

Team FREDNET - The Open Space Society

Celebrating the 4th Year Developing Our Mission to the Moon!

Is your world better today than it was 10 years ago? Does your job, your business, your life's work have a lasting impact on the future of your nation, your planet, and your species? Are you doing things that improve life for everyone? Do you want to live in a world where individuals can and do make a difference?

Do you see a world economy around you that is growing, thriving, expanding? Do you see increasing resources, cheaper and more plentiful materials, new frontiers of business, knowledge, science, government and society?

Do you want to change the world?

Team FREDNET began in a different world, with the simple Mission of improving our lives, our economy, our society, and our world by showing that we *as a species* can accomplish incredible things. While many of us see others protest with signs reading “*We are the 99%*”, the volunteers of **Team FREDNET** have been hard at work, building on the vision that will change our world. Our vision means new and better jobs (and many of our volunteers have found those jobs while volunteering for us), new opportunities, new industries: and most importantly a *new frontier*.

How can we justify such broad-ranging and forward-looking predictions? Because we *watched it happen before!* More than 50 years ago U.S. President John F. Kennedy issued a challenge to “*go to the Moon before the end of this decade,*” further saying that “*We don't choose to do these things because they are easy, but because they are hard.*” The result of that Space Race invigorated massive, rapid growth in technology, and had impacts on everything from life sciences to microchips, from rockets to environmental studies. That was a mission worthy of giants, but built by ordinary people who worked together to accomplish extraordinary things, “standing on the shoulders of giants” who went before them.

Now **Team FREDNET**'s volunteers (all volunteers) are reigniting that vision with a New Mission. This time we will go to the Moon: but not under the guise nor in the trappings of any government. This is our Mission. The people's Mission. And this one small step could be the most important Mission of your lifetime.

It's Your Mission, ... it can be done with Your help!

Going to the Moon is a big deal, and it is also an expensive one. Not one of our volunteers has the money to accomplish this task on his own. We don't have even one billionaire-backer nor part-time volunteer. We don't even have a hundred-millionaire helping out financially. If you happen to be one of those people who has been blessed with those kinds of resources and you'd like to help complete this Mission, we won't turn you away (and we have some unique opportunities you might like to consider). *But what if we can accomplish this without financial support from those 1%-ers?* Wouldn't that be a great thing? Wouldn't that show everyone that ordinary people, banded together, working diligently together, can accomplish extraordinary things?

It isn't that hard to imagine how we can accomplish this, and here's how you can help get it done. We've planned one of the lowest-cost lunar missions in history (probably the lowest cost lunar mission in history). Now don't panic, because we're about to show you a big number (yet small in astronomical/astronautical terms): US\$40,000,000. Don't Panic! Are you still with me? Here's how we can do it, but only with your help. We're only going to ask you for 1/1,000,000th of that amount - just \$40 - and one other small bit of help. Do you know at least 10 people who might also invest \$40? Would you talk to them about this, show them this letter, pass it along in email? Would you be willing to ask them if they also know 10 people who can help?

We're not asking you for \$40,000,000. We're asking you to help us build a network of 1,000,000 people who can each give \$40 (tax-deductible). That's what it takes. 1,000,000 people with the vision to see that this is probably the most important and far-reaching Mission you will ever be asked to join in your life.

Who we are

Team FREDNET is a 501(c)(3) tax exempt non-profit research and education foundation that began with a vision of reaching the Lunar surface by developing all of the required systems using the same successful Open Participation model that worked so well to create other massively participatory software development programs. Specifically, our Space Development Program is based on past and ongoing developments of things like the protocols underlying the Internet (TCP/IP) and free and open software such as the Linux, FreeBSD, and Ubuntu operating systems. We've just

completed four years of development toward our first major goal (building the first privately funded mission to the Moon), and we've had a few success stories along the way. We attracted and built a community of more than 700 volunteers from more than 60 countries on all 6 populated continents, which was a pretty good start. Our community covers a pretty diverse age range too, with volunteers ages running from 7 years old to "70-something". This community includes a lot of serious science and engineering talent, but also people from many other walks of life – because building a lunar mission requires more talents than just engineering and science. We accomplished a few pretty impressive things in the past few years, including being one of only six organizations in the world to be selected by NASA as a contractor in the Innovative Lunar Demonstrations Data (ILDD) program – which gives us an opportunity to provide data from our Lunar Mission to NASA scientists to help in the development of NASA's future human and robotic Lunar missions.

We've attracted some incredibly talented people into our leadership community too. Besides Fred Bourgeois (Founder & CEO, and serial entrepreneur), 2011 brought a new Chief Scientist to Team FREDNET. **Mike Brown**, author of the *New York Times* Bestseller *How I Killed Pluto and Why It Had It Coming*, and the Richard and Barbara Rosenberg Professor of Planetary Astronomy at the California Institute of Technology, came on board early in 2011 to guide all science initiatives. Mike also offered a course at CalTech this quarter entitled *Ge 194: Roving on the Moon*, in which students were tasked to “develop, design, and build a fully functioning prototype lunar rover capable of fulfilling the requirements of the **Google Lunar X PRIZE**” with the further incentive that a “successful design of this type has a chance of being incorporated into the lunar mission of **Team FREDNET**”. (See the class web site at <http://web.gps.caltech.edu/~mbrown/classes/ge194-gl/x/> for full details.)

Our young volunteer participants have gained some notoriety as well these last two years. We've been working closely with several groups of young innovators (ages 7-18) who have built robots for a number of competitions. One of our young participant teams – the **LegoAces** of Granville, Ohio – won *Second Place* in the **2010 International LEGO™ MoonBots 1.0 Challenge**, and this year reached even higher, taking the *Grand Prize* in the **2011 International LEGO™ MoonBots 2.0 Challenge!** (Please read more about **LegoAces** on their web site at <http://www.LegoAces.org/> - and sign up to Drive the Rover to Earn Your Lunar Drivers License!)

Where Will the Money Go?

As we mentioned, **Team FREDNET** is an all-volunteer 501(c)(3) tax exempt non-profit research and education foundation. From CEO Fred Bourgeois, to Chief Scientist Mike Brown (CalTech), to EU Robotics Lead Joshua Tristancho (UPC), we've all been unpaid volunteers. For the last four years we have operated with no paid staff, no facilities, a donated Internet connection (*thanks to the great folks at Hurricane Electric Internet Services, <http://he.net/>*), donated *Google Apps for Education and Charity* (*thank you Google, <http://www.google.com/>*), donated network servers from a number of volunteers (who asked to remain anonymous), faculty, staff, students, and facilities at Universities (including the *Polytechnic University of Catalonia*, the *University of Virginia*, *Queens University-Toronto*, *Morehead State University*, and, most recently, the *California Institute of Technology*), and a few companies (including *AGI*, *Dave Masten of Masten Space Systems*, *Kris Zacny of Honeybee Robotics*), as well as from our volunteers' own home computers, workshops, software, labs, and workstations. We're deeply grateful to all of those listed (and many not listed) who have generously contributed time and materials to get us this far.

Now we're ready to start building things. That means we need some key components, and that's where the money will be spent. Here is a short list of what we're looking for – either using donated funding or through donated facilities:

- **An Engineering Facility** (building) initially large enough to house ~20 engineering and administrative personnel, with an option to add additional space to accommodate ~100 personnel before the end of 2012. This needs to be in a commercial office building/park in the Silicon Valley or Pasadena, CA regions (two of our main hubs of activity), and should include both office and laboratory space.
- **A Mission Operations Center**, (with Data-Colo and Communications Center), preferably housed in the same engineering facility as above. During 2012 we are ramping up our mission operations center (which is the primary Mission Control Center for our Lunar Mission), including software development, personnel operations training, data collection & storage, control systems prototyping, testing, integration.
- **Communications Network Build out**. We are working with globally distributed partners to provide satellite communications capabilities from around the world as an open source / open participation sub-program.
- **Systems Development & Engineering**. This includes robotics, GN&C and general control systems, mechanical, structural, thermal, acoustic, electrical and other major engineering systems design, development,

fabrication, integration, and test.

- **Sub-Contract Services:** Launch & Major Systems. We are not building a Launch Vehicle, therefore we will be negotiating a contract for launch using an existing one. Several other major Systems and Subsystems shall also be completed under contracts with our partners (e.g. the TLI and Lunar Lander stages).
- **Engineering Management and Administrative Staff.** We have now passed the point at which we can remain an all-volunteer effort. While we still expect considerable volunteer support, consistent progress toward completing our Mission now requires a competent core staff of paid professionals.

That is the high level view. If you've worked in this field before, then you obviously recognize a lot of those terms. If you've not worked in this field, then just know that we're diligently working to make this Mission a reality. The items listed above are the basics that support the completion of our Preliminary Design Review (PDR) and take us forward into the next phase.

Okay, I'm in! What's next?

Great! We'd like to ask you to do these two* things:

1. **Make a tax-deductible donation** of \$40 (or more if you can) by following this link to our ChipIn / PayPal Donation site: <http://widget.chipin.com/widget/id/85f1a4f139630eb7> (also accessible from our web site at <http://www.teamfrednet.org/>). You will receive a receipt for tax-purposes via email. Then,
2. **Pass this message along** to at least 10 people you know who can understand this vision for the future. Include a personal note if you're able, and mention that this is something you believe in! Tell them why, talk about it with them, and ask if they can also help raise awareness of this campaign. ***Don't forget to mention that this is a tax-deductible contribution!***
3. * -- Well okay, there IS one more thing you can do, if you **strongly** believe in our vision and have time and talents to spare: Consider joining **Team FREDNET** as one of our volunteers. ***You don't have to be a Rocket Scientist, we need people from all walks of life!***

Are You Ready to Go to the Moon Now?

Ad Lunam!

Team FREDNET

<http://www.teamfrednet.org/>

<http://www.teamfrednetsrobot.yolasite.com/>

*In Terra inest virtus, quae Lunam del.
Johannes Kepler, July 1600*