



# BETTER FUTURES

## Transcript

Michael Laine  
Hey, James.

James Burk  
Hi, Michael. How are you?

Michael Laine  
Good, good, good. Let me just do a little bit of preamble. Thanks for joining us today. So I'm not going to do as long a preamble because we had James on the show. Well, technically, two thirds of a show about a month ago, we had some connectivity problems. So the end of the show got a little bit cut off.

Michael Laine  
So rather than just make stuff up, I wanted to bring them on and kind of finish out the conversation. We were just getting in to kind of the the meat and bones of the, you know, the finance of the Mars society. So I'll post a link here in a minute to the original episode. It was about five weeks, six weeks ago, and I definitely want to encourage you to catch that because in that he gave his background and it's pretty fascinating how James got to where he is starting from the very first Mars Society conference to now.

It's been a pretty, pretty wild ride. So definitely worth catching the the first part of this episode. And of course, will will cut it into a single episode when it goes to the podcast. But without going into a lot of preamble and history like we normally do, we're just going to jump straight into it. By way of introductions.

I'm the president of the Blyth Park Group. We've been doing space research focused on the moon for about 20 years. During the pandemic, we pivoted to doing a lot of conferences as a service and recently podcasts as a service, as a way of just keeping the doors up and keeping the revenues going during the pandemic. And in the last few weeks, we've had some pretty cool conversations about pivoting back into doing lunar lunar research, lunar infrastructure research.

So we'll continue doing podcasts as a service and conferences as a service because it's important to us. But we also want you back into working on lunar infrastructure. So keep your keep your fingers crossed for that. We hopefully will have some news and probably the first week or so in February. I don't think it's going to happen in January.

And with that, no more preamble. Let's let's bring James Burke back in and talk about the Mars Society. James, let's have you give just a brief overview to folks that are tuning in for the first time and then will jump in to kind of you know, the reason for the Dare Greatly podcast is to talk about the money, the finances, the commercialization of space.

James Burk  
And so you have a role in that. We talked with Dr. Robert Zubrin last week and how he had a pretty outsized influence directly on Elon Musk and that certainly has had some impacts throughout the whole space industry. So let's let's talk about you. Let's talk about the Mars Society. Give us a little bit of background. Hopefully that will have gone to the other other program.

Yeah, sure. So I'm with the Mars Society, where the world's largest nonprofit organization that is focused on settling Mars and sending our human explorers to Mars. I am the executive director of the Mars

transcript

Society. I'm also a founding member, and I have been a volunteer for the last 25 years. Up until about a year ago, when I was hired on full time to be our executive director.

Michael Laine

Okay, well, since that's the way you brought in your intro, let's talk about that. How did that how did that happen that you became the executive director? There have been the other executive directors, several that I can think of, but your role is different from all of their. So talk about the differences and then talk about how did that happen?

James Burk

Yeah, as I mentioned, I've been a volunteer for 25 years, started out as the Seattle Chapter lead organizer and also helped out with a lot of the I.T. needs of the society for the last 25 years. About ten years ago, I got hired on as a part time webmaster, kind of as a as a paid staffer, but also had the title of director of Information Technology.

So that was about 2012. And then as you mentioned, we've had a series of executive directors like Susan Martin was the executive director back when I got brought on as webmaster and IT director, and we've had others, but they've always been volunteer unpaid and part time and really with a limited portfolio of of things to do, you know, things to manage.

So what happened about a year ago, a little bit more than that was Mars Society. We got a big donation from Blue Origin's Club for the Future, who gave \$1,000,000 to 19 different space related nonprofits. And we were fortunate enough to be one of those 19. And so the Board of the Mars Society and Robert Zubrin, our president and founder, decided that now's a good time to bring on a paid full time executive director.

And so we had many people apply for that. We had over 40 candidates and several finalists, and the board chose me. And I'm very thankful and grateful and I'm just trying to do a good job with it because it's it's an amazing opportunity for me and something that I really want to do. It's my dream job, basically. I used to work at Microsoft as a technical project manager and did this as a fun thing on the side, as a volunteer thing.

And now I'm actually doing it as my full time job. So it's very kind of an amazing story and an amazing path I've been on and I'm really excited about it.

Michael Laine

Well, it has been really terrific. And I know you've worked at this for a long time. I've known you for about pretty close to two years now and working pretty closely together for call it the Last 18 months or so. And just to kind of see from the edges the transition, your own growth, the growth of the organization, the shift.

It's been it's been pretty amazing. So congratulations to you and to the to the society because I think it's a big important step to talk a little bit about the club for the future. What's it about? What's it for, and why did they give you and 18 other organizations, as you know, wheelbarrows full of money?

James Burk

Well, the opportunity came up through their new Shepard Space tourism flights and there was a specific major donor, a major customer of theirs, that wanted them to give away the money. And so they decided, let's pick 19 nonprofits and give them each \$1,000,000. And the theme, the theme of the selections was STEM education, which is Club for the Future, which is Blue Origin's nonprofit ARM, is focused on STEM education as its, you know, as its primary way to go after its mission of inspiring young people and inspiring people to be more, you know, participative in the space community, which is great because that's also for the Mars society.

That's what we want to do as well. We want to inspire the generation that's going to sit on Mars. So yeah, so they basically, you know, I heard a little bit of the insider story as well from Michael Edmunds, who's the president of Club for the Future and spoke at our conference last, last October, about seven weeks ago now.

He basically said, you know, as they were deciding which nonprofits to give to, you know, when it got when they got to us, you know, they were saying that they were meeting with Jeff Bezos and making the decisions. And he said, well, do we really want to give it to the Mars society? I mean, usually we're not focused on Mars.

Usually we're focused on the moon and earth orbiting space colonies, sort of the Freeman Dyson vision or sorry, the George O'Neil vision of the future there. And so no, Jeff said no, give them give the Mars Society one of these you know, they're part of the space community and we don't want to discriminate, you know, so so yeah, and so we're really thankful for that.

And we just had our meeting of the 19 organizations we meet, I think, I guess twice a year at this point, or maybe it'll be more often next year because it was a really good meeting we had last last week, each of the 19 organizations presented on what they had done for the last year related to the grants from Blue Origin Club for the Future.

And so when it was our turn, we actually got to go third and the other, the 19 was the last. The first meeting we were out, we were one of the last ones. So it was cool to get to go third. Right. And Robert talked about our high school engineering course and competition that we recently held last summer that was very successful.

We had 40 students from around the world met over Zoom and we gave them two weeks of lectures from a bunch of experts, you know, folks that speak at our conference about Mars exploration. And then the students formed teams and they actually designed a Mars mission together. And there were five teams and they competed. They each presented and then they criticized each other's presentations and designs.

And then they had a chance to rebut the criticisms. And they all turned in amazing work. Like these are high school age students and they turned in college level work. Yeah, And we had our judges were really impressed and we were really impressed. We're actually going to publish a book of a lot of their designs, and a lot of them came to our conference at Arizona State, and that's an expert panel about it.

And so it's just been a very positive program. And so we talked about it at with Club for the Future on that call, among the other amazing work that the other organizations were doing as well. I remember a lot of examples of, you know, other organizations were doing really innovative things as well. For example, Planetary Society has a new program for younger kids called Planetary Academy.

And and we've spoken with them about it to see how we can help out promoting it. But but essentially, it'd be a kids to kind of get a young person involved in space and interested in it early on. And then they kind of stay with that student as they get older, which is a great, you know, approach and it fits in well what I think we want to do long term with the Mars Society in our engineering program.

So anyway, yeah, there's a lot going on with education in the space community right now in the nonprofit community, and I think that's great.

Michael Laine

Well, with 19 organizations, in fairness, \$19 million going to space advocacy nonprofits that were there, that was it was they were all nonprofits, right. You couldn't be a for profit. Yeah.

James Burk

So it's it's something like the Challenger Center. There's a couple regional ones like the U.S. Rocket Center in Huntsville and the one in Houston. But yeah, a lot of other organizations that are like education and focused like teachers in space. Yes, things like that. But also Planetary Society and National Space Society and Space Frontier Foundation and the Mars Society, us for are the sort of space advocacy nonprofits.

Michael Laine

Right? You guys have all been around for 30 plus years, 25 plus years. You've certainly proven your your chops, proven your worth. Had the the test of time, a challenger center came out of the the Challenger crash. So that would have been 1987, 88, 87, I think. 85, 86.

James Burk

And that was 80. 86. Yeah. I believe also feds said and last generation advisory council also part of what future I think these are fantastic organizations that are great like talent young talent pool developers for space, not just space companies, but nonprofits like us.

Michael Laine

Yeah, yeah, yeah, yeah.

James Burk

We put a lot of people from SJC come to our station, for example.

Michael Laine

Yeah.

James Burk

And I've talked every time we have a conference, we try to reach out to the local SEDS chapter and try to get them involved. And we did that with Arizona State. Arizona? Yeah. This is so yeah, those are great organizations, too.

Michael Laine

Isn't isn't Bezos, wasn't he the chapter president for his SEDS group?

James Burk

I believe so, yeah.

Michael Laine

Yeah, yeah. I'll post a link to that. It seds.org right? It's got its students for exploration development space. I'll make sure I got that. Yes, it is. I just was like, well, maybe I just send them to a remote place. Yep. No, that's the right one. Yeah. So, so this, this fund for the future has really done, you know, pretty remarkable things in just a really short time that you can do a lot if you commit \$20 million, nearly \$20 million to the space advocacy.

Michael Laine

So really excited about that. And again, you know, this program is about the money, finance, capitalization and the other section and space. So, you know, when you have a philanthropic decision center like like the Club for the future, it can have an awful lot of leverage out into the world. So, you know, good for them, good for the Mars society, good for all the students that are impacted through all these programs.

Michael Laine

I've been I've been a fan of of Blue. I think people who know me know that while I admire Space X, Blue is actually my favorite rocket company. So just to see that kind of grow, it's it's pretty it's pretty impressive. So do they do they have any plans for next year? You said maybe they're going to have quarterly meetings instead of biannual meetings, but did they say what they wanted out of the future?

James Burk

Well, they would like us to us as part of the club for the future of the organizations that are participating, that receive the grants. They'd like for us to see ways where we can work together. Okay. They also offered, you know, Blue has 6000 employees and they repeatedly said, get our employees engaged with your nonprofits. You know, reach out to them, which we're doing.

James Burk

You know, there's a couple of folks that were even on the call that we are trying to reach out to and get involved with our programs and our plans for the next couple of years. So, yeah, we're it's really exciting. It's a great group to be part of, I think, for us.

Michael Laine

Well, of all the organizations you just listed, you're the only one that's 40 miles away from headquarters. So that maybe gives you a competitive advantage about getting getting blue folks involved with your your organization. So good that's what congrats So that that funding it came in maybe it was 15 months ago or so because it was it was enough time for you to to join you officially came on board the march say at the beginning of this year in January, right?

James Burk

Yeah, it was August of last year. I started in December. Started just about a year ago.

Michael Laine

Okay. All right. So congrats on your anniversary. I'm guessing you had to report back to the club for the future, like what your successes were. But could you tell us, you know, one, two, three, four, five. These are the things that, you know, this is how we spent the money and this is what we've accomplished.

James Burk

Well, yeah, sure. I mean, what we talked about on the call were two programs, the high school program I mentioned earlier, and there's a VR project that we have that we've been working on for five years. And there's an aspect of that. We're going to do a field demo of field science demo using VR, and we talked about that.

James Burk

Those are just the two things we talked about on the call because we only have 3 minutes and they asked us to each organization we prepared a single slide and we were only able to highlight a couple of things. There's a lot we do at the Mars Society. I was not able on either of the two calls with a couple of feature this year to talk about everything we do right.

And the other thing to mention is we haven't spent all the money like we we saved the majority of the money. We kind of see it as an endowment, as a cushion, so to speak, so that we can continue with their organization for several years if something happened where we weren't getting donations or or incoming money coming in.

So but yeah, I mean, this money.

Michael Laine

Is unspent currently. Most of that money is.

James Burk

I would say the majority of it is unspent. Now, there's two things that we have done. Number one is they hired me, so they've committed to bring me on. The second thing is we committed to help our Australian organization and, you know, the Mars Society of Australia to build their long planned station in Arkaroola, which is in southern Australia.

James Burk

And so we've pledged I haven't spent it yet, but we've pledged \$200,000 for that project, assuming other funding comes in that is able to match that. Okay. So that's the one. Those are the two big actions we've taken.

Michael Laine

All right.

James Burk

So in general, I can kind of just get into our finances a little bit because I know that was one of the topics you wanted to talk about.

Michael Laine

They do hold that thought for a second. I just posted Mars VR, but I don't have a link to the high school program and I know that there are some teachers on.

00:19:15:02 - 00:19:17:20

James Burk

Our it's on our main website at Under Education.

00:19:18:02 - 00:19:27:15

Michael Laine

Okay. All right, cool. I'll try and get that posted here in the moment. Yeah. Let's talk about the finances. Let's talk about let's get into the numbers here, sir.

00:19:27:29 - 00:20:15:09

James Burk

Sure. Yeah. So so the Mars Society, we're normally an organization that has about a 200 to \$300000 a year operating budget. So that's kind of how much we spend per year. And COVID was a bit of a blip for us. You know, just like a lot of other organizations. So I actually compare like like what we do right now with a normal year, quote unquote, which I look at 2019, in 2019, we had about 300,000 in spending, and a roughly the same amount came in through donations, through fees, grants, you know, all the normal routes that we get.

00:20:15:09 - 00:20:38:12

James Burk

Funding, I should mention early on here that the Mars Society is a 100% private or publicly funded organization in terms of our debt. We're funded through donations from the general public. We don't get money from the government. We don't, you know, in general, we don't get a lot of money from companies. You know, that's we do get some.

00:20:38:12 - 00:21:07:09

James Burk

And in this year, we've gotten some corporate sponsorships with our conference. But in general, we're funded by just like John Q Public sending us in a donation or buying a membership with the Mars Society or attending our conference. So that's the majority of how we get

our funding and when I look at the last, you know, eight years of the Mars Society, the biggest year we ever had in terms of money coming in was 2016.

00:21:08:21 - 00:21:19:24

James Burk

And that's where we had almost 500 K in incoming donations and other revenue. But in general, we're about 2 to 300 K at the moment, including.

00:21:20:10 - 00:21:40:28

Michael Laine

And you're you're spend what you get organization, right? So you add up the money, membership donations, sponsorship conference those are the those are the bulk revenue elements. And you add it all up and you're like, well, here's how much we have. This is what we're going to spend. You're mostly a spend what you have.

00:21:41:05 - 00:21:45:08

James Burk

We're mostly we try to keep things flat. That's right. You know.

00:21:45:22 - 00:21:46:27

Michael Laine

We might be going.

00:21:47:00 - 00:22:05:24

James Burk

Things on a shoestring budget in general. So, you know, our our station in Utah, we have we have run that for 20 years and we've we keep it up and running. We fix things that are broken. We we put a fresh coat of paint on it and new floors in it every couple of years. And we just did that this year.

00:22:06:15 - 00:22:29:24

James Burk

But in general, we're not like hiring a professional company to do that. We have volunteers come out and do the most do most of that work, so it's free labor and then we pay for the materials. You know, we maybe pay for some other things like a new HVAC system or something like that. We always try to get things donated to us or in-kind contribute that.

00:22:30:20 - 00:22:30:26

Michael Laine

Is.

00:22:30:27 - 00:22:36:01

James Burk

When you know, that's sorry, sorry, go ahead.

00:22:36:16 - 00:22:49:22

Michael Laine

No, no. I was going to say there were days in the early days where it was all I mean, it's a sweat equity. It was all donated time and money.

00:22:49:22 - 00:22:50:07

James Burk

That's right.

00:22:50:15 - 00:22:50:22

Michael Laine

You know.

00:22:50:23 - 00:22:58:03

James Burk

Both of our two stations that when they were built and our early operations of them were 100% volunteer.

00:22:59:20 - 00:23:26:15

Michael Laine

Advancing Fantastic 2825 year old organization that's just been plugging away and keeping the fire burning. So good. That's great. So 200 and 300,000 a year. Typically we had one year that was a half a million. Mm hmm. Yeah, we all know that everybody took a hit in 2020. That's why we're doing this show in the first place, because that was our pivot.

00:23:27:07 - 00:23:34:03

James Burk

21 wasn't that much better. You know, our, our, our donations went down a lot in 21. Yeah, but they've rebounded.

00:23:34:16 - 00:23:37:07

Michael Laine

Okay. Oh, they have. Okay. Yeah. Good, good.

00:23:37:07 - 00:23:39:26

James Burk

Yeah. This year's been more like a normal year so far.

00:23:40:11 - 00:23:56:06

Michael Laine

Okay, good. So I know that you want to do some work in the Arctic station. You want to do some work in the in the Australian outback? Yeah. Yeah. I was very.

00:23:56:25 - 00:23:57:04

James Burk

To.

00:23:57:10 - 00:24:01:09

Michael Laine

That. I'm just about to say just in the not to mention Mongolia.

00:24:01:09 - 00:24:07:01

James Burk

That's really there's a lot going on with that. We had a couple of meetings just today and last week about that.

00:24:07:07 - 00:24:22:20

Michael Laine

So, so so talk a little bit about that. You know those are you've got you've got kind of, I'll say, your crown jewels of Mars as a research station because that's been operating for so long and it's so important.

00:24:22:29 - 00:24:32:26

James Burk

270 crews, over 1500 crew members, 20 field seasons, huge body of research. Yeah, right. That's the big one. That's the number one in the world.

00:24:33:04 - 00:24:54:10

Michael Laine

That that definitely a crown jewels and you should be especially proud of that. But now you've got three other sites, flash lines been around but you know it's seen better days. It's been effectively unused for for many years. It's going to need some pretty pretty serious TLC to bring it back online.

00:24:54:10 - 00:25:16:05

James Burk

So we're planning right now. Yeah. Yeah. We haven't been up there for five years. Flash line is up in the Arctic Circle in Canada on Devon Island. It's and we've that was our first station. We decided to build that in 99 and built it in 2000. First crew was in 2000 but that's a lot harder to get to.

00:25:16:05 - 00:25:40:12

James Burk

And so we usually only mount like one expedition there every couple of years, and it's usually just one crew. So obviously the US is a much better, you know, station for what we're trying to do overall. But certainly Flashline is interesting in a lot of ways and right now we are planning an expedition. We just announced that it's going to go next summer and we're looking for we're actively looking for crew members.

00:25:41:03 - 00:26:02:14

James Burk

It's about \$100,000 expedition, so each crew member would need to bring about 20,000 for the mission as part of being part of the crew. And yeah, we do need to retrofit the station a bit, make sure it's ready for habitability and safe and and but we're very excited about that mission and we're actively planning it right now.

00:26:04:08 - 00:26:13:23

Michael Laine

Terry Trevino just posted to chat. Let's figure that out. F Mars exclamation point. So thanks, Jerry. Appreciate it. Glad you're watching.

00:26:15:07 - 00:26:43:27

James Burk

And we do have some opportunities for funding as well for companies that are interested. We are going to sell the naming rights to Flash line because the name flash line is actually a dot com that we sold the naming rights to 20 years ago. That contract has run out and then some. So we are going to sell the naming rights and the price right now is \$2 Million for a ten year deal and we're actively talking to companies about that.

00:26:44:19 - 00:26:59:25

James Burk

We also are looking for corporate sponsorships. You can have a company put their logo on the Hab or some other packages that we have available. So we're actively looking for, you know, raising money in that way as well for both flash line and the MDR US.

00:27:00:20 - 00:27:06:04

Michael Laine

So it's 100,000 for flash line mission Is that is that per year do you think.

00:27:06:23 - 00:27:30:09

James Burk

Yeah it's just for one mission to rent the Twin Otters and to get the crew up there and the supplies they need. It's about 100 to 120 is what we estimate called a twin Otter is a small cargo type airplane that we can fly from Resolute, which is the closest place you can get to that is on normal air routes.

00:27:30:23 - 00:27:52:17

Michael Laine

So anybody that wants to do that, they got to bring up they got to fundraise for some cash. What we've had a whole set of episodes. I think we had like 5 hours of programing six months ago. On what it takes to be an analog astronaut. So I want to recommend anybody that's interested in being an analog astronaut.

00:27:52:17 - 00:28:10:25

Michael Laine

Definitely check out the show that the Mars Society was participating in for our better future channel. What's it take to get you said 200,000 for Australia to come online? What's it take.

00:28:10:26 - 00:28:38:18

James Burk

Surplus are pledges essentially matching funds for the rest of what they need to bring that addition online? That's a major project that's going to be a nation that has a different design than Mars and Earth's. It's a kind of a space station module on that side with a landed kind of spacecraft that landed on its side instead of a two story habitat.

00:28:39:03 - 00:28:51:20

James Burk

So and then the fact that where it is, it's pretty remote as well in Arkaroola. So that's that's a larger project, I think, than any of the ones we've done before.

00:28:52:29 - 00:29:32:06

Michael Laine

Well, then let's talk about Mongolia, because that is I think, you know, I'm going to tell the audience. So I was at the Mars Mars Society Conference in Arizona, as James just said, maybe seven weeks ago, and now there's probably 400, 350 people in the banquet hall. It's kind of the closing night. I've been hearing about the Mongolians for a couple of days now, but I was running around like a crazy person trying to keep all the other videos going, so I hadn't really been paying attention.

00:29:32:06 - 00:29:56:08

Michael Laine

So there I am kind of in the front row, one of the one of the front row banquet tables, and they start talking about Mongolia. And I admit I was pretty skeptical. I was pretty skeptical and it blew my mind. So I was so impressed. I was one of the first people on my feet with a standing ovation.

00:29:56:08 - 00:30:13:11

Michael Laine

I thought they they earned it. They're doing amazing work. I hope that they can fulfill their mission. So let's talk about let's talk about what the Mongolians are doing, because I bet you most people on this call don't know what that is. And then let's talk about the money, because this is a

money program.

00:30:15:00 - 00:30:24:07

James Burk

Yeah. So the Mongolian organization that was presenting at our conference, they're called Mars V, I just put the URL in the chart for you.

00:30:24:07 - 00:30:25:08

Michael Laine

Michael Thank you.

00:30:25:09 - 00:31:20:16

James Burk

They are an organization in Mongolia that has support at the highest level from their government, and they are essentially a Mars society type organization. They're now our official chapter in Mongolia and they have several thousand members and they're working on an analog research program there in Mongolia. They have the advantage of the Gobi Desert as a great Mars analog, and there's a lot of areas in the Gobi that we could practice exploring Mars, and they're very excited and very interested as a society in Mars, Mongolia is landlocked between Russia and China, and they have a cultural history of, you know, the nomadic society, you know, the warrior culture from ancient times.

00:31:21:21 - 00:31:52:23

James Burk

And a lot of that carries through to the way they are, the way the modern Mongolians are. They're very independent people. They're very competent and they're very dedicated and hardworking people. And I've been extremely impressed, just like you, Michael, I've been extremely impressed every every interaction I've had with them. Robert was invited by them to come out and visit earlier this year and scout out locations for an analog station in the Gobi Desert.

00:31:53:06 - 00:32:20:19

James Burk

And so he did. And he was treated. He came out to Mongolia and he was treated like a celebrity. And there's a great video that we watched at the conference about his trip to Mongolia, where he met with senior federal agencies over there, the Education Ministry and the Economic Ministry and the prime minister. And they also took him out to an opera that they were performing that was about Mars.

00:32:21:03 - 00:32:45:28

James Burk

There's actually a famous poet in Mongolia that about a hundred years ago was he was 25 years old. And he wrote a poem about Mars. It's called Dreams of Mars, and it's a very culturally significant poem for them. And so one of the things that they're going to do this coming year, in addition to having the first mission at their new analog station, is to create a monument to the poem called Dreams of Mars.

00:32:45:28 - 00:33:06:29

James Burk

And it's really cool and we're going to be part of that. The Monuments dedication. But they're essentially planning a nomadic Mars analog station that you could pack up and move to a different location in the Gobi. It's the same size as a normal as one of our other stations. It's going to be a it's not a two story building.

00:33:06:29 - 00:33:30:15

James Burk

It's two years or they call them cars next to each other. But they're very futuristic looking. They're working on the designs right now and they've got solar panels as well as having, you know, the ability to go inside and use them for the crew quarters and for laboratory space. They've talked about also having a greenhouse component to it as well.

00:33:31:17 - 00:33:52:04

James Burk

But the idea is you pack all that up and move it to a different location and be able to explore a large area of the Gobi that way. And so we're working with them to plan the first mission, which will be next May. And we're planning to help with the crew selection as well as the science program that's happening for that.

00:33:53:23 - 00:34:20:00

Michael Laine

What what does it cost to do something like that? So we've got some orders of magnitude, 100,000 permission at up in the Arctic, 200,000, but that's only a portion of the mission grant to build an entirely new site down in Australia lets it weather the obligations for and expectations for Mongolia.

00:34:20:14 - 00:34:45:03

James Burk

Yeah, I mean they are self-funding it and so I don't know, it's not the same as building like the major US campus. If we had to build the Mars campus from zero, I think it'd probably be around 400 K or so to build that. And so it's not that much. You know, I'd say it's probably one 100 to 200 K, but they're getting a lot of that in kind from people that is interested in this.

00:34:45:03 - 00:34:57:05

James Burk

And they have suppliers and, you know, there's like I said, there's a lot of people in that country that just are part of this effort, even before they talk to us and we have a lot of support.

00:34:57:05 - 00:35:24:16

Michael Laine

So let's talk for a second. So they were talking about about 3000 members in their organization. You have, call it 8 to 12000 people kind of in your spheres, in your networks. I don't think if that's what your membership numbers are.

00:35:24:17 - 00:35:38:27

James Burk

No, that's it's we have we have 90,000 followers on social media. We have about 30,000 on our email bulletin, which is high traffic. And we have in terms of paid members under 2000.

00:35:39:11 - 00:35:40:06

Michael Laine

Yeah, yeah.

00:35:40:06 - 00:35:46:24

James Burk

But but if you there's a large, much larger community that's part of the Mars Society. Yeah. Than just our paid members.

00:35:47:13 - 00:36:18:07

Michael Laine

I, you know, here's an aside I've been involved around the edges of the Mars society for 20 years. It was the very first conference I ever went to, but I only became an actual member a few weeks ago. Right. So there's people like me that are supportive and interested and and, you know, I would say Mars adjacent. So, you know, I know that we've talked about that being a priority to kind of, you know, raise your membership numbers.

00:36:18:20 - 00:36:51:24

Michael Laine

But here you've got Mongolia with, you know, a really unexpected number of 3000 people in their environment. Yeah, 90,000 in the Mars Society social media network. That actually makes a lot of sense. I know your YouTube channel is 25,000. I know that one by heart. But yeah, it is kind of amazing to have your level of influence exuberance, level of influence and and seeing the ripple effects of 25 years of just constantly pushing the same thing.

00:36:51:24 - 00:37:22:05

Michael Laine

It's really quite it's really quite cool. So without without, you know, you know your leadership, past executives leadership Zubrin throwing a big rock in the pond and having all those ripples come out, the the Mongolians and the Australians wouldn't have probably any program at all. But now there's this global unified effort. So that's, that's got it. Yeah, that's got it.

00:37:22:05 - 00:37:49:22

James Burk

And we also have partners in Europe, you know, space Renaissance as well as our Poland chapter. There's two analogs in Poland, there's one in Iceland and there's the Ahmadi program that's going to be in the Negev Desert, I believe next, which we've had members, part of our French chapters, huge, over 300 people on our French chapter. There's, you know, many people from ESA as well in the French chapter.

00:37:50:03 - 00:38:11:20

James Burk

And then over in Asia, like we have a Chinese chapter and an Indian chapter that are very large, lots of support there. And then across Asia as well. I mean, there's a lot like Singapore and Philippines. And one of our students was from the Philippines for the high school program. And so and we're hoping for big things from him in the future.

00:38:12:05 - 00:38:21:13

James Burk

But yeah, there's we've have pretty broad support internationally. It's great to be part of the Mars Society because we're kind of a globally minded organization. Very diverse.

00:38:21:24 - 00:38:48:29

Michael Laine

Yeah, Yeah. Doug Plata is going to be our guest on on Wednesday this week and he's got a comment from the chat here. Flash line shows that distance makes a big difference. Our Carol is 5 hours from the closest home hardware store. Why not have an analog base near a Home Depot with local volunteer population and a large university?

00:38:49:08 - 00:39:22:12

Michael Laine

Now, I know that, Doug, if you don't know Terry Trevino know you all should exchange contact information. Terry was at the the analog sites in North Dakota just a few months ago and that is that is actually pretty close and that's on the university campus. So there are there's at least two that one. But I'm going to put words in James and Zubrin's mouth here.

00:39:22:29 - 00:39:39:21

Michael Laine

What they are trying to do as an analog site is replicate the remoteness, the geography. Zubrin told us a good story about finding dinosaur bones out there.

00:39:41:24 - 00:39:43:19

James Burk

In a place where rovers never could.

00:39:43:28 - 00:40:04:12

Michael Laine

Write, in a place where rovers never could. Very important detail from from zero. So I'm going to let James answer there. But but my answer is talk to Terry Trevino. There's things you can do on a local campus that are great and there's things that you can't do unless you're out in the wilderness somewhere.

00:40:05:17 - 00:40:28:26

James Burk

Yeah, the short answer, Doug, is that's not what we would have on Mars right? The other point, not in not all analog programs around the world by us and others are have the same goals. What we try to do at the Mars Society. And you can take a look at this book that Robert wrote called Mars on Earth, which is a little known book.

00:40:28:26 - 00:40:55:21

James Burk

It's about how the Flash line station was built, but also why why we do this. We're trying to show the human factors, challenges of working on Mars and how you would explore a large area with a with a human crew. And Robert is a little A.I.. We like Mars 500 experiment, for example, like having a crew isolate and not do anything.

00:40:56:10 - 00:41:25:19

James Burk

You know, that's not really what we believe you're going to. It's going to happen with humans on Mars. We believe that the first crew that goes to Mars is going to explore a large area for science reasons and so that's kind of what we practice. That's we try to set up our analog basis so that we can practice exploring as well as being in an isolated environment and the challenges that go with that, the challenges of human beings working together in an isolated environment.

00:41:26:01 - 00:41:48:18

James Burk

One of the things I've noticed is we have a lot of crews that like, know each other, that work together. Maybe they all are from the same university and they're they apply it together and their friends and colleagues, and then they get out to Utah and, you know, the gloves come off. You know, people get a little dehydrated and they're time crunched and maybe things aren't going according to plan.

00:41:48:18 - 00:42:25:17

James Burk

And that's the real test of working together on Mars. When you have when you're on Mars, you're going to people's lives in your hands. You know, how do you respond to that? And so, you know, one of the reasons why we have our stations in isolated environments is because that's a good we can simulate that a little. You know, we can go out to the Utah desert where, you know, there's not a ton of cell phone signal and we have to truck our water in, you know, and you have to kind of plan ahead of what you need while you're there, because there's no Wal-Mart 5 minutes away.

00:42:26:03 - 00:42:41:05

James Burk

You know, the closest Wal-Mart is 2 hours away. So, you know, it's it's not life threatening to be there. But, you know, if you have a broken arm, if we twist your ankle, you know, you're going to need some help out there.

00:42:41:21 - 00:43:10:16

Michael Laine

And medical emergencies. There's been some high seas. There's been some at MDRS crews and there's been some at Biosphere. Right. Those are just the ones I know of. Right. So that being able to kind of react in a remote environment and having the skills to do something that's pretty important. I do think there's value. You know, I'm I'm out here in Seattle region.

00:43:10:16 - 00:43:32:06

Michael Laine

So is James I would love for the University of Washington to build an analog site. I don't think think that's on anybody's to do list right now but I think there are I think there's value in having, you know, a big university side by side to do a program. But I know that that's not what you're aiming for.

00:43:32:06 - 00:43:42:02

Michael Laine

And and you had other offer the Mars Society's had other opportunities to do exactly that that's not the data that they're trying to capture.

00:43:42:06 - 00:44:15:29

James Burk

It's just not the approach thinking ours is more on a shoestring than having a university run it now I definitely want to give a shout out to Biosphere two and Kai Stats and the SAM. That's a really innovative new analog that he's setting up in the prototype Biosphere environment that they built initially, the small version that then they later scaled up to be the large facility we all know of, though he's he's essentially repurposing that small building to be a mars analog or a moon and Mars analog.

00:44:16:18 - 00:44:31:07

James Burk

And and he it is part of University of Arizona and it is going to have broad support, you know, from the university community there. And I think that's great. And it's just different than what we do with the Earth's.

00:44:31:07 - 00:44:39:04

Michael Laine

And it's only 40 miles from town. But it is it's way out there. I mean, there's a town that's, I think, 8000.

00:44:39:07 - 00:44:46:29

James Burk

Or more. It's pretty close. We didn't get you and I on. We were there in October. We didn't go to Oracle, but I think, yeah, it's a nice town.

00:44:47:05 - 00:45:10:27

Michael Laine

There's a small town of like 8000 people. That's nearby. But the closest big town that would have the Phoenix. Yeah, I mean, there's still a ways out there, so. All right, so let's get back to the money in the finances we've got about we've got about 15 minutes left if you want to if you want to wrap this up.

00:45:12:03 - 00:45:46:07

Michael Laine

But what is what is 2023 look like? What is the budgeting process, assuming you said that this year was kind of a little bit more closer to normal to the 300,000, you're going to get some more donations, maybe increase the size of the membership. So that's some new potential revenue. You've got sponsorship, you've got the the the income from the endowment where most of the Club for the Future capital is held.

00:45:46:22 - 00:46:03:11

Michael Laine

So what what is the budget when you decide, okay, you know, let's figure out what we're going to spend it on, what does that look like? Like how how do how does that budgetary process happen? And that's let's talk about like the big the big line items.

00:46:04:18 - 00:46:33:25

James Burk

Yeah. I mean, we're we're certainly still in the process of setting up a lot of those processes. You know, it's my first year as executive director. There's a lot of things we weren't really doing as an organization before I came on. And so in general, what I'm trying to do is get us to program level budgets, like any nonprofit will have an annual report and it'll have it in a general sense, what their operating revenue and their operating expenses are.

00:46:34:01 - 00:46:53:23

James Burk

And they usually divide those into programs so they can, you know, say, okay, we have this education area, we're going to go after this many students a year and we spend this much on it. So you can kind of scale and say, oh, well, if we spend \$100 per student, we're reaching 500 students. If you give us more money, we could reach more students, you know.

00:46:54:11 - 00:47:21:08

James Burk

So that's I'd like I'd love to have like that as an offering for the boards of the world of like give us \$50,000 and we can reach this many more students per year with our high school program, for example. So so having that understanding is what we're trying to get to. If I look at what our big initiatives are coming up, we are trying to raise money for the education programs.

00:47:21:08 - 00:47:44:28

James Burk

That's primarily going to be done through corporate sponsors. We are also going to do a crowdfunding campaign for this research, the Mars Desert Research Station in, Utah. That's analogous to the one I ran for Mars VR a couple of years ago. And so I've I've run two crowdfunding campaigns for the Mars Society, both for Mars VR. The first one was in 2018.

00:47:44:28 - 00:48:21:10

James Burk

We raised \$31,000 and the last one was in 2021 and we raised 109,000. And so using that same methodology, I'm going to try to raise money for the endurance by having the general public purchase small pledges, reward levels, you know, things like a model of the endurance. We have a friends of endurance package. We're going to talk about where you can get your name on a plaque there and some other things and selling t shirts and stickers and things like that.

00:48:22:12 - 00:48:43:26

James Burk

And then we will have some larger packages for major donors as well as part of that campaign. So so we're going to come out with that and hopefully raise 1 to 200000 with that. We're also and that will be in the first quarter of next year. We're also planning to do that Arctic mission in the summer. And so we're going to raise money to do that.

00:48:43:26 - 00:49:08:14

James Burk

We're hopefully going to raising, you know, enough money to do that mission so that there's no net expenses to the Mars Society. You know, we raise the funds to run the mission. Right. So in general, well, I'm trying to get us to as if we know we want to do something, that we have a budget for it, and then we go fundraise against that budget before we actually do the thing right at the end of the year.

00:49:08:14 - 00:49:36:02

James Burk

We're not we're positive or we're zero. We're flat. We're not, you know, in the red putting on our programs. And so so the biggest programs we have right now are the Uranus and the Arctic Mission. And then what we're doing with education. We also have other programs like we have the Mars Society Ambassador program, which is a cadre of people that can represent us and talk to us in their communities and public speak about humans to Mars.

00:49:36:14 - 00:49:53:06

James Burk

We that program on a very, you know, shoestring budget, basically just volunteer coordination and a little bit of funds to give them stickers and outreach materials. But that's not going to be a huge hit to our our our working capital next year.

00:49:53:17 - 00:50:35:28

Michael Laine

Right. Okay. So assuming you're able to raise for these kind of new initiatives, if I'm keeping my math kind of clear, that might be a three. That's a 5 to \$600000 budget, maybe even seven if you've got the you're normally at 2 to 300. So starting there and then you're going to bring in 100 for a flash flash line and, then another 1 to 200 on on the crowd crowd funding.

00:50:36:14 - 00:50:42:21

Michael Laine

So that gets you pretty close to five or 600,000 there. And then there's other stuff. Is that is that right? Am I doing that now?

00:50:42:21 - 00:51:04:25

James Burk

There's a little overlap there. I'd say when we have a normal a normal quote unquote normal year, like I was talking about earlier, where it's 200 to 300000 of spending as well as donation grants, crew fees, you know, that's a mix of things. The largest piece of that pie are the individual donations. Okay. And so.

00:51:05:08 - 00:51:06:10

Michael Laine

Are they from individual.

00:51:06:12 - 00:51:36:09

James Burk

Campaigns designed to get a little bit more than average of those this coming year and to direct those into Madras? Okay. We will still have our our normal set of crew rotations at the station for, you know, the field next field season. And we'll have a little bit we had a little bit of improvement budget this year for the ERs will have a little bit next year as well but that'll be sort of a normal a normal year overall from the US.

00:51:36:27 - 00:52:03:28

James Burk

Okay. Of 2 to 3000 like 200 kids. So then Flashline on top of that and again that's going to be your money, money that comes in that we spend to do flash line. We're not going to dip into our endowment to do flash line that we've decided we'd already decided not to do that last year. So so it's got to be new money that comes in to do flash line and the new money that comes in to scale up our education program as well.

00:52:04:12 - 00:52:22:23

James Burk

The high school program we did last this past year, we ran on our own. There was really no costs, right? And we really didn't ask for anything other than a \$50 registration fee for the students. And we never fundraiser did any fundraising for it. It was just basically a pilot program that we did on our own. I was the coordinator.

00:52:23:05 - 00:52:43:25

James Burk

So next year when we scale it up, we'll be bringing on some volunteers, maybe some paid staff to help run that program and scale it up commensurate with the funding we're able to get. We're also actually for that program talking about not just doing it online in the summer, but doing it at brick and mortar institution in the spring, but possibly more than one.

00:52:44:13 - 00:52:51:22

James Burk

So so that's also where some funding will go, is helping facilitate and make sure those programs ran successfully.

00:52:52:05 - 00:53:02:29

Michael Laine

I know that there's some high school robotics teachers that have been paying attention to our show for a little while, and I'm sure I'm going to get some phone calls about that pretty soon.

00:53:04:08 - 00:53:31:00

James Burk

Yeah, we're and we're talking about high school robotics like Mars Rover kits and things like that. And then how, you know, if we do get some money for STEM education as new grants for us, that we may put some of that into doing high school rover kits and field trip in a box type kits that we could then distribute at cost or maybe for free, maybe sponsored to different institutions, educational institutions.

00:53:31:20 - 00:53:56:05

Michael Laine

Awesome. Awesome. I may go and ask you to pull out your crystal ball. Doug has asked a question that I'm pretty sure you can't actually answer correctly, but let's let's play some games here. Sure. How do you think Mars will be paid for? I'm what I'm really assuming is how I mean, they kind of put some clarity on your question, Doug.

00:53:56:05 - 00:54:18:10

Michael Laine

Hopefully I'm right. How do we get to Mars? How do we get people to Mars? And where's the budget for that going to come from? I'm going to make some assumptions that Space X is pretty deeply involved with that, but not the whole story. But where where do you think? Yeah, let's put some time frames and some budgets on there.

00:54:18:10 - 00:54:23:27

Michael Laine

What's it take to put a crewed mission on to onto the Martian surface.

00:54:24:11 - 00:54:54:05

James Burk

Yeah. I mean space certainly is in the lead right now on doing this and that's what their whole starship initiative is organized to be is a human Mars program that's private. Now they get the majority of their funds historically from the Falcon nine development was from the US government. Now they are selling rides on the Falcon nine and the Falcon heavy and and they will be selling rides on Starship and they are selling rides on starship like Dearmoon.

00:54:54:25 - 00:55:15:29

James Burk

They pre-sold even though Starship's not operational yet so so so some of that is coming from private sources, but the vast majority of SpaceX

is funded by the US taxpayer. That's been the case. And so when I get on the surface, to answer Doug's question, we're going to get to Mars on the backs of government funding. I think primarily.

00:55:16:17 - 00:55:39:00

James Burk

But there's important role for the private sector to play because the private sector right now is the one that's developing the technology that's far ahead of us, that that is the government program to go to the back to the moon and possibly go to Mars, you know, with a with an advanced upper stage. You could do that. You know, you could do a mars mission, a human Mars mission with us.

00:55:39:00 - 00:56:04:13

James Burk

So as if you have an upper stage that could lift them through to Mars. And that's like what Robert talked about in his book, you know, in the nineties was essentially an excellence type rocket. He called it the Arias, but it was a shuttle derived design that he worked on at Martin Marietta in the eighties. You know, and so it's funny when we see ourselves, you know, and he talks about seeing us all this way, he's like, yeah, I designed that in the eighties.

00:56:04:13 - 00:56:06:28

James Burk

Nothing like me newer, innovative about that. Rocket.

00:56:07:10 - 00:56:29:13

Michael Laine

Well, the NASA administrator on Sunday after the Artemis splashdown kind of point blank said, you know, the Obama administration tasked us to get there by 2033. We're not going to hit that. We're looking at the end of the thirties, the end the end of the 30.

00:56:29:13 - 00:56:30:20

James Burk

SLS you're saying.

00:56:30:28 - 00:56:32:25

Michael Laine

Yeah, right.

00:56:32:25 - 00:57:02:15

James Burk

Yeah. I mean, we can go really deep on what NASA's plans are for Artemus. I don't think they're really just, just to finish answering Doug though, like it's going to be the private sector driving the mission. You know, we're not, you know, if it is Space Starship is the way that we get to Mars, then it will have been a private mission, a private product that's been designed specifically for Mars without a government mandate.

00:57:03:03 - 00:57:12:17

James Burk

Yeah, And but the funding ultimately will come from the government because that's, you know, that's who's you know, that's the majority of where SpaceX excuse their funding now.

00:57:14:02 - 00:57:44:13

Michael Laine

Yeah. It's pretty interesting watching watching the money move around that space That's you know, Musk isn't putting his own personal cash into it and hasn't been for a long time. They've got another capital raise happening now that's in the billion five range on 110 billion valuation. And that's that's private capital. Right. So they're getting.

00:57:44:13 - 00:57:50:08

James Burk

Hardware and also the whole reason they designed StarLink system was to fund a mars mission.

00:57:50:24 - 00:57:51:15

Michael Laine

And they just.

00:57:51:15 - 00:57:54:03

James Burk

Had funding coming in to fund a mars mission.

00:57:54:15 - 00:58:31:06

Michael Laine

They just added in the StarShield version, which is the military capable military grade version of START. StarLink Hmm, hmm. Right there.

They've got half a million subscribers, the commercial side, the civilian side, that's half a million subscribers. That's a pretty good cash cow, right? That's pretty good cash cow. So so, Doug, to kind of answer your question, there's going to be federal funds coming in for R&D, primarily for the moon.

00:58:32:01 - 00:59:01:03

Michael Laine

There's going to be private capital coming in to fund other R&D, and then there's revenues from launch, whether that's Falcon nine, Falcon Heavy or Starship, and then there's revenues from StarLink. So that's there's a lot and that's just one company. Let's really be clear, right, because the United Arab Emirates has have an entirely different government funded program.

00:59:01:23 - 00:59:27:15

Michael Laine

And just two, three weeks ago, Korea announced that they're going to to Mars. So there are there are there are nationalistic plans that are far more, I would say more ambitious, maybe, maybe or maybe not more capable. I'm a little skeptical, but certainly more ambitious than the NASA plan currently.

00:59:28:03 - 00:59:47:20

James Burk

So if the US, the U.S. is not asleep anymore, going to to Mars? I mean, I was I was just watching CNN last night where they were talking about the Orion capsule splashed down and Mars came up as we're eventually going to Mars like the anchor. The CNN anchor was just like, oh, yeah, of course, we're eventually going to Mars.

00:59:47:20 - 01:00:13:06

James Burk

But this right? And for me, it's like, that's great. They need to worry, right? Even a couple of years ago, even a couple of years ago, it was like, no, we're going to the moon, not Mars. Right. So I think, you know, I definitely that the US is on a path to go to Mars, whether or not Space X is the way we get there, it just will take longer, quite frankly.

01:00:13:20 - 01:00:39:08

Michael Laine

Yeah. All right sir, with that it is straight up at 6:00. I'm going to close out this program. Terry and Doug, thanks for your feedback. We always appreciate you on chat. I appreciate my team doing a great job keeping things flowing here. And with that, we're going to close out. Thanks a lot, James, for being patient and coming back a second time.

01:00:39:08 - 01:00:42:15

Michael Laine

We really appreciate it. It's very it's very enlightening.

01:00:42:15 - 01:00:43:16

James Burk

Always a pleasure, Michael

01:00:44:01 - 01:00:47:18

Michael Laine

Roger. All right. Talk to you soon. Bye bye.

