

John McIntyre: It's John McIntyre here, the autoresponder guy. I'm here with Brian Lim. Now Brian is a very interesting guy and a bit different from the usual guests I get on here, you know, I've spoken to marketers, entrepreneurs and business guys, and Brian is very much a business guy and entrepreneur, but why I put him on the show is that I've been reading a book called Bold by Peter Diamandis. And it's all about how fast the world is changing and how much faster it's going to change over the coming years. And where this fits in the business is, I think, a lot of people, when it comes to marketing, everyone's talking about how you can build better sales, how you can build a better business. Maybe even sell your business later on with all the startup stuff. But very few people, you know, before... When you're doing that, a lot of people think that's freedom. That's, when you get there, you can be happy, you can retire, you can live on the beach. Or you can go to Thailand and live on the beach and, you know, work while drinking coconuts or something. But you get there and then you realize it doesn't make you happy. All you've really done is created a platform on which to do something interesting with your life. And, so, I wanted to talk to Brian, have a bit of a chat about once you get to that point, what some of the opportunities, what's going on in the world of business right now, in term's of what's next, what's gonna really get you pumped up and excited, and passionate more than just, you know, building an internet business, something like this. Something that's gonna change the world. So... It's a bit of a cliché, but I like it. I like it. Brian, how are you doing, man?

Brian Lim: Very good, John. How are you?

John McIntyre: I'm doing good man. Now what the... I should have asked this before we started but I was thinking cause you're originally from Singapore but you've been in Australia for a while...

Brian Lim: Yes, that's right.

John McIntyre: Okay, so do you have... Cause I think, you said mate before, do you have like an Australian accent, do you think?

Brian Lim: Oh I think I have little bit of it. You know, if you wanna come get a schooner with me I'm happy.

John McIntyre: Haha that's kinda funny too and a bit ironic. You're from Singapore but you're in Sydney right now. And I'm in Singapore and I'm actually from Sydney.

Brian Lim: Haha we'll swap places one day.

John McIntyre: One day, man, let's do it. So before we get into some of this singularity stuff, the exponential stuff, can you give the listener a quick bit of a background on who you are and what you're up to?

Brian Lim: Okay so I am actually the space guy and what I... You know, when I go to a club and try to talk to a nice lady and they ask me what I do I'll just say I build spaceships.

John McIntyre: What's the response to that?

Brian Lim: Haha you know, I'll just say a lot of people think I'm just pulling their leg. They think I'm at a bar, I'm just trying to drop an interesting conversation. So you build spaceships. Cool. And then the guy says yeah, I'm a vampire.

John McIntyre: So you actually build spaceships?

Brian Lim: Yes I do, sir! You know um so what I do is that I am right now working with the government of Australia, universities in Australia, corporate entities in Australia on the design and manufacturing of spacecraft and building space business ecosystem to actually take Australia to space.

John McIntyre: Have we ever been to space? I don't think we have.

Brian Lim: Well actually it's funny. Australia is actually the third country to have ever put anything in space. Alright? Right behind after Russia, the U.S., it became Australia, right after that. And the second busiest spaceport in the world today is Woomera, which is in South Australia. It is the second busiest spaceport in the world right behind Cape Canaveral.

John McIntyre: So when you say it's the busiest spaceport, I mean like um I don't know how much space traffic like if you say you got the busiest airport there's a ton of traffic, you know, through that. So when you say the busiest spaceport how much traffic goes through, you know, the second busiest spaceport?

Brian Lim: Basically, they launch something every week.

John McIntyre: Wow, okay, so... Wow! That's more than I thought. And this runs to... Satellites, international space stations, you know, what sort of... Well, what's around, launches and traffic, what's going on?

Brian Lim: You know what, actually no one knows because all... It's the second busiest but nobody knows what's flying, it's all military confidential.

John McIntyre: Hmm, interesting, okay. Fair. So maybe the military is building us huge base on the moon right now and no one even knows about it.

Brian Lim: Exactly, they're defeating our alien master overlords.

John McIntyre: It's one of those things, well, it's like the movies when alien attacks the planet and only the CIA or only the special, you know, spies and agents know about it. No one else seems to know about it and they never find out and they get their memory wiped out. Maybe that's what's happening right now.

Brian Lim: Yeah. Potentially, yeah. Very MIB-like of you!

John McIntyre: So you've been to Singularity University, you said you did the International Space University which... Is a Space University. And they have got five

spacetops and three of them are going pretty well. So what are you thinking, I mean we had a bit of a chat about this, so where do you think this is going? We talked about like... What I find really interesting about this is the whole... We are using our brains to think linearly. In terms of one plus one plus one, you know... Take one thirty times and it gets to thirty. Whereas if you do like one meter exponentially by doubling it every time, you get some pretty big numbers. And it's very interesting, right, because no one... It's very much that people don't understand it. So when we think about computers getting faster every year our brains don't grasp the speed at which the things are starting to move. Where's it all going?

Brian Lim: I think you gotta look at... One very simple way to look at is innovation. Okay? Everyone knows that innovation is getting faster and faster and faster. So the question to ask is when is innovation going to be so fast that you cannot keep up anymore? So right now, if you think about it, the internet, when it was invented in 1990s, took 7 years to be adopted by 25% of American population. Now, electricity, on the other hand, took somewhere around 40 years, when it was invented. So, if you think about that line we're gonna approach a point where adoption of new technologies is going to be so rapid that nobody can actually keep up anymore. To give you an idea, Uber, as everyone knows, is a car company, a ride-sharing company, right? Now it came into Australia two years ago and now, two years on, it is taking 20% of the taxi market. Outright. And no one would have expected an organization like Uber to appear. I mean when it first started it wasn't worth much. Now it's worth what, 10 billion dollars. So companies like that are gonna come and go. Stat says that an average lifespan of a billion dollar company used to be 60 years. It's now gonna be 15. So a lot of work we gonna create is going to become irrelevant very quickly. And we have to be accomodated and get used to the fact on how do we constantly innovate to stay in touch or how can we build a business or an organization that can last for centuries past this point.

John McIntyre: That sounds like it's the pot of gold at the end of the rainbow in the sense that if... Cause I've heard this before too, like, the billion dollar company lasting 60 years, now it's lasting 15. Someone said recently... There is an article on Forbes, one of these sites said, something like 75% of what's on the Inc. 500 or the Inc. 50, some of the top companies in the world... None of those companies exist yet. I don't know what the actual stat was but it was like 75% of the companies in 2020, that will be like 75% of the biggest companies in the world in 2020 don't even exist. Yet. Which is kinda crazy, it's like wow, what will those companies be?

Brian Lim: You know what, I have spoken to Peter Diamandis, Ray Kurzweil and a whole bunch of other people... We don't know. We actually have no idea what it's going to look like. So when you think about it for a moment it's not that we don't know. What it translates into is it's anybody's game.

John McIntyre: Yeah. One thing I find in this is, like, you are doing like a self-help work and that's going on about... And then you gotta get in touch with your dreams from when you were a kid. If you wanted to be an astronaut you've gotta get in touch with that and find out if you can actually be an astronaut. If you can't be, go and work for a space company for example. And where this is interesting is that a lot of people who hear something like this and it's... Even if they are very successful with what they do already with life they gonna have the attitude of I can't really build a space thing. It just feels like

it's so far out of reach. Or you can have these multi billion dollar companies, you know, like Instagram and do it in 18 months or something. And I think that people are gradually waking up to the point when this is the exponential thing. When you start to grasp the potential of how an exponential curve works, anyone, if they're willing to do the work and get involved, can go from being just a random person with maybe a small business or something like that, some mild success, but nothing in the grand scheme of things, to going and going, and doing something absolutely life-changing for billions of people on the planet.

Brian Lim: Exactly. And that's one of the opportunities we have, it's that we're now in an age when you can build a big business and you could also save the world at the same time. If you wanna be a billionaire, just sell one dollar product to a billion people.

John McIntyre: It's like Whatsapp did, right? One dollar a year. It sold out to Facebook for 19 billion dollars, though. It's incredible. And when you think about how fast this world is being created. You know, you got Instagram in 18 months, and Whatsapp, and Viber, with something like 900 million dollars. And Instagram had 13 employees.

Brian Lim: Yep. 13 employees and it was sold to Facebook for a billion dollars.

John McIntyre: It's incredible. And obviously it's not as easy as just sitting down, building an app and then, you know, you're gonna make your billion dollars. But it's exciting to give in to that freedom thing. Once you've got a business and you've got your freedom and whatever that means to you, whatever level you need to be at, then it's a bit like you can do anything you want now with your life. You have the time, you have the money, for the most part. Now you can do whatever you want. So what's gonna get you most excited when you get up in the morning to go and do stuff? Would you really want to sit around and play video games all day? Or would you want to go and tell people at the bar that you build spaceships?

Brian Lim: You already know my answer, I'll do the second. Any day.

John McIntyre: Cause you have an accelerator, eh?

Brian Lim: Yes.

John McIntyre: So do you work with younger people or less experienced people and set them up, mentor or coach them, that kind of thing?

Brian Lim: Yes, we do.

John McIntyre: How does that work? What sort of barriers and problems do you run into?

Brian Lim: Well I think the first thing is perception. When I say that this is mentality of to do space you need to be a rocket scientist and I'm not a rocket scientist and therefore I can't do it. And that's the first thing I'm faced with as a challenge. And you know what's the funny thing... I'll give you a real example. The satellites were launched, it was called the GRACE Mission.

It was launched to measure the gravity of the Earth's planet field accurately. And on board it had a few sensors. It had a gyroscope, three-axis accelerometer and a GPS and a few other instruments. The first mission was about 200 million, the second was 520 million. And if I were to compare that with something that you already have, which would be your smartphone, it's no more than a \$1,000, you have an accelerometer, you have a GPS, you have a touch screen, a decent speaker, you know. The cost of this is amazing. So the truth is that we can now actually build satellites really cheap. In fact, anyone in your audience can google it, it's called PhoneSat. NASA built it. They basically figured out how to put an Android smartphone in a satellite and make it work. So if you know anything about programming, you're using JavaScript to actually write the Android app. Which translates to that if you can make an Android app or do decent basic programming, you can control a satellite.

John McIntyre: So you can actually launch your own satellite from your house into space.

Brian Lim: Not from your house, just yet I don't have enough rubber bands to do that, just yet. But you can actually do so. Just from that perspective alone, of difficulty, it's incredible. You can do something. The next challenge I have is people think it's really expensive. If I ask you right now how much do you think it costs me to put something in space, what do you think it will cost?

John McIntyre: Five... Well... I've kinda read some of these books, I was gonna say, like, \$5,000.

Brian Lim: Five thousand dollars, actually, you're right. Let's not kid ourselves here. So the \$5,000 is a launch cost for what we call a CanSat. It has a size of a coke can and it's a really small piece of hardware. And it's basically there to go up there and say beep beep beep I exist.

John McIntyre: So you can't spy on your friends with that?

Brian Lim: No, unfortunately. The cheapest satellite I've ever seen so far built that works, right? It's \$50. It's called the Fifty-dollar satellite. Okay? You're not gonna make a commercial product of it but that's how cheap it's getting. I've calculated. If you have about \$250,000, you could actually sit down and design a viable space business. Now, 250 is build, launch and maintenance of a satellite. You could actually figure this out. You could do it.

John McIntyre: Cause one thing I wondered about is how this translates to... One thing, we kinda sit down and play around with some of this stuff and spend a bit of money just as a hobby kind of thing, but how do you make this? How do you take that \$250,000 and make it a business?

Brian Lim: Okay so this is one of the challenges, is that you don't know space and people don't understand the model. So one of the interesting things that people do is actually education. If you think about it for a moment, when you have something up there, what are you providing back to Earth?

John McIntyre: Information.

Brian Lim: Exactly. So the value of information is of course greater than the hardware itself. So if you provide education let's say I'm gonna teach kids on how a spacecraft works, they go to walk with me to my journey on building a spaceship and it goes up. That itself is a potential business. Especially with the focus on STEM education. If you want to talk about... If you put a big enough camera on board then you fall into the model of Planet Labs where you're taking photos of the Earth. You know, they're telling you what's going on. Now let's go on to the next one. We have a special kind of area which you think you always know as GPS. It gives you position, navigation and timing. Now what's really cool about this that people don't realize is that GPS is not as accurate as you think it is. So when you use GPS, not the cell phone towers, but 'GPS' GPS it's plus minus 10 m accuracy. Now for you to go down the street to find something there it's no big deal, right? Now if you're flying an airplane and you're gonna hit the runway or you are trying to maximize the land on a farm for you to plant crops, 10 m is suddenly a very big deal. So there's a lot of people who are building technologies and services around augmenting GPS to make it more accurate. And I've been reading recently on a brand new model for space that at least was brand new to me, is that people have been using GPS to measure waves. So imagine it goes over the ocean, GPS hits the ground, it gets reflected back to space. So the signals are then read by a satellite that determines the height of a wave. So potentially it could be a disaster warning prediction mechanism. Well it's checking the Pacific Ocean on a regular basis and it could say I detect that a tsunami is happening because the wave has gone up past a certain height. And I'm tracking it's movement on approach to a coast. These are the kind of businesses you can build in space that are actually real today. I love the conversation of, like, asteroid mining and space tourism and other things. But those things take time and they are much further away.

John McIntyre: So it's all about if you wanna get in space tourism you need to be Richard Branson with a billion dollar budget to buy and build and fund the project. But you're saying you could be anyone and put together a company for \$250,000. It doesn't even need to be your 250 grand, you can go and fund that with investors. And you're in business, you're in the space business!

Brian Lim: Pretty much!

John McIntyre: This is pretty exciting to think that anyone these days could start a space company and you'll be like hey girl, I build rockets. So it's cool, but in terms of viability of the business model, is this something that the market is ready for? Or is it sort of still like a tinkers, kinda like a hobby field?

Brian Lim: Okay, the best way to look at it is to imagine that the space industry now is how the Internet was in early 1990s. You know, it was a Wild Wild West. There was a lot of unknowns. Nobody knew how to do everything. If you could figure a way to make money - awesome. And if you didn't, there were plenty of failures as well. But the opportunity is there. When we say we don't know what the next business is going to look like it's very much a Wild Wild West situation.

John McIntyre: I like that. Just like the Internet was. That's a good parallel. But what that means though, is that maybe not right now, maybe not for five or ten or twenty years, that this is going to be at some point some kind of a space

bubble, just like there was the 2000 tech bubble. When it sort of reaches that fever pitch where everyone's going crazy cause all of a sudden there are companies that are making money. And investors are going insane trying to get in on act. The whole thing is gonna implode. And it's going to be like Internet, in that sense it's a really interesting way to think about it. Cause then what happens in 2025, the whole thing implodes, you get in on 2026 on the ground when it's all just completely messed up and it's really easy to start a company, really cheap. Or you just buy someone's company. And then it goes back up again, 2030, 2035, so just give me a lot of, like, this riding the ups and downs of the next few decades.

Brian Lim: Bubbles will come and go. There's the housing bubble and everything so no industry is ever immune to it. The difference, I would say, is that the assets... Imagine this. The height of the bubble... Let's say I am going to go and capture an asteroid and bring it back to Earth. And this asteroid has a trillion dollars worth of ore. Okay? Somewhere along the way the bubble bursts. And then my company goes bankrupt. But you know what, I still have a mission. Bringing back a one trillion dollar asteroid. That's halfway progression. Let's say that I've already got the asteroid and I'm on my way home when it bursts, somebody's gonna buy me because they want that asteroid. Because that's business. So the bubble's gonna be a very different kind of bubble. You gonna have very smart people who know how to buy the right assets to go through the bubble.

John McIntyre: That's interesting too, I've just realized. Like if you wanna buy some land and get the oil out of it or buy a mountain and mine some gold, you need to buy of someone else. But when we're talking of space, this is virgin territory that no one's been in, so it's like the first settlers, that no one owns it. So if you're the first person to find the asteroid, you don't have to buy it. It's just your asteroid cause you found it first, right?

Brian Lim: That's right!

John McIntyre: That's kind of insane to think about it cause I've never, none of us grew up in that kind of thing. Imagine if you could just walk into the Blue Mountains and you're like I like this cliff and this patch of land and these 10 acres here. I'm just gonna build a house right here cause I like the place. It's mine now.

Brian Lim: Pretty much.

John McIntyre: It's pretty interesting too, I like how simple it is for someone to get into as well. How long do you reckon before it's gonna start picking up... It sounds like it's right at that point now where it's starting to kick into the next gear.

Brian Lim: You know what, I'm gonna go against that and say the gear has already kicked in. So I could tell you it's been about what, 200... No. There was a billion dollars investment that has already entered the space industry. Like Space 2.0, all us small guys, a new companies getting started. Alright? And we also have... Space Skybox Imaging was sold to Google for half a billion dollars. And that's the first exit.

John McIntyre: What was that Space Skybox, what's that?

Brian Lim: Skybox had a very interesting business, Skybox basically built satellites to take pictures of the Earth like most people. But what they were trying to take pictures of was factories. They were in parking lots. They wanted to know how many trucks was going out of the Foxconn factory making your iPhone. So they could then go on the stock market and hinge their bets on buying and selling people stock.

John McIntyre: Okay, interesting, if you see a whole ton of trucks going out of Foxconn, you're like Apple's just made a bunch of sales and the share price of the company is going to grow in the next few days or few weeks, so it's getting a jump on the market. That's pretty interesting.

Brian Lim: Exactly. So they were bought by Google and they're doing their thing. So where we're going is absolutely incredible. It's almost impossible to figure out what's gonna happen next.

John McIntyre: Are you excited about it?

Brian Lim: Without a doubt. Honestly, what I'd be doing in space if I was not excited about it? No, I think it's a very boring place, meh...

John McIntyre: I'm not working in space right now, but if I was, I imagine that when I get up in the morning and it comes to telling people what I do, that kind of thing... It would be really hard not to be excited about it. It would be just like I'm working in space, like what... What's better than that?

Brian Lim: You know, it's really exciting to wake up every morning... I'm reading books, talking to people that I never thought possible. Like I honestly started my space journey in January 2013. A little over two years ago. And I had not have expected to be sitting in the position when I'm now having conversations with NASA, the European Space Agency... In the early days of delta-V when we were getting it off the ground, we had this really weird conversation that came across our table. We actually met a diplomatic mission from Japan to Australia. You know, for diplomacy stuff. And they actually mentioned they were interested in providing discounted launches on the Japanese space rockets as part of the diplomatic package to improve relations with Australia. Now leave it at that, okay, but the very fact that that was even mentioned... Now I'm a startup trying to get stuff off the ground. I'm not expecting to be talking with big government. Let alone oh, we need you to improve our diplomatic relations with another country.

John McIntyre: This is top-level stuff.

Brian Lim: It's absolutely insane. So now I speak with people that I didn't even believe would take my call two years ago.

John McIntyre: We've been up in the world, man.

Brian Lim: Exactly.



John McIntyre: What they all say, what Peter Diamandis mentions in Bold and it makes a lot of sense, that right now we've got billionaires and billionaires are getting created fairly quickly. He mentions that space is gonna be where the first trillionaires are made.

Brian Lim: Yes. And I actually agree with that. If you think about it, when I said one trillion dollar for an asteroid, I'm not actually pulling it out of thin air... If you pull up the data on how big an average asteroid rock is and you find the right kind of asteroid, some of them have right now market value of over a trillion dollars in ore.

John McIntyre: Can you sell that on the open? Is there a market for a trillion dollars worth of ore?

Brian Lim: Well, considering the global economy is 263 trillion dollars when I last checked, I think the answer is yes.

John McIntyre: Haha, what sort of ore are we talking about? I'm gonna look this up. Is this platinum or something?

Brian Lim: Yeah, we call them platinum group metals. They are the heavier metals. So what happens when a planet is newly formed, you know, it's bombarded by asteroids. As it cools, heavier metals sink to the core. So the Earth is quite a cool planet, so lot of them have sunk into planet. So the ones we have been mining are relatively recent and I would say the last 250,000 - 500,000 years. So when they run out, they run out. But the asteroids still have them.

John McIntyre: Yeah, okay. Interesting, interesting. This is big stuff, man, this is like next level. I really think there is that clear path, someone going from... And someone's looking at this project and thinking well, I just got a website and kinda sell a few products online and stuff, okay, I'm gonna do space... It's like, well...

Brian Lim: Okay, I'm gonna cut you right there because I'm gonna say something for your listeners. Because if you say I just build a website, I just fix computers, I can't do space... John, you didn't actually ask me what was my background before space. And I'll tell you that my degree was in IT. I would be fixing your internet connection and reinstalling your print drivers. You cannot ever tell me that you can't do space because you just build websites. I still can't fix the CSS template on my website by myself. I still suck at basic website design and construction. I have a freaking degree in it and now I'm doing spaceships, spacecrafts. You can because I've done it.

John McIntyre: How did you make the transition? How do you go from being an IT guy who fixes computers to being in space? Did you go Singularity University, was there a quick transition like that? How did that happen?

Brian Lim: Well, I actually thought about it for a while and I applied to actually study at the International Space University. It's an incredible university. I only did a five weeks summer course. That's all I could do. Alright? Five weeks. I got basic knowledge. I got all the slides, I got all the references and all I did

after that was I started reading. My first 12 months after that was just studying and talking to people. Non-stop. I still don't know the exact technicals of certain details but I knew enough back then to begin the journey. Now I sit here, I have finished five stops. I have created an accelerator. And I'm looking at technology, some solutions that will get me out to places. I only finished Singularity University last year, from June to August, when I did the Graduate Studies Program. Alright? It's part of my journey on the way. It was, though, how I begun.

John McIntyre: In this moment I've been thinking about, is reading Bold, the book by Peter Diamandis, this idea that it's not impossible to get into, the way I was thinking about it, if I'm so excited about this, what would be the next step? And obviously, you can read a book about it, but ultimately you gonna be connecting with other people who are doing it. So what do you do there by going to the International Space University or going to Singularity University or going to find it even just online... Yeah, even like this, this is how I reached out to you, through a mutual friend of ours, I be like I heard you're into the space stuff. Can we have a chat sometime? Cause that's where it starts. You meet someone who's, I mean... And now that you're listening to this, you gonna have the same experience when you, if you hear someone, even if you're one step or two steps removed and you can kinda put yourself in their shoes and think maybe I could do that, maybe, like, it doesn't sound that different to me, I just fix computers, how hard can it be? And that's exactly the sort of response... That's exactly what happens when you spend time with people who are playing at a big level, you start to level up. Without even trying, it's just how the brain works.

Brian Lim: Exactly. You wanna be a big fish in a small pond or a small fish in a big pond? Take a pick.

John McIntyre: So it really seems like it's just a decision. Just making that. You're not gonna wake up tomorrow and just start a... Well maybe you could just start a space business. Most people, they already have a job or have a business. So someone who could have a job right now and they could still, conceivably, realistically, within the next couple of years, get into the space business. If they want it.

Brian Lim: One hundred per cent.

John McIntyre: Maybe they will be the first trillionaire in a few years time.

Brian Lim: Yeah. Totally agree. You know, you're reading Bold right now, and so, one of the things I think you eventually reach in the book is that everyone you admire in your entire life, be it your parents, be it the billionaire, the teacher across the street... Whoever. The people you admire, you admire them because of the ability to overcome the circumstances that were placed before them. So if you look at your life right now, you have things that you have to be responsible for. Be it family, a house, a wife, a partner, who knows. Being able to understand and be responsible for them while making sure you can chase the dreams you want to chase is what gets you places. And every single one of persons that you probably have ever interviewed, you've ever admired, has done that to some degree. And the better you are at it, the better you will go places.

John McIntyre: Absolutely. Cool. I think it's a good note to finish on. So before we wrap this up, if the listener wants to learn more about you or maybe get in touch with you or hear about this accelerator, where is the best place for them to go?

Brian Lim: Alright. So for my accelerator it's [www.deltavspacehub.com](http://www.deltavspacehub.com). Alright? And if you wanna get in touch with me, my Twitter handle is @BoldBrian.

John McIntyre: Sweet. Cool. Anywhere else or that's the two things you wanna mention?

Brian Lim: You know what, I think that's great place to get started. If you need to find me, I'm sure you will find me at the TED conference this year.

John McIntyre: The TED conference? Okay, the TED, not TEDx, the actual TED conference?

Brian Lim: Okay, I am going to TEDActive, which is the conference that runs parallel to the main TED, run by TED this year. So I go there every year now. I just spend time with the people there. So if you see me there, say hi.

John McIntyre: Say hi, for sure. For sure. Cool. Alright, man. I'll have links to all that in the shownotes at [themakemethod.com](http://themakemethod.com). It's been really good talking to you. Thanks for coming on the show.

Brian Lim: My pleasure.