCS machine, 3rd quarter, 2012)
- Parallel machine development of 4 machines demonstrated using the XM platform - Q4 - 2012

- Parallel machine development of 12 machines demonstrated using the XM platform - Q1 - 2013
- Parallel machine development of 24 machines demonstrated using the XM platform - Q2- 2013
- Completion of the GVCS and full publication of the Civilization Starter Kit version 1.0. - target - Q4 - 2013
- OSE Microfactory - fully tested open enterprise model - target 2014
- First replication in the developing world.
- First enterprise established in the developing world.
- 100 independent replications
- Establishment of the first OS Campus at Factor e Farm.
- Establishment of the first remote campus.
- Establishment of the first remote OSE Microfactory.
- Establishment of the first remote campus/microfactory in a developing nation.

15 Evaluation

- Community Needs Assessment - February 2012 - 100+ Responders - we published an evaluations report based on an assessment of what our broader community thought of our current status and what they wanted to see us focus on the most in the future.
- Replicators Network Evaluations - this is a survey of feedback soliciting the input of people who are actively replicating our technology covering their experiences and recommendations. In the future, this will be a key source of information about how to make improvements to existing machinery and business models and how to improve the documentation process so that our distance-training programs are more effective.
- Demographics Survey - 175+ Responders - this is a survey of people who signed up for our newsletter as well as people who participated in our Community Needs Assessment in February.
- **Training Program Evaluations:** we will conduct pre and post evaluations of all trainees covering their skills and knowledge acquisition as well as changes in attitudes/outlook. We also plan to track data about the successes and setbacks trainees have in the development of enterprise.
- **Independent Replicators Evaluations:** the open source nature of our work, as well as its global scope, means that we will have a robust feedback system providing data-points on the viability of technology and enterprises. This system will harness the innovation of everyone who chooses to actively contribute, which could be a very large number of people.
- **Financing** - we are exploring the option of financing startup enterprises through direct loans or up-front access to GVCS machinery produced at Factor e Farm. Extending the transparent nature of our organization to financing could be a revolutionary step. Not only loan repayments be made transparent, which invites angel investors to support individuals and projects they like through direct contributions to close out loans, but this system would grant us access to the data-points that prove the feasibility of various business models within real-world scenarios. We would be able to gather extensive data on how well our open business models work by monitoring key metrics from businesses

in various contexts throughout the planet. Not only that, but everyone would be able to observe this process of experimentation to inform the formation and management of their own businesses. This could be a revolutionary evaluation program in itself.